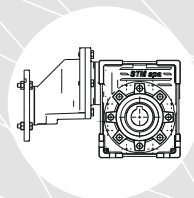
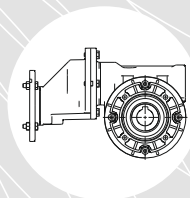




STANDARD Basic





RIDUTTORI A VITE SENZA FINE CBR - CBU
WORM GEARBOXES CBR - CBU
SCHNECKENGETRIEBE CBR - CBU

CBR
CBU



CBR



CBU

A



CBR - Semplicemente montando a un riduttore vite senza fine della serie R un riduttore a una coppia di ingranaggi della serie CAM, otteniamo questa serie di riduttori denominata CBR. Questa è la scelta ideale per applicazioni che necessitano di una maggior coppia di uscita, un più elevato rendimento e rapporti di riduzione più lenti di quelli ottenibili con gli equivalenti riduttori della serie R.

Ovviamente sono disponibili tutti gli accessori della serie R, quali, i conici sulla corona uscita, il limitatore di coppia, albero lento e il braccio di reazione.

CBU - Semplicemente montando a un riduttore vite senza fine della serie U un riduttore a una coppia di ingranaggi della serie CAM, otteniamo questa serie di riduttori denominata CBU. Questa è la scelta ideale per applicazioni che necessitano di una maggior coppia di uscita, un più elevato rendimento e rapporti di riduzione più lenti di quelli ottenibili con gli equivalenti riduttori della serie U.

Ovviamente sono disponibili tutti gli accessori della serie U, quali, albero lento e il braccio di reazione.

CBR - By assembling a worm gearbox of the R series to a CAM series gearbox, we obtain this series of gearboxes named CBR. This is the ideal choice for applications that require higher output torque and slower reduction ratios than those achievable with the equivalent gearboxes of the R series.

All of the accessories from the R series are available, such as the high output load bearings, torque limiter, output shafts and torque arms

CBU -By assembling a worm gearbox of the U series to a CAM series gearbox, we obtain this series of gearboxes named CBU. This is the ideal choice for applications that require higher output torque and slower reduction ratios than those achievable with the equivalent gearboxes of the U-series.

All of the accessories of the U series are available such as output shafts and torque arms

CBR - Durch Montage eines Schneckengetriebes der R-Serie mit einem Stirnradgetriebe der CAM-Serie erhalten wir die Getriebeserie mit der Bezeichnung CBR. Dies ist die ideale Wahl für Anwendungen, die ein höheres Abtriebsdrehmoment, einen höheren Wirkungsgrad und langsamere Untersetzungsverhältnisse erfordern, als sie mit äquivalenten Getrieben der Baureihe R erreichbar sind.

Selbstverständlich ist das gesamte Zubehör der R-Serie erhältlich, Kegelrollenlager an der Abtriebswelle, Drehmomentbegrenzer, Abtriebswellen und Drehmomentstützen.

CBU - Durch den einfachen Anbau eines Schneckengetriebes der U-Serie mit einem Stirnradgetriebe der CAM-Serie erhalten wir die Getriebeserie mit der Bezeichnung CBU. Dies ist die ideale Wahl für Anwendungen, die ein höheres Abtriebsdrehmoment, einen höheren Wirkungsgrad und langsamere Untersetzungsverhältnisse erfordern, als die mit entsprechenden Getrieben der U-Serie erreichbar sind.

Selbstverständlich sind alle Zubehörteile der U-Serie erhältlich, wie z.B. Abtriebswellen und Drehmomentstützen.

GRANDEZZE	CBR - N° 10 CBR - N° 09
COPPIE D'INGRANAGGI	2
RANGE POTENZA - 1400 rpm	0.02 kW - 1.9 kW
GIOCO ANGOLARE	10'-15'
RANGE RAPPORTI DI RIDUZIONE	da 21.3:1 a 810:1
COPPIA MASSIMA IN USCITA	da 32 a 1000 Nm

1.1	Caratteristiche tecniche	Technical characteristics	Technische Eigenschaften	1
1.2	Designazione	Designation	Bezeichnungen	6
1.4	Lubrificazione	Lubrication	Schmierung	14
1.6	Prestazioni riduttori	Gearboxes performances	Leistungen der Getriebe	18
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1.8	Dimensioni	Dimensions	Abmessungen	38



1.1 Caratteristiche tecniche

GENERALITA'

I riduttori a vite senza fine della Serie CBR-CBU sono caratterizzati dalla combinazione di un riduttore della Serie R-U con una precoppia della Serie CAM, così da raggiungere rapporti di riduzione più elevati rispetto a quelli raggiungibili da un singolo vite senza fine.

Informazioni Aggiuntive - Componenti principali

- Anelli di tenuta in ingresso in VITON e in NBR in uscita
- Carcassa e coperchi in alluminio pressofuso
- Corona dentata in bronzo
- Cuscinetti a sfera.
- Rulli conici solo CBR
- Flange ingresso in alluminio pressofuso
- Giunto a pioli per motore ad eccezione delle size 40/63 e 50/63
- Ingranaggi in acciaio legato, cementato e temprato
- Mozzo di supporto in ghisa
- Vite senza fine in acciaio legato
- Olio sintetico per lubrificazione a vita degli ingranaggi
- Le grandezze 40/63, 40/71, 50/63, 50/71 sono fornite non verniciate, le grandezze 63/71, 63/90, 70/71, 70/90, 75/90, 85/90, 90/90, 110/90 con verniciatura TypStm.

Plus

- Bassi costi di manutenzione e gestione
- Concezione modulare
- Elevata vita utile e affidabilità
- Facilità di montaggio e manutenzione
- Lubrificazione di lunga durata
- Versatilità d'impiego.

1.1 Technical characteristics

GENERAL INFORMATION

Worm gearboxes CBR-CBU series are characterised by the combination of gearbox R-U series with a pre-stage CAM series, offering higher gear ratios than those achievable by a single worm.

Additional Information - Main Components

- Input seals in VITON and NBR on the output
- Die-cast Aluminum case and cap
- Bronze toothed wormwheel
- Ball roller bearing.
- Taper roller bearings for CBR
- Die-cast Aluminum input flanges
- Coupling connection for motor except size 40/63 and 50/63
- Gears in alloy steel, ground and hardened
- Cast iron support hub
- Stainless steel worm screw
- Synthetic oil for lifetime lubrication of the gears
- Sizes 40/63, 40/71, 50/63, 50/71 are supplied unpainted, the sizes 63/71, 63/90, 70/71, 70/90, 75/90, 85/90, 90/90, 110/90 with TypStm painting.

Plus

- Low maintenance costs
- Modular concept
- Long life and reliability
- Easy assembly and maintenance
- Long lasting lubrication
- Highly versatile

1.1 Technische Eigenschaften

ALLGEMEINE ANGABEN

Schneckengetriebe CBR Serie zeichnen sich durch die Kombination eines Schneckengetriebes der R Serie mit einer Vorstufe der CAM Serie aus, sodass höhere Übersetzungsverhältnisse, als mit einem einzelnen Schneckengetriebe erzielt werden können.

Zusätzliche Informationen – Hauptbestandteile

- VITON Eingangs- und NBR- Abtriebs Dichtringe
- Aluminiumdruckgussgehäuse
- Schneckenrad mit Bronzener Verzahnung
- Kugellager
- Kegelrollenlager für die CBR Serie
- Eingangsflansch aus Aluminiumdruckguss
- Bolzenkupplungen für Motor mit Ausnahme der Größen 40/63 und 50/63
- Zahnräder aus legiertem, einsatzgehärtetem, geschliffen Stahl
- Gusseiserne Nabe zur Stabilisierung
- Schneckenwelle aus legiertem Stahl
- synthetisches Schmiermittel für lebenslange Schmierung der Verzahnung
- Die Größen 40/63, 40/71, 50/63, 50/71 werden unlackiert geliefert, die Größen 63/71, 63/90, 70/71, 70/90, 75/90, 85/90, 90/90, 110/90 mit TypStm Lackierung

Vorteile

- niedrige Wartungs- und Verwaltungskosten
- modulare Bauweise
- einfache Montage und Wartung
- Langlebige Schmierung
- Vielseitige Einsatzmöglichkeiten

1.1 Caratteristiche tecniche

Opzioni - a richiesta

OPT - Anelli di tenuta in silicone, viton o con prestazioni specifiche per alte/basse temperature e per settore alimentare (VT2-SL1-SL-SL).

OPT1 - Lubrificanti speciali per alte/basse temperature e per settore alimentare

OPT2 - Verniciature speciali per settore chimico, marittimo e alimentare

ATEX - Versione ATEX per l'utilizzo in ambienti potenzialmente esplosivi.

1.1 Technical characteristics

Options - on request

OPT – Silicone oilseals viton or with specific performance for high / low temperatures and for food sector (VT2-SL1-SL-SL).

OPT1 - Special lubricants for high / low temperatures and for food sector

OPT2 - Special paintings for chemical, marine and food sector

ATEX - ATEX version for use in potentially explosive environments.

1.1 Technische Eigenschaften

Optionen auf Anfrage

OPT – Dichtringe aus Silikon, Viton oder mit auf speziellen Eigenschaften für hohe/niedrige Temperaturbereiche und für den Lebensmittelsektor (VT2-SL1-SL-SL)

OPT1 – Schmiermittel für hohe/niedrige Temperaturen oder den Lebensmittelsektor

OPT2 – Spezialbeschichtungen/Lackierungen für den Chemie-, See- und Lebensmittelsektor

ATEX – zur Verwendung in explosionsgefährdeter Umgebung.



Accessori - CBR

- IECT - Giunto in entrata (G)
- BE - Vite bisporgente (B) - a richiesta
- TOBE - Cuscinetti uscita conici (C)
- LOV - Limitatori di coppia (LC - LP - LF)
- ACC1 - Alberi uscita (semplice AL, doppio AL_BU)
- ACC1 - Coperchio di sicurezza (PROT_C)
- ACC3 - Bracci di reazione (standard BRS e BRS_VKL).

Accessories - CBR

- IECT - Input coupling(G)
- BE – Double input shaft (B) - on request
- TOBE - Tapered output bearings (C)
- LOV - Torque limiters (LC - LP - LF)
- ACC1 - Output shafts (single AL, double AL_BU)
- ACC1 - Safety cover (PROT_C)
- ACC3 - Torque arms (standard BRS and BRS_VKL)

Zubehör - CBR

- IECT – Eingangsflansch (G)
- BE – Schneckenwelle mit beidseitigem Ausgang (auf Anfrage)
- TOBE – Kegellager am Abtrieb (C)
- LOV – Rutschkupplungen (LC- LP- LF)
- ACC1 - Abtriebswellen (einfach AL, doppelte AL_BU)
- ACC1 o ACC2 – Sicherheitsabdeckung (PROT_C)
- ACC3 – Drehmomentstütze (Standard BRS und BRS_VKL)

Accessori - CBU

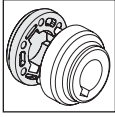
- IECT - Giunto in entrata (G)
- ACC1 - Alberi uscita (semplice AL, doppio AL_BU)
- ACC1 - Coperchio di sicurezza (PROT_C)
- ACC3 - Bracci di reazione (BRS_VKL).

Accessories - CBU

- IECT – Input coupling (G)
- ACC1 - Output shafts (single AL, double AL_BU)
- ACC1 - Safety cover (PROT_C)
- ACC3 - Torque arms (BRS_VKL).

Zubehör - CBU

- IECT – Kupplung am Eingang (G)
- ACC1 - Abtriebswellen (einfach AL, doppelte AL_BU)
- ACC1 o ACC2 – Sicherheitsabdeckung (PROT_C)
- ACC3 – Drehmomentstütze (Standard BRS und BRS_VKL).

**1.1 Caratteristiche tecniche****Caratteristiche giunto STM**

- Ingombri **Ridotti**;
- Semplicità di connessione;
- **NO** Fretting;
- **NO** Vibrazioni;
- Progettato per garantire efficienza e affidabilità con servizi gravosi in presenza di urti e con numerosi avviamenti.

MATERIALE:

- 1 - Albero entrata CAM
- 2 - Pioli - Acciaio Cementazione;
- 3 - Giunto - Tecnopolimero PA 46
- 4 - Semigiunto - Acciaio da bonifica.

MANUTENZIONE:

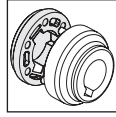
- Facilità di Montaggio motore;
- Facilità di Smontaggio

MODULARITA':

- Possibilità di utilizzare il giunto sulle serie "RMI" - "CRMI".

TEMPI DI CONSEGNA:

- Maggiore modularità del prodotto;
- Stock a magazzino del prodotto assemblato.

1.1 Technical characteristics**STM Special features - Coupling**

- Reduced** Sizes
- Simplified connections*
- No** fretting
- No** vibrations
- Designed in order to warrant efficiency and reliability with heavy duty in case of bumps and frequent start-ups*

MATERIAL:

- 1 - Input shaft CAM – cementation steel
- 2 – Pin – bearing steel
- 3 - Coupling – techno polymer PA 46
- 4 – Coupling half - tempered steel

MAINTENANCE:

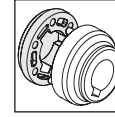
- Easy motor assembly;*
- Easy disassembly.*

MODULARITY:

- Possibility of coupling's using specially those of "RMI" - "CRMI" series.*

DELIVERY DATES

- Higher product's modularity*
- Stock warehouse finished product.*

1.1 Technische Eigenschaften**Die STM Sondermerkmale - Kupplung:**

- Verringerter Platzbedarf;
- Einfacher Anschluss;
- Keine Abnutzung;
- Keine Vibrationen;
- Gewährleistet Effizienz und Zuverlässigkeit bei hoher Belastung, Stossbeeinträchtigung und zahlreichen Maschinen-Starts.

MATERIAL:

- 1 – Antriebwelle CAM - Einsatzstahl
- 2 – Stifte – Lagerstahl
- 3 – Kupplung – Tecnopolimero PA 46
- 4 – Kupplungshälfte – Stahl wärmebehandelt

WARTUNG:

- Einfacher Motoreinbau;
- Einfacher Ausbau.

MODULARITÄT

- Die Kupplung kann in den Serien „RMI“ - „CRMI...G“ verwendet werden.

LIEFERZEITEN:

- Größere Modularität des Produktes;
- Montiertes Produkt im Lagerbestand



1.1 Caratteristiche tecniche

Limitatore di coppia STM



ATTENZIONE !

Il limitatore di coppia non può essere considerato in alcun caso un dispositivo per la sicurezza dell'operatore ma solo un sistema di protezione della macchina.

Il limitatore di coppia STM è utile in tutti i casi nei quali si voglia proteggere una trasmissione da sovraccarichi, urti e qualunque irregolarità della coppia assorbita dall'utilizzatore.

La scelta ottimale dei materiali della corona (bronzo GCuSn12 UNI 7013) e dell'albero e della bussola (acciaio temprato e rettificato) consente di garantire delle durate molto elevate anche in presenza di frequenti slittamenti.

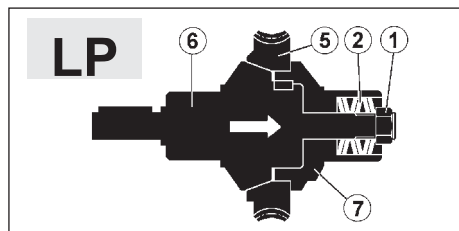
Nei confronti delle frizioni tradizionali presenta numerosi vantaggi:

- è incorporato, senza variazioni dimensionali, nei riduttori a vite senza fine semplici.
- è protetto da qualunque contaminante (acqua, polvere, olio, grasso), ecc.
- è concepito per lavorare a bagno d'olio, cosa che lo rende affidabile nel tempo ed esente da usura.
- è facilmente regolabile dall'esterno tra mite il serraggio di un dado esagonale.
- può slittare anche per diversi minuti senza danneggiarsi.

Il limitatore di coppia è montato nel riduttore utilizzando cuscinetti radiali **ed escludendo l'applicazione di cuscinetti conici** in quanto i carichi assiali generati da questi ultimi provocherebbero alterazioni nella taratura del limitatore stesso.

Nel par. 1.6 sono riportati i valori della coppia di slittamento del limitatore in funzione del numero di giri del dado di regolazione o della ghiera. Ricordiamo inoltre che su specifica richiesta, nei riduttori combinati, è possibile montare il limitatore di coppia sul primo riduttore (più piccolo) con la possibilità di mantenere l'irreversibilità del gruppo, qualora la scelta dei rapporti la preveda, e con un costo più contenuto del dispositivo.

Configurazioni:



Facendo riferimento alle figure, la trasmissione del moto avviene per attrito fra le superfici dell'albero (6) della corona dentata (5) e della bussola (7) che vengono sottoposte ad una determinata compressione (regolabile) per mezzo dell'azione esercitata sulle molle a tazza (2) dal dado di regolazione o dalla ghiera (1).

1.1 Technical characteristics

STM torque limiter



ATTENTION !

The torque limiter can not be considered as a security device for the operator but as a protection system for the machine.

STM torque limiter is useful in all those cases where it is necessary to protect a transmission from overloads, shocks and any other torque irregularities.

The perfect choice of the wormwheel material (bronze GCuSn12 UNI 7013) together with the shaft and bushings which are made out of ground and hardened steel, enable the manufacturer to guarantee long life even with frequent slippings.

Several are the advantages that it offers when compared with traditional clutches:

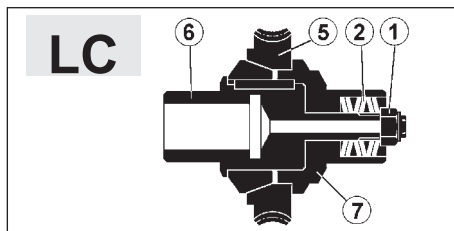
- it is built-in in the wormgearboxes without any design modifications.
- it is protected from any possible polluting agents (water, dust, oil, grease) etc.
- it has been designed for oil-bath operation therefore reliable and wearfree.
- it is easily adjustable from outside by turning a standard hexagonal nut.
- it can slip for several minutes at a time without damage.

The torque limiter is assembled on to the gearbox by means of radial bearings **and not taper roller bearings** since the axial loads created by them could alter the calibration of the torque limiter itself.

On chapter 1.6 are listed the values of the slipping torque of the torque limiter in operation and of the nut's number of turns.

It is important to draw the attention on the fact that, upon request, it is possible to assemble the torque limiter on to the first gearbox (the smaller one) in the combined units and this will not affect the irreversibility of the unit depending on the ratios of the gearboxes. As a result the unit will certainly be less expensive.

Versions:



With reference to pictures shown below, transmission of movement takes place by means of friction between the shaft, the wormwheel and the bushing. They are in fact subject of a determined compression (which can be adjusted) created by the effect of the nut on the washers.

1.1 Technische Eigenschaften

Die STM Rutschkupplung



ACHTUNG !

Bei der Rutschkupplung handelt es sich nicht um eine Sicherheitsvorrichtung für das Bedienpersonal, sondern um ein Schutzsystem für die Anlage.

Ist ein Schutz vor Überlastungen, stoßartigen Belastungen etc. erforderlich, so ist die integrierte Rutschkupplung von STM eine unentbehrliche Zusatzausstattung.

Eine optimale Werkstoffkombination - beim Schneckenrad Bronze GCuSn 12 Uni 7013 und bei der Welle gehärteter und geschliffener Stahlgarantieren auch bei häufigem Schlupf eine hohe Lebensdauer.

Sie bietet immer dann Vorteile, wenn die normale Belastung eines Antriebes überschritten wird.

- Integriert in die Standardschneckengetriebe.
- durch die integrierte Bauweise geschützt gegen äußere Einflüsse wie Staub, Wasser, Öl, Fett, etc.
- im Ölbad laufend, dadurch zuverlässig und wartungsfrei.
- einfache Drehmomenteinstellung durch eine von außen zugängliche Einstellmutter.
- Schlupf über einen längeren Zeitraum hinweg fügt der Kupplung keinen Schaden zu, allerdings ist die erhöhte Erwärmung bei Dauerschlupf zu beachten.

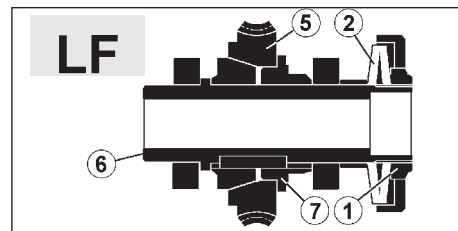
Schneckengetriebe mit Rutschkupplung können nur mit Radiallagern ausgestattet werden. Zur Einstellung des Schlupfmomentes ist eine Axialverschiebung des Druckringes erforderlich, was den Einsatz von Kegelrollenlagern verhindert.

Das gewünschte Schlupfmoment kann mit Hilfe der Einstellmutter auf Basis der Werte Kapitel 1.6 eingestellt werden.

Bei Doppelschneckengetrieben ist es auf Wunsch möglich, die Rutschkupplung in die erste Stufe zu integrieren. Dadurch wird die mögliche Selbsthemmung des Getriebes erhalten und die Rutschkupplung kann kleiner dimensioniert werden.

Dies ist jedoch nur bei geeigneten Untersetzungsverhältnissen möglich.

Ausgangswellenausführungen:



Die Drehmomentübertragung findet durch Reibschluß zwischen dem Konus der Abtriebswelle und dem Schneckenrad statt. Die (einstellbare) Reibkraft wird durch die auf den Druckring wirkende Kraft der Tellerfedern erzeugt.



1.2 Designazione

1.2 Designation

1.2 Bezeichnung

CBR - Series

CODE:
Example of Order

WEB:
Reference Designation

BASIC_CODE_GEARBOX

Parametri codifica riduttore - BASE

CODE-R

Certification	Marking Gearbox	Maschine	Type Connection	Output Version	Output Version	Mounting Version	Output Flange	Size	Reduction ratio	IEC type and Input Shaft	Input Version	Input Shaft
01 CERR	02 MARR	03 M	04 TYPCON	04a SERIES	06 OV	07 MV	08 OF	05 SIZE	09 IR	10 IECT	11 IV	12 IS

ATEX
Gb-4
Gb-5
Db-4
Db-5
Gc-4
Gc-5
Dc-4
Dc-5

LOV
LP
LC
LF

OPT2
TYP3
TYP4

Series R with CA gearbox

Without Coupling
G
With Coupling

IEC

63B5

Without Motor

Designation Motors

With Motor

Foot

Foot - "upper worm"

Foot - "lower worm"

Foot - "lateral worm"

Flange

Flange mounted

Flange mounted

Flange mounted - "Two"

S

A

B

C

D

I

A

B

C

D

D

A

B

C

D

FL
F.

A

B

C

D

P

A

B

C

D

PP
F.F.

