



comer industries

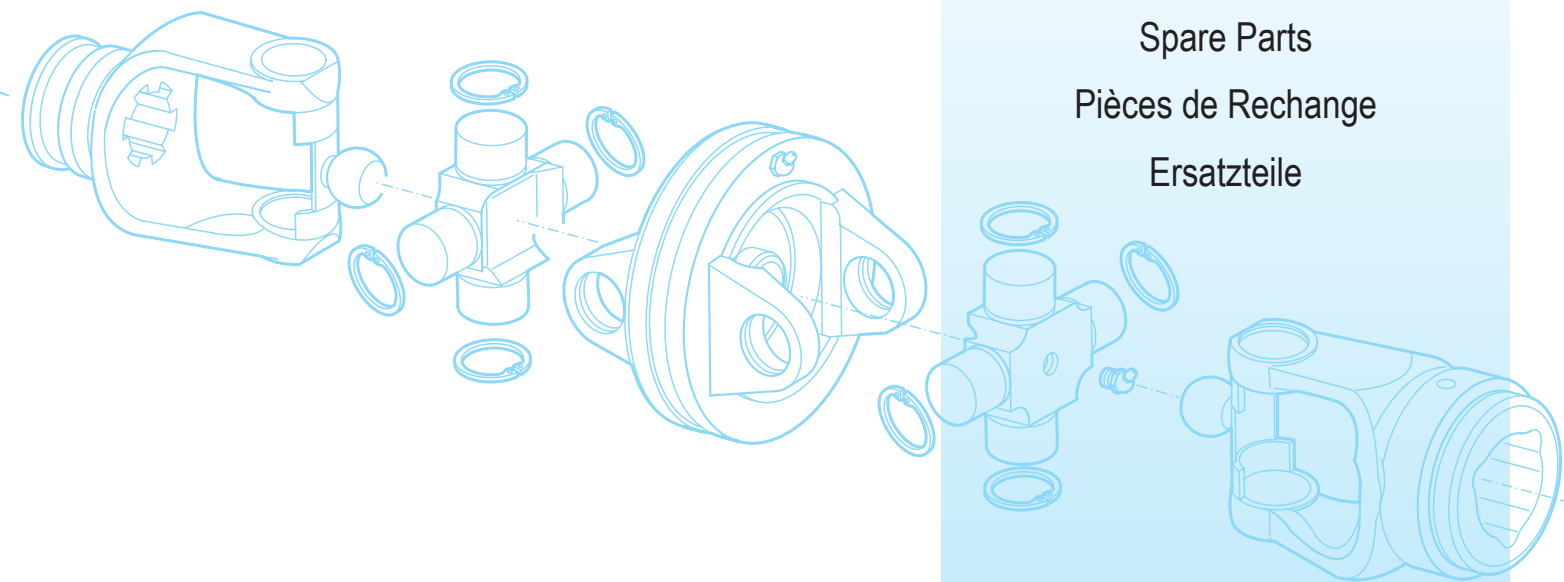
driveshafts

Parti di Ricambio

Spare Parts

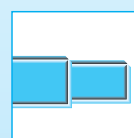
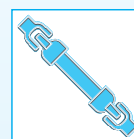
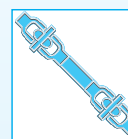
Pièces de Rechange

Ersatzteile



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driveshafts

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PRESENTAZIONE AZIENDA COMPANY PROFILE PRESENTATION DE LA SOCIÉTÉ VORSTELLUNG DER FIRMA

(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 è l'azienda che ha dato vita a Comer Group, dal 2002 Comer Industries. Fondata nel 1970 a Reggio Emilia (RE), Comer Industries è 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 riconoscimento 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, è 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 Reggio Emilia (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 Industries depuis 2002. Fondée en 1970 à Reggio Emilia (Reggio Emilia), 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 a 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 fénaison et le traitement du foin, 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 profils 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.

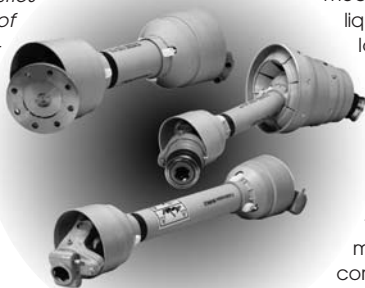
Das Unternehmen Comer hat die Comer Group ins Leben gerufen, das ab 2002 Comer Industries geworden ist. Es wurde 1970 in Reggio Emilia (Reggio Emilia) gegründet und ist heute der größte Hersteller der Welt von das Getriebe und Gelenkwellen für die Landwirtschaft. Diese Vorrangstellung erreichte es aufgrund 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 Qualitätsbescheinigung 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 Heu- und 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.



PRESENTAZIONE AZIENDA COMPANY PROFILE PRESENTATION DE LA SOCIÉTÉ VORSTELLUNG DER FIRMA



(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 Reggio (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 Reggio (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 Reggio (Reggio Emilia). 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)

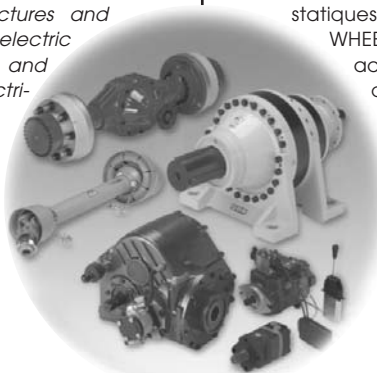
BESCHREIBUNG DER "COMER INDUSTRIES"

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 Ingenieurwesen, 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 Reggio (Reggio Emilia); sie beschäftigt mehr als 880 Mitarbeiter, kann einen konsolidierten Umsatz von 170 Millionen Euro aufweisen und vereint in sich die Erfahrungen und Kompetenzen verschiedener Produktspezialisierungen: das Unternehmen "GEARBOXES & DRIVESHAFTS", weltweiter Leader in der Produktion von Getriebe und Kardantrieben 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, hydraulischen klenkgetriebe.





PRESENTAZIONE AZIENDA COMPANY PROFILE PRESENTATION DE LA SOCIÉTÉ VORSTELLUNG DER FIRMA

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 Reggio Emilia (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 è 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 Reggio Emilia (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 Reggio Emilia (Reggio Emilia) 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 cinematisme 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 Reggio Emilia (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 geräusch-isolierten Versuchs- und Prüfszellen 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

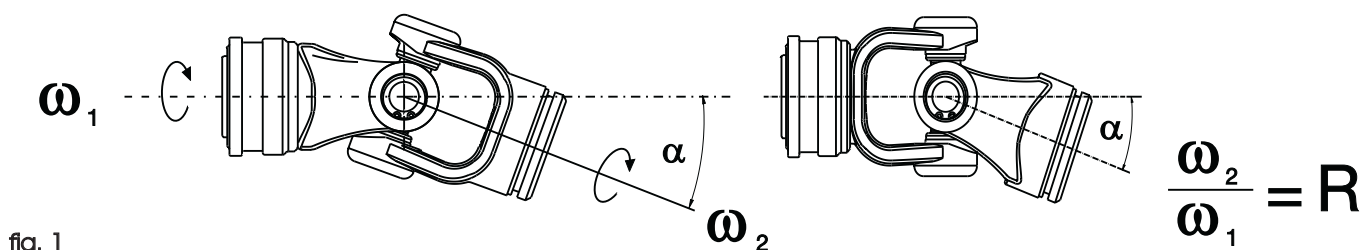


fig. 1

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 (Fig. 1). 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 axes. 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 schräg stehenden 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

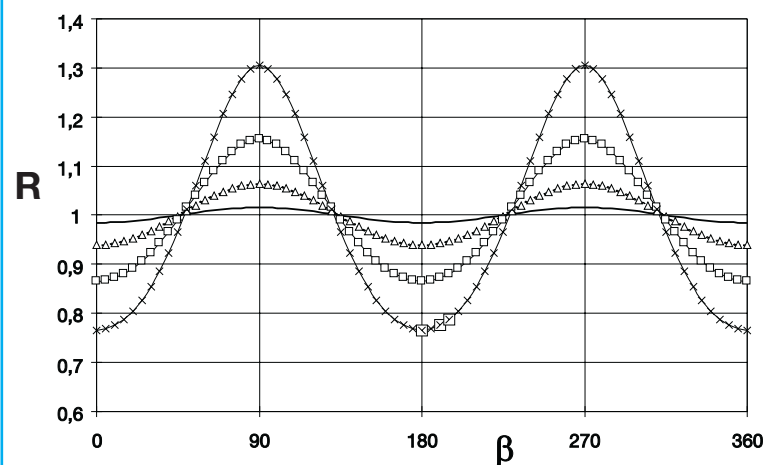


fig. 2





CARATTERISTICHE CINEMATICHE KINEMATIC CHARACTERISTICS CARACTERISTIQUES CINEMATIQUES KINEMATISCHE EIGENSCHAFTEN

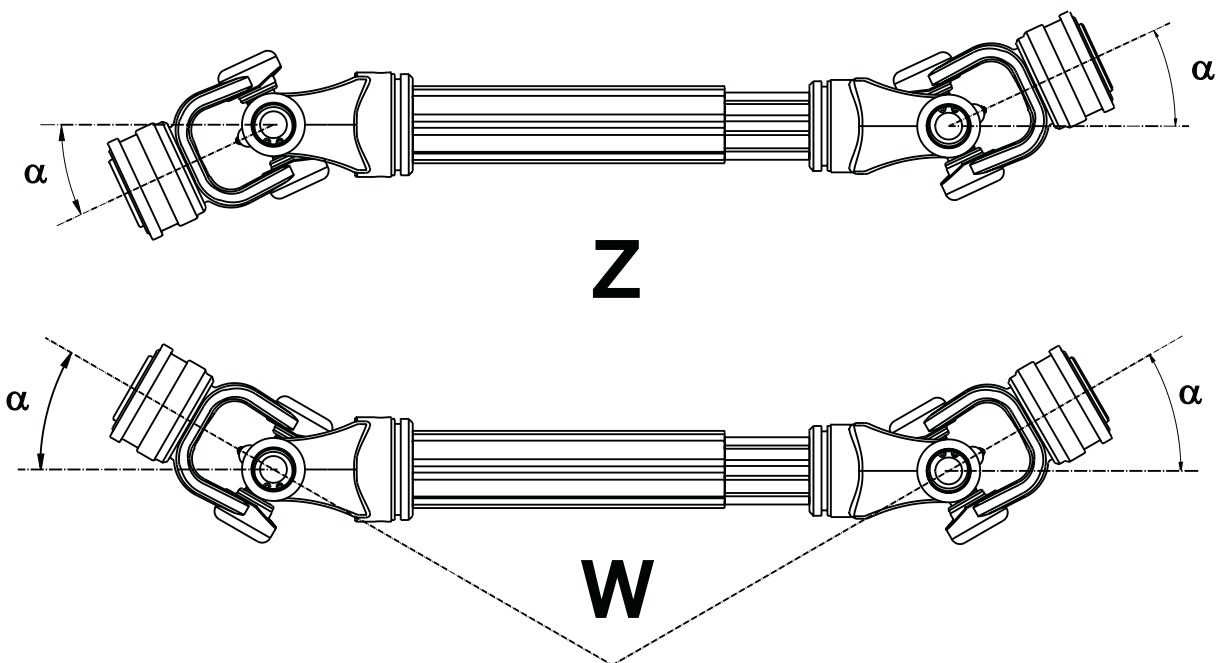


fig. 3

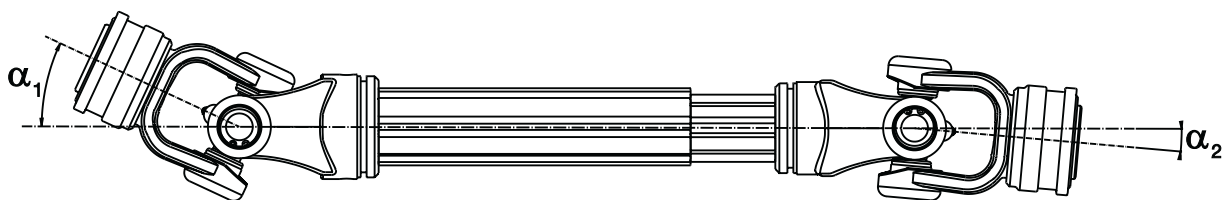


fig. 4

(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 W oder 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

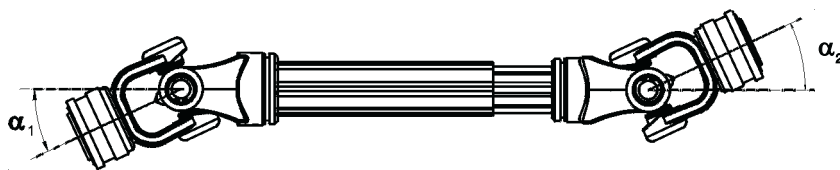
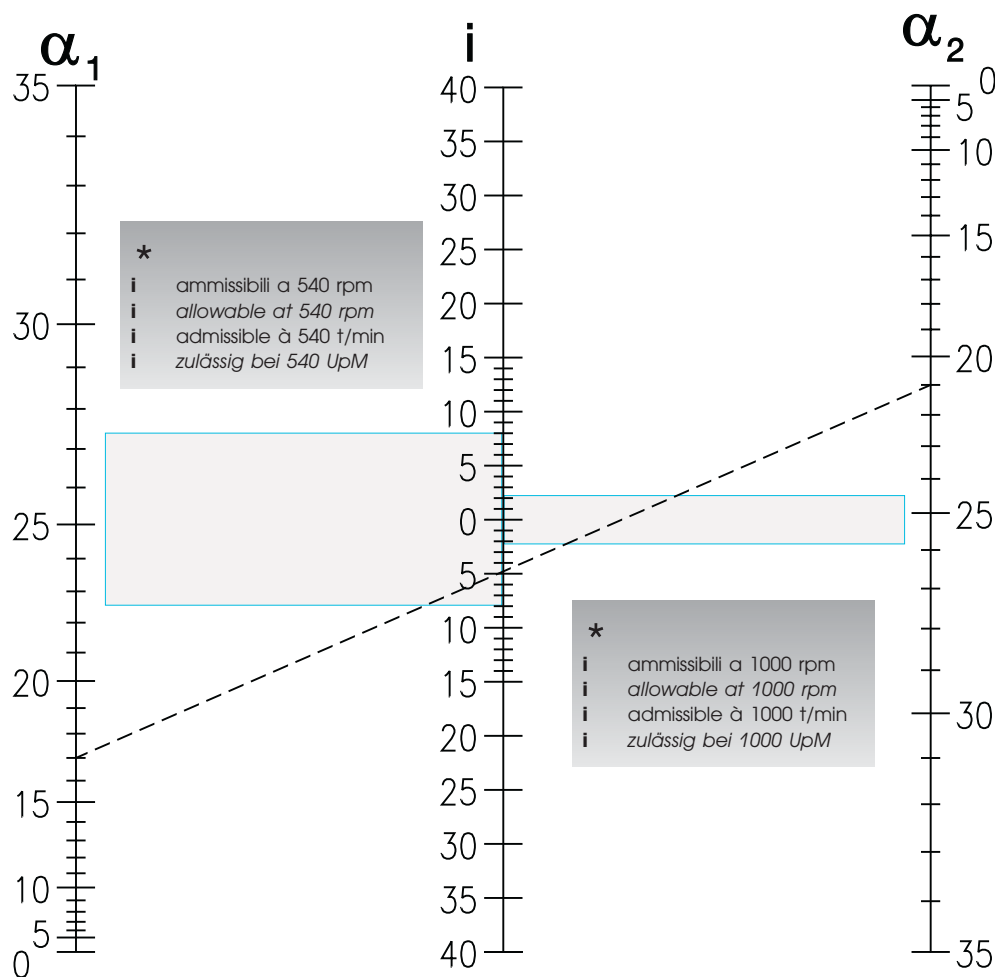


fig. 5

Esempio / Example / Exemple / Beispiel:

$\alpha_1 = 0^\circ, \alpha_2 = 4^\circ, \alpha_1 - \alpha_2 = 4^\circ$
 $i = 0,5\%$
 $\alpha_1 = 21^\circ, \alpha_2 = 25^\circ, \alpha_1 - \alpha_2 = 4^\circ$
 $i = 6\%$

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

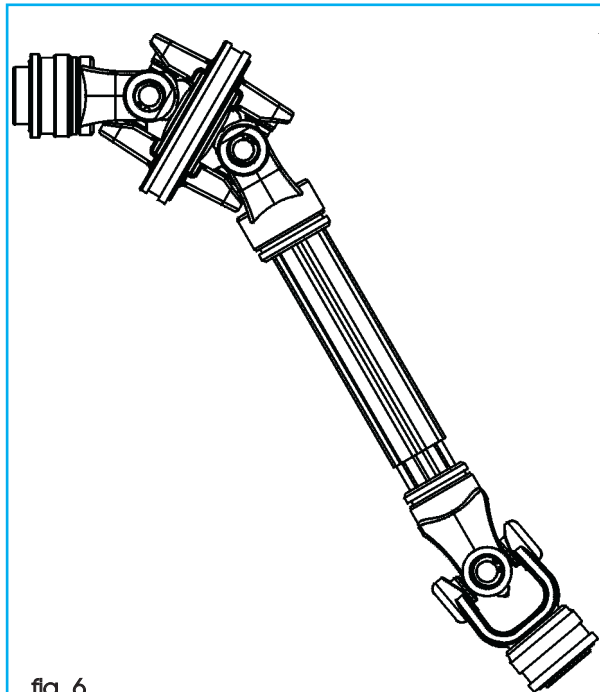


fig. 6

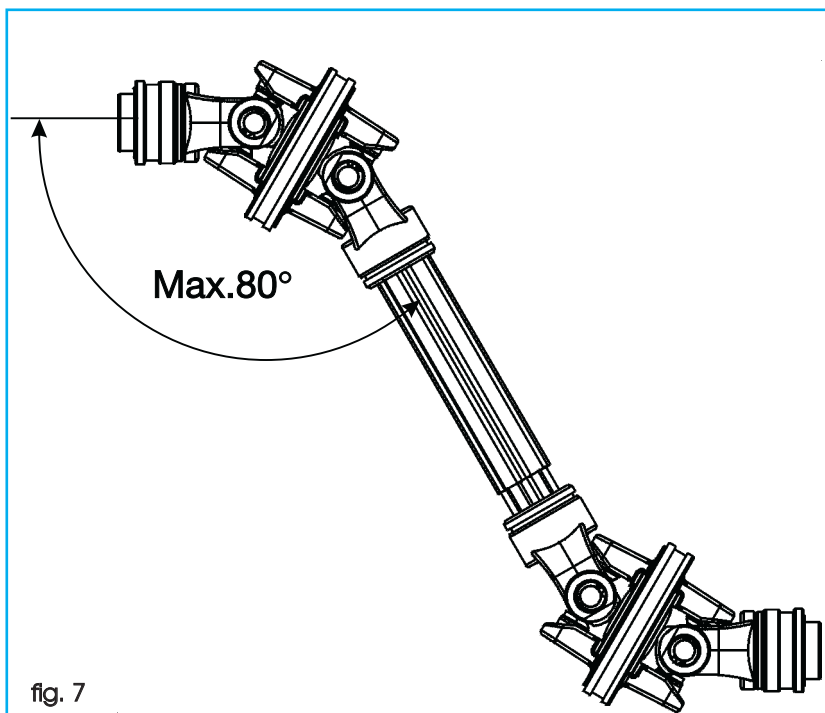


fig. 7

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 sfero-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 manœuvre 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 Verwendung einer an die Gabel geschweißten Kugelbrücke garantiert, wodurch die Kontaktzonen zwischen Welle und Gabel vor Verschleiß geschützt 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.				1000 r.p.m.				coppia dinam. max.  max.dynamic torque couple dynamique max. max.dynam. Drehmomente	
		KW	CV	Nm.	in.lb.	KW	CV	Nm.	in.lb.	Nm.	in.lb.
SERIE 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
SERIE 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
SERIE 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

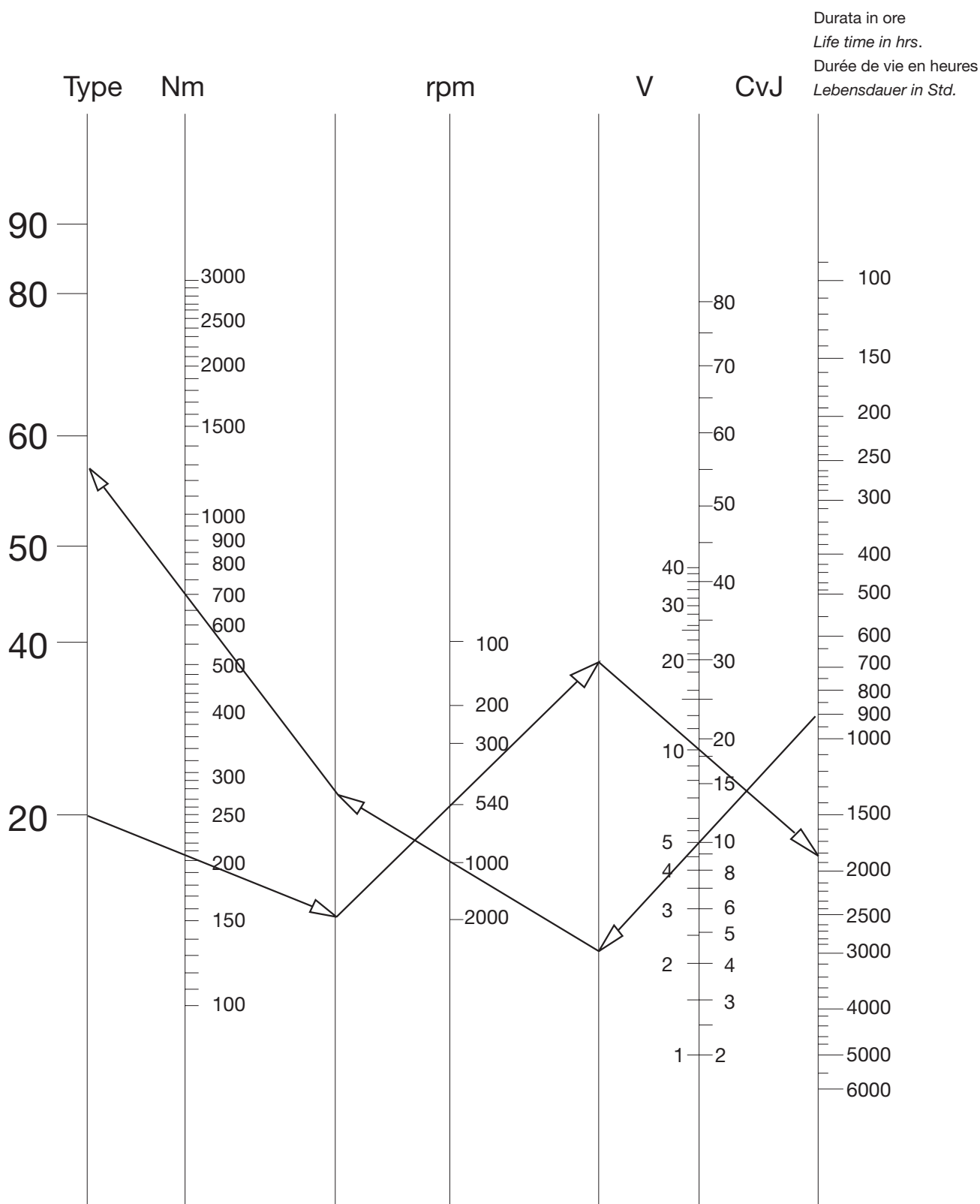
* Dies ist das max. übertragbare Drehmoment während der Drehung. Es stellt den höchsten anwendbaren Drehmomentswert dar, dessen Dauer mit Hilfe des Nomogramms bestimmt werden kann.

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





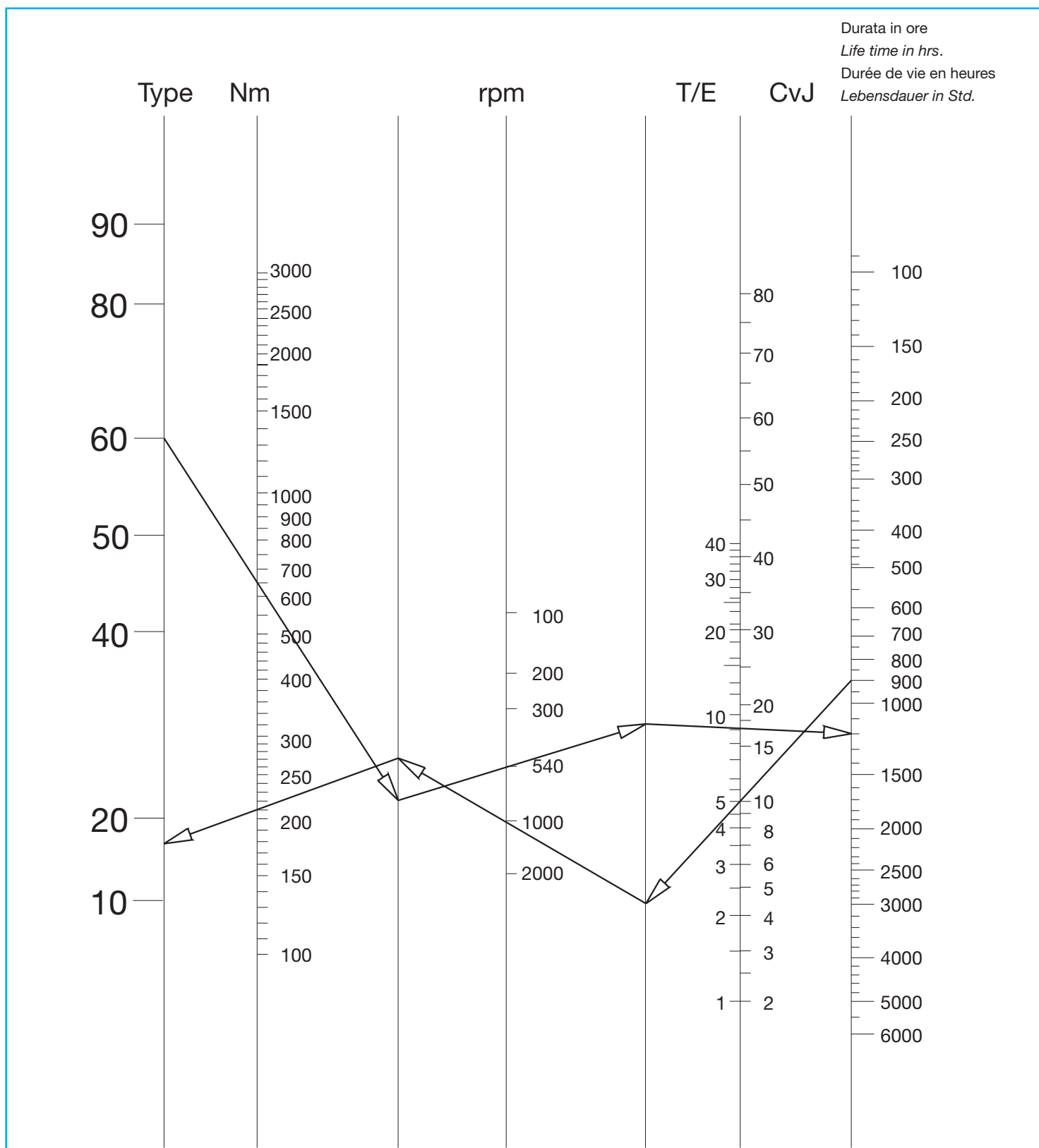
CALCOLO DURATA CROCIERE SERIE V
CALCULATION OF CROSS AND BEARING KIT LIFE SERIES V
CALCUL DE LA DUREE DE VIE DU CROISILLON SERIE V
LEBENSDAUERBERECHNUNG DER GELENKKREUZE SERIE V



Esempio
Example
Exemple
Beispiel

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

SYMBLES

LEGENDE

	INFORMAZIONI GENERALI GENERAL INFORMATION INFORMATIONS GENERALES ALLGEMEINE INFORMATIONEN		RICHIAMO PAGINA PAGE PAGE SEITE
	CARDANI PTO DRIVE SHAFTS ARBRES A CARDANS GELENKWELLEN		ORDINAZIONI SU MISURA CUSTOMIZED ORDERS COMMANDES SUR MESURE BESTELLUNGEN NACH MASS
	CARDANI OMOCINETICI CvJ PTO DRIVE SHAFTS CvJ ARBRES A CARDANS HOMOCINETIQUES CvJ WEITWINKELGELENKWELLEN CvJ		QUOTE DIMENSIONS DIMENSIONS ABMESSUNGEN
	FORCELLE YOKES MACHOIRES GABELN		MOMENTO TORCENTE TORQUE MOMENT DE TORSION DREHMOMENT
	SNODI - DOPPI SNODI JOINTS - DOUBLE JOINTS JOINTS SIMPLES ET DOUBLES EINFACHE GELENKE - DOPPELGELENKE		COPPIA DI SERRAGGIO TIGHTENING TORQUE COUPLE DE SERRAGE ANZUGSMOMENT
	TUBI TUBES TUBES ROHRE		RICHIAMO LINGUA LANGUAGE LANGUE SPRACHE
	DISPOSITIVI DI SICUREZZA SAFETY DEVICES DISPOSITIFS DE SECURITE ÜBERLAST- UND FREILAUFKUPPLUNGEN		
	PROTEZIONI GUARDS PROTECTEURS SCHUTZVORRICHTUNGEN		
	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
Weitwinkलगलकुलकुलकुल CvJ

Programma di produzione
Production program
Programme de production
Produktpalette

16

Parti di ricambio
Spare parts
Pièces de rechange
Ersatzteile

20



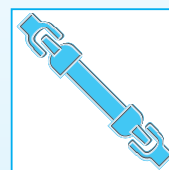
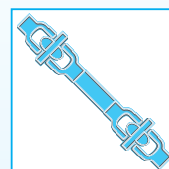
Cardani
PTO drive shafts
Arbres à cardan
Gelenkwellen

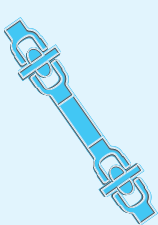
Programma di produzione
Production program
Programme de production
Produktpalette

18

Parti di ricambio
Spare parts
Pièces de rechange
Ersatzteile

24





PROGRAMMA DI PRODUZIONE PRODUCTION PROGRAM PROGRAMME DE PRODUCTION PRODUKTPALETTE

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
20	 cod. 180.012.161	 cod. 141.022.160	 cod. 141.022.325	 pag. 52	 pag. 52	 cod. 151.012.320
40	 cod. 180.014.260	 cod. 141.024.259	 cod. 141.024.433	 pag. 52	 pag. 52	 cod. 151.014.428
60	 cod. 180.016.228	 cod. 141.026.224	 cod. 141.026.390	 pag. 52	 pag. 52	 cod. 151.016.389
80	 cod. 180.018.158	 cod. 141.028.157	 cod. 141.028.248	 pag. 52	 pag. 52	 cod. 151.018.242
20	 cod. 180.012.161	 cod. 141.022.160	 cod. 141.022.325	 pag. 52	 pag. 52	 cod. 141.022.326
40	 cod. 180.014.260	 cod. 141.024.259	 cod. 141.024.433	 pag. 52	 pag. 52	 cod. 141.024.434
60	 cod. 180.016.228	 cod. 141.026.224	 cod. 141.026.390	 pag. 52	 pag. 52	 cod. 141.026.391
80	 cod. 180.018.158	 cod. 141.028.157	 cod. 141.028.248	 pag. 52	 pag. 52	 cod. 141.028.249

serie
series
série
serie

V snodo singolo
single joint
joint simple
Einzelgelenk

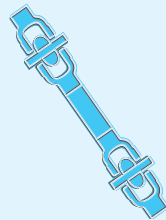


serie
series
série
serie

V snodo doppio
double joint
joint double
Doppelgelenk

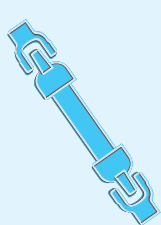


PROGRAMMA DI PRODUZIONE
PRODUCTION PROGRAM
PROGRAMME DE PRODUCTION
PRODUKTPALETTE



serie series série serie	T	snodo singolo single joint joint simple Einzelgelenk		 cod. 151.012.002	 pag. 53	 pag. 53	 cod. 141.022.166	 cod. 141.022.160	 cod. 180.012.161	20
				 cod. 151.014.007	 pag. 53	 pag. 53	 cod. 141.024.263	 cod. 141.024.259	 cod. 180.014.260	40
				 cod. 151.016.029	 pag. 53	 pag. 53	 cod. 141.026.229	 cod. 141.026.224	 cod. 180.016.228	60
				 cod. 151.018.134	 pag. 53	 pag. 53	 cod. 141.028.152	 cod. 141.028.157	 cod. 180.018.158	80
				 cod. 141.022.172	 pag. 53	 pag. 53	 cod. 141.022.166	 cod. 141.022.160	 cod. 180.012.161	20
				 cod. 141.024.269	 pag. 53	 pag. 53	 cod. 141.024.263	 cod. 141.024.259	 cod. 180.014.260	40
				 cod. 141.026.249	 pag. 53	 pag. 53	 cod. 141.026.229	 cod. 141.026.224	 cod. 180.016.228	60
				 cod. 141.028.165	 pag. 53	 pag. 53	 cod. 141.028.152	 cod. 141.028.157	 cod. 180.018.158	80





PROGRAMMA DI PRODUZIONE PRODUCTION PROGRAM PROGRAMME DE PRODUCTION PRODUKTPALETTE

Tipo Type Type Typ	Crociera Cross and bearing kit Croisillon Kreuzgarnitur	Forcella per tubo esterno Outer tube yoke Mâchoire pour tube extérieur Außenprofilgabel						Forcella per tubo interno Inner tube yoke Mâchoire pour tube intérieur Innenprofil					
		Tubo esterno Outer tube Tube extérieur Außenprofil						Tubo interno Inner tube Tube intérieur Innenprofil					
20	 cod. 180.012.004	 cod. 151.012.319	 pag. 54	 pag. 54	 cod. 151.012.320	 pag. 54	 cod. 151.012.320	 pag. 54	 cod. 151.012.320	 pag. 54	 cod. 151.012.320	 pag. 54	 cod. 151.012.320
40	 cod. 180.014.004	 cod. 151.014.427	 pag. 54	 pag. 54	 cod. 151.014.428	 pag. 54	 cod. 151.014.428	 pag. 54	 cod. 151.014.428	 pag. 54	 cod. 151.014.428	 pag. 54	 cod. 151.014.428
50	 cod. 180.015.004	 cod. 151.015.361	 pag. 54	 pag. 54	 cod. 151.015.362	 pag. 54	 cod. 151.015.362	 pag. 54	 cod. 151.015.362	 pag. 54	 cod. 151.015.362	 pag. 54	 cod. 151.015.362
60	 cod. 180.016.004	 cod. 151.016.388	 pag. 54	 pag. 54	 cod. 151.016.389	 pag. 54	 cod. 151.016.389	 pag. 54	 cod. 151.016.389	 pag. 54	 cod. 151.016.389	 pag. 54	 cod. 151.016.389
80	 cod. 180.018.004	 cod. 151.018.241	 pag. 54	 pag. 54	 cod. 151.018.242	 pag. 54	 cod. 151.018.242	 pag. 54	 cod. 151.018.242	 pag. 54	 cod. 151.018.242	 pag. 54	 cod. 151.018.242
90	 cod. 180.019.043	 cod. 151.019.166	 pag. 54	 pag. 54	 cod. 151.019.167	 pag. 54	 cod. 151.019.167	 pag. 54	 cod. 151.019.167	 pag. 54	 cod. 151.019.167	 pag. 54	 cod. 151.019.167
10	 cod. 180.011.130	 cod. 151.011.003	 pag. 55	 pag. 55	 cod. 151.011.002	 pag. 55	 cod. 151.011.002	 pag. 55	 cod. 151.011.002	 pag. 55	 cod. 151.011.002	 pag. 55	 cod. 151.011.002
20	 cod. 180.012.130	 cod. 151.012.003	 pag. 55	 pag. 55	 cod. 151.012.002	 pag. 55	 cod. 151.012.002	 pag. 55	 cod. 151.012.002	 pag. 55	 cod. 151.012.002	 pag. 55	 cod. 151.012.002
40	 cod. 180.014.130	 cod. 151.014.006	 pag. 55	 pag. 55	 cod. 151.014.007	 pag. 55	 cod. 151.014.007	 pag. 55	 cod. 151.014.007	 pag. 55	 cod. 151.014.007	 pag. 55	 cod. 151.014.007

