comer industries

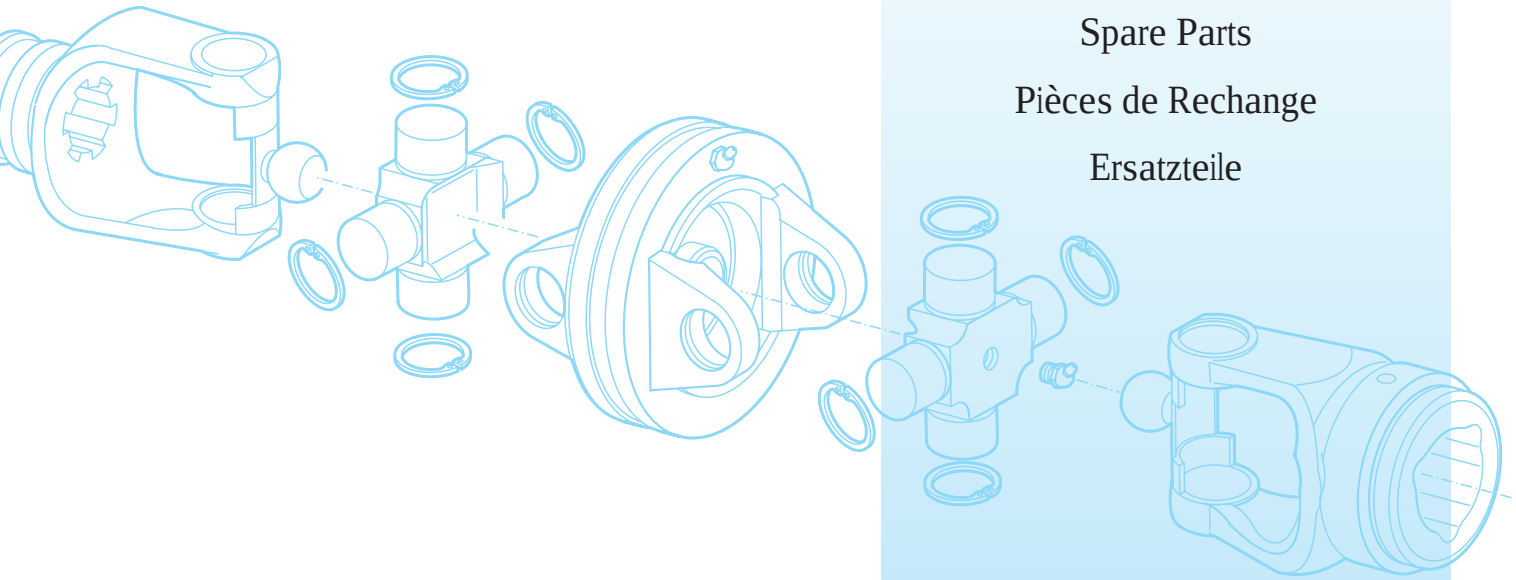
driveshafts

Parti di Ricambio

Spare Parts

Pièces de Rechange

Ersatzteile



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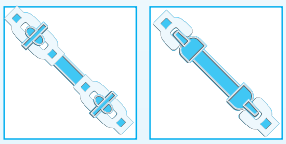

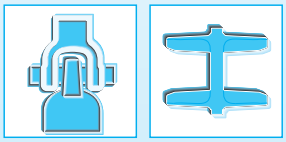

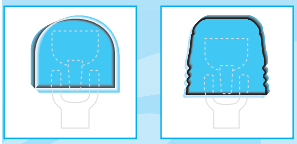

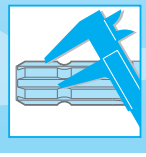

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(IT)

PROFILO "GEARBOXES & DRIVESHAFTS"

Comer Industries Gearboxes & Driveshafts progetta, produce e commercializza scatole ingranaggi ed alberi cardanici per l'industria delle macchine operatrici agricole ed industriali.

Comer é l'azienda che ha dato vita a Comer Group, dal 2002 Comer Industries. Fondata nel 1970 a Reggiolo (RE), Comer Industries é oggi il primo produttore mondiale di scatole ingranaggi e alberi cardanici per l'agricoltura. Una posizione di primato raggiunta grazie alla più completa gamma di scatole ingranaggi esistente sul mercato, ad una capillare presenza sui mercati internazionali ed al riconosciuto standard qualitativo dei suoi prodotti, confermato dalla Certificazione di Qualità ISO 9001, ottenuta nel 1993.

I prodotti Gearboxes & Driveshafts sono utilizzati principalmente nei seguenti settori: macchine per la preparazione del terreno, macchine per la lavorazione del terreno, macchine per la fienagione ed il trattamento del foraggio, macchine per l'irrigazione ed il trattamento delle colture.
La produzione annua di scatole ingranaggi raggiunge le 400.000 unità, con oltre 2.000 diverse configurazioni, che consentono di offrire alla clientela molteplici rapporti di velocità e un'ampia gamma di potenze che variano da 3,6 a 150 KW .

La produzione di alberi cardanici viene realizzata nello stabilimento di Pegognaga (MN), in quantità di circa 200.000 pezzi annui. La linea cardani, articolata in diverse tipologie di profili e di dispositivi accessori, é progettata nel rispetto della sicurezza dell'utente e dell'affidabilità della macchina e soddisfa le specifiche esigenze cinematiche di ogni tipo di attrezzatura agricola .
Integrando il componente meccanico ed idraulico con il controllo e la gestione elettronica della macchina, Comer Industries soddisfa le esigenze dell'agricoltura moderna che necessita di attrezzature sempre più complesse e tecnologicamente evolute.

(GB)

"GEARBOXES & DRIVESHAFTS" PROFILE

Comer Industries Gearboxes & Driveshafts designs, builds and sells gearboxes and PTO drive shafts for agricultural and industrial equipment.

Comer is the company that gave life to the Comer Group, now Comer Industries since 2002. Founded in 1970 in Reggiolo (RE), Comer Industries is today the world's leading manufacturer of gearboxes and PTO drive shafts for agricultural machinery. This record accomplishment was achieved thanks to the widest range of gearboxes available in today's market, and to extensive activities on international markets plus the recognised quality standard of its products, as confirmed by the ISO 9001 Quality Certification obtained in 1993.

Gearboxes & Driveshafts products are used mainly in the following sectors: soil treatment and processing machines, hay harvesting and fodder treatment machines and crop irrigation and treatment machines.
A total of 400,000 gearboxes, in more than 2,000 different versions, are produced annually, thus offering customers numerous speed ratios and a wide assortment of power levels ranging from 3.6 to 150 KW.

About 200,000 PTO drive shafts are built every year in the Pegognaga (MN) facilities. The drive shaft line, with various types of profiles and accessories, is designed to ensure user safety and machine reliability and meets the specific kinematic requirements of each type of agricultural machinery.
By integrating the mechanical and hydraulic factors with electronic machine control and management, Comer Industries satisfies the needs of modern agriculture that demands increasingly complex and technologically evolved machinery.

(FR)

PRESENTATION "GEARBOXES & DRIVESHAFTS"

Comer Industries Gearboxes & Driveshafts développe, fabrique et commercialise des boîtes d'engrenages et des arbres à cardan pour l'industrie des machines agricoles et industrielles.

Comer est l'entreprise à l'origine du Comer Group, maintenant Comer Indsutries depuis 2002. Fondée en 1970 à Reggiolo (Reggio Emillia), Comer Industries est aujourd'hui le premier fabricant mondial de boîtes d'engrenages et d'arbres à cardan pour l'agriculture. Cette position de leader à été atteinte grâce à la gamme plus complète de boîtes d'engrenages disponibles sur le marché, à une présence ramifiée sur les marchés internationaux et à la qualité reconnue de ses produits confirmée par la Certification de Qualité ISO 9001, obtenue en 1993.

Les produits Gearboxes & Driveshafts trouvent leurs principales applications dans les secteurs suivants : machines pour la préparation et le labourage de la terre, machines pour la fenaison et le traitement du fourrage, machines pour l'irrigation et le traitement des cultures.
La production annuelle de boîtes d'engrenages atteint les 400.000 unités avec plus de 2.000 configurations diverses permettant d'offrir à la clientèle de multiples rapports de vitesse et une large gamme de puissance variant de 3,6 à 150 kW

Les arbres à cardans sont fabriqués dans l'établissement de Pegognaga (Mantoue) où la production annuelle s'élève à 200.000 unités. La ligne des cardans s'articule en différents types de profilés et de dispositifs accessoires. Elle a été conçue dans le respect de la sécurité de l'utilisateur et de la fiabilité de la machine pour répondre aux exigences cinématiques des équipements agricoles.
En alliant le composant mécanique et hydraulique au contrôle et à la gestion électronique de la machine, Comer Industries répond aux exigences de l'agriculture moderne nécessitant des équipements toujours plus complexes à la pointe de la technologie.

(DE)

BESCHREIBUNG DES "GEARBOXES & DRIVESHAFTS"

Das Unternehmen Comer Industries Gearboxes & Driveshafts entwirft, herstellt und vertreibt Getriebe und Kardanwellen für die Industrie der Landwirtschafts- und Industriemaschinen.

Das Unternehmen Comer hat die Comer Group ins Leben gerufen, das ab 2002 Comer Industries gewarden ist. Es wurde 1970 in Reggiolo (Reggio Emilia) gegründet und ist heute der größte Hersteller der Welt von das Getriebe und Gelenkwellen für die Landwirtschaft. Diese Vorrangstellung erreichte es aufgrund seiner umfangreichen Produktpalette von Getriebe – die vollständigste, die es auf dem Markt gibt -, seinem kapillaren Verteilungsnetz auf dem internationalen Markt und dem anerkannt hohen.

Qualitätsstandard seiner Produkte, der im Jahre 1993 durch die Qualitäts-bescheinigung ISO 9001 bestätigt wurde.Die Produkte von Unternehmen "Gearboxes & Driveshafts" finden hauptsächlich in den folgenden Bereichen Anwendung: Maschinen zur Bodenvorbereitung, Maschinen für die Bodenbearbeitung, Maschinen für die Heuernte und die Futterbehandlung, Maschinen für die Bewässerung und Behandlung von Kulturen. Die Jahresproduktion von Getriebegehäusen beträgt 400.000 Stück, mit über 2.000 verschiedenen Ausführungen, die es ermöglichen, dem Kunden vielfache

Geschwindigkeitsverhältnisse und eine große Auswahl an Leistungen zwischen 3,6 und 150 kW zur Verfügung zu stellen.
Die Gelenkwellen werden im Werk Pegognaga (Mantua) produziert, ca. 200.000 Stück im Jahr. Die Linie der Gelenkwellen, mit ihren verschiedenen Profiltypen und Zusatzausrüstungen, ist so programmiert, dass die Sicherheit des Benutzers und die Zuverlässigkeit der Maschine gewährleistet werden und die speziellen Anforderungen an die Getriebeleistung jedes Maschinentyps erfüllt werden.
Indem Comer Industries die mechanische und hydraulische Komponente mit der elektronischen Steuerung der Maschine integriert, erfüllt das Unternehmen die Bedürfnisse der modernen Landwirtschaft, die immer komplexere und technologisch höher entwickelte Werkzeuge braucht.

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IT

PROFILO COMER INDUSTRIES

Oggi Comer Industries Spa é una società di Meccatronica che progetta, produce e commercializza sistemi avanzati per la trasmissione di potenza.

Comer Industries propone una linea completa di trasmissioni meccaniche, idrostatiche e servizi di ingegneria, di logistica e di Information Technology per l'industria delle macchine operatrici agricole ed industriali.

Comer Industries opera da oltre 30 anni nei principali paesi del mondo, in particolare d'Europa e del Nord America, dove é partner dei maggiori gruppi industriali del settore.

L'azienda, con sede a Reggiolo (RE), impiega oltre 880 dipendenti con un fatturato consolidato che supera i 170 milioni di euro, e riunisce le esperienze e le competenze di diverse specializzazioni produttive: BU GEARBOXES & DRIVESHAFTS, leader mondiale nella produzione di scatole ingranaggi e trasmissioni cardaniche per la meccanica agricola; BU PLANETARY DRIVES, che opera nel campo dei riduttori epicicloidali e delle motoruote per macchine operatrici mobili ed industriali; BU FLUID POWER, specializzata nel settore delle trasmissioni idrostatiche; BU AXLES & WHEEL DRIVE UNITS, attiva nella produzione e vendita di ponti differenziali, ruote elettriche e sterzi idraulici / elettrici.

GB

COMER INDUSTRIES PROFILE

Today, Comer Industries Spa is a Mechatronics company that designs, builds and sells advanced power transmission systems.

Comer Industries offers a full line of mechanical and hydrostatic transmissions together with engineering, logistics and Information Technology services for agricultural and industrial equipment.

Comer Industries has been operating more than 30 years in the main countries all over the world, and particularly in Europe and North America, where it has become the partner of the leading industrial OEMs.

The company, located in Reggiolo (RE), with more than 880 employees and a 170 million euro consolidated turnover, combines the expertise of a variety of manufacturing activities and business organisations: BU GEARBOXES & DRIVESHAFTS, the world's leading manufacturer of gearboxes and PTO drive shafts for agricultural machinery; BU PLANETARY DRIVES, which produces planetary gear drives and wheel drives for mobile and industrial operating machinery; Bu FLUID POWER, which specialises in hydrostatic transmissions; BU AXLES AND WHEEL DRIVE UNITS, which manufactures and sells axles, electric wheels and hydraulic /electrical steerings.

FR

PRESENTATION DU COMER INDUSTRIES

Aujourd'hui Comer Industries Spa est une société de mécanique électronique qui développe, fabrique et commercialise des systèmes avancés pour la transmission de la puissance.

Comer Industries propose une ligne complète de transmissions mécaniques et hydrostatiques ainsi que des services d'ingénierie, de logistique et d'informations technologiques destinés à l'industrie des machines agricoles et industrielles.

Comer Industries opère depuis plus de 30 ans dans les principaux pays du monde, particulièrement en Europe et en Amérique du Nord où il est le partenaire des plus grands groupes industriels du monde.

Le siège de la société est à Reggiolo (Reggio Emillia). Elle emploie plus de 880 personnes et son chiffre d'affaires s'élève à 170 million de euro. Comer Industries réunit plusieurs spécialisations productives: BU GEARBOXES & DRIVESHAFTS, leader mondial dans la production de boîtes d'engrenages et de transmissions à cardan pour la mécanique agricole; BU PLANETARY DRIVES, qui opère dans le secteur des réducteurs épicycloïdaux et des roues pour machines mobiles et industrielles; BU FLUID POWER, spécialisée dans le secteur des transmissions hydrostatiques; BU AXLES & WHEEL DRIVE UNITS, active dans la production et la vente de ponts différentiels, roues électriques et directions hydrauliques / électriques.

DE

BESCHREIBUNG DER "COMER INDUSTRIES"

Die Comer Industries Spa ist heute eine Gesellschaft im Bereich der elektronischen Mechanik, die fortschrittliche Systeme der Leistungsübertragung entwirft, herstellt und vertreibt.

Die Comer Industries bietet eine komplette Linie von mechanischen und hydrostatischen Getrieben sowie Serviceleistungen im Ingegnieurwesen, Logistik und Information Technology für die Industrie der Landwirtschafts- und Industriemaschinen an.

Seit über 30 Jahren arbeitet die Comer Industries in den wichtigsten Ländern der Welt, v.a. in Europa und Nordamerika, wo sie zum Partner der größten Industriegruppen dieses Bereiches geworden ist.

Das Unternehmen hat ihren Firmensitz in Reggiolo (Reggio Emilia); sie beschäftigt mehr als 880 Mitarbeiter, kann einen konsolidierten Umsatz von 170 Millionen Euro aufweisen und vereinigt in sich die Erfahrungen und Kompetenzen verschiedener Produktspezialisierungen: das Unternehmen "GEARBOXES & DRIVESHAFTS", weltweiter Leader in der Produktion von Getriebe und Kardanantrieben für Landwirtschaftsmaschinen; das Unternehmen "PLANETARY DRIVES", das im Bereich der Planetenuntersetzungsgetriebe für Maschinenfahrzeuge und Industriemaschinen arbeitet; das Unternehmen "FLUID POWER", das auf hydrostatische Getriebe spezialisiert ist; das Unternehmen "AXLES & WHEEL DRIVE UNITS", das sich mit Produktion und Verkauf von Differentialachsen befasst, radantrieb mit motor verticalversion und horizontalversion, hydraulikenkgetriebe.

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(IT)

CENTRO RICERCHE DI MECCATRONICA

Ricerca applicata ed innovazione di prodotto

Comer Industries effettua lo sviluppo, la sperimentazione e la prova dei suoi prodotti nel Centro Ricerche di Meccatronica, realizzato nel 1996 a Reggiolo (RE) per la ricerca applicata e l'innovazione di prodotto. Questa attività offre ai clienti il grande vantaggio di ridurre il time to market per il lancio sul mercato delle nuove macchine.

Il Centro Ricerche si estende su una superficie coperta di 1.500 mq., con otto celle di sperimentazione e prova, perfettamente insonorizzate, dotate di attrezzature all'avanguardia e di apparecchiature di simulazione in grado di riprodurre le situazioni di reale utilizzo e funzionamento delle trasmissioni sulla macchina operatrice.

Le attività del Centro Ricerche sono le seguenti:
* test di omologazione per componenti commerciali
* test funzionali
* prove statiche
* prove di caratterizzazione di componenti e dispositivi
* prove di endurance
* crash test
* prove di temperatura sotto carico
* prove strutturali
* prove sul campo
* benchmarking

La ricerca di Comer Industries si é recentemente rivolta alle tematiche della sicurezza della macchina in azione presso l'utente finale. Sono stati sviluppati dispositivi elettronici di controllo integrati nel cinematismo di comando della trasmissione meccanica. Questa attività di progettazione innovativa contribuisce all'affermazione del marchio Comer Industries sul mercato.

(GB)

MECHATRONICS RESEARCH CENTRE

Applied research and product innovation

Comer Industries products are developed, tested and approved in the Mechatronics Research Centre for applied research and product innovation established in 1996 in Reggiolo (RE). This allows customers to greatly reduce time-to-market for launching new machines on the market.

The Research Centre extends over a covered area of 1500 m2, with eight, completely soundproof test rooms, equipped with the latest devices and simulators capable of reproducing real machine transmission operating conditions.

The Research Centre carries out the following activities:
** certification tests for commercial parts*
** functional tests*
** static tests*
** characterisation tests for parts and devices*
** endurance tests*
** crash tests*
** temperature tests under load*
** structural tests*
** field tests*
** benchmarking*

Comer Industries research focused recently on operating safety for machines installed at end user sites. Electronic control devices were developed and integrated into the mechanical transmission control kinematic system. This innovative design solution contributes to the success of the Comer Industries´s brand on the market.

(FR)

CENTRE DE RECHERCHES EN MECANIQUE ELECTRONIQUE

Recherche appliquée et innovation du produit

Comer Industries développe et teste ses produits auprès de son Centre de Recherche de Mécanique Electronique réalisé en 1996 à Reggiolo (Reggio Emillia) destiné à la recherche appliquée et à l'innovation du produit. Cette activité offre aux clients le grand avantage de réduire le délai de lancement des nouvelles machines sur le marché.

Le Centre de Recherche s'étend sur une superficie couverte de 1.500 m2. Le comprend 8 chambres d'essai, parfaitement insonorisées, équipées de machines à l'avant-garde et d'instruments de simulation en mesure de reproduire les conditions d'exercice réelles des transmissions sur les machines.

Les activités du Centre de Recherche sont les suivantes :
* test d'homologation pour les composants commerciaux
* test de fonctionnement
* essais statiques
* essais de caractérisation des composants et des dispositifs
* essais d'endurance
* crash test
* essais de température sous charge
* essais structuraux
* essais sur le terrain
* tests d'évaluation des performances

La recherche de Comer Industries s'est récemment orientée vers le thème de la sécurité de la machine en action auprès de l'utilisateur final. Des dispositifs électroniques de contrôle intégrés dans le cinématisme de commande de la transmission mécanique ont été développés. Cette activité de développement innovatrice contribue à l'affirmation de la marque Comer Industries sur le marché.

(DE)

FORSCHUNGSZENTRUM FÜR ELEKTRONISCHE MECHANIK

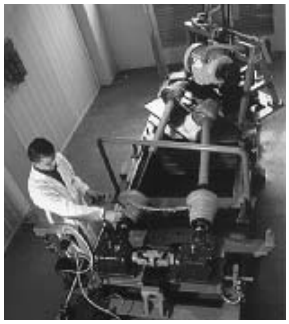
Angewandte Forschung und Produkterneuerung.

Das Unternehmen Comer Industries führt die Entwicklung, Versuche und Prüfungen seiner Erzeugnisse im Forschungszentrum für elektronische Mechanik durch, das 1996 in Reggiolo (Reggio Emilia) für die angewandte Forschung und Produkterneuerung ins Leben gerufen wurde. Damit kann es seinen Kunden den großen Vorteil bieten, die time-to-market für die Lancierung von neuen Maschinen auf dem Markt zu reduzieren.

Das Forschungszentrum erstreckt sich auf einer überdachten Fläche von 1.500 m2 mit acht supermodern ausgerüsteten, vollständig geräsch-isolierten Versuchs- und Prüfzellen mit Simulatoren, die die realen Benutzungsbedingungen für die Funktionen der Getriebe an der Arbeitsmaschine genau reproduzieren.

Das Forschungszentrum führt folgende Arbeiten durch:
**Zulassungstests von kommerziellen Bauteilen*
**Funktionstests*
**statische Prüfungen*
**Charakterisierungsprüfungen von Bauteilen und Vorrichtungen*
**Endurance-Tests*
**Crash-Tests*
**Temperaturprüfungen unter Belastung*
**Strukturprüfungen*
**Prüfungen auf dem Feld*
**Benchmarking*

Die Comer Industries-Forschung beschäftigt sich in letzter Zeit mit dem Thema Sicherheit der Maschine im Betrieb beim Endverbraucher. Elektronische Kontrollorgane wurden entwickelt, die in die Steuergetriebe des mechanischen Antriebs integriert werden. Diese planerische Weitsicht trägt dazu bei, dass der Name Comer Industries auf dem Markt eine wichtige Rolle spielt.



TEORIA DEL GIUNTO CARDANICO
CARDAN JOINT THEORY
THEORIE DU JOINT DE CARDAN
GELENKWELLENTHEORIE

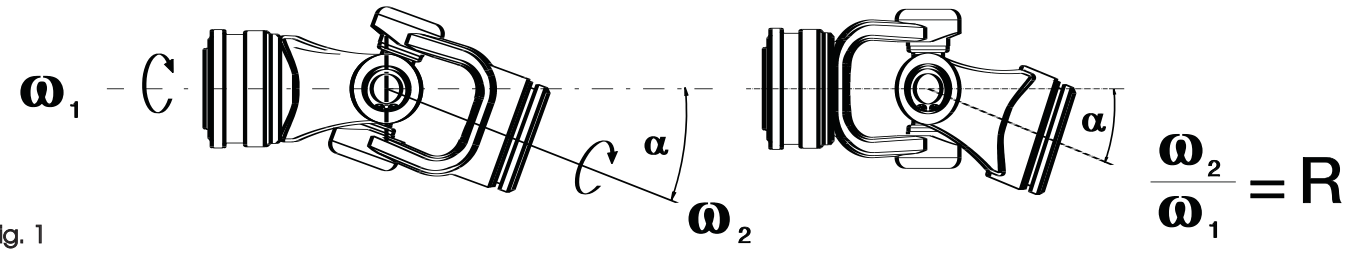


fig. 1

IT

L'albero cardanico per uso agricolo è costituito da due giunti cardanici e da un accoppiamento telescopico. Il giunto cardanico, composto da due forcelle e una crociera, è l'elemento che consente di trasmettere il moto fra due assi inclinati. La costruzione del giunto cardanico è tale che durante la rotazione la velocità dell'albero in uscita non è sempre uguale a quella dell'albero in ingresso e questa differenza di velocità dipende dall'angolo di snodo del giunto (Fig1). Il rapporto di trasmissione in funzione dell'angolo di snodo e dell'angolo di rotazione è rappresentato in Fig.2. Più il rapporto si discosta dal valore 1 e più cresce l'irregolarità del moto con conseguente generazione di effetti indesiderati (vibrazioni, rumorosità, sollecitazioni inerziali).

GB

The PTO drive shaft for agricultural applications consists of two cardan joints and a telescopic coupling. The cardan joint, consisting of two yokes and a cross, is the element used to transmit the motion between two tilted axles. The cardan joint construction is designed so that during rotation, the speed of the output shaft is not always equal to that of the input shaft and this difference in speed depends on the articulation angle of the joint (Fig. 1). The transmission ratio versus the articulation angle and the rotation angle is represented in Fig. 2. The more the ratio deviates from 1 the greater becomes the irregularity of the motion, thus generating undesirable effects (vibrations, noise, inertial stress).

FR

L'arbre à cardan utilisé sur les machines agricoles est constitué de deux joints de cardan et d'un accouplement télescopique. Le joint de cardan, composé de deux mâchoires et d'un croisillon, est la pièce permettant la transmission du mouvement entre deux axes inclinés. Le joint de cardan est conçu de sorte que durant la rotation, la vitesse de l'arbre mené n'est pas toujours égale à celle de l'arbre menant, cet écart de vitesse étant fonction de l'angle d'articulation du joint lui-même (Fig. 1). Le rapport de transmission, en fonction de l'angle d'articulation et de l'angle de rotation, est représenté à la Fig. 2. Plus ce rapport s'écarte de la valeur 1, plus l'irrégularité du mouvement augmente; cette même irrégularité produisant des effets mécaniques indésirables tels que vibrations, bruit, sollicitations inertielles.

DE

Die Gelenkwelle für die Anwendung an landwirtschaftsmaschinen besteht aus zwei Gelenkkupplungen und aus einem Teleskopanschluß. Die Gelenkkupplung besteht aus zwei Gabelstücken und einem Gelenkkreuz. Sie ist das Element, das die Kraftübertragung zwischen zwei schrägstehenden Achsen ermöglicht. Die Gelenkkupplung wird derart gebaut, daß die Geschwindigkeit der Auslaufwelle während der Drehung nicht immer der Geschwindigkeit der Einlaufwelle entspricht. Dieser Geschwindigkeitsunterschied hängt vom Gelenkwinkel der Gelenkkupplung ab (Abb. 1). Das Übersetzungsverhältnis in Funktion des Gelenkwinkels und des Drehwinkels ist auf Abb. 2 dargestellt. Je mehr das Verhältnis vom Wert 1 abweicht, desto größer ist die Bewegungsunregelmäßigkeit, was zu unerwünschten Begleiterscheinungen (Vibrationen, starke Betriebsgeräusche, Trägheitsbelastungen) führt.

Rapporto di trasmissione istantaneo
Instantaneous transmission ratio
Rapport de transmission instantané
Aktuelles übertragungsverhältnis

α = angolo di snodo
= *articulation angle*
= angle d'articulation
= *Gelenkwinkel*

β = angolo di rotazione
= *rotation angle*
= angle de rotation
= *Drehwinkel*

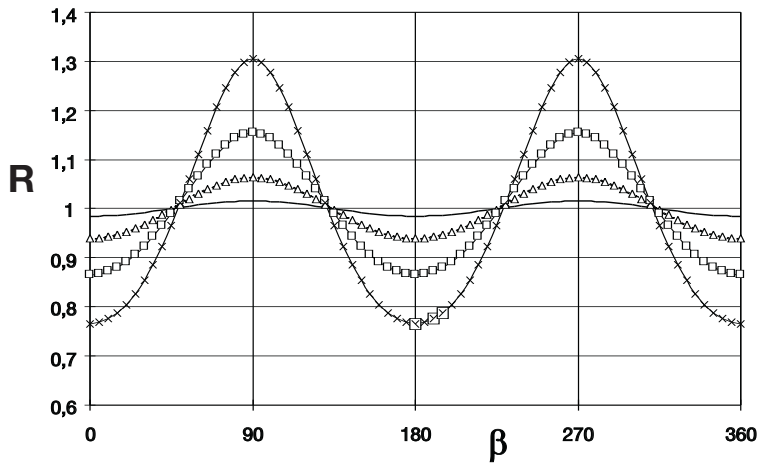


fig. 2

CARATTERISTICHE CINEMATICHE
KINEMATIC CHARACTERISTICS
CARACTERISTIQUES CINEMATIQUES
KINEMATISCHE EIGENSCHAFTEN

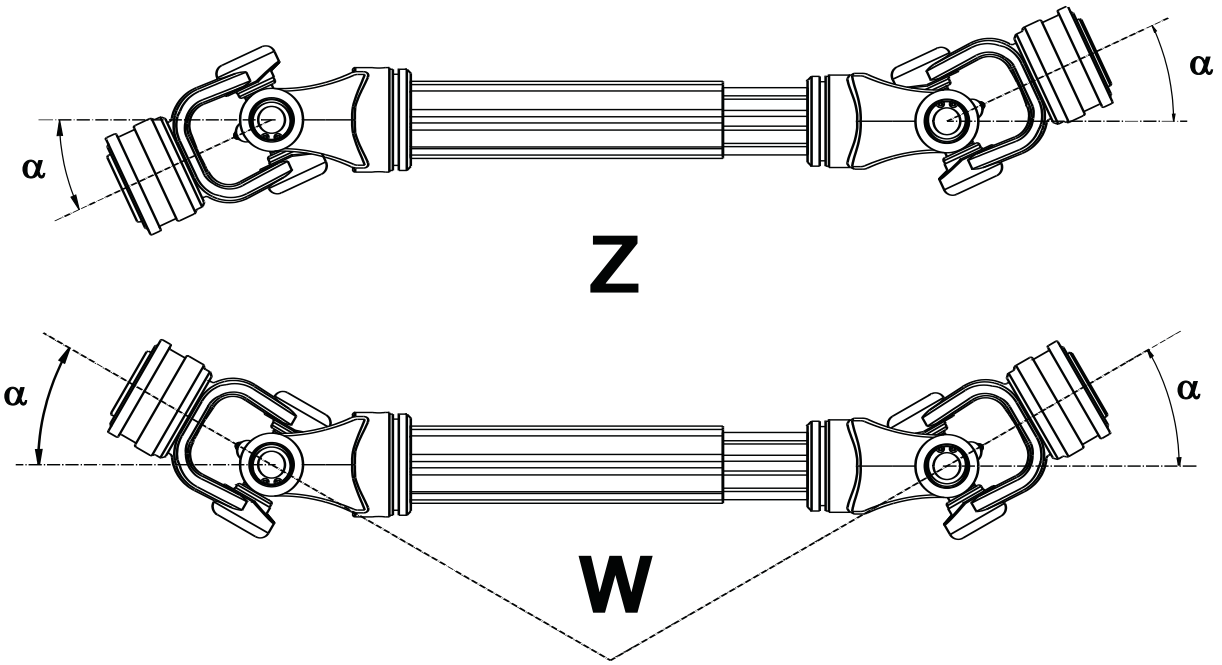


fig. 3

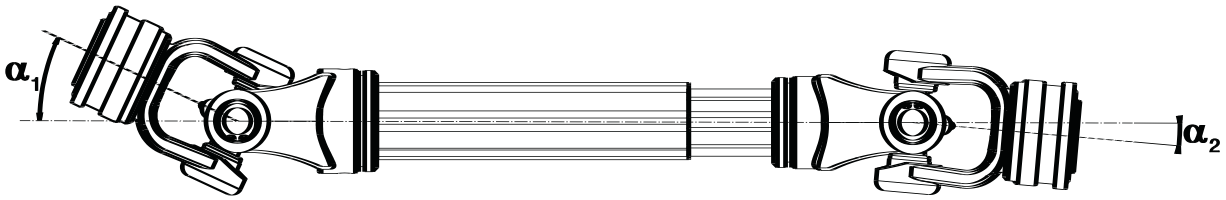


fig. 4

(IT)

L'albero cardanico standard è composto da due giunti cardanici. Le irregolarità dei singoli giunti possono quindi eliminarsi o comporsi reciprocamente. Quando gli angoli di snodo dei due giunti sono uguali, vedi disposizione W o disposizione Z (Fig.3), la trasmissione è omocinetica, cioè la velocità della forcella in uscita è sempre uguale a quella in ingresso, eliminando quindi gli effetti indesiderati. In tutte le altre angolazioni (Fig.4) rimane sempre una irregolarità che può essere valutata con il grafico della pagina seguente (Fig.5).

(GB)

The standard PTO drive shaft consists of two cardan joints. The irregularities of the single joints thus can be cancelled or mutually combined. When the articulation angles of the two joints are equal (see configuration W or Z in Fig. 3) the transmission is uniform, i.e. the speed of the output yoke is always equal to the speed of the input yoke, thus eliminating the undesirable effects. In all the other angulations (Fig. 4), an irregularity always remains that can be evaluated with the graph on the following page (Fig. 5).

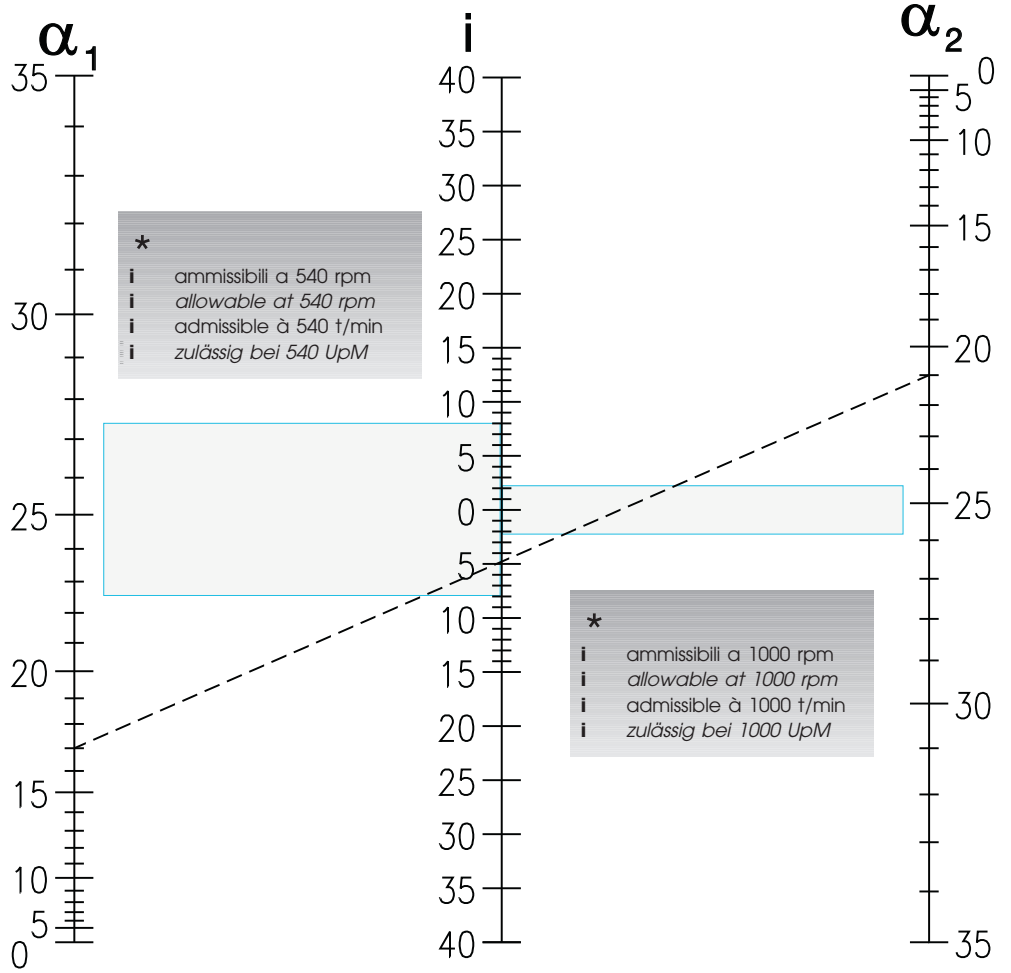
(FR)

L'arbre à cardan standard est composé de deux joints de cardan. Les irrégularités au niveau de chaque joint peuvent donc ou bien s'annuler ou bien s'ajuster réciproquement. Lorsque les angles d'articulation sont identiques (voir configurations Z ou W de la Fig. 3), la transmission est dite homocinétique; autrement dit, la vitesse de la mâchoire du joint mené est toujours égale à celle du joint menant, ce qui permet d'éliminer les effets mécaniques indésirables. Dès l'instant qu'existe une différence entre les inclinaisons respectives des joints (voir Fig. 4), une irrégularité persiste qui peut être évaluée à l'aide du graphique présenté à la Fig. 5 de la page suivante.

(DE)

Die Standard-Gelenkwelle besteht aus zwei Gelenkkupplungen. Die Unregelmäßigkeit der einzelnen Kupplungen können sich folglich gegenseitig ausgleichen oder verstärken. Wenn die Gelenkwinkel der beiden Kupplungen gleich sind (Anordnung Woder Anordnung Z, siehe Abb. 3), ist die Übertragung homokinetisch, d.h. die Geschwindigkeit des Gabelstücks im Eingang entspricht immer der Geschwindigkeit im Ausgang und es werden folglich alle unerwünschten Begleiterscheinungen eliminiert. Bei allen anderen Winkeln, Siehe Abb. 4, ist eine Unregelmäßigkeit vorhanden, die aus dem Kurvenbild auf Abb. 5 hervorgeht.

NOMOGRAMMA IRREGOLARITÀ DI ROTAZIONE DELL'ALBERO CARDANICO
PTO DRIVE SHAFT ROTATION IRREGULARITY ALIGNMENT CHART
NOMOGRAMME DES IRREGULARITES DE ROTATION DE L'ARBRE A CARDAN
NOMOGRAMM DER DREH-UNGLEICHFÖRMIGKEIT DER GELENKWELLE



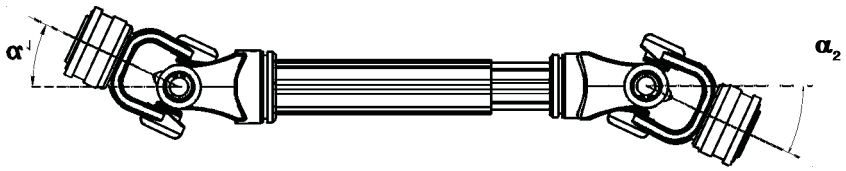


fig. 5

Esempio / *Example* / Exemple / *Beispiel:*

α1 = 0°, α2 = 4°, α1-α2 = 4°
i = 0,5%
α1 = 21°, α2 = 25°, α1-α2 = 4°
i = 6%

(IT) L'irregolarità "i" del moto dipende dall' inclinazione dei due snodi cardanici e dalla differenza fra le angolazioni dei due snodi (vedi es.: a parità di differenza angolare l'irregolarità è maggiore se le inclinazioni dei singoli snodi sono maggiori).

(GB) *Irregularity "i" of the motion depends on the articulation of the two cardan joints and on the difference between the articulations of the two joints (see the example: with angular difference being equal, the irregularity is greater if the articulations of the single joints are greater).*

(FR) L'irrégularité "i" de mouvement dépend de l'inclinaison des deux joints de cardan et de l'écart d'inclinaison entre ces deux mêmes joints (voir exemple: à différence angulaire égale, plus l'inclinaison des deux joints de cardan est importante et plus l'irrégularité de mouvement l'est également).

(DE) *Die Unregelmäßigkeit "i" der Bewegung hängt von der Schrägstellung der beiden Kardangelenke und von der Differenz zwischen den Winkeln der beiden Gelenke ab (siehe Beispiel: Bei gleicher Winkeldifferenz ist die Unregelmäßigkeit größer, wenn die Neigungen der einzelnen Gelenke größer sind).*

GIUNTO OMOCINETICO CvJ
CONSTANT VELOCITY JOINT CvJ
JOINT HOMOCINETIQUE CvJ
WEITWINKELGELENKWELLE CvJ

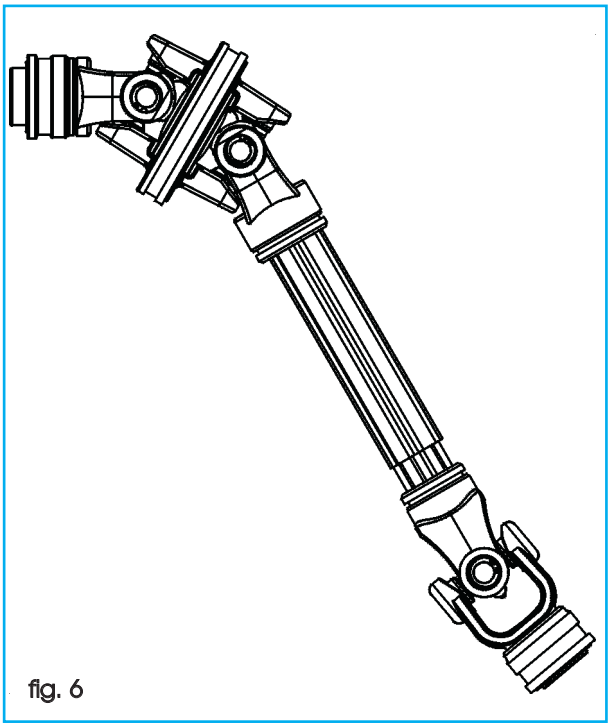


fig. 6

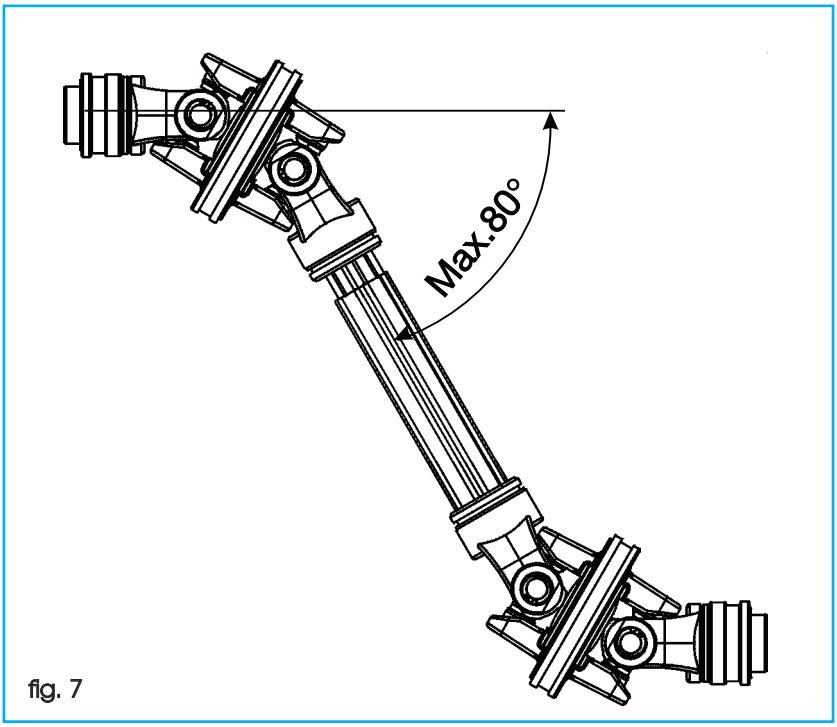


fig. 7

IT

Il giunto omocinetico CvJ (giunto a velocità costante) è un doppio snodo con un sistema di centraggio che garantisce una eguale ripartizione dell'angolo di snodo fra le due forcelle (disposizione a W). La velocità della forcella in uscita è sempre uguale a quella in ingresso e non vi sono irregolarità di rotazione. In un albero cardanico con giunto CvJ e un giunto standard (Fig.6), l'irregolarità totale è dovuta al solo giunto standard, che perciò deve lavorare a piccoli angoli di snodo. Nel caso di elevati angoli di lavoro alle due estremità dell'albero è necessario utilizzare due snodi CvJ (Fig.7). Il giunto CvJ può lavorare ad elevati angoli di snodo solo per brevi periodi (es. durante una sterzata). Caratteristica costruttiva di assoluta qualità ed affidabilità del giunto CvJ è l'adozione di un ponte sfera saldato alla forcella, che permette di ridurre consistentemente le sollecitazioni e quindi le usure nella zona di contatto sfera-cilindro e nell'accoppiamento scanalato tra albero e forcella.

GB

The CvJ (Constant Velocity Joint) is a double universal joint with a centering system that equally divides the articulation angle between the two yokes (W configuration). The speed of the output yoke is always equal to the input speed and there are no rotation irregularities. In a PTO drive shaft with a CvJ joint and a standard joint (Fig. 6), the total irregularity is caused only by the standard joint, that therefore must work with small articulation angles. For high work angles at the two ends of the shaft, two CvJ joints must be used (Fig. 7). The CvJ joint can work with high articulation angles only for brief periods (ex.: while steering). Absolute quality and reliability of the CvJ construction are ensured by the ball bridge welded to the yoke which considerably reduces stress and consequently wears in the ball-cylinder contact zone and in the splined coupling between the shaft and the yoke.

FR

Le joint homocinétique CvJ (joint à vitesse constante) est un double joint doté d'un dispositif de centrage qui assure une répartition égale de l'angle d'articulation entre les deux mâchoires (configuration W). La vitesse de la mâchoire de l'arbre mené est toujours égale à celle de la mâchoire de l'arbre menant, toute irrégularité de rotation étant ainsi éliminée. Dans le cas d'un arbre à cardan doté d'un joint CvJ et d'un joint standard (Fig. 6), l'irrégularité provient uniquement du joint standard; aussi est-il nécessaire de faire travailler le joint standard à des inclinaisons limitées. Dans le cas où les angles d'inclinaison sont inévitablement importants aux deux extrémités de l'arbre, il devient nécessaire d'utiliser deux joints CvJ (Fig. 7). Le joint CvJ ne peut travailler à des angles d'inclinaison importants que pendant de courts instants, par exemple durant une manoeuvre de braquage. Une caractéristique de construction de qualité et de fiabilité absolues pour le CvJ est l'adoption d'un pont avec bille soudé à la mâchoire; ceci permet de réduire considérablement les contraintes et donc les usures dans la zone de contact bille-cylindre et dans l'accouplement cannelé entre l'arbre et la mâchoire.

DE

Die Kupplung CvJ (Constant Velocity Joint, Kupplung mit konstanter Geschwindigkeit) ist ein doppeltes Gelenk mit einem Zentriersystem, das eine gleichmäßige Aufteilung des Gelenkwinkels zwischen den beiden Gabelstücken gewährleistet (W-förmige Anordnung). Die Geschwindigkeit des Gabelstückes im Ausgang entspricht immer der Geschwindigkeit in Eingang und es treten keine Drehunregelmäßigkeiten auf. Bei einer Gelenkwelle mit CvJ-Kupplung und mit einer Standardkupplung (Abb. 6) ist die Gesamtunregelmäßigkeit nur auf die Standardkupplung zurückzuführen, die daher mit geringen Gelenkwinkeln arbeiten muß. Bei höheren Arbeitswinkeln an den beiden Wellenenden ist es erforderlich, zwei CvJ-Gelenke zu verwenden (Abb. 7). Die CvJ-Kupplung kann nur für einen kurzen Zeitraum mit großen Gelenkwinkeln arbeiten (z.B. beim Lenken). Hervorragende Qualität und absolute Zuverlässigkeit sind durch die Verwendug einer an die Gabel geschweißten Kugelbrücke garantiert, wo rduch die Kontaktzonen zwischen Kugel und Zylinder und die Bereiche der Nutenpaarung zwischen Welle und Gabel vor Verschleiß geschütz sind.

POTENZE E COPPIE TRASMISSIBILI
POWER AND TORQUE RATINGS
PUISSANCE ET COUPLE TRANSMISSIBLES
ÜBERTRAGBARE LEISTUNGEN UND DREHMOMENTE

Tipo Type Type Typ		540 r.p.m. KW	CV	Nm.	in.lb.	1000 r.p.m. KW	CV	Nm.	in.lb.	coppia dinam. max. * *max.dynamic torque* couple dynamique max. *max.dynam. Drehmomente* Nm.	in.lb.
V	20	17	23	300	2,650	26	36	250	2,200	460	4,050
	40	28	38	490	4,310	43	58	410	3,600	850	7,530
	50	37	50	650	5,750	57	77	540	4,750	1100	9,740
	60	50	68	880	7,790	77	105	740	6,510	1510	13,360
	80	74	100	1300	11,500	113	154	1080	9,550	2390	21,150
	90	88	120	1560	13,800	140	190	1340	11,850	2900	25,700
T	10	12	16	210	1,850	18	25	172	1,500	320	2,850
	20	15	21	270	2,400	23	31	220	1,950	450	4,000
	40	26	35	460	4,050	40	55	380	3,350	780	6,900
	50	35	47	620	5,500	54	74	520	4,600	1,050	9,300
	60	47	64	830	7,350	74	100	710	6,259	1,450	12,850
	80	70	95	1240	10,950	110	150	1050	9,300	2,250	19,900
	90	88	120	1560	13,800	140	190	1340	11,850	2900	25,700
D	120	144	196	2546	22,535	221	300	2110	18,675	6500	57,530
E	40	26	35	460	4,050	40	55	380	3,350	780	6,900
	50	35	47	620	5,500	54	74	520	4,600	1,050	9,300
	60	47	64	830	7,350	74	100	710	6,259	1,450	12,850
	80	70	95	1240	10,950	110	150	1050	9,300	2,250	19,900
	90	88	120	1560	13,800	140	190	1340	11,850	2900	25,700

(IT)

* E' la massima coppia trasmissibile in rotazione. Rappresenta il massimo valore di coppia applicabile per il quale la durata può essere determinata mediante il nomogramma.

Valori e condizioni di lavoro continuo, angolo di snodo 5°, durata 1000 ore.

(GB)

* *It is the max. transmissible torque during the rotation. It represents the max. applicable torque value whom duration can be determined through the alignment chart.*

Continuous operation data and conditions, working angle 5°, average life 1000 hours.

(FR)

* C'est le couple maximum transmissible en rotation. Il représente la valeur de couple maximum applicable pour lequel la durée peut être calculée à travers le nomogramme.

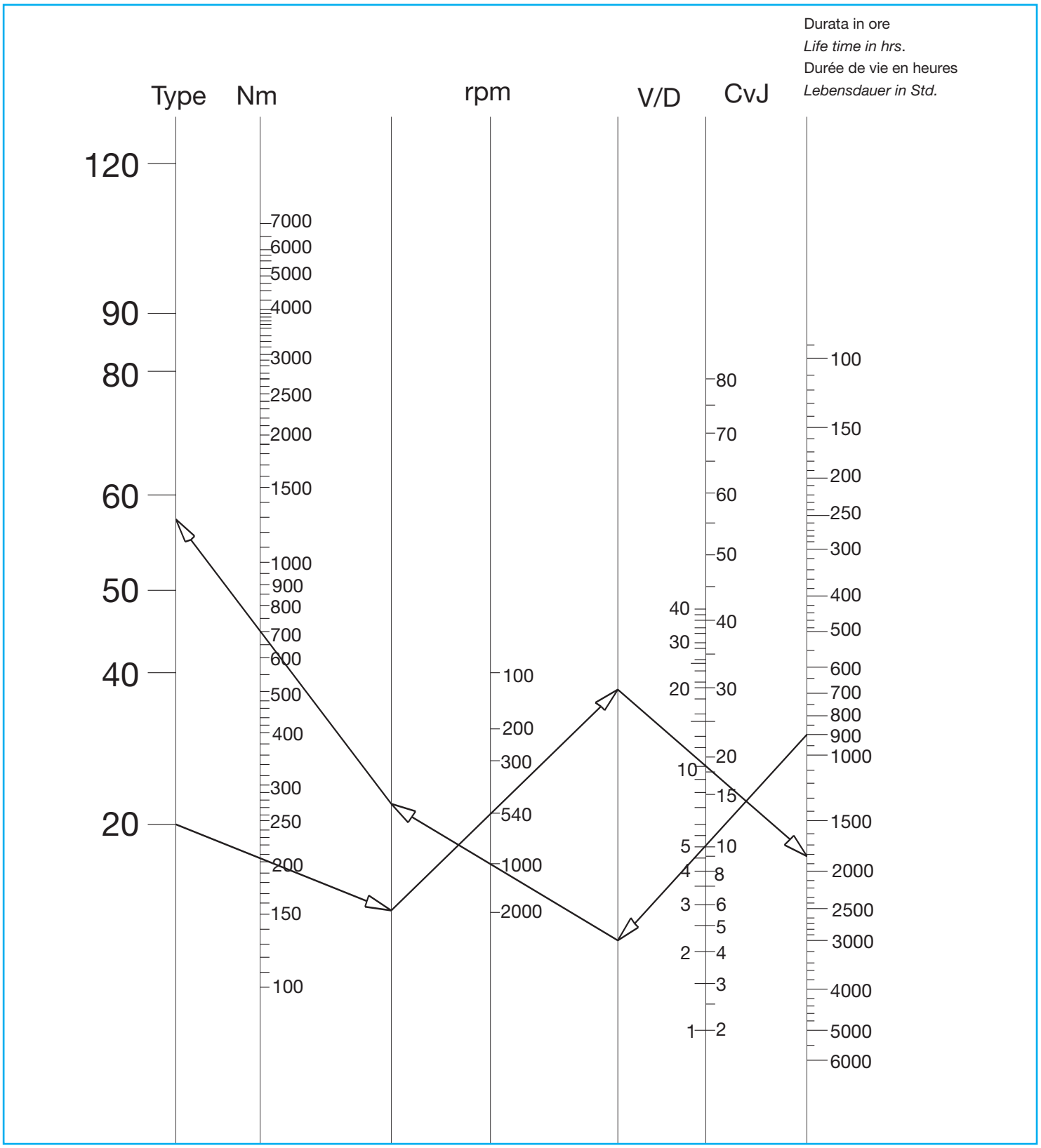
Valeurs pour conditions de travail en continu, avec angularité du joint de 5°, sur la base d'une durée de vie de 1000 heures.

(DE)

* *Dies ist das max. übertragbare Drehmoment während der Drehung. Es stellt den höchsten anwendbaren Drehmomentswert dar, dessen Dauer mit Hilfe des Nomogramms bestimmt werden kann.*

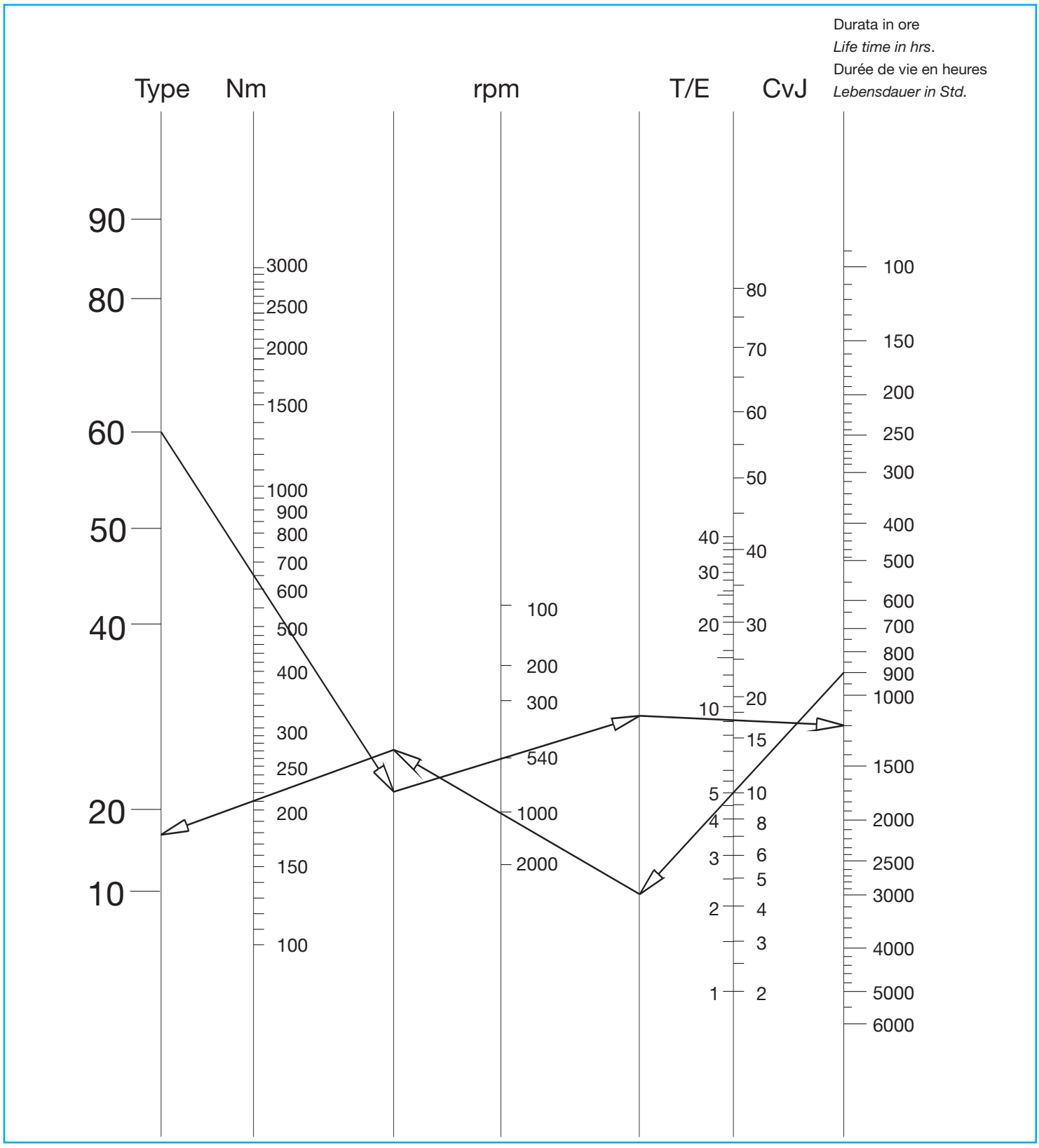
Werte und Leistungen im Dauerbetrieb, Beugungswinkel 5°, Lebensdauer 1000 Std.

CALCOLO DURATA CROCIERE SERIE V/D
CALCULATION OF CROSS AND BEARING KIT LIFE SERIES V/D
CALCUL DE LA DUREE DE VIE DU CROISILLON SERIE V/D
LEBENSDAUERBERECHNUNG DER GELENKKREUZE SERIE V/D



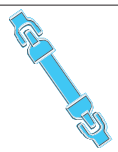
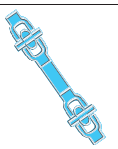
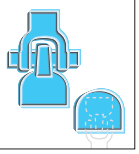
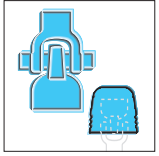
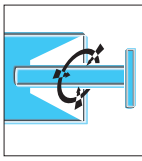
Esempio *Example* Exemple *Beispiel*	**V 20** **900 h** **900 h**	**210 Nm.** **10°** **5°**	**540 rpm** **(CVJ)** **(V)**	**10°** → **1800 h** **1000 rpm**	**700 Nm** → **CvJ V60** **700 Nm** → **V60**		

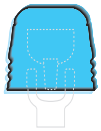
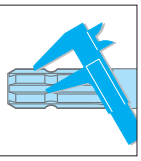
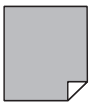
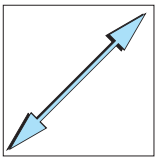
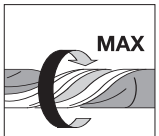
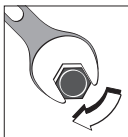
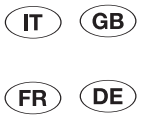
CALCOLO DURATA CROCIERE SERIE T/E
CALCULATION OF CROSS AND BEARING KIT LIFE SERIES T/E
CALCUL DE LA DUREE DE VIE DU CROISILLON SERIE T/E
LEBENSDAUERBERECHNUNG DER GELENKKREUZE SERIE T/E



Esempio *Example* Exemple *Beispiel*	**T 60**	**650 Nm.**	**540 rpm**	**9°**	→	**1200 h**	
	900 h	**10°**	**(CVJ)**	**1000 rpm**	**210 Nm**	→	**CvJ T20**
	900 h	**5°**	**(T)**	**1000 rpm**	**210 Nm**	→	**T20**

LEGENDA SIMBOLOGIA
SYMBOLS
SYMBOLES
LEGENDE

	INFORMAZIONI GENERALI *GENERAL INFORMATION* INFORMATIONS GENERALES *ALLGEMEINE INFORMATIONEN*
	CARDANI *PTO DRIVE SHAFTS* ARBRES A CARDANS *GELENKWELLEN*
	CARDANI OMOCINETICI CvJ *PTO DRIVE SHAFTS CvJ* ARBRES A CARDANS HOMOCINETIQUES CvJ *WEITWINKELGELENKWELLEN CvJ*
	FORCELLE *YOKES* MACHOIRES *GABELN*
	SNODI PER PROTEZIONE F-CE *JOINTS FOR F-CE GUARD* JOINTS POUR PROTECTEUR F-CE *GELENKE FÜR SCHUTZVORRICHTUNG F-CE*
	SNODI PER PROTEZIONE N-EN *JOINTS FOR N-EN GUARD* JOINTS POUR PROTECTEUR N-EN *GELENKE FÜR SCHUTZVORRICHTUNG N-EN*
	FORCELLE DOPPIE *DOUBLE YOKES* DOUBLE MACHOIRES *DOPPELGABELN*
	TUBI *TUBES* TUBES *ROHRE*
	DISPOSITIVI DI SICUREZZA INTEGRALI *INTEGRAL SAFETY DEVICES* DISPOSITIFS DE SÉCURITÉ INTEGRAUX *INTEGRALE SICHERHEITSVORRICHTUNGEN*
	DISPOSITIVI DI SICUREZZA FLANGIATI *INTEGRAL SAFETY DEVICES* DISPOSITIFS DE SECURITE MODULAIRES *MODULARE SICHERHEITSVORRICHTUNGEN*
	PROTEZIONI F-CE *GUARDS F-CE* PROTECTEURS F-CE *SCHUTZVORRICHTUNGEN F-CE*

	PROTEZIONI N-EN *GUARDS N-EN* PROTECTEURS N-EN *SCHUTZVORRICHTUNGEN N-EN*
	DIMENSIONI PROFILI *SPLINED DIMENSION* DIMENSIONS PROFILES *NORMPROFILE*
	RICHIAMO PAGINA *PAGE* PAGE *SEITE*
	ORDINAZIONI SU MISURA *CUSTOMIZED ORDERS* COMMANDES SUR MESURE *BESTELLUNGEN NACH MASS*
	QUOTE *DIMENSIONS* DIMENSIONS *ABMESSUNGEN*
	MOMENTO TORCENTE *TORQUE* MOMENT DE TORSION *DREHMOMENT*
	COPPIA DI SERRAGGIO *TIGHTENING TORQUE* COUPLE DE SERRAGE *ANZUGSMOMENT*
	RICHIAMO LINGUA *LANGUAGE* LANGUE *SPRACHE*
	NEL SEGNO DELLA SICUREZZA *THE MARK OF SAFETY* SOUS LE SIGNE DE LA SECURITE *IM ZEICHEN DER SICHERHEIT*

SEZIONE 2: **Parti di ricambio**

SECTION 2: ***Spare parts***

CHAPITRE 2: **Pièces de rechange**

TEIL 2: ***Ersatzteile***

comer industries
driveshafts

Cardani omocinetici CvJ
PTO drive shafts CvJ
Arbres à cardan CvJ
Weitwinkelgelenkwellen CvJ

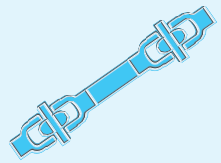
Programma di produzione
Production program
Programme de production
Produktpalette 16

Parti di ricambio
Spare parts
Pièces de rechange
Ersatzteile 20

Cardani
PTO drive shafts
Arbres à cardan
Gelenkwellen

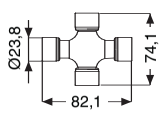
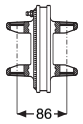
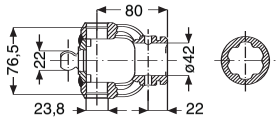
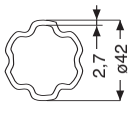
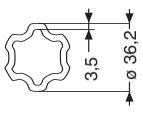
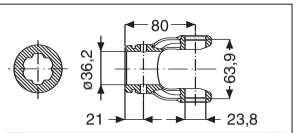
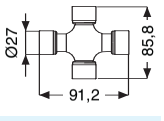
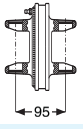
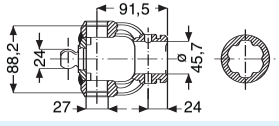
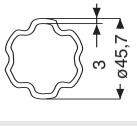
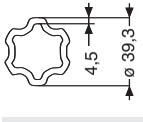
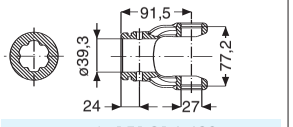
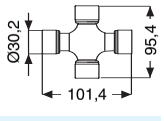
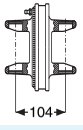
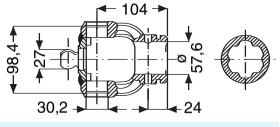
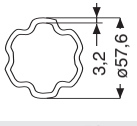
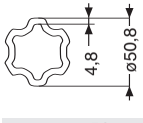
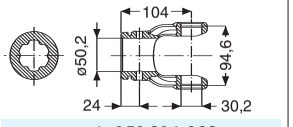
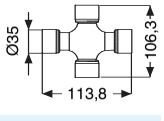
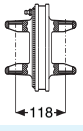
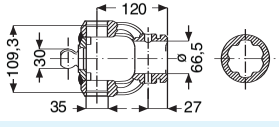
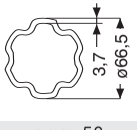
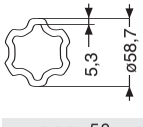
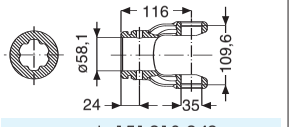
Programma di produzione
Production program
Programme de production
Produktpalette 18

Parti di ricambio
Spare parts
Pièces de rechange
Ersatzteile 24

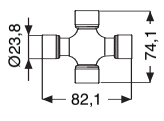
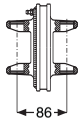
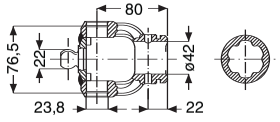
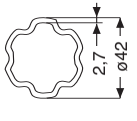
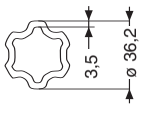
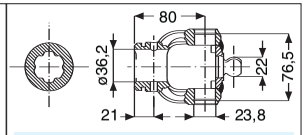
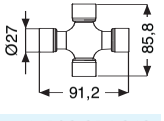
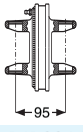
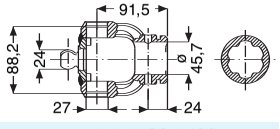
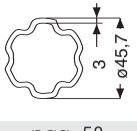
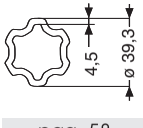
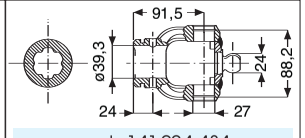
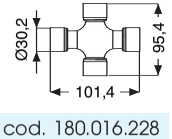
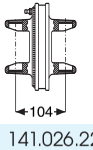
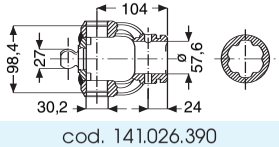
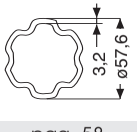
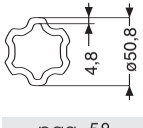
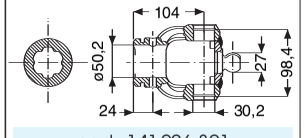
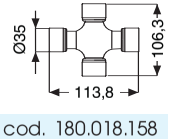
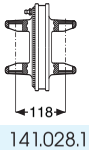
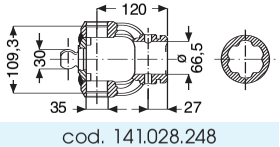
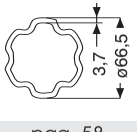
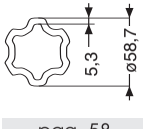
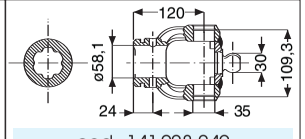


Tipo *Type* Type *Typ*	Crociera *Cross and bearing kit* Croisillon *Kreuzgarnitur*	Corpo centrale *Double yoke* Mâchoire double *Doppelgabel*	Forcella per tubo esterno *Outer tube yoke* Mâchoire pour tube extérieur *Außenprofilgabel*	Tubo esterno *Outer tube* Tube extérieur *Außenprofil*	Tubo interno *Inner tube* Tube intérieur *Innenprofil*	Forcella per tubo interno *Inner tube yoke* Mâchoire pour tube intérieur *Innenprofilgabel*

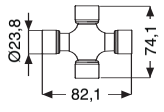
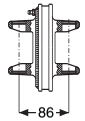
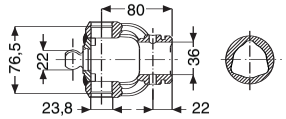
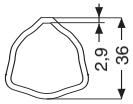
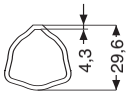
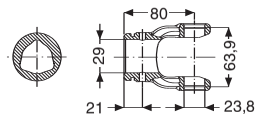
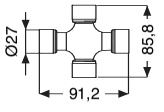
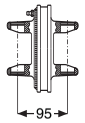
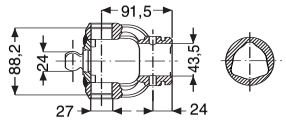
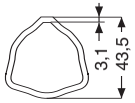
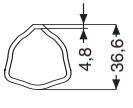
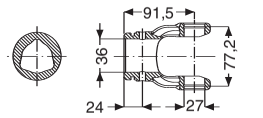
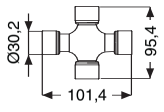
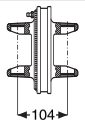
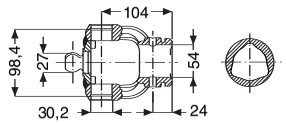
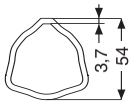
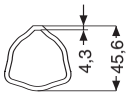
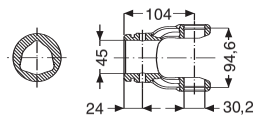
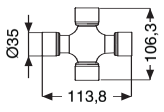
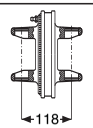
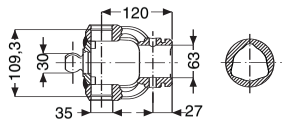
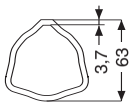
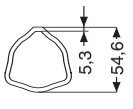
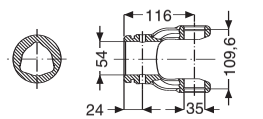
serie *series* série *serie* V — snodo singolo *single joint* joint simple *Einzelgelenk*

20	 cod. 180.012.161	 cod. 141.022.160	 cod. 141.022.325	 pag. 58	 pag. 58	 cod. 151.012.320
40	 cod. 180.014.260	 cod. 141.024.259	 cod. 141.024.433	 pag. 58	 pag. 58	 cod. 151.014.428
60	 cod. 180.016.228	 cod. 141.026.224	 cod. 141.026.390	 pag. 58	 pag. 58	 cod. 151.016.389
80	 cod. 180.018.158	 cod. 141.028.157	 cod. 141.028.248	 pag. 58	 pag. 58	 cod. 151.018.242

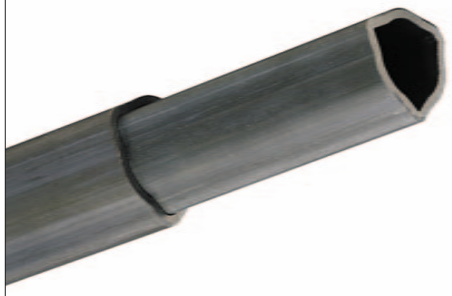
serie *series* série *serie* V — snodo doppio *double joint* joint double *Doppelgelenk*

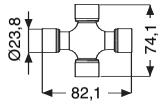
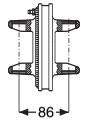
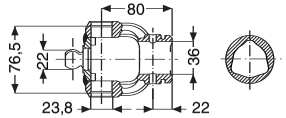
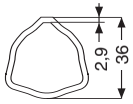
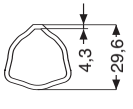
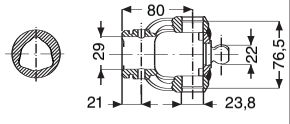
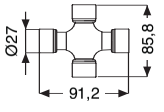
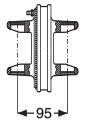
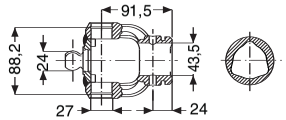
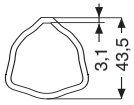
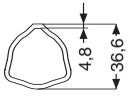
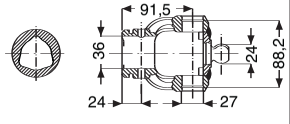
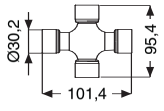
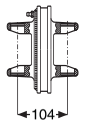
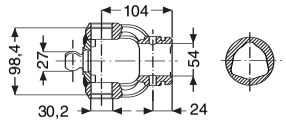
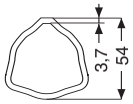
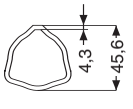
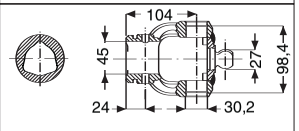
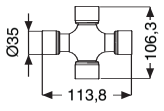
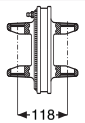
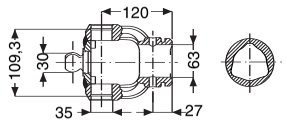
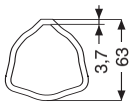
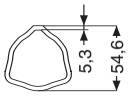
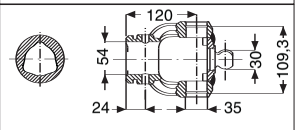
20	 cod. 180.012.161	 cod. 141.022.160	 cod. 141.022.325	 pag. 58	 pag. 58	 cod. 141.022.326
40	 cod. 180.014.260	 cod. 141.024.259	 cod. 141.024.433	 pag. 58	 pag. 58	 cod. 141.024.434
60	 cod. 180.016.228	 cod. 141.026.224	 cod. 141.026.390	 pag. 58	 pag. 58	 cod. 141.026.391
80	 cod. 180.018.158	 cod. 141.028.157	 cod. 141.028.248	 pag. 58	 pag. 58	 cod. 141.028.249

serie T — snodo singolo
series T — single joint
série T — joint simple
serie T — Einzelgelenk

20	 cod. 180.012.161	 cod. 141.022.160	 cod. 141.022.166	 pag. 59	 pag. 59	 cod. 151.012.002
40	 cod. 180.014.260	 cod. 141.024.259	 cod. 141.024.263	 pag. 59	 pag. 59	 cod. 151.014.007
60	 cod. 180.016.228	 cod. 141.026.224	 cod. 141.026.229	 pag. 59	 pag. 59	 cod. 151.016.029
80	 cod. 180.018.158	 cod. 141.028.157	 cod. 141.028.152	 pag. 59	 pag. 59	 cod. 151.018.134

serie T — snodo doppio
series T — double joint
série T — joint double
serie T — Doppelgelenk

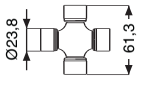
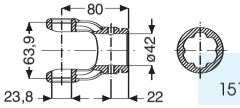
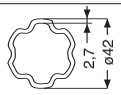
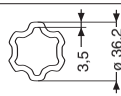
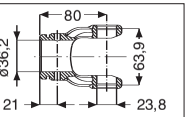
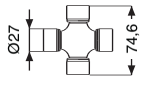
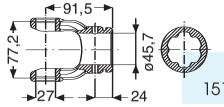
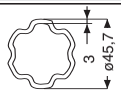
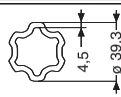
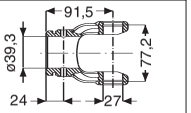
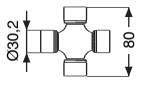
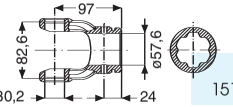
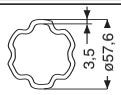
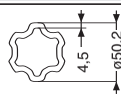
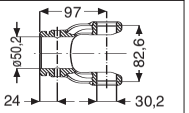
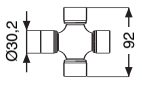
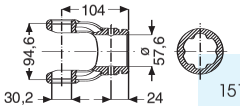
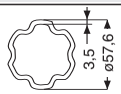
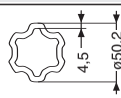
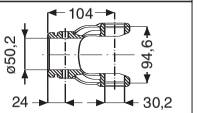
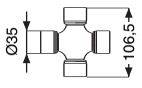
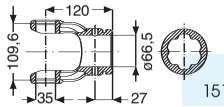
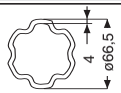
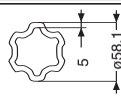
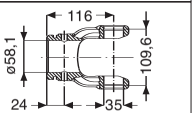
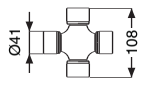
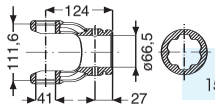
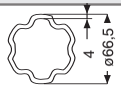
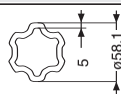
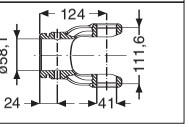


20	 cod. 180.012.161	 cod. 141.022.160	 cod. 141.022.166	 pag. 59	 pag. 59	 cod. 141.022.172
40	 cod. 180.014.260	 cod. 141.024.259	 cod. 141.024.263	 pag. 59	 pag. 59	 cod. 141.024.269
60	 cod. 180.016.228	 cod. 141.026.224	 cod. 141.026.229	 pag. 59	 pag. 59	 cod. 141.026.249
80	 cod. 180.018.158	 cod. 141.028.157	 cod. 141.028.152	 pag. 59	 pag. 59	 cod. 141.028.165

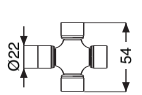
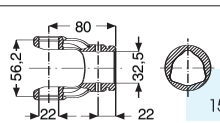
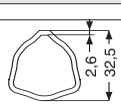
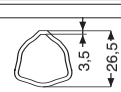
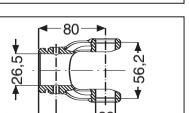
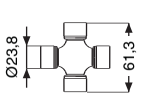
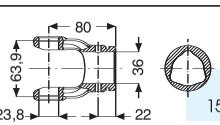
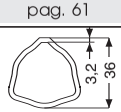
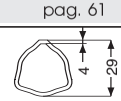
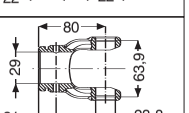
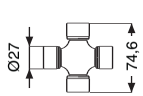
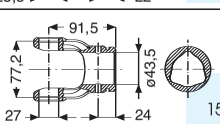
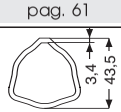
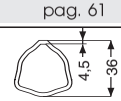
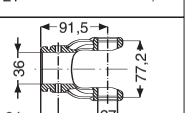
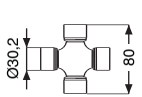
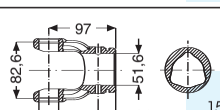
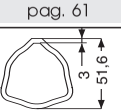
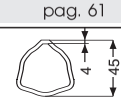
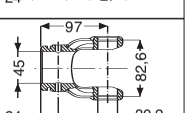
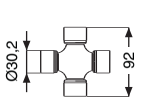
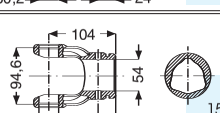
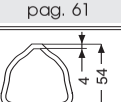
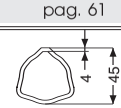
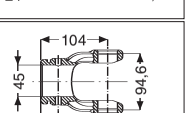
STANDARD

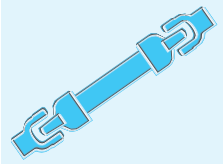
Tipo *Type* Type *Typ*	Crociera *Cross and bearing kit* Croisillon *Kreuzgarnitur*	Forcella per tubo esterno *Outer tube yoke* Mâchoire pour tube extérieur *Außenprofilgabel*	Tubo esterno *Outer tube* Tube extérieur *Außenprofil*	Tubo interno *Inner tube* Tube intérieur *Innenprofil*	Forcella per tubo interno *Inner tube yoke* Mâchoire pour tube intérieur *Innenprofil*

serie *series* série *serie* V

20	 cod. 180.012.004	 cod. 151.012.319	 pag. 60	 pag. 60	 cod. 151.012.320
40	 cod. 180.014.004	 cod. 151.014.427	 pag. 60	 pag. 60	 cod. 151.014.428
50	 cod. 180.015.004	 cod. 151.015.361	 pag. 60	 pag. 60	 cod. 151.015.362
60	 cod. 180.016.004	 cod. 151.016.388	 pag. 60	 pag. 60	 cod. 151.016.389
80	 cod. 180.018.004	 cod. 151.018.241	 pag. 60	 pag. 60	 cod. 151.018.242
90	 cod. 180.019.043	 cod. 151.019.166	 pag. 60	 pag. 60	 cod. 151.019.167

serie *series* série *serie* T

10	 cod. 180.011.130	 cod. 151.011.003	 pag. 61	 pag. 61	 cod. 151.011.002
20	 cod. 180.012.130	 cod. 151.012.003	 pag. 61	 pag. 61	 cod. 151.012.002
40	 cod. 180.014.130	 cod. 151.014.006	 pag. 61	 pag. 61	 cod. 151.014.007
50	 cod. 180.015.130	 cod. 151.015.011	 pag. 61	 pag. 61	 cod. 151.015.012
60	 cod. 180.016.130	 cod. 151.016.028	 pag. 61	 pag. 61	 cod. 151.016.029



PROGRAMMA DI PRODUZIONE
PRODUCTION PROGRAM
PROGRAMME DE PRODUCTION
PRODUKTPALETTE

	80	Ø35 108,5	cod. 180.018.130	120 109,6 63 35 27	cod. 151.018.133	4 63	5 54	cod. 151.018.134 — 116 54 109,6 24 35
	90	Ø41 108	cod. 180.019.130	124 111,6 63 41 27	cod. 151.019.127	4 63	5 54	cod. 151.019.128 — 124 54 111,6 24 41

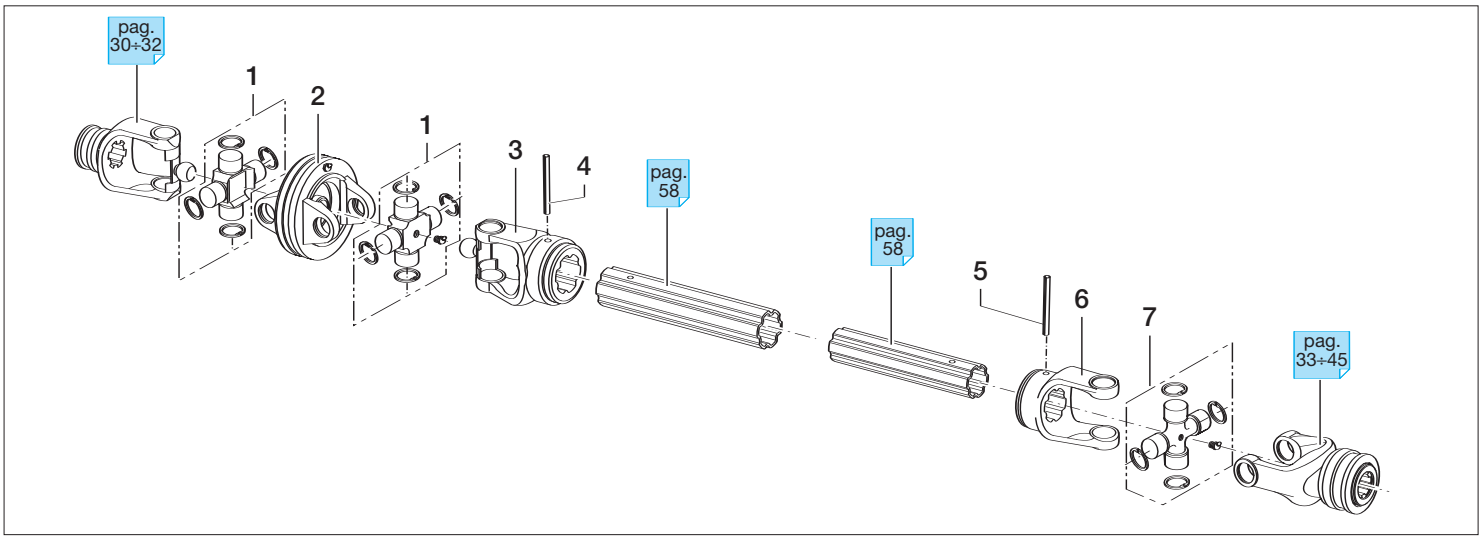
serie *series* série *serie* E

	40	Ø27 74,8	cod. 180.014.130	91,5 77,2 ø42 27	cod. 151.014.003	4 50	Ø30 **30 CUNA Z=10**	30 CUNA cod. 151.014.250 — 91,5 77,2 24 27
	50	Ø30,2 80	cod. 180.015.130	97 82,6 ø42 30,2	cod. 151.015.003	4 50	Ø35 **35 CUNA Z=12**	35 CUNA cod. 141.015.014 — 97 82,6 24 30,2
	60	Ø30,2 82	cod. 180.016.130	104 94,6 ø42 30,2	cod. 151.016.035	4 50	Ø35 **35 CUNA Z=12**	35 CUNA cod. 151.016.031 — 104 94,6 24 30,2
	80	Ø35 108,5	cod. 180.018.130	120 109,6 ø50 35	cod. 151.018.144	5 60	Ø40 **40 CUNA Z=14**	40 CUNA cod. 151.018.145 — 116 109,6 24 35
	90	Ø41 108	cod. 180.019.130	124 111,6 ø52,5 41	cod. 151.019.055	5,5 63,5	Ø45 **45 CUNA Z=16**	45 CUNA cod. 151.019.054 — 124 111,6 27 41

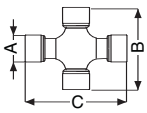
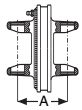
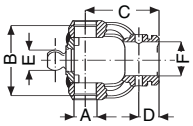
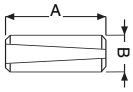
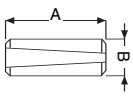
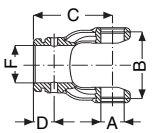
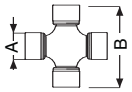
serie *series* série *serie* D

	120	Ø52 125	cod. 180.120.004	141 130 ø 62 52		10 80	Ø50 **DIN5482 Z=24**	DIN 5482 z.24 cod. 151.120.003 — 141 130 36 52

SERIE V - SINGOLO
SERIES V – SINGLE
SERIE V - SIMPLE
SERIE V - EINSEITIG



Pos.	(IT)	(GB)	(FR)	(DE)
1	Crociera completa (CvJ)	*Cross and bearing kit (CvJ)*	Croisillon complet (CvJ)	*Kreuzgarnitur (CvJ) kpl.*
2	Corpo centrale	*Double yoke*	Boîtier central	*Doppelgabel*
3	Forcella per tubo est. (CvJ)	*Outer tube yoke (CvJ)*	Mâchoire pour tube ext (CvJ)	*Außenprofilgabel (CvJ)*
4	Spina elastica esterna	*Outer roll pin*	Goupille élastique extérieure	*äußerer Spannstift*
5	Spina elastica interna	*Inner roll pin*	Goupille élastique intérieure	*innerer Spannstift*
6	Forcella per tubo int. (std)	*Inner tube yoke (std)*	Mâchoire pour tube int. (std)	*Innenprofilgabel (Std)*
7	Crociera completa (std)	*Cross and bearing kit (std)*	Croisillon complet (std)	*Kreuzgarnitur (Std) kpl.*

Pos.			Type 20	40	60	80	Qty*
1			**A** = ø 23,8 **B** = 74,1 **C** = 82,1	**A** = ø 27 **B** = 85,8 **C** = 91,2	**A** = ø 30,2 **B** = 95,4 **C** = 101,4	**A** = ø 35 **B** = 106,3 **C** = 113,8	2
		Cod.	**180.012.161**	**180.014.260**	**180.016.228**	**180.018.158**	
2			**A** = 86	**A** = 95	**A** = 104	**A** = 118	1
		Cod.	**141.022.160**	**141.024.259**	**141.026.224**	**141.028.157**	
3			**A** = 23,8 **B** = 76,5 **C** = 80 **D** = 22 **E** = 22 **F** = **ø** 42	**A** = 27 **B** = 88,2 **C** = 91,5 **D** = 24 **E** = 24 **F** = ø 45,7	**A** = 30,2 **B** = 98,4 **C** = 104 **D** = 24 **E** = 27 **F** = ø 57,6	**A** = 35 **B** = 109,3 **C** = 120 **D** = 27 **E** = 30 **F** = ø 66,5	1
		Cod.	**141.022.325**	**141.024.433**	**141.026.390**	**141.028.248**	
4			**A** = 55 **B** = ø 8	**A** = 65 **B** = ø 8	**A** = 80 **B** = ø 10	**A** = 90 **B** = ø 12	1
		Cod.	**190.000.012**	**190.000.014**	**190.000.018**	**190.000.243**	
5			**A** = 50 **B** = ø 8	**A** = 55 **B** = ø 8	**A** = 70 **B** = ø 10	**A** = 80 **B** = ø 12	1
		Cod.	**190.000.011**	**190.000.012**	**190.000.016**	**190.000.271**	
6			**A** = 23,8 **B** = 63,9 **C** = 80 **D** = 21 **F** = ø 36,2	**A** = 27 **B** = 77,2 **C** = 91,5 **D** = 24 **F** = ø 39,3	**A** = 30,2 **B** = 94,6 **C** = 104 **D** = 24 **F** = ø 50,2	**A** = 35 **B** = 109,6 **C** = 116 **D** = 24 **F** = ø 58,1	1
		Cod.	**151.012.320**	**151.014.428**	**151.016.389**	**151.018.242**	
7			**A** = ø 23,8 **B** = 61,3	**A** = ø 27 **B** = 74,6	**A** = ø 30,2 **B** = 92	**A** = ø 35 **B** = 106,5	1
		Cod.	**180.012.004**	**180.014.004**	**180.016.004**	**180.018.004**	

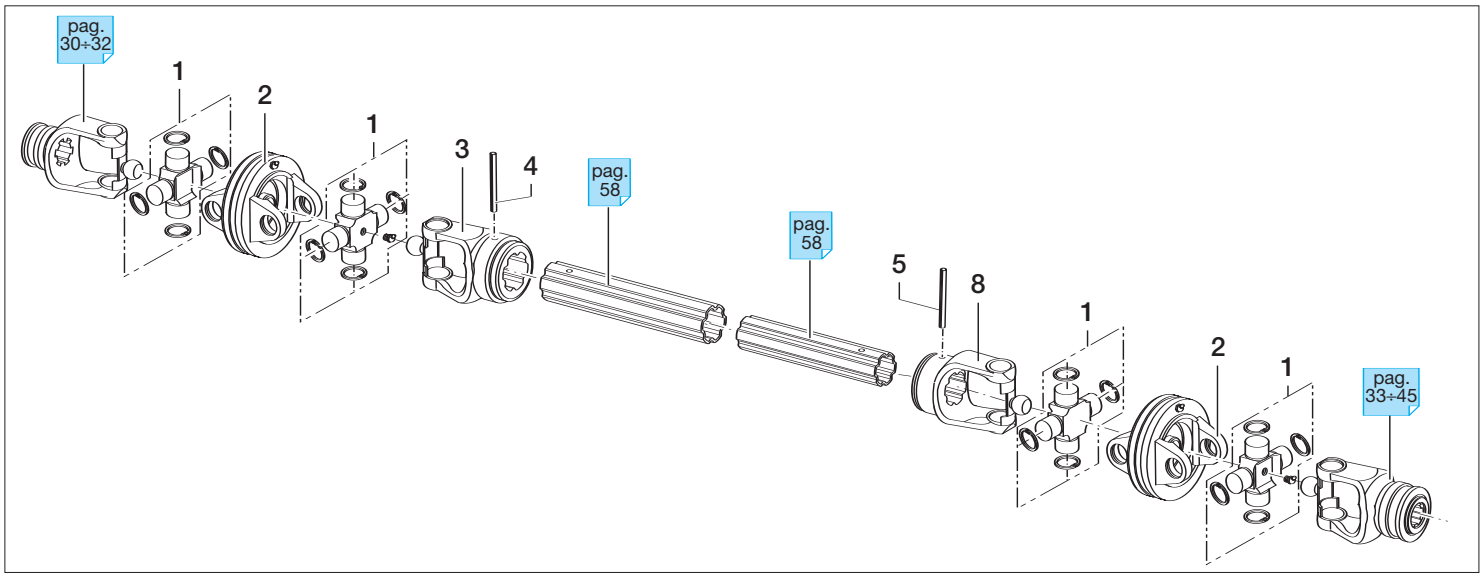
(IT) * Quantità presente nel cardano

(GB) * *Quantity in the PTO Drive Shaft*

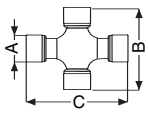
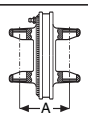
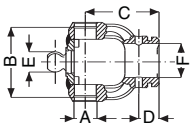
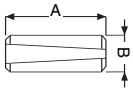
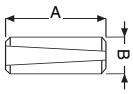
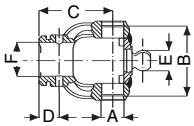
(FR) * Quantité présente dans l'arbre à cardan

(DE) * In der Gelenkwelle vorhandene Menge

SERIE V - DOPPIO
SERIES V – DOUBLE
SERIE V - DOUBLE
SERIE V - BEIDSEITIG



Pos.	IT	GB	FR	DE
1	Crociera completa (CvJ)	*Cross and bearing kit (CvJ)*	Croisillon complet (CvJ)	*Kreuzgarnitur (CvJ) kpl.*
2	Corpo centrale	*Double yoke*	Boîtier central	*Doppelgabel*
3	Forcella per tubo est. (CvJ)	*Outer tube yoke (CvJ)*	Mâchoire pour tube ext (CvJ)	*Außenprofilgabel (CvJ)*
4	Spina elastica esterna	*Outer roll pin*	Goupille élastique extérieure	*äußerer Spannstift*
5	Spina elastica interna	*Inner roll pin*	Goupille élastique intérieure	*innerer Spannstift*
8	Forcella per tubo int. (CvJ)	*Inner tube yoke (CvJ)*	Mâchoire pour tube int. (CvJ)	*Innenprofilgabel (CvJ)*

Pos.			Type 20	Type 40	Type 60	Type 80	Qty*
1			**A** = ø 23,8 **B** = 74,1 **C** = 82,1	**A** = ø 27 **B** = 85,8 **C** = 91,2	**A** = ø 30,2 **B** = 95,4 **C** = 101,4	**A** = ø 35 **B** = 106,3 **C** = 113,8	4
		Cod.	**180.012.161**	**180.014.260**	**180.016.228**	**180.018.158**	
2			**A** = 86	**A** = 95	**A** = 104	**A** = 118	1
		Cod.	**141.022.160**	**141.024.259**	**141.026.224**	**141.028.157**	
3			**A** = 23,8 **B** = 76,5 **C** = 80 **D** = 22 **E** = 22 **F** = ø 42	**A** = 27 **B** = 88,2 **C** = 91,5 **D** = 24 **E** = 24 **F** = ø 45,7	**A** = 30,2 **B** = 98,4 **C** = 104 **D** = 24 **E** = 27 **F** = ø 57,6	**A** = 35 **B** = 109,3 **C** = 120 **D** = 27 **E** = 30 **F** = ø 66,5	1
		Cod.	**141.022.325**	**141.024.433**	**141.026.390**	**141.028.248**	
4			**A** = 55 **B** = ø 8	**A** = 65 **B** = ø 8	**A** = 80 **B** = ø 10	**A** = 90 **B** = ø 12	1
		Cod.	**190.000.012**	**190.000.014**	**190.000.018**	**190.000.243**	
5			**A** = 50 **B** = ø 8	**A** = 55 **B** = ø 8	**A** = 70 **B** = ø 10	**A** = 80 **B** = ø 12	1
		Cod.	**190.000.011**	**190.000.012**	**190.000.016**	**190.000.271**	
8			**A** = 23,8 **B** = 76,5 **C** = 80 **D** = 21 **E** = 22 **F** = ø 36,2	**A** = 27 **B** = 88,2 **C** = 91,5 **D** = 24 **E** = 24 **F** = ø 39,3	**A** = 30,2 **B** = 98,4 **C** = 104 **D** = 24 **E** = 27 **F** = ø 50,2	**A** = 35 **B** = 109,3 **C** = 120 **D** = 24 **E** = 30 **F** = ø 58,1	1
		Cod.	**141.022.326**	**141.024.434**	**141.026.391**	**141.028.249**	

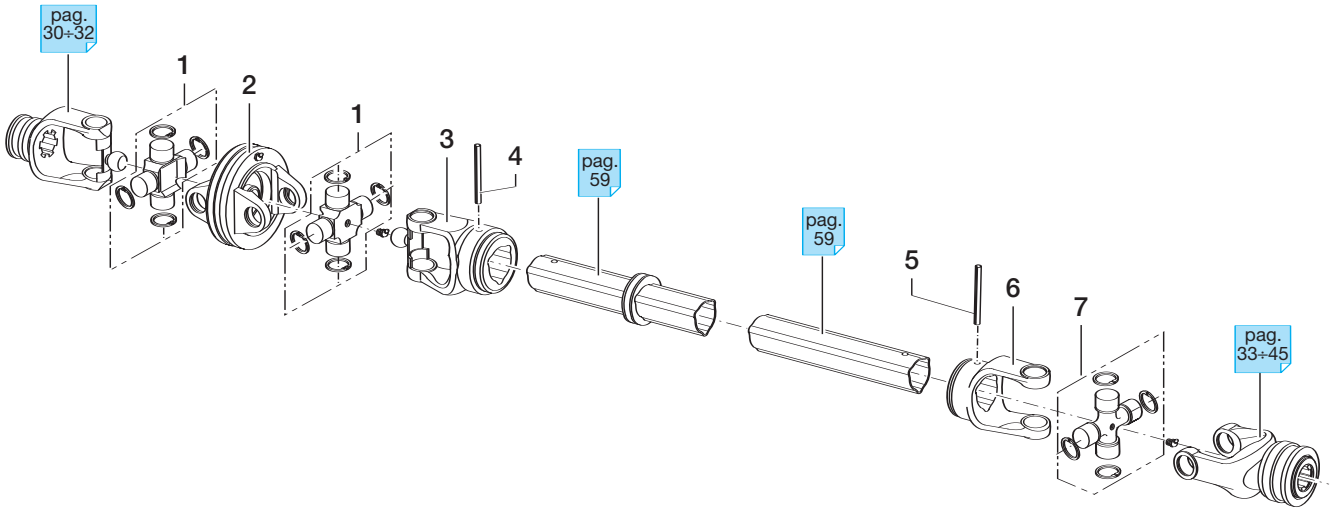
IT ✱ Quantità presente nel cardano

GB ✱ *Quantity in the PTO Drive Shaft*

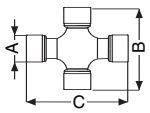
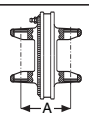
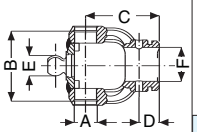
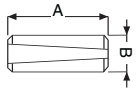
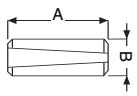
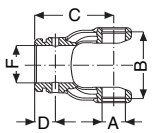
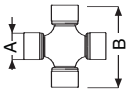
FR ✱ Quantité présente dans l'arbre à cardan

DE ✱ In der Gelenkwelle vorhandene Menge

SERIE T - SINGOLO
SERIES T – SINGLE
SERIE T - SIMPLE
SERIE T - EINSEITIG



Pos.	IT	GB	FR	DE
1	Crociera completa (CvJ)	*Cross and bearing kit (CvJ)*	Croisillon complet (Cvj)	*Kreuzgarnitur (CvJ) kpl.*
2	Corpo centrale	*Double yoke*	Boîtier central	*Doppelgabel*
3	Forcella per tubo est. (CvJ)	*Outer tube yoke (CvJ)*	Mâchoire pour tube ext (CvJ)	*Außenprofilgabel (CvJ)*
4	Spina elastica esterna	*Outer roll pin*	Goupille élastique extérieure	*äußerer Spannstift*
5	Spina elastica interna	*Inner roll pin*	Goupille élastique intérieure	*innerer Spannstift*
6	Forcella per tubo int. (std)	*Inner tube yoke (std)*	Mâchoire pour tube int. (std)	*Innenprofilgabel (Std)*
7	Crociera completa (std)	*Cross and bearing kit (std)*	Croisillon complet (std)	*Kreuzgarnitur (Std) kpl.*

Pos.			Type 20	Type 40	Type 60	Type 80	Qty*
1			**A** = ø 23,8 **B** = 74,1 **C** = 82,1	**A** = ø 27 **B** = 85,8 **C** = 91,2	**A** = ø 30,2 **B** = 95,4 **C** = 101,4	**A** = ø 35 **B** = 106,3 **C** = 113,8	2
		Cod.	**180.012.161**	**180.014.260**	**180.016.228**	**180.018.158**	
2			**A** = 86	**A** = 95	**A** = 104	**A** = 118	1
		Cod.	**141.022.160**	**141.024.259**	**141.026.224**	**141.028.157**	
3			**A** = 23,8 **B** = 76,5 **C** = 80 **D** = 22 **E** = 22 **F** = 36	**A** = 27 **B** = 88,2 **C** = 91,5 **D** = 24 **E** = 24 **F** = 43,5	**A** = 30,2 **B** = 98,4 **C** = 104 **D** = 24 **E** = 27 **F** = 54	**A** = 35 **B** = 109,3 **C** = 120 **D** = 27 **E** = 30 **F** = 63	1
		Cod.	**141.022.166**	**141.024.263**	**141.026.229**	**141.028.152**	
4			**A** = 55 **B** = ø 8	**A** = 65 **B** = ø 8	**A** = 80 **B** = ø 10	**A** = 90 **B** = ø 12	1
		Cod.	**190.000.012**	**190.000.014**	**190.000.018**	**190.000.243**	
5			**A** = 50 **B** = ø 8	**A** = 55 **B** = ø 8	**A** = 70 **B** = ø 10	**A** = 80 **B** = ø 12	1
		Cod.	**190.000.011**	**190.000.012**	**190.000.016**	**190.000.271**	
6			**A** = 23,8 **B** = 63,9 **C** = 80 **D** = 21 **F** = 29	**A** = 27 **B** = 77,2 **C** = 91,5 **D** = 24 **F** = 36	**A** = 30,2 **B** = 94,6 **C** = 104 **D** = 24 **F** = 45	**A** = 35 **B** = 109,6 **C** = 116 **D** = 24 **F** = 54	1
		Cod.	**151.012.002**	**151.014.007**	**151.016.029**	**151.018.134**	
7			**A** = ø 23,8 **B** = 61,3	**A** = ø 27 **B** = 74,6	**A** = ø 30,2 **B** = 92	**A** = ø 35 **B** = 106,5	1
		Cod.	**180.012.004**	**180.014.004**	**180.016.004**	**180.018.004**	

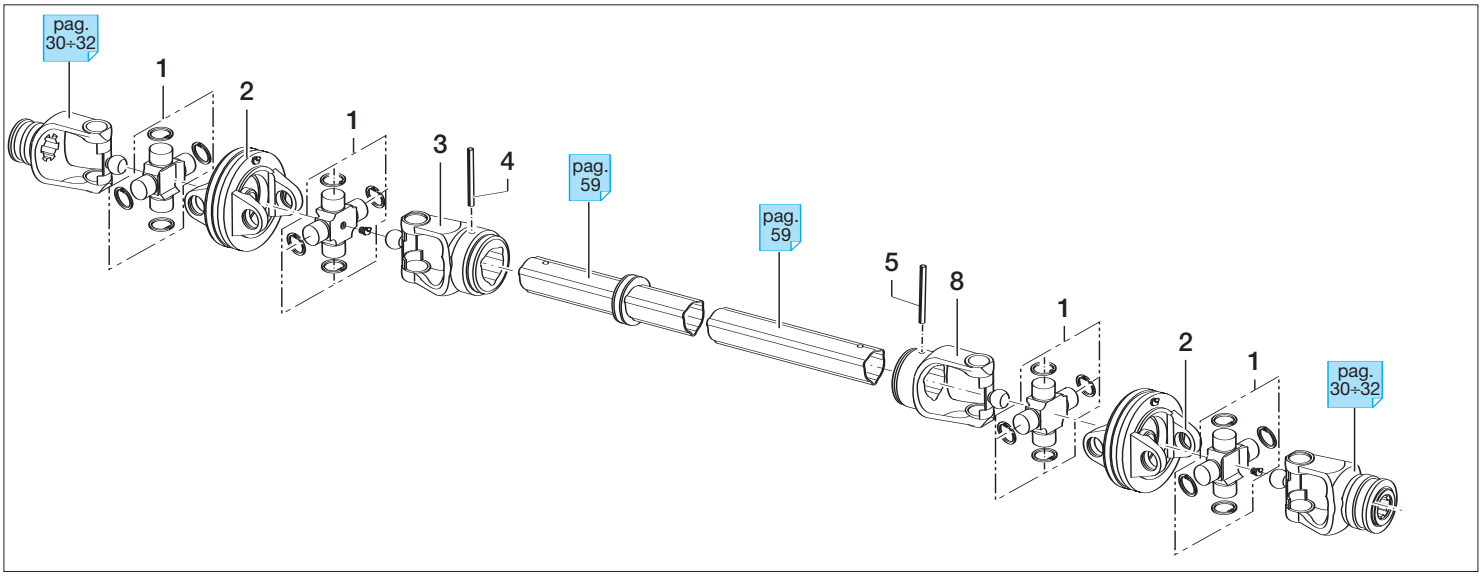
IT * Quantità presente nel cardano

GB * *Quantity in the PTO Drive Shaft*

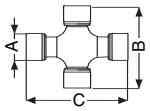
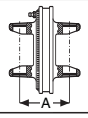
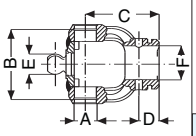
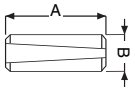
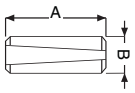
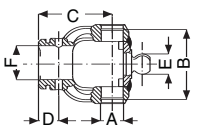
FR * Quantité présente dans l'arbre à cardan

DE * In der Gelenkwelle vorhandene Menge

SERIE T - DOPPIO
SERIES T – DOUBLE
SERIE T - DOUBLE
SERIE T - BEIDSEITIG



Pos	IT	GB	FR	DE
1	Crociera completa (CvJ)	*Cross and bearing kit (CvJ)*	Croisillon complet (CvJ)	*Kreuzgarnitur (CvJ) kpl.*
2	Corpo centrale	*Double yoke*	Boîtier central	*Doppelgabel*
3	Forcella per tubo est. (CvJ)	*Outer tube yoke (CvJ)*	Mâchoire pour tube ext (CvJ)	*Außenprofilgabel (CvJ)*
4	Spina elastica esterna	*Outer roll pin*	Goupille élastique extérieure	*äußerer Spannstift*
5	Spina elastica interna	*Inner roll pin*	Goupille élastique intérieure	*innerer Spannstift*
8	Forcella per tubo int. (CvJ)	*Inner tube yoke (CvJ)*	Mâchoire pour tube int. (CvJ)	*Innenprofilgabel (CvJ)*