A

B

C

D

1.2 Designazione

1.2 Designation

1.2 Bezeichnung

CBR - Series

-	-	LC	B	TM	-	-	-	-	M1
---	---	----	---	----	---	---	---	---	----

BASIC_CODE_GEARBOX

Parametri codifica riduttore - BASE

CODE-R

Double Extended Input Shaft	Tapered Output Bearings	Limiter Output Version	Limiter Output Motion	Limiter HEAVY Calibration	Limiter Scope of Supply	Type Shaft Diameter	Shaft Diameter	Mounting position output Flange	Mounting Position
13 BE	14 TOBE	15 LOV	16 LOM	17 LHC	18 LSOS	19 TYP5D	20 SD	21 MPOF	22 MP

Without
B
With

Standard


C
Taper Roller


Standard

LP
Extended shaft


LC
Hollow shaft


LF
Through hollow shaft


Without Limiter
A
B

Without
TM
HEAVY Calibration

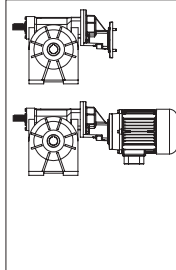
Without Calibration
10
Value of Calibration

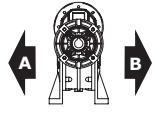
SI (mm)

Standard	Option	Size
-(Ø19)	Ø18	40/63 40/71
-(Ø24)	Ø25	50/63 50/71
-(Ø25)	-	63/71 63/90
-(Ø28)	-	70/71 70/90
-(Ø32)	Ø35	85/90
-(Ø42)	-	110/90

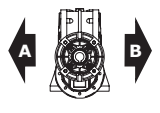
SIN

M1
M2
M3
M4
M5
M6

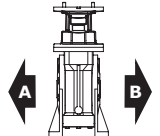




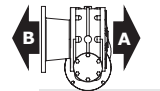
Foot - "upper worm"



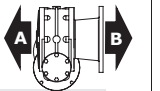
Foot - "lower worm"



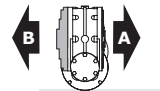
Foot - "lateral worm"



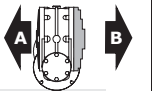
Left - side
Flange mounted



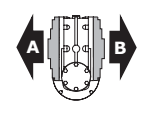
Standard
Flange mounted



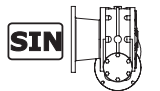
Left - side
Flange mounted



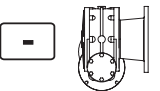
Standard
Flange mounted



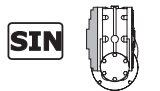
Flange mounted - "Two"



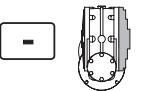
SIN



-



SIN



-

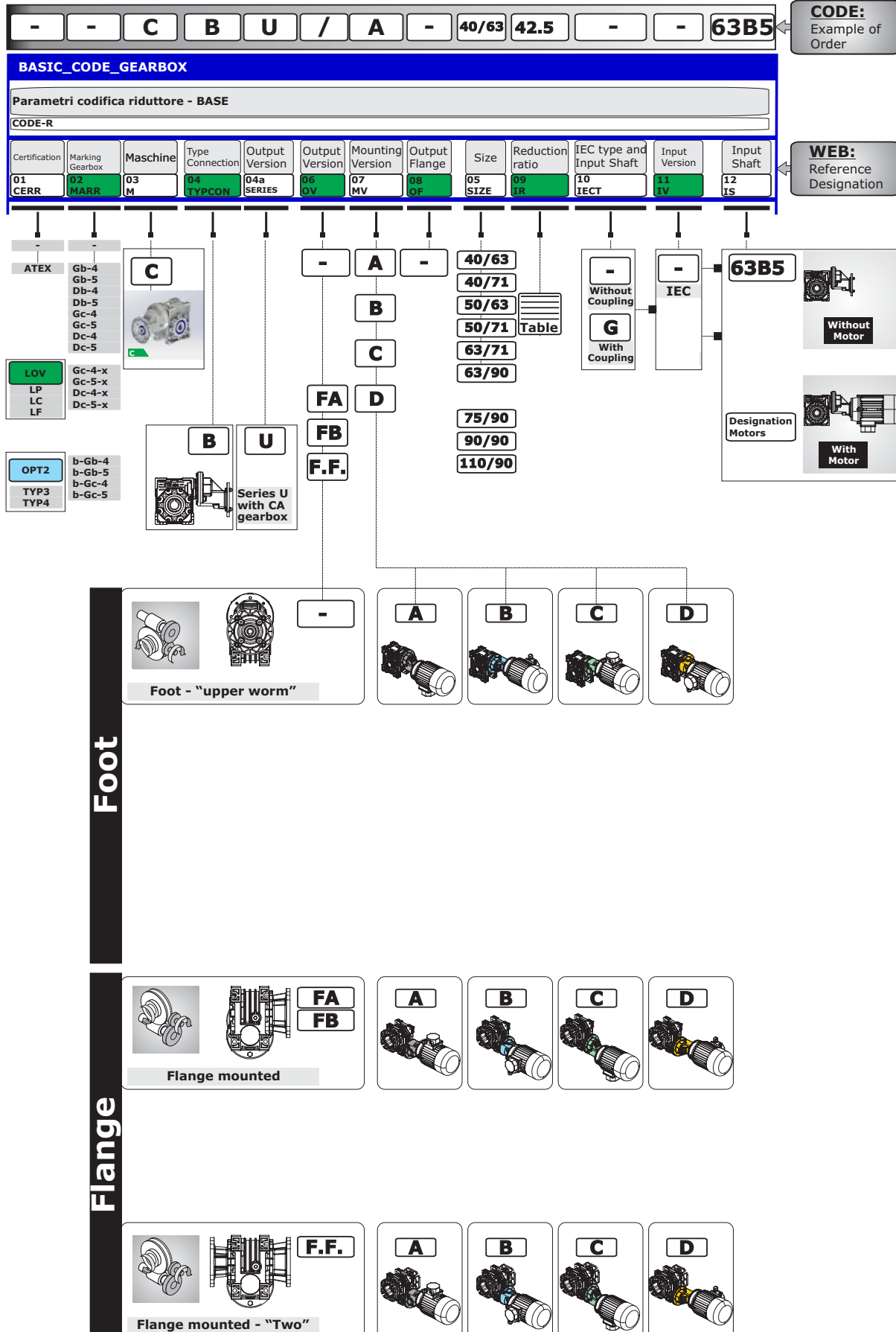


1.2 Designazione

1.2 Designation

1.2 Bezeichnung

CBU - Series





1.2 Designazione

1.2 Designation

1.2 Bezeichnung

CBU - Series

-	-	-	-	-	-	-	-	-	M1
---	---	---	---	---	---	---	---	---	----

BASIC_CODE_GEARBOX

Parametri codifica riduttore - BASE

CODE-R

Double Extended Input Shaft 13 BE	Tapered Output Bearings 14 TOBE	Limiter Output Version 15 LOV	Limiter Output Motion 16 LOM	Limiter HEAVY Calibration 17 LHC	Limiter Scope of Supply 18 LSOS	Type Shaft Diameter 19 TYP5D	Shaft Diameter 20 SD	Mounting position output Flange 21 MPOF	Mounting Position 22 MP
---	---	---	--	--	---	--	-------------------------------	---	----------------------------------

Without

Standard

Standard

Without
Limiter

Without

Without
Calibration

SI (mm)

-(Ø18)	-	40/63 40/71
-(Ø25)	-	50/63 50/71
-(Ø25)	-	63/71 63/90
-(Ø28)	-	75/90
-(Ø35)	-	90/90
-(Ø42)	-	110/90

Inch
US (inch)

0.750	-	40/63 40/71
1.000	-	50/63 50/71
1.125	-	63/71 63/90
1.250	-	75/90
1.375	-	90/90
1.625	-	110/90

SIN

-

1.2 Designazione

1.2 Designation

1.2 Bezeichnung

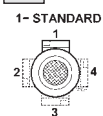
10	IECT - Tipo IEC e Albero Entrata	IECT - IEC type and Input Shaft	OV - IEC Typ und Antriebswelle
11	IV - Versione Entrata	IV - Input Version	IV - Antriebsausführung
12	IS - Albero Entrata	IS - Input shaft	IS - Antriebswelle

Possibili accoppiamenti con motori IEC - Possible couplings with IEC motors - Mögliche Verbindungen mit IEC-Motoren					
SIZE	IR	IECT	IV	IS	
40/63-50/63	not available values: 31.1-43.6-62.2-93.3-124.4-174.2-248.9 304.9-348.4-435.6-497.8-622.2	—	—	63	11/140 (B5) - 11/90 (B14)
	all			56	9/120 (B5) - 9/80• (B14)
40/71-50/71 63/71-70/71	not available values: 38.3-53.7-76.7-115.0-153.3-214.7-306.7 375.7-429.3-536.7-613.3-766.7	—	—	71	14/160 (B5) - 14/105 (B14)
	all			63	11/140 (B5) - 11/90• (B14)
	all	G	—	71	14/160 (B5) - 14/105 (B14)
	all			63	11/140 (B5) - 11/90• (B14)
63/90-70/90 75/90-90/90 85/90-110/90	not available values: 40.5-56.7-81.0-121.5-162.0-226.8-324.0 396.9-453.6-567.0-648.0-810.0	—	—	90	24/200 (B5) - 24/140 (B14)
	all			80	19/200 (B5) - 19/120 (B14)
	all	G	—	90	24/200 (B5) - 24/140 (B14)
	all			80	19/200 (B5) - 19/120 (B14)

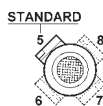
IECT	—	Accoppiamento diretto / Direct coupling / Direkte Passung
	G	Accoppiamento con Giunto / Direct with coupling / Direkte mit Kupplung
IV	—	Predisposto per accoppiamento con Unità Motrice IEC / pre arrangement motor IEC / geeignet für die Kombination mit Antriebseinheit IEC
	N	A richiesta / on Request / Auf Anfrage Predisposto per accoppiamento con Unità Motrice NEMA/ pre arrangement motor NEMA / geeignet für die Kombination mit Antriebseinheit NEMA
IS	...	Grandezza IEC / Size IEC /

Designazione motore elettrico Se è richiesto un motoriduttore completo di motore è necessario riportare la designazione di quest'ultimo. A tale proposito consultare il ns. catalogo dei motori elettrici Electronic Line.	Electric motor designation For applications requiring a gearmotor, motor designation must be specified. To this end, please refer to our Electronic Line electric motor catalogue.	Bezeichnung des Elektromotors Wird ein Getriebemotor komplett mit Elektromotor angefordert, müssen dessen Daten angegeben werden. Diesbezüglich verweisen wir auf unseren Katalog der Elektromotoren "Electronic Line".
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-- PMT - Posizioni della Morsetteria



[2, 3, 4] Posizione della morsetteria del motore se diversa da quella standard (1).



N.B.

La configurazione standard della flangia at-tacco motore prevede 4 fori a 45°.

Per le flange contrassegnate con il simbolo (+) i fori per il fissaggio al motore sono disposti in croce (esempio +). Pertanto è opportuno valutare l'ingombro della morsetteria del motore che verrà installato in quanto essa verrà a trovarsi orientata a 45° rispetto agli assi. Per la scelta della posizione della morsetteria rispetto agli assi fare riferimento allo schema seguente (in cui la posizione 5 è quella standard):

PMT - Position Terminal Box

[2, 3, 4] Position of the motor terminal box if different from the standard one (1).

Note.

The standard configuration for the 4 holes is 45° to the axles (like an x: see par 2.3).

For the flanges marked with (+) the holes to fit the motor are on the axles (like a +). Therefore we suggest to check the dimensions of the terminal board of the motor as it will be at 45° to the axles. Please choose the terminal board position referring to the following sketch (in which n° 5 is the standard position):

PMT - Montagposition Klemmenkasten

Montageposition Klemmenkasten [2, 3, 4], wenn abweichend von Standardposition [1] (für Motorgetriebe).

HINWEIS.

In der Standardkonfiguration sind die 4 Flansch-bohrungen im 45°-Winkel zu den Achsen angeordnet

Bei Flanschen, die mit (+) gekennzeichnet sind, sind die Bohrungen auf den Achsen angeordnet (wie ein +). Es sollte deshalb der Platzbedarf des Motorklemmenkastens beachtet werden, da er sich in 45°-Position zu den Achsen befinden wird. Die Lage des Klemmenkastens des Motors wählen Sie bitte anhand der folgenden Skizze (Pos. 5 ist Standardposition):

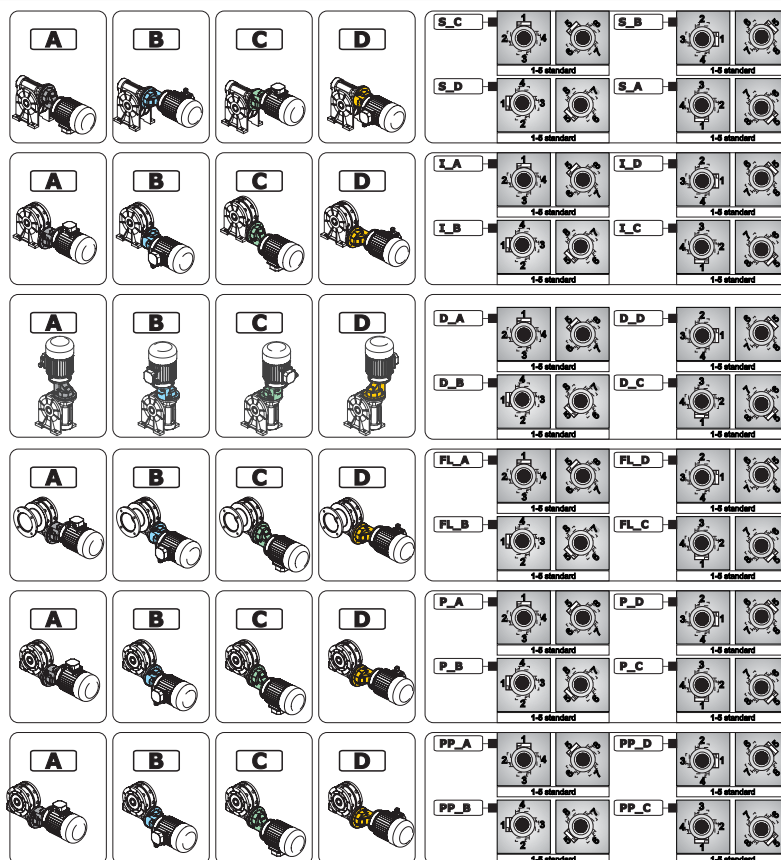


1.2 Designazione

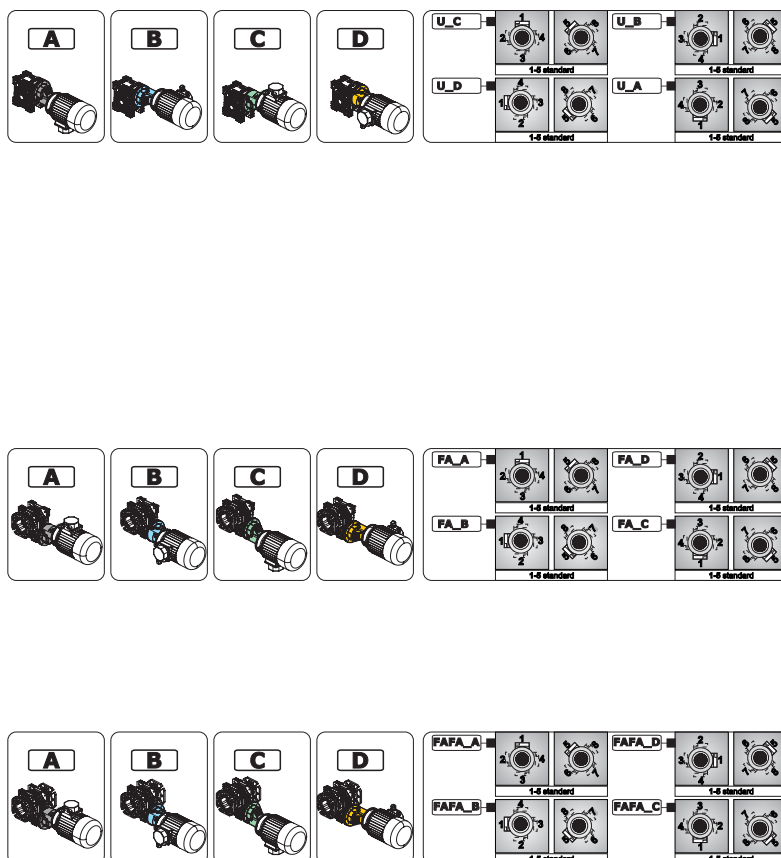
1.2 Designation

1.2 Bezeichnung

PMT-CBR - Series



PMT-CBU - Series





1.2 Designazione

15 LOV - Versione Limitatore

Alla designazione del riduttore, determinata reperendo i dati necessari nei rispettivi cataloghi, deve seguire la lettera **L** che contraddistingue il limitatore incorporato, unitamente alla versione desiderata:

LP		albero sporgente	double extended shaft	Vollwelle
LC		albero cavo non passante	hollow shaft	einseitig Hohlwelle
LF		albero cavo passante	through hollow shaft	durchgehend Hohlwelle

11 LOM - Lato uscita moto limitatore

LOM - Limiter Output Motion

1.2 Bezeichnung

LOV - Rutschkupplung-Ausführung

Nach der Wahl des Getriebetyps (basierend auf den im jeweiligen Katalogabschnitt zu findenden Angaben) wird der Getriebespezifikation bei Bedarf einer Rutschkupplung der Buchstabe **L** hinzugefügt. Der Typ der Rutschkupplung muß folgendermaßen gekennzeichnet werden:

 Lato uscita moto Motion output Abtriebsseite	 Lato uscita moto Motion output Abtriebsseite
--	--

E' molto importante precisare anche il lato dove si desidera l'uscita del moto **A, B**, avvalendosi degli schemi riportati nelle pagine **A 5-6-7-8-9**, ricordando che, ovviamente, dalla parte opposta dell'uscita sarà possibile effettuare la taratura del limitatore agendo sull'apposito dado o ghiera.

Per la determinazione della posizione dell'albero di uscita nelle versioni a piedi o PP, è sufficiente osservare il riduttore dalla parte entrata moto o (per la versione di montaggio **D**) lato vite; se l'albero è desiderato sul lato sinistro, la posizione di montaggio del limitatore sarà in esecuzione **A**, viceversa, se l'albero è a destra si dovrà richiedere l'esecuzione **B**.

Nelle versioni FL o P, l'esecuzione **A** è considerata quella che prevede l'uscita-moto dal lato del coperchio chiuso o coperchio F0 (lato opposto alla flangia); l'esecuzione **B** è invece quella in cui l'uscita-moto è dalla stessa parte della flangia FL o P.

A tale proposito si desidera evidenziare che nelle versioni FL è stata riportata l'esecuzione dell'albero di uscita tipo "A". Anche se tecnicamente fattibile, la ghiera o il dado si trovano all'interno della flangia stessa, pertanto difficilmente accessibili.

N.B. La scelta della posiz. A e B dell'albero uscita è dipendente dalla versione di montaggio del riduttore.

It is also essential to specify where the output of motion **A** and **B** is required according to the diagram shown in the page **A 5-6-7-8-9**, reminding that on the opposite side of the output it is possible to carry out the limiter calibration by acting on to the appropriate nut or ring nut.

In order to determine the position of the output shaft in foot or PP version, it is enough to look at the gearbox from the input side or wormshaft side (mounting position **D**), if shaft is required on to the left hand side, mounting position of limiter will be **A**, on the contrary, if shaft is required on to the right hand side, version **B** should be required.

In the FL or P versions, execution **A** is the one that provides the output of motion from the closed cover or F0 cover (on the opposite side of the flange); execution **B**, instead, is the one that provides the output of motion from FL or P side.

In this context please note that in the version FL the output shaft is executed with type "A". Even if technically possible, washers or nuts are in the flange itself and these are hard to reach.

NOTE. Choice of shaft positions **A** and **B** are related to mounting position of gearbox.

Außerdem muß die Abtriebsseite **A, B** mit Hilfe der anschließend aufgeführten Skizzen **A 5-6-7-8-9** angegeben werden - unter Berücksichtigung, daß die Einstellmutter sich auf der dem Abtrieb gegenüberliegenden Seite befindet.

Zur Bestimmung der Lage der Abtriebswelle wird ein Getriebe in Fußversion oder Version PP von der Eingangsseite oder (bei der Montageversion **D**) von der Schraubenseite betrachtet: befindet sich die Welle auf der linken Seite, ist die Montagestellung des Drehmomentbegrenzers Ausführung **A**, andernfalls - wenn die Welle sich auf der rechten Seite befindet - handelt es sich um Ausführung **B**.

Bei den Versionen in einfacher P- oder Flanschausführung ist zu beachten, daß bei der Ausführung A der Abtrieb auf der Seite des geschlossenen oder F0-Deckels (gegenüber dem Flansch), liegt folglich befindet sich die Einstellmutter dann im Flansch.

In diesem Zusammenhang wird darauf hingewiesen, dass in der Version FL die Ausgangswelle mit Typ "A" ausgeführt wird. Auch wenn technisch möglich, sind Unterlegscheiben oder Muttern im Flansch selbst zu finden und daher schwer zu erreichen.

HINWEIS. Die Wahl der Abtriebsposition A oder B ist abhängig von der Montageposition des Getriebes.

1.2 Designazione**16** LHC - Taratura maggiorata limitatore**TM** = Taratura maggiorata**17** LSOS - Stato fornitura limitatore

— Nessuna indicazione = Se non specificato il limitatore è fornito NON TARATO.

... = A richiesta è possibile fornire il limitatore tarato con un valore specifico della coppia di slittamento M_{2S} .Nelle tabelle delle prestazioni sono riportate le coppie di slittamento M_{2S} in funzione del numero dei giri del dado, o della ghiera di regolazione ottenibili con la disposizione standard delle molle.

Altrimenti è possibile accordarsi con nostro Ufficio Commerciale per un valore di taratura specifico.

1.2 Designation**LHC - Limiter HEAVY Calibration****TM** = HEAVY Calibration**LSOS - Limiter-Scope of the supply**

— No indications = If not specified in detail, the limiter is supplied without calibration.

On request it is possible to provide the limiter with a calibrated slipping torque M_{2S} :In the following tables the slipping torques M_{2S} are listed according to number of turns of nut or ring nut obtainable with a standard arrangement of the springs.

Otherwise is possible to agree specific setting value with our Sales Dept. .

1.2 Bezeichnung**LHC - Rutschkupplung-Erhöhtes Ansprechmoment****TM** = Erhöhtes Ansprechmoment**LSOS - Rutschkupplung-Lieferzustand**

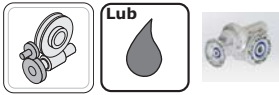
— Keine Angabe = Wenn nicht detailliert angegeben, wird der Begrenzer ohne Kalibrierung geliefert

Auf Anfrage ist es möglich, den Begrenzer mit einem kalibrierten Rutschmoment M_{2S} zu liefern.In der folgenden Tabelle sind die Rutschmomente M_{2S} dargestellt, wie sie je nach Stellung der Sechskant- oder Nutmutter mit der Standardanordnung der Tellerfedern erreicht werden.

Es ist außerdem möglich mit unserer Verkaufsabteilung einen bestimmten Eichwert festzusetzen.

22 MP - Posizioni di montaggio**[M2, M3, M4, M5, M6]** Posizioni di montaggio con indicazione dei tappi di livello, carico e scarico; se non specificato si considera standard la posizione **M1** (vedi par. 1.4)**MP - Mounting positions****[M2, M3, M4, M5, M6]** Mounting position with indication of breather level and drain plugs; if not specified, standard position is **M1** (see par. 1.4).**MP - Einbaulagen**Montageposition **[M2, M3, M4, M5, M6]** mit Angabe von . Entlüftung, Schaugläsern und Ablassschraube. Wenn nicht näher spezifiziert, wird die Standard - position **M1** zugrunde gelegt (s. Abschnitt 1.4).**23** OPT-ACC. - Opzioni**OPT-ACC - Options****OPT-ACC. - Optionen**

	ACC1	AL	Alberi lenti - AL	Output shafts - AL	Abtriebswellen - AL
		AL_BU	Alberi lenti Bisporgenti - AL_BU	Double Output shafts - AL_BU	Beidseitige Abtriebswellen - AL_BU
		PROT.	Coperchio di protezione	Protection cover	Schultzvorrichtungdeckel
	ACC3	BRS	Braccio Reazione Semplice	Torque arm - Single	Drehmomentstütze - Normal
		BRS_VKL	Braccio Reazione Semplice_con boccola_VKL	Torque arm - Single_with VKL_bushing	Drehmomentstütze - Normal_mit VKL - Buchse
	ACC9	ELSX	Vite senza fine - Elica Sinistra	Worm Geraboxe - Left helix	Linksgängige Schraubenlinie der Schneke
	OPT.	OPT	Materiale degli anelli di tenuta	Materials of Seals	Dichtungsstoffe
		OPT1	Stato fornitura olio	Scope of the supply - Options - OIL	Optionen - Lieferzustand - Optionen - Öl
		OPT2	Verniciatura	Painting and surface protection	Lackierung und Oberflächenschutz



1.4 Lubrificazione

1.4 Lubrication

1.4 Schmierung



Posizioni di montaggio
Mounting positions
Montagepositionen

CBR

S							
I							
D							
F. P.							
		M1	M2	M3	M4	M5	M6

- ▽ Carico / Breather plug / Nachfüllen - Entlüftung
● Livello / Level plug / Pegel
▼ Scarico / Drain plug / Ablassschraube

Posizioni di montaggio - Mounting positions - Montagepositionen			
CBR		Posizioni Positions Positionen	Prescrizioni da indicare in fase d'ordine Ordering requirements Anforderungen bei der Bestellung
	40/63 - 40/71		Non necessaria Not necessary Nicht erforderlich
	50/63 - 50/71		
	63/71 - 63/90		
	70/71 - 70/90		
	85/90	M1-M2	Necessaria Necessary Erforderlich
	110/90	M3-M4 M5-M6	

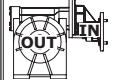
M3-M4

Particolare attenzione va posta per i riduttori montati nelle posizioni M3 e M4 che sono forniti con il cuscinetto schermato.

1.4 Lubrificazione

1.4 Lubrication

1.4 Schmierung

Lub 	Quantità di lubrificante - Lubricant Quantity - Schmiermittelmenge - [Kg]										OPT1	Tappi-Plug-Stopf		
		Size IN	M1	M2	M3	M4	M5	M6	Size OUT	M1-M2-M3 M4-M5-M6		N°	Diameter	Type
CBR	40/63	63	0.030						40	0.060	INOIL_STD	1	1/4"	 
	50/63	63							50	0.105		1	1/4"	
	40/71	71	0.040						40	0.060		1	1/4"	
	50/71	71							50	0.105		1	1/4"	
	63/71	71							63	0.240		1	3/8"	
	70/71	71							70	0.350		1	3/8"	  
	63/90	90	0.080						63	0.240		1	3/8"	
	70/90	90							70	0.350		1	3/8"	
	85/90	90							85	0.800 0.550*		1	3/8"	
	110/90	90							110	1.800 1.400*		3	1/2"	

SIZE OUT 110
Durante il riempimento attenersi ai quantitativi poiché in alcuni casi il livello del lubrificante oltrepassa la spia di livello.