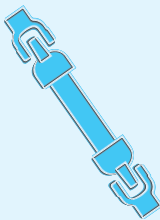
STANDARD

V
serie
series
série
serie



T
serie
series
série
serie

PROGRAMMA DI PRODUZIONE
PRODUCTION PROGRAM
PROGRAMME DE PRODUCTION
PRODUKTPALETTE



50				
60				
80				
90				

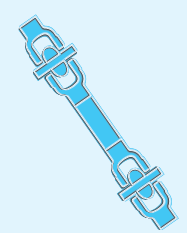


40				
50				
60				
80				
90				

E

serie
series
série
serie



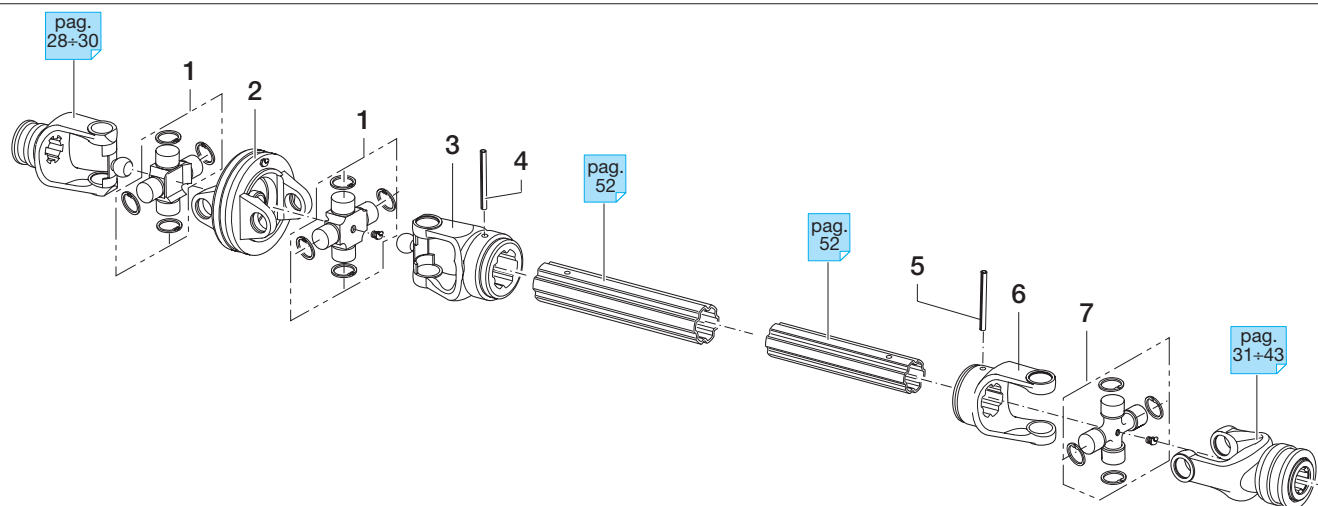


SERIE V - SINGOLO

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				Qty*
		20	40	60	80	
1		A = $\varnothing$ 23,8 B = 74,1 C = 82,1	A = $\varnothing$ 27 B = 85,8 C = 91,2	A = $\varnothing$ 30,2 B = 95,4 C = 101,4	A = $\varnothing$ 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 = $\varnothing$ 42	A = 27 B = 88,2 C = 91,5 D = 24 E = 24 F = $\varnothing$ 45,7	A = 30,2 B = 98,4 C = 104 D = 24 E = 27 F = $\varnothing$ 57,6	A = 35 B = 109,3 C = 120 D = 27 E = 30 F = $\varnothing$ 66,5	1
		Cod. 141.022.325	141.024.433	141.026.390	141.028.248	
4		A = 55 B = $\varnothing$ 8	A = 65 B = $\varnothing$ 8	A = 80 B = $\varnothing$ 10	A = 90 B = $\varnothing$ 12	1
		Cod. 190.000.012	190.000.014	190.000.018	190.000.243	
5		A = 50 B = $\varnothing$ 8	A = 55 B = $\varnothing$ 8	A = 70 B = $\varnothing$ 10	A = 80 B = $\varnothing$ 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 = $\varnothing$ 36,2	A = 27 B = 77,2 C = 91,5 D = 24 F = $\varnothing$ 39,3	A = 30,2 B = 94,6 C = 104 D = 24 F = $\varnothing$ 50,2	A = 35 B = 109,6 C = 116 D = 24 F = $\varnothing$ 58,1	1
		Cod. 151.012.320	151.014.428	151.016.389	151.018.242	
7		A = $\varnothing$ 23,8 B = 61,3	A = $\varnothing$ 27 B = 74,6	A = $\varnothing$ 30,2 B = 92	A = $\varnothing$ 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

20

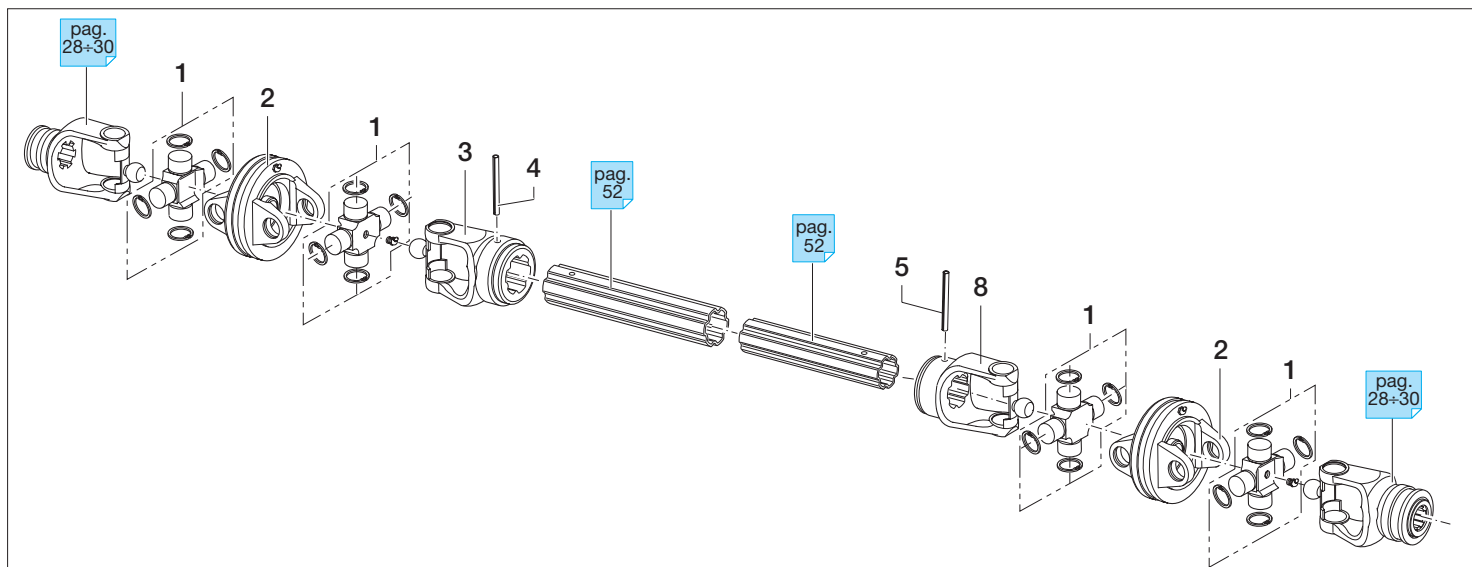
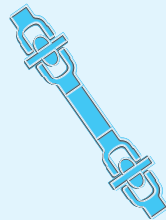
FR

* 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				Qty*
		20	40	60	80	
1		A = $\varnothing$ 23,8 B = 74,1 C = 82,1	A = $\varnothing$ 27 B = 85,8 C = 91,2	A = $\varnothing$ 30,2 B = 95,4 C = 101,4	A = $\varnothing$ 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 = $\varnothing$ 42	A = 27 B = 88,2 C = 91,5 D = 24 E = 24 F = $\varnothing$ 45,7	A = 30,2 B = 98,4 C = 104 D = 24 E = 27 F = $\varnothing$ 57,6	A = 35 B = 109,3 C = 120 D = 27 E = 30 F = $\varnothing$ 66,5	1
		Cod. 141.022.325	141.024.433	141.026.390	141.028.248	
4		A = 55 B = $\varnothing$ 8	A = 65 B = $\varnothing$ 8	A = 80 B = $\varnothing$ 10	A = 90 B = $\varnothing$ 12	1
		Cod. 190.000.012	190.000.014	190.000.018	190.000.243	
5		A = 50 B = $\varnothing$ 8	A = 55 B = $\varnothing$ 8	A = 70 B = $\varnothing$ 10	A = 80 B = $\varnothing$ 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 = $\varnothing$ 36,2	A = 27 B = 88,2 C = 91,5 D = 24 E = 24 F = $\varnothing$ 39,3	A = 30,2 B = 98,4 C = 104 D = 24 E = 27 F = $\varnothing$ 50,2	A = 35 B = 109,3 C = 120 D = 24 E = 30 F = $\varnothing$ 58,1	1
		Cod. 141.022.326	141.024.434	141.026.391	141.028.249	

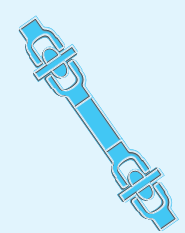
IT
 * Quantità presente nel cardano

GB
 * Quantity in the PTO Drive Shaft

FR
 * Quantité présente dans l'arbre à cardan

DE
 * In der Gelenkwelle vorhandene Menge



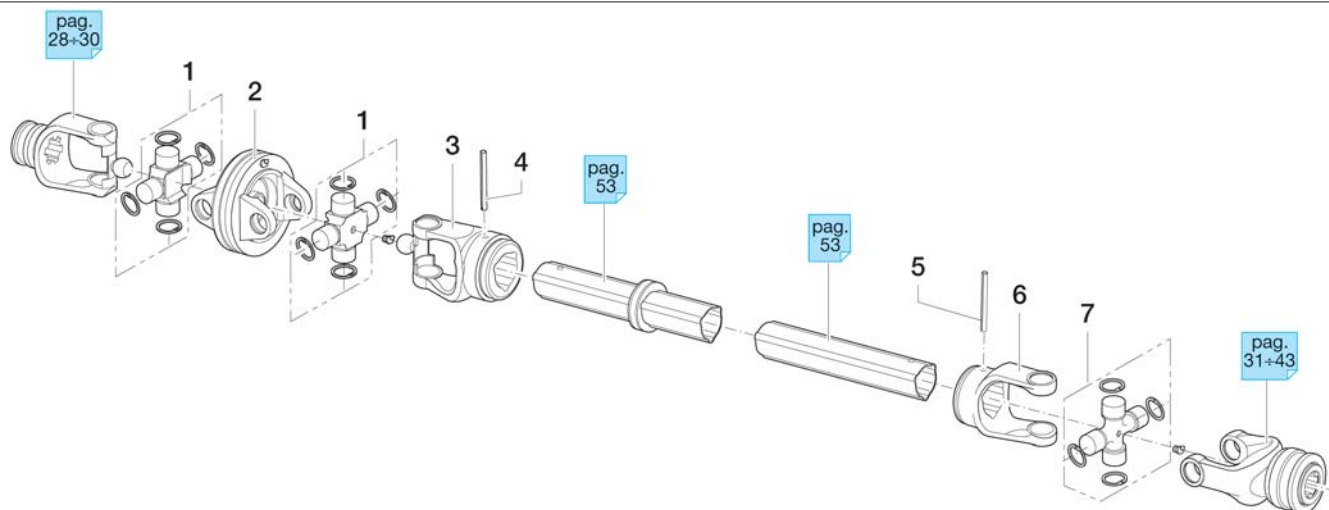


SERIE T - SINGOLO

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				Qty*
		20	40	60	80	
1		A = $\varnothing$ 23,8 B = 74,1 C = 82,1	A = $\varnothing$ 27 B = 85,8 C = 91,2	A = $\varnothing$ 30,2 B = 95,4 C = 101,4	A = $\varnothing$ 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 = $\varnothing$ 8	A = 65 B = $\varnothing$ 8	A = 80 B = $\varnothing$ 10	A = 90 B = $\varnothing$ 12	1
		Cod. 190.000.012	190.000.014	190.000.018	190.000.243	
5		A = 50 B = $\varnothing$ 8	A = 55 B = $\varnothing$ 8	A = 70 B = $\varnothing$ 10	A = 80 B = $\varnothing$ 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 = $\varnothing$ 23,8 B = 61,3	A = $\varnothing$ 27 B = 74,6	A = $\varnothing$ 30,2 B = 92	A = $\varnothing$ 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

22

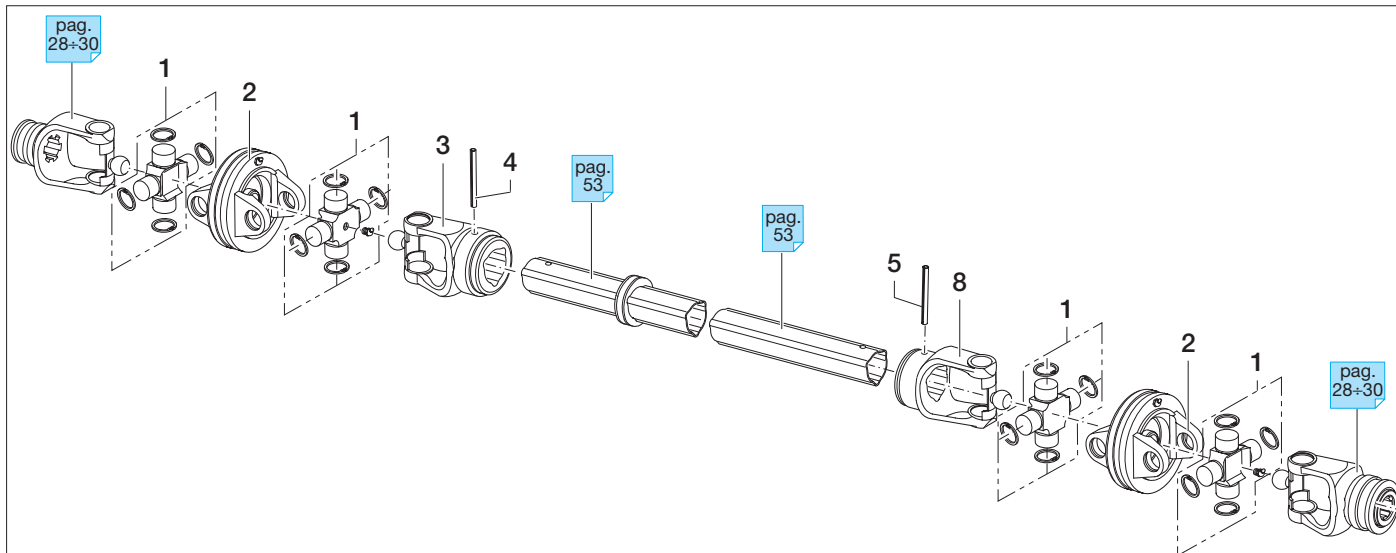
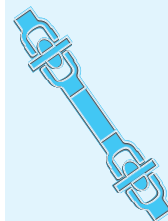
FR

* 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)	Croissillon 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				Qty*
		20	40	60	80	
1		A = $\varnothing$ 23,8 B = 74,1 C = 82,1	A = $\varnothing$ 27 B = 85,8 C = 91,2	A = $\varnothing$ 30,2 B = 95,4 C = 101,4	A = $\varnothing$ 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 = $\varnothing$ 8	A = 65 B = $\varnothing$ 8	A = 80 B = $\varnothing$ 10	A = 90 B = $\varnothing$ 12	1
		Cod. 190.000.012	190.000.014	190.000.018	190.000.243	
5		A = 50 B = $\varnothing$ 8	A = 55 B = $\varnothing$ 8	A = 70 B = $\varnothing$ 10	A = 80 B = $\varnothing$ 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	

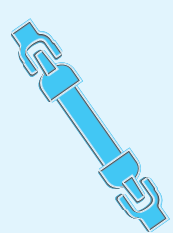
IT
 * Quantità presente nel cardano

GB
 * Quantity in the PTO Drive Shaft

FR
 * Quantité présente dans l'arbre à cardan

DE
 * In der Gelenkwelle vorhandene Menge



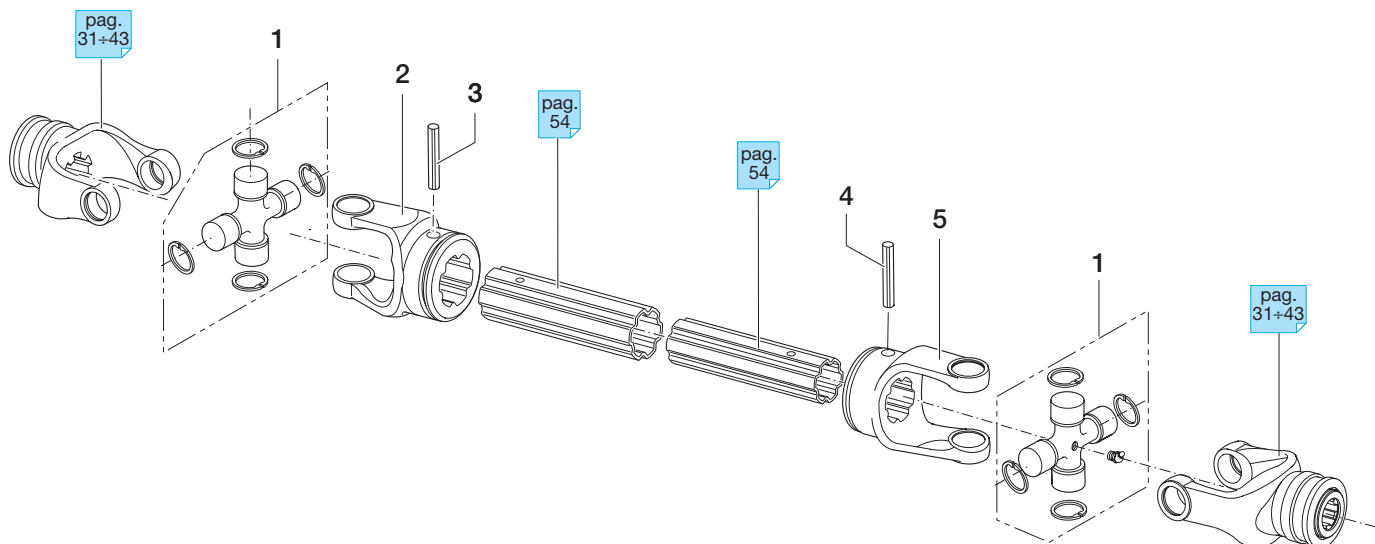


SERIE V

SERIES V

SERIE V

SERIE V



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

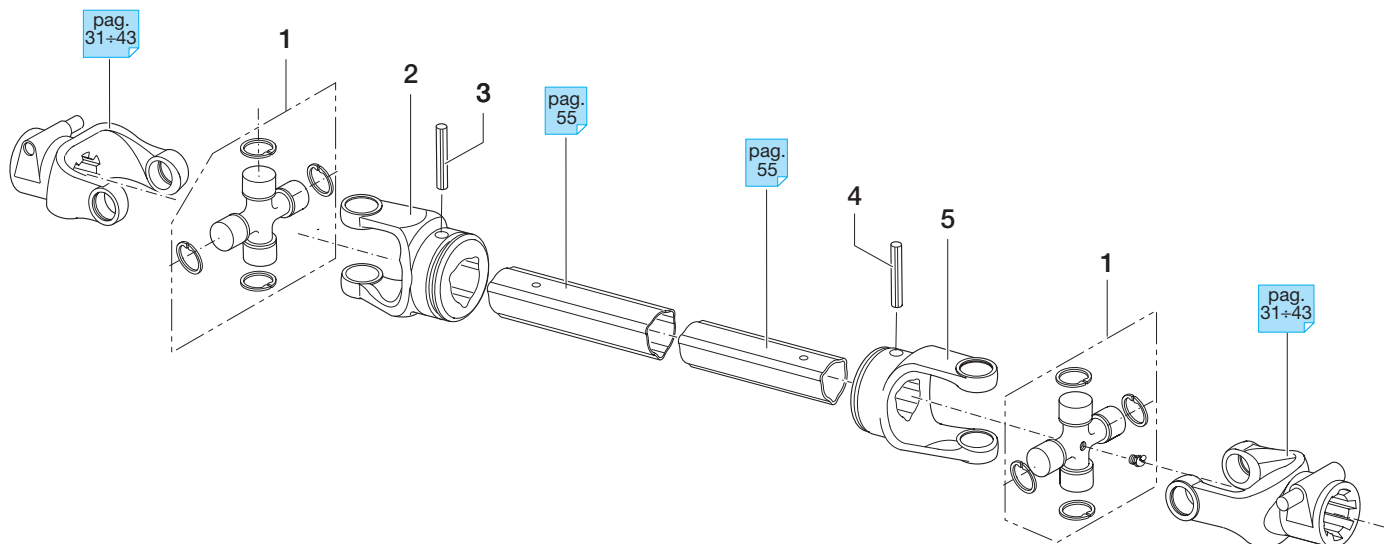
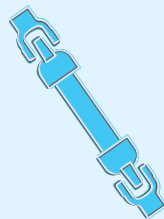
Pos.		Type						Qty*
		20	40	50	60	80	90	
1		A = $\varnothing$ 23,8 B = 61,3	A = $\varnothing$ 27 B = 74,6	A = $\varnothing$ 30,2 B = 80	A = $\varnothing$ 30,2 B = 92	A = $\varnothing$ 35 B = 106,5	A = $\varnothing$ 41 B = 108	2
		Cod. 180.012.004	180.014.004	180.015.004	180.016.004	180.018.004	180.019.043	
2		A = 23,8 B = 63,9 C = 80 D = 22 F = $\varnothing$ 42	A = 27 B = 77,2 C = 91,5 D = 24 F = $\varnothing$ 45,7	A = 30,2 B = 82,6 C = 97 D = 24 F = $\varnothing$ 57,6	A = 30,2 B = 94,6 C = 104 D = 24 F = $\varnothing$ 57,6	A = 35 B = 109,6 C = 120 D = 27 F = $\varnothing$ 66,5	A = 41 B = 111,6 C = 124 D = 27 F = $\varnothing$ 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 = $\varnothing$ 8	A = 65 B = $\varnothing$ 8	A = 70 B = $\varnothing$ 10	A = 80 B = $\varnothing$ 10	A = 90 B = $\varnothing$ 12	A = 90 B = $\varnothing$ 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 = $\varnothing$ 8	A = 55 B = $\varnothing$ 8	A = 65 B = $\varnothing$ 10	A = 70 B = $\varnothing$ 10	A = 80 B = $\varnothing$ 12	A = 90 B = $\varnothing$ 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 = $\varnothing$ 36,2	A = 27 B = 77,2 C = 91,5 D = 24 F = $\varnothing$ 39,3	A = 30,2 B = 82,6 C = 97 D = 24 F = $\varnothing$ 50,2	A = 30,2 B = 94,6 C = 104 D = 24 F = $\varnothing$ 50,2	A = 35 B = 109,6 C = 116 D = 24 F = $\varnothing$ 58,1	A = 41 B = 111,6 C = 124 D = 27 F = $\varnothing$ 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

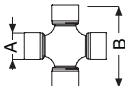
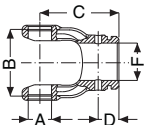
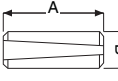
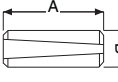
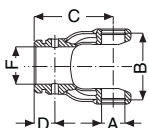
GB
★ Quantity in the PTO Drive Shaft

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	Croissillon 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*
			10	20	40	50	60	80	90	
1			A = $\varnothing$ 22 B = 54	A = $\varnothing$ 23,8 B = 61,3	A = $\varnothing$ 27 B = 74,6	A = $\varnothing$ 30,2 B = 80	A = $\varnothing$ 30,2 B = 92	A = $\varnothing$ 35 B = 106,5	A = $\varnothing$ 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 = $\varnothing$ 8	A = 55 B = $\varnothing$ 8	A = 65 B = $\varnothing$ 8	A = 70 B = $\varnothing$ 10	A = 80 B = $\varnothing$ 10	A = 90 B = $\varnothing$ 12	A = 90 B = $\varnothing$ 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 = $\varnothing$ 8	A = 50 B = $\varnothing$ 8	A = 55 B = $\varnothing$ 8	A = 65 B = $\varnothing$ 10	A = 70 B = $\varnothing$ 10	A = 80 B = $\varnothing$ 12	A = 90 B = $\varnothing$ 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	

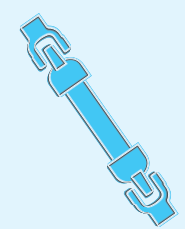
IT
* Quantità presente nel cardano

GB
* Quantity in the PTO Drive Shaft

FR
* Quantité présente dans l'arbre à cardan

DE
* In der Gelenkwelle vorhandene Menge



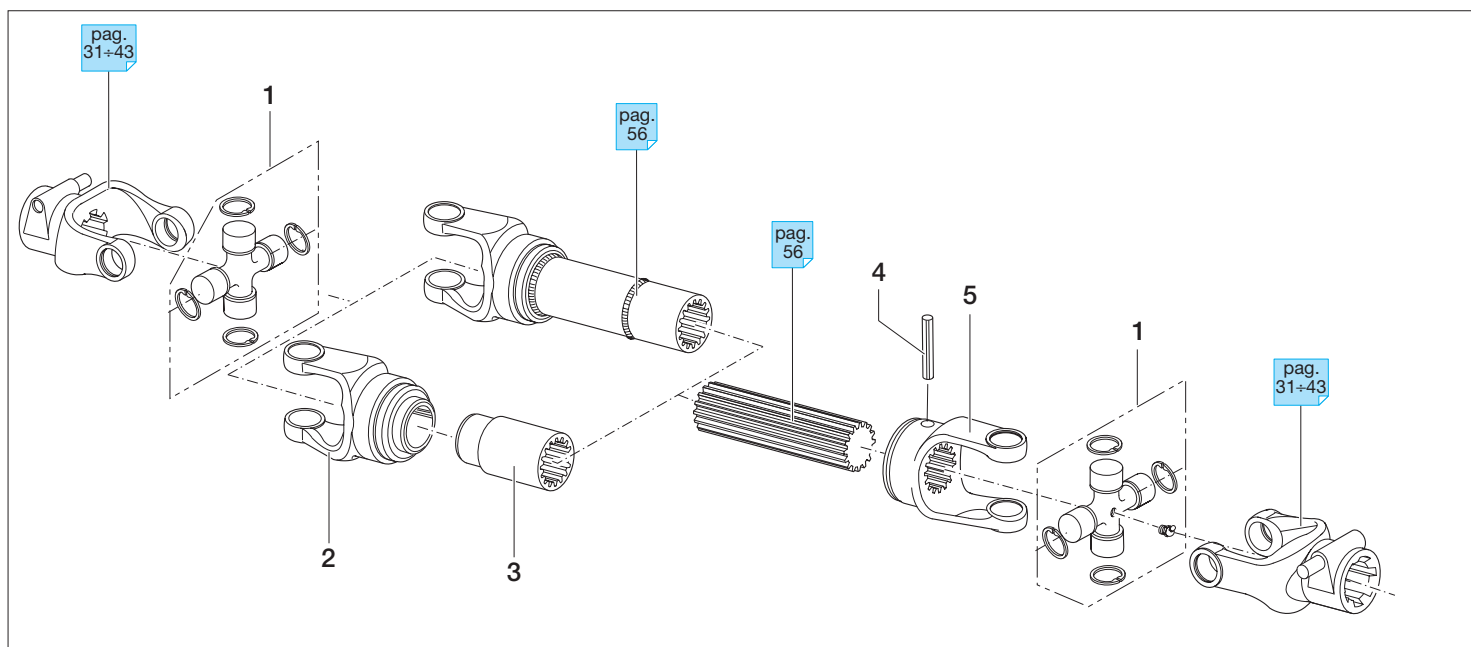


SERIE E

SERIES E

SERIE E

SERIE E



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					Qty*
		40	50	60	80	90	
1		A = $\varnothing$ 27 B = 74,6	A = $\varnothing$ 30,2 B = 80	A = $\varnothing$ 30,2 B = 92	A = $\varnothing$ 35 B = 106,5	A = $\varnothing$ 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 = $\varnothing$ 8	A = 65 B = $\varnothing$ 10	A = 70 B = $\varnothing$ 10	A = 80 B = $\varnothing$ 10	A = 90 B = $\varnothing$ 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

SEZIONE 3:	Forcelle
SECTION 3:	Yokes
CHAPITRE 3:	Mâchoires
TEIL 3:	Gabeln



comer industries
driveshafts



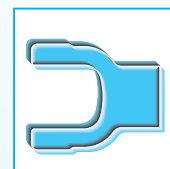
Forcelle per cardani omocinetici CvJ
Yokes for PTO drive shafts CvJ
Mâchoires pour arbres à cardan CvJ
Gabeln für Weitwinkelgelenkwellen CvJ

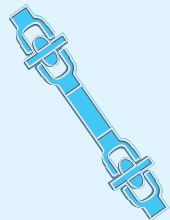
Collar / Collar / Collet / Collar	28
Pulsante / Push-pin / Bouton-Poussoir / Schiebestift	29
Bullone interferente / Interfering clamp bolt / Boulon sécant / Profilberührend Klemmbolzen	30



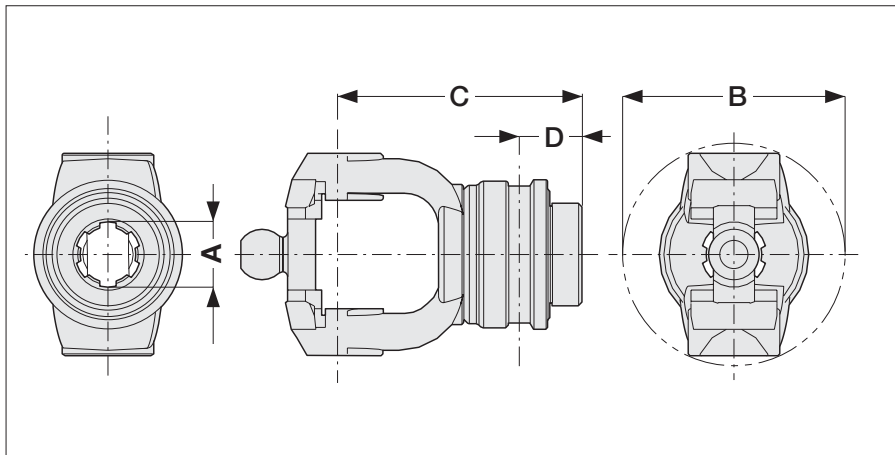
Forcelle per cardani
Yokes for PTO drive shafts
Mâchoires pour arbres à cardan
Gabeln für Gelenkwellen

Collar / Collar / Collet / Collar	31
Pulsante / Push-pin / Bouton-Poussoir / Schiebestift	32
Calettata / Splined / Alésage cannelé / Profilgabel	33
Calettata - Bullone interferente / Splined - Interfering clamp bolt	34
Alésage cannelé - Boulon sécant / Profilgabel - Profilberührender klemmbolzen	34
Calettata - Bullone interferente incassato / Splined - Interfering recessed clamp bolt	35
Alésage cannelé - Boulon sécant noyé / Profilgabel - Versenkter profilberührender Klemmbolzen	35
Calettata - Bullone non interferente / Splined - Noninterfering clamp bolt	36
Alésage cannelé - Boulon tangent / Profilgabel - Nicht- Profilberührender klemmbolzen	36
Foro liscio - Bullone interferente / Round bore - Interfering clamp bolt	37
Alésage ronde-Boulon sécant / Nabengabel - Profilberührender klemmbolzen	37
Foro liscio - Bullone interferente incassato / Round bore - Interfering recessed clamp bolt	38
Alésage ronde-Boulon sécant noyé / Nabengabel - Versenkter profilberührender Klemmbolzen	38
Foro liscio - Bullone non interferente / Round bore - Noninterfering clamp bolt	39
Alésage ronde-Boulon tangent / Nabengabel - Nicht- Profilberührender klemmbolzen	39
Foro liscio - Chiavetta / Round bore - Keyway	40
Alésage ronde-Clavette / Nabengabel - Passfedernut	40
Foro liscio - Foro spina / Round bore - Pin hole	41
Alésage ronde-Trou pour goupille / Nabengabel - Spannstiftbohrung	41
Flangia CO4 / Flange CO4 / Bride CO4 / Flansch CO4	42
Flangia FGL / Flange FGL / Bride FGL / Flansch FGL	43
Kit ricambio / Spare parts set / Kit de rechange / Ersatzteile kit	44



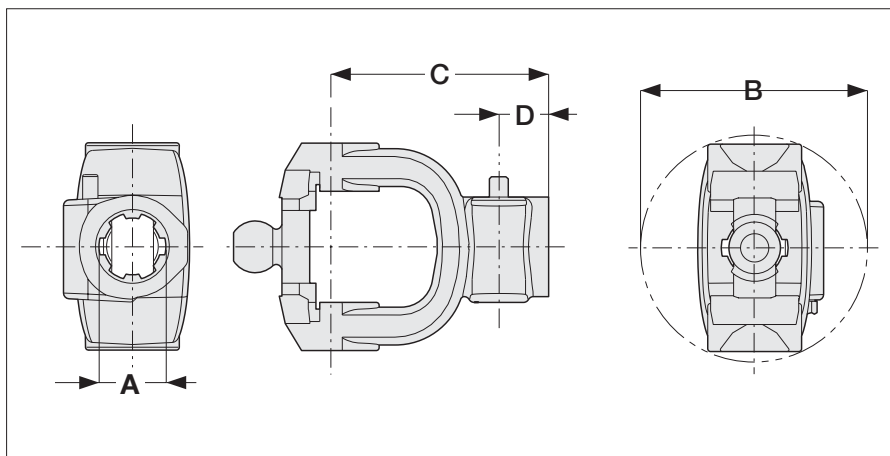
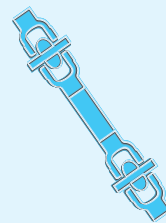


COLLAR
COLLAR
COLLET
COLLAR

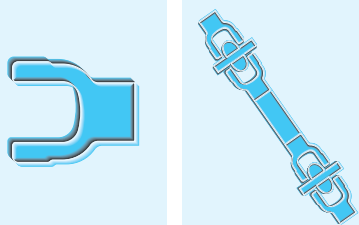


Type	Ref.	A		B		C		D		
				mm	inch	mm	inch	mm	inch	
20	C02	1 3/8"	Z 6	94	3 45/64"	107	4 7/32"	26	1 1/32"	141.022.330
	C03	1 3/8"	Z 21	94	3 45/64"	107	4 7/32"	26	1 1/32"	141.022.331
40	C02	1 3/8"	Z 6	105	4 9/64"	115	4 17/32"	26	1 1/32"	141.024.439
	C03	1 3/8"	Z 21	105	4 9/64"	115	4 17/32"	26	1 1/32"	141.024.441
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