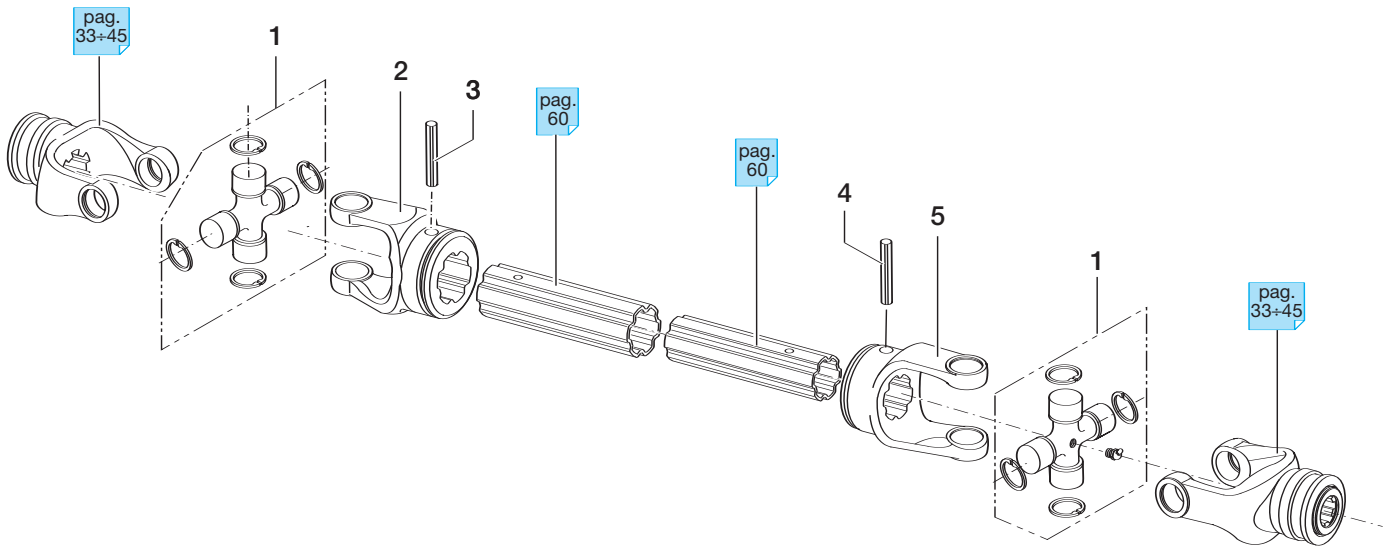
Pos.			Type 20	Type 40	Type 60	Type 80	Qty*
1			**A** = ø 23,8 **B** = 74,1 **C** = 82,1	**A** = ø 27 **B** = 85,8 **C** = 91,2	**A** = ø 30,2 **B** = 95,4 **C** = 101,4	**A** = ø 35 **B** = 106,3 **C** = 113,8	4
		Cod.	**180.012.161**	**180.014.260**	**180.016.228**	**180.018.158**	
2			**A** = 86	**A** = 95	**A** = 104	**A** = 118	1
		Cod.	**141.022.160**	**141.024.259**	**141.026.224**	**141.028.157**	
3			**A** = 23,8 **B** = 76,5 **C** = 80 **D** = 22 **E** = 22 **F** = 36	**A** = 27 **B** = 88,2 **C** = 91,5 **D** = 24 **E** = 24 **F** = 43,5	**A** = 30,2 **B** = 98,4 **C** = 104 **D** = 24 **E** = 27 **F** = 54	**A** = 35 **B** = 109,3 **C** = 120 **D** = 27 **E** = 30 **F** = 63	1
		Cod.	**141.022.166**	**141.024.263**	**141.026.229**	**141.028.152**	
4			**A** = 55 **B** = ø 8	**A** = 65 **B** = ø 8	**A** = 80 **B** = ø 10	**A** = 90 **B** = ø 12	1
		Cod.	**190.000.012**	**190.000.014**	**190.000.018**	**190.000.243**	
5			**A** = 50 **B** = ø 8	**A** = 55 **B** = ø 8	**A** = 70 **B** = ø 10	**A** = 80 **B** = ø 12	1
		Cod.	**190.000.011**	**190.000.012**	**190.000.016**	**190.000.271**	
8			**A** = 23,8 **B** = 76,5 **C** = 80 **D** = 21 **E** = 22 **F** = 29	**A** = 27 **B** = 88,2 **C** = 91,5 **D** = 24 **E** = 24 **F** = 36	**A** = 30,2 **B** = 98,4 **C** = 104 **D** = 24 **E** = 27 **F** = 45	**A** = 35 **B** = 109,3 **C** = 120 **D** = 24 **E** = 30 **F** = 54	1
		Cod.	**141.022.172**	**141.024.269**	**141.026.249**	**141.028.165**	

IT * Quantità presente nel cardano

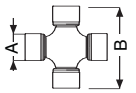
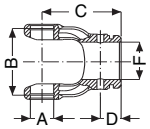
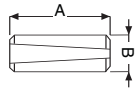
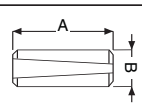
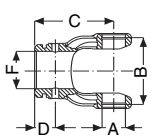
GB * *Quantity in the PTO Drive Shaft*

FR * Quantité présente dans l'arbre à cardan

DE * In der Gelenkwelle vorhandene Menge



Pos.	IT	GB	FR	DE
1	Crociera completa	*Cross and bearing kit*	Croisillon complet	*Kreuzgarnitur*
2	Forcella per tubo esterno	*Outer tube yoke*	Mâchoire pour tube extérieur	*Außenprofilgabel*
3	Spina elastica esterna	*Outer roll pin*	Goupille élastique extérieure	*äußerer Spannstift*
4	Spina elastica interna	*Inner roll pin*	Goupille élastique intérieure	*innerer Spannstift*
5	Forcella per tubo interno	*Inner tube yoke*	Mâchoire pour tube intérieur	*Innenprofilgabel*

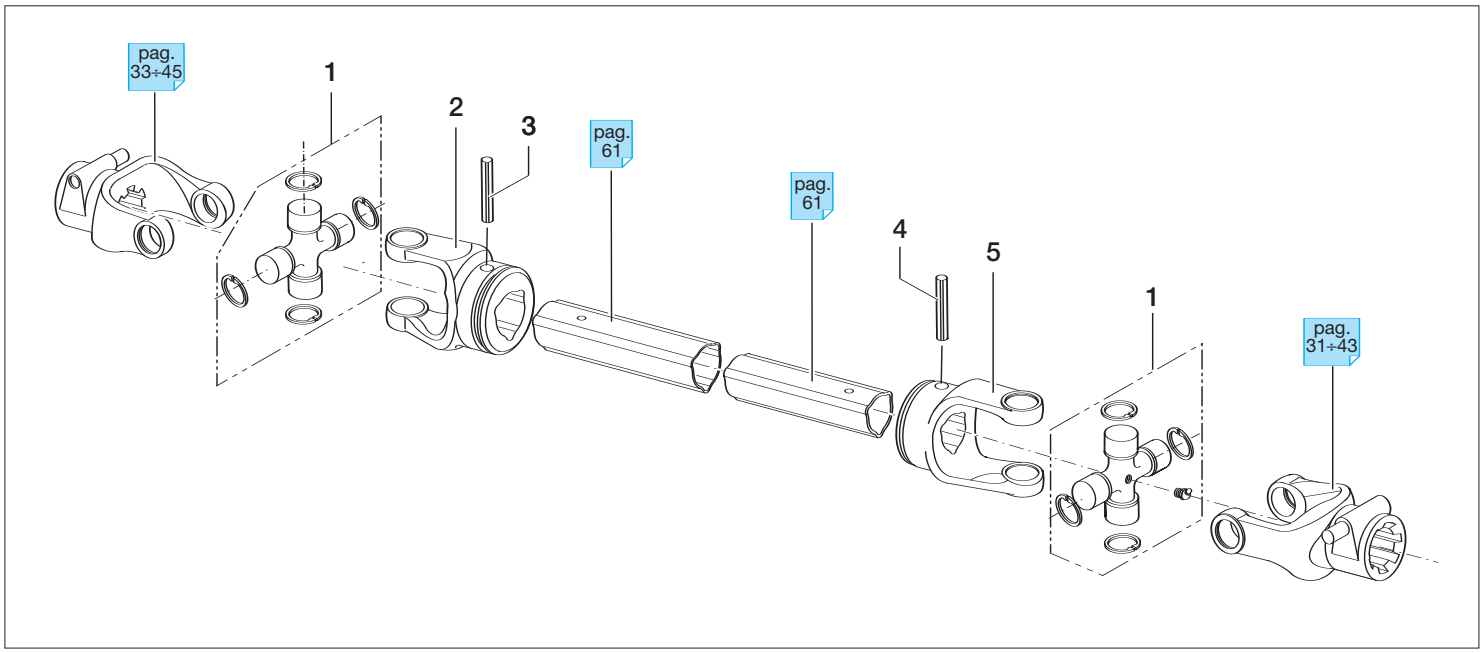
Pos.			Type						Qty*
			20	**40**	**50**	**60**	**80**	**90**	
1			**A** = ø 23,8 **B** = 61,3	**A** = ø 27 **B** = 74,6	**A** = ø 30,2 **B** = 80	**A** = ø 30,2 **B** = 92	**A** = ø 35 **B** = 106,5	**A** = ø 41 **B** = 108	2
		Cod.	**180.012.004**	**180.014.004**	**180.015.004**	**180.016.004**	**180.018.004**	**180.019.043**	
2			**A** = 23,8 **B** = 63,9 **C** = 80 **D** = 22 **F** = ø 42	**A** = 27 **B** = 77,2 **C** = 91,5 **D** = 24 **F** = ø 45,7	**A** = 30,2 **B** = 82,6 **C** = 97 **D** = 24 **F** = ø 57,6	**A** = 30,2 **B** = 94,6 **C** = 104 **D** = 24 **F** = ø 57,6	**A** = 35 **B** = 109,6 **C** = 120 **D** = 27 **F** = ø 66,5	**A** = 41 **B** = 111,6 **C** = 124 **D** = 27 **F** = ø 66,5	1
		Cod.	**151.012.319**	**151.014.427**	**151.015.361**	**151.016.388**	**151.018.241**	**151.019.166**	
3			**A** = 55 **B** = ø 8	**A** = 65 **B** = ø 8	**A** = 70 **B** = ø 10	**A** = 80 **B** = ø 10	**A** = 90 **B** = ø 12	**A** = 90 **B** = ø 12	1
		Cod.	**190.000.012**	**190.000.014**	**190.000.016**	**190.000.018**	**190.000.243**	**190.000.243**	
4			**A** = 50 **B** = ø 8	**A** = 55 **B** = ø 8	**A** = 65 **B** = ø 10	**A** = 70 **B** = ø 10	**A** = 80 **B** = ø 12	**A** = 90 **B** = ø 12	1
		Cod.	**190.000.011**	**190.000.012**	**190.000.394**	**190.000.016**	**190.000.271**	**190.000.243**	
5			**A** = 23,8 **B** = 63,9 **C** = 80 **D** = 21 **F** = ø 36,2	**A** = 27 **B** = 77,2 **C** = 91,5 **D** = 24 **F** = ø 39,3	**A** = 30,2 **B** = 82,6 **C** = 97 **D** = 24 **F** = ø 50,2	**A** = 30,2 **B** = 94,6 **C** = 104 **D** = 24 **F** = ø 50,2	**A** = 35 **B** = 109,6 **C** = 116 **D** = 24 **F** = ø 58,1	**A** = 41 **B** = 111,6 **C** = 124 **D** = 27 **F** = ø 58,1	1
		Cod.	**151.012.320**	**151.014.428**	**151.015.362**	**151.016.389**	**151.018.242**	**151.019.167**	

IT * Quantità presente nel cardano

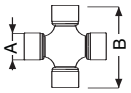
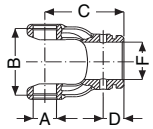
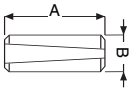
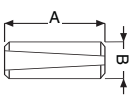
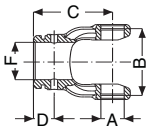
GB * *Quantity in the PTO Drive Shaft*

FR * Quantité présente dans l'arbre à cardan

DE * In der Gelenkwelle vorhandene Menge



Pos.	IT	GB	FR	DE
1	Crociera completa	*Cross and bearing kit*	Croisillon complet	*Kreuzgarnitur*
2	Forcella per tubo esterno	*Outer tube yoke*	Mâchoire pour tube extérieur	*Außenprofilgabel*
3	Spina elastica esterna	*Outer roll pin*	Goupille élastique extérieure	*äußerer Spannstift*
4	Spina elastica interna	*Inner roll pin*	Goupille élastique intérieure	*innerer Spannstift*
5	Forcella per tubo interno	*Inner tube yoke*	Mâchoire pour tube intérieur	*Innenprofilgabel*

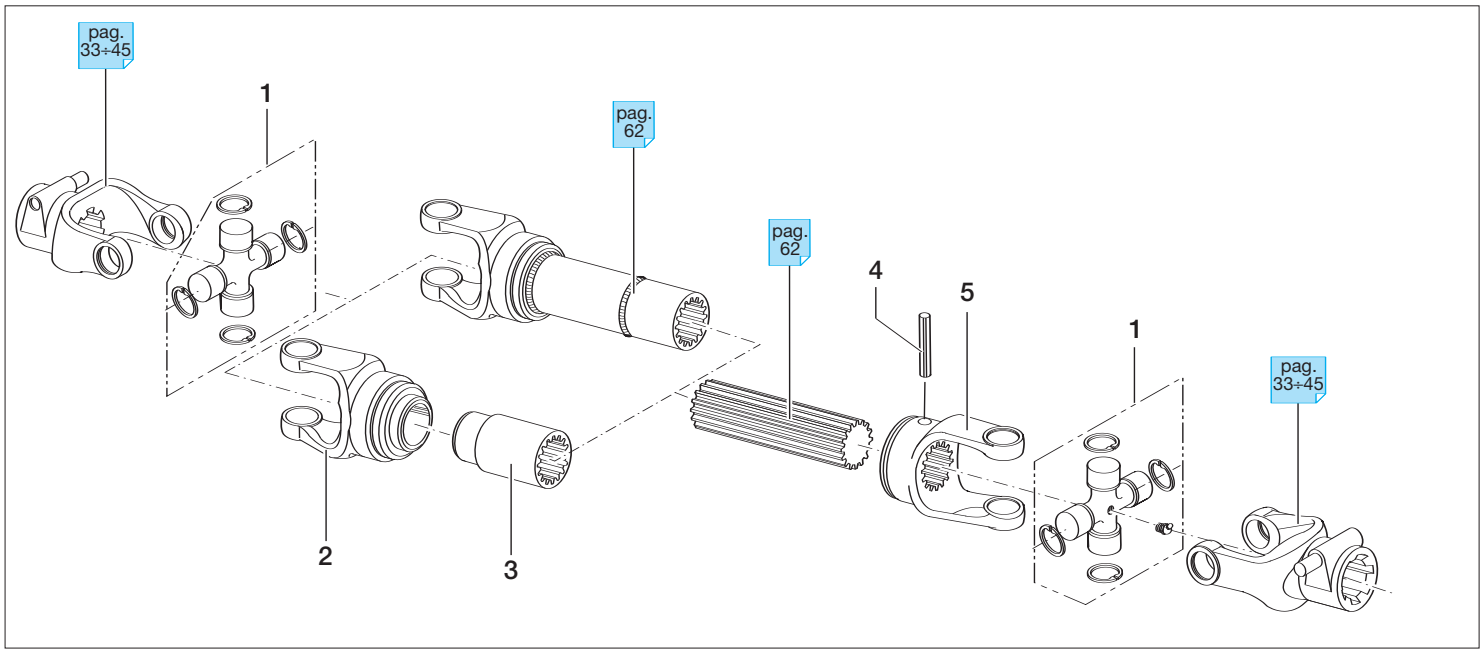
Pos.			Type 10	20	40	50	60	80	90	Qty*
1			**A** = ø 22 **B** = 54	**A** = ø 23,8 **B** = 61,3	**A** = ø 27 **B** = 74,6	**A** = ø 30,2 **B** = 80	**A** = ø 30,2 **B** = 92	**A** = ø 35 **B** = 106,5	**A** = ø 41 **B** = 108	2
		Cod.	**180.011.130**	**180.012.130**	**180.014.130**	**180.015.130**	**180.016.130**	**180.018.130**	**180.019.130**	
2			**A** = 22 **B** = 56,2 **C** = 80 **D** = 22 **F** = 32,5	**A** = 23,8 **B** = 63,9 **C** = 80 **D** = 22 **F** = 36	**A** = 27 **B** = 77,2 **C** = 91,5 **D** = 24 **F** = 43,5	**A** = 30,2 **B** = 82,6 **C** = 97 **D** = 24 **F** = 51,6	**A** = 30,2 **B** = 94,6 **C** = 104 **D** = 24 **F** = 54	**A** = 35 **B** = 109,6 **C** = 120 **D** = 27 **F** = 63	**A** = 41 **B** = 111,6 **C** = 124 **D** = 27 **F** = 63	1
		Cod.	**151.011.003**	**151.012.003**	**151.014.006**	**151.015.011**	**151.016.028**	**151.018.133**	**151.019.127**	
3			**A** = 50 **B** = ø 8	**A** = 55 **B** = ø 8	**A** = 65 **B** = ø 8	**A** = 70 **B** = ø 10	**A** = 80 **B** = ø 10	**A** = 90 **B** = ø 12	**A** = 90 **B** = ø 12	1
		Cod.	**190.000.011**	**190.000.012**	**190.000.014**	**190.000.016**	**190.000.018**	**190.000.243**	**190.000.243**	
4			**A** = 45 **B** = ø 8	**A** = 50 **B** = ø 8	**A** = 55 **B** = ø 8	**A** = 65 **B** = ø 10	**A** = 70 **B** = ø 10	**A** = 80 **B** = ø 12	**A** = 90 **B** = ø 12	1
		Cod.	**190.000.010**	**190.000.011**	**190.000.012**	**190.000.394**	**190.000.016**	**190.000.271**	**190.000.243**	
5			**A** = 22 **B** = 56,2 **C** = 80 **D** = 22 **F** = 26,5	**A** = 23,8 **B** = 63,9 **C** = 80 **D** = 21 **F** = 29	**A** = 27 **B** = 77,2 **C** = 91,5 **D** = 24 **F** = 36	**A** = 30,2 **B** = 82,6 **C** = 97 **D** = 24 **F** = 45	**A** = 30,2 **B** = 94,6 **C** = 104 **D** = 24 **F** = 45	**A** = 35 **B** = 109,6 **C** = 116 **D** = 24 **F** = 54	**A** = 41 **B** = 111,6 **C** = 124 **D** = 24 **F** = 54	1
		Cod.	**151.011.002**	**151.012.002**	**151.014.007**	**151.015.012**	**151.016.029**	**151.018.134**	**151.019.128**	

IT * Quantità presente nel cardano

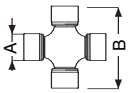
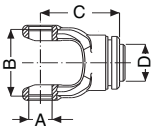
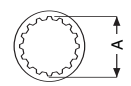
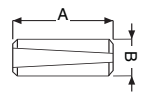
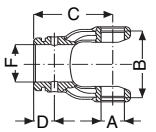
GB * *Quantity in the PTO Drive Shaft*

FR * Quantité présente dans l'arbre à cardan

DE * In der Gelenkwelle vorhandene Menge



Pos.	IT	GB	FR	DE
1	Crociera completa	*Cross and bearing kit*	Croisillon complet	*Kreuzgarnitur kpl.*
2	Forcella per tubo esterno	*Outer tube yoke*	Mâchoire pour tube extérieur	*Außenprofilgabel*
3	Bussola scanalata	*Splined sleeve*	Douille cannelée	*Profilbuchse*
4	Spina elastica interna	*Inner roll pin*	Goupille élastique intérieure	*äußerer Spannstift*
5	Forcella per tubo interno	*Inner tube yoke*	Mâchoire pour tube intérieur	*Innenprofilgabel*

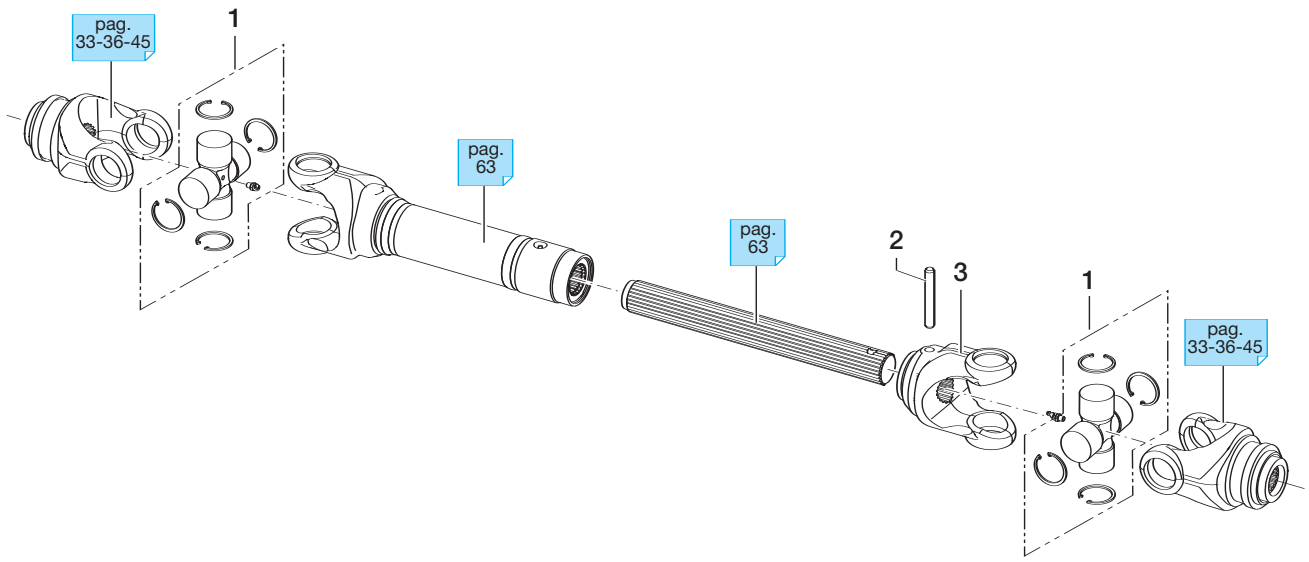
Pos.			Type 40	50	60	80	90	Qty*
1			**A** = ø 27 **B** = 74,6	**A** = ø 30,2 **B** = 80	**A** = ø 30,2 **B** = 92	**A** = ø 35 **B** = 106,5	**A** = ø 41 **B** = 108	2
		Cod.	**180.014.130**	**180.015.130**	**180.016.130**	**180.018.130**	**180.019.130**	
2			**A** = 27 **B** = 77,2 **C** = 91,5 **D** = 42	**A** = 30,2 **B** = 82,6 **C** = 97 **D** = 42	**A** = 30,2 **B** = 94,6 **C** = 104 **D** = 42	**A** = 35 **B** = 109,6 **C** = 120 **D** = 50	**A** = 41 **B** = 111,6 **C** = 124 **D** = 52,5	1
		Cod.	**151.014.003**	**151.015.003**	**151.016.035**	**151.018.144**	**151.019.055**	
3			**A** = 30 CUNA Z10	**A** = 35 CUNA Z12	**A** = 35 CUNA Z12	**A** = 40 CUNA Z14	**A** = 45 CUNA Z16	1
		Cod.	**151.014.249**	**151.016.032**	**151.016.032**	**151.018.014**	**151.019.056**	
4			**A** = 55 **B** = ø 8	**A** = 65 **B** = ø 10	**A** = 70 **B** = ø 10	**A** = 80 **B** = ø 10	**A** = 90 **B** = ø 12	1
		Cod.	**190.000.012**	**190.000.394**	**190.000.016**	**190.000.018**	**190.000.243**	
5			**A** = 27 **B** = 77,2 **C** = 91,5 **D** = 24 **F** = 30 CUNA	**A** = 30,2 **B** = 82,6 **C** = 97 **D** = 24 **F** = 35 CUNA	**A** = 30,2 **B** = 94,6 **C** = 104 **D** = 24 **F** = 35 CUNA	**A** = 35 **B** = 109,6 **C** = 116 **D** = 24 **F** = 40 CUNA	**A** = 41 **B** = 111,6 **C** = 124 **D** = 27 **F** = 45 CUNA	1
		Cod.	**151.014.250**	**151.015.014**	**151.016.031**	**151.018.145**	**151.019.054**	

IT * Quantità presente nel cardano

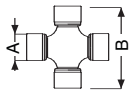
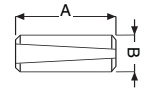
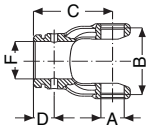
GB * *Quantity in the PTO Drive Shaft*

FR * Quantité présente dans l'arbre à cardan

DE * In der Gelenkwelle vorhandene Menge



Pos.	IT	GB	FR	DE
1	Crociera completa	*Cross and bearing kit*	Croisillon complet	*Kreuzgarnitur kpl.*
2	Spina elastica interna	*Inner roll pin*	Goupille élastique intérieure	*äußerer Spannstift*
3	Forcella per tubo interno	*Inner tube yoke*	Mâchoire pour tube intérieur	*Innenprofilgabel*

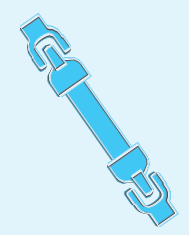
Pos.			Type 120	Qty*
1			**A** = ø 52 **B** = 125	2
		Cod.	**180.120.004**	
2			**A** = 100 **B** = ø 14	1
		Cod.	**190.000.698**	
3			**A** = 52 **B** = 130 **C** = 141 **D** = 36 **F** = DIN5482 A50x45 Z24	1
		Cod.	**151.120.003**	

IT
* Quantità presente nel cardano

GB
* *Quantity in the PTO Drive Shaft*

FR
* Quantité présente dans l'arbre à cardan

DE
* In der Gelenkwelle vorhandene Menge



NOTE
NOTE
NOTE
NOTE

SEZIONE 3: **Forcelle**

SECTION 3: ***Yokes***

CHAPITRE 3: **Mâchoires**

TEIL 3: ***Gabeln***

comer industries
driveshafts

Forcelle per cardani omocinetici CvJ
Yokes for PTO drive shafts CvJ
Mâchoires pour arbres à cardan CvJ
Gabeln für Weitwinkelgelenkwellen CvJ

Collar / *Collar* / Collet / *Collar* 30

Pulsante / *Push-pin* / Bouton-Poussoir / *Schiebestift* 31

Bullone interferente / *Interfering clamp bolt* / Boulon sécant / *Profilberührend Klemmbolzen* 32

Forcelle per cardani - *Yokes for PTO drive shafts*
Mâchoires pour arbres à cardan - *Gabeln für Gelenkwellen*

Collar / *Collar* / Collet / *Collar* 33

Pulsante / *Push-pin* / Bouton-Poussoir / *Schiebestift* 34

Calettata / *Splined* / Alésage cannelé / *Profilgabel* 35

Calettata - Bullone interferente / *Splined - Interfering clamp bolt*
Alésage cannelé - Boulon sécant / *Profilgabel - Profilberührender klemmbolzen* 36

Calettata - Bullone interferente incassato / *Splined - Interfering recessed clamp bolt*
Alésage cannelé - Boulon sécant noyé / *Profilgabel - Versenkter profilberührender Klemmbolzen* 37

Calettata - Bullone non interferente / *Splined - Noninterfering clamp bolt*
Alésage cannelé - Boulon tangent / *Profilgabel - Nicht- Profilberührender klemmbolzen* 38

Foro liscio - Bullone interferente / *Round bore - Interfering clamp bolt*
Alésage ronde-Boulon sécant / *Nabengabel - Profilberührender klemmbolzen* 39

Foro liscio - Bullone interferente incassato / *Round bore - Interfering recessed clamp bolt*
Alésage ronde-Boulon sécant noyé / *Nabengabel - Versenkter profilberührender Klemmbolzen* 40

Foro liscio - Bullone non interferente / *Round bore - Noninterfering clamp bolt*
Alésage ronde-Boulon tangent / *Nabengabel - Nicht- Profilberührender klemmbolzen* 41

Foro liscio - Chiavetta / *Round bore - Keyway*
Alésage ronde-Clavette / *Nabengabel - Passfedernut* 42

Foro liscio - Chiavetta- Foro spina / *Round bore - Keyway - Pin hole*
Alésage ronde-Clavette-Trou pour goupille / *Nabengabel - Passfedernut- Spannstiftbohrung* 43

Foro liscio - Foro spina / *Round bore - Pin hole*
Alésage ronde-Trou pour goupille / *Nabengabel - Spannstiftbohrung* 44

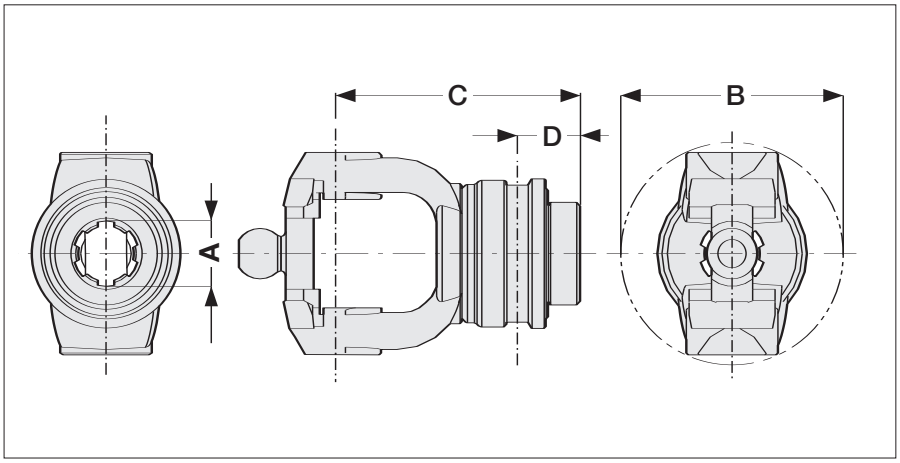
Flangia CO4 / *Flange C04* / Bride CO4 / *Flansch CO4* 45

Flangia FGL / *Flange FGL* / Bride FGL / *Flansch FGL* 45

Kit ricambio / *Spare parts set* / Kit de rechange / *Ersatzteile kit* 46

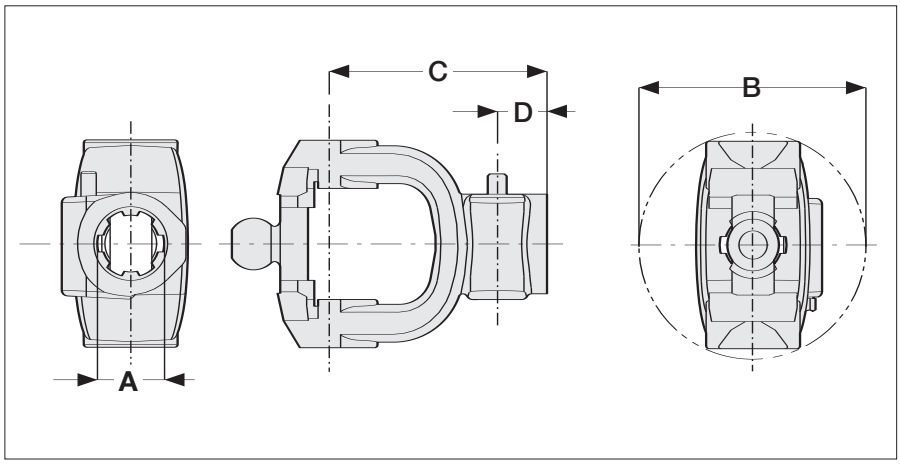
comer industries
mechatronic solutions

COLLAR
COLLAR
COLLET
COLLAR



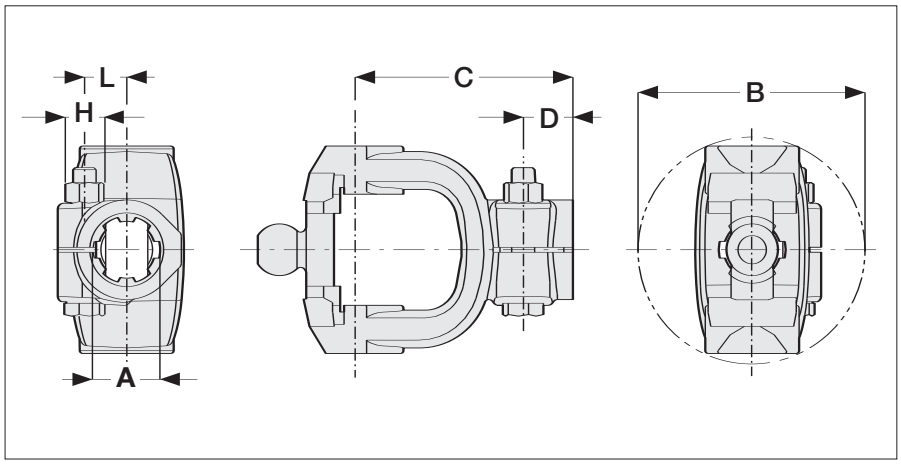
Type	Ref.	A	B		C		D		
			mm	inch	mm	inch	mm	inch	
20	C02	1 3/8" Z 6	94	3 45/64"	107	4 7/32"	26	1 1/32"	**141.022.330**
	C03	1 3/8" Z 21	94	3 45/64"	107	4 7/32"	26	1 1/32"	**141.022.331**
40	C02	1 3/8" Z 6	105	4 9/64"	115	4 17/32"	26	1 1/32"	**141.024.439**
	C03	1 3/8" Z 21	105	4 9/64"	115	4 17/32"	26	1 1/32"	**141.024.441**
60	C02	1 3/8" Z 6	117	4 39/64"	131	5 5/32"	38	1 31/64"	**141.026.503**
	C03	1 3/8" Z 21	117	4 39/64"	131	5 5/32"	38	1 31/64"	**141.026.504**
	C07	1 3/4" Z 6	117	4 39/64"	136	5 23/64"	38	1 31/64"	**141.026.557**
	C05	1 3/4" Z 20	117	4 39/64"	136	5 23/64"	38	1 31/64"	**141.026.505**
80	C02	1 3/8" Z 6	130	5 1/8"	136	5 23/64"	38	1 31/64"	**141.028.358**
	C03	1 3/8" Z 21	130	5 1/8"	136	5 23/64"	38	1 31/64"	**141.028.359**
	C07	1 3/4" Z 6	130	5 1/8"	138	5 7/16"	35,5	1 13/32"	**141.028.361**
	C05	1 3/4" Z 20	130	5 1/8"	138	5 7/16"	35,5	1 13/32"	**141.028.360**

PULSANTE
PUSH-PIN
BOUTON - POUSSOIR
SCHIEBESTIFT



Type	Ref.	A	B		C		D		
			mm	inch	mm	inch	mm	inch	
20	112	1 3/8" Z 6	94	3 45/64"	99	3 57/64"	19	3/4"	**141.022.162**
	113	1 3/8" Z 21	94	3 45/64"	99	3 57/64"	19	3/4"	**141.022.356**
40	112	1 3/8" Z 6	105	4 9/64"	107	4 7/32"	19	3/4"	**141.024.261**
	113	1 3/8" Z 21	105	4 9/64"	107	4 7/32"	36	1 27/64"	**141.024.272**
60	112	1 3/8" Z 6	117	4 39/64"	113	4 29/64"	26	1 1/32"	**141.026.230**
	113	1 3/8" Z 21	117	4 39/64"	113	4 29/64"	36	1 27/64"	**141.026.256**
	114	1 3/4" Z 6	117	4 39/64"	114	4 31/64"	26	1 1/32"	**141.026.266**
	115	1 3/4" Z 20	117	4 39/64"	114	4 31/64"	26	1 1/32"	**141.026.267**
80	112	1 3/8" Z 6	130	5 1/8"	118	4 41/64"	26	1 1/32"	**141.028.151**
	113	1 3/8" Z 21	130	5 1/8"	118	4 41/64"	36	1 27/64"	**141.028.177**
	114	1 3/4" Z 6	130	5 1/8"	118	4 41/64"	26	1 1/32"	**141.028.178**
	115	1 3/4" Z 20	130	5 1/8"	118	4 41/64"	26	1 1/32"	**141.028.170**

BULLONE INTERFERENTE
INTERFERING CLAMP BOLT
BOULON SECANT
PROFILBERÜHRENDER KLEMMBOLZEN



Type	Ref.	A	B mm	B inch	C mm	C inch	D mm	D inch	H M...x... cl. 8.8	H Qty	L mm	L inch	
20	132	1 3/8" Z 6	94	3 45/64"	99	3 57/64"	19	3/4"	M12x1,25x65	1	**21,0**	**53/64"**	**141.022.359**
	133	1 3/8" Z 21	94	3 45/64"	99	3 57/64"	19	3/4"	M12x1,25x65	1	**21,0**	**53/64"**	**141.022.360**
40	132	1 3/8" Z 6	105	4 9/64"	107	4 7/32"	19	3/4"	M12x1,25x65	1	**21,0**	**53/64"**	**141.024.436**
	133	1 3/8" Z 21	105	4 9/64"	107	4 7/32""	36	1 27/64"	M12x1,25x65	1	21,0	53/64"	**141.024.474**
60	132	1 3/8" Z 6	117	4 39/64"	113	4 29/64"	26	1 1/32"	M12x1,25x65	1	21,0	53/64"	**141.026.532**
	133	1 3/8" Z 21	117	4 39/64"	113	4 29/64"	36	1 27/64"	M12x1,25x65	1	21,0	53/64"	**141.026.533**
	134	1 3/4" Z 6	117	4 39/64"	114	4.31/64"	26	1 1/32"	M16x80	1	27,2	5/64"	**141.026.620**
	135	1 3/4" Z 20	117	4 39/64"	114	4.31/64"	26	1 1/32"	M16x80	1	27,2	5/64"	**141.026.534**
80	132	1 3/8" Z 6	130	5 1/8"	118	4 41/64"	26	1 1/32"	M12x1,25x65	2	21,0	53/64"	**141.028.477**
	133	1 3/8" Z 21	130	5 1/8"	118	4 41/64"	36	1 27/64"	M12x1,25x65	2	21,0	53/64"	**141.028.475**
	134	1 3/4" Z 6	130	5 1/8"	118	4 41/64"	26	1 1/32"	M16x80	2	27,2	5/64"	**141.028.480**
	135	1 3/4" Z 20	130	5 1/8"	118	4 41/64"	26	1 1/32"	M16x80	2	27,2	5/64"	**141.028.481**

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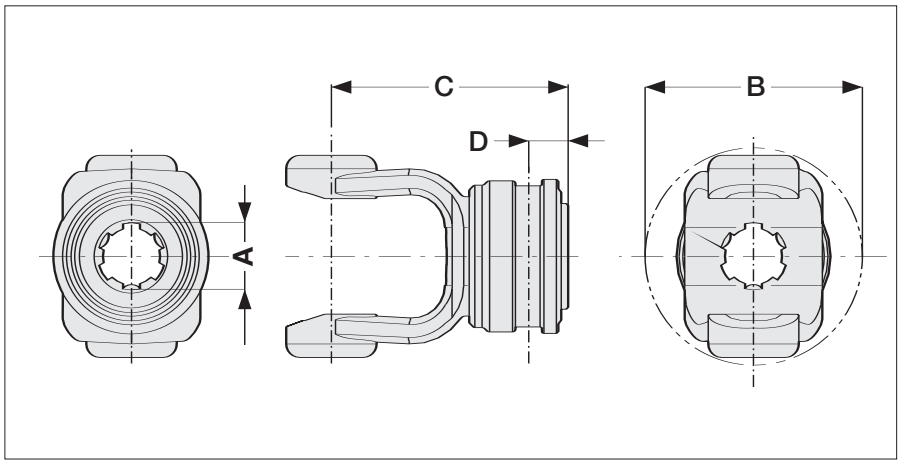
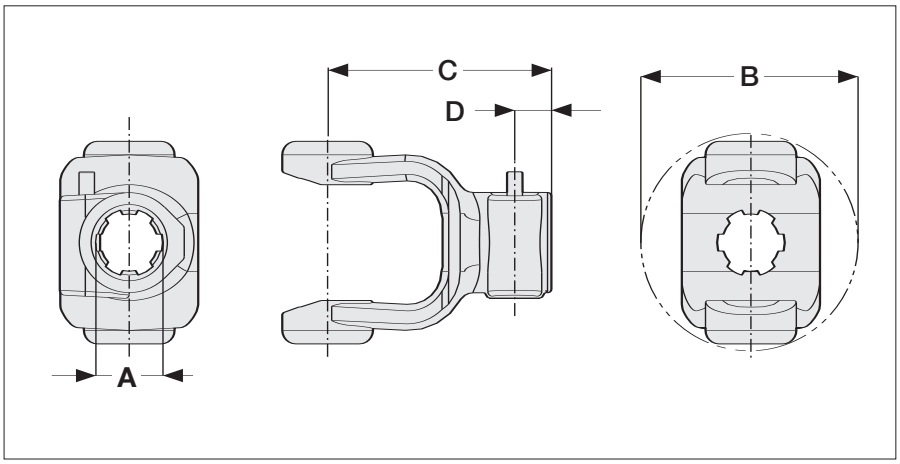


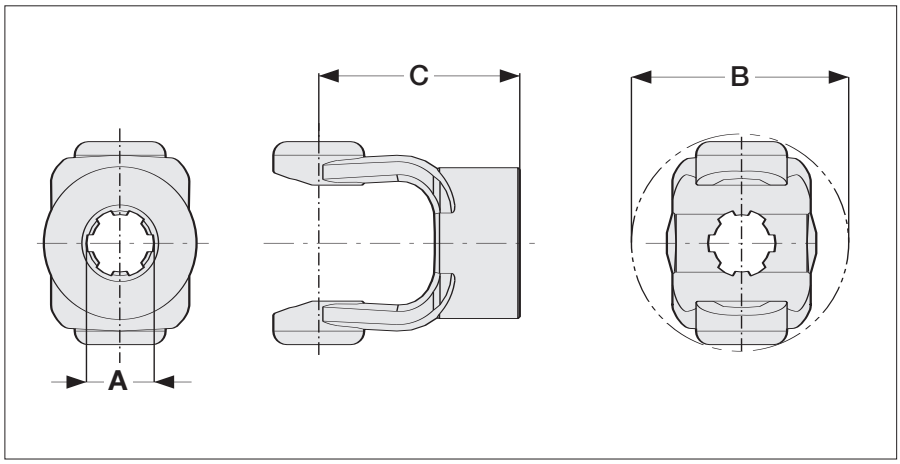
Type	Ref.	A	B		C		D		
			mm	inch	mm	inch	mm	inch	
10	C12	1 3/8" Z 6	73	2 7/8"	102	4.02"	26	1 1/32"	**141.021.319**
	C13	1 3/8" Z 21	73	2 7/8"	102	4.02"	26	1 1/32"	**141.021.320**
20	C12	1 3/8" Z 6	80	3 5/32"	109	4 19/64"	26	1 1/32"	**141.022.324**
	C13	1 3/8" Z 21	80	3 5/32"	109	4 19/64"	26	1 1/32"	**141.022.327**
40	C12	1 3/8" Z 6	94	3 45/64"	111	4 3/8"	26	1 1/32"	**141.024.430**
	C13	1 3/8" Z 21	94	3 45/64"	111	4 3/8"	26	1 1/32"	**141.024.437**
50	C12	1 3/8" Z 6	100	3 15/16"	117	4 39/64"	26	1 1/32"	**141.025.363**
	C13	1 3/8" Z 21	100	3 15/16"	117	4 39/64"	26	1 1/32"	**141.025.364**
60	C12	1 3/8" Z 6	115	4 17/32"	123	4 27/32"	26	1 1/32"	**141.026.544**
	C13	1 3/8" Z 21	115	4 17/32"	123	4 27/32"	26	1 1/32"	**141.026.553**
	C17	1 3/4" Z 6	115	4 17/32"	131	5 5/32"	29.5	1 5/32"	**141.026.554**
	C15	1 3/4" Z 20	115	4 17/32"	131	5 5/32"	29.5	1 5/32"	**141.026.555**
80	C12	1 3/8" Z 6	132	5 13/64"	137	5 25/64"	26	1 1/32"	**141.028.423**
	C13	1 3/8" Z 21	132	5 13/64"	137	5 25/64"	26	1 1/32"	**141.028.426**
	C17	1 3/4" Z 6	132	5 13/64"	142	5 19/32"	29.5	1 5/32"	**141.028.427**
	C15	1 3/4" Z 20	132	5 13/64"	142	5 19/32"	29.5	1 5/32"	**141.028.428**
90	C12	1 3/8" Z 6	137	5 25/64"	144	5 43/64"	26	1 1/32"	**141.029.319**
	C13	1 3/8" Z 21	137	5 25/64"	144	5 43/64"	26	1 1/32"	**141.029.320**
	C17	1 3/4" Z 6	137	5 25/64"	152	5 63/64"	29.5	1 5/32"	**141.029.317**
	C15	1 3/4" Z 20	137	5 25/64"	152	5 63/64"	29.5	1 5/32"	**141.029.318**
120	C27	1 3/4" Z 6	155	6 7/64"	162	6 3/8"	45.5	1 51/64"	**141.220.005**
	C25	1 3/4" Z 20	155	6 7/64"	162	6 3/8"	45.5	1 51/64"	**141.220.001**

PULSANTE
PUSH-PIN
BOUTON - POUSSOIR
SCHIEBESTIFT



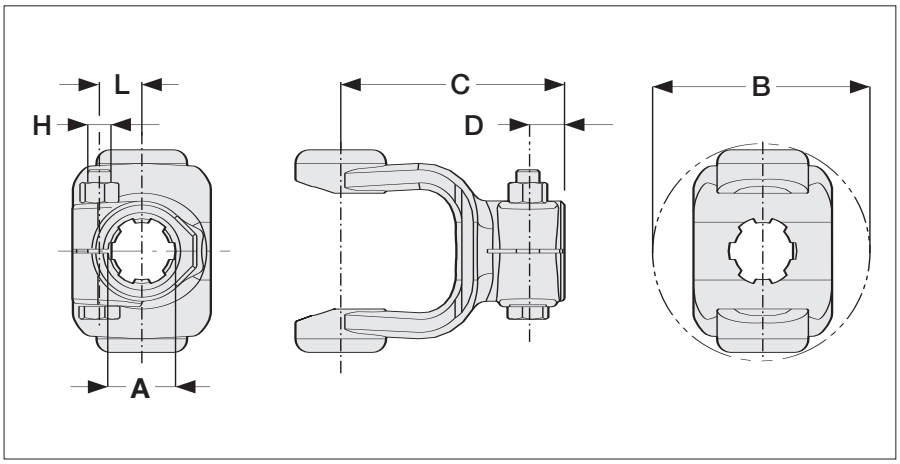
Type	Ref.	A	B		C		D		
			mm	inch	mm	inch	mm	inch	
10	112	1 3/8" Z 6	73	2 7/8"	90	3 57/64"	19	3/4"	**141.021.001**
	113	1 3/8" Z 21	73	2 7/8"	90	3 35/64"	19	3/4"	**141.021.002**
20	112	1 3/8" Z 6	80	3 5/32"	99	3 57/64"	19	3/4"	**141.022.001**
	113	1 3/8" Z 21	80	3 5/32"	99	3 57/64"	19	3/4"	**141.022.002**
40	112	1 3/8" Z 6	94	3 45/64"	107	4 7/32"	19	3/4"	**141.024.001**
	113	1 3/8" Z 21	94	3 45/64"	107	4 7/32"	19	3/4"	**141.024.002**
50	112	1 3/8" Z 6	100	3 15/16"	109	4 19/64"	19	3/4"	**141.025.001**
	113	1 3/8" Z 21	100	3 15/16"	109	4 19/64"	19	3/4"	**141.025.002**
60	112	1 3/8" Z 6	115	4 17/32"	116	4 9/16"	19	3/4"	**141.026.001**
	113	1 3/8" Z 21	115	4 17/32"	116	4 9/16"	19	3/4"	**141.026.002**
	114	1 3/4" Z 6	115	4 17/32"	124	4 7/8"	24	7/8"	**141.026.003**
	115	1 3/4" Z 20	115	4 17/32"	124	4 7/8"	24	7/8"	**141.026.008**
80	112	1 3/8" Z 6	132	5 13/64	124	4 7/8"	19	3/4"	**141.028.001**
	113	1 3/8" Z 21	132	5 13/64	124	4 7/8"	19	3/4"	**141.028.002**
	114	1 3/4" Z 6	132	5 13/64	128	5 3/64"	24	7/8"	**141.028.003**
	115	1 3/4" Z 20	132	5 13/64	128	5 3/64"	24	7/8"	**141.028.004**
90	112	1 3/8" Z 6	137	5 25/64"	133	5 15/64"	24	7/8"	**141.029.039**
	113	1 3/8" Z 21	137	5 25/64"	133	5 15/64"	24	7/8"	**141.029.040**
	114	1 3/4" Z 6	137	5 25/64"	133	5 15/64"	24	7/8"	**141.029.057**
	115	1 3/4" Z 20	137	5 25/64"	133	5 15/64"	24	7/8"	**141.029.058**

CALETTATA
SPLINED
ALESAGE CANNELE
PROFILGABEL



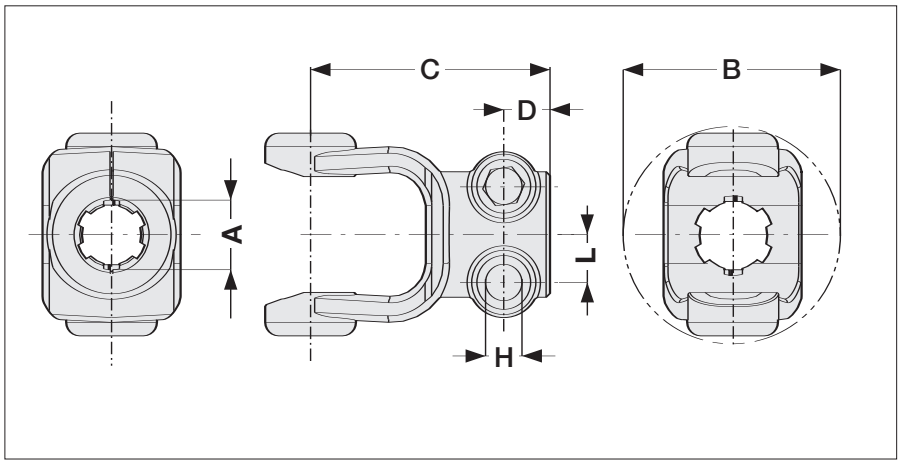
Type	Ref.	A	B		C		
			mm	inch	mm	inch	
10	122	1 3/8" Z 6	73	2 7/8"	80	3 5/32"	**151.011.054**
	123	1 3/8" Z 21	73	2 7/8"	80	3 5/32"	**151.011.055**
20	122	1 3/8" Z 6	80	3 5/32"	80	3 5/32"	**151.012.049**
	123	1 3/8" Z 21	80	3 5/32"	80	3 5/32"	**151.012.050**
40	122	1 3/8" Z 6	94	3 45/64"	91,5	3 39/64	**151.014.057**
	123	1 3/8" Z 21	94	3 45/64"	91,5	3 39/64	**151.014.058**
50	122	1 3/8" Z 6	100	3 15/16"	97	3 13/16	**151.015.061**
	123	1 3/8" Z 21	100	3 15/16"	97	3 13/16	**151.015.062**
60	122	1 3/8" Z 6	115	4 17/32"	104	4 3/32"	**151.016.064**
	123	1 3/8" Z 21	115	4 17/32"	104	4 3/32"	**151.016.080**
	124	1 3/4" Z 6	115	4 17/32"	104	4 3/32"	**151.016.081**
	125	1 3/4" Z 20	115	4 17/32"	104	4 3/32"	**151.016.082**
80	122	1 3/8" Z 6	132	5 13/64	116	4 9/16	**151.018.045**
	123	1 3/8" Z 21	132	5 13/64	116	4 9/16	**151.018.062**
	124	1 3/4" Z 6	132	5 13/64	116	4 9/16	**151.018.063**
	125	1 3/4" Z 20	132	5 13/64	116	4 9/16	**151.018.064**
90	122	1 3/8" Z 6	137	5 25/64"	124	4 7/8	**151.019.064**
	123	1 3/8" Z 21	137	5 25/64"	124	4 7/8	**151.019.065**
	124	1 3/4" Z 6	137	5 25/64"	124	4 7/8	**151.019.066**
	125	1 3/4" Z 20	137	5 25/64"	124	4 7/8	**151.019.067**

CALETTATA - BULLONE INTERFERENTE
SPLINED – INTERFERING CLAMP BOLT
ALESAGE CANNELE - BOULON SECANT
PROFILGABEL - PROFILBERÜHRENDER KLEMMBOLZEN

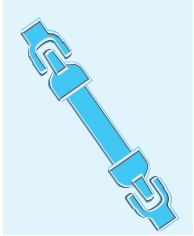


Type	Ref.	A	B mm	B inch	C mm	C inch	D mm	D inch	H M...x... cl. 8.8	H Qty	L mm	L inch	
10	132	1 3/8" Z 6	73	2 7/8"	90	3 57/64"	19	3/4"	M12x1,25x65	1	21	53/64"	**141.021.056**
	133	1 3/8" Z 21	73	2 7/8"	90	3 57/64"	19	3/4"	M12x1,25x65	1	21	53/64"	**141.021.057**
20	132	1 3/8" Z 6	80	3 5/32"	99	3 57/64"	19	3/4"	M12x1,25x65	1	21	53/64"	**141.022.008**
	133	1 3/8" Z 21	80	3 5/32"	99	3 57/64"	19	3/4"	M12x1,25x65	1	21	53/64"	**141.022.051**
40	132	1 3/8" Z 6	94	3 45/64"	107	4 7/32"	19	3/4"	M12x1,25x65	1	21	53/64"	**141.024.014**
	133	1 3/8" Z 21	94	3 45/64"	107	4 7/32"	19	3/4"	M12x1,25x65	1	21	53/64"	**141.024.059**
50	132	1 3/8" Z 6	100	3 15/16"	109	4 19/64"	19	3/4"	M12x1,25x65	1	21	53/64"	**141.025.027**
	133	1 3/8" Z 21	100	3 15/16"	109	4 19/64"	19	3/4"	M12x1,25x65	2	21	53/64"	**141.025.063**
60	132	1 3/8" Z 6	115	4 17/32"	116	4 9/16"	19	3/4"	M12x1,25x65	1	21	53/64"	**141.026.047**
	133	1 3/8" Z 21	115	4 17/32"	116	4 9/16"	19	3/4"	M12x1,25x65	2	21	53/64"	**141.026.048**
	134	1 3/4" Z 6	115	4 17/32"	124	4 7/8"	24	7/8"	M16x80	1	27,2	1 5/64"	**141.026.049**
	135	1 3/4" Z 20	115	4 17/32"	124	4 7/8"	24	7/8"	M16x80	1	27,2	1 5/64"	**141.026.083**
80	132	1 3/8" Z 6	132	5 13/64	124	4 7/8"	19	3/4"	M12x1,25x65	2	21	53/64"	**141.028.028**
	133	1 3/8" Z 21	132	5 13/64	124	4 7/8"	19	3/4"	M12x1,25x65	2	21	53/64"	**141.028.029**
	134	1 3/4" Z 6	132	5 13/64	128	5 3/64"	24	7/8"	M16x80	2	27,2	1 5/64"	**141.028.030**
	135	1 3/4" Z 20	132	5 13/64	128	5 3/64"	24	7/8"	M16x80	2	27,2	1 5/64"	**141.028.065**
90	132	1 3/8" Z 6	137	5 25/64"	133	5 15/64"	24	7/8"	M14x1,5x80	2	22	55/64"	**141.029.022**
	133	1 3/8" Z 21	137	5 25/64"	133	5 15/64"	24	7/8"	M14x1,5x80	2	22	55/64"	**141.029.023**
	134	1 3/4" Z 6	137	5 25/64"	133	5 15/64"	24	7/8"	M16x80	2	27,2	1 5/64"	**141.029.024**
	135	1 3/4" Z 20	137	5 25/64"	133	5 15/64"	24	7/8"	M16x80	2	27,2	1 5/64"	**141.029.068**
120	134	1 3/4" Z 6	155	6 7/64"	168	3 39/64"	45,5	1 51/64"	M16x90	2	27,2	1 5/64"	**141.220.040**
	135	1 3/4" Z 20	155	6 7/64"	168	3 39/64"	45,5	1 51/64"	M16x90	2	27,2	1 5/64"	**141.220.038**

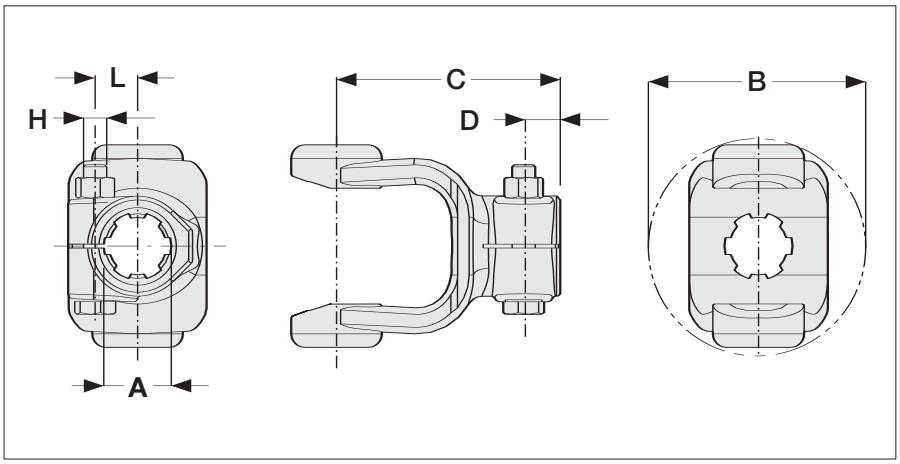
CALETTATA - BULLONE INTERFERENTE INCASSATO
SPLINED – INTERFERING RECESSED CLAMP BOLT
ALESAGE CANNELE - BOULON SECANT NOYE
PROFILGABEL - VERSENKTER PROFILBERÜHRENDER KLEMMBOLZEN



Type	Ref.	A	B		C		D		H		L		
			mm	inch	mm	inch	mm	inch	M...x... cl. 8.8	Qty	mm	inch	
10	162	1 3/8" Z 6	104	4 3/32"	101	3 31/32	24	15/16"	M12x1,25x55	1	21	53/64"	**141.021.333**
	163	1 3/8" Z 21	104	4 3/32"	101	3 31/32	24	15/16"	M12x1,25x55	1	21	53/64"	**141.021.334**
20	162	1 3/8" Z 6	104	4 3/32"	104	4 3/32	24	15/16"	M12x1,25x55	1	21	53/64"	**141.022.361**
	163	1 3/8" Z 21	104	4 3/32"	104	4 3/32	24	15/16"	M12x1,25x55	1	21	53/64"	**141.022.362**
40	162	1 3/8" Z 6	104	4 3/32"	113	4 29/64"	24	15/16"	M12x1,25x55	1	21	53/64"	**141.024.475**
	163	1 3/8" Z 21	104	4 3/32"	113	4 29/64"	24	15/16"	M12x1,25x55	1	21	53/64"	**141.024.476**
50	162	1 3/8" Z 6	110	4 21/64"	116	4 9/16"	24	15/16"	M12x1,25x55	2	21	53/64"	**141.025.379**
	163	1 3/8" Z 21	110	4 21/64"	116	4 9/16"	24	15/16"	M12x1,25x55	2	21	53/64"	**141.025.380**
	164	1 3/4" Z 6	110	4 21/64"	116	4 9/16"	24	15/16"	M12x1,25x55	2	25	63/64"	**141.025.381**
	165	1 3/4" Z 20	110	4 21/64"	116	4 9/16"	24	15/16"	M12x1,25x55	2	25	63/64"	**141.025.346**
60	162	1 3/8" Z 6	115	4 17/32"	124	4 7/8"	24	15/16"	M12x1,25x55	2	21	53/64"	**141.026.621**
	163	1 3/8" Z 21	115	4 17/32"	124	4 7/8"	24	15/16"	M12x1,25x55	2	21	53/64"	**141.026.459**
	164	1 3/4" Z 6	115	4 17/32"	124	4 7/8"	24	15/16"	M12x1,25x55	2	25	63/64"	**141.026.622**
	165	1 3/4" Z 20	115	4 17/32"	124	4 7/8"	24	15/16"	M12x1,25x55	2	25	63/64"	**141.026.374**
80	162	1 3/8" Z 6	132	5 13/64	128	5 3/64"	24	15/16"	M12x1,25x55	2	21	53/64"	**141.028.339**
	163	1 3/8" Z 21	132	5 13/64	128	5 3/64"	24	15/16"	M12x1,25x55	2	21	53/64"	**141.028.340**
	164	1 3/4" Z 6	132	5 13/64	128	5 3/64"	24	15/16"	M12x1,25x55	2	25	63/64"	**141.028.482**
	165	1 3/4" Z 20	132	5 13/64	128	5 3/64"	24	15/16"	M12x1,25x55	2	25	63/64"	**141.028.301**
90	162	1 3/8" Z 6	137	5 25/64"	136	5 23/64"	24	15/16"	M12x1,25x55	2	21	53/64"	**141.029.342**
	163	1 3/8" Z 21	137	5 25/64"	136	5 23/64"	24	15/16"	M12x1,25x55	2	21	53/64"	**141.029.343**
	164	1 3/4" Z 6	137	5 25/64"	136	5 23/64"	24	15/16"	M12x1,25x55	2	25	63/64"	**141.029.344**
	165	1 3/4" Z 20	137	5 25/64"	136	5 23/64"	24	15/16"	M12x1,25x55	2	25	63/64"	**141.029.345**

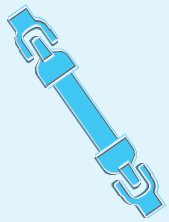


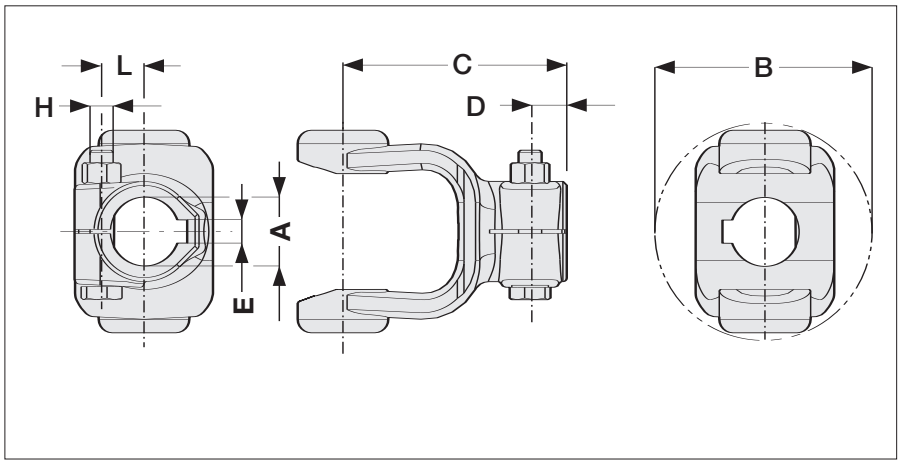
CALETTATA - BULLONE NON INTERFERENTE
SPLINED – NONINTERFERING CLAMP BOLT
ALESAGE CANNELE - BOULON TANGENT
PROFILGABEL-NICHT-PROFILBERÜHRENDER KLEMMBOLZEN



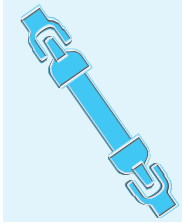
Type	Ref.	A	B mm	B inch	C mm	C inch	D mm	D inch	H M...x... cl. 8.8	H Qty	L mm	L inch	
10	142	1 3/8" Z 6	73	2 7/8"	90	3 57/64"	19	3/4"	M10x1,25x65	1	23,5	59/64"	**141.021.059**
	143	1 3/8" Z 21	73	2 7/8"	90	3 57/64"	19	3/4"	M10x1,25x65	1	23,5	59/64"	**141.021.060**
20	142	1 3/8" Z 6	80	3 5/32"	99	3 57/64"	19	3/4"	M10x1,25x65	1	23,5	59/64"	**141.022.052**
	143	1 3/8" Z 21	80	3 5/32"	99	3 57/64"	19	3/4"	M10x1,25x65	1	23,5	59/64"	**141.022.053**
40	142	1 3/8" Z 6	94	3 45/64"	107	4 7/32"	19	3/4"	M10x1,25x65	1	23,5	59/64"	**141.024.060**
	143	1 3/8" Z 21	94	3 45/64"	107	4 7/32"	19	3/4"	M10x1,25x65	1	23,5	59/64"	**141.024.061**
50	142	1 3/8" Z 6	100	3 15/16"	109	4 19/64"	19	3/4"	M10x1,25x65	1	23,5	59/64"	**141.025.064**
	143	1 3/8" Z 21	100	3 15/16"	109	4 19/64"	19	3/4"	M10x1,25x65	2	23,5	59/64"	**141.025.065**
60	142	1 3/8" Z 6	115	4 17/32"	116	4 9/16"	19	3/4"	M10x1,25x65	1	23,5	59/64"	**141.026.084**
	143	1 3/8" Z 21	115	4 17/32"	116	4 9/16"	19	3/4"	M10x1,25x65	2	23,5	59/64"	**141.026.085**
	144	1 3/4" Z 6	115	4 17/32"	124	4 7/8"	24	7/8"	M12x1,25x80	1	29,5	1 1/32"	**141.026.086**
	145	1 3/4" Z 20	115	4 17/32"	124	4 7/8"	24	7/8"	M12x1,25x80	1	29,5	1 1/32"	**141.026.087**
80	142	1 3/8" Z 6	132	5 13/64	124	4 7/8"	19	3/4"	M10x1,25x65	2	23,5	59/64"	**141.028.066**
	143	1 3/8" Z 21	132	5 13/64	124	4 7/8"	19	3/4"	M10x1,25x65	2	23,5	59/64"	**141.028.067**
	144	1 3/4" Z 6	132	5 13/64	128	5 3/64"	24	7/8"	M12x1,25x80	2	29,5	1 1/32"	**141.028.068**
	145	1 3/4" Z 20	132	5 13/64	128	5 3/64"	24	7/8"	M12x1,25x80	2	29,5	1 1/32"	**141.028.069**
90	142	1 3/8" Z 6	137	5 25/64"	133	5 15/64"	24	7/8"	M14x1,5x80	2	25,5	1"	**141.029.069**
	143	1 3/8" Z 21	137	5 25/64"	133	5 15/64"	24	7/8"	M14x1,5x80	2	25,5	1"	**141.029.070**
	144	1 3/4" Z 6	137	5 25/64"	133	5 15/64"	24	7/8"	M12x1,25x65	2	29,5	1 1/32"	**141.029.071**
	145	1 3/4" Z 20	137	5 25/64"	133	5 15/64"	24	7/8"	M12x1,25x65	2	29,5	1 1/32"	**141.029.072**

FORO LISCIO - BULLONE INTERFERENTE
ROUND BORE – INTERFERING CLAMP BOLT
ALESAGE ROND - BOULON SECANT
NABENGABEL - PROFILBERÜHRENDER KLEMMBOLZEN

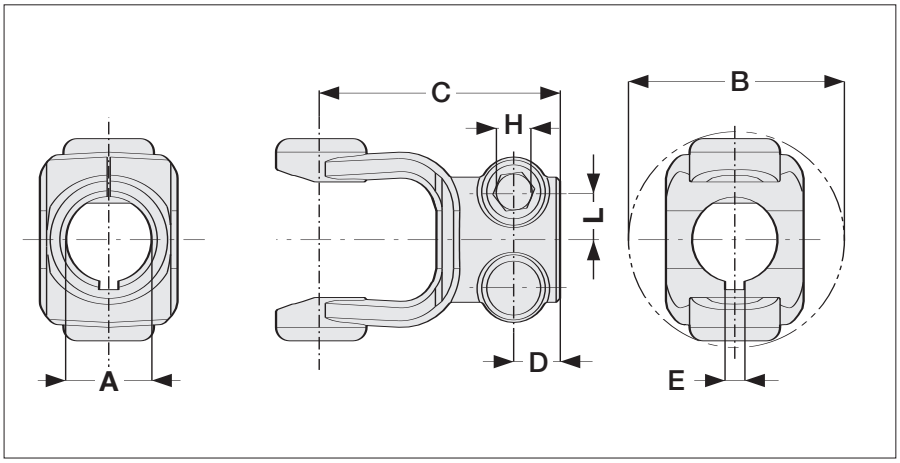




Type	Ref.	A	B		C		D		E	H		L		
			mm	inch	mm	inch	mm	inch		M...x...cl. 8.8	Qty	mm	inch	
10	331	20	73	2 7/8"	90	3 35/64"	19	3/4"	6	M10x1,25x65	1	13,5	17/32"	**141.021.071**
	332	25	73	2 7/8"	90	3 35/64"	19	3/4"	8	M10x1,25x65	1	16	5/8"	**141.021.072**
	333	30	73	2 7/8"	90	3 35/64"	19	3/4"	8	M12x1,25x65	1	19	3/4"	**141.021.073**
	431	3/4"	73	2 7/8"	90	3 35/64"	19	3/4"	3/16"	M10x1,25x65	1	13,5	17/32"	**141.021.074**
	432	1"	73	2 7/8"	90	3 35/64"	19	3/4"	1/4"	M10x1,25x65	1	16	5/8"	**141.021.075**
20	331	20	80	3 5/32"	99	3 57/64"	19	3/4"	6	M10x1,25x65	1	13,5	17/32"	**141.022.066**
	332	25	80	3 5/32"	99	3 57/64"	19	3/4"	8	M10x1,25x65	1	16	5/8"	**141.022.067**
	333	30	80	3 5/32"	99	3 57/64"	19	3/4"	8	M12x1,25x65	1	19	3/4"	**141.022.068**
	431	3/4"	80	3 5/32"	99	3 57/64"	19	3/4"	3/16"	M10x1,25x65	1	13,5	17/32"	**141.022.069**
	432	1"	80	3 5/32"	99	3 57/64"	19	3/4"	1/4"	M10x1,25x65	1	16	5/8"	**141.022.070**
	433	1 1/4"	80	3 5/32"	99	3 57/64"	19	3/4"	5/16"	M12x1,25x65	1	19	3/4"	**141.022.108**
40	332	25	94	3 45/64"	107	4 7/32"	19	3/4"	8	M10x1,25x65	1	16	5/8"	**141.024.072**
	333	30	94	3 45/64"	107	4 7/32"	19	3/4"	8	M12x1,25x65	1	19	3/4"	**141.024.073**
	334	35	94	3 45/64"	107	4 7/32"	19	3/4"	10	M12x1,25x65	1	21,5	27/32"	**141.024.074**
	433	1 1/4"	94	3 45/64"	107	4 7/32"	19	3/4"	5/16"	M12x1,25x65	1	19	3/4"	**141.024.076**
	434	1 3/8"	94	3 45/64"	107	4 7/32"	19	3/4"	5/16"	M12x1,25x65	1	21,5	27/32"	**141.024.077**
50	333	30	100	3 5/16"	109	4 19/64"	19	3/4"	8	M12x1,25x65	1	19	3/4"	**141.025.076**
	334	35	100	3 5/16"	109	4 19/64"	19	3/4"	10	M12x1,25x65	1	21,5	27/32"	**141.025.164**
	433	1 1/4"	100	3 5/16"	109	4 19/64"	19	3/4"	5/16"	M12x1,25x65	1	19	3/4"	**141.025.079**
	434	1 3/8"	100	3 5/16"	109	4 19/64"	19	3/4"	5/16"	M12x1,25x65	1	21,5	27/32"	**141.025.080**
60	333	30	115	4 17/32"	116	4 9/16"	19	3/4"	8	M12x1,25x65	1	19	3/4"	**141.026.100**
	334	35	115	4 17/32"	116	4 9/16"	19	3/4"	10	M12x1,25x65	1	21,5	27/32"	**141.026.101**
	335	40	115	4 17/32"	124	4 7/8"	24	7/8"	12	M12x1,25x75	1	24	7/8"	**141.026.102**
	433	1 1/4"	115	4 17/32"	116	4 9/16"	19	3/4"	5/16"	M12x1,25x65	1	19	3/4"	**141.026.103**
	434	1 3/8"	115	4 17/32"	116	4 9/16"	19	3/4"	5/16"	M12x1,25x65	1	21,5	27/32"	**141.026.104**
	435	1 3/4"	115	4 17/32"	124	4 7/8"	24	7/8"	3/8"	M12x1,25x75	1	26,5	1 3/64"	**141.026.105**
80	333	30	132	5 13/64"	124	4 7/8"	19	3/4"	8	M12x1,25x65	1	19	3/4"	**141.028.135**
	334	35	132	5 13/64"	128	5 3/64"	24	7/8"	10	M12x1,25x80	1	21,5	27/32"	**141.028.076**
	335	40	132	5 13/64"	128	5 3/64"	24	7/8"	12	M14x1,5x80	1	25	63/64"	**141.028.077**
	336	45	132	5 13/64"	128	5 3/64"	24	7/8"	14	M12x1,25x80	1	26,5	1 3/64"	**141.028.078**
90	335	40	137	5 25/64"	133	5 15/64"	24	7/8"	12	M14x1,5x80	1	25	63/64"	**141.029.077**
	336	45	137	5 25/64"	133	5 15/64"	24	7/8"	14	M12x1,25x80	1	26,5	1 3/64"	**141.029.078**

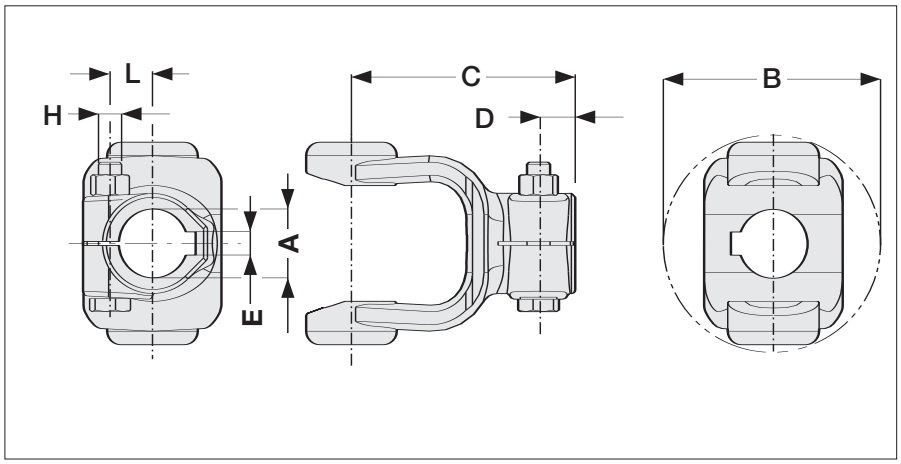


FORO LISCIO - BULLONE INTERFERENTE INCASSATO
ROUND BORE – INTERFERING RECESSED CLAMP BOLT
ALESAGE ROND - BOULON SECANT NOYE
NABENGABEL - VERSENKTER PROFILBERÜHRENDER KLEMMBOLZEN



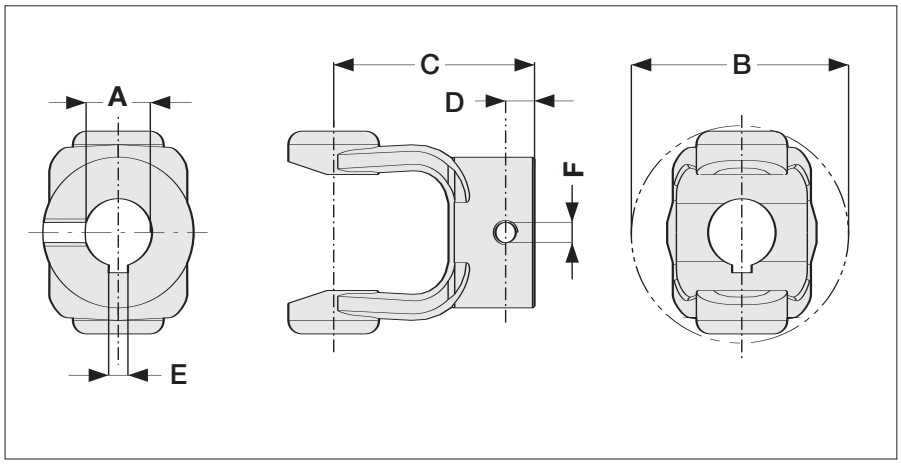
Type	Ref.	A	B		C		D		E	H		L		
			mm	inch	mm	inch	mm	inch		M...x...cl. 8.8	Qty	mm	inch	
10	361	20	104	4 /32"	101	3 31/32"	24	7/8"	6	M12x1,25x55	1	14,5	37/64"	**141.021.335**
	362	25	104	4 /32"	101	3 31/32"	24	7/8"	8	M12x1,25x55	1	17	43/64"	**141.021.336**
	363	30	104	4 /32"	101	3 31/32"	24	7/8"	8	M12x1,25x55	1	19	3/4"	**141.021.337**
	461	3/4"	104	4 /32"	101	3 31/32"	24	7/8"	3/16"	M12x1,25x55	1	14,5	37/64"	**141.021.338**
	462	1"	104	4 /32"	101	3 31/32"	24	7/8"	1/4"	M12x1,25x55	1	17	43/64"	**141.021.339**
20	361	20	104	4 /32"	104	4 /32"	24	7/8"	6	M12x1,25x55	1	14,5	37/64"	**141.022.363**
	362	25	104	4 /32"	104	4 /32"	24	7/8"	8	M12x1,25x55	1	17	43/64"	**141.022.364**
	363	30	104	4 /32"	104	4 /32"	24	7/8"	8	M12x1,25x55	1	19	3/4"	**141.022.365**
	461	3/4"	104	4 /32"	104	4 /32"	24	7/8"	3/16"	M12x1,25x55	1	14,5	37/64"	**141.022.366**
	462	1"	104	4 /32"	104	4 /32"	24	7/8"	1/4"	M12x1,25x55	1	17	43/64"	**141.022.367**
	463	1 1/4"	104	4 /32"	104	4 /32"	24	7/8"	5/16"	M12x1,25x55	1	19	3/4"	**141.022.368**
40	362	25	104	4 /32"	113	4 29/64"	24	7/8"	8	M12x1,25x55	1	17	43/64"	**141.024.477**
	363	30	104	4 /32"	113	4 29/64"	24	7/8"	8	M12x1,25x55	1	19	3/4"	**141.024.478**
	364	35	104	4 /32"	113	4 29/64"	24	7/8"	10	M12x1,25x55	1	21,5	27/32"	**141.024.479**
	463	1 1/4"	104	4 /32"	113	4 29/64"	24	7/8"	5/16"	M12x1,25x55	1	19	3/4"	**141.024.480**
	464	1 3/8"	104	4 /32"	113	4 29/64"	24	7/8"	5/16"	M12x1,25x55	1	21,5	27/32"	**141.024.481**
50	363	30	110	3 15/16"	116	4 9/16"	24	7/8"	8	M12x1,25x55	1	19	3/4"	**141.025.382**
	364	35	110	3 15/16"	116	4 9/16"	24	7/8"	10	M12x1,25x55	1	21,5	27/32"	**141.025.383**
	463	1 1/4"	110	3 15/16"	116	4 9/16"	24	7/8"	5/16"	M12x1,25x55	1	19	3/4"	**141.025.384**
	464	1 3/8"	110	3 15/16"	116	4 9/16"	24	7/8"	5/16"	M12x1,25x55	1	21,5	27/32"	**141.025.385**
60	363	30	115	4 17/32"	124	4 7/8"	24	7/8"	8	M12x1,25x55	1	19	3/4"	**141.026.623**
	364	35	115	4 17/32"	124	4 7/8"	24	7/8"	10	M12x1,25x55	1	21,5	27/32"	**141.026.624**
	365	40	115	4 17/32"	124	4 7/8"	24	7/8"	12	M12x1,25x55	1	24	7/8"	**141.026.625**
	366	45	115	4 17/32"	124	4 7/8"	24	7/8"	14	M12x1,25x55	1	26,5	1 3/64"	**141.026.626**
	463	1 1/4"	115	4 17/32"	124	4 7/8"	24	7/8"	5/16"	M12x1,25x55	1	19	3/4"	**141.026.627**
	464	1 3/8"	115	4 17/32"	124	4 7/8"	24	7/8"	5/16"	M12x1,25x55	1	21,5	27/32"	**141.026.628**
	465	1 3/4"	115	4 17/32"	124	4 7/8"	24	7/8"	3/8"	M12x1,25x55	1	26,5	1 3/64"	**141.026.629**
80	363	30	132	5 13/64"	128	5 3/64"	24	7/8"	8	M12x1,25x55	1	19	3/4"	**141.028.483**
	364	35	132	5 13/64"	128	5 3/64"	24	7/8"	10	M12x1,25x55	1	21,5	27/32"	**141.028.484**
	365	40	132	5 13/64"	128	5 3/64"	24	7/8"	12	M12x1,25x55	1	24	7/8"	**141.028.485**
	366	45	132	5 13/64"	128	5 3/64"	24	7/8"	14	M12x1,25x55	1	26,5	1 3/64"	**141.028.486**
90	365	40	137	5 25/64"	136	5 23/64"	24	7/8"	12	M12x1,25x55	1	24	7/8"	**141.029.346**
	366	45	137	5 25/64"	136	5 23/64"	24	7/8"	14	M12x1,25x55	1	26,5	1 3/64"	**141.029.347**

FORO LISCIO - BULLONE NON INTERFERENTE
ROUND BORE – NONINTERFERING CLAMP BOLT
ALESAGE ROND - BOULON TANGENT
NABENGABEL-NICHT-PROFILBERÜHRENDER KLEMMBOLZEN



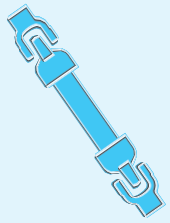
Type	Ref.	A	B		C		D		E	H		L		
			mm	inch	mm	inch	mm	inch		M...x...cl. 8.8	Qty			
10	341	20	73	2 7/8″	90	3 35/64″	19	3/4″	6	M10x1,25x65	1	17	43/64″	**141.021.076**
	342	25	73	2 7/8″	90	3 35/64″	19	3/4″	8	M10x1,25x65	1	20	25/32″	**141.021.037**
	343	30	73	2 7/8″	90	3 35/64″	19	3/4″	8	M10x1,25x65	1	22	55/64″	**141.021.038**
	441	3/4″	73	2 7/8″	90	3 35/64″	19	3/4″	3/16″	M10x1,25x65	1	16	5/8″	**141.021.077**
	442	1″	73	2 7/8″	90	3 35/64″	19	3/4″	1/4″	M10x1,25x65	1	20	43/64″	**141.021.078**
20	341	20	80	3 5/32″	99	3 57/64″	19	3/4″	6	M10x1,25x65	1	17	43/64″	**141.022.020**
	342	25	80	3 5/32″	99	3 57/64″	19	3/4″	8	M10x1,25x65	1	20	25/32″	**141.022.021**
	343	30	80	3 5/32″	99	3 57/64″	19	3/4″	8	M10x1,25x65	1	22	55/64″	**141.022.022**
	441	3/4″	80	3 5/32″	99	3 57/64″	19	3/4″	3/16″	M10x1,25x65	1	16	5/8″	**141.022.072**
	442	1″	80	3 5/32″	99	3 57/64″	19	3/4″	1/4″	M10x1,25x65	1	20	43/64″	**141.022.073**
	443	1 1/4″	80	3 5/32″	99	3 57/64″	19	3/4″	5/16″	M10x1,25x65	1	22	55/64″	**141.022.133**
40	342	25	94	3 45/64″	107	4 7/32″	19	3/4″	8	M10x1,25x65	1	20	25/32″	**141.024.078**
	343	30	94	3 45/64″	107	4 7/32″	19	3/4″	8	M10x1,25x65	1	22	55/64″	**141.024.029**
	344	35	94	3 45/64″	107	4 7/32″	19	3/4″	10	M10x1,25x65	1	23,5	59/64″	**141.024.028**
	443	1 1/4″	94	3 45/64″	107	4 7/32″	19	3/4″	5/16″	M10x1,25x65	1	22	55/64″	**141.024.032**
	444	1 3/8″	94	3 45/64″	107	4 7/32″	19	3/4″	5/16″	M10x1,25x65	1	23,5	59/64″	**141.024.080**
50	343	30	100	3 15/16″	109	4 19/64″	19	3/4″	8	M10x1,25x65	1	22	55/64″	**141.025.081**
	344	35	100	3 15/16″	109	4 19/64″	19	3/4″	10	M10x1,25x65	1	23,5	59/64″	**141.025.026**
	345	40	100	3 15/16″	109	4 19/64″	19	3/4″	12	M10x1,25x65	1	26	1 1/32″	**141.025.082**
	443	1 1/4″	100	3 15/16″	109	4 19/64″	19	3/4″	5/16″	M10x1,25x65	1	22	55/64″	**141.025.083**
	444	1 3/8″	100	3 15/16″	109	4 19/64″	19	3/4″	5/16″	M10x1,25x65	1	23,5	59/64″	**141.025.084**
60	343	30	115	4 7/32″	116	4 9/16″	19	3/4″	8	M10x1,25x65	1	22	55/64″	**141.026.040**
	344	35	115	4 7/32″	116	4 9/16″	19	3/4″	10	M10x1,25x65	1	23,5	59/64″	**141.026.041**
	345	40	115	4 7/32″	124	4 7/8″	24	15/16″	12	M12x1,25x75	1	27	1 1/16″	**141.026.052**
	346	45	115	4 7/32″	124	4 7/8″	24	15/16″	14	M14x1,5x80	1	30,5	1 13/64″	**141.026.055**
	443	1 1/4″	115	4 7/32″	116	4 9/16″	19	3/4″	5/16″	M10x1,25x65	1	23,5	59/64″	**141.026.059**
	444	1 3/8″	115	4 7/32″	116	4 9/16″	19	3/4″	5/16″	M10x1,25x65	1	23,5	59/64″	**141.026.106**
	445	1 3/4″	115	4 7/32″	124	4 7/8″	24	15/16″	3/8″	M12x1,25x75	1	29,5	1 5/32″	**141.026.075**
80	344	35	132	5 13/64″	124	4 7/8″	19	3/4″	10	M12x1,25x80	1	24,5	31/32	**141.028.042**
	345	40	132	5 13/64″	128	5 3/64″	24	15/16″	12	M12x1,25x80	1	27	1 1/16″	**141.028.043**
	346	45	132	5 13/64″	128	5 3/64″	24	15/16″	14	M12x1,25x80	1	29,5	1 5/32″	**141.028.044**
90	345	40	137	5 25/64″	133	5 15/64″	24	7/8″	12	M14x1,5x80	1	28	1 7/64″	**141.029.079**
	346	45	137	5 25/64″	133	5 15/64″	24	7/8″	14	M14x1,5x80	1	30,5	1 13/64″	**141.029.080**

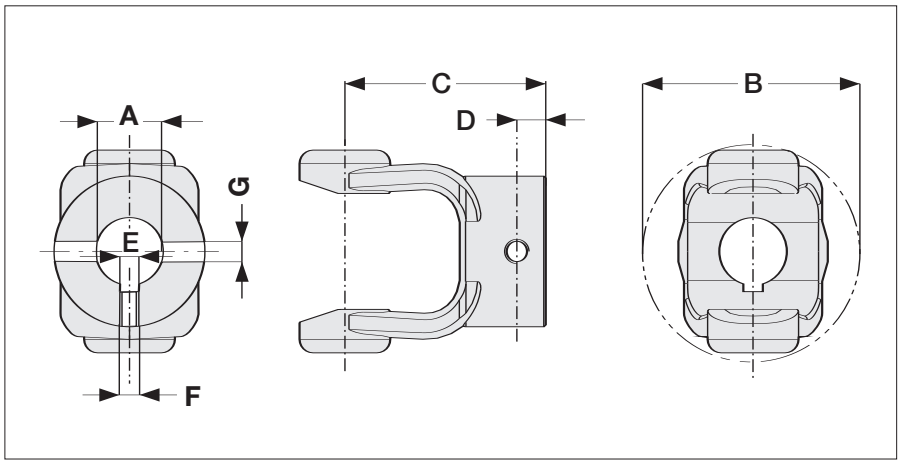
FORO LISCIO - CHIAVETTA
ROUND BORE - KEYWAY
ALESAGE ROND - CLAVETTE
NABENGABEL - PASSFEDERNUT



Type	Ref.	A	B mm	B inch	C mm	C inch	D mm	D inch	E	F	
10	311	20	73	2 7/8″	80	3 5/32″	20	25/32″	6	M8	**151.011.061**
	312	25	73	2 7/8″	80	3 5/32″	20	25/32″	8	M10	**151.011.062**
	313	30	73	2 7/8″	80	3 5/32″	20	25/32″	8	M10	**151.011.063**
	411	3/4″	73	2 7/8″	80	3 5/32″	20	25/32″	3/16″	3/8″ 16UNC	**151.011.064**
	412	1″	73	2 7/8″	80	3 5/32″	20	25/32″	1/4″	3/8″ 16UNC	**151.011.065**
	413	1 1/4″	73	2 7/8″	80	3 5/32″	20	25/32″	5/16″	3/8″ 16UNC	**151.011.270**
20	311	20	80	3 5/32″	80	3 5/32″	20	25/32″	6	M8	**151.012.054**
	312	25	80	3 5/32″	80	3 5/32″	20	25/32″	8	M10	**151.012.055**
	313	30	80	3 5/32″	80	3 5/32″	20	25/32″	8	M10	**151.012.056**
	411	3/4″	80	3 5/32″	80	3 5/32″	20	25/32″	3/16″	3/8″ 16UNC	**151.012.057**
	412	1″	80	3 5/32″	80	3 5/32″	20	25/32″	1/4″	3/8″ 16UNC	**151.012.058**
	413	1 1/4″	80	3 5/32″	80	3 5/32″	20	25/32″	5/16″	3/8″ 16UNC	**151.012.059**
40	312	25	94	3 45/64″	91.5	3 39/64″	20	25/32″	8	M12	**151.014.062**
	313	30	94	3 45/64″	91.5	3 39/64″	20	25/32″	8	M12	**151.014.063**
	314	35	94	3 45/64″	91.5	3 39/64″	20	25/32″	10	M12	**151.014.064**
	413	1 1/4″	94	3 45/64″	91.5	3 39/64″	20	25/32″	5/16″	3/8″ 16UNC	**151.014.065**
	414	1 3/8″	94	3 45/64″	91.5	3 39/64″	20	25/32″	5/16″	3/8″ 16UNC	**151.014.066**
50	313	30	100	3 15/16″	97	3 13/16″	20	25/32″	8	M12	**151.015.066**
	314	35	100	3 15/16″	97	3 13/16″	20	25/32″	10	M12	**151.015.067**
	315	40	100	3 15/16″	97	3 13/16″	20	25/32″	12	M12	**151.015.068**
	413	1 1/4″	100	3 15/16″	97	3 13/16″	20	25/32″	5/16″	3/8″ 16UNC	**151.015.069**
	414	1 3/8″	100	3 15/16″	97	3 13/16″	20	25/32″	5/16″	3/8″ 16UNC	**151.015.070**
60	313	30	115	4 17/32″	104	4 3/32″	20	25/32″	8	M12	**151.016.088**
	314	35	115	4 17/32″	104	4 3/32″	20	25/32″	10	M12	**151.016.089**
	315	40	115	4 17/32″	104	4 3/32″	20	25/32″	12	M12	**151.016.090**
	413	1 1/4″	115	4 17/32″	104	4 3/32″	20	25/32″	5/16″	3/8″ 16UNC	**151.016.091**
	414	1 3/8″	115	4 17/32″	104	4 3/32″	20	25/32″	5/16″	3/8″ 16UNC	**151.016.092**
	415	1 3/4″	115	4 17/32″	104	4 3/32″	20	25/32″	3/8″	3/8″ 16UNC	**151.016.093**
80	314	35	132	5 13/64″	116	4 9/16″	20	25/32″	10	M14	**151.018.070**
	315	40	132	5 13/64″	116	4 9/16″	20	25/32″	12	M14	**151.018.071**
	316	45	132	5 13/64″	116	4 9/16″	20	25/32″	14	M14	**151.018.072**
90	315	40	137	5 25/64″	124	4 7/8″	25	63/64″	12	M14	**151.019.073**
	316	45	137	5 25/64″	124	4 7/8″	25	63/64″	14	M14	**151.019.074**

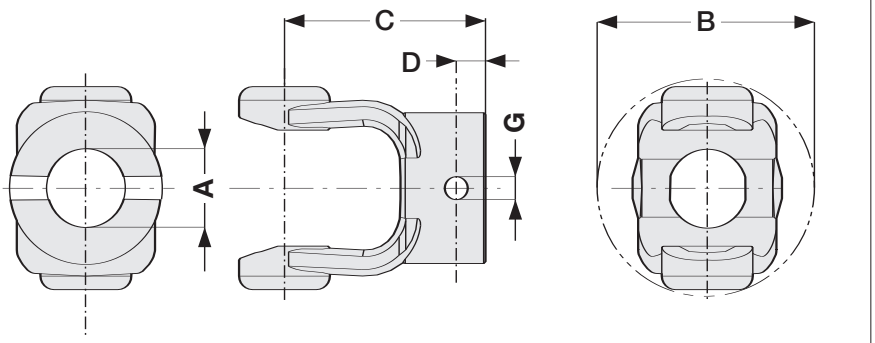
FORO LISCIO - CHIAVETTA - FORO SPINA
ROUND BORE - KEYWAY - PIN HOLE
ALESAGE ROND - CLAVETTE - TROU POUR GOUPILLE
NABENGABEL - PASSFEDERNUT - SPANNSTIFTBOHRUNG





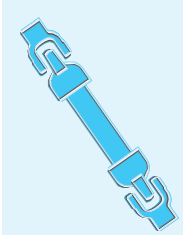
Type	Ref.	A	B		C		D		E	F	G		
			mm	inch	mm	inch	mm	inch		mm	mm	inch	
10	500	19,05	73	2 7/8"	80	3 5/32"	20	25/32"	4,76	3/8" 16UNC	6,35	1/4"	**151.011.300**
	510	25,4	73	2 7/8"	80	3 5/32"	20	25/32"	6,35	3/8" 16UNC	6,35	1/4"	**151.011.301**
	511	25,4	73	2 7/8"	80	3 5/32"	20	25/32"	6,35	3/8" 16UNC	7,93	5/16"	**151.011.302**
	520	31,75	73	2 7/8"	80	3 5/32"	20	25/32"	6,35	3/8" 16UNC	7,93	5/16"	**151.011.303**
20	510	25,4	80	3 5/32"	80	3 5/32"	20	25/32"	6,35	3/8" 16UNC	6,35	1/4"	**151.012.301**
	511	25,4	80	3 5/32"	80	3 5/32"	20	25/32"	6,35	3/8" 16UNC	7,93	5/16"	**151.012.302**
	520	31,75	80	3 5/32"	80	3 5/32"	20	25/32"	6,35	3/8" 16UNC	7,93	5/16"	**151.012.303**
	530	25,4	80	3 5/32"	80	3 5/32"	20	25/32"	6,35	1/4" 20 UNC	7	9/32"	**151.012.304**
40	511	25,4	94	3 45/64"	91,5	3 39/64"	20	25/32"	6,35	3/8" 16UNC	7,93	5/16"	**151.014.302**
	520	31,75	94	3 45/64"	91,5	3 39/64"	20	25/32"	6,35	3/8" 16UNC	7,93	5/16"	**151.014.303**
	540	31,75	94	3 45/64"	91,5	3 39/64"	20	25/32"	7,93	3/8" 16UNC	7,93	5/16"	**151.014.305**
	550	34,92	94	3 45/64"	91,5	3 39/64"	20	25/32"	7,93	3/8" 16UNC	7,93	5/16"	**151.014.306**
	560	38,1	94	3 45/64"	91,5	3 39/64"	20	25/32"	9,52	3/8" 16UNC	7,93	5/16"	**151.014.307**
50	520	31,75	100	3 15/16"	97	3 13/16"	20	25/32"	6,35	3/8" 16UNC	7,93	5/16"	**151.015.303**
	540	31,75	100	3 15/16"	97	3 13/16"	20	25/32"	7,93	3/8" 16UNC	7,93	5/16"	**151.015.305**
	550	34,92	100	3 15/16"	97	3 13/16"	20	25/32"	7,93	3/8" 16UNC	7,93	5/16"	**151.015.306**
	560	38,1	100	3 15/16"	97	3 13/16"	20	25/32"	9,52	3/8" 16UNC	7,93	5/16"	**151.015.307**
60	520	31,75	115	4 17/32"	104	4 3/32"	20	25/32"	6,35	3/8" 16UNC	7,93	5/16"	**151.016.303**
	540	31,75	115	4 17/32"	104	4 3/32"	20	25/32"	7,93	3/8" 16UNC	7,93	5/16"	**151.016.305**
	550	34,92	115	4 17/32"	104	4 3/32"	20	25/32"	7,93	3/8" 16UNC	7,93	5/16"	**151.016.306**
	560	38,1	115	4 17/32"	104	4 3/32"	20	25/32"	9,52	3/8" 16UNC	7,93	5/16"	**151.016.307**
	570	44,45	115	4 17/32"	104	4 3/32"	25,4	1"	9,52	3/8" 16UNC	7,93	5/16"	**151.016.308**
	580	49,2	115	4 17/32"	104	4 3/32"	20	25/32"	12,7	3/8" 16UNC	7,93	5/16"	**151.016.309**
	590	38,1	115	4 17/32"	104	4 3/32"	20	25/32"	9,52	3/8" 16UNC	9,52	3/8"	**151.016.310**
80	550	34,92	132	5 13/64"	116	4 9/16"	25	63/64"	7,93	3/8" 16UNC	7,93	5/16"	**151.018.306**
	580	49,2	132	5 13/64"	116	4 9/16"	25	63/64"	12,7	3/8" 16UNC	7,93	5/16"	**151.018.309**
	590	38,1	132	5 13/64"	116	4 9/16"	25	63/64"	9,52	3/8" 16UNC	9,52	3/8"	**151.018.310**
	600	44,45	132	5 13/64"	116	4 9/16"	25	63/64"	9,52	3/8" 16UNC	9,52	3/8"	**151.018.311**
	610	50,8	132	5 13/64"	116	4 9/16"	25	63/64"	12,7	3/8" 16UNC	9,52	3/8"	**151.018.312**
90	580	49,2	137	5 25/64"	124	4 7/8"	25	63/64"	12,7	3/8" 16UNC	7,93	5/16"	**151.019.309**
	590	38,1	137	5 25/64"	124	4 7/8"	25	63/64"	9,52	3/8" 16UNC	9,52	3/8"	**151.019.310**
	600	44,45	137	5 25/64"	124	4 7/8"	25	63/64"	9,52	3/8" 16UNC	9,52	3/8"	**151.019.311**
	610	50,8	137	5 25/64"	124	4 7/8"	25	63/64"	12,7	3/8" 16UNC	9,52	3/8"	**151.019.312**

FORO LISCIO - FORO SPINA
ROUND BORE - PIN HOLE
ALESAGE ROND - TROU POUR GOUPILLE
NABENGABEL - SPANNSTIFTBOHRUNG

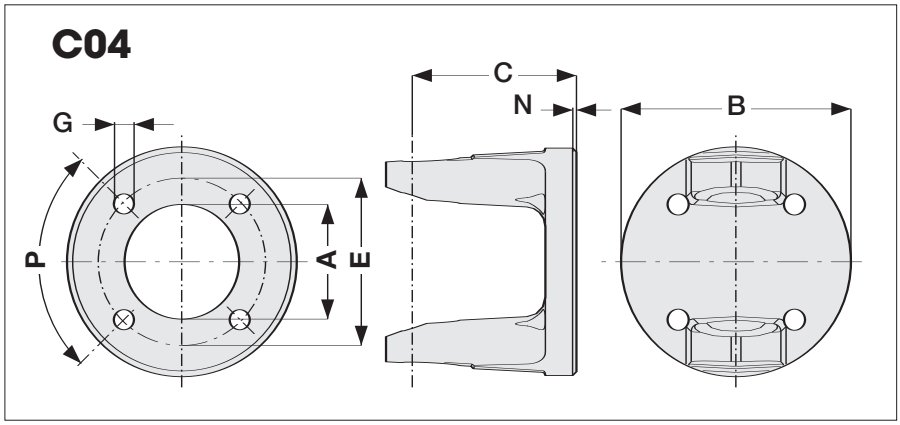


Type	Ref.	A	B		C		D		G	
			mm	inch	mm	inch	mm	inch		
10	321	20	73	2 7/8″	80	3 5/32″	15	19/32″	6	**151.011.066**
	322	25	73	2 7/8″	80	3 5/32″	15	19/32″	8	**151.011.067**
	323	30	73	2 7/8″	80	3 5/32″	15	19/32″	10	**161.011.068**
	421	3/4″	73	2 7/8″	80	3 5/32″	15	19/32″	3/8″	**151.011.069**
	422	1″	73	2 7/8″	80	3 5/32″	15	19/32″	3/8″	**151.011.070**
20	321	20	80	3 5/32″	80	3 5/32″	15	19/32″	6	**151.012.060**
	322	25	80	3 5/32″	80	3 5/32″	15	19/32″	8	**151.012.061**
	323	30	80	3 5/32″	80	3 5/32″	15	19/32″	10	**151.012.062**
	421	3/4″	80	3 5/32″	80	3 5/32″	15	19/32″	3/8″	**151.012.063**
	422	1″	80	3 5/32″	80	3 5/32″	15	19/32″	3/8″	**151.012.064**
	423	1 1/4″	80	3 5/32″	80	3 5/32″	15	19/32″	3/8″	**151.012.065**
40	322	25	94	3 45/64″	91.5	3 39/64″	20	25/32″	8	**151.014.067**
	323	30	94	3 45/64″	91.5	3 39/64″	20	25/32″	10	**151.014.068**
	324	35	94	3 45/64″	91.5	3 39/64″	20	25/32″	13	**151.014.069**
	423	1 1/4″	94	3 45/64″	91.5	3 39/64″	20	25/32″	3/8″	**151.014.070**
	424	1 3/8″	94	3 45/64″	91.5	3 39/64″	20	25/32″	3/8″	**151.014.071**
50	323	30	100	3 15/16″	97	3 13/16″	20	25/32″	10	**151.015.071**
	324	35	100	3 15/16″	97	3 13/16″	20	25/32″	13	**151.015.072**
	325	40	100	3 15/16″	97	3 13/16″	20	25/32″	13	**151.015.073**
	423	1 1/4″	100	3 15/16″	97	3 13/16″	20	25/32″	3/8″	**151.015.074**
	424	1 3/8″	100	3 15/16″	97	3 13/16″	20	25/32″	3/8″	**151.015.075**
60	323	30	115	4 17/32″	104	4 3/32″	20	25/32″	10	**151.016.094**
	324	35	115	4 17/32″	104	4 3/32″	20	25/32″	13	**151.016.095**
	325	40	115	4 17/32″	104	4 3/32″	20	25/32″	13	**151.016.096**
	423	1 1/4″	115	4 17/32″	104	4 3/32″	20	25/32″	3/8″	**151.016.097**
	424	1 3/8″	115	4 17/32″	104	4 3/32″	20	25/32″	3/8″	**151.016.098**
	425	1 3/4″	115	4 17/32″	104	4 3/32″	20	25/32″	3/8″	**151.016.099**
80	324	35	132	5 13/64″	116	4 9/16″	25	63/64″	13	**151.018.073**
	325	40	132	5 13/64″	116	4 9/16″	25	63/64″	13	**151.018.074**
	326	45	132	5 13/64″	116	4 9/16″	25	63/64″	13	**151.018.075**
90	325	40	137	5 25/64″	124	4 7/8″	25	63/64″	13	**151.019.075**
	326	45	137	5 25/64″	124	4 7/8″	25	63/64″	13	**151.019.076**

FLANGIA C04 / FGL
FLANGE C04 / FGL
BRIDE C04 / FGL
FLANSCH C04 / FGL

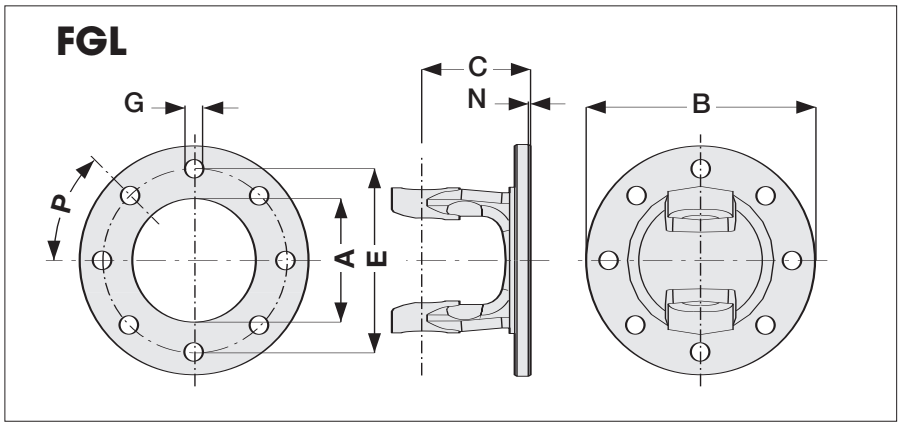


C04



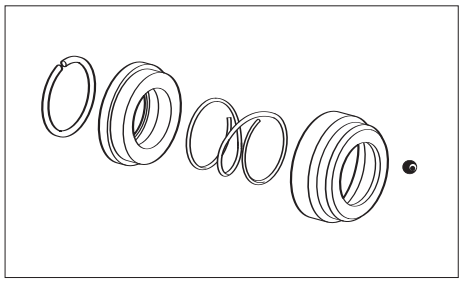
Type	Ref.	A mm	A inch	B mm	B inch	C mm	C inch	N mm	N inch	E mm	E inch	P mm	G mm	G inch	
10	C04	47	1 27/32"	90	3 35/64"	48	1 57/64"	2,5	3/32"	74,5	2 15/16"	90°	8,5	21/64"	**151.011.097**
20	C04	47	1 27/32"	90	3 35/64"	53	2 3/32"	2,5	3/32"	74,5	2 15/16"	90°	8,5	21/64"	**151.012.083**
40	C04	57	2 1/4"	100	3 15/16"	64	2 33/64"	2,5	3/32"	84	3 5/16"	90°	10,5	13/32"	**151.014.101**
50	C04	57	2 1/4"	100	3 15/16"	66	2 19/32"	2,5	3/32"	84	3 5/16"	90°	10,5	13/32"	**151.015.097**
60	C04	57	2 1/4"	110	4 21/64"	74	2 29/32"	2,5	3/32"	94	3 45/64"	90°	10,5	13/32"	**151.016.114**
80	C04	85	3 11/32"	125	4 59/64"	79	3 7/64"	3,5	9/64"	100	3 15/16"	90°	14,5	37/64"	**151.018.083**

FGL



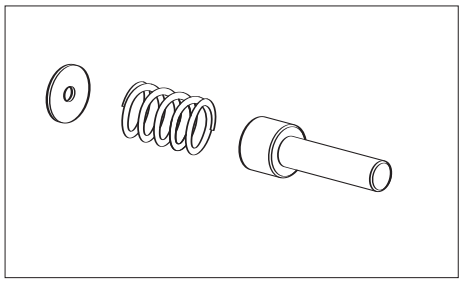
Type	Ref.	A mm	A inch	B mm	B inch	C mm	C inch	N mm	N inch	E mm	E inch	P mm	G mm	G inch	
60	FGL	90	3 35/64"	168	6 39/64"	77	3 1/32"	4	5/32"	133	5 15/64"	45°	13	33/64"	**151.016.543**
80	FGL	90	3 35/64"	168	6 39/64"	96	3 25/32"	4	5/32"	133	5 15/64"	45°	13	33/64"	**151.018.417**
90	FGL	90	3 35/64"	168	6 39/64"	101	3 31/32"	4	5/32"	133	5 15/64"	45°	13	33/64"	**151.019.316**
120	FGL	90	3 35/64"	168	6 39/64"	138	5 7/16"	4	5/32"	133	5 15/64"	45°	13	33/64"	**141.220.011**