SIZE OUT
* 85 - 110 Versioni LC-LP-LF.

 **Attenzione !:**
Il tappo di sfiato è allegato solo nei riduttori che hanno più di un tappo olio

Nota: Se in fase d'ordine la posizione di montaggio è omessa, il riduttore verrà fornito con i tappi predisposti per la posizione M1.

Eventuali forniture con predisposizioni tappi diverse da quella indicata in tabella, dovranno essere concordate.

SIZE OUT 110
During filling keep to the required quantities as in some cases the level of the lubricant exceeds the level shown by the indicator.

SIZE OUT
*85 - 110 Versions LC-LP-LF.

Warning!:
A breather plug is supplied only with worm gearboxes that have more than one oil plug

Note: If the mounting position is not specified in the order, the worm gearbox supplied will have plugs pre-arranged for position M1.

The supply of gearboxes with different plug pre-arrangements has to be agreed with the manufacturer.

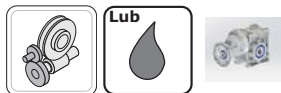
SIZE OUT 110
Für die Auffüllung sind die angegebenen Mengen zu beachten, da in einigen Fällen der Füllstand des Schmiermittels das Füllstands-Kontrollfenster übersteigt.

SIZE OUT
* 85 - 110 Ausführungen LC-LP-LF.

Achtung!:
Der Entlüftungsstopfen ist lediglich bei den Getrieben vorhanden, die über mehr als einen Ölfüllstopfen verfügen

Anmerkung: Sollte in der Auftragsphase die Einbaulage nicht angegeben werden, wird das Getriebe mit Stopfen für die Einbaulage M1.

Lieferungen, die eine Auslegung hinsichtlich der Stopfen aufweisen, die von den Angaben in der Tabelle abweichen, müssen vorab vereinbart werden..



1.4 Lubrificazione

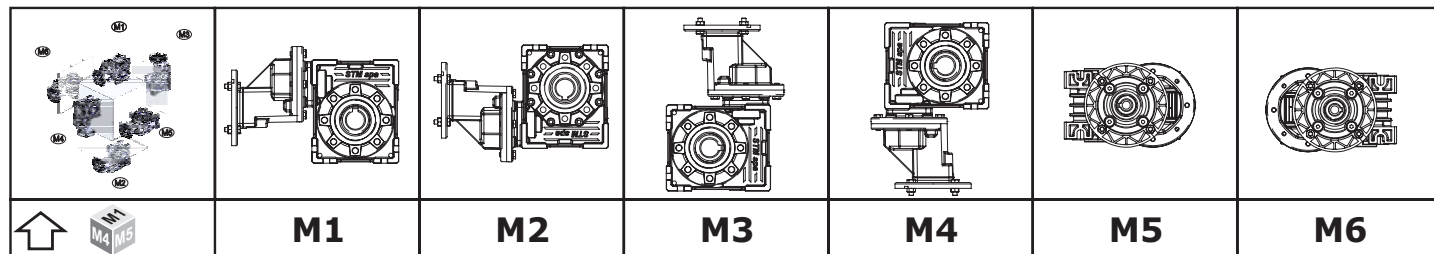
1.4 Lubrication

1.4 Schmierung



Posizioni di montaggio
Mounting positions
Montagepositionen

CBU



- ▽ Carico / Breather plug / Nachfüllen - Entlüftung
- Livello / Level plug / Pegel
- ▼ Scarico / Drain plug / Ablassschraube

Posizioni di montaggio - Mounting positions - Montagepositionen			
CBU		Posizioni Positions Positionen	Prescrizioni da indicare in fase d'ordine Ordering requirements Anforderungen bei der Bestellung
	40/63 - 40/71	M1-M2 M3-M4 M5-M6	Non necessaria Not necessary Nicht erforderlich
	50/63 - 50/71		
	63/71 - 63/90		
	75/90		
	90/90	M1-M2 M3-M4 M5-M6	Necessaria Necessary Erforderlich
	110/90		

M3-M4

Particolare attenzione va posta per i riduttori montati nelle posizioni M3 e M4 che sono forniti con il cuscinetto schermato.

M3-M4

Particular attention should be paid to worm gearboxes with a shielded bearing mounted in positions M3 and M4.

M3-M4

Besondere Aufmerksamkeit sollte den Getrieben zukommen, die in den Einbaulagen M3 und M4 montiert werden und mit abgeschirmtem Lager geliefert werden.

TARGHETTA - RIDUTTORE

NON NECESSARIA

Indicata sempre nella targhetta del riduttore la posizione di montaggio "M1".

NECESSARIA

La posizione richiesta è indicata nella targhetta del riduttore

Identification Plate - Gearbox

NOT NECESSARY

The mounting position is always indicated on the nameplate "M1".

NECESSARY

The indication it on the label of the gearbox

Typeschild - Getriebe

NICHT ERFORDERLICH

Die Einbaulage ist immer auf dem Typenschild angegeben "M1".

ERFORDERLICH

Findet man die angefragte Position auf dem Typenschild des Getriebe



1.4 Lubrificazione

1.4 Lubrication

1.4 Schmierung

	Quantità di lubrificante - Lubricant Quantity - Schmiermittelmenge - [Kg]										OPT1	Tappi-Plug-Stopf		
		Size IN	M1	M2	M3	M4	M5	M6	Size OUT	M1-M2-M3 M4-M5-M6		N°	Diameter	Type
CBU		40/63	63	0.030					40	0.060	INOIL_STD	1	1/4"	
		50/63	63						50	0.105		1	1/4"	
		40/71	71	0.040					40	0.060		1	1/4"	
		50/71	71						50	0.105		1	1/4"	
		63/71	71						63	0.240		1	1/4"	
		63/90	90	0.080					63	0.240		1	1/4"	
		75/90	90						75	0.450		1	1/4"	
		90/90	90						90	1.000		1	1/4"	
		110/90	90						110	1.600		1	3/8"	

 **Attenzione !:**
Il tappo di sfiato è allegato solo nei riduttori che hanno più di un tappo olio

Nota: Se in fase d'ordine la posizione di montaggio è omessa, il riduttore verrà fornito con i tappi predisposti per la posizione M1.

Eventuali forniture con predisposizioni tappi diverse da quella indicata in tabella, dovranno essere concordate.

Warning!:
A breather plug is supplied only with worm gearboxes that have more than one oil plug

Note: If the mounting position is not specified in the order, the worm gearbox supplied will have plugs pre-arranged for position M1.

The supply of gearboxes with different plug pre-arrangements has to be agreed with the manufacturer.

Achtung!:
Der Entlüftungsstopfen ist lediglich bei den Getrieben vorhanden, die über mehr als einen Ölfüllstopfen verfügen

Anmerkung: Sollte in der Auftragsphase die Einbaulage nicht angegeben werden, wird das Getriebe mit Stopfen für die Einbaulage M1.

Lieferungen, die eine Auslegung hinsichtlich der Stopfen aufweisen, die von den Angaben in der Tabelle abweichen, müssen vorab vereinbart werden..



1.6 Prestazioni riduttori

1.6 Gearboxes performances

1.6 Leistungen der Getriebe

CBR 40/63 - CBU 40/63

70 Nm



CBR - 3.1
CBU - 3.1

ir	IR INPUT	IR OUTPUT	$n_1 = 1400 \text{ min}^{-1}$							IEC
			n_2 Output speed	T_{2M} Output torque	P Input Power	RD Efficiency	F_{R2-OUT} Radial Load Std bearing	F_{a2-OUT} Axial Load Std bearing	P_{tn}	
			min^{-1}	Nm	kW	%	N	N	kW	
21.3	4.25	5	65.9	44.9	0.39	79	1419	284	0.80	page A10
29.8	4.25	7	47.1	61.3	0.39	77	1571	314	0.73	
31.1	6.22	5	45.0	31.7	0.19	79	1589	318	0.78	
42.5	4.25	10	32.9	65.3	0.30	75	1731	346	0.68	
43.6	6.22	7	32.1	43.2	0.19	77	1741	348	0.71	
62.2	6.22	10	22.5	60.2	0.19	75	1902	380	0.66	
63.8	4.25	15	22.0	65.3	0.22	69	1914	383	0.54	
85.0	4.25	20	16.5	58.4	0.16	63	2044	409	0.46	
93.3	6.22	15	15.0	69.1	0.16	68	2085	417	0.52	
119.0	4.25	28	11.8	65.3	0.14	57	2300	460	0.39	
124.4	6.22	20	11.3	62.9	0.12	62	2300	460	0.44	
170.0	4.25	40	8.2	59.8	0.10	49	2300	460	0.33	
174.2	6.22	28	8.0	69.1	0.11	55	2300	460	0.37	
208.3	4.25	49	6.7	56.3	0.09	45	2300	460	0.30	
238.0	4.25	56	5.9	52.7	0.07	43	2300	460	0.29	
248.9	6.22	40	5.6	64.0	0.08	47	2300	460	0.32	
297.5	4.25	70	4.7	41.5	0.06	35	2300	460	0.26	
304.9	6.22	49	4.6	60.1	0.07	44	2300	460	0.30	
340.0	4.25	80	4.1	38.0	0.05	35	2300	460	0.26	
348.4	6.22	56	4.0	56.1	0.06	42	2300	460	0.29	
425.0	4.25	100	3.3	32.7	0.03	35	2300	460	0.26	
435.6	6.22	70	3.2	44.3	0.04	34	2300	460	0.25	
497.8	6.22	80	2.8	40.4	0.03	35	2300	460	0.26	
622.2	6.22	100	2.3	33.7	0.02	34	2300	460	0.25	

CBR 40/71 - CBU 40/71

70 Nm



CBR - 3.7
CBU - 3.7

ir	IR INPUT	IR OUTPUT	$n_1 = 1400 \text{ min}^{-1}$							IEC
			n_2 Output speed	T_{2M} Output torque	P Input Power	RD Efficiency	F_{R2-OUT} Radial Load Std bearing	F_{a2-OUT} Axial Load Std bearing	P_{tn}	
			min^{-1}	Nm	kW	%	N	N	kW	
24.0	4.80	5	58.3	65.1	0.50	79	1474	295	0.79	page A10
33.6	4.80	7	41.7	65.1	0.37	77	1625	325	0.73	
38.3	7.67	5	36.4	70.0	0.34	79	1687	337	0.79	
48.0	4.80	10	29.2	66.6	0.27	75	1786	357	0.67	
53.7	7.67	7	26.0	70.0	0.25	77	1839	368	0.73	
72.0	4.80	15	19.4	66.6	0.20	69	1969	394	0.54	
76.7	7.67	10	18.2	70.0	0.18	75	1999	400	0.67	
96.0	4.80	20	14.6	60.0	0.15	63	2099	420	0.45	
115.0	7.67	15	12.1	70.0	0.13	69	2300	460	0.54	
134.4	4.80	28	10.4	66.6	0.13	56	2300	460	0.38	
153.3	7.67	20	9.1	65.8	0.10	63	2300	460	0.45	
192.0	4.80	40	7.3	61.3	0.10	49	2300	460	0.32	
214.7	7.67	28	6.5	70.0	0.08	56	2300	460	0.38	
235.2	4.80	49	6.0	57.6	0.08	45	2300	460	0.30	
268.8	4.80	56	5.2	53.9	0.07	43	2300	460	0.29	
306.7	7.67	40	4.5	66.5	0.07	49	2300	460	0.32	
336.0	4.80	70	4.2	42.6	0.05	35	2300	460	0.26	
375.7	7.67	49	3.7	62.2	0.05	45	2300	460	0.30	
384.0	4.80	80	3.6	38.9	0.04	35	2300	460	0.26	
429.3	7.67	56	3.2	57.9	0.05	43	2300	460	0.29	
480.0	4.80	100	2.9	33.1	0.03	35	2300	460	0.25	
536.7	7.67	70	2.6	45.9	0.04	35	2300	460	0.26	
613.3	7.67	80	2.3	42.2	0.03	35	2300	460	0.26	
766.7	7.67	100	1.8	34.3	0.02	35	2300	460	0.25	

I pesi riportati sono indicativi e possono variare in funzione della versione del

Listed weights are for reference only and can vary according to the gearbox version.

Die angegebenen Gewichte sind Richtwerte und können je nach Getriebe-



1.6 Prestazioni riduttori

1.6 Gearboxes performances

1.6 Leistungen der Getriebe

CBR 50/63 - CBU 50/63

110 Nm

CBR - 4.8
CBU - 4.5

ir	IR INPUT	IR OUTPUT	$n_1 = 1400 \text{ min}^{-1}$							IEC
			n_2	T_{2M}	P	RD	F_{R2-OUT}	F_{a2-OUT}	P_{tn}	
			Output speed	Output torque	Input Power	Efficiency	Radial Load Std bearing	Axial Load Std bearing		
			min^{-1}	Nm	kW	%	N	N	kW	
21.3	4.25	5	65.9	45.5	0.39	80	1832	366	1.24	page A10
29.8	4.25	7	47.1	62.2	0.39	78	2062	412	1.13	
31.1	6.22	5	45.0	32.0	0.19	79	2092	418	1.18	
42.5	4.25	10	32.9	85.5	0.19	75	2337	467	0.99	
43.6	6.22	7	32.1	43.7	0.39	77	2354	471	1.08	
62.2	6.22	10	22.5	60.0	0.39	74	2668	534	0.95	
63.8	4.25	15	22.0	108.0	0.33	74	2694	539	0.92	
85.0	4.25	20	16.5	107.0	0.19	68	2980	596	0.75	
93.3	6.22	15	15.0	87.7	0.19	73	3076	615	0.88	
119.0	4.25	28	11.8	110.0	0.18	60	3200	640	0.60	
124.4	6.22	20	11.3	105.9	0.25	66	3200	640	0.71	
170.0	4.25	40	8.2	109.0	0.13	55	3200	640	0.54	
174.2	6.22	28	8.0	110.0	0.19	58	3200	640	0.58	
208.3	4.25	49	6.7	104.0	0.11	51	3200	640	0.50	
238.0	4.25	56	5.9	102.0	0.09	49	3200	640	0.48	
248.9	6.22	40	5.6	110.0	0.11	53	3200	640	0.52	
297.5	4.25	70	4.7	94.0	0.09	45	3200	640	0.44	
304.9	6.22	49	4.6	109.0	0.11	49	3200	640	0.48	
340.0	4.25	80	4.1	75.0	0.07	39	3200	640	0.40	
348.4	6.22	56	4.0	108.0	0.07	47	3200	640	0.46	
425.0	4.25	100	3.3	60.0	0.07	36	3200	640	0.38	
435.6	6.22	70	3.2	100.0	0.08	43	3200	640	0.43	
497.8	6.22	80	2.8	75.0	0.06	37	3200	640	0.39	
622.2	6.22	100	2.3	60.0	0.04	34	3200	640	0.37	



CBR 50/71 - CBU 50/71

110 Nm

CBR - 5.4
CBU - 5.1

ir	IR INPUT	IR OUTPUT	$n_1 = 1400 \text{ min}^{-1}$							IEC
			n_2	T_{2M}	P	RD	F_{R2-OUT}	F_{a2-OUT}	P_{tn}	
			Output speed	Output torque	Input Power	Efficiency	Radial Load Std bearing	Axial Load Std bearing		
			min^{-1}	Nm	kW	%	N	N	kW	
24.0	4.80	5	58.3	81.2	0.62	80	1912	382	1.24	page A10
33.6	4.80	7	41.7	107.0	0.60	78	2152	430	1.13	
38.3	7.67	5	36.5	75.7	0.36	79	2257	451	1.18	
48.0	4.80	10	29.2	108.0	0.44	75	2439	488	0.99	
53.7	7.67	7	26.1	103.4	0.36	77	2540	508	1.08	
72.0	4.80	15	19.4	109.0	0.30	74	2812	562	0.92	
76.7	7.67	10	18.3	110.0	0.28	74	2879	576	0.95	
96.0	4.80	20	14.6	108.0	0.25	67	3110	622	0.73	
115.0	7.67	15	12.2	110.0	0.19	73	3200	640	0.88	
134.4	4.80	28	10.4	110.0	0.20	60	3200	640	0.60	
153.3	7.67	20	9.1	110.0	0.16	66	3200	640	0.71	
192.0	4.80	40	7.3	109.0	0.15	55	3200	640	0.54	
214.7	7.67	28	6.5	110.0	0.13	58	3200	640	0.58	
235.2	4.80	49	6.0	106.0	0.13	51	3200	640	0.50	
268.8	4.80	56	5.2	104.0	0.12	49	3200	640	0.48	
306.7	7.67	40	4.6	110.0	0.10	53	3200	640	0.52	
336.0	4.80	70	4.2	96.0	0.09	44	3200	640	0.43	
375.7	7.67	49	3.7	110.0	0.09	49	3200	640	0.48	
384.0	4.80	80	3.6	75.0	0.07	39	3200	640	0.40	
429.3	7.67	56	3.3	110.0	0.08	46	3200	640	0.45	
480.0	4.80	100	2.9	60.0	0.05	36	3200	640	0.38	
536.7	7.67	70	2.6	103.0	0.07	42	3200	640	0.42	
613.3	7.67	80	2.3	75.0	0.05	37	3200	640	0.39	
766.7	7.67	100	1.8	60.0	0.03	34	3200	640	0.37	

I pesi riportati sono indicativi e possono variare in funzione della versione del

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Die angegebenen Gewichte sind Richtwerte und können je nach Getriebe-



1.6 Prestazioni riduttori

1.6 Gearboxes performances

1.6 Leistungen der Getriebe

CBR 63/71 - CBU 63/71

245 Nm



CBR - 7.6
CBU - 7.6

ir	IR INPUT	IR OUTPUT	$n_1 = 1400 \text{ min}^{-1}$							IEC
			n_2 Output speed	T_{2M} Output torque	P Input Power	RD Efficiency	F_{R2-OUT} Radial Load Std bearing	F_{a2-OUT} Axial Load Std bearing	P_{tn}	
			min^{-1}	Nm	kW	%	N	N	kW	
24.0	4.80	5	58.3	82.2	0.62	81	2012	402	1.85	page A10
33.6	4.80	7	41.7	112.3	0.62	79	2267	453	1.67	
38.3	7.67	5	36.5	76.4	0.36	80	2379	476	1.73	
48.0	4.80	10	29.2	154.4	0.62	76	2572	514	1.47	
53.7	7.67	7	26.1	104.3	0.36	78	2679	536	1.58	
72.0	4.80	15	19.4	216.8	0.62	72	2969	594	1.21	
76.7	7.67	10	18.3	143.4	0.36	75	3040	608	1.39	
96.0	4.80	20	14.6	223.0	0.50	69	3287	657	1.10	
115.0	7.67	15	12.2	200.3	0.36	70	3300	660	1.15	
134.4	4.80	28	10.4	218.0	0.39	61	3300	660	0.88	
153.3	7.67	20	9.1	241.6	0.34	67	3300	660	1.05	
192.0	4.80	40	7.3	227.0	0.31	56	3300	660	0.78	
214.7	7.67	28	6.5	237.5	0.28	58	3300	660	0.83	
235.2	4.80	49	6.0	192.0	0.23	52	3300	660	0.72	
268.8	4.80	56	5.2	195.0	0.21	50	3300	660	0.69	
306.7	7.67	40	4.6	243.7	0.22	53	3300	660	0.74	
336.0	4.80	70	4.2	178.0	0.17	46	3300	660	0.64	
375.7	7.67	49	3.7	208.5	0.16	50	3300	660	0.69	
384.0	4.80	80	3.6	166.0	0.15	43	3300	660	0.61	
429.3	7.67	56	3.3	211.5	0.15	47	3300	660	0.66	
480.0	4.80	100	2.9	132.0	0.11	38	3300	660	0.56	
536.7	7.67	70	2.6	191.9	0.12	44	3300	660	0.61	
613.3	7.67	80	2.3	178.6	0.11	41	3300	660	0.58	
766.7	7.67	100	1.8	136.2	0.07	36	3300	660	0.54	

CBR 63/90 - CBU 63/90

245 Nm



CBR - 9.6
CBU - 9.6

ir	IR INPUT	IR OUTPUT	$n_1 = 1400 \text{ min}^{-1}$							IEC
			n_2 Output speed	T_{2M} Output torque	P Input Power	RD Efficiency	F_{R2-OUT} Radial Load Std bearing	F_{a2-OUT} Axial Load Std bearing	P_{tn}	
			min^{-1}	Nm	kW	%	N	N	kW	
25.4	5.08	5	55.1	209.8	1.49	81	2056	411	1.83	page A10
35.6	5.08	7	39.3	214.8	1.12	79	2316	463	1.65	
40.5	8.10	5	34.6	233.6	1.06	80	2422	484	1.72	
50.8	5.08	10	27.5	221.8	0.84	76	2627	525	1.45	
56.7	8.10	7	24.7	236.3	0.78	78	2728	546	1.57	
76.3	5.08	15	18.4	222.3	0.60	72	3033	607	1.21	
81.0	8.10	10	17.3	241.8	0.58	75	3095	619	1.38	
101.7	5.08	20	13.8	225.8	0.48	68	3300	660	1.09	
121.5	8.10	15	11.5	241.8	0.42	70	3300	660	1.14	
142.3	5.08	28	9.8	220.6	0.38	60	3300	660	0.86	
162.0	8.10	20	8.6	243.4	0.33	67	3300	660	1.04	
203.3	5.08	40	6.9	229.6	0.30	55	3300	660	0.77	
226.8	8.10	28	6.2	240.1	0.27	58	3300	660	0.82	
249.1	5.08	49	5.6	194.6	0.22	51	3300	660	0.71	
284.7	5.08	56	4.9	197.6	0.21	49	3300	660	0.68	
324.0	8.10	40	4.3	245.1	0.21	53	3300	660	0.73	
355.8	5.08	70	3.9	179.6	0.16	45	3300	660	0.63	
396.9	8.10	49	3.5	210.8	0.16	50	3300	660	0.68	
406.7	5.08	80	3.4	167.3	0.14	42	3300	660	0.60	
453.6	8.10	56	3.1	213.8	0.15	47	3300	660	0.65	
508.3	5.08	100	2.8	132.5	0.10	38	3300	660	0.55	
567.0	8.10	70	2.5	193.9	0.12	43	3300	660	0.61	
648.0	8.10	80	2.2	180.4	0.10	40	3300	660	0.58	
810.0	8.10	100	1.7	136.8	0.07	36	3300	660	0.54	

I pesi riportati sono indicativi e possono variare in funzione della versione del

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Die angegebenen Gewichte sind Richtwerte und können je nach Getriebe-

1.6 Prestazioni riduttori

1.6 Gearboxes performances

1.6 Leistungen der Getriebe

CBR 70/71

280 Nm



CBR - 9.1

ir	IR INPUT	IR OUTPUT	$n_1 = 1400 \text{ min}^{-1}$							IEC
			n_2 Output speed	T_{2M} Output torque	P Input Power	RD Efficiency	F_{R2-OUT} Radial Load Std bearing	F_{a2-OUT} Axial Load Std bearing	P_{tn}	
			min^{-1}	Nm	kW	%	N	N	kW	
33.6	4.80	7	41.7	112.2	0.62	79	3375	675	1.84	page A10
48.0	4.80	10	29.2	154.3	0.62	76	3872	774	1.61	
53.7	7.67	7	26.1	104.3	0.36	78	4049	810	1.74	
72.0	4.80	15	19.4	217.5	0.62	72	4527	905	1.35	
76.7	7.67	10	18.3	143.4	0.36	75	4645	929	1.53	
96.0	4.80	20	14.6	248.9	0.56	68	5057	1011	1.18	
115.0	7.67	15	12.2	200.3	0.36	70	4700	940	1.27	
134.4	4.80	28	10.4	238.1	0.44	59	4700	940	0.93	
153.3	7.67	20	9.1	253.2	0.36	66	4700	940	1.13	
192.0	4.80	40	7.3	255.8	0.36	55	4700	940	0.84	
214.7	7.67	28	6.5	264.9	0.32	57	4700	940	0.89	
235.2	4.80	49	6.0	259.8	0.32	51	4700	940	0.77	
268.8	4.80	56	5.2	258.4	0.29	49	4700	940	0.74	
306.7	7.67	40	4.6	277.5	0.25	53	4700	940	0.80	
336.0	4.80	70	4.2	227.6	0.23	44	4700	940	0.68	
375.7	7.67	49	3.7	280.2	0.23	48	4700	940	0.74	
384.0	4.80	80	3.6	213.5	0.20	41	4700	940	0.64	
429.3	7.67	56	3.3	278.8	0.20	46	4700	940	0.71	
480.0	4.80	100	2.9	177.8	0.14	38	4700	940	0.61	
536.7	7.67	70	2.6	246.2	0.16	42	4700	940	0.65	
613.3	7.67	80	2.3	230.8	0.14	39	4700	940	0.62	
766.7	7.67	100	1.8	184.5	0.10	36	4700	940	0.59	



CBR 70/90

280 Nm



CBR - 11.1

ir	IR INPUT	IR OUTPUT	$n_1 = 1400 \text{ min}^{-1}$							IEC
			n_2 Output speed	T_{2M} Output torque	P Input Power	RD Efficiency	F_{R2-OUT} Radial Load Std bearing	F_{a2-OUT} Axial Load Std bearing	P_{tn}	
			min^{-1}	Nm	kW	%	N	N	kW	
35.6	5.08	7	39.3	242.4	1.26	79	3455	691	1.82	page A10
50.8	5.08	10	27.5	251.6	0.95	76	3964	793	1.60	
56.7	8.10	7	24.7	272.5	0.90	78	4129	826	1.73	
76.3	5.08	15	18.4	248.6	0.67	72	4633	927	1.34	
81.0	8.10	10	17.3	277.4	0.67	75	4737	947	1.52	
101.7	5.08	20	13.8	252.1	0.54	68	4700	940	1.17	
121.5	8.10	15	11.5	275.2	0.48	70	4700	940	1.25	
142.3	5.08	28	9.8	241.1	0.42	59	4700	940	0.93	
162.0	8.10	20	8.6	276.9	0.38	66	4700	940	1.13	
203.3	5.08	40	6.9	258.8	0.34	54	4700	940	0.83	
226.8	8.10	28	6.2	270.3	0.31	57	4700	940	0.88	
249.1	5.08	49	5.6	262.8	0.31	50	4700	940	0.77	
284.7	5.08	56	4.9	261.3	0.28	49	4700	940	0.74	
324.0	8.10	40	4.3	280.1	0.24	52	4700	940	0.80	
355.8	5.08	70	3.9	230.1	0.22	44	4700	940	0.67	
396.9	8.10	49	3.5	282.3	0.22	48	4700	940	0.73	
406.7	5.08	80	3.4	215.8	0.19	41	4700	940	0.64	
453.6	8.10	56	3.1	281.2	0.20	46	4700	940	0.71	
508.3	5.08	100	2.8	178.8	0.14	38	4700	940	0.61	
567.0	8.10	70	2.5	248.7	0.16	41	4700	940	0.65	
648.0	8.10	80	2.2	233.2	0.14	38	4700	940	0.62	
810.0	8.10	100	1.7	185.3	0.09	36	4700	940	0.59	

I pesi riportati sono indicativi e possono variare in funzione della versione del

Listed weights are for reference only and can vary according to the gearbox version.