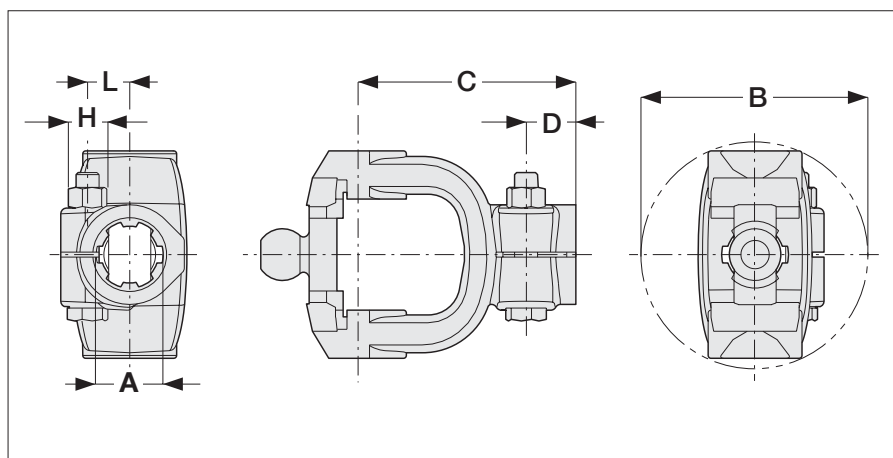
**PULSANTE
PUSH-PIN
BOUTON - POUSSOIR
SCHIEBESTIFT**



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

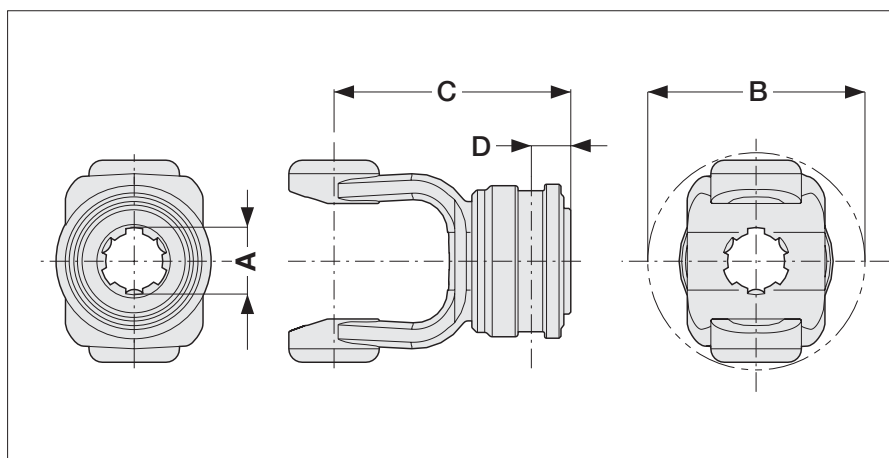
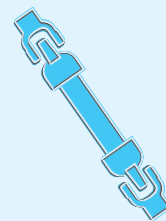


BULLONE INTERFERENTE
INTERFERING CLAMP BOLT
BOULON SECANT
PROFILBERÜHRENDER KLEMMBOLZEN

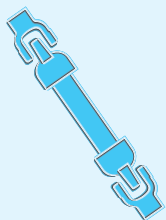


Type	Ref.	A	B		C		D		H		L		
			mm	inch	mm	inch	mm	inch	M...x... cl. 8.8	Qty	mm	inch	
20	132	1 3/8" Z 6	94	3 45/64"	99	3 57/64"	19	3/4"	M12x1,25x65	1	21,0	53/64"	141.022.359
	133	1 3/8" Z 21	94	3 45/64"	99	3 57/64"	19	3/4"	M12x1,25x65	1	21,0	53/64"	141.022.360
40	132	1 3/8" Z 6	105	4 9/64"	107	4 7/32"	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

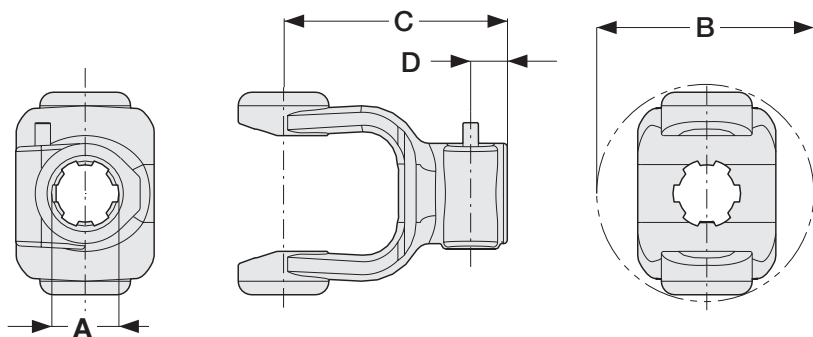
COLLAR
COLLAR
COLLET
COLLAR



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

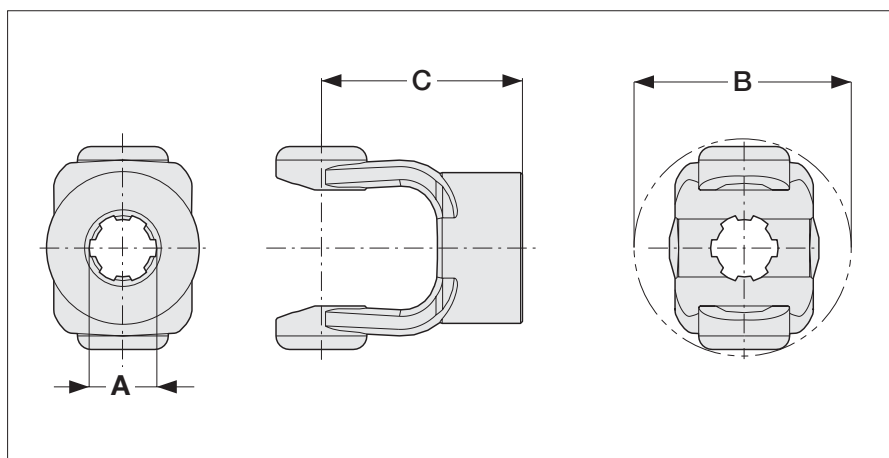
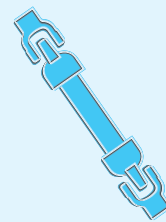


PULSANTE
PUSH-PIN
BOUTON - POUSSOIR
SCHIEBESTIFT

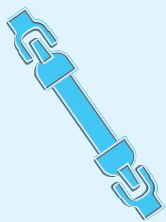


Type	Ref.	A		B		C		D		
		mm	inch	mm	inch	mm	inch	mm	inch	
10	112	1 3/8"	Z 6	73	2 7/8"	90	3 57/64"	19	3/4"	141.021.001
	113	1 3/8"	Z 21	73	2 7/8"	90	3 35/64"	19	3/4"	141.021.002
20	112	1 3/8"	Z 6	80	3 5/32"	99	3 57/64"	19	3/4"	141.022.001
	113	1 3/8"	Z 21	80	3 5/32"	99	3 57/64"	19	3/4"	141.022.002
40	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"	128	5 3/64"	19	3/4"	141.029.039
	113	1 3/8"	Z 21	137	5 25/64"	128	5 3/64"	19	3/4"	141.029.040
	114	1 3/4"	Z 6	137	5 25/64"	128	5 3/64"	19	3/4"	141.029.057
	115	1 3/4"	Z 20	137	5 25/64"	128	5 3/64"	19	3/4"	141.029.058

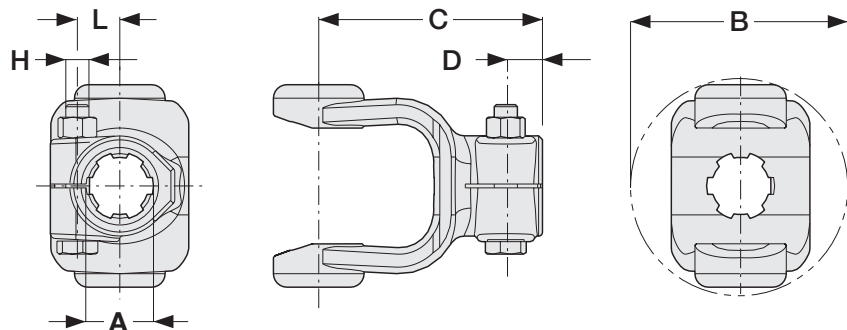
**CALETTATA
SPLINED
ALESAGE CANNELE
PROFILGABEL**



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

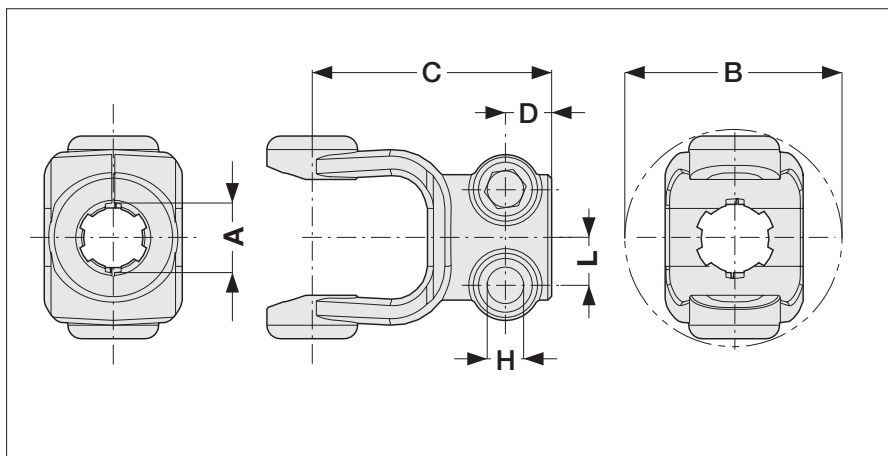
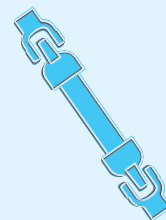


CALETTATA - BULLONE INTERFERENTE
SPLINED - INTERFERING CLAMP BOLT
ALESAGE CANNELE - BOULON SECANT
PROFILGABEL - PROFILBERÜHRENDER KLEMMBOLZEN

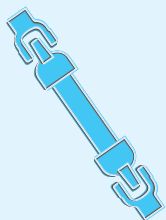


Type	Ref.	A	B	C	D	H	L	
			mm inch	mm inch	mm inch	M...x... cl. 8.8 Qty	mm inch	
10	132	1 3/8" Z 6	73 2 7/8"	90 3 5/16"	19 3/4"	M12x1,25x65 1	21 53/64"	141.021.056
	133	1 3/8" Z 21	73 2 7/8"	90 3 5/16"	19 3/4"	M12x1,25x65 1	21 53/64"	141.021.057
20	132	1 3/8" Z 6	80 3 5/32"	99 3 5/16"	19 3/4"	M12x1,25x65 1	21 53/64"	141.022.008
	133	1 3/8" Z 21	80 3 5/32"	99 3 5/16"	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"	128 5 3/64"	19 3/4"	M14x1,5x80 2	22 55/64"	141.029.022
	133	1 3/8" Z 21	137 5 25/64"	128 5 3/64"	19 3/4"	M14x1,5x80 2	22 55/64"	141.029.023
	134	1 3/4" Z 6	137 5 25/64"	128 5 3/64"	19 3/4"	M16x80 2	27,2 1 5/64"	141.029.024
	135	1 3/4" Z 20	137 5 25/64"	128 5 3/64"	19 3/4"	M16x80 2	27,2 1 5/64"	141.029.068

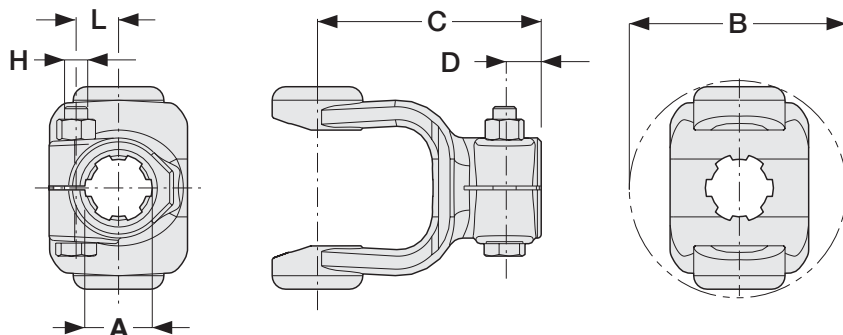
CALETTATA - BULLONE INTERFERENTE INCASSATO
SPLINED - INTERFERING RECESSED CLAMP BOLT
ALESAGE CANNELE - BOULON SECANT NOYE
PROFILGABEL - VERSENKTER PROFILBERÜHRENDER KLEMMBOLZEN



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

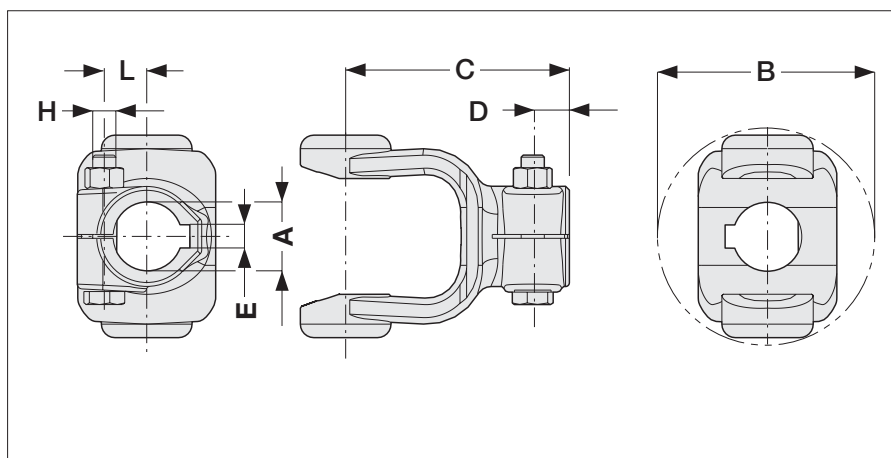
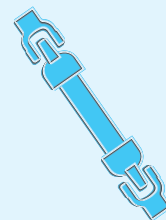


CALETTATA - BULLONE NON INTERFERENTE
SPLINED - NONINTERFERING CLAMP BOLT
ALESAGE CANNELE - BOULON TANGENT
PROFILGABEL-NICHT-PROFILBERÜHRENDER KLEMMBOLZEN

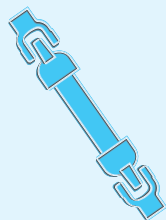


Type	Ref.	A	B	C	D	H	L	
			mm inch	mm inch	mm inch	M...x... cl. 8.8 Qty	mm inch	
10	142	1 3/8" Z 6	73 2 7/8"	90 3 5/16"	19 3/4"	M10x1,25x65 1	23,5 59/64"	141.021.059
	143	1 3/8" Z 21	73 2 7/8"	90 3 5/16"	19 3/4"	M10x1,25x65 1	23,5 59/64"	141.021.060
20	142	1 3/8" Z 6	80 3 5/32"	99 3 5/16"	19 3/4"	M10x1,25x65 1	23,5 59/64"	141.022.052
	143	1 3/8" Z 21	80 3 5/32"	99 3 5/16"	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"	128 5 3/64"	19 3/4"	M14x1,5x80 2	25,5 1"	141.029.069
	143	1 3/8" Z 21	137 5 25/64"	128 5 3/64"	19 3/4"	M14x1,5x80 2	25,5 1"	141.029.070
	144	1 3/4" Z 6	137 5 25/64"	128 5 3/64"	19 3/4"	M12x1,25x65 2	29,5 1 1/32"	141.029.071
	145	1 3/4" Z 20	137 5 25/64"	128 5 3/64"	19 3/4"	M12x1,25x65 2	29,5 1 1/32"	141.029.072

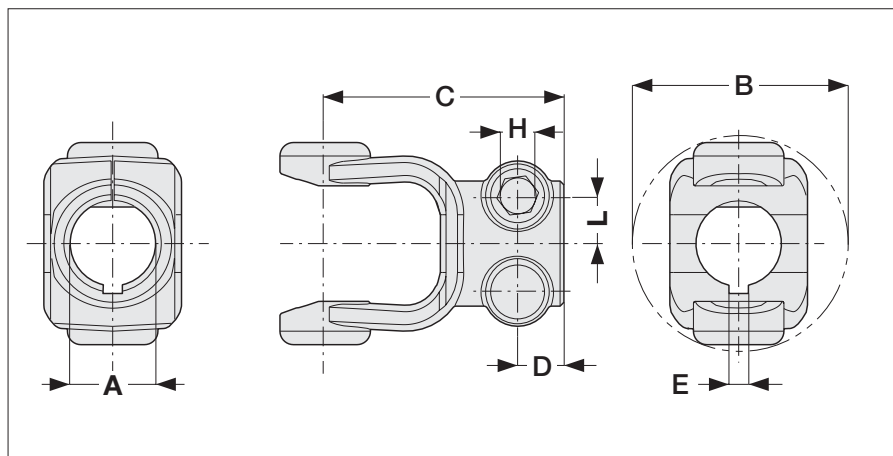
FORO LISCIO - BULLONE INTERFERENTE
ROUND BORE - INTERFERING CLAMP BOLT
ALESAGE ROND - BOULON SECANT
NABENGABEL - PROFILBERÜHRENDER KLEMMBOLZEN



Type	Ref.	A	B	C	D	E	H	L	
		mm	inch	mm	inch	mm	inch	mm	inch
10	331	20	73	2 7/8"	90	3 35/64"	19	3/4"	6
	332	25	73	2 7/8"	90	3 35/64"	19	3/4"	8
	333	30	73	2 7/8"	90	3 35/64"	19	3/4"	8
	431	3/4"	73	2 7/8"	90	3 35/64"	19	3/4"	3/16"
	432	1"	73	2 7/8"	90	3 35/64"	19	3/4"	1/4"
20	331	20	80	3 5/32"	99	3 57/64"	19	3/4"	6
	332	25	80	3 5/32"	99	3 57/64"	19	3/4"	8
	333	30	80	3 5/32"	99	3 57/64"	19	3/4"	8
	431	3/4"	80	3 5/32"	99	3 57/64"	19	3/4"	3/16"
	432	1"	80	3 5/32"	99	3 57/64"	19	3/4"	1/4"
	433	1 1/4"	80	3 5/32"	99	3 57/64"	19	3/4"	5/16"
40	332	25	94	3 45/64"	107	4 7/32"	19	3/4"	8
	333	30	94	3 45/64"	107	4 7/32"	19	3/4"	8
	334	35	94	3 45/64"	107	4 7/32"	19	3/4"	10
	433	1 1/4"	94	3 45/64"	107	4 7/32"	19	3/4"	5/16"
	434	1 3/8"	94	3 45/64"	107	4 7/32"	19	3/4"	5/16"
50	333	30	100	3 5/16"	109	4 19/64"	19	3/4"	8
	334	35	100	3 5/16"	109	4 19/64"	19	3/4"	10
	433	1 1/4"	100	3 5/16"	109	4 19/64"	19	3/4"	5/16"
	434	1 3/8"	100	3 5/16"	109	4 19/64"	19	3/4"	5/16"
60	333	30	115	4 17/32"	116	4 9/16"	19	3/4"	8
	334	35	115	4 17/32"	116	4 9/16"	19	3/4"	10
	335	40	115	4 17/32"	124	4 7/8"	24	7/8"	12
	433	1 1/4"	115	4 17/32"	116	4 9/16"	19	3/4"	5/16"
	434	1 3/8"	115	4 17/32"	116	4 9/16"	19	3/4"	5/16"
	435	1 3/4"	115	4 17/32"	124	4 7/8"	24	7/8"	3/8"
80	333	30	132	5 13/64"	124	4 7/8"	19	3/4"	8
	334	35	132	5 13/64"	128	5 3/64"	24	7/8"	10
	335	40	132	5 13/64"	128	5 3/64"	24	7/8"	12
	336	45	132	5 13/64"	128	5 3/64"	24	7/8"	14
90	335	40	137	5 25/64"	128	5 3/64"	19	3/4"	12
	336	45	137	5 25/64"	128	5 3/64"	19	3/4"	12

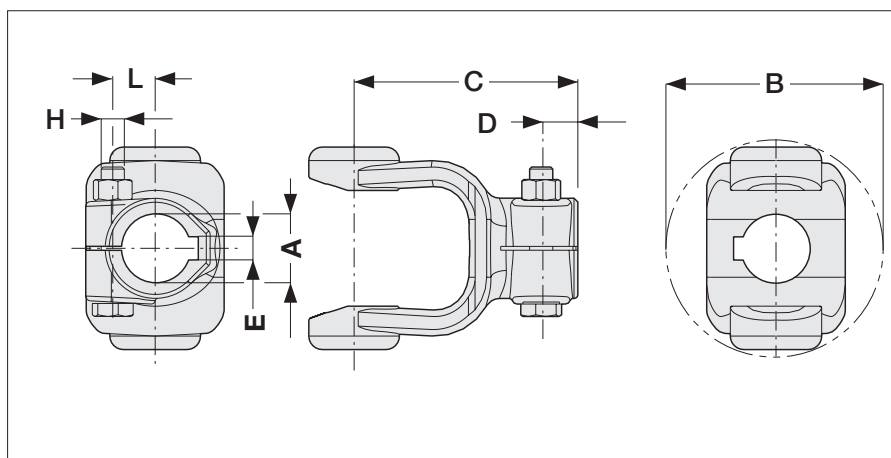
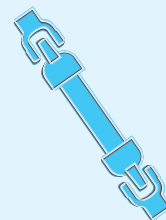


FORO LISCIO - BULLONE INTERFERENTE INCASSATO
ROUND BORE - INTERFERING RECESSED CLAMP BOLT
ALESAGE ROND - BOULON SECANT NOYE
NABENGABEL - VERSENKTER PROFILBERÜHRENDER KLEMMBOLZEN

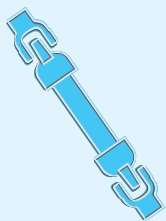


Type	Ref.	A	B		C		D		E	H		L		
			mm	inch	mm	inch	mm	inch		M...x...cl. 8.8	Qty	mm	inch	
10	361	20	104	4 3/32"	101	3 31/32"	24	7/8"	6	M12x1,25x55	1	14,5	37/64"	141.021.335
	362	25	104	4 3/32"	101	3 31/32"	24	7/8"	8	M12x1,25x55	1	17	43/64"	141.021.336
	363	30	104	4 3/32"	101	3 31/32"	24	7/8"	8	M12x1,25x55	1	19	3/4"	141.021.337
	461	3/4"	104	4 3/32"	101	3 31/32"	24	7/8"	3/16"	M12x1,25x55	1	14,5	37/64"	141.021.338
	462	1"	104	4 3/32"	101	3 31/32"	24	7/8"	1/4"	M12x1,25x55	1	17	43/64"	141.021.339
20	361	20	104	4 3/32"	104	4 3/32"	24	7/8"	6	M12x1,25x55	1	14,5	37/64"	141.022.363
	362	25	104	4 3/32"	104	4 3/32"	24	7/8"	8	M12x1,25x55	1	17	43/64"	141.022.364
	363	30	104	4 3/32"	104	4 3/32"	24	7/8"	8	M12x1,25x55	1	19	3/4"	141.022.365
	461	3/4"	104	4 3/32"	104	4 3/32"	24	7/8"	3/16"	M12x1,25x55	1	14,5	37/64"	141.022.366
	462	1"	104	4 3/32"	104	4 3/32"	24	7/8"	1/4"	M12x1,25x55	1	17	43/64"	141.022.367
	463	1 1/4"	104	4 3/32"	104	4 3/32"	24	7/8"	5/16"	M12x1,25x55	1	19	3/4"	141.022.368
40	362	25	104	4 3/32"	113	4 29/64"	24	7/8"	8	M12x1,25x55	1	17	43/64"	141.024.477
	363	30	104	4 3/32"	113	4 29/64"	24	7/8"	8	M12x1,25x55	1	19	3/4"	141.024.478
	364	35	104	4 3/32"	113	4 29/64"	24	7/8"	10	M12x1,25x55	1	21,5	27/32"	141.024.479
	463	1 1/4"	104	4 3/32"	113	4 29/64"	24	7/8"	5/16"	M12x1,25x55	1	19	3/4"	141.024.480
	464	1 3/8"	104	4 3/32"	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

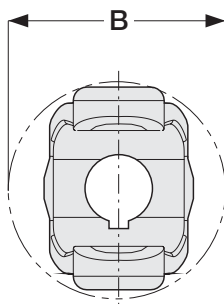
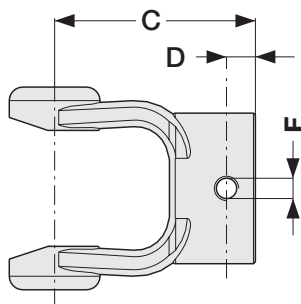
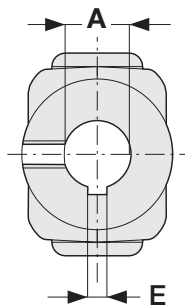
FORO LISCIO - BULLONE NON INTERFERENTE
ROUND BORE - NONINTERFERING CLAMP BOLT
ALESAGE ROND - BOULON TANGENT
NABENGABEL-NICHT-PROFILBERÜHRENDER KLEMMBOLZEN



Type	Ref.	A	B	C	D	E	H	L	
		mm	inch	mm	inch	mm	inch	mm	inch
10	341	20	73	2 7/8"	90	3 35/64"	19	3/4"	6
	342	25	73	2 7/8"	90	3 35/64"	19	3/4"	8
	343	30	73	2 7/8"	90	3 35/64"	19	3/4"	8
	441	3/4"	73	2 7/8"	90	3 35/64"	19	3/4"	3/16"
	442	1"	73	2 7/8"	90	3 35/64"	19	3/4"	1/4"
20	341	20	80	3 5/32"	99	3 57/64"	19	3/4"	6
	342	25	80	3 5/32"	99	3 57/64"	19	3/4"	8
	343	30	80	3 5/32"	99	3 57/64"	19	3/4"	8
	441	3/4"	80	3 5/32"	99	3 57/64"	19	3/4"	3/16"
	442	1"	80	3 5/32"	99	3 57/64"	19	3/4"	1/4"
	443	1 1/4"	80	3 5/32"	99	3 57/64"	19	3/4"	5/16"
40	342	25	94	3 45/64"	107	4 7/32"	19	3/4"	8
	343	30	94	3 45/64"	107	4 7/32"	19	3/4"	8
	344	35	94	3 45/64"	107	4 7/32"	19	3/4"	10
	443	1 1/4"	94	3 45/64"	107	4 7/32"	19	3/4"	5/16"
	444	1 3/8"	94	3 45/64"	107	4 7/32"	19	3/4"	5/16"
50	343	30	100	3 15/16"	109	4 19/64"	19	3/4"	8
	344	35	100	3 15/16"	109	4 19/64"	19	3/4"	10
	345	40	100	3 15/16"	109	4 19/64"	19	3/4"	12
	443	1 1/4"	100	3 15/16"	109	4 19/64"	19	3/4"	5/16"
	444	1 3/8"	100	3 15/16"	109	4 19/64"	19	3/4"	5/16"
60	343	30	115	4 7/32"	116	4 9/16"	19	3/4"	8
	344	35	115	4 7/32"	116	4 9/16"	19	3/4"	10
	345	40	115	4 7/32"	124	4 7/8"	24	15/16"	12
	346	45	115	4 7/32"	124	4 7/8"	24	15/16"	14
	443	1 1/4"	115	4 7/32"	116	4 9/16"	19	3/4"	5/16"
	444	1 3/8"	115	4 7/32"	116	4 9/16"	19	3/4"	5/16"
	445	1 3/4"	115	4 7/32"	124	4 7/8"	24	15/16"	3/8"
80	344	35	132	5 13/64"	124	4 7/8"	19	3/4"	10
	345	40	132	5 13/64"	128	5 3/64"	24	15/16"	12
	346	45	132	5 13/64"	128	5 3/64"	24	15/16"	14
90	345	40	137	5 25/64"	128	5 3/64"	19	3/4"	12
	346	45	137	5 25/64"	128	5 3/64"	19	3/4"	14

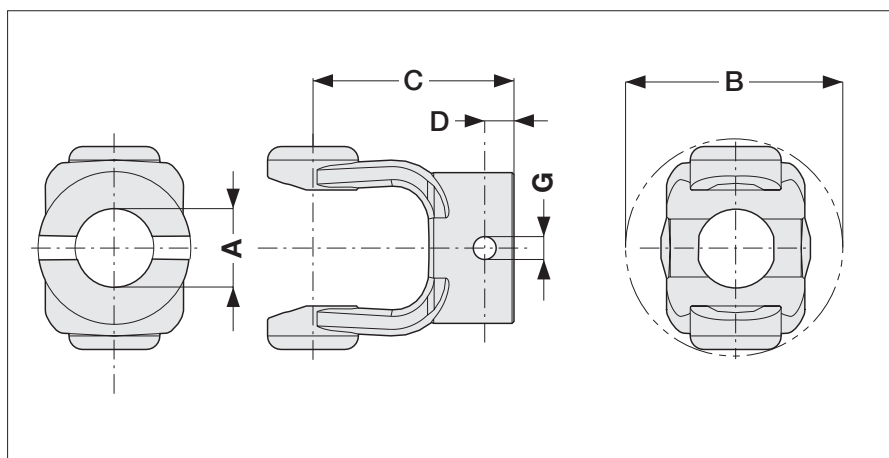
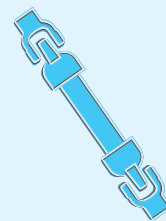


FORO LISCIO - CHIAVETTA
ROUND BORE - KEYWAY
ALESAGE ROND - CLAVETTE
NABENGABEL - PASSFEDERNUT

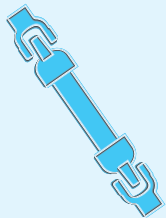


Type	Ref.	A	B		C		D		E	F	
			mm	inch	mm	inch	mm	inch			
10	311	20	73	2 7/8"	80	3 5/32"	20	25/32"	6	M8	151.011.061
	312	25	73	2 7/8"	80	3 5/32"	20	25/32"	8	M10	151.011.062
	313	30	73	2 7/8"	80	3 5/32"	20	25/32"	8	M10	151.011.063
	411	3/4"	73	2 7/8"	80	3 5/32"	20	25/32"	3/16"	3/8" 16UNC	151.011.064
	412	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 - 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

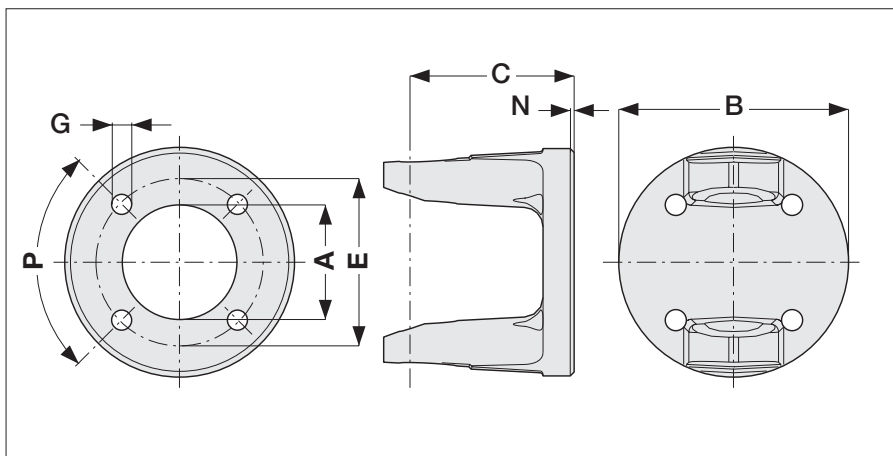


FLANGIA C04

FLANGE C04

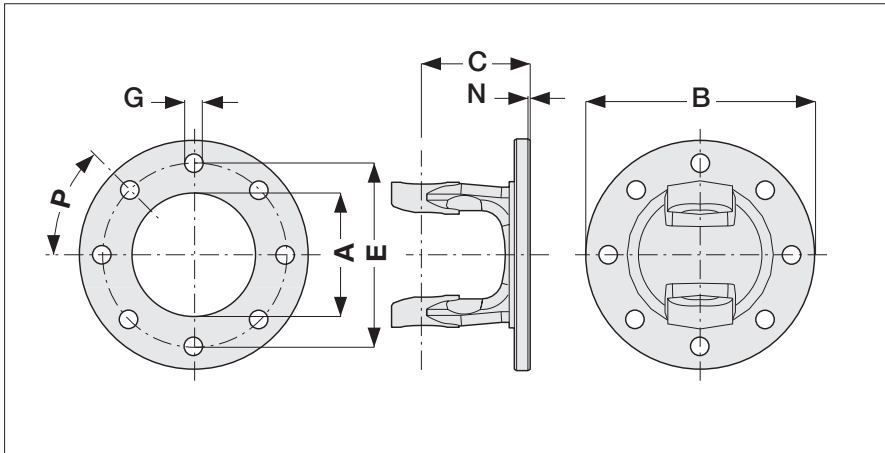
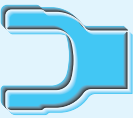
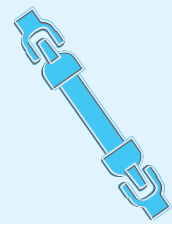
BRIDE C04

FLANSCH C04



Type	Ref.	A		B		C		N		E		P	G		
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	mm	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

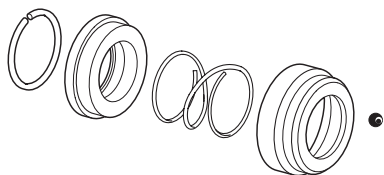
FLANGIA FGL
FLANGE FGL
BRIDE FGL
FLANSCH FGL



Type	Ref.	A		B		C		N		E		P	G		
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	mm	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

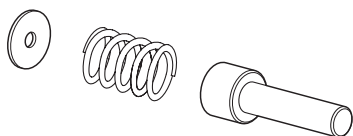


KIT RICAMBIO SPARE PARTS SET KIT PIECES DE RECHANGE ERSATZTEILE KIT



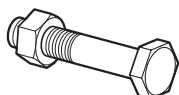
Kit collar per forcelle
Collar set for yokes
Kit collets pour mâchoires
Collarsatz für Gabeln

A	Cod.
1 3/8"	165.000.628
1 3/4"	165.000.629



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

IT

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

GB

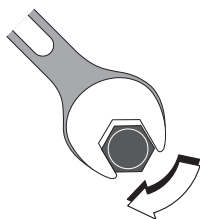
Bolt and nut sets for yokes include Nr. 1 bolt and Nr. 1 nut

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



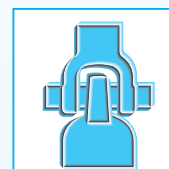
Coppia max di serraggio
Tightening torque
Couple max. de serrage
Max. Anzugsmoment

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

SEZIONE	4:	Snodi e doppi snodi
SECTION	4:	Joints and double joints
CHAPITRE	4:	Joints simples et doubles
TEIL	4:	Einfache- und Doppelgelenke



comer industries
driveshafts



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	46
Serie T / Series T / Série T / Serie T	46

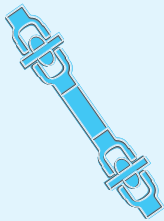


Snodi per cardani
Joints for PTO drive shafts
Joints pour arbres à cardan
Gelenke für Gelenkwellen

Serie V / Series V / Série V / Serie V	47
Serie T / Series T / Série T / Serie T	47
Serie E / Series E / Série E / Serie E	48

Doppi snodi
Double joints
Joints doubles
Doppelgelenke

SD	49
SH	49
SF	50



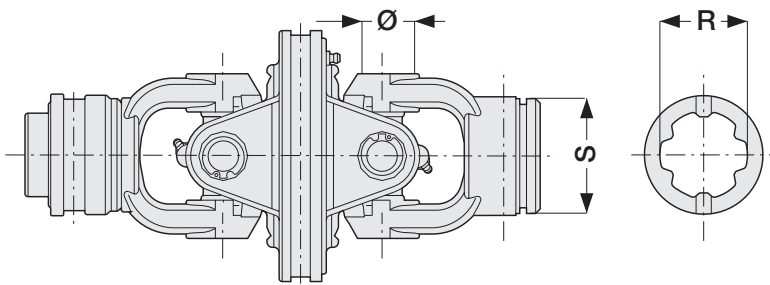
SERIE V - SERIE T

SERIES V - SERIES T

SERIE V - SERIE T

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 ~~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 ~~C03~~