KIT RICAMBIO
SPARE PARTS SET
KIT PIECES DE RECHANGE
ERSATZTEILE KIT



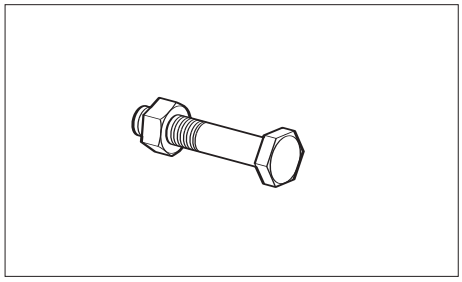
Kit collar per forcelle
Collar set for yokes
Kit collets pour mâchoires
Collarsatz für Gabeln

	A	Cod.
C1	1 3/8"	165.000.628
	1 3/4"	165.000.629
C2	1 3/4"	165.000.766



Kit pulsanti
Push-pin set
Kit boutons-poussoirs
Schiebestiftsatz

A	Cod.
1 3/8"	166.026.004
1 3/4"	166.026.005



Kit bulloni stringimento
Bolt and nut set
Kit boulons de serrage
Sperrbolzensatz

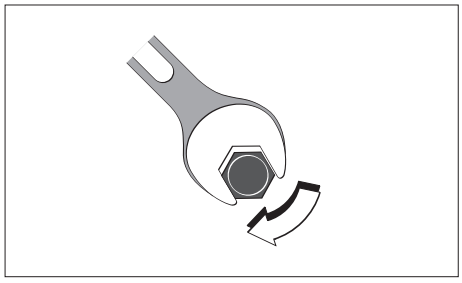
M...x... cl. 8.8	Cod.
M10x1.25x65	165.000.510
M12x1.25x55	165.000.617
M12x1.25x65	165.000.502
M12x1.25x70	165.000.525
M12x1.25x75	165.000.598
M12x1.25x80	165.000.555
M14x1.5x80	165.000.691
M16x2x80	165.000.576
M16x2x90	165.000.767

(IT) I kit bulloni stringimento per forcelle sono composti da n. 1 vite e n. 1 dado

(GB) *Bolt and nut sets for yokes include Nr. 1 bolt and Nr. 1 nut*

(FR) Les kits des boulons de serrage pour mâchoires se composent de 1 vis et de 1 écrou

(DE) *Ein Sperrbolzensatz für Gabeln besteht aus einer Schraube und einer Mutter*



Coppia max di serraggio
Tightening torque
Couple max. de serrage
Max. Anzugsmoment

M...	
M10	55÷60 Nm.
M12	90÷100 Nm.
M14	145÷155 Nm.
M16	210÷220 Nm.

comer industries
driveshafts

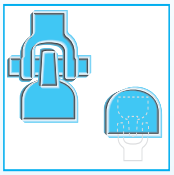
SEZIONE 4: **Snodi e forcelle doppie**

SECTION 4: ***Joints and double yokes***

CHAPITRE 4: **Joints et doubles Mâchoires**

TEIL 4: ***Einfache und Doppelgabel***

Snodi per cardani omocinetici CvJ
Joints for PTO drive shafts CvJ
Joints pour arbres à cardan CvJ
Gelenke für Weitwinkelgelenkwellen CvJ

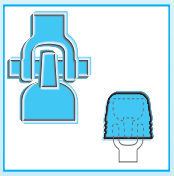


Serie V / *Series V* / Série V / *Serie V* 48
Serie T / *Series T* / Série T / *Serie T* 48

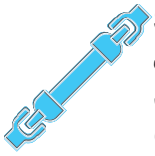
Snodi per cardani
Joints for PTO drive shafts
Joints pour arbres à cardan
Gelenke für Gelenkwellen

Serie V / *Series V* / Série V / *Serie V* 49
Serie T / *Series T* / Série T / *Serie T* 49
Serie E / *Series E*/ Série E/ *Serie E* 50

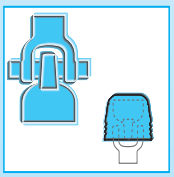
Snodi per cardani omocinetici CvJ
Joints for PTO drive shafts CvJ
Joints pour arbres à cardan CvJ
Gelenke für Weitwinkelgelenkwellen CvJ



Serie V / *Series V* / Série V / *Serie V* 51
Serie T / *Series T* / Série T / *Serie T* 51

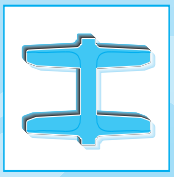


Snodi per cardani
Joints for PTO drive shafts
Joints pour arbres à cardan
Gelenke für Gelenkwellen



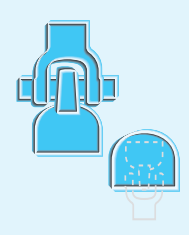
Serie V / *Series V* / Série V / *Serie V* 52
Serie T / *Series T* / Série T / *Serie T* 52
Serie D / *Series D*/ Série D/ *Serie D* 53

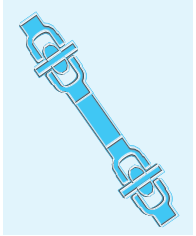
Forcelle doppie
Double yokes
Doubles mâchoires
Doppelgabeln



SD 55
SH 55
SF 56

comer industries
mechatronic solutions





SERIE V - SERIE T
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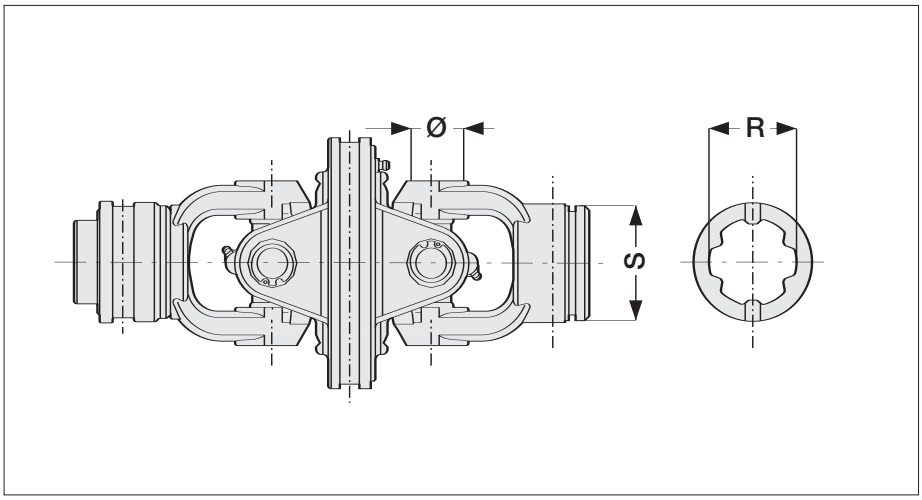
SERIE V - SERIE T

V



IT

I codici indicati si riferiscono a giunti che prevedano da un lato una forcella scanalata ad attacco rapido 1 3/8" Z6 (Ref. C02) e dall'altro lato una forcella per il tubo sagomato. A richiesta i giunti possono essere forniti con estremità di tipo diverso previste nella gamma di produzione COMER Industries Driveshafts. In tal caso per effettuare l'ordine specificare la referenza della forcella che si vuole sia fornita con la forcella per il tubo sagomato.
Es.: Snodo CVJ esterno V80 ~~C02~~ C03

GB

The codes indicated refer to joints with a grooved yoke and 1 3/8" Z6 rapid connector (Ref. C02) on one end and a yoke for the shaped tube on the other. On request, joints can be supplied with different terminals than those available in the COMER Industries Driveshafts. line. In that case, when ordering specify the yoke reference to be supplied with the yoke for the shaped tube.
Ex.: Outer joint CVJ V80 ~~C02~~ C03

FR

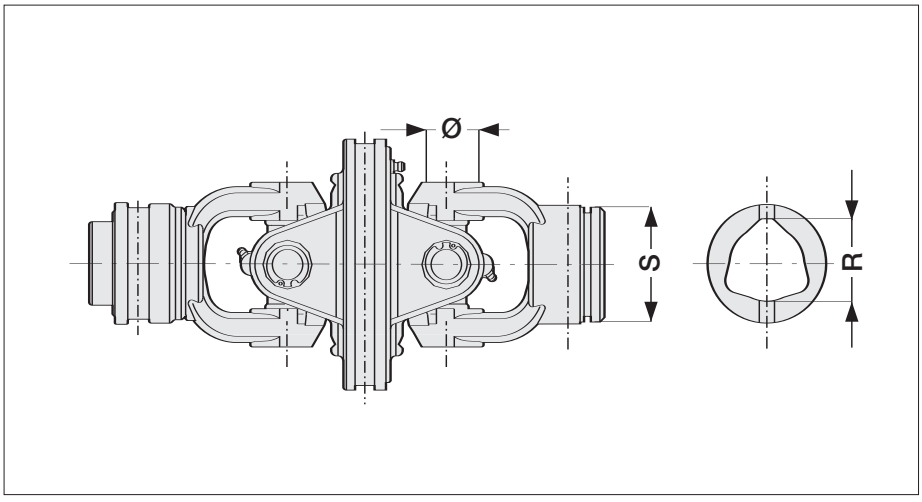
Les références indiquées se rapportent à des joints prévoyant d'un côté une mâchoire cannelée à verrouillage rapide 1 3/8" Z6 (Réf. C02) et de l'autre une mâchoire à gorge pour le tube profilé. En option, les joints sont disponibles avec des extrémités différentes de celles prévues dans la gamme COMER Industries Driveshafts.. Dans ce cas spécifiez lors de la commande la référence de la mâchoire que vous souhaitez avec la mâchoire pour le tube profilé.
Ex.: Joint CVJ extérieur V80 ~~C02~~ C03

DE

Die angegebenen Kennzahlen bezeichnen Gelenke, für die auf der einen Seite eine Profilgabel mit Zieh verschluss 1 3/8" Z6 (Ref. C02) vorgesehen ist, auf der anderen Seite eine Gabel für das Profilrohr. Auf Wunsch können die Gelenke mit anderen Endstücken geliefert werden als in der Produktpalette COMER Industries Driveshafts vorgesehen. In diesem Fall bei der Bestellung bitte die Angaben zu der Gabel machen, die mit der Gabel für das Profilrohr geliefert werden soll.
z.B.: äußeres Gelenk CVJ V80 ~~C02~~ C03

Type	Ref.	Ø mm	Ø inch	R mm	R inch	S mm	S inch	snodo esterno *outer joint* joint extérieur *äußeres Gelenk*	R mm	R inch	S mm	S inch	snodo interno *inner joint* joint intérieur *inneres Gelenk*
20	C02	23,8	15/16"	42	1 21/32"	53,9	2 1/8"	**121.022.670.00**	36,2	1 27/64"	46,9	1 27/32"	**121.022.671.00**
40	C02	27	1 51/64"	45,7	1 51/64"	61	2 13/32"	**121.024.786.00**	39,3	1 35/64"	53,9	2 1/8"	**121.024.792.00**
60	C02	30,2	2 17/64"	57,6	2 17/64"	75,5	2 31/32"	**121.026.930.00**	50,2	1 31/32"	67	2 41/64"	**121.026.941.00**
80	C02	35	2 5/8"	66,5	3 15/32"	88	3 15/32"	**121.028.812.00**	58,1	2 9/32"	76	2 63/64"	**121.028.851.00**

T



IT

I codici indicati si riferiscono a giunti che prevedano da un lato una forcella scanalata ad attacco rapido 1 3/8" Z6 (Ref. C02) e dall'altro lato una forcella per il tubo sagomato. A richiesta i giunti possono essere forniti con estremità di tipo diverso previste nella gamma di produzione COMER Industries Driveshafts. In tal caso per effettuare l'ordine specificare la referenza della forcella che si vuole sia fornita con la forcella per il tubo sagomato.
Es.: Snodo CVJ esterno T80 ~~C02~~ C03

GB

The codes indicated refer to joints with a grooved yoke and 1 3/8" Z6 rapid connector (Ref. C02) on one end and a yoke for the shaped tube on the other. On request, joints can be supplied with different terminals than those available in the COMER Industries Driveshafts. line. In that case, when ordering specify the yoke reference to be supplied with the yoke for the shaped tube.
Ex.: Outer joint CVJ T80 ~~C02~~ C03

FR

Les références indiquées se rapportent à des joints prévoyant d'un côté une mâchoire cannelée à verrouillage rapide 1 3/8" Z6 (Réf. C02) et de l'autre une mâchoire à gorge pour le tube profilé. En option, les joints sont disponibles avec des extrémités différentes de celles prévues dans la gamme COMER Industries Driveshafts. Dans ce cas spécifiez lors de la commande la référence de la mâchoire que vous souhaitez avec la mâchoire pour le tube profilé.
Ex.: Joint CVJ extérieur T80 ~~C02~~ C03

DE

Die angegebenen Kennzahlen bezeichnen Gelenke, für die auf der einen Seite eine Profilgabel mit Zieh verschluss 1 3/8" Z6 (Ref. C02) vorgesehen ist, auf der anderen Seite eine Gabel für das Profilrohr. Auf Wunsch können die Gelenke mit anderen Endstücken geliefert werden als in der Produktpalette COMER Industries Driveshafts vorgesehen. In diesem Fall bei der Bestellung bitte die Angaben zu der Gabel machen, die mit der Gabel für das Profilrohr geliefert werden soll.
z.B.: äußeres Gelenk CVJ T80 C02 C03

Type	Ref.	Ø mm	Ø inch	R mm	R inch	S mm	S inch	snodo esterno *outer joint* joint extérieur *äußeres Gelenk*	R mm	R inch	S mm	S inch	snodo interno *inner joint* joint intérieur *inneres Gelenk*
20	C02	23,8	15/16"	36	1 27/64"	53,9	2 1/8"	**121.022.641.00**	29	1 9/64"	46,9	1 27/32"	**121.022.659.00**
40	C02	27	1 51/64"	43,5	1 23/32"	61	2 13/32"	**121.024.630.00**	36	1 27/64"	53,9	2 1/8"	**121.024.629.00**
60	C02	30,2	2 17/64"	54	2 1/8"	75,5	2 31/32"	**121.026.658.00**	45	1 49/64"	67	2 41/64"	**121.026.950.00**
80	C02	35	2 5/8"	63	3 31/64"	88	3 15/32"	**121.028.657.00**	54	2 1/8"	76	2 63/64"	**121.028.836.00**

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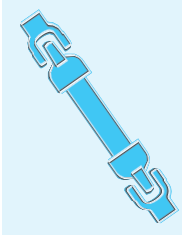
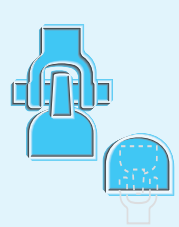
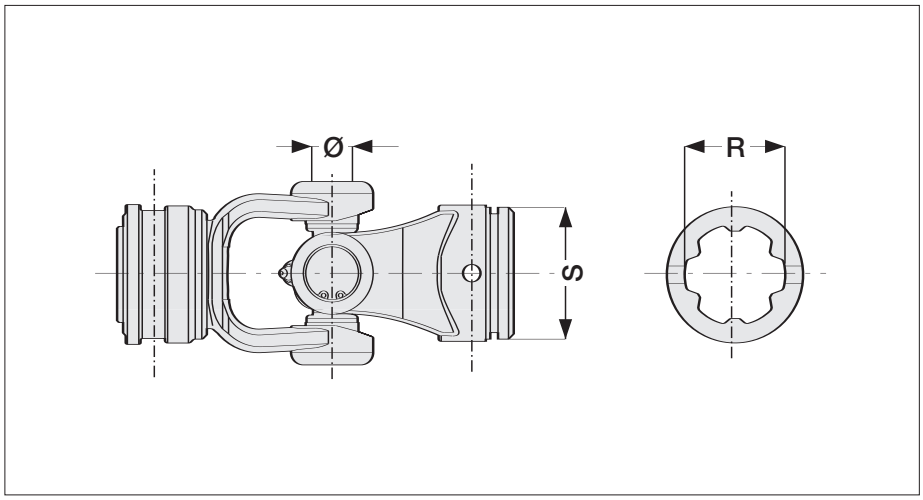




V



IT

I codici indicati si riferiscono a giunti che prevedano da un lato una forcella scanalata ad attacco rapido 1 3/8" Z6 (Ref. C12) e dall'altro lato una forcella per il tubo sagomato. A richiesta i giunti possono essere forniti con estremità di tipo diverso previste nella gamma di produzione COMER Industries Driveshafts In tal caso per effettuare l'ordine specificare la referenza della forcella che si vuole sia fornita con la forcella per il tubo sagomato.
Es.: Snodo esterno V80 C12 C13

GB

The codes indicated refer to joints with a grooved yoke and 1 3/8" Z6 rapid connector (Ref. C12) on one end and a yoke for the shaped tube on the other. On request, joints can be supplied with different terminals than those available in the COMER Industries Driveshafts line. In that case, when ordering specify the yoke reference to be supplied with the yoke for the shaped tube.
Ex.: Outer joint V80 C12 C13

FR

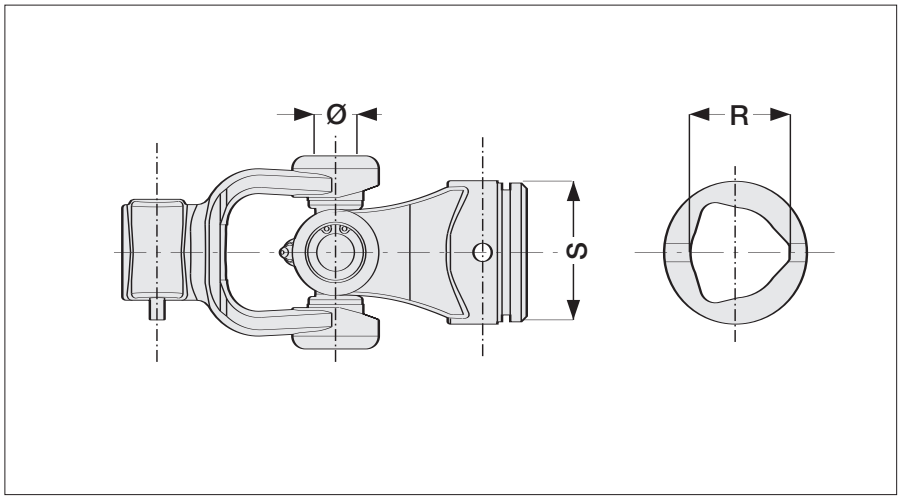
Les références indiquées se rapportent à des joints prévoyant d'un côté une mâchoire cannelée à verrouillage rapide 1 3/8" Z6 (Réf. C12) et de l'autre une mâchoire à gorge pour le tube profilé. En option, les joints sont disponibles avec des extrémités différentes de celles prévues dans la gamme COMER Industries Driveshafts Dans ce cas spécifiez lors de la commande la référence de la mâchoire que vous souhaitez avec la mâchoire pour le tube profilé.
Ex.: Joint extérieur V80 C12 C13

DE

Die angegebenen Kennzahlen bezeichnen Gelenke, für die auf der einen Seite eine Profilgabel mit Ziehverschluss 1 3/8" Z6 (Ref. C12) vorgesehen ist, auf der anderen Seite eine Gabel für das Profilrohr. Auf Wunsch können die Gelenke mit anderen Endstücken geliefert werden als in der Produktpalette COMER Driveshafts vorgesehen. In diesem Fall bei der Bestellung bitte die Angaben zu der Gabel machen, die mit der Gabel für das Profilrohr geliefert werden soll.
z.B.: äußeres Gelenk V80 C12 C13

Type	Ref.	Ø mm	Ø inch	R mm	R inch	S mm	S inch	snodo esterno *outer joint* joint extérieur *äußeres Gelenk*	R mm	R inch	S mm	S inch	snodo interno *inner joint* joint intérieur *inneres Gelenk*
20	C12	23,8	15/16"	42	1 21/32"	53,9	2 1/8"	**121.022.654.00**	36,2	1 27/64"	46,9	1 27/32"	**121.022.660.00**
40	C12	27	1 1/16"	45,7	1 51/64"	61	2 13/32"	**121.024.771.00**	39,3	1 35/64"	53,9	2 1/8"	**121.024.772.00**
50	C12	30,2	1 3/16"	57,6	2 17/64"	70	2 3/4"	**121.025.656.00**	50,2	1 31/32"	61	2 13/32"	**121.025.657.00**
60	C12	30,2	1 3/16"	57,6	2 17/64"	75,5	2 31/32"	**121.026.911.00**	50,2	1 31/32"	67	2 41/64"	**121.026.912.00**
80	C12	35	1 3/8"	66,5	3 15/32"	88	3 15/32"	**121.028.804.00**	58,1	2 9/32"	76	2 63/64"	**121.028.813.00**
90	C12	41	1 39/64"	66,5	3 15/32"	88	3 15/32"	**121.029.552.00**	58,1	2 9/32"	76	2 63/64"	**121.029.569.00**

T



IT

I codici indicati si riferiscono a giunti che prevedano da un lato una forcella scanalata ad attacco rapido 1 3/8" Z6 (Ref. 112) e dall'altro lato una forcella per il tubo sagomato. A richiesta i giunti possono essere forniti con estremità di tipo diverso previste nella gamma di produzione COMER Industries Driveshafts. In tal caso per effettuare l'ordine specificare la referenza della forcella che si vuole sia fornita con la forcella per il tubo sagomato.
Es.: Snodo esterno T80 112 113

GB

The codes indicated refer to joints with a grooved yoke and 1 3/8" Z6 rapid connector (Ref. 112) on one end and a yoke for the shaped tube on the other. On request, joints can be supplied with different terminals than those available in the COMER Industries Driveshafts line. In that case, when ordering specify the yoke reference to be supplied with the yoke for the shaped tube.
Ex.: Outer joint T80 112 113

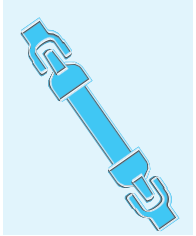
FR

Les références indiquées se rapportent à des joints prévoyant d'un côté une mâchoire cannelée à verrouillage rapide 1 3/8" Z6 (Réf. 112) et de l'autre une mâchoire à gorge pour le tube profilé. En option, les joints sont disponibles avec des extrémités différentes de celles prévues dans la gamme COMER Industries Driveshafts. Dans ce cas spécifiez lors de la commande la référence de la mâchoire que vous souhaitez avec la mâchoire pour le tube profilé.
Ex.: Joint extérieur T80 112 113

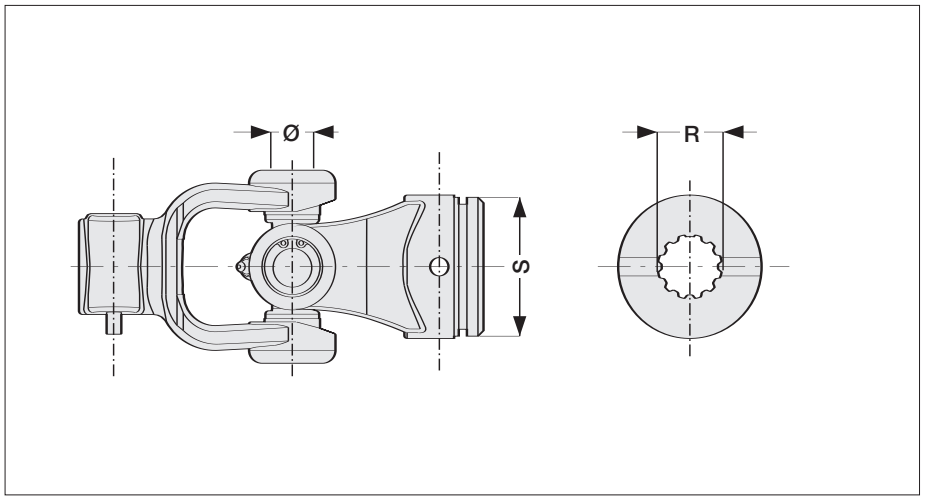
DE

Die angegebenen Kennzahlen bezeichnen Gelenke, für die auf der einen Seite eine Profilgabel mit Ziehverschluss 1 3/8" Z6 (Ref. 112) vorgesehen ist, auf der anderen Seite eine Gabel für das Profilrohr. Auf Wunsch können die Gelenke mit anderen Endstücken geliefert werden als in der Produktpalette COMER Industries Driveshafts vorgesehen. In diesem Fall bei der Bestellung bitte die Angaben zu der Gabel machen, die mit der Gabel für das Profilrohr geliefert werden soll.
z.B.: äußeres Gelenk T80 112 113

Type	Ref.	Ø mm	Ø inch	R mm	R inch	S mm	S inch	snodo esterno *outer joint* joint extérieur *äußeres Gelenk*	R mm	R inch	S mm	S inch	snodo interno *inner joint* joint intérieur *inneres Gelenk*
10	112	22	55/64"	32,5	1 9/32"	46,9	1 27/32"	**121.021.501.10**	26,5	1 3/64"	40,9	1 39/64"	**121.021.500.10**
20	112	23,8	15/16"	36	1 27/64"	53,9	2 1/8"	**121.022.501.10**	29	1 9/64"	46,9	1 27/32"	**121.022.500.10**
40	112	27	1 51/64"	43,5	1 23/32"	61	2 13/32"	**121.024.507.10**	36	1 27/64"	53,9	2 1/8"	**121.024.506.10**
50	112	30,2	2 17/64"	51,6	2 1/32"	70	2 3/4"	**121.025.506.10**	45	1 49/64"	61	2 13/32"	**121.025.507.10**
60	112	30,2	2 17/64"	54	2 1/8"	75,5	2 31/32"	**121.026.516.10**	45	1 49/64"	67	2 41/64"	**121.026.515.10**
80	112	35	2 5/8"	63	3 31/64"	88	3 15/32"	**121.028.593.10**	54	2 1/8"	76	2 63/64"	**121.028.592.10**
90	112	41	1 39/64"	63	3 31/64"	88	3 15/32"	**121.029.505.10**	54	2 1/8"	76	2 63/64"	**121.029.504.10**



E



IT

I codici indicati si riferiscono a giunti che prevedano da un lato una forcella scanalata ad attacco rapido 1 3/8" Z6 (Ref. 112) e dall'altro lato una forcella per il tubo sagomato. A richiesta i giunti possono essere forniti con estremità di tipo diverso previste nella gamma di produzione COMER Industries Driveshafts. In tal caso per effettuare l'ordine specificare la referenza della forcella che si vuole sia fornita con la forcella per il tubo sagomato.

Es.: Snodo interno E40 ~~112~~ 113

GB

The codes indicated refer to joints with a grooved yoke and 1 3/8" Z6 rapid connector (Ref. 112) on one end and a yoke for the shaped tube on the other. On request, joints can be supplied with different terminals than those available in the COMER Industries Driveshafts line. In that case, when ordering specify the yoke reference to be supplied with the yoke for the shaped tube.

Ex.: Inner joint E40 ~~112~~ 113

FR

Les références indiquées se rapportent à des joints prévoyant d'un côté une mâchoire cannelée à verrouillage rapide 1 3/8" Z6 (Réf. 112) et de l'autre une mâchoire à gorge pour le tube profilé. En option, les joints sont disponibles avec des extrémités différentes de celles prévues dans la gamme COMER Industries Driveshafts. Dans ce cas spécifiez lors de la commande la référence de la mâchoire que vous souhaitez avec la mâchoire pour le tube profilé.

Ex.: Joint intérieur E40 ~~112~~ 113

DE

Die angegebenen Kennzahlen bezeichnen Gelenke, für die auf der einen Seite eine Profilgabel mit Ziehverschluss 1 3/8" Z6 (Ref. 112) vorgesehen ist, auf der anderen Seite eine Gabel für das Profilrohr. Auf Wunsch können die Gelenke mit anderen Endstücken geliefert werden als in der Produktpalette COMER Industries Driveshaftsvorgesehen. In diesem Fall bei der Bestellung bitte die Angaben zu der Gabel machen, die mit der Gabel für das Profilrohr geliefert werden soll.

z.B.: Inneres Gelenk E40 ~~112~~ 113

Type	Ref.	Ø mm	Ø inch	R	S mm	S inch	snodo interno *outer joint* joint intérieur *inneres Gelenk*
40	112	27	1 1/16"	30 CUNA	53,9	2 1/8"	**121.024.601.10**
50	112	30,2	1 3/16"	35 CUNA	61	2 13/32"	**121.025.512.10**
60	112	30,2	1 3/16"	35 CUNA	67	2 41/64"	**121.026.526.10**
80	112	35	1 3/8"	40 CUNA	76	2 63/64	**121.028.619.10**
90	112	41	1 39/64"	45 CUNA	76	2 63/64	**121.029.515.10**

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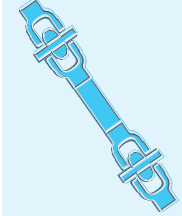
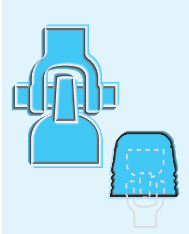
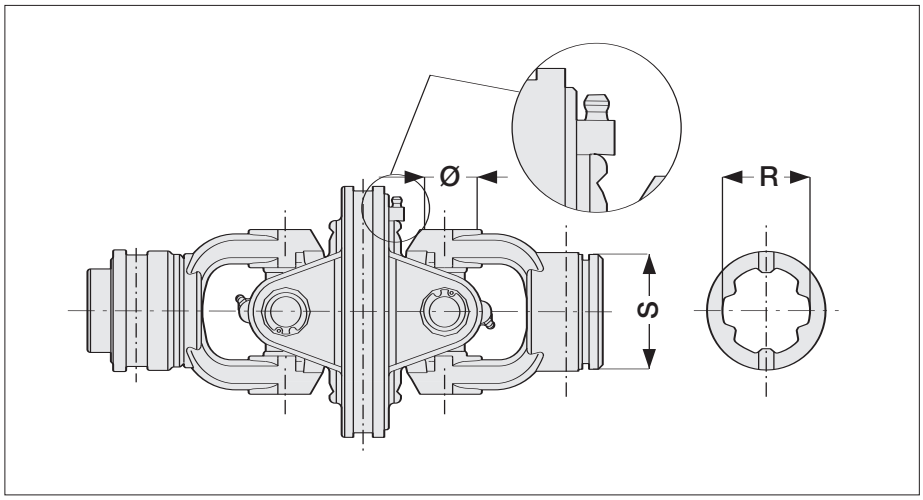




V



IT

I codici indicati si riferiscono a giunti che prevedano da un lato una forcella scanalata ad attacco rapido 1 3/8" Z6 (Ref. C02) e dall'altro lato una forcella per il tubo sagomato. A richiesta i giunti possono essere forniti con estremità di tipo diverso previste nella gamma di produzione COMER Industries Driveshafts. In tal caso per effettuare l'ordine specificare la referenza della forcella che si vuole sia fornita con la forcella per il tubo sagomato.
Es.: Snodo CVJ esterno V80 ~~C02~~ C03

GB

The codes indicated refer to joints with a grooved yoke and 1 3/8" Z6 rapid connector (Ref. C02) on one end and a yoke for the shaped tube on the other. On request, joints can be supplied with different terminals than those available in the COMER Industries Driveshafts. line. In that case, when ordering specify the yoke reference to be supplied with the yoke for the shaped tube.
Ex.: Outer joint CVJ V80 ~~C02~~ C03

FR

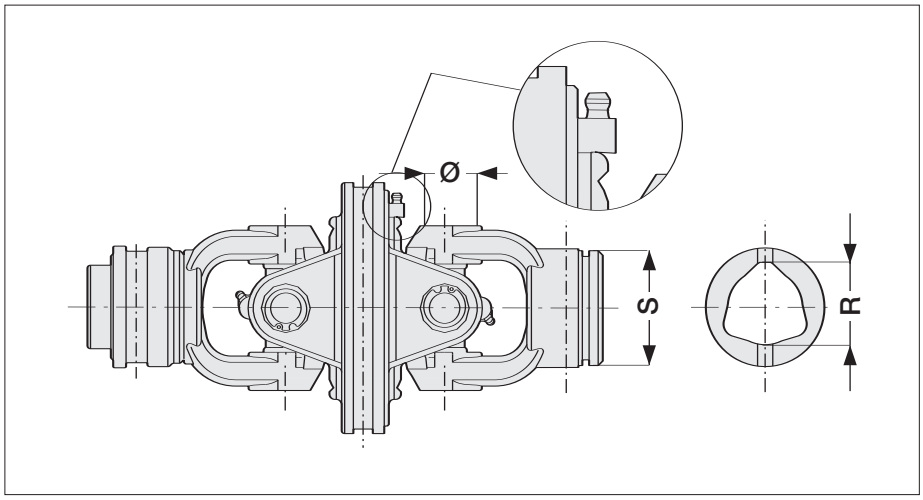
Les références indiquées se rapportent à des joints prévoyant d'un côté une mâchoire cannelée à verrouillage rapide 1 3/8" Z6 (Réf. C02) et de l'autre une mâchoire à gorge pour le tube profilé. En option, les joints sont disponibles avec des extrémités différentes de celles prévues dans la gamme COMER Industries Driveshafts.. Dans ce cas spécifiez lors de la commande la référence de la mâchoire que vous souhaitez avec la mâchoire pour le tube profilé.
Ex.: Joint CVJ extérieur V80 ~~C02~~ C03

DE

Die angegebenen Kennzahlen bezeichnen Gelenke, für die auf der einen Seite eine Profilgabel mit Ziehverschluss 1 3/8" Z6 (Ref. C02) vorgesehen ist, auf der anderen Seite eine Gabel für das Profilrohr. Auf Wunsch können die Gelenke mit anderen Endstücken geliefert werden als in der Produktpalette COMER Industries Driveshafts vorgesehen. In diesem Fall bei der Bestellung bitte die Angaben zu der Gabel machen, die mit der Gabel für das Profilrohr geliefert werden soll.
z.B.: äußeres Gelenk CVJ V80 ~~C02~~ C03

Type	Ref.	Ø mm	Ø inch	R mm	R inch	S mm	S inch	snodo esterno *outer joint* joint extérieur *äußeres Gelenk*	R mm	R inch	S mm	S inch	snodo interno *inner joint* joint intérieur *inneres Gelenk*
20	C02	23,8	15/16"	42	1 21/32"	53,9	2 1/8"	**121.022.720.00**	36,2	1 27/64"	46,9	1 27/32"	**121.022.729.00**
40	C02	27	1 51/64"	45,7	1 51/64"	61	2 13/32"	**121.024.893.00**	39,3	1 35/64"	53,9	2 1/8"	**121.024.862.00**
60	C02	30,2	2 17/64"	57,6	2 17/64"	75,5	2 31/32"	**121.026.102.00**	50,2	1 31/32"	67	2 41/64"	**121.026.304.00**
80	C02	35	2 5/8"	66,5	3 15/32"	88	3 15/32"	**121.028.969.00**	58,1	2 9/32"	76	2 63/64"	**121.028.131.00**

T



IT

I codici indicati si riferiscono a giunti che prevedano da un lato una forcella scanalata ad attacco rapido 1 3/8" Z6 (Ref. C02) e dall'altro lato una forcella per il tubo sagomato. A richiesta i giunti possono essere forniti con estremità di tipo diverso previste nella gamma di produzione COMER Industries Driveshafts. In tal caso per effettuare l'ordine specificare la referenza della forcella che si vuole sia fornita con la forcella per il tubo sagomato.
Es.: Snodo CVJ esterno T80 ~~C02~~ C03

GB

The codes indicated refer to joints with a grooved yoke and 1 3/8" Z6 rapid connector (Ref. C02) on one end and a yoke for the shaped tube on the other. On request, joints can be supplied with different terminals than those available in the COMER Industries Driveshafts. line. In that case, when ordering specify the yoke reference to be supplied with the yoke for the shaped tube.
Ex.: Outer joint CVJ T80 ~~C02~~ C03

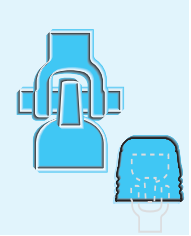
FR

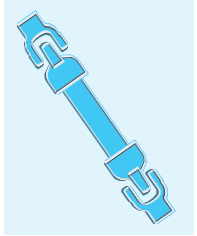
Les références indiquées se rapportent à des joints prévoyant d'un côté une mâchoire cannelée à verrouillage rapide 1 3/8" Z6 (Réf. C02) et de l'autre une mâchoire à gorge pour le tube profilé. En option, les joints sont disponibles avec des extrémités différentes de celles prévues dans la gamme COMER Industries Driveshafts. Dans ce cas spécifiez lors de la commande la référence de la mâchoire que vous souhaitez avec la mâchoire pour le tube profilé.
Ex.: Joint CVJ extérieur T80 ~~C02~~ C03

DE

Die angegebenen Kennzahlen bezeichnen Gelenke, für die auf der einen Seite eine Profilgabel mit Ziehverschluss 1 3/8" Z6 (Ref. C02) vorgesehen ist, auf der anderen Seite eine Gabel für das Profilrohr. Auf Wunsch können die Gelenke mit anderen Endstücken geliefert werden als in der Produktpalette COMER Industries Driveshafts vorgesehen. In diesem Fall bei der Bestellung bitte die Angaben zu der Gabel machen, die mit der Gabel für das Profilrohr geliefert werden soll.
z.B.: äußeres Gelenk CVJ T80 C02 C03

Type	Ref.	Ø mm	Ø inch	R mm	R inch	S mm	S inch	snodo esterno *outer joint* joint extérieur *äußeres Gelenk*	R mm	R inch	S mm	S inch	snodo interno *inner joint* joint intérieur *inneres Gelenk*
20	C02	23,8	15/16"	36	1 27/64"	53,9	2 1/8"	**121.022.730.00**	29	1 9/64"	46,9	1 27/32"	**121.022.731.00**
40	C02	27	1 51/64"	43,5	1 23/32"	61	2 13/32"	**121.024.909.00**	36	1 27/64"	53,9	2 1/8"	**121.024.910.00**
60	C02	30,2	2 17/64"	54	2 1/8"	75,5	2 31/32"	**121.026.062.00**	45	1 49/64"	67	2 41/64"	**121.026.316.00**
80	C02	35	2 5/8"	63	3 31/64"	88	3 15/32"	**121.028.132.00**	54	2 1/8"	76	2 63/64"	**121.028.133.00**





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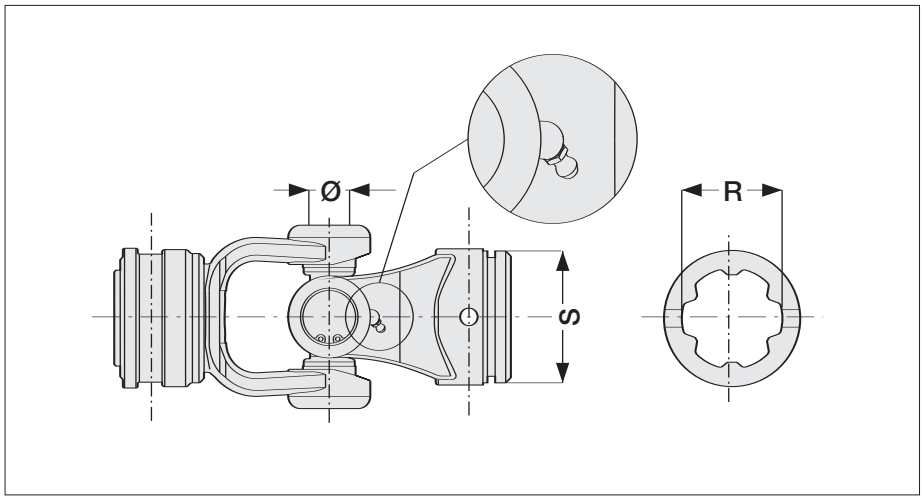


IT

I codici indicati si riferiscono a giunti che prevedano da un lato una forcella scanalata ad attacco rapido 1 3/8" Z6 (Ref. C12) e dall'altro lato una forcella per il tubo sagomato. A richiesta i giunti possono essere forniti con estremità di tipo diverso previste nella gamma di produzione COMER Industries Driveshafts In tal caso per effettuare l'ordine specificare la referenza della forcella che si vuole sia fornita con la forcella per il tubo sagomato.
Es.: Snodo esterno V80 ~~X~~ C13

GB

The codes indicated refer to joints with a grooved yoke and 1 3/8" Z6 rapid connector (Ref. C12) on one end and a yoke for the shaped tube on the other. On request, joints can be supplied with different terminals than those available in the COMER Industries Driveshafts line. In that case, when ordering specify the yoke reference to be supplied with the yoke for the shaped tube.
Ex.: Outer joint V80 ~~X~~ C13

FR

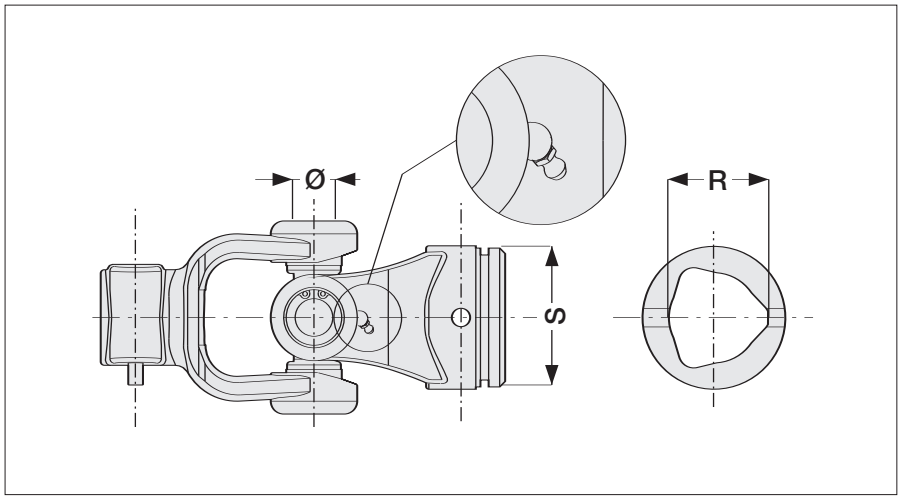
Les références indiquées se rapportent à des joints prévoyant d'un côté une mâchoire cannelée à verrouillage rapide 1 3/8" Z6 (Réf. C12) et de l'autre une mâchoire à gorge pour le tube profilé. En option, les joints sont disponibles avec des extrémités différentes de celles prévues dans la gamme COMER Industries Driveshafts Dans ce cas spécifiez lors de la commande la référence de la mâchoire que vous souhaitez avec la mâchoire pour le tube profilé.
Ex.: Joint extérieur V80 ~~X~~ C13

DE

Die angegebenen Kennzahlen bezeichnen Gelenke, für die auf der einen Seite eine Profilgabel mit Ziehverschluss 1 3/8" Z6 (Ref. C12) vorgesehen ist, auf der anderen Seite eine Gabel für das Profilrohr. Auf Wunsch können die Gelenke mit anderen Endstücken geliefert werden als in der Produktpalette COMER Driveshafts vorgesehen. In diesem Fall bei der Bestellung bitte die Angaben zu der Gabel machen, die mit der Gabel für das Profilrohr geliefert werden soll.
z.B.: äußeres Gelenk V80 ~~X~~ C13

Type	Ref.	Ø mm	Ø inch	R mm	R inch	S mm	S inch	snodo esterno *outer joint* joint extérieur *äußeres Gelenk*	R mm	R inch	S mm	S inch	snodo interno *inner joint* joint intérieur *inneres Gelenk*
20	C12	23,8	15/16"	42	1 21/32"	53,9	2 1/8"	**121.022.718.00**	36,2	1 27/64"	46,9	1 27/32"	**121.022.719.00**
40	C12	27	1 1/16"	45,7	1 51/64"	61	2 13/32"	**121.024.830.00**	39,3	1 35/64"	53,9	2 1/8"	**121.024.884.00**
50	C12	30,2	1 3/16"	57,6	2 17/64"	70	2 3/4"	**121.025.721.00**	50,2	1 31/32"	61	2 13/32"	**121.025.731.00**
60	C12	30,2	1 3/16"	57,6	2 17/64"	75,5	2 31/32"	**121.026.116.00**	50,2	1 31/32"	67	2 41/64"	**121.026.230.00**
80	C12	35	1 3/8"	66,5	3 15/32"	88	3 15/32"	**121.028.099.00**	58,1	2 9/32"	76	2 63/64"	**121.028.110.00**
90	C12	41	1 39/64"	66,5	3 15/32"	88	3 15/32"	**121.029.663.00**	58,1	2 9/32"	76	2 63/64"	**121.029.666.00**

T



IT

I codici indicati si riferiscono a giunti che prevedano da un lato una forcella scanalata ad attacco rapido 1 3/8" Z6 (Ref. 112) e dall'altro lato una forcella per il tubo sagomato. A richiesta i giunti possono essere forniti con estremità di tipo diverso previste nella gamma di produzione COMER Industries Driveshafts. In tal caso per effettuare l'ordine specificare la referenza della forcella che si vuole sia fornita con la forcella per il tubo sagomato.
Es.: Snodo esterno T80 ~~X~~ 113

GB

The codes indicated refer to joints with a grooved yoke and 1 3/8" Z6 rapid connector (Ref. 112) on one end and a yoke for the shaped tube on the other. On request, joints can be supplied with different terminals than those available in the COMER Industries Driveshafts line. In that case, when ordering specify the yoke reference to be supplied with the yoke for the shaped tube.
Ex.: Outer joint T80 ~~X~~ 113

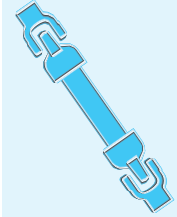
FR

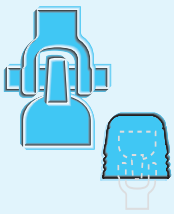
Les références indiquées se rapportent à des joints prévoyant d'un côté une mâchoire cannelée à verrouillage rapide 1 3/8" Z6 (Réf. 112) et de l'autre une mâchoire à gorge pour le tube profilé. En option, les joints sont disponibles avec des extrémités différentes de celles prévues dans la gamme COMER Industries Driveshafts. Dans ce cas spécifiez lors de la commande la référence de la mâchoire que vous souhaitez avec la mâchoire pour le tube profilé.
Ex.: Joint extérieur T80 ~~X~~ 113

DE

Die angegebenen Kennzahlen bezeichnen Gelenke, für die auf der einen Seite eine Profilgabel mit Ziehverschluss 1 3/8" Z6 (Ref. 112) vorgesehen ist, auf der anderen Seite eine Gabel für das Profilrohr. Auf Wunsch können die Gelenke mit anderen Endstücken geliefert werden als in der Produktpalette COMER Industries Driveshafts vorgesehen. In diesem Fall bei der Bestellung bitte die Angaben zu der Gabel machen, die mit der Gabel für das Profilrohr geliefert werden soll.
z.B.: äußeres Gelenk T80 ~~X~~ 113

Type	Ref.	Ø mm	Ø inch	R mm	R inch	S mm	S inch	snodo esterno *outer joint* joint extérieur *äußeres Gelenk*	R mm	R inch	S mm	S inch	snodo interno *inner joint* joint intérieur *inneres Gelenk*
10	112	22	55/64"	32,5	1 9/32"	46,9	1 27/32"	**21.021.652.10**	26,5	1 3/64"	40,9	1 39/64"	**21.021.651.10**
20	112	23,8	15/16"	36	1 27/64"	53,9	2 1/8"	**21.022.715.10**	29	1 9/64"	46,9	1 27/32"	**21.022.714.10**
40	112	27	1 51/64"	43,5	1 23/32"	61	2 13/32"	**21.024.621.10**	36	1 27/64"	53,9	2 1/8"	**21.024.622.10**
50	112	30,2	2 17/64"	51,6	2 1/32"	70	2 3/4"	**21.025.602.10**	45	1 49/64"	61	2 13/32"	**21.025.726.10**
60	112	30,2	2 17/64"	54	2 1/8"	75,5	2 31/32"	**21.026.187.10**	45	1 49/64"	67	2 41/64"	**21.026.231.10**
80	112	35	2 5/8"	63	3 31/64"	88	3 15/32"	**21.028.083.10**	54	2 1/8"	76	2 63/64"	**21.028.112.10**
90	112	41	1 39/64"	63	3 31/64"	88	3 15/32"	**121.029.667.10**	54	2 1/8"	76	2 63/64"	**121.029.668.10**





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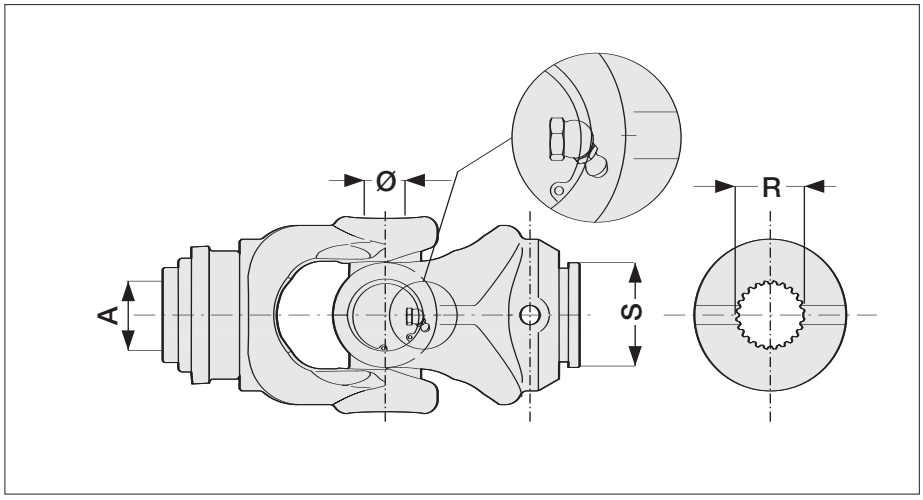


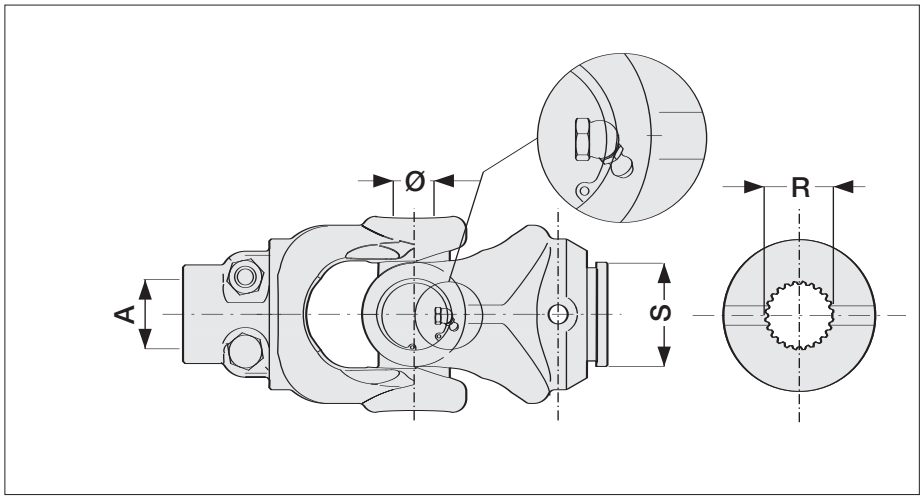
(IT) **SNODO INTERNO D120 CON FORCELLA COLLAR**

(GB) ***D120 INNER JOINT WITH COLLAR YOKE***

(FR) **JOINT INTERIEUR D120 AVEC MÂCHOIRE COLLAR**

(DE) ***D120 INNERES GELENK MIT COLLAR-GABEL***

Type	Ref.	A		Ø mm	Ø inch	R	S mm	S inch	cod.
120	C27	1 3/4"	z6	52	2 2/32"	DIN 5482 - A50x45 z.24	76	2 31/32"	**121.020.010.00**
	C25	1 3/4"	z20	52	2 2/32"	DIN 5482 - A50x45 z.24	76	2 31/32"	**121.020.002.00**



(IT) **SNODO INTERNO D120 CON FORCELLA A BULLONI INTERFERENTI**

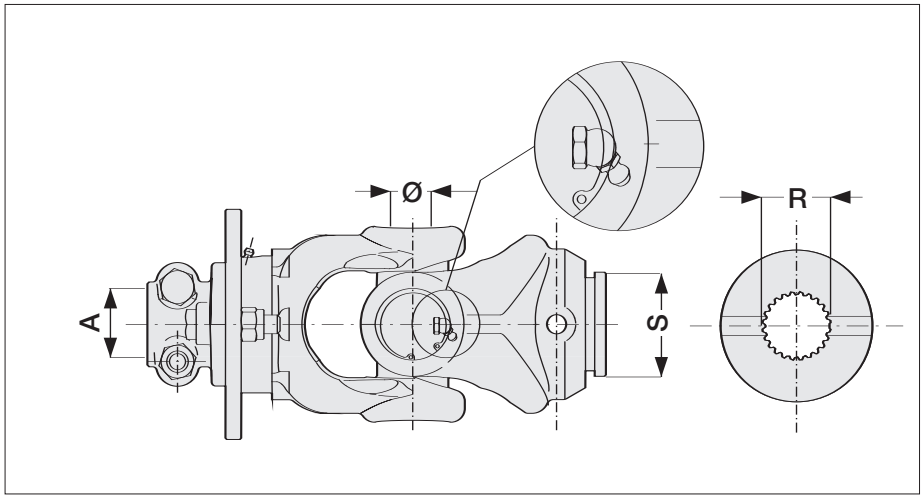
(GB) ***D120 INNER JOINT WITH INTERFERING CLAMP BOLTS YOKE***

(FR) **JOINT INTERIEUR D120 AVEC MÂCHOIRE A BOULONS SECANT**

(DE) ***D120 INNERES GELENK MIT DOPPELKLEMM-BOLZEN-GABEL***

Type	Ref.	A		Ø mm	Ø inch	R	S mm	S inch	cod.
120	134	1 3/4"	z6	52	2 2/32"	DIN 5482 - A50x45 z.24	76	2 31/32"	**121.020.017.00**
	135	1 3/4"	z20	52	2 2/32"	DIN 5482 - A50x45 z.24	76	2 31/32"	**121.020.018.00**

D



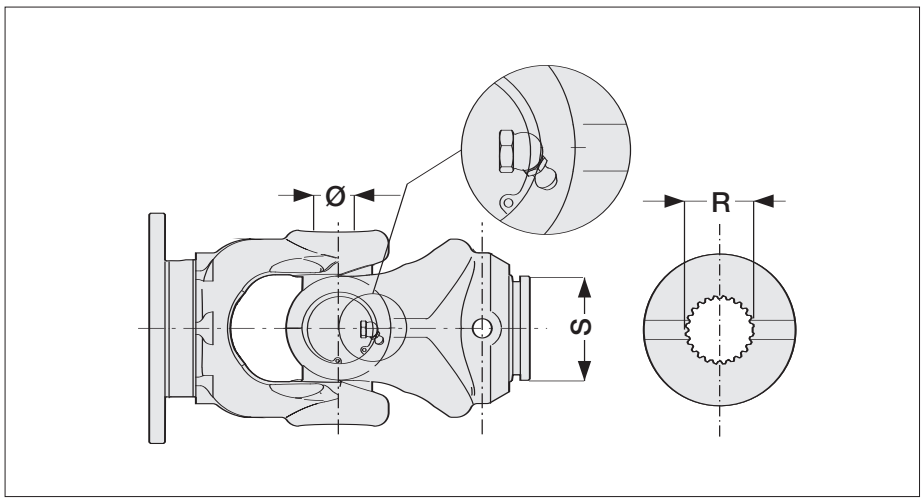
IT
SNODO INTERNO D120 CON LIMITATORE A BULLONE DI TRANCIO

GB
D120 INNER JOINT WITH SHEAR BOLT TORQUE LIMITER

FR
JOINT INTERIEUR D120 AVEC LIMITEUR A BOULON DE CISAILLEMENT

DE
D120 INNERES GELENK MIT SCHERBOLZENKUPPLUNG

Type	Ref.	A		Ø mm	Ø inch	R	S mm	S inch	cod.
120	B34	1 3/4″	z6	52	2 2/32″	DIN 5482 - A50x45 z.24	76	2 31/32″	**121.020.005.00**
	B35	1 3/4″	z20	52	2 2/32″	DIN 5482 - A50x45 z.24	76	2 31/32″	**121.020.004.00**



IT
SNODO INTERNO D120 CON FORCELLA FLANGIA FGL

GB
D120 INNER JOINT WITH FGL FLANGED YOKE

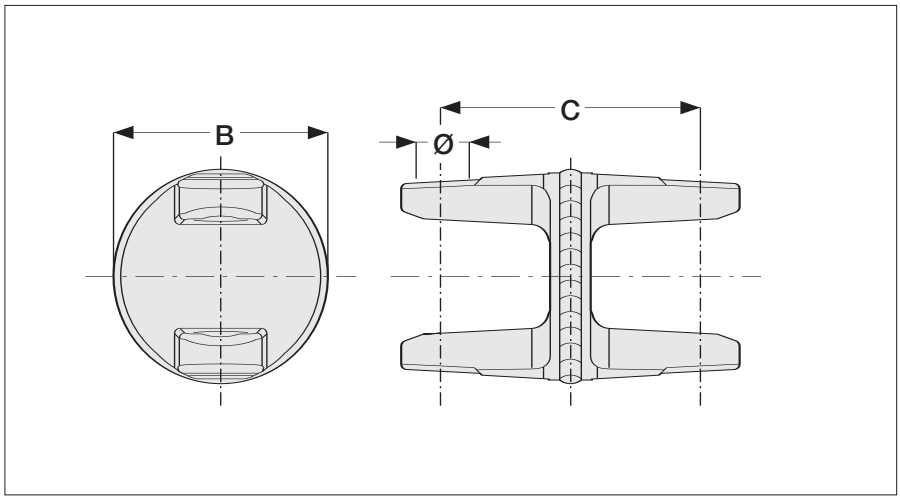
FR
JOINT INTERIEUR D120 AVEC MÂCHOIRE BRIDE FGL

DE
D120 INNERES GELENK MIT FGL-FLANSCHGABEL

Type	Ref.	A		Ø mm	Ø inch	R	S mm	S inch	cod.
120	FGL	-	-	52	2 2/32″	DIN 5482 - A50x45 z.24	76	2 31/32″	**121.020.003.00**

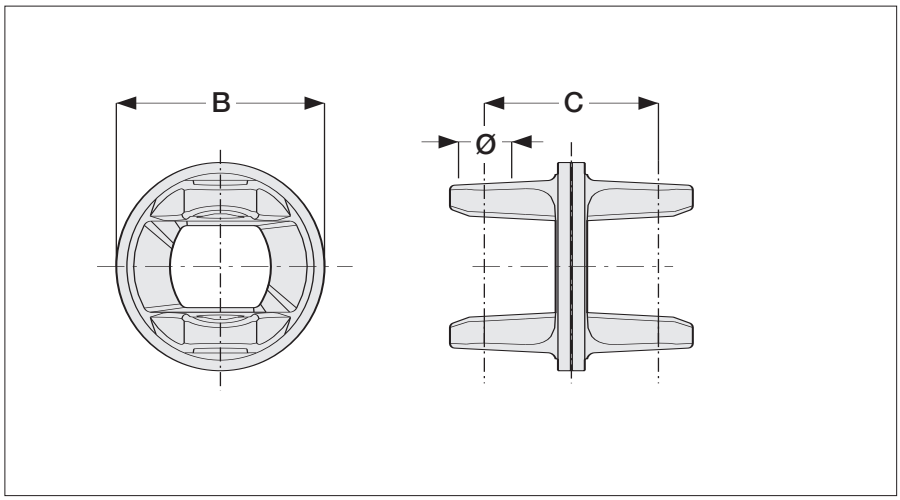
FORCELLE DOPPIE
DOUBLE YOKES
DOUBLE MACHOIRES
DOPPELGABELN

SD



Type	Ref.	Ø mm	Ø inch	B mm	B inch	C mm	C inch	
10	SD10	22	55/64"	100	3 15/16"	93	3 21/32"	**141.021.095**
20	SD20	23,8	15/16"	100	3 15/16"	103	4 1/16"	**151.012.350**
40	SD40	27	1 1/16"	100	3 15/16"	125	4 59/64"	**141.024.099**
50	SD50	30,2	1 3/16"	100	3 15/16"	129	5 5/64"	**141.025.095**
60	SD60	30,2	1 3/16"	120	4 23/32"	145	5 45/64"	**141.026.112**

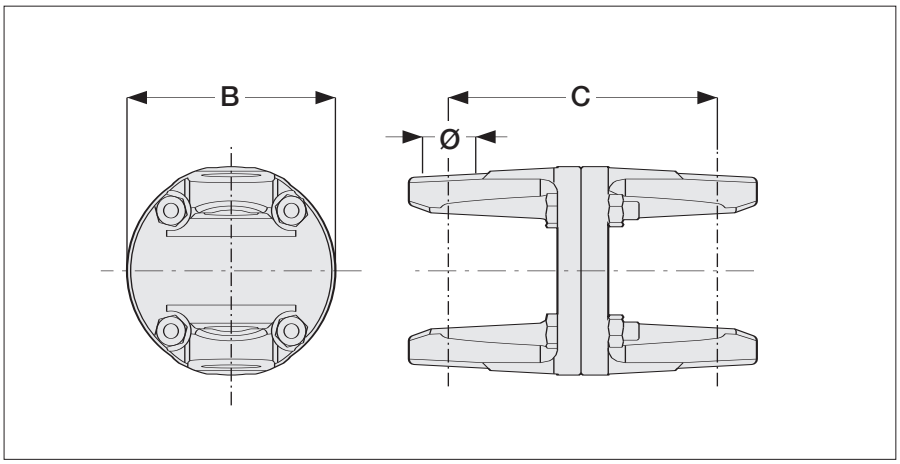
SH



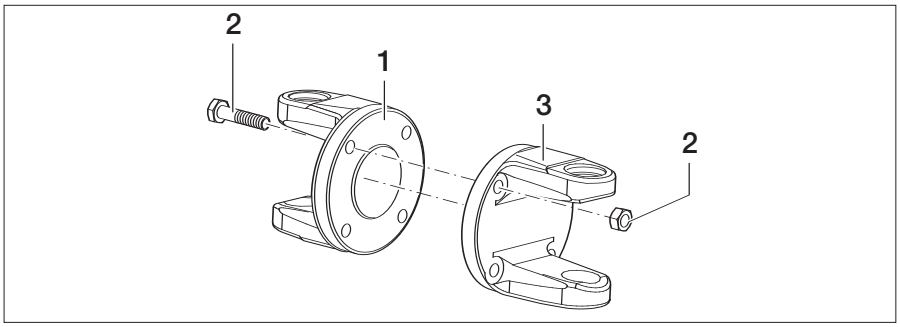
Type	Ref.	Ø mm	Ø inch	B mm	B inch	C mm	C inch	
10	SH10	22	55/64"	75	2 61/64"	68	2 43/64"	**151.011.340**
20	SH20	23,8	15/16"	80	3 5/32"	78	3 5/64"	**151.012.351**
40	SH40	27	1 1/16"	105	4 9/64"	90	3 35/64"	**151.014.483**
50	SH50	30,2	1 3/16"	125	4 59/64"	106	4 11/64"	**151.015.386**
60	SH60	30,2	1 3/16"	132	5 13/64"	108	4 1/4"	**151.016.591**

FORCELLE DOPPIE
DOUBLE YOKES
DOUBLE MACHOIRES
DOPPELGABELN

SF



Type	Ref.	Ø mm	Ø inch	B mm	B inch	C mm	C inch	
10	SF10	22	55/64"	90	3 35/64"	93	3 21/32"	**141.021.098**
20	SF20	23,8	15/16"	90	3 35/64"	103	4 1/16"	**141.022.084**
40	SF40	27	1 1/16"	100	3 15/16"	125	4 59/64"	**141.024.102**
50	SF50	30,2	1 3/16"	100	3 15/16"	129	5 5/64"	**141.025.098**
60	SF60	30,2	1 3/16"	110	4 21/32"	146	5 3/4"	**141.026.115**
80	SF80	35	1 3/8"	128	5 3/64""	159	6 17/64"	**141.028.084**



Pos.	(IT)	(GB)	(FR)	(DE)		Qty *
1	Forc. flangia maschio (tipo 10)	*Male flanged yoke (type 10)*	Mâchoire à bride mâle (type 10)	*innere Flanschgabel (Typ 10)*	**151.011.096**	1
	Forc. flangia maschio (tipo 20)	*Male flanged yoke (type 20)*	Mâchoire à bride mâle (type 20)	*innere Flanschgabel (Typ 20)*	**151.012.082**	1
	Forc. flangia maschio (tipo 40)	*Male flanged yoke (type 40)*	Mâchoire à bride mâle (type 40)	*innere Flanschgabel (Typ 40)*	**151.014.100**	1
	Forc. flangia maschio (tipo 50)	*Male flanged yoke (type 50)*	Mâchoire à bride mâle (type 50)	*innere Flanschgabel (Typ 50)*	**151.015.096**	1
	Forc. flangia maschio (tipo 60)	*Male flanged yoke (type 60)*	Mâchoire à bride mâle (type 60)	*innere Flanschgabel (Typ 60)*	**151.016.113**	1
	Forc. flangia maschio (tipo 80)	*Male flanged yoke (type 80)*	Mâchoire à bride mâle (type 80)	*innere Flanschgabel (Typ 80)*	**151.018.082**	1
2	Kit vite M8x1,25x35+dado (tipo 10/20)	*Bolt M8x1,25x35+nut (type 10/20)*	Kit vis M8x1,25x35+écrou (type 10/20)	*Schraubensatz M8x1,25x35+Mutter (Typ10/20)*	**165.000.727**	4
	Kit vite M10x1,5x45+dado (tipo40/50/60)	*Bolt M10x1,5x45+nut (type 40/50/60)*	Kit vis M10x1,5x45+écrou (type 40/50/60)	*Schraubensatz M10x1,5x45+Mutter (Typ40/50/60)*	**165.000.728**	4
	Kit vite M14x1,5x45+dado (tipo 80)	*Bolt M14x1,5x45+nut (type 80)*	Kit vis M14x1,5x45+écrou (type 80)	*Schraubensatz M14x1,5x45+Mutter (Typ 80)*	**165.000.729**	4
3	Forc. flangia femmina (tipo 10)	*Female flanged yoke (type 10)*	Mâchoire à bride femelle *(type 10)*	*äußere Flanschgabel (Typ 10)*	**151.011.097**	1
	Forc. flangia femmina (tipo 20)	*Female flanged yoke (type 20)*	Mâchoire à bride femelle *(type 20)*	*äußere Flanschgabel (Typ 20)*	**151.012.083**	1
	Forc. flangia femmina (tipo 40)	*Female flanged yoke (type 40)*	Mâchoire à bride femelle *(type 40)*	*äußere Flanschgabel (Typ 40)*	**151.014.101**	1
	Forc. flangia femmina (tipo 50)	*Female flanged yoke (type 50)*	Mâchoire à bride femelle *(type 50)*	*äußere Flanschgabel (Typ 50)*	**151.015.097**	1
	Forc. flangia femmina (tipo 60)	*Female flanged yoke (type 60)*	Mâchoire à bride femelle *(type 60)*	*äußere Flanschgabel (Typ 60)*	**151.016.114**	1
	Forc. flangia femmina (tipo 80)	*Female flanged yoke (type 80)*	Mâchoire à bride femelle *(type 80)*	*äußere Flanschgabel (Typ 80)*	**151.018.083**	1

(IT) * Quantità presente nella forcella

(GB) * *Quantity in the SF yoke*

(FR) * *Quantité présente dans la mâchoire SF*

(DE) * *In der Gabel vorhandene Menge*

comer industries
driveshafts

SEZIONE 5: Tubi
SECTION 5: *Tubes*
CHAPITRE 5: Tubes
TEIL 5: *Rohre*

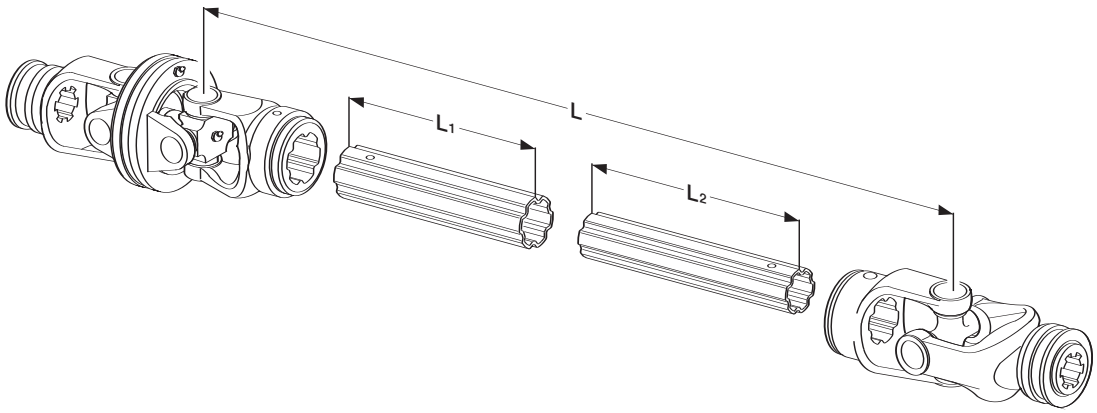
Tubi per cardani omocinetici CvJ
Tubes for PTO drive shafts CvJ
Tubes pour arbres à cardan CvJ
Rohre für Weitwinkelgelenkwellen CvJ

Serie V / *Series V* / Série V / *Serie V* 58
Serie T / *Series T* / Série T / *Serie T* 59

Tubi per cardani
Tubes for PTO drive shafts
Tubes pour arbres à cardan
Rohre für Gelenkwellen

Serie V / *Series V* / Série V / *Serie V* 60
Serie T / *Series T* / Série T / *Serie T* 61
Serie E / *Series E* / Série E / *Serie E* 62
Serie D / *Series D* / Série D / *Serie D* 63

Note / *Notes* / Notes / *Bemerkungen* 64



Type	20				40				60			
	L1	Cod.	L2	Cod.	L1	Cod.	L2	Cod.	L1	Cod.	L2	Cod.
L = **410**	285	159.420.006.0700	300	159.220.006	265	159.440.006.0700	280	159.240.006	250	152.260.501.0700	265	159.260.144
L = **460**	335	159.420.001.0700	350	159.220.001	315	159.440.001.0700	330	159.240.001	300	152.260.507.0700	315	159.260.160
L = **510**	385	159.420.007.0700	400	159.220.007	365	159.440.007.0700	380	159.240.007	350	152.260.502.0700	365	159.260.140
L = **560**	435	159.420.002.0700	450	159.220.002	415	159.440.002.0700	430	159.240.002	400	152.260.508.0700	415	159.260.137
L = **610**	485	159.420.008.0700	500	159.220.008	465	159.440.008.0700	480	159.240.008	450	152.260.503.0700	465	159.260.135
L = **660**	535	159.420.003.0700	550	159.220.003	515	159.440.003.0700	530	159.240.003	500	152.260.509.0700	515	159.260.138
L = **710**	585	159.420.009.0700	600	159.220.009	565	159.440.009.0700	580	159.240.009	550	152.260.504.0700	565	159.260.161
L = **760**	635	159.420.004.0700	650	159.220.004	615	159.440.004.0700	630	159.240.004	600	152.260.510.0700	615	159.260.124
L = **810**	685	159.420.010.0700	700	159.220.010	665	159.440.010.0700	680	159.240.010	650	152.260.505.0700	665	159.260.133
L = **860**	735	159.420.005.0700	750	159.220.005	715	159.440.005.0700	730	159.240.005	700	152.260.511.0700	715	159.260.147
L = **910**	785	159.420.011.0700	800	159.220.011	765	159.440.011.0700	780	159.240.011	750	152.260.517.0700	765	159.260.118
L = **1010**	885	159.420.012.0700	900	159.220.012	865	159.440.012.0700	880	159.240.012	850	152.260.512.0700	865	159.260.151
L = **1110**	985	159.420.013.0700	1000	159.220.013	965	159.440.013.0700	980	159.240.013	950	152.260.513.0700	965	159.260.148
L = **1210**	1085	159.420.014.0700	1100	159.220.014	1065	159.440.014.0700	1080	159.240.014	1050	152.260.514.0700	1065	159.260.152
L = **1310**	1185	159.420.015.0700	1200	159.220.015	1165	159.440.015.0700	1180	159.240.015	1150	152.260.515.0700	1165	159.260.155
L = **1410**	1285	159.420.016.0700	1300	159.220.016	1265	159.440.016.0700	1280	159.240.016	1250	152.260.516.0700	1265	159.260.150

Type	80			
	L1	Cod.	L2	Cod.
L = **410**	220	152.280.501.0700	235	159.280.180
L = **460**	270	152.280.507.0700	285	159.280.171
L = **510**	320	152.280.502.0700	335	159.280.137
L = **560**	370	152.280.508.0700	385	159.280.134
L = **610**	420	152.280.503.0700	435	159.280.133
L = **660**	470	152.280.509.0700	485	159.280.135
L = **710**	520	152.280.504.0700	535	159.280.179
L = **760**	570	152.280.510.0700	585	159.280.123
L = **810**	620	152.280.505.0700	635	159.280.166
L = **860**	670	152.280.511.0700	685	159.280.118
L = **910**	720	152.280.517.0700	735	159.280.143
L = **1010**	820	152.280.512.0700	835	159.280.161
L = **1110**	920	152.280.513.0700	935	159.280.181
L = **1210**	1020	152.280.514.0700	1035	159.280.168
L = **1310**	1120	152.280.515.0700	1135	159.280.182
L = **1410**	1220	152.280.516.0700	1235	159.280.183

(IT)

I profili tipo **20** e **40** sono trattati **NITREG**

I profili tipo **60** e **80** interni sono rivestiti **RILSAN**

(GB)

*Profiles type **20** and **40** have **NITREG** treatment*

*Inner profiles type **60** and **80** coated with **RILSAN** treatment*

(FR)

Les profils type **20** et **40** ont été soumis à un traitement de surface **NITREG**

Les profils type **60** et **80** intérieurs sont revêtus de **RILSAN**

(DE)

*Die Profile Typ **20** und **40** sind **NITREG**-behandelt*

*Die Profile Typ **60** und **80** sind mit **RILSAN** beschichtet*

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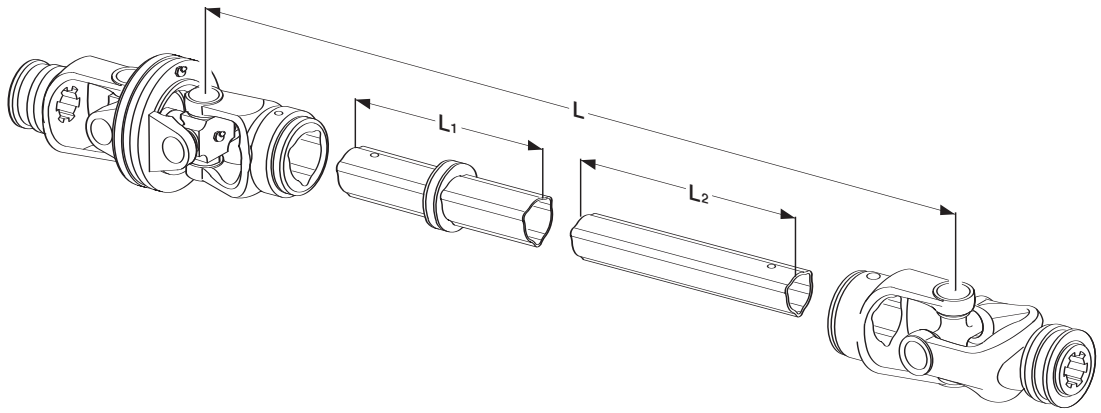


Type	20				40				60			
	L1	Cod.	L2	Cod.	L1	Cod.	L2	Cod.	L1	Cod.	L2	Cod.
L = **410**	285	152.120.501.7800	300	159.120.248	265	152.140.522.7800	280	159.140.542	250	152.160.585.7800	265	159.160.898
L = **460**	335	152.120.502.7800	350	159.120.249	315	152.140.546.7800	330	159.140.579	300	152.160.537.7800	315	159.160.837
L = **510**	385	152.120.503.7800	400	159.120.250	365	152.140.521.7800	380	159.140.539	350	152.160.561.7800	365	159.160.865
L = **560**	435	152.120.504.7800	450	159.120.243	415	152.140.537.7800	430	159.140.576	400	152.160.551.7800	415	159.160.875
L = **610**	485	152.120.505.7800	500	159.120.251	465	152.140.523.7800	480	159.140.546	450	152.160.540.7800	465	159.160.822
L = **660**	535	152.120.506.7800	550	159.120.252	515	152.140.510.7800	530	159.140.511	500	152.160.538.7800	515	159.160.836
L = **710**	585	152.120.507.7800	600	159.120.253	565	152.140.517.7800	580	159.140.535	550	152.160.532.7800	565	159.160.826
L = **760**	635	152.120.508.7800	650	159.120.241	615	152.140.519.7800	630	159.140.537	600	152.160.539.7800	615	159.160.356
L = **810**	685	152.120.509.7800	700	159.120.247	665	152.140.513.7800	680	159.140.526	650	152.160.542.7800	665	159.160.840
L = **860**	735	152.120.510.7800	750	159.120.255	715	152.140.520.7800	730	159.140.538	700	152.160.533.7800	715	159.160.832
L = **910**	785	152.120.511.7800	800	159.120.256	765	152.140.518.7800	780	159.140.536	750	152.160.543.7800	765	159.160.841
L = **1010**	885	152.120.512.7800	900	159.120.257	865	152.140.512.7800	880	159.140.522	850	152.160.544.7800	865	159.160.842
L = **1110**	985	152.120.513.7800	1000	159.120.258	965	152.140.515.7800	980	159.140.528	950	152.160.536.7800	965	159.160.855
L = **1210**	1085	152.120.514.7800	1100	159.120.259	1065	152.140.514.7800	1080	159.140.527	1050	152.160.535.7800	1065	159.160.834
L = **1310**	1185	152.120.515.7800	1200	159.120.260	1165	152.140.516.7800	1180	159.140.532	1150	152.160.545.7800	1165	159.160.843
L = **1410**	1285	152.120.526.7800	1300	159.120.261	1265	152.140.544.7800	1280	159.140.577	1250	152.160.547.7800	1265	159.160.847

Type	80			
	L1	Cod.	L2	Cod.
L = **410**	220	152.180.501.7800	235	159.190.027
L = **460**	270	152.180.502.7800	285	159.190.028
L = **510**	320	152.180.503.7800	335	159.190.029
L = **560**	370	152.180.504.7800	385	159.190.030
L = **610**	420	152.180.505.7800	435	159.190.031
L = **660**	470	152.180.506.7800	485	159.190.032
L = **710**	520	152.180.507.7800	535	159.190.033
L = **760**	570	152.180.508.7800	585	159.190.034
L = **810**	620	152.180.509.7800	635	159.190.035
L = **860**	670	152.180.510.7800	685	159.190.036
L = **910**	720	152.180.511.7800	735	159.190.037
L = **1010**	820	152.180.512.7800	835	159.190.038
L = **1110**	920	152.180.513.7800	935	159.190.039
L = **1210**	1020	152.180.514.7800	1035	159.190.040
L = **1310**	1120	152.180.515.7800	1135	159.190.041
L = **1410**	1220	152.180.538.7800	1235	159.190.529

(IT)

I profili interni sono rivestiti **RILSAN**

(GB)

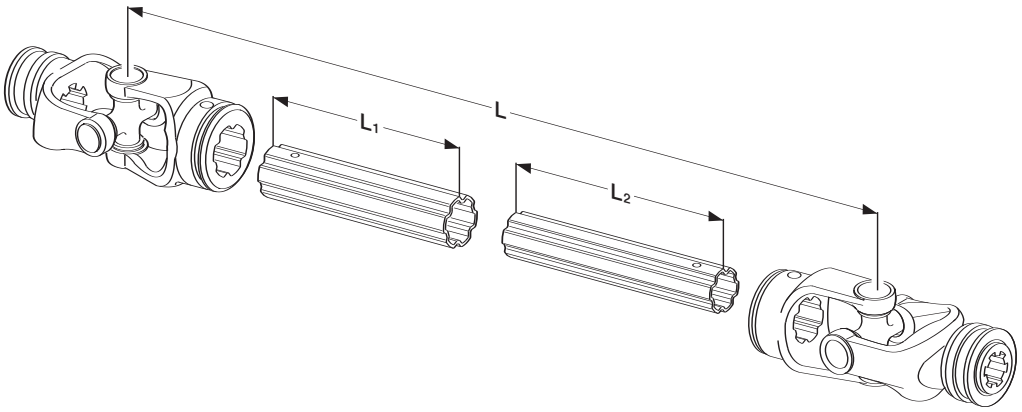
*Inner profiles coated with **RILSAN** treatment*

(FR)

Les profils intérieurs sont revêtus de **RILSAN**

(DE)

*Die Innenprofile sind mit **RILSAN** beschichtet*



Type	20				40				50			
	L1	Cod.	L2	Cod.	L1	Cod.	L2	Cod.	L1	Cod.	L2	Cod.
L = **410**	285	152.220.006.0700	300	153.220.006	265	152.240.006.0700	280	153.240.006	260	152.260.259.0700	275	153.260.173
L = **460**	335	152.220.001.0700	350	153.220.001	315	152.240.001.0700	330	153.240.001	310	152.260.260.0700	325	153.260.174
L = **510**	385	152.220.007.0700	400	153.220.007	365	152.240.007.0700	380	153.240.007	360	152.260.234.0700	375	153.260.147
L = **560**	435	152.220.002.0700	450	153.220.002	415	152.240.002.0700	430	153.240.002	410	152.260.261.0700	425	153.260.175
L = **610**	485	152.220.008.0700	500	153.220.008	465	152.240.008.0700	480	153.240.008	460	152.260.252.0700	475	153.260.166
L = **660**	535	152.220.003.0700	550	153.220.003	515	152.240.003.0700	530	153.240.003	510	152.260.251.0700	525	153.260.165
L = **710**	585	152.220.009.0700	600	153.220.009	565	152.240.009.0700	580	153.240.009	560	152.260.262.0700	575	153.260.176
L = **760**	635	152.220.004.0700	650	153.220.004	615	152.240.004.0700	630	153.240.004	610	152.260.257.0700	625	153.260.171
L = **810**	685	152.220.010.0700	700	153.220.010	665	152.240.010.0700	680	153.240.010	660	152.260.263.0700	675	153.260.177
L = **860**	735	152.220.005.0700	750	153.220.005	715	152.240.005.0700	730	153.240.005	710	152.260.235.0700	725	153.260.148
L = **910**	785	152.220.011.0700	800	153.220.011	765	152.240.011.0700	780	153.240.011	760	152.260.264.0700	775	153.260.178
L = **1010**	885	152.220.012.0700	900	153.220.012	865	152.240.012.0700	880	153.240.012	860	152.260.233.0700	875	153.260.145
L = **1110**	985	152.220.013.0700	1000	153.220.013	965	152.240.013.0700	980	153.240.013	960	152.260.265.0700	975	153.260.180
L = **1210**	1085	152.220.014.0700	1100	153.220.014	1065	152.240.014.0700	1080	153.240.014	1060	152.260.266.0700	1075	153.260.181
L = **1310**	1185	152.220.015.0700	1200	153.220.015	1165	152.240.015.0700	1180	153.240.015	1160	152.260.267.0700	1175	153.260.182
L = **1410**	1285	152.220.016.0700	1300	153.220.016	1265	152.240.016.0700	1280	153.240.016	1260	152.260.268.0700	1275	153.260.183

Type	60				80				90			
	L1	Cod.	L2	Cod.	L1	Cod.	L2	Cod.	L1	Cod.	L2	Cod.
L = **410**	250	152.260.201.0700	265	153.260.101	220	152.280.201.0700	235	153.280.101	215	152.280.245.0700	230	159.280.174
L = **460**	300	152.260.207.0700	315	153.260.107	270	152.280.207.0700	285	153.280.107	265	152.280.239.0700	280	159.280.150
L = **510**	350	152.260.202.0700	365	153.260.102	320	152.280.202.0700	335	153.280.102	315	152.280.228.0700	330	159.280.164
L = **560**	400	152.260.208.0700	415	153.260.108	370	152.280.208.0700	385	153.280.108	365	152.280.236.0700	380	159.280.151
L = **610**	450	152.260.203.0700	465	153.260.103	420	152.280.203.0700	435	153.280.103	415	152.280.240.0700	430	159.280.152
L = **660**	500	152.260.209.0700	515	153.260.109	470	152.280.209.0700	485	153.280.109	465	152.280.231.0700	480	159.280.149
L = **710**	550	152.260.204.0700	565	153.260.104	520	152.280.204.0700	535	153.280.104	515	152.280.250.0700	530	159.280.159
L = **760**	600	152.260.210.0700	615	153.260.110	570	152.280.210.0700	585	153.280.110	565	152.280.264.0700	580	159.280.175
L = **810**	650	152.260.205.0700	665	153.260.105	620	152.280.205.0700	635	153.280.105	615	152.280.265.0700	630	159.280.170
L = **860**	700	152.260.211.0700	715	153.260.111	670	152.280.211.0700	685	153.280.111	665	152.280.266.0700	680	159.280.156
L = **910**	750	152.260.217.0700	765	153.260.117	720	152.280.217.0700	735	153.280.117	715	152.280.251.0700	730	159.280.160
L = **1010**	850	152.260.212.0700	865	153.260.112	820	152.280.212.0700	835	153.280.112	815	152.280.242.0700	830	159.280.157
L = **1110**	950	152.260.213.0700	965	153.260.113	920	152.280.213.0700	935	153.280.113	915	152.280.267.0700	930	159.280.176
L = **1210**	1050	152.260.214.0700	1065	153.260.114	1020	152.280.214.0700	1035	153.280.114	1015	152.280.232.0700	1030	159.280.177
L = **1310**	1150	152.260.215.0700	1165	153.260.115	1120	152.280.215.0700	1135	153.280.115	1115	152.280.259.0700	1130	159.280.167
L = **1410**	1250	152.260.216.0700	1265	153.260.116	1220	152.280.216.0700	1235	153.280.116	1215	152.280.268.0700	1230	159.280.178

(IT) I profili tipo 90 interni sono cementati

(GB) *Inner profile type 90 has hardness treatment*

(FR) Les profils type 90 intérieurs sont cémentés

(DE) *Die Innenprofile Typ 90 sind einsatzgehärtet*

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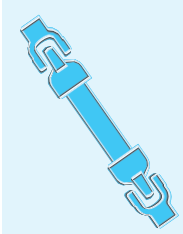
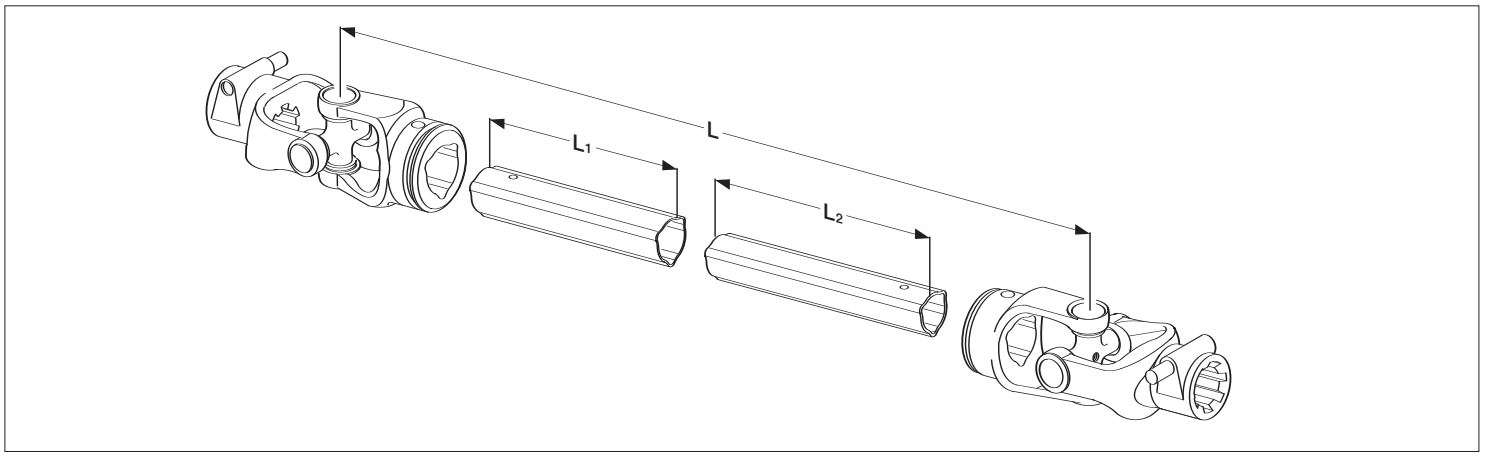
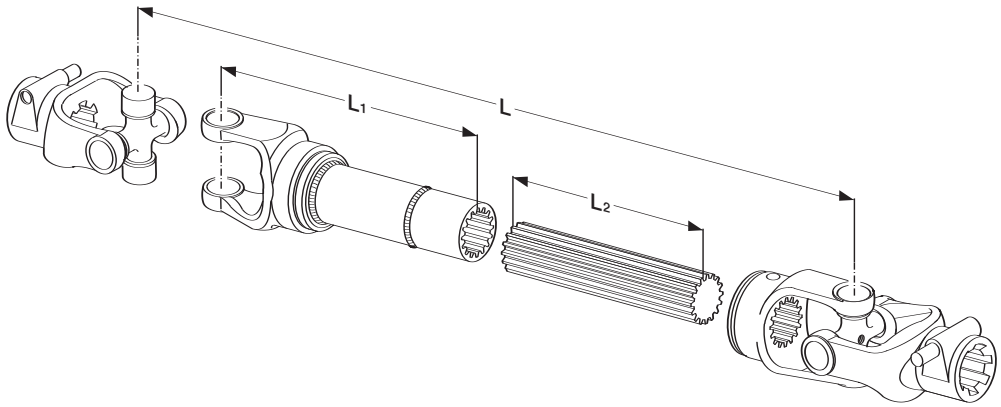




Type	10				20				40				50			
	L1	Cod.	L2	Cod.	L1	Cod.	L2	Cod.	L1	Cod.	L2	Cod.	L1	Cod.	L2	Cod.
L = **410**	290	152.110.206.0700	305	153.110.106	285	152.120.206.0700	300	153.120.106	265	152.140.206.0700	280	153.140.206	260	152.150.206.0700	275	153.150.106
L = **460**	340	152.110.346.0700	355	153.110.192	335	152.120.323.0700	350	153.120.216	315	152.140.278.0700	330	153.140.184	310	152.150.343.0700	325	153.150.345
L = **510**	390	152.110.207.0700	405	153.110.107	385	152.120.207.0700	400	153.120.107	365	152.140.207.0700	380	153.140.207	360	152.150.207.0700	375	153.150.107
L = **560**	440	152.110.243.0700	455	153.110.137	435	152.120.289.0700	450	153.120.181	415	152.140.280.0700	430	153.140.188	410	152.150.344.0700	425	153.150.346
L = **610**	490	152.110.208.0700	505	153.110.108	485	152.120.208.0700	500	153.120.108	465	152.140.208.0700	480	153.140.108	460	152.150.208.0700	475	153.260.108
L = **660**	540	152.110.344.0700	555	153.110.186	535	152.120.325.0700	550	153.120.223	515	152.140.292.0700	530	153.140.200	510	152.150.329.0700	525	153.150.347
L = **710**	590	152.110.209.0700	605	153.110.109	585	152.120.209.0700	600	153.120.109	565	152.140.209.0700	580	153.140.109	560	152.150.209.0700	575	153.150.109
L = **760**	640	152.110.219.0700	655	153.110.232	635	152.120.262.0700	650	153.120.160	615	152.140.296.0700	630	153.140.401	610	152.150.345.0700	625	153.150.348
L = **810**	690	152.110.210.0700	705	153.110.110	685	152.120.210.0700	700	153.120.110	665	152.140.210.0700	680	153.140.110	660	152.150.210.0700	675	153.150.110
L = **860**	740	152.110.347.0700	755	153.110.189	735	152.120.326.0700	750	153.120.224	715	152.140.258.0700	730	153.140.165	710	152.150.337.0700	725	153.150.349
L = **910**	790	152.110.211.0700	805	153.110.111	785	152.120.211.0700	800	153.120.111	765	152.140.211.0700	780	153.140.111	760	152.150.211.0700	775	153.150.111
L = **1010**	890	152.110.212.0700	905	153.110.112	885	152.120.212.0700	900	153.120.112	865	152.140.212.0700	880	153.140.112	860	152.150.212.0700	875	153.150.112
L = **1110**	990	152.110.213.0700	1005	153.110.113	985	152.120.213.0700	1000	153.120.113	965	152.140.213.0700	980	153.140.113	960	152.150.213.0700	975	153.150.113
L = **1210**	1090	152.110.214.0700	1105	153.110.114	1085	152.120.214.0700	1100	153.120.114	1065	152.140.214.0700	1080	153.140.114	1060	152.150.214.0700	1075	153.150.114
L = **1310**	1190	152.110.215.0700	1205	153.110.115	1185	152.120.215.0700	1200	153.120.115	1165	152.140.215.0700	1080	153.140.115	1160	152.150.215.0700	1175	153.150.115
L = **1410**	1290	152.110.339.0700	1305	153.110.230	1285	152.120.335.0700	1300	153.120.239	1265	152.140.662.0700	1280	153.140.519	1260	152.150.340.0700	1275	153.150.342

Type	60				80				90			
	L1	Cod.	L2	Cod.	L1	Cod.	L2	Cod.	L1	Cod.	L2	Cod.
L = **410**	250	152.160.476.0700	265	153.160.823	220	152.198.136.0700	235	153.190.001	215	152.198.501.0700	230	153.190.501
L = **460**	300	152.160.207.0700	315	153.150.107	270	152.198.137.0700	285	153.190.002	265	152.198.502.0700	280	153.190.502
L = **510**	350	152.180.298.0700	365	153.160.148	320	152.198.138.0700	335	153.190.003	315	152.198.503.0700	330	153.190.503
L = **560**	400	152.160.208.0700	415	153.160.108	370	152.198.139.0700	385	153.190.004	365	152.198.504.0700	380	153.190.504
L = **610**	450	152.160.475.0700	465	153.160.150	420	152.198.140.0700	435	153.190.005	415	152.198.505.0700	430	153.190.505
L = **660**	500	152.160.209.0700	515	153.160.109	470	152.198.117.0700	485	153.190.006	465	152.198.506.0700	480	153.190.506
L = **710**	550	152.160.473.0700	565	153.160.174	520	152.198.141.0700	535	153.190.007	515	152.198.507.0700	530	153.190.507
L = **760**	600	152.160.210.0700	615	153.160.110	570	152.198.142.0700	585	153.190.008	565	152.198.508.0700	580	153.190.508
L = **810**	650	152.160.472.0700	665	153.160.738	620	152.198.143.0700	635	153.190.009	615	152.198.509.0700	630	153.190.509
L = **860**	700	152.160.211.0700	715	153.160.111	670	152.198.144.0700	685	153.190.010	665	152.198.510.0700	680	153.190.510
L = **910**	750	152.160.477.0700	765	153.160.798	720	152.198.135.0700	735	153.190.011	715	152.198.511.0700	730	153.190.511
L = **1010**	850	152.160.212.0700	865	153.160.112	820	152.198.145.0700	835	153.190.012	815	152.198.512.0700	830	153.190.512
L = **1110**	950	152.160.213.0700	965	153.160.113	920	152.198.146.0700	935	153.190.013	915	152.198.513.0700	930	153.190.513
L = **1210**	1050	152.160.214.0700	1065	153.160.114	1020	152.198.147.0700	1035	153.190.014	1015	152.198.514.0700	1030	153.190.514
L = **1310**	1150	152.160.215.0700	1165	153.160.115	1120	152.198.131.0700	1135	153.190.015	1115	152.198.515.0700	1130	153.190.515
L = **1410**	1250	152.160.461.0700	1265	153.150.334	1220	152.198.149.0700	1235	153.190.018	1215	152.198.538.0700	1230	153.190.523



Type	40				50				60			
	L1	Cod.	L2	Cod.	L1	Cod.	L2	Cod.	L1	Cod.	L2	Cod.
L = **410**	320	122.240.806	280	155.140.606	315	122.250.806	275	155.150.606	305	122.260.825	265	155.150.654
L = **460**	370	122.240.801	330	155.140.601	365	122.250.818	325	155.150.624	355	122.260.807	315	155.160.607
L = **510**	420	122.240.807	380	155.140.607	415	122.250.807	375	155.150.607	405	122.260.826	365	155.150.634
L = **560**	470	122.240.802	430	155.140.602	465	122.250.819	425	155.150.625	455	122.260.808	415	155.160.608
L = **610**	520	122.240.808	480	155.140.608	515	122.250.808	475	155.150.608	505	122.260.827	465	155.150.645
L = **660**	570	122.240.803	530	155.140.603	565	122.250.820	525	155.150.626	555	122.260.809	515	155.160.609
L = **710**	620	122.240.809	580	155.140.609	615	122.250.809	575	155.150.609	605	122.260.828	565	155.150.679
L = **760**	670	122.240.804	630	155.140.604	665	122.250.821	625	155.150.627	655	122.260.810	615	155.160.610
L = **810**	720	122.240.810	680	155.140.610	715	122.250.810	675	155.150.610	705	122.260.829	665	155.150.685
L = **860**	770	122.240.805	730	155.140.605	765	122.250.822	725	155.150.628	755	122.260.811	715	155.150.611
L = **910**	820	122.240.811	780	155.140.611	815	122.250.811	775	155.160.611	805	122.460.003	765	155.150.715
L = **1010**	920	122.240.812	780	155.140.611	915	122.250.812	775	155.160.611	905	122.260.812	765	155.150.715
L = **1110**	1020	122.240.813	780	155.140.611	1015	122.250.813	775	155.160.611	1005	122.260.813	765	155.150.715
L = **1210**	1120	122.240.814	780	155.140.611	1115	122.250.814	775	155.160.611	1105	122.260.814	765	155.150.715
L = **1310**	1220	122.240.815	780	155.140.611	1215	122.250.815	775	155.160.611	1205	122.260.815	765	155.150.715
L = **1410**	1320	122.240.818	780	155.140.611	1315	122.250.816	775	155.160.611	1305	122.260.816	765	155.150.715

Type	80				90			
	L1	Cod.	L2	Cod.	L1	Cod.	L2	Cod.
L = **410**	295	122.280.966	235	155.170.677	285	122.290.801	230	155.190.601
L = **460**	345	122.280.970	285	155.180.607	335	122.290.807	280	155.190.607
L = **510**	395	122.280.965	335	155.170.633	385	122.290.802	330	155.190.602
L = **560**	445	122.280.963	385	155.180.608	435	122.290.808	380	155.190.608
L = **610**	495	122.280.967	435	155.170.635	485	122.290.803	430	155.190.603
L = **660**	545	122.280.964	485	155.180.609	535	122.290.809	480	155.190.609
L = **710**	595	122.280.968	535	155.170.636	585	122.290.804	530	155.190.604
L = **760**	645	122.280.971	585	155.180.610	635	122.290.810	580	155.190.610
L = **810**	695	122.280.969	635	155.170.647	685	122.290.805	630	155.190.605
L = **860**	745	122.280.972	685	155.180.611	735	122.290.811	680	155.190.611
L = **910**	795	122.280.973	735	155.170.688	785	122.290.806	730	155.190.617
L = **1010**	895	122.480.011	735	155.170.688	885	122.290.812	730	155.190.617
L = **1110**	995	122.480.006	735	155.170.688	985	122.290.813	730	155.190.617
L = **1210**	1095	122.480.017	735	155.170.688	1085	122.290.814	730	155.190.617
L = **1310**	1195	122.480.018	735	155.170.688	1185	122.290.815	730	155.190.617
L = **1410**	1295	122.480.019	735	155.170.688	1285	122.490.002	730	155.190.617

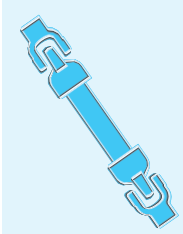
(IT)
I profili scanalati sono forniti alla lunghezza richiesta, con foro per spina elastica e trattati termicamente

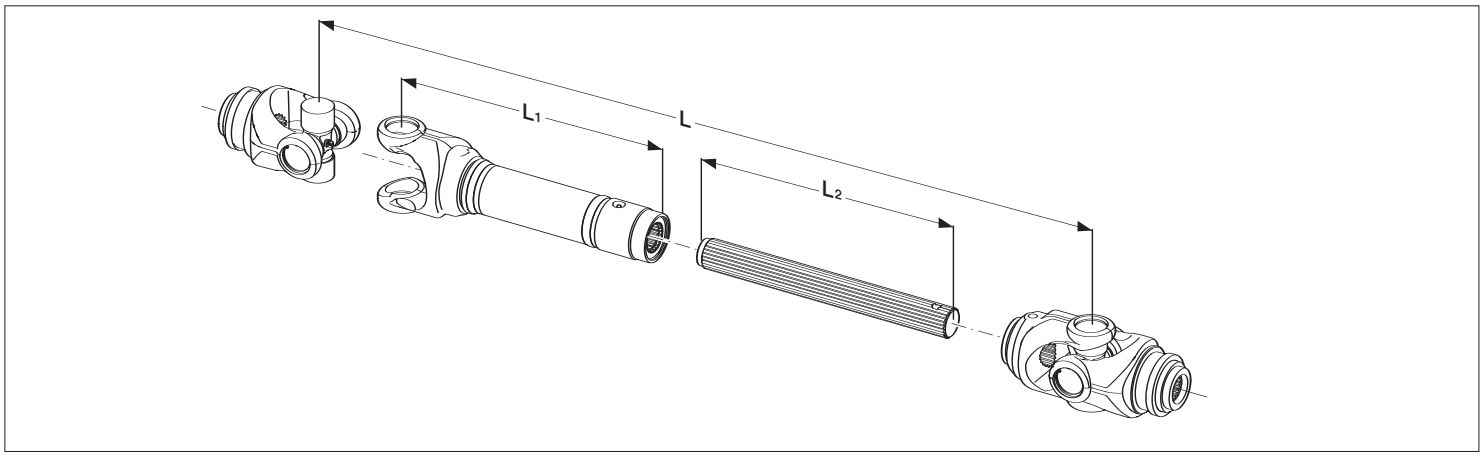
(GB)
Splined profiles are supplied with the requested length, with pin hole yoke and with heat treatment

(FR)
Les profils cannelés sont disponibles dans toutes les longueurs avec le trou pour la goupille élastique et traitement thermique

(DE)
Die Keilprofile werden in der gewünschten Länge, mit Spannstiftbohrung und hitzebehandelt geliefert

SERIE D
SERIES D
SERIE D
SERIE D





Type	120			
	L1	Cod.	L2	Cod.
L = **460**	316	122.120.001	300	155.100.011
L = **510**	366	122.120.002	350	155.100.012
L = **560**	416	122.120.003	400	155.100.006
L = **610**	466	122.120.004	450	155.100.001
L = **660**	516	122.120.005	500	155.100.004
L = **710**	566	122.120.006	550	155.100.005
L = **760**	616	122.120.007	600	155.100.013
L = **810**	666	122.120.008	650	155.100.014
L = **860**	716	122.120.009	700	155.100.007
L = **910**	766	122.120.010	750	155.100.002
L = **1010**	866	122.120.011	850	155.100.009
L = **1110**	966	122.120.012	900	155.100.008
L = **1210**	1066	122.120.013	900	155.100.008
L = **1310**	1166	122.120.014	900	155.100.008
L = **1410**	1266	122.120.015	900	155.100.008

(IT) I profili scanalati sono forniti alla lunghezza richiesta, con foro per spina elastica e trattati termicamente

(GB) *Splined profiles are supplied with the requested length, with pin hole yoke and with heat treatment*

(FR) Les profils cannelés sont disponibles dans toutes les longueurs avec le trou pour la goupille élastique et traitement thermique

(DE) *Die Keilprofile werden in der gewünschten Länge, mit Spannstiftbohrung und hitzebehandelt geliefert*

(IT) Forcelle tubo esterna fornita completa di ingrassatore e parapolvere

(GB) *Outer tube yoke fitted with grease nipple and dust seal*

(FR) Mâchoire pour tube extérieur equipée avec graisseur et parapoussiere

(DE) *Die Aussenrohr-Gabel wird mit Schmiernippel und Staubdichtung geliefert*

NOTE
NOTES
NOTES
BEMERKUNGEN

IT

Tutte le misure, ove non specificatamente indicato, sono espresse in millimetri.

I profili esterni o le forcelle tubo a misura sono fornibili a richiesta, con applicate decalcomanie tipo:
- CE - USA - CANADA -

A richiesta sono disponibili profili interni a misura, rivestiti **RILSAN** o con trattamento indurente.
Il profilo interno rivestito **RILSAN** necessita del suo profilo esterno specifico.

Per tubi con trattamenti termici contattare il nostro Ufficio Tecnico.

GB

All sizes, unless otherwise specified, are expressed in millimetres.

The outer profiles or fitted tube yokes can be supplied on request with the following decals included:
- CE - USA - CANADA -

***RILSAN** coated or hardened fitted inner profiles are available on request.*
*The **RILSAN** coated inner profile requires its own specific outer profile.*

For tubes with heat treatments contact our Technical Department.

FR

Sauf indication contraire, toutes les mesures sont exprimées en millimètres.

Les profils extérieurs ou les mâchoires à gorge sur mesure sont disponibles, en option, avec des autocollants type:
- CE - USA - CANADA -

Des profils intérieurs sur mesure revêtus de **RILSAN** ou avec traitement durcissant sont disponibles en option. Le profil intérieur revêtu de **RILSAN** nécessite de son profil extérieur spécifique.

Pour des tubes avec traitement thermique contactez notre Bureau Technique.

DE

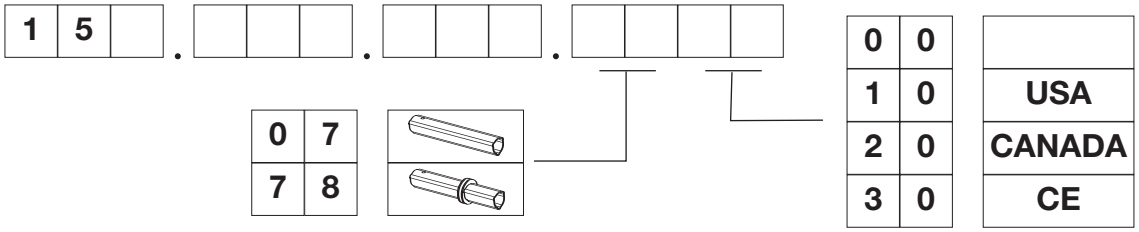
Wenn nicht anders vorgegeben, sind alle Maße in Millimetern angegeben.

Die Außenprofile oder Gabeln mit Rohren nach Maß werden auf Wunsch mit Aufklebern geliefert, z.B.:
- CE - USA - CANADA -

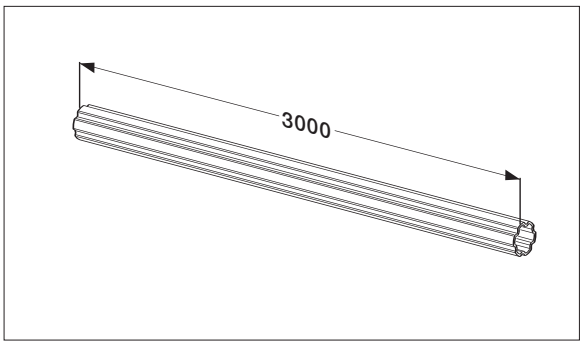
*Auf Wunsch können Innenprofile nach Maß, mit **RILSAN**-Beschichtung oder mit Härtebehandlung gefertigt werden. Ein **RILSAN**-beschichtetes Innenprofil braucht sein spezielles Außenprofil.*

Für hitzebehandelte Rohre wenden Sie sich bitte an unser technisches Büro.