Die angegebenen Gewichte sind Richtwerte und können je nach Getriebe-



1.6 Prestazioni riduttori

1.6 Gearboxes performances

1.6 Leistungen der Getriebe

CBU 75/90			435 Nm		 CBU - 12.6					
ir	IR INPUT	IR OUTPUT	n ₁ = 1400 min ⁻¹							IEC
			n ₂ Output speed	T _{2M} Ouput torque	P Input Power	RD Efficiency	F _{R2-OUT} Radial Load Std bearing	F _{a2-OUT} Axial Load Std bearing	P _{tn}	
			min ⁻¹	Nm	kW	%	N	N	kW	
35.6	5.08	7	39.3	354.7	1.84	79	3617	723	1.91	page A10
50.8	5.08	10	27.5	384.7	1.45	77	4148	830	1.71	
56.7	8.10	7	24.7	331.3	1.10	78	4320	864	1.81	
76.3	5.08	15	18.4	388.7	1.04	72	4846	969	1.42	
81.0	8.10	10	17.3	431.2	1.03	76	4954	991	1.62	
101.7	5.08	20	13.8	347.2	0.73	69	5200	1040	1.28	
121.5	8.10	15	11.5	433.3	0.75	70	5200	1040	1.33	
142.3	5.08	28	9.8	406.2	0.71	59	5200	1040	0.97	
162.0	8.10	20	8.6	385.0	0.52	67	5200	1040	1.22	
203.3	5.08	40	6.9	353.6	0.46	55	5200	1040	0.89	
226.8	8.10	28	6.2	448.8	0.51	57	5200	1040	0.92	
249.1	5.08	49	5.6	333.6	0.38	51	5200	1040	0.82	
284.7	5.08	56	4.9	296.6	0.30	50	5200	1040	0.80	
324.0	8.10	40	4.3	389.1	0.33	53	5200	1040	0.85	
355.8	5.08	70	3.9	291.1	0.26	46	5200	1040	0.73	
396.9	8.10	49	3.5	366.2	0.28	49	5200	1040	0.78	
406.7	5.08	80	3.4	265.6	0.22	43	5200	1040	0.69	
453.6	8.10	56	3.1	324.4	0.22	48	5200	1040	0.76	
508.3	5.08	100	2.8	218.5	0.16	39	5200	1040	0.65	
567.0	8.10	70	2.5	312.1	0.19	43	5200	1040	0.70	
648.0	8.10	80	2.2	278.1	0.16	40	5200	1040	0.67	
810.0	8.10	100	1.7	226.7	0.11	37	5200	1040	0.63	

CBR 85/90			500 Nm		 CBR - 17.6					
ir	IR INPUT	IR OUTPUT	n ₁ = 1400 min ⁻¹							IEC
			n ₂ Output speed	T _{2M} Ouput torque	P Input Power	RD Efficiency	F _{R2-OUT} Radial Load Std bearing	F _{a2-OUT} Axial Load Std bearing	P _{tn}	
			min ⁻¹	Nm	kW	%	N	N	kW	
35.6	5.08	7	39.3	354.7	1.84	79	3859	772	2.43	page A10
50.8	5.08	10	27.5	476.9	1.78	77	4418	884	2.22	
56.7	8.10	7	24.7	331.3	1.10	78	4599	920	2.30	
76.3	5.08	15	18.4	475.9	1.26	73	5152	1030	1.85	
81.0	8.10	10	17.3	461.4	1.10	76	5264	1053	2.11	
101.7	5.08	20	13.8	483.6	0.99	70	5800	1160	1.71	
121.5	8.10	15	11.5	500.0	0.85	71	5800	1160	1.73	
142.3	5.08	28	9.8	455.4	0.79	59	5800	1160	1.25	
162.0	8.10	20	8.6	500.0	0.66	69	5800	1160	1.62	
203.3	5.08	40	6.9	481.1	0.62	56	5800	1160	1.16	
226.8	8.10	28	6.2	489.1	0.56	57	5800	1160	1.18	
249.1	5.08	49	5.6	456.9	0.51	52	5800	1160	1.07	
284.7	5.08	56	4.9	439.4	0.43	52	5800	1160	1.07	
324.0	8.10	40	4.3	500.0	0.42	54	5800	1160	1.10	
355.8	5.08	70	3.9	404.6	0.35	48	5800	1160	0.97	
396.9	8.10	49	3.5	489.1	0.36	50	5800	1160	1.02	
406.7	5.08	80	3.4	373.4	0.30	45	5800	1160	0.92	
453.6	8.10	56	3.1	478.1	0.31	50	5800	1160	1.01	
508.3	5.08	100	2.8	315.6	0.23	39	5800	1160	0.84	
567.0	8.10	70	2.5	440.3	0.25	45	5800	1160	0.93	
648.0	8.10	80	2.2	403.7	0.22	42	5800	1160	0.88	
810.0	8.10	100	1.7	331.5	0.16	37	5800	1160	0.81	

I pesi riportati sono indicativi e possono variare in funzione della versione del
Listed weights are for reference only and can vary according to the gearbox version.
Die angegebenen Gewichte sind Richtwerte und können je nach Getriebe-



1.6 Prestazioni riduttori

1.6 Gearboxes performances

1.6 Leistungen der Getriebe

CBU 90/90

750 Nm



CBU - 17.6

ir	IR INPUT	IR OUTPUT	$n_1 = 1400 \text{ min}^{-1}$							IEC
			n_2 Output speed	T_{2M} Output torque	P Input Power	RD Efficiency	F_{R2-OUT} Radial Load Std bearing	F_{a2-OUT} Axial Load Std bearing	P_{tn}	
			min^{-1}	Nm	kW	%	N	N	kW	
35.6	5.08	7	39.3	358.6	1.84	80	4664	933	2.93	page A10
50.8	5.08	10	27.5	499.7	1.84	78	5364	1073	2.67	
56.7	8.10	7	24.7	334.5	1.10	79	5591	1118	2.75	
76.3	5.08	15	18.4	629.3	1.66	73	6288	1258	2.17	
81.0	8.10	10	17.3	466.0	1.10	77	6430	1286	2.52	
101.7	5.08	20	13.8	630.3	1.28	71	7025	1405	2.02	
121.5	8.10	15	11.5	647.9	1.10	71	7025	1405	2.03	
142.3	5.08	28	9.8	674.8	1.13	61	7025	1405	1.51	
162.0	8.10	20	8.6	699.8	0.91	69	7025	1405	1.92	
203.3	5.08	40	6.9	642.3	0.80	58	7025	1405	1.39	
226.8	8.10	28	6.2	746.3	0.82	59	7025	1405	1.43	
249.1	5.08	49	5.6	574.7	0.62	54	7025	1405	1.28	
284.7	5.08	56	4.9	531.7	0.51	53	7025	1405	1.26	
324.0	8.10	40	4.3	706.5	0.58	55	7025	1405	1.32	
355.8	5.08	70	3.9	470.7	0.40	49	7025	1405	1.14	
396.9	8.10	49	3.5	630.8	0.45	52	7025	1405	1.22	
406.7	5.08	80	3.4	421.6	0.33	46	7025	1405	1.09	
453.6	8.10	56	3.1	582.6	0.37	51	7025	1405	1.19	
508.3	5.08	100	2.8	331.6	0.23	41	7025	1405	1.00	
567.0	8.10	70	2.5	514.3	0.29	46	7025	1405	1.09	
648.0	8.10	80	2.2	438.3	0.23	44	7025	1405	1.04	
810.0	8.10	100	1.7	344.5	0.16	39	7025	1405	0.96	



CBR 110/90 - CBU 110/90

1000 Nm

CBR - 34.0
CBU - 25.6

ir	IR INPUT	IR OUTPUT	$n_1 = 1400 \text{ min}^{-1}$							IEC
			n_2 Output speed	T_{2M} Output torque	P Input Power	RD Efficiency	F_{R2-OUT} Radial Load Std bearing	F_{a2-OUT} Axial Load Std bearing	P_{tn}	
			min^{-1}	Nm	kW	%	N	N	kW	
35.6	5.08	7	39.3	362.4	1.84	81	5457	1091	4.35	page A10
50.8	5.08	10	27.5	505.2	1.84	79	6298	1260	3.95	
56.7	8.10	7	24.7	337.8	1.10	79	6572	1314	4.06	
76.3	5.08	15	18.4	706.0	1.84	73	7413	1483	3.14	
81.0	8.10	10	17.3	470.6	1.10	78	7586	1517	3.71	
101.7	5.08	20	13.8	916.2	1.84	72	8250	1650	2.93	
121.5	8.10	15	11.5	652.4	1.10	72	8250	1650	2.94	
142.3	5.08	28	9.8	949.3	1.55	63	8250	1650	2.26	
162.0	8.10	20	8.6	851.4	1.10	70	8250	1650	2.79	
203.3	5.08	40	6.9	968.5	1.18	59	8250	1650	2.05	
226.8	8.10	28	6.2	1000.0	1.06	61	8250	1650	2.13	
249.1	5.08	49	5.6	928.8	0.97	56	8250	1650	1.91	
284.7	5.08	56	4.9	735.2	0.70	54	8250	1650	1.83	
324.0	8.10	40	4.3	1000.0	0.79	57	8250	1650	1.94	
355.8	5.08	70	3.9	756.0	0.63	49	8250	1650	1.65	
396.9	8.10	49	3.5	986.9	0.68	54	8250	1650	1.79	
406.7	5.08	80	3.4	755.5	0.57	48	8250	1650	1.59	
453.6	8.10	56	3.1	798.7	0.50	52	8250	1650	1.74	
508.3	5.08	100	2.8	633.4	0.43	43	8250	1650	1.46	
567.0	8.10	70	2.5	819.3	0.45	47	8250	1650	1.58	
648.0	8.10	80	2.2	800.9	0.40	45	8250	1650	1.52	
810.0	8.10	100	1.7	659.1	0.30	40	8250	1650	1.40	

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Die angegebenen Gewichte sind Richtwerte und können je nach Getriebe-



1.6 Prestazioni Limitatore

Nelle tabelle seguenti sono riportate le coppie di slittamento M_{2S} in funzione del numero dei giri del dado, o della ghiera di regolazione ottenibili con la disposizione standard delle molle (par. 1.6.1).

Tali valori prescindono dalle prestazioni delle dentature.

Valori più elevati di M_{2S} si possono ottenere, a richiesta, con una diversa disposizione delle molle.

I valori di taratura si riferiscono ad una condizione statica (durante lo slittamento la coppia trasmessa decade considerevolmente) ed hanno un significato indicativo in quanto ottenuti per via teorica.

E' opportuno verificare periodicamente la coppia di taratura soprattutto durante la prima fase di funzionamento.

16 Performances limiter

In the following tables the slipping torques M_{2S} are listed according to number of turns of nut or ring nut obtainable with a standard arrangement of the springs (chapter 1.6.1).

Such data prescind from tothing performances.

M_{2S} higher values can eventually be obtained with a different arrangement of the springs.

Calibration values refer to a static condition (during slippage torque reports a considerable decrease) and are approximate being calculated on a theoretic basis. It is important therefore to check the calibration torque periodically especially during first phase of running.

1.6 Leistungen der Rutschkupplung

In der folgenden Tabelle sind die Rutschmomente M_{2S} dargestellt, wie sie je nach Stellung der Sechskant- oder Nutmutter mit der Standardanordnung der Tellerfedern erreicht werden (siehe kapitel 1.6.1).

Diese Werte lassen die maximal übertragbare Leistung der Getriebe in Abhängigkeit von der Untersezung jedoch außer acht.

Mit einer anderen Anordnung der Tellerfedern können auch größere Rutschmomente M_{2S} erreicht werden.

Die angegebenen Werte sind statische Momente (das Rutschmoment nimmt während des Schlupfvorganges ab) und sind nur als Näherungswerte zu betrachten.

Das eingestellte Rutschmoment sollte in der Einlaufphase in periodischen Abständen überprüft und gegebenenfalls korrigiert werden.

TM			LP LC						LF													
Taratura maggiorata Heavy calibration Erhöhtes Ansprechmoment			N° GIRI DEL DADO DI REGOLAZIONE N° OF TURNS OF ADJUSTEMENT RING NUT DREHUNGEN DER EINSTELLMUTTER								N° GIRI DEL DADO DI REGOLAZIONE N° OF TURNS OF ADJUSTEMENT RING NUT DREHUNGEN DER EINSTELLMUTTER											
	CBR	ir OUTPUT	1/2	2/3	1	1 1/3	1 2/3	2	2 1/3	1/4	1/2	2/3	1	1 1/3	1 2/3	2	2 1/3	2 2/3	3	3 1/3	3 2/3	4
			M _{2s} (Nm)								M _{2s} (Nm)											
	40/63 40/71		40	53	77	91				15	28	36	51	64	75	86	97					
	50/63 50/71		50	65	93	128					21	40	52	74	93	110	126	141	154	167		
	63/71 63/90		96	125	178	231	288				51	100	130	190	245	295	345	385	440	480		
	70/71 70/90		96	125	178	231	288				38	74	96	135	175	210	240	270	300	320	350	
	85/90	7-10-15-28	146	185	263	350	414	471	542	100	125	160	230	300	360	410	460	510	560	600	640	680
		20-40-49	161	204	289	385	456	518	596	110	135	180	255	330	390	450	510	560	610	650	700	750
		56 - 100	176	223	316	420	497	566	651	120	150	195	280	350	425	490	550	610	665	715	765	815
	110/90	7-10-15-28	261	342	501	653	805	945		190	380	500	740	930	1150	1350	1500	1700	1850	2020	2180	—
		20-40-49	282	369	541	705	869	1021		200	400	540	780	1000	1230	1430	1620	1800	2000	2170	2360	—
		56 - 100	323	424	621	810	998	1172		220	450	600	900	1150	1380	1620	1840	2070	2300	2500	2700	—

ATTENZIONE !

Quando è richiesto il minimo errore di taratura è opportuno verificare in pratica, staticamente, che la frizione slitti effettivamente al valore desiderato è comunque consigliabile testare la coppia trasmissibile direttamente sulla macchina utilizzatrice.

ATTENTION !

When minimum calibration error is required it is always advisable to actually verify, statically, that clutch slips at the required value. We suggest, however, to test the torque directly on to the machine.

ACHTUNG !

Um Abweichungen zu vermeiden, müssen die eingestellten Momente im eingebauten Zustand kontrolliert und eventuell korrigiert werden.

1.6 Prestazioni Limitatore

1.6.1 Disposizione delle molle

La disposizione standard delle molle garantisce una buona sensibilità di regolazione e consente di trasmettere la massima coppia nominale del riduttore.

CBR	LP LC		
		TM	
40/63 40/71		6 molle/springs 23/12.2/1.5	
50/63 50/71		6 molle/springs 31.5/16.3/1.75	
63/71 63/90		6 molle/springs 31.5/16.3/2	
70/71 70/90		6 molle/springs 34/16.3/2	
85/90		9 molle/springs 40/18.3/2	
110/10		9 molle/springs 45/22.4/2.5	

16 Performances limiter

1.6.1 Springs arrangement

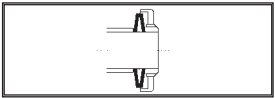
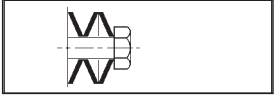
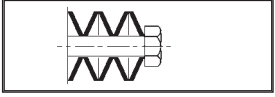
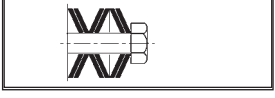
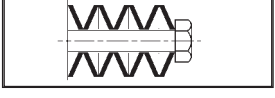
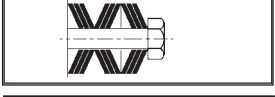
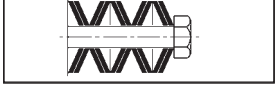
Standard arrangement of springs guarantees an acceptable setting and enables the gearbox to transmit the maximum nominal torque

1.6 Leistungen der Rutschkupplung

1.6.1 Anordnung der Tellerfedern

Die Standardanordnung der Tellerfedern erlaubt eine feinfühlige Einstellung des Rutschmomentes bis zum maximalen Nennmoment des Getriebes.

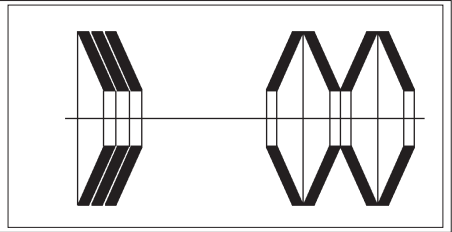
LF	
	TM
	2 molle/springs 63/31/2.5
	2 molle/springs 80/41/3
	2 molle/springs 80/41/4
	2 molle/springs 90/46/3.5
	2 molle/springs 100/51/4
	2 molle/springs 125/61/6

2	
3	
5	
6	
7	
9	
10	

Per problemi specifici è opportuno consultarci, ma a livello indicativo si può affermare che accoppiando più molle con lo stesso verso (in parallelo) si incrementa la coppia massima di slittamento raggiungibile; viceversa alternandone il posizionamento in serie si aumenta la sensibilità di taratura.

Should the user require any specific information, we suggest to contact our technical department. On a general basis, however, if the springs are arranged in the same direction, a higher maximum torque of slippage can be reached; on the contrary by alternating their arrangement the calibration sensitivity is increased.

IN PARALLELO	IN SERIE
max. coppia	min. coppia
min. sensibilità	max. sensibilità
PARALLEL	SERIES
max. torque	min. torque
min. sensitivity	max. sensitivity
PARALLEL	SERIE
max. Moment	min. Moment
min. Empfindlichkeit	max. Empfindlichkeit



Das Rutschmoment ist umso größer, je mehr Tellerfedern parallel angeordnet sind (progressive Federkennlinie). Wird ein niedrigeres Moment oder eine erhöhte Justiergenauigkeit gewünscht, so können die Federn auch gegensinnig angeordnet werden (degressive Federkennlinie). Sollten spezifische Fragen bestehen, so empfehlen wir, unser technisches Büro zu Rate zu ziehen.



1.7 Leistungen der Getriebe

[illegible]

1.7 Leistungen der Getriebe

[illegible]





1.7 Prestazioni motoriduttori

1.7 gearboxes performances

1.7 Leistungen der Getriebe

P ₁ Input Power kW	n ₂ Output speed min ⁻¹	IR ratio -	T ₂ Output torque Nm	FS' Service Factor -	IECT	 GEAR	 EU
0,13	63.1	21.3	15.1	3.0	-	C R/U 50/63 21.3	T63A4
	63.1	21.3	14.9	3.0	-	C R/U 40/63 21.3	T63A4
	55.8	24.0	16.8	3.9	- & G	C R/U 40/71 24	T63A4
	55.8	24.0	17.3	4.7	- & G	C R/U 63/71 24	T63A4
	55.8	24.0	17.1	4.7	- & G	C R/U 50/71 24	T63A4
	45.0	29.8	20.4	3.0	-	C R/U 40/63 29.8	T63A4
	45.0	29.8	20.7	3.0	-	C R/U 50/63 29.8	T63A4
	39.9	33.6	23.0	2.8	- & G	C R/U 40/71 33.6	T63A4
	39.9	33.6	23.4	4.6	- & G	C R/U 50/71 33.6	T63A4
	39.9	33.6	23.6	4.7	- & G	C R 70/71 33.6	T63A4
	39.9	33.6	23.7	4.7	- & G	C R/U 63/71 33.6	T63A4
	35.0	38.3	26.9	2.6	- & G	C R/U 40/71 38.3	T63A4
	35.0	38.3	27.0	2.8	- & G	C R/U 50/71 38.3	T63A4
	35.0	38.3	27.2	2.8	- & G	C R/U 63/71 38.3	T63A4
	31.5	42.5	28.4	2.3	-	C R/U 40/63 42.5	T63A4
	31.5	42.5	28.4	3.0	-	C R/U 50/63 42.5	T63A4
	27.9	48.0	32.0	2.1	- & G	C R/U 40/71 48	T63A4
	27.9	48.0	32.1	3.4	- & G	C R/U 50/71 48	T63A4
	27.9	48.0	32.5	4.7	- & G	C R/U 63/71 48	T63A4
	27.9	48.0	32.5	4.7	- & G	C R 70/71 48	T63A4
	25.0	53.7	36.7	1.9	- & G	C R/U 40/71 53.7	T63A4
	25.0	53.7	36.8	2.8	- & G	C R/U 50/71 53.7	T63A4
	25.0	53.7	37.2	2.8	- & G	C R 70/71 53.7	T63A4
	25.0	53.7	37.2	2.8	- & G	C R/U 63/71 53.7	T63A4
	21.0	63.8	39.2	1.7	-	C R/U 40/63 63.8	T63A4
	21.0	63.8	41.6	2.6	-	C R/U 50/63 63.8	T63A4
	18.6	72.0	43.9	1.5	- & G	C R/U 40/71 72	T63A4
	18.6	72.0	46.9	2.3	- & G	C R/U 50/71 72	T63A4
	18.6	72.0	45.8	4.7	- & G	C R 70/71 72	T63A4
	18.6	72.0	45.7	4.7	- & G	C R/U 63/71 72	T63A4
	17.5	76.7	51.0	1.4	- & G	C R/U 40/71 76.7	T63A4
	17.5	76.7	50.6	2.2	- & G	C R/U 50/71 76.7	T63A4
	17.5	76.7	51.1	2.8	- & G	C R 70/71 76.7	T63A4
	17.5	76.7	51.1	2.8	- & G	C R/U 63/71 76.7	T63A4
	15.8	85.0	47.8	1.2	-	C R/U 40/63 85	T63A4
	15.8	85.0	51.0	2.1	-	C R/U 50/63 85	T63A4
	14.0	96.0	53.6	1.1	- & G	C R/U 40/71 96	T63A4
	14.0	96.0	56.7	1.9	- & G	C R/U 50/71 96	T63A4
	14.0	96.0	58.4	3.8	- & G	C R/U 63/71 96	T63A4
	14.0	96.0	57.8	4.3	- & G	C R 70/71 96	T63A4
	11.7	115.0	70.2	1.0	- & G	C R/U 40/71 115	T63A4
	11.7	115.0	74.0	1.5	- & G	C R/U 50/71 115	T63A4
	11.7	115.0	71.4	2.8	- & G	C R 70/71 115	T63A4
	11.7	115.0	71.4	2.8	- & G	C R/U 63/71 115	T63A4
	11.3	119.0	60.1	1.1	-	C R/U 40/63 119	T63A4
	11.3	119.0	63.1	1.7	-	C R/U 50/63 119	T63A4
	10.0	134.4	67.2	1.0	- & G	C R/U 40/71 134.4	T63A4
	10.0	134.4	71.2	1.5	- & G	C R/U 50/71 134.4	T63A4
	10.0	134.4	72.4	3.0	- & G	C R/U 63/71 134.4	T63A4
	10.0	134.4	70.7	3.4	- & G	C R 70/71 134.4	T63A4
	8.7	153.3	89.3	1.2	- & G	C R/U 50/71 153.3	T63A4
	8.7	153.3	91.1	2.7	- & G	C R/U 63/71 153.3	T63A4
	8.7	153.3	90.2	2.8	- & G	C R 70/71 153.3	T63A4
	7.9	170.0	74.1	0.8	-	C R/U 40/63 170	T63A4
	7.9	170.0	82.7	1.3	-	C R/U 50/63 170	T63A4
	7.0	192.0	93.4	1.2	- & G	C R/U 50/71 192	T63A4
	7.0	192.0	95.1	2.4	- & G	C R/U 63/71 192	T63A4
	7.0	192.0	93.2	2.7	- & G	C R 70/71 192	T63A4
	6.4	208.3	94.1	1.1	-	C R/U 50/63 208.3	T63A4
	6.2	214.7	110.1	1.0	- & G	C R/U 50/71 214.7	T63A4
	6.2	214.7	110.8	2.1	- & G	C R/U 63/71 214.7	T63A4
	6.2	214.7	108.9	2.4	- & G	C R 70/71 214.7	T63A4
	5.7	235.2	106.3	1.0	- & G	C R/U 50/71 235.2	T63A4
	5.7	235.2	108.3	1.8	- & G	C R/U 63/71 235.2	T63A4
	5.7	235.2	105.9	2.5	- & G	C R 70/71 235.2	T63A4
	5.6	238.0	103.4	1.0	-	C R/U 50/63 238	T63A4
	5.0	268.8	116.8	0.9	- & G	C R/U 50/71 268.8	T63A4
	5.0	268.8	119.1	1.6	- & G	C R/U 63/71 268.8	T63A4
	5.0	268.8	116.4	2.2	- & G	C R 70/71 268.8	T63A4
	4.4	306.7	145.0	1.7	- & G	C R/U 63/71 306.7	T63A4
	4.4	306.7	143.1	1.9	- & G	C R 70/71 306.7	T63A4
	4.0	336.0	137.2	1.3	- & G	C R/U 63/71 336	T63A4
	4.0	336.0	130.9	1.7	- & G	C R 70/71 336	T63A4
	3.6	375.7	165.5	1.3	- & G	C R/U 63/71 375.7	T63A4
	3.6	375.7	161.3	1.7	- & G	C R 70/71 375.7	T63A4
	3.5	384.0	146.8	1.1	- & G	C R/U 63/71 384	T63A4
	3.5	384.0	139.6	1.5	- & G	C R 70/71 384	T63A4