FR

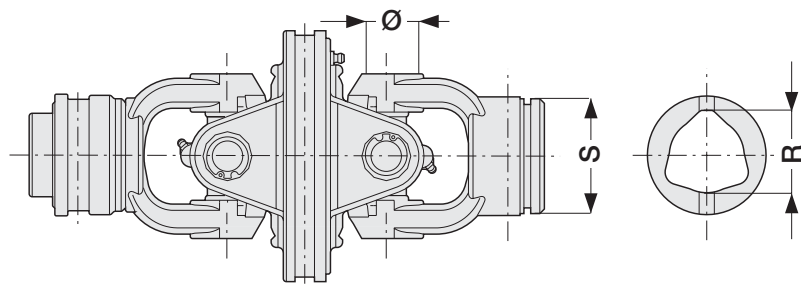
Les références indiquées se rapportent à des joints prévoyant d'un côté une mâchoire cannelée à verrouillage rapide 1 3/8" Z6 (Ref. C02) et de l'autre une mâchoire à gorge pour le tube profilé. En option, les joints sont disponibles avec des extrémités différentes de celles prévues dans la gamme COMER 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 ~~C03~~

DE

Die angegebenen Kennzahlen bezeichnen Gelenke, für die auf der einen Seite eine Profilhülse mit Zehverschluss 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 ~~C03~~

Type	Ref.	Ø		R		S		snodo esterno outer joint joint extérieur äußeres Gelenk	R		S		snodo interno inner joint joint intérieur inneres Gelenk
		mm	inch	mm	inch	mm	inch		mm	inch	mm	inch	
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 ~~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 ~~C03~~

FR

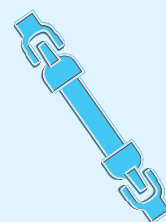
Les références indiquées se rapportent à des joints prévoyant d'un côté une mâchoire cannelée à verrouillage rapide 1 3/8" Z6 (Ref. C02) et de l'autre une mâchoire à gorge pour le tube profilé. En option, les joints sont disponibles avec des extrémités différentes de celles prévues dans la gamme COMER 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 ~~C03~~

DE

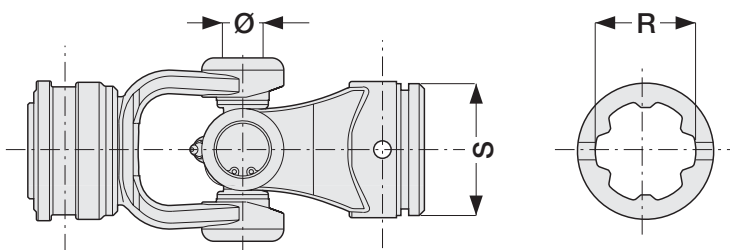
Die angegebenen Kennzahlen bezeichnen Gelenke, für die auf der einen Seite eine Profilhülse mit Zehverschluss 1 3/8" Z6 (Ref. C02) vorgesehen ist, auf der anderen Seite eine Gabel für das Profilrohr. Auf Wunsch können die Gelenke mit anderen Endstücken geliefert werden als in der Produktpalette COMER 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		R		S		snodo esterno outer joint joint extérieur äußeres Gelenk	R		S		snodo interno inner joint joint intérieur inneres Gelenk
		mm	inch	mm	inch	mm	inch		mm	inch	mm	inch	
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

SERIE V - SERIE T
SERIES V - SERIES T
SERIE V - SERIE T
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. 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

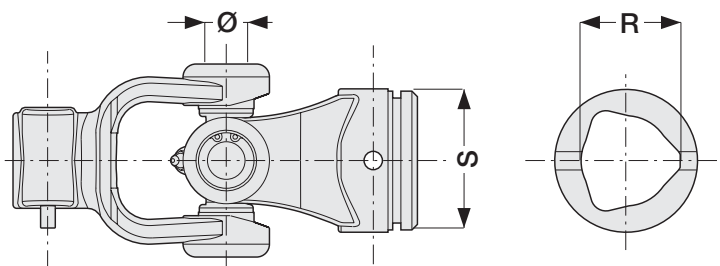
Les références indiquées se rapportent à des joints prévoyant d'un côté une mâchoire cannelée à verrouillage rapide 1 3/8" Z6 (Réf. C12) et de l'autre une mâchoire à gorge pour le tube profilé. En option, les joints sont disponibles avec des extrémités différentes de celles prévues dans la gamme COMER 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 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 V80 ~~X~~ C13

Type	Ref.	Ø		R		S		snodo esterno outer joint joint extérieur äußeres Gelenk	R		S		snodo interno inner joint joint intérieur inneres Gelenk
		mm	inch	mm	inch	mm	inch		mm	inch	mm	inch	
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 ~~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

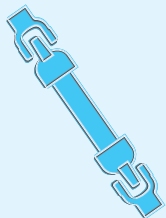
Les références indiquées se rapportent à des joints prévoyant d'un côté une mâchoire cannelée à verrouillage rapide 1 3/8" Z6 (Réf. 112) et de l'autre une mâchoire à gorge pour le tube profilé. En option, les joints sont disponibles avec des extrémités différentes de celles prévues dans la gamme COMER 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 112 113

Type	Ref.	Ø		R		S		snodo esterno outer joint joint extérieur äußeres Gelenk	R		S		snodo interno inner joint joint intérieur inneres Gelenk
		mm	inch	mm	inch	mm	inch		mm	inch	mm	inch	
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





SERIE E SERIES E SERIE E SERIE E

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 ~~113~~

GB

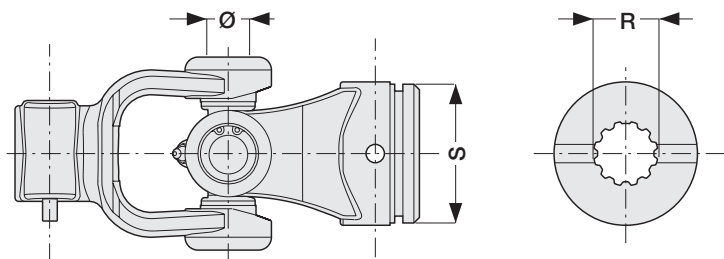
The codes indicated refer to joints with a grooved yoke and 1 3/8" Z6 rapid connector (Ref. 112) on one end and a yoke for the shaped tube on the other. On request, joints can be supplied with different terminals than those available in the COMER Industries Driveshafts line. In that case, when ordering specify the yoke reference to be supplied with the yoke for the shaped tube.
Ex.: Inner joint E40 ~~113~~

FR

Les références indiquées se rapportent à des joints prévoyant d'un côté une mâchoire cannelée à verrouillage rapide 1 3/8" Z6 (Ref. 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 ~~113~~

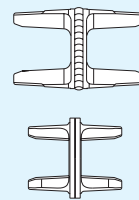
DE

Die angegebenen Kennzahlen bezeichnen Gelenke, für die auf der einen Seite eine Profiligabel 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.: Inneres Gelenk E40 ~~113~~

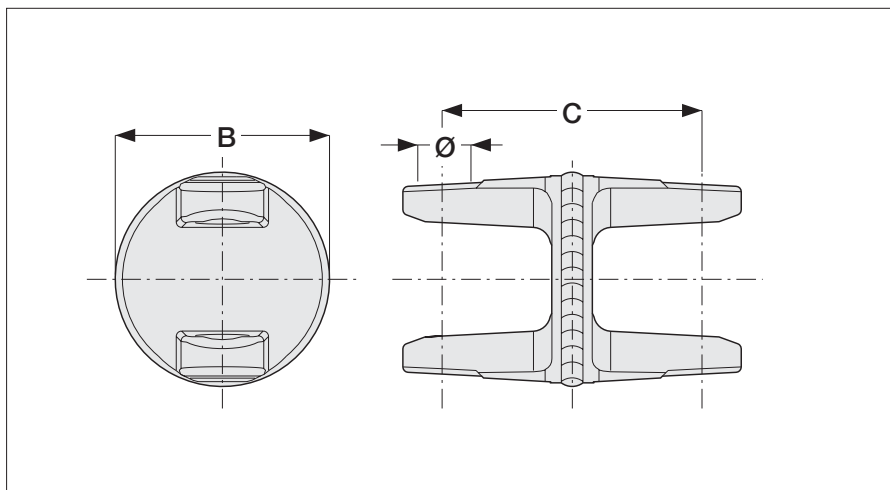


Type	Ref.	Ø		R	S		snodo interno outer joint joint intérieur inneres Gelenk
		mm	inch		mm	inch	
40	112	27	1 1/16"	30 CUNA	53,9	2 1/8"	121.024.601.10
50	112	30,2	1 3/16"	35 CUNA	61	2 13/32"	121.025.512.10
60	112	30,2	1 3/16"	35 CUNA	67	2 41/64"	121.026.526.10
80	112	35	1 3/8"	40 CUNA	76	2 63/64	121.028.619.10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

FORCELLE SD - SH
YOKES SD-SH
MACHOIRES SD-SH
GABELN SD-SH

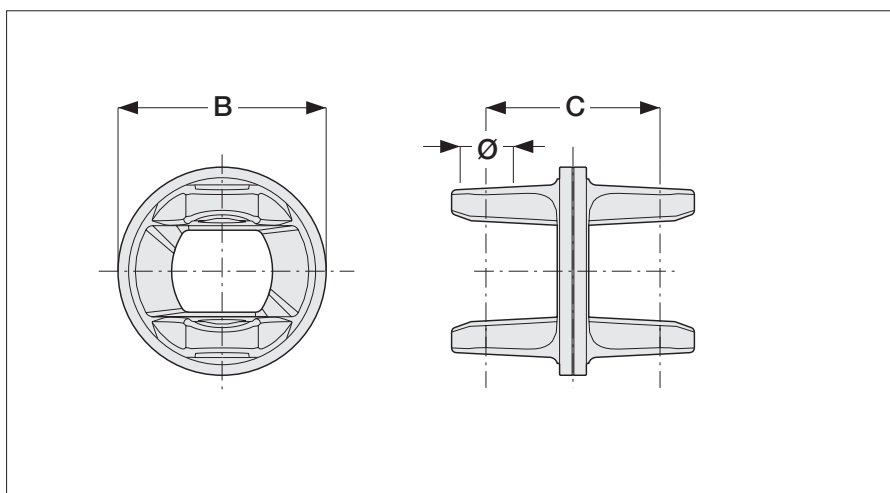


SD

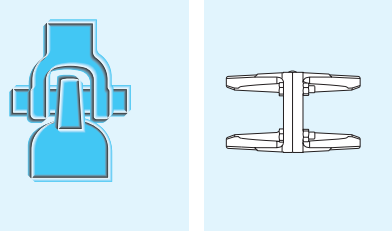


Type	Ref.	Ø		B		C		
		mm	inch	mm	inch	mm	inch	
10	SD10	22	55/64"	100	3 15/16"	93	3 21/32"	141.021.095
20	SD20	23,8	15/16"	100	3 15/16"	103	4 1/16"	151.012.350
40	SD40	27	1 1/16"	100	3 15/16"	125	4 59/64"	141.024.099
50	SD50	30,2	1 3/16"	100	3 15/16"	129	5 5/64"	141.025.095
60	SD60	30,2	1 3/16"	120	4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

SH

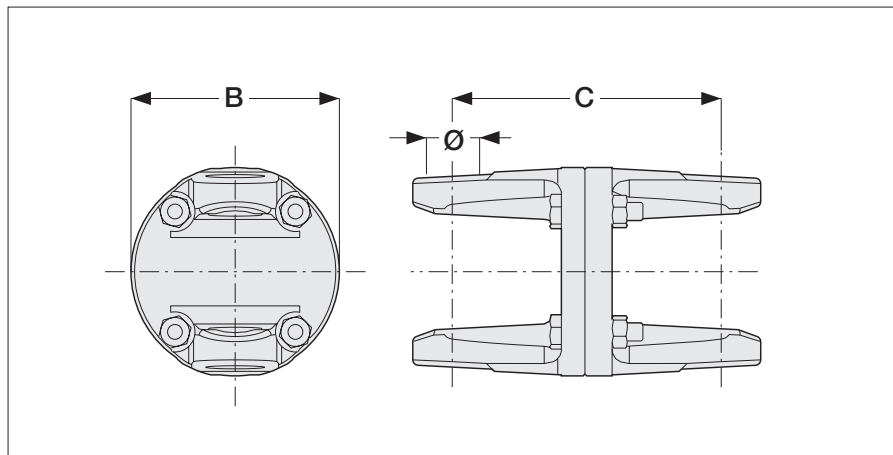


Type	Ref.	Ø		B		C		
		mm	inch	mm	inch	mm	inch	
10	SH10	22	55/64"	75	2 61/64"	68	2 43/64"	151.011.340
20	SH20	23,8	15/16"	80	3 5/32"	78	3 5/64"	151.012.351
40	SH40	27	1 1/16"	105	4 9/64"	90	3 35/64"	151.014.483
50	SH50	30,2	1 3/16"	125	4 59/64"	106	4 11/64"	151.015.386
60	SH60	30,2	1 3/16"	132	5 13/64"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

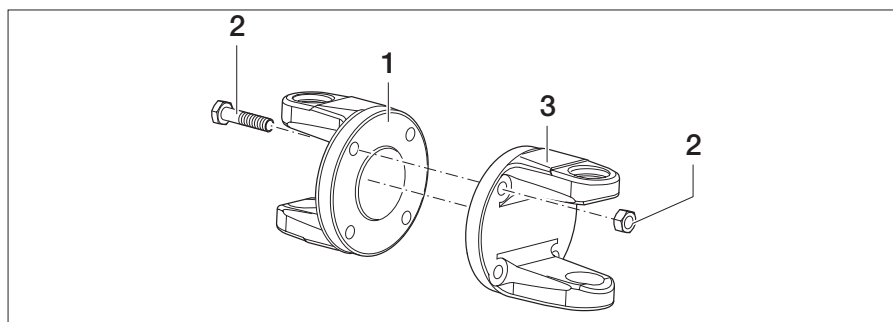


FORCELLE SF YOKES SF MACHOIRES SF GABELN SF

SF



Type	Ref.	Ø		B		C		
		mm	inch	mm	inch	mm	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 (tipo 40/50/60)	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

50

FR

* Quantité présente dans la mâchoire SF

DE

* In der Gabel vorhandene Menge

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



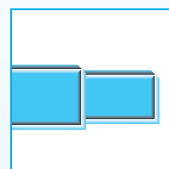
Tubi per cardani omocinetici CvJ
Tubes for PTO drive shafts CvJ
Tubes pour arbres à cardan CvJ
Rohre für Weitwinkelgelenkwellen CvJ

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

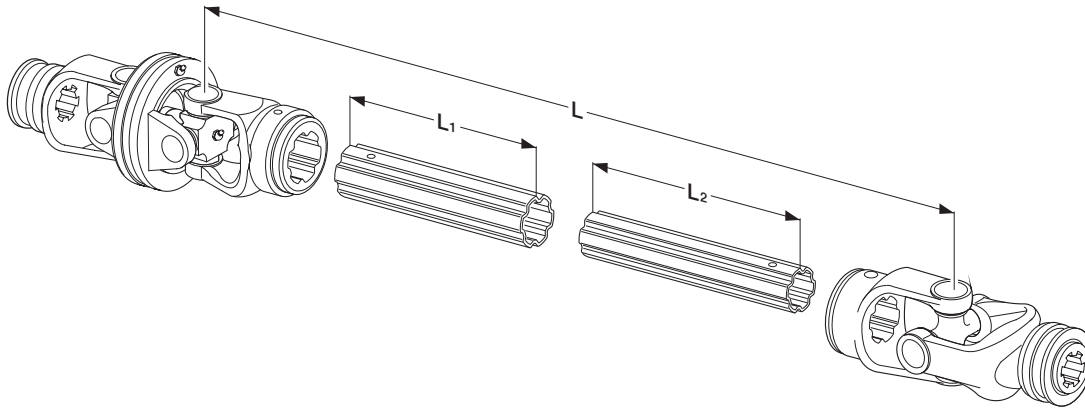


Tubi per cardani
Tubes for PTO drive shafts
Tubes pour arbres à cardan
Rohre für Gelenkwellen

Serie V / Series V / Série V / Serie V	54
Serie T / Series T / Série T / Serie T	55
Serie E / Series E / Série E / Serie E	56
Note / Notes / Notes / Bemerkungen	57



SERIE V
SERIES V
SERIE V
SERIE V



Type	20				40				60			
	L ₁	Cod.	L ₂	Cod.	L ₁	Cod.	L ₂	Cod.	L ₁	Cod.	L ₂	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			
	L ₁	Cod.	L ₂	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**

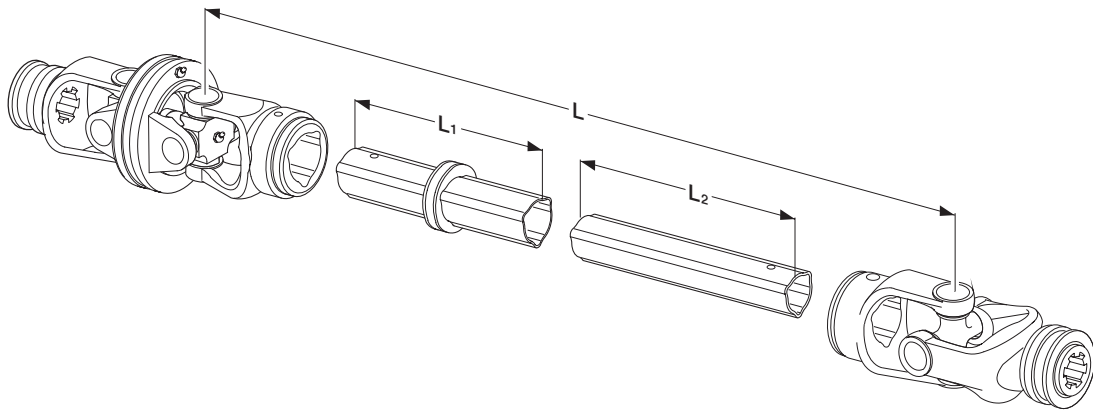
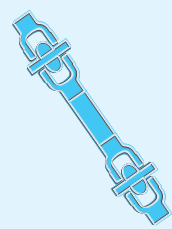
Les profils type **60** et **80** intérieurs sont revêtus de **RILSAN**

DE

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

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

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	20				40				60			
Type	L ₁	Cod.	L ₂	Cod.	L ₁	Cod.	L ₂	Cod.	L ₁	Cod.	L ₂	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

	80			
Type	L ₁	Cod.	L ₂	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

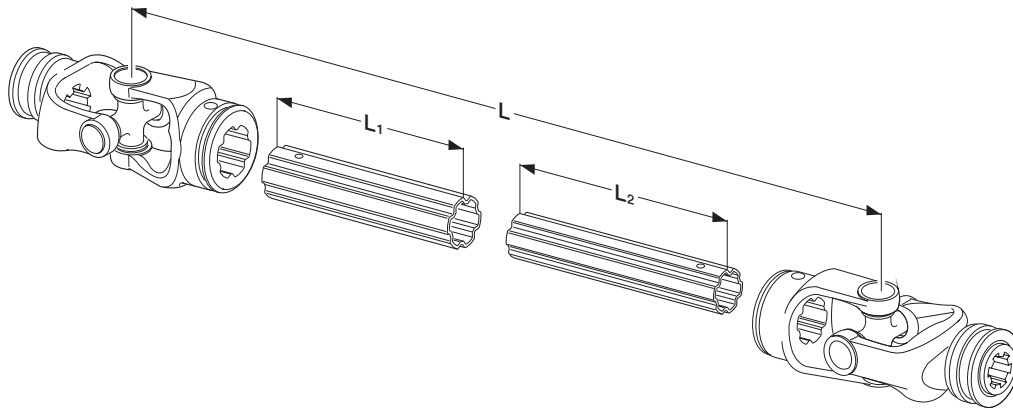
Les profils intérieurs sont revêtus de **RILSAN**

DE

Die Innenprofile sind mit **RILSAN** beschichtet



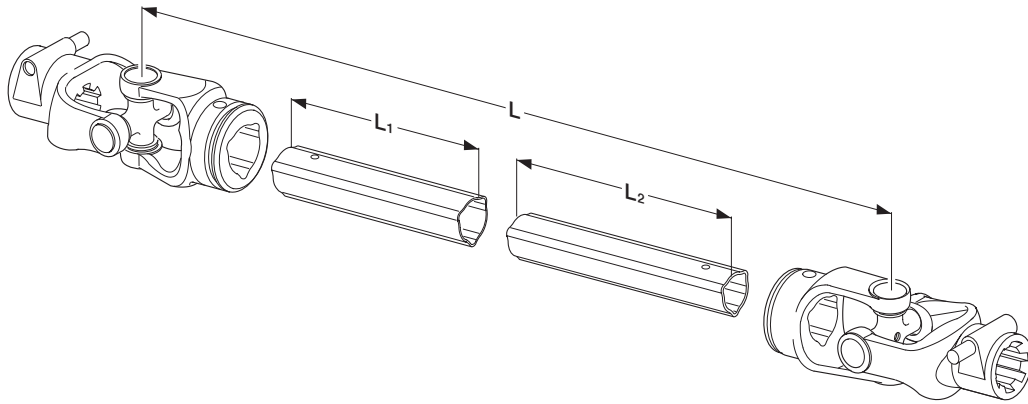
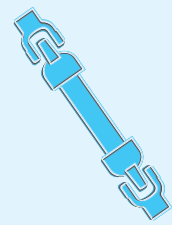
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Type	20				40				50			
	L ₁	Cod.	L ₂	Cod.	L ₁	Cod.	L ₂	Cod.	L ₁	Cod.	L ₂	Cod.
L = 410	285	152.220.006.0700	300	153.220.006	265	152.240.006.0700	280	153.240.006	260	152.260.259.0700	275	153.260.173
L = 460	335	152.220.001.0700	350	153.220.001	315	152.240.001.0700	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			
	L ₁	Cod.	L ₂	Cod.	L ₁	Cod.	L ₂	Cod.	L ₁	Cod.	L ₂	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

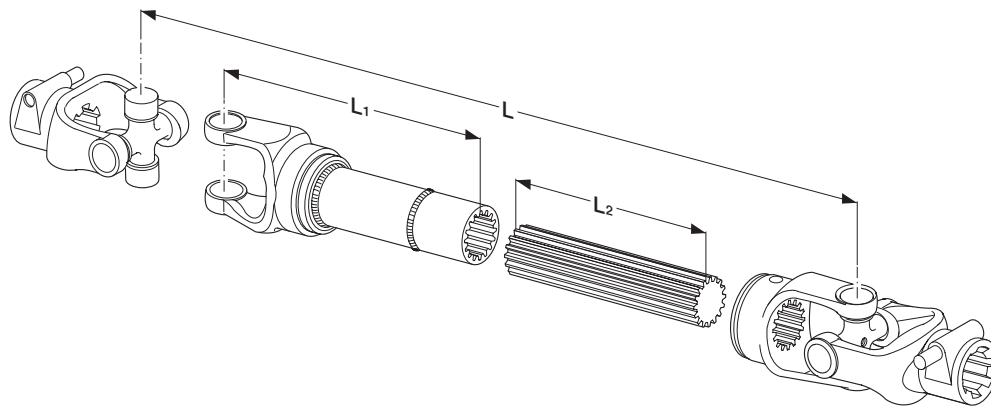
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Type	10				20				40				50			
	L ₁	Cod.	L ₂	Cod.	L ₁	Cod.	L ₂	Cod.	L ₁	Cod.	L ₂	Cod.	L ₁	Cod.	L ₂	Cod.
L = 410	290	152.110.206.0700	305	153.110.106	285	152.120.206.0700	300	153.120.106	265	152.140.206.0700	280	153.140.206	260	152.150.206.0700	275	153.150.106
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			
	L ₁	Cod.	L ₂	Cod.	L ₁	Cod.	L ₂	Cod.	L ₁	Cod.	L ₂	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			
	L ₁	Cod.	L ₂	Cod.	L ₁	Cod.	L ₂	Cod.	L ₁	Cod.	L ₂	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			
	L ₁	Cod.	L ₂	Cod.	L ₁	Cod.	L ₂	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

NOTE NOTES NOTES BEMERKUNGEN

IT



Tutte le misure, ove non specificamente 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 -

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 -

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 -

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 -
- KANADA -



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.



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.



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.



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

1	5		.				.				.				
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0	0
1	0
2	0
3	0

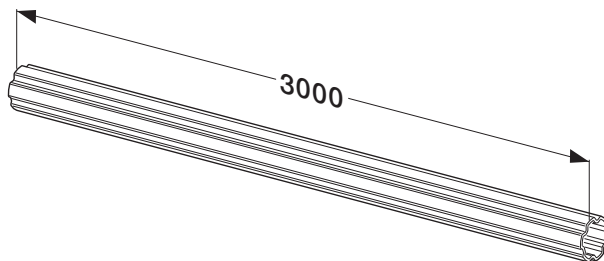
USA
CANADA
CE

0	7
7	8



NOTE
NOTES
NOTES
BEMERKUNGEN

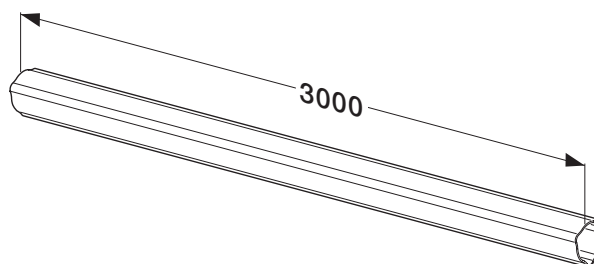
V



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

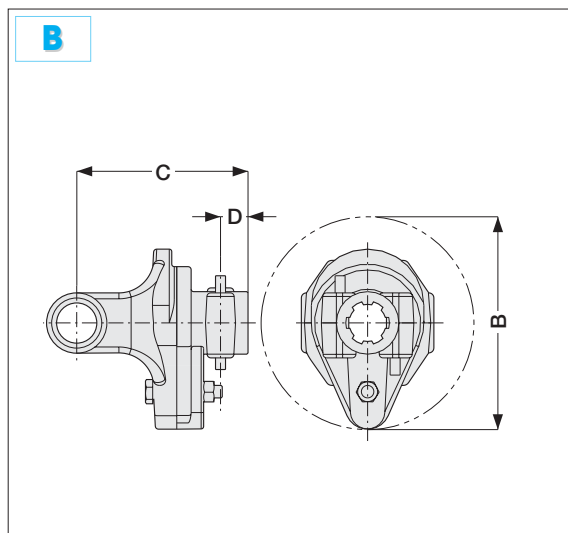
SEZIONE	6:	Dispositivi di sicurezza
SECTION	6:	Safety devices
CHAPITRE	6:	Dispositifs de sécurité
TEIL	6:	Überlast- und Freilaufkupplungen



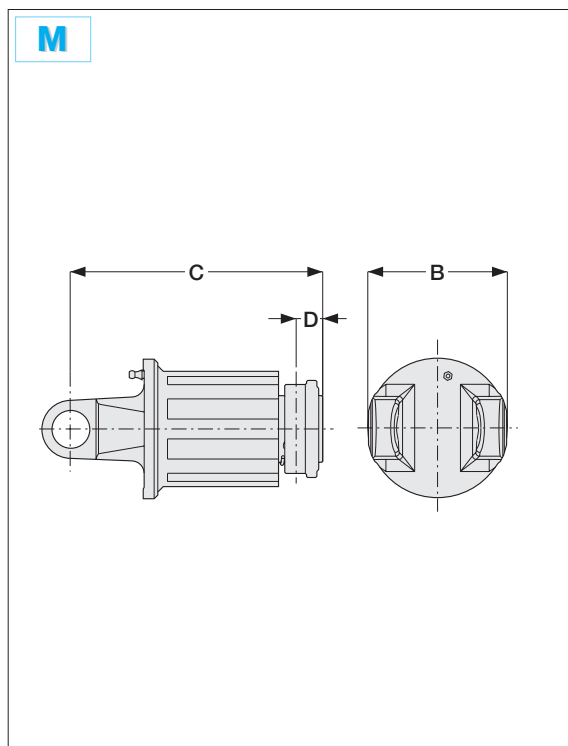
	Programma di produzione <i>Production program</i> Programme de production <i>Produktpalette</i>	60
B	Limitatore a bullone di trancio <i>Shear bolt torque limiter</i> Limiteur à boulon de cisaillement <i>Scherbolzenkupplung</i>	64
M	Limitatore a nottolini bidirezionale <i>Bi-directional ratchet clutch torque limiter</i> Limiteur à came réversible <i>Ratschenkupplung Umkehrbar</i>	66
R	Ruota libera <i>Overrunning clutch</i> Roue libre <i>Freilauf</i>	68
F	Frizione a dischi multipli <i>Disc clutch torque limiter</i> Limiteur à disque de friction <i>Reibscheibenkupplung</i>	70
W	Frizione chiusa a dischi multipli <i>Closed disc clutch torque limiter</i> Limiteur à disque de friction fermé <i>Reibscheibenkupplung in geschlossener Ausführung</i>	76
L	Limitatore automatico <i>Automatic torque limiter</i> Limiteur avec débrayage <i>Nockenschaltkupplung</i>	80
RB	Limitatore a bullone di trancio con ruota libera <i>Shear bolt torque limiter with overrunning clutch</i> Limiteur à boulon de cisaillement avec roue libre <i>Scherbolzenkupplung mit Freilauf</i>	82
RF	Frizione a dischi multipli con ruota libera <i>Disc clutch torque limiter with overrunning clutch</i> Limiteur à disque de friction avec roue libre <i>Reibscheibenkupplung mit Freilauf</i>	84
U	Limitatore a nottolini <i>Ratchet clutch torque limiter</i> Limiteur à came <i>Ratschenkupplung</i>	90



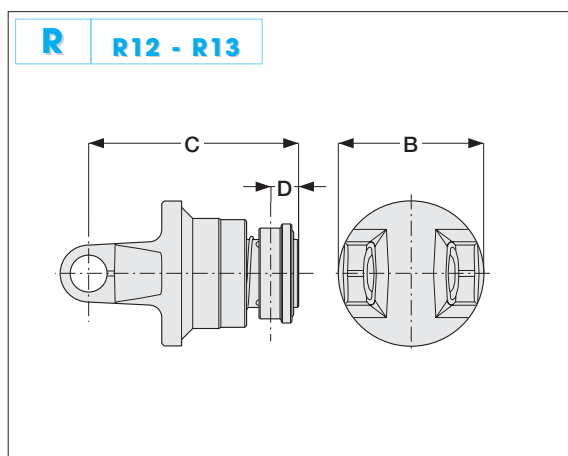
PROGRAMMA DI PRODUZIONE PRODUCTION PROGRAM PROGRAMME DE PRODUCTION PRODUKTPALETTE



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



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



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

PROGRAMMA DI PRODUZIONE
PRODUCTION PROGRAM
PROGRAMME DE PRODUCTION
PRODUKTPALETTE



		Type	Ref										
R	R14 - R15			40	R14	mm	B	C	D	Nm	in. lb.	68	
				R15	inch	140	157	28	3800	33,630			
						5 33/64"	6 3/16"	1 7/64"					
				50	R14	mm	B	C	D	Nm	in. lb.		
				R15	inch	140	159	28	3800	33,630			
							5 33/64"	6 17/64"	1 7/64"				
				60	R14	mm	B	C	D	Nm	in. lb.		
				R15	inch	140	167	28	3800	33,630			
							5 33/64"	6 37/64"	1 7/64"				
				80	R14	mm	B	C	D	Nm	in. lb.		
				R15	inch	140	176	28	3800	33,630			
							5 33/64"	6 59/64"	1 7/64"				

F			20	F02	mm	B	C	D	Nm	in. lb.	70		
			F03	inch	153	120	22	650	5,750				
								6 1/32"	4 23/32"	7/8"			
			40	F02	mm	B	C	D	Nm	in. lb.			
			F03	inch	153	133	22	650	5,750				
								6 1/32"	5 15/64"	7/8"			
			F12	mm	180	135	19	900	7,950				
			F13	inch	7 3/32"	5 5/16"	3/4"						
			50	F12	mm	B	C	D	Nm	in. lb.			
			F13	inch	180	135	19	900	7,950				
								7 3/32"	5 5/16"	3/4"			
			F22-F23	mm	195	146	26	1200	10,600				
			F24-F25	inch	7 43/64"	5 3/4"	1 1/32"						
			60	F12	mm	B	C	D	Nm	in. lb.			
			F13	inch	180	135	19	900	7,950				
								7 3/32"	5 5/16"	3/4"			
			F22-F23	mm	195	146	26	1200	10,600				
			F24-F25	inch	7 43/64"	5 3/4"	1 1/32"						
			F42-F43	mm	195	156	26	1600	14,150				
			F44-F45	inch	7 43/64"	6 1/8"	1 1/32"						
			80	F22-F23	mm	B	C	D	Nm	in. lb.			
			F24-F25	inch	195	159	26	1200	10,600				
								7 43/64"	6 17/64"	1 1/32"			
			F42-F43	mm	195	169	26	2000	17,700				
			F44-F45	inch	7 43/64"	6 21/32"	1 1/32"						
			90	F42-F43	mm	B	C	D	Nm	in. lb.			
			F44-F45	inch	195	169	26	2000	17,700				
								7 43/64"	6 21/32"	1 1/32"			

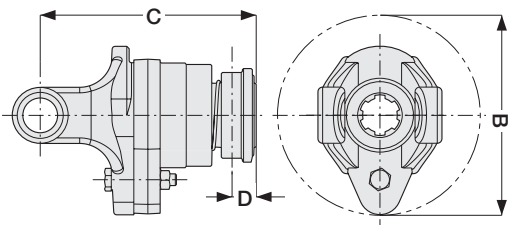
W			20	W22	mm	B	C	D	Nm	in. lb.	76		
			W23	inch	173	133,5	26	600	5,300				
								6 13/16"	5 1/4"	1 1/32"			
			40	W22	mm	B	C	D	Nm	in. lb.			
			W23	inch	173	140	26	600÷900	5,300÷7,950				
								6 13/16"	5 33/64"	1 1/32"			
			50	W22	mm	B	C	D	Nm	in. lb.			
			W23	inch	173	143,5	26	900	7,950				
								6 13/16"	5 21/32"	1 1/32"			
			W42	mm	173	158,5	26	1100	9,700				
			W43	inch	6 13/16"	6 15/64"	1 1/32"						
			60	W22	mm	B	C	D	Nm	in. lb.			
			W23	inch	173	150,5	26	900	7,950				
								6 13/16"	5 59/64"	1 1/32"			
			W42	mm	173	165,5	26	1100÷1500	9,700÷13,250				
			W43	inch	6 13/16"	6 33/64"	1 1/32"						
			80	W42	mm	B	C	D	Nm	in. lb.			
			W43	inch	173	173,5	26	1100÷1800	9,700÷15,900				
								6 13/16"	6 53/64"	1 1/32"			

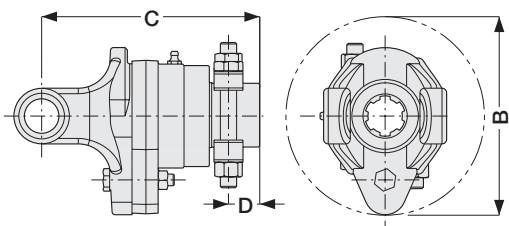
L			60	L82-L83	mm	B	C	D	Nm	in. lb.	80		
			L84-L85	inch	168	141	36	2500	22,130				
								3 39/64"	5 35/64"	1 27/64"			
			80	L82-L83	mm	B	C	D	Nm	in. lb.			
			L84-L85	inch	168	141	36	3500	30,900				
								3 39/64"	5 35/64"	1 27/64"			
90	L82-L83	mm	B	C	D	Nm	in. lb.						
L84-L85	inch	168	141	36	4000	35,400							
					3 39/64"	5 35/64"	1 27/64"						

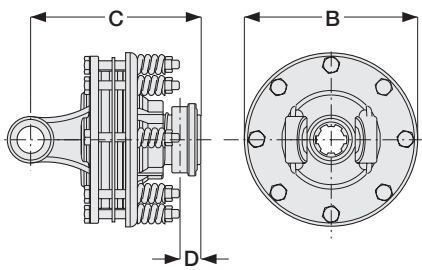


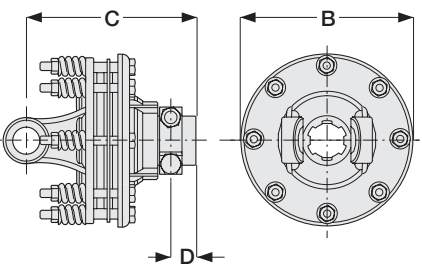
PROGRAMMA DI PRODUZIONE
PRODUCTION PROGRAM
PROGRAMME DE PRODUCTION
PRODUKTPALETTE

Type	Ref					
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RB RB2 - RB3 	40	RB2 RB3	mm inch	B 134 5 9/32"	C 180 7 3/32"	D 26 1 1/32"	Nm 1700	in. lb. 15,000	82
	50	RB2 RB3	mm inch	B 134 5 9/32"	C 180 7 3/32"	D 26 1 1/32"	Nm 2100	in. lb. 18,500	
	60	RB2 RB3	mm inch	B 162 6 3/8	C 187 7 23/64"	D 26 1 1/32"	Nm 2500	in. lb. 22,100	
	80	RB2 RB3	mm inch	B 162 6 3/8	C 197 7 3/4"	D 26 1 1/32"	Nm 3500	in. lb. 30,900	

RB RB4 - RB5 	60	RB4 RB5	mm inch	B 162 6 3/8	C 187 7 23/64"	D 28 1 7/64"	Nm 2500	in. lb. 22,100	82
	80	RB4 RB5	mm inch	B 162 6 3/8	C 197 7 3/4"	D 28 1 7/64"	Nm 3500	in. lb. 30,900	

RF RF2 - RF3 - RF6 - RF7 	40	RF2 RF3	mm inch	B 195 7 43/64"	C 175 6 57/64"	D 26 1 3/32"	Nm 900	in. lb. 7,950	84
	50	RF2 RF3	mm inch	B 195 7 43/64"	C 175 6 57/64"	D 26 1 3/32"	Nm 900	in. lb. 7,950	
		RF6 RF7	mm inch	B 195 7 43/64"	C 190 7 31/64"	D 26 1 3/32"	Nm 1200	in. lb. 10,600	
	60	RF6 RF7	mm inch	B 195 7 43/64"	C 190 7 31/64"	D 26 1 3/32"	Nm 1400	in. lb. 12,400	
	80	RF6 RF7	mm inch	B 195 7 43/64"	C 203 7 63/64"	D 26 1 3/32"	Nm 1400	in. lb. 12,400	
	90	RF6 RF7	mm inch	B 195 7 43/64"	C 203 7 63/64"	D 26 1 3/32"	Nm 1400	in. lb. 12,400	

RF RF4 - RF5 - RF8 - RF9 	40	RF4 RF5	mm inch	B 195 7 43/64"	C 175 6 57/64"	D 28 1 7/64"	Nm 900	in. lb. 10,600	84
	50	RF4 RF5	mm inch	B 195 7 43/64"	C 190 7 31/64"	D 28 1 7/64"	Nm 900	in. lb. 7,950	
		RF8 RF9	mm inch	B 195 7 43/64"	C 175 6 57/64"	D 28 1 7/64"	Nm 1200	in. lb. 10,600	
	60	RF8 RF9	mm inch	B 195 7 43/64"	C 190 7 31/64"	D 28 1 7/64"	Nm 1400	in. lb. 12,400	
	80	RF8 RF9	mm inch	B 195 7 43/64"	C 203 7 63/64"	D 28 1 7/64"	Nm 1400	in. lb. 12,400	
	90	RF8 RF9	mm inch	B 195 7 43/64"	C 203 7 63/64"	D 28 1 7/64"	Nm 1400	in. lb. 12,400	



PROGRAMMA DI PRODUZIONE
PRODUCTION PROGRAM
PROGRAMME DE PRODUCTION
PRODUKTPALETTE



U

Type	Ref						
10	U14	mm	B	C	D	Nm	in. lb.
		inch	3 5/16"	4 11/16"	55/64"	300	2,650
	U24	mm	100	138	22	600	5,300
		inch	3 5/16"	5 7/16"	55/64"		
20	U14	mm	B	C	D	Nm	in. lb.
		inch	3 5/16"	4 11/16"	55/64"	300	2,650
	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	B	C	D	Nm	in. lb.
		inch	3 5/16"	5 25/32"	55/64"	600	5,300
	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	B	C	D	Nm	in. lb.
		inch	3 5/16"	6 57/64"	55/64"	900	7,950
	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"			

90



(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

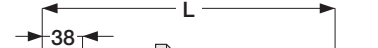
(FR)

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

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

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

RM

Technical drawing of a bolt. The drawing shows a side view of the bolt with a hexagonal head and a threaded shank. Dimension lines indicate the following measurements: L is the total length of the bolt; 38 is the diameter of the hexagonal head; A is the height of the hexagonal head; and B is the thickness of the washer or flange at the end of the shank.