Come ordinare un profilo esterno serie V - T • *How to order an outer profile*
Comment commander un profil extérieur série V – T • *Wie bestellt man ein Außenprofil der Serie V - T*



V

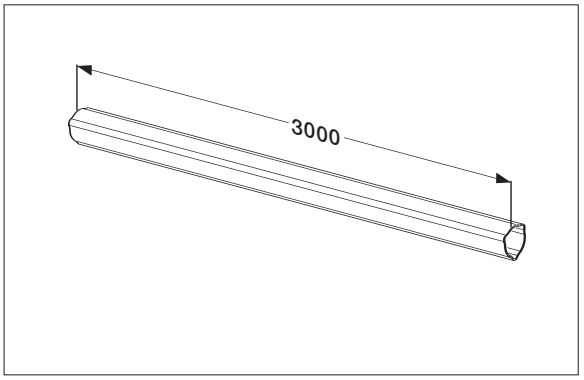


Type	tubo esterno *outer tube* tube extérieur *Außenrohr*	tubo interno *inner tube* tube intérieur *Innenrohr*
20	191.120.800	191.120.700
40	191.140.800	191.140.700
50	191.160.800	191.160.700
60	191.160.800	191.160.700
80	191.190.800	191.190.700
90	191.190.800	-

RILSAN

Type	tubo esterno *outer tube* tube extérieur *Außenrohr*
50	191.160.850
60	191.160.850
80	191.190.850
90	191.190.850

T



Type	tubo esterno *outer tube* tube extérieur *Außenrohr*	tubo interno *inner tube* tube intérieur *Innenrohr*
10	191.110.200	191.110.100
20	191.120.200	191.120.100
40	191.130.200	191.140.100
50	191.150.200	191.150.100
60	191.160.200	191.150.100
80	191.198.850	191.190.300
90	191.198.850	191.190.300

RILSAN

Type	tubo esterno *outer tube* tube extérieur *Außenrohr*
20	191.120.500
40	191.140.500
60	191.160.500
80	191.180.500
90	191.180.500

comer industries
driveshafts

SEZIONE 6: Dispositivi di sicurezza integrali
SECTION 6: Integral safety devices
CHAPITRE 6: Dispositifs de sécurité intégraux
TEIL 6: Integrale Sicherheitsvorrichtungen

Programma di produzione
Production program
Programme de production
Produktpalette 66

B Limitatore a bullone di trancio
Shear bolt torque limiter
Limiteur à boulon de cisaillement
Scherbolzenkupplung 70

M Limitatore a nottolini bidirezionale
Bi-directional ratchet clutch torque limiter
Limiteur à came révérsible
Ratschenkupplung Umkehrbar 72

R Ruota libera
Overrunning clutch
Roue libre
Freilauf 74

F Frizione a dischi multipli
Disc clutch torque limiter
Limiteur à disque de friction
Reibscheibenkupplung 76

W Frizione chiusa a dischi multipli
Closed disc clutch torque limiter
Limiteur à disque de friction fermé
Reibscheibenkupplung in geschlossener Ausführung 82

U Limitatore a nottolini
Ratchet clutch torque limiter
Limiteur à came
Ratschenkupplung 87

RB Limitatore a bullone di trancio con ruota libera
Shear bolt torque limiter with overrunning clutch
Limiteur à boulon de cisaillement avec roue libre
Scherbolzenkupplung mit Freilauf 88

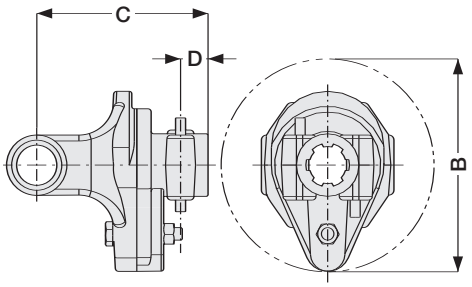
RF Frizione a dischi multipli con ruota libera
Disc clutch torque limiter with overrunning clutch
Limiteur à disque de friction avec roue libre
Reibscheibenkupplung mit Freilauf 90

RW Frizione chiusa con ruota libera
Closed disc clutch torque limiter with overrunning clutch
Limiteur à disque de friction fermé avec roue libre
Reibscheibenkupplung mit Freilauf in geschlossener Ausführung 96

FM MM RM Dispositivi con albero maschio
Devices with male shaft
Dispositifs avec arbre cannelé
Sicherheitsvorrichtungen mit Profilvelle 100

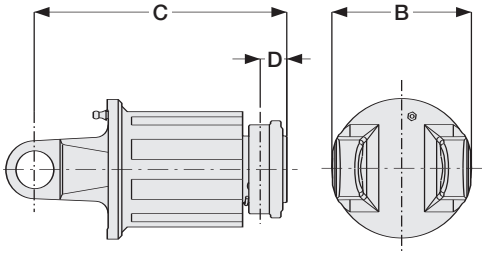
PROGRAMMA DI PRODUZIONE
PRODUCTION PROGRAM
PROGRAMME DE PRODUCTION
PRODUKTPALETTE

B



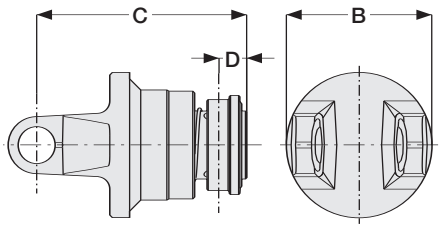
Type	Ref		B	C	D	Nm	in. lb.	
10	B02 B03	mm inch	120 4 23/32″	95 3 47/64″	19 3/4″	650	5,700	70
20	B02 B03	mm inch	120 4 23/32″	97 3 13/16″	19 3/4″	900	7,950	
40	B02 B03	mm inch	134 5 9/32″	118 4 41/64″	19 3/4″	1700	15,000	
50	B02 B03	mm inch	134 5 9/32″	118 4 41/64″	19 3/4″	2100	18,500	
60	B02-B03 B04-B05	mm inch	162 6 3/8″	137 5 25/64″	22 7/8″	2500	22,100	
80	B02-B03 B04-B05	mm inch	162 6 3/8″	146 5 3/4″	22 7/8″	3500	30,900	
90	B02-B03 B04-B05	mm inch	162 6 3/8″	152 6″	22 7/8″	4000	35,400	

M



Type	Ref		B	C	D	Nm	in. lb.	
10	M14 M15	mm inch	100 3 5/16″	121 4 49/64″	26 1 1/32″	300	2,650	72
	M24 M25	mm inch	100 3 5/16″	141 5 35/64″	26 1 1/32″	600	5,300	
20	M14 M15	mm inch	100 3 5/16″	126 4 61/64″	26 1 1/32″	300	2,650	
	M24 M25	mm inch	100 3 5/16″	146 5 3/4″	26 1 1/32″	600	5,300	
	M34 M35	mm inch	100 3 5/16″	166 6 17/32″	26 1 1/32″	900	7,950	
40	M24 M25	mm inch	100 3 5/16″	157 6 3/16″	26 1 1/32″	600	5,300	
	M34 M35	mm inch	100 3 5/16″	177 6 31/32″	26 1 1/32″	900	7,950	
	M44 M45	mm inch	100 3 5/16″	197 7 3/4″	26 1 1/32″	1200	10,600	
50	M24 M25	mm inch	100 3 5/16″	159 6 17/64″	26 1 1/32″	600	5,300	
	M34 M35	mm inch	100 3 5/16″	179 7 3/64″	26 1 1/32″	900	7,950	
	M44 M45	mm inch	100 3 5/16″	199 7 53/64″	26 1 1/32″	1200	10,600	
60	M34 M35	mm inch	115 4 17/32″	187 7 23/64″	26 1 1/32″	900	7,950	
	M44 M45	mm inch	115 4 17/32″	207 8 5/32″	26 1 1/32″	1200	10,600	

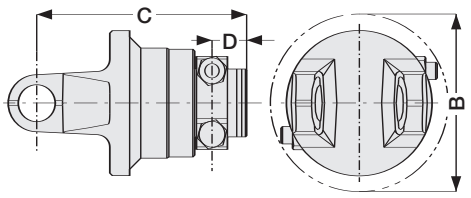
R — R12 - R13



Type	Ref		B	C	D	Nm	in. lb.	
10	R12 R13	mm inch	96 3 25/32″	141 5 35/64″	26 1 1/32″	3800	33,630	74
20	R12 R13	mm inch	96 3 25/32″	146 5 3/4″	26 1 1/32″	3800	33,630	
40	R12 R13	mm inch	96 3 25/32″	157 6 3/16″	26 1 1/32″	3800	33,630	
50	R12 R13	mm inch	100 3 15/16″	159 6 17/64″	26 1 1/32″	3800	33,630	
60	R12 R13	mm inch	115 4 17/32″	167 6 37/64″	26 1 1/32″	3800	33,630	
80	R12 R13	mm inch	127 5″	176 6 59/64″	26 1 1/32″	3800	33,630	

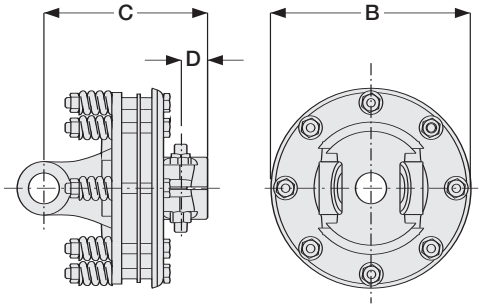
PROGRAMMA DI PRODUZIONE
PRODUCTION PROGRAM
PROGRAMME DE PRODUCTION
PRODUKTPALETTE

R — R14 - R15



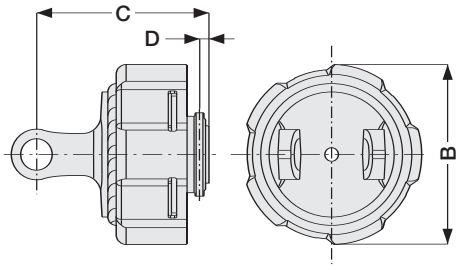
Type	Ref		B	C	D	Nm	in. lb.	
40	R14 R15	mm	140	157	28	3800	33,630	74
		inch	5 33/64"	6 3/16"	1 7/64"			
50	R14 R15	mm	140	159	28	3800	33,630	
		inch	5 33/64"	6 17/64"	1 7/64"			
60	R14 R15	mm	140	167	28	3800	33,630	
		inch	5 33/64"	6 37/64"	1 7/64"			
80	R14 R15	mm	140	176	28	3800	33,630	
		inch	5 33/64"	6 59/64"	1 7/64"			

F



Type	Ref		B	C	D	Nm	in. lb.	
20	F02 F03	mm	153	120	22	650	5,750	76
		inch	6 1/32"	4 23/32"	7/8"			
	F04 F05	mm	153	144	26	900	7,950	
		inch	6 1/32"	5 43/64"	1 1/32"			
40	F02 F03	mm	153	133	22	650	5,750	
		inch	6 1/32"	5 15/64"	7/8"			
	F04 F05	mm	153	157	26	900	7,950	
		inch	6 1/32"	6 3/16"	1 1/32"			
	F12 F13	mm	180	135	19	900	7,950	
		inch	7 3/32"	5 5/16"	3/4"			
50	F12 F13	mm	180	135	19	900	7,950	
		inch	7 3/32"	5 5/16"	3/4"			
	F22-F23 F24-F25	mm	195	146	26	1200	10,600	
		inch	7 43/64"	5 3/4"	1 1/32"			
60	F12 F13	mm	180	135	19	900	7,950	
		inch	7 3/32"	5 5/16"	3/4"			
	F22-F23 F24-F25	mm	195	146	26	1200	10,600	
		inch	7 43/64"	5 3/4"	1 1/32"			
	F42-F43 F44-F45	mm	195	156	26	1600	14,150	
		inch	7 43/64"	6 1/8"	1 1/32"			
80	F22-F23 F24-F25	mm	195	159	26	1200	10,600	
		inch	7 43/64"	6 17/64"	1 1/32"			
	F42-F43 F44-F45	mm	195	169	26	2000	17,700	
		inch	7 43/64"	6 21/32"	1 1/32"			
90	F42-F43 F44-F45	mm	195	169	26	2000	17,700	
		inch	7 43/64"	6 21/32"	1 1/32"			

W — W22 - W23 - W42 - W43



Type	Ref		B	C	D	Nm	in. lb.	
20	W22 W23	mm	173	133,5	26	600	5,300	82
		inch	6 13/16"	5 1/4"	1 1/32"			
40	W22 W23	mm	173	140	26	600÷900	5,300÷7,950	
		inch	6 13/16"	5 33/64"	1 1/32"			
50	W22 W23	mm	173	143,5	26	900	7,950	
		inch	6 13/16"	5 21/32"	1 1/32"			
	W42 W43	mm	173	158,5	26	1100	9,700	
		inch	6 13/16"	6 15/64"	1 1/32"			
60	W22 W23	mm	173	150,5	26	900	7,950	
		inch	6 13/16"	5 59/64"	1 1/32"			
	W42 W43	mm	173	165,5	26	1100÷1500	9,700÷13,250	
		inch	6 13/16"	6 33/64"	1 1/32"			
80	W42 W43	mm	173	173,5	26	1100÷1800	9,700÷15,900	
		inch	6 13/16"	6 33/64"	1 1/32"			

PROGRAMMA DI PRODUZIONE
PRODUCTION PROGRAM
PROGRAMME DE PRODUCTION
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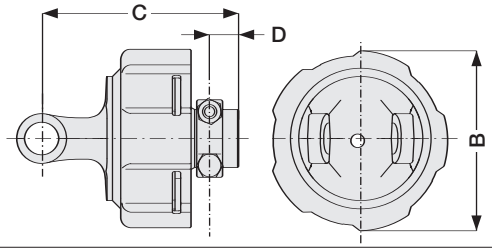
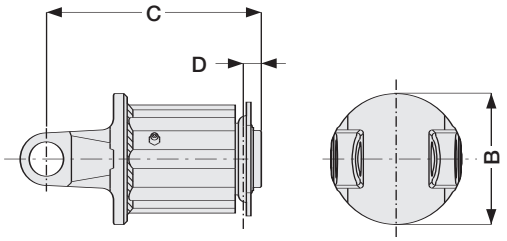
W — W44 - W45



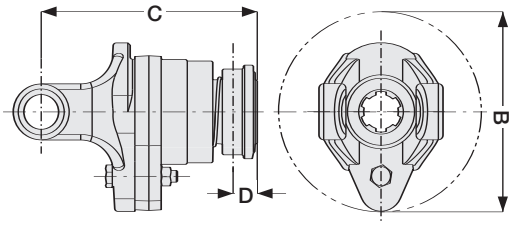
Type	Ref		B	C	D	Nm	in. lb.	
50	W44 W45	mm	173	183,5	28	1100	9,700	82
		inch	6 13/16"	7 15/64"	1 7/64"			
60	W44 W45	mm	173	190,5	28	1100÷1500	9,700÷13,25	
		inch	6 13/16"	7 1/2"	1 1/32"			
80	W44 W45	mm	173	198,5	28	1100÷1800	9,700÷15,900	
		inch	6 13/16"	7 13/16"	1 1/32"			

U



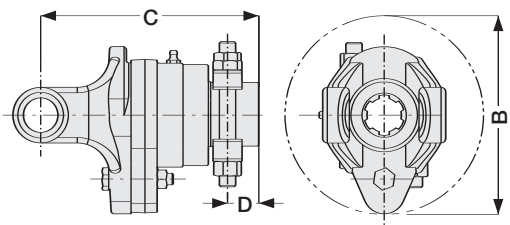
Type	Ref		B	C	D	Nm	in. lb.	
10	U14	mm	100	119	22	300	2,650	87
		inch	3 5/16"	4 11/16"	55/64"			
	U24	mm	100	138	22	600	5,300	
		inch	3 5/16"	5 7/16"	55/64"			
20	U14	mm	100	119	22	300	2,650	
		inch	3 5/16"	4 11/16"	55/64"			
	U24	mm	100	138	22	600	5,300	
		inch	3 5/16"	5 7/16"	55/64"			
	U34	mm	100	157	22	900	7,950	
		inch	3 5/16"	6 3/16"	55/64"			
40	U24	mm	100	147	22	600	5,300	
		inch	3 5/16"	5 25/32"	55/64"			
	U34	mm	100	166	22	900	7,950	
		inch	3 5/16"	6 17/32"	55/64"			
	U44	mm	100	185	22	1200	10,600	
		inch	3 5/16"	7 9/32"	55/64"			
60	U34	mm	100	175	22	900	7,950	
		inch	3 5/16"	6 57/64"	55/64"			
	U44	mm	100	194	22	1200	10,600	
		inch	3 5/16"	7 41/64"	55/64"			
	U54	mm	100	213	22	1500	13,250	
		inch	3 5/16"	8 25/64"	55/64"			

RB — RB2 - RB3



Type	Ref		B	C	D	Nm	in. lb.	
40	RB2 RB3	mm	134	180	26	1700	15,000	88
		inch	5 9/32"	7 3/32"	1 1/32"			
50	RB2 RB3	mm	134	180	26	2100	18,500	
		inch	5 9/32"	7 3/32"	1 1/32"			
60	RB2 RB3	mm	162	187	26	2500	22,100	
		inch	6 3/8	7 23/64"	1 1/32"			
80	RB2 RB3	mm	162	197	26	3500	30,900	
		inch	6 3/8	7 3/4"	1 1/32"			

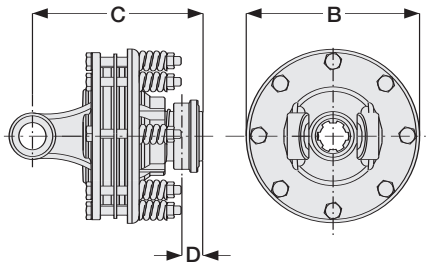
RB — RB4 - RB5



Type	Ref		B	C	D	Nm	in. lb.	
60	RB4 RB5	mm	162	187	28	2500	22,100	88
		inch	6 3/8	7 23/64"	1 7/64"			
80	RB4 RB5	mm	162	197	28	3500	30,900	
		inch	6 3/8	7 3/4"	1 7/64"			

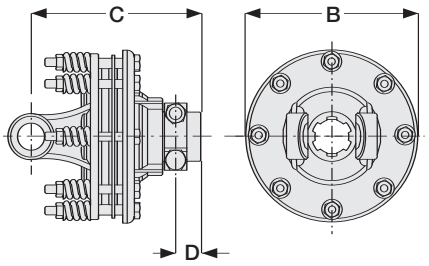
PROGRAMMA DI PRODUZIONE
PRODUCTION PROGRAM
PROGRAMME DE PRODUCTION
PRODUKTPALETTE

RF — RF2 - RF3 - RF6 - RF7



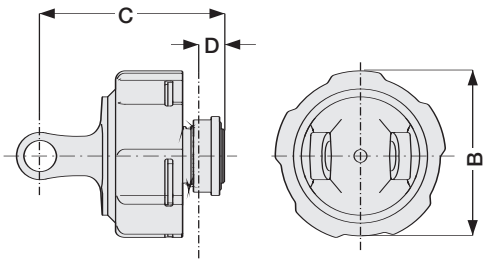
Type	Ref		B	C	D	Nm	in. lb.	
40	RF2 RF3	mm	195	175	26	900	7,950	90
		inch	7 43/64"	6 57/64"	1 3/32"			
50	RF2 RF3	mm	195	175	26	900	7,950	
		inch	7 43/64"	6 57/64"	1 3/32"			
	RF6 RF7	mm	195	190	26	1200	10,600	
		inch	7 43/64"	7 31/64"	1 3/32"			
60	RF6 RF7	mm	195	190	26	1400	12,400	
		inch	7 43/64"	7 31/64"	1 3/32"			
80	RF6 RF7	mm	195	203	26	1400	12,400	
		inch	7 43/64"	7 63/64"	1 3/32"			
90	RF6 RF7	mm	195	203	26	1400	12,400	
		inch	7 43/64"	7 63/64"	1 3/32"			

RF — RF4 - RF5 - RF8 - RF9



Type	Ref		B	C	D	Nm	in. lb.	
40	RF4 RF5	mm	195	175	28	900	10,600	90
		inch	7 43/64"	6 57/64"	1 7/64"			
50	RF4 RF5	mm	195	190	28	900	7,950	
		inch	7 43/64"	7 31/64"	1 7/64"			
	RF8 RF9	mm	195	175	28	1200	10,600	
		inch	7 43/64"	6 57/64"	1 7/64"			
60	RF8 RF9	mm	195	190	28	1400	12,400	
		inch	7 43/64"	7 31/64"	1 7/64"			
80	RF8 RF9	mm	195	203	28	1400	12,400	
		inch	7 43/64"	7 63/64"	1 7/64"			
90	RF8 RF9	mm	195	203	28	1400	12,400	
		inch	7 43/64"	7 63/64"	1 7/64"			

RW



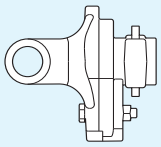
Type	Ref		B	C	D	Nm	in. lb.	
20	RW2 RW3	mm	ø173	149	26	600	5,300	96
		inch	6 13/16"	5 7/8"	1 1/32			
40	RW2 RW3	mm	ø173	161	26	600	5,300	
		inch	6 13/16"	6 3/8"	1 1/32			
	RW2 RW3	mm	ø173	161	26	750	6,630	
		inch	6 13/16"	6 3/8"	1 1/32			
	RW2 RW3	mm	ø173	161	26	900	7,950	
		inch	6 13/16"	6 3/8"	1 1/32			
50	RW2 RW3	mm	ø173	179,5	26	900	7,950	
		inch	6 13/16"	7 3/32"	1 1/32			
	RW6 RW7	mm	ø173	179,5	26	1200	10,600	
		inch	6 13/16"	7 3/32"	1 1/32			
60	RW2 RW3	mm	ø173	186,5	26	900	7,950	
		inch	6 13/16"	7 23/64"	1 1/32			
	RW6 RW7	mm	ø173	186,5	26	1200	10,600	
		inch	6 13/16"	7 23/64"	1 1/32			
	RW6 RW7	mm	ø173	186,5	26	1500	13,250	
		inch	6 13/16"	7 23/64"	1 1/32			
80	RW2 RW3	mm	ø173	189,5	26	1200	10,600	
		inch	6 13/16"	7 31/64"	1 1/32			
	RW6 RW7	mm	ø173	189,5	26	1500	13,250	
		inch	6 13/16"	7 31/64"	1 1/32			
	RW6 RW7	mm	ø173	189,5	26	1800	15,900	
		inch	6 13/16"	7 31/64"	1 1/32			

(IT) Tutti i dispositivi di sicurezza devono essere montati lato macchina operatrice

(GB) *All safety devices must be installed on the implement side of the PTO drive shaft*

(FR) Tous les dispositifs de sécurité doivent être installés sur le PTO du côté machine

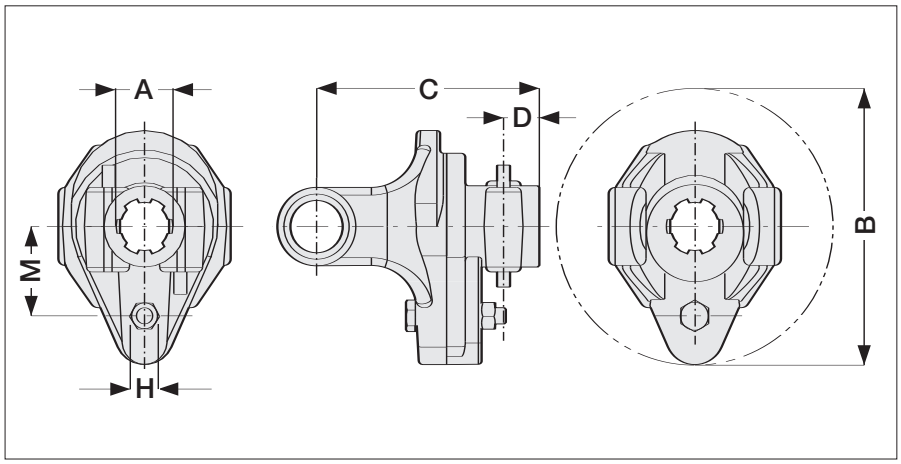
(DE) *Alle Sicherheitsvorrichtungen müssen auf der Seite der Arbeitsmaschine eingebaut werden*



B

LIMITATORE A BULLONE DI TRANCIO
SHEAR BOLT TORQUE LIMITER
LIMITEUR A BOULON DE CISAILLEMENT
SCHERBOLZENKUPPLUNG

B



Type	Ref.	A	B mm	B inch	C mm	C inch	D mm	D inch	M mm	M inch	MAX Nm	MAX in.lb	H ISO 8.8	
10	B02	1 3/8" z.6	120	4 23/32"	95	3 47/64"	19	3/4"	36	1 27/64"	650	5,700	M6x45	**143.210.001**
	B03	1 3/8" z.21	120	4 23/32"	95	3 47/64"	19	3/4"	36	1 27/64"	650	5,700	M6x45	**143.210.002**
20	B02	1 3/8" z.6	120	4 23/32"	97	3 13/16"	19	3/4"	48	1 57/64"	900	7,950	M6x40	**143.220.001**
	B03	1 3/8" z.21	120	4 23/32"	97	3 13/16"	19	3/4"	48	1 57/64"	900	7,950	M6x40	**143.220.002**
40	B02	1 3/8" z.6	134	5 9/32"	118	4 41/64"	19	3/4"	55	2 11/64"	1700	15,000	M8x50	**143.240.001**
	B03	1 3/8" z.21	134	5 9/32"	118	4 41/64"	19	3/4"	55	2 11/64"	1700	15,000	M8x50	**143.240.002**
50	B02	1 3/8" z.6	134	5 9/32"	118	4 41/64"	19	3/4"	46	1 13/16"	2100	18,500	M10x55	**143.250.001**
	B03	1 3/8" z.6	134	5 9/32"	118	4 41/64"	19	3/4"	46	1 13/16"	2100	18,500	M10x55	**143.250.002**
60	B02	1 3/8" z.6	162	6 3/8"	137	5 25/64"	22	7/8"	55	2 11/64"	2500	22,100	M10x60	**143.260.001**
	B03	1 3/8" z.21	162	6 3/8"	137	5 25/64"	22	7/8"	55	2 11/64"	2500	22,100	M10x60	**143.260.003**
	B04	1 3/4" z.6	162	6 3/8"	137	5 25/64"	22	7/8"	55	2 11/64"	2500	22,100	M10x60	**143.260.002**
	B05	1 3/4" z.20	162	6 3/8"	137	5 25/64"	22	7/8"	55	2 11/64"	2500	22,100	M10x60	**143.260.004**
80	B02	1 3/8" z.6	162	6 3/8"	146	5 3/4"	22	7/8"	57	2 1/4"	3500	30,900	M12x65	**143.280.001**
	B03	1 3/8" z.21	162	6 3/8"	146	5 3/4"	22	7/8"	57	2 1/4"	3500	30,900	M12x65	**143.280.003**
	B04	1 3/4" z.6	162	6 3/8"	146	5 3/4"	22	7/8"	57	2 1/4"	3500	30,900	M12x65	**143.280.002**
	B05	1 3/4" z.20	162	6 3/8"	146	5 3/4"	22	7/8"	57	2 1/4"	3500	30,900	M12x65	**143.280.004**
90	B02	1 3/8" z.6	162	6 3/8"	152	6"	22	7/8"	65	2 9/16"	4000	35,400	M12x65	**143.290.001**
	B03	1 3/8" z.21	162	6 3/8"	152	6"	22	7/8"	65	2 9/16"	4000	35,400	M12x65	**143.290.002**
	B04	1 3/4" z.6	162	6 3/8"	152	6"	22	7/8"	65	2 9/16"	4000	35,400	M12x65	**143.290.003**
	B05	1 3/4" z.20	162	6 3/8"	152	6"	22	7/8"	65	2 9/16"	4000	35,400	M12x65	**143.290.004**

IT

NOTA: fornibile a richiesta con bullone interferente

Il limitatore interviene interrompendo la trasmissione di potenza quando la coppia supera il limite di taratura mediante la rottura del bullone. La trasmissione viene ripristinata inserendo un nuovo bullone nel dispositivo.

GB

NOTE: *available on demand with interfering clamp bolt*

The torque limiter interrupts the power transmission when the torque exceeds the setting value, by shearing the bolt. Transmission is restored by inserting a new bolt in the device.

FR

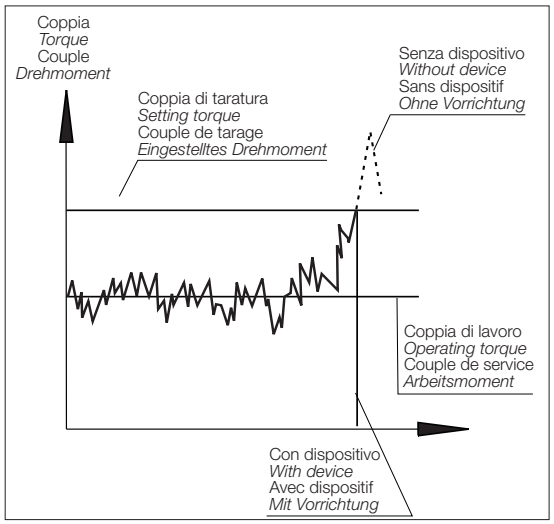
NOTE: disponible en option avec boulon sécant

Le limiteur intervient en interrompant la transmission de puissance lorsque le couple de service dépasse le couple de tarage, interruption qui s'effectue par cisaillement du boulon. Pour rétablir la transmission il est alors nécessaire d'installer un nouveau boulon sur le dispositif.

DE

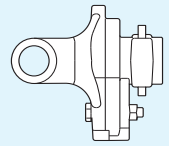
ANMERKG.: auf Wunsch mit profilberührender Klemmbolzen lieferbar

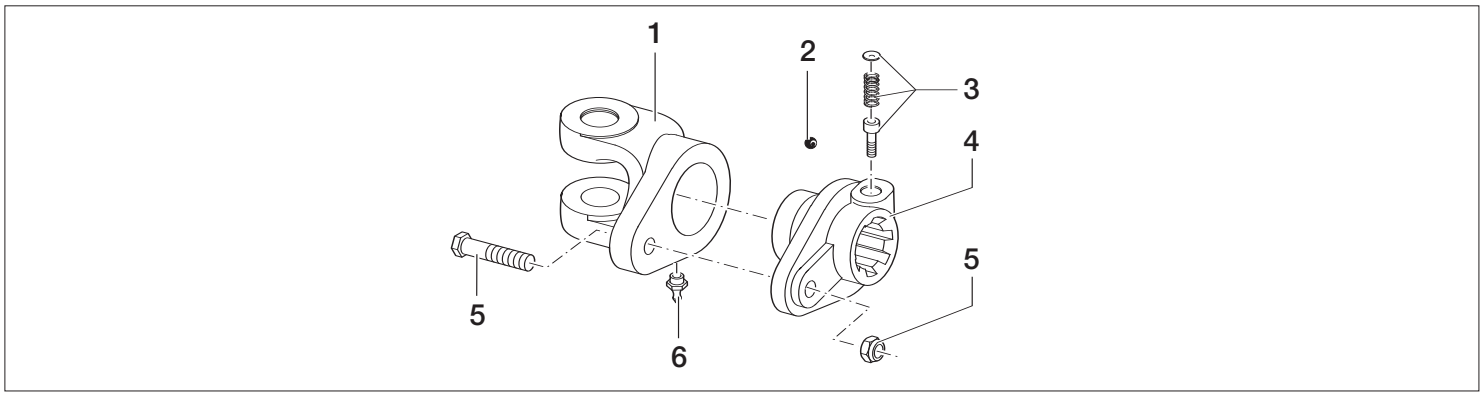
Der Drehmomentbegrenzer greift ein und unterbricht die Leistungsüber-tragung durch den Bruch des Scherbolzens, wenn das Drehmoment den eingestellten Grenzwert überschreitet. Die Übertragung wird wieder hergestellt, indem ein neuer Bolzen in die Vorrichtung gesetzt wird.



LIMITATORE A BULLONE DI TRANCIO
SHEAR BOLT TORQUE LIMITER
LIMITEUR A BOULON DE CISAILLEMENT
SCHERBOLZENKUPPLUNG

B





Pos.	(IT)	(GB)	(FR)	(DE)	Cod.	Qty *
1	Forcella B (tipo 10)	*Yoke B (type 10)*	Mâchoire B (type 10)	*Gabel B (Typ 10)*	**151.011.205**	1
	Forcella B (tipo 20)	*Yoke B (type 20)*	Mâchoire B (type 20)	*Gabel B (Typ 20)*	**151.012.005**	1
	Forcella B (tipo 40)	*Yoke B (type 40)*	Mâchoire B (type 40)	*Gabel B (Typ 40)*	**151.014.012**	1
	Forcella B (tipo 50)	*Yoke B (type 50)*	Mâchoire B (type 50)	*Gabel B (Typ 50)*	**151.015.024**	1
	Forcella B (tipo 60)	*Yoke B (type 60)*	Mâchoire B (type 60)	*Gabel B (Typ 60)*	**151.016.042**	1
	Forcella B (tipo 80)	*Yoke B (type 80)*	Mâchoire B (type 80)	*Gabel B (Typ 80)*	**151.018.023**	1
	Forcella B (tipo 90)	*Yoke B (type 90)*	Mâchoire B (type 90)	*Gabel B (Typ 90)*	**151.019.136**	1
2	Sfera 7/32" (tipo 10-20)	*Ball 7/32" (type 10-20)*	Bille 7/32" (type 10-20)	*Kugel 7/32" (Typ 10-20)*	**190.000.024**	24
	Sfera 1/4" (tipo 40-50)	*Ball 1/4" (type 40-50)*	Bille 1/4" (type 40-50)	*Kugel 1/4" (Typ 40-50)*	**190.000.022**	23
	Sfera 5/16" (tipo 60-80-90)	*Ball 5/16" (type 60-80-90)*	Bille 5/16" (type 60-80-90)	*Kugel 5/16" (Typ 60-80-90)*	**190.000.023**	24
3	Kit pulsante 1 3/8"	*Push-pin set 1 3/8"*	Kit boutton-poussoir 1 3/8"	*Schiebestiftsatz 1 3/8"*	**166.026.004**	1÷2
☞	Kit pulsante 1 3/4"	*Push-pin set 1 3/4"*	Kit boutton-poussoir 1 3/4"	*Schiebestiftsatz 1 3/4"*	**166.026.005**	1÷2
4	Mozzo B02 (tipo 10)	*Hub B02 (type 10)*	Moyeu B02 (type 10)	*Nabe B02 (Typ 10)*	**141.021.201**	1
	Mozzo B03 (tipo 10)	*Hub B03 (type 10)*	Moyeu B03 (type 10)	*Nabe B03 (Typ 10)*	**141.021.332**	1
	Mozzo B02 (tipo 20)	*Hub B02 (type 20)*	Moyeu B02 (type 20)	*Nabe B02 (Typ 20)*	**141.022.010**	1
	Mozzo B03 (tipo 20)	*Hub B03 (type 20)*	Moyeu B03 (type 20)	*Nabe B03 (Typ 20)*	**141.022.017**	1
	Mozzo B02 (tipo 40)	*Hub B02 (type 40)*	Moyeu B02 (type 40)	*Nabe B02 (Typ 40)*	**141.024.013**	1
	Mozzo B03 (tipo 40)	*Hub B03 (type 40)*	Moyeu B03 (type 40)	*Nabe B03 (Typ 40)*	**141.024.026**	1
	Mozzo B02 (tipo 50)	*Hub B02 (type 50)*	Moyeu B02 (type 50)	*Nabe B02 (Typ 50)*	**141.025.025**	1
	Mozzo B03 (tipo 50)	*Hub B03 (type 50)*	Moyeu B03 (type 50)	*Nabe B03 (Typ 50)*	**141.025.013**	1
	Mozzo B02 (tipo 60)	*Hub B02 (type 60)*	Moyeu B02 (type 60)	*Nabe B02 (Typ 60)*	**141.026.043**	1
	Mozzo B03 (tipo 60)	*Hub B03 (type 60)*	Moyeu B03 (type 60)	*Nabe B03 (Typ 60)*	**141.026.026**	1
	Mozzo B04 (tipo 60)	*Hub B04 (type 60)*	Moyeu B04 (type 60)	*Nabe B04 (Typ 60)*	**141.026.044**	1
	Mozzo B05 (tipo 60)	*Hub B05 (type 60)*	Moyeu B05 (type 60)	*Nabe B05 (Typ 60)*	**141.026.027**	1
	Mozzo B02 (tipo 80)	*Hub B02 (type 80)*	Moyeu B02 (type 80)	*Nabe B02 (Typ 80)*	**141.028.024**	1
	Mozzo B03 (tipo 80)	*Hub B03 (type 80)*	Moyeu B03 (type 80)	*Nabe B03 (Typ 80)*	**141.028.037**	1
	Mozzo B04 (tipo 80)	*Hub B04 (type 80)*	Moyeu B04 (type 80)	*Nabe B04 (Typ 80)*	**141.028.025**	1
	Mozzo B05 (tipo 80)	*Hub B05 (type 80)*	Moyeu B05 (type 80)	*Nabe B05 (Typ 80)*	**141.028.038**	1
	Mozzo B02 (tipo 90)	*Hub B02 (type 90)*	Moyeu B02 (type 90)	*Nabe B02 (Typ 90)*	**141.029.137**	1
	Mozzo B03 (tipo 90)	*Hub B03 (type 90)*	Moyeu B03 (type 90)	*Nabe B03 (Typ 90)*	**141.029.142**	1
	Mozzo B04 (tipo 90)	*Hub B04 (type 90)*	Moyeu B04 (type 90)	*Nabe B04 (Typ 90)*	**141.029.141**	1
	Mozzo B05 (tipo 90)	*Hub B05 (type 90)*	Moyeu B05 (type 90)	*Nabe B05 (Typ 90)*	**141.029.140**	1
5	Vite M6x45 + dado	*Bolt M6x45 + nut*	Vis M6x45 + écrou	*Schraube M6x45 + Mutter*	**165.000.597**	1
	Vite M6x40 + dado	*Bolt M6x40 + nut*	Vis M6x40 + écrou	*Schraube M6x40 + Mutter*	**165.000.509**	1
	Vite M8x50 + dado	*Bolt M8x50 + nut*	Vis M8x50 + écrou	*Schraube M8x50 + Mutter*	**165.000.505**	1
	Vite M10x55 + dado	*Bolt M10x55 + nut*	Vis M10x55 + écrou	*Schraube M10x55 + Mutter*	**165.000.511**	1
	Vite M10x60 + dado	*Bolt M10x60 + nut*	Vis M10x60 + écrou	*Schraube M10x60 + Mutter*	**165.000.507**	1
	Vite M12x65 + dado	*Bolt M12x65 + nut*	Vis M12x65 + écrou	*Schraube M12x65 + Mutter*	**165.000.512**	1
6	Ingrassatore M8x1 (tipo 10÷50)	*Greaser M8x1 (type 10÷50)*	Graisseur M8x1 (type 10÷50)	*Schmiernippel M8x1 (Typ10÷50)*	**190.000.020**	1
	Ingrassatore M10x1 (tipo 60÷90)	*Greaser M10x1 (type 60÷90)*	Graisseur M10x1 (type 60÷90)	*Schmiernippel M10x1 (Typ60÷90)*	**190.000.021**	1

(IT)

* Quantità presente nel dispositivo

☞ Contattare ufficio tecnico per l'esatta indicazione del n. di kit pulsante da ordinare

(GB)

* *Quantity in the Safety Device*

☞ *Please contact Comer Technical Dept. for the exact number of push-pin sets to be ordered*

(FR)

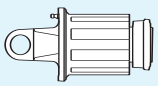
* Quantité présente dans le dispositif

☞ Contactez notre Bureau Technique pour connaître la quantité exacte de kits boutons-poussoir à commander

(DE)

* *In der Vorrichtung vorhandene Menge*

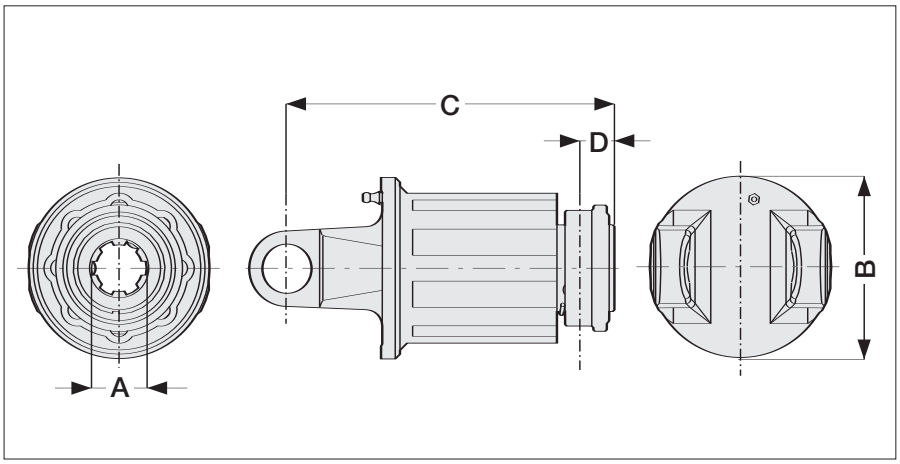
☞ *Fragen Sie bei unserem technischen Büro nach der genauen Anzahl an Schiebestiftsätzen, die Sie bestellen müssen*



M

LIMITATORE A NOTTOLINI BIDIREZIONALE
BI-DIRECTIONAL RATCHET CLUTCH TORQUE LIMITER
LIMITEUR A CAME REVERSIBLE
RATSCHENKUPPLUNG UMKEHRBAR

M



Type	Ref.	A	B mm	B inch	C mm	C inch	D mm	D inch	MAX Nm	MAX in.lb	
10	M14	1 3/8" z.6	100	3 15/16"	121	4 49/64"	26	1 1/32"	300	2,650	**144.216.062**
	M15	1 3/8" z.21	100	3 15/16"	121	4 49/64"	26	1 1/32"	300	2,650	**144.216.069**
	M24	1 3/8" z.6	100	3 15/16"	141	5 35/64"	26	1 1/32"	600	5,300	**144.216.070**
	M25	1 3/8" z.21	100	3 15/16"	141	5 35/64"	26	1 1/32"	600	5,300	**144.216.071**
20	M14	1 3/8" z.6	100	3 15/16"	126	4 61/64"	26	1 1/32"	300	2,650	**144.226.041**
	M15	1 3/8" z.21	100	3 15/16"	126	4 61/64"	26	1 1/32"	300	2,650	**144.226.053**
	M24	1 3/8" z.6	100	3 15/16"	146	5 3/4"	26	1 1/32"	600	5,300	**144.226.042**
	M25	1 3/8" z.21	100	3 15/16"	146	5 3/4"	26	1 1/32"	600	5,300	**144.226.054**
	M34	1 3/8" z.6	100	3 15/16"	166	6 17/32"	26	1 1/32"	900	7,950	**144.226.044**
	M35	1 3/8" z.21	100	3 15/16"	166	6 17/32"	26	1 1/32"	900	7,950	**144.226.055**
40	M24	1 3/8" z.6	100	3 15/16"	157	6 3/16"	26	1 1/32"	600	5,300	**144.246.051**
	M25	1 3/8" z.21	100	3 15/16"	157	6 3/16"	26	1 1/32"	600	5,300	**144.246.056**
	M34	1 3/8" z.6	100	3 15/16"	177	6 31/32"	26	1 1/32"	900	7,950	**144.246.049**
	M35	1 3/8" z.21	100	3 15/16"	177	6 31/32"	26	1 1/32"	900	7,950	**144.246.057**
	M44	1 3/8" z.6	100	3 15/16"	197	7 3/4"	26	1 1/32"	1200	10,600	**144.246.048**
	M45	1 3/8" z.21	100	3 15/16"	197	7 3/4"	26	1 1/32"	1200	10,600	**144.246.058**
50	M24	1 3/8" z.6	100	3 15/16"	159	6 17/64"	26	1 1/32"	600	5,300	**144.256.028**
	M25	1 3/8" z.21	100	3 15/16"	159	6 17/64"	26	1 1/32"	600	5,300	**144.256.029**
	M34	1 3/8" z.6	100	3 15/16"	179	7 3/64"	26	1 1/32"	900	7,950	**144.256.030**
	M35	1 3/8" z.21	100	3 15/16"	179	7 3/64"	26	1 1/32"	900	7,950	**144.256.031**
	M44	1 3/8" z.6	100	3 15/16"	199	7 53/64"	26	1 1/32"	1200	10,600	**144.256.032**
	M45	1 3/8" z.21	100	3 15/16"	199	7 53/64"	26	1 1/32"	1200	10,600	**144.256.033**
60	M34	1 3/8" z.6	115	4 17/32"	187	7 23/64"	26	1 1/32"	900	7,950	**144.266.030**
	M35	1 3/8" z.21	115	4 17/32"	187	7 23/64"	26	1 1/32"	900	7,950	**144.266.033**
	M44	1 3/8" z.6	115	4 17/32"	207	8 5/32"	26	1 1/32"	1200	10,600	**144.266.029**
	M45	1 3/8" z.21	115	4 17/32"	207	8 5/32"	26	1 1/32"	1200	10,600	**144.266.034**

IT

Il dispositivo limitatore interviene quando la coppia di funzionamento supera il valore di taratura. Durante la fase di limitazione il dispositivo trasmette una potenza ridotta e in modo impulsivo. L'eliminazione della causa esterna e la diminuzione della velocità della PTO fa riprendere la normale trasmissione di potenza. All'atto dell'intervento del limitatore è bene staccare la presa di forza per evitare inutili usure e riscaldamenti.

GB

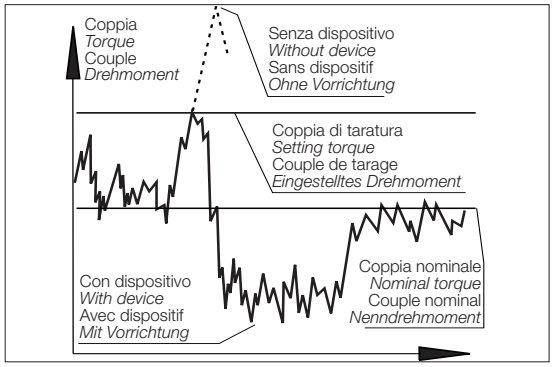
The torque limiter is activated when the operating torque exceeds the setting value. During the limiting phase, the device transmits reduced power in pulses. The elimination of the external cause and the reduction of the PTO speed allows the normal power transmission to be re-established. When the limiter is activated, it is recommended to disconnect the PTO to avoid unnecessary wear and overheating.

FR

Le dispositif de limitation intervient lorsque le couple de service dépasse le couple de tarage. Pendant la phase de limitation, le dispositif transmet un couple réduit de manière intermittente. Lorsque l'obstacle extérieur est déplacé et lorsque la vitesse de la prise de force diminue, la transmission normale de la puissance est rétablie. Lorsque le dispositif intervient, il est recommandé de débrayer la prise de force pour éviter tout risque d'échauffement ainsi qu'une usure inutile du dispositif de sécurité.

DE

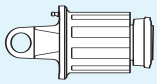
Die Begrenzungsvorrichtung greift ein, wenn das Arbeitsdrehmoment den eingestellten Wert überschreitet. Während der Begrenzung-sphase überträgt die Vorrichtung eine reduzierte Leistung im Impulsmodus. Die Behebung der externen Ursache und die Geschwindigkeitsverringerung der Zapfwelle führt zur Wiederaufnahme der normalen Leistungsübertragung. Beim Eingreifen des Begrenzers ist es ratsam, die Zapfwelle abzukuppeln, um einen unnötigen Verschleiß und eine Übererhitzung zu vermeiden.

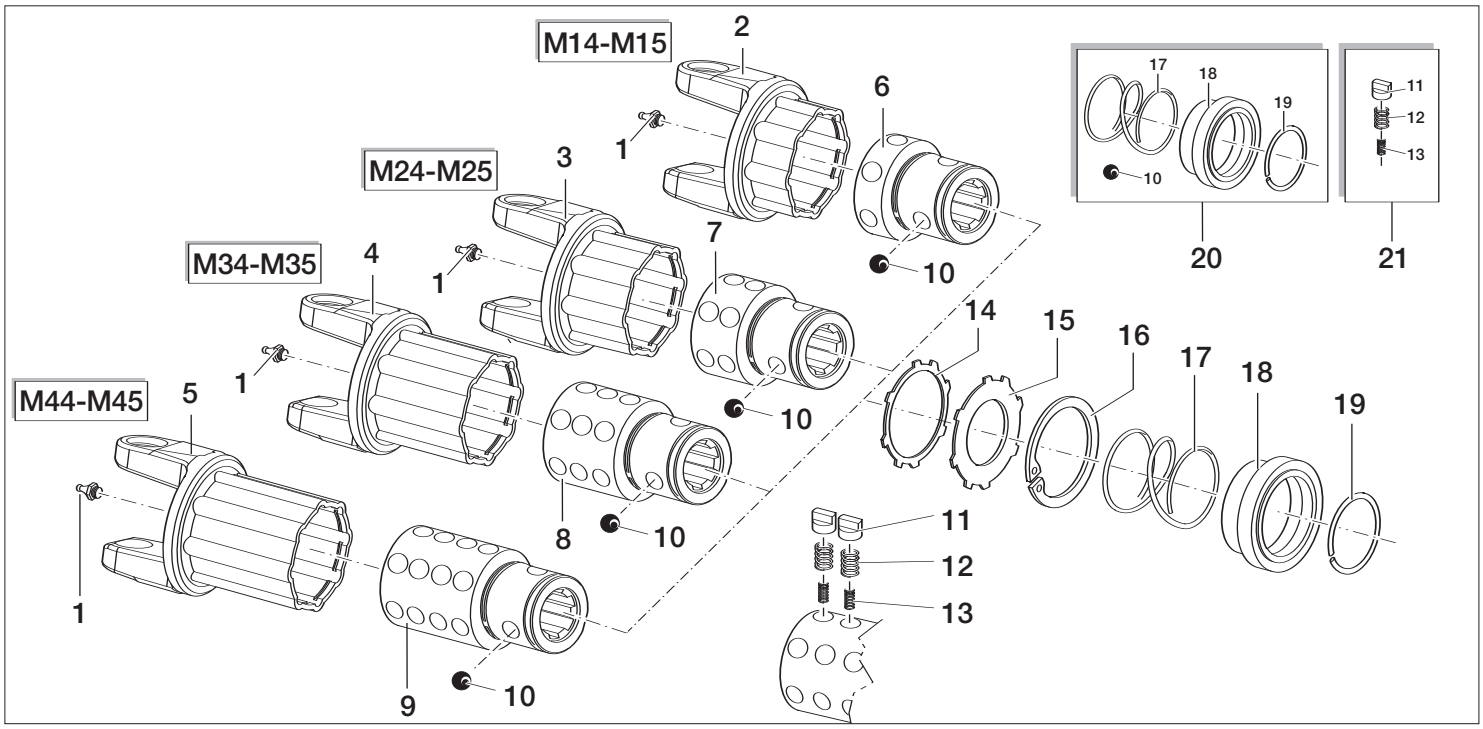


LIMITATORE A NOTTOLINI BIDIREZIONALE
BI-DIRECTIONAL RATCHET CLUTCH TORQUE LIMITER
LIMITEUR A CAME REVERSIBLE
RATSCHENKUPPLUNG UMKEHRBAR

M

M





Pos.	IT	GB	FR	DE	Cod.	Qty *
1	Ingrassatore M6x1	*Greaser M6x1*	Graisseur M6x1	*Schmiernippel M6x1*	**190.000.047**	1
2	Forcella corpo M14-M15 (tipo 10)	*Yoke support M14-M15 (type 10)*	Mâchoire boîtier M14-M15 (type 10)	*Gehäusegabel M14-M15 (Typ 10)*	**141.021.205**	1
	Forcella corpo M14-M15 (tipo 20)	*Yoke support M14-M15 (type 20)*	Mâchoire boîtier M14-M15 (type 20)	*Gehäusegabel M14-M15 (Typ 20)*	**141.022.205**	1
3	Forcella corpo M24-M25 (tipo 10)	*Yoke support M24-M25 (type 10)*	Mâchoire boîtier M24-M25 (type 10)	*Gehäusegabel M24-M25 (Typ 10)*	**141.021.206**	1
	Forcella corpo M24-M25 (tipo 20)	*Yoke support M24-M25 (type 20)*	Mâchoire boîtier M24-M25 (type 20)	*Gehäusegabel M24-M25 (Typ 20)*	**141.022.206**	1
	Forcella corpo M24-M25 (tipo 40)	*Yoke support M24-M25 (type 40)*	Mâchoire boîtier M24-M25 (type 40)	*Gehäusegabel M24-M25 (Typ 40)*	**141.024.206**	1
	Forcella corpo M24-M25 (tipo 50)	*Yoke support M24-M25 (type 50)*	Mâchoire boîtier M24-M25 (type 50)	*Gehäusegabel M24-M25 (Typ 50)*	**141.025.206**	1
4	Forcella corpo M34-M35 (tipo 20)	*Yoke support M34-M35 (type 20)*	Mâchoire boîtier M34-M35 (type 20)	*Gehäusegabel M34-M35 (Typ 20)*	**141.022.207**	1
	Forcella corpo M34-M35 (tipo 40)	*Yoke support M34-M35 (type 40)*	Mâchoire boîtier M34-M35 (type 40)	*Gehäusegabel M34-M35 (Typ 40)*	**141.024.207**	1
	Forcella corpo M34-M35 (tipo 50)	*Yoke support M34-M35 (type 50)*	Mâchoire boîtier M34-M35 (type 50)	*Gehäusegabel M34-M35 (Typ 50)*	**141.025.207**	1
	Forcella corpo M34-M35 (tipo 60)	*Yoke support M34-M35 (type 60)*	Mâchoire boîtier M34-M35 (type 60)	*Gehäusegabel M34-M35 (Typ 60)*	**141.026.207**	1
5	Forcella corpo M44-M45 (tipo 40)	*Yoke support M44-M45 (type 40)*	Mâchoire boîtier M44-M45 (type 40)	*Gehäusegabel M44-M45 (Typ 40)*	**141.024.208**	1
	Forcella corpo M44-M45 (tipo 50)	*Yoke support M44-M45 (type 50)*	Mâchoire boîtier M44-M45 (type 50)	*Gehäusegabel M44-M45 (Typ 50)*	**141.025.208**	1
	Forcella corpo M44-M45 (tipo 60)	*Yoke support M44-M45 (type 60)*	Mâchoire boîtier M44-M45 (type 60)	*Gehäusegabel M44-M45 (Typ 60)*	**141.026.208**	1
6	Mozzo M14	*Hub M14*	Moyeu M14	*Nabe M14*	**151.013.319**	1
	Mozzo M15	*Hub M15*	Moyeu M15	*Nabe M15*	**151.013.320**	1
7	Mozzo M24	*Hub M24*	Moyeu M24	*Nabe M24*	**151.013.316**	1
	Mozzo M25	*Hub M25*	Moyeu M25	*Nabe M25*	**151.013.321**	1
8	Mozzo M34	*Hub M34*	Moyeu M34	*Nabe M34*	**151.013.322**	1
	Mozzo M35	*Hub M35*	Moyeu M35	*Nabe M35*	**151.013.323**	1
9	Mozzo M44	*Hub M44*	Moyeu M44	*Nabe M44*	**151.013.324**	1
	Mozzo M45	*Hub M45*	Moyeu M45	*Nabe M45*	**151.013.325**	1
10	Sfera 1/2"	*Ball 1/2"*	Bille 1/2"	*Kugel 1/2"*	**190.000.078**	3
☞11	Nottolino	*Ratchet tooth*	Came	*Nocke*	**180.015.168**	1÷32
☞12	Molla esterna	*Outer spring*	Ressort extérieur	*Außenfeder*	**180.013.032**	1÷32
☞13	Molla interna	*Inner spring*	Ressort intérieur	*Innenfeder*	**180.013.033**	1÷32
14	Distanziale	*Retaining washer*	Entretoise	*Abstandsring*	**180.015.137**	1
15	Paragrasso	*Grease protection*	*Bague pare-poussière*	*Fettdichtungsring*	**180.013.334**	1
16	Seeger	*Circlip*	Jonc	*Sicherungsring*	**190.000.178**	1
17	Molla collar	*Collar spring*	Ressort hélicoïdal	*Collarfeder*	**180.016.487**	1
18	Manicotto collar	*Sliding sleeve collar*	Manchon hélicoïdal	*Collarmuffe*	**151.016.486**	1
19	Seeger	*Snap ring*	Jonc	*Sicherungsring*	**190.000.451**	1
20	Kit collar M	*Kit Collar M*	Kit collets M	*Collarsatz M*	**165.000.719**	1
☛21	Kit nottolini e molle	*Ratchet teeth and springs set*	Kit cames et ressorts	*Nocken- und Federnsatz*	**166.026.010**	1÷4

IT

* Quantità presente nel dispositivo

☞ Contattare ufficio tecnico per l'esatta indicazione del n. di nottolini, molle esterne ed interne da ordinare

☛ Il kit comprende n. 8 nottolini, n. 8 molle interne, n. 8 molle esterne

GB

* *Quantity in the Safety Device*

☞ *Please contact Comer Technical Dept. for the exact number of ratchet teeth, outer and inner springs to be ordered*

☛ *The set includes Nr.8 ratchet teeth, Nr.8 outer spring and Nr.8 inner spring*

FR

* Quantité présente dans le dispositif

☞ Contactez notre Bureau Technique pour connaître la quantité exacte de cames et de ressorts extérieurs et intérieurs à commander

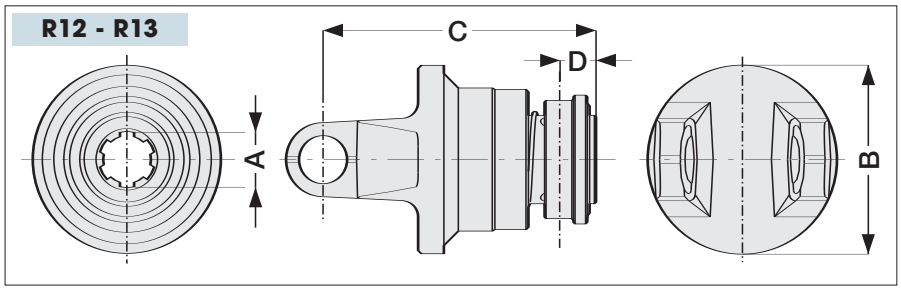
☛ Le kit comprend 8 cames, 8 ressorts intérieurs et 8 ressorts extérieurs

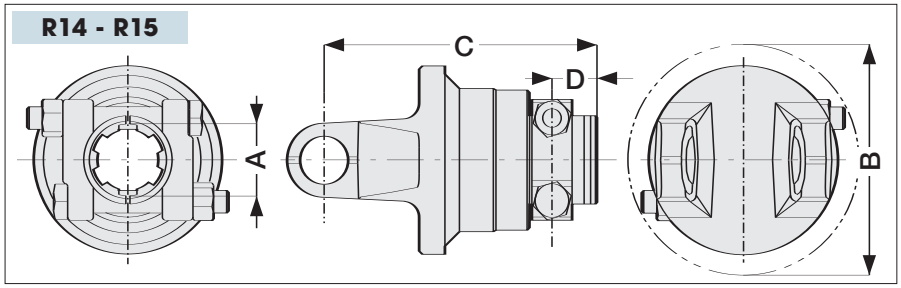
DE

* *In der Vorrichtung vorhandene Menge*

☞ *Fragen Sie bei unserem technischen Büro nach der genauen Anzahl an Nocken, Außen- und Innenfedern, die Sie bestellen müssen*

☛ *Ein Satz besteht aus 8 Nocken, 8 Innenfedern, 8 Außenfedern.outer and inner springs to be ordered*





Type	Ref.	A	B mm	B inch	C mm	C inch	D mm	D inch	MAX Nm	MAX in.lb	
10	R12	1 3/8" z.6	96	3 25/32"	141	5 35/64"	26	1 1/32"	3800	33,630	**145.215.011**
	R13	1 3/8" z.21	96	3 25/32"	141	5 35/64"	26	1 1/32"	3800	33,630	**145.215.012**
20	R12	1 3/8" z.6	96	3 25/32"	146	5 3/4"	26	1 1/32"	3800	33,630	**145.225.011**
	R13	1 3/8" z.21	96	3 25/32"	146	5 3/4"	26	1 1/32"	3800	33,630	**145.225.012**
40	R12	1 3/8" z.6	96	3 25/32"	157	6 3/16"	26	1 1/32"	3800	33,630	**145.245.011**
	R13	1 3/8" z.21	96	3 25/32"	157	6 3/16"	26	1 1/32"	3800	33,630	**145.245.012**
	R14	1 3/4" z.6	140	5 33/64"	157	6 3/16"	28	1 7/64"	3800	33,630	**145.245.019**
	R15	1 3/4" z.20	140	5 33/64"	157	6 3/16"	28	1 7/64"	3800	33,630	**145.245.020**
50	R12	1 3/8" z.6	100	3 15/16"	159	6 17/64"	26	1 1/32"	3800	33,630	**145.255.011**
	R13	1 3/8" z.21	100	3 15/16"	159	6 17/64"	26	1 1/32"	3800	33,630	**145.255.012**
	R14	1 3/4" z.6	140	5 33/64"	159	6 17/64"	28	1 7/64"	3800	33,630	**145.255.014**
	R15	1 3/4" z.20	140	5 33/64"	159	6 17/64"	28	1 7/64"	3800	33,630	**145.255.015**
60	R12	1 3/8" z.6	115	4 17/32"	167	6 37/64"	26	1 1/32"	3800	33,630	**145.265.011**
	R13	1 3/8" z.21	115	4 17/32"	167	6 37/64"	26	1 1/32"	3800	33,630	**145.265.012**
	R14	1 3/4" z.6	140	5 33/64"	167	6 37/64"	28	1 7/64"	3800	33,630	**145.265.017**
	R15	1 3/4" z.20	140	5 33/64"	167	6 37/64"	28	1 7/64"	3800	33,630	**145.265.019**
80	R12	1 3/8" z.6	127	5"	176	6 59/64"	26	1 1/32"	3800	33,630	**145.285.011**
	R13	1 3/8" z.21	127	5"	176	6 59/64"	26	1 1/32"	3800	33,630	**145.285.012**
	R14	1 3/4" z.6	140	5 33/64"	176	6 59/64"	28	1 7/64"	3800	33,630	**145.285.014**
	R15	1 3/4" z.20	140	5 33/64"	176	6 59/64"	28	1 7/64"	3800	33,630	**145.285.013**

(IT) **NOTA:** fornibile a richiesta per senso di rotazione antiorario

Il dispositivo consente di trasmettere il moto in un solo senso di rotazione, quando il trattore aziona la macchina operatrice. Nella fase di arresto, con la PTO trattore disinserita e la macchina ancora in movimento, la trasmissione è disaccoppiata. Tale dispositivo è utile per macchine operatrici con elevata inerzia di rotazione perché, durante la fase di arresto, la PTO del trattore non viene trascinata dalla macchina operatrice.

(GB) *NOTE: available upon request for anti-clockwise direction of rotation*

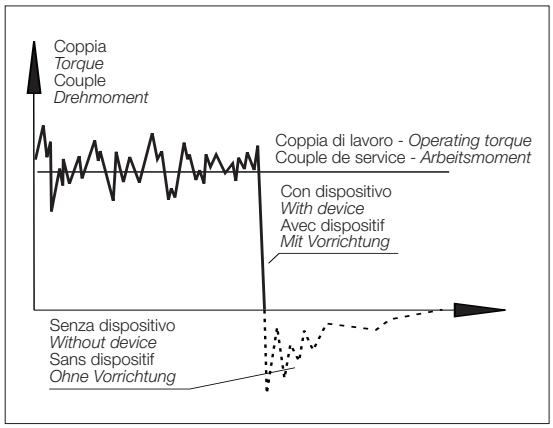
The device is used to transmit the motion in a single rotation direction, when the tractor drives the implement. During the stopping phase, with the tractor PTO disengaged and the implement still moving, the transmission is disconnected. This device is useful for operating machinery with high rotation inertia because during the stopping phase, the tractor PTO is dis-engaged from the driven machine.

(FR) **NOTE:** rotation à gauche disponible en option

Le dispositif permet de transmettre la puissance dans un seul sens de rotation, lorsque la machine agricole est actionnée par le tracteur. Lors de l'arrêt, au moment du débrayage de la prise de force du tracteur et alors que la machine est encore en mouvement, la transmission est désaccouplée. Ce dispositif est très utile dans le cas de machines agricoles caractérisées par une grande inertie de rotation; au moment de l'arrêt, il permet à la prise de force du tracteur de ne pas être entraînée par la machine reliée au tracteur.

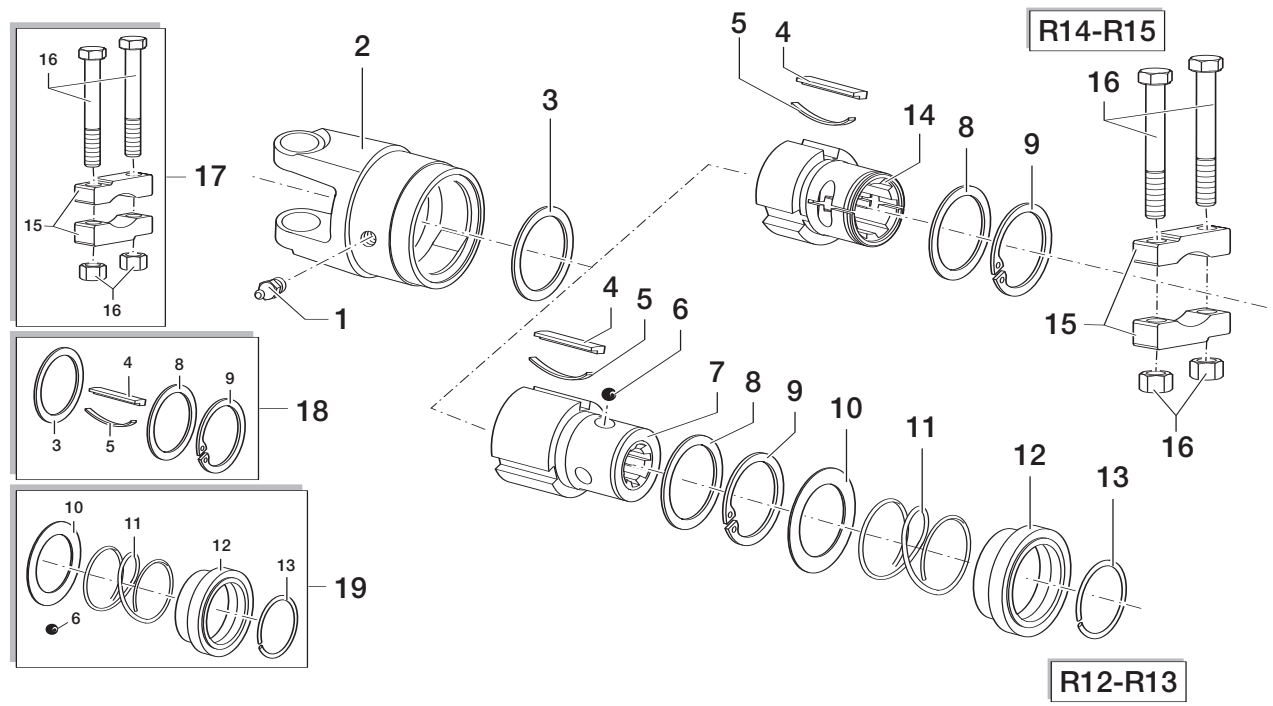
(DE) ***ANMERKG.:*** *auf Wunsch mit Drehung im Gegenuhrzeigersinn erhältlich*

Die Vorrichtung ermöglicht die Kraftübertragung in eine einzige Drehrichtung, wenn der Schlepper die Maschine betätigt. Während der Anhaltephase, bei abgekuppelter Zapfwelle des Schleppers und noch laufender Maschine, ist der Antrieb ausgekuppelt. Diese Vorrichtung ist für Landwirtschaftsmaschinen mit einer hohen nachlaufenden Masse nützlich, da die Zapfwelle des Schleppers nach dem Ausschalten nicht von der Maschine angetrieben wird



RUOTA LIBERA
OVERRUNNING CLUTCH
ROUE LIBRE
FREILAUF

R



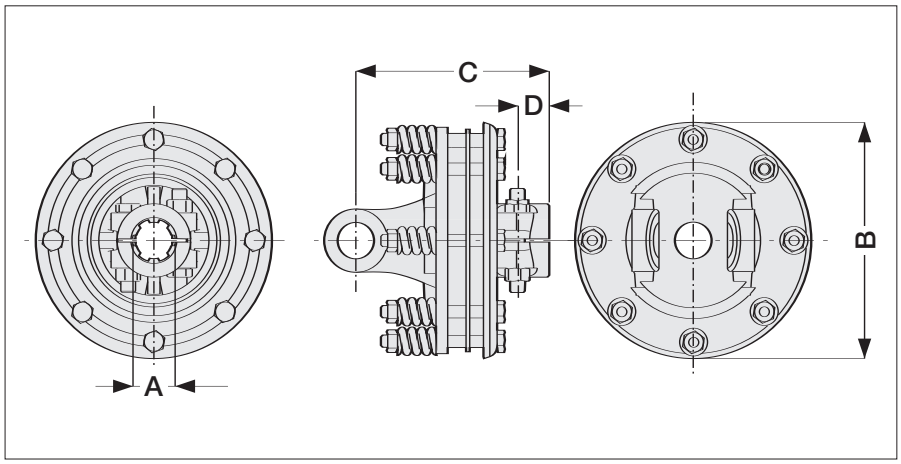
Pos.	IT	GB	FR	DE	Cod.	Qty *
1	Ingrassatore M8x1	*Greaser M8x1*	Graisseur M8x1	*Schmiernippel M8x1*	**190.000.020**	1
2	Forcella corpo R (tipo 10)	*Yoke support R (type 10)*	Mâchoire boîtier R (type 10)	*Gehäusegabel R (Typ 10)*	**141.021.210**	1
	Forcella corpo R (tipo 20)	*Yoke support R (type 20)*	Mâchoire boîtier R (type 20)	*Gehäusegabel R (Typ 20)*	**141.022.210**	1
	Forcella corpo R (tipo 40)	*Yoke support R (type 40)*	Mâchoire boîtier R (type 40)	*Gehäusegabel R (Typ 40)*	**141.024.210**	1
	Forcella corpo R (tipo 50)	*Yoke support R (type 50)*	Mâchoire boîtier R (type 50)	*Gehäusegabel R (Typ 50)*	**141.025.210**	1
	Forcella corpo R (tipo 60)	*Yoke support R (type 60)*	Mâchoire boîtier R (type 60)	*Gehäusegabel R (Typ 60)*	**141.026.210**	1
	Forcella corpo R (tipo 80)	*Yoke support R (type 80)*	Mâchoire boîtier R (type 80)	*Gehäusegabel R (Typ 80)*	**141.028.210**	1
3	Distanziale	*Retaining washer*	Entretoise	*Abstandring*	**190.000.199**	1
4	Linguetta	*Ratchet*	Languette	*Federkeil*	**151.014.136**	3
5	Molla a balestra	*Leaf spring*	Ressort à lames superposées	*Blattfeder*	**180.014.137**	3
6	Sfera	*Ball*	Bille	*Kugel*	**190.000.078**	3
7	Mozzo R12	*Hub R12*	Moyeu R12	*Nabe R12*	**151.016.546**	1
	Mozzo R13	*Hub R13*	Moyeu R13	*Nabe R13*	**151.016.571**	1
8	Anello di rasamento	*Retaining washer ring*	Epaisseur d'ajustement	*Ausgleichring*	**180.014.135**	1
9	Seeger	*Circlip*	Jonc	*Sicherungsring*	**190.000.183**	1
10	Lamierino	*Spring push ring*	Bague	*Federring*	**180.015.143**	1
11	Molla collar	*Collar spring*	Ressort hélicoïdal	*Collarfeder*	**180.016.487**	1
12	Manicotto collar	*Sliding sleeve collar*	Manchon hélicoïdal	*Collarmuffe*	**151.016.486**	1
13	Seeger	*Snap ring*	Jonc	*Sicherungsring*	**190.000.451**	1
14	Mozzo R14	*Hub R14*	Moyeu R14	*Nabe R 14*	**151.014.200**	1
	Mozzo R15	*Hub R15*	Moyeu R15	*Nabe R 15*	**151.018.121**	1
15	Ponte di blocco	*Clamp lock*	Pontets de blocage	*Klemmbrücke*	**151.014.201**	2
16	Vite M14x1,5x100 + dado	*Bolt M14x1,5x100 + nut*	Vis M14x1,5x100 + écrou	*Schraube M14x1,5x100+Mutter*	**165.000.622**	2
17	Kit ponti blocco 1 3/4"	*Clamp lock set 1 3/4"*	Kit pontets de blocage 1 3/4"	*Klemmbrückensatz 1 3/4"*	**165.000.692**	1
18	Kit R	*Kit R*	Kit R	*Satz R*	**166.000.547**	1
19	Kit collar R12-R13	*Kit collar R12-R13*	Kit collets R12-R13	*Collarsatz R12-R13*	**165.000.653**	1

IT * Quantità presente nel dispositivo

GB * *Quantity in the Safety Device*

FR * Quantité présente dans le dispositif

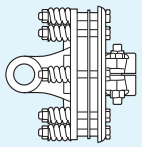
DE * *In der Vorrichtung vorhandene Menge*



Type	Ref.	A	B		C		D		MAX Nm	MAX in.lb	
			mm	inch	mm	inch	mm	inch			
20	F02	1 3/8" z.6	153	6 1/32"	120	4 23/32"	22	7/8"	650	5,750	**146.221.001**
	F03	1 3/8" z.21	153	6 1/32"	120	4 23/32"	22	7/8"	650	5,750	**146.221.002**
	F04	1 3/8" z.6	153	6 1/32"	144	5 21/32"	26	1 1/32"	900	7,950	**146.221.011**
	F05	1 3/8" z.21	153	6 1/32"	144	5 21/32"	26	1 1/32"	900	7,950	**146.221.012**
40	F02	1 3/8" z.6	153	6 1/32"	133	5 15/64"	22	7/8"	650	5,750	**146.241.002**
	F03	1 3/8" z.21	153	6 1/32"	133	5 15/64"	22	7/8"	650	5,750	**146.241.004**
	F04	1 3/8" z.6	153	6 1/32"	157	6 3/16"	26	1 1/32"	900	7,950	**146.221.047**
	F05	1 3/8" z.21	153	6 1/32"	157	6 3/16"	26	1 1/32"	900	7,950	**146.221.048**
	F12	1 3/8" z.6	180	7 3/32"	135	5 5/16"	19	3/4"	900	7,950	**146.241.001**
	F13	1 3/8" z.21	180	7 3/32"	135	5 5/16"	19	3/4"	900	7,950	**146.241.003**
50	F12	1 3/8" z.6	180	7 3/32"	135	5 5/16"	19	3/4"	900	7,950	**146.251.001**
	F13	1 3/8" z.21	180	7 3/32"	135	5 5/16"	19	3/4"	900	7,950	**146.251.002**
	F22	1 3/8" z.6	195	7 43/64"	146	5 3/4"	26	1 1/32"	1200	10,600	**146.252.011**
	F23	1 3/8" z.21	195	7 43/64"	146	5 3/4"	26	1 1/32"	1200	10,600	**146.262.012**
	F24	1 3/4" z.6	195	7 43/64"	146	5 3/4"	26	1 1/32"	1200	10,600	**146.252.013**
	F25	1 3/4" z.20	195	7 43/64"	146	5 3/4"	26	1 1/32"	1200	10,600	**146.252.014**
60	F12	1 3/8" z.6	180	7 3/32"	135	5 5/16"	19	3/4"	900	7,950	**146.261.001**
	F13	1 3/8" z.21	180	7 3/32"	135	5 5/16"	19	3/4"	900	7,950	**146.261.002**
	F22	1 3/8" z.6	195	7 43/64"	146	5 3/4"	26	1 1/32"	1200	10,600	**146.262.011**
	F23	1 3/8" z.21	195	7 43/64"	146	5 3/4"	26	1 1/32"	1200	10,600	**146.262.012**
	F24	1 3/4" z.6	195	7 43/64"	146	5 3/4"	26	1 1/32"	1200	10,600	**146.262.013**
	F25	1 3/4" z.20	195	7 43/64"	146	5 3/4"	26	1 1/32"	1200	10,600	**146.262.014**
	F42	1 3/8" z.6	195	7 43/64"	156	6 1/8"	26	1 1/32"	1600	14,150	**146.264.011**
	F43	1 3/8" z.21	195	7 43/64"	156	6 1/8"	26	1 1/32"	1600	14,150	**146.264.012**
	F44	1 3/4" z.6	195	7 43/64"	156	6 1/8"	26	1 1/32"	1600	14,150	**146.264.013**
	F45	1 3/4" z.20	195	7 43/64"	156	6 1/8"	26	1 1/32"	1600	14,150	**146.264.014**
80	F22	1 3/8" z.6	195	7 43/64"	159	6 17/64"	26	1 1/32"	1200	10,600	**146.282.011**
	F23	1 3/8" z.21	195	7 43/64"	159	6 17/64"	26	1 1/32"	1200	10,600	**146.282.012**
	F24	1 3/4" z.6	195	7 43/64"	159	6 17/64"	26	1 1/32"	1200	10,600	**146.282.013**
	F25	1 3/4" z.20	195	7 43/64"	159	6 17/64"	26	1 1/32"	1200	10,600	**146.282.014**
	F42	1 3/8" z.6	195	7 43/64"	169	6 21/32"	26	1 1/32"	2000	17,700	**146.284.011**
	F43	1 3/8" z.21	195	7 43/64"	169	6 21/32"	26	1 1/32"	2000	17,700	**146.284.012**
	F44	1 3/4" z.6	195	7 43/64"	169	6 21/32"	26	1 1/32"	2000	17,700	**146.284.013**
	F45	1 3/4" z.20	195	7 43/64"	169	6 21/32"	26	1 1/32"	2000	17,700	**146.284.014**

FRIZIONE A DISCHI MULTIPLI
DISC CLUTCH TORQUE LIMITER
LIMITEUR A DISQUE DE FRICTION
REIBSCHEIBENKUPPLUNG

F



Type	Ref.	A	B mm	B inch	C mm	C inch	D mm	D inch	MAX Nm	MAX in.lb	
90	F42	1 3/8" z.6	195	7 43/64"	169	6 21/32"	26	1 1/32"	2000	17,700	**146.294.011**
	F43	1 3/8" z.21	195	7 43/64"	169	6 21/32"	26	1 1/32"	2000	17,700	**146.294.012**
	F44	1 3/4" z.6	195	7 43/64"	169	6 21/32"	26	1 1/32"	2000	17,700	**146.294.013**
	F45	1 3/4" z.20	195	7 43/64"	169	6 21/32"	26	1 1/32"	2000	17,700	**146.294.014**

IT

Il dispositivo limitatore interviene quando la coppia di lavoro supera la coppia di taratura. Durante la fase di limitazione del picco di coppia la frizione continua a trasmettere potenza. La frizione è utile sia come dispositivo di sicurezza contro picchi di carico sia per avviare macchine con elevata inerzia rotazionale. E' utile controllare la corretta taratura per evitare eccessivi riscaldamenti dei dischi d'attrito (taratura insufficiente) o il bloccaggio della frizione (taratura eccessiva).

GB

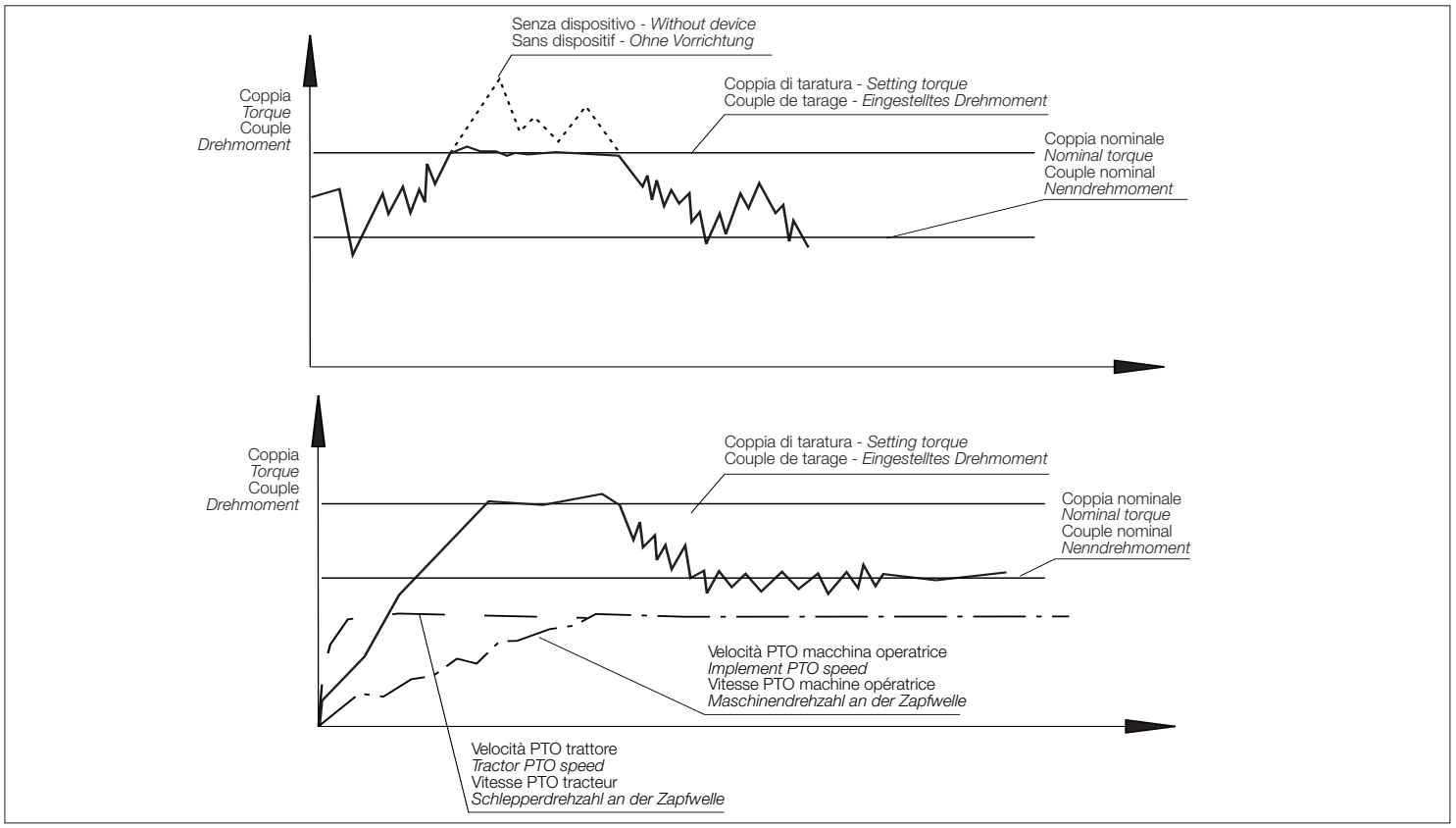
The torque limiter is activated when the setting torque exceeds the calibration torque. During the torque peak limiting phase, the clutch continues to transmit power. The clutch is useful as a safety device to protect against load peaks and to start machines with high rotational inertia. It is recommended to ensure that the setting value is correct to avoid excessive heating of the friction discs (insufficient setting) or clutch seizing (excessive setting).

FR

Le dispositif de limitation intervient lorsque le couple de service dépasse le couple de tarage. Pendant la maximum phase de limitation de couple, le limiteur continue à transmettre la puissance. Il constitue un dispositif de sécurité contre les surcharges du couple et permet la mise en marche de machines caractérisées par une inertie de rotation importante. Il est essentiel que son réglage soit correctement effectué pour éviter à la fois un échauffement excessif des disques de friction (seuil d'intervention trop bas) ainsi que le blocage du limiteur (seuil d'intervention trop élevé).

DE

Der Drehmomentbegrenzer greift ein, wenn das Arbeitsmoment das eingestellte Drehmoment überschreitet. Während der Drehmomentspitzenbegrenzung überträgt die Kupplung weiterhin Leistung. Die Kupplung ist sowohl als Sicherheitsvorrichtung gegen Belastungsspitzen als auch zum Anlassen von Maschinen mit einer hohen Rotationsträgheit nützlich. Es ist angebracht, die korrekte Einstellung zu kontrollieren, um ein übermäßiges Erhitzen der Reibscheiben (zu niedrige Einstellung) oder ein Sperren der Kupplung (zu hohe Einstellung) zu vermeiden.



IT

Le frizioni possono raggiungere elevate temperature.
Non toccare!
Per evitare rischi di incendio, mantenere la zona adiacente la frizione pulita da materiale infiammabile ed evitare slittamenti prolungati.

GB

Friction clutches may become hot during use.
Do not touch!
Keep the area around the friction clutch clear of any material which could catch fire and avoid prolonged slipping.

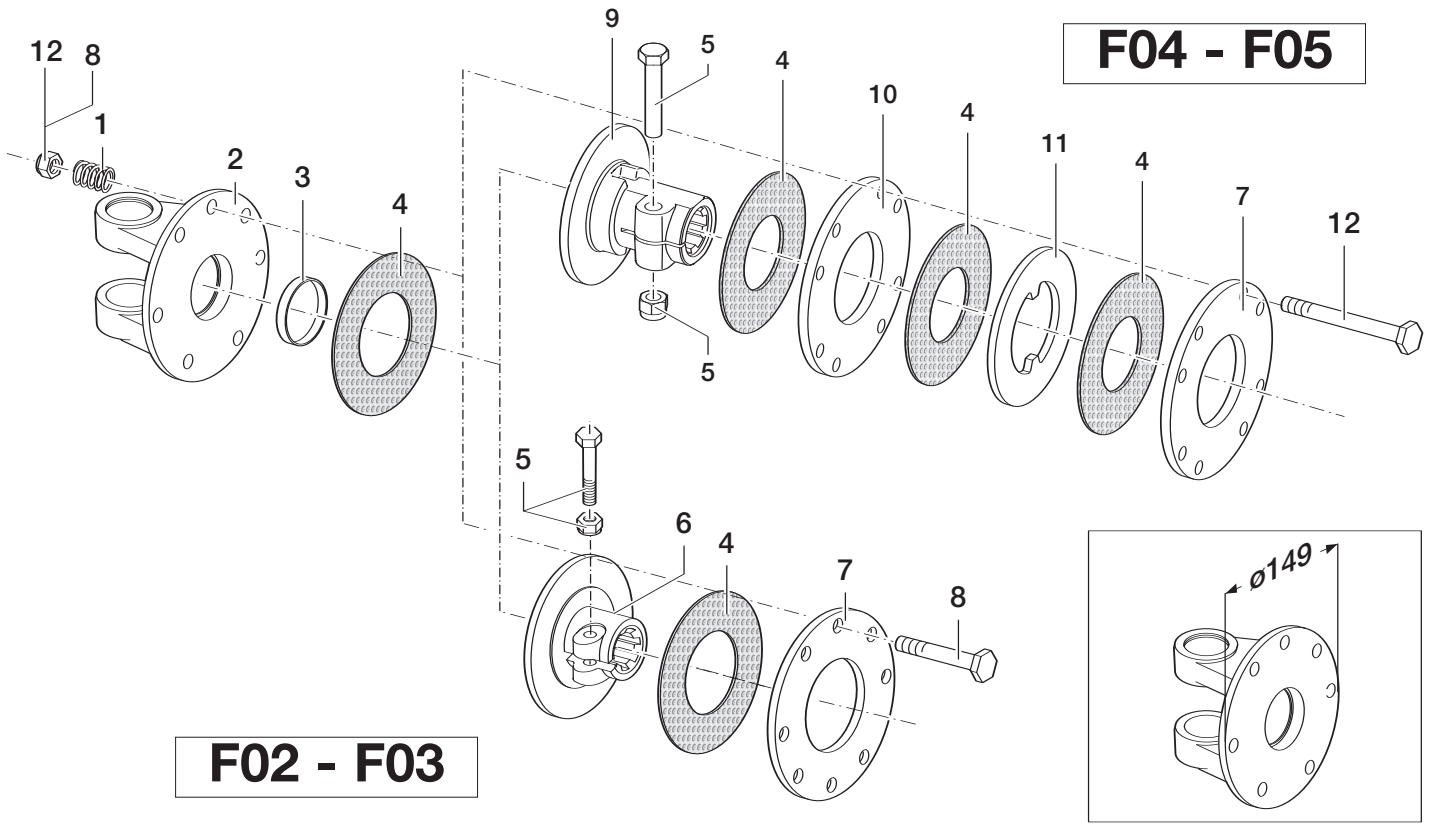
FR

Le limiteur peut atteindre des températures élevées.
Ne pas toucher!
Pour prévenir tout risque d'incendie, la zone près du limiteur doit toujours être propre sans matériau inflammable. Il faudra aussi éviter les patinages prolongés.

DE

Die Kupplungen können sehr hohe Temperaturen erreichen.
Nicht berühren!
Um Brandrisiken zu vermeiden, brennbares Material von der Kupplung fernhalten und längere Rutschphasen vermeiden.

- F0 -



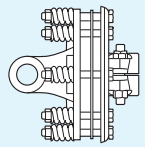
Pos.	IT	GB	FR	DE	Cod.	Qty *
1	Molla elicoidale ø 6	*Spring ø 6*	Ressort hélicoïdal ø6	*Schraubenfeder ø 6*	**180.014.022**	8
2	Forcella flangia (tipo 20)	*Flanged yoke (type 20)*	Mâchoire à bride (type 20)	*Flanschgabel (Typ 20)*	**151.012.139**	1
	Forcella flangia (tipo 40)	*Flanged yoke (type 40)*	Mâchoire à bride (type 40)	*Flanschgabel (Typ 40)*	**151.014.017**	1
3	Bronzina	*Bush*	Coussinet	*Buchse*	**180.015.020**	1
4	Dischi attrito ø120xø68 (F02-03)	*Lining rings ø120xø688(F02-03)*	Disques de friction ø120xø68 (F02-03)	*Reibscheiben ø120xø68 (F02-03)*	**180.014.019**	2
	Dischi attrito ø120xø68 (F04-05)	*Lining rings ø120xø68 (F04-05)*	Disques de friction ø120xø68 (F04-05)	*Reibscheiben ø120xø68 (F04-05)*		4
5	Kit vite M12x1,25x65+dado	*Bolt M12x1,25x65 + nut*	Kit vis M12x1,25x65+ écrou	*Schraubensatz M12x1,25x65+Mutter*	**165.000.502**	1
6	Mozzo frizione F02	*Clutch support F02*	Moyeu de friction F02	*Kupplungsnabe F02*	**151.014.018**	1
	Mozzo frizione F03	*Clutch support F03*	Moyeu de friction F03	*Kupplungsnabe F03*	**151.013.022**	1
7	Disco stringi frizione (F02-03)	*Pressure plate (F02-03)*	Disque de compression (F02-03)	*Druckscheibe (F02-03)*	**180.014.020**	1
8	Kit vite M10x80+dado (F02-03)	*Bolt M10x80 + nut (F02-03)*	Kit vis M10x80+ écrou (F02-03)	*Schraubensatz M10x80+Mutter (F02-03)*	**165.000.501**	8
9	Mozzo frizione F04	*Clutch support F02*	Moyeu de friction F02	*Kupplungsnabe F02*	**151.014.570**	1
	Mozzo frizione F05	*Clutch support F03*	Moyeu de friction F03	*Kupplungsnabe F03*	**151.014.592**	1
10	Disco intermedio	*Inner plate*	Disque intermédiaire	*Zwischenscheibe*	**180.014.571**	1
11	Disco sagomato	*Intermediate plate*	Disque profilé	*Profilscheibe*	**180.014.572**	1
12	Kit vite M10x100+dado (F04-05)	*Bolt M10x100 + nut (F04-05)*	Kit vis M10x100+ écrou(F04-05)	*Schraubensatz M10x100+Mutter(F04-05)*	**165.000.548**	8

IT * Quantità presente nel dispositivo

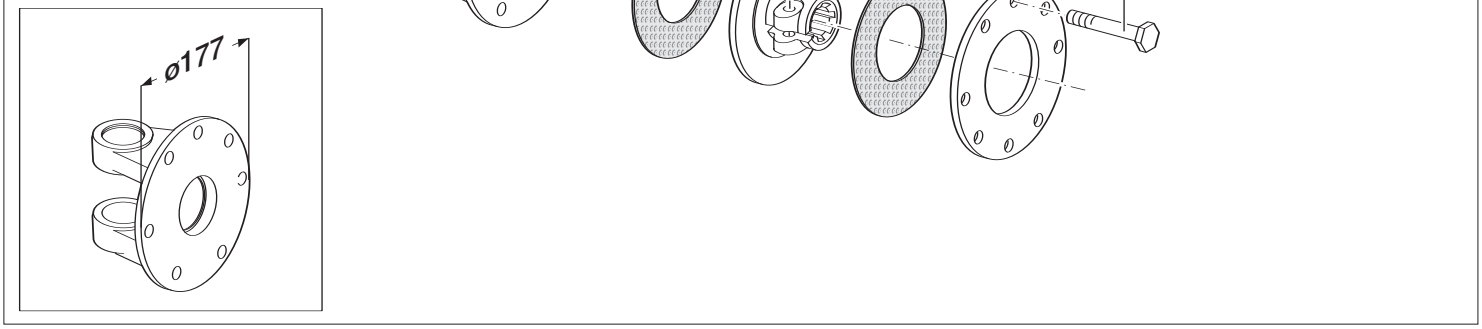
GB * *Quantity in the Safety Device*

FR * Quantité présente dans le dispositif

DE * *In der Vorrichtung vorhandene Menge*



- F1 -



Pos.	IT	GB	FR	DE	Cod.	Qty *
1	Molla elicoidale ø 6	*Spring ø 6*	Ressort hélicoïdal ø6	*Schraubenfeder ø 6*	**180.014.022**	8
2	Forcella flangia (tipo 40)	*Flanged yoke (type 40)*	Mâchoire à bride (type 40)	*Flanschgabel (Typ 40)*	**151.014.009**	1
	Forcella flangia (tipo 50)	*Flanged yoke (type 50)*	Mâchoire à bride (type 50)	*Flanschgabel (Typ 50)*	**151.015.017**	1
	Forcella flangia (tipo 60)	*Flanged yoke (type 60)*	Mâchoire à bride (type 60)	*Flanschgabel (Typ 60)*	**151.016.039**	1
3	Bronzina	*Bush*	Coussinet	*Buchse*	**180.015.020**	1
4	Dischi attrito ø142xø77,5	*Lining rings ø142xø77,5*	Disques de friction ø142xø77,5	*Reibscheiben ø142xø77,5*	**180.015.019**	2
5	Kit vite M12x1,25x65+dado	*Bolt M12x1,25x65 + nut*	Kit vis M12x1,25x65+ écrou	*Schraubensatz M12x1,25x65+Mutter*	**165.000.502**	1
6	Mozzo frizione F12	*Clutch support F12*	Moyeu de friction F12	*Kupplungsnabe F12*	**151.015.018**	1
	Mozzo frizione F13	*Clutch support F13*	Moyeu de friction F13	*Kupplungsnabe F13*	**151.015.010**	1
7	Disco stringi frizione	*Pressure plate*	Disque de compression	*Druckscheibe*	**180.015.021**	1
8	Kit vite M10x80+dado	*Bolt M10x80 + nut*	Kit vis M10x80+ écrou	*Schraubensatz M10x80+Mutter*	**165.000.501**	8

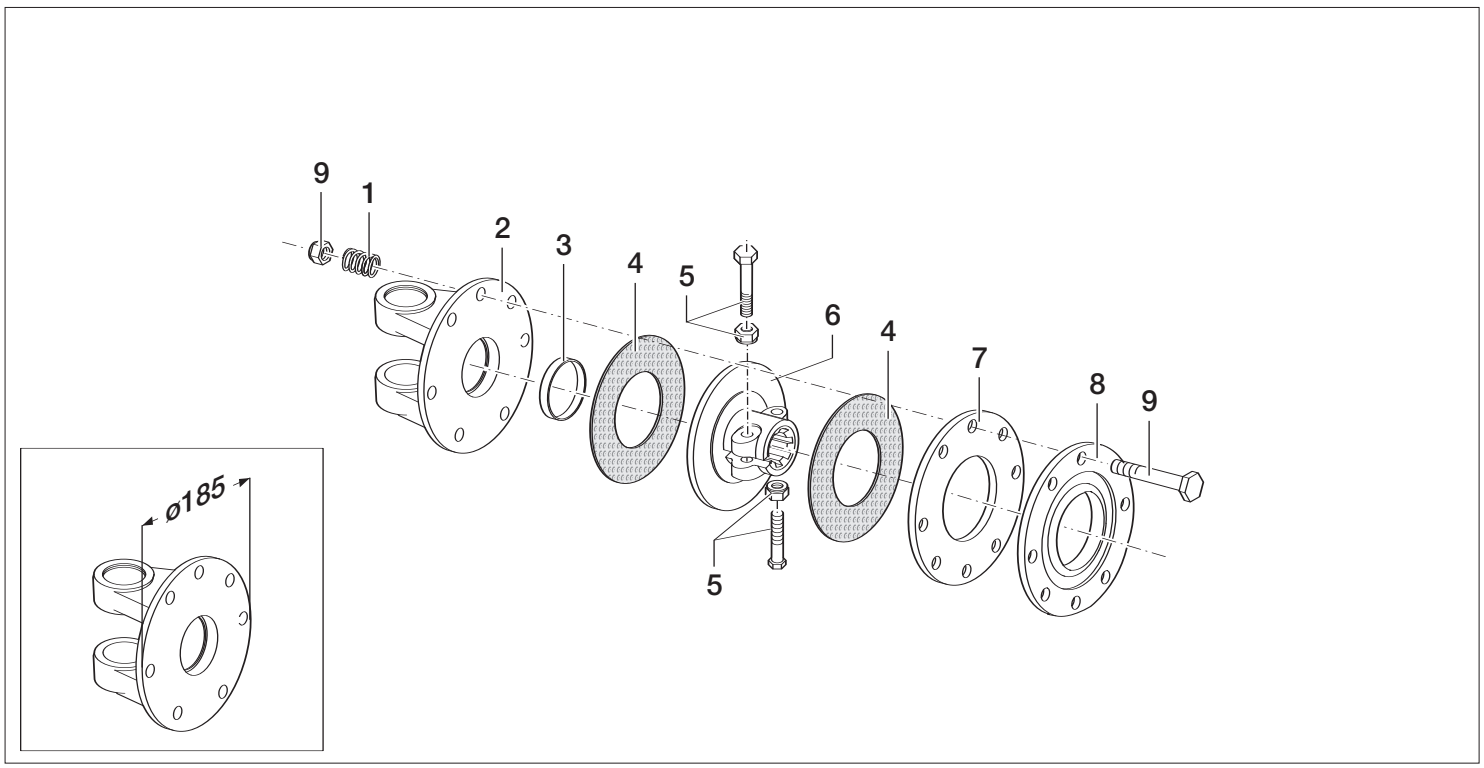
IT
* Quantità presente nel dispositivo

GB
* *Quantity in the Safety Device*

FR
* Quantité présente dans le dispositif

DE
* *In der Vorrichtung vorhandene Menge*

- F2 -



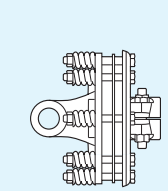
Pos.	IT	GB	FR	DE	Cod.	Qty *
1	Molla elicoidale ø 7	*Spring ø 7*	Ressort hélicoïdal ø7	*Schraubenfeder ø 7*	**180.019.017**	8
2	Forcella flangia (tipo 50)	*Flanged yoke (type 50)*	Mâchoire à bride (type 50)	*Flanschgabel (Typ 50)*	**151.015.038**	1
	Forcella flangia (tipo 60)	*Flanged yoke (type 60)*	Mâchoire à bride (type 60)	*Flanschgabel (Typ 60)*	**151.016.037**	1
	Forcella flangia (tipo 80)	*Flanged yoke (type 80)*	Mâchoire à bride (type 80)	*Flanschgabel (Typ 80)*	**151.018.016**	1
3	Bronzina	*Bush*	Coussinet	*Buchse*	**180.019.019**	1
4	Dischi attrito ø152xø90	*Lining rings ø152xø90*	Disques de friction ø152xø90	*Reibscheiben ø152xø90*	**180.019.018**	2
5	Kit vite M12x1,25x65+dado	*Bolt M12x1,25x65 + nut*	Kit vis M12x1,25x65+ écrou	*Schraubensatz M12x1,25x65+Mutter*	**165.000.502**	2
	Kit vite M14x1,5x70+dado	*Bolt M14x1,5x70 + nut*	Kit vis M14x1,5x70 + écrou	*Schraubensatz M14x1,5x70+Mutter*	**165.000.503**	2
6	Mozzo frizione F22	*Clutch support F22*	Moyeu de friction F22	*Kupplungsnabe F22*	**151.018.018**	1
	Mozzo frizione F23	*Clutch support F23*	Moyeu de friction F23	*Kupplungsnabe F23*	**151.017.013**	1
	Mozzo frizione F24	*Clutch support F24*	Moyeu de friction F24	*Kupplungsnabe F24*	**151.018.019**	1
	Mozzo frizione F25	*Clutch support F25*	Moyeu de friction F25	*Kupplungsnabe F25*	**151.017.019**	1
7	Disco intermedio	*Inner plate*	Disque intermédiaire	*Zwischenscheibe*	**180.019.014**	1
8	Disco stringi frizione	*Pressure plate*	Disque de compression	*Druckscheibe*	**180.019.116**	1
9	Kit vite M10x1,5x85+dado	*Bolt M10x1,5x85 + nut*	Kit vis M10x1,5x85+ écrou	*Schraubensatz M10x1,5x85+Mutter*	**165.000.549**	8

IT * Quantità presente nel dispositivo

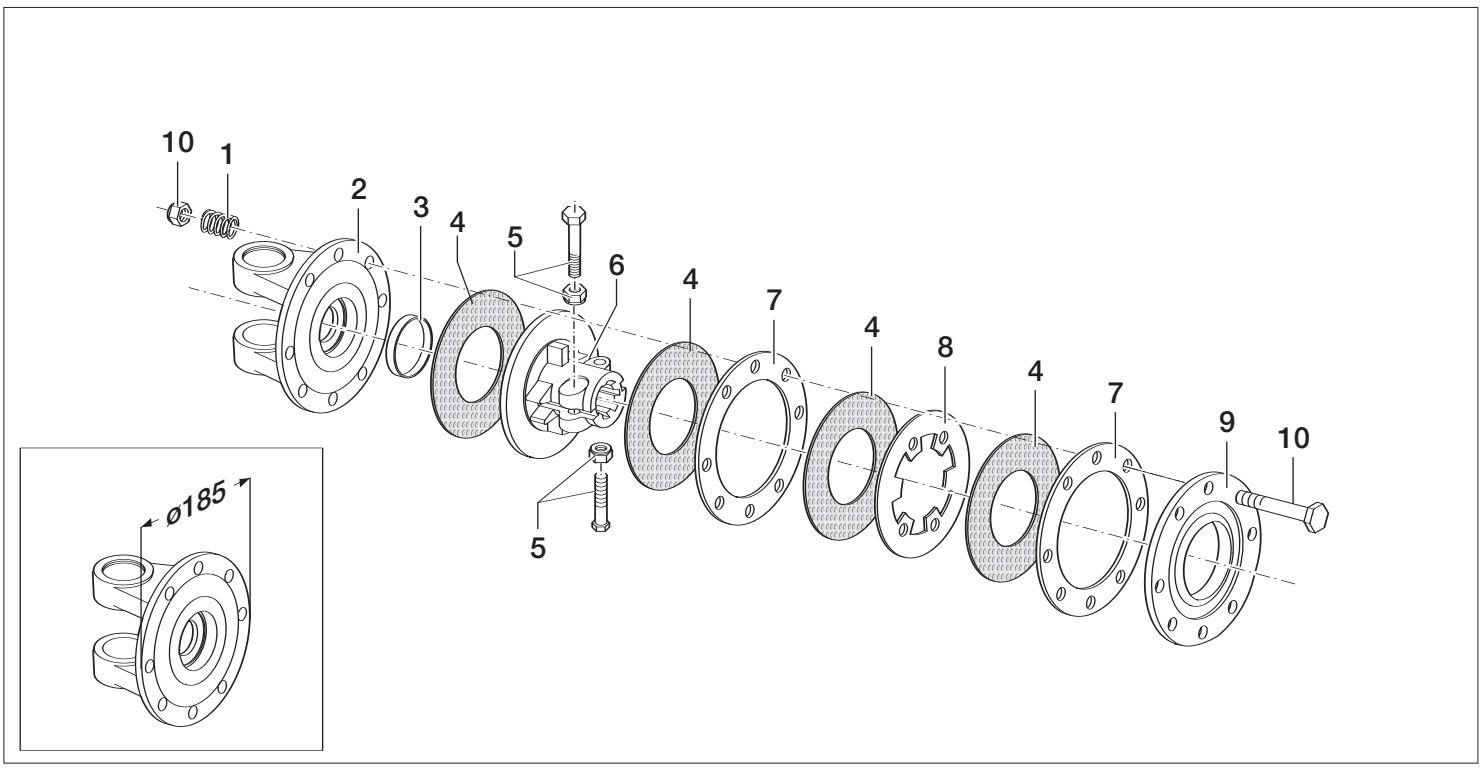
GB * *Quantity in the Safety Device*

FR * Quantité présente dans le dispositif

DE * *In der Vorrichtung vorhandene Menge*



- F4 -



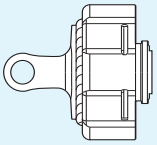
Pos.	IT	GB	FR	DE	Cod.	Qty *
1	Molla elicoidale ø 6	*Spring ø 6*	Ressort hélicoïdal ø6	*Schraubenfeder ø 6*	**180.014.022**	8
2	Forcella flangia (tipo 60)	*Flanged yoke (type 60)*	Mâchoire à bride (type 60)	*Flanschgabel (Typ 60)*	**151.016.037**	1
	Forcella flangia (tipo 80)	*Flanged yoke (type 80)*	Mâchoire à bride (type 80)	*Flanschgabel (Typ 80)*	**151.018.016**	1
	Forcella flangia (tipo 90)	*Flanged yoke (type 90)*	Mâchoire à bride (type 90)	*Flanschgabel (Typ 90)*	**151.019.059**	1
3	Bronzina	*Bush*	Coussinet	*Buchse*	**180.019.019**	1
4	Dischi attrito ø152xø90	*Lining rings ø152xø90*	Disques de friction ø152xø90	*Reibscheiben ø152xø90*	**180.019.018**	4
5	Kit vite M12x1,25x65+dado	*Bolt M12x1,25x65 + nut*	Kit vis M12x1,25x65+ écrou	*Schraubensatz M12x1,25x65+Mutter*	**165.000.502**	2
	Kit vite M14x1,5x70+dado	*Bolt M14x1,5x70 + nut*	Kit vis M14x1,5x70 + écrou	*Schraubensatz M14x1,5x70+Mutter*	**165.000.503**	2
6	Mozzo frizione F42	*Clutch support F42*	Moyeu de friction F42	*Kupplungsnabe F42*	**151.019.011**	1
	Mozzo frizione F43	*Clutch support F43*	Moyeu de friction F43	*Kupplungsnabe F43*	**151.019.008**	1
	Mozzo frizione F44	*Clutch support F44*	Moyeu de friction F44	*Kupplungsnabe F44*	**151.019.012**	1
	Mozzo frizione F45	*Clutch support F45*	Moyeu de friction F45	*Kupplungsnabe F45*	**151.019.009**	1
7	Disco intermedio	*Inner plate*	Disque intermédiaire	*Zwischenscheibe*	**180.019.014**	2
8	Disco sagomato	*Intermediate plate*	Disque profilé	*Profilscheibe*	**180.019.115**	1
9	Disco stringi frizione	*Pressure plate*	Disque de compression	*Druckscheibe*	**180.019.116**	1
10	Kit vite M10x1,5x100+dado	*Bolt M10x1,5x100 + nut*	Kit vis M10x1,5x100 + écrou	*Schraubensatz M10x1,5x100+Mutter*	**165.000.548**	8

IT
* Quantità presente nel dispositivo

GB
* *Quantity in the Safety Device*

FR
* Quantité présente dans le dispositif

DE
* *In der Vorrichtung vorhandene Menge*

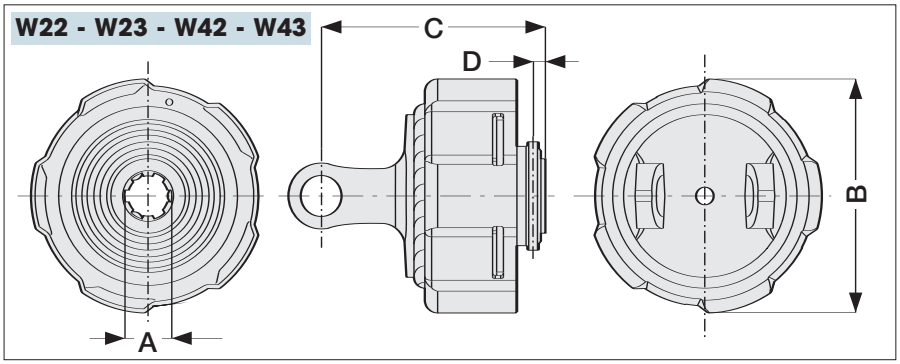


W

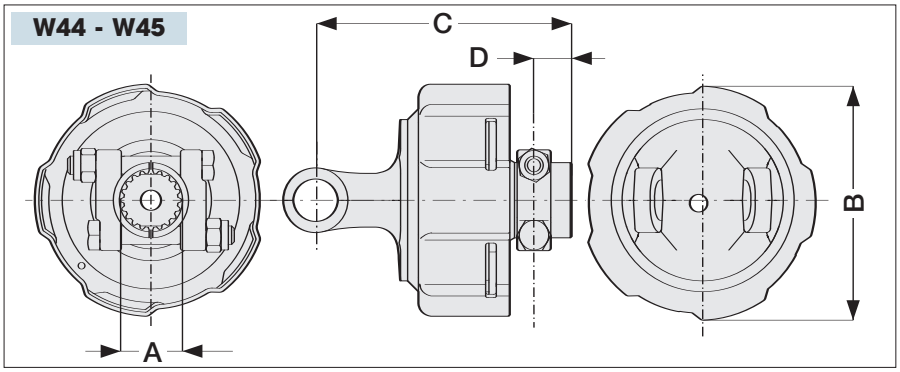
FRIZIONE CHIUSA A DISCHI MULTIPLI
CLOSED DISC CLUTCH TORQUE LIMITER
LIMITEUR A DISQUE DE FRICTION FERME
REIBSCHEIBENKUPPLUNG IN GESCHLOSSENER AUSFÜHRUNG

W

W22 - W23 - W42 - W43



W44 - W45

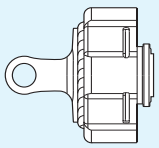


Type	Ref.	A	B mm	B inch	C mm	C inch	D mm	D inch	MAX Nm	MAX in.lb	
20	W22	1 3/8" z.6	173	6 13/16"	133,5	5 1/4"	26	1 1/32"	600	5,300	**148.322.001**
	W23	1 3/8" z.21	173	6 13/16"	133,5	5 1/4"	26	1 1/32"	600	5,300	**148.322.002**
40	W22	1 3/8" z.6	173	6 13/16"	140,0	5 33/64"	26	1 1/32"	600	5,300	**148.342.001**
	W23	1 3/8" z.21	173	6 13/16"	140,0	5 33/64"	26	1 1/32"	600	5,300	**148.342.002**
	W22	1 3/8" z.6	173	6 13/16"	140,0	5 33/64"	26	1 1/32"	750	6,650	**148.342.003**
	W23	1 3/8" z.21	173	6 13/16"	140,0	5 33/64"	26	1 1/32"	750	6,650	**148.342.004**
	W22	1 3/8" z.6	173	6 13/16"	140,0	5 33/64"	26	1 1/32"	900	7,950	**148.342.005**
	W23	1 3/8" z.21	173	6 13/16"	140,0	5 33/64"	26	1 1/32"	900	7,950	**148.342.006**
50	W22	1 3/8" z.6	173	6 13/16"	143,5	5 21/32"	26	1 1/32"	900	7,950	**148.352.001**
	W23	1 3/8" z.21	173	6 13/16"	143,5	5 21/32"	26	1 1/32"	900	7,950	**148.352.002**
	W42	1 3/8" z.6	173	6 13/16"	158,5	6 15/64"	26	1 1/32"	1100	9,700	**148.354.001**
	W43	1 3/8" z.21	173	6 13/16"	158,5	6 15/64"	26	1 1/32"	1100	9,700	**148.354.002**
	W44	1 3/4" z.6	173	6 13/16"	183,5	7 7/32"	28	1 7/64"	1100	9,700	**148.354.003**
	W45	1 3/4" z.20	173	6 13/16"	183,5	7 7/32"	28	1 7/64"	1100	9,700	**148.354.004**
60	W22	1 3/8" z.6	173	6 13/16"	150,5	5 59/64"	26	1 1/32"	900	7,950	**148.362.001**
	W23	1 3/8" z.21	173	6 13/16"	150,5	5 59/64"	26	1 1/32"	900	7,950	**148.362.002**
	W42	1 3/8" z.6	173	6 13/16"	165,5	6 33/64"	26	1 1/32"	1100	9,700	**148.364.002**
	W43	1 3/8" z.21	173	6 13/16"	165,5	6 33/64"	26	1 1/32"	1100	9,700	**148.364.005**
	W44	1 3/4" z.6	173	6 13/16"	190,5	7 1/2"	28	1 7/64"	1100	9,700	**148.364.018**
	W45	1 3/4" z.20	173	6 13/16"	190,5	7 1/2"	28	1 7/64"	1100	9,700	**148.364.015**
	W42	1 3/8" z.6	173	6 13/16"	165,5	6 33/64"	26	1 1/32"	1500	13,250	**148.364.001**
	W43	1 3/8" z.21	173	6 13/16"	165,5	6 33/64"	26	1 1/32"	1500	13,250	**148.364.004**
	W44	1 3/4" z.6	173	6 13/16"	190,5	7 1/2"	28	1 7/64"	1500	13,250	**148.364.019**
	W45	1 3/4" z.20	173	6 13/16"	190,5	7 1/2"	28	1 7/64"	1500	13,250	**148.364.016**
80	W42	1 3/8" z.6	173	6 13/16"	173,5	6 53/64"	26	1 1/32"	1100	9,700	**148.384.001**
	W43	1 3/8" z.21	173	6 13/16"	173,5	6 53/64"	26	1 1/32"	1100	9,700	**148.384.002**
	W44	1 3/4" z.6	173	6 13/16"	198,5	7 13/16"	28	1 7/64"	1100	9,700	**148.384.007**
	W45	1 3/4" z.20	173	6 13/16"	198,5	7 13/16"	28	1 7/64"	1100	9,700	**148.384.008**

W

FRIZIONE CHIUSA A DISCHI MULTIPLI
CLOSED DISC CLUTCH TORQUE LIMITER
LIMITEUR A DISQUE DE FRICTION FERME
REIBSCHEIBENKUPPLUNG IN GESCHLOSSENER AUSFÜHRUNG

W



Type	Ref.	A	B mm	B inch	C mm	C inch	D mm	D inch	MAX Nm	MAX in.lb	
80	W42	1 3/8" z.6	173	6 13/16"	173,5	6 53/64"	26	1 1/32"	1500	13,250	**148.384.003**
	W43	1 3/8" z.21	173	6 13/16"	173,5	6 53/64"	26	1 1/32"	1500	13,250	**148.384.004**
	W44	1 3/4" z.6	173	6 13/16"	198,5	7 13/16"	28	1 7/64"	1500	13,250	**148.384.009**
	W45	1 3/4" z.20	173	6 13/16"	198,5	7 13/16"	28	1 7/64"	1500	13,250	**148.384.010**
	W42	1 3/8" z.6	173	6 13/16"	173,5	6 53/64"	26	1 1/32"	1800	15,900	**148.384.005**
	W43	1 3/8" z.21	173	6 13/16"	173,5	6 53/64"	26	1 1/32"	1800	15,900	**148.384.006**
	W44	1 3/4" z.6	173	6 13/16"	198,5	7 13/16"	28	1 7/64"	1800	15,900	**148.384.011**
	W45	1 3/4" z.20	173	6 13/16"	198,5	7 13/16"	28	1 7/64"	1800	15,900	**148.384.012**

IT

La frizione "chiusa" a dischi multipli W interviene quando la coppia di lavoro supera la coppia di taratura. Durante la fase di limitazione del picco di coppia la frizione continua a trasmettere potenza. La frizione è utilizzabile sia come dispositivo di sicurezza contro picchi di coppia sia per avviare macchine con elevata inerzia rotazionale. Questo tipo di frizione risulta avere la taratura non modificabile ed inoltre l'utilizzo di speciali molle a tazza in luogo delle più comuni molle elicoidali rende costante la taratura nonostante il progressivo consumo dei dischi d'attrito.