1.7 Prestazioni motoriduttori

1.7 gearboxes performances

1.7 Leistungen der Getriebe

P ₁ Input Power kW	n ₂ Output speed min ⁻¹	IR ratio -	T2 Ouput torque Nm	FS' Service Factor -	IECT		
0,13	3.1	429.3	180.6	1.2	- & G	C R/U 63/71 429.3	T63A4
	3.1	429.3	176.8	1.6	- & G	C R 70/71 429.3	T63A4
	2.8	480.0	162.7	0.8	- & G	C R/U 63/71 480	T63A4
	2.8	480.0	162.0	1.1	- & G	C R 70/71 480	T63A4
	2.5	536.7	207.0	0.9	- & G	C R/U 63/71 536.7	T63A4
	2.5	536.7	197.7	1.2	- & G	C R 70/71 536.7	T63A4
	2.2	613.3	220.6	0.8	- & G	C R/U 63/71 613.3	T63A4
	2.2	613.3	210.0	1.1	- & G	C R 70/71 613.3	T63A4

0,18	64.0	21.3	21.0	2.2	-	C R/U 50/63 21.3	T63B4
	64.0	21.3	20.7	2.2	-	C R/U 40/63 21.3	T63B4
	56.7	24.0	23.3	2.8	- & G	C R/U 40/71 24	T63B4
	56.7	24.0	24.0	3.4	- & G	C R/U 63/71 24	T63B4
	56.7	24.0	23.7	3.4	- & G	C R/U 50/71 24	T63B4
	45.7	29.8	28.2	2.2	-	C R/U 40/63 29.8	T63B4
	45.7	29.8	28.6	2.2	-	C R/U 50/63 29.8	T63B4
	40.5	33.6	31.8	2.0	- & G	C R/U 40/71 33.6	T63B4
	40.5	33.6	32.3	3.3	- & G	C R/U 50/71 33.6	T63B4
	40.5	33.6	32.7	3.4	- & G	C R 70/71 33.6	T63B4
	40.5	33.6	32.7	3.4	- & G	C R/U 63/71 33.6	T63B4
	35.5	38.3	37.2	1.9	- & G	C R/U 40/71 38.3	T63B4
	35.5	38.3	37.4	2.0	- & G	C R/U 50/71 38.3	T63B4
	35.5	38.3	37.7	2.0	- & G	C R/U 63/71 38.3	T63B4
	32.0	42.5	39.3	1.7	-	C R/U 40/63 42.5	T63B4
	32.0	42.5	39.4	2.2	-	C R/U 50/63 42.5	T63B4
	28.3	48.0	44.2	1.5	- & G	C R/U 40/71 48	T63B4
	28.3	48.0	44.5	2.4	- & G	C R/U 50/71 48	T63B4
	28.3	48.0	45.1	3.4	- & G	C R/U 63/71 48	T63B4
	28.3	48.0	45.0	3.4	- & G	C R 70/71 48	T63B4
	25.3	53.7	50.8	1.4	- & G	C R/U 40/71 53.7	T63B4
	25.3	53.7	51.0	2.0	- & G	C R/U 50/71 53.7	T63B4
	25.3	53.7	51.5	2.0	- & G	C R/U 63/71 53.7	T63B4
	25.3	53.7	51.5	2.0	- & G	C R 70/71 53.7	T63B4
	21.3	63.8	54.3	1.2	-	C R/U 40/63 63.8	T63B4
	21.3	63.8	57.5	1.9	-	C R/U 50/63 63.8	T63B4
	18.9	72.0	60.8	1.1	- & G	C R/U 40/71 72	T63B4
	18.9	72.0	65.0	1.7	- & G	C R/U 50/71 72	T63B4
	18.9	72.0	63.4	3.4	- & G	C R 70/71 72	T63B4
	18.9	72.0	63.2	3.4	- & G	C R/U 63/71 72	T63B4
	17.7	76.7	70.7	1.0	- & G	C R/U 40/71 76.7	T63B4
	17.7	76.7	70.1	1.6	- & G	C R/U 50/71 76.7	T63B4
	17.7	76.7	70.8	2.0	- & G	C R 70/71 76.7	T63B4
	17.7	76.7	70.8	2.0	- & G	C R/U 63/71 76.7	T63B4
	16.0	85.0	66.2	0.9	-	C R/U 40/63 85	T63B4
	16.0	85.0	70.6	1.5	-	C R/U 50/63 85	T63B4
	14.2	96.0	74.2	0.8	- & G	C R/U 40/71 96	T63B4
	14.2	96.0	78.6	1.4	- & G	C R/U 50/71 96	T63B4
	14.2	96.0	80.9	2.8	- & G	C R/U 63/71 96	T63B4
	14.2	96.0	80.0	3.1	- & G	C R 70/71 96	T63B4
	11.8	115.0	102.4	1.1	- & G	C R/U 50/71 115	T63B4
	11.8	115.0	98.8	2.0	- & G	C R 70/71 115	T63B4
	11.8	115.0	98.8	2.0	- & G	C R/U 63/71 115	T63B4
	11.4	119.0	87.3	1.3	-	C R/U 50/63 119	T63B4
	10.1	134.4	98.7	1.1	- & G	C R/U 50/71 134.4	T63B4
	10.1	134.4	100.3	2.2	- & G	C R/U 63/71 134.4	T63B4
	10.1	134.4	97.9	2.4	- & G	C R 70/71 134.4	T63B4
	8.9	153.3	123.6	0.9	- & G	C R/U 50/71 153.3	T63B4
	8.9	153.3	126.2	1.9	- & G	C R/U 63/71 153.3	T63B4
	8.9	153.3	124.9	2.0	- & G	C R 70/71 153.3	T63B4
8.0	170.0	114.6	1.0	-	C R/U 50/63 170	T63B4	
7.1	192.0	129.4	0.8	- & G	C R/U 50/71 192	T63B4	
7.1	192.0	131.7	1.7	- & G	C R/U 63/71 192	T63B4	
7.1	192.0	129.0	2.0	- & G	C R 70/71 192	T63B4	
6.3	214.7	153.4	1.5	- & G	C R/U 63/71 214.7	T63B4	
6.3	214.7	150.8	1.8	- & G	C R 70/71 214.7	T63B4	
5.8	235.2	150.0	1.3	- & G	C R/U 63/71 235.2	T63B4	
5.8	235.2	146.7	1.8	- & G	C R 70/71 235.2	T63B4	
5.1	268.8	165.0	1.2	- & G	C R/U 63/71 268.8	T63B4	
5.1	268.8	161.2	1.6	- & G	C R 70/71 268.8	T63B4	



1.7 Prestazioni motoriduttori

1.7 gearboxes performances

1.7 Leistungen der Getriebe

P ₁ Input Power kW	n ₂ Output speed min ⁻¹	IR ratio -	T ₂ Output torque Nm	FS' Service Factor -	IECT	 GEAR	 EU
0,18	4.4	306.7	200.7	1.2	- & G	C R/U 63/71 306.7	T63B4
	4.4	306.7	198.1	1.4	- & G	C R 70/71 306.7	T63B4
	4.0	336.0	190.0	0.9	- & G	C R/U 63/71 336	T63B4
	4.0	336.0	181.3	1.3	- & G	C R 70/71 336	T63B4
	3.6	375.7	229.2	0.9	- & G	C R/U 63/71 375.7	T63B4
	3.6	375.7	223.3	1.3	- & G	C R 70/71 375.7	T63B4
	3.5	384.0	203.3	0.8	- & G	C R/U 63/71 384	T63B4
	3.5	384.0	193.3	1.1	- & G	C R 70/71 384	T63B4
	3.2	429.3	250.0	0.8	- & G	C R/U 63/71 429.3	T63B4
	3.2	429.3	244.8	1.1	- & G	C R 70/71 429.3	T63B4
	2.5	536.7	273.8	0.9	- & G	C R 70/71 536.7	T63B4

0,22	64.0	21.3	25.6	1.8	-	C R/U 50/63 21.3	T63C4
	64.0	21.3	25.3	1.8	-	C R/U 40/63 21.3	T63C4
	56.7	24.0	28.5	2.3	- & G	C R/U 40/71 24	T63C4
	56.7	24.0	29.3	2.8	- & G	C R/U 63/71 24	T63C4
	56.7	24.0	28.9	2.8	- & G	C R/U 50/71 24	T63C4
	45.7	29.8	34.5	1.8	-	C R/U 40/63 29.8	T63C4
	45.7	29.8	35.0	1.8	-	C R/U 50/63 29.8	T63C4
	40.5	33.6	38.8	1.7	- & G	C R/U 40/71 33.6	T63C4
	40.5	33.6	39.5	2.7	- & G	C R/U 50/71 33.6	T63C4
	40.5	33.6	40.0	2.8	- & G	C R 70/71 33.6	T63C4
	40.5	33.6	40.0	2.8	- & G	C R/U 63/71 33.6	T63C4
	35.5	38.3	45.4	1.5	- & G	C R/U 40/71 38.3	T63C4
	35.5	38.3	45.7	1.7	- & G	C R/U 50/71 38.3	T63C4
	35.5	38.3	46.1	1.7	- & G	C R/U 63/71 38.3	T63C4
	32.0	42.5	48.0	1.4	-	C R/U 40/63 42.5	T63C4
	32.0	42.5	48.1	1.8	-	C R/U 50/63 42.5	T63C4
	28.3	48.0	54.1	1.2	- & G	C R/U 40/71 48	T63C4
	28.3	48.0	54.4	2.0	- & G	C R/U 50/71 48	T63C4
	28.3	48.0	55.1	2.8	- & G	C R/U 63/71 48	T63C4
	28.3	48.0	55.0	2.8	- & G	C R 70/71 48	T63C4
	25.3	53.7	62.0	1.1	- & G	C R/U 40/71 53.7	T63C4
	25.3	53.7	62.4	1.7	- & G	C R/U 50/71 53.7	T63C4
	25.3	53.7	62.9	1.7	- & G	C R 70/71 53.7	T63C4
	25.3	53.7	62.9	1.7	- & G	C R/U 63/71 53.7	T63C4
	21.3	63.8	66.3	1.0	-	C R/U 40/63 63.8	T63C4
	21.3	63.8	70.3	1.5	-	C R/U 50/63 63.8	T63C4
	18.9	72.0	74.4	0.9	- & G	C R/U 40/71 72	T63C4
	18.9	72.0	79.4	1.4	- & G	C R/U 50/71 72	T63C4
	18.9	72.0	77.3	2.8	- & G	C R/U 63/71 72	T63C4
	18.9	72.0	77.5	2.8	- & G	C R 70/71 72	T63C4
	17.7	76.7	86.4	0.8	- & G	C R/U 40/71 76.7	T63C4
	17.7	76.7	85.7	1.3	- & G	C R/U 50/71 76.7	T63C4
	17.7	76.7	86.5	1.7	- & G	C R 70/71 76.7	T63C4
	17.7	76.7	86.5	1.7	- & G	C R/U 63/71 76.7	T63C4
	16.0	85.0	86.3	1.2	-	C R/U 50/63 85	T63C4
	14.2	96.0	96.0	1.1	- & G	C R/U 50/71 96	T63C4
	14.2	96.0	98.8	2.3	- & G	C R/U 63/71 96	T63C4
	14.2	96.0	97.7	2.5	- & G	C R 70/71 96	T63C4
	11.8	115.0	125.2	0.9	- & G	C R/U 50/71 115	T63C4
	11.8	115.0	120.7	1.7	- & G	C R 70/71 115	T63C4
	11.8	115.0	120.7	1.7	- & G	C R/U 63/71 115	T63C4
	11.4	119.0	106.8	1.0	-	C R/U 50/63 119	T63C4
	10.1	134.4	120.6	0.9	- & G	C R/U 50/71 134.4	T63C4
	10.1	134.4	122.6	1.8	- & G	C R/U 63/71 134.4	T63C4
	10.1	134.4	119.6	2.0	- & G	C R 70/71 134.4	T63C4
	8.9	153.3	154.2	1.6	- & G	C R/U 63/71 153.3	T63C4
	8.9	153.3	152.7	1.7	- & G	C R 70/71 153.3	T63C4
	7.1	192.0	161.0	1.4	- & G	C R/U 63/71 192	T63C4
	7.1	192.0	157.7	1.6	- & G	C R 70/71 192	T63C4
	6.3	214.7	187.5	1.3	- & G	C R/U 63/71 214.7	T63C4
	6.3	214.7	184.4	1.4	- & G	C R 70/71 214.7	T63C4
	5.8	235.2	183.3	1.0	- & G	C R/U 63/71 235.2	T63C4
	5.8	235.2	179.3	1.4	- & G	C R 70/71 235.2	T63C4
	5.1	268.8	201.6	1.0	- & G	C R/U 63/71 268.8	T63C4
	5.1	268.8	197.0	1.3	- & G	C R 70/71 268.8	T63C4
	4.4	306.7	245.3	1.0	- & G	C R/U 63/71 306.7	T63C4
	4.4	306.7	242.2	1.1	- & G	C R 70/71 306.7	T63C4
	4.0	336.0	221.5	1.0	- & G	C R 70/71 336	T63C4
	3.6	375.7	272.9	1.0	- & G	C R 70/71 375.7	T63C4
	3.5	384.0	236.3	0.9	- & G	C R 70/71 384	T63C4
	3.2	429.3	299.3	0.9	- & G	C R 70/71 429.3	T63C4



1.7 Prestazioni motoriduttori

1.7 gearboxes performances

1.7 Leistungen der Getriebe

P ₁ Input Power kW	n ₂ Output speed min ⁻¹	IR ratio -	T ₂ Ouput torque Nm	FS' Service Factor -	IECT	 GEAR	 EU
0,25	58.8	24.0	32.3	2.0	- & G	C R/U 40/71 24	T71A4
	58.8	24.0	33.3	2.5	- & G	C R/U 63/71 24	T71A4
	58.8	24.0	32.9	2.5	- & G	C R/U 50/71 24	T71A4
	42.0	33.6	44.1	1.5	- & G	C R/U 40/71 33.6	T71A4
	42.0	33.6	44.9	2.4	- & G	C R/U 50/71 33.6	T71A4
	42.0	33.6	45.4	2.5	- & G	C R 70/71 33.6	T71A4
	42.0	33.6	45.5	2.5	- & G	C R/U 63/71 33.6	T71A4
	36.8	38.3	51.6	1.4	G	C R/U 40/71 38.3	T71A4
	36.8	38.3	51.9	1.5	G	C R/U 50/71 38.3	T71A4
	36.8	38.3	52.3	1.5	G	C R/U 63/71 38.3	T71A4
	29.4	48.0	61.5	1.1	- & G	C R/U 40/71 48	T71A4
	29.4	48.0	61.8	1.7	- & G	C R/U 50/71 48	T71A4
	29.4	48.0	62.6	2.5	- & G	C R/U 63/71 48	T71A4
	29.4	48.0	62.5	2.5	- & G	C R 70/71 48	T71A4
	26.3	53.7	70.5	1.0	G	C R/U 40/71 53.7	T71A4
	26.3	53.7	70.9	1.5	G	C R/U 50/71 53.7	T71A4
	26.3	53.7	71.5	1.5	G	C R 70/71 53.7	T71A4
	26.3	53.7	71.5	1.5	G	C R/U 63/71 53.7	T71A4
	19.6	72.0	90.2	1.2	- & G	C R/U 50/71 72	T71A4
	19.6	72.0	87.8	2.5	- & G	C R/U 63/71 72	T71A4
	19.6	72.0	88.1	2.5	- & G	C R 70/71 72	T71A4
	18.4	76.7	97.4	1.1	G	C R/U 50/71 76.7	T71A4
	18.4	76.7	98.3	1.5	G	C R 70/71 76.7	T71A4
	18.4	76.7	98.3	1.5	G	C R/U 63/71 76.7	T71A4
	14.7	96.0	109.1	1.0	- & G	C R/U 50/71 96	T71A4
	14.7	96.0	112.3	2.0	- & G	C R/U 63/71 96	T71A4
	14.7	96.0	111.1	2.2	- & G	C R 70/71 96	T71A4
	12.3	115.0	137.2	1.5	G	C R 70/71 115	T71A4
	12.3	115.0	137.2	1.5	G	C R/U 63/71 115	T71A4
	10.5	134.4	139.3	1.6	- & G	C R/U 63/71 134.4	T71A4
	10.5	134.4	136.0	1.8	- & G	C R 70/71 134.4	T71A4
	9.2	153.3	175.3	1.4	G	C R/U 63/71 153.3	T71A4
	9.2	153.3	173.5	1.5	G	C R 70/71 153.3	T71A4
	7.3	192.0	182.9	1.2	- & G	C R/U 63/71 192	T71A4
	7.3	192.0	179.2	1.4	- & G	C R 70/71 192	T71A4
	6.6	214.7	213.1	1.1	G	C R/U 63/71 214.7	T71A4
	6.6	214.7	209.5	1.3	G	C R 70/71 214.7	T71A4
	6.0	235.2	208.3	0.9	- & G	C R/U 63/71 235.2	T71A4
	6.0	235.2	203.7	1.3	- & G	C R 70/71 235.2	T71A4
	5.2	268.8	229.1	0.9	- & G	C R/U 63/71 268.8	T71A4
	5.2	268.8	223.9	1.2	- & G	C R 70/71 268.8	T71A4
	4.6	306.7	278.8	0.9	G	C R/U 63/71 306.7	T71A4
	4.6	306.7	275.2	1.0	G	C R 70/71 306.7	T71A4
	4.2	336.0	251.8	0.9	- & G	C R 70/71 336	T71A4
	3.8	375.7	310.1	0.9	G	C R 70/71 375.7	T71A4
0,37	57.1	24.0	47.9	1.4	- & G	C R/U 40/71 24	T71B4
	57.1	24.0	49.3	1.7	- & G	C R/U 63/71 24	T71B4
	57.1	24.0	48.7	1.7	- & G	C R/U 50/71 24	T71B4
	40.8	33.6	65.3	1.0	- & G	C R/U 40/71 33.6	T71B4
	40.8	33.6	66.5	1.6	- & G	C R/U 50/71 33.6	T71B4
	40.8	33.6	67.2	1.7	- & G	C R 70/71 33.6	T71B4
	40.8	33.6	67.3	1.7	- & G	C R/U 63/71 33.6	T71B4
	35.7	38.3	76.4	0.9	G	C R/U 40/71 38.3	T71B4
	35.7	38.3	76.8	1.0	G	C R/U 50/71 38.3	T71B4
	35.7	38.3	77.5	1.0	G	C R/U 63/71 38.3	T71B4
	28.5	48.0	91.4	1.2	- & G	C R/U 50/71 48	T71B4
	28.5	48.0	92.6	1.7	- & G	C R/U 63/71 48	T71B4
	28.5	48.0	92.5	1.7	- & G	C R 70/71 48	T71B4
	25.5	53.7	104.9	1.0	G	C R/U 50/71 53.7	T71B4
	25.5	53.7	105.8	1.0	G	C R 70/71 53.7	T71B4
	25.5	53.7	105.8	1.0	G	C R/U 63/71 53.7	T71B4
	19.0	72.0	133.6	0.8	- & G	C R/U 50/71 72	T71B4
	19.0	72.0	130.0	1.7	- & G	C R/U 63/71 72	T71B4
	19.0	72.0	130.4	1.7	- & G	C R 70/71 72	T71B4
	17.9	76.7	145.4	1.0	G	C R 70/71 76.7	T71B4
	17.9	76.7	145.4	1.0	G	C R/U 63/71 76.7	T71B4
	14.3	96.0	166.2	1.3	- & G	C R/U 63/71 96	T71B4
	14.3	96.0	164.4	1.5	- & G	C R 70/71 96	T71B4
	11.9	115.0	203.1	1.0	G	C R 70/71 115	T71B4
	11.9	115.0	203.1	1.0	G	C R/U 63/71 115	T71B4
	10.2	134.4	206.1	1.1	- & G	C R/U 63/71 134.4	T71B4
	10.2	134.4	201.2	1.2	- & G	C R 70/71 134.4	T71B4
	8.9	153.3	259.4	0.9	G	C R/U 63/71 153.3	T71B4
	8.9	153.3	256.7	1.0	G	C R 70/71 153.3	T71B4
	7.1	192.0	270.7	0.8	- & G	C R/U 63/71 192	T71B4
	7.1	192.0	265.2	1.0	- & G	C R 70/71 192	T71B4
	6.4	214.7	310.1	0.9	G	C R 70/71 214.7	T71B4
	5.8	235.2	301.5	0.9	- & G	C R 70/71 235.2	T71B4