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

(IT)

* Fornibile a richiesta con altri tipi di calettto

(GB)

* Can be supplied upon request with other types of splined

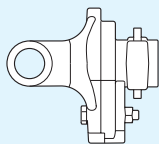
(FR)

* Disponible en option avec autres alésages cannelés

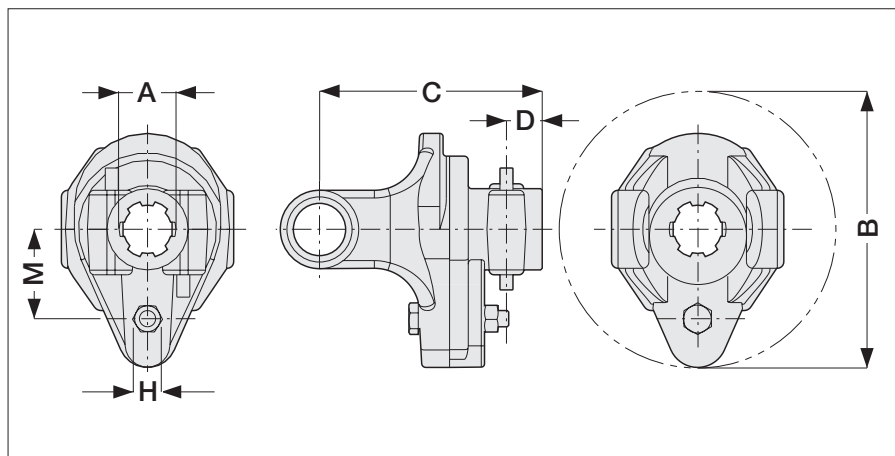
(DE)

* Auf Wunsch mit anderen Profilen verfügbare



**B**

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

B

Type	Ref.	A		B		C		D		M		MAX		H	ISO 8.8	
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	Nm	in.lb			
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

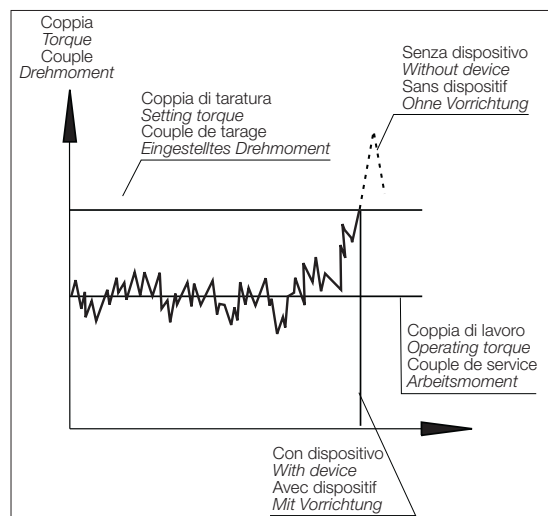
NOTE: disponible en option avec boulon sécant

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

ANMERKNG.: auf Wunsch mit profilberührender Klemmbolzen lieferbar

Der Drehmomentbegrenzer greift ein und unterbricht die Leistungsübertragung 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.

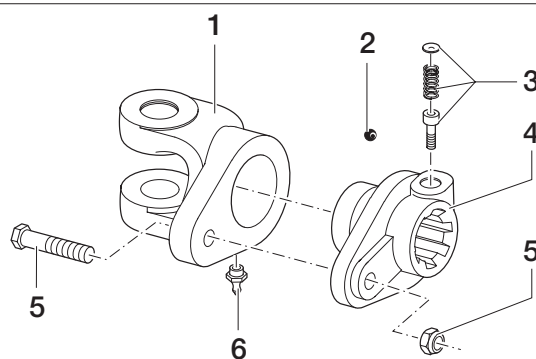
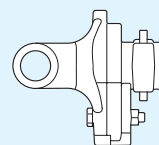


LIMITATORE A BULLONE DI TRANCIO

SHEAR BOLT TORQUE LIMITER

LIMITEUR A BOULON DE CISAILEMENT

SCHERBOLZENKUPPLUNG



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 bouton-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 bouton-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 (Typ 10÷50)	190.000.020	1
	Ingrassatore M10x1 (tipo 60÷90)	Greaser M10x1 (type 60÷90)	Graisseur M10x1 (type 60÷90)	Schmiernippel M10x1 (Typ 60÷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

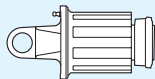
* Quantité présente dans le dispositif

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

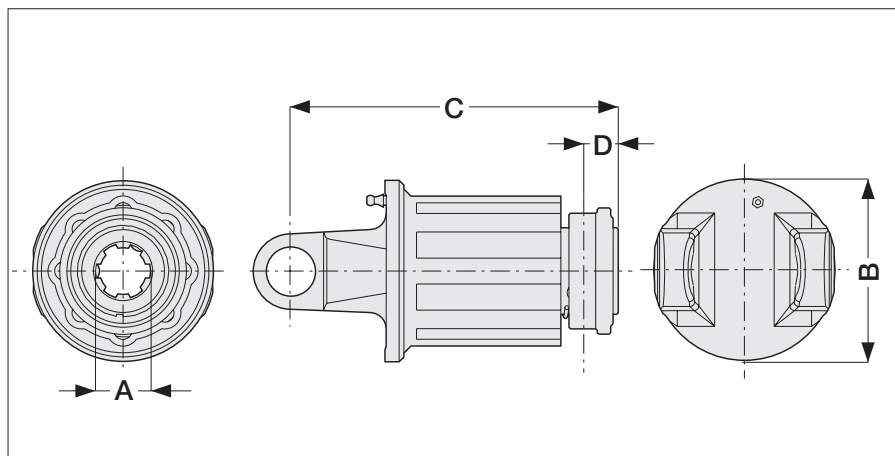
DE

* In der Vorrichtung vorhandene Menge

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

**M**

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

M

Type	Ref.	A		B		C		D				
				mm	inch	mm	inch	mm	inch	Nm	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
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 riscaldamento.

GB

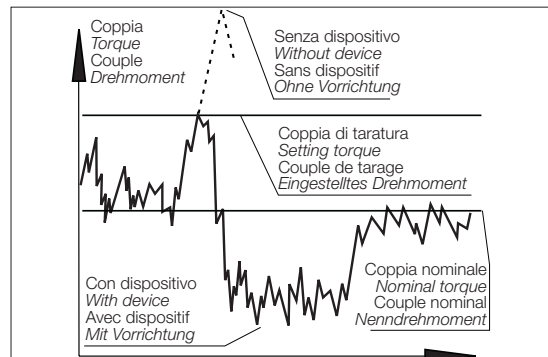
The torque limiter is activated when the operating torque exceeds the setting value. During the limiting phase, the device transmits reduced power in pulses. The elimination of the external cause and the reduction of the PTO speed allows the normal power transmission to be re-established. When the limiter 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 Begrenzungsphase 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 Überhitzung zu vermeiden.



LIMITATORE A NOTTOLINI BIDIREZIONALE

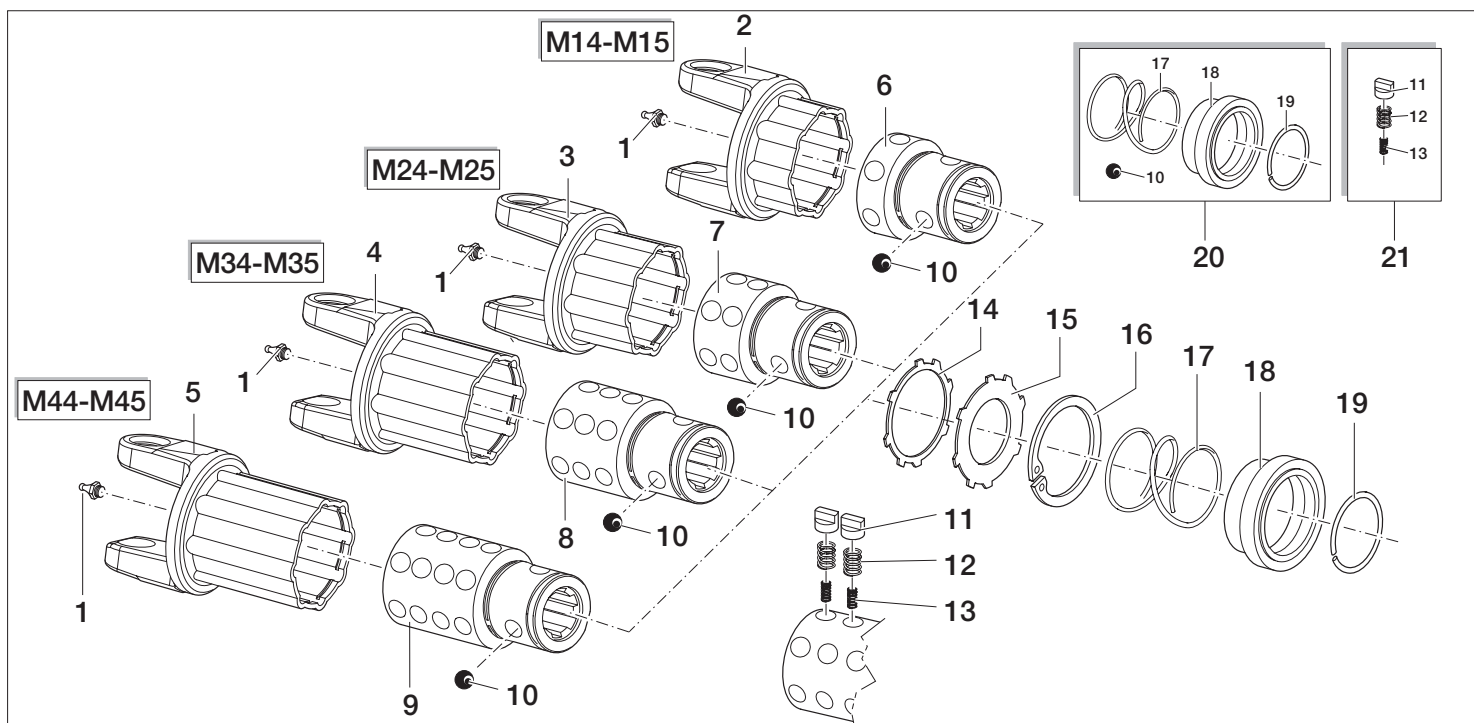
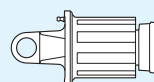
BI-DIRECTIONAL RATCHET CLUTCH TORQUE LIMITER

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 comes 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 comes et de ressorts extérieurs et intérieurs à commander

☞ Le kit comprend 8 comes, 8 ressorts intérieurs et 8 ressorts extérieurs

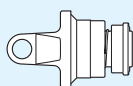
DE

* In der Vorrichtung vorhandene Menge

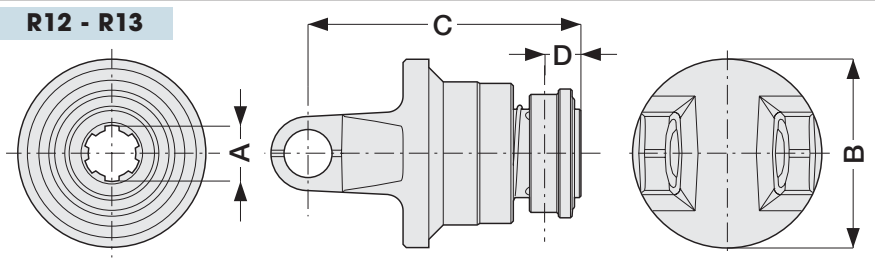
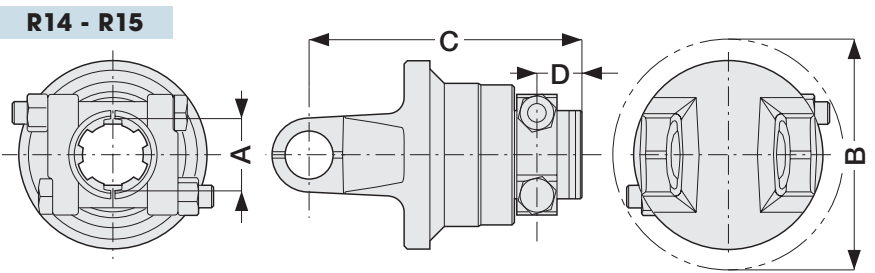
☞ Fragen Sie bei unserem technischen Büro nach der genauen Anzahl an Nocken, Außen- und Innenfedern, die Sie bestellen müssen

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



**R**

RUOTA LIBERA OVERRUNNING CLUTCH ROUE LIBRE FREILAUF

R**R12 - R13****R14 - R15**

Type	Ref.	A		B		C		D				
		mm	inch	mm	inch	mm	inch	mm	inch	Nm	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 disinnestata 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 disengaged from the driven machine.

FR

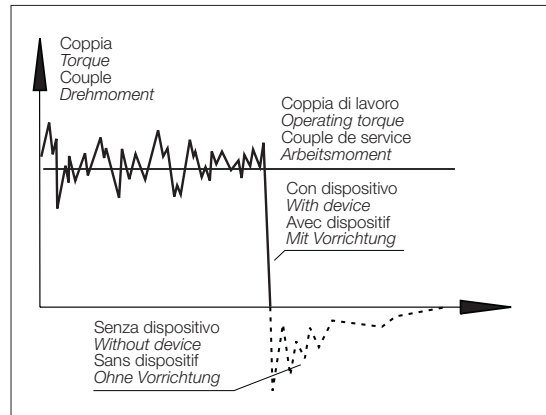
NOTE: rotation à gauche disponible en option

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

ANMERKUNG: auf Wunsch mit Drehung im Gegenuherrzeigersinn erhältlich

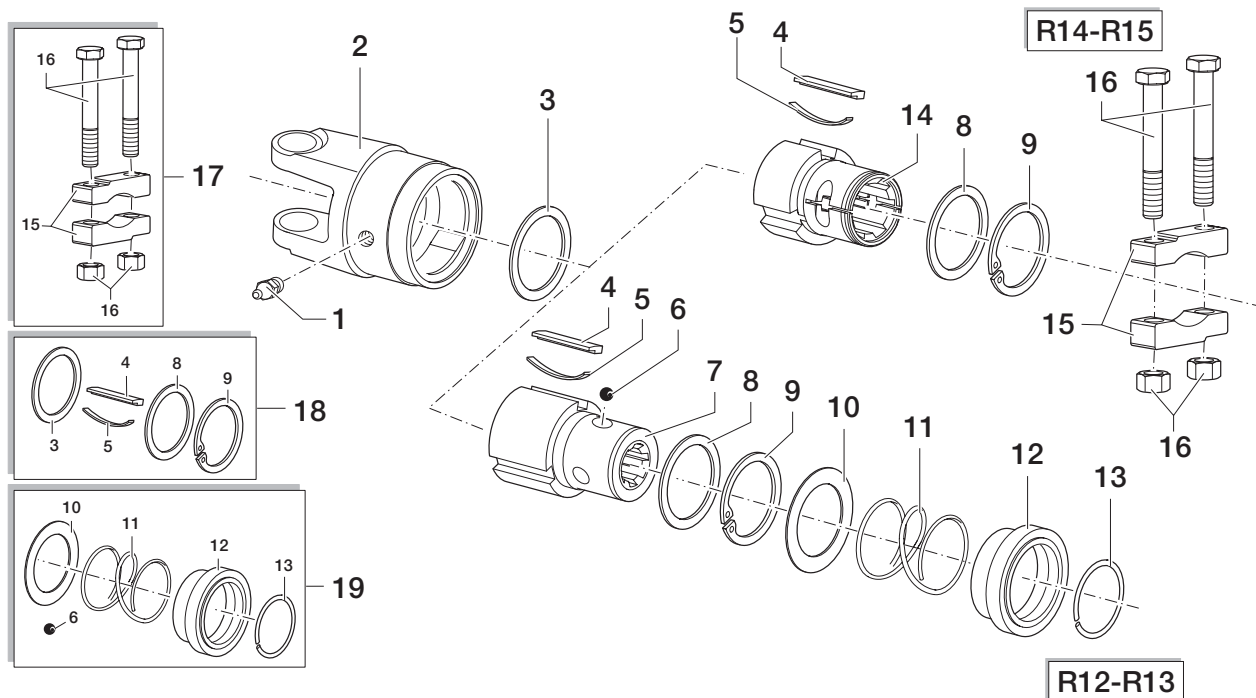
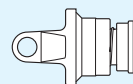
Die Vorrichtung ermöglicht die Kraftübertragung in eine einzige Drehrichtung, wenn der Schlepper die Maschine betätigt. Während der Anhaltephase, bei abgekuppelter Zapfwelle des Schleppers und noch laufender Maschine, ist der Antrieb ausgekuppelt. Diese Vorrichtung ist für Landwirtschaftsmaschinen mit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



R

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

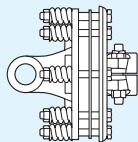
FR

* Quantité présente dans le dispositif

DE

* In der Vorrichtung vorhandene Menge

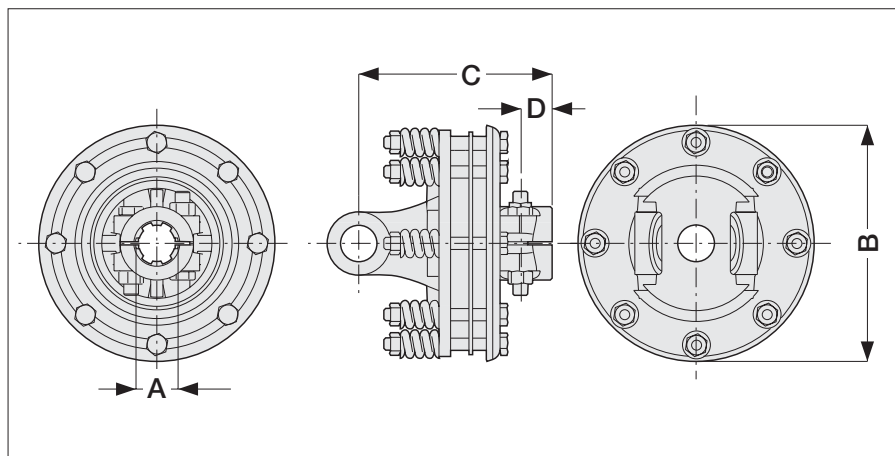




F

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

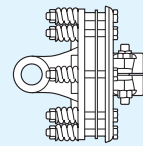
F



Type	Ref.	A	B		C		D		MAX		
			mm	inch	mm	inch	mm	inch	Nm	in.lb	
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
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
	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
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

F

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

F**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 riscaldamento dei dischi d'attrito (taratura insufficiente) o il bloccaggio della frizione (taratura eccessiva).

GB

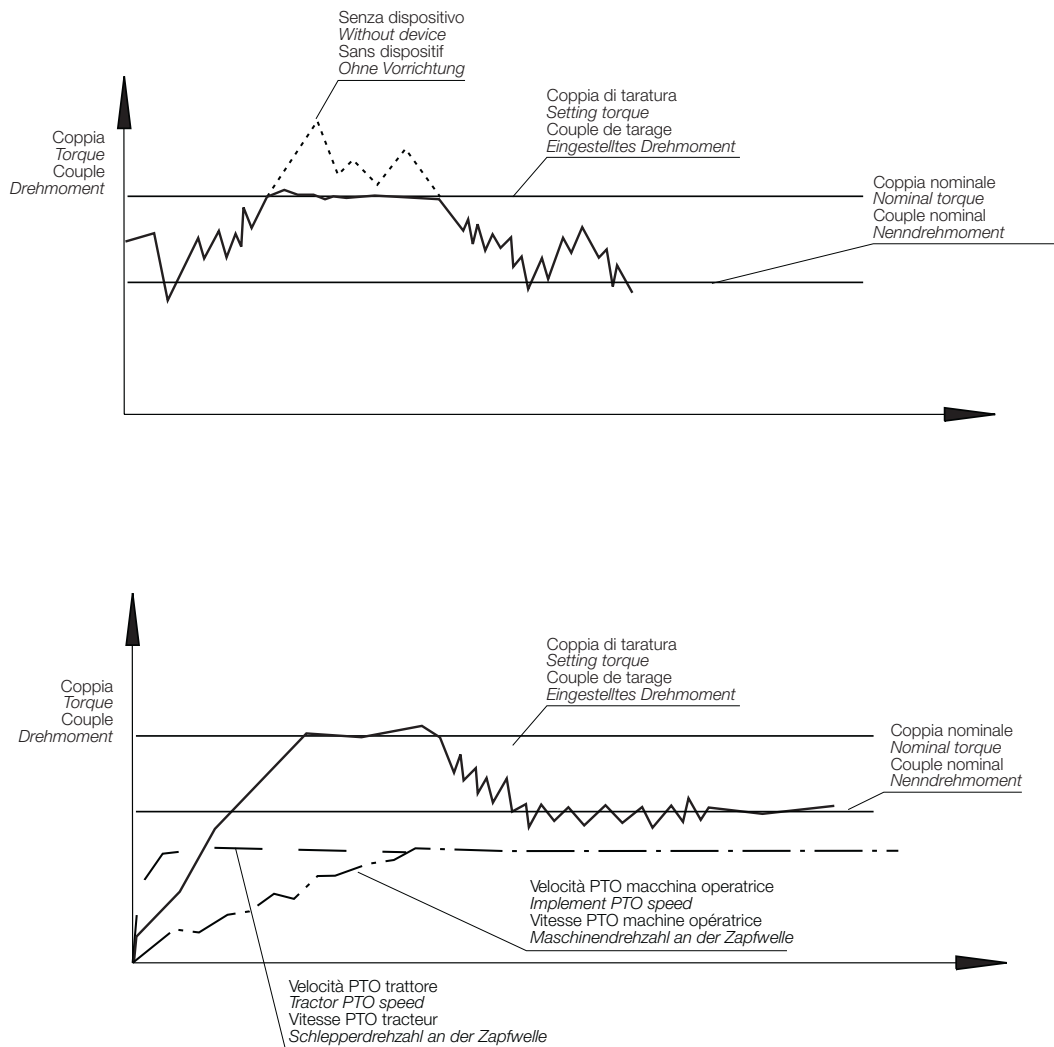
The torque limiter is activated when the setting torque exceeds the calibration torque. During the torque peak limiting phase, the clutch continues to transmit power. The clutch is useful as a safety device to protect against load peaks and to start machines with high rotational inertia. It is recommended 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

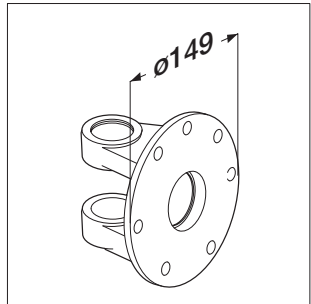
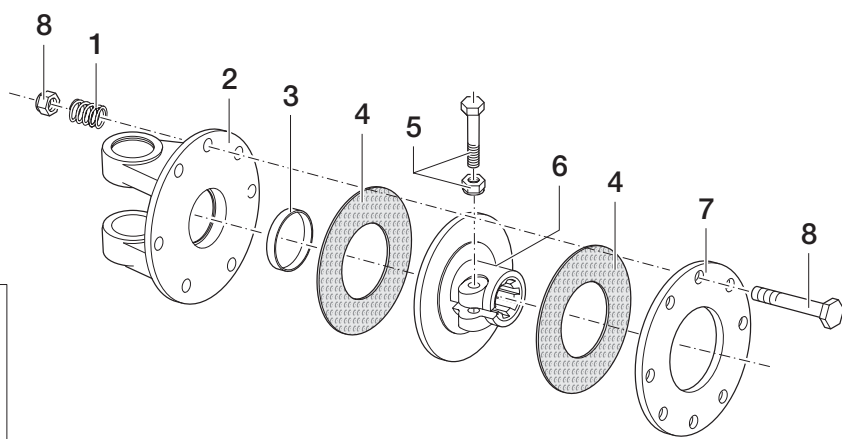
Le limiteur peut atteindre des températures élevées.
Ne pas toucher!
Pour prévenir tout risque d'incendie, la zone près du limiteur doit toujours être propre sans matériau inflammable. Il faudra aussi éviter les patinages prolongés.

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	Lining rings Ø120xØ68	Disques de friction Ø120xØ68	Reibscheiben Ø120xØ68	180.014.019	2
5	Kit vite M12x1,25x65+dado	Bolt M12x1,25x65 + nut	Kit vis M12x1,25x65+ écrou	Schraubensatz M12x1,25x65+Mutter	160.000.502	1
6	Mozzo frizione F02	Clutch support F02	Moyeu de friction F02	Kupplungsnahe F02	151.014.018	1
	Mozzo frizione F03	Clutch support F03	Moyeu de friction F03	Kupplungsnahe F03	151.013.022	1
7	Disco stringi frizione	Pressure plate	Disque de compression	Druckscheibe	180.014.020	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

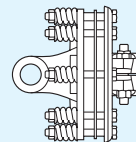
DE

* In der Vorrichtung vorhandene Menge

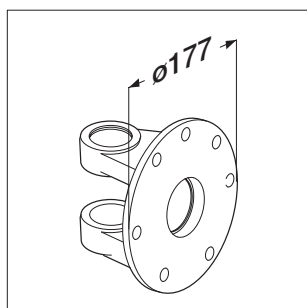
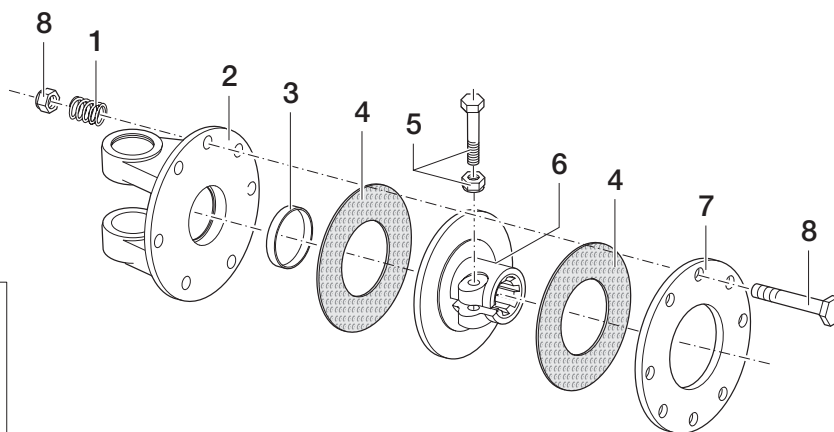
F

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

F



- 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	160.000.502	1
6	Mozzo frizione F12	Clutch support F12	Moyeu de friction F12	Kupplungsnahe F12	151.015.018	1
	Mozzo frizione F13	Clutch support F13	Moyeu de friction F13	Kupplungsnahe 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

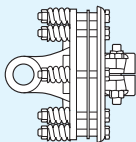
* Quantity in the Safety Device

FR

* Quantité présente dans le dispositif

DE

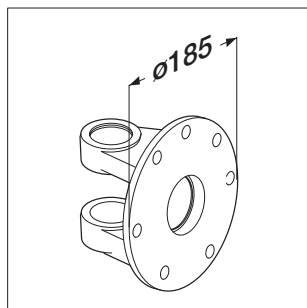
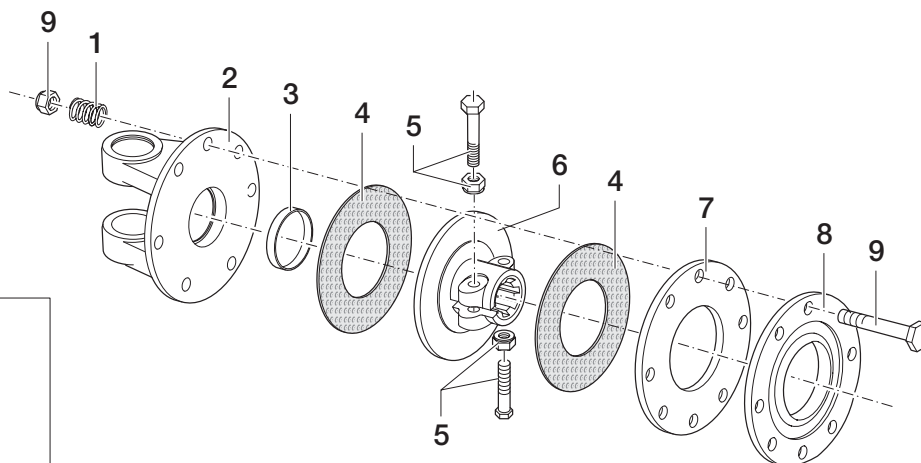
* In der Vorrichtung vorhandene Menge

**F**

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

F

- F2 -



Pos.	IT	GB	FR	DE	Cod.	Qty *
1	Molla elicoidale $\varnothing 7$	Spring $\varnothing 7$	Ressort hélicoïdal $\varnothing 7$	Schraubenfeder $\varnothing 7$	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 $\varnothing 152 \times \varnothing 90$	Lining rings $\varnothing 152 \times \varnothing 90$	Disques de friction $\varnothing 152 \times \varnothing 90$	Reibscheiben $\varnothing 152 \times \varnothing 90$	180.019.018	2
5	Kit vite M12x1,25x65+dado	Bolt M12x1,25x65 + nut	Kit vis M12x1,25x65+ écrou	Schraubensatz M12x1,25x65+Mutter	160.000.502	2
	Kit vite M14x1,5x70+dado	Bolt M14x1,5x70 + nut	Kit vis M14x1,5x70 + écrou	Schraubensatz M14x1,5x70+Mutter	160.000.503	2
6	Mozzo frizione F22	Clutch support F22	Moyeu de friction F22	Kupplungsnahe F22	151.018.018	1
	Mozzo frizione F23	Clutch support F23	Moyeu de friction F23	Kupplungsnahe F23	151.017.013	1
	Mozzo frizione F24	Clutch support F24	Moyeu de friction F24	Kupplungsnahe F24	151.018.019	1
	Mozzo frizione F25	Clutch support F25	Moyeu de friction F25	Kupplungsnahe 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

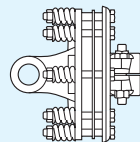
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* In der Vorrichtung vorhandene Menge