GB

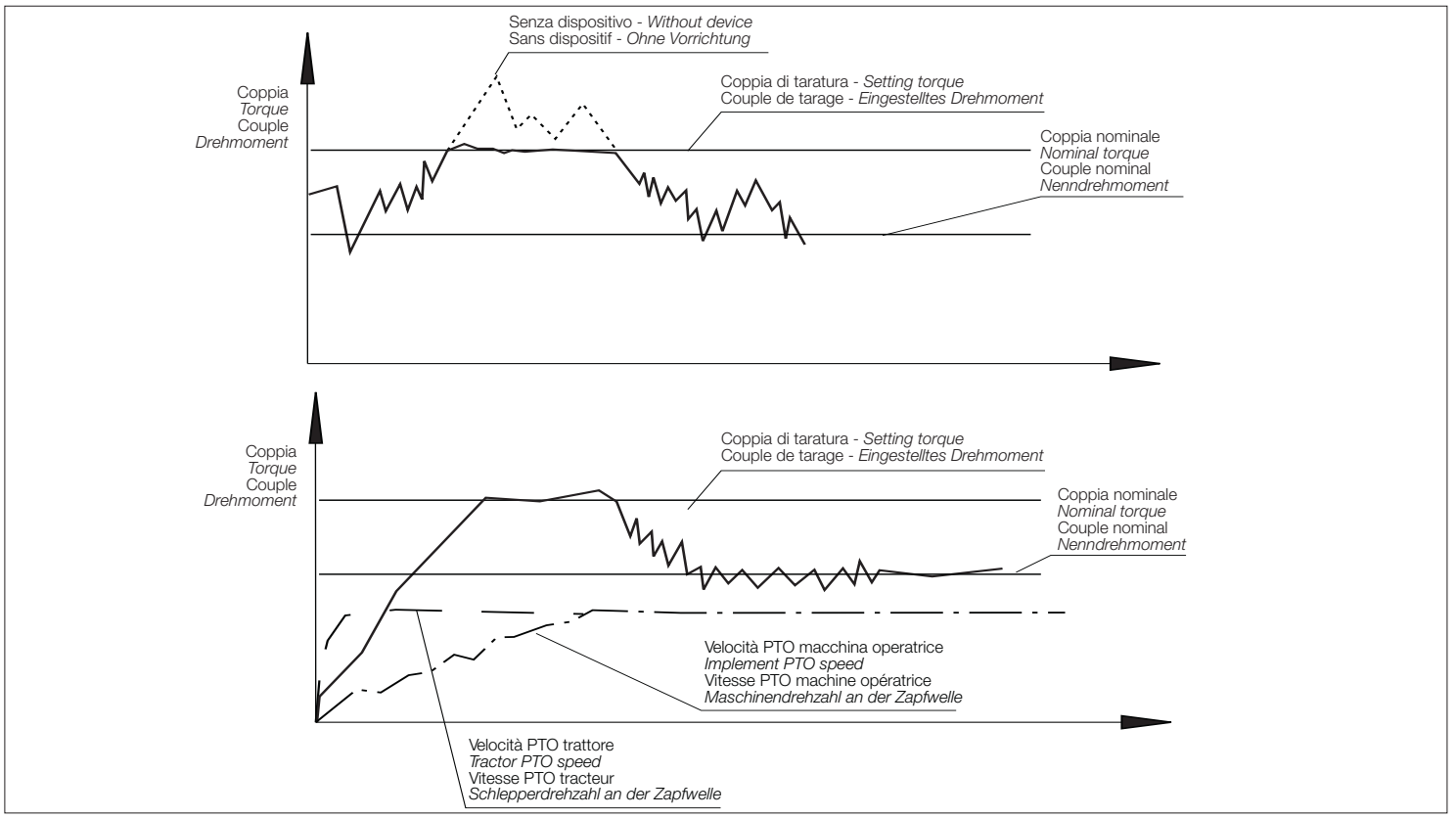
The closed disc clutch torque limiter W is activated when the setting torque exceeds the calibration torque. During the torque peak limiting phase, the clutch keeps on transmitting power. The clutch can be used both as safety device to protect against load peaks and to start machines with high rotational inertia. The torque setting of this clutch is not adjustable and the use of special Belleville springs instead of the helical springs ensures a stable torque setting compensating for the natural wear of the friction linings.

FR

Le dispositif de limitation "fermé" à disques W se déclenche lorsque le couple de travail dépasse le couple de tarage. Pendant la phase de limitation du pic de couple, le limiteur continue à transmettre la puissance. Il a une fonction de dispositif de sécurité contre les surcharges du couple et sert à démarrer les machines ayant une inertie de rotation importante. Le tarage de ce type de limiteur ne peut pas être modifié. L'utilisation de ressorts Belleville à la place des ressorts hélicoïdaux rend le tarage constant malgré l'usure progressive des disques de friction.

DE

Die "geschlossene" Reibscheibenkupp-lung W greift ein, wenn das Arbeitsmo-ment das eingestellte Drehmoment überschreitet. Während der Drehmoment-spitzenbegren-zung überträgt die Kupp-lung weiterhin Leistung. Die Kupplung kann sowohl als Sicherheitsvorrichtung gegen Belastungsspitzen als auch zum Anlassen von Maschinen mit einer hohen Rotationsträgheit benutzt werden. Die Eichung dieser Kupplung kann nicht verändert werden und außerdem wird durch die Verwendung von speziellen Tellerfedern anstatt der normalen Schraubenfedern dafür gesorgt, dass die Eichung trotz der fortschreitenden Abnutzung der Reibscheiben konstant bleibt.



IT

Le frizioni possono raggiungere elevate temperature.
Non toccare!
Per evitare rischi di incendio, mantenere la zona adiacente la frizione pulita da materiale infiammabile ed evitare slittamenti prolungati.

GB

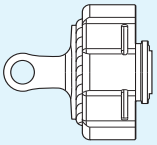
Friction clutches may become hot during use.
Do not touch!
Keep the area around the friction clutch clear of any material which could catch fire and avoid prolonged slipping.

FR

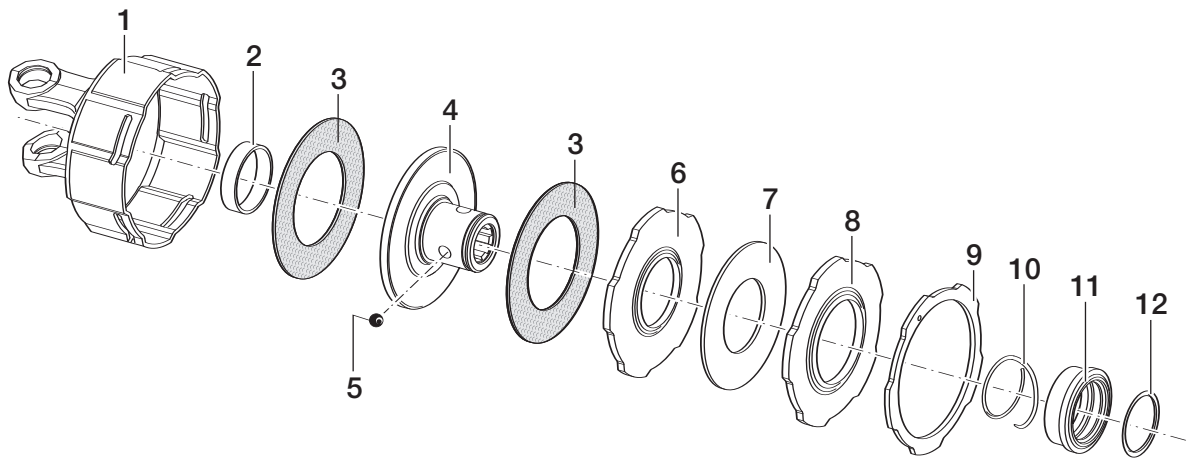
Le limiteur peut atteindre des températures élevées.
Ne pas toucher !
Pour prévenir tout risque d'incendie, la zone près du limiteur doit toujours être propre sans matériau inflammable. Il faudra aussi éviter les patinages prolongés.

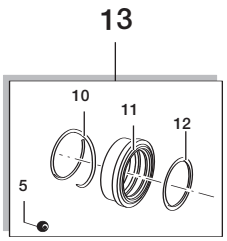
DE

Die Kupplungen können sehr hohe Temperaturen erreichen.
Nicht berühren!
Um Brandrisiken zu vermeiden, brennbares Material von der Kupplung fernhalten und längere Rutschphasen vermeiden.



- W22/W23 -





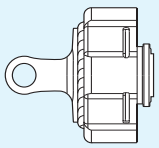
Pos.	(IT)	(GB)	(FR)	(DE)	Cod.	Qty *
1	Forcella corpo W2 (tipo 20)	*Yoke support W2 (type 20)*	Mâchoire boîtier W2 (type 20)	*Gehäusegabel W2 (Typ 20)*	**141.022.371**	1
	Forcella corpo W2 (tipo 40)	*Yoke support W2 (type 40)*	Mâchoire boîtier W2 (type 40)	*Gehäusegabel W2 (Typ 40)*	**141.024.484**	1
	Forcella corpo W2 (tipo 50)	*Yoke support W2 (type 50)*	Mâchoire boîtier W2 (type 50)	*Gehäusegabel W2 (Typ 50)*	**141.025.387**	1
	Forcella corpo W2 (tipo 60)	*Yoke support W2 (type 60)*	Mâchoire boîtier W2 (type 60)	*Gehäusegabel W2 (Typ 60)*	**141.026.601**	1
2	Bronzina	*Bush*	Coussinet	*Buchse*	**180.019.019**	1
3	Disco attrito ø152 x ø90	*Lining rings ø152 x ø90*	Disques de friction ø152xø90	*Reibscheiben ø152xø90*	**180.019.018**	2
4	Mozzo W22	*Hub W22*	Moyeu W22	*Nabe W22*	**151.017.281**	1
	Mozzo W23	Hub W23	Moyeu W23	*Nabe W23*	**151.017.296**	1
5	Sfere 1/2"	*Ball 1/2"*	Billes 1/2"	*Kugeln 1/2"*	**190.000.078**	3
6	Disco stringifrizione W (600 Nm)	*Pressure plate W (600 Nm)*	Disque de compression W (600 Nm)	*Druckscheibe W (600 Nm)*	**180.017.282**	1
	Disco stringifrizione W (750 Nm)	*Pressure plate W (750 Nm)*	Disque de compression W (750 Nm)	*Druckscheibe W (750 Nm)*	**180.017.270**	1
	Disco stringifrizione W (900 Nm)	*Pressure plate W (900 Nm)*	Disque de compression W (900 Nm)	*Druckscheibe W (900 Nm)*	**180.017.282**	1
7	Molla a tazza (600 Nm)	*Belleville spring (600 Nm)*	Ressort Belleville (600 Nm)	*Tellerfeder (600 Nm)*	**190.000.594**	1
	Molla a tazza (750 Nm)	*Belleville spring (750 Nm)*	Ressort Belleville (750 Nm)	*Tellerfeder (750 Nm)*	**190.000.594**	1
	Molla a tazza (900 Nm)	*Belleville spring (900 Nm)*	Ressort Belleville (900 Nm)	*Tellerfeder (900 Nm)*	**190.000.607**	1
8	Disco di reazione	*Reaction ring*	Disque de réaction	*Gegenscheibe*	**180.013.410**	1
9	Disco d' arresto	*Stop ring*	Disque d'arrêt	*Halteschelbe*	**180.017.276**	1
10	Molla collar	*Collar spring*	Ressort hélicoïdal	*Collarfeder*	**180.016.487**	1
11	Manicotto collar	*Sliding sleeve collar*	Manchon hélicoïdal	*Collarmuffe*	**151.016.486**	1
12	Seeger	*Snap ring*	Jonc	*Sicherungsring*	**190.000.451**	1
13	Kit collar	*Kit collar*	Kit collets	*Collarsatz*	**165.000.719**	1

(IT) * Quantità presente nel dispositivo

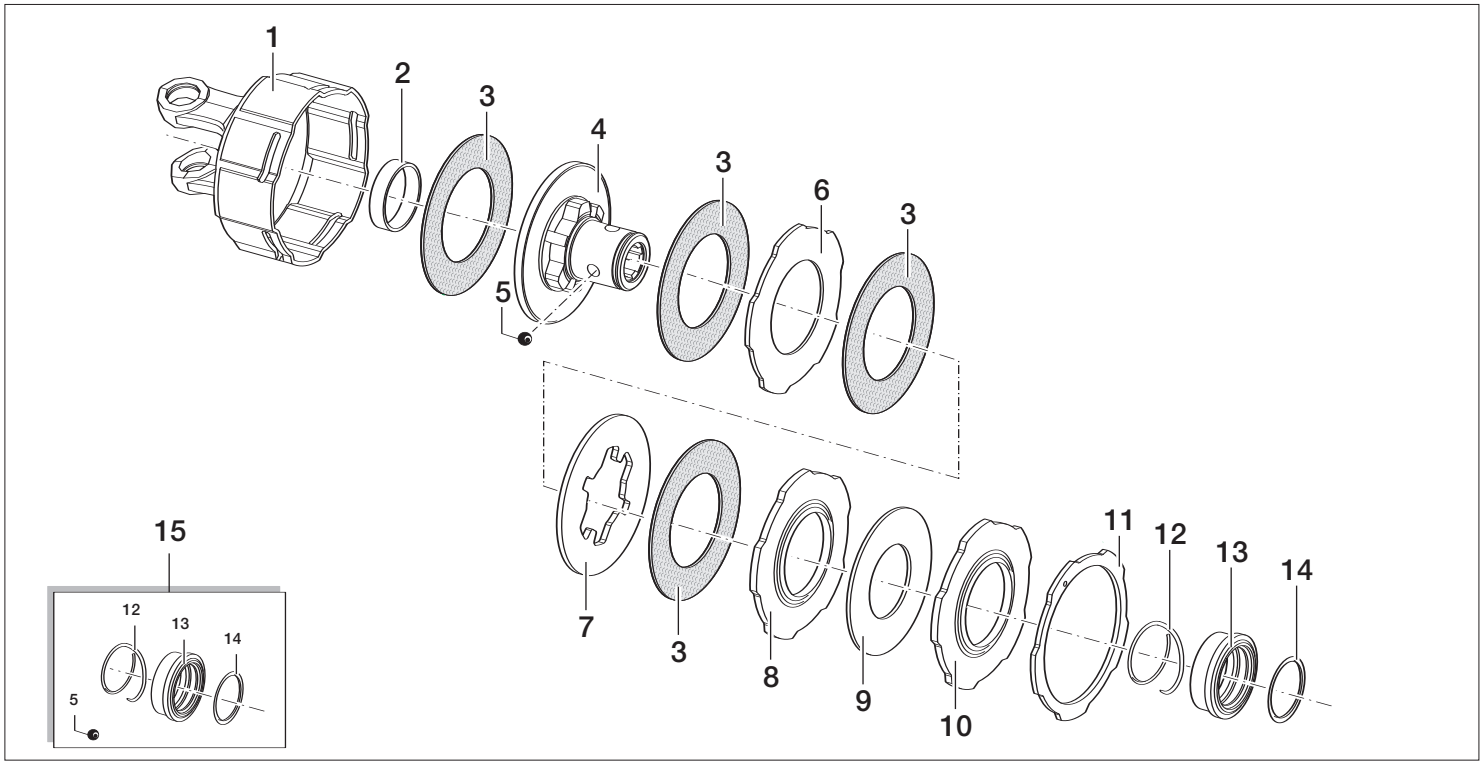
(GB) * *Quantity in the Safety Device*

(FR) * Quantité présente dans le dispositif

(DE) * *In der Vorrichtung vorhandene Menge*



- W42/W43 -



Pos.	IT	GB	FR	DE	Cod.	Qty *
1	Forcella corpo W4 (tipo 50)	*Yoke support W4 (type 50)*	Mâchoire boîtier W4 (type 50)	*Gehäusegabel W4 (Typ 50)*	**141.025.388**	1
	Forcella corpo W4 (tipo 60)	*Yoke support W4 (type 60)*	Mâchoire boîtier W4 (type 60)	*Gehäusegabel W4 (Typ 60)*	**141.026.593**	1
	Forcella corpo W4 (tipo 80)	*Yoke support W4 (type 80)*	Mâchoire boîtier W4 (type 80)	*Gehäusegabel W4 (Typ 80)*	**141.028.487**	1
2	Bronzina	*Bush*	Coussinet	*Buchse*	**180.019.019**	1
3	Disco attrito ø152 x ø90	*Lining ring ø152 x ø90*	Disques de friction ø152xø90	*Reibscheiben ø152xø90*	**180.019.018**	4
4	Mozzo W42	*Hub W42*	Moyeu W42	*Nabe W42*	**151.019.158**	1
	Mozzo W43	*Hub W43*	Moyeu W43	*Nabe W43*	**151.017.297**	1
5	Sfere 1/2"	*Ball 1/2"*	Billes 1/2"	*Kugeln 1/2"*	**190.000.078**	3
6	Disco intermedio	*Inner plate*	Disque intermédiaire	*Zwischenscheibe*	**180.017.269**	1
7	Disco sagomato	*Intermediate plate*	Disque profilé	*Profilscheibe*	**180.019.115**	1
8	Disco stringifrizione W (1100 Nm)	*Pressure plate W (1100 Nm)*	Disque de compression W (1100 Nm)	*Druckscheibe W (1100 Nm)*	**180.017.282**	1
	Disco stringifrizione W (1500 Nm)	*Pressure plate W (1500 Nm)*	Disque de compression W (1500 Nm)	*Druckscheibe W (1500 Nm)*	**180.017.282**	1
	Disco stringifrizione W (1800 Nm)	*Pressure plate W (1800 Nm)*	Disque de compression W (1800 Nm)	*Druckscheibe W (1800 Nm)*	**180.013.451**	1
9	Molla a tazza (1100 Nm)	*Belleville spring (1100 Nm)*	Ressort Belleville (1100 Nm)	*Tellerfeder (1100 Nm)*	**190.000.594**	1
	Molla a tazza (1500 Nm)	*Belleville spring (1500 Nm)*	Ressort Belleville (1500 Nm)	*Tellerfeder (1500 Nm)*	**190.000.607**	1
	Molla a tazza (1800 Nm)	*Belleville spring (1800 Nm)*	Ressort Belleville (1800 Nm)	*Tellerfeder (1800 Nm)*	**190.000.607**	1
10	Disco di reazione	*Reaction ring*	Disque de réaction	*Gegenscheibe*	**180.013.410**	1
11	Disco d' arresto	*Stop ring*	Disque d'arrêt	*Halteschеibe*	**180.017.276**	1
12	Molla collar	*Collar spring*	Ressort hélicoïdal	*Collarfeder*	**180.016.487**	1
13	Manicotto collar	*Sliding sleeve collar*	Manchon hélicoïdal	*Collarmuffe*	**151.016.486**	1
14	Seeger	*Snap ring*	Jonc	*Sicherungsring*	**190.000.451**	1
15	Kit collar	*Kit collar*	Kit collets	*Collarsatz*	**165.000.719**	1

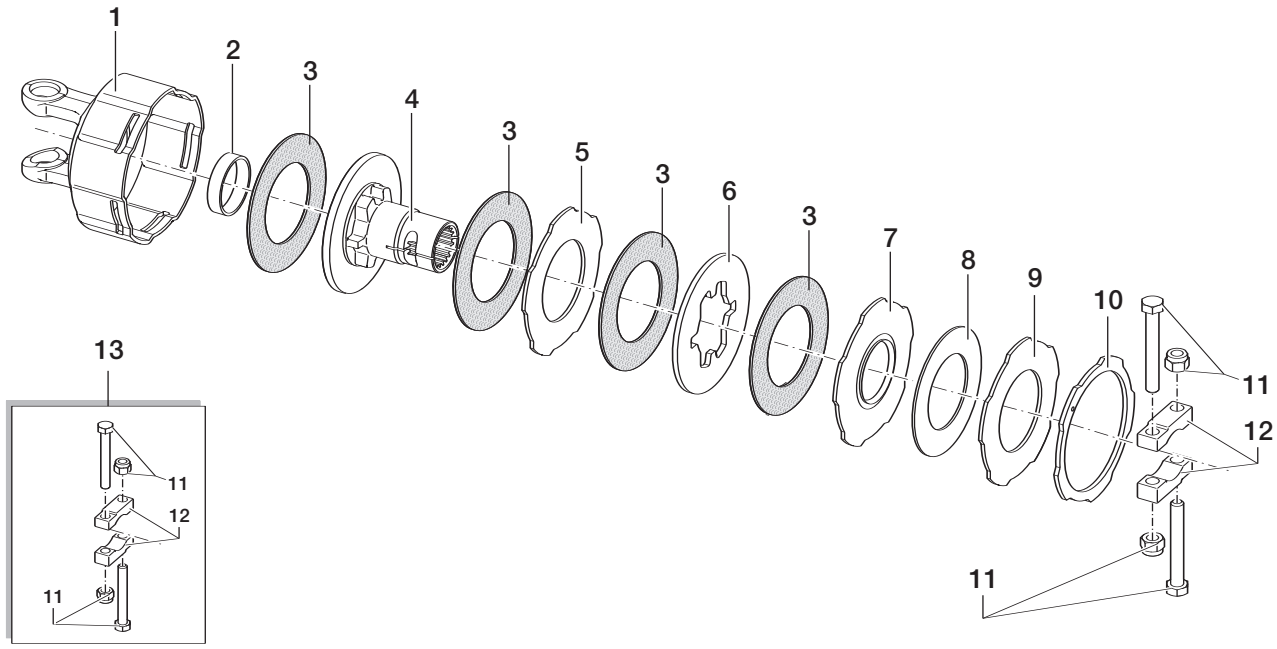
IT
* Quantità presente nel dispositivo

GB
* *Quantity in the Safety Device*

FR
* Quantité présente dans le dispositif

DE
* *In der Vorrichtung vorhandene Menge*

- W44/W45 -



Pos.	IT	GB	FR	DE	Cod.	Qty *
1	Forcella corpo W4 (tipo 50)	*Yoke support W4 (type 50)*	Mâchoire boîtier W4 (type 50)	*Gehäusegabel W4 (Typ 50)*	**141.025.388**	1
	Forcella corpo W4 (tipo 60)	*Yoke support W4 (type 60)*	Mâchoire boîtier W4 (type 60)	*Gehäusegabel W4 (Typ 60)*	**141.026.593**	1
	Forcella corpo W4 (tipo 80)	*Yoke support W4 (type 80)*	Mâchoire boîtier W4 (type 80)	*Gehäusegabel W4 (Typ 80)*	**141.028.487**	1
2	Bronzina	*Bush*	Coussinet	*Buchse*	**180.019.019**	1
3	Disco attrito ø152 x ø90	*Lining ring ø152 x ø90*	Disques de friction ø152xø90	*Reibscheiben ø152xø90*	**180.019.018**	4
4	Mozzo W44	*Hub W44*	Moyeu W44	*Nabe W44*	**151.017.390**	1
	Mozzo W45	*Hub W45*	Moyeu W45	*Nabe W45*	**151.017.366**	1
5	Disco intermedio	*Inner plate*	Disque intermédiaire	*Zwischenscheibe*	**180.017.269**	1
6	Disco sagomato	*Intermediate plate*	Disque profilé	*Profilscheibe*	**180.019.115**	1
7	Disco stringifrizione W (1100 Nm)	*Pressure plate W (1100 Nm)*	Disque de compression W (1100 Nm)	*Druckscheibe W (1100 Nm)*	**180.017.282**	1
	Disco stringifrizione W (1500 Nm)	*Pressure plate W (1500 Nm)*	Disque de compression W (1500 Nm)	*Druckscheibe W (1500 Nm)*	**180.017.282**	1
	Disco stringifrizione W (1800 Nm)	*Pressure plate W (1800 Nm)*	Disque de compression W (1800 Nm)	*Druckscheibe W (1800 Nm)*	**180.013.451**	1
8	Molla a tazza (1100 Nm)	*Belleville spring (1100 Nm)*	Ressort Belleville (1100 Nm)	*Tellerfeder (1100 Nm)*	**190.000.594**	1
	Molla a tazza (1500 Nm)	*Belleville spring (1500 Nm)*	Ressort Belleville (1500 Nm)	*Tellerfeder (1500 Nm)*	**190.000.607**	1
	Molla a tazza (1800 Nm)	*Belleville spring (1800 Nm)*	Ressort Belleville (1800 Nm)	*Tellerfeder (1800 Nm)*	**190.000.607**	1
9	Disco di reazione	*Reaction ring*	Disque de réaction	*Gegenscheibe*	**180.013.410**	1
10	Disco d' arresto	*Stop ring*	Disque d'arrêt	*Haltescheibe*	**180.017.276**	1
11	ViteM14x1,5x100 e dado	*Bolt M14x1,5x100 + nut*	Vis M14x1,5x100 + écrou	*Schraube M14x1,5x100+Mutter*	**165.000.622**	2
12	Ponti di blocco	*Clamp lock*	Pontets de blocage	*Klemmbrücke*	**151.014.201**	2
13	Kit ponti di blocco 3/4"	*Clamp lock set 1 3/4"*	Kit pontets de blocage 1 3/4"	*Klemmbrückensatz 1 3/4"*	**165.000.692**	1

IT * Quantità presente nel dispositivo

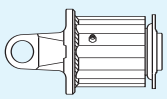
GB * *Quantity in the Safety Device*

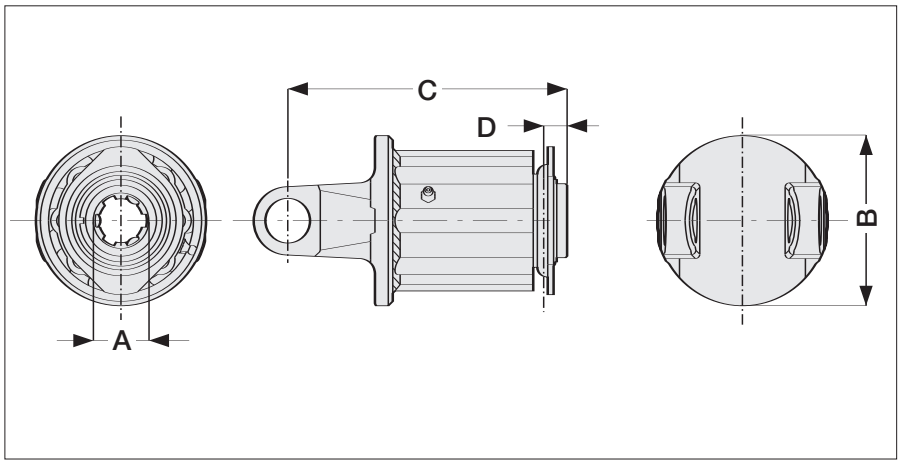
FR * Quantité présente dans le dispositif

DE * *In der Vorrichtung vorhandene Menge*

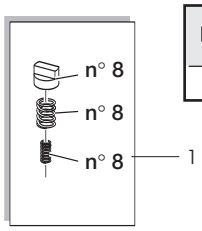
LIMITATORE A NOTTOLINI
RATCHET CLUTCH TORQUE LIMITER
LIMITEUR A CAME
RATSCHEN KUPPLUNG

U





Type	Ref.	A	B mm	B inch	C mm	C inch	D mm	D inch	MAX Nm	MAX in.lb	
10	U14	1 3/8" z.6	100	3 15/16"	119	4 11/16"	22	55/64"	300	2,650	**190.000.576**
	U24	1 3/8" z.6	100	3 15/16"	138	5 7/16"	22	55/64"	600	5,300	**190.000.577**
20	U14	1 3/8" z.6	100	3 15/16"	119	4 11/16"	22	55/64"	300	2,650	**190.000.578**
	U24	1 3/8" z.6	100	3 15/16"	138	5 7/16"	22	55/64"	600	5,300	**190.000.579**
	U34	1 3/8" z.6	100	3 15/16"	157	6 3/16"	22	55/64"	900	7,950	**190.000.580**
40	U24	1 3/8" z.6	100	3 15/16"	147	5 25/32"	22	55/64"	600	5,300	**190.000.581**
	U34	1 3/8" z.6	100	3 15/16"	166	6 17/32"	22	55/64"	900	7,950	**190.000.582**
	U44	1 3/8" z.6	100	3 15/16"	185	7 9/32"	22	55/64"	1200	10,600	**190.000.583**
60	U34	1 3/8" z.6	100	3 15/16"	175	6 57/64"	22	55/64"	900	7,950	**190.000.584**
	U44	1 3/8" z.6	100	3 15/16"	194	7 41/64"	22	55/64"	1200	10,600	**190.000.585**
	U54	1 3/8" z.6	100	3 15/16"	213	8 25/64"	22	55/64"	1500	13,250	**190.000.586**



Pos.	IT	GB	FR	DE	Cod.	Qty
1	Nottolino	*Ratchet tooth*	Came	*Nocke*	**165.000.744**	1

IT

Il dispositivo limitatore interviene quando la coppia di funzionamento supera il valore di taratura. Durante la fase di limitazione il dispositivo trasmette una potenza ridotta e in modo impulsivo. L'eliminazione della causa esterna e la diminuzione della velocità della PTO fa riprendere la normale trasmissione di potenza. All'atto dell'intervento del limitatore è bene staccare la presa di forza per evitare inutili usure e riscaldamenti.

GB

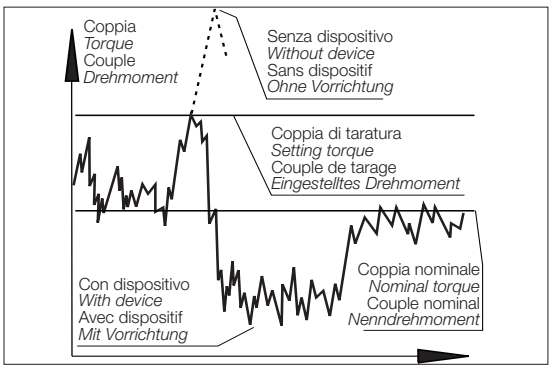
The torque limiter is activated when the operating torque exceeds the setting value. During the limiting phase, the device transmits reduced power in pulses. The elimination of the external cause and the reduction of the PTO speed allows the normal power transmission to be re-established. When the limiter is activated, it is recommended to disconnect the PTO to avoid unnecessary wear and overheating.

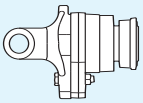
FR

Le dispositif de limitation intervient lorsque le couple de service dépasse le couple de tarage. Pendant la phase de limitation, le dispositif transmet un couple réduit de manière intermittente. Lorsque l'obstacle extérieur est déplacé et lorsque la vitesse de la prise de force diminue, la transmission normale de la puissance est rétablie. Lorsque le dispositif intervient, il est recommandé de débrayer la prise de force pour éviter tout risque d'échauffement ainsi qu'une usure inutile du dispositif de sécurité.

DE

Die Begrenzungsvorrichtung greift ein, wenn das Arbeitsdrehmoment den eingestellten Wert überschreitet. Während der Begrenzung-sphase überträgt die Vorrichtung eine reduzierte Leistung im Impulsmodus. Die Behebung der externen Ursache und die Geschwindigkeitsverringerung der Zapfwelle führt zur Wiederaufnahme der normalen Leistungsübertragung. Beim Eingreifen des Begrenzers ist es ratsam, die Zapfwelle abzukuppeln, umeinen unnötigen Verschleiß und eine Übererhitzung zu vermeiden.



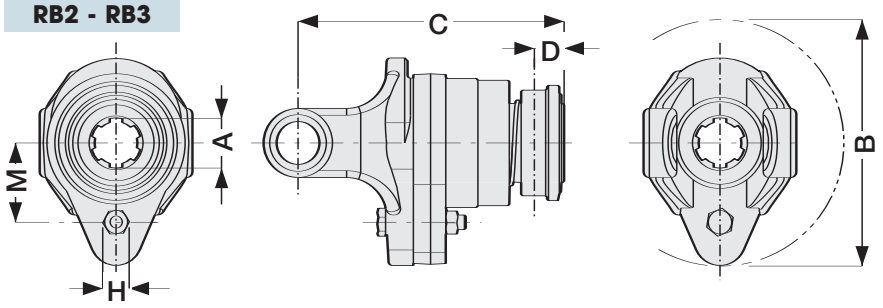


RB

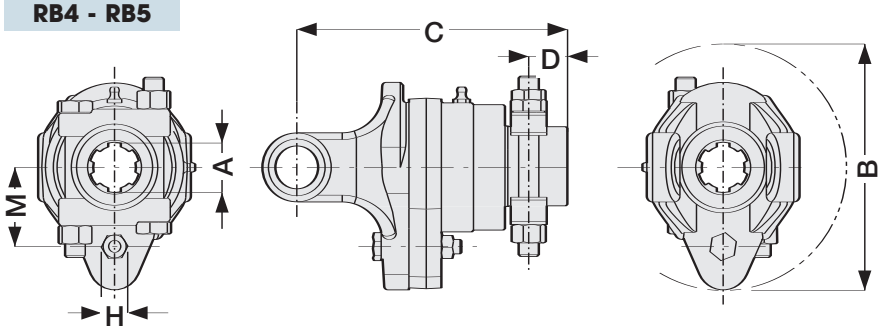
LIMITATORE A BULLONE DI TRANCIO CON RUOTA LIBERA
SHEAR BOLT TORQUE LIMITER WITH OVERRUNNING CLUTCH
LIMITEUR A BOULON DE CISAILLEMENT AVEC ROUE LIBRE
SCHERBOLZENKUPPLUNG MIT FREILAUF

RB

RB2 - RB3



RB4 - RB5



Type	Ref.	A	B mm	B inch	C mm	C inch	D mm	D inch	M mm	M inch	MAX Nm	MAX in.lb	H ISO 8.8	
40	RB2	1 3/8" z.6	134	5 9/32"	180	7 3/32"	26	1 1/32"	55	2 11/64"	1700	15,000	M8x50	**143.340.001**
	RB3	1 3/8" z.21	134	5 9/32"	180	7 3/32"	26	1 1/32"	55	2 11/64"	1700	15,000	M8x50	**143.340.002**
50	RB2	1 3/8" z.6	134	5 9/32"	180	7 3/32"	26	1 1/32"	55	2 11/64"	2100	18,500	* M8x50	**143.350.001**
	RB3	1 3/8" z.21	134	5 9/32"	180	7 3/32"	26	1 1/32"	55	2 11/64"	2100	18,500	* M8x50	**143.350.002**
60	RB2	1 3/8" z.6	162	6 3/8"	187	7 23/64"	26	1 1/32"	55	2 11/64"	2500	22,100	M10x60	**143.360.001**
	RB3	1 3/8" z.21	162	6 3/8"	187	7 23/64"	26	1 1/32"	55	2 11/64"	2500	22,100	M10x60	**143.360.002**
	RB4	1 3/4" z.6	162	6 3/8"	187	7 23/64"	28	1 7/64"	55	2 11/64"	2500	22,100	M10x60	**143.360.003**
	RB5	1 3/4" z.20	162	6 3/8"	187	7 23/64"	28	1 7/64"	55	2 11/64"	2500	22,100	M10x60	**143.360.004**
80	RB2	1 3/8" z.6	162	6 3/8"	197	7 3/4"	26	1 1/32"	57	2 1/4"	3500	30,900	M12x65	**143.380.001**
	RB3	1 3/8" z.21	162	6 3/8"	197	7 3/4"	26	1 1/32"	57	2 1/4"	3500	30,900	M12x65	**143.380.002**
	RB4	1 3/4" z.6	162	6 3/8"	197	7 3/4"	28	1 7/64"	57	2 1/4"	3500	30,900	M12x65	**143.380.003**
	RB5	1 3/4" z.20	162	6 3/8"	197	7 3/4"	28	1 7/64"	57	2 1/4"	3500	30,900	M12x65	**143.380.004**

IT

* Resistenza della vite: 10.9

Fornibile a richiesta con senso di rotazione antiorario

Il dispositivo comprende un limitatore di coppia a bullone di trancio e una ruota libera integrati. La funzionalità del dispositivo assomma quelle dei singoli dispositivi con il vantaggio di una riduzione di spazio e il montaggio da un solo lato del cardano.

GB

** Bolt material 10.9*

Available upon request for anti-clockwise direction of rotation

The device includes a shear bolt torque limiter and incorporated overrunning clutch. The device combines the functions of all the single devices with the advantage of reduced space and assembly on only one side of the cardan shaft.

FR

* Composition du boulon: 10.9

Rotation à gauche en option

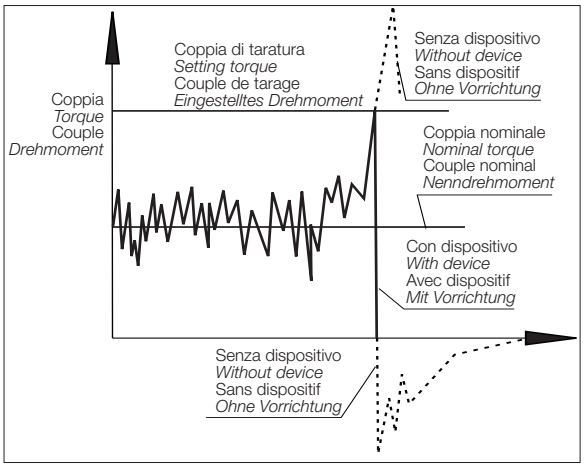
Le dispositif est constitué d'un limiteur de couple avec boulon de cisaillement et d'une roue libre intégré. Le dispositif a une double utilité correspondant aux fonctions respectives des deux éléments dont il est constitué. Il offre en outre l'avantage d'être peu encombrant et de ne prendre place que du côté de l'arbre à cardans.

DE

** Schraubenwerkstoff: 10,9*

Auf Wunsch mit Drehung im Gegenuhrzeigersinn lieferbar

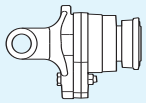
Die Vorrichtung besteht aus einem Drehmomentbegrenzer mit Scherbolzen und aus einem integrierten Freilauf. Die Vorrichtung vereint in sich die Funktionen der verschiedenen einzelnen Vorrichtungen, mit dem Vorteil eines geringeren Raumbedarfs und der Montage an nur einer Seite der Gelenkwelle.

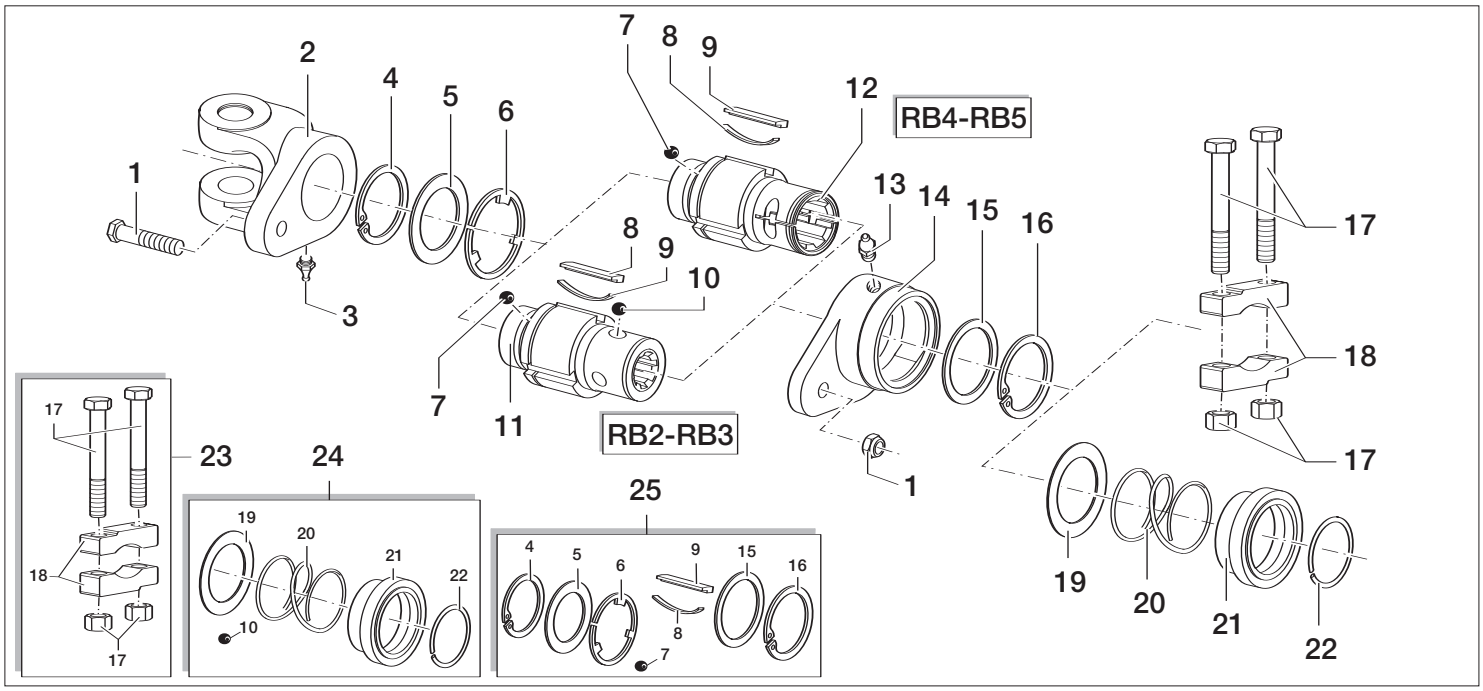


RB

LIMITATORE A BULLONE DI TRANCIO CON RUOTA LIBERA
SHEAR BOLT TORQUE LIMITER WITH OVERRUNNING CLUTCH
LIMITEUR A BOULON DE CISAILLEMENT AVEC ROUE LIBRE
SCHERBOLZENKUPPLUNG MIT FREILAUF

RB





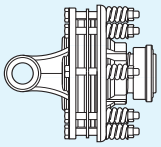
Pos.	IT	GB	FR	DE	Cod.	Qty *
1	Vite M8x50+dado (tipo 40)	*Bolt M8x50+ nut (type 40)*	Vis M8x50+ écrou (type 40)	*Schraube M8x50+Mutter (typ 40)*	**165.000.505**	1
	Vite M8x50(cl.10.9)+dado (tipo 50)	*Bolt M8x50(cl.10.9)+ nut (type 50)*	Vis M8x50(cl.10.9)+écrou (type 50)	*Schraube M8x50(cl.10.9)+Mutter(typ 50)*	**165.000.626**	1
	Vite M10x60+dado (tipo 60)	*Bolt M10x60+ nut (type 60)*	Vis M10x60+ écrou (type 60)	*Schraube M10x60+Mutter (typ 60)*	**165.000.507**	1
	Vite M12x65+dado (tipo 80)	*Bolt M12x65+ nut (type 80)*	Vis M12x65+ écrou (type 80)	*Schraube M12x65+Mutter (typ 80)*	**165.000.512**	1
2	Forcella RB (tipo 40)	*Yoke RB (type 40)*	Mâchoire RB (type 40)	*Gabel RB (Typ 40)*	**151.014.389**	1
	Forcella RB (tipo 50)	*Yoke RB (type 50)*	Mâchoire RB (type 50)	*Gabel RB (Typ 50)*	**151.015.342**	1
	Forcella RB (tipo 60)	*Yoke RB (type 60)*	Mâchoire RB (type 60)	*Gabel RB (Typ 60)*	**151.016.042**	1
	Forcella RB (tipo 80)	*Yoke RB (type 80)*	Mâchoire RB (type 80)	*Gabel RB (Typ 80)*	**151.018.023**	1
3	Ingrassatore M8x1 (tipo 40-50)	*Greaser M8x1 (type 40-50)*	Graisseur M8x1 (type 40-50)	*Schmiernippel M8x1(Typ 40-50)*	**190.000.020**	1
	Ingrassatore M10x1 (tipo 60-80)	*Greaser M10x1 (type 60-80)*	Graisseur M10x1 (type 60-80)	*Schmiernippel M10x1(Typ 60-80)*	**190.000.021**	1
4	Seeger	*Circlip*	Jonc	*Sicherungsring*	**190.000.178**	1
5	Anello di rasamento	*Retaining washer ring*	Epaisseur d'ajustement	*Ausgleichring*	**190.000.435**	1
6	Anello di tenuta	*Gasket*	Joint d'étanchéité	*Dichtungsring*	**180.014.393**	1
7	Sfera 1/4" (tipo 40-50)	*Ball 1/4" (type 40-50)*	Bille 1/4" (type 40-50)	*Kugel 1/4" (Typ 40-50)*	**190.000.022**	25
	Sfera 5/16" (tipo 60-80)	*Ball 5/16" (type 60-80)*	Bille 5/16" (type 60-80)	*Kugel 5/16" (Typ 60-80)*	**190.000.023**	24
8	Molla a balestra	*Leaf spring*	Ressort à lames superposées	*Blattfeder*	**180.014.137**	3
9	Linguetta	*Ratchet*	Languette	*Federkeil*	**151.014.136**	3
10	Sfera 1/2"	*Ball 1/2"*	Bille 1/2"	*Kugel 1/2"*	**190.000.078**	3
11	Mozzo RB2 (tipo 40-50)	*Hub RB2 (type 40-50)*	Moyeu RB2 (type 40-50)	*Nabe RB2 (Typ 40-50)*	**151.014.432**	1
	Mozzo RB2 (tipo 60-80)	*Hub RB2 (type 60-80)*	Moyeu RB2 (type 60-80)	*Nabe RB2 (Typ 60-80)*	**151.016.580**	1
	Mozzo RB3 (tipo 40-50)	*Hub RB3 (type 40-50)*	Moyeu RB3 (type 40-50)	*Nabe RB3 (Typ 40-50)*	**151.014.486**	1
	Mozzo RB3 (tipo 60-80)	*Hub RB3 (type 60-80)*	Moyeu RB3 (type 60-80)	*Nabe RB3 (Typ 60-80)*	**151.016.631**	1
12	Mozzo RB4 (tipo 60-80)	*Hub RB4 (type 60-80)*	Moyeu RB4 (type 60-80)	*Nabe RB4 (Typ 60-80)*	**151.016.542**	1
	Mozzo RB5 (tipo 60-80)	*Hub RB5 (type 60-80)*	Moyeu RB5 (type 60-80)	*Nabe RB5 (Typ 60-80)*	**151.016.507**	1
13	Ingrassatore M8x1	*Greaser M8x1*	Graisseur M8x1	*Schmiernippel M8x1*	**190.000.020**	1
14	Corpo RB (tipo 40-50)	*Torque limiter support RB (type 40-50)*	Boîtier RB (type 40-50)	*Gehäuse RB (Typ 40-50)*	**151.014.390**	1
	Corpo RB (tipo 60)	*Torque limiter support RB (type 60)*	Boîtier RB (type 60)	*Gehäuse RB (Typ 60)*	**151.016.441**	1
	Corpo RB (tipo 80)	*Torque limiter support RB (type 80)*	Boîtier RB (type 80)	*Gehäuse RB (Typ 80)*	**151.018.363**	1
15	Anello di rasamento	*Retaining washer ring*	Epaisseur d'ajustement	*Ausgleichring*	**180.014.135**	1
16	Seeger	*Circlip*	Jonc	*Sicherungsring*	**190.000.183**	1
17	Kit vite M14x1,5x100 + dado	*Bolt M14x1,5x100 + nut*	Kit vis M14x1,5x100 + écrou	*Schraubensatz M14x1,5x100+Mutter*	**165.000.622**	2
18	Ponte di blocco	*Clamp lock*	Pontet de blocage	*Klemmbrücke*	**151.014.201**	2
19	Lamierino	*Spring push ring*	Bague	*Federring*	**180.015.143**	1
20	Molla collar	*Collar spring*	Ressort hélicoïdal	*Collarfeder*	**180.016.487**	1
21	Manicotto collar	*Sliding sleeve collar*	Manchon hélicoïdal	*Collarmuffe*	**151.016.486**	1
22	Seeger	*Snap ring*	Jonc	*Sicherungsring*	**190.000.451**	1
23	Kit ponti blocco 1 3/4"	*Clamp lock set 1 3/4"*	Kit pontets de blocage 1 3/4"	*Klemmbrückensatz 1 3/4"*	**165.000.692**	1
24	Kit collar R12-R13	*Kit collar R12-R13*	Kit collets R12-R13	*Collarsatz R12-R13*	**165.000.653**	1
25	Kit RB 40-50	*Kit RB 40-50*	Kit RB 40-50	*Satz RB 40-50*	**165.000.726**	1
	Kit RB 60-80	*Kit RB 60-80*	Kit RB 60-80	*Satz RB 60-80*	**165.000.770**	1

IT * Quantità presente nel dispositivo

GB * *Quantity in the Safety Device*

FR * Quantité présente dans le dispositif

DE * *In der Vorrichtung vorhandene Menge*



FRIZIONE A DISCHI MULTIPLI CON RUOTA LIBERA

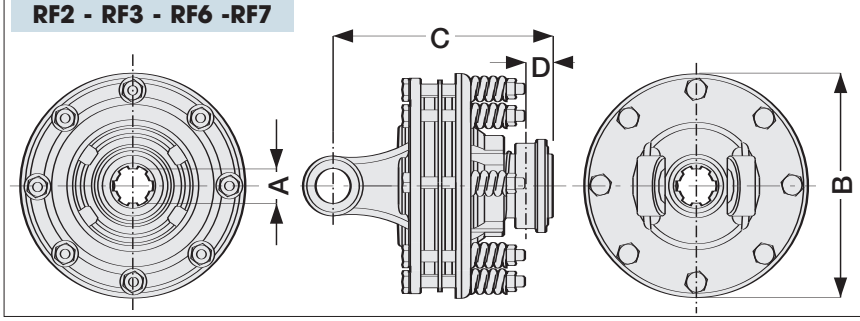
DISC CLUTCH TORQUE LIMITER WITH OVERRUNNING CLUTCH

LIMITEUR A DISQUE DE FRICTION AVEC ROUE LIBRE

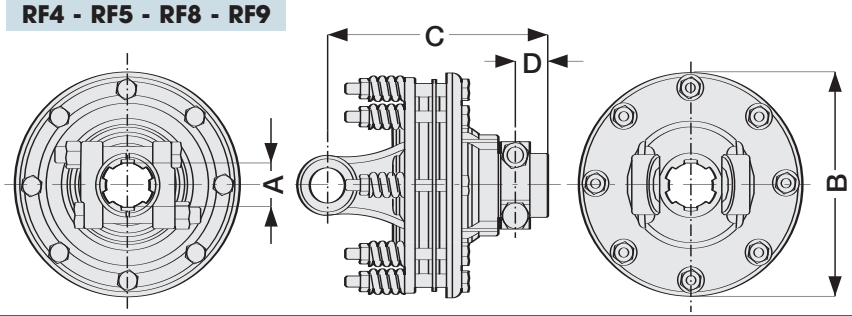
REIBSCHEIBENKUPPLUNG MIT FREILAUF

RF **RF**

RF2 - RF3 - RF6 -RF7



RF4 - RF5 - RF8 - RF9



Type	Ref.	A	B		C		D		MAX Nm	MAX in.lb	
			mm	inch	mm	inch	mm	inch			
40	RF2	1 3/8" z.6	195	7 43/64"	175	6 57/64"	26	1 3/32"	900	7,950	**146.342.001**
	RF3	1 3/8" z.21	195	7 43/64"	175	6 57/64"	26	1 3/32"	900	7,950	**146.342.002**
	RF4	1 3/4" z.6	195	7 43/64"	175	6 57/64"	28	1 7/64"	900	7,950	**146.342.003**
	RF5	1 3/4" z.20	195	7 43/64"	175	6 57/64"	28	1 7/64"	900	7,950	**146.342.004**
50	RF2	1 3/8" z.6	195	7 43/64"	175	6 57/64"	26	1 3/32"	900	7,950	**146.352.001**
	RF3	1 3/8" z.21	195	7 43/64"	175	6 57/64"	26	1 3/32"	900	7,950	**146.352.002**
	RF4	1 3/4" z.6	195	7 43/64"	175	6 57/64"	28	1 7/64"	900	7,950	**146.352.003**
	RF5	1 3/4" z.20	195	7 43/64"	175	6 57/64"	28	1 7/64"	900	7,950	**146.352.004**
	RF6	1 3/8" z.6	195	7 43/64"	190	7 31/64"	26	1 1/32"	1200	10,600	**146.354.001**
	RF7	1 3/8" z.21	195	7 43/64"	190	7 31/64"	26	1 1/32"	1200	10,600	**146.354.002**
	RF8	1 3/4" z.6	195	7 43/64"	190	7 31/64"	28	1 7/64"	1200	10,600	**146.354.003**
	RF9	1 3/4" z.20	195	7 43/64"	190	7 31/64"	28	1 7/64"	1200	10,600	**146.354.004**
60	RF6	1 3/8" z.6	195	7 43/64"	190	7 31/64"	26	1 1/32"	1400	12,400	**146.364.001**
	RF7	1 3/8" z.21	195	7 43/64"	190	7 31/64"	26	1 1/32"	1400	12,400	**146.364.002**
	RF8	1 3/4" z.6	195	7 43/64"	190	7 31/64"	28	1 7/64"	1400	12,400	**146.364.003**
	RF9	1 3/4" z.20	195	7 43/64"	190	7 31/64"	28	1 7/64"	1400	12,400	**146.364.004**
80	RF6	1 3/8" z.6	195	7 43/64"	203	7 63/64"	26	1 1/32"	1400	12,400	**146.384.001**
	RF7	1 3/8" z.21	195	7 43/64"	203	7 63/64"	26	1 1/32"	1400	12,400	**146.384.002**
	RF8	1 3/4" z.6	195	7 43/64"	203	7 63/64"	28	1 7/64"	1400	12,400	**146.384.003**
	RF9	1 3/4" z.20	195	7 43/64"	203	7 63/64"	28	1 7/64"	1400	12,400	**146.384.004**
90	RF6	1 3/8" z.6	195	7 43/64"	203	7 63/64"	26	1 1/32"	1400	12,400	**146.394.001**
	RF7	1 3/8" z.21	195	7 43/64"	203	7 63/64"	26	1 1/32"	1400	12,400	**146.394.002**
	RF8	1 3/4" z.6	195	7 43/64"	203	7 63/64"	28	1 7/64"	1400	12,400	**146.394.003**
	RF9	1 3/4" z.20	195	7 43/64"	203	7 63/64"	28	1 7/64"	1400	12,400	**146.394.004**

(IT) Fornibile a richiesta con senso di rotazione antiorario

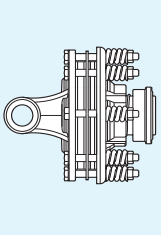
(GB) *Available upon request for anti-clockwise direction of rotation*

(FR) Rotation gauche disponible en option

(DE) *Auf Wunsch mit Drehung im Gegenuhrzeigersinn lieferbar*

FRIZIONE A DISCHI MULTIPLI CON RUOTA LIBERA
DISC CLUTCH TORQUE LIMITER WITH OVERRUNNING CLUTCH
LIMITEUR A DISQUE DE FRICTION AVEC ROUE LIBRE
REIBSCHEIBENKUPPLUNG MIT FREILAUF

RF **RF**



IT

Il dispositivo comprende un limitatore di coppia a dischi d'attrito (frizione) e una ruota libera integrati. La funzionalità assomma quelle dei singoli dispositivi con il vantaggio di risparmiare spazio e di consentire il montaggio sullo stesso lato del cardano. Il dispositivo è utile come organo di sicurezza contro picchi di carico e in macchine con grosse masse rotanti, sia durante l'avviamento che durante l'arresto, evitando inutili sollecitazioni della PTO del trattore. E' importante il controllo della taratura della frizione per assicurare un corretto funzionamento del dispositivo.

GB

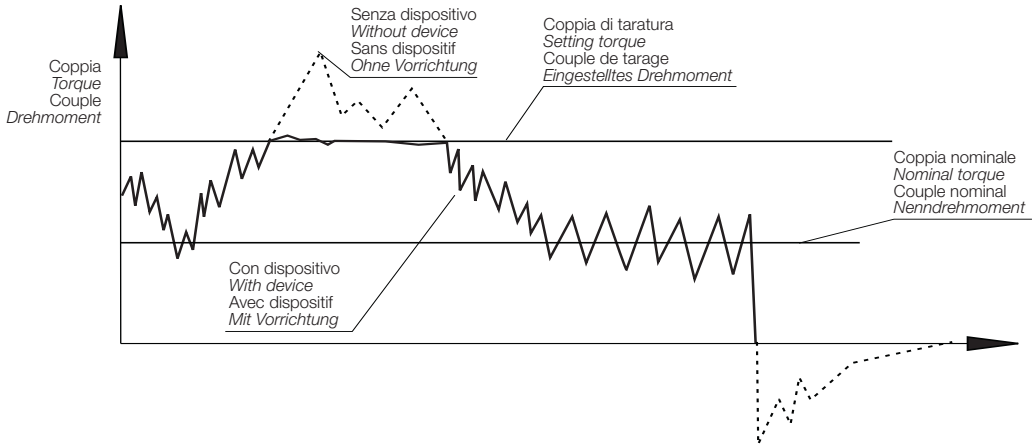
The device includes a disc clutch torque limiter and an incorporated overrunning clutch. The device combines the functions of the single devices thus reducing space and allowing it to be mounted on the same side of the cardan. It is useful as a safety device to protect against load peaks and in implements with large rotating mass during start-up and stopping operations, thus avoiding unnecessary stress on the tractor PTO. It is recommended to ensure the setting value is correct.

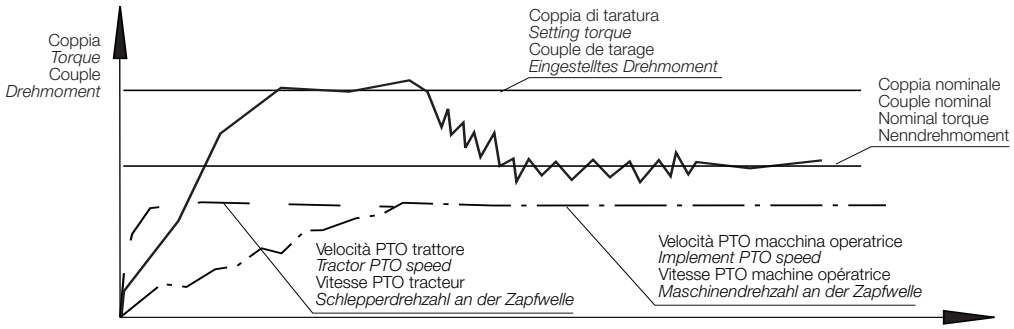
FR

Le dispositif est constitué d'un limiteur à disque de friction et d'une roue libre intégré. Le dispositif a une double utilité correspondant aux fonctions respectives des deux éléments dont il est constitué. Il offre en outre l'avantage d'être peu encombrant et de permettre le montage des deux éléments dont il est constitué du même côté de l'arbre à cardans. Il est d'une grande utilité comme dispositif de sécurité contre les pics de charge ainsi que sur les machines caractérisées par une grande inertie de rotation, aussi bien au démarrage qu'à l'arrêt, ce qui permet d'éviter que la prise de force du tracteur ne subisse d'inutiles sollicitations. Pour assurer un bon fonctionnement du dispositif, il est important de contrôler le tarage du limiteur.

DE

Die Vorrichtung besteht aus einem Drehmomentbegrenzer mit Reibscheiben und aus einem integrierten Freilauf. Die Vorrichtung vereint in sich die Funktionen der verschiedenen einzelnen Vorrichtungen, mit dem Vorteil eines geringeren Raumbedarfs und der Montage an derselben Seite der Gelenkwelle. Sie ist nützlich sowohl als Schutz gegen Belastungsspitzen als auch bei Maschinen mit großer Rotationsträgheit, sowohl beim Anlassen als auch bein Anhalten, da sie unnötige Belastungen der Zapfwelle des Schleppers verhindert. Die Eichung der Kupplung muss ständig überwacht werden, damit ein einwandfreier Betrieb der Vorrichtung gewährleistet ist.





IT

Le frizioni possono raggiungere elevate temperature.
Non toccare!
Per evitare rischi di incendio, mantenere la zona adiacente la frizione pulita da materiale infiammabile ed evitare slittamenti prolungati.

GB

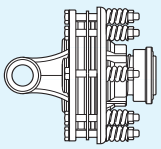
Friction clutches may become hot during use.
Do not touch!
Keep the area around the friction clutch clear of any material which could catch fire and avoid prolonged slipping.

FR

Le limiteur peut atteindre des températures élevées.
Ne pas toucher !
Pour prévenir tout risque d'incendie, la zone près du limiteur doit toujours être propre sans matériau inflammable. Il faudra aussi éviter les patinages prolongés.

DE

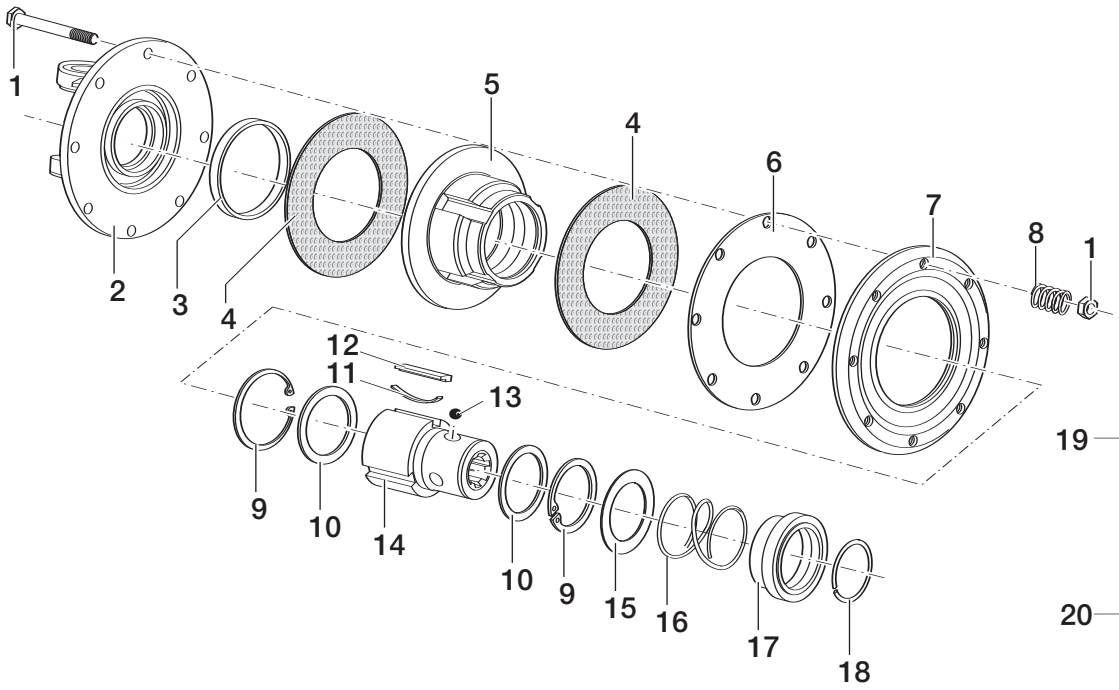
Die Kupplungen können sehr hohe Temperaturen erreichen.
Nicht berühren!
Um Brandrisiken zu vermeiden, brennbares Material von der Kupplung fernhalten und längere Rutschphasen vermeiden.



FRIZIONE A DISCHI MULTIPLI CON RUOTA LIBERA
DISC CLUTCH TORQUE LIMITER WITH OVERRUNNING CLUTCH
LIMITEUR A DISQUE DE FRICTION AVEC ROUE LIBRE
REIBSCHEIBENKUPPLUNG MIT FREILAUF

RF RF

- RF2/RF3 -



Pos.	(IT)	(GB)	(FR)	(DE)	Cod.	Qty *
1	Bullone M10x85+dado	*Bolt M10x85+ nut*	Boulon M10x85+ écrou	*Bolzen M10x85 + Mutter*	**165.000.549**	8
2	Forcella flangia RF (tipo 40)	*Flanged yoke RF (type 40)*	Mâchoire à bride RF (type 40)	*Flanschgabel RF (Typ 40)*	**141.024.353**	1
	Forcella flangia RF (tipo 50)	*Flanged yoke RF (type 50)*	Mâchoire à bride RF (type 50)	*Flanschgabel RF (Typ 50)*	**141.025.326**	1
3	Bronzina	*Bush*	Coussinet	*Buchse*	**180.017.112**	1
4	Disco attrito ø152xø102	*Lining ring ø152xø102*	Disque de friction ø152xø102	*Reibscheibe ø152xø102*	**180.017.106**	2
5	Corpo	*Torque limiter support*	Boîtier	*Gehäuse*	**141.025.330**	1
6	Disco intermedio	*Inner plate*	Disque intermédiaire	*Zwischenscheibe*	**180.017.105**	1
7	Disco stringifrizione	*Pressure plate*	Disque de compression	*Druckscheibe*	**180.017.114**	1
8	Molla ø 6	*Spring ø 6*	Ressort ø6	*Feder ø6*	**180.014.022**	8
9	Seeger	*Circlip*	Jonc	*Sicherungsring*	**190.000.183**	2
10	Anello di rasamento	*Retaining washer ring*	Epaisseur d'ajustement	*Ausgleichring*	**180.014.135**	2
11	Molla a balestra	*Leaf spring*	Ressort à lames superposées	*Blattfeder*	**180.014.137**	3
12	Linguetta	*Ratchet*	Languette	*Federkeil*	**151.014.136**	3
13	Sfera 1/2"	*Ball 1/2"*	Bille 1/2"	*Kugel 1/2"*	**190.000.078**	3
14	Mozzo R12	*Hub R12*	Moyeu R12	*Nabe R12*	**151.016.546**	1
	Mozzo R13	*Hub R13*	Moyeu R13	*Nabe R13*	**151.016.571**	1
15	Lamierino	*Spring push ring*	Bague	*Federring*	**180.015.143**	1
16	Molla collar	*Collar spring*	Ressort hélicoïdal	*Collarfeder*	**180.016.487**	1
17	Manicotto collar	*Sliding sleeve collar*	Manchon hélicoïdal	*Collarmuffe*	**151.016.486**	1
18	Seeger	*Snap ring*	Jonc	*Sicherungsring*	**190.000.451**	1
19	Kit RF	*Kit RF*	Kit RF	*Satz RF*	**165.000.741**	1
20	Kit collar R12-R13	*Kit collar R12-R13*	Kit collets R12-R13	*Collarsatz R12-R13*	**165.000.653**	1

(IT) * Quantità presente nel dispositivo

(GB) * *Quantity in the Safety Device*

(FR) * Quantité présente dans le dispositif

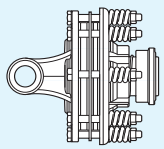
(DE) * *In der Vorrichtung vorhandene Menge*

FRIZIONE A DISCHI MULTIPLI CON RUOTA LIBERA

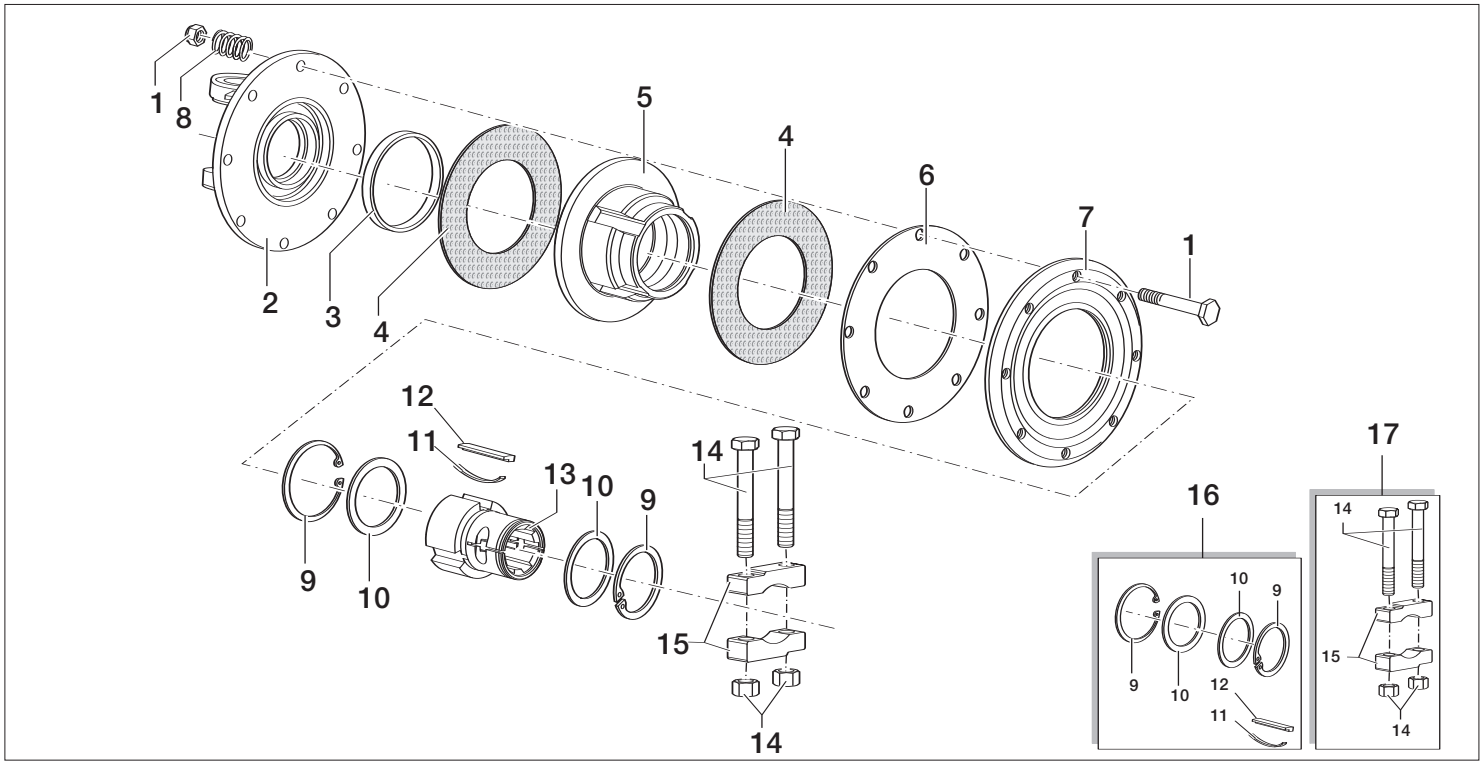
RF *DISC CLUTCH TORQUE LIMITER WITH OVERRUNNING CLUTCH* **RF**

LIMITEUR A DISQUE DE FRICTION AVEC ROUE LIBRE

REIBSCHEIBENKUPPLUNG MIT FREILAUF



- RF4/RF5 -



Pos.	(IT)	(GB)	(FR)	(DE)	Cod.	Qty*
1	Bullone M10x85+dado	*Bolt M10x85+ nut*	Boulon M10x85+ écrou	*Bolzen M10x85 + Mutter*	**165.000.549**	8
2	Forcella flangia RF (tipo 40)	*Flanged yoke RF (type 40)*	Mâchoire à bride RF (type 40)	*Flanschgabel RF (Typ 40)*	**141.024.353**	1
	Forcella flangia RF (tipo 50)	*Flanged yoke RF (type 50)*	Mâchoire à bride RF (type 50)	*Flanschgabel RF (Typ 50)*	**141.025.326**	1
3	Bronzina	*Bush*	Coussinet	*Buchse*	**180.017.112**	1
4	Disco attrito ø152xø102	*Lining ring ø152xø102*	Disque de friction ø152xø102	*Reibscheibe ø152xø102*	**180.017.106**	2
5	Corpo	*Torque limiter support*	Boîtier	*Gehäuse*	**141.025.330**	1
6	Disco intermedio	*Inner plate*	Disque intermédiaire	*Zwischenscheibe*	**180.017.105**	1
7	Disco stringifrizione	*Pressure plate*	Disque de compression	*Druckscheibe*	**180.017.114**	1
8	Molla ø6	*Spring ø6*	Ressort ø6	*Feder ø6*	**180.014.022**	8
9	Seeger	*Circlip*	Jonc	*Sicherungsring*	**190.000.183**	2
10	Anello di rasamento	*Retaining washer ring*	Epaisseur d'ajustement	*Ausgleichring*	**180.014.135**	2
11	Molla a balestra	*Leaf spring*	Ressort à lames superposées	*Blattfeder*	**180.014.137**	3
12	Linguetta	*Ratchet*	Languette	*Federkeil*	**151.014.136**	3
13	Mozzo R14	*Hub R14*	Moyeu R14	*Nabe R14*	**151.014.200**	1
	Mozzo R15	*Hub R15*	Moyeu R15	*Nabe R15*	**151.018.121**	1
14	Vite M14x1,5x100+dado	*Bolt M14x1,5x100+nut*	Vis M14x1,5x100+ écrou	*Schraube M14x1,5x100+Mutter*	**165.000.622**	2
15	Ponte di blocco	*Clamp lock*	Pontet de blocage	*Klemmbrücke*	**151.014.201**	2
16	Kit RF	*Kit RF*	Kit RF	*Satz RF*	**165.000.741**	1
17	Kit ponti blocco 1 3/4"	*Clamp lock set 1 3/4"*	Kit pontets de blocage 1 3/4"	*Klemmbrückensatz 1 3/4"*	**165.000.692**	1

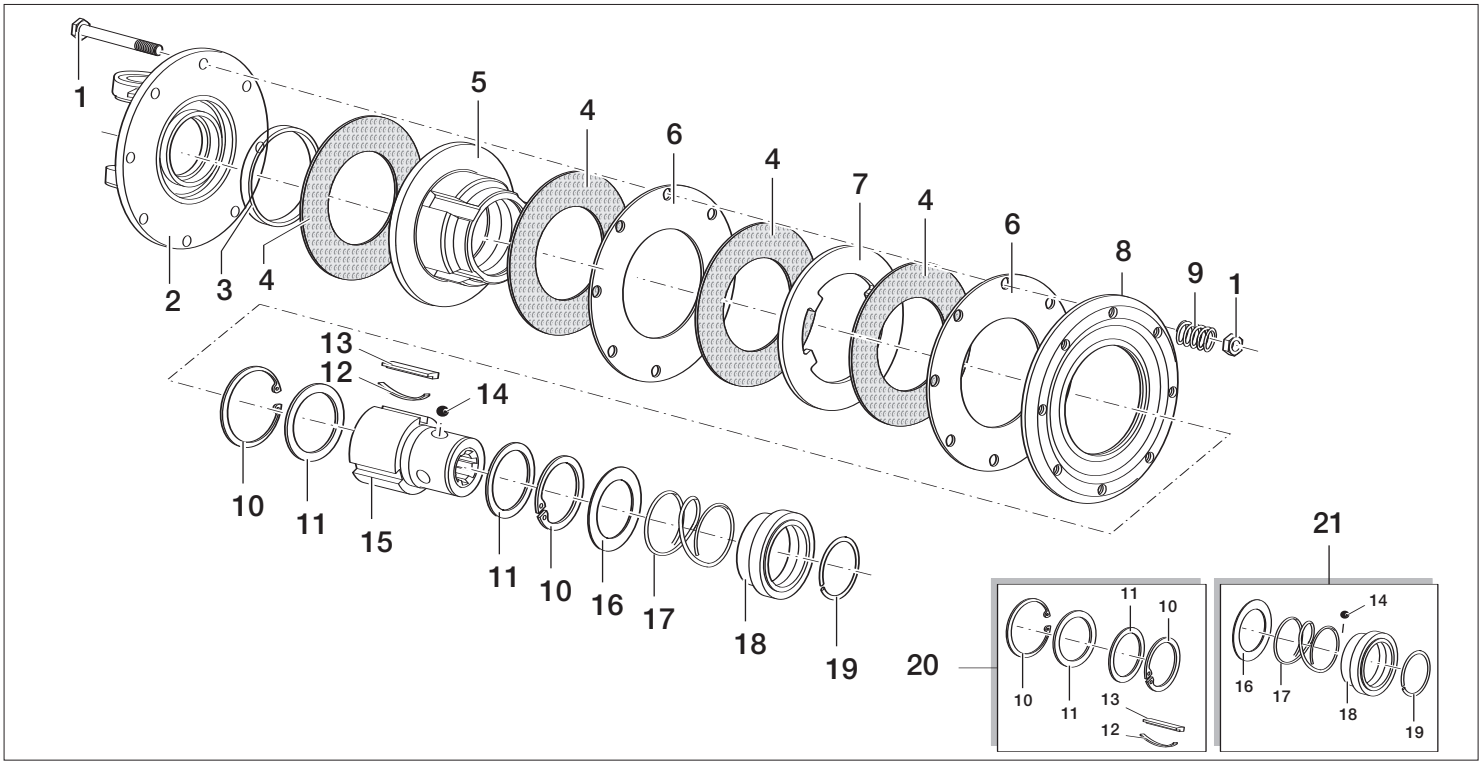
(IT) * Quantità presente nel dispositivo

(GB) * *Quantity in the Safety Device*

(FR) * Quantité présente dans le dispositif

(DE) * *In der Vorrichtung vorhandene Menge*

- RF6/RF7 -



Pos.	IT	GB	FR	DE	Cod.	Qty *
1	Bullone M10x100+dado	*Bolt M10x100+ nut*	Boulon M10x100+ écrou	*Bolzen M10x100 + Mutter*	**165.000.548**	8
2	Forcella flangia RF (tipo 50)	*Flanged yoke RF (type 50)*	Mâchoire à bride RF (type 50)	*Flanschgabel RF (Typ 50)*	**141.025.326**	1
	Forcella flangia RF (tipo 60)	*Flanged yoke RF (type 60)*	Mâchoire à bride RF (type 60)	*Flanschgabel RF (Typ 60)*	**141.026.347**	1
	Forcella flangia RF (tipo 80)	*Flanged yoke RF (type 80)*	Mâchoire à bride RF (type 80)	*Flanschgabel RF (Typ 80)*	**141.028.220**	1
	Forcella flangia RF (tipo 90)	*Flanged yoke RF (type 90)*	Mâchoire à bride RF (type 90)	*Flanschgabel RF (Typ 90)*	**141.029.159**	1
3	Bronzina	*Bush*	Coussinet	*Buchse*	**180.017.112**	1
4	Disco attrito ø152xø102	*Lining ring ø152xø102*	Disque de friction ø152xø102	*Reibscheibe ø152xø102*	**180.017.106**	4
5	Corpo	*Torque limiter support*	Boîtier	*Gehäuse*	**141.027.107**	1
6	Disco intermedio	*Inner plate*	Disque intermédiaire	*Zwischenscheibe*	**180.017.105**	2
7	Disco sagomato	*Intermediate plate*	Disque profilé	*Profilscheibe*	**180.017.104**	1
8	Disco stringifrizione	*Pressure plate*	Disque de compression	*Druckscheibe*	**180.017.114**	1
9	Molla ø 6	*Spring ø 6*	Ressort ø6	*Feder ø6*	**180.014.022**	8
10	Seeger	*Circlip*	Jonc	*Sicherungsring*	**190.000.183**	2
11	Anello di rasamento	*Retaining washer ring*	Epaisseur d'ajustement	*Ausgleichring*	**180.014.135**	2
12	Molla a balestra	*Leaf spring*	Ressort à lames superposées	*Blattfeder*	**180.014.137**	3
13	Linguetta	*Ratchet*	Languette	*Federkeil*	**151.014.136**	3
14	Sfera 1/2"	*Ball 1/2"*	Bille 1/2"	*Kugel 1/2"*	**190.000.078**	3
15	Mozzo R12	*Hub R12*	Moyeu R12	*Nabe R12*	**151.016.546**	1
	Mozzo R13	*Hub R13*	Moyeu R13	*Nabe R13*	**151.016.571**	1
16	Lamierino	*Spring push ring*	Bague	*Federring*	**180.015.143**	1
17	Molla collar	*Collar spring*	Ressort hélicoïdal	*Collarfeder*	**180.016.487**	1
18	Manicotto collar	*Sliding sleeve collar*	Manchon hélicoïdal	*Collarmuffe*	**151.016.486**	1
19	Seeger	*Snap ring*	Jonc	*Sicherungsring*	**190.000.451**	1
20	Kit RF	*Kit RF*	Kit RF	*Satz RF*	**165.000.741**	1
21	Kit collar R12-R13	*Kit collar R12-R13*	Kit collets R12-R	*Collarsatz R12-R13*	**165.000.653**	1

IT * Quantità presente nel dispositivo

GB * *Quantity in the Safety Device*

FR * Quantité présente dans le dispositif

DE * *In der Vorrichtung vorhandene Menge*

FRIZIONE A DISCHI MULTIPLI CON RUOTA LIBERA

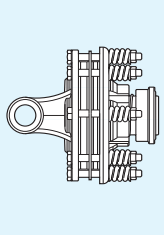
RF

DISC CLUTCH TORQUE LIMITER WITH OVERRUNNING CLUTCH

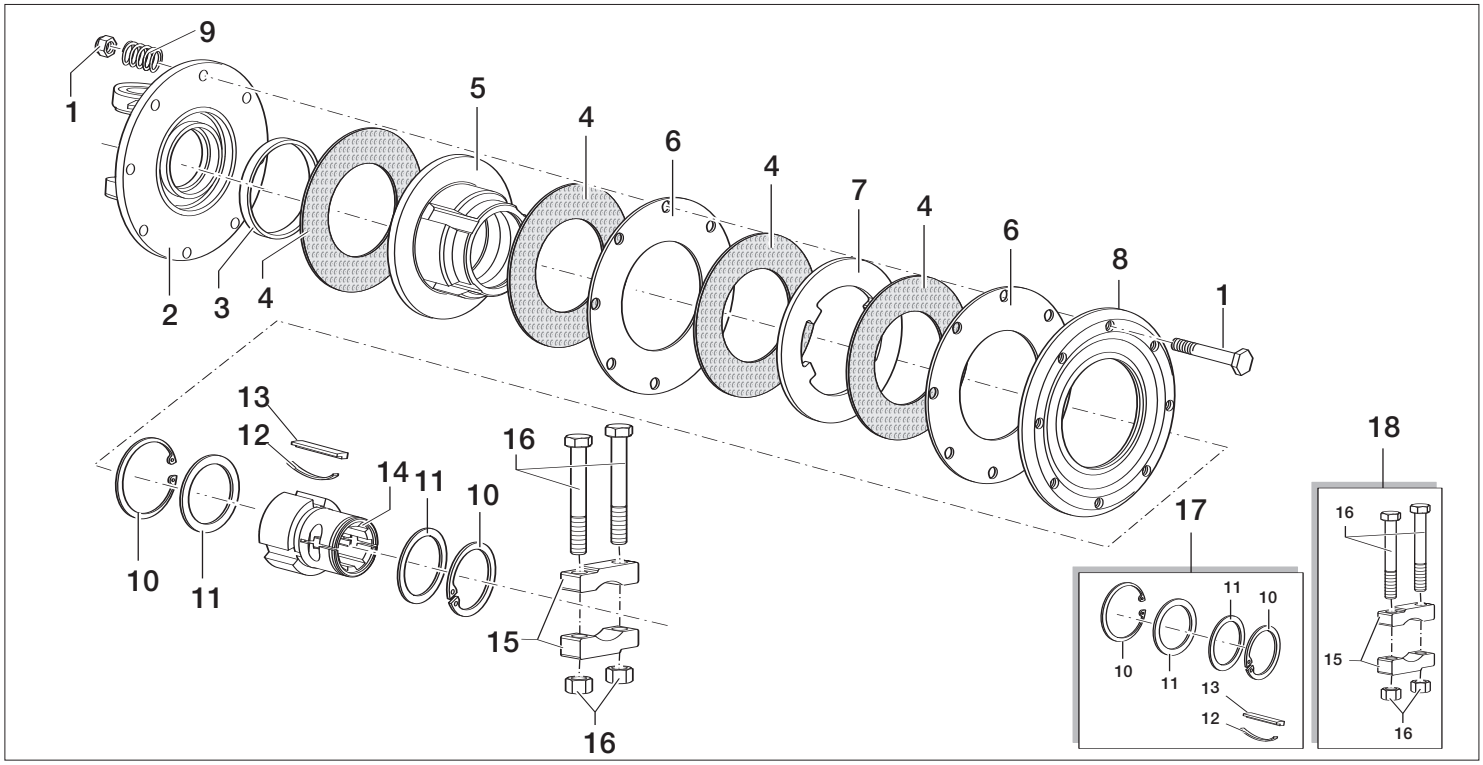
LIMITEUR A DISQUE DE FRICTION AVEC ROUE LIBRE

REIBSCHEIBENKUPPLUNG MIT FREILAUF

RF



- RF8/RF9 -



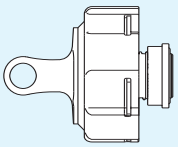
Pos.	IT	GB	FR	DE	Cod.	Qty *
1	Bullone M10x100+dado	*Bolt M10x100+nut*	Boulon M10x100+ écrou	*Bolzen M10x100 + Mutter*	**165.000.548**	8
2	Forcella flangia RF (tipo 50)	*Flanged yoke RF (type 50)*	Mâchoire à bride RF (type 50)	*Flanschgabel RF (Typ 50)*	**141.025.326**	1
	Forcella flangia RF (tipo 60)	*Flanged yoke RF (type 60)*	Mâchoire à bride RF (type 60)	*Flanschgabel RF (Typ 60)*	**141.026.347**	1
	Forcella flangia RF (tipo 80)	*Flanged yoke RF (type 80)*	Mâchoire à bride RF (type 80)	*Flanschgabel RF (Typ 80)*	**141.028.220**	1
	Forcella flangia RF (tipo 90)	*Flanged yoke RF (type 90)*	Mâchoire à bride RF (type 90)	*Flanschgabel RF (Typ 90)*	**141.029.159**	1
3	Bronzina	*Bush*	Coussinet	*Buchse*	**180.017.112**	1
4	Disco attrito ø152 x ø102	*Lining ring ø152 x ø102*	Disque de friction ø152xø102	*Reibscheibe ø152xø102*	**180.017.106**	4
5	Corpo	*Torque limiter support*	Boîtier	*Gehäuse*	**141.027.107**	1
6	Disco intermedio	*Inner plate*	Disque intermédiaire	*Zwischenscheibe*	**180.017.105**	2
7	Disco sagomato	*Intermediate plate*	Disque profilé	*Profilscheibe*	**180.017.104**	1
8	Disco stringifrizione	*Pressure plate*	Disque de compression	*Druckscheibe*	**180.017.114**	1
9	Molla ø 6	*Spring ø 6*	Ressort ø6	*Feder ø6*	**180.014.022**	8
10	Seeger	*Circlip*	Jonc	*Sicherungsring*	**190.000.183**	2
11	Anello di rasamento	*Retaining washer ring*	Epaisseur d'ajustement	*Ausgleichring*	**180.014.135**	2
12	Molla a balestra	*Leaf spring*	Ressort à lames superposées	*Blattfeder*	**180.014.137**	3
13	Linguetta	*Ratchet*	Languette	*Federkeil*	**151.014.136**	3
14	Mozzo R14	*Hub R14*	Moyeu R14	*Nabe R14*	**151.014.200**	1
	Mozzo R15	*Hub R 15*	Moyeu R15	*Nabe R15*	**151.018.121**	1
15	Ponte di blocco	*Clamp lock*	Pontet de blocage	*Klemmbrücke*	**151.014.201**	2
16	Vite M14x1,5x100+dado	*Bolt M14x1,5x100+nut*	Vis M14x1,5x100+ écrou	*Schraube M14x1,5x100+Mutter*	**165.000.622**	2
17	Kit RF	*Kit RF*	Kit RF	*Satz RF*	**165.000.741**	1
18	Kit ponti di blocco 1 3/4"	*Clamp lock set 1 3/4"*	Kit pontets de blocage 1 3/4"	*Klemmbrückensatz 1 3/4"*	**165.000.692**	1

IT
* Quantità presente nel dispositivo

GB
* *Quantity in the Safety Device*

FR
* Quantité présente dans le dispositif

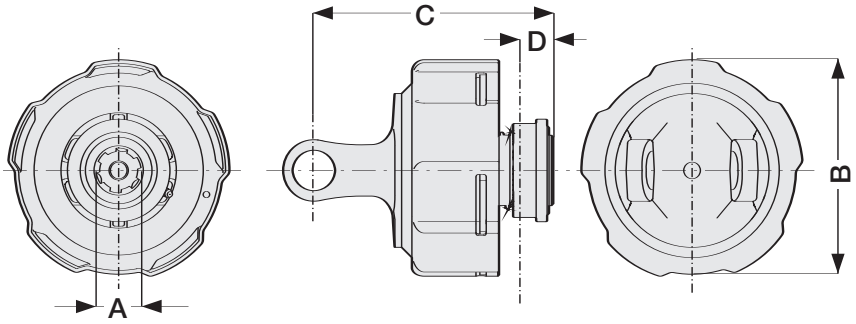
DE
* *In der Vorrichtung vorhandene Menge*



RW

FRIZIONE CHIUSA CON RUOTA LIBERA
CLOSED DISC CLUTCH TORQUE LIMITER WITH OVERRUNNING CLUTCH
LIMITEUR A DISQUE DE FRICTION FERME AVEC ROUE LIBRE
REIBSCHEIBENKUPPLING MIR FREILAUF IN GESCHLOSSENER AUSFÜHRUN

RW



Type	Ref.	A	B mm	B inch	C mm	C inch	D mm	D inch	MAX Nm	MAX in.lb	
20	RW2	1 3/8" z6	ø173	6 13/16"	149	5 7/8"	26	1 1/32"	600	5,300	**148.422.001**
	RW3	1 3/8" z21	ø173	6 13/16"	149	5 7/8"	26	1 1/32"	600	5,300	**148.422.002**
40	RW2	1 3/8" z6	ø173	6 13/16"	161	6 3/8"	26	1 1/32"	600	5,300	**148.442.001**
	RW3	1 3/8" z21	ø173	6 13/16"	161	6 3/8"	26	1 1/32"	600	5,300	**148.442.002**
	RW2	1 3/8" z6	ø173	6 13/16"	161	6 3/8"	26	1 1/32"	750	6,630	**148.442.003**
	RW3	1 3/8" z21	ø173	6 13/16"	161	6 3/8"	26	1 1/32"	750	6,630	**148.442.004**
	RW2	1 3/8" z6	ø173	6 13/16"	161	6 3/8"	26	1 1/32"	900	7,950	**148.442.005**
	RW3	1 3/8" z21	ø173	6 13/16"	161	6 3/8"	26	1 1/32"	900	7,950	**148.442.006**
50	RW2	1 3/8" z6	ø173	6 13/16"	179,5	7 3/32"	26	1 1/32"	900	7,950	**148.452.001**
	RW3	1 3/8" z21	ø173	6 13/16"	179,5	7 3/32"	26	1 1/32"	900	7,950	**148.452.002**
	RW6	1 3/8" z6	ø173	6 13/16"	179,5	7 3/32"	26	1 1/32"	1200	10,600	**148.454.001**
	RW7	1 3/8" z21	ø173	6 13/16"	179,5	7 3/32"	26	1 1/32"	1200	10,600	**148.454.002**
60	RW2	1 3/8" z6	ø173	6 13/16"	186,5	7 23/64"	26	1 1/32"	900	7,950	**148.462.001**
	RW3	1 3/8" z21	ø173	6 13/16"	186,5	7 23/64"	26	1 1/32"	900	7,950	**148.462.002**
	RW6	1 3/8" z6	ø173	6 13/16"	186,5	7 23/64"	26	1 1/32"	1200	10,600	**148.464.002**
	RW7	1 3/8" z21	ø173	6 13/16"	186,5	7 23/64"	26	1 1/32"	1200	10,600	**148.464.005**
	RW6	1 3/8" z6	ø173	6 13/16"	186,5	7 23/64"	26	1 1/32"	1500	13,250	**148.464.001**
	RW7	1 3/8" z21	ø173	6 13/16"	186,5	7 23/64"	26	1 1/32"	1500	13,250	**148.464.004**
80	RW6	1 3/8" z6	ø173	6 13/16"	189,5	7 31/64"	26	1 1/32"	1200	10,600	**148.484.001**
	RW7	1 3/8" z21	ø173	6 13/16"	189,5	7 31/64"	26	1 1/32"	1200	10,600	**148.484.002**
	RW6	1 3/8" z6	ø173	6 13/16"	189,5	7 31/64"	26	1 1/32"	1500	13,250	**148.484.003**
	RW7	1 3/8" z21	ø173	6 13/16"	189,5	7 31/64"	26	1 1/32"	1500	13,250	**148.484.004**
	RW6	1 3/8" z6	ø173	6 13/16"	189,5	7 31/64"	26	1 1/32"	1800	15,900	**148.484.005**
	RW7	1 3/8" z21	ø173	6 13/16"	189,5	7 31/64"	26	1 1/32"	1800	15,900	**148.484.006**

(IT) Fornibile a richiesta con senso di rotazione antiorario

(GB) *Available upon request for anti-clockwise direction of rotation*

(FR) Rotation gauche disponible en option

(DE) *Auf Wunsch mit Drehung im Gegenuhrzeigersinn lieferbar*

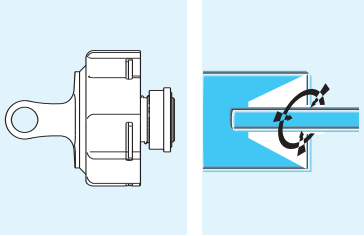
FRIZIONE CHIUSA CON RUOTA LIBERA

CLOSED DISC CLUTCH TORQUE LIMITER WITH OVERRUNNING CLUTCH

LIMITEUR A DISQUE DE FRICTION FERME AVEC ROUE LIBRE

REIBSCHEIBENKUPPLING MIR FREILAUF IN GESCHLOSSENER AUSFÜHRUN

RW **RW**



IT

Il dispositivo comprende un limitatore di coppia a dischi d'attrito (frizione) e una ruota libera integrati. La funzionalità assomma quelle dei singoli dispositivi con il vantaggio di risparmiare spazio e di consentire il montaggio sullo stesso lato del cardano. Il dispositivo è utile come organo di sicurezza contro picchi di carico e in macchine con grosse masse rotanti, sia durante l'avviamento che durante l'arresto, evitando inutili sollecitazioni della PTO del trattore. Questo tipo di frizione risulta avere la taratura non modificabile ed inoltre l'utilizzo di speciali molle a tazza in luogo delle più comuni molle elicoidali rende costante la taratura nonostante il progressivo consumo dei dischi d'attrito.

GB

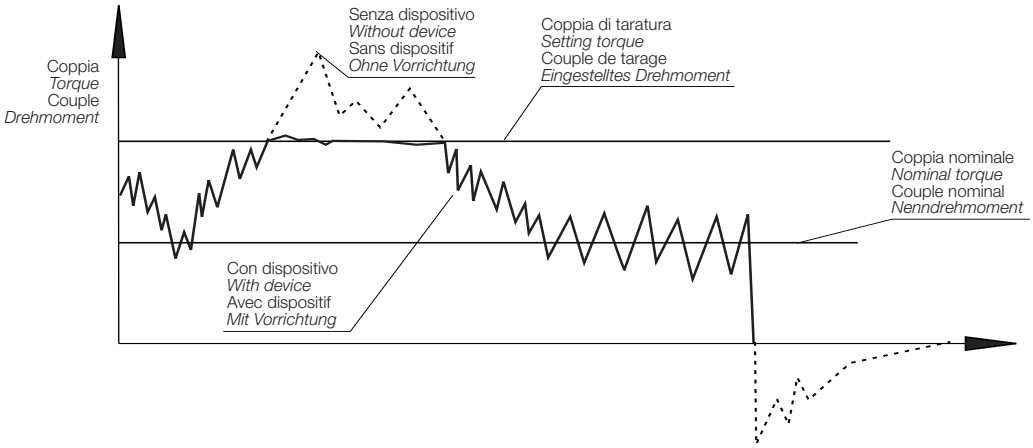
The device includes a disc clutch torque limiter and an incorporated overrunning clutch. The device combines the functions of the single devices thus reducing space and allowing it to be mounted on the same side of the cardan. It is useful as a safety device to protect against load peaks and in implements with large rotating mass during start-up and stopping operations, thus avoiding unnecessary stress on the tractor PTO. The torque setting of this clutch is not adjustable and the use of special Belleville springs instead of the helical springs ensures a stable torque setting compensating for the natural wear of the friction linings.

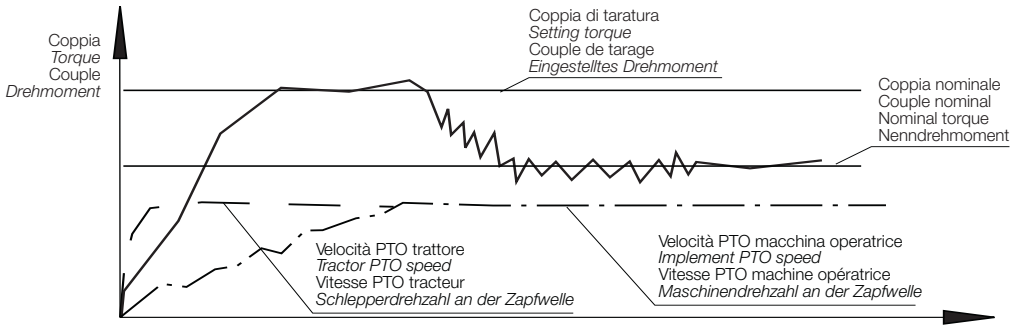
FR

Le dispositif est constitué d'un limiteur à disque de friction et d'une roue libre intégré. Le dispositif a une double utilité correspondant aux fonctions respectives des deux éléments dont il est constitué. Il offre en outre l'avantage d'être peu encombrant et de permettre le montage des deux éléments dont il est constitué du même côté de l'arbre à cardans. Il est d'une grande utilité comme dispositif de sécurité contre les pics de charge ainsi que sur les machines caractérisées par une grande inertie de rotation, aussi bien au démarrage qu'à l'arrêt, ce qui permet d'éviter que la prise de force du tracteur ne subisse d'inutiles sollicitations. Le tarage de ce type de limiteur ne peut pas être modifié. L'utilisation de ressorts Belleville à la place des ressorts hélicoïdaux rend le tarage constant malgré l'usure progressive des disques de friction.

DE

Die Vorrichtung besteht aus einem Drehmomentbegrenzer mit Reibscheiben und aus einem integrierten Freilauf. Die Vorrichtung vereint in sich die Funktionen der verschiedenen einzelnen Vorrichtungen, mit dem Vorteil eines geringeren Raumbedarfs und der Montage an derselben Seite der Gelenkwelle. Sie ist nützlich sowohl als Schutz gegen Belastungsspitzen als auch bei Maschinen mit großer Rotationsträgheit, sowohl beim Anlassen als auch bein Anhalten, da sie unnötige Belastungen der Zapfwelle des Schleppers verhindert. Die Eichung dieser Kupplung kann nicht verändert werden und außerdem wird durch die Verwendung von speziellen Tellerfedern anstatt der normalen Schraubenfedern dafür gesorgt, dass die Eichung trotz der fortschreitenden Abnutzung der Reibscheiben konstant bleibt.





IT

Le frizioni possono raggiungere elevate temperature.
Non toccare!
Per evitare rischi di incendio, mantenere la zona adiacente la frizione pulita da materiale infiammabile ed evitare slittamenti prolungati.

GB

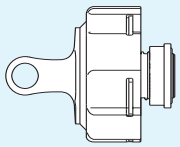
Friction clutches may become hot during use.
Do not touch!
Keep the area around the friction clutch clear of any material which could catch fire and avoid prolonged slipping.