1.7 Prestazioni motoriduttori

1.7 gearboxes performances

1.7 Leistungen der Getriebe

P ₁ Input Power kW	n ₂ Output speed min ⁻¹	IR ratio -	T ₂ Output torque Nm	FS' Service Factor -	IECT	 GEAR	 EU
0,55	58.3	24.0	71.1	0.9	- & G	C R/U 40/71 24	T71C4
	58.3	24.0	73.2	1.1	- & G	C R/U 63/71 24	T71C4
	58.3	24.0	72.4	1.1	- & G	C R/U 50/71 24	T71C4
	56.3	25.4	77.3	2.7	- & G	C R/U 63/90 25.4	T80A4
	41.7	33.6	98.8	1.1	- & G	C R/U 50/71 33.6	T71C4
	41.7	33.6	100.0	1.1	- & G	C R 70/71 33.6	T71C4
	41.7	33.6	100.1	1.1	- & G	C R/U 63/71 33.6	T71C4
	40.2	35.6	105.6	2.0	- & G	C R/U 63/90 35.6	T80A4
	40.2	35.6	105.6	2.3	- & G	C R 70/90 35.6	T80A4
	40.2	35.6	105.6	3.4	- & G	C U 75/90 35.6	T80A4
	40.2	35.6	105.6	3.4	- & G	C R 85/90 35.6	T80A4
	40.2	35.6	106.8	3.4	- & G	C U 90/90 35.6	T80A4
	40.2	35.6	107.9	3.4	- & G	C R/U 110/90 35.6	T80A4
	35.3	40.5	121.4	1.9	- & G	C R/U 63/90 40.5	T80A4
	29.2	48.0	137.7	1.1	- & G	C R/U 63/71 48	T71C4
	29.2	48.0	137.5	1.1	- & G	C R 70/71 48	T71C4
	28.1	50.8	145.3	1.5	- & G	C R/U 63/90 50.8	T80A4
	28.1	50.8	145.3	1.7	- & G	C R 70/90 50.8	T80A4
	28.1	50.8	146.2	2.6	- & G	C U 75/90 50.8	T80A4
	28.1	50.8	147.2	3.2	- & G	C R 85/90 50.8	T80A4
	28.1	50.8	148.8	3.4	- & G	C U 90/90 50.8	T80A4
	28.1	50.8	150.4	3.4	- & G	C R/U 110/90 50.8	T80A4
	25.2	56.7	165.8	1.4	- & G	C R/U 63/90 56.7	T80A4
	25.2	56.7	165.8	1.6	- & G	C R 70/90 56.7	T80A4
	25.2	56.7	167.4	2.0	- & G	C U 90/90 56.7	T80A4
	25.2	56.7	165.8	2.0	- & G	C U 75/90 56.7	T80A4
	25.2	56.7	165.8	2.0	- & G	C R 85/90 56.7	T80A4
	25.2	56.7	169.1	2.0	- & G	C R/U 110/90 56.7	T80A4
	19.4	72.0	193.2	1.1	- & G	C R/U 63/71 72	T71C4
	19.4	72.0	193.8	1.1	- & G	C R 70/71 72	T71C4
	18.8	76.3	204.6	1.1	- & G	C R/U 63/90 76.3	T80A4
	18.8	76.3	204.6	1.2	- & G	C R 70/90 76.3	T80A4
	18.8	76.3	206.0	1.9	- & G	C U 75/90 76.3	T80A4
	18.8	76.3	207.4	2.3	- & G	C R 85/90 76.3	T80A4
	18.8	76.3	208.8	3.0	- & G	C U 90/90 76.3	T80A4
	18.8	76.3	210.2	3.4	- & G	C R/U 110/90 76.3	T80A4
	17.7	81.0	228.0	1.1	- & G	C R/U 63/90 81	T80A4
	17.7	81.0	228.0	1.2	- & G	C R 70/90 81	T80A4
	17.7	81.0	229.5	1.9	- & G	C U 75/90 81	T80A4
	17.7	81.0	230.9	2.0	- & G	C R 85/90 81	T80A4
	17.7	81.0	233.3	2.0	- & G	C U 90/90 81	T80A4
	17.7	81.0	235.6	2.0	- & G	C R/U 110/90 81	T80A4
	14.6	96.0	247.1	0.9	- & G	C R/U 63/71 96	T71C4
	14.6	96.0	244.3	1.0	- & G	C R 70/71 96	T71C4
	14.1	101.7	257.9	1.0	- & G	C R 70/90 101.7	T80A4
	14.1	101.7	263.0	1.3	- & G	C U 75/90 101.7	T80A4
	14.1	101.7	268.2	1.8	- & G	C R 85/90 101.7	T80A4
	14.1	101.7	270.5	2.3	- & G	C U 90/90 101.7	T80A4
	14.1	101.7	272.9	3.4	- & G	C R/U 110/90 101.7	T80A4
	11.8	121.5	319.8	1.4	- & G	C U 75/90 121.5	T80A4
	11.8	121.5	322.1	1.6	- & G	C R 85/90 121.5	T80A4
	11.8	121.5	324.3	2.0	- & G	C U 90/90 121.5	T80A4
	11.8	121.5	326.5	2.0	- & G	C R/U 110/90 121.5	T80A4
	10.0	142.3	315.9	1.3	- & G	C U 75/90 142.3	T80A4
	10.0	142.3	316.6	1.4	- & G	C R 85/90 142.3	T80A4
	10.0	142.3	327.0	2.1	- & G	C U 90/90 142.3	T80A4
	10.0	142.3	337.5	2.8	- & G	C R/U 110/90 142.3	T80A4
	8.8	162.0	409.9	0.9	- & G	C U 75/90 162	T80A4
	8.8	162.0	417.5	1.2	- & G	C R 85/90 162	T80A4
	8.8	162.0	421.8	1.7	- & G	C U 90/90 162	T80A4
	8.8	162.0	426.2	2.0	- & G	C R/U 110/90 162	T80A4
	7.0	203.3	429.8	1.1	- & G	C R 85/90 203.3	T80A4
	7.0	203.3	441.0	1.5	- & G	C U 90/90 203.3	T80A4
	7.0	203.3	452.2	2.1	- & G	C R/U 110/90 203.3	T80A4
	6.3	226.8	484.4	0.9	- & G	C U 75/90 226.8	T80A4
	6.3	226.8	484.4	1.0	- & G	C R 85/90 226.8	T80A4
	6.3	226.8	501.1	1.5	- & G	C U 90/90 226.8	T80A4
	6.3	226.8	517.8	1.9	- & G	C R/U 110/90 226.8	T80A4
	5.7	249.1	489.9	0.9	- & G	C R 85/90 249.1	T80A4
	5.7	249.1	508.2	1.1	- & G	C U 90/90 249.1	T80A4
	5.7	249.1	526.5	1.8	- & G	C R/U 110/90 249.1	T80A4
	5.0	284.7	570.3	0.9	- & G	C U 90/90 284.7	T80A4
	5.0	284.7	580.8	1.3	- & G	C R/U 110/90 284.7	T80A4
	4.4	324.0	674.2	1.0	- & G	C U 90/90 324	T80A4
	4.4	324.0	692.1	1.4	- & G	C R/U 110/90 324	T80A4
	4.0	355.8	660.6	1.1	- & G	C R/U 110/90 355.8	T80A4
	3.6	396.9	797.4	1.2	- & G	C R/U 110/90 396.9	T80A4
	3.5	406.7	725.0	1.0	- & G	C R/U 110/90 406.7	T80A4
	3.2	453.6	885.5	0.9	- & G	C R/U 110/90 453.6	T80A4



1.7 Leistungen der Getriebe

A





1.7 Prestazioni motoriduttori

1.7 gearboxes performances

1.7 Leistungen der Getriebe

P ₁ Input Power kW	n ₂ Output speed min ⁻¹	IR ratio -	T ₂ Output torque Nm	FS' Service Factor -	IECT	 GEAR	 EU
1,5	56.3	25.4	210.9	1.0	- & G	C R/U 63/90 25.4	T90L4
	40.2	35.6	288.1	0.8	- & G	C R 70/90 35.6	T90L4
	40.2	35.6	288.1	1.2	- & G	C U 75/90 35.6	T90L4
	40.2	35.6	288.1	1.2	- & G	C R 85/90 35.6	T90L4
	40.2	35.6	291.2	1.2	- & G	C U 90/90 35.6	T90L4
	40.2	35.6	294.4	1.2	- & G	C R/U 110/90 35.6	T90L4
	28.1	50.8	398.8	1.0	- & G	C U 75/90 50.8	T90L4
	28.1	50.8	401.4	1.2	- & G	C R 85/90 50.8	T90L4
	28.1	50.8	405.9	1.2	- & G	C U 90/90 50.8	T90L4
	28.1	50.8	410.3	1.2	- & G	C R/U 110/90 50.8	T90L4
	18.8	76.3	565.8	0.8	- & G	C R 85/90 76.3	T90L4
	18.8	76.3	569.6	1.1	- & G	C U 90/90 76.3	T90L4
	18.8	76.3	573.4	1.2	- & G	C R/U 110/90 76.3	T90L4
	14.1	101.7	737.8	0.9	- & G	C U 90/90 101.7	T90L4
	14.1	101.7	744.1	1.2	- & G	C R/U 110/90 101.7	T90L4
	10.0	142.3	920.4	1.0	- & G	C R/U 110/90 142.3	T90L4

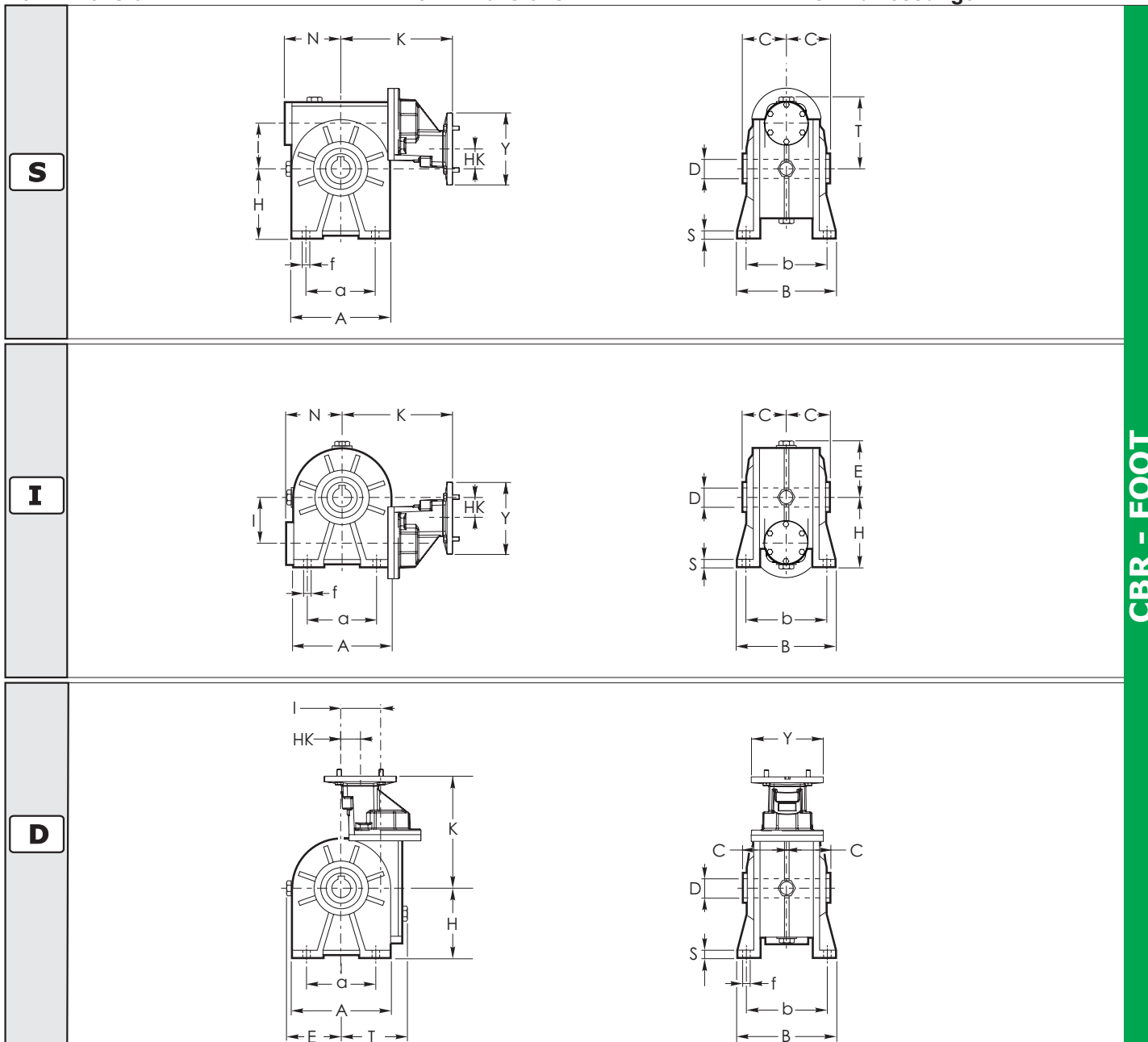
1,8	56.3	25.4	253.1	0.8	- & G	C R/U 63/90 25.4	T90LB4
	40.2	35.6	345.7	1.0	- & G	C U 75/90 35.6	T90LB4
	40.2	35.6	345.7	1.0	- & G	C R 85/90 35.6	T90LB4
	40.2	35.6	349.5	1.0	- & G	C U 90/90 35.6	T90LB4
	40.2	35.6	353.2	1.0	- & G	C R/U 110/90 35.6	T90LB4
	28.1	50.8	478.6	0.8	- & G	C U 75/90 50.8	T90LB4
	28.1	50.8	481.7	1.0	- & G	C R 85/90 50.8	T90LB4
	28.1	50.8	487.0	1.0	- & G	C U 90/90 50.8	T90LB4
	28.1	50.8	492.4	1.0	- & G	C R/U 110/90 50.8	T90LB4
	18.8	76.3	683.5	0.9	- & G	C U 90/90 76.3	T90LB4
	18.8	76.3	688.1	1.0	- & G	C R/U 110/90 76.3	T90LB4
	14.1	101.7	893.0	1.0	- & G	C R/U 110/90 101.7	T90LB4
	10.0	142.3	1104.5	0.9	- & G	C R/U 110/90 142.3	T90LB4



1.8 Dimensioni

1.8 Dimensions

1.8 Abmessungen



Dimensioni generali / Dimensions / Allgemeine Abmessungen							
Dimensions		40/63 - 40/71	50/63 - 50/71	63/71 - 63/90	70/71 - 70/90	85/90	110/90
C		41	49	60	60	61	77,5
D	Standard	19	24	25	28	32	42
	Optional	18	25	-	-	35	-
tolerance D		H7	H7	H7	H7	H7	H7
I		40	50	63	70	85	110
N		52	59,5	71,5	92	111	142
E		59	69	81	87	105	135
T		66	80	99	108	135	170

S - I - D - Versioni / Versions / Ausführungen						
Versions S - I - D	40/63 - 40/71	50/63 - 50/71	63/71 - 63/90	70/71 - 70/90	85/90	110/90
A	100	120	140	158	193	250
a	70	85	95	120	140	200
B	102	119	136	140	168	200
b	84 ±3	99 ±3	111 ±5	116 ±8	140	162
f	7	9	11	11	13	14
H	71	85	100	115	135	172
H1	-	-	-	-	-	-
S	8	10	11	13	15	17



1.8 Dimensioni

1.8 Dimensions

1.8 Abmessungen

CBR - Versione Entrata / Input version / Antriebsausführung													
CBR		40/63		40/71		50/63		50/71		63/71		63/90	
IEC	Y	K	HK	K	HK	K	HK	K	HK	K	HK	K	HK
56 B5	120	141.1	14	-	-	151.1	-	-	-	-	-	-	-
56 B14	80	141.1•	14	-	-	151.1•	-	-	-	-	-	-	-
63 B5	140	141.1	14	160.6	7	151.1	24	170.6	17	184.6	30	-	-
63B14	90	141.1	14	160.6•	7	151.1	24	170.6•	17	184.6•	30	-	-
71 B5	160	-	-	160.6	7	-	24	170.6	17	184.6	30	-	-
71B14	105	-	-	160.6	7	-	24	170.6	17	184.6	30	-	-
80 B5	200	-	-	-	-	-	-	-	-	-	-	208.4	15
80 B14	120	-	-	-	-	-	-	-	-	-	-	208.4	15
90 B5	200	-	-	-	-	-	-	-	-	-	-	208.4	15
90 B14	140	-	-	-	-	-	-	-	-	-	-	208.4	15

CBR - Versione Entrata / Input version / Antriebsausführung													
CBR		70/71		70/90		85/90		110/90					
IEC	Y	K	HK	K	HK	K	HK	K	HK				
56 B5	120	-	-	-	-	-	-	-	-				
56 B14	80	-	-	-	-	-	-	-	-				
63 B5	140	190.1	37	-	-	-	-	-	-				
63B14	90	190.1•	37	-	-	-	-	-	-				
71 B5	160	190.1	37	-	-	-	-	-	-				
71B14	105	190.1	37	-	-	-	-	-	-				
80 B5	200	-		213.9	22	233.9	37	259.9	62				
80 B14	120	-		213.9	22	233.9	37	259.9	62				
90 B5	200	-		213.9	22	233.9	37	259.9	62				
90 B14	140	-		213.9	22	233.9	37	259.9	62				

(•) Vedi designazione - PMT

(•) See designation - PMT

(•) Siehe Beschreibung - PMT



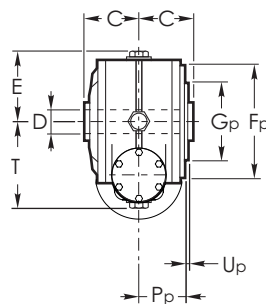
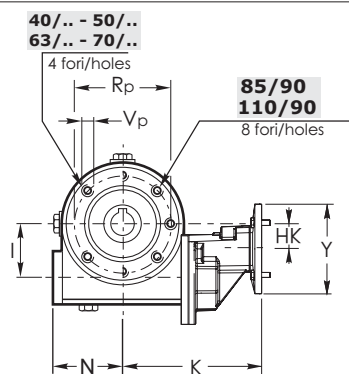
1.8 Dimensioni

1.8 Dimensions

1.8 Abmessungen

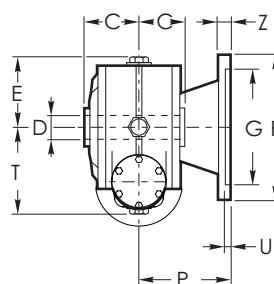
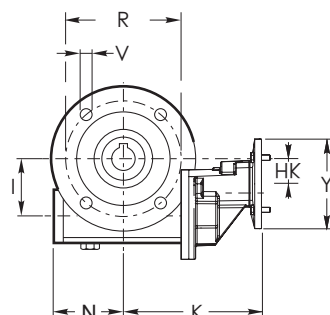
P

PP



FL

F.



CBR - Flanged

Dimensioni generali / Dimensions / Allgemeine Abmessungen

Dimensions		40/63 - 40/71	50/63 - 50/71	63/71 - 63/90	70/71 - 70/90	85/90	110/90
D	C	41	49	60	60	61	77,5
	Standard	19	24	25	28	32	42
	Optional	18	25	-	-	35	-
tolerance D		H7	H7	H7	H7	H7	H7
I		40	50	63	70	85	110
N		52	59,5	71,5	92	111	142
E		59	69	81	87	105	135
T		66	80	99	108	135	170

P - PP - Versioni / Versions / Ausführungen

Versions - P - PP	40/63 - 40/71	50/63 - 50/71	63/71 - 63/90	70/71 - 70/90	85/90	110/90
Fp	95	105	105	120	144	200
Gp	60	70	70	80	110	130
tolerance Gp	e8	e8	e8	e8	e8	e8
Pp	38	49	57,5	57	56,5	74
Rp	83	85	85	100	130	165
Up	2	2,5	3,5	5	3,5	3
Vp	M6	M8	M8	M8	M10	M12



1.8 Dimensioni

1.8 Dimensions

1.8 Abmessungen

FL - Versioni / Versions / Ausführungen						
Versions FL	40/63 - 40/71	50/63 - 50/71	63/71 - 63/90	70/71 - 70/90	85/90	110/90
	FL°	FL°	FL°	FL°	FL	FL
F	140	160	180	200	200	250
G	95	110	115	130	130	180
tolerance G	H8	H8	H8	H8	H8	H8
P	82	91,5	116	111	100	150
R	115	130	150	165	165 ⁰ ₊₁₁	215
U	5	5	5	5	5	5
V	8,5	10	11	13	13	15
Z	9	10	11	11	12	16

F1-F2-F3-F4 - Versioni / Versions / Ausführungen																		
Versions F1-F2-F3-F4	40/63 40/71		50/63 50/71				63/71 63/90			70/71 70/90			85/90			110/90		
	F1	F2	F1	F2	F3	F4	F1°	F2°	F3°	F1°	F2°	F3	F1	F2	F3	F1	F2	F3
F	106	120	125	125	140	125	175	200	160	175	175	160	200	210	160	200	270	270
G	60	80	70	70	95	70	115	130	110	115	115	110	130	152	110	130	170	170
tolerance G	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8	H8
P	69	62	93	73	75	85	86	102	82	116	85	101	141	119,5	91	115	131,5	178
R	87	100	90 ⁰ ₊₉	100	115	90 ⁰ ₊₉	150	165	130	150	150	130	165	176	130	165	230	230
U	5	5	5	4	4	5	5	5	5	5	5	6	6	5	5	5	10	10
V	8,5	9	10,5	9	9	10,5	11	13	10	11	11	11	13	13	11,5	13	13,5	13,5
Z	9	9	10	9	9	11	11	11	11	10	10	11	12	14	10	12	18	18

La versione contrassegnata con il simbolo (°) è ottenuta applicando una flangia modulare sulla flangia pendolare della versione P-PP.

Version that is marked with (°) is obtained by applying a modular flange onto the shaft-mounted flange of the P-PP version.

Die mit (°) gekennzeichneten Version erhält man, indem ein Modulflansch an den Flansch mit Drehmomentstütze der P-PP Version befestigt wird.

CBR - Versione Entrata / Input version / Antriebsausführung													
CBR		40/63		40/71		50/63		50/71		63/71		63/90	
IEC	Y	K	HK	K	HK	K	HK	K	HK	K	HK	K	HK
56 B5	120	141.1	14	-	-	151.1	-	-	-	-	-	-	-
56 B14	80	141.1•	14	-	-	151.1•	-	-	-	-	-	-	-
63 B5	140	141.1	14	160.6	7	151.1	24	170.6	17	184.6	30	-	-
63B14	90	141.1	14	160.6•	7	151.1	24	170.6•	17	184.6•	30	-	-
71 B5	160	-	-	160.6	7	-	24	170.6	17	184.6	30	-	-
71B14	105	-	-	160.6	7	-	24	170.6	17	184.6	30	-	-
80 B5	200	-	-	-	-	-	-	-	-	-	-	208.4	15
80 B14	120	-	-	-	-	-	-	-	-	-	-	208.4	15
90 B5	200	-	-	-	-	-	-	-	-	-	-	208.4	15
90 B14	140	-	-	-	-	-	-	-	-	-	-	208.4	15

CBR - Versione Entrata / Input version / Antriebsausführung													
CBR		70/71		70/90		85/90		110/90					
IEC	Y	K	HK	K	HK	K	HK	K	HK				
56 B5	120	-	-	-	-	-	-	-	-				
56 B14	80	-	-	-	-	-	-	-	-				
63 B5	140	190.1	37	-	-	-	-	-	-				
63B14	90	190.1•	37	-	-	-	-	-	-				
71 B5	160	190.1	37	-	-	-	-	-	-				
71B14	105	190.1	37	-	-	-	-	-	-				
80 B5	200	-		213.9	22	233.9	37	259.9	62				
80 B14	120	-		213.9	22	233.9	37	259.9	62				
90 B5	200	-		213.9	22	233.9	37	259.9	62				
90 B14	140	-		213.9	22	233.9	37	259.9	62				

(•) Vedi designazione - PMT

(•) See designation - PMT

(•) Siehe Beschreibung - PMT

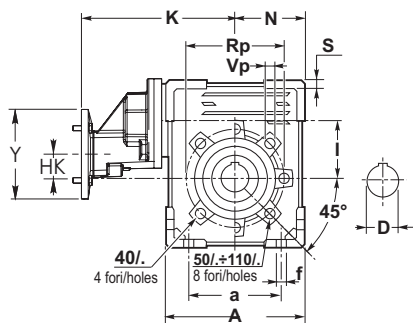
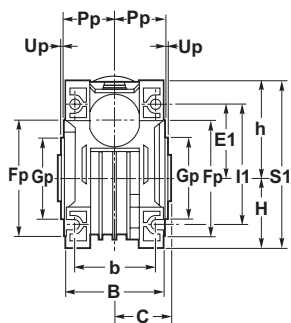


1.8 Dimensioni

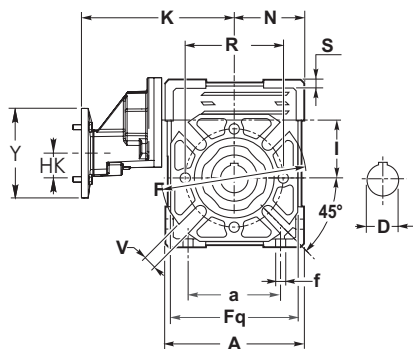
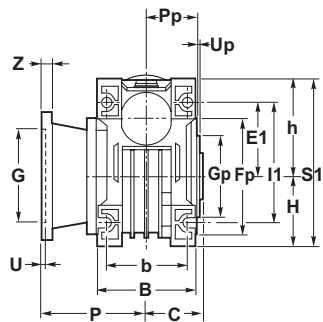
1.8 Dimensions