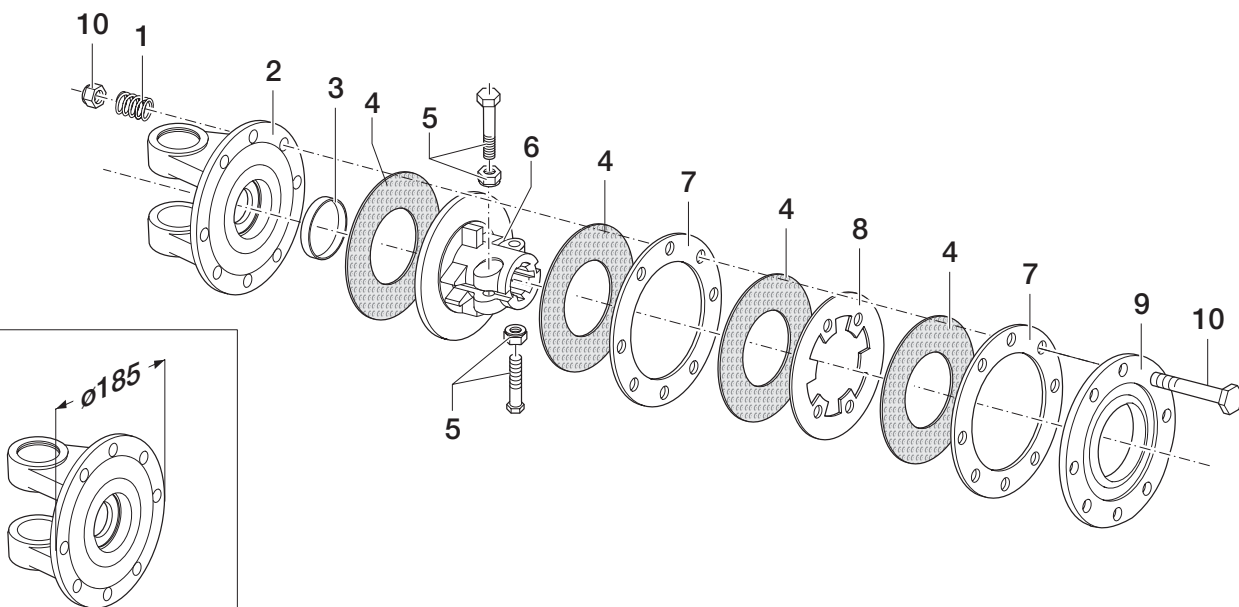
F

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

F



- F4 -



Pos.	IT	GB	FR	DE	Cod.	Qty *
1	Molla elicoidale $\varnothing 6$	Spring $\varnothing 6$	Ressort hélicoïdal $\varnothing 6$	Schraubenfeder $\varnothing 6$	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 $\varnothing 152 \times \varnothing 90$	Lining rings $\varnothing 152 \times \varnothing 90$	Disques de friction $\varnothing 152 \times \varnothing 90$	Reibscheiben $\varnothing 152 \times \varnothing 90$	180.019.018	4
5	Kit vite M12x1,25x65+dado	Bolt M12x1,25x65 + nut	Kit vis M12x1,25x65+ écrou	Schraubensatz M12x1,25x65+Mutter	160.000.502	2
	Kit vite M14x1,5x70+dado	Bolt M14x1,5x70 + nut	Kit vis M14x1,5x70 + écrou	Schraubensatz M14x1,5x70+Mutter	160.000.503	2
6	Mozzo frizione F42	Clutch support F42	Moyeu de friction F42	Kupplungsnahe F42	151.019.011	1
	Mozzo frizione F43	Clutch support F43	Moyeu de friction F43	Kupplungsnahe F43	151.019.008	1
	Mozzo frizione F44	Clutch support F44	Moyeu de friction F44	Kupplungsnahe F44	151.019.012	1
	Mozzo frizione F45	Clutch support F45	Moyeu de friction F45	Kupplungsnahe 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

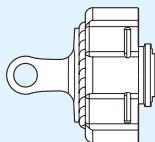
* Quantity in the Safety Device

FR

* Quantité présente dans le dispositif

DE

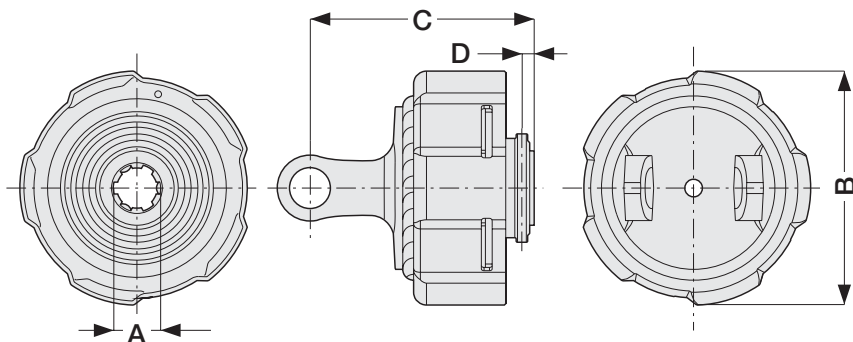
* In der Vorrichtung vorhandene Menge



W

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

W



Type	Ref.	A	B		C		D		 Nm in.lb		
			mm	inch	mm	inch	mm	inch			
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
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
	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
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
	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
	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

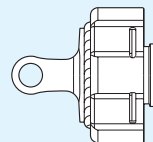
W

FRIZIONE CHIUSA A DISCHI MULTIPLI

CLOSED DISC CLUTCH TORQUE LIMITER

LIMITEUR A DISQUE DE FRICTION FERME

REIBSCHEIBENKUPPLUNG IN GESCHLOSSENER AUSFÜHRUNG

W**(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)

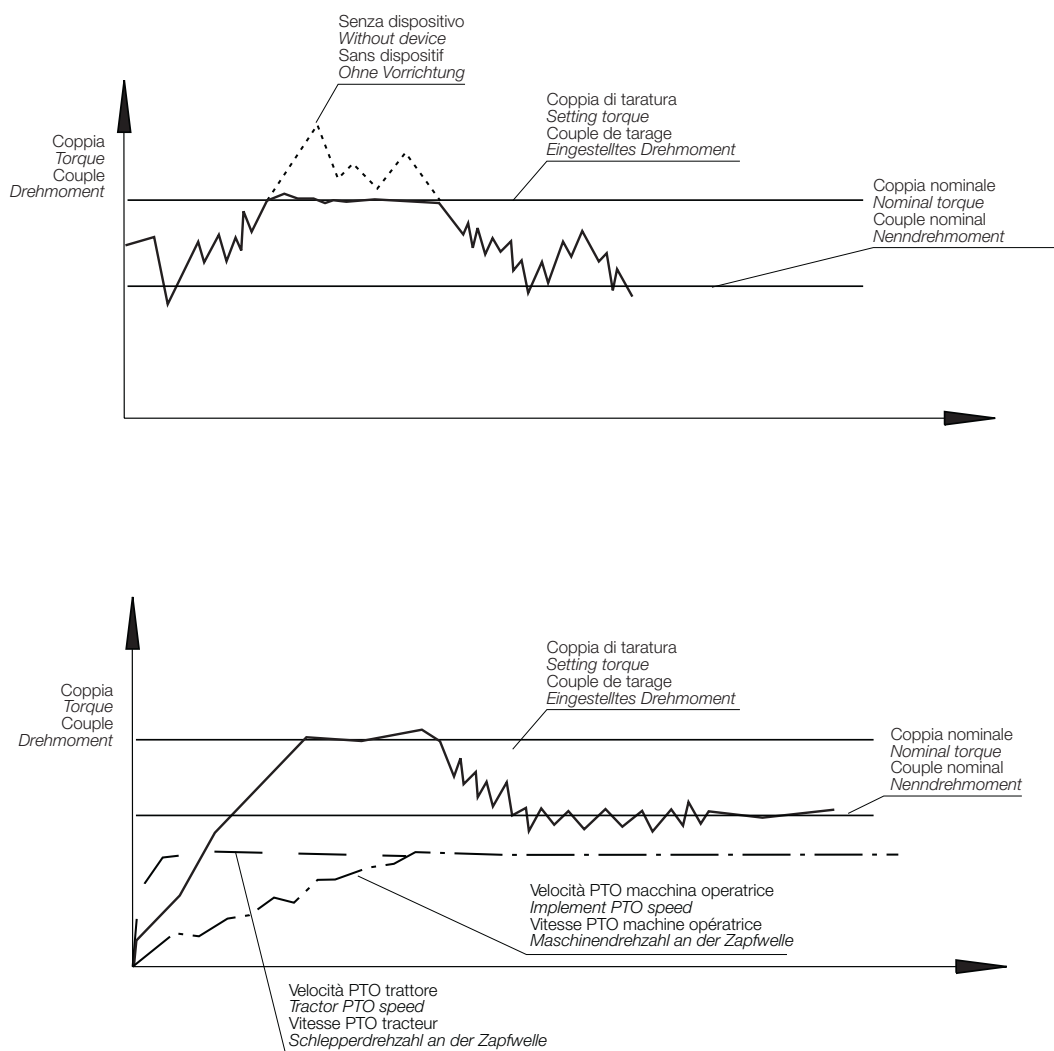
The closed disc clutch torque limiter W is activated when the setting torque exceeds the calibration torque. During the torque peak limiting phase, the clutch keeps on transmitting power. The clutch can be used both as safety device to protect against load peaks and to start machines with high rotational 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" Reibscheibenkupplung W greift ein, wenn das Arbeitsmoment das eingestellte Drehmoment überschreitet. Während der Drehmoment-spitzenbegrenzung 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.

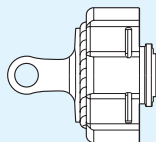
(FR)

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.

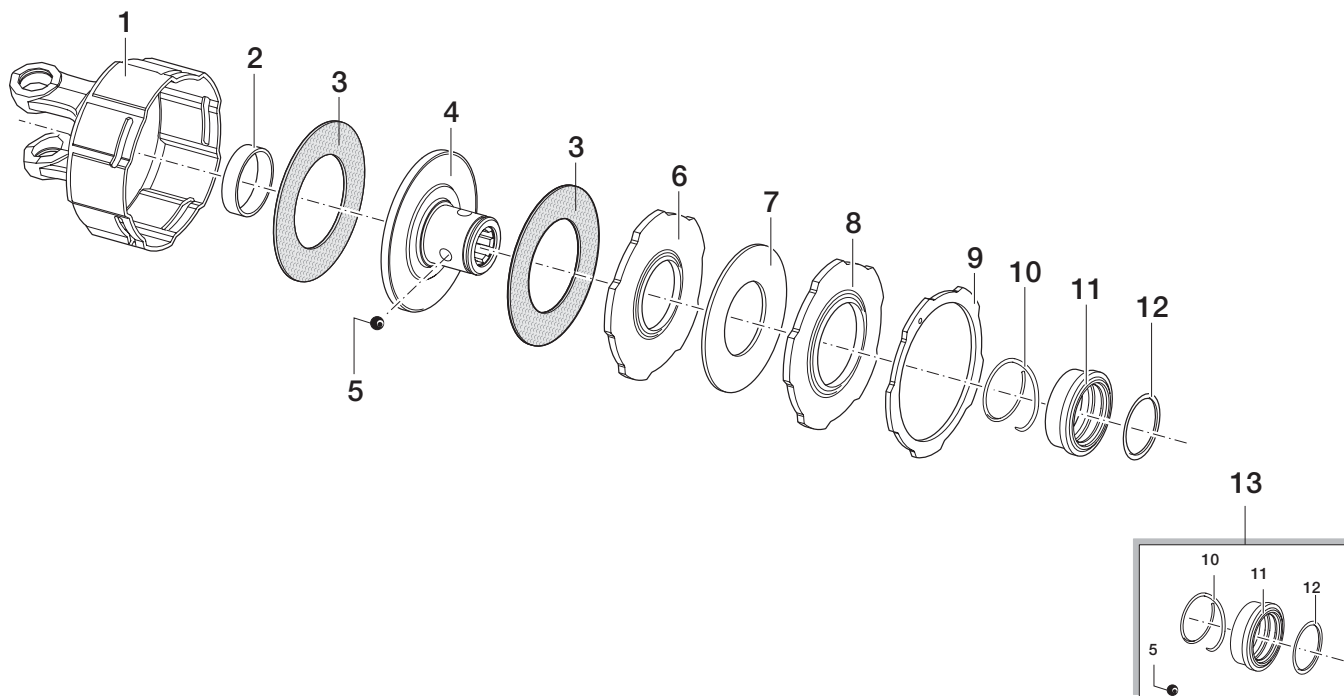
(DE)

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



**W**

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

W**- 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)	180.017.272	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)	190.000.595	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 W	Reaction ring W	Disque de réaction W	Gegenscheibe W	180.017.275	1
9	Disco d'arresto W	Stop ring W	Disque d'arrêt W	Haltescheibe W	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 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

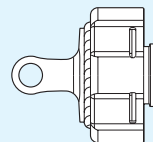
* Quantité présente dans le dispositif

DE

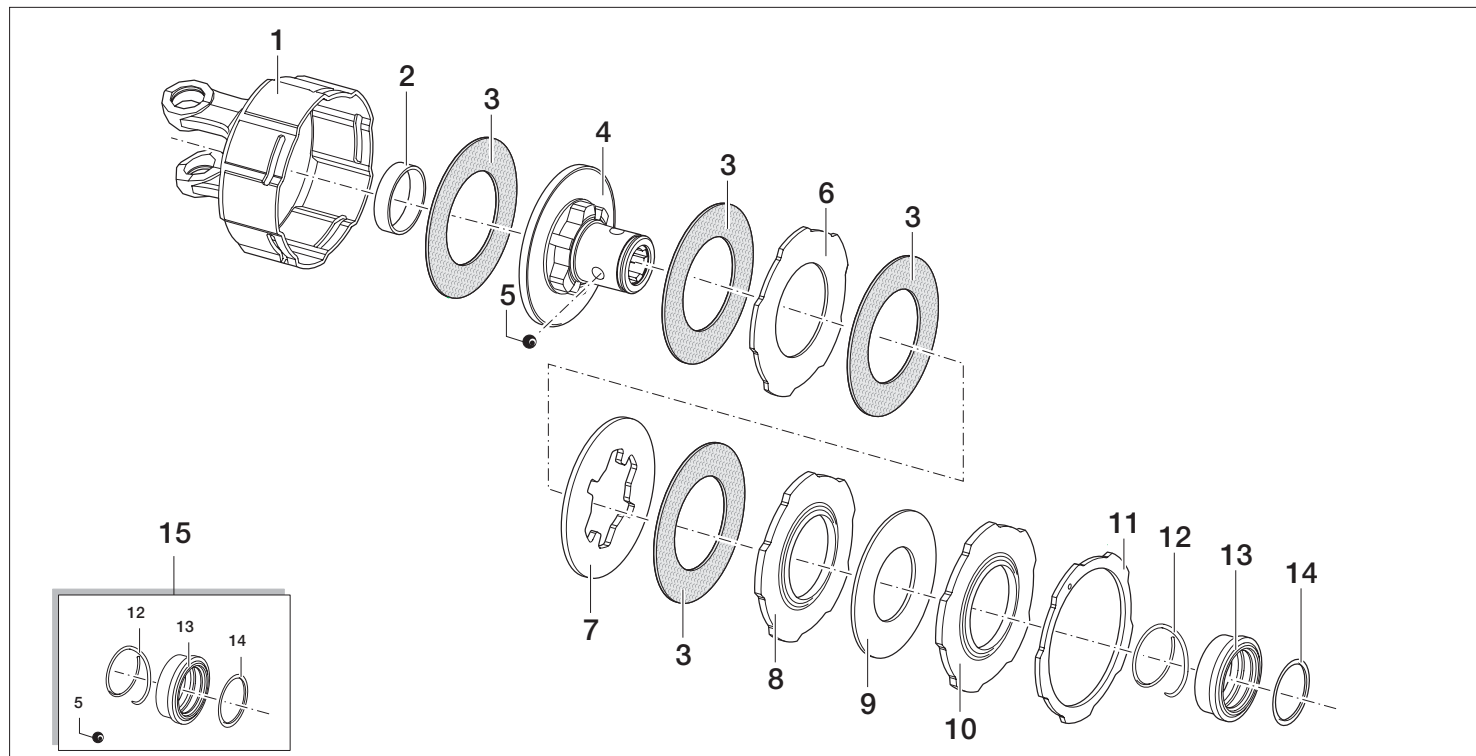
* In der Vorrichtung vorhandene Menge

W

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

W

- 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)	180.017.272	1
	Disco stringifrizione W (1500 Nm)	Pressure plate W (1500 Nm)	Disque de compression W (1500 Nm)	Druckscheibe W (1500 Nm)	180.017.270	1
	Disco stringifrizione W (1800 Nm)	Pressure plate W (1800 Nm)	Disque de compression W (1800 Nm)	Druckscheibe W (1800 Nm)	180.017.282	1
9	Molla a tazza (1100 Nm)	Belleville spring (1100 Nm)	Ressort Belleville (1100 Nm)	Tellerfeder (1100 Nm)	190.000.595	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
10	Disco di reazione W	Reaction ring W	Disque de réaction W	Gegenscheibe W	180.017.275	1
11	Disco d' arresto W	Stop ring W	Disque d'arrêt W	Haltescheibe W	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 W	Kit collar W	Kit collets W	Collarsatz W	165.000.719	1

IT

* Quantità presente nel dispositivo

GB

* Quantity in the Safety Device

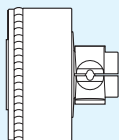
FR

* Quantité présente dans le dispositif

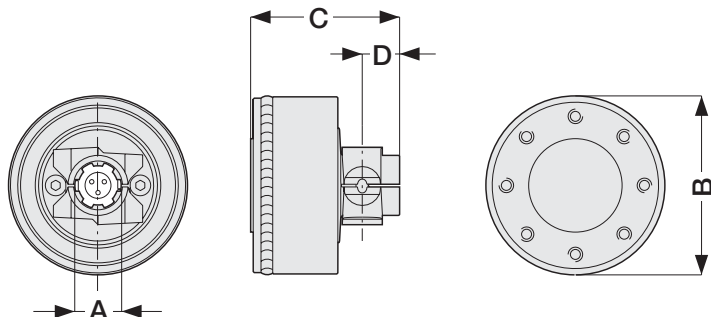
DE

* In der Vorrichtung vorhandene Menge



**L**

LIMITATORE AUTOMATICO AUTOMATIC TORQUE LIMITER LIMITEUR AVEC DEBRAYAGE NOCKENSCHALTKUPPLUNG

L

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

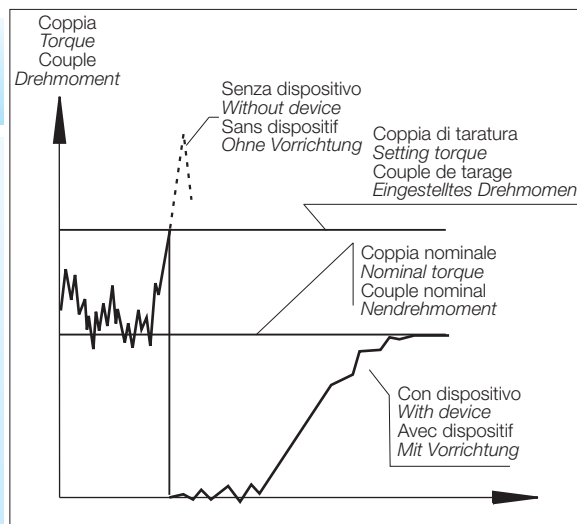
Le limiteur COMER à réembrayage automatique permet d'interrompre la transmission de force du tracteur à la machine reliée à ce dernier lorsque le couple dépasse un seuil de sécurité donné - valeur limite supportée par la machine; ce dispositif permet ainsi de mettre la machine, la transmission à cardans 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 sécurité L garantit un fonctionnement constant et durable et ne requiert qu'un entretien minime.

DE

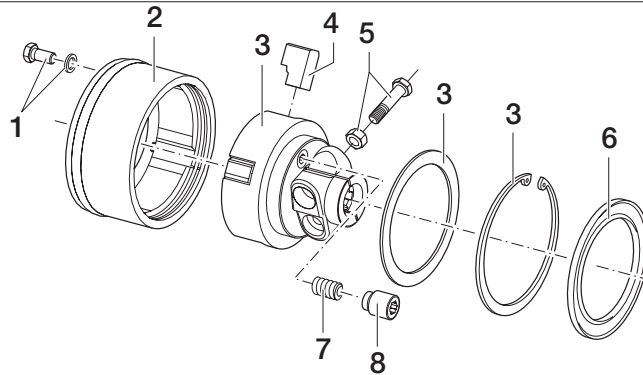
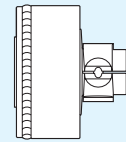
Auf Wunsch:

- Drehrichtung im Gegenzeigersinn
- komplett mit Frontalfedern

Der automatische Drehmomentbegrenzer von COMER unterbricht die Leistungsübertragung zwischen Schlepper und Maschine, wenn das Drehmoment über den Sicherheitswert der Maschine ansteigt und schützt somit die Maschine selbst, den Kardantrieb 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 Funktionieren. Die Sicherheitsvorrichtung ist praktisch wartungsfrei.



LIMITATORE AUTOMATICO AUTOMATIC TORQUE LIMITER LIMITEUR AVEC DEBRAYAGE NOCKENSCHALTKUPPLUNG



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

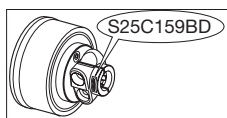
IT	GB	FR	DE
* Quantità presente nel dispositivo	* Quantity in the Safety Device	* Quantité présente dans le dispositif	* In der Vorrichtung vorhandene Menge

Nomenclatura della stampigliatura
d'identificazione del limitatore "L"

Nomenclature of the identifica-
tion stamping on the "L" limiter

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

Beschriftung des Identifizierungs-
tempels 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



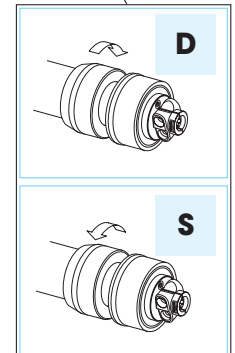
S

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 Jul 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	

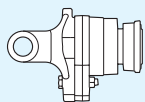
Anno di produzione Production year Année de fabrication Herstellungsjahr	
A = 1999	
B = 2000	
C = 2001	
D = 2002	
E = 2003	
F = 2004	
G = 2005	
H = 2006	
I = 2007	
etc.	



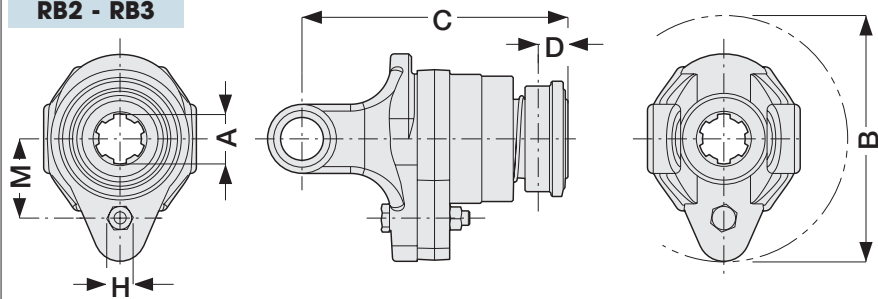
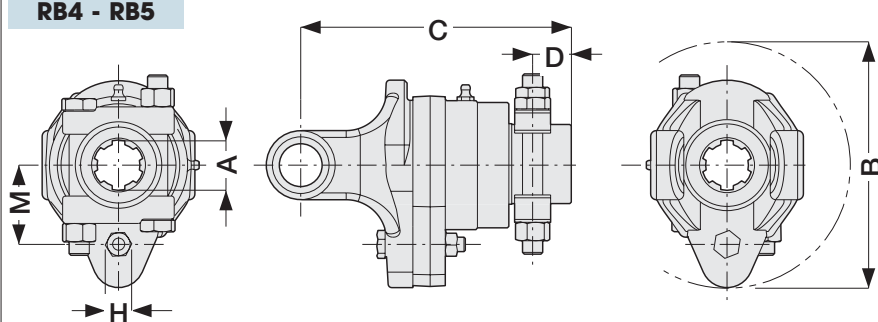
D

S



**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		C		D		M		MAX		H	
				mm	inch	mm	inch	mm	inch	mm	inch	Nm	in.lb		
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 antio-
rario

Il dispositivo comprende
un limitatore di coppia
a bullone di trancio e
una ruota libera integra-
ti. La funzionalità del dis-
positivo assomma quelle
dei singoli dispositivi con
il vantaggio di una ridu-
zione di spazio e il mon-
taggio da un solo lato
del cardano.

GB

* Bolt material 10.9

Available upon request
for anti-clockwise direc-
tion of rotation

The device includes a
shear bolt torque limiter
and incorporated over-
running clutch. The devi-
ce combines the func-
tions of all the single
devices with the advan-
tage of reduced space
and assembly on only
one side of the cardan
shaft.

FR

* Composition du bou-
lon: 10.9

Rotation à gauche en
option

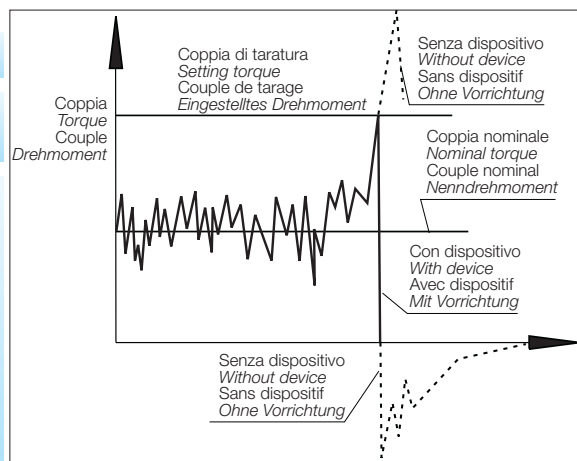
Le dispositif est constitué
d'un limiteur de couple
avec boulon de cisail-
lement et d'une roue libre
intégrée. Le dispositif a
une double utilité cor-
respondant aux fonctions
respectives des deux
éléments dont il est con-
stitué. Il offre en outre
l'avantage d'être peu
encombrant et de ne
prendre place que du
côté de l'arbre à car-
sans.

DE

* Schraubenwerkstoff:
10,9

Auf Wunsch mit Drehung
im Gegenuhrzeigersinn
lieferbar

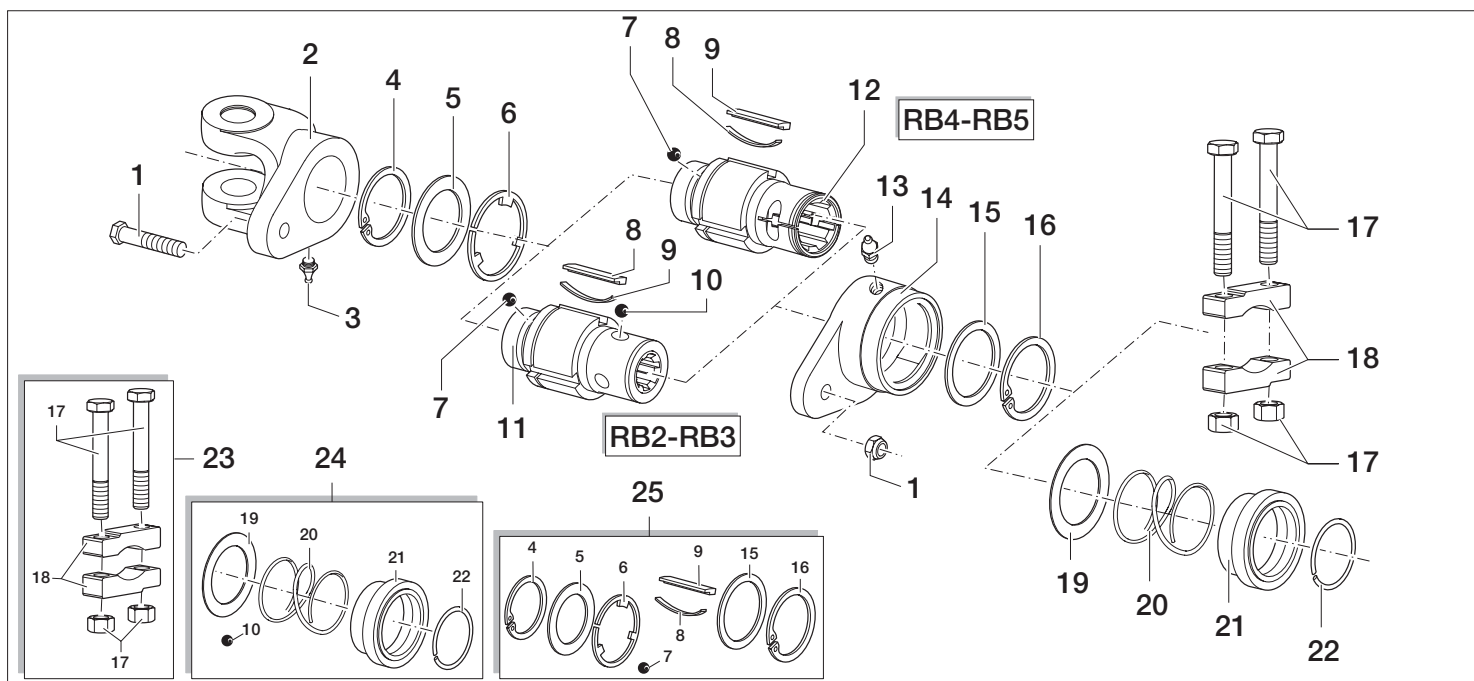
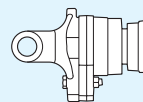
Die Vorrichtung besteht
aus einem
Drehmomentbegrenzer
mit Scherbolzen und aus
einem integrierten
Freilauf. Die Vorrichtung
vereint in sich die
Funktionen der verschie-
denen einzelnen
Vorrichtungen, mit dem
Vorteil eines geringeren
Raumbedarfs und der
Montage an nur einer
Seite der Gelenkwelle.



RB

LIMITATORE A BULLONE DI TRANCIO CON RUOTA LIBERA
SHEAR BOLT TORQUE LIMITER WITH OVERRUNNING CLUTCH
LIMITEUR A BOULON DE CISAILEMENT 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	Langnette	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	Kit RB	Kit RB	Satz RB	165.000.726	1

IT

* Quantità presente nel dispositivo

GB

* Quantity in the Safety Device

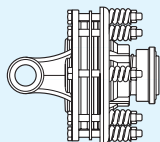
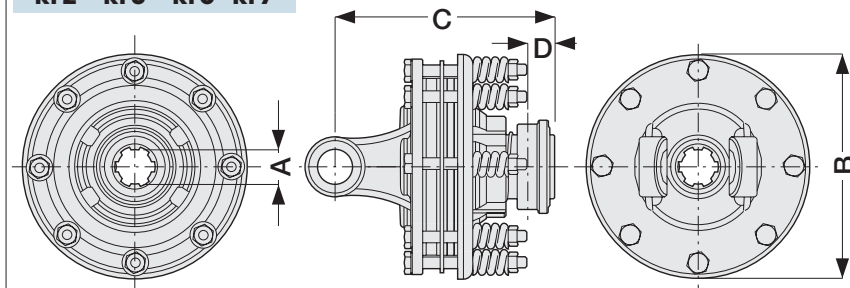
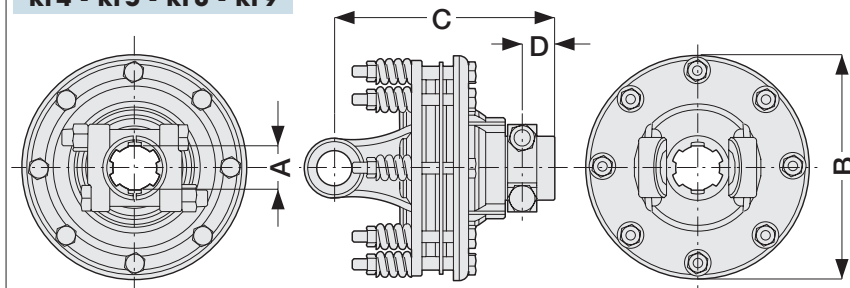
FR

* Quantité présente dans le dispositif

DE

* In der Vorrichtung vorhandene Menge



**RF****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****RF2 - RF3 - RF6 - RF7****RF4 - RF5 - RF8 - RF9**

Type	Ref.	A		B		C		D				
		mm	inch	mm	inch	mm	inch	mm	inch	Nm	in.lb	
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 Gegenuhzeigersinn lieferbar

FRIZIONE A DISCHI MULTIPLI CON RUOTA LIBERA

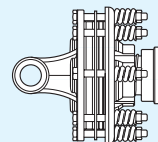
RF

DISC CLUTCH TORQUE LIMITER WITH OVERRUNNING CLUTCH

LIMITEUR A DISQUE DE FRICTION AVEC ROUE LIBRE

REIBSCHEIBENKUPPLUNG MIT FREILAUF

RF



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

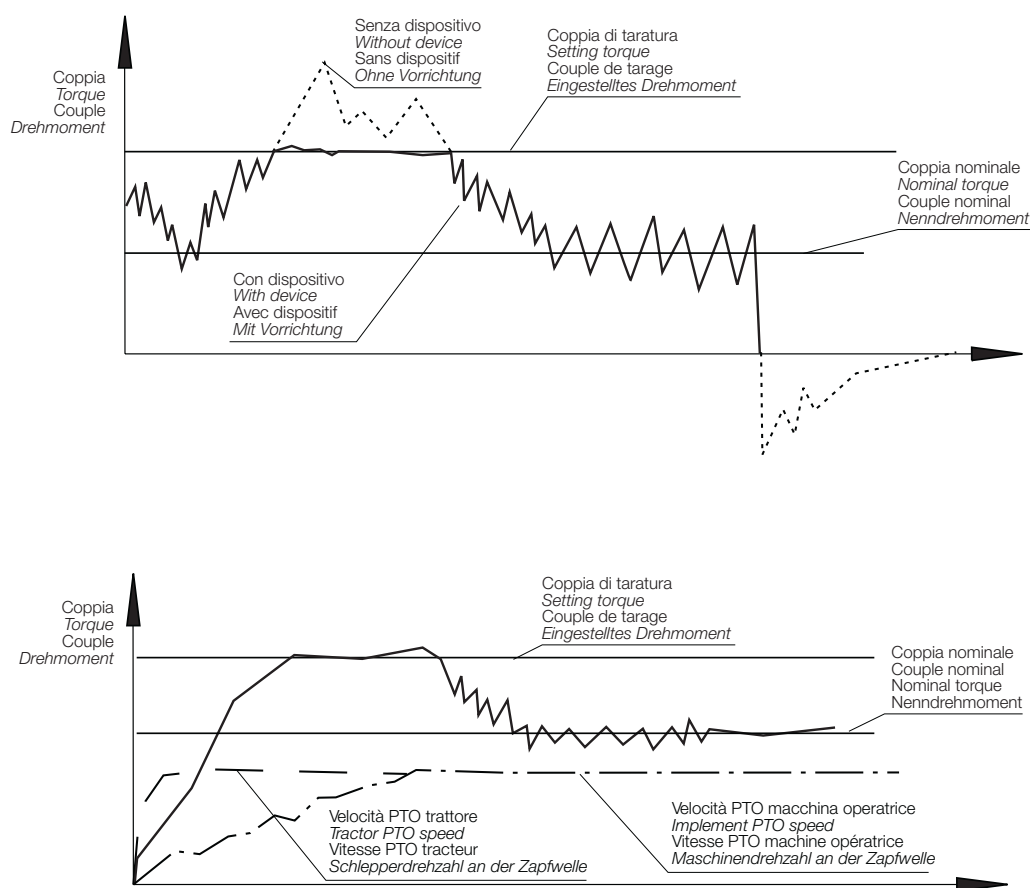
The device includes a disc clutch torque limiter and an incorporated overrunning clutch. The device combines the functions of the single devices thus reducing space and allowing it to be mounted on the same side of the cardan. It is useful as a safety device to protect against load peaks and in implements 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 beim 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.

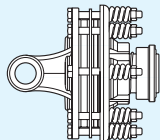
FR

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.