FR

Le limiteur peut atteindre des températures élevées.
Ne pas toucher !
Pour prévenir tout risque d'incendie, la zone près du limiteur doit toujours être propre sans matériau inflammable. Il faudra aussi éviter les patinages prolongés.

DE

Die Kupplungen können sehr hohe Temperaturen erreichen.
Nicht berühren!
Um Brandrisiken zu vermeiden, brennbares Material von der Kupplung fernhalten und längere Rutschphasen vermeiden.



FRIZIONE CHIUSA CON RUOTA LIBERA

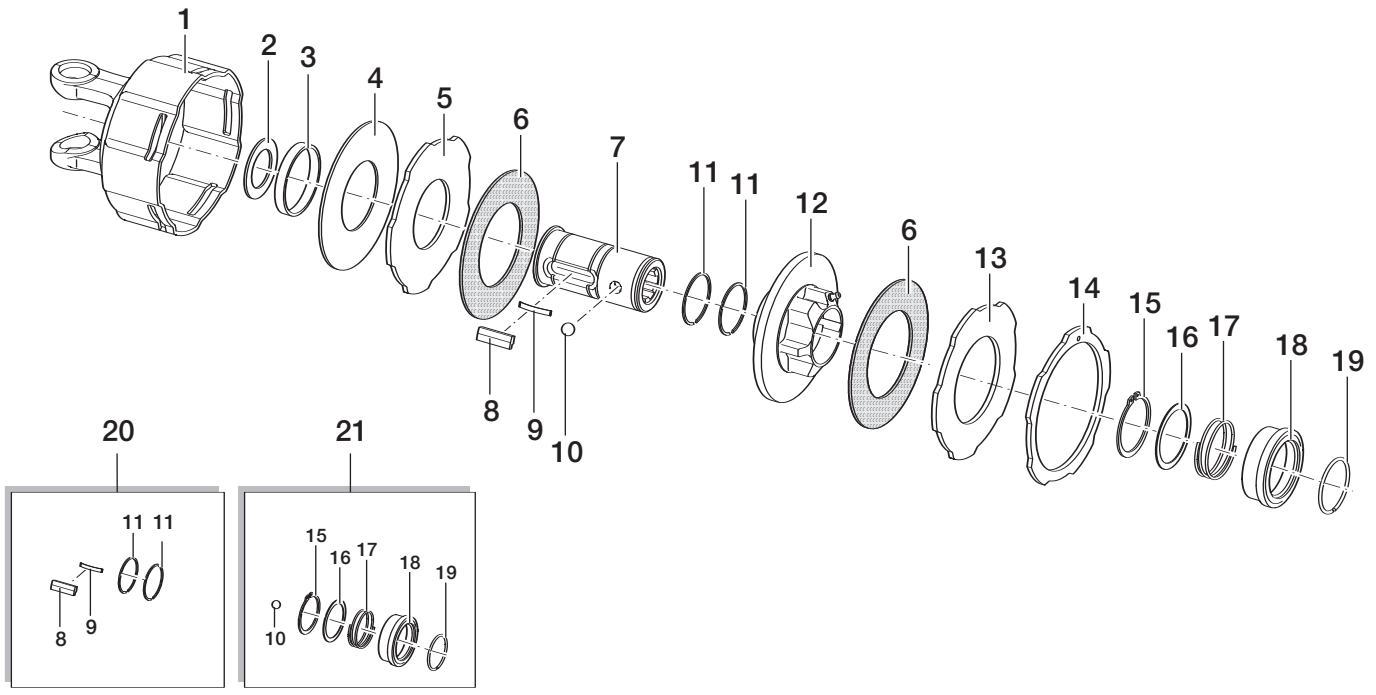
CLOSED DISC CLUTCH TORQUE LIMITER WITH OVERRUNNING CLUTCH

LIMITEUR A DISQUE DE FRICTION FERME AVEC ROUE LIBRE

REIBSCHEIBENKUPPLING MIR FREILAUF IN GESCHLOSSENER AUSFÜHRUN

RW RW

- RW2/RW3 -



Pos.	(IT)	(GB)	(FR)	(DE)	Cod.	Qty *
1	Forcella corpo (tipo 20)	*Yoke support (type 20)*	Mâchoire boîtier (type 20)	*Gehäusegabel (Typ 20)*	**141.022.415**	1
	Forcella corpo (tipo 40)	*Yoke support (type 40)*	Mâchoire boîtier (type 40)	*Gehäusegabel (Typ 40)*	**141.024.591**	1
	Forcella corpo (tipo 50)	*Yoke support (type 50)*	Mâchoire boîtier (type 50)	*Gehäusegabel (Typ 50)*	**141.025.403**	1
	Forcella corpo (tipo 60)	*Yoke support (type 60)*	Mâchoire boîtier (type 60)	*Gehäusegabel (Typ 60)*	**141.026.725**	1
2	Distanziale	*Retaining washer*	Entretoise	*Abstandring*	**10.285.7525.00**	1
3	Bronzina RW	*Bush RW*	Coussinet	*Buchse*	**180.013.429**	1
4	Molla a tazza (600Nm)	*Belleville spring (600 Nm)*	Ressort Belleville (600 Nm)	*Tellerfeder (600 Nm)*	**190.000.594**	1
	Molla a tazza (750Nm)	*Belleville spring (750 Nm)*	Ressort Belleville (750 Nm)	*Tellerfeder (750 Nm)*	**190.000.594**	1
	Molla a tazza (900Nm)	*Belleville spring (900 Nm)*	Ressort Belleville (900 Nm)	*Tellerfeder (900 Nm)*	**190.000.607**	1
5	Disco stringifrizione(600Nm)	*Pressure plate W (600 Nm)*	Disque de compression W (600 Nm)	*Druckscheibe W (600 Nm)*	**180.013.434**	1
	Disco stringifrizione(750Nm)	*Pressure plate W (750 Nm)*	Disque de compression W (750 Nm)	*Druckscheibe W (750 Nm)*	**180.013.433**	1
	Disco stringifrizione(900Nm)	*Pressure plate W (900 Nm)*	Disque de compression W (900 Nm)	*Druckscheibe W (900 Nm)*	**180.013.440**	1
6	Dischi attrito ø152 x ø90	*Lining ring ø152 x ø90*	Disques de friction ø152xø90	*Reibscheiben ø152xø90*	**180.019.018**	2
7	Mozzo RW2 - RW6	*Hub RW2 -RW6*	Moyeu RW2 -RW6	*Nabe RW2-RW6*	**151.013.430**	1
	Mozzo RW3 - RW7	*Hub RW3-RW7*	Moyeu RW3-RW7	*Nabe RW3-RW7*	**151.013.457**	1
8	Linguetta	*Ratchet*	Languette	*Federkeil*	**151.014.136**	2
9	Molla a balestra	*Leaf spring*	Ressort à lames superposées	*Blattfeder*	**180.014.137**	2
10	Sfere 1/2"	*Ball 1/2"*	Billes 1/2"	*Kugeln 1/2"*	**190.000.078**	3
11	Anello elastico SW52	*Snap ring SW52*	Jonc SW25	*Sicherungsring SW25*	**190.000.702**	2
12	Corpo RW	*Body RW*	Boîtier RW	*Gehäuse RW*	**141.023.431**	1
13	Disco di reazione	*Reaction ring*	Disque de réaction	*Gegenscheibe*	**180.013.410**	1
14	Disco di arresto	*Stop ring*	Disque d'arrêt	*Halteschelbe*	**180.017.276**	1
15	Seeger UNI 7435-55	*Seeger UNI 7433-A-55*	Snap ring Jonc UNI 7433-A-55	*Sicherungsring UNI 7433-A-55*	**190.000.488**	1
16	Distanziale	*Retaining washer*	Entretoise	*Abstandring*	**190.000.489**	1
17	Molla collar	*Collar spring*	Ressort hélicoïdal	*Collarfeder*	**180.016.487**	1
18	Manicotto scorrevole	*Sliding sleeve collar*	Manchon hélicoïdal	*Collarmuffe*	**151.016.486**	1
19	Seeger UNI 7435-55	*Seeger UNI 7433-A-55*	Snap ring Jonc UNI 7433-A-55	*Sicherungsring UNI 7433-A-55*	**190.000.451**	1
20	Kit RW	*Kit RW*	Kit RW	*Kit RW*	**165.000.769**	1
21	Kit collar RW	*Kit collar*	Kit collets	*Collarsatz*	**165.000.768**	1

(IT) * Quantità presente nel dispositivo

(GB) * *Quantity in the Safety Device*

(FR) * Quantité présente dans le dispositif

(DE) * *In der Vorrichtung vorhandene Menge*

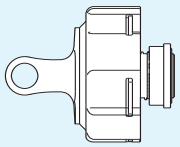
FRIZIONE CHIUSA CON RUOTA LIBERA

CLOSED DISC CLUTCH TORQUE LIMITER WITH OVERRUNNING CLUTCH

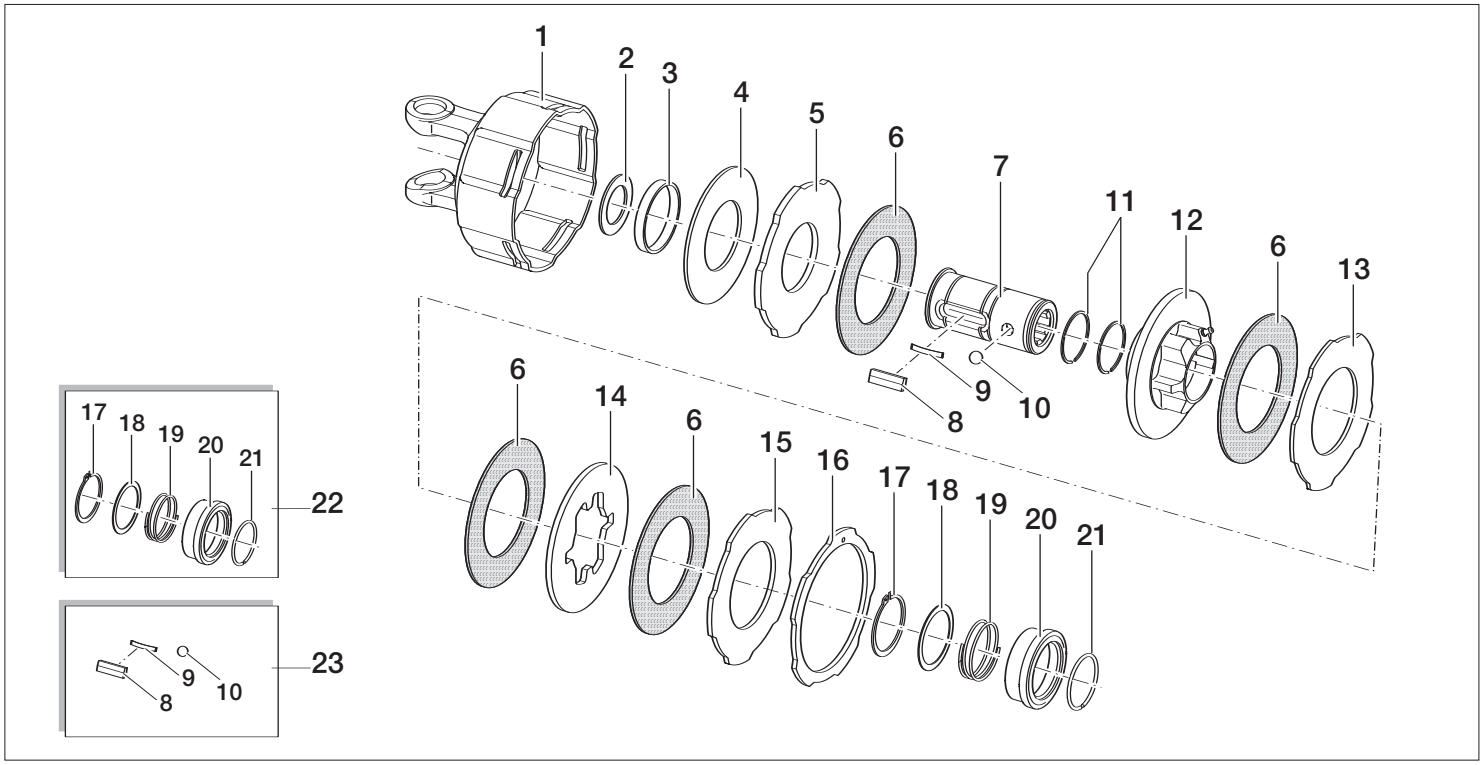
LIMITEUR A DISQUE DE FRICTION FERME AVEC ROUE LIBRE

REIBSCHEIBENKUPPLING MIR FREILAUF IN GESCHLOSSENER AUSFÜHRUN

RW RW



- RW6/RW7 -



Pos.	IT	GB	FR	DE	Cod.	Qty *
1	Forcella corpo (tipo 50)	*Yoke support (type 50)*	Mâchoire boîtier (type 50)	*Gehäusegabel (Typ 50)*	**141.025.394**	1
	Forcella corpo (tipo 60)	*Yoke support (type 60)*	Mâchoire boîtier (type 60)	*Gehäusegabel (Typ 60)*	**141.026.664**	1
	Forcella corpo (tipo 80)	*Yoke support (type 80)*	Mâchoire boîtier (type 80)	*Gehäusegabel (Typ 80)*	**141.028.515**	1
2	Distanziale	*Retaining washer*	Entretoise	*Abstandring*	**10.285.7525.00**	1
3	Bronzina RW	*Bush RW*	Coussinet RW	*Buchse RW*	**180.013.429**	1
4	Molla a tazza (1200 Nm)	*Belleville spring (1200 Nm)*	Ressort Belleville (1200 Nm)	*Tellerfeder (1200 Nm)*	**190.000.594**	1
	Molla a tazza (1500 Nm)	*Belleville spring (1500 Nm)*	Ressort Belleville (1500 Nm)	*Tellerfeder (1500 Nm)*	**190.000.594**	1
	Molla a tazza (1800 Nm)	*Belleville spring (1800 Nm)*	Ressort Belleville (1800 Nm)	*Tellerfeder (1800 Nm)*	**190.000.607**	1
5	Disco stringifrizione (1200 Nm)	*Pressure plate W (1200 Nm)*	Disque de compression W(1200 Nm)	*Druckscheibe W (1200 Nm)*	**180.013.434**	1
	Disco stringifrizione (1500 Nm)	*Pressure plate W (1800 Nm)*	Disque de compression W(1500 Nm)	*Druckscheibe W (1800 Nm)*	**180.013.433**	1
	Disco stringifrizione (1500 Nm)	*Pressure plate W (1800 Nm)*	Disque de compression W(1500 Nm)	*Druckscheibe W (1800 Nm)*	**180.013.440**	1
6	Disco attrito ø152 x ø90	*Lining ring ø152 x ø90*	Disques de friction ø152xø90	*Reibscheiben ø152xø90*	**180.019.018**	4
7	Mozzo RW2-RW6	*Hub RW2 -RW6*	Moyeu RW2 -RW6	*Nabe RW2-RW6*	**151.013.430**	1
	Mozzo RW3-RW7	*Hub RW3-RW7*	Moyeu RW3-RW7	*Nabe RW3-RW7*	**151.013.457**	1
8	Linguetta	*Ratchet*	Languette	*Federkeil*	**151.014.136**	2
9	Molla a balestra	*Leaf spring*	Ressort à lames superposées	*Blattfeder*	**180.014.137**	2
10	Sfere 1/2"	Ball 1/2"	Billes 1/2"	*Kugeln 1/2"*	**190.000.078**	3
11	Anello elastico SW52	*Snap ring SW52*	Jonc SW25	*Sicherungsring SW25*	**190.000.702**	2
12	Corpo RW	*Body RW*	Boîtier RW	*Gehäuse RW*	**141.023.431**	1
13	Disco intermedio	*Inner plate*	Disque intermédiaire	*Zwischenscheibe*	**180.017.269**	1
14	Disco sagomato	*Intermediate plate*	Disque profilé	*Profilscheibe*	**180.019.115**	1
15	Disco di reazione	*Reaction ring*	Disque de réaction	*Gegenscheibe*	**180.013.410**	1
16	Disco d' arresto	*Stop ring*	Disque d'arrêt	*Halteschеibe*	**180.017.276**	1
17	Seeger UNI 7435-55	*Seeger UNI 7433-A-55*	Snap ring Jonc UNI 7433-A-55	*Sicherungsring UNI 7433-A-55*	**190.000.488**	1
18	Distanziale	*Retaining washer*	Entretoise	*Abstandring*	**190.000.489**	1
19	Molla collar	*Collar spring*	Ressort hélicoïdal	*Collarfeder*	**180.016.487**	1
20	Manicotto collar	*Sliding sleeve collar*	Manchon hélicoïdal	*Collarmuffe*	**151.016.486**	1
21	Seeger UNI 7435-55	Seeger UNI 7433-A-55	Snap ring Jonc UNI 7433-A-55	*Sicherungsring UNI 7433-A-55*	**190.000.451**	1
22	Kit collar RW	Kit collar	Kit collets	*Collarsatz*	**165.000.768**	1
23	Kit RW	*Kit RW*	Kit RW	*Kit RW*	**165.000.769**	1

IT
* Quantità presente nel dispositivo

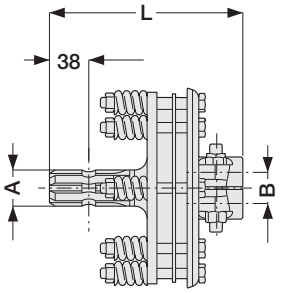
GB
* *Quantity in the Safety Device*

FR
* Quantité présente dans le dispositif

DE
* *In der Vorrichtung vorhandene Menge*

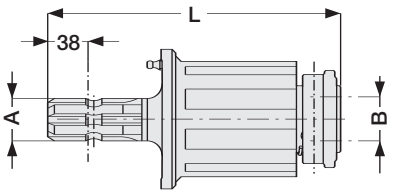
DISPOSITIVI MASCHIO
DEVICES WITH MALE SHAFT
DISPOSITIFS AVEC ARBRE CANNELÉ
SICHERHEITSVORRICHTUNGEN MIT PROFILVELLE

FM



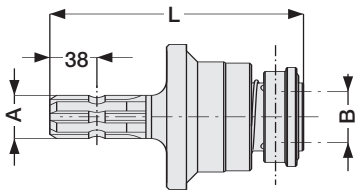
Ref		A	B*	L	Nm	in. lb.	Cod.
FM02	mm	1 3/8" Z6	1 3/8" Z6	183	650	5,700	146.231.003
	inch			7 13/64"			
FM12	mm	1 3/8" Z6	1 3/8" Z6	183	900	7,950	146.241.006
	inch			7 13/64"			
FM22	mm	1 3/8" Z6	1 3/8" Z6	190	1200	10,600	146.252.009
	inch			7 31/64"			
FM42	mm	1 3/8" Z6	1 3/8" Z6	203	2000	17,700	146.264.015
	inch			7 63/64"			

MM



Ref		A	B*	L	Nm	in. lb.	Cod.
MM14	mm	1 3/8" Z6	1 3/8" Z6	152	300	2,650	144.206.011
	inch			5 63/64"			
MM24	mm	1 3/8" Z6	1 3/8" Z6	172	600	5,300	144.206.012
	inch			6 49/64"			
MM34	mm	1 3/8" Z6	1 3/8" Z6	192	900	7,950	144.206.007
	inch			7 9/16"			
MM44	mm	1 3/8" Z6	1 3/8" Z6	212	1200	10,600	144.206.013
	inch			8 11/32"			

RM



Ref		A	B*	L	Nm	in. lb.	Cod.
RM12	mm	1 3/8" Z6	1 3/8" Z6	208	3800	33,630	145.215.015
	inch			8 3/16"			

(IT) * Fornibile a richiesta con altri tipi di caletto

(GB) * *Can be supplied upon request with other types of splined*

(FR) * Disponible en option avec autres alésages cannelés

(DE) * *Auf wunsch mit anderen Profilen verfügbar*

comer industries
driveshafts

SEZIONE 6: Dispositivi di sicurezza flangiati
SECTION 6: Modular safety devices
CHAPITRE 6: Dispositifs de sécurité modulaires
TEIL 6: Modulare Sicherheitsvorrichtungen

Programma di produzione
Production program
Programme de production
Produktpalette 102

BF Limitatore a bullone di trancio
Shear bolt torque limiter
Limiteur à boulon de cisaillement
Scherbolzenkupplung 104

L Limitatore automatico
Automatic torque limiter
Limiteur avec débrayable
Nockenschaltkupplung 106

WF Frizione chiusa a dischi multipli
Closed disc clutch torque limiter
Limiteur à disque de friction fermé
Reibscheibenkupplung in geschlossener Ausführung 108

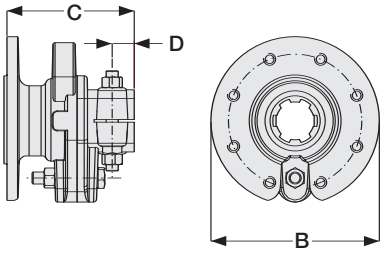
JF Frizione semiaperta a dischi multipli
Half opened disc clutch torque limiter
Limiteur à disque de friction demi-ouverte
Halboffene Reibscheibenkupplung 113

RJF Frizione semiaperta con ruota libera
Half opened disc clutch torque limiter with overrunning clutch
Limiteur à disque de friction demi-ouverte avec roue libre
Halboffene Reibscheibenkupplung mit Freilauf 116

LRF Limitatore automatico con ruota libera
Automatic torque limiter with overrunning clutch
Limiteur débrayable avec roue libre
Nockenschaltkupplung mit Freilauf 120

PROGRAMMA DI PRODUZIONE
PRODUCTION PROGRAM
PROGRAMME DE PRODUCTION
PRODUKTPALETTE

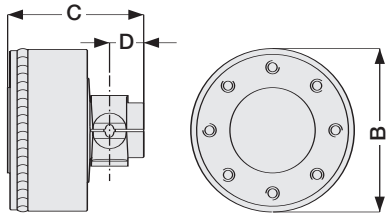
BF



60 80 90 120

Ref		B	C	D	Nm	in. lb.	
B32F B33F	mm	168	127	22	2500	22,100	104
	inch	6 39/64"	5"	7/8"			
B34F B35F	mm	168	127	22	2500	22,100	
	inch	6 39/64"	5"	7/8"			
B32F B33F	mm	168	127	22	3500	30,900	
	inch	6 39/64"	5"	7/8"			
B34F B35F	mm	168	127	22	3500	30,900	
	inch	6 39/64"	5"	7/8"			
B32F B33F	mm	168	127	22	4000	35,400	
	inch	6 39/64"	5"	7/8"			
B34F B35F	mm	168	127	22	4000	35,400	
	inch	6 39/64"	5"	7/8"			
B34F B35F	mm	168	127	22	5000	44,255	
	inch	6 39/64"	5"	7/8"			

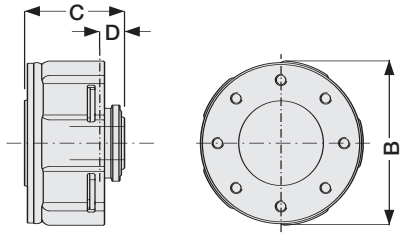
L



60 80 90

Ref		B	C	D	Nm	in. lb.	
L82-L83 L84-L85	mm	168	141	36	2500	22,130	106
	inch	3 39/64"	5 35/64"	1 27/64"			
L82-L83 L84-L85	mm	168	141	36	3500	30,900	
	inch	3 39/64"	5 35/64"	1 27/64"			
L82-L83 L84-L85	mm	168	141	36	4000	35,400	
	inch	3 39/64"	5 35/64"	1 27/64"			

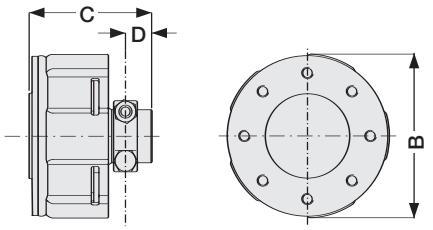
WF W22F-W23F-W42F-W43F



60 80

Ref		B	C	D	Nm	in. lb.	
W22F W23F	mm	173	87	26	900	7,950	108
	inch	6 13/16"	3 27/64"	1 1/32"			
W42F W43F	mm	173	102	26	1100	9,700	
	inch	6 13/16"	4 1/64"	1 1/32"			
W42F W43F	mm	173	102	26	1500	13,250	
	inch	6 13/16"	4 1/64"	1 1/32"			
W42F W43F	mm	173	102	26	1800	15,900	
	inch	6 13/16"	4 1/64"	1 1/32"			

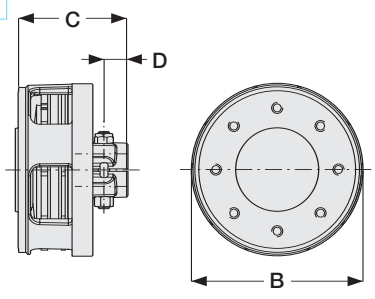
WF W44F - W45F



60 80

Ref		B	C	D	Nm	in. lb.	
W44F W45F	mm	173	125	28	1100	9,700	108
	inch	6 13/16"	4 59/64"	1 7/64"			
W44F W45F	mm	173	125	28	1500	13,250	
	inch	6 13/16"	4 59/64"	1 7/64"			
W44F W45F	mm	173	125	28	1800	15,900	
	inch	6 13/16"	4 59/64"	1 7/64"			

JF



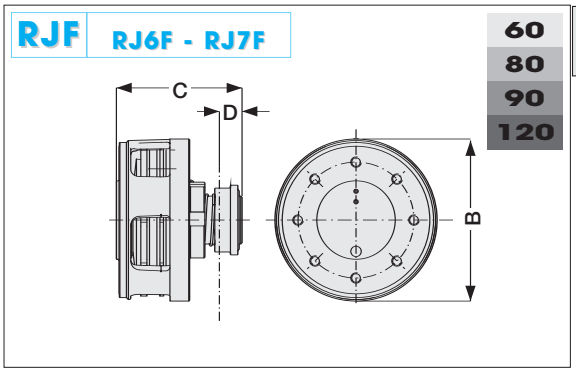
60 80 90 120

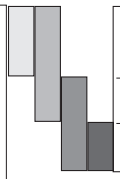
Ref		B	C	D	Nm	in. lb.	
J42F J43F	mm	186	120	26	1600	7,950	113
	inch	7 21/64"	3 27/64"	1 1/32"			
J44F J45F	mm	186	120	26	1600	7,950	
	inch	7 21/64"	3 27/64"	1 1/32"			
J42F J43F	mm	186	120	26	2000	17,700	
	inch	7 21/64"	3 27/64"	1 1/32"			
J44F J45F	mm	186	120	26	2000	17,700	
	inch	7 21/64"	3 27/64"	1 1/32"			
J42F J43F	mm	186	120	26	2400	21,200	
	inch	7 21/64"	3 27/64"	1 1/32"			
J44F J45F	mm	186	120	26	2400	21,200	
	inch	7 21/64"	3 27/64"	1 1/32"			
J44F J45F	mm	186	120	26	3300	29,000	
	inch	7 21/64"	3 27/64"	1 1/32"			

PROGRAMMA DI PRODUZIONE
PRODUCTION PROGRAM
PROGRAMME DE PRODUCTION
PRODUKTPALETTE

RJF RJ6F - RJ7F

60
80
90
120

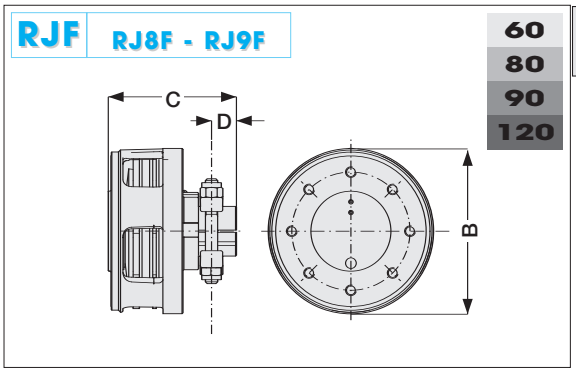


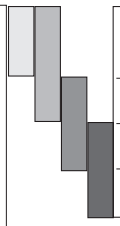


Type	Ref		B	C	D	Nm	in. lb.	
RJ6F RJ7F	mm	186	141	26	1600	7,950	116
	inch	7 21/64"	5 35/64"	1 1/32"			
RJ6F RJ7F	mm	186	141	26	2000	17,700	
	inch	7 21/64"	5 35/64"	1 1/32"			
RJ6F RJ7F	mm	186	141	26	2400	21,200	
	inch	7 21/64"	5 35/64"	1 1/32"			

RJF RJ8F - RJ9F

60
80
90
120

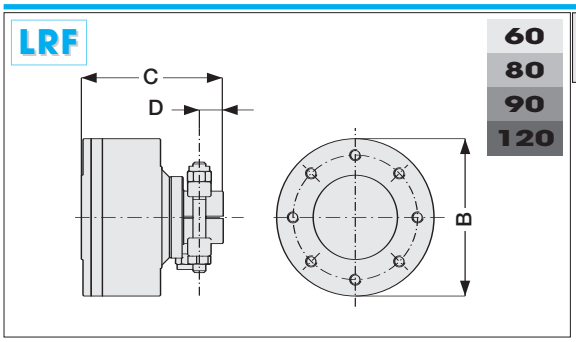


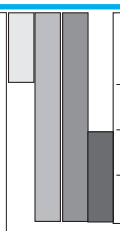


		B	C	D	Nm	in. lb.	
RJ8F RJ9F	mm	186	141	28	1600	7,950	116
	inch	7 21/64"	5 35/64"	1 7/64"			
RJ8F RJ9F	mm	186	141	28	2000	17,700	
	inch	7 21/64"	5 35/64"	1 7/64"			
RJ8F RJ9F	mm	186	141	28	2400	21,200	
	inch	7 21/64"	5 35/64"	1 7/64"			
RJ8F RJ9F	mm	186	141	28	3300	29,000	
	inch	7 21/64"	5 35/64"	1 7/64"			

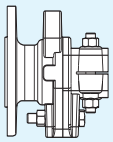
LRF

60
80
90
120





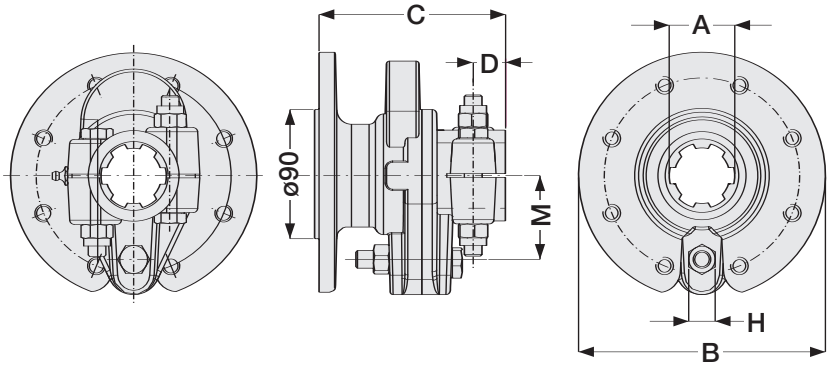
		B	C	D	Nm	in. lb.	
LR2F LR3F	mm	168	149	28	2500	22,100	120
	inch	6 39/64"	5 7/8"	1 7/64"			
LR4F LR5F	mm	168	149	28	2500	22,100	
	inch	6 39/64"	5 7/8"	1 7/64"			
LR2F LR3F	mm	168	149	28	3000	26,500	
	inch	6 39/64"	5 7/8"	1 7/64"			
LR4F LR5F	mm	168	149	28	3500	30,900	
	inch	6 39/64"	5 7/8"	1 7/64"			



BF

LIMITATORE A BULLONE DI TRANCIO
SHEAR BOLT TORQUE LIMITER
LIMITEUR A BOULON DE CISAILLEMENT
SCHERBOLZENKUPPLUNG

BF



Type	Ref.	A	B mm	B inch	C mm	C inch	D mm	D inch	M mm	M inch	MAX Nm	MAX in.lb	H ISO 8.8	
60	B32F	1 3/8" z6	168	6 39/64"	127	5"	22	7/8"	55	2 11/64"	2500	22,100	M10x60	**143.200.001**
60	B33F	1 3/8" z21	168	6 39/64"	127	5"	22	7/8"	55	2 11/64"	2500	22,100	M10x60	**143.200.002**
60	B34F	1 3/4" z6	168	6 39/64"	127	5"	22	7/8"	55	2 11/64"	2500	22,100	M10x60	**143.200.007**
60	B35F	1 3/4" z20	168	6 39/64"	127	5"	22	7/8"	55	2 11/64"	2500	22,100	M10x60	**143.200.003**
80	B32F	1 3/8" z6	168	6 39/64"	127	5"	22	7/8"	57	2 15/64"	3500	30,900	M12x65	**143.200.006**
80	B33F	1 3/8" z21	168	6 39/64"	127	5"	22	7/8"	57	2 15/64"	3500	30,900	M12x65	**143.200.004**
80	B34F	1 3/4" z6	168	6 39/64"	127	5"	22	7/8"	57	2 15/64"	3500	30,900	M12x65	**143.200.005**
80	B35F	1 3/4" z20	168	6 39/64"	127	5"	22	7/8"	57	2 15/64"	3500	30,900	M12x65	**143.200.010**
90	B32F	1 3/8" z6	168	6 39/64"	127	5"	22	7/8"	65	2 9/16"	4000	35,400	M12x65	**143.200.011**
90	B33F	1 3/8" z21	168	6 39/64"	127	5"	22	7/8"	65	2 9/16"	4000	35,400	M12x65	**143.200.012**
90	B34F	1 3/4" z6	168	6 39/64"	127	5"	22	7/8"	65	2 9/16"	4000	35,400	M12x65	**143.200.013**
90	B35F	1 3/4" z20	168	6 39/64"	127	5"	22	7/8"	65	2 9/16"	4000	35,400	M12x65	**143.200.014**
120	B34F	1 3/4" z6	168	6 39/64"	127	5"	22	7/8"	65	2 9/16"	5000	44,260	M14x70	**143.200.008**
120	B35F	1 3/4" z20	168	6 39/64"	127	5"	22	7/8"	65	2 9/16"	5000	44,260	M14x70	**143.200.009**

IT

NOTA: sul tipo 120 caletto trattato termicamente

Con tarature superiori a 4000 Nm il caletto del mozzo è trattato termicamente

Il limitatore interviene interrompendo la trasmissione di potenza quando la coppia supera il limite di taratura mediante la rottura del bullone. La trasmissione viene ripristinata inserendo un nuovo bullone nel dispositivo.

GB

NOTE: *for type 120 the spline is heat treated*

With setting value higher than 4000 Nm the hub spline is heat treated

The torque limiter interrupts the power transmission when the torque exceeds the setting value, by shearing the bolt. Transmission is restored by inserting a new bolt in the device.

FR

NOTE: sur le type 120, la cannelure est traitée thermiquement.

Avec couple superieur a 4000 Nm la cannelure du moyeu est traitée thermiquement

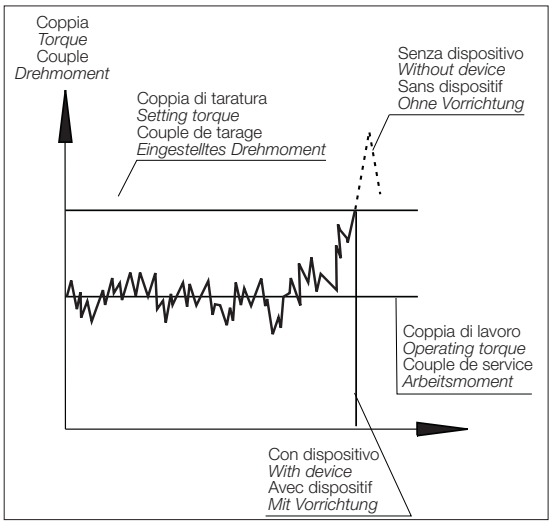
Le limiteur intervient en interrompant la transmission de puissance lorsque le couple de service dépasse le couple de tarage, interruption qui s'effectue par cisaillement du boulon. Pour rétablir la transmission il est alors nécessaire d'installer un nouveau boulon sur le dispositif.

DE

ANMERKUNG *bezüglich der wärmebehandelten Keilnabe Typ 120*

Falls das Eichdrehmoment höher als 4.000 Nm ist, wird die Keilnabe wärmebehandelt

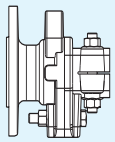
Der Drehmomentbegrenzer greift ein und unterbricht die Leistungsüber-tragung durch den Bruch des Scherbolzens, wenn das Drehmoment den eingestellten Grenzwert überschreitet. Die Übertragung wird wieder hergestellt, indem ein neuer Bolzen in die Vorrichtung gesetzt wird.

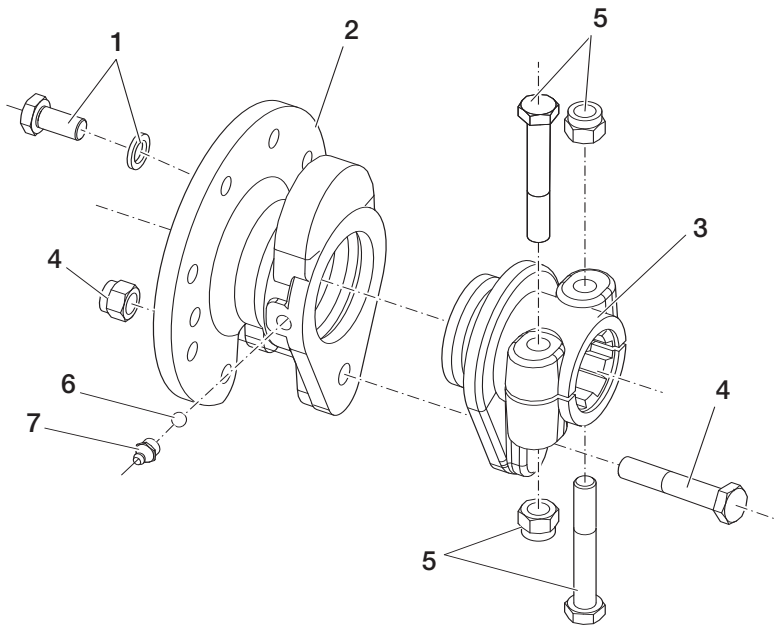


BF

LIMITATORE A BULLONE DI TRANCIO
SHEAR BOLT TORQUE LIMITER
LIMITEUR A BOULON DE CISAILLEMENT
SCHERBOLZENKUPPLUNG

BF





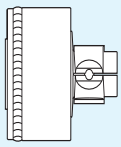
Pos.	(IT)	(GB)	(FR)	(DE)	Cod.	Qty*
1	Kit vite M12x1,25x65+dado	Bolt M12x1,25x65 + nut	Kit vis M12x1,25x65+ écrou	Schraubensatz M12x1,25x65+Mutter	**165.000.708**	8
2	Flangia BF tipo 60	*Flange BF type 60*	Bride BF type 60	*Flansch BF type 60*	**151.018.547**	1
	Flangia BF tipo 80	*Flange BF type 80*	Bride BF type 80	*Flansch BF type 80*	**151.018.451**	1
	Flangia BF tipo 90	*Flange BF type 90*	Bride BF type 90	*Flansch BF type 90*	**151.018.559**	1
	Flangia BF tipo 120	*Flange BF type 120*	Bride BF type 120	*Flansch BF type 120*	**141.220.014**	1
3	Mozzo B32 (tipo 60)	*Hub B32 (type 60)*	Moyeu B32 (type 60)	*Nabe B32 (Typ 60)*	**151.016.243**	1
	Mozzo B33 (tipo 60)	*Hub B33 (type 60)*	Moyeu B33 (type 60)	*Nabe B33 (Typ 60)*	**151.016.724**	1
	Mozzo B34 (tipo 60)	*Hub B34 (type 60)*	Moyeu B34 (type 60)	*Nabe B34 (Typ 60)*	**151.018.513**	1
	Mozzo B35 (tipo 60)	*Hub B35 (type 60)*	Moyeu B35 (type 60)	*Nabe B35 (Typ 60)*	**151.018.369**	1
	Mozzo B32 (tipo 80)	*Hub B32 (type 80)*	Moyeu B32 (type 80)	*Nabe B32 (Typ 80)*	**151.018.163**	1
	Mozzo B33 (tipo 80)	*Hub B33 (type 80)*	Moyeu B33 (type 80)	*Nabe B33 (Typ 80)*	**151.018.560**	1
	Mozzo B34 (tipo 80)	*Hub B34 (type 80)*	Moyeu B34 (type 80)	*Nabe B34 (Typ 80)*	**151.018.452**	1
	Mozzo B35 (tipo 80)	*Hub B35 (type 80)*	Moyeu B35 (type 80)	*Nabe B35 (Typ 80)*	**151.018.162**	1
	Mozzo B32 (tipo 90)	*Hub B32 (type 90)*	Moyeu B32 (type 90)	*Nabe B32 (Typ 90)*	**151.019.370**	1
	Mozzo B33 (tipo 90)	*Hub B33 (type 90)*	Moyeu B33 (type 90)	*Nabe B33 (Typ 90)*	**151.019.371**	1
	Mozzo B34 (tipo 90)	*Hub B34 (type 90)*	Moyeu B34 (type 90)	*Nabe B34 (Typ 90)*	**151.019.372**	1
	Mozzo B35 (tipo 90)	*Hub B35 (type 90)*	Moyeu B35 (type 90)	*Nabe B35 (Typ 90)*	**151.019.139**	1
	Mozzo B34 (tipo 120)	*Hub B34 (type 120)*	Moyeu B34 (type 120)	*Nabe B34 (Typ 120)*	**151.120.015**	1
	Mozzo B35 (tipo 120)	*Hub B35 (type 120)*	Moyeu B35 (type 120)	*Nabe B35 (Typ 120)*	**151.120.016**	1
4	Kit vite M10x60+dado	*Bolt M10x60 + nut*	Kit vis M10x60+ écrou	*Schraubensatz M10x60+Mutter*	**165.000.507**	1
	Kit vite M12x65+dado	*Bolt M12x65 + nut*	Kit vis M12x65+ écrou	*Schraubensatz M12x65+Mutter*	**165.000.512**	1
	Kit vite M14x65+dado	*Bolt M14x65 + nut*	Kit vis M14x65+ écrou	*Schraubensatz M14x65+Mutter*	**165.000.765**	1
5	Kit vite M12x1.25x75+dado	*Bolt M12x1.25x75 + nut*	Kit vis M12x1.25x75+ écrou	*Schraubensatz M12x1.25x75+Mutter*	**165.000.598**	2
	Kit vite M16x2x80+dado	*Bolt M16x2x80 + nut*	Kit vis M16x2x80+ écrou	*Schraubensatz M16x2x80+Mutter*	**165.000.576**	2
6	Sfera 5/16"	*Ball 5/16"*	Bille 5/16"	*Kugel 5/16*	**190.000.023**	24
7	Ingrassatore M10x1	*Greaser M10x1*	Graisseur M10x1	*Schmiernippel M10x1*	**190.000.021**	1

(IT) * Quantità presente nel dispositivo

(GB) * *Quantity in the Safety Device*

(FR) * Quantité présente dans le dispositif

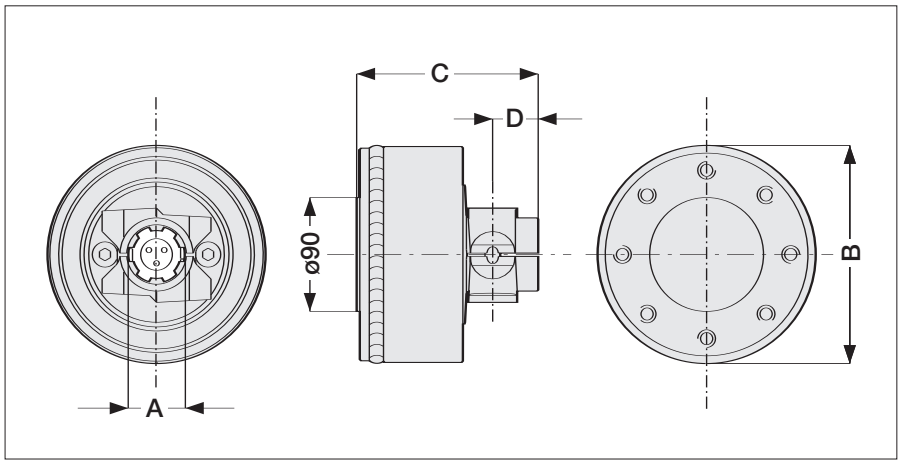
(DE) * *In der Vorrichtung vorhandene Menge*



LIMITATORE AUTOMATICO
AUTOMATIC TORQUE LIMITER
LIMITEUR AVEC DEBRAYABLE
NOCKENSCHALTKUPPLUNG

L

L



Type	Ref.	A	B mm	B inch	C mm	C inch	D mm	D inch	MAX Nm	MAX in.lb	
60	L82	1 3/8" z.6	168	6 39/64"	141	5 35/64"	36	1 27/64"	2500	22,130	**144.306.043**
60	L83	1 3/8" z.21	168	6 39/64"	141	5 35/64"	36	1 27/64"	2500	22,130	**144.306.054**
80	L84	1 3/4" z.6	168	6 39/64"	141	5 35/64"	36	1 27/64"	2500	22,130	**144.306.018**
80	L85	1 3/4" z.20	168	6 39/64"	141	5 35/64"	36	1 27/64"	2500	22,130	**144.306.055**
90	L82	1 3/8" z.6	168	6 39/64"	141	5 35/64"	36	1 27/64"	3500	30,900	**144.306.048**
90	L83	1 3/8" z.21	168	6 39/64"	141	5 35/64"	36	1 27/64"	3500	30,900	**144.306.056**
90	L84	1 3/4" z.6	168	6 39/64"	141	5 35/64"	36	1 27/64"	3500	30,900	**144.306.028**
90	L85	1 3/4" z.20	168	6 39/64"	141	5 35/64"	36	1 27/64"	3500	30,900	**144.306.057**
90	L82	1 3/8" z.6	168	6 39/64"	141	5 35/64"	36	1 27/64"	4000	35,400	**144.306.058**
90	L83	1 3/8" z.21	168	6 39/64"	141	5 35/64"	36	1 27/64"	4000	35,400	**144.306.059**
90	L84	1 3/4" z.6	168	6 39/64"	141	5 35/64"	36	1 27/64"	4000	35,400	**144.306.060**
90	L85	1 3/4" z.20	168	6 39/64"	141	5 35/64"	36	1 27/64"	4000	35,400	**144.306.042**

IT

A richiesta:
- senso di rotazione antiorario
- completo di molle frontali

Il limitatore a reinnesto automatico COMER consente di interrompere la trasmissione di potenza fra trattore e macchina operatrice quando si verifica un incremento di coppia che superi il valore di sicurezza della macchina operatrice, salvaguardando così la macchina stessa, la trasmissionecardanica e gli organi del trattore. Al raggiungimento della soglia di intervento del limitatore L , il valore di coppia trasmessa viene ridotto a valori molto bassi interrompendo la trasmissione del moto, che viene ripristinata automaticamente mediante una diminuzione del regime di rotazione della PTO del trattore e la contemporanea eliminazione della causa esterna. La particolare costruzione del dispositivo di sicurezza L garantisce un funzionamento costante e ripetibile nel tempo con un intervento di manutenzione praticamente assente.

GB

On request:
- anti-clockwise direction of rotation
- integrated with front-side springs

The COMER automatic torque limiter device interrupts the power transmission between tractor and implement when an overload occurs. This way the device prevents the failures or damages on tractor, implement and PTO drive shaft. When the operating torque exceeds the setting torque, the L device cuts out the torque; then the power transmission is automatically re-established by the PTO tractor speed reduction and the removal of the external cause. The specific device allows a reliable operation with low maintenance requirements.

FR

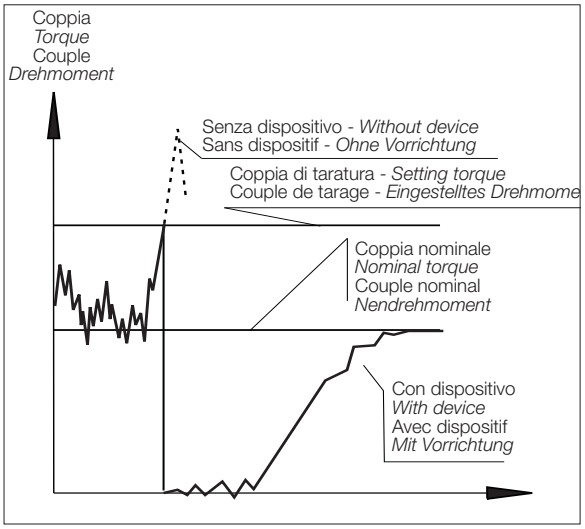
En option:
- rotation à gauche
- avec ressorts frontaux

Le limiteur COMER à réembrayage automatique permet d'interrompre la transmission de force du tracteur à la machine reliée à ce dernier lorsque le couple dépasse un seuil de sécurité donné - valeur limite supportée par la machine; ce dispositif permet ainsi de mettre la machine, la transmission à cardans et les organes du tracteur à l'abri de tout risque mécanique. Lorsque le seuil de déclenchement du limiteur L est atteint, le couple transmis est abaissé et la transmission de la force interrompue. La transmission est rétablie automatiquement en abaissant le régime de la prise de force du tracteur, à condition que dans le même temps la cause externe ayant provoqué le déclenchement du limiteur ait été éliminée. La conception particulière du dispositif de securité L garantit un fonctionnement constant et durable et ne requiert qu'un entretien minime.

DE

Auf Wunsch:
- *Drehrichtung im Gegenuhrzeigersinn*
- *komplett mit Frontalfedern*

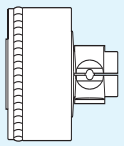
Der automatische Drehmomentbegrenzer von COMER unterbricht die Leistungsüber-tragung zwischen Schlepper und Maschine, wenn das Drehmoment über den Sicherheitswert der Maschine ansteigt und schützt somit die Maschine selbst, den Kardanantrieb und die Schlepperorgane. Beim Erreichen der Eingriffsschwelle des Drehmomentbegrenzers L wird der Wert des übertragenen Drehmoments auf sehr niedrige Werte gesenkt und die Bewegungsübertragung wird unterbrochen. Die letztere wird automatisch durch eine niedrigere Drehzahl der Zapfwelle des Schleppers und durch die gleichzeitige Behebung der externen Ursache wiederhergestellt. Die besondere Bauweise der Sicherheitsvorrichtung L gewährleistet ein zuverlässiges Funktioneren Die Sicherheits-vorrichtung ist praktisch wartungsfrei.

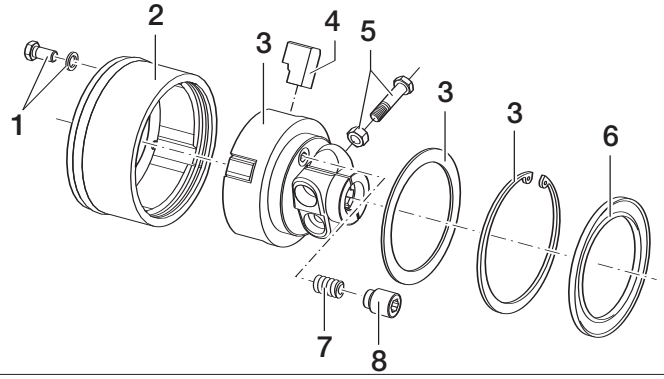


L

LIMITATORE AUTOMATICO
AUTOMATIC TORQUE LIMITER
LIMITEUR AVEC DEBRAYABLE
NOCKENSCHALTKUPPLUNG

L





Pos.	IT	GB	FR	DE	Cod.	Qty *
1	Vite M12x1,25x25 + rondella	*Bolt M12x1,25x25 + washer*	Vis M12x1,25x25 + rondelle	*Schraube M12x1,25x25+Unterlegscheibe*	**165.000.708**	8
2	Fondello corpo	*Outer casing*	Boîtier	*Gehäuseboden*	**141.028.411**	1
3	Kit mozzo L82 (tipo 60)	*Hub set L82 (type 60)*	Kit moyeu L82 (type 60)	*Nabensatz L82 (Typ 60)*	**165.000.730**	1
	Kit mozzo L83 (tipo 60)	*Hub set L83 (type 60)*	Kit moyeu L83 (type 60)	*Nabensatz L83 (Typ 60)*	**165.000.731**	1
	Kit mozzo L84 (tipo 60)	*Hub set L84 (type 60)*	Kit moyeu L84 (type 60)	*Nabensatz L84 (Typ 60)*	**165.000.732**	1
	Kit mozzo L85 (tipo 60)	*Hub set L85 (type 60)*	Kit moyeu L85 (type 60)	*Nabensatz L85 (Typ 60)*	**165.000.733**	1
	Kit mozzo L82 (tipo 80)	*Hub set L82 (type 80)*	Kit moyeu L82 (type 80)	*Nabensatz L82 (Typ 80)*	**165.000.734**	1
	Kit mozzo L83 (tipo 80)	*Hub set L83 (type 80)*	Kit moyeu L83 (type 80)	*Nabensatz L83 (Typ 80)*	**165.000.735**	1
	Kit mozzo L84 (tipo 80)	*Hub set L84 (type 80)*	Kit moyeu L84 (type 80)	*Nabensatz L84 (Typ 80)*	**165.000.720**	1
	Kit mozzo L85 (tipo 80)	*Hub set L85 (type 80)*	Kit moyeu L85 (type 80)	*Nabensatz L85 (Typ 80)*	**165.000.736**	1
	Kit mozzo L82 (tipo 90)	*Hub set L82 (type 90)*	Kit moyeu L82 (type 90)	*Nabensatz L82 (Typ 90)*	**165.000.737**	1
	Kit mozzo L83 (tipo 90)	*Hub set L83 (type 90)*	Kit moyeu L83 (type 90)	*Nabensatz L83 (Typ 90)*	**165.000.738**	1
	Kit mozzo L84 (tipo 90)	*Hub set L84 (type 90)*	Kit moyeu L84 (type 90)	*Nabensatz L84 (Typ 90)*	**165.000.739**	1
	Kit mozzo L85 (tipo 90)	*Hub set L85 (type 90)*	Kit moyeu L85 (type 90)	*Nabensatz L85 (Typ 90)*	**165.000.740**	1
4	Linguetta (tipo 60)	*Ratchet (type 60)*	Languette (type 60)	*Federkeil (Typ 60)*	**151.018.376**	4
	Linguetta (tipo 80-90)	*Ratchet (type 80-90)*	Languette (type 80-90)	*Federkeil (Typ 80-90)*	**151.018.390**	4
5	Vite M12x1,25x55+dado	*Bolt M12x1,25x55 + nut*	Vis M12x1,25x55+ écrou	*Schraube M12x1,25x55+Mutter*	**165.000.617**	2
6	Paragrasso	*Grease protection*	Bague pare-poussière	*Fettdichtungsring*	**180.018.400**	1
7	Molla frontale (tipo 60)	*Front-side spring (type 60)*	Ressort frontal (type 60)	*Frontalfeder (Typ 60)*	**180.018.383**	2
	Molla frontale (tipo 80-90)	*Front-side spring (type 80/90)*	Ressort frontal (type 80/90)	*Frontalfeder (Typ 80/90)*	**180.018.382**	2
8	Grano M20x1,5x25	*Screw M20x1,5x25*	Cheville M20x1,5x25	*Zapfen M20x1,25x25*	**190.000.478**	2

IT * Quantità presente nel dispositivo

GB * *Quantity in the Safety Device*

FR * Quantité présente dans le dispositif

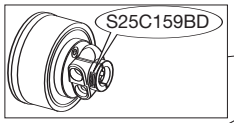
DE * *In der Vorrichtung vorhandene Menge*

Nomenclatura della stampigliatura d'identificazione del limitatore "L"

Nomenclature of the identification stamping on the "L" limiter

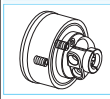
Nomenclature de l'estampillage d'identification du limiteur "L"

Beschriftung des Identifizierungsstempels der Kupplung "L"



S	2	5	C	1	5	9	B	D

Con molle elicoidali
With springs
Avec ressorts hélicoïdaux
Mit Schraubenfedern



M

Senza molle elicoidali
Without springs
Sans ressorts hélicoïdaux
Ohne Schraubenfedern

S

15=1500 Nm	29=2900 Nm
16=1600 Nm	30=3000 Nm
17=1700 Nm	31=3100 Nm
18=1800 Nm	32=3200 Nm
19=1900 Nm	33=3300 Nm
20=2000 Nm	34=3400 Nm
21=2100 Nm	**35=3500 Nm**
22=2200 Nm	36=3600 Nm
23=2300 Nm	37=3700 Nm
24=2400 Nm	38=3800 Nm
25=2500 Nm	39=3900 Nm
26=2600 Nm	**40=4000 Nm**
27=2700 Nm	
28=2800 Nm	

Mese di produzione
Production month
Mois de production
Herstellungsmonat

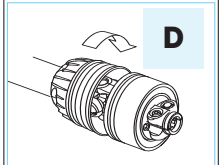
A = Gen	*Jan*	Jan	*Jan*
B = Feb	*Feb*	Fév	*Feb*
C = Mar	*Mar*	Mar	*Mär*
D = Apr	*Apr*	Avr	*Apr*
E = Mag	*May*	Mai	*Mai*
F = Giu	*Jun*	Jun	*Jun*
G = Lug	*Jul*	Jui	*Jul*
H = Ago	*Aug*	Aoû	*Aug*
I = Set	*Sep*	Sep	*Sep*
J = Ott	*Oct*	Oct	*Okt*
K = Nov	*Nov*	Nov	*Nov*
L = Dic	*Dec*	Déc	*Dic*

Numero progressivo del pezzo
Parts progressive number
Numéro progressif de la pièce
Laufende Teilenummer
N

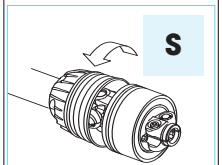
Anno di produzione
Production year
Année de fabrication
Herstellungsjahr

A	=	1999
B	=	2000
C	=	2001
D	=	2002
E	=	2003
F	=	2004
G	=	2005
H	=	2006
I	=	2007

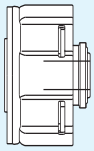
etc.



D



S

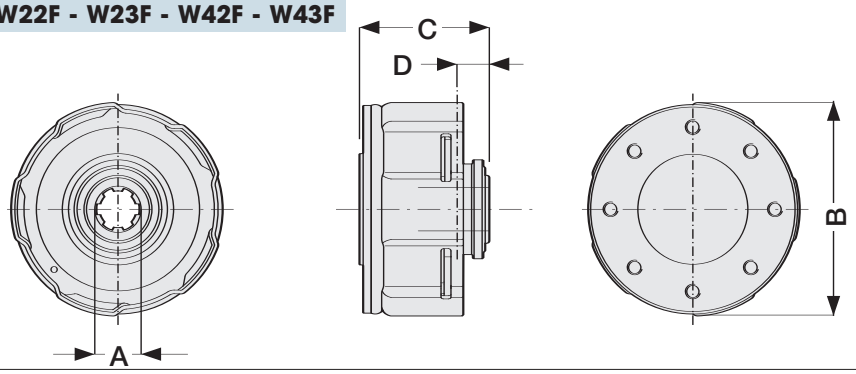


WF

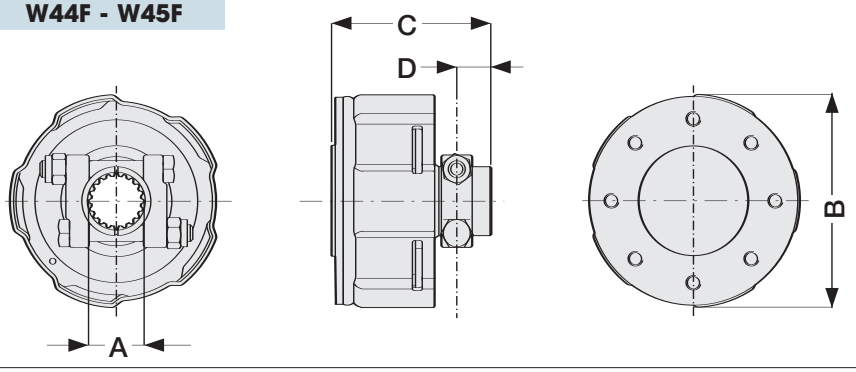
FRIZIONE CHIUSA A DISCHI MULTIPLI
CLOSED DISC CLUTCH TORQUE LIMITER
LIMITEUR A DISQUE DE FRICTION FERME
REIBSCHEIBENKUPPLUNG IN GESCHLOSSENER AUSFÜHRUNG

WF

W22F - W23F - W42F - W43F



W44F - W45F

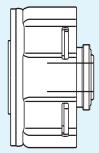


Type	Ref.	A	B mm	B inch	C mm	C inch	D mm	D inch	MAX Nm	MAX in.lb	
60	W22F	1 3/8" z6	173	6 13/16"	87	3 27/64"	26	1 1/32"	900	7,950	**148.302.015**
	W23F	1 3/8" z21	173	6 13/16"	87	3 27/64"	26	1 1/32"	900	7,950	**148.302.016**
80	W42F	1 3/8" z6	173	6 13/16"	102	4 1/64"	26	1 1/32"	1100	9,700	**148.304.011**
	W43F	1 3/8" z21	173	6 13/16"	102	4 1/64"	26	1 1/32"	1100	9,700	**148.304.012**
	W44F	1 3/4" z6	173	6 13/16"	125	4 59/64"	28	1 7/64"	1100	9,700	**148.304.018**
	W45F	1 3/4" z20	173	6 13/16"	125	4 59/64"	28	1 7/64"	1100	9,700	**148.304.019**
	W42F	1 3/8" z6	173	6 13/16"	102	4 1/64"	26	1 1/32"	1500	13,250	**148.304.013**
	W43F	1 3/8" z21	173	6 13/16"	102	4 1/64"	26	1 1/32"	1500	13,250	**148.304.014**
	W44F	1 3/4" z6	173	6 13/16"	125	4 59/64"	28	1 1/32"	1500	13,250	**148.304.020**
	W45F	1 3/4" z20	173	6 13/16"	125	4 59/64"	28	1 1/32"	1500	13,250	**148.304.021**
	W42F	1 3/8" z6	173	6 13/16"	102	4 1/64"	26	1 1/32"	1800	15,900	**148.304.015**
	W43F	1 3/8" z21	173	6 13/16"	102	4 1/64"	26	1 1/32"	1800	15,900	**148.304.016**
	W44F	1 3/4" z6	173	6 13/16"	125	4 59/64"	28	1 1/32"	1800	15,900	**148.304.022**
	W45F	1 3/4" z20	173	6 13/16"	125	4 59/64"	28	1 1/32"	1800	15,900	**148.304.023**

WF

FRIZIONE CHIUSA A DISCHI MULTIPLI
CLOSED DISC CLUTCH TORQUE LIMITER
LIMITEUR A DISQUE DE FRICTION FERME
REIBSCHEIBENKUPPLUNG IN GESCHLOSSENER AUSFÜHRUNG

WF



IT

La frizione "chiusa" a dischi multipli WF interviene quando la coppia di lavoro supera la coppia di taratura. Durante la fase di limitazione del picco di coppia la frizione continua a trasmettere potenza. La frizione è utilizzabile sia come dispositivo di sicurezza contro picchi di coppia sia per avviare macchine con elevata inerzia rotazionale. Questo tipo di frizione risulta avere la taratura non modificabile ed inoltre l'utilizzo di speciali molle a tazza in luogo delle più comuni molle elicoidali rende costante la taratura nonostante il progressivo consumo dei dischi d'attrito.

GB

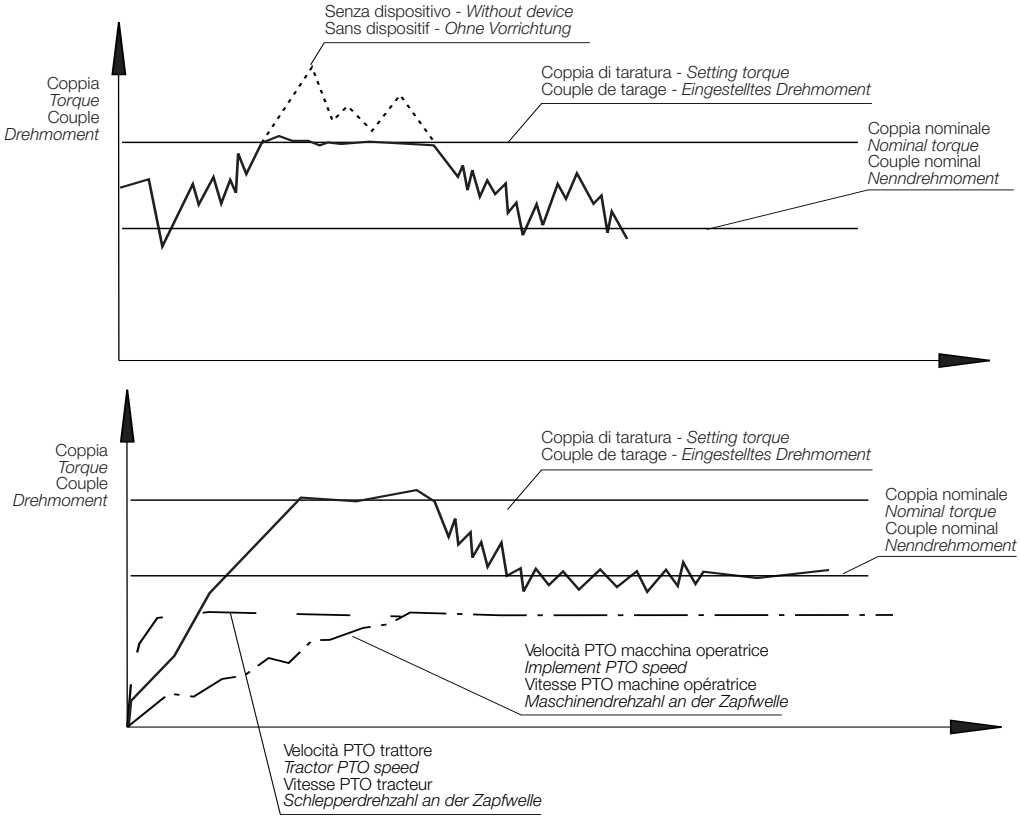
The closed disc clutch torque limiter WF is activated when the setting torque exceeds the calibration torque. During the torque peak limiting phase, the clutch keeps on transmitting power. The clutch can be used both as safety device to protect against load peaks and to start machines with high rotational inertia. The torque setting of this clutch is not adjustable and the use of special Belleville springs instead of the helical springs ensures a stable torque setting compensating for the natural wear of the friction linings.

FR

Le dispositif de limitation "fermé" à disques WF se déclenche lorsque le couple de travail dépasse le couple de tarage. Pendant la phase de limitation du pic de couple, le limiteur continue à transmettre la puissance. Il a une fonction de dispositif de sécurité contre les surcharges du couple et sert à démarrer les machines ayant une inertie de rotation importante. Le tarage de ce type de limiteur ne peut pas être modifié. L'utilisation de ressorts Belleville à la place des ressorts hélicoïdaux rend le tarage constant malgré l'usure progressive des disques de friction.

DE

Die "geschlossene" Reibscheibenkupplung WF greift ein, wenn das Arbeitsmoment das eingestellte Drehmoment überschreitet. Während der Drehmomentspitzenbegrenzung überträgt die Kupplung weiterhin Leistung. Die Kupplung kann sowohl als Sicherheitsvorrichtung gegen Belastungsspitzen als auch zum Anlassen von Maschinen mit einer hohen Rotationsträgheit benutzt werden. Die Eichung dieser Kupplung kann nicht verändert werden und außerdem wird durch die Verwendung von speziellen Tellerfedern anstatt der normalen Schraubenfedern dafür gesorgt, dass die Eichung trotz der fortschreitenden Abnutzung der Reibscheiben konstant bleibt.



IT

Le frizioni possono raggiungere elevate temperature.
Non toccare!
Per evitare rischi di incendio, mantenere la zona adiacente la frizione pulita da materiale infiammabile ed evitare slittamenti prolungati.

GB

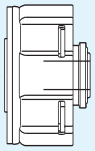
Friction clutches may become hot during use.
Do not touch!
Keep the area around the friction clutch clear of any material which could catch fire and avoid prolonged slipping.

FR

Le limiteur peut atteindre des températures élevées.
Ne pas toucher !
Pour prévenir tout risque d'incendie, la zone près du limiteur doit toujours être propre sans matériau inflammable. Il faudra aussi éviter les patinages prolongés.

DE

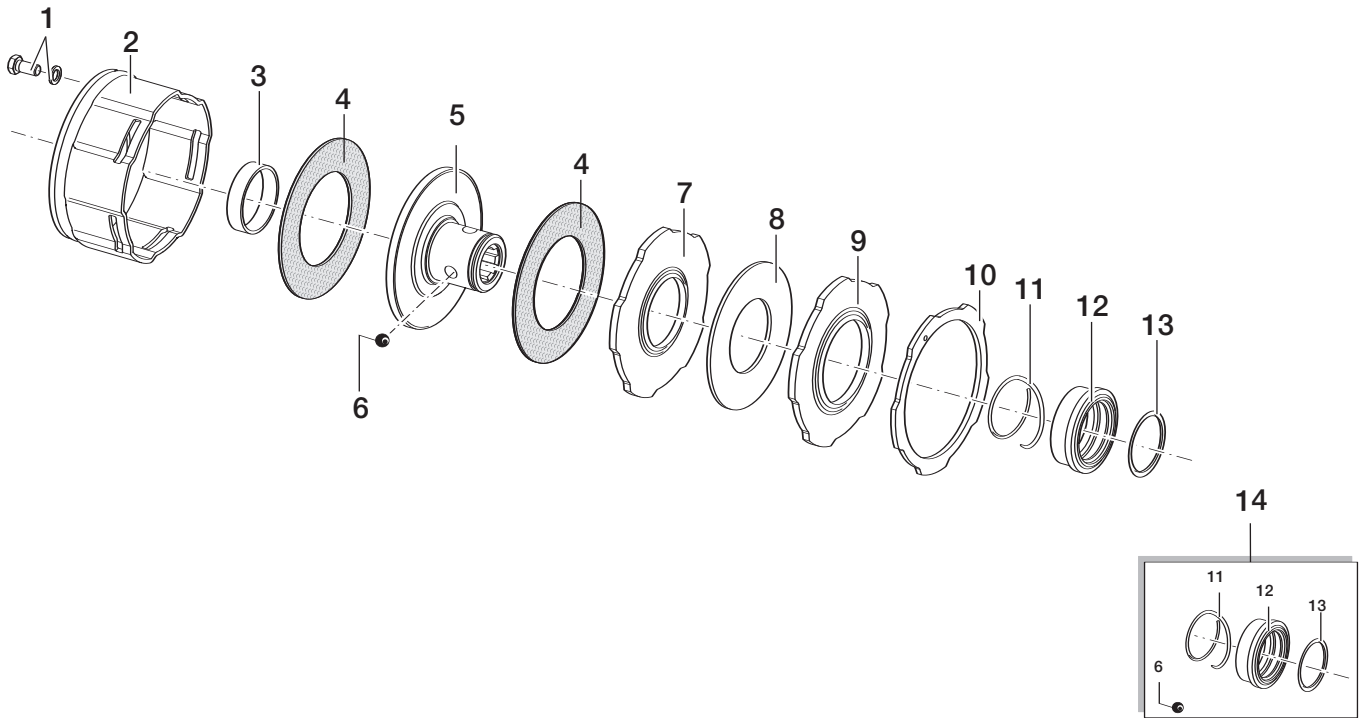
Die Kupplungen können sehr hohe Temperaturen erreichen.
Nicht berühren!
Um Brandrisiken zu vermeiden, brennbares Material von der Kupplung fernhalten und längere Rutschphasen vermeiden.



FRIZIONE CHIUSA A DISCHI MULTIPLI
CLOSED DISC CLUTCH TORQUE LIMITER
LIMITEUR A DISQUE DE FRICTION FERME
REIBSCHEIBENKUPPLUNG IN GESCHLOSSENER AUSFÜHRUNG

WF **WF**

- W22F / W23F -



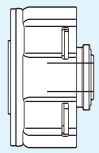
Pos.	IT	GB	FR	DE	Cod.	Qty *
1	Vite M12x1,25x25 + rondella	*Bolt M12x1,25x25 + washer*	Vis M12x1,25x25 + rondelle	*Schraube M12x1,25x25+Unterlegscheibe*	**165.000.708**	8
2	Fondello corpo	*Outer casing*	Boîtier	*Gehäuseboden*	**141.027.389**	1
3	Bronzina	*Bush*	Coussinet	*Buchse*	**180.019.019**	1
4	Disco attrito ø152 x ø90	*Lining rings ø152 x ø90*	Disques de friction ø152xø90	*Reibscheiben ø152xø90*	**180.019.018**	2
5	Mozzo W22	*Hub W22*	Moyeu W22	*Nabe W22*	**151.017.281**	1
	Mozzo W23	*Hub W23*	Moyeu W23	*Nabe W23*	**151.017.296**	1
6	Sfere 1/2"	*Ball 1/2"*	Billes 1/2"	*Kugeln 1/2"*	**190.000.078**	3
7	Disco stringifrizione W (600 Nm)	*Pressure plate W (600 Nm)*	Disque de compression W (600 Nm)	*Druckscheibe W (600 Nm)*	**180.017.282**	1
	Disco stringifrizione W (750 Nm)	*Pressure plate W (750 Nm)*	Disque de compression W (750 Nm)	*Druckscheibe W (750 Nm)*	**180.017.270**	1
	Disco stringifrizione W (900 Nm)	*Pressure plate W (900 Nm)*	Disque de compression W (900 Nm)	*Druckscheibe W (900 Nm)*	**180.017.282**	1
8	Molla a tazza (600 Nm)	*Belleville spring (600 Nm)*	Ressort Belleville (600 Nm)	*Tellerfeder (600 Nm)*	**190.000.594**	1
	Molla a tazza (750 Nm)	*Belleville spring (750 Nm)*	Ressort Belleville (750 Nm)	*Tellerfeder (750 Nm)*	**190.000.594**	1
	Molla a tazza (900 Nm)	*Belleville spring (900 Nm)*	Ressort Belleville (900 Nm)	*Tellerfeder (900 Nm)*	**190.000.607**	1
9	Disco di reazione W	*Reaction ring W*	Disque de réaction W	*Gegenscheibe W*	**180.013.410**	1
10	Disco d' arresto W	*Stop ring W*	Disque d'arrêt W	*Haltescheibe W*	**180.017.276**	1
11	Molla collar	*Collar spring*	Ressort hélicoïdal	*Collarfeder*	**180.016.487**	1
12	Manicotto collar	*Sliding sleeve collar*	Manchon hélicoïdal	*Collarmuffe*	**151.016.486**	1
13	Seeger	*Snap ring*	Jonc	*Sicherungsring*	**190.000.451**	1
13	Kit collar W	*Kit collar W*	Kit collets W	*Collarsatz W*	**165.000.719**	1

IT
* Quantità presente nel dispositivo

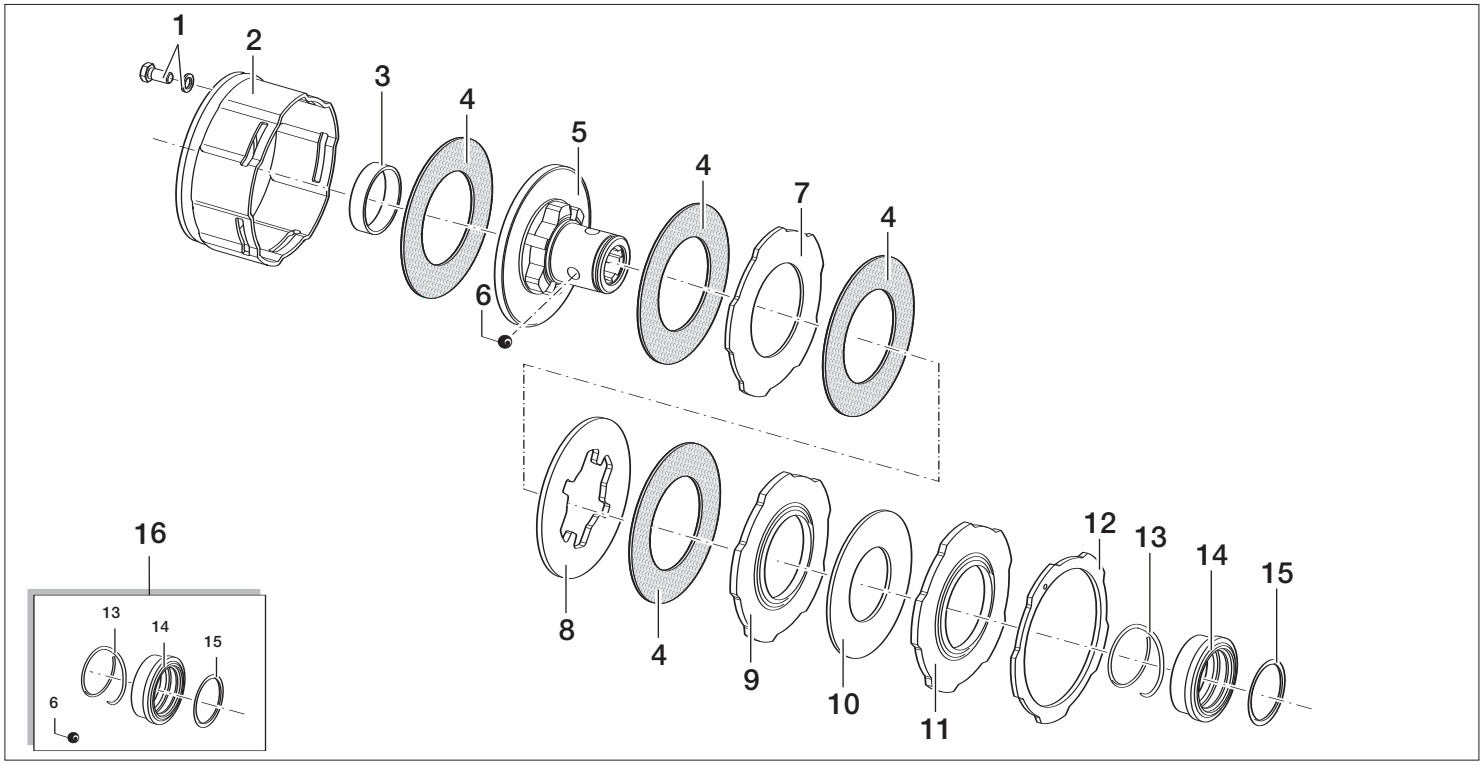
GB
* *Quantity in the Safety Device*

FR
* Quantité présente dans le dispositif

DE
* *In der Vorrichtung vorhandene Menge*



- W42F / W43F -



Pos.	IT	GB	FR	DE	Cod.	Qty *
1	Vite M12x1,25x25 + rondella	*Bolt M12x1,25x25 + washer*	Vis M12x1,25x25 + rondelle	*Schraube M12x1,25x25+Unterlegscheibe*	**165.000.708**	8
2	Fondello corpo	*Outer casing*	Boîtier	*Gehäuseboden*	**141.027.295**	1
3	Bronzina	*Bush*	Coussinet	*Buchse*	**180.019.019**	1
4	Disco attrito ø152 x ø90	*Lining ring ø152 x ø90*	Disques de friction ø152xø90	*Reibscheiben ø152xø90*	**180.019.018**	4
5	Mozzo W42	*Hub W42*	Moyeu W42	*Nabe W42*	**151.019.158**	1
	Mozzo W43	*Hub W43*	Moyeu W43	*Nabe W43*	**151.017.297**	1
6	Sfere 1/2"	*Ball 1/2"*	Billes 1/2"	*Kugeln 1/2"*	**190.000.078**	3
7	Disco intermedio	*Inner plate*	Disque intermédiaire	*Zwischenscheibe*	**180.017.269**	1
8	Disco sagomato	*Intermediate plate*	Disque profilé	*Profilscheibe*	**180.019.115**	1
9	Disco stringifrizione W (1100 Nm)	*Pressure plate W (1100 Nm)*	Disque de compression W (1100 Nm)	*Druckscheibe W (1100 Nm)*	**180.017.282**	1
	Disco stringifrizione W (1500 Nm)	*Pressure plate W (1500 Nm)*	Disque de compression W (1500 Nm)	*Druckscheibe W (1500 Nm)*	**180.017.282**	1
	Disco stringifrizione W (1800 Nm)	*Pressure plate W (1800 Nm)*	Disque de compression W (1800 Nm)	*Druckscheibe W (1800 Nm)*	**180.013.451**	1
10	Molla a tazza (1100 Nm)	*Belleville spring (1100 Nm)*	Ressort Belleville (1100 Nm)	*Tellerfeder (1100 Nm)*	**190.000.594**	1
	Molla a tazza (1500 Nm)	*Belleville spring (1500 Nm)*	Ressort Belleville (1500 Nm)	*Tellerfeder (1500 Nm)*	**190.000.607**	1
	Molla a tazza (1800 Nm)	*Belleville spring (1800 Nm)*	Ressort Belleville (1800 Nm)	*Tellerfeder (1800 Nm)*	**190.000.607**	1
11	Disco di reazione W	*Reaction ring W*	Disque de réaction W	*Gegenscheibe W*	**180.013.410**	1
12	Disco d' arresto W	*Stop ring W*	Disque d'arrêt W	*Haltescheibe W*	**180.017.276**	1
13	Molla collar	*Collar spring*	Ressort hélicoïdal	*Collarfeder*	**180.016.487**	1
14	Manicotto collar	*Sliding sleeve collar*	Manchon hélicoïdal	*Collarmuffe*	**151.016.486**	1
15	Seeger	*Snap ring*	Jonc	*Sicherungsring*	**190.000.451**	1
15	Kit collar W	*Kit collar W*	Kit collets W	*Collarsatz W*	**165.000.719**	1

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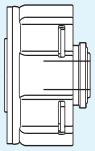
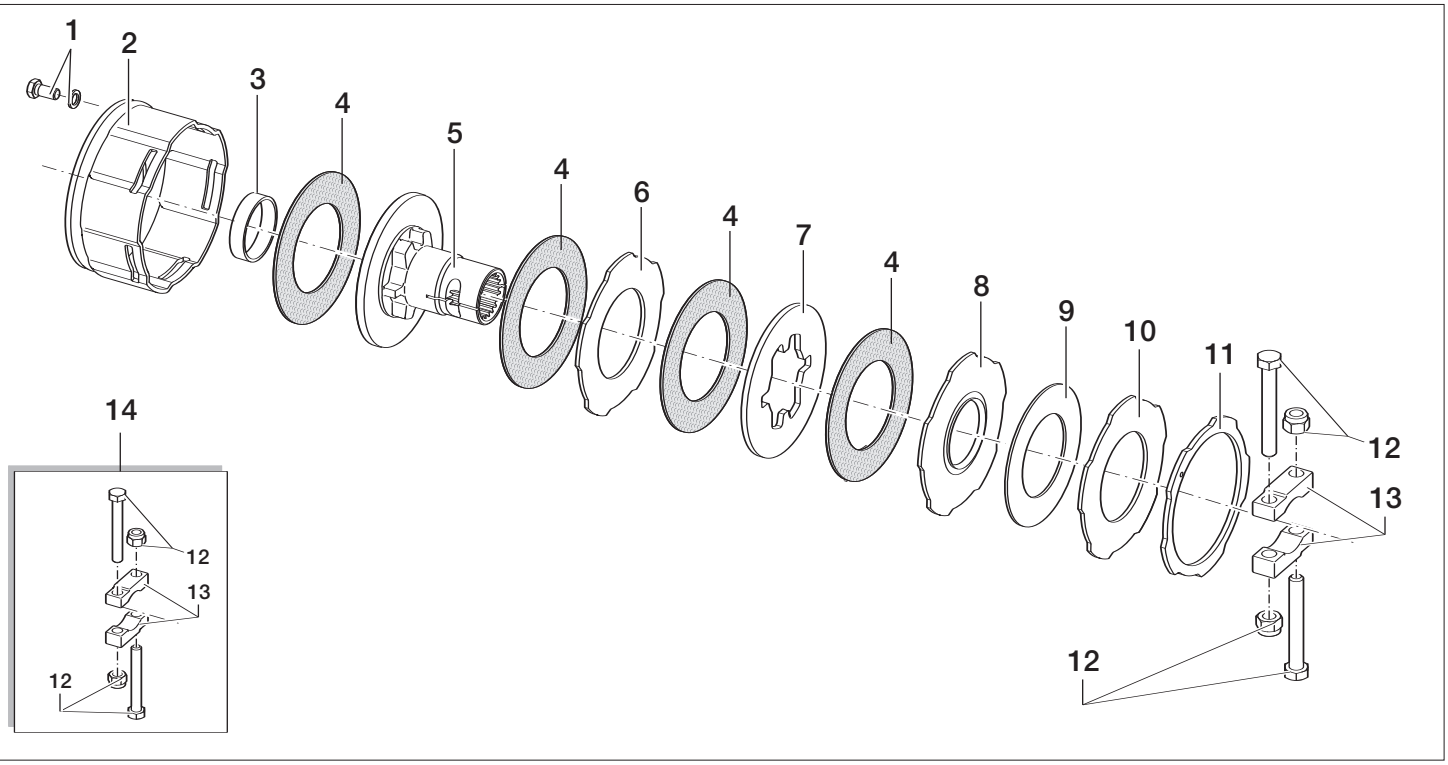


- W44F / W45F -



Pos.	IT	GB	FR	DE	Cod.	Qty *
1	Vite M12x1,25x25 + rondella	*Bolt M12x1,25x25 + washer*	Vis M12x1,25x25 + rondelle	*Schraube M12x1,25x25+Unterlegscheibe*	**165.000.708**	8
2	Fondello corpo	*Outer casing*	Boîtier	*Gehäuseboden*	**141.027.295**	1
3	Bronzina	*Bush*	Coussinet	*Buchse*	**180.019.019**	1
4	Disco attrito ø152 x ø90	*Lining ring ø152 x ø90*	Disques de friction ø152xø90	*Reibscheiben ø152xø90*	**180.019.018**	4
5	Mozzo W44	*Hub W42*	Moyeu W42	*Nabe W42*	**151.017.390**	1
	Mozzo W45	*Hub W43*	Moyeu W43	*Nabe W43*	**151.017.366**	1
6	Disco intermedio	*Inner plate*	Disque intermédiaire	*Zwischenscheibe*	**180.017.269**	1
7	Disco sagomato	*Intermediate plate*	Disque profilé	*Profilscheibe*	**180.019.115**	1
8	Disco stringifrizione W (1100 Nm)	*Pressure plate W (1100 Nm)*	Disque de compression W (1100 Nm)	*Druckscheibe W (1100 Nm)*	**180.017.282**	1
	Disco stringifrizione W (1500 Nm)	*Pressure plate W (1500 Nm)*	Disque de compression W (1500 Nm)	*Druckscheibe W (1500 Nm)*	**180.017.282**	1
	Disco stringifrizione W (1800 Nm)	*Pressure plate W (1800 Nm)*	Disque de compression W (1800 Nm)	*Druckscheibe W (1800 Nm)*	**180.013.451**	1
9	Molla a tazza (1100 Nm)	*Belleville spring (1100 Nm)*	Ressort Belleville (1100 Nm)	*Tellerfeder (1100 Nm)*	**190.000.594**	1
	Molla a tazza (1500 Nm)	*Belleville spring (1500 Nm)*	Ressort Belleville (1500 Nm)	*Tellerfeder (1500 Nm)*	**190.000.607**	1
	Molla a tazza (1800 Nm)	*Belleville spring (1800 Nm)*	Ressort Belleville (1800 Nm)	*Tellerfeder (1800 Nm)*	**190.000.607**	1
10	Disco di reazione W	*Reaction ring W*	Disque de réaction W	*Gegenscheibe W*	**180.013.410**	1
11	Disco d' arresto W	*Stop ring W*	Disque d'arrêt W	*Haltescheibe W*	**180.017.276**	1
12	Kit vite M14x1,5x100 + dado	*Bolt M14x1,5x100 + nut*	Kit vis M14x1,5x100+ écrou	*Schraubensatz M14x1,5x100+Mutter*	**165.000.622**	2
13	Ponti di blocco	*Clamp lock*	Pontet de blocage	*Klemmbrücke*	**151.014.201**	2
14	Kit ponti di blocco 1 3/4"	*Clamp lock set 1 3/4"*	Kit pontets de blocage 1 3/4"	*Klemmbrückensatz 1 3/4"*	**165.000.692**	1

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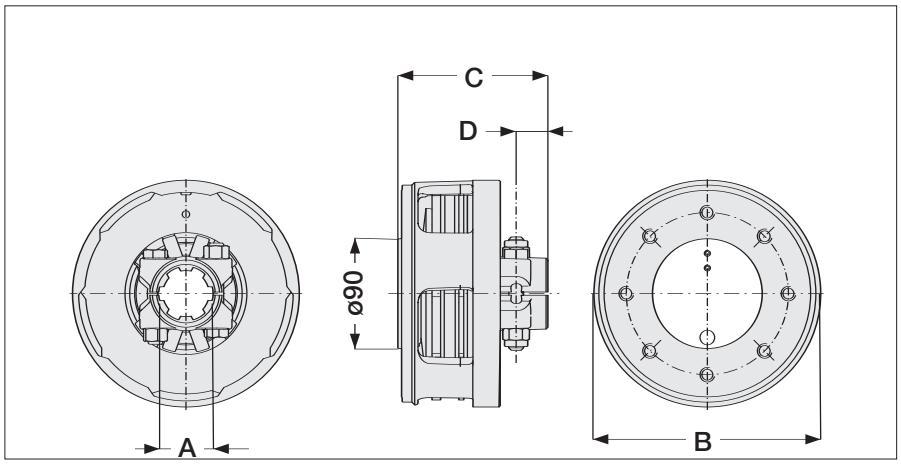
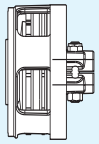
FRIZIONE SEMIAPERTA A DISCHI MULTIPLI
HALF OPENED DISC CLUTCH TORQUE LIMITER
LIMITEUR A DISQUE DE FRICTION DEMI OUVERTE
HALBOFFENE REIBSCHEIBENKUPPLUNG

JF **JF**



Type	Ref.	A	B mm	B inch	C mm	C inch	D mm	D inch	MAX Nm	MAX in.lb	
60	J42F	1 3/8" z6	186	7 21/64"	120	4 23/32"	26	1 1/32"	1600	14,100	**148.304.511**
60	J43F	1 3/8" z21	186	7 21/64"	120	4 23/32"	26	1 1/32"	1600	14,100	**148.304.512**
60	J44F	1 3/4" z6	186	7 21/64"	120	4 23/32"	26	1 1/32"	1600	14,100	**148.304.513**
60	J45F	1 3/4" z20	186	7 21/64"	120	4 23/32"	26	1 1/32"	1600	14,100	**148.304.514**
80	J42F	1 3/8" z6	186	7 21/64"	120	4 23/32"	26	1 1/32"	2000	17,700	**148.304.515**
80	J43F	1 3/8" z21	186	7 21/64"	120	4 23/32"	26	1 1/32"	2000	17,700	**148.304.516**
80	J44F	1 3/4" z6	186	7 21/64"	120	4 23/32"	26	1 1/32"	2000	17,700	**148.304.517**
80	J45F	1 3/4" z20	186	7 21/64"	120	4 23/32"	26	1 1/32"	2000	17,700	**148.304.518**
90	J42F	1 3/8" z6	186	7 21/64"	120	4 23/32"	26	1 1/32"	2400	21,200	**148.304.519**
90	J43F	1 3/8" z21	186	7 21/64"	120	4 23/32"	26	1 1/32"	2400	21,200	**148.304.520**
90	J44F	1 3/4" z6	186	7 21/64"	120	4 23/32"	26	1 1/32"	2400	21,200	**148.304.521**
90	J45F	1 3/4" z20	186	7 21/64"	120	4 23/32"	26	1 1/32"	2400	21,200	**148.304.522**
120	J44F	1 3/4" z6	186	7 21/64"	120	4 23/32"	26	1 1/32"	3300	29,000	**148.304.526**
120	J45F	1 3/4" z20	186	7 21/64"	120	4 23/32"	26	1 1/32"	3300	29,000	**148.304.527**



JF

FRIZIONE SEMIAPERTA A DISCHI MULTIPLI
HALF OPENED DISC CLUTCH TORQUE LIMITER
LIMITEUR A DISQUE DE FRICTION DEMI OUVERTE
HALBOFFENE REIBSCHEIBENKUPPLUNG

JF

IT

La frizione "chiusa" a dischi multipli JF interviene quando la coppia di lavoro supera la coppia di taratura. Durante la fase di limitazione del picco di coppia la frizione continua a trasmettere potenza. La frizione è utilizzabile sia come dispositivo di sicurezza contro picchi di coppia sia per avviare macchine con elevata inerzia rotazionale. Questo tipo di frizione risulta avere la taratura non modificabile ed inoltre l'utilizzo di speciali molle a tazza in luogo delle più comuni molle elicoidali rende costante la taratura nonostante il progressivo consumo dei dischi d'attrito.

GB

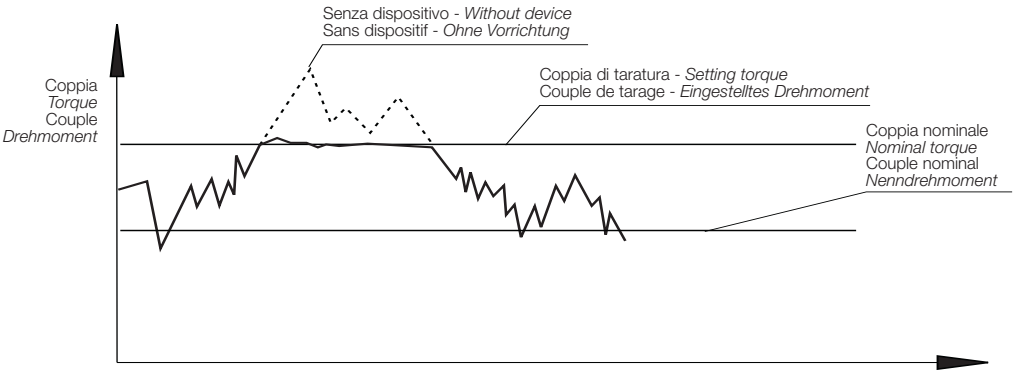
The closed disc clutch torque limiter JF is activated when the setting torque exceeds the calibration torque. During the torque peak limiting phase, the clutch keeps on transmitting power. The clutch can be used both as safety device to protect against load peaks and to start machines with high rotational inertia. The torque setting of this clutch is not adjustable and the use of special Belleville springs instead of the helical springs ensures a stable torque setting compensating for the natural wear of the friction linings.

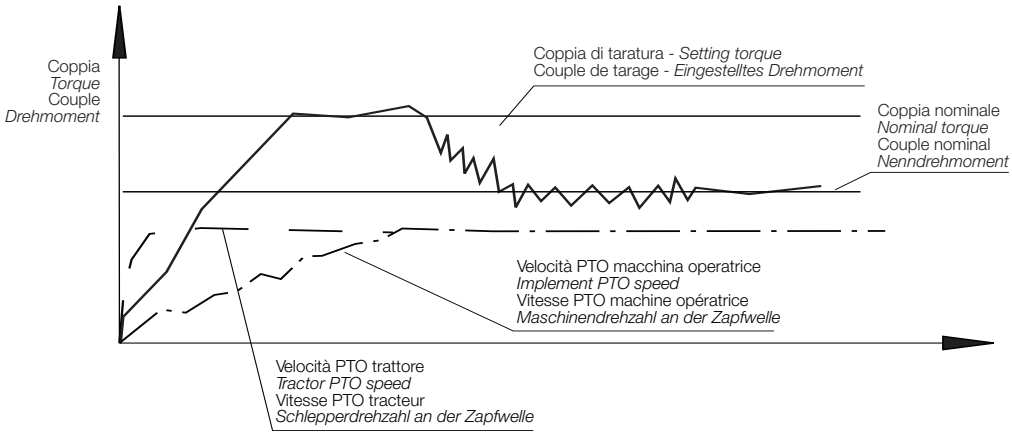
FR

Le dispositif de limitation "fermé" à disques JF se déclenche lorsque le couple de travail dépasse le couple de tarage. Pendant la phase de limitation du pic de couple, le limiteur continue à transmettre la puissance. Il a une fonction de dispositif de sécurité contre les surcharges du couple et sert à démarrer les machines ayant une inertie de rotation importante. Le tarage de ce type de limiteur ne peut pas être modifié. L'utilisation de ressorts Belleville à la place des ressorts hélicoïdaux rend le tarage constant malgré l'usure progressive des disques de friction.

DE

Die "geschlossene" Reibscheibenkupplung JF greift ein, wenn das Arbeitsmoment das eingestellte Drehmoment überschreitet. Während der Drehmomentspitzenbegrenzung überträgt die Kupplung weiterhin Leistung. Die Kupplung kann sowohl als Sicherheitsvorrichtung gegen Belastungsspitzen als auch zum Anlassen von Maschinen mit einer hohen Rotationsträgheit benutzt werden. Die Eichung dieser Kupplung kann nicht verändert werden und außerdem wird durch die Verwendung von speziellen Tellerfedern anstatt der normalen Schraubenfedern dafür gesorgt, dass die Eichung trotz der fortschreitenden Abnutzung der Reibscheiben konstant bleibt.





IT

Le frizioni possono raggiungere elevate temperature.
Non toccare!
Per evitare rischi di incendio, mantenere la zona adiacente la frizione pulita da materiale infiammabile ed evitare slittamenti prolungati.

GB

Friction clutches may become hot during use.
Do not touch!
Keep the area around the friction clutch clear of any material which could catch fire and avoid prolonged slipping.

FR

Le limiteur peut atteindre des températures élevées.
Ne pas toucher !
Pour prévenir tout risque d'incendie, la zone près du limiteur doit toujours être propre sans matériau inflammable. Il faudra aussi éviter les patinages prolongés.

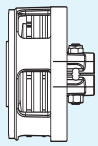
DE

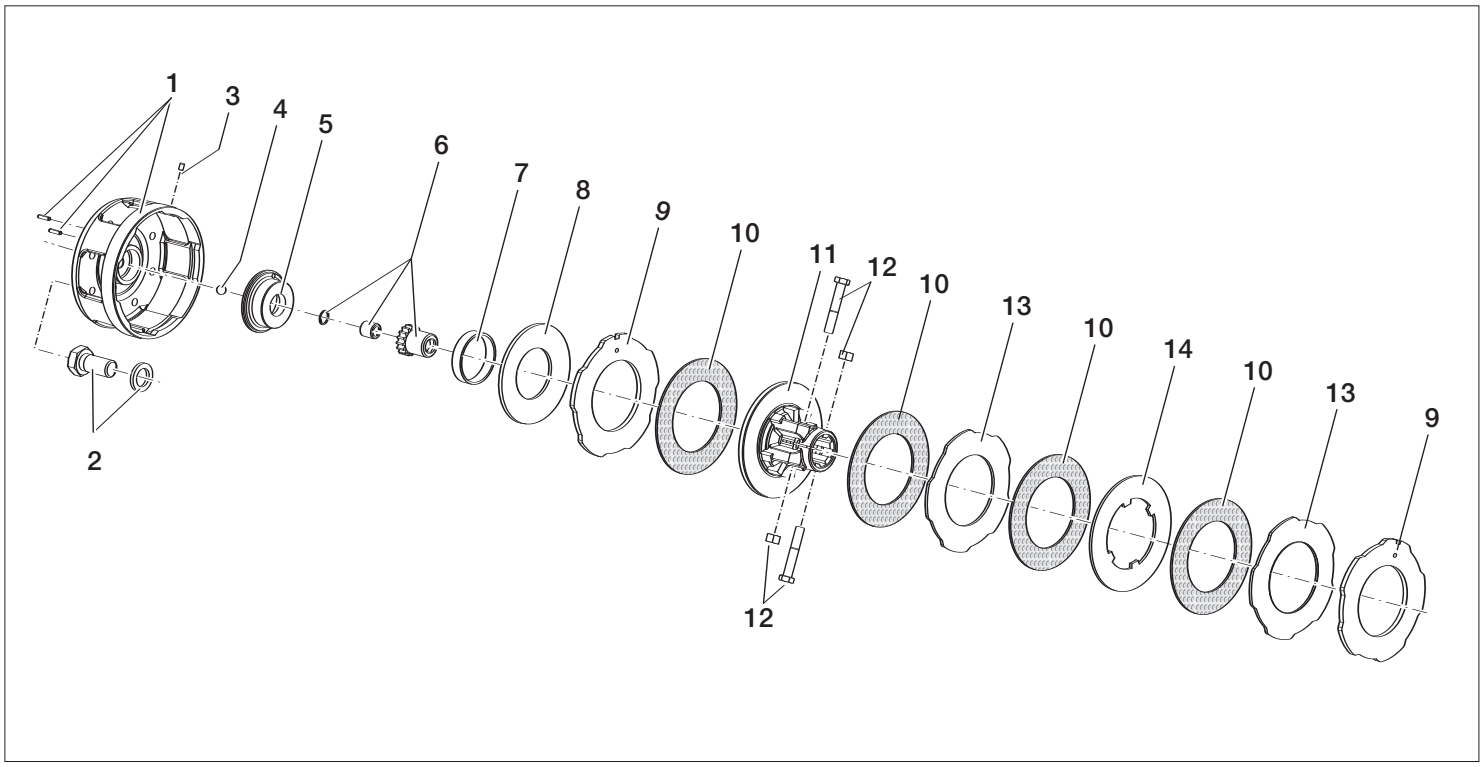
Die Kupplungen können sehr hohe Temperaturen erreichen.
Nicht berühren!
Um Brandrisiken zu vermeiden, brennbares Material von der Kupplung fernhalten und längere Rutschphasen vermeiden.

JF

FRIZIONE SEMIAPERTA A DISCHI MULTIPLI
HALF OPENED DISC CLUTCH TORQUE LIMITER
LIMITEUR A DISQUE DE FRICTION DEMI OUVERTE
HALBOFFENE REIBSCHEIBENKUPPLUNG

JF





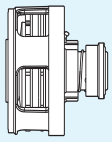
Pos.	IT	GB	FR	DE	Cod.	Qty *
1	Fondello corpo JF	*Outer casing JF*	Boîtier JF	*Gehäuseboden JF*	**141.027.285**	1
2	Kit vite M12x1,25x55+dado	*Bolt M12x1,25x25 + nut*	Kit vis M12x1,25x25+ écrou	*Schraubensatz M12x1,25x25+Mutter*	**165.000.708**	8
3	Grano M6x12	*Screw M6x12*	Cheville M6x12	*Zapfen M6x12*	**190.000.617**	1
4	Sfera ø1/2"	*Ball ø1/2"D3*	Billes ø1/2"D3	*Kugeln ø1/2"D3*	**190.000.078**	1
5	Anello centraggio	*Pilot ring*	Anneau d'alignement	*Zentrierungsring*	**151.017.370**	1
6	Sistema di registrazione	*Setting system*	Systeme de réglage	*Einstellsystem*	**165.000.758**	1
7	Bronzina frizione	*Bush*	Coussinet	*Buchse*	**180.017.369**	1
8	Molla a tazza ≤ 2800 Nm	*Belleville spring ≤ 2800 Nm*	Ressort Belleville ≤ 2800 Nm	*Tellerfeder ≤ 2800 Nm*	**190.000.607**	1
	Molla a tazza > 2800 Nm	*Belleville spring > 2800 Nm*	Ressort Belleville > 2800 Nm	*Tellerfeder > 2800 Nm*	**190.000.620**	1
9	Disco spingi frizione/arresto	Pressure plate/stop ring	Disque de compression/d'arret	*Druckscheibe/Halteschеibe*	**180.017.288**	2
10	Disco d'attrito	*Lining ring*	Disque de friction	*Reibscheiben*	**180.019.333**	4
11	Mozzo frizione J42	*Clutch support J42*	Moyeu de friction J42	*Kupplungsnabe J42*	**151.017.391**	1
	Mozzo frizione J43	*Clutch support J43*	Moyeu de friction J43	*Kupplungsnabe J43*	**151.017.392**	1
	Mozzo frizione J44	*Clutch support J44*	Moyeu de friction J44	*Kupplungsnabe J44*	**151.017.372**	1
	Mozzo frizione J45	*Clutch support J45*	Moyeu de friction J45	*Kupplungsnabe J45*	**151.017.393**	1
12	Vite M12x1.25x75+dado autof	*Bolt M12x1.25x75 + nut*	Kit vis M12x1.25x75+ écrou	*Schraubensatz M12x1.25x75+Mutter*	**165.000.598**	2
13	Disco intermedio	*Inner plate*	Disque intermédiaire	*Zwischenscheibe*	**180.017.291**	2
14	Disco sagomato	*Intermediate plate*	Disque profilé	*Profilscheibe*	**180.019.334**	1

IT * Quantità presente nel dispositivo

GB * *Quantity in the Safety Device*

FR * Quantité présente dans le dispositif

DE * *In der Vorrichtung vorhandene Menge*



FRIZIONE SEMIAPERTA CON RUOTA LIBERA

RJF

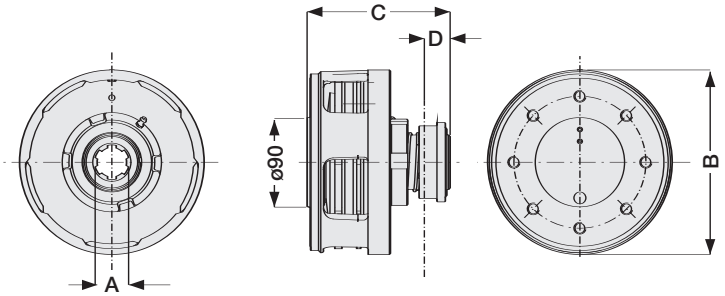
HALF-OPENED DISC CLUTCH TORQUE LIMITER WITH OVERRUNNING CLUTCH

LIMITEUR À DISQUE DE FRICTION DEMI-OUVERTE AVEC ROUE LIBRE

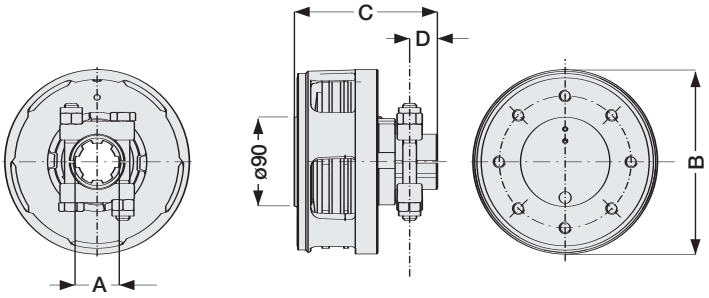
HALBOFFENE REIBSCHEIBENKUPPLUNG MIT FREILAUF

RJF

RJ6F - RJ7F



RJ8F - RJ9F



Type	Ref.	A	B mm	B inch	C mm	C inch	D mm	D inch	MAX Nm	MAX in.lb	
60	RJ6F	1 3/8" z6	186	7 21/64"	141	5 35/64"	26	1 1/32"	1600	14,100	**148.404.501**
60	RJ7F	1 3/8" z21	186	7 21/64"	141	5 35/64"	26	1 1/32"	1600	14,100	**148.404.502**
60	RJ8F	1 3/4" z6	186	7 21/64"	141	5 35/64"	28	1 7/64"	1600	14,100	**148.404.503**
60	RJ9F	1 3/4" z20	186	7 21/64"	141	5 35/64"	28	1 7/64"	1600	14,100	**148.404.504**
80	RJ6F	1 3/8" z6	186	7 21/64"	141	5 35/64"	26	1 1/32"	2000	17,700	**148.404.505**
80	RJ7F	1 3/8" z21	186	7 21/64"	141	5 35/64"	26	1 1/32"	2000	17,700	**148.404.506**
80	RJ8F	1 3/4" z6	186	7 21/64"	141	5 35/64"	28	1 7/64"	2000	17,700	**148.404.507**
80	RJ9F	1 3/4" z20	186	7 21/64"	141	5 35/64"	28	1 7/64"	2000	17,700	**148.404.508**
90	RJ6F	1 3/8" z6	186	7 21/64"	141	5 35/64"	26	1 1/32"	2400	21,200	**148.404.509**
90	RJ7F	1 3/8" z21	186	7 21/64"	141	5 35/64"	26	1 1/32"	2400	21,200	**148.404.510**
90	RJ8F	1 3/4" z6	186	7 21/64"	141	5 35/64"	28	1 7/64"	2400	21,200	**148.404.511**
90	RJ9F	1 3/4" z20	186	7 21/64"	141	5 35/64"	28	1 7/64"	2400	21,200	**148.404.512**
120	RJ8F	1 3/4" z6	186	7 21/64"	141	5 35/64"	28	1 7/64"	3300	29,000	**148.404.515**
120	RJ9F	1 3/4" z20	186	7 21/64"	141	5 35/64"	28	1 7/64"	3300	29,000	**148.404.516**

IT
A richiesta:
- senso di rotazione antiorario

GB
On request:
- anti-clockwise direction of rotation

FR
En option:
- rotation à gauche

DE
Auf Wunsch:
- *Drehrichtung im Gegenuhrzeigersinn*

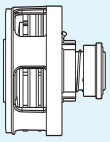
FRIZIONE SEMIAPERTA CON RUOTA LIBERA

RJF

HALF-OPENED DISC CLUTCH TORQUE LIMITER WITH OVERRUNNING CLUTCH

LIMITEUR À DISQUE DE FRICTION DEMI-OUVERTE AVEC ROUE LIBRE

HALBOFFENE REIBSCHEIBENKUPPLUNG MIT FREILAUF



IT

Il dispositivo comprende un limitatore di coppia a dischi d'attrito (frizione) e una ruota libera integrati. La funzionalità assomma quelle dei singoli dispositivi con il vantaggio di risparmiare spazio e di consentire il montaggio sullo stesso lato del cardano. Il dispositivo è utile come organo di sicurezza contro picchi di carico e in macchine con grosse masse rotanti, sia durante l'avviamento che durante l'arresto, evitando inutili sollecitazioni della PTO del trattore. Questo tipo di frizione risulta avere la taratura non modificabile ed inoltre l'utilizzo di speciali molle a tazza in luogo delle più comuni molle elicoidali rende costante la taratura nonostante il progressivo consumo dei dischi d'attrito.