1.8 Abmessungen

-



FA
FB



	A	a	B	b	C	D H7	d j6	E1	f	h	H	I	I1	L	M	m	N	S	S1
40/63 40/71	100	70	71	60	39	18	11	55	6.5	71.5	50	40	90	22	64	M5	50	6	121.5
50/63 50/71	120	80	85	70	46	25	14	64	8.5	84	60	50	104	30	74	M6	60	7	144
63/71 63/90	144	100	103	85	56	25	18	80	8.5	102	72	63	130	45	96	M6	72	8	174
75/90	172	120	112	90	60	28 (30)	24	93	11.5	119	86	75	153	50	105	M8	86	10	205
90/90	206	140	130	100	70	35	24	102	13	135	103	90	172	50	125	M8	103	11	238
110/90	255	170	144	115	77.5	42	28	125	14	167.5	127.5	110	207 ⁺³ ₋₃	60	142	M8	127.5	14.5	295



1.8 Dimensioni

1.8 Dimensions

1.8 Abmessungen

	Fp	Gp (e8)	Pp	Rp	Up	Vp
40/63 40/71	87	60	36.5	75	2.5	M6
50/63 50/71	100	70	43.5	85	2.5	M8
63/71 63/90	110	80	53	95	3	M8
75/90	140	95	57	115	3	M8
90/90	160	110	67	130	3	M10
110/90	200	130	74	165	3.5	M10

	F	Fq	G (F8)	P	R	U	V	Z
40/63 40/71	FA	95	60	67	75	4	9	7
	FB	95		97				
50/63 50/71	FA	110	70	90	85	5	11	9
	FB	110		120				
63/71 63/90	FA	142	115	82	150	6	11	10
	FB	142		112				
75/90	FA	170	130	111	165	6	14	13
	FB	160	110	90	130	5	11	12
90/90	FA	200	152	111	175	6	14	13
	FB	210	180	122	215	6	14	16
110/90	FA	260	170	131	230	6	14	16

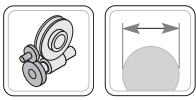
CBU - Versione Entrata / Input version / Antriebsausführung													
CBU		40/63		40/71		50/63		50/71		63/71		63/90	
IEC	Y	K	HK	K	HK	K	HK	K	HK	K	HK	K	HK
56 B5	120	141.1	14	-	-	151.1	-	-	-	-	-	-	-
56 B14	80	141.1•	14	-	-	151.1•	-	-	-	-	-	-	-
63 B5	140	141.1	14	160.6	7	151.1	24	170.6	17	185.1	30	-	-
63B14	90	141.1	14	160.6•	7	151.1	24	170.6•	17	185.1•	30	-	-
71 B5	160	-	-	160.6	7	-	24	170.6	17	185.1	30	-	-
71B14	105	-	-	160.6	7	-	24	170.6	17	185.1	30	-	-
80 B5	200	-	-	-	-	-	-	-	-	-	-	208.9	15
80 B14	120	-	-	-	-	-	-	-	-	-	-	208.9	15
90 B5	200	-	-	-	-	-	-	-	-	-	-	208.9	15
90 B14	140	-	-	-	-	-	-	-	-	-	-	208.9	15

CBU - Versione Entrata / Input version / Antriebsausführung													
CBU		75/90		90/90		110/90							
IEC	Y	K	HK	K	HK	K	HK						
56 B5	120	-	-	-	-	-	-						
56 B14	80	-	-	-	-	-	-						
63 B5	140	-	-	-	-	-	-						
63B14	90	-	-	-	-	-	-						
71 B5	160	-	-	-	-	-	-						
71B14	105	-	-	-	-	-	-						
80 B5	200	233.9	27	241.9	42	266.9	62						
80 B14	120	233.9	27	241.9	42	266.9	62						
90 B5	200	233.9	27	241.9	42	266.9	62						
90 B14	140	233.9	27	241.9	42	266.9	62						

(•) Vedi designazione - PMT

(•) See designation - PMT

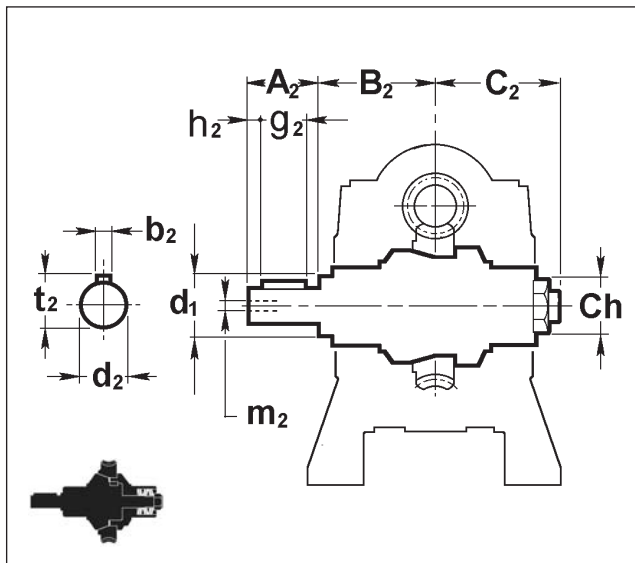
(•) Siehe Beschreibung - PMT



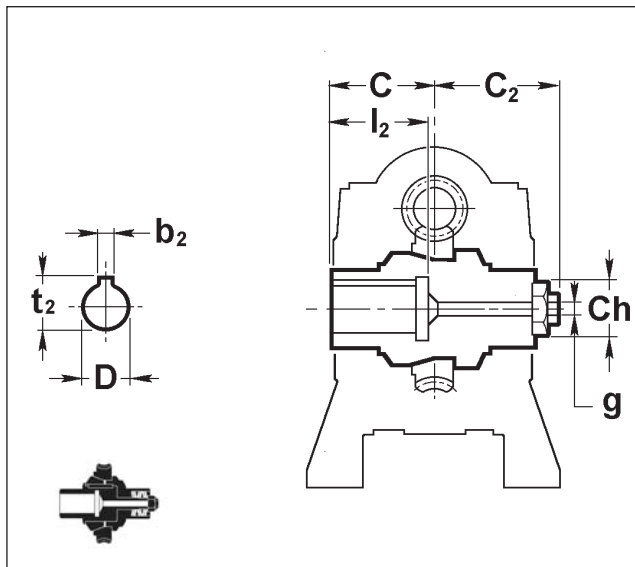
1.8 Dimensioni

1.8 Dimensions

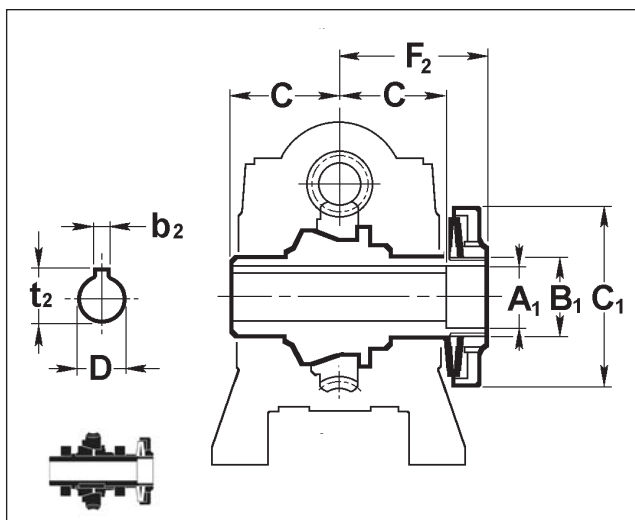
1.8 Abmessungen



CBR	40/63 40/71	50/63 50/71	63/71 63/90	70/71 70/90	85/90	110/90
LP	Ch	19	22	24	24	32
	b ₂	6	8	8	10	12
	d ₁	22	28	32	34	38
	d ₂ k6	19	24	25	28	32
	t ₂	21.5	27	28	31	35
	A ₂	40	45	60	60	71
	B ₂	51	59	65	70	87.5
	C ₂	49	60	70	66	94.5
	h ₂	7	7.5	8	10	10
	g ₂	25	30	40	40	80
	m ₂	M8	M8	M8	M8	M10



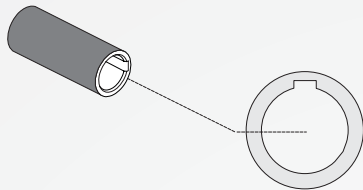
CBR	40/63 40/71	50/63 50/71	63/71 63/90	70/71 70/90	85/90	110/90
LC	Ch	19	22	24	27	32
	b ₂	6	8	8	10	12
	D _{H7}	19	24	25	28	32
	t ₂	21.8	27.3	28.3	31.3	35.3
	C	41	49	60	60	77.5
	C ₂	49	60	70	66	94.5
	l ₂	38	46	53	56	90
	g	5.5	7	7	9	11



CBR	40/63 40/71	50/63 50/71	63/71 63/90	70/71 70/90	85/90	110/90
LF	D _{H7}	19	24	25	28	32
	b ₂	6	8	8	10	12
	t ₂	21.8	27.3	28.3	31.3	35.3
	A ₁	25	31	32	36	40
	B ₁	M30	M40	M40	M45	M50
	C ₁	70	90	90	100	135
	C	41	49	60	60	77.5
	F ₂	60	74	85	85	110.5



STM
team



Hollow shaft with keyway

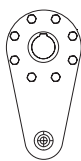
A46



AL



AL
BU



BRS
VKL



PROT

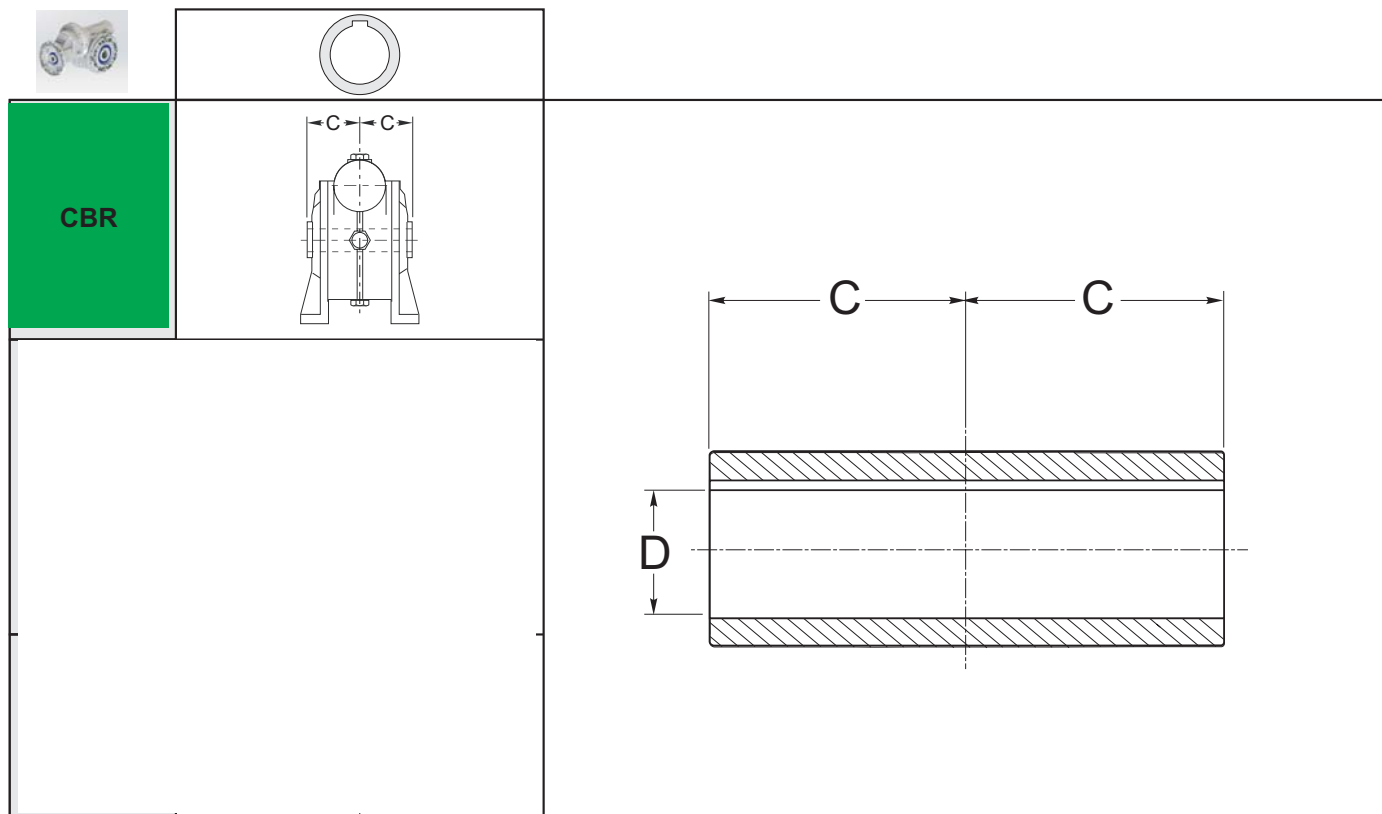
A47



1.8.1 - ALBERI LENTI

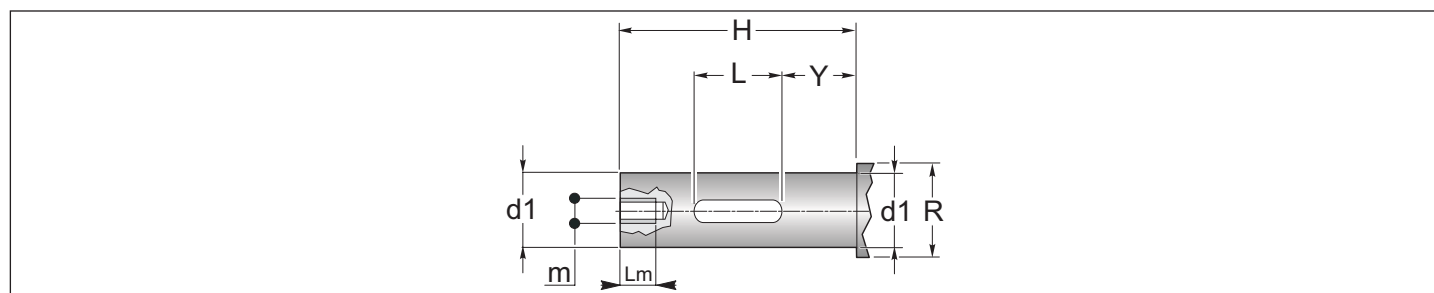
1.8.1 - OUTPUT SHAFT

1.8.1 - ABTRIEBSWELLEN



CBR		40/63 40/71	50/63 50/71	63/71 63/90	70/71 70/90	85/90	110/90
D	Standard	19	24	25	28	32	42
	Optional	18	25	-	-	35	-
tolerance D		H7	H7	H7	H7	H7	H7
C		41	49	60	60	61	77,5

Perno macchina / Customer shaft / Maschinachse

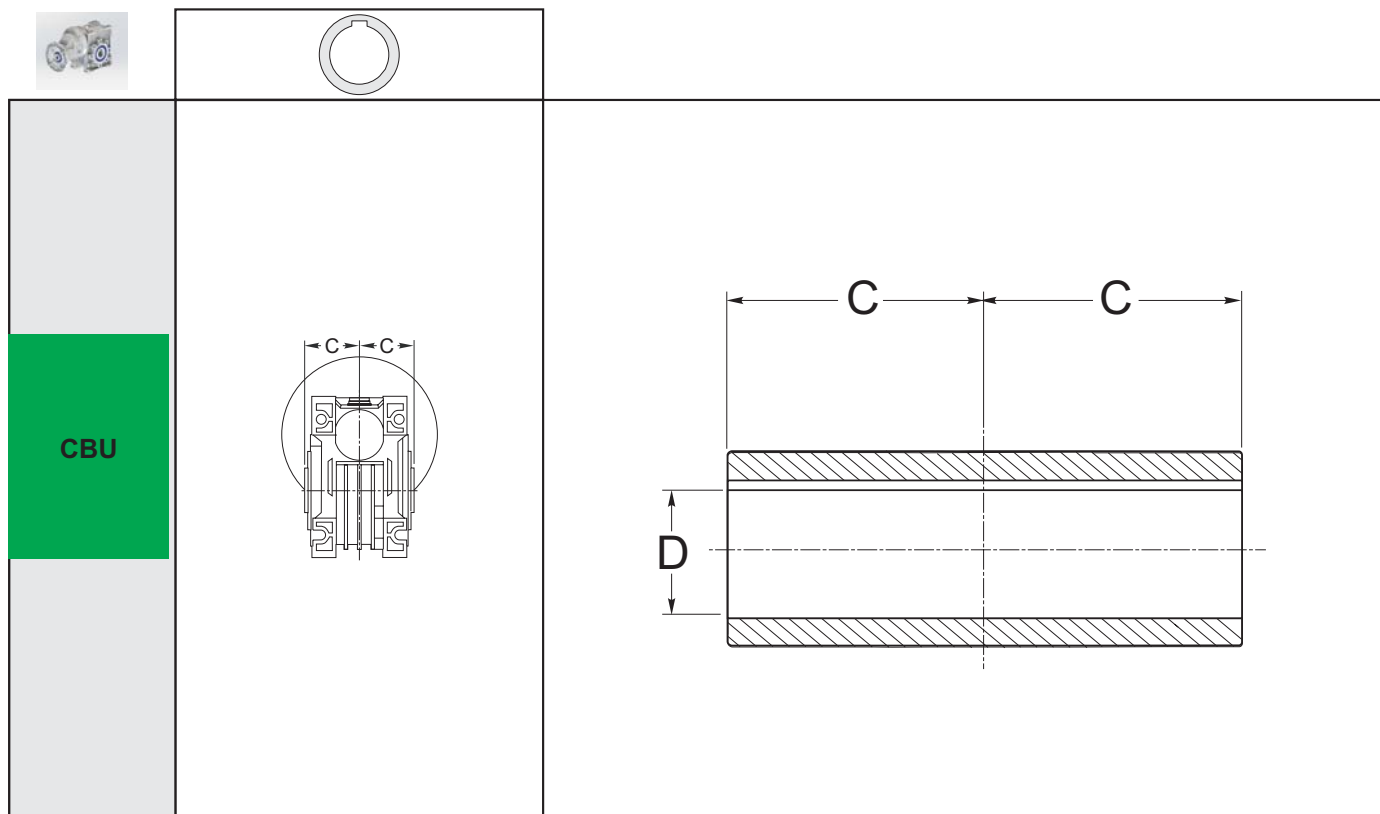


CBR		40/63 40/71	50/63 50/71	63/71 63/90	70/71 70/90	85/90	110/90
d1	Standard	19	24	25	28	32	42
	Optional	18	25	-	-	35	-
tolerance d1		g6	g6	g6	g6	g6	g6
H		80	95	109	117	119	153
L		40	50	60	60	70	80
m		M8	M8	M8	M8	M10	M10
Lm		16	20	20	20	25	25
R	Standard	22	28	34	34	38	50
	Optional	22	30	-	-	40	-
Y		21	24	30	30	26	37

1.8.1 - ALBERI LENTI

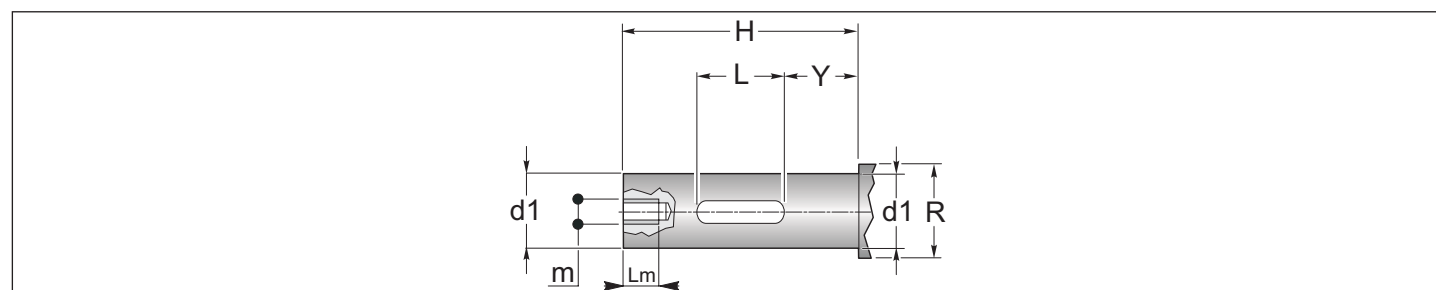
1.8.1 - OUTPUT SHAFT

1.8.1 - ABTRIEBSWELLEN

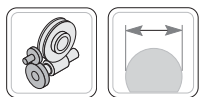


CBU	40/63 40/71	50/63 50/71	63/71 63/90	75/90	90/90	110/90
D	18	25	25	28	35	42
tolerance D	H7	H7	H7	H7	H7	H7
C	39	46	56	60	70	77,5

Perno macchina / Customer shaft / Maschinachse



CBU	40/63 40/71	50/63 50/71	63/71 63/90	75/90	90/90	110/90
d1	18	25	25	28	35	42
tolerance d1	g6	g6	g6	g6	g6	g6
H	76	89	109	117	137	153
L	40	50	60	60	70	80
m	M8	M8	M8	M8	M10	M10
Lm	16	16	16	16	25	25
R	22	28	34	34	38	50
Y	21	24	30	30	37	37



1.9 OPT - ACC. - Accessori - Opzioni

1.9 OPT - ACC. - Accessories - Options

1.9 OPT - ACC. Zubehör - Optionen

AL

AL - ALBERO LENTO SPORGENTE
AL - SINGLE OUTPUT SHAFTS

Tutti i riduttori a vite senza fine sono forniti con albero lento cavo.

A richiesta, possono essere forniti alberi lenti come indicato nei disegni dimensionali.

Le dimensioni delle linguette sono conformi alle norme UNI 6604-69.

All worm gearboxes are supplied with hollow output shaft. Output shafts as shown in the size drawings can be supplied upon request.

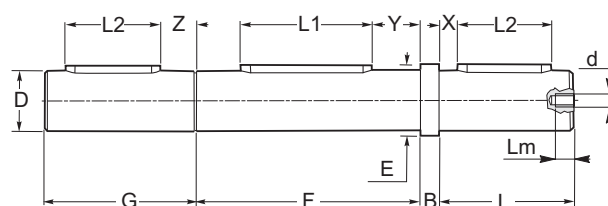
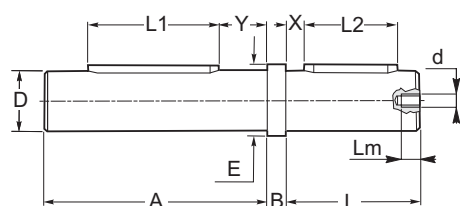
Sizes of feathers comply with standards UNI 6604-69.

**AL
BU**

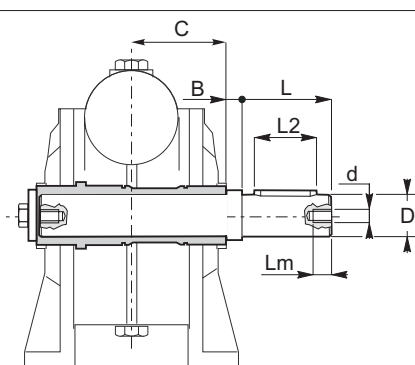
AL_BU - ALBERO LENTO BISPORGENTE
AL_BU - DOUBLE OUTPUT SHAFTS

Alle Schneckengetriebe werden mit hohler Abtriebswelle geliefert. Auf Anfrage können Abtriebswellen gemäß den Maßzeichnungen geliefert werden.

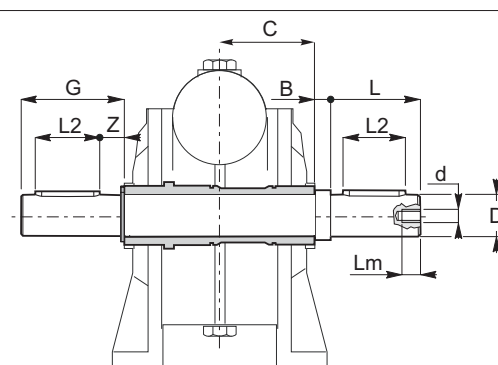
Die Abmessungen der Federn entsprechen den Normen UNI 6604-69.



CBR



CBR



CBR	40/63 40/71	50/63 50/71	63/71 63/90	70/71 70/90	85/90	110/90
A	76	89	109	117	119	153
B	10	10	10	10	10	10
C	41	49	60	60	61	77,5
D	19	24	25	28	32	42
tolerance D	g6	g6	g6	g6	g6	g6
d	M8	M8	M8	M8	M10	M10
E	22	28	34	34	38	50
F	82	98	120	120	122	155
G	50	55	70	70	81	110
L	40	45	60	60	71	100
L1	40	50	60	60	70	80
L2	25	30	40	40	50	80
Lm	16	20	20	20	25	25
X	8	7,5	10	10	10	10
Y	21	24	30	30	26	37
Z	18	18	20	20	20	20

ATTENZIONE

L'albero lento sporgente è fornito per essere installato sulla versione del riduttore con albero **CAVO** con diametro **STANDARD**.