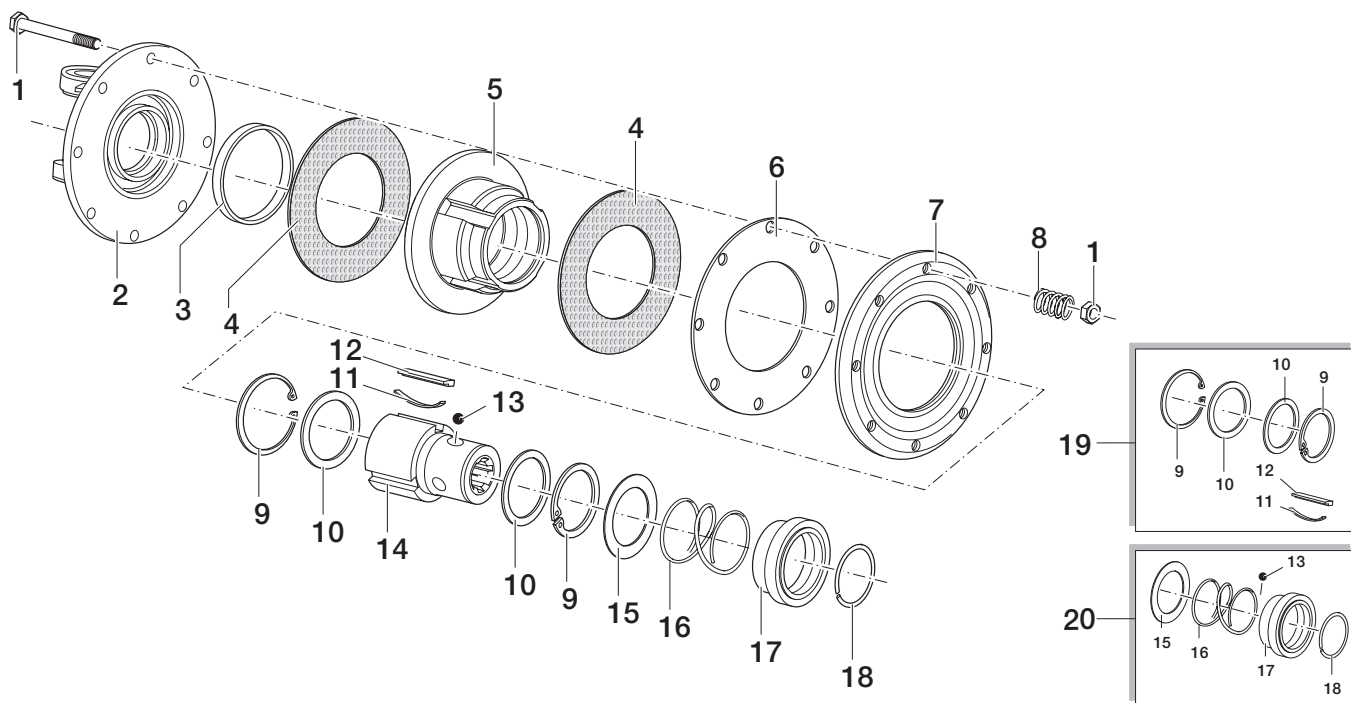
DE

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



**RF**

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**- 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

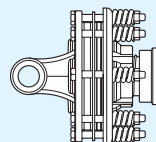
DISC CLUTCH TORQUE LIMITER WITH OVERRUNNING CLUTCH

LIMITEUR A DISQUE DE FRICTION AVEC ROUE LIBRE

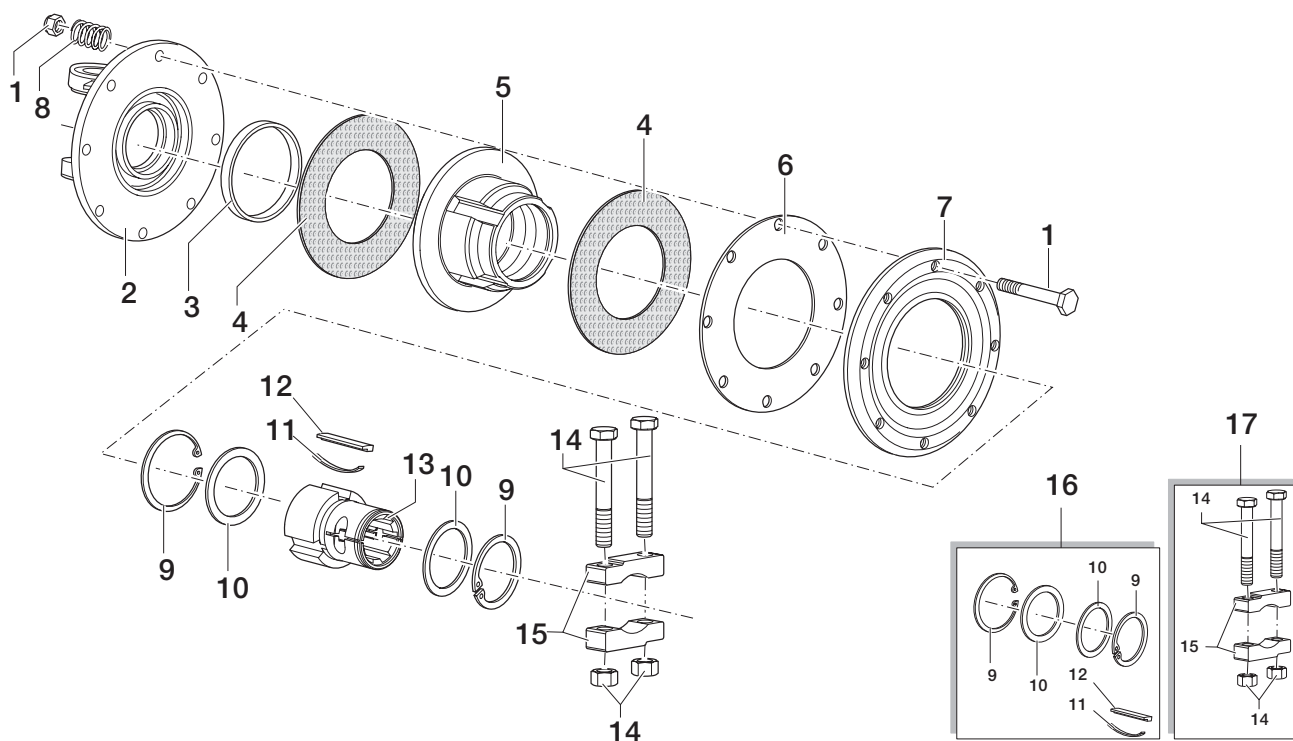
REIBSCHEIBENKUPPLUNG MIT FREILAUF

RF

RF



- 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
3	Forcella flangia RF (tipo 50)	Flanged yoke RF (type 50)	Mâchoire à bride RF (type 50)	Flanschgabel RF (Typ 50)	141.025.326	1
4	Bronzina	Bush	Coussinet	Buchse	180.017.112	1
5	Disco attrito ø152xø102	Lining ring ø152xø102	Disque de friction ø152xø102	Reibscheibe ø152xø102	180.017.106	2
6	Corpo	Torque limiter support	Boîtier	Gehäuse	141.025.330	1
7	Disco intermedio	Inner plate	Disque intermédiaire	Zwischenscheibe	180.017.105	1
8	Disco stringifrizione	Pressure plate	Disque de compression	Druckscheibe	180.017.114	1
9	Molla ø6	Spring ø6	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
15	Mozzo R15	Hub R15	Moyeu R15	Nabe R15	151.018.121	1
16	Vite M14x1,5x100+dado	Bolt M14x1,5x100+nut	Vis M14x1,5x100+ écrou	Schraube M14x1,5x100+Mutter	165.000.622	2
17	Ponte di blocco	Clamp lock	Pontet de blocage	Klemmbrücke	151.014.201	2
18	Kit RF	Kit RF	Kit RF	Satz RF	165.000.741	1
19	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

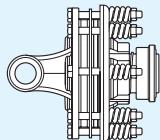
* Quantity in the Safety Device

FR

* Quantité présente dans le dispositif

DE

* In der Vorrichtung vorhandene Menge

**RF**

FRIZIONE A DISCHI MULTIPLI CON RUOTA LIBERA

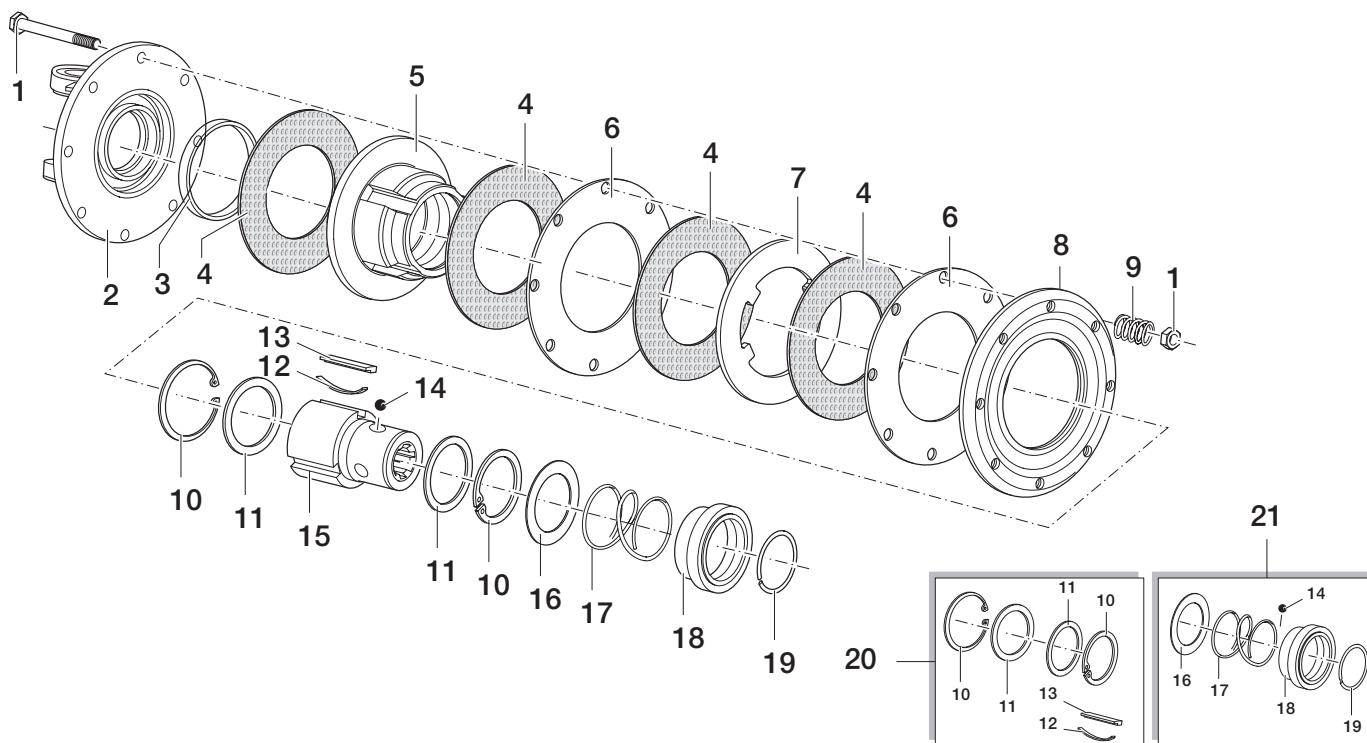
DISC CLUTCH TORQUE LIMITER WITH OVERRUNNING CLUTCH

LIMITEUR A DISQUE DE FRICTION AVEC ROUE LIBRE

REIBSCHEIBENKUPPLUNG MIT FREILAUF

RF

- 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	Langnette	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

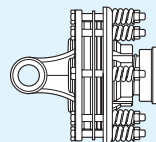
DISC CLUTCH TORQUE LIMITER WITH OVERRUNNING CLUTCH

LIMITEUR A DISQUE DE FRICTION AVEC ROUE LIBRE

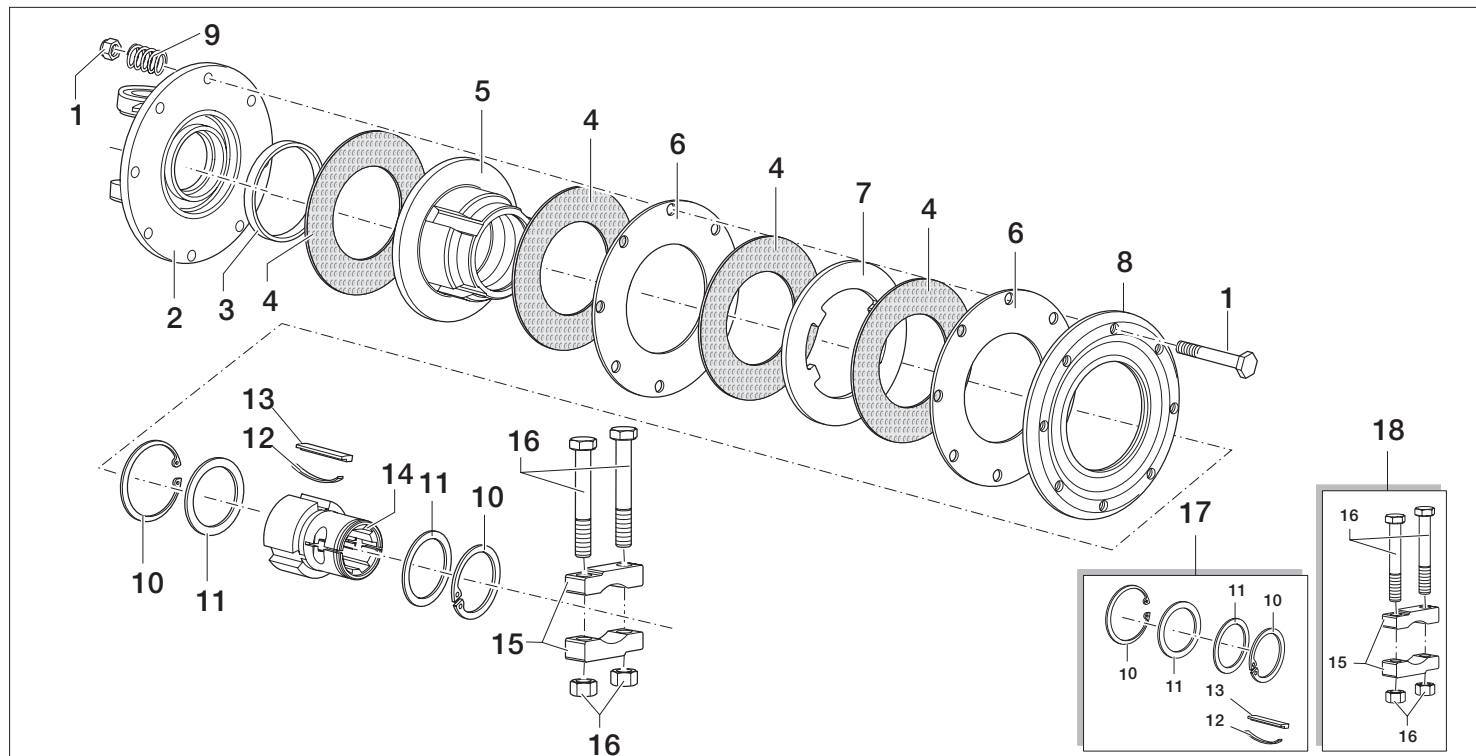
REIBSCHEIBENKUPPLUNG MIT FREILAUF

RF

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	Ausgleicher	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

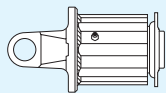
* Quantity in the Safety Device

FR

* Quantité présente dans le dispositif

DE

* In der Vorrichtung vorhandene Menge

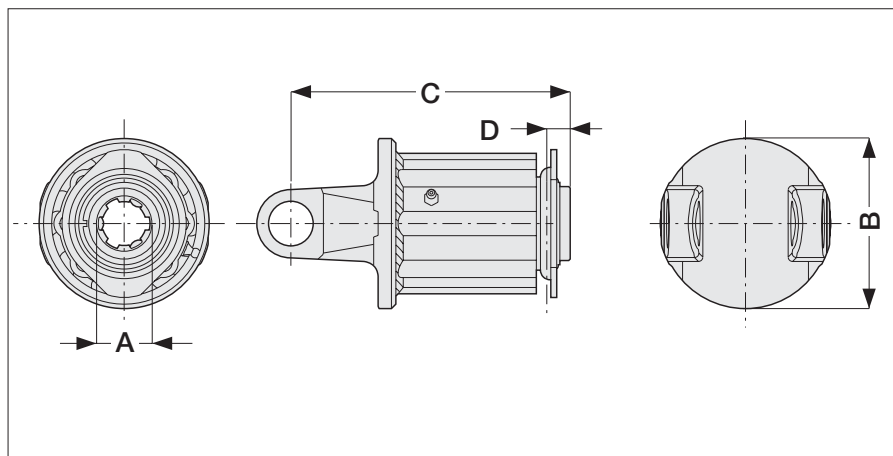
**U**

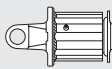
LIMITATORE A NOTTOLINI

RATCHET CLUTCH TORQUE LIMITER

LIMITEUR A CAME

RATSCHEN KUPPLUNG

U

Type	Ref.	A		B		C		D		MAX		
		mm	inch	mm	inch	mm	inch	mm	inch	Nm	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

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 riscaldamento.

GB

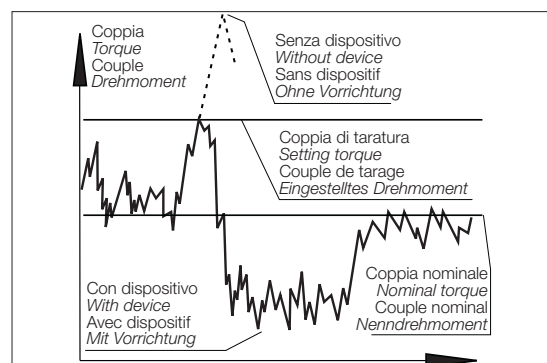
The torque limiter is activated when the operating torque exceeds the setting value. During the limiting phase, the device transmits reduced power in pulses. The elimination of the external cause and the reduction of the PTO speed allows the normal power transmission to be re-established. When the limiter 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-phase überträgt die Vorrichtung eine reduzierte Leistung im Impulsmodus. Die Behebung der externen Ursache und die Geschwindigkeitsverringung 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.



SEZIONE 7:	Protezioni
SECTION 7:	Guards
CHAPITRE 7:	Protecteurs
TEIL 7:	Schutzvorrichtungen



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

Protezione completa CvJ - <i>Complete guard CvJ</i> Protecteur complet CvJ - <i>Komplette Schutzvorrichtung CvJ</i>	92
Semiprotezione esterna/interna - <i>Half-guard outer/inner</i> Demi-protecteur extérieur/intérieur - <i>Schutzvorrichtung Aussen/Innen</i>	96

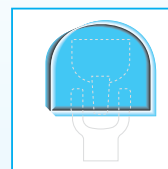


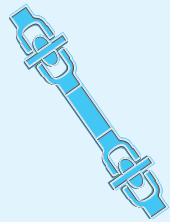
Protezioni per cardani
Guards for PTO drive shafts
Protecteurs pour arbres à cardan
Schutzvorrichtungen für Gelenkwellen

Protezione completa - <i>Complete guard</i> Protecteur complet - <i>Komplette Schutzvorrichtung</i>	97
Semiprotezione esterna/interna - <i>Half-guard outer/inner</i> Demi-protecteur extérieur/intérieur - <i>Schutzvorrichtung Aussen/Innen</i>	98

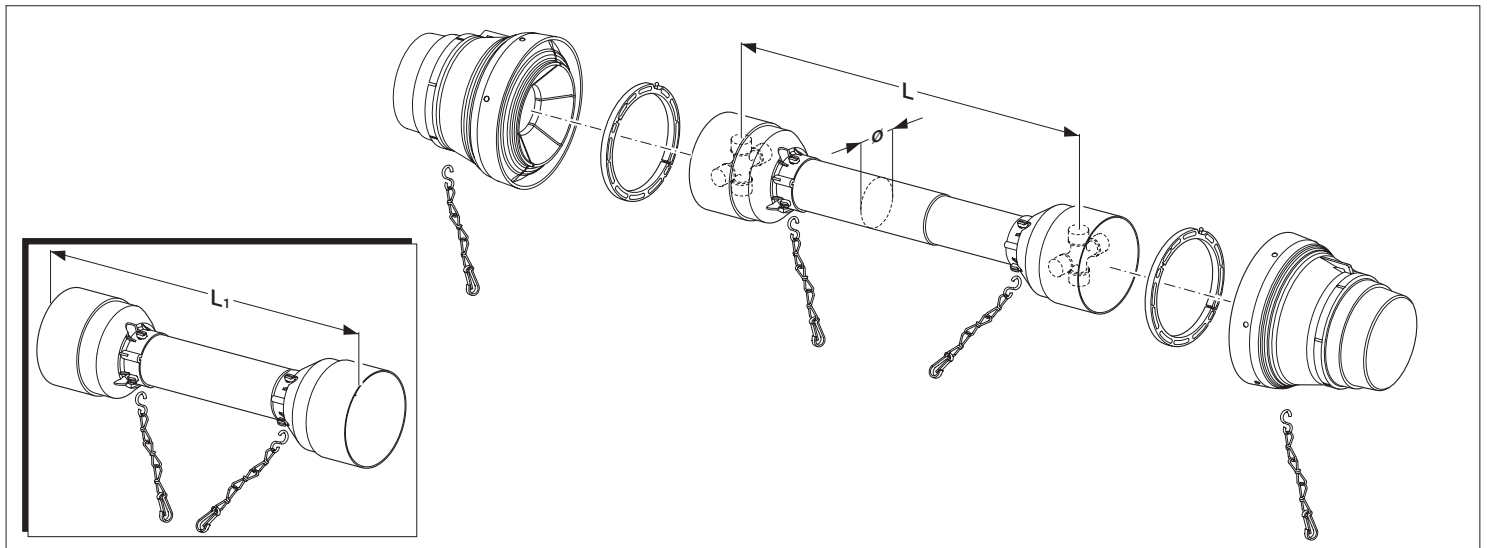
Accessori
Accessories
Accessoires
Zubehör

Cuffie, ghiera, bottoni, catene - <i>Cones, retaining collar, bolt, chain</i> Cônes, anneau, vis, chaînette - <i>Haube, Aussering, Schraube, Haltekette</i>	100
Controcuffie - <i>Counter-cones</i> Boles de protection - <i>Schutztopf</i>	102
Note - <i>Notes</i> Notes - <i>Bemerkungen</i>	104





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	
	L ₁	Cod.	L ₁	Cod.	L ₁	Cod.	L ₁	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

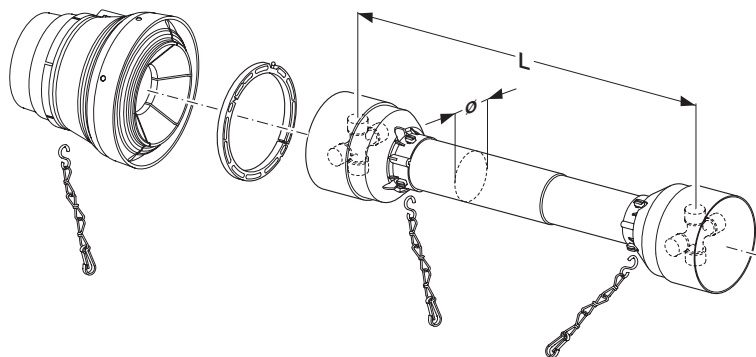
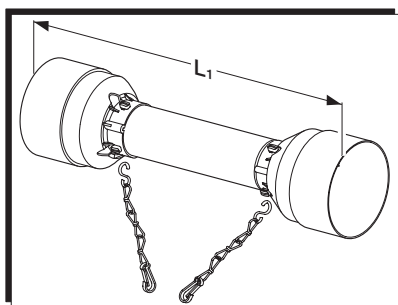
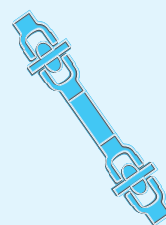
FR

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	
	L ₁	Cod.	L ₁	Cod.	L ₁	Cod.	L ₁	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

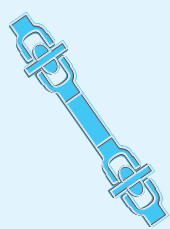
All codes refere to guards for PTO drive shaft CE version

FR

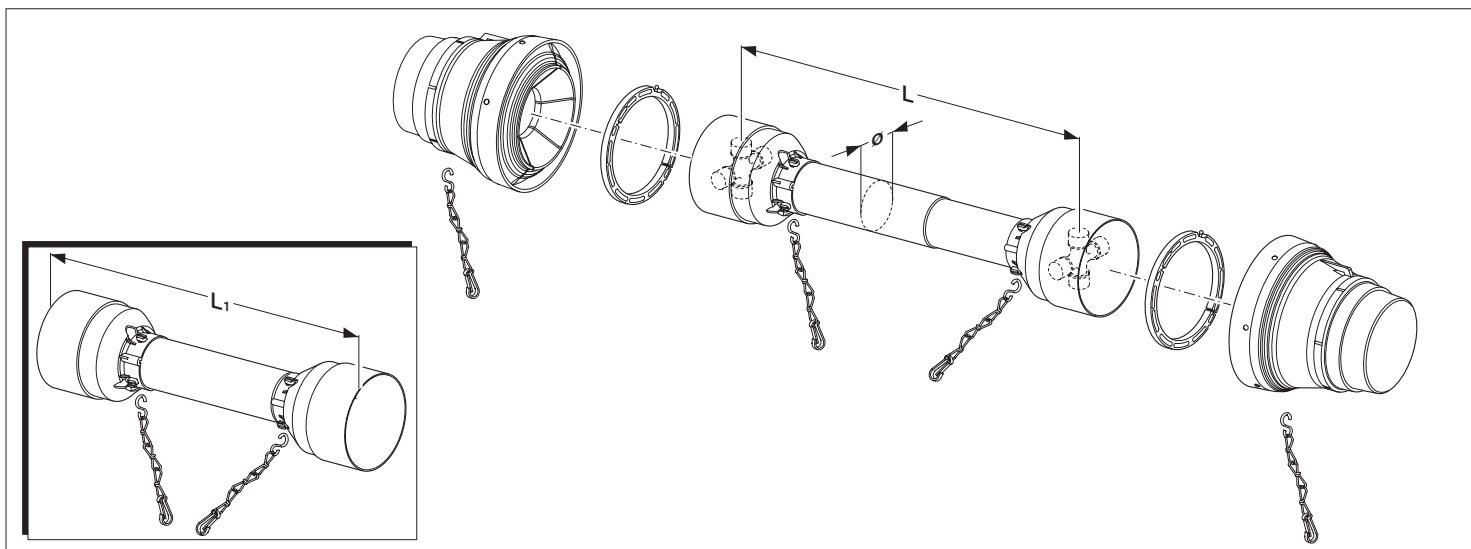
Ces références se rapportent aux protections pour les cardans exécution CE

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



Type	Ø = 61 20		Ø = 66,5 40		Ø = 81,2 60		Ø = 96 80	
	L ₁	Cod.	L ₁	Cod.	L ₁	Cod.	L ₁	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

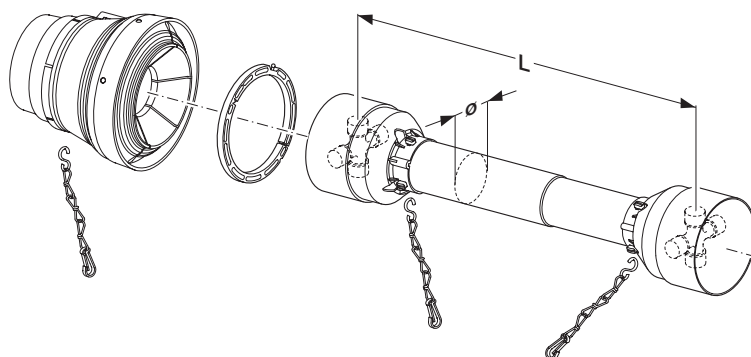
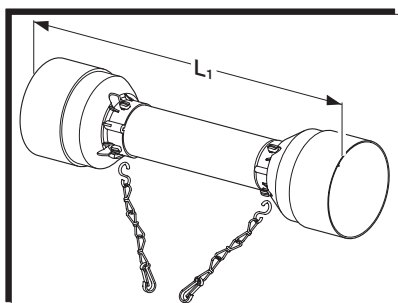
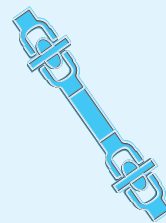
FR

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	
	L ₁	Cod.	L ₁	Cod.	L ₁	Cod.	L ₁	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

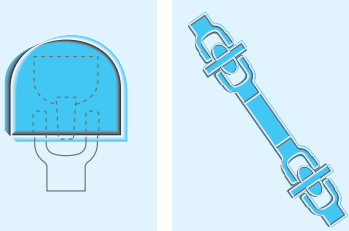
All codes refere to guards for PTO drive shaft CE version

FR

Ces références se rapportent aux protections pour les cardans exécution CE

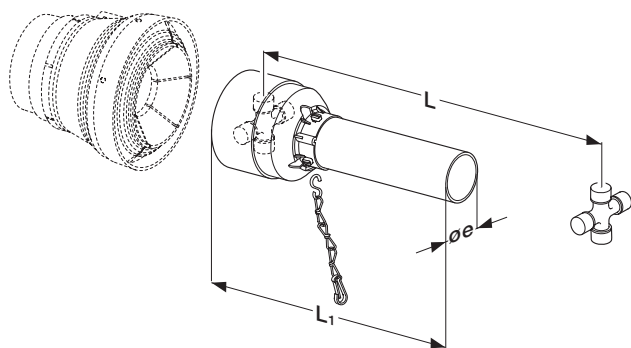
DE

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

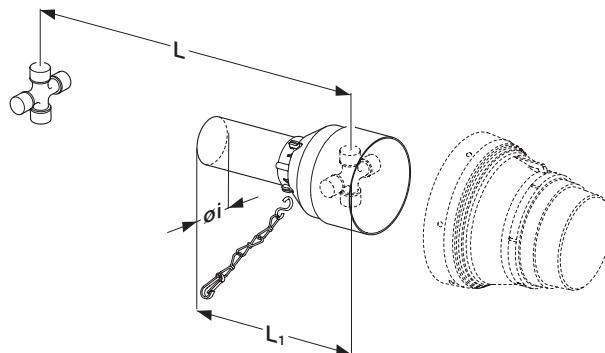


SEMIPROTEZIONE HALF-GUARD DEMI-PROTECTEUR SCHUTZHÄLFEN

esterna / outer / extérieur / Aussen



interna / inner / intérieur / Innen



	Type	$\varnothing e = 61$ $\varnothing i = 55,6$ 20		$\varnothing e = 66,5$ $\varnothing i = 61$ 40		$\varnothing e = 81,2$ $\varnothing i = 75$ 60		$\varnothing e = 96$ $\varnothing i = 89,9$ 80	
		L ₁	Cod.	L ₁	Cod.	L ₁	Cod.	L ₁	Cod.
esterna / outer / extérieur / Aussen	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

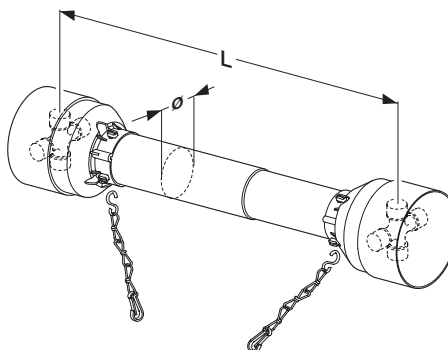
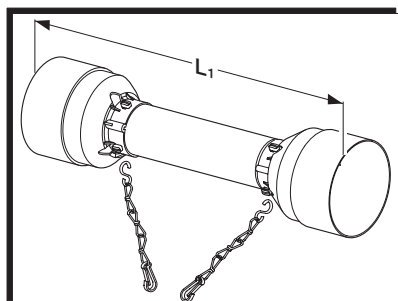
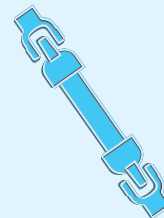
Ces références se rapportent aux protections pour les cardans de la série V exécution CE

DE

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



PROTEZIONE COMPLETA
COMPLETE GUARD
PROTECTEUR COMPLET
KOMPLETTE SCHUTZVORRICHTUNG



Type	$\varnothing = 61$ 10		$\varnothing = 61$ 20		$\varnothing = 66,5$ 40		$\varnothing = 81,2$ 50	
	L ₁	Cod. **	L ₁	Cod. *	L ₁	Cod. *	L ₁	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	$\varnothing = 81,2$ 60		$\varnothing = 96$ 80		$\varnothing = 96$ 90	
	L ₁	Cod. *	L ₁	Cod. *	L ₁	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

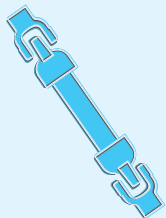
** Ces références se rapportent aux protections pour les cardans de la **série T** exécution CE

(DE)

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

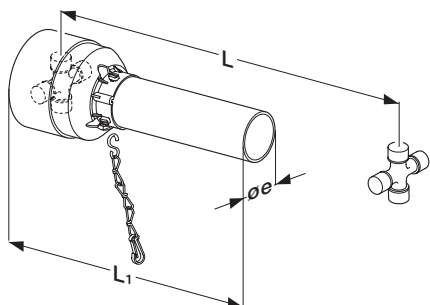
** Die Kennzahlen beziehen sich auf die Schutzvorrichtungen für die Gelenkwellen der **series T** Version CE.