GB

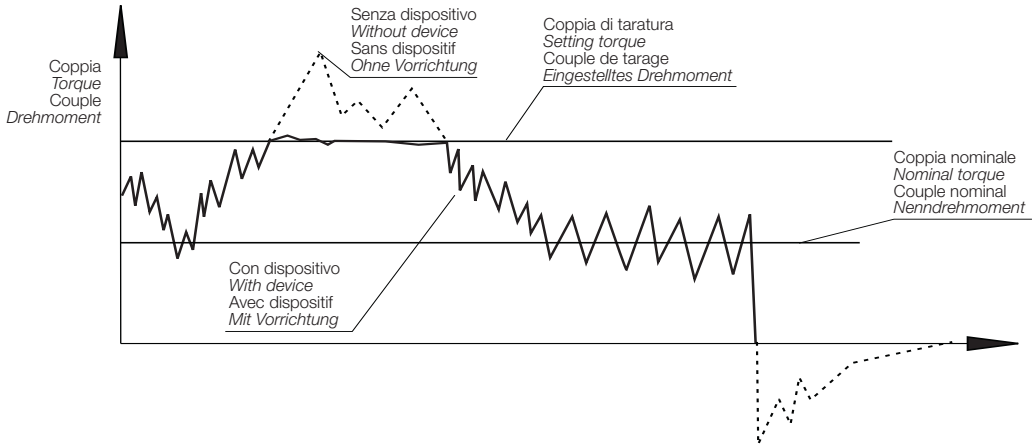
The device includes a disc clutch torque limiter and an incorporated overrunning clutch. The device combines the functions of the single devices thus reducing space and allowing it to be mounted on the same side of the cardan. It is useful as a safety device to protect against load peaks and in implements with large rotating mass during start-up and stopping operations, thus avoiding unnecessary stress on the tractor PTO. The torque setting of this clutch is not adjustable and the use of special Belleville springs instead of the helical springs ensures a stable torque setting compensating for the natural wear of the friction linings.

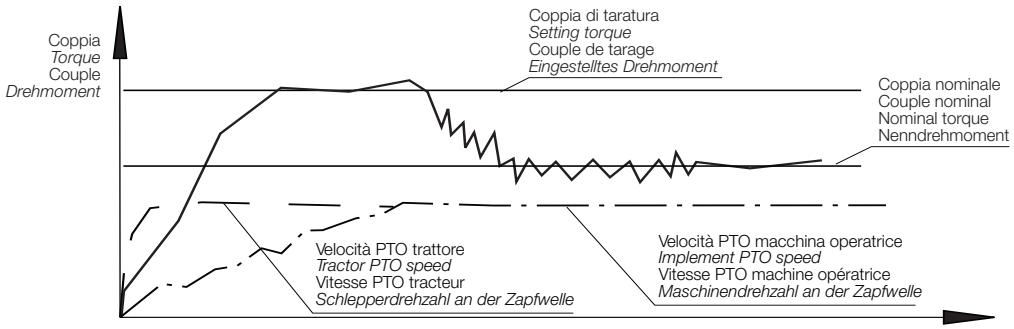
FR

Le dispositif est constitué d'un limiteur à disque de friction et d'une roue libre intégré. Le dispositif a une double utilité correspondant aux fonctions respectives des deux éléments dont il est constitué. Il offre en outre l'avantage d'être peu encombrant et de permettre le montage des deux éléments dont il est constitué du même côté de l'arbre à cardans. Il est d'une grande utilité comme dispositif de sécurité contre les pics de charge ainsi que sur les machines caractérisées par une grande inertie de rotation, aussi bien au démarrage qu'à l'arrêt, ce qui permet d'éviter que la prise de force du tracteur ne subisse d'inutiles sollicitations. Le tarage de ce type de limiteur ne peut pas être modifié. L'utilisation de ressorts Belleville à la place des ressorts hélicoïdaux rend le tarage constant malgré l'usure progressive des disques de friction.

DE

Die Vorrichtung besteht aus einem Drehmomentbegrenzer mit Reibscheiben und aus einem integrierten Freilauf. Die Vorrichtung vereint in sich die Funktionen der verschiedenen einzelnen Vorrichtungen, mit dem Vorteil eines geringeren Raumbedarfs und der Montage an derselben Seite der Gelenkwelle. Sie ist nützlich sowohl als Schutz gegen Belastungsspitzen als auch bei Maschinen mit großer Rotationsträgheit, sowohl beim Anlassen als auch bein Anhalten, da sie unnötige Belastungen der Zapfwelle des Schleppers verhindert. Die Eichung dieser Kupplung kann nicht verändert werden und außerdem wird durch die Verwendung von speziellen Tellerfedern anstatt der normalen Schraubenfedern dafür gesorgt, dass die Eichung trotz der fortschreitenden Abnutzung der Reibscheiben konstant bleibt.





IT

Le frizioni possono raggiungere elevate temperature.
Non toccare!
Per evitare rischi di incendio, mantenere la zona adiacente la frizione pulita da materiale infiammabile ed evitare slittamenti prolungati.

GB

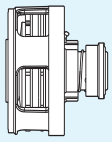
Friction clutches may become hot during use.
Do not touch!
Keep the area around the friction clutch clear of any material which could catch fire and avoid prolonged slipping.

FR

Le limiteur peut atteindre des températures élevées.
Ne pas toucher !
Pour prévenir tout risque d'incendie, la zone près du limiteur doit toujours être propre sans matériau inflammable. Il faudra aussi éviter les patinages prolongés.

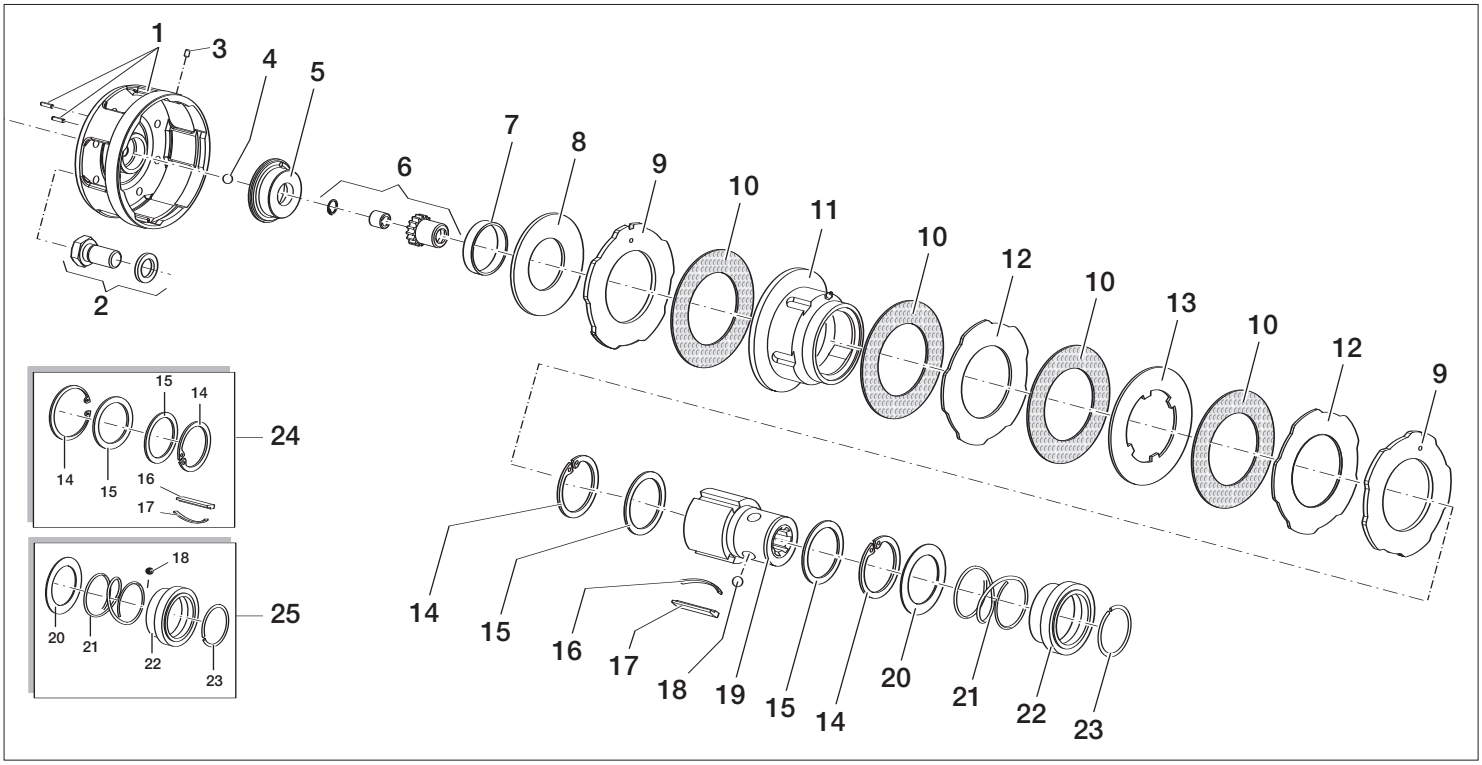
DE

Die Kupplungen können sehr hohe Temperaturen erreichen.
Nicht berühren!
Um Brandrisiken zu vermeiden, brennbares Material von der Kupplung fernhalten und längere Rutschphasen vermeiden.



FRIZIONE SEMIAPERTA CON RUOTA LIBERA
RJF — HALF-OPENED DISC CLUTCH TORQUE LIMITER WITH OVERRUNNING CLUTCH — RJF
LIMITEUR À DISQUE DE FRICTION DEMI-OUVERTE AVEC ROUE LIBRE
HALBOFFENE REIBSCHEIBENKUPPLUNG MIT FREILAUF

- RJ6F / RJ7F -



Pos.	(IT)	(GB)	(FR)	(DE)	Cod.	Qty *
1	Fondello corpo RJF	*Outer casing JRF*	Boîtier RJF	*Gehäuseboden RJF*	**141.027.285**	1
2	Viti M12x1.25x25 + rondelle	*Bolt M12x1,25x25 + nut*	Kit vis M12x1,25x25+ écrou	*Schraubensatz M12x1,25x25+Mutter*	**165.000.708**	8
3	Grano UNI 5923-M6x12-45H	*Screw UNI 5923-M6x12-45H*	Cheville UNI 5923-M6x12-45H	*Zapfen UNI 5923-M6x12-45H*	**190.000.617**	1
4	Sfera ø1/2"	*Ball ø1/2"D3*	Billes ø1/2"D3	*Kugeln ø1/2"D3*	**190.000.078**	1
5	Anello centraggio	*Pilot ring*	Anneau d'alignement	*Zentrierungsring*	**151.017.370**	1
6	Sistema di registrazione	*Setting system*	Systeme de réglage	*Einstellsystem*	**165.000.758**	1
7	Bronzina friziona	*Bush*	Coussinet	*Buchse*	**180.017.369**	1
8	Molla a tazza	*Belleville spring*	Ressort Belleville	*Tellerfeder*	**190.000.607**	1
9	Disco spingi frizione/arresto	Pressure plate/stop ring	Disque de compression/d'arret	*Druckscheibe/Haltescheibe*	**180.017.288**	2
10	Disco d'attrito ø162xø100	*Lining ring ø162xø100*	Disque de friction ø162xø100	*Reibscheiben ø162xø100*	**180.019.333**	4
11	Corpo RJ	*Torque limiter support RJ*	Boîtier RJ	*Gehäuse RJ*	**141.027.374**	1
12	Disco intermedio	*Inner plate*	Disque intermédiaire	*Zwischenscheibe*	**180.017.291**	2
13	Disco sagomato	*Intermediate plate*	Disque profilé	*Profilscheibe*	**180.019.334**	1
14	Seeger	*Snap ring*	Jonc	*Sicherungsring*	**190.000.183**	2
15	Anello di rasamento	*Retaining washer ring*	Epaisseur d'ajustement	*Ausgleichring*	**180.014.135**	2
16	Molla a balestra	*leaf spring*	Ressort à lames superposées	*Blattfeder*	**180.014.137**	3
17	Linguetta	*Ratchet*	Languette	*Federkeil*	**151.014.136**	3
18	Sfera ø1/2"	*Ball ø1/2"D3*	Billes ø1/2"D3	*Kugeln ø1/2"D3*	**190.000.078**	3
19	Mozzo R12	*Hub R12*	Moyeu R12	*Nabe R12*	**151.016.546**	1
	Mozzo R13	*Hub R13*	Moyeu R13	*Nabe R13*	**151.016.571**	1
20	Lamierino	*Spring push ring*	Bague	*Federring*	**180.015.143**	1
21	Molla collar	*Collar spring*	Ressort hélicoïdal	*Collarfeder*	**180.016.487**	1
22	Manicotto collar	*Sliding sleeve collar*	Manchon hélicoïdal	*Collarmuffe*	**151.016.486**	1
23	Seeger	*Snap ring*	Jonc	*Sicherungsring*	**190.000.451**	1
24	Kit RF - RJ	*Kit RF - RJ*	Kit *RF - RJ*	*Satz RF - RJ*	**165.000.741**	1
25	Kit collar R12-R13	*Kit collar R12-R13*	Kit collets R12-R	*Collarsatz R12-R13*	**165.000.653**	1

(IT) * Quantità presente nel dispositivo

(GB) * *Quantity in the Safety Device*

(FR) * Quantité présente dans le dispositif

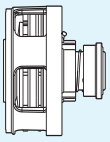
(DE) * *In der Vorrichtung vorhandene Menge*

FRIZIONE SEMIAPERTA CON RUOTA LIBERA

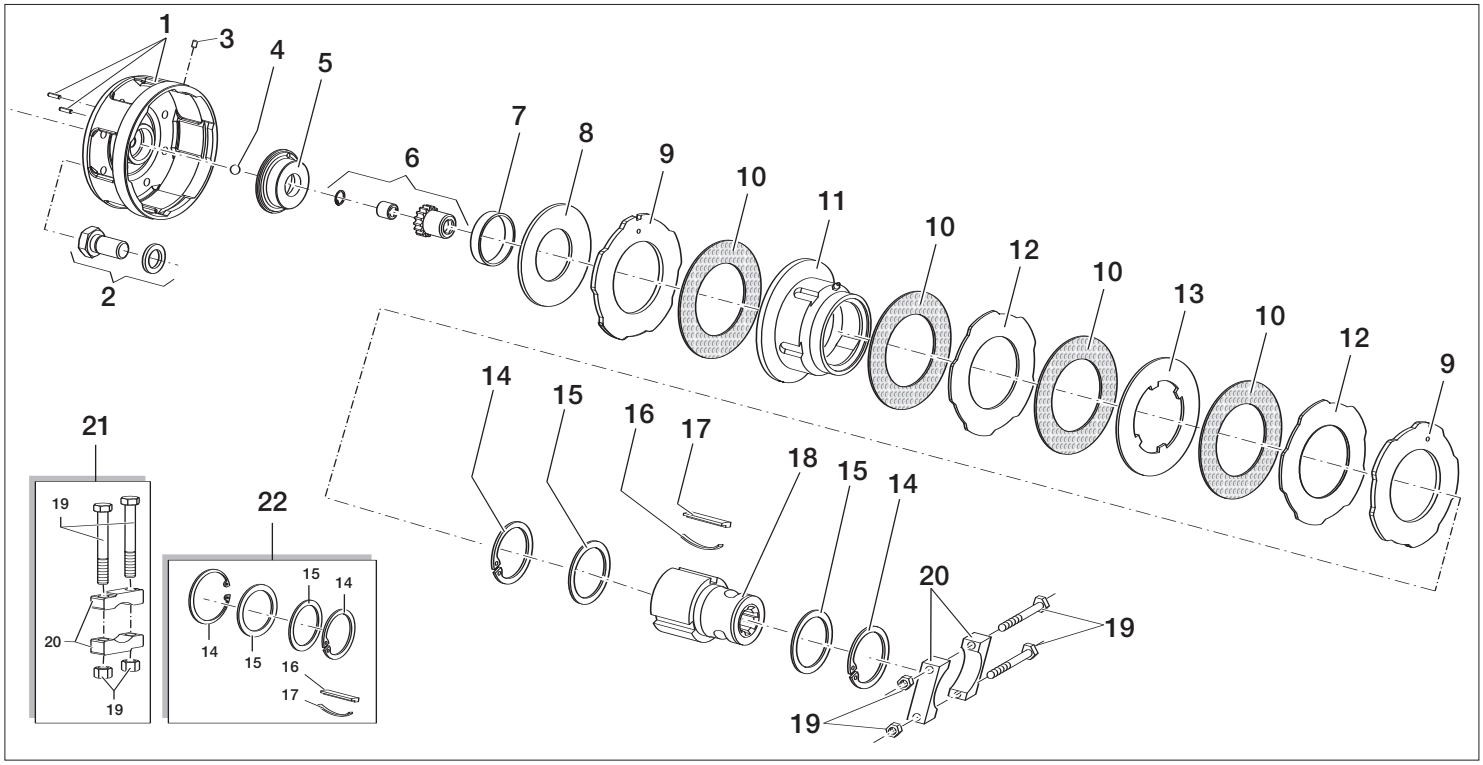
RJF *HALF-OPENED DISC CLUTCH TORQUE LIMITER WITH OVERRUNNING CLUTCH* **RJF**

LIMITEUR À DISQUE DE FRICTION DEMI-OUVERTE AVEC ROUE LIBRE

HALBOFFENE REIBSCHEIBENKUPPLUNG MIT FREILAUF



- RJ8F / RJ9F -



Pos.	(IT)	(GB)	(FR)	(DE)	Cod.	Qty *
1	Fondello corpo RJF	*Outer casing JRF*	Boîtier RJF	*Gehäuseboden RJF*	**141.027.285**	1
2	Viti M12x1.25x25 + rondelle	*Bolt M12x1,25x25 + nut*	Kit vis M12x1,25x25+ écrou	*Schraubensatz M12x1,25x25+Mutter*	**165.000.708**	8
3	Grano UNI 5923-M6x12-45H	*Screw UNI 5923-M6x12-45H*	Cheville UNI 5923-M6x12-45H	*Zapfen UNI 5923-M6x12-45H*	**190.000.617**	1
4	Sfera ø1/2"	*Ball ø1/2"D3*	Billes ø1/2"D3	*Kugeln ø1/2"D3*	**190.000.078**	1
5	Anello centraggio	*Pilot ring*	Anneau d'alignement	*Zentrierungsring*	**151.017.370**	1
6	Sistema di registrazione	*Setting system*	Systeme de réglage	*Einstellsystem*	**165.000.758**	1
7	Bronzina friziona	*Bush*	Coussinet	*Buchse*	**180.017.369**	1
8	Molla a tazza	*Belleville spring*	Ressort Belleville	*Tellerfeder*	**190.000.607**	1
9	Disco spingi frizione/arresto	Pressure plate/stop ring	Disque de compression/d'arret	*Druckscheibe/Haltescheibe*	**180.017.288**	2
10	Disco d'attrito ø162xø100	*Lining ring ø162xø100*	Disque de friction ø162xø100	*Reibscheiben ø162xø100*	**180.019.333**	4
11	Corpo RJ	*Torque limiter support RJ*	Boîtier RJ	*Gehäuse RJ*	**141.027.374**	1
12	Disco intermedio	*Inner plate*	Disque intermédiaire	*Zwischenscheibe*	**180.017.291**	2
13	Disco sagomato	*Intermediate plate*	Disque profilé	*Profilscheibe*	**180.019.334**	1
14	Seeger	*Snap ring*	Jonc	*Sicherungsring*	**190.000.183**	2
15	Anello di rasamento	*Retaining washer ring*	Epaisseur d'ajustement	*Ausgleichring*	**180.014.135**	2
16	Molla a balestra	*leaf spring*	Ressort à lames superposées	*Blattfeder*	**180.014.137**	3
17	Linguetta	*Ratchet*	Languette	*Federkeil*	**151.014.136**	3
18	Vite M14x1.5x100+dado	*Bolt M14x1,5x100 + nut*	Kit vis M14x1,5x100 + écrou	*Schraubensatz M14x1,5x100+Mutter*	**165.000.622**	2
19	Mozzo R14	*Hub R14*	Moyeu R14	*Nabe R14*	**151.014.200**	1
	Mozzo R15	*Hub R15*	Moyeu R15	*Nabe R15*	**165.018.121**	1
20	Ponte di blocco	*Clamp lock*	Pontet de blocage	*Klemmbrücke*	**151.014.201**	2
21	Kit ponti di blocco 1 3/4"	*Clamp lock set 1 3/4"*	Kit pontets de blocage 1 3/4"	*Klemmbrückensatz 1 3/4"*	**165.000.692**	1
22	Kit RF - RJ	*Kit RF - RJ*	Kit RF - RJ	*Satz RF - RJ*	**165.000.741**	1

(IT) * Quantità presente nel dispositivo

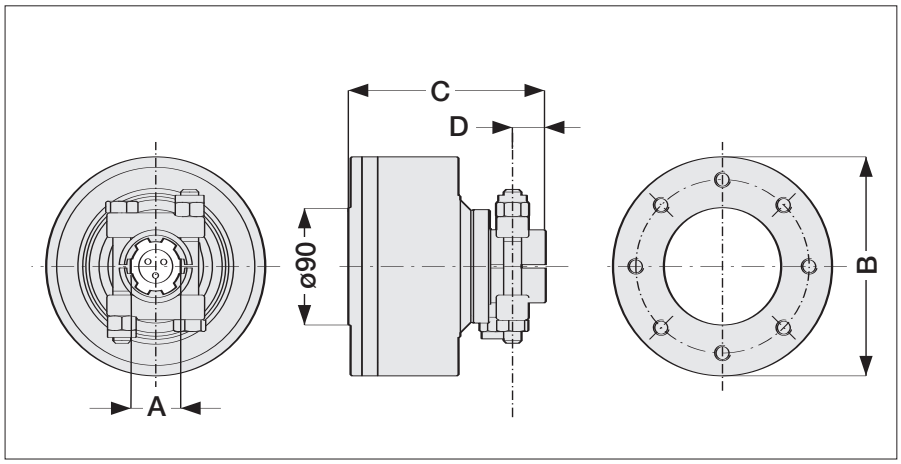
(GB) * *Quantity in the Safety Device*

(FR) * Quantité présente dans le dispositif

(DE) * *In der Vorrichtung vorhandene Menge*

LIMITATORE AUTOMATICO CON RUOTA LIBERA
AUTOMATIC TORQUE LIMITER WITH OVERRUNNING CLUTCH
LIMITEUR DÉBRAYABLE AVEC ROUE LIBRE
NOCKENSCHALTKUPPLUNG MIT FREILAUF

LRF **LRF**



Type	Ref.	A	B mm	B inch	C mm	C inch	D mm	D inch	MAX Nm	MAX in.lb	
60	LR2F	1 3/8" z6	168	6 39/64"	149	5 7/8"	28	1 7/64"	2500	22,100	**144.406.001**
60	LR3F	1 3/8" z21	168	6 39/64"	149	5 7/8"	28	1 7/64"	2500	22,100	**144.406.002**
60	LR4F	1 3/4" z6	168	6 39/64"	149	5 7/8"	28	1 7/64"	2500	22,100	**144.406.003**
60	LR5F	1 3/4" z20	168	6 39/64"	149	5 7/8"	28	1 7/64"	2500	22,100	**144.406.004**
80 90 120	LR2F	1 3/8" z6	168	6 39/64"	149	5 7/8"	28	1 7/64"	3000	26,500	**144.406.005**
80 90 120	LR3F	1 3/8" z21	168	6 39/64"	149	5 7/8"	28	1 7/64"	3000	26,500	**144.406.006**
80 90 120	LR4F	1 3/4" z6	168	6 39/64"	149	5 7/8"	28	1 7/64"	3000	26,500	**144.406.007**
80 90 120	LR5F	1 3/4" z20	168	6 39/64"	149	5 7/8"	28	1 7/64"	3000	26,500	**144.406.008**
80 90 120	LR4F	1 3/4" z6	168	6 39/64"	149	5 7/8"	28	1 7/64"	3500	30,900	**144.406.009**
80 90 120	LR5F	1 3/4" z20	168	6 39/64"	149	5 7/8"	28	1 7/64"	3500	30,900	**144.406.010**

IT

A richiesta:
- senso di rotazione antiorario

Il dispositivo comprende un limitatore a reinnesto automatico COMER e una ruota libera integrati e consente la trasmissione del moto in un solo senso di rotazione. La funzionalità assomma quelle dei singoli dispositivi con il vantaggio di risparmiare spazio e di consentire il montaggio sullo stesso lato del cardano. Il dispositivo è utile come organo di sicurezza contro picchi di carico e in macchine con grosse masse inerziali. Al raggiungimento della soglia di intervento come limitatore, la coppia trasmessa viene ridotta a valori minimi interrompendo di fatto la trasmissione del moto che viene ripristinata automaticamente mediante una diminuzione del regime di rotazione della PTO del trattore e la contemporanea eliminazione della causa esterna. La ruota libera entra in funzione nella fase di arresto facendo si che la PTO del trattore non venga trascinata dalla macchina operatrice.

GB

On request:
- anti-clockwise direction of rotation

The device consists of an integrated COMER automatic torque limiter plus an overrunning clutch, transmitting motion in a single rotation direction. Overall operating capacity is based on the sum of the outputs of the individual devices with the added advantage that it saves space and can be mounted on the same side of the drive shaft. It can be used as a safety device to offset load peaks and in machines with large inertial masses. When the device reaches the limiter tripping threshold, the transmitted torque is reduced to minimum values, cutting off the transmission motion. The motion is restored automatically by reducing the rotation of the tractor PTO while simultaneously eliminating the external cause. The overrunning clutch begins operating during the stop phase, while preventing the tractor PTO from being entrained by the application.

FR

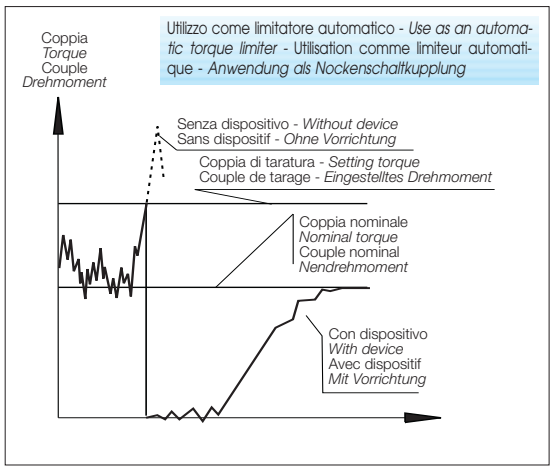
En option:
- rotation à gauche

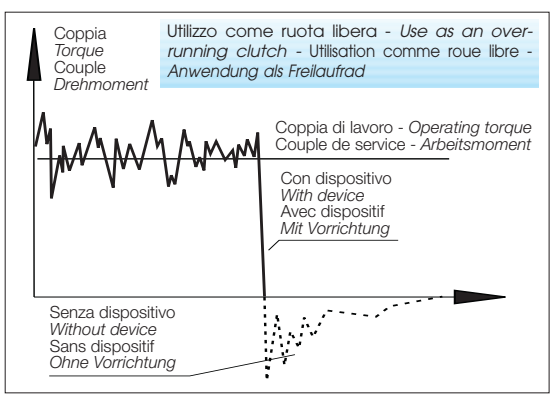
Le dispositif comprend un limiteur à ré-embrayage automatique COMER et une roue libre intégrés. Il permet la transmission du mouvement dans un seul sens de rotation. La fonctionnalité totale rassemble celles de chaque dispositif en alliant l'avantage de pouvoir obtenir un gain d'espace et celui de permettre le montage sur le même côté du cardan. Le dispositif est utile comme organe de sécurité contre les pics de charge et sur les machines de grandes masses inertielles. Lorsque le seuil d'intervention en fonction de limiteur est atteint, le couple transmis est ramené aux valeurs minimum en interrompant de fait la transmission du mouvement, laquelle est automatiquement rétablie à travers une diminution du régime de rotation de la PTO du tracteur et l'élimination simultanée de la cause externe. La roue libre intervient lors de la phase d'arrêt de telle sorte que la PTO du tracteur ne soit pas entraînée par la machine opératrice.

DE

Auf Wunsch:
- *Drehrichtung im Gegenuhrzeigersinn*

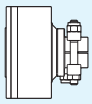
Die Vorrichtung umfasst eine automatische Nockenschaltkupplung COMER und ein Freilaufrad und dient zur Antrieb-sübertragung in eine einzige Drehrichtung. Die Funktionsweise summiert die der einzelnen Vorrichtungen mit dem Vorteil, Raum einzusparen und die Montage auf der gleichen Gelenk-wellenseite zu erlauben. Die Vorrichtung ist als Sicherheitsorgan gegen Belastungsspitzen und in Maschinen mit schweren trägen Massen nützlich. Bei Erreichen der Eingreifschwelle als Nockenschaltkupplung wird das übertragene Drehmoment auf ein Minimum reduziert, und die Antriebsübertragung wird praktisch unterbrochen. Die Antriebsübertragung wird automatisch durch eine Reduzierung der Zapfwellendrehzahl des Traktors und durch die gleichzeitige Behebung der externen Ursache wiederhergestellt. Das Freilaufrad setzt sich in der Anhaltephase in Betrieb, damit die Zapfwelle des Schleppers nicht von der Arbeitsmaschine geschleppt wird.

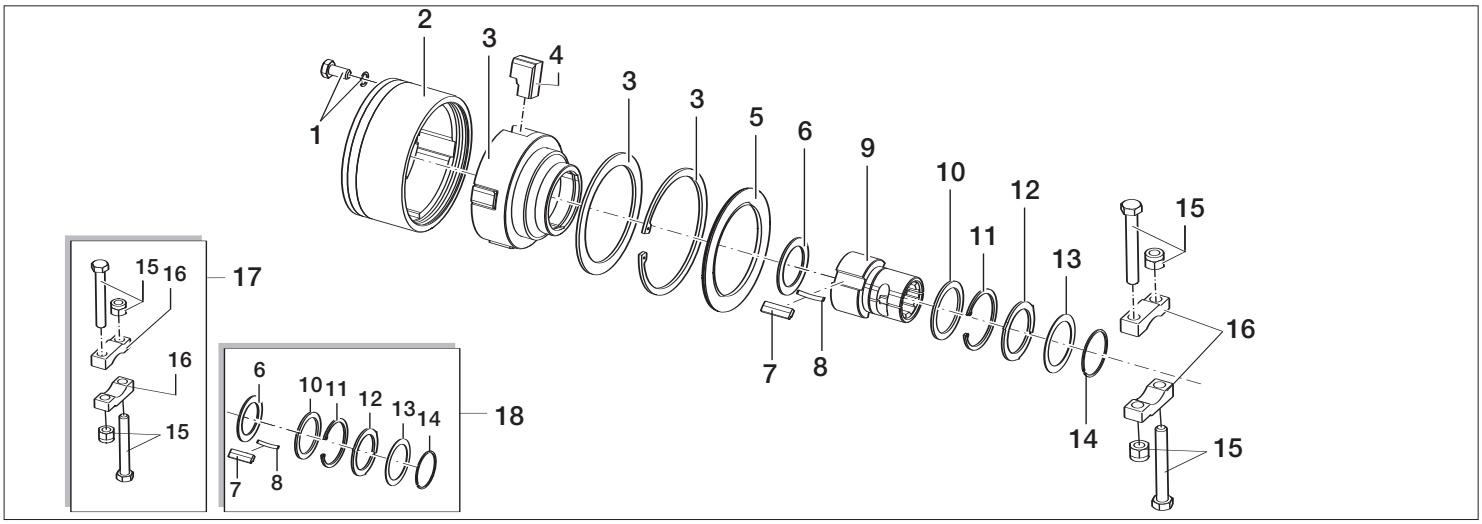




LRF LIMITATORE AUTOMATICO CON RUOTA LIBERA
AUTOMATIC TORQUE LIMITER WITH OVERRUNNING CLUTCH
LIMITEUR DÉBRAYABLE AVEC ROUE LIBRE
NOCKENSCHALTKUPPLUNG MIT FREILAUF

LRF





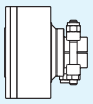
Pos.	IT	GB	FR	DE	Cod.	Qty *
1	Vite M12x1,25x25 + rondella	*Bolt M12x1,25x25 + washer*	Vis M12x1,25x25 + rondelle	*Schraube M12x1,25x25+Unterlegscheibe*	**165.000.708**	8
2	Fondello corpo	*Outer casing*	Boîtier	*Gehäuseboden*	**141.028.411**	1
3	Kit mozzo LR2F - 2500 Nm	*Hub set LR2F - 2500 Nm*	Kit moyeu LR2F - 2500 Nm	*Nabensatz LR2F - 2500 Nm*	**165.000.771**	1
	Kit mozzo LR3F - 2500 Nm	*Hub set LR3F - 2500 Nm*	Kit moyeu LR3F - 2500 Nm	*Nabensatz LR3F - 2500 Nm*	**165.000.772**	1
	Kit mozzo LR4F - 2500 Nm	*Hub set LR4F - 2500 Nm*	Kit moyeu LR4F - 2500 Nm	*Nabensatz LR4F - 2500 Nm*	**165.000.773**	1
	Kit mozzo LR5F - 2500 Nm	*Hub set LR5F - 2500 Nm*	Kit moyeu LR5F - 2500 Nm	*Nabensatz LR5F - 2500 Nm*	**165.000.774**	1
	Kit mozzo LR2F - 3000 Nm	*Hub set LR2F - 3000 Nm*	Kit moyeu LR2F - 3000 Nm	*Nabensatz LR2F - 3000 Nm*	**165.000.775**	1
	Kit mozzo LR3F - 3000 Nm	*Hub set LR2F - 3000 Nm*	Kit moyeu LR3F - 3000 Nm	*Nabensatz LR3F - 3000 Nm*	**165.000.776**	1
	Kit mozzo LR4F - 3000 Nm	*Hub set LR2F - 3000 Nm*	Kit moyeu LR4F - 3000 Nm	*Nabensatz LR4F - 3000 Nm*	**165.000.777**	1
	Kit mozzo LR5F - 3000 Nm	*Hub set LR2F - 3000 Nm*	Kit moyeu LR5F - 3000 Nm	*Nabensatz LR5F - 3000 Nm*	**165.000.778**	1
	Kit mozzo LR4F - 3500 Nm	*Hub set LR4F - 3500 Nm*	Kit moyeu LR4F - 3500 Nm	*Nabensatz LR4F - 3500 Nm*	**165.000.779**	1
	Kit mozzo LR5F - 3500 Nm	*Hub set LR5F - 3500 Nm*	Kit moyeu LR5F - 3500 Nm	*Nabensatz LR5F - 3500 Nm*	**165.000.780**	1
4	Linguetta (tipo 60)	*Ratchet (type 60)*	Languette (type 60)	*Federkeil (Typ 60)*	**151.018.376**	4
	Linguetta (tipo 80-90)	*Ratchet (type 80-90)*	Languette (type 80-90)	*Federkeil (Typ 80-90)*	**151.018.390**	4
5	Paragrasso	*Grease protection*	Bague pare-poussière	*Fettdichtungsring*	**180.018.400**	1
6	Distanziale	*Retaining Washers*	Entretoise	*Abstandring*	**190.000.199**	1
7	Linguetta	*Ratchet*	Languette	*Federkeil*	**151.014.136**	2
8	Molla a balestra	*Leaf Spring*	Ressort a lames superposées	*Blattfeder*	**180.014.137**	2
9	Mozzo 1 3/8" z6	*Hub 1 3/8" z6*	Moyeu 1 3/8" z6	*Nabe 1 3/8" z6*	**151.017.394**	1
	Mozzo 1 3/8" z21	*Hub 1 3/8" z21*	Moyeu 1 3/8" z21	*Nabe 1 3/8" z21*	**151.017.395**	1
	Mozzo 1 3/4" z6	*Hub 1 3/4" z6*	Moyeu 1 3/4" z6	*Nabe 1 3/4" z6*	**151.017.387**	1
	Mozzo 1 3/4" z20	*Hub 1 3/4" z20*	Moyeu 1 3/4" z20	*Nabe 1 3/4" z20*	**151.017.396**	1
10	Anello di rasamento	*Retaining washer ring*	Epaisseur d'ajustement	*Ausgleichring*	**151.014.135**	1
11	Seeger	*Circlip*	Jonc	*Sicherungsring*	**190.000.183**	1
12	Paragrasso per ruota libera	Grease protection	Bague pare-poussière	Fettdichtungsring	**180.017.388**	1
13	Lamierino	*Spring push ring*	Bague	*Federring*	**180.015.143**	1
14	Seeger	*Circlip*	Jonc	*Sicherungsring*	**190.000.079**	1
15	Viti M12x1.25x95 (1 3/8")	*Bolt M12x1.25x95 (1 3/8")*	Kit vis M12x1.25x95 (1 3/8")	*Schraube M12x1.25x95 (1 3/8")*	**165.000.782**	2
	Viti M14x1.5x100 (1 3/4")	*Bolt M14x1.5x100 (1 3/4")*	Kit vis M14x1.5x100 (1 3/4")	*Schraube M14x1.5x100 (1 3/4")*	**165.000.622**	2
16	Ponti di blocco 1 3/8"	*Clamp lock 1 3/8"*	Pontet de blocage 1 3/8"	*Klemmbrücke 1 3/8"*	**151.016.525**	2
	Ponti di blocco 1 3/4"	*Clamp lock 1 3/4"*	Pontet de blocage 1 3/4"	*Klemmbrücke 1 3/4"*	**151.014.201**	2
17	Kit ponti di blocco 1 3/8"	*Clamp lock set 1 3/8"*	Kit pontets de blocage 1 3/8"	*Klemmbrückensatz 1 3/4"*	**165.000.783**	1
	Kit ponti di blocco 1 3/4"	*Clamp lock set 1 3/4"*	Kit pontets de blocage 1 3/4"	*Klemmbrückensatz 1 3/4"*	**165.000.692**	1
18	Kit LR	*Kit LR*	Kit LR	*Satz LR*	**165.000.781**	1

IT * Quantità presente nel dispositivo

GB * *Quantity in the Safety Device*

FR * Quantité présente dans le dispositif

DE * *In der Vorrichtung vorhandene Menge*



LR

LIMITATORE AUTOMATICO CON RUOTA LIBERA
AUTOMATIC TORQUE LIMITER WITH OVERRUNNING CLUTCH
LIMITEUR DÉBRAYABLE AVEC ROUE LIBRE
NOCKENSCHALTKUPPLUNG MIT FREILAUF

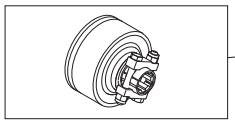
LR

Nomenclatura della stampigliatura d'identificazione del limitatore "L"

Nomenclature of the identification stamping on the "L" limiter

Nomenclature de l'estampillage d'identification du limiteur "L"

Beschriftung des Identifizierungsstempels der Kupplung "L"



2 5 C 1 5 9 B D

15=1500 Nm
16=1600 Nm
17=1700 Nm
18=1800 Nm
19=1900 Nm
20=2000 Nm
21=2100 Nm
22=2200 Nm
23=2300 Nm
24=2400 Nm
25=2500 Nm
26=2600 Nm
27=2700 Nm
28=2800 Nm
29=2900 Nm
30=3000 Nm
31=3100 Nm
32=3200 Nm
33=3300 Nm
34=3400 Nm
35=3500 Nm

Mese di produzione
Production month
Mois de production
Herstellungsmonat

A = Gen	*Jan*	Jan	*Jan*
B = Feb	*Feb*	Fév	*Feb*
C = Mar	*Mar*	Mar	*Mär*
D = Apr	*Apr*	Avr	*Apr*
E = Mag	*May*	Mai	*Mai*
F = Giu	*Jun*	Jun	*Jun*
G = Lug	*Jul*	Jui	*Jul*
H = Ago	*Aug*	Aoû	*Aug*
I = Set	*Sep*	Sep	*Sep*
J = Ott	*Oct*	Oct	*Okt*
K = Nov	*Nov*	Nov	*Nov*
L = Dic	*Dec*	Déc	*Dic*

Numero progressivo del pezzo

Parts progressive number

Numéro progressif de la pièce

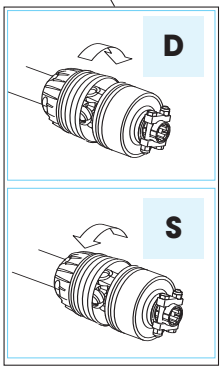
Laufende Tellenummer

N

Anno di produzione
Production year
Année de fabrication
Herstellungsjahr

A	=	1999
B	=	2000
C	=	2001
D	=	2002
E	=	2003
F	=	2004
G	=	2005
H	=	2006
I	=	2007

etc.



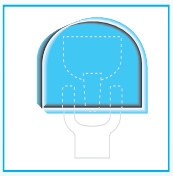
SEZIONE 8: **Protezioni**

SECTION 8: ***Guards***

CHAPITRE 8: **Protecteurs**

TEIL 8: ***Schutzvorrichtungen***

comer industries
driveshafts



Protezioni per cardani omocinetici CvJ
Guards for PTO drive shafts CvJ
Protecteurs pour arbres à cardan CvJ
Schutzvorrichtungen fur Weitwinkelgelenkwellen CvJ

Protezione completa CvJ - *Complete guard CvJ*
Protecteur complet CvJ - *Komplette Schutzvorrichtung CvJ* 126
Semiprotezione esterna/interna - *Half-guard outer/inner*
Demi-protecteur extérieur/intérieur - *Schutzvorrichtung Aussen/Innen* 130

Protezioni per cardani
Guards for PTO drive shafts
Protecteurs pour arbres à cardan
Schutzvorrichtungen für Gelenkwellen

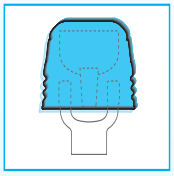
Protezione completa - *Complete guard*
Protecteur complet - *Komplette Schutzvorrichtung* 131
Semiprotezione esterna/interna - *Half-guard outer/inner*
Demi-protecteur extérieur/intérieur - *Schutzvorrichtung Aussen/Innen* 132

Accessori
Accessories
Accessoires
Zubehör

Cuffie, ghiere, bottoni, catene - *Cones, retaining collar, bolt, chain*
Cônes, anneau, vis, chaînette - *Haube, Aussering, Schraube, Haltekette* 134

comer industries
driveshafts

Protezioni per cardani omocinetici CvJ
Guards for PTO drive shafts CvJ
Protecteurs pour arbres à cardan CvJ
Schutzvorrichtungen fur Weitwinkelgelenkwellen CvJ



Protezione completa CvJ - *Complete guard CvJ*
Protecteur complet CvJ - *Komplette Schutzvorrichtung CvJ* 136
Semiprotezione esterna/interna - *Half-guard outer/inner*
Demi-protecteur extérieur/intérieur - *Schutzvorrichtung Aussen/Innen* 140

Protezioni per cardani
Guards for PTO drive shafts
Protecteurs pour arbres à cardan
Schutzvorrichtungen für Gelenkwellen

Protezione completa - *Complete guard*
Protecteur complet - *Komplette Schutzvorrichtung* 141
Semiprotezione esterna/interna - *Half-guard outer/inner*
Demi-protecteur extérieur/intérieur - *Schutzvorrichtung Aussen/Innen* 142

Accessori
Accessories
Accessoires
Zubehör

Cuffie, ghiere, catene - *Cones, retaining collar, chain*
Cônes, anneau, chaînette - *Haube, Aussering, Haltekette* 144

Controcuffie
Counter-cones
Boles de protection
Schutztopf

Controcuffie fisse - *Fixed counter-cones*
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Bols de protection amovibles - *Abnehmbarer schutztopf* 147
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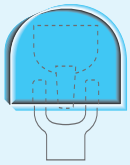
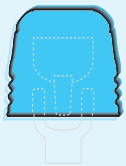
COME ORDINARE UNA PROTEZIONE
HOW TO ORDER A GUARD
COMMENT COMMANDER UN PROTECTEUR
WIE BELSTELLT MAN EINE SCHUTZVORRICHTUNG





1	4	2	.				.				.				

Serie *Series* Série *Serie*

V CvJ	2
T CvJ	3
T	7
E	8
V	9
D	0

Tipo *Type* Type *Typ*

10	1
20	2
40	4
50	5
60	6
80	8
90	9
120	2

Versione *Version* Exécution *Version*

2	F
3	CE
4	N
5	EN

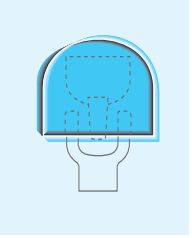
0	Giallo / *Yellow* Jaune / *Gelb*
1	Nero / *Black* Noir / *Schwarz*

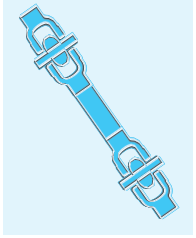
(IT) Le protezioni sono fornibili a richiesta, con applicate decalcomanie tipo:
- USA - CANADA -

(GB) *The guards can be supplied on request with the following decals included:*
- USA - CANADA -

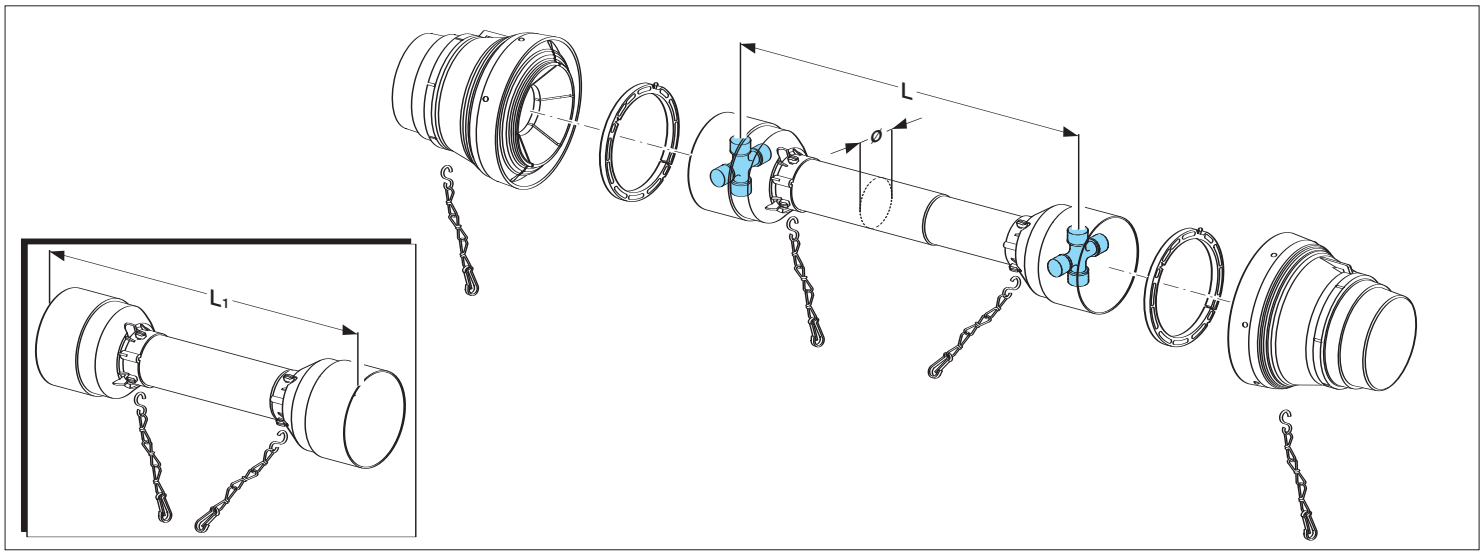
(FR) Les protecteurs sont disponibles en option avec des autocollants type:
- USA - CANADA -

(DE) *Die Schutzvorrichtungen auf Wunsch mit Aufklebern geliefert, z.B.:*
- USA - KANADA -





PROTEZIONE COMPLETA - DOPPIO - SERIE V
COMPLETE GUARD - DOUBLE - SERIES V
PROTECTEUR COMPLET - DOUBLE - SERIE V
KOMPLETTE SCHUTZVORRICHTUNG - BEIDSEITIG - SERIE V



Type	ø = 61 **20**		ø = 66,5 **40**		ø = 81,2 **60**		ø = 96 **80**	
	L1	Cod.	L1	Cod.	L1	Cod.	L1	Cod.
L = **410**	340	142.922.001.2230	355	142.942.001.2430	350	142.962.004.2630	330	142.982.003.2830
L = **460**	390	142.922.002.2230	405	142.942.002.2430	400	142.962.005.2630	380	142.982.004.2830
L = **510**	440	142.922.003.2230	455	142.942.003.2430	450	142.962.006.2630	430	142.982.005.2830
L = **560**	490	142.922.004.2230	505	142.942.004.2430	500	142.962.007.2630	480	142.982.006.2830
L = **610**	540	142.922.005.2230	555	142.942.005.2430	550	142.962.008.2630	530	142.982.007.2830
L = **660**	590	142.922.006.2230	605	142.942.006.2430	600	142.962.009.2630	580	142.982.008.2830
L = **710**	640	142.922.007.2230	655	142.942.007.2430	650	142.962.010.2630	630	142.982.009.2830
L = **760**	690	142.922.008.2230	705	142.942.008.2430	700	142.962.011.2630	680	142.982.010.2830
L = **810**	740	142.922.009.2230	755	142.942.009.2430	750	142.962.012.2630	730	142.982.011.2830
L = **860**	790	142.922.010.2230	805	142.942.010.2430	800	142.962.013.2630	780	142.982.012.2830
L = **910**	840	142.922.011.2230	855	142.942.011.2430	850	142.962.014.2630	830	142.982.013.2830
L = **1010**	940	142.922.012.2230	955	142.942.012.2430	950	142.962.015.2630	930	142.982.014.2830
L = **1110**	1040	142.922.013.2230	1055	142.942.013.2430	1050	142.962.016.2630	1030	142.982.015.2830
L = **1210**	1140	142.922.014.2230	1155	142.942.014.2430	1150	142.962.001.2630	1130	142.982.001.2830
L = **1310**	1240	142.922.015.2230	1255	142.942.015.2430	1250	142.962.017.2630	1230	142.982.016.2830
L = **1410**	1340	142.922.016.2230	1355	142.942.016.2430	1350	142.962.018.2630	1330	142.982.017.2830

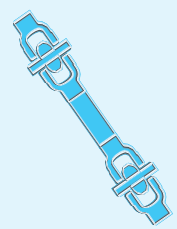
(IT) Codici relativi alle protezioni per i cardani versione CE

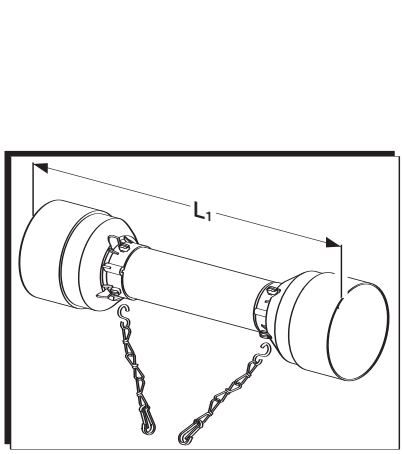
(GB) *All codes refer to guards for PTO drive shaft CE version*

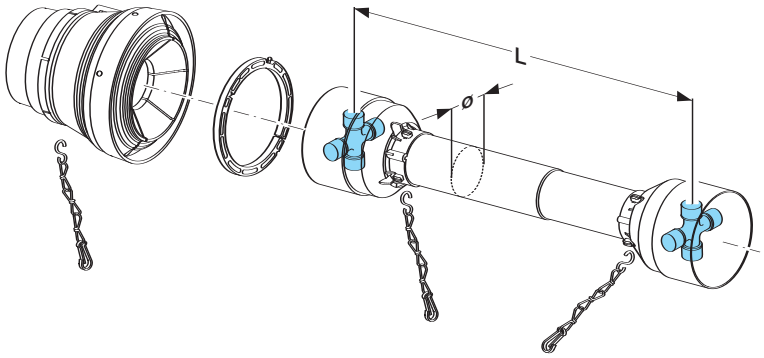
(FR) Ces références se rapportent aux protections pour les cardans exécution CE

(DE) *Die Kennzahlen beziehen sich auf die Schutzvorrichtungen für die Gelenkwellen der Version CE.*

PROTEZIONE COMPLETA - SINGOLO - SERIE V
COMPLETE GUARD - SINGLE - SERIES V
PROTECTEUR COMPLET - SIMPLE - SERIE V
KOMPLETTE SCHUTZVORRICHTUNG - EINSEITIG - SERIE V







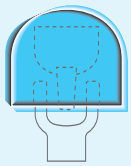
Type	ø = 61 **20**		ø = 66,5 **40**		ø = 81,2 **60**		ø = 96 **80**	
	L1	Cod.	L1	Cod.	L1	Cod.	L1	Cod.
L = **410**	405	142.921.001.2230	410	142.941.001.2430	405	142.961.023.2630	415	142.981.031.2830
L = **460**	455	142.921.002.2230	460	142.941.002.2430	455	142.961.035.2630	465	142.981.032.2830
L = **510**	505	142.921.003.2230	510	142.941.003.2430	505	142.961.036.2630	515	142.981.033.2830
L = **560**	555	142.921.004.2230	560	142.941.004.2430	555	142.961.037.2630	565	142.981.034.2830
L = **610**	605	142.921.005.2230	610	142.941.005.2430	605	142.961.038.2630	615	142.981.035.2830
L = **660**	655	142.921.006.2230	660	142.941.006.2430	655	142.961.039.2630	665	142.981.036.2830
L = **710**	705	142.921.007.2230	710	142.941.007.2430	705	142.961.040.2630	715	142.981.037.2830
L = **760**	755	142.921.008.2230	760	142.941.008.2430	755	142.961.022.2630	765	142.981.016.2830
L = **810**	805	142.921.009.2230	810	142.941.009.2430	805	142.961.041.2630	815	142.981.038.2830
L = **860**	855	142.921.010.2230	860	142.941.010.2430	855	142.961.006.2630	865	142.981.003.2830
L = **910**	905	142.921.011.2230	910	142.941.011.2430	905	142.961.004.2630	915	142.981.005.2830
L = **1010**	1005	142.921.012.2230	1010	142.941.012.2430	1005	142.961.018.2630	1015	142.981.039.2830
L = **1110**	1105	142.921.013.2230	1110	142.941.013.2430	1105	142.961.008.2630	1115	142.981.040.2830
L = **1210**	1205	142.921.014.2230	1210	142.941.014.2430	1205	142.961.019.2630	1215	142.981.015.2830
L = **1310**	1305	142.921.015.2230	1310	142.941.015.2430	1305	142.961.020.2630	1315	142.981.041.2830
L = **1410**	1405	142.921.016.2230	1410	142.941.016.2430	1405	142.961.017.2630	1415	142.981.042.2830

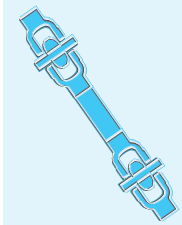
IT Codici relativi alle protezioni per i cardani versione CE

GB *All codes refere to guards for PTO drive shaft CE version*

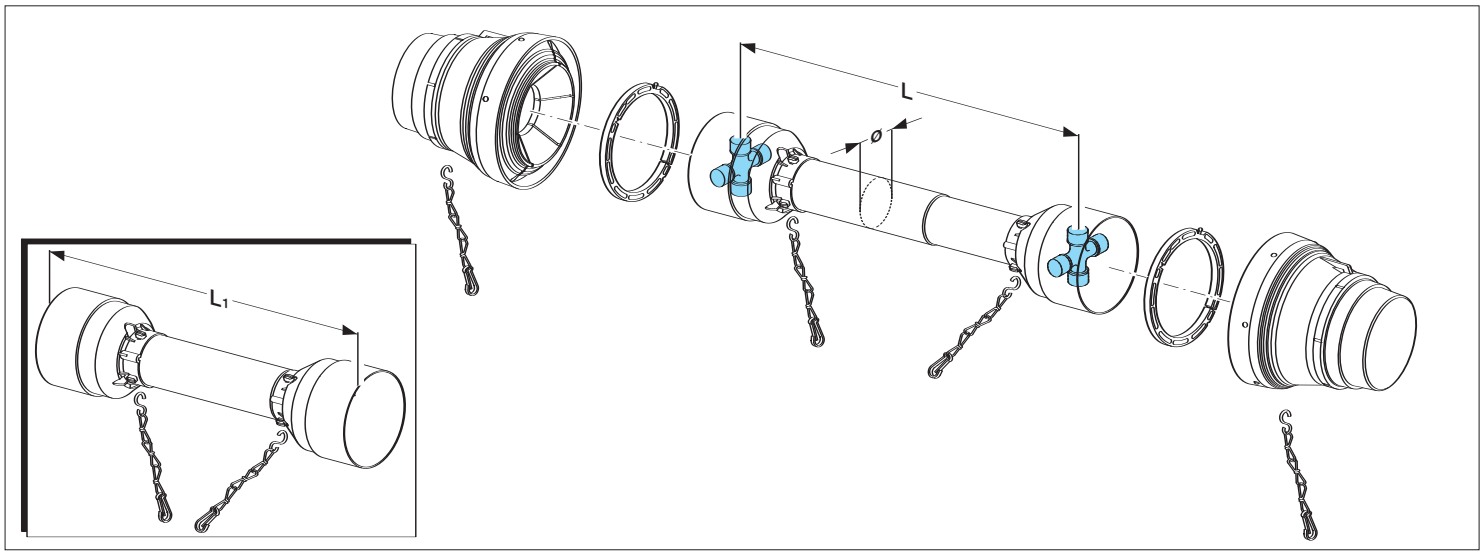
FR Ces références se rapportent aux protections pour les cardans exécution CE

DE *Die Kennzahlen beziehen sich auf die Schutzvorrichtungen für die Gelenkwellen der Version CE.*





PROTEZIONE COMPLETA - DOPPIO - SERIE T
COMPLETE GUARD - DOUBLE - SERIES T
PROTECTEUR COMPLETE - DOUBLE - SERIE T
KOMPLETTE SCHUTZVORRICHTUNG - BEIDSEITIG- SERIE T



	ø = 61	20	ø = 66,5	40	ø = 81,2	60	ø = 96	80
Type	L1	Cod.	L1	Cod.	L1	Cod.	L1	Cod.
L = **410**	340	142.722.008.3230	355	142.742.014.3430	350	142.762.016.3630	330	142.782.010.3830
L = **460**	390	142.722.003.3230	405	142.742.016.3430	400	142.762.017.3630	380	142.782.011.3830
L = **510**	440	142.722.009.3230	455	142.742.009.3430	450	142.762.018.3630	430	142.782.012.3830
L = **560**	490	142.722.010.3230	505	142.742.017.3430	500	142.762.009.3630	480	142.782.007.3830
L = **610**	540	142.722.011.3230	555	142.742.008.3430	550	142.762.019.3630	530	142.782.013.3830
L = **660**	590	142.722.004.3230	605	142.742.018.3430	600	142.762.005.3630	580	142.782.014.3830
L = **710**	640	142.722.002.3230	655	142.742.019.3430	650	142.762.008.3630	630	142.782.015.3830
L = **760**	690	142.722.012.3230	705	142.742.013.3430	700	142.762.010.3630	680	142.782.016.3830
L = **810**	740	142.722.013.3230	755	142.742.003.3430	750	142.762.011.3630	730	142.782.017.3830
L = **860**	790	142.722.014.3230	805	142.742.006.3430	800	142.762.002.3630	780	142.782.018.3830
L = **910**	840	142.722.015.3230	855	142.742.004.3430	850	142.762.020.3630	830	142.782.019.3830
L = **1010**	940	142.722.001.3230	955	142.742.007.3430	950	142.762.013.3630	930	142.782.002.3830
L = **1110**	1040	142.722.016.3230	1055	142.742.005.3430	1050	142.762.004.3630	1030	142.782.006.3830
L = **1210**	1140	142.722.017.3230	1155	142.742.001.3430	1150	142.762.007.3630	1130	142.782.020.3830
L = **1310**	1240	142.722.007.3230	1255	142.742.015.3430	1250	142.762.003.3630	1230	142.782.009.3830
L = **1410**	1340	142.722.018.3230	1355	142.742.020.3430	1350	142.762.021.3630	1330	142.782.008.3830

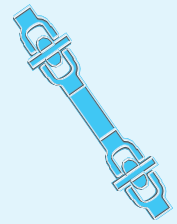
(IT) Codici relativi alle protezioni per i cardani versione CE

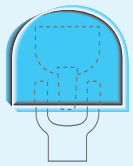
(GB) *All codes refere to guards for PTO drive shaft CE version*

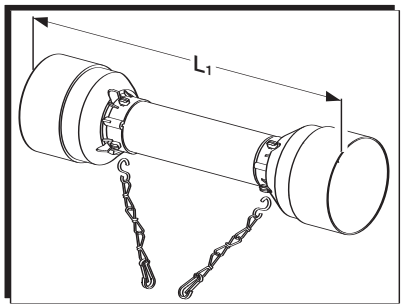
(FR) Ces références se rapportent aux protections pour les cardans exécution CE

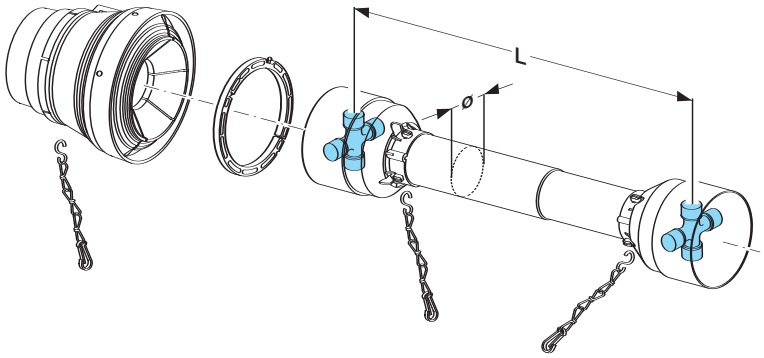
(DE) *Die Kennzahlen beziehen sich auf die Schutzvorrichtungen für die Gelenkwellen der Version CE.*

PROTEZIONE COMPLETA - SINGOLO - SERIE T
COMPLETE GUARD - SINGLE - SERIES T
PROTECTEUR COMPLET - SIMPLE - SERIE T
KOMPLETTE SCHUTZVORRICHTUNG - EINSEITIG - SERIE T









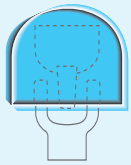
Type	ø = 61 **20**		ø = 66,5 **40**		ø = 81,2 **60**		ø = 96 **80**	
	L1	Cod.	L1	Cod.	L1	Cod.	L1	Cod.
L = **410**	405	142.721.008.3230	410	142.741.013.3430	405	142.761.021.3630	415	142.781.009.3830
L = **460**	455	142.721.002.3230	460	142.741.014.3430	455	142.761.022.3630	465	142.781.010.3830
L = **510**	505	142.721.003.3230	510	142.741.015.3430	505	142.761.023.3630	515	142.781.011.3830
L = **560**	555	142.721.004.3230	560	142.741.016.3430	555	142.761.024.3630	565	142.781.012.3830
L = **610**	605	142.721.005.3230	610	142.741.017.3430	605	142.761.025.3630	615	142.781.013.3830
L = **660**	655	142.721.006.3230	660	142.741.018.3430	655	142.761.001.3630	665	142.781.014.3830
L = **710**	705	142.721.007.3230	710	142.741.001.3430	705	142.761.026.3630	715	142.781.015.3830
L = **760**	755	142.721.001.3230	760	142.741.008.3430	755	142.761.007.3630	765	142.781.016.3830
L = **810**	805	142.721.009.3230	810	142.741.019.3430	805	142.761.027.3630	815	142.781.017.3830
L = **860**	855	142.721.010.3230	860	142.741.020.3430	855	142.761.010.3630	865	142.781.018.3830
L = **910**	905	142.721.011.3230	910	142.741.004.3430	905	142.761.028.3630	915	142.781.019.3830
L = **1010**	1005	142.721.012.3230	1010	142.741.007.3430	1005	142.761.008.3630	1015	142.781.020.3830
L = **1110**	1105	142.721.013.3230	1110	142.741.003.3430	1105	142.761.003.3630	1115	142.781.021.3830
L = **1210**	1205	142.721.014.3230	1210	142.741.002.3430	1205	142.761.004.3630	1215	142.781.022.3830
L = **1310**	1305	142.721.026.3230	1310	142.741.047.3430	1305	142.761.050.3630	1315	142.781.048.3830
L = **1410**	1405	142.721.027.3230	1410	142.741.043.3430	1405	142.761.089.3630	1415	142.781.049.3830

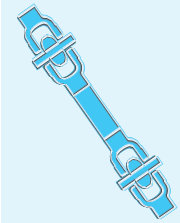
IT Codici relativi alle protezioni per i cardani versione CE

GB *All codes refere to guards for PTO drive shaft CE version*

FR Ces références se rapportent aux protections pour les cardans exécution CE

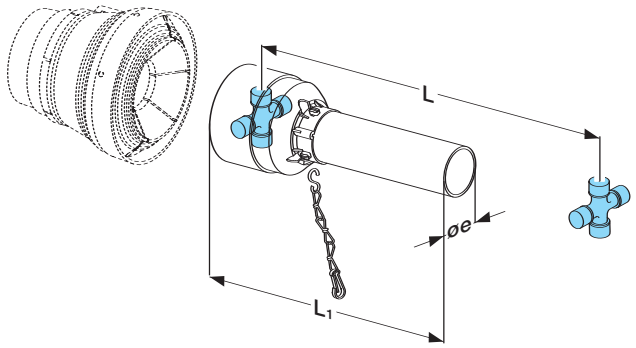
DE *Die Kennzahlen beziehen sich auf die Schutzvorrichtungen für die Gelenkwellen der Version CE.*



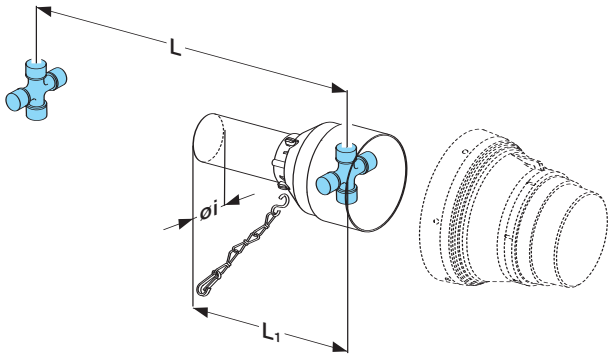


SEMIPROTEZIONE
HALF-GUARD
DEMI-PROTECTEUR
SCHUTZHÄLFTEN

esterna / *outer* / extérieur / *Aussen*



interna / *inner* / intérieur / *Innen*



esterna / *outer* / extérieur / *Aussen*

Type	Øe = 61 Øi = 55,6 **20** L1	Cod.	Øe = 66,5 Øi = 61 **40** L1	Cod.	Øe = 81,2 Øi = 75 **60** L1	Cod.	Øe = 96 Øi = 89,9 **80** L1	Cod.
L = **410**	265	142.226.016.2230	260	142.246.021.2430	245	142.266.040.2630	225	142.283.036.2830
L = **460**	315	142.226.010.2230	310	142.246.022.2430	295	142.266.041.2630	275	142.283.037.2830
L = **510**	365	142.226.011.2230	360	142.246.017.2430	345	142.266.042.2630	325	142.283.038.2830
L = **560**	415	142.226.012.2230	410	142.246.023.2430	395	142.266.043.2630	375	142.283.039.2830
L = **610**	465	142.226.013.2230	460	142.246.024.2430	445	142.266.044.2630	425	142.283.040.2830
L = **660**	515	142.226.014.2230	510	142.246.025.2430	495	142.261.158.2630	475	142.283.041.2830
L = **710**	565	142.226.015.2230	560	142.241.156.2430	545	142.261.037.2630	525	142.283.042.2830
L = **760**	615	142.221.149.2230	610	142.241.186.2430	595	142.261.177.2630	575	142.283.043.2830
L = **810**	665	142.221.156.2230	660	142.246.026.2430	645	142.261.035.2630	625	142.283.044.2830
L = **860**	715	142.226.017.2230	710	142.246.027.2430	695	142.261.183.2630	675	142.281.187.2830
L = **910**	765	142.226.018.2230	760	142.241.159.2430	745	142.266.045.2630	725	142.283.045.2830
L = **1010**	865	142.221.150.2230	860	142.241.184.2430	845	142.261.182.2630	825	142.283.046.2830
L = **1110**	965	142.226.019.2230	960	142.246.018.2430	945	142.261.185.2630	925	142.283.047.2830
L = **1210**	1065	142.226.020.2230	1060	142.241.185.2430	1045	142.261.034.2630	1025	142.283.048.2830
L = **1310**	1165	142.226.046.2230	1160	142.246.084.2430	1145	142.266.048.2630	1125	142.283.126.2830
L = **1410**	1265	142.226.056.2230	1260	142.246.066.2430	1245	142.266.090.2630	1225	142.283.147.2830

interna / *inner* / intérieur / *Innen*

L = **410**	265	142.227.044.2230	260	142.247.047.2430	245	142.267.064.2630	225	142.287.055.2830
L = **460**	315	142.227.017.2230	310	142.247.018.2430	295	142.261.299.2630	275	142.281.275.2830
L = **510**	365	142.227.021.2230	360	142.241.269.2430	345	142.267.001.2630	325	142.281.250.2830
L = **560**	415	142.221.232.2230	410	142.241.261.2430	395	142.261.298.2630	375	142.281.247.2830
L = **610**	465	142.227.020.2230	460	142.241.312.2430	445	142.261.267.2630	425	142.281.276.2830
L = **660**	515	142.227.016.2230	510	142.241.287.2430	495	142.261.272.2630	475	142.287.056.2830
L = **710**	565	142.227.022.2230	560	142.241.313.2430	545	142.261.330.2630	525	142.281.258.2830
L = **760**	615	142.227.045.2230	610	142.247.040.2430	595	142.261.289.2630	575	142.287.059.2830
L = **810**	665	142.227.018.2230	660	142.247.041.2430	645	142.261.270.2630	625	142.281.287.2830
L = **860**	715	142.227.046.2230	710	142.247.026.2430	695	142.261.269.2630	675	142.287.061.2830
L = **910**	765	142.227.047.2230	760	142.241.223.2430	745	142.267.028.2630	725	142.281.267.2830
L = **1010**	865	142.221.246.2230	860	142.247.014.2430	845	142.261.280.2630	825	142.287.008.2830
L = **1110**	965	142.227.048.2230	960	142.247.042.2430	945	142.261.334.2630	925	142.281.292.2830
L = **1210**	1065	142.227.049.2230	1060	142.241.250.2430	1045	142.261.286.2630	1025	142.281.286.2830
L = **1310**	1165	142.227.035.2230	1160	142.241.271.2430	1145	142.267.043.2630	1125	142.287.052.2830
L = **1410**	1265	142.227.019.2230	1260	142.247.046.2430	1245	142.267.005.2630	1225	142.287.053.2830

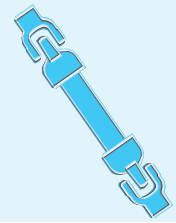
(IT) Codici relativi alle protezioni per i cardani **serie V** versione CE

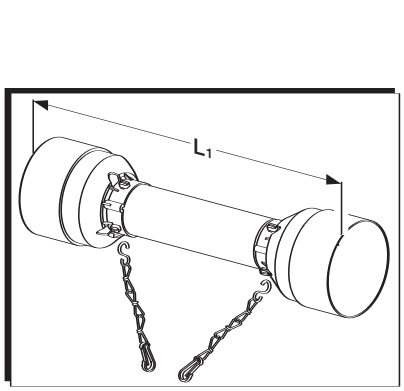
(GB) *All codes refer to guards for **V series** PTO drive shaft CE version*

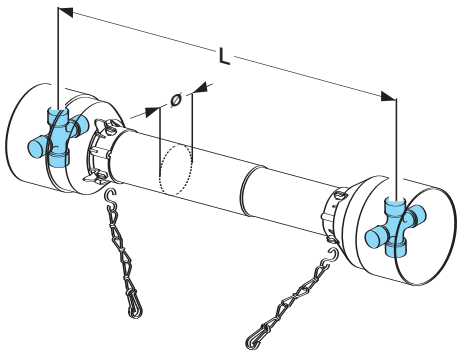
(FR) Ces références se rapportent aux protections pour les cardans de la **série V** exécution CE

(DE) *Die Kennzahlen beziehen sich auf die Schutzvorrichtungen für die Gelenkwellen der **series V** Version CE.*

PROTEZIONE COMPLETA
COMPLETE GUARD
PROTECTEUR COMPLET
KOMPLETTE SCHUTZVORRICHTUNG







Type	ø = 61 **10** L1	Cod. **	ø = 61 **20** L1	Cod.*	ø = 66,5 **40** L1	Cod.*	ø = 81,2 **50** L1	Cod.*
L = **410**	470	142.210.206.7130	470	142.220.206.9230	465	142.240.206.9430	470	142.250.206.9530
L = **460**	520	142.210.243.7130	520	142.220.264.9230	515	142.240.281.9430	520	142.250.004.9530
L = **510**	570	142.210.207.7130	570	142.220.207.9230	565	142.240.207.9430	570	142.250.207.9530
L = **560**	620	142.210.233.7130	620	142.220.269.9230	615	142.240.048.9430	620	142.250.264.9530
L = **610**	670	142.210.208.7130	670	142.220.208.9230	665	142.240.208.9430	670	142.250.208.9530
L = **660**	720	142.210.235.7130	720	142.220.246.9230	715	142.240.286.9430	720	142.250.277.9530
L = **710**	770	142.210.209.7130	770	142.220.209.9230	765	142.240.209.9430	770	142.250.209.9530
L = **760**	820	142.210.236.7130	820	142.220.247.9230	815	142.240.288.9430	820	142.250.278.9530
L = **810**	870	142.210.210.7130	870	142.220.210.9230	865	142.240.210.9430	870	142.250.210.9530
L = **860**	920	142.210.237.7130	920	142.220.248.9230	915	142.240.289.9430	920	142.250.279.9530
L = **910**	970	142.210.211.7130	970	142.220.211.9230	965	142.240.211.9430	970	142.250.211.9530
L = **1010**	1070	142.210.212.7130	1070	142.220.212.9230	1065	142.240.212.9430	1070	142.250.212.9530
L = **1110**	1170	142.210.213.7130	1170	142.220.213.9230	1165	142.240.213.9430	1170	142.250.213.9530
L = **1210**	1270	142.210.214.7130	1270	142.220.214.9230	1265	142.240.214.9430	1270	142.250.214.9530
L = **1310**	1370	142.210.215.7130	1370	142.220.215.9230	1365	142.240.215.9430	1370	142.250.215.9530
L = **1410**	1470	142.210.216.7130	1470	142.220.216.9230	1465	142.240.216.9430	1470	142.250.216.9530

Type	ø = 81,2 **60** L1	Cod.*	ø = 96 **80** L1	Cod.*	ø = 96 **90** L1	Cod.*
L = **410**	465	142.260.302.9630	500	142.286.065.9830	490	142.290.245.9930
L = **460**	515	142.260.207.9630	550	142.286.020.9830	540	142.290.207.9930
L = **510**	565	142.260.017.9630	600	142.286.089.9830	590	142.290.230.9930
L = **560**	615	142.260.208.9630	650	142.286.060.9830	640	142.290.208.9930
L = **610**	665	142.260.003.9630	700	142.286.004.9830	690	142.290.216.9930
L = **660**	715	142.260.209.9630	750	142.286.005.9830	740	142.290.209.9930
L = **710**	765	142.260.004.9630	800	142.286.006.9830	790	142.290.217.9930
L = **760**	815	142.260.210.9630	850	142.286.007.9830	840	142.290.210.9930
L = **810**	865	142.260.005.9630	900	142.286.008.9830	890	142.290.218.9930
L = **860**	915	142.260.211.9630	950	142.286.009.9830	940	142.290.211.9930
L = **910**	965	142.260.006.9630	1000	142.286.010.9830	990	142.290.219.9930
L = **1010**	1065	142.260.212.9630	1100	142.286.011.9830	1090	142.290.212.9930
L = **1110**	1165	142.260.213.9630	1200	142.286.012.9830	1190	142.290.213.9930
L = **1210**	1265	142.260.214.9630	1300	142.286.013.9830	1290	142.290.214.9930
L = **1310**	1365	142.260.215.9630	1400	142.286.086.9830	1390	142.290.215.9930
L = **1410**	1465	142.260.216.9630	1500	142.286.088.9830	1490	142.290.246.9930

IT

* Codici relativi alle protezioni per i cardani **serie V** versione CE

** Codici relativi alle protezioni per i cardani **serie T** versione CE

GB

* *All codes refer to guards for **V series** PTO drive shaft CE version*

** *All codes refer to guards for **T series** PTO drive shaft CE version*

FR

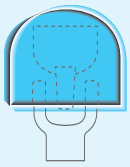
* Ces références se rapportent aux protections pour les cardans de la **série V** exécution CE

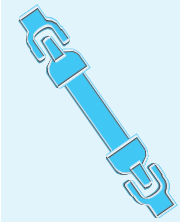
** Ces références se rapportent aux protections pour les cardans de la **série T** exécution CE

DE

* *Die Kennzahlen beziehen sich auf die Schutzvorrichtungen für die Gelenkwellen der **series V** Version CE.*

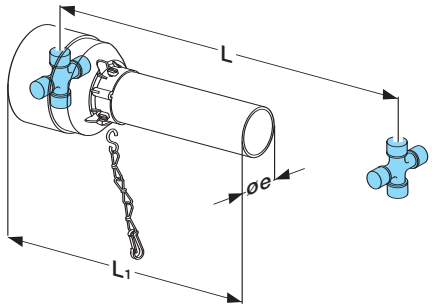
** *Die Kennzahlen beziehen sich auf die Schutzvorrichtungen für die Gelenkwellen der **series T** Version CE.*



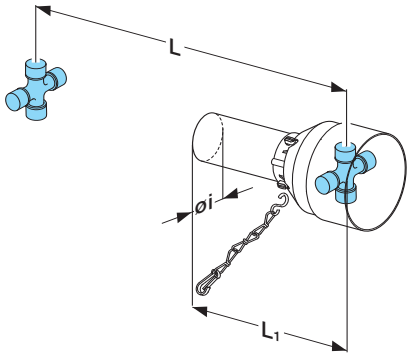


SEMIPROTEZIONE
HALF-GUARD
DEMI-PROTECTEUR
SCHUTZHÄLFTEN

esterna / *outer* / extérieur / *Aussen*



interna / *inner* / intérieur / *Innen*



esterna / *outer* / extérieur / *Aussen*

Type	Øe = 61 Øi = 55,6 **10** L1	Cod.	Øe = 61 Øi = 55,6 **20** L1	Cod.	Øe = 66,5 Øi = 61 **40** L1	Cod.	Øe = 81,2 Øi = 75 **50** L1	Cod.
L = **410**	330	142.211.128.7130	330	142.221.136.9230	315	142.241.155.9430	320	142.256.008.9530
L = **460**	380	142.211.126.7130	380	142.221.152.9230	365	142.241.146.9430	370	142.251.168.9530
L = **510**	430	142.211.134.7130	430	142.221.137.9230	415	142.241.148.9430	420	142.251.144.9530
L = **560**	480	142.211.121.7130	480	142.221.135.9230	465	142.241.175.9430	470	142.251.162.9530
L = **610**	530	142.211.122.7130	530	142.221.139.9230	515	142.241.139.9430	520	142.251.137.9530
L = **660**	580	142.216.007.7130	580	142.221.161.9230	565	142.241.150.9430	570	142.251.174.9530
L = **710**	630	142.211.120.7130	630	142.221.128.9230	615	142.241.140.9430	620	142.251.143.9530
L = **760**	680	142.211.129.7130	680	142.221.162.9230	665	142.241.141.9430	670	142.251.142.9530
L = **810**	730	142.211.123.7130	730	142.221.138.9230	715	142.241.144.9430	720	142.251.146.9530
L = **860**	780	142.216.008.7130	780	142.221.144.9230	765	142.246.012.9430	770	142.251.177.9530
L = **910**	830	142.216.001.7130	830	142.221.147.9230	815	142.241.173.9430	820	142.251.154.9530
L = **1010**	930	142.216.002.7130	930	142.221.127.9230	915	142.241.145.9430	920	142.251.150.9530
L = **1110**	1030	142.211.133.7130	1030	142.221.129.9230	1015	142.241.509.9430	1020	142.256.009.9530
L = **1210**	1130	142.216.003.7130	1130	142.226.001.9230	1115	142.241.149.9430	1120	142.256.010.9530
L = **1310**	1230	142.216.004.7130	1230	142.221.148.9230	1215	142.241.192.9430	1220	142.256.011.9530
L = **1410**	1330	142.216.005.7130	1330	142.226.002.9230	1315	142.246.009.9430	1320	142.251.176.9530

interna / *inner* / intérieur / *Innen*

L = **410**	330	142.211.222.7130	330	142.221.233.9230	315	142.241.252.9430	305	142.257.007.9530
L = **460**	380	142.211.220.7130	380	142.221.247.9230	365	142.241.247.9430	355	142.251.264.9530
L = **510**	430	142.211.219.7130	430	142.221.234.9230	415	142.241.254.9430	405	142.251.242.9530
L = **560**	480	142.211.216.7130	480	142.221.231.9230	465	142.241.253.9430	455	142.251.249.9530
L = **610**	530	142.211.217.7130	530	142.221.235.9230	515	142.241.237.9430	505	142.251.235.9530
L = **660**	580	142.211.224.7130	580	142.221.257.9230	565	142.241.251.9430	565	142.257.016.9530
L = **710**	630	142.211.215.7130	630	142.221.226.9230	615	142.241.241.9430	605	142.251.248.9530
L = **760**	680	142.211.221.7130	680	142.221.242.9230	665	142.241.242.9430	665	142.251.240.9530
L = **810**	730	142.211.218.7130	730	142.221.228.9230	715	142.241.245.9430	705	142.251.244.9530
L = **860**	780	142.217.007.7130	780	142.221.240.9230	765	142.241.274.9430	765	142.251.253.9530
L = **910**	830	142.217.001.7130	830	142.221.244.9230	815	142.241.256.9430	805	142.251.250.9530
L = **1010**	930	142.217.002.7130	930	142.221.225.9230	915	142.241.246.9430	905	142.251.255.9530
L = **1110**	1030	142.211.225.7130	1030	142.221.227.9230	1015	142.241.301.9430	1005	142.257.008.9530
L = **1210**	1130	142.217.003.7130	1130	142.221.251.9230	1115	142.241.243.9430	1105	142.251.274.9530
L = **1310**	1230	142.217.004.7130	1230	142.221.245.9230	1215	142.241.288.9430	1205	142.257.009.9530
L = **1410**	1330	142.217.005.7130	1330	142.227.001.9230	1315	142.247.015.9430	1305	142.257.010.9530

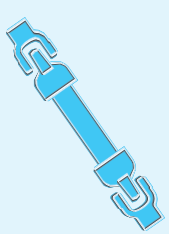
(IT) Codici relativi alle protezioni per i cardani **serie V** versione CE

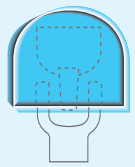
(GB) *All codes refer to guards for **V series** PTO drive shaft CE version*

(FR) Ces références se rapportent aux protections pour les cardans de la **série V** exécution CE

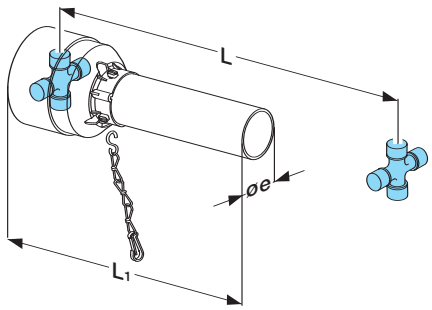
(DE) *Die Kennzahlen beziehen sich auf die Schutzvorrichtungen für die Gelenkwellen der **series V** Version CE*

SEMIPROTEZIONE
HALF-GUARD
DEMI-PROTECTEUR
SCHUTZHÄLFTEN

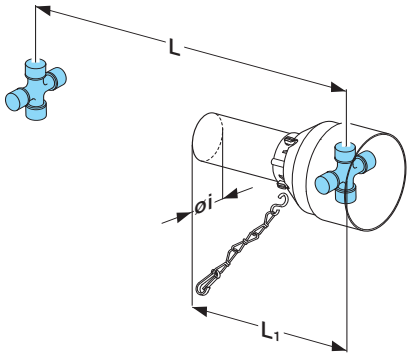




esterna / *outer* / extérieur / *Aussen*



interna / *inner* / intérieur / *Innen*



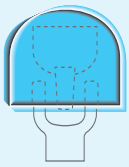
	Type	Øe = 81,2 Øi = 75 **60** L1	Cod.	Øe = 96 Øi = 89,9 **80** L1	Cod.	Øe = 96 Øi = 89,9 **90** L1	Cod..
esterna / *outer* / extérieur / *Aussen*	L = **410**	305	142.266.050.9630	305	142.283.028.9830	295	142.296.026.9930
	L = **460**	355	142.261.004.9630	355	142.281.171.9830	345	142.296.001.9930
	L = **510**	405	142.261.188.9630	405	142.281.141.9830	395	142.296.017.9930
	L = **560**	455	142.261.141.9630	455	142.281.138.9830	445	142.296.002.9930
	L = **610**	505	142.261.154.9630	505	142.281.170.9830	495	142.291.102.9930
	L = **660**	555	142.261.199.9630	555	142.281.155.9830	545	142.296.003.9930
	L = **710**	605	142.261.006.9630	605	142.281.181.9830	595	142.296.009.9930
	L = **760**	655	142.261.152.9630	655	142.281.169.9830	645	142.296.004.9930
	L = **810**	705	142.261.171.9630	705	142.281.174.9830	695	142.296.010.9930
	L = **860**	755	142.261.170.9630	755	142.281.154.9830	745	142.291.101.9930
	L = **910**	805	142.261.148.9630	805	142.281.144.9830	795	142.296.011.9930
	L = **1010**	905	142.261.147.9630	905	142.283.004.9830	895	142.296.005.9930
	L = **1110**	1005	142.261.039.9630	1005	142.281.189.9830	995	142.296.006.9930
	L = **1210**	1105	142.261.156.9630	1105	142.281.157.9830	1095	142.296.007.9930
	L = **1310**	1205	142.261.190.9630	1205	142.283.001.9830	1195	142.296.008.9930
	L = **1410**	1305	142.266.027.9630	1305	142.283.059.9830	1295	142.296.027.9930
interna / *inner* / intérieur / *Innen*	L = **410**	300	142.267.040.9630	305	142.287.029.9830	295	142.297.027.9930
	L = **460**	350	142.261.315.9630	355	142.287.007.9830	345	142.297.001.9930
	L = **510**	400	142.261.284.9630	405	142.287.036.9830	395	142.297.015.9930
	L = **560**	450	142.261.238.9630	455	142.281.285.9830	445	142.297.002.9930
	L = **610**	500	142.261.262.9630	505	142.281.271.9830	495	142.297.009.9930
	L = **660**	550	142.261.256.9630	555	142.281.262.9830	545	142.297.003.9930
	L = **710**	600	142.261.266.9630	605	142.287.003.9830	595	142.297.010.9930
	L = **760**	650	142.261.250.9630	655	142.281.272.9830	645	142.297.004.9930
	L = **810**	700	142.261.275.9630	705	142.281.265.9830	695	142.291.203.9930
	L = **860**	750	142.261.268.9630	755	142.281.257.9830	745	142.291.201.9930
	L = **910**	800	142.261.246.9630	805	142.281.253.9830	795	142.297.011.9930
	L = **1010**	900	142.261.274.9630	905	142.287.004.9830	895	142.297.005.9930
	L = **1110**	1000	142.261.281.9630	1005	142.287.005.9830	995	142.297.006.9930
	L = **1210**	1100	142.261.213.9630	1105	142.281.264.9830	1095	142.297.007.9930
	L = **1310**	1200	142.261.285.9630	1205	142.287.001.9830	1195	142.297.008.9930
	L = **1410**	1300	142.267.025.9630	1305	142.287.043.9830	1295	142.297.028.9930

(IT) Codici relativi alle protezioni per i cardani **serie V** versione CE

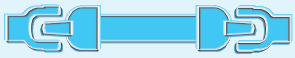
(GB) *All codes refer to guards for **V series** PTO drive shaft CE version*

(FR) Ces références se rapportent aux protections pour les cardans de la **série V** exécution CE

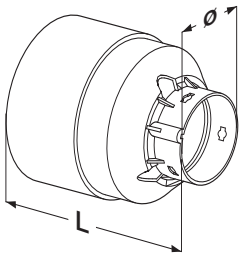
(DE) *Die Kennzahlen beziehen sich auf die Schutzvorrichtungen für die Gelenkwellen der **series V** Version CE*



CUFFIE - GHIERE - BOTTONI - CATENE
CONES - RETAINING COLLAR - BOLT - CHAIN
CONES - ANNEAU - VIS - CHAINETTE
HAUBE - AUSSERING - SCHRAUBE - HALTEKETTE

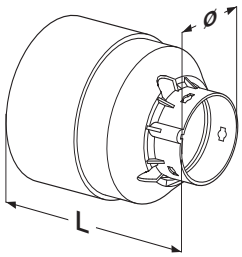


Cuffia esterna
Outer cone
Cône extérieur
Außentrichter



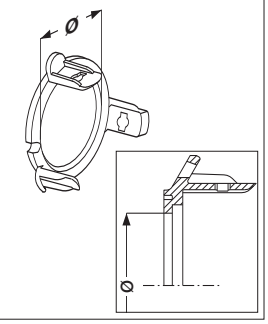
	Versione *Version* Exécution *Version*	10 ø=**61** mm		20 ø=**61** mm		40 ø=**66,5** mm		50 ø=**81,2** mm		60 ø=**81,2** mm		80 ø=**96** mm		90 ø=**96** mm	
		L mm	cod.	L mm	cod.	L mm	cod.	L mm	cod.	L mm	cod.	L mm	cod.	L mm	cod.
CE	Corta/*Short* Court/*kurz*	76	158.032.171	76	158.032.171	94	158.034.024	104	180.036.024	104	180.036.024	108	158.039.126	108	158.039.126
	Standard	140	180.032.013	140	180.032.013	149	180.033.016	165	180.036.023	165	180.036.023	192	180.039.123	192	180.039.123
	Lunga/*Long* Long/*lang*	210	180.031.025	210	180.031.025	234	180.033.029	274	180.035.032	274	180.035.032		-		-
F	Corta/*Short* Court/*kurz*	76	158.022.171	76	158.022.171	94	158.024.024	104	180.026.024	104	180.026.024	108	158.029.126	108	158.029.126
	Standard	140	180.022.013	140	180.022.013	149	180.023.016	165	180.026.023	165	180.026.023	192	180.029.123	192	180.029.123
	Lunga/*Long* Long/*lang*	210	180.022.234	210	180.022.234	234	180.024.402	274	180.025.286	274	180.025.286		-		-

Cuffia interna
Inner cone
Cône intérieur
Innentrichter



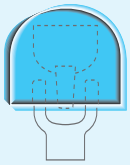
	Versione *Version* Exécution *Version*	10 ø=**55,6** mm		20 ø=**55,6** mm		40 ø=**61** mm		50 ø=**75** mm		60 ø=**75** mm		80 ø=**89,9** mm		90 ø=**89,9** mm	
		L mm	cod.	L mm	cod.	L mm	cod.	L mm	cod.	L mm	cod.	L mm	cod.	L mm	cod.
CE	Corta/*Short* Court/*kurz*	76	158.032.150	76	158.032.150	94	158.034.044	104	180.035.041	104	180.035.041	108	158.039.125	108	158.039.125
	Standard	140	180.032.012	140	180.032.012	149	180.033.015	151	180.035.358	159	180.036.022	192	180.039.124	192	180.039.124
	Lunga/*Long* Long/*lang*	210	180.031.026	210	180.031.026	234	180.033.028	274	180.035.031	274	180.035.031		-		-
F	Corta/*Short* Court/*kurz*	76	158.022.150	76	158.022.150	94	158.024.044	104	180.025.041	104	180.025.041	108	158.029.125	108	158.029.125
	Standard	140	180.022.012	140	180.022.012	149	180.023.015	151	180.025.358	159	180.026.022	192	180.029.124	192	180.029.124
	Lunga/*Long* Long/*lang*	210	180.022.216	210	180.022.216	234	180.024.322	274	180.025.199	274	180.025.199		-		-

Ghiera
Retaining collar
Anneau
Aussering



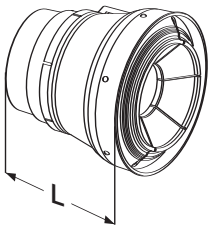
	10 ø=**40** mm	20 ø=**46** mm	40 ø=**54** mm	50 ø=**62,5** mm	60 ø=**69** mm	80 ø=**81,5** mm	90 ø=**81,5** mm
esterna / *outer* extérieur / *Aussen*	180.011.008	180.012.007	180.013.012	180.015.009	180.016.016	180.019.121	180.019.121
	ø=**34** mm	ø=**40** mm	ø=**47** mm	ø=**54,5** mm	ø=**60** mm	ø=**69,5** mm	ø=**69,5** mm
Interna / *Inner* Intérieur / *Innen*	180.011.007	180.012.006	180.013.011	180,015.008	180.016.015	180,019.122	180.019.122

CUFFIE - GHIERE - BOTTONI - CATENE
CONES - RETAINING COLLAR - BOLT - CHAIN
CONES - ANNEAU - VIS - CHAINETTE
HAUBE - AUSSERING - SCHRAUBE - HALTEKETTE

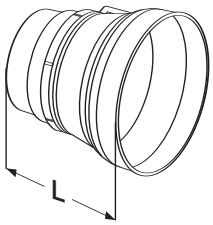


Cuffia / *Cone*
Cône / *Haube*

CE



F

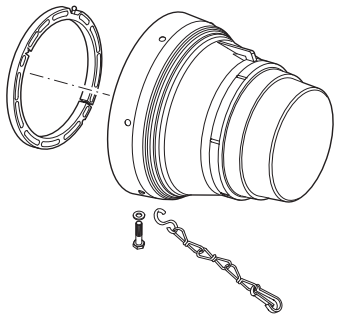


Versione *Version* Exécution *Version*	**20** L = **192** mm	**40** L = **235** mm	**60** L = **235** mm	**80** L = **248** mm
CE	180.022.163	180.026.244	180.026.244	180.028.150
F	180.012.163	180.016.244	180,016.244	180.018.150

Ghiera / *Retaining collar*
Anneau / *Aussering*

	20 ø = **171** mm	**40** ø = **187** mm	**60** ø = **187** mm	**80** ø = **210** mm
	180.012.164	180.016.245	180.016.245	180.018.154

Kit cuffie, ghiera, viti, catena
Guard cone , bearing rings, screws, chain set
Kit cônes, anneau, vis, chaînette
Satz Trichter, Zwinge, Schrauben, Haltekette



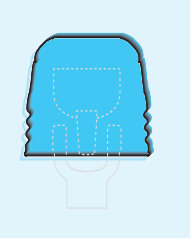
Versione / *Version* Exécution / *Version*	**20**	**40**	**60**	**80**
CE	165.000.605	165.000.594	165.000.594	165.000.601
F	165.000.585	165.000.570	165.000.570	165.000.582

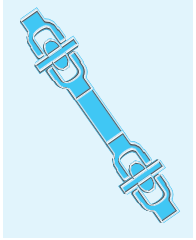
Catenella di sicurezza
Safety chain
Chaînette de sécurité
Haltekette

180.016.025

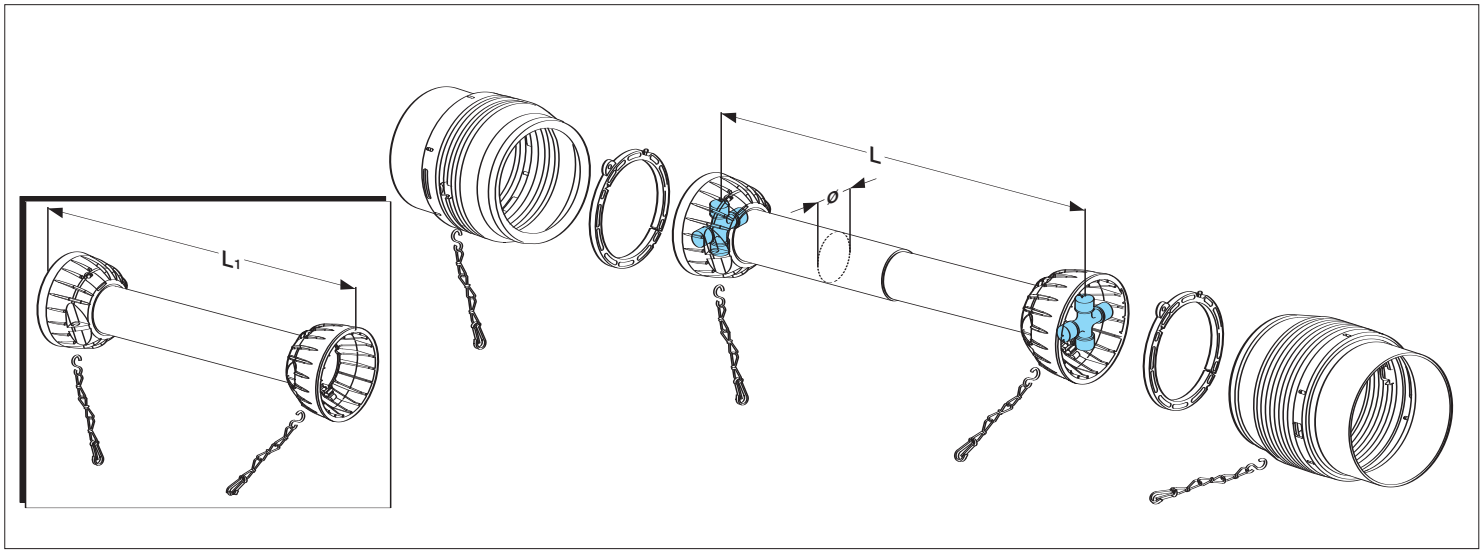
Vite di bloccaggio
Bolt
Vis de blocage
Feststellschraube

190.000.019





PROTEZIONE COMPLETA - DOPPIO - SERIE V
COMPLETE GUARD - DOUBLE - SERIES V
PROTECTEUR COMPLET - DOUBLE - SERIE V
KOMPLETTE SCHUTZVORRICHTUNG - BEIDSEITIG - SERIE V



	ø = 61	20	ø = 66,5	40	ø = 81,2	60	ø = 96	80
Type	L1	Cod.	L1	Cod.	L1	Cod.	L1	Cod.
L = **410**	338	142.922.506.2250	343	142.942.506.2450	344	142.962.501.2650	336	142.982.501.2850
L = **460**	388	142.922.501.2250	393	142.942.501.2450	394	142.962.507.2650	386	142.982.507.2850
L = **510**	438	142.922.507.2250	443	142.942.507.2450	444	142.962.502.2650	436	142.982.502.2850
L = **560**	488	142.922.502.2250	493	142.942.502.2450	494	142.962.508.2650	486	142.982.508.2850
L = **610**	538	142.922.508.2250	543	142.942.508.2450	544	142.962.503.2650	536	142.982.503.2850
L = **660**	588	142.922.503.2250	593	142.942.503.2450	594	142.962.509.2650	586	142.982.509.2850
L = **710**	638	142.922.509.2250	643	142.942.509.2450	644	142.962.504.2650	636	142.982.504.2850
L = **760**	688	142.922.504.2250	693	142.942.504.2450	694	142.962.510.2650	686	142.982.510.2850
L = **810**	738	142.922.510.2250	743	142.942.510.2450	744	142.962.505.2650	736	142.982.505.2850
L = **860**	788	142.922.505.2250	793	142.942.505.2450	794	142.962.511.2650	786	142.982.511.2850
L = **910**	838	142.922.511.2250	843	142.942.511.2450	844	142.962.517.2650	836	142.982.517.2850
L = **1010**	938	142.922.512.2250	943	142.942.512.2450	944	142.962.512.2650	936	142.982.512.2850
L = **1110**	1038	142.922.513.2250	1043	142.942.513.2450	1044	142.962.513.2650	1036	142.982.513.2850
L = **1210**	1138	142.922.514.2250	1143	142.942.514.2450	1144	142.962.514.2650	1136	142.982.514.2850
L = **1310**	1238	142.922.515.2250	1243	142.942.515.2450	1244	142.962.515.2650	1236	142.982.515.2850
L = **1410**	1388	142.922.516.2250	1343	142.942.516.2450	1344	142.962.516.2650	1336	142.982.516.2850

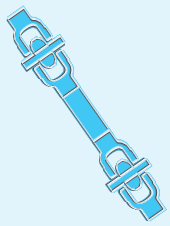
(IT) Codici relativi alle protezioni per i cardani versione EN

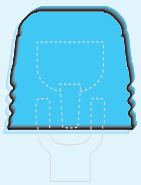
(GB) *All codes refer to guards for PTO drive shaft EN version*

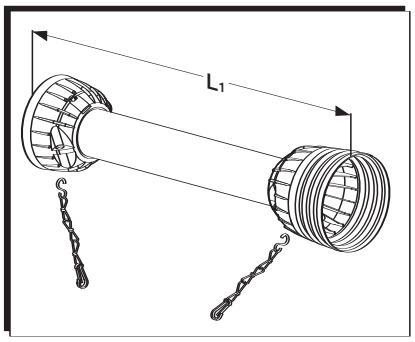
(FR) Ces références se rapportent aux protections pour les cardans exécution EN

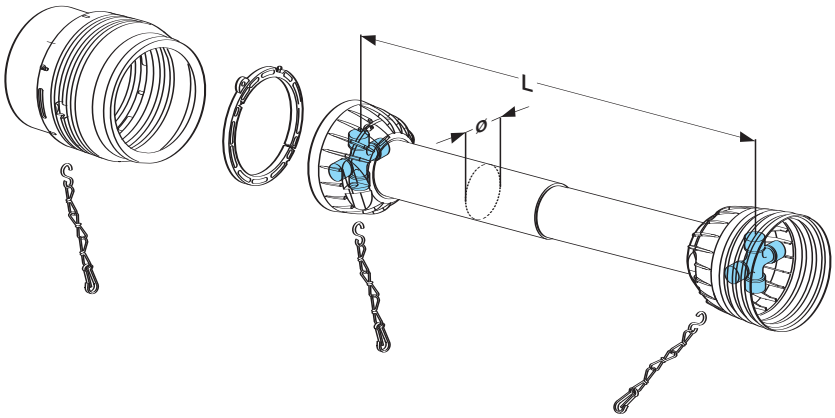
(DE) *Die Kennzahlen beziehen sich auf die Schutzvorrichtungen für die Gelenkwellen der Version EN.*

PROTEZIONE COMPLETA - SINGOLO - SERIE V
COMPLETE GUARD - SINGLE - SERIES V
PROTECTEUR COMPLET - SIMPLE - SERIE V
KOMPLETTE SCHUTZVORRICHTUNG - EINSEITIG - SERIE V









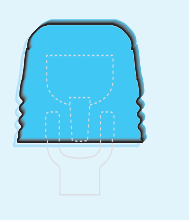
Type	ø = 61 **20**		ø = 66,5 **40**		ø = 81,2 **60**		ø = 96 **80**	
	L1	Cod.	L1	Cod.	L1	Cod.	L1	Cod.
L = **410**	396	142.921.506.2250	397	142.941.506.2450	405	142.961.501.2650	413	142.981.501.2850
L = **460**	446	142.921.501.2250	447	142.941.501.2450	455	142.961.507.2650	463	142.981.507.2850
L = **510**	496	142.921.507.2250	497	142.941.507.2450	505	142.961.502.2650	513	142.981.502.2850
L = **560**	546	142.921.502.2250	547	142.941.502.2450	555	142.961.508.2650	563	142.981.508.2850
L = **610**	596	142.921.508.2250	597	142.941.508.2450	605	142.961.503.2650	613	142.981.503.2850
L = **660**	646	142.921.503.2250	647	142.941.503.2450	655	142.961.509.2650	663	142.981.509.2850
L = **710**	696	142.921.509.2250	697	142.941.509.2450	705	142.961.504.2650	713	142.981.504.2850
L = **760**	746	142.921.504.2250	747	142.941.504.2450	755	142.961.510.2650	763	142.981.510.2850
L = **810**	796	142.921.510.2250	797	142.941.510.2450	805	142.961.505.2650	813	142.981.505.2850
L = **860**	846	142.921.505.2250	847	142.941.505.2450	855	142.961.511.2650	863	142.981.511.2850
L = **910**	896	142.921.511.2250	897	142.941.511.2450	905	142.961.517.2650	913	142.981.517.2850
L = **1010**	996	142.921.512.2250	997	142.941.512.2450	1005	142.961.512.2650	1013	142.981.512.2850
L = **1110**	1096	142.921.513.2250	1097	142.941.513.2450	1105	142.961.513.2650	1113	142.981.513.2850
L = **1210**	1196	142.921.514.2250	1197	142.941.514.2450	1205	142.961.514.2650	1213	142.981.514.2850
L = **1310**	1296	142.921.515.2250	1297	142.941.515.2450	1305	142.961.515.2650	1313	142.981.515.2850
L = **1410**	1396	142.921.516.2250	1397	142.941.516.2450	1405	142.961.516.2650	1413	142.981.516.2850

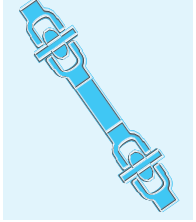
(IT) Codici relativi alle protezioni per i cardani versione EN

(GB) *All codes refere to guards for PTO drive shaft EN version*

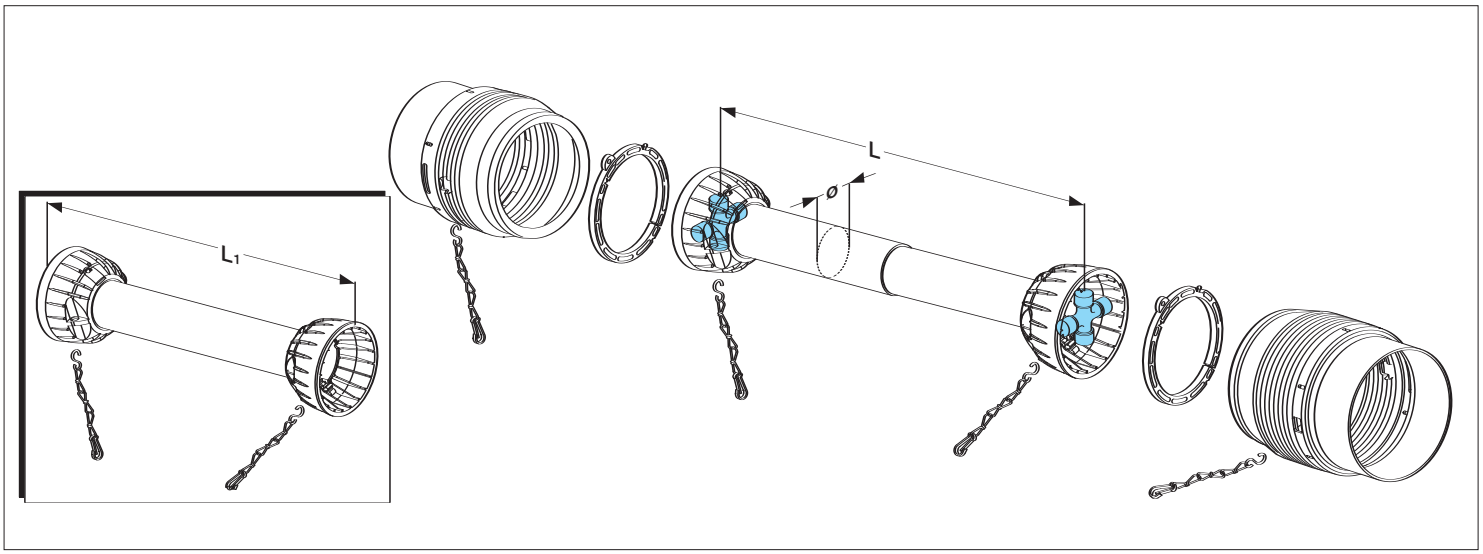
(FR) Ces références se rapportent aux protections pour les cardans exécution EN

(DE) *Die Kennzahlen beziehen sich auf die Schutzvorrichtungen für die Gelenkwellen der Version EN.*





PROTEZIONE COMPLETA - DOPPIO - SERIE T
COMPLETE GUARD - DOUBLE - SERIES T
PROTECTEUR COMPLETE - DOUBLE - SERIE T
KOMPLETTE SCHUTZVORRICHTUNG - BEIDSEITIG- SERIE T



	ø = 61	**20**	ø = 66,5	**40**	ø = 81,2	**60**	ø = 96	**80**
Type	L1	Cod.	L1	Cod.	L1	Cod.	L1	Cod.
L = **410**	338	142.722.506.3250	343	142.742.506.3450	344	142.762.501.3650	336	142.782.501.3850
L = **460**	388	142.722.501.3250	393	142.742.501.3450	394	142.762.507.3650	386	142.782.507.3850
L = **510**	438	142.722.507.3250	443	142.742.507.3450	444	142.762.502.3650	436	142.782.502.3850
L = **560**	488	142.722.502.3250	493	142.742.502.3450	494	142.762.508.3650	486	142.782.508.3850
L = **610**	538	142.722.508.3250	543	142.742.508.3450	544	142.762.503.3650	536	142.782.503.3850
L = **660**	588	142.722.503.3250	593	142.742.503.3450	594	142.762.509.3650	586	142.782.509.3850
L = **710**	638	142.722.509.3250	643	142.742.509.3450	644	142.762.504.3650	636	142.782.504.3850
L = **760**	688	142.722.504.3250	693	142.742.504.3450	694	142.762.510.3650	686	142.782.510.3850
L = **810**	738	142.722.510.3250	743	142.742.510.3450	744	142.762.505.3650	736	142.782.505.3850
L = **860**	788	142.722.505.3250	793	142.742.505.3450	794	142.762.511.3650	786	142.782.511.3850
L = **910**	838	142.722.511.3250	843	142.742.511.3450	844	142.762.517.3650	836	142.782.517.3850
L = **1010**	938	142.722.512.3250	943	142.742.512.3450	944	142.762.512.3650	936	142.782.512.3850
L = **1110**	1038	142.722.513.3250	1043	142.742.513.3450	1044	142.762.513.3650	1036	142.782.513.3850
L = **1210**	1138	142.722.514.3250	1143	142.742.514.3450	1144	142.762.514.3650	1136	142.782.514.3850
L = **1310**	1238	142.722.515.3250	1243	142.742.515.3450	1244	142.762.515.3650	1236	142.782.515.3850
L = **1410**	1338	142.722.516.3250	1343	142.742.516.3450	1344	142.762.516.3650	1336	142.782.516.3850

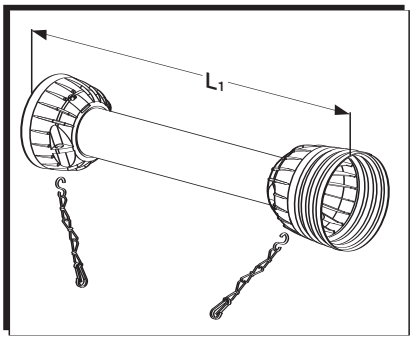
(IT) Codici relativi alle protezioni per i cardani versione EN

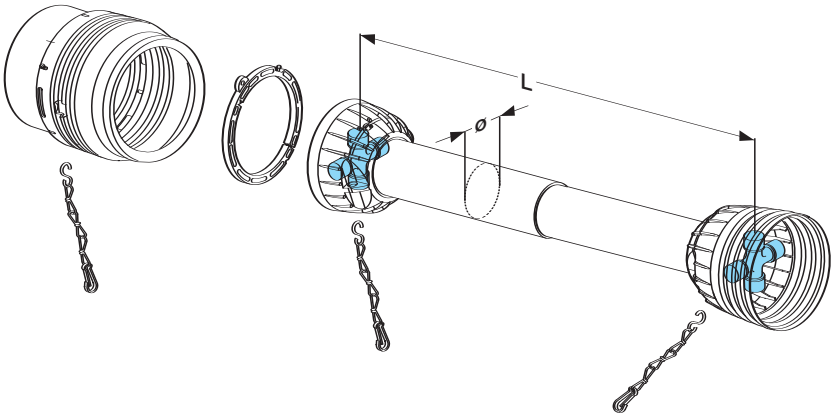
(GB) *All codes refere to guards for PTO drive shaft EN version*

(FR) Ces références se rapportent aux protections pour les cardans exécution EN

(DE) *Die Kennzahlen beziehen sich auf die Schutzvorrichtungen für die Gelenkwellen der Version EN.*

PROTEZIONE COMPLETA - SINGOLO - SERIE T
COMPLETE GUARD - SINGLE - SERIES T
PROTECTEUR COMPLET - SIMPLE - SERIE T
KOMPLETTE SCHUTZVORRICHTUNG - EINSEITIG - SERIE T





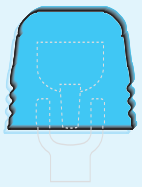
	ø = 61	20	ø = 66,5	40	ø = 81,2	60	ø = 96	80
Type	L1	Cod.	L1	Cod.	L1	Cod.	L1	Cod.
L = **410**	396	142.721.506.3250	397	142.741.506.3450	405	142.761.509.3650	413	142.781.501.3850
L = **460**	446	142.721.501.3250	447	142.741.501.3450	455	142.761.510.3650	463	142.781.507.3850
L = **510**	496	142.721.507.3250	497	142.741.507.3450	505	142.761.511.3650	513	142.781.502.3850
L = **560**	546	142.721.502.3250	547	142.741.502.3450	555	142.761.501.3650	563	142.781.508.3850
L = **610**	596	142.721.508.3250	597	142.741.508.3450	605	142.761.507.3650	613	142.781.503.3850
L = **660**	646	142.721.503.3250	647	142.741.503.3450	655	142.761.505.3650	663	142.781.509.3850
L = **710**	696	142.721.509.3250	697	142.741.509.3450	705	142.761.502.3650	713	142.781.504.3850
L = **760**	746	142.721.504.3250	747	142.741.504.3450	755	142.761.512.3650	763	142.781.510.3850
L = **810**	796	142.721.510.3250	797	142.741.510.3450	805	142.761.504.3650	813	142.781.505.3850
L = **860**	846	142.721.505.3250	847	142.741.505.3450	855	142.761.500.3650	863	142.781.511.3850
L = **910**	896	142.721.511.3250	897	142.741.511.3450	905	142.761.513.3650	913	142.781.517.3850
L = **1010**	996	142.721.512.3250	997	142.741.512.3450	1005	142.761.514.3650	1013	142.781.512.3850
L = **1110**	1096	142.721.513.3250	1097	142.741.513.3450	1105	142.761.515.3650	1113	142.781.513.3850
L = **1210**	1196	142.721.514.3250	1197	142.741.514.3450	1205	142.761.516.3650	1213	142.781.514.3850
L = **1310**	1296	142.721.515.3250	1297	142.741.515.3450	1305	142.761.517.3650	1313	142.781.515.3850
L = **1410**	1396	142.721.516.3250	1397	142.741.516.3450	1405	142.761.518.3650	1413	142.781.516.3850

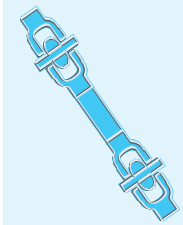
(IT) Codici relativi alle protezioni per i cardani versione EN

(GB) *All codes refere to guards for PTO drive shaft EN version*

(FR) Ces références se rapportent aux protections pour les cardans exécution EN

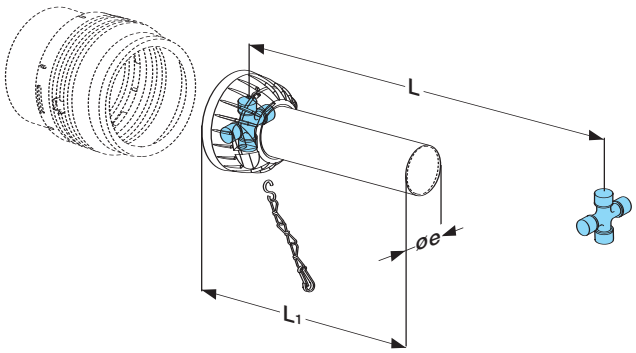
(DE) *Die Kennzahlen beziehen sich auf die Schutzvorrichtungen für die Gelenkwellen der Version EN.*



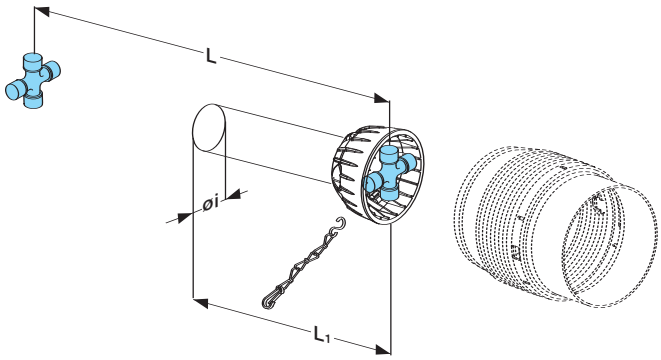


SEMIPROTEZIONE
HALF-GUARD
DEMI-PROTECTEUR
SCHUTZHÄLFTEN

esterna / *outer* / extérieur / *Aussen*



interna / *inner* / intérieur / *Innen*



esterna / *outer* / extérieur / *Aussen*

Type	Øe = **61** Øi = **55,6** **20** L1	Cod.	Øe = **66,5** Øi = **61** **40** L1	Cod.	Øe = **81,2** Øi = **75** **60** L1	Cod.	Øe = **96** Øi = **89,9** **80** L1	Cod.
L = **410**	269	142.326.019.2250	259	142.346.019.2450	252	142.366.017.2650	233	142.386.019.2850
L = **460**	319	142.326.020.2250	309	142.346.020.2450	302	142.366.023.2650	283	142.386.025.2850
L = **510**	369	142.326.021.2250	359	142.346.021.2450	352	142.366.018.2650	333	142.386.020.2850
L = **560**	419	142.326.022.2250	409	142.346.022.2450	402	142.366.024.2650	383	142.386.026.2850
L = **610**	469	142.326.023.2250	459	142.346.023.2450	452	142.366.019.2650	433	142.386.021.2850
L = **660**	519	142.326.024.2250	509	142.346.024.2450	502	142.366.025.2650	483	142.386.027.2850
L = **710**	569	142.326.025.2250	559	142.346.025.2450	552	142.366.020.2650	533	142.386.022.2850
L = **760**	619	142.326.026.2250	609	142.346.026.2450	602	142.366.026.2650	583	142.386.028.2850
L = **810**	669	142.326.027.2250	659	142.346.027.2450	652	142.366.021.2650	633	142.386.023.2850
L = **860**	719	142.326.028.2250	709	142.346.028.2450	702	142.366.027.2650	683	142.386.029.2850
L = **910**	769	142.326.029.2250	759	142.346.029.2450	752	142.366.034.9650	733	142.386.035.2850
L = **1010**	869	142.326.030.2250	859	142.346.030.2450	852	142.366.028.2650	833	142.386.030.2850
L = **1110**	969	142.326.031.2250	959	142.346.031.2450	952	142.366.029.2650	933	142.386.031.2850
L = **1210**	1069	142.326.032.2250	1059	142.346.032.2450	1052	142.366.030.2650	1033	142.386.032.2850
L = **1310**	1169	142.326.033.2250	1159	142.346.033.2450	1152	142.366.031.2650	1133	142.386.033.2850
L = **1410**	1269	142.326.034.2250	1259	142.346.034.2450	1252	142.366.032.2650	1233	142.386.034.2850

interna / *inner* / intérieur / *Innen*

L = **410**	269	142.327.019.2250	259	142.347.019.2450	252	142.367.017.2650	233	142.387.019.2850
L = **460**	319	142.327.020.2250	309	142.347.020.2450	302	142.367.023.2650	283	142.387.025.2850
L = **510**	369	142.327.021.2250	359	142.347.021.2450	352	142.367.018.2650	333	142.387.020.2850
L = **560**	419	142.327.022.2250	409	142.347.022.2450	402	142.367.024.2650	383	142.387.026.2850
L = **610**	469	142.327.023.2250	459	142.347.023.2450	452	142.367.019.2650	433	142.387.021.2850
L = **660**	519	142.327.024.2250	509	142.347.024.2450	502	142.367.025.2650	483	142.387.027.2850
L = **710**	569	142.327.025.2250	559	142.347.025.2450	552	142.367.020.2650	533	142.387.022.2850
L = **760**	619	142.327.026.2250	609	142.347.026.2450	602	142.367.026.2650	583	142.387.028.2850
L = **810**	669	142.327.027.2250	659	142.347.027.2450	652	142.367.021.2650	633	142.387.023.2850
L = **860**	719	142.327.028.2250	709	142.347.028.2450	702	142.367.027.2650	683	142.387.029.2850
L = **910**	769	142.327.029.2250	759	142.347.029.2450	752	142.367.034.9650	733	142.387.035.2850
L = **1010**	869	142.327.030.2250	859	142.347.030.2450	852	142.367.028.2650	833	142.387.030.2850
L = **1110**	969	142.327.031.2250	959	142.347.031.2450	952	142.367.029.2650	933	142.387.031.2850
L = **1210**	1069	142.327.032.2250	1059	142.347.032.2450	1052	142.367.030.2650	1033	142.387.032.2850
L = **1310**	1169	142.327.033.2250	1159	142.347.033.2450	1152	142.367.031.2650	1133	142.387.033.2850
L = **1410**	1269	142.327.034.2250	1259	142.347.034.2450	1252	142.367.032.2650	1233	142.387.034.2850

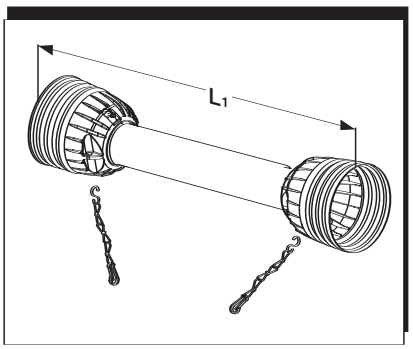
(IT) Codici relativi alle protezioni per i cardani **serie V** versione EN

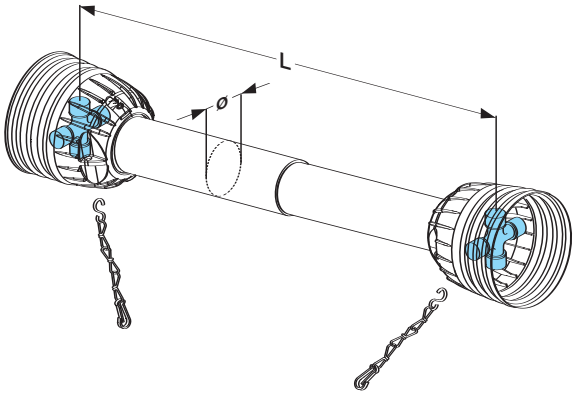
(GB) *All codes refer to guards for **V series** PTO drive shaft EN version*

(FR) Ces références se rapportent aux protections pour les cardans de la **série V** exécution EN

(DE) *Die Kennzahlen beziehen sich auf die Schutzvorrichtungen für die Gelenkwellen der **series V** Version EN*

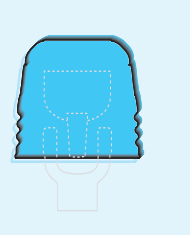
PROTEZIONE COMPLETA
COMPLETE GUARD
PROTECTEUR COMPLET
KOMPLETTE SCHUTZVORRICHTUNG

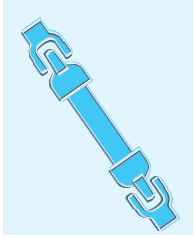




Type	ø = 61	10	ø = 61	20	ø = 66,5	40	ø = 81,2	50
	L1	Cod.	L1	Cod.	L1	Cod.	L1	Cod.
L = **410**	454	142.310.006.7150	454	142.320.006.9250	451	142.340.006.9450	476	142.350.006.9550
L = **460**	504	142.310.001.7150	504	142.320.001.9250	501	142.340.001.9450	526	142.350.001.9550
L = **510**	554	142.310.007.7150	554	142.320.007.9250	551	142.340.007.9450	576	142.350.007.9550
L = **560**	604	142.310.002.7150	604	142.320.002.9250	601	142.340.002.9450	626	142.350.002.9550
L = **610**	654	142.310.008.7150	654	142.320.008.9250	651	142.340.008.9450	676	142.350.008.9550
L = **660**	704	142.310.003.7150	704	142.320.003.9250	701	142.340.003.9450	726	142.350.003.9550
L = **710**	754	142.310.009.7150	754	142.320.009.9250	751	142.340.009.9450	776	142.350.009.9550
L = **760**	804	142.310.004.7150	804	142.320.004.9250	801	142.340.004.9450	826	142.350.004.9550
L = **810**	854	142.310.010.7150	854	142.320.010.9250	851	142.340.010.9450	876	142.350.010.9550
L = **860**	904	142.310.005.7150	904	142.320.005.9250	901	142.340.005.9450	926	142.350.005.9550
L = **910**	954	142.310.011.7150	954	142.320.011.9250	951	142.340.011.9450	976	142.350.011.9550
L = **1010**	1054	142.310.012.7150	1054	142.320.012.9250	1051	142.340.012.9450	1076	142.350.012.9550
L = **1110**	1154	142.310.013.7150	1154	142.320.013.9250	1151	142.340.013.9450	1176	142.350.013.9550
L = **1210**	1254	142.310.014.7150	1254	142.320.014.9250	1251	142.340.014.9450	1276	142.350.014.9550
L = **1310**	1354	142.310.015.7150	1354	142.320.015.9250	1351	142.340.015.9450	1376	142.350.015.9550
L = **1410**	1454	142.310.016.7150	1454	142.320.016.9250	1451	142.340.016.9450	1476	142.350.016.9550

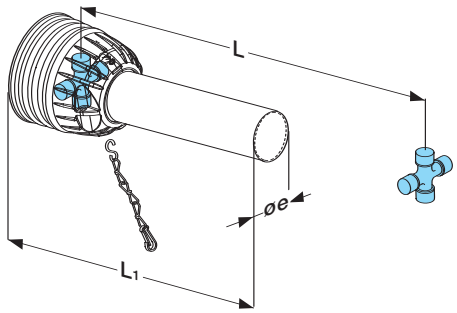
Type	ø = 81,2	60	ø = 96	80	ø = 96	90	ø = 96	120
	L1	Cod.	L1	Cod.	L1	Cod.	L1	Cod.
L = **410**	466	142.360.001.9650	490	142.380.001.9850	475	142.390.001.9950	-	–
L = **460**	516	142.360.007.9650	540	142.380.007.9850	525	142.390.007.9950	545	142.300.001.1250
L = **510**	566	142.360.002.9650	590	142.380.002.9850	575	142.390.002.9950	595	142.300.002.1250
L = **560**	616	142.360.008.9650	640	142.380.008.9850	625	142.390.008.9950	645	142.300.003.1250
L = **610**	666	142.360.003.9650	690	142.380.003.9850	675	142.390.003.9950	695	142.300.004.1250
L = **660**	716	142.360.009.9650	740	142.380.009.9850	725	142.390.009.9950	745	142.300.005.1250
L = **710**	766	142.360.004.9650	790	142.380.004.9850	775	142.390.004.9950	795	142.300.006.1250
L = **760**	816	142.360.010.9650	840	142.380.010.9850	825	142.390.010.9950	845	142.300.007.1250
L = **810**	866	142.360.005.9650	890	142.380.005.9850	875	142.390.005.9950	895	142.300.008.1250
L = **860**	916	142.360.011.9650	940	142.380.011.9850	925	142.390.011.9950	945	142.300.009.1250
L = **910**	966	142.360.017.9650	990	142.380.017.9850	975	142.390.017.9950	995	142.300.010.1250
L = **1010**	1066	142.360.012.9650	1090	142.380.012.9850	1075	142.390.012.9950	1095	142.300.011.1250
L = **1110**	1166	142.360.013.9650	1190	142.380.013.9850	1175	142.390.013.9950	1195	142.300.012.1250
L = **1210**	1266	142.360.014.9650	1290	142.380.014.9850	1275	142.390.014.9950	1295	142.300.013.1250
L = **1310**	1366	142.360.015.9650	1390	142.380.015.9850	1375	142.390.015.9950	1395	142.300.014.1250
L = **1410**	1466	142.360.016.9650	1490	142.380.016.9850	1475	142.390.016.9950	1495	142.300.015.1250



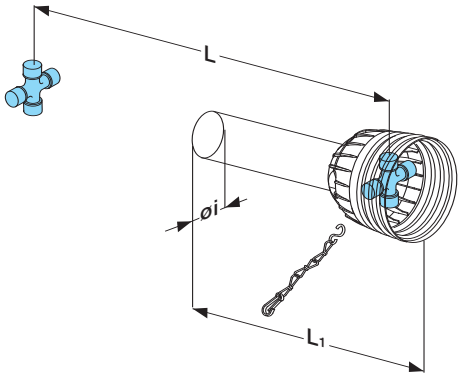


SEMIPROTEZIONE
HALF-GUARD
DEMI-PROTECTEUR
SCHUTZHÄLFTEN

esterna / *outer* / extérieur / *Aussen*



interna / *inner* / intérieur / *Innen*



	Type	Øe = 61 Øi = 55,6 **10** L1	Cod.	Øe = 61 Øi = 55,6 **20** L1	Cod.	Øe = 66,5 Øi = 61 **40** L1	Cod.	Øe = 81,2 Øi = 75 **50** L1	Cod.
esterna / *outer* / extérieur / *Aussen*	L = **410**	327	142.316.006.7150	327	142.326.006.9250	313	142.346.006.9450	323	142.356.006.9550
	L = **460**	377	142.316.001.7150	377	142.326.001.9250	363	142.346.001.9450	373	142.356.001.9550
	L = **510**	427	142.316.007.7150	427	142.326.007.9250	413	142.346.007.9450	423	142.356.007.9550
	L = **560**	477	142.316.002.7150	477	142.326.002.9250	463	142.346.002.9450	473	142.356.002.9550
	L = **610**	527	142.316.008.7150	527	142.326.008.9250	513	142.346.008.9450	523	142.356.008.9550
	L = **660**	577	142.316.003.7150	577	142.326.003.9250	563	142.346.003.9450	573	142.356.003.9550
	L = **710**	627	142.316.009.7150	627	142.326.009.9250	613	142.346.009.9450	623	142.356.009.9550
	L = **760**	677	142.316.004.7150	677	142.326.004.9250	663	142.346.004.9450	673	142.356.004.9550
	L = **810**	727	142.316.010.7150	727	142.326.010.9250	713	142.346.010.9450	723	142.356.010.9550
	L = **860**	777	142.316.005.7150	777	142.326.005.9250	763	142.346.005.9450	773	142.356.005.9550
	L = **910**	827	142.316.011.7150	827	142.326.011.9250	813	142.346.011.9450	823	142.356.011.9550
	L = **1010**	927	142.316.012.7150	927	142.326.012.9250	913	142.346.012.9450	923	142.356.012.9550
	L = **1110**	1027	142.316.013.7150	1027	142.326.013.9250	1013	142.346.013.9450	1023	142.356.013.9550
	L = **1210**	1127	142.316.014.7150	1127	142.326.014.9250	1113	142.346.014.9450	1123	142.356.014.9550
	L = **1310**	1227	142.316.015.7150	1227	142.326.015.9250	1213	142.346.015.9450	1223	142.356.015.9550
	L = **1410**	1327	142.316.016.7150	1327	142.326.016.9250	1313	142.346.016.9450	1323	142.356.016.9550
interna / *inner* / intérieur / *Innen*	L = **410**	327	142.317.006.7150	327	142.327.006.9250	313	142.347.006.9450	323	142.357.006.9550
	L = **460**	377	142.317.001.7150	377	142.327.001.9250	363	142.347.001.9450	373	142.357.001.9550
	L = **510**	427	142.317.007.7150	427	142.327.007.9250	413	142.347.007.9450	423	142.357.007.9550
	L = **560**	477	142.317.002.7150	477	142.327.002.9250	463	142.347.002.9450	473	142.357.002.9550
	L = **610**	527	142.317.008.7150	527	142.327.008.9250	513	142.347.008.9450	523	142.357.008.9550
	L = **660**	577	142.317.003.7150	577	142.327.003.9250	563	142.347.003.9450	573	142.357.003.9550
	L = **710**	627	142.317.009.7150	627	142.327.009.9250	613	142.347.009.9450	623	142.357.009.9550
	L = **760**	677	142.317.004.7150	677	142.327.004.9250	663	142.347.004.9450	673	142.357.004.9550
	L = **810**	727	142.317.010.7150	727	142.327.010.9250	713	142.347.010.9450	723	142.357.010.9550
	L = **860**	777	142.317.005.7150	777	142.327.005.9250	763	142.347.005.9450	773	142.357.005.9550
	L = **910**	827	142.317.011.7150	827	142.327.011.9250	813	142.347.011.9450	823	142.357.011.9550
	L = **1010**	927	142.317.012.7150	927	142.327.012.9250	913	142.347.012.9450	923	142.357.012.9550
	L = **1110**	1027	142.317.013.7150	1027	142.327.013.9250	1013	142.347.013.9450	1023	142.357.013.9550
	L = **1210**	1127	142.317.014.7150	1127	142.327.014.9250	1113	142.347.014.9450	1123	142.357.014.9550
	L = **1310**	1227	142.317.015.7150	1227	142.327.015.9250	1213	142.347.015.9450	1223	142.357.015.9550
	L = **1410**	1327	142.317.016.7150	1327	142.327.016.9250	1313	142.347.016.9450	1323	142.357.016.9550

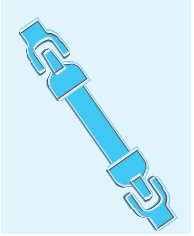
(IT) Codici relativi alle protezioni per i cardani **serie V** versione EN

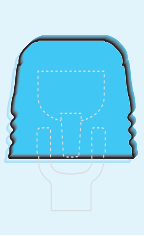
(GB) *All codes refer to guards for **V series** PTO drive shaft EN version*

(FR) Ces références se rapportent aux protections pour les cardans de la **série V** exécution EN

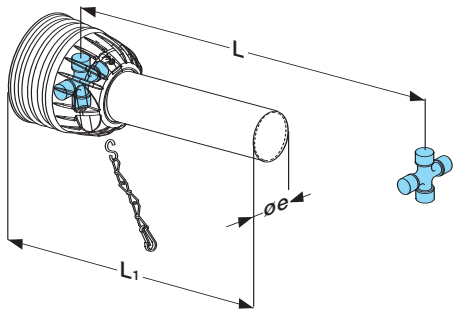
(DE) *Die Kennzahlen beziehen sich auf die Schutzvorrichtungen für die Gelenkwellen der **series V** Version EN*

SEMIPROTEZIONE
HALF-GUARD
DEMI-PROTECTEUR
SCHUTZHÄLFTEN

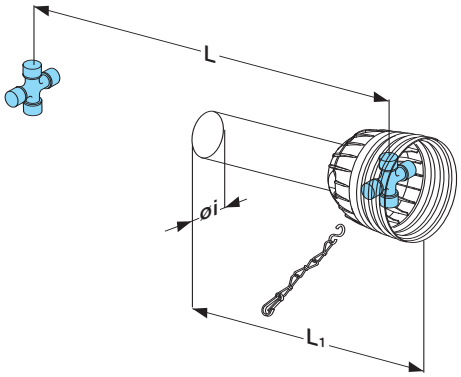




esterna / *outer* / extérieur / *Aussen*



interna / *inner* / intérieur / *Innen*



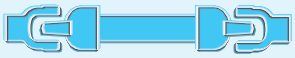
		Øe = 81,2 Øi = 75 **60**		Øe = 96 Øi = 89,9 **80**		Øe = 96 Øi = 89,9 **90**		Øe = 96 Øi = 89,9 **120**	
	Type	L1	Cod.	L1	Cod.	L1	Cod..	L1	Cod..
esterna / *outer* / extérieur / *Aussen*	L = **410**	313	142.366.001.9650	310	142.386.001.9850	295	142.396.001.9950	-	-
	L = **460**	363	142.366.007.9650	360	142.386.007.9850	345	142.396.007.9950	339	142.306.001.1250
	L = **510**	413	142.366.002.9650	410	142.386.002.9850	395	142.396.002.9950	389	142.306.002.1250
	L = **560**	463	142.366.008.9650	460	142.386.008.9850	445	142.396.008.9950	439	142.306.003.1250
	L = **610**	513	142.366.003.9650	510	142.386.003.9850	495	142.396.003.9950	489	142.306.004.1250
	L = **660**	563	142.366.009.9650	560	142.386.009.9850	545	142.396.009.9950	599	142.306.005.1250
	L = **710**	613	142.366.004.9650	610	142.386.004.9850	595	142.396.004.9950	589	142.306.006.1250
	L = **760**	663	142.366.010.9650	660	142.386.010.9850	645	142.396.010.9950	639	142.306.007.1250
	L = **810**	713	142.366.005.9650	710	142.386.005.9850	695	142.396.005.9950	689	142.306.008.1250
	L = **860**	763	142.366.011.9650	760	142.386.011.9850	745	142.396.011.9950	739	142.306.009.1250
	L = **910**	813	142.366.033.9650	810	142.386.017.9850	795	142.396.017.9950	789	142.306.010.1250
	L = **1010**	913	142.366.012.9650	910	142.386.012.9850	895	142.396.012.9950	889	142.306.011.1250
	L = **1110**	1013	142.366.013.9650	1010	142.386.013.9850	995	142.396.013.9950	989	142.306.012.1250
	L = **1210**	1113	142.366.014.9650	1110	142.386.014.9850	1095	142.396.014.9950	1089	142.306.013.1250
	L = **1310**	1213	142.366.015.9650	1210	142.386.015.9850	1195	142.396.015.9950	1189	142.306.014.1250
	L = **1410**	1313	142.366.016.9650	1310	142.386.016.9850	1295	142.396.016.9950	1289	142.306.015.1250
interna / *inner* / intérieur / *Innen*	L = **410**	313	142.367.001.9650	310	142.387.001.9850	295	142.397.001.9950	-	-
	L = **460**	363	142.367.007.9650	360	142.387.007.9850	345	142.397.007.9950	339	142.307.001.1250
	L = **510**	413	142.367.002.9650	410	142.387.002.9850	395	142.397.002.9950	389	142.307.002.1250
	L = **560**	463	142.367.008.9650	460	142.387.008.9850	445	142.397.008.9950	439	142.307.003.1250
	L = **610**	513	142.367.003.9650	510	142.387.003.9850	495	142.397.003.9950	489	142.307.004.1250
	L = **660**	563	142.367.009.9650	560	142.387.009.9850	545	142.397.009.9950	539	142.307.005.1250
	L = **710**	613	142.367.004.9650	610	142.387.004.9850	595	142.397.004.9950	589	142.307.006.1250
	L = **760**	663	142.367.010.9650	660	142.387.010.9850	645	142.397.010.9950	639	142.307.007.1250
	L = **810**	713	142.367.005.9650	710	142.387.005.9850	695	142.397.005.9950	689	142.307.008.1250
	L = **860**	763	142.367.011.9650	760	142.387.011.9850	745	142.397.011.9950	739	142.307.009.1250
	L = **910**	813	142.367.033.9650	810	142.387.017.9850	795	142.397.017.9950	789	142.307.010.1250
	L = **1010**	863	142.367.012.9650	860	142.387.012.9850	845	142.397.012.9950	889	142.307.011.1250
	L = **1110**	913	142.367.013.9650	910	142.387.013.9850	895	142.397.013.9950	939	142.307.012.1250
	L = **1210**	963	142.367.014.9650	960	142.387.014.9850	945	142.397.014.9950	939	142.307.012.1250
	L = **1310**	1013	142.367.015.9650	1010	142.387.015.9850	995	142.397.015.9950	939	142.307.012.1250
	L = **1410**	1063	142.367.016.9650	1060	142.387.016.9850	1045	142.397.016.9950	939	142.307.012.1250

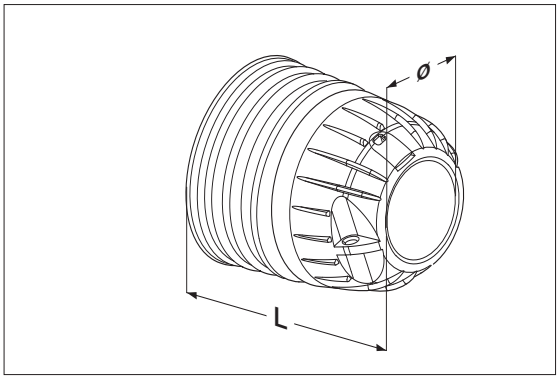
(IT) Codici relativi alle protezioni per i cardani **serie V** versione EN

(GB) *All codes refer to guards for **V series** PTO drive shaft EN version*

(FR) Ces références se rapportent aux protections pour les cardans de la **série V** exécution EN

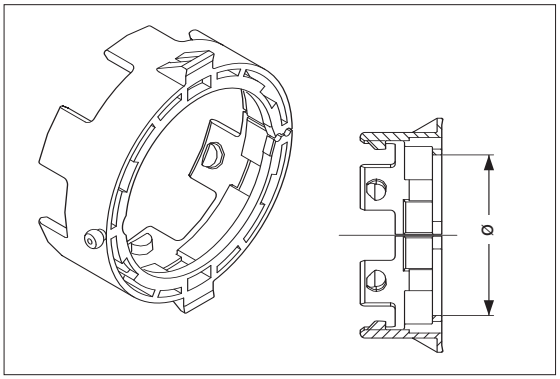
(DE) *Die Kennzahlen beziehen sich auf die Schutzvorrichtungen für die Gelenkwellen der **series V** Version EN*





Cuffia
Oone
Cône
Außentrichter

Versione *Version* Exécution *Version*	**10** ø=**61** mm		**20** ø=**61** mm		**40** ø=**66,5** mm		**50** ø=**81,2** mm		**60** ø=**81,2** mm		**80** ø=**96** mm		**90** ø=**96** mm		**120** ø=**96** mm	
	L mm	cod.	L mm	cod.	L mm	cod.	L mm	cod.	L mm	cod.	L mm	cod.	L mm	cod.	mm	cod.
Corta/*Short* Court/*kurz*	69	180.032.401	69	180.032.401	84	180.034.536	92	180.036.634	92	180.036.634	103	180.039.362	103	180.039.362	-	-
Standard	127	180.032.385	127	180.032.385	138	180.043.510	153	180.036.633	153	180.036.633	180	180.039.358	180	180.039.358	206	180.123.019
Lunga/*Long* Long/*lang*	216	180.032.410	216	180.032.410	229	180.034.560	262	180.036.642	262	180.036.642	-	-	-	-	-	-

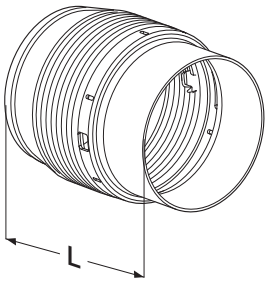


Ghiera
Retaining collar
Anneau
Aussering

	10 ø=**40** mm	**20** ø=**46** mm	**40** ø=**54** mm	**50** ø=**62,5** mm	**60** ø=**69** mm	**80** ø=**81,5** mm	**90** ø=**81,5** mm	**120** ø=**81,5** mm
esterna / *outer* extérieur / *Aussen*	180.011.342	180.012.380	180.014.505	180.015.391	180.016.596	180.019.353	180.019.353	180.019.353
	ø=**34** mm	ø=**40** mm	ø=**47** mm	ø=**54,5** mm	ø=**60** mm	ø=**69,5** mm	ø=**69,5** mm	ø=**69,5** mm
interna / *inner* intérieur / *Innen*	180.011.343	180.012.381	180.014.506	180.015.390	180.016.595	180.019.354	180.019.354	180.019.354

CUFFIE - GHIERE - CATENE
CONES - RETAINING COLLAR - CHAIN
CONES - ANNEAU - CHAINETTE
HAUBE - AUSSERING - HALTEKETTE

Cuffia / *Cone*
Cône / *Haube*

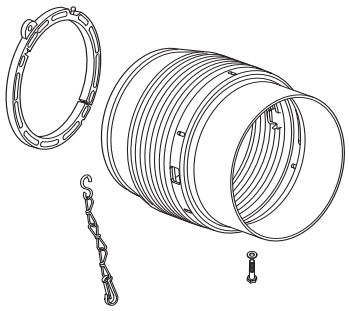


Versione / *Version* Exécution / *Version*	20	40	60	80
N - EN	L = **202** mm	L = **221** mm	L = **233** mm	L = **269** mm
	180.022.403	180.024.544	180.026.611	180.028.529

Ghiera / *Retaining collar*
Anneau / *Aussering*

	20	40	60	80
	ø = **171** mm	ø = **187** mm	ø = **187** mm	ø = **210** mm
	158.012.406	158.016.613	158.016.613	158.018.468

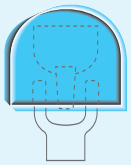
Kit cuffie, ghiera, viti, catena
Guard cone , bearing rings, screws, chain set
Kit cônes, anneau, vis, chaînette
Satz Trichter, Zwinge, Schrauben, Haltekette



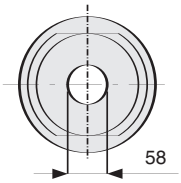
Versione / *Version* Exécution / *Version*	20	40	60	80
N - EN	165.000.760	165.000.754	165.000.750	165.000.753

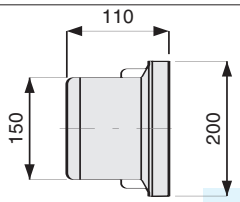
Catenella di sicurezza
Safety chain
Chaînette de sécurité
Haltekette

180.016.636



CONTROCUFFIE FISSE
COUNTER-CONES FIXED
BOLS DE PROTECTION FIXES.
FESTE SCHUTZTOPFE





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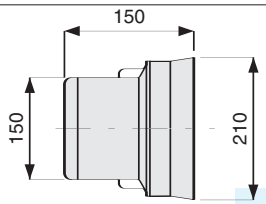

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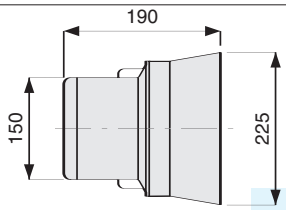

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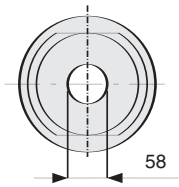

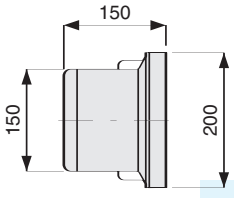

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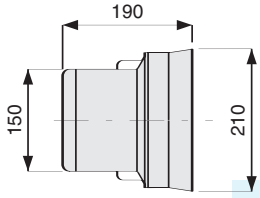

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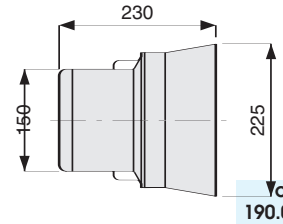

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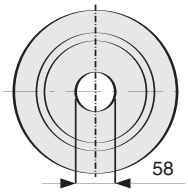

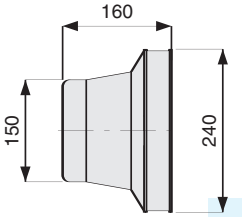

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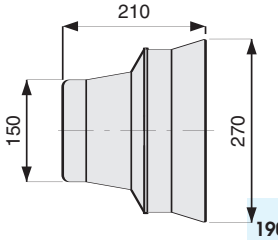

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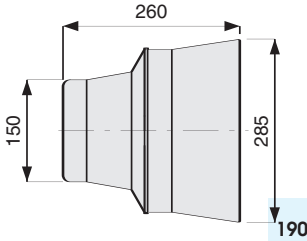

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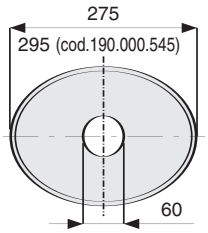

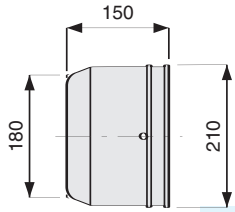

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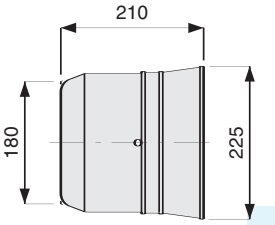

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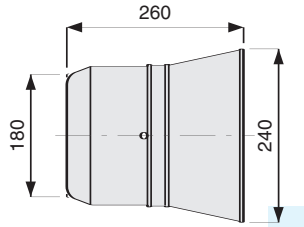

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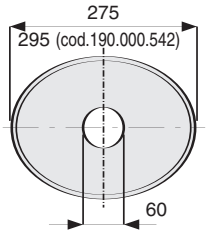

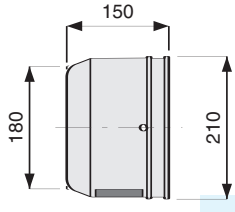

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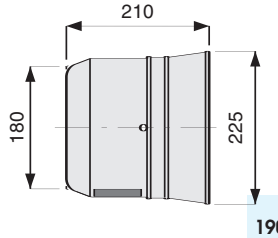

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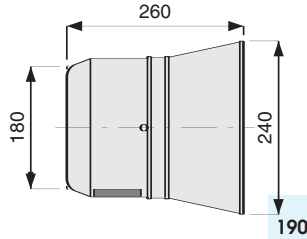

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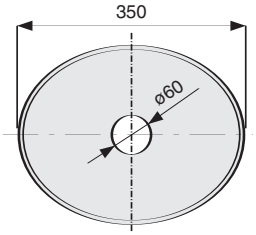

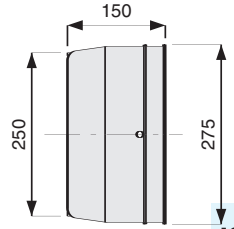

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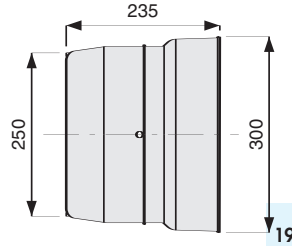

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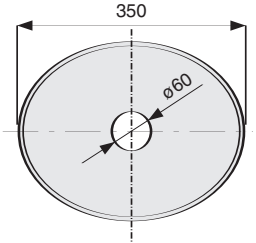

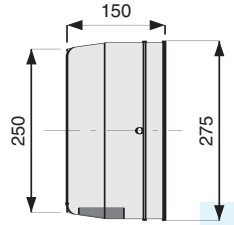

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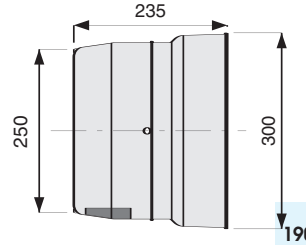
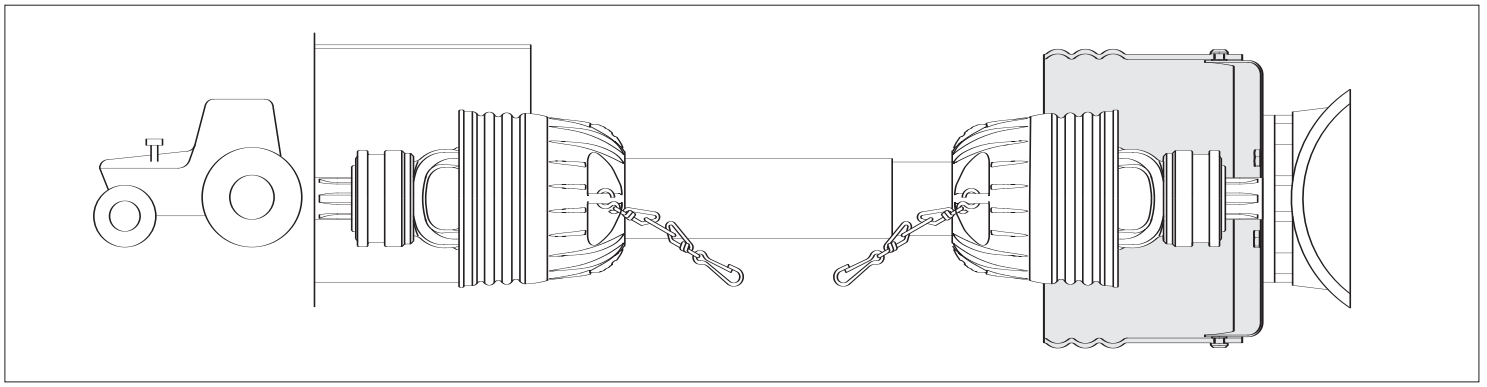


cod. 190.000.524

CONTROCUFFIE AMOVIBILI
REMOVABLE COUNTER-CONES
BOLS DE PROTECTION AMOVIBLES
ABNEHMBARER SCHUTZTOPF



IT

La controcuffia amovibile è costituita da un fondello metallico e da una fascia di protezione in plastica fissata al fondello mediante due bulloni. In tale condizione essa garantisce l'azione di protezione indicata dalla "direttiva macchine 98/37/CEE". Allentando i due bulloni con una chiave la fascia di protezione si sgancia dal fondello e può scorrere sulla trasmissione per consentire un' agevole accesso agli organi di trasmissione nelle operazioni d'installazione o manutenzione. Tale peculiarità viene esaltata se la controcuffia amovibile è impiegata in abbinamento con alberi cardanici aventi le protezioni di tipo EN

GB

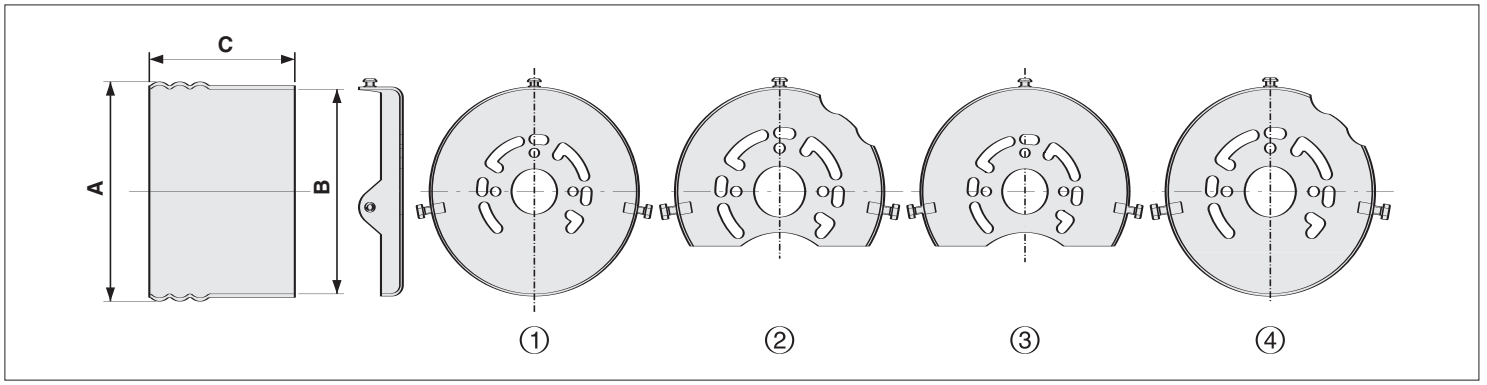
The removable counter-cone consists of a metal bottom and a plastic guard attached to the bottom with two bolts. In this condition, the counter-cone guarantees the protection prescribed by "EEC Machine Directive 98/37". After loosening the two bolts with a wrench, the guard is released from the bottom and can slide on the transmission and thus provide easy access to transmission parts during installation or maintenance. This special feature becomes even more effective if the removable counter-cone is used together with drive shafts equipped with EN guards.

FR

Le bol de protection amovible est constitué d'un culot métallique et d'une bande de protection en plastique fixée par l'intermédiaire de deux boulons. Cette conformation garantit la protection prévue par la Directive machines 98/37/CEE. En desserrant les deux boulons à l'aide d'une clé, la bande de protection se décroche du culot et peut coulisser sur la transmission, permettant ainsi d'accéder facilement aux organes de transmission lors des opérations d'installation ou de maintenance. Cette particularité est d'autant plus évidente si le bol de protection amovible est utilisé sur des arbres à cardan dotés de protections de type EN.

DE

Der abnehmbare Schutztopf besteht aus einem Metallboden und aus einem mittels zwei Bolzen am Boden angebrachten Schutzstreifen aus Kunststoff. In diesem Zustand gewährleistet der Schutztopf die in der "Maschinenrichtlinie 98/37/EWG" genannte Schutzwirkung. Bei Lockern der beiden Bolzen mit einem Schraubenschlüssel löst sich der Schutzstreifen von dem Boden und kann auf dem Antrieb gleiten, um bei der Durchführung von Installations- und Wartungsarbeiten den bequemen Zugang zu den Antriebsorganen zu erlauben. Diese Besonderheit wird weiter verbessert, wenn der abnehmbare Schutztopf in Kombination mit Gelenkwellen mit Schutzvorrichtungen des Typs EN verwendet wird.



		C												
A	B	140 5 33/64"	160 6 19/64"	180 7 3/32"	210 8 17/64"	230 9 1/16"	250 9 27/32"	280 11 1/32"	300 11 13/16"	320 12 39/64"	1	2	3	4
190 7 31/64"	182 7 11/64"	180/140	180/160	180/180	180/210	180/230	180/250	-	-	-	180/1	180/2	-	-
215 8 15/32"	207 8 5/32"	205/140	205/160	205/180	205/210	205/230	205/250	205/280	-	-	205/1	205/2	205/3	205/4
240 9 29/64"	232 9 9/64"	230/140	230/160	230/180	230/210	230/230	230/250	230/280	230/300	230/320	230/1	230/2	230/3	230/4

IT

Per i codici contattare il nostro ufficio tecnico

GB

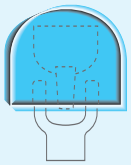
For codes, contact our technical department

FR

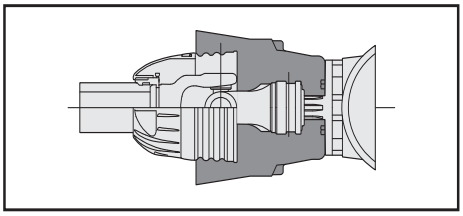
Pour les codes prendre contact avec nos services techniques.

DE

Für die Kennnummern setzen Sie sich bitte mit unserer Technischen Abteilung in Verbindung.



ESEMPIO APPLICAZIONI
APPLICATION EXAMPLES
EXAMPLES D'APPLICATION
BEISPIEL



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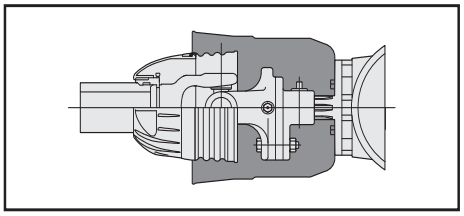

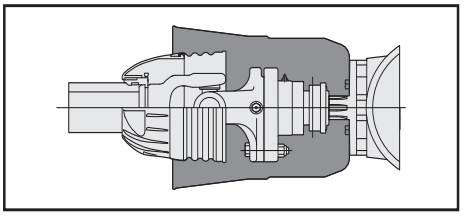

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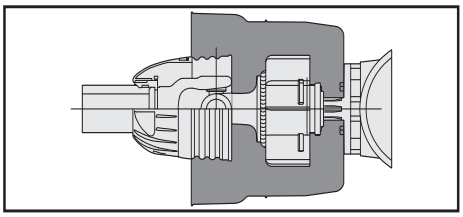

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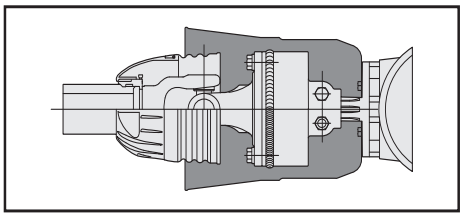

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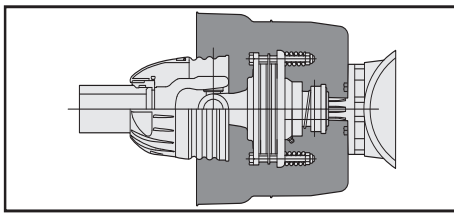

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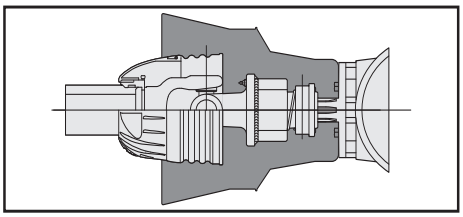

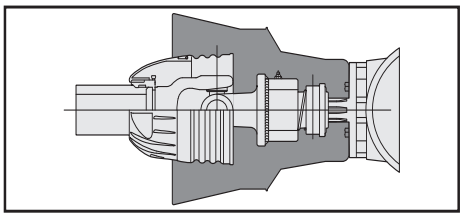

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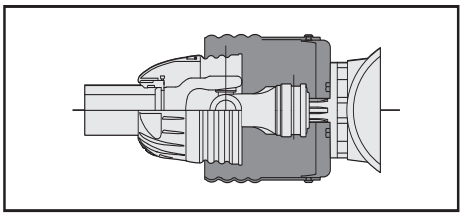
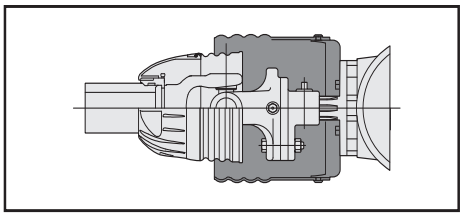
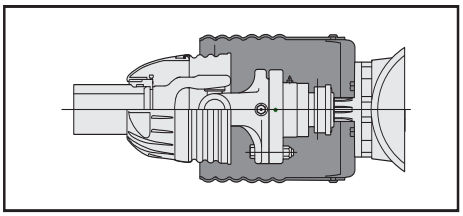
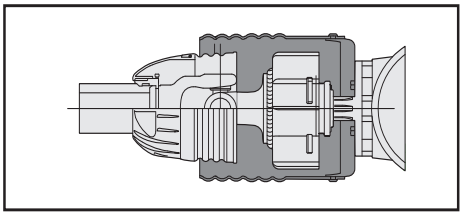
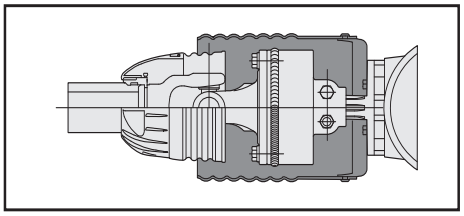
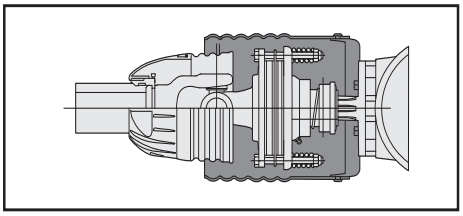


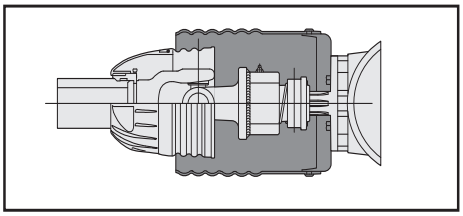


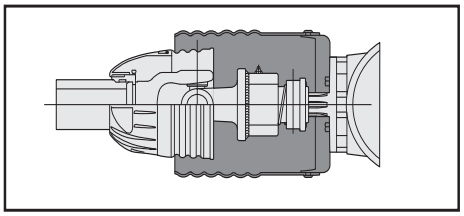


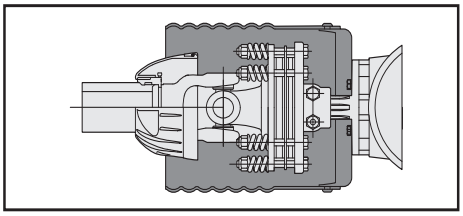


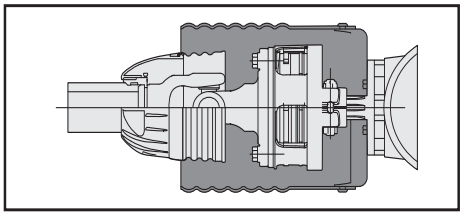












(IT)
Vista l'elevata possibilità di combinazioni attuali con questo tipo di controprotezione, l'indicarne un tipo piuttosto che un altro potrebbe risultare forviante. Al fine di effettuare una scelta corretta, si consiglia pertanto di controllare l'ingombro del dispositivo, della cuffia di protezione e la sovrapposizione tra cuffia e controprotezione (min 50 mm)

(GB)
Considering the combinations that can be created with this type of counter-guard, indicating one type instead of another might be misleading.
To choose the correct type, it is recommended to check the overall dimensions of the guard cone and the overlap between the cone and counter-guard (minimum 50 mm).

(FR)
Compte tenu du grand nombre de combinaisons que ce type de bol de protection permet, l'indication d'un type plutôt qu'un autre peut s'avérer dommageable. Afin de procéder au bon choix, il est par conséquent recommandé de contrôler les dimensions hors tout du dispositif, du bol de protection et la superposition entre bol et contre-protection (minimum 50 mm)

(DE)
In Anbetracht der großen Zahl an Kombinationsmöglichkeiten mit diesem Schutztopf kann die Angabe eines oder eines anderen Typs irreleiten. Daher wird für die richtige Wahl des Schutztopfs empfohlen, die Maße der Vorrichtung und des Schutzbalgs sowie die Überlappung zwischen Schutzbalg und Schutztopf zu überprüfen (mind. 50 mm).

SEZIONE 9: **Nel segno della sicurezza**

SECTION 9: ***The mark of safety***

CHAPITRE 9: **Sous le signe de la sécurité**

TEIL 9: ***Im Zeichen der Sicherheit***

comer industries
driveshafts

comer industries
mechatronic solutions

NEL SEGNO DELLA SICUREZZA
THE MARK OF SAFETY
SOUS LE SIGNE DE LA SECURITE
IM ZEICHEN DER SICHERHEIT

(IT)

INTRODUZIONE

COMER INDUSTRIES S.p.A. considera da sempre la sicurezza tra i più importanti parametri progettuali e costruttivi dei suoi prodotti che sono realizzati in conformità alle normative ISO e alle direttive CEE sulla sicurezza.
Informazioni sulla sicurezza e corretto utilizzo da parte dell'utilizzatore sono forniti dalle etichette di sicurezza e dal libretto di "Uso e Manutenzione" forniti ad ogni trasmissione.
E' cura del cliente informare Comer Industries S.p.A. sul paese in cui le trasmissioni verranno destinate, affinché sia possibile dotarle di idonee libretti ed etichette

ALBERI CARDANICI

Trasmissioni primarie CE

Collegano il trattore alla macchina operatrice e sono equipaggiate con:
- Marchio CE
- Etichette sicurezza
- Libretto d'istruzione CE
- Catene antirotazione

(GB)

INTRODUCTION

COMER INDUSTRIES S.p.A *has always considered safety to be one of the most important design and construction parameters for its products which are all built in full compliance with the international ISO standard and EU safety regulations. Information on safety and on correct final user's application of the PTO drive shaft are supplied in safety labels and in the "Use and Maintenance" Manual provided with all PTO drive shafts. It is the customer responsibility to inform Comer Industries S.p.A. about the Country to which the PTO drive shafts will be delivered, in order to provide them with the suitable Manuals and Labels*

PTO DRIVE SHAFTS

Primary transmissions - CE

They connect the tractor to the operating machinery and are equipped with:
- *CE Mark*
- *Safety labels*
- *CE instruction handbook*
- *anti-rotation chains*

(FR)

AVANT-PROPOS

COMER INDUSTRIES S.p.A place depuis toujours la sécurité en tête des facteurs à prendre en compte lors du développement et de la fabrication de ses produits qui sont conformes aux normes ISO et aux directives de l'U.E. en matière de sécurité.
Les informations sur la sécurité et l'utilisation sont fournies par les autocollants appliqués et par la notice qui accompagne chaque transmission fournie.
Le client est prié d'informer Comer Industries S.p.A. sur le pays de destination des transmissions afin de pouvoir les doter des étiquettes et des notices appropriées

ARBRES A CARDAN

Transmissions primaires CE

Elles relient le tracteur à la machine opératrice et sont équipées de :
- Marquage CE
- Autocollants d'instructions de sécurité
- Notice CE
- Chaînes anti-rotation

(DE)

EINFÜHRUNG

Von Anfang an spielte die Sicherheit für die ***COMER INDUSTRIES S.p.A*** *eine wichtige Rolle beim Entwurf und der Konstruktion ihrer Produkte, die alle in Übereinstimmung mit den ISO-Normen und CE-Vorschriften hergestellt werden. Die Informationen über eine sichere und fachgerechte Benutzung seitens des Anwenders finden sich auf den Sicherheitsetiketten und in dem Handbuch "Benutzung und Wartung", die jedem Getriebe aus dem Hause Comer Group S.p.A. mitgeliefert wird. Es ist Aufgabe des Kunden, die Fa. Comer Industries S.p.A. darüber zu informieren, für welches Land die Getriebe bestimmt sind, sodass sie mit den entsprechenden Etiketten und Handbüchern ausgestattet werden können*

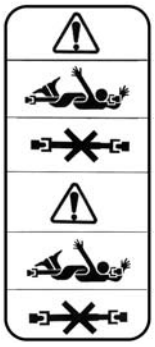
GELENKWELLEN

Primärgetriebe CE

Sie verbinden den Schlepper mit der Arbeitsmaschine und sind ausgerüstet mit:
- *CE- Kennzeichnung*
- *Sicherheitsetiketten*
- *Betriebsanweisungen CE*
- *Halteketten*

cod. **190.000.359**

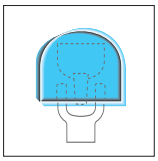
Etichetta su tubo protezione esterno	*Label on outer protective tube*	Autocollant d'instructions de sécurité sur le tube de protection extérieur	*Etikett auf dem äußeren Schutzrohr*

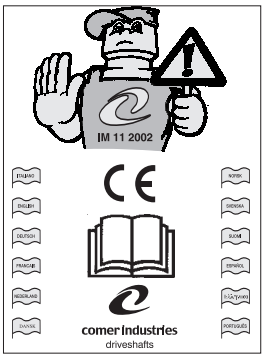


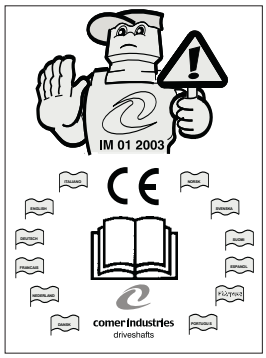
cod. **190.000.358**

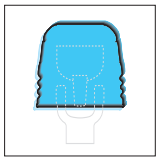
Etichetta su tubo in acciaio esterno	*Label on outer steel tube*	Autocollant d'instructions de sécurité sur le tube en acier extérieur	*Etikett auf dem äußeren Stahlrohr*

NEL SEGNO DELLA SICUREZZA
THE MARK OF SAFETY
SOUS LE SIGNE DE LA SECURITE
IM ZEICHEN DER SICHERHEIT









(IT) Libretto "Uso e Manutenzione" CE

(GB) *CE "Use and Maintenance" handbook*

(FR) Notice CE

(DE) *Handbuch "Benutzung und Wartung" CE*

Trasmissioni primarie USA

Collegano il trattore alla macchina operatrice e sono equipaggiate con:
- Etichette sicurezza
- Libretto d'istruzione
- Catene antirotazione

Primary transmissions-USA

They connect the tractor to the operating machinery and are equipped with:
- *Safety labels*
- *Instruction handbook*
- *Anti-rotation chains*

Transmissions primaires USA

Elles relient le tracteur à la machine opératrice et sont équipées de :
- Autocollants d'instructions de sécurité
- Notice
- Chaînes anti-rotation

Primärgetriebe USA

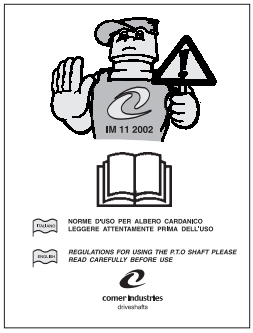
Sie verbinden den Schlepper mit der Arbeitsmaschine und sind ausgerüstet mit:
- *Sicherheitsetiketten*
- *Betriebsanweisungen*
- *Halteketten*

cod. **190.000.099**

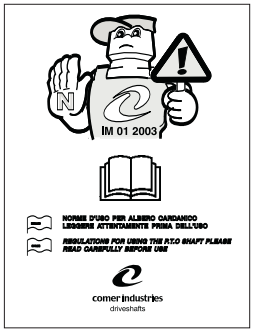
Etichetta su tubo protezione esterno | *Label on outer protective tube* | Autocollant d'instructions de sécurité sur le tube de protection extérieur | *Etikett auf dem äußeren Schutzrohr*

cod. **190.000.098**

Etichetta su tubo in acciaio esterno | *Label on outer steel tube* | Autocollant d'instructions de sécurité sur le tube en acier extérieur | *Etikett auf dem äußeren Stahlrohr*



cod. **190.000.371**



cod. **190.000.692**

Libretto "Uso e Manutenzione" | *"Use and Maintenance" handbook* | Notice | *Handbuch "Benutzung und Wartung"*

NEL SEGNO DELLA SICUREZZA
THE MARK OF SAFETY
SOUS LE SIGNE DE LA SECURITE
IM ZEICHEN DER SICHERHEIT

(IT)

Trasmissioni primarie CANADA

Collegano il trattore alla macchina operatrice e sono equipaggiate con:
- Etichette sicurezza
- Libretto d'istruzione
- Catene antirotazione

(GB)

Primary transmissions – CANADA

They connect the tractor to the operating machinery and are equipped with:
- *Safety labels*
- *Instruction handbook*
- *Anti-rotation chains*

(FR)

Transmissions primaires CANADA

Elles relient le tracteur à la machine opératrice et sont équipées de :
- Autocollants d'instructions de sécurité
- Notice
- Chaînes anti-rotation

(DE)

Primärgetriebe KANADA

Sie verbinden den Schlepper mit der Arbeitsmaschine und sind ausgerüstet mit:
- *Sicherheitsetiketten*
- *Betriebsanweisungen*
- *Halteketten*

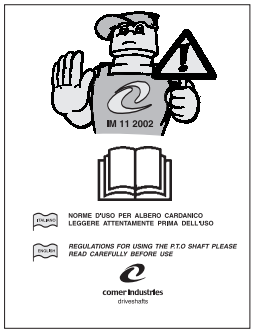
cod. **190.000.359**

cod. **190.000.215**

Etichetta su tubo protezione esterno | *Label on outer protective tube* | Autocollant d'instructions de sécurité sur le tube de protection extérieur | *Etikett auf dem äußeren Schutzrohr*

cod. **190.000.216**

Etichetta su tubo in acciaio esterno | *Label on outer steel tube* | Autocollant d'instructions de sécurité sur le tube en acier extérieur | *Etikett auf dem äußeren Stahlrohr*



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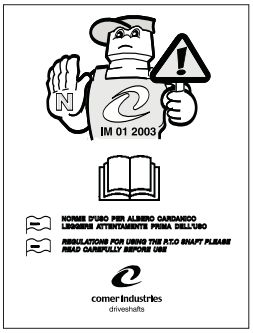


cod. **190.000.692**

Libretto "Uso e Manutenzione"

L'albero cardanico può essere fornito a richiesta senza le protezioni. In questo caso è responsabilità dell'acquirente omologare la macchina (compresa dell'albero) secondo la Direttiva Macchine e proteggere la trasmissione cardanica con protezioni idonee

"Use and Maintenance" handbook

On request, the drive shaft can be supplied without safety guards. In this case, the buyer is responsible for certifying the machine (including the shaft) according to the Machine Directive and for mounting suitable safety guards for the drive shaft

Notice

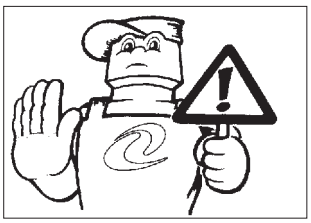
L'arbre à cardan est disponible en option sans les protections. Dans ce cas, c'est à l'acheteur qu'incombe la responsabilité de faire homologuer la machine complète (arbre à cardan compris) conformément à la Directive Machines et de protéger la transmission à cardan avec des protections idoines

Handbuch "Benutzung und Wartung"

Die Gelenkwelle kann auf Wunsch auch ohne Schutzvorrichtungen geliefert werden. In diesem Fall ist es die Pflicht des Käufers, die Maschine (einschl. der Gelenkwelle) entsprechend der Maschinennorm zuzulassen und das Kardangetriebe mit zweckmäßigen Vorrichtungen zu schützen

NEL SEGNO DELLA SICUREZZA
THE MARK OF SAFETY
SOUS LE SIGNE DE LA SECURITE
IM ZEICHEN DER SICHERHEIT

(IT)	(GB)	(FR)	(DE)
Norme d'uso	***Operating instructions***	**Conseils d'utilisation**	***Benutzungsvorschriften***



Quanto descritto riguarda la vostra sicurezza

These rules concern your safety

Les indications ci-dessous concernent votre sécurité

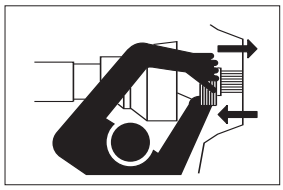
Die beschriebenen Hinweise betreffen Ihre Sicherheit

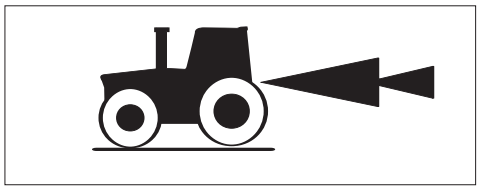
Prima di iniziare il lavoro assicurarsi che:

Before starting to work, make sure that:

Avant de commencer à travailler, vérifiez :

Vor Arbeitsbeginn vergewissern Sie sich, dass:



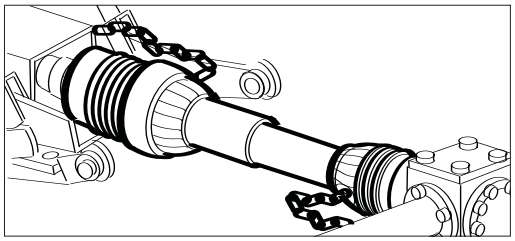


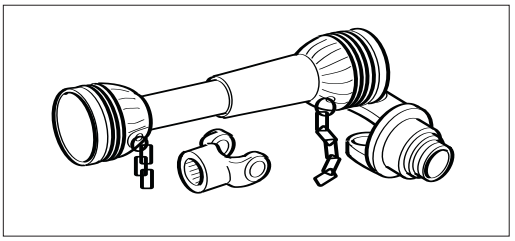
la trasmissione cardanica sia correttamente fissata al trattore ed alla macchina operatrice.(Il trattorino stampigliato sulla protezione indica il lato trattore)

the transmission is correctly connected to the tractor and to the operating machinery (the picture of the small tractor stamped on the safety guard indicates the tractor side)

la bonne fixation de la transmission à cardan au tracteur et à la machine opératrice. (Le tracteur estampillé sur la protection indique le côté tracteur)

das Kardangetriebe richtig am Schlepper und an der Arbeitsmaschine befestigt ist. (Der kleine Traktor, der auf der Schutzvorrichtung aufgedruckt ist, zeigt die Schlepperseite an)



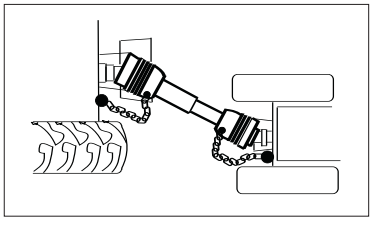


tutte le protezioni della trasmissione siano presenti ed efficienti, eventuali elementi danneggiati o mancanti devono essere sostituiti con Ricambi originali ed installati correttamente

all the transmission safety guards are in position and operating efficiently. Any damaged or missing components must be replaced with original spare parts and installed correctly

la présence et le fonctionnement de toutes les protections de la transmission. En cas de besoin, remplacez les éléments endommagés ou manquants par des pièces d'origine en veillant à les monter correctement

alle Getriebeschutzvorrichtungen vorhanden und wirksam sind, evtl. fehlende oder beschädigte Teile müssen mit Originalersatzteilen ersetzt und richtig eingebaut werden



le catene devono essere fissate in modo che permettano l'articolazione della trasmissione in ogni condizione di lavoro e di trasporto

the chains must be connected so that the transmission can move under all operating and transport conditions

si les chaînes sont fixées de façon à permettre l'articulation de la transmission dans chaque condition d'exercice et de transport

die Halteketten so befestigt sind, dass die Getriebebewegung unter allen Arbeits- und Transportbedingungen möglich ist

NEL SEGNO DELLA SICUREZZA
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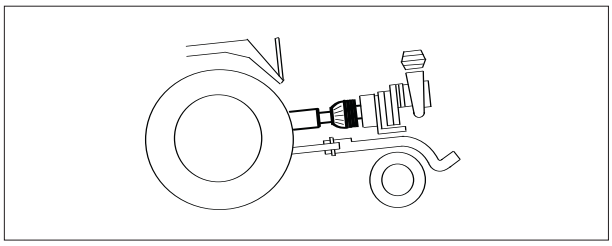
SOUS LE SIGNE DE LA SECURITE
IM ZEICHEN DER SICHERHEIT



(IT)
le macchine stazionarie (pompe, generatori, etc ..) siano sempre agganciate al trattore e rispettino la sovrapposizione degli elementi telescopici

(GB)
the stationary machines (pumps, generators, etc.) are always coupled to the tractor and respect the position of the overlapping telescopic elements

(FR)
si les machines stationnaires (pompes, générateurs, etc.) sont bien fixées au tracteur et respectent la superposition des éléments télescopiques

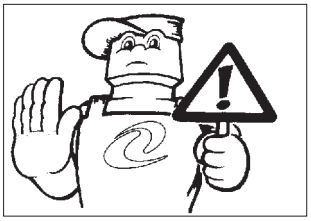
(DE)
die stationären Maschinen (Pumpen, Generatoren usw.) immer an den Schlepper angekuppelt sind und die Überlappung der teleskopischen Teile beachtet wird

la trasmissione cardanica sia idonea per lunghezza, dimensione ed eventuale dispositivo (controllare nel libretto d'istruzioni della macchina se la trasmissione deve essere dotata di limitatore di coppia o ruota libera)

the drive shaft transmission in terms of length, size and any device (check the machine's instruction handbook if the transmission must be equipped with a torque limiter or overrunning clutch)

si la longueur, la dimension de la transmission à cardan ainsi que son dispositif éventuel sont adaptés à l'usage que l'on souhaite en faire (vérifiez dans la notice si la transmission doit être équipée d'un limiteur de couple ou d'une roue libre).

das Kardangetriebe in Bezug auf Länge, Abmessungen und evtl. Vorrichtung zulässig ist (im Benutzerhandbuch kontrollieren, ob das Getriebe mit einer Überlast- oder Freilaufkupplung ausgerüstet sein muss)



Durante l'utilizzo della trasmissione assicurarsi che :

When using the transmission, make sure that:

Pendant l'utilisation veillez à ce que:

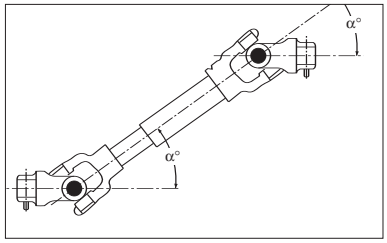
Während der Benutzung des Getriebes muss sichergestellt werden, dass:

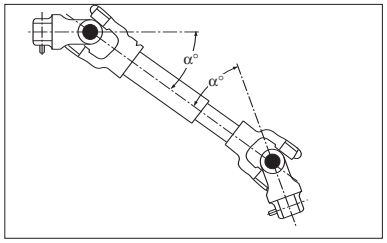
la trasmissione cardanica non superi le condizioni di velocità e di potenza stabilite nel manuale della macchina.
L'eventuale dispositivo di sicurezza deve essere impegnato sul lato macchina
Tutte le parti in rotazione siano protette

the drive shaft does not exceed the speed and power conditions defined in the machine's operating handbook.
Any safety device must be engaged on the machine side.
All rotating parts must be protected.

la transmission à cardan ne dépasse pas la vitesse et la puissance prévues dans le manuel de la machine.
Le dispositif de sécurité doit toujours être utilisé du côté de la machine.
Toutes les pièces en mouvement sont protégées

die Gelenkwelle die im Benutzerhandbuch festgelegten Werte von Geschwindigkeit und Leistung nicht überschreitet.
Eine evtl. vorhandene Sicherheitsvorrichtung muss auf der Maschinenseite eingebaut sein.
Alle drehenden Teile müssen geschützt sein



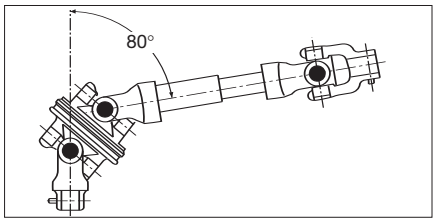


IT
gli angoli di snodo siano contenuti ed uguali. In caso di manovre che superino i 35° disinserire la presa di moto

GB
the joint angles are limited and equal; for operations that exceed 35°, disengage the power take-off

FR
les angles d'articulation doivent être contenus et égaux. En cas de manoeuvre de plus de 35°, débrayez la prise de force

DE
die Gelenkwinkel maßgerecht und gleich sind. Bei Lenkmanövern von über 35° den Antrieb ausschalten

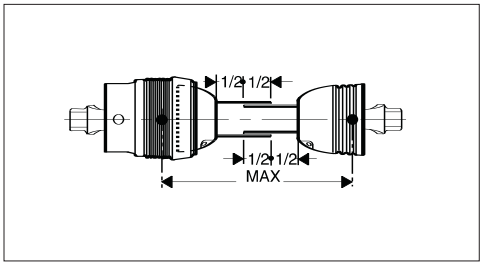


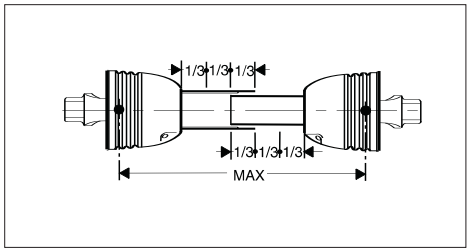
il giunto omocinetico non operi in continuo con un angolo prossimo a 80° , ma solamente per brevi periodi (sterzate)

the PTO drive shaft joint does not operate continuously with an angle close to 80°, but only for brief periods (steering)

le joint homocinétique n'opère pas en continu à un angle proche de 80°, mais seulement pour de courtes durées (braquage)

die Weitwinkelgelenkwelle nicht ständig, sondern nur momentan mit einem Winkel um 80° arbeitet (Lenkmanöver)





gli elementi telescopici della trasmissione siano sempre sovrapposti per 1/3 nelle trasmissioni STD , ed 1 / 2 nelle trasmissioni con giunto omocinetico

1/3 of the transmission's telescopic elements are always overlapping in the STD transmission and 1/2 in the PTO drive shaft transmissions

les éléments télescopiques de la transmission se superposent toujours sur 1/3 dans les transmissions STD et de 1/2 dans les transmissions à joint homocinétique

die teleskopischen Elemente des Getriebes bei der Standardausführung immer um 1/3 überlappen, bei den Getrieben mit Weitwinkelgelenken um 1/2 uberlappen

gli abiti di lavoro indossati non presentino cinghie, lembi o parti che possano costituire aggancio. L'eventuale contatto con parti in rotazione può provocare gravi incidenti

work clothes do not have belts, edges or parts that may get tangled. Any contact with rotating parts may cause serious accidents

les vêtements de travail portés ne doivent pas être amples ou déboutonnés de façon à ce qu'ils ne soient pas happés par la machine et être la cause de graves accidents

die Arbeitskleidung keine Gürtel, Zipfel oder Teile aufweist, die sich verhaken können. Werden diese Teile von rotierenden Teilen erfasst, können schwere Unfälle verursacht werden

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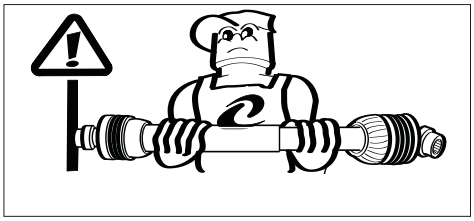
(IT) Norme generali



La trasmissione deve essere trasportata orizzontalmente per evitare (causa lo sfilamento) incidenti o rottura delle protezioni.
In funzione del peso utilizzare adeguati mezzi di trasporto

(GB) *General rules*

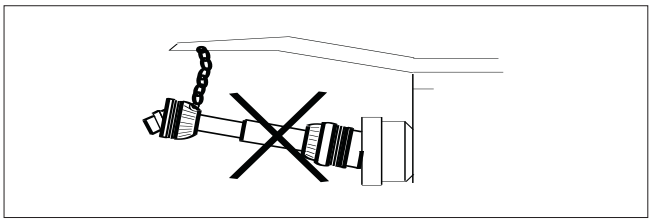
The transmission must be transported horizontally to prevent accidents (since it may slip out) or to avoid damage to safety guards.
Depending on the weight, use a suitable means of transport

(FR) Conseils d'utilisation

La transmission doit être manutentionnée horizontalement pour ne pas la faire glisser en provoquant des accidents ou un endommagement des protections. Utilisez des engins de manutention appropriés en fonction de son poids

(DE) *Allgemeine Vorschriften*

Das Getriebe muss waagerecht transportiert werden, um Unfälle und Brüche der Schutzvorrichtungen (wegen Herausrutschens) zu vermeiden.
Das Transportmittel muss dem Gewicht entsprechen

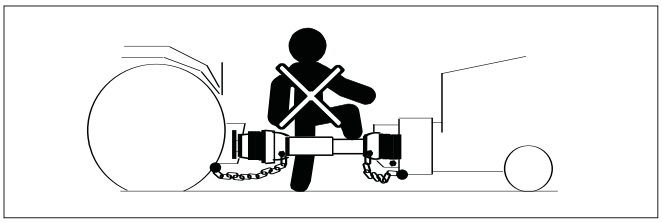


Non utilizzare le catene per trasportare o sostenere la trasmissione cardanica al termine dell'utilizzo. Usare un apposito supporto

Do not use chains to transport or support the drive shaft after use. Use a special support

N'utilisez pas de chaînes pour manutentionner la transmission à cardan à la fin de son utilisation. Utilisez un support adéquat

Die Halteketten nicht zum Transport oder zum Halten der Gelenkwelle nach Arbeitsende benutzen, sondern eine passende Stütze verwenden

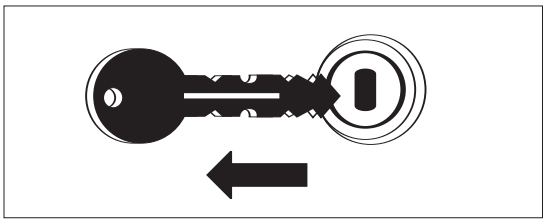


Non usare la trasmissione come appoggio o come predellino

Do not use the transmission as a support or as a footboard

N'utilisez pas la transmission comme support ou marchepied

Die Welle nicht als Stütze oder Fußbrett benutzen



Spegnere il motore, togliere le chiavi del trattore e verificare che tutte le parti in rotazione si siano arrestate prima di avvicinarsi alla macchina opoeratrice o compiere operazioni di manutenzione

Turn off the engine, remove the key from the tractor and ensure that all rotating parts have stopped before getting close to the machinery or carrying out maintenance

Coupez le moteur, retirez la clé de contact et vérifiez si toutes les pièces en mouvement se sont arrêtées avant de vous approcher de la machine opératrice ou d'accomplir des opérations d'entretien

Bevor Sie sich der Arbeitsmaschine nähern oder Wartungsarbeiten ausführen, schalten Sie den Motor ab, ziehen Sie die Schlepperschlüssel ab und vergewissern Sie sich, dass alle drehenden Teile zum Stillstand gekommen sind

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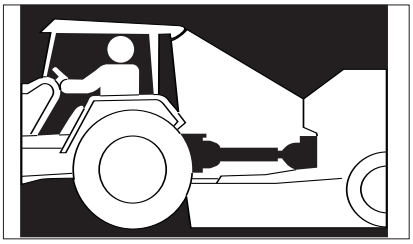
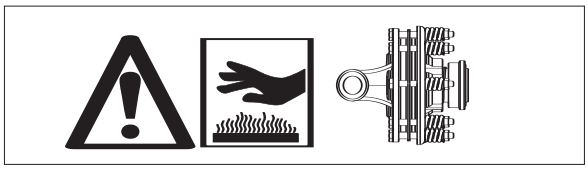


(IT)
La zona di lavoro della trasmissione deve essere illuminata nelle fasi di installazione e di utilizzo nel caso di scarsa visibilità o utilizzo notturno

(GB)
The transmission work area must be illuminated during installation and use in case of poor visibility or night-time operation

(FR)
En cas de mauvaise visibilité ou de travail nocturne, la zone de travail de la transmission doit être suffisamment éclairée aussi bien pendant la phase de montage que durant l'utilisation

(DE)
Der Arbeitsbereich des Getriebes muss während des Einbaus und bei Betrieb mit schlechten Sichtverhältnissen oder nachts beleuchtet werden



Le frizioni possono raggiungere temperature elevate.
NON TOCCARE!
Mantenere la zona adiacente pulita per evitare rischi d'incendio

Clutches may become very hot.
DO NOT TOUCH!
Keep the adjacent area clean to reduce the risk of fire

Le dispositif de limitation peut atteindre des températures élevées,
NE PAS TOUCHER !
La zone adjacente doit toujours être propre afin de prévenir tout risque d'incendie

Die Kupplungen können sehr hohe Temperaturen erreichen.
NICHT BERÜHREN!
Um Brandrisiken zu vermeiden, brennbares Material von der Kupplung fernhalten und längere Rutschphasen vermeiden

CONTROCUFFIE

La Direttiva Macchine (98/37CEE) stabilisce che la presa di moto sulla macchina operatrice sia dotata di una protezione fissata alla stessa che permetta il montaggio e l'articolazione della trasmissione cardanica e che garantisca (secondo la norma EN 1553) una sovrapposizione di almeno 50mm con la protezione della trasmissione cardanica allineata.
Le controcuffie Comer Industries S.p.A. sono state realizzate rispettando i requisiti e le norme internazionali e vengono fornite corredate del foglio d'istruzione CE contenente la Dichiarazione di conformità

Data la notevole varietà di macchine operatrici e di applicazione, è responsabilità del costruttore della macchina selezionare la controcuffia in base alle condizioni di impiego, alle dimensioni e all'articolazione della trasmissione cardanica.
Comer Industries S.p.A. raccomanda di verificare in campo le reali condizioni di impiego ed idoneità della controcuffia

SAFETY SHROUDS

The Machine Directive (98/37/CEE) *states that the power take-off on operating machinery must be equipped with a safety shroud attached to it that allows the drive shaft to be assembled and to articulate and that guarantees (according to EN 1553) overlapping of at least 50 mm with the aligned drive shaft safety guard.*
The Comer Industries S.p.A. shrouds are built in compliance with international requirements and standards and are supplied with a CE instruction sheet containing the declaration of conformity.

Considering the wide variety of operating machinery and applications, the machine manufacturer is responsible for selecting the shroud based on the use conditions, dimensions and articulation of the drive shaft.
Comer Industries S.p.A. recommends checking the real use conditions in the field as well as the suitability of the shroud

BOLS DE PROTECTION

La Directive Machines (98/37/CEE) prescrit que la prise de force sur la machine opératrice doit être dotée d'une protection permettant le montage et l'articulation de la transmission à cardan tout en garantissant (selon la norme EN 1553) une superposition minimum de 50mm avec la protection de la transmission à cardan alignée.
Les bols de protection Comer Industries S.p.A. ont été conçus conformément aux normes internationales et sont accompagnés d'une notice CE contenant la déclaration de conformité.

Etant donné la grande variété des machines opératrices et de leurs applications, c'est au fabricant de la machine de choisir le bol plus approprié en fonction des conditions d'exercice, des dimensions et de l'articulation de la transmission à cardan.
Comer Industries S.p.A. conseille de vérifier sur le terrain les conditions réelles d'exercice et la validité du bol

SCHUTZTÖPFE

Die Maschinenverordnung (98/37/CEE) *sieht vor, dass der Antrieb an einer Arbeitsmaschine mit einer Schutzvorrichtung ausgerüstet sein muss, die an der Maschine befestigt ist, die Montage und die Bewegung des Kardangelenks ermöglicht und eine Überlappung von mind. 50 mm mit der Schutzvorrichtung des ausgerichteten Kardangelenks (entsprechend der Vorschrift EN 1553) gewährleistet.*
Die Schutztöpfe der Comer Industries S.p.A. werden unter Beachtung der internationalen Anforderungen und Vorschriften hergestellt; die mitgelieferte Benutzeranleitung CE enthält eine Konformitätserklärung des Schutztopfes. In Anbetracht der großen Anzahl an Arbeitsmaschinen und Anwendungsmöglichkeiten unterliegt es der Verantwortlichkeit des Maschinenherstellers, den Schutztopf auf Grund der Betriebsbedingungen, der Abmes-sungen und der Winkelbewegung des Kardanantriebs auszuwählen. Die Comer Industries S.p.A. empfiehlt, die tatsächlichen Einsatzbedingungen und die Eignung des Schutztopfes bei der Arbeit auf dem Feld zu überprüfen

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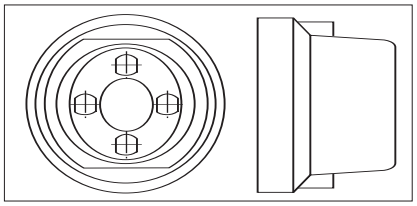
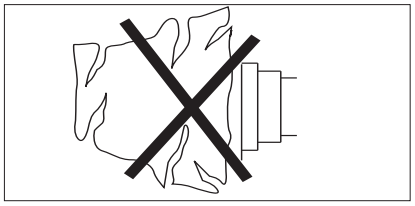
(IT) Norme generali

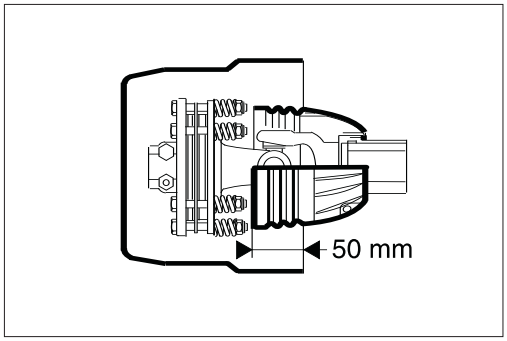


Le viti e rondelle di fissaggio della controcuffia devono essere contenute nella superficie piana e non devono risultare allentate



Le controcuffie non devono essere danneggiate, se tali devono essere sostituiti con Ricambi Originali

Non usare la controcuffia come appoggio o predellino. Assicurarsi che l'eventuale sportello sia chiuso



La controcuffia deve sormontare la protezione dell'albero cardanico di almeno 50mm

(GB) *General rules*

Shroud connecting screws and washers must remain within the flat surface and should not be loose.

Shrouds must not be damaged. If so, they must be replaced with original spare parts

Do not use the shroud as a support or footboard. Any opening must be closed

The shroud must overlap the drive shaft safety guard by at least 50 mm

(FR) Conseils d'utilisation

Le vis et les rondelles de fixation du bol doivent être contenues dans la superficie plane et ne doivent pas être desserrées

Les bols doivent toujours être en parfait état, remplacez-les en cas de besoin mais toujours par des pièces d'origine

N'utilisez jamais le bol comme support ou marchepied. Si un couvercle est prévu, vérifiez s'il est bien fermé

Le bol doit surmonter la protection de l'arbre à cardan de 50 mm au moins

(DE) *Allgemeine Vorschriften*

Die Befestigungsschrauben und Unterlegscheiben des Schutztopfes müssen sich auf der flachen Oberfläche befinden und dürfen nicht locker sein

Die Schutztöpfe dürfen nicht beschädigt sein, in diesem Fall müssen sie mit Originalersatzteilen ausgetauscht werden

Den Schutztopf nicht als Stütze oder Fußbrett benutzen. Eine evtl. vorhandene Klappe muss geschlossen sein

Der Schutztopf muss die Schutzvorrichtung der Kardanwelle um mind. 50 mm überlappen

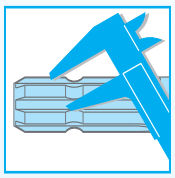
SEZIONE 10: Dimensioni profili e conversione delle unita' di misura

SECTION 10: Splined dimensions and units conversions

CHAPITRE 10: Dimensions profiles et tableau desonversions

TEIL 10: Normprofile und umrechnungsformeln der masseinheiten

comer industries
driveshafts



Dimensioni profili
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Conversione delle unita' di misura
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DIMENSIONI PROFILI
SPLINED DIMENSIONS
DIMENSIONS PROFILES
NORMPROFILE

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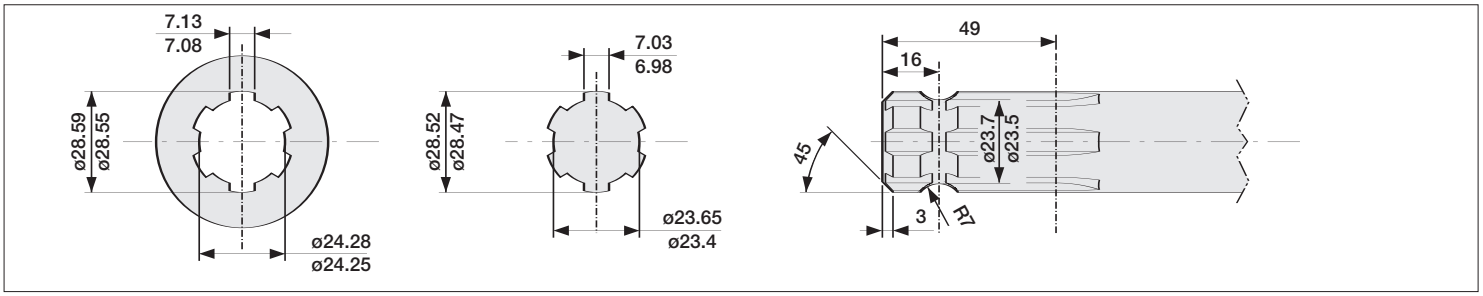
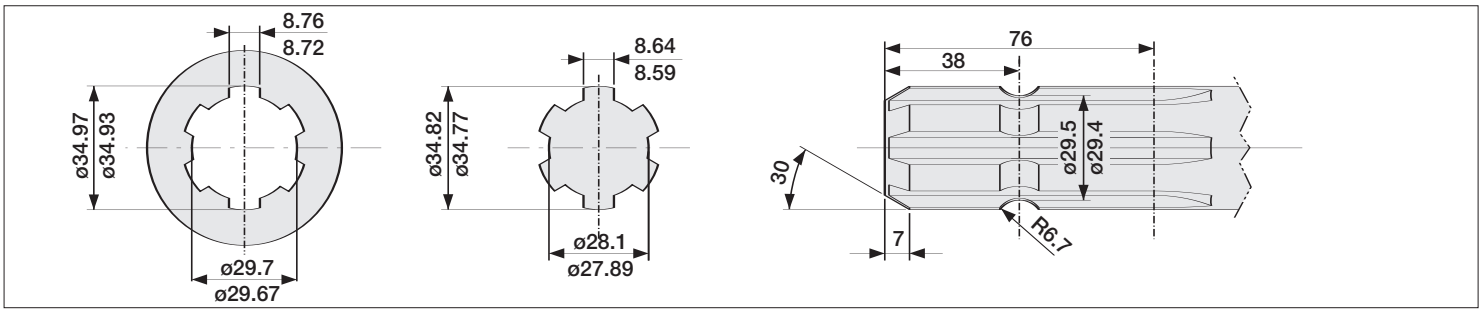
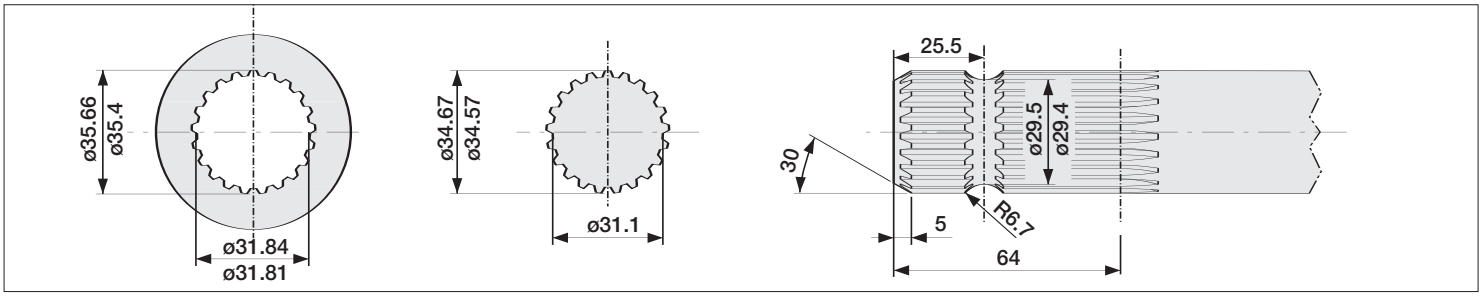


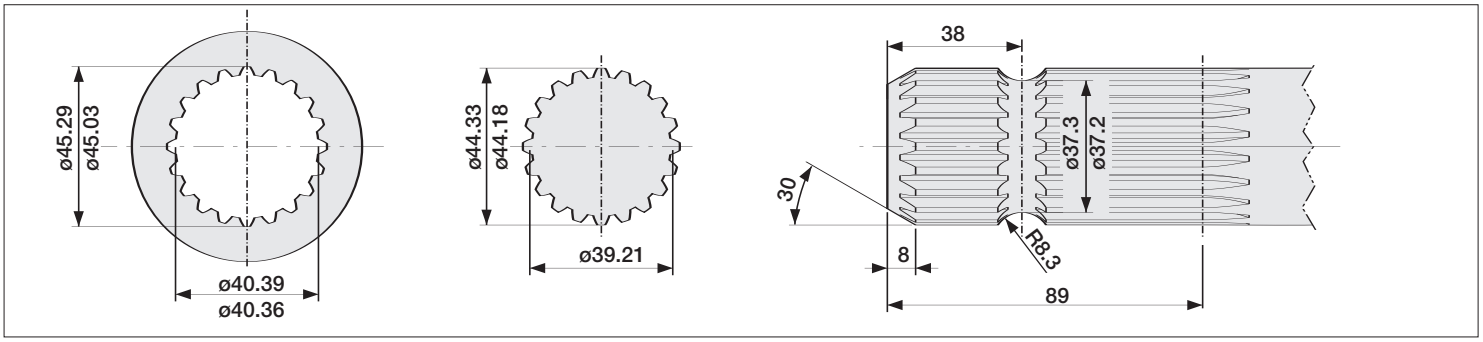
Forma 1 - Type 1 - Form 1 1 3/8 Z6



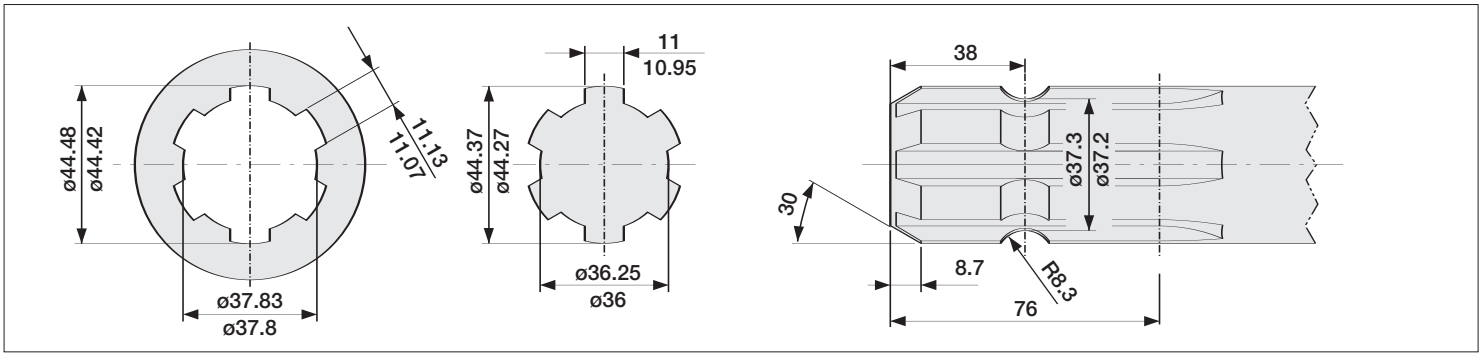
Forma 2 - Type 2 - Form 2 1 3/8 Z21



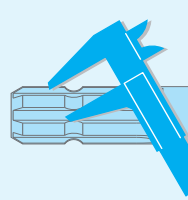
Forma 3 - Type 3 - Form 3 1 3/4 Z20



1 3/4 Z6



CONVERSIONE DELLE UNITA' DI MISURA
UNITS CONVERSIONS
TABLEAU DES CONVERSIONS
UMRECHNUNGSFORMELN DER MASSEINHEITEN



	mm	cm	m	inch (")	ft (')	yd
1 mm	1	10^{-1}	10^{-3}	$39,37 \cdot 10^{-3}$	$3,2808 \cdot 10^{-3}$	$1,0936 \cdot 10^{-3}$
1 cm	10	10	10^{-2}	$39,37 \cdot 10^{-2}$	$3,2808 \cdot 10^{-2}$	$1,0936 \cdot 10^{-2}$
1 m	1000	100	1	39,3701	3,28084	1,09361
1 inch (")	25,4	2,54	$2,54 \cdot 10^{-2}$	1	0,08333	0,02778
1 ft (')	304,8	30,48	$3,048 \cdot 10^{-1}$	12	1	0,33333
yd	914,4	91,44	0,9144	36	3	1

	Kg	t	lb	oz
1 kg	1	10^{-3}	2,20462	35,274
1 t	1000	1	2204,62	35274
1 lb	0,453592	$0,4536 \cdot 10^{-3}$	1	16
1 oz	$2,8349 \cdot 10^{-2}$	$2,8349 \cdot 10^{-5}$	$6,25 \cdot 10^{-2}$	1

	Kgp	N	lb	pdl
1 kgp	1	9,80665	2,205	73,76
1 N	0,10197	1	0,22481	7,233
1 lb	0,4536	4,44822	1	32,18
1 pdl	$13,56 \cdot 10^{-3}$	0,138255	$31,08 \cdot 10^{-3}$	1

	Kgp • m	N • m	lb • lb	ft • lb
1 kgp • m	1	9,80665	86,7961	7,2329
1 N • m	0,10197	1	8,85079	0,73756
1 in • lb	0,01152	0,11298	1	0,08333
1 ft • lb	0,13826	1,35582	12	1

	W	kW	CV	HP
1 w	1	10^{-3}	$1,360 \cdot 10^{-3}$	$1,341 \cdot 10^{-3}$
1 kW	1000	1	1,360	1,341022
1 cv	735,50	0,7355	1	0,98632
1 HP	745,70	0,7457	1,01387	1

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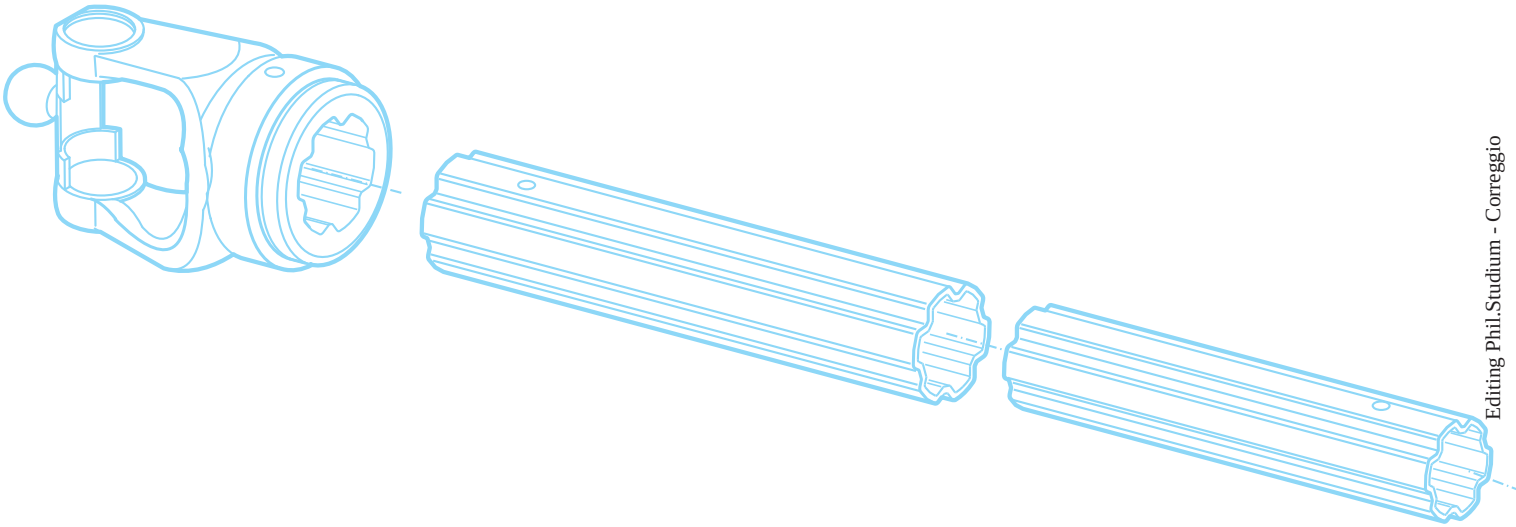

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