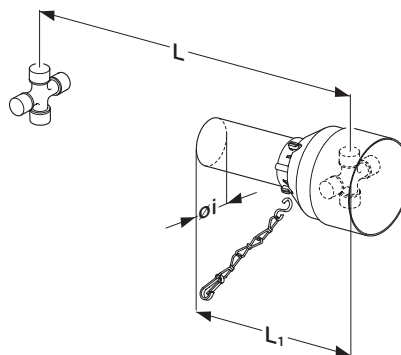


SEMIPROTEZIONE HALF-GUARD DEMI-PROTECTEUR SCHUTZHÄLFEN

esterna / outer / extérieur / Aussen



interna / inner / intérieur / Innen



	Type	Øe = 61 Øi = 55,6 10		Øe = 61 Øi = 55,6 20		Øe = 66,5 Øi = 61 40		Øe = 81,2 Øi = 75 50	
		L1	Cod.	L1	Cod.	L1	Cod.	L1	Cod.
esterna / outer / extérieur / Aussen	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

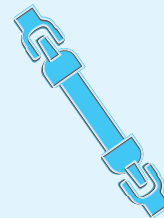
FR

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

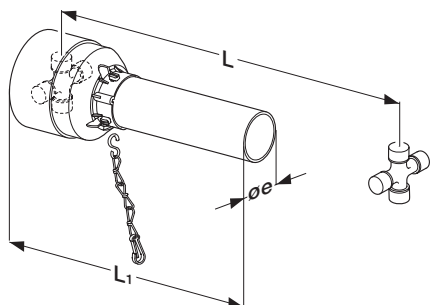
DE

Die Kennzahlen beziehen sich auf die Schutzvorrichtungen für die Gelenkwellen der serie V Version CE

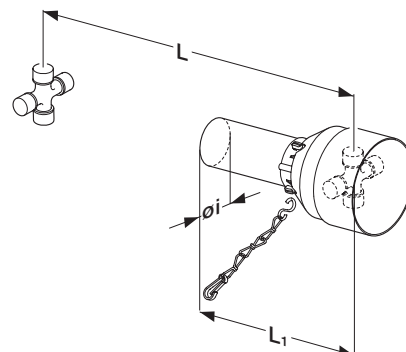
SEMIPROTEZIONE HALF-GUARD DEMI-PROTECTEUR SCHUTZHÄLFEN



esterna / outer / extérieur / Aussen



interna / inner / intérieur / Innen



	Type	Øe = 81,2 Øi = 75 60		Øe = 96 Øi = 89,9 80		Øe = 96 Øi = 89,9 90	
		L ₁	Cod.	L ₁	Cod.	L ₁	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

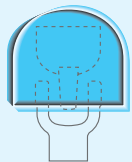
FR

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

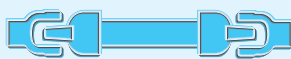
DE

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

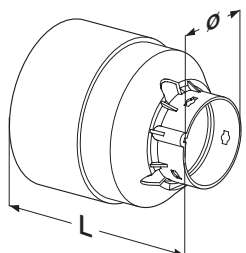




CUFFIE - GHIERE - BOTTONI - CATENE
CONES - RETAINING COLLAR - BOLT - CHAIN
CONES - ANNEAU - VIS - CHAINETTE
HAUBE - AUSSERING - SCHRAUBE - HALTEKETTE



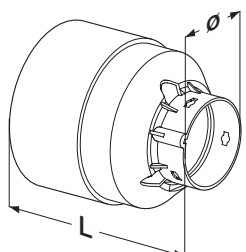
Cuffia esterna
Outer cone
Cône extérieur
Außentrichter



		10		20		40		50		60		80		90	
		Ø=61 mm		Ø=61 mm		Ø=66,5 mm		Ø=81,2 mm		Ø=81,2 mm		Ø=96 mm		Ø=96 mm	
Versione Version Exécution Version		L mm	cod.	L mm	cod.	L mm	cod.	L mm	cod.	L mm	cod.	L mm	cod.	L mm	cod.
C	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	-	-	-	-

L	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	-	-	-	-

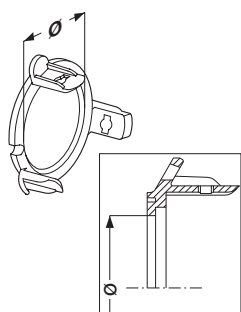
Cuffia interna
Inner cone
Cône intérieur
Innentrichter



		10		20		40		50		60		80		90	
		Ø=55,6 mm		Ø=55,6 mm		Ø=61 mm		Ø=75 mm		Ø=75 mm		Ø=89,9 mm		Ø=89,9 mm	
Versione Version Exécution Version		L mm	cod.	L mm	cod.	L mm	cod.	L mm	cod.	L mm	cod.	L mm	cod.	L mm	cod.
C	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	-	-	-	-

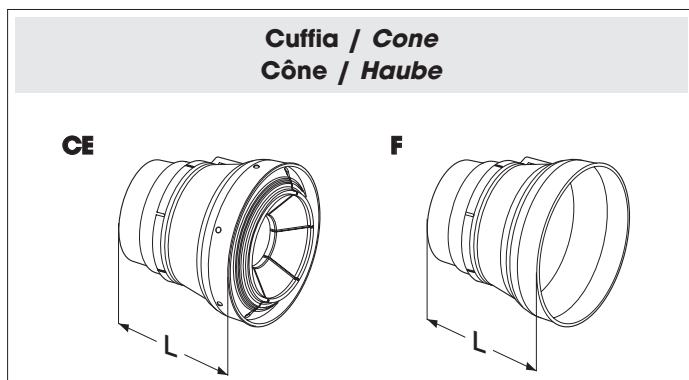
L	Corta/Short Court/kurz	76	158.022.150	76	158.022.150	94	158.024.044	104	180.025.041	104	180.025.041	108	158.029.125	108	158.029.125
	Standard	140	180.022.012	140	180.022.012	149	180.023.015	151	180.025.358	159	180.026.022	192	180.029.124	192	180.029.124
	Lunga/Long Long/lang	210	180.022.216	210	180.022.216	234	180.024.322	274	180.025.199	274	180.025.199	-	-	-	-

Ghiera
Retaining collar
Anneau
Aussering

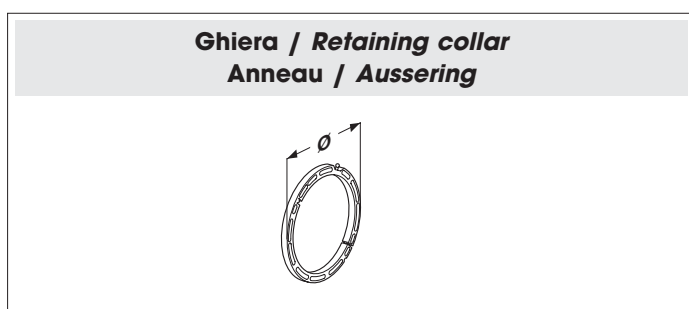


	10	20	40	50	60	80	90
	Ø=40 mm	Ø=46 mm	Ø=54 mm	Ø=62,5 mm	Ø=69 mm	Ø=81,5 mm	Ø=81,5 mm
esterna / outer extérieur / Aussen	180.011.008	180.012.007	180.013.012	180.015.009	180.016.016	180.019.121	180.019.121
	Ø=34 mm	Ø=40 mm	Ø=47 mm	Ø=54,5 mm	Ø=60 mm	Ø=69,5 mm	Ø=69,5 mm
interna / inner intérieur / Innen	180.011.007	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 - CHAÎNETTE
HAUBE - AUSSERING - SCHRAUBE - HALTEKETTE



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



	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



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



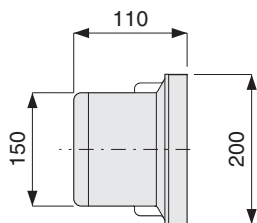
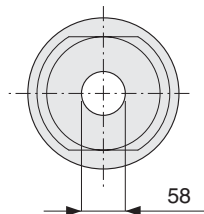
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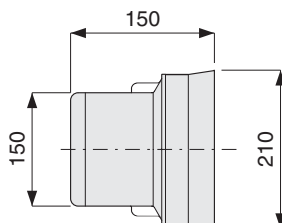
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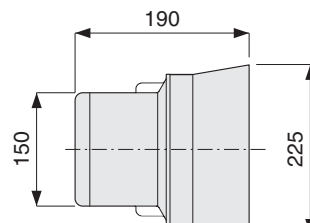
CONTROCUFFIE **COUNTER-CONES** **BOLS DE PROTECTION** **SCHUTZTOPF**



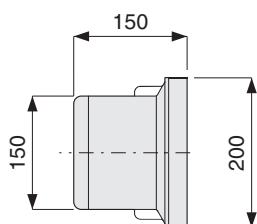
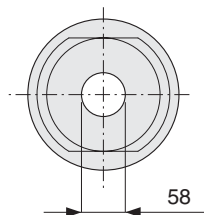
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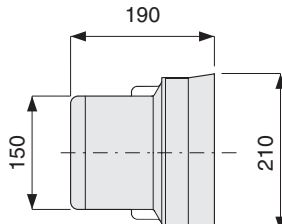
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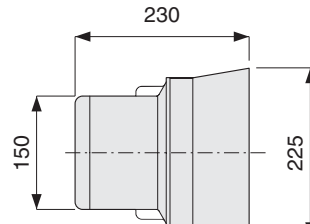
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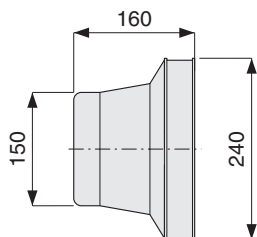
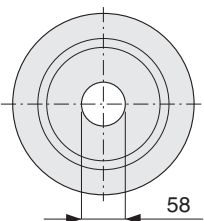
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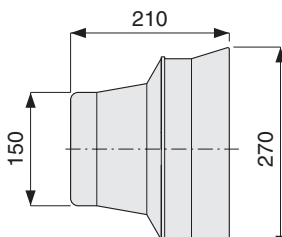
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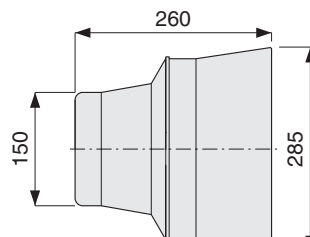
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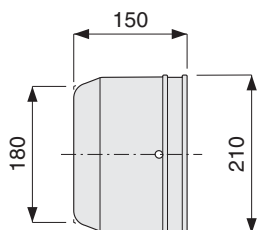
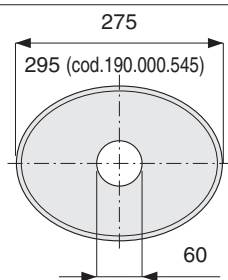
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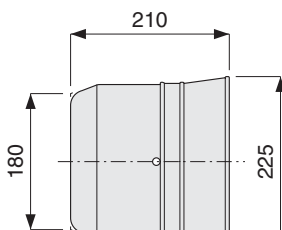
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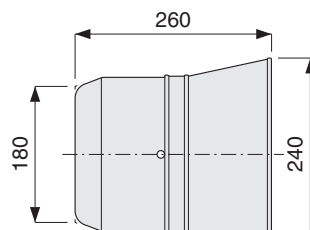
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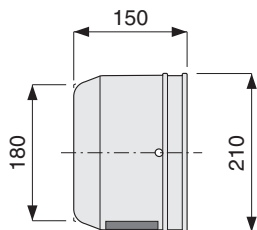
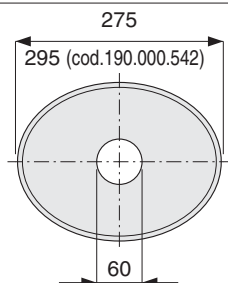
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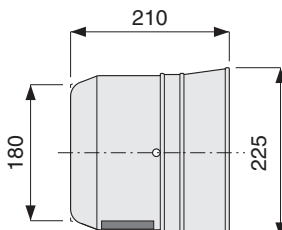
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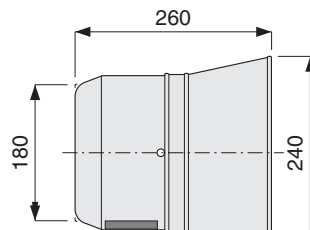
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cod. 190.000.527

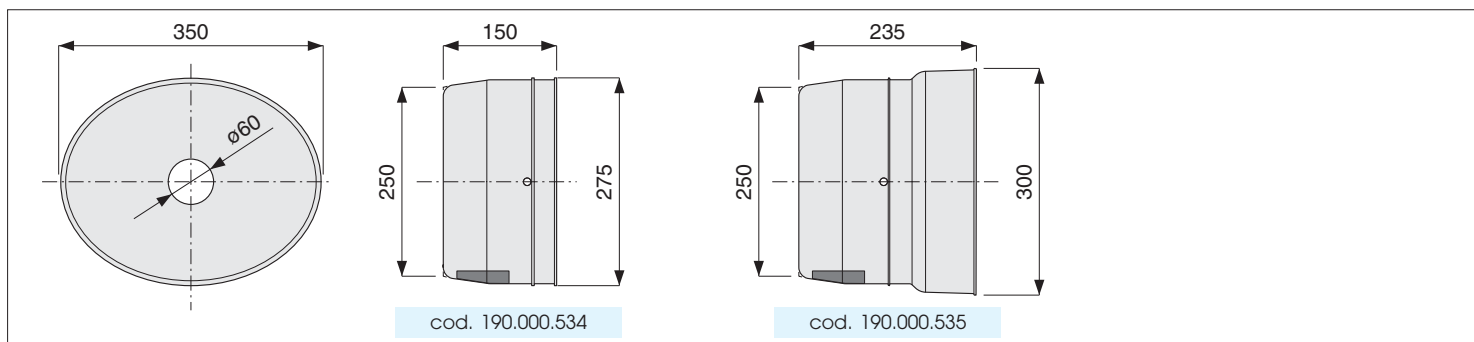
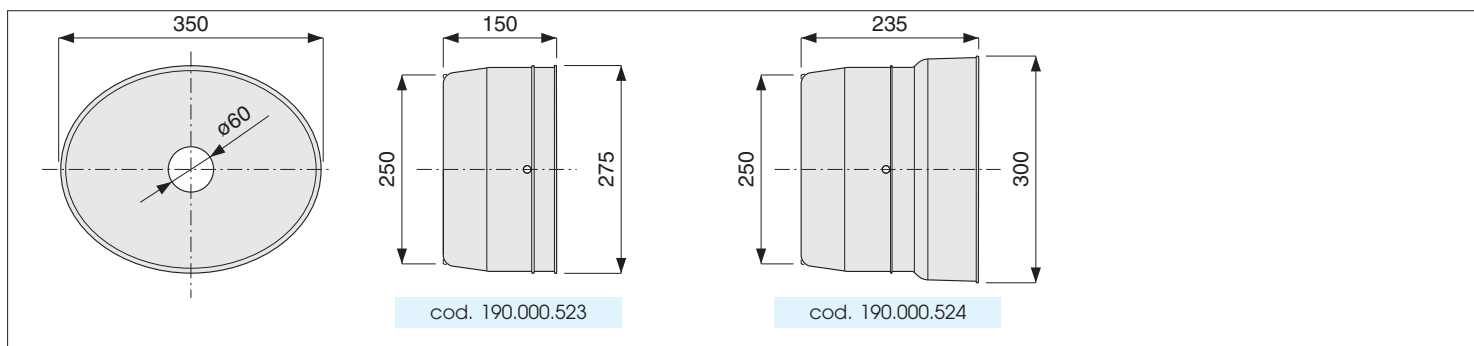


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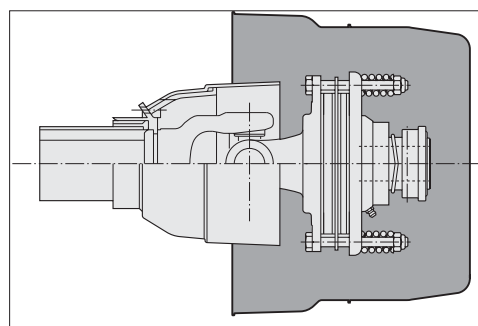
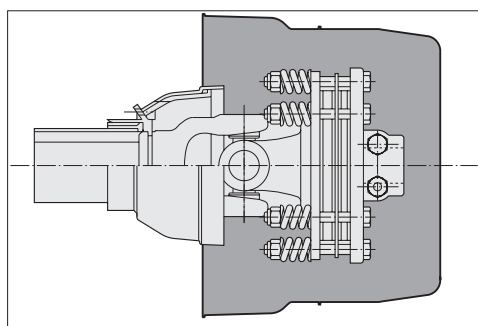
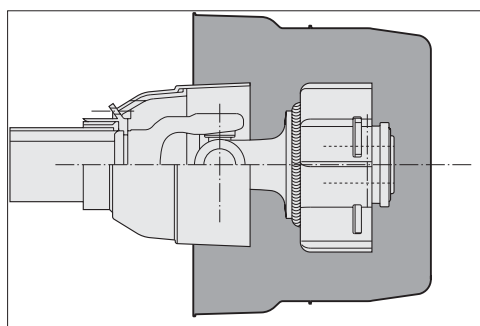
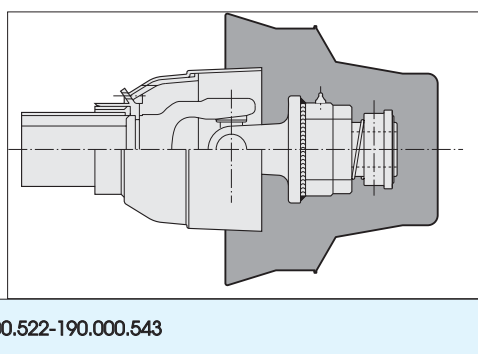
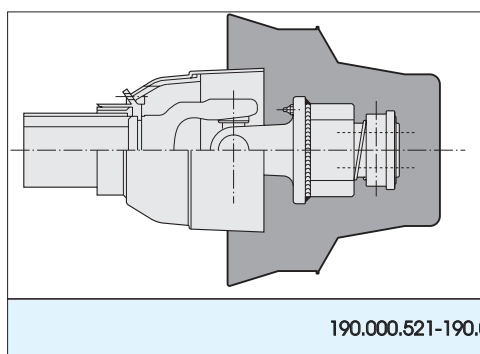
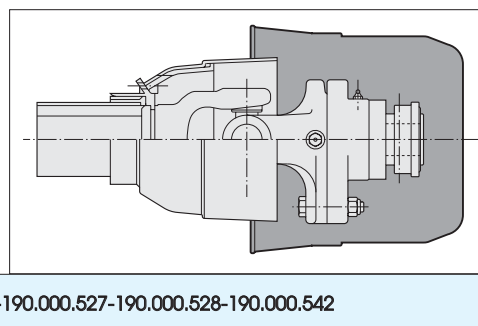
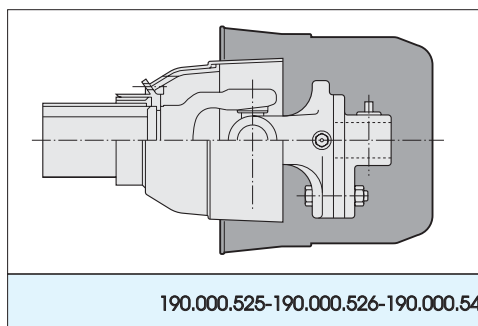
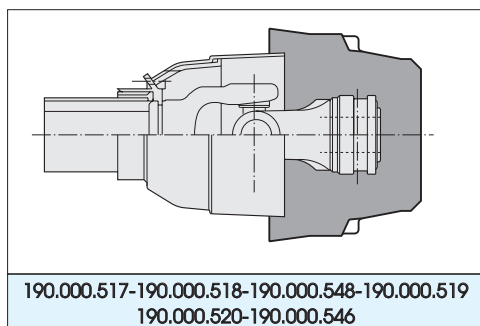


cod. 190.000.542

CONTROCUFFIE COUNTER-CONES BOLS DE PROTECTION SCHUTZTOPF



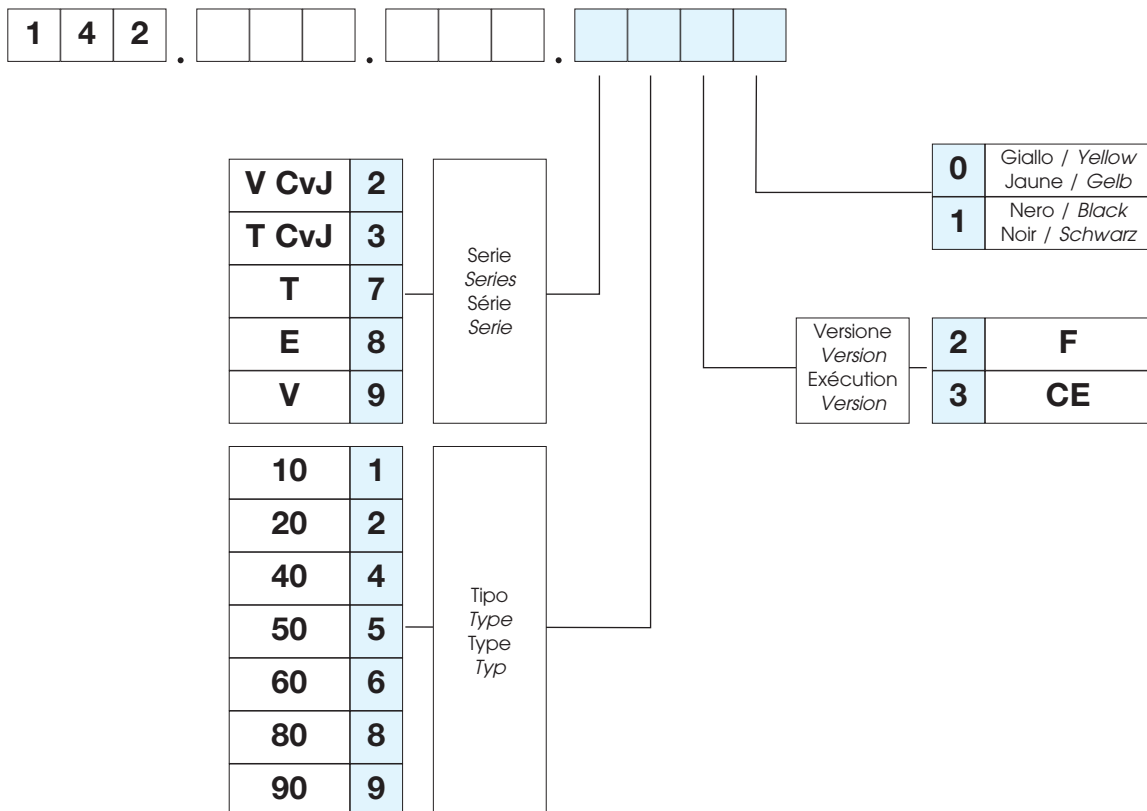
ESEMPIO APPLICAZIONI - APPLICATION EXAMPLES - EXEMPLES D'APPLICATION - BEISPIEL





NOTE NOTES NOTES BEMERKUNGEN

Come ordinare una protezione
How to order a guard
Comment commander un protecteur
Wie bestellt man eine Schutzvorrichtung



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 -



SEZIONE	8:	Nel segno della sicurezza
SECTION	8:	<i>The mark of safety</i>
CHAPITRE	8:	Sous le signe de la sécurité
TEIL	8:	<i>Im Zeichen der Sicherheit</i>



comer industries
driveshafts





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

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

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

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

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

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

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

GELLENKSELLEN

Primärgetriebe CE

Sie verbinden den Schlepper mit der Arbeitsmaschine und sind ausgerüstet mit:

- CE- Kennzeichnung
- Sicherheitsetiketten
- Betriebsanweisungen CE
- Haltekettens



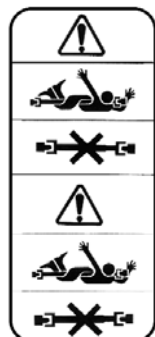
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Etichetta su tubo protezione esterno

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

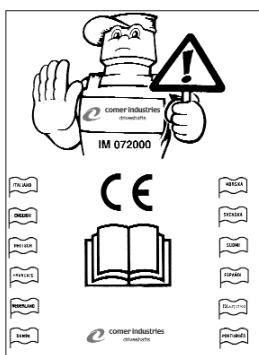
Etichetta su tubo in acciaio esterno

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" hand-book

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
- Haltekettten



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



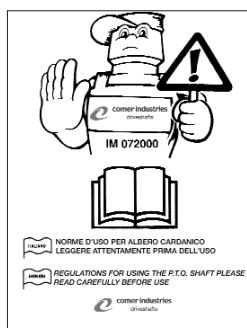
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Etichetta su tubo in acciaio esterno

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

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

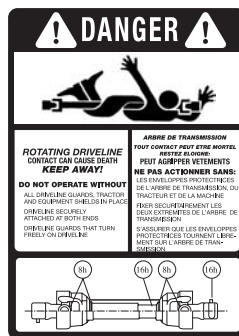
Sie verbinden den Schlepper mit der Arbeitsmaschine und sind ausgerüstet mit:

- 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



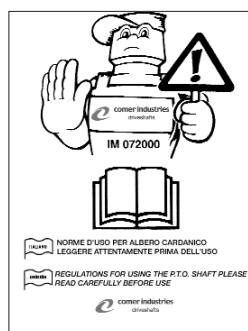
cod. 190.000.216

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



cod. 190.000.371

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

Norme d'uso

GB

Operating instructions

FR

Conseils d'utilisation

DE

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

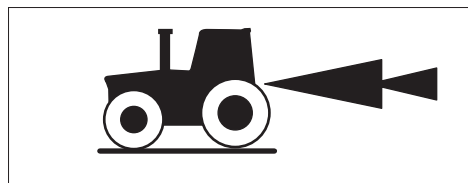
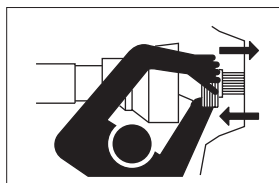


Prima di iniziare il lavoro assicurarsi che:

Before starting to work, make sure that:

Avant de commencer à travailler, vérifiez :

Vor Arbeitsbeginn vergewissern Sie sich, dass:

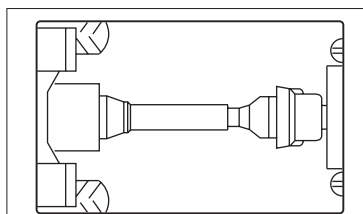


la trasmissione cardanica sia correttamente fissata al trattore ed alla macchina operatrice. (Il trattorino stampigliato sulla protezione indica il lato trattore)

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)

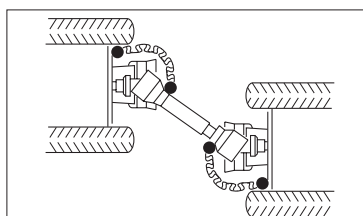


tutte le protezioni della trasmissione siano presenti ed efficienti, eventuali elementi danneggiati o mancanti devono essere sostituiti con Ricambi originali ed installati correttamente

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 Getriebeschutzeinrichtungen 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

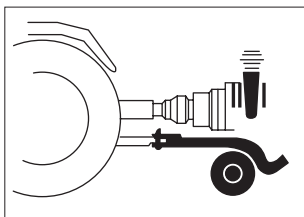
si les chaînes sont fixées de façon à permettre l'articulation de la transmission dans chaque condition d'exercice et de transport

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





NEL SEGNO DELLA SICUREZZA THE MARK OF SAFETY 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:



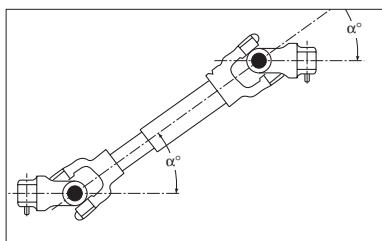
la trasmissione cardanica non superi le condizioni di velocità e di potenza stabilite nel manuale della macchina.
L'eventuale dispositivo di sicurezza deve essere impegnato sul lato macchina
Tutte le parti in rotazione siano protette

*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

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



IT

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

GB

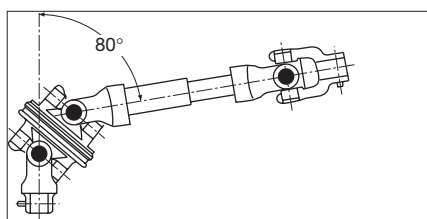
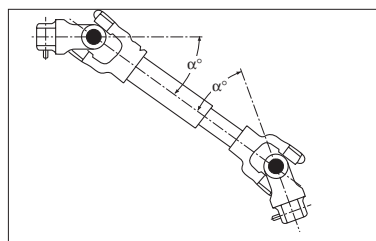
the joint angles are limited and equal; for operations that exceed 35°, disengage the power take-off

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

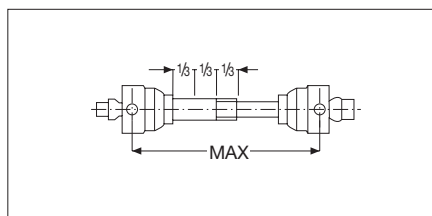


il giunto omocinetico non operi in continuo con un angolo prossimo a 80°, ma solamente per brevi periodi (sterzate)

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)

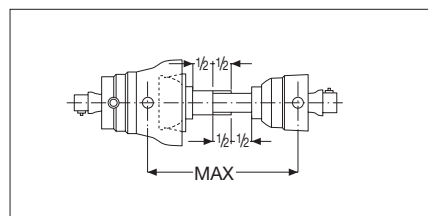


gli elementi telescopici della trasmissione siano sempre sovrapposti per 1/3 nelle trasmissioni STD, ed 1/2 nelle trasmissioni con giunto omocinetico

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 überlappen



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 débou-tonnés 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



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

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Norme generali

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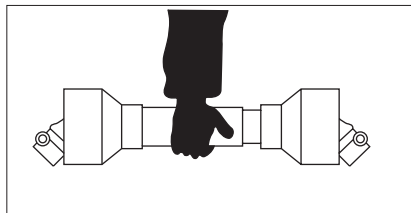
General rules

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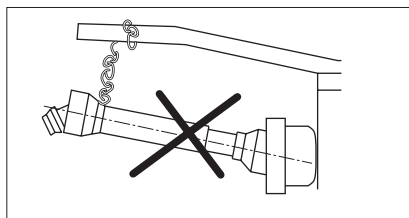


La trasmissione deve essere trasportata orizzontalmente per evitare (causa lo sfilamento) incidenti o rottura delle protezioni. In funzione del peso utilizzare adeguati mezzi di trasporto

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

La transmission doit être maintenue 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

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

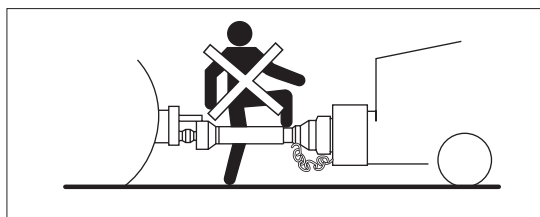


Non utilizzare le catene per trasportare o sostenere la trasmissione cardanica al termine dell'utilizzo. Usare un apposito supporto

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

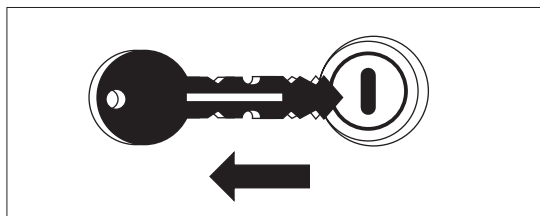


Non usare la trasmissione come appoggio o come predellino

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

N'utilisez pas la transmission comme support ou marche-pied

Die Welle nicht als Stütze oder Fußbrett benutzen



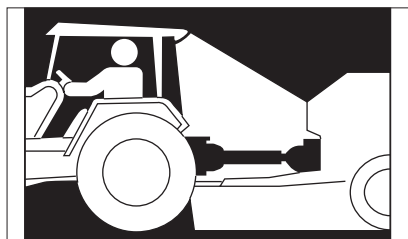
Spegnere il motore, togliere le chiavi del trattore e verificare che tutte le parti in rotazione si siano arrestate prima di avvicinarsi alla macchina operatrice o compiere operazioni di manutenzione

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

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



(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)

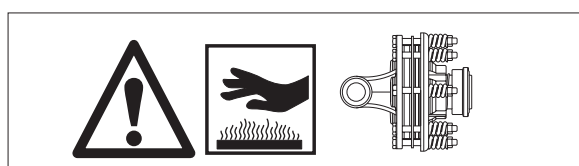
The transmission work area must be illuminated during installation and use in case of poor visibility or night-time operation

(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 TOCCAREI

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 (CEE 89/392, 91/368, 93/44, 93/68) 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 prEN 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 (EEC 89/392, 91/368, 93/44, 93/68) 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 prEN 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 (CEE 89/392, 91/368, 93/44, 93/68) 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 prEN 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 (CE 89/392, 91/368, 93/44, 93/68) 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 ausgerüsteten Kardangelenks (entsprechend der Vorschrift prEN 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 Abmessungen und der Winkelbewegung des Kardantriebs auszuwählen. Die Comer Industries S.p.A. empfiehlt, die tatsächlichen Einsatzbedingungen und die Eignung des Schutztopfes bei der Arbeit auf dem Feld zu überprüfen





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

IT

Norme generali

GB

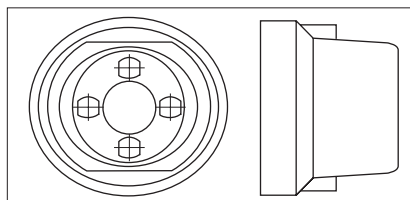
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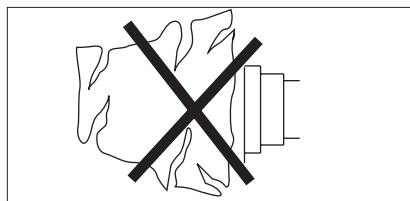


Le viti e rondelle di fissaggio della contro cuffia devono essere contenute nella superficie piana e non devono risultare allentate

Shroud connecting screws and washers must remain within the flat surface and should not be loose.

Le vis et les rondelles de fixation du bol doivent être contenues dans la superficie plane et ne doivent pas être desserrées

Die Befestigungsschrauben und Unterlegscheiben des Schutztopfes müssen sich auf der flachen Oberfläche befinden und dürfen nicht locker sein



Le contro cuffie non devono essere danneggiate, se tali devono essere sostituiti con Ricambi Originali

Shrouds must not be damaged. If so, they must be replaced with original spare parts

Les bols doivent toujours être en parfait état, remplacez-les en cas de besoin mais toujours par des pièces d'origine

Die Schutztöpfe dürfen nicht beschädigt sein, in diesem Fall müssen sie mit Originalersatzteilen ausgetauscht werden

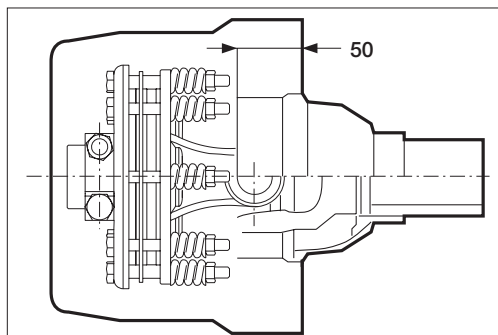
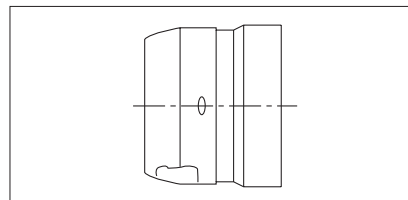


Non usare la contro cuffia come appoggio o predellino. Assicurarsi che l'eventuale sportello sia chiuso

Do not use the shroud as a support or footboard. Any opening must be closed

N'utilisez jamais le bol comme support ou marchepied. Si un couvercle est prévu, vérifiez s'il est bien fermé

Den Schutztopf nicht als Stütze oder Fußbrett benutzen. Eine evtl. vorhandene Klappe muss geschlossen sein

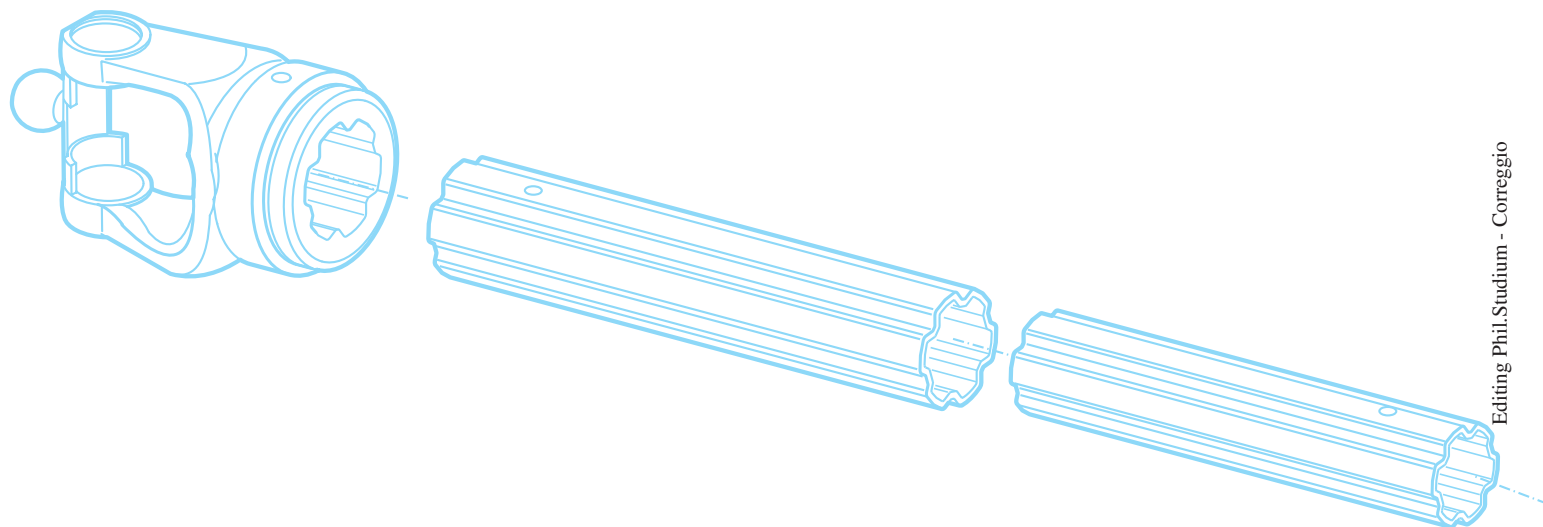


La contro cuffia deve sormontare la protezione dell'albero cardanico di almeno 50mm

The shroud must overlap the drive shaft safety guard by at least 50 mm

Le bol doit surmonter la protection de l'arbre à cardan de 50 mm au moins

Der Schutztopf muss die Schutzvorrichtung der Kardanwelle um mind. 50 mm überlappen



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driveshafts



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CI-ADV DS 12/02 T30 Driveshafts Spare Parts