ATTENTION

The output shaft is available only for standard hollow shaft diameter.

Achtung:

Die Einseitige Abtriebswelle wird fuer die Montage bei Getrieben mit Standart Hohlwelle geliefert.

N.B.

Tutti gli alberi lenti vengono forniti in kit di montaggio completi di linguette, rondelle, viti (e anelli elastici seeger per l'albero bisporgente)

NOTE

All output shafts are supplied in kit complete with feathers, washers and screws (as well as snap rings for the double extended shaft).

HINWEIS

Alle Abtriebswellen werden als Bausätze komplett mit Federn, Scheiben und Schrauben geliefert (bei der beidseitigen Abtriebswelle auch die Seegerringe).



1.9 OPT - ACC. - Accessori - Opzioni

1.9 OPT - ACC. - Accessories - Options

1.9 OPT - ACC. Zubehör - Optionen

AL
AL - ALBERO LENTO SPORGENTE
AL - SINGLE OUTPUT SHAFTS

Tutti i riduttori a vite senza fine sono forniti con albero lento cavo.

A richiesta, possono essere forniti alberi lenti come indicato nei disegni dimensionali.

Le dimensioni delle linguette sono conformi

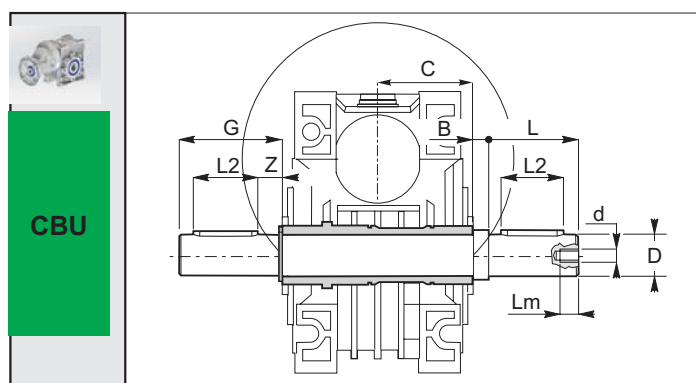
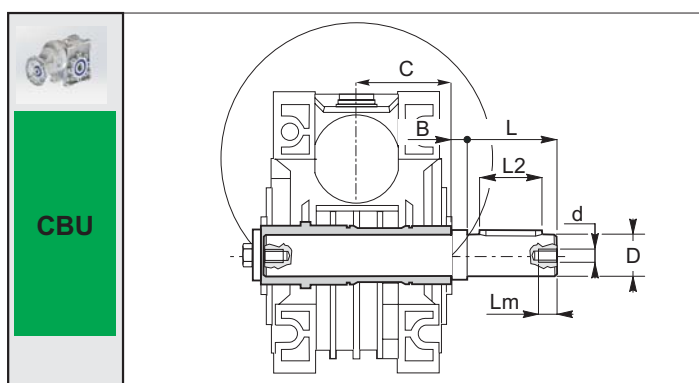
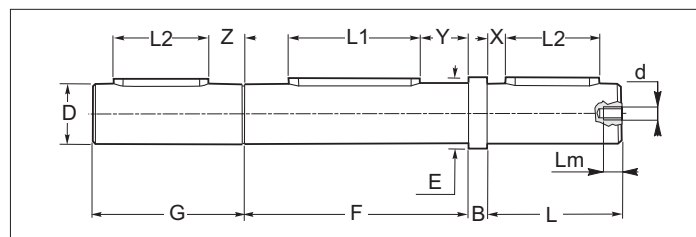
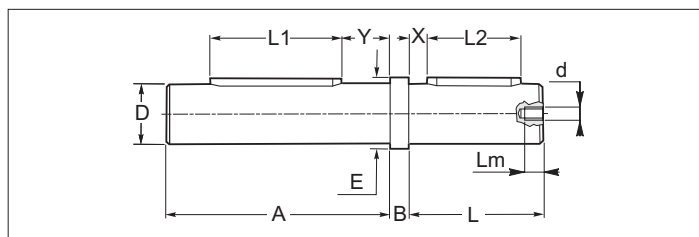
All worm gearboxes are supplied with hollow output shaft. Output shafts as shown in the size drawings can be supplied upon request.

Sizes of feathers comply with standards

**AL
BU**
AL_BU - ALBERO LENTO BISPORGENTE
AL_BU - DOUBLE OUTPUT SHAFTS

Alle Schneckengetriebe werden mit hohler Abtriebswelle geliefert. Auf Anfrage können Abtriebswellen gemäß den Maßzeichnungen geliefert werden.

Die Abmessungen der Federn entsprechen



CBU	40/63 40/71	50/63 50/71	63/71 63/90	75/90	90/90	110/90
A	76	89	109	117	137	153
B	10	10	10	10	10	10
C	39	46	56	60	70	77,5
D	18	25	25	28	35	42
tolerance D	g6	g6	g6	g6	g6	g6
d	M8	M8	M8	M8	M10	M10
E	22	28	34	34	38	50
F	78	92	112	120	140	155
G	50	55	70	70	90	110
L	40	45	60	60	80	100
L1	40	50	60	60	70	80
L2	25	30	40	40	50	80
Lm	16	16	16	16	25	25
X	8	7.5	10	10	15	10
Y	21	24	30	30	37	37
Z	18	18	20	20	25	20

ATTENZIONE

L'albero lento sporgente è fornito per essere installato sulla versione del riduttore con albero **CAVO** con diametro **STANDARD**.

ATTENTION

The output shaft is available only for standard hollow shaft diameter.

Achtung:

Die Einseitige Abtriebswelle wird fuer die Montage bei Getrieben mit Standart Hohlwelle geliefert.

N.B.

Tutti gli alberi lenti vengono forniti in kit di montaggio completi di linguette, rondelle, viti (e anelli elastici seeger per l'albero bisporgente)

NOTE

All output shafts are supplied in kit complete with feathers, washers and screws (as well as snap rings for the double extended shaft).

HINWEIS

Alle Abtriebswellen werden als Bausätze komplett mit Federn, Scheiben und Schrauben geliefert (bei der beidseitigen Abtriebswelle auch die Seegerringe).



1.9 OPT - ACC. - Accessori - Opzioni

1.9 OPT - ACC. - Accessories - Options

1.9 OPT - ACC. Zubehör - Optionen

BRS

BRS - Braccio Reazione Semplice
BRS- Torque arm – Single

Standard

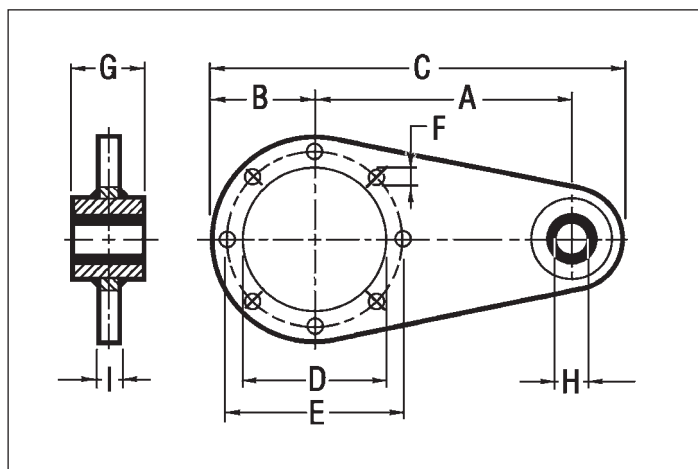
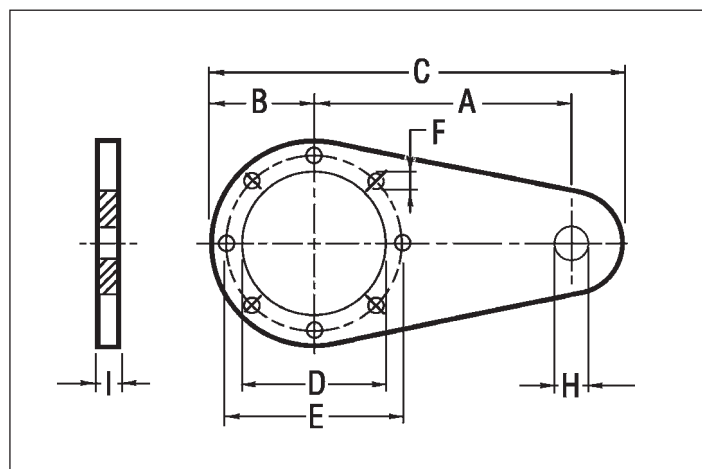
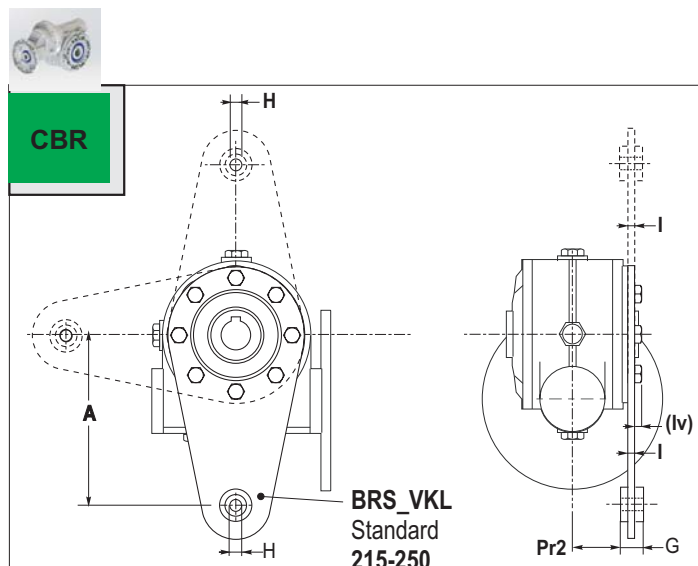
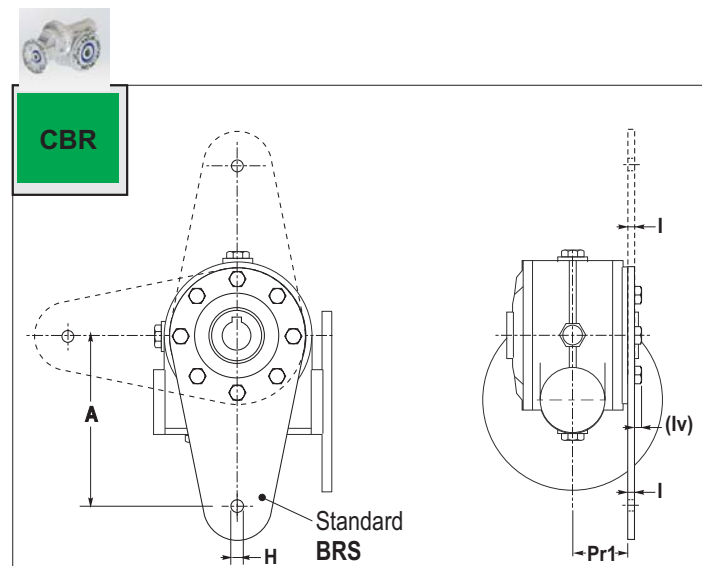
BRS VKL

BRS_VKL - Braccio Reazione Semplice_con boccola_VKL
BRS_VKL - Torque arm - Single_with VKL_bushing

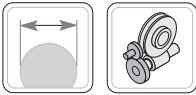
Per il fissaggio del riduttore mediante tirante, viene fornito in allegato l'apposito

If the gearbox shall be shaft mounted as an extra part there is also available a torque

Soll das Getriebe pendelnd gelagert werden, so ist als Zubehörteil auch eine



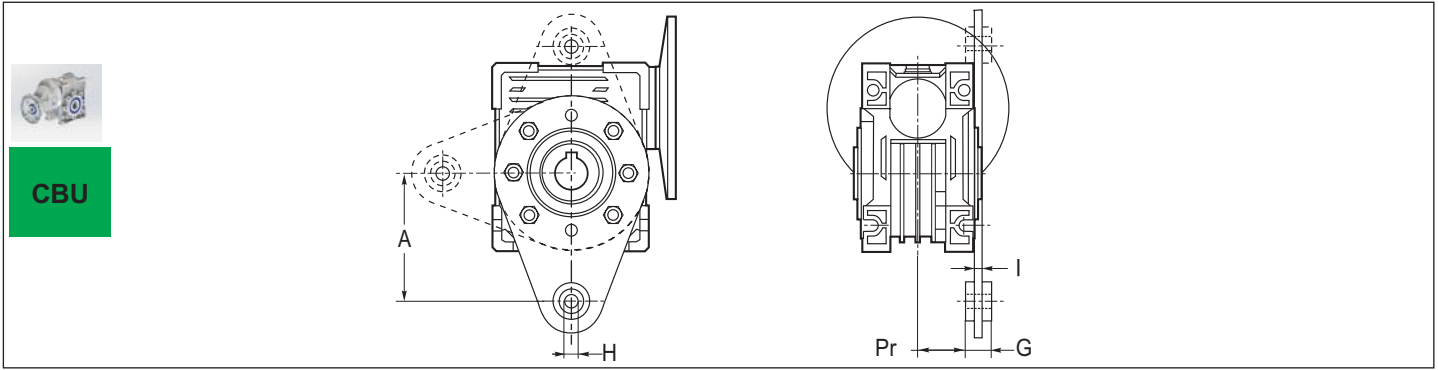
CBR	40/63 40/71	50/63 50/71	63/71 63/90	70/71 70/90	85/90	110/90
A	90	100	150	150	200	250
B	50	52.5	53	60	75	100
C	165	177.5	230	240	313	388
D	60	70	70	80	110	130
E	83	85	85	100	130	165
F	7	9	9	9	11	13
G	15	15	20	20	25	25
H	10	10	10	10	20	20
I	4	4	6	6	6	6
Pr1	38	49	57,5	57	56,5	74
Pr2	32,5	43,5	50,5	50	47	64,5



1.9 OPT - ACC. - Accessori - Opzioni 1.9 OPT - ACC. - Accessories - Options 1.9 OPT - ACC. Zubehör - Optionen

BRS VKL BRS_VKL - Braccio Reazione Semplice_con boccola_VKL
BRS_VKL - Torque arm - Single_with VKL_bushing

Per il fissaggio del riduttore mediante tirante, viene fornito in allegato l'apposito *If the gearbox shall be shaft mounted as an extra part there is also available a torque* Soll das Getriebe pendelnd gelagert werden, so ist als Zubehörteil auch eine Drehmomentstütze.



CBU	40/63 40/71	50/63 50/71	63/71 63/90	75/90	90/90	110/90
A	100	100	150	200	200	250
G	15	15	20	25	25	25
H	10	10	10	20	20	20
I	4	4	6	6	6	6
Pr	31	38	46	47.5	57.5	64.5



1.9 OPT - ACC. - Accessori - Opzioni

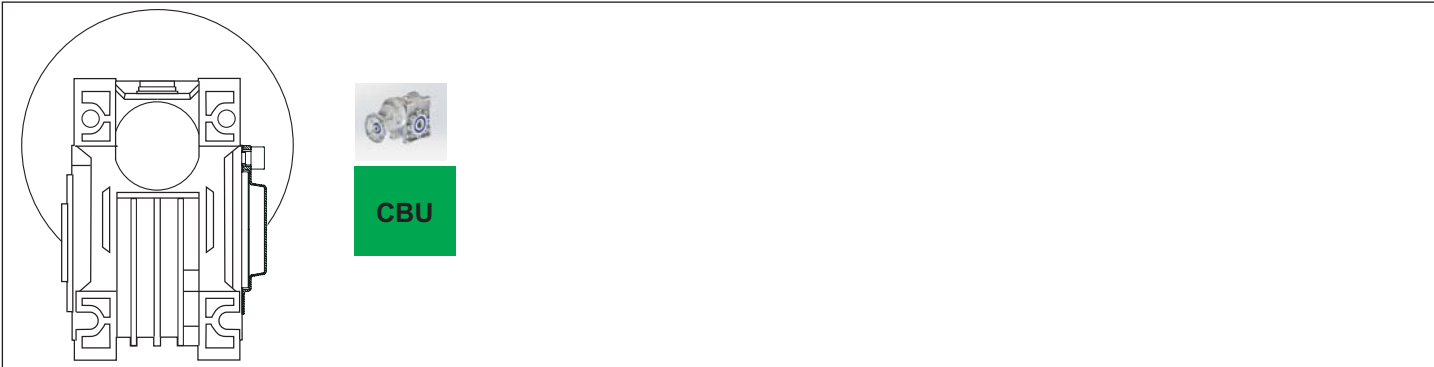
PROT PROT. - Coperchio di protezione

1.9 OPT - ACC. - Accessories - Options

PROT. - Protection cover

1.9 OPT - ACC. Zubehör - Optionen

PROT - Schutzvorrichtungdeckel



ELSX ELSX - Vite senza fine - Elica Sinistra

ELSX - Worm Geraboxe - Left helix

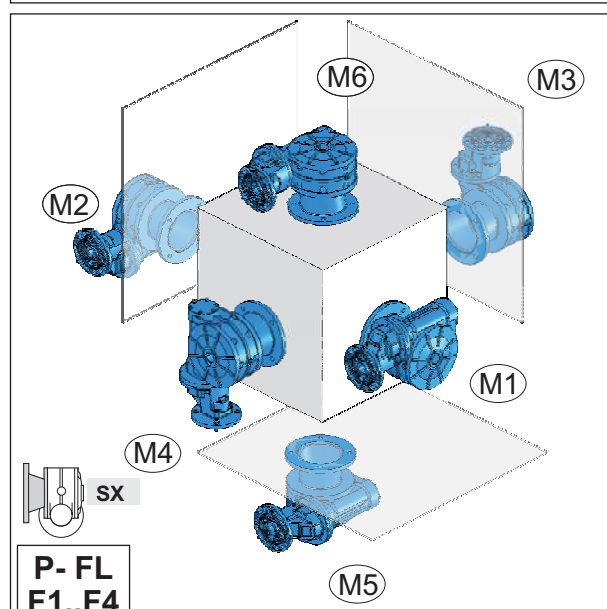
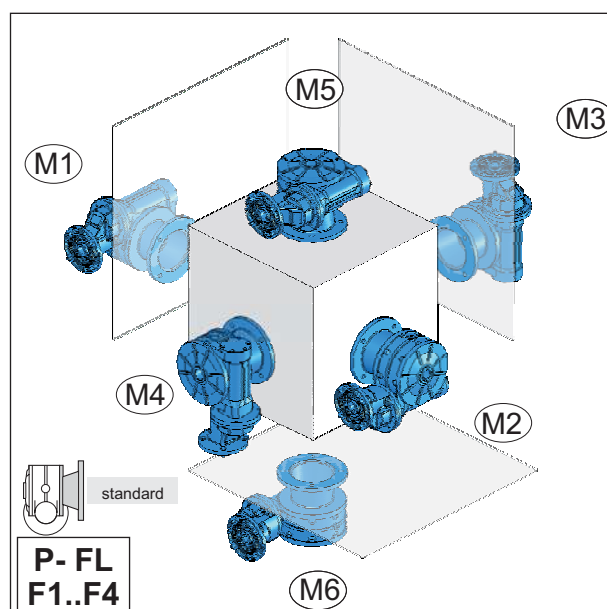
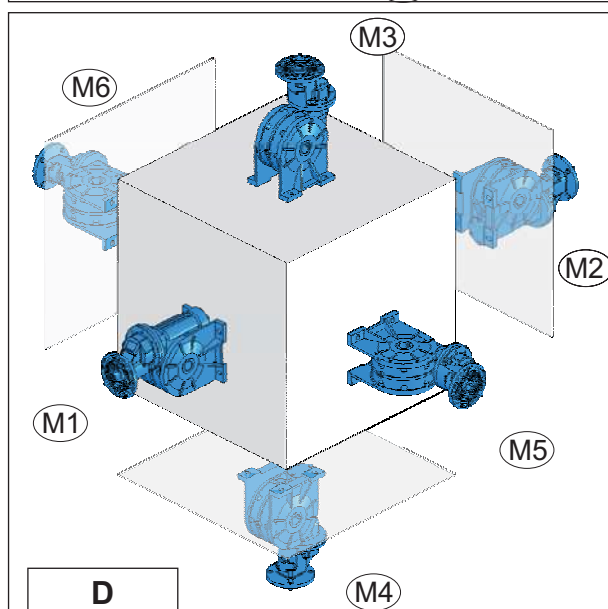
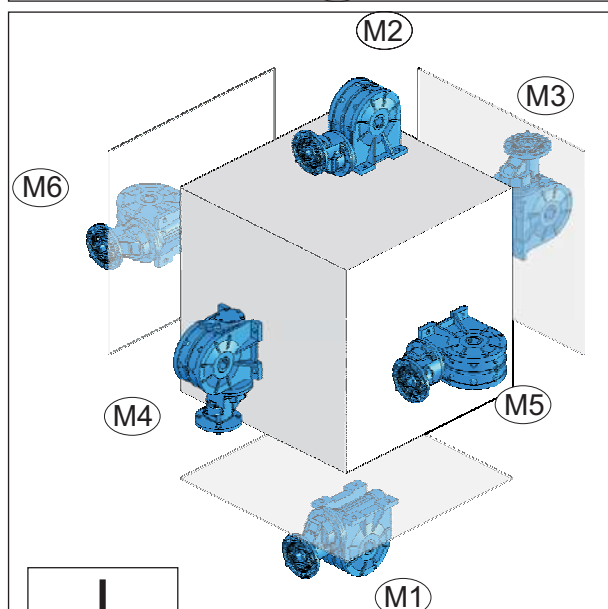
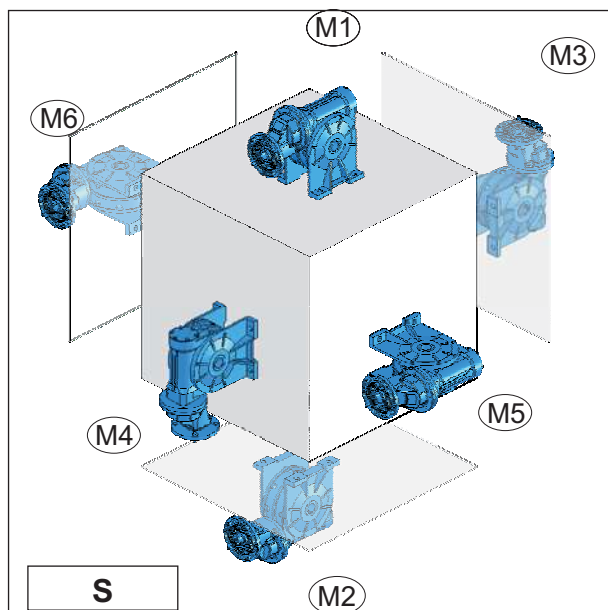
ELSX - Linksgängige Schraubenlinie der Schneke



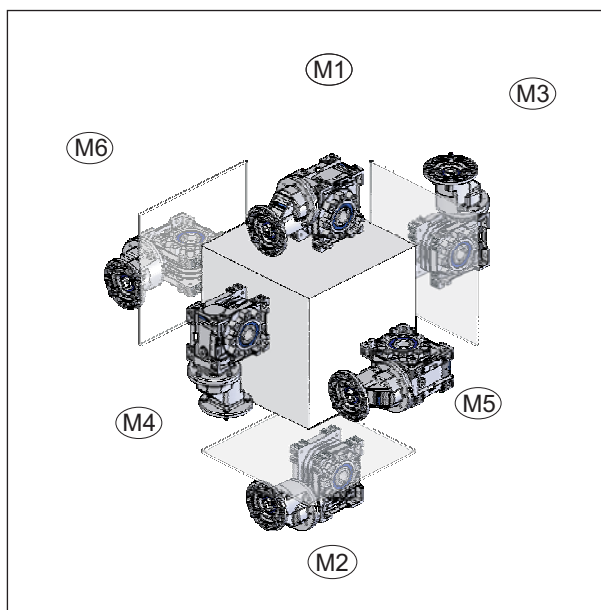
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Posizioni di montaggio
Mounting positions
Montagepositionen

CBR



Posizioni di montaggio
Mounting positions
Montagepositionen

CBU



Gestione Revisioni Cataloghi STM

Managing STM Catalog Revisions

Management Wiederholt Kataloge STM

Codice Catalogo

Catalog Code

Katalogcode

CT46	I	GB	D	1.0
N° Identificativo <i>Identification Number</i> Kennummer	Identificativo Lingua - <i>Language</i> - Sprache I - Italiano – <i>Italian</i> - Italienisch GB – Inglese – <i>English</i> - Englisch D – Tedesco – <i>German</i> - Deutsch			Indice di Revisione <i>Review</i> Bericht

1) Ogni catalogo STM in distribuzione è provvisto di un codice che lo identifica che è riportato nell'ultima pagina dei cataloghi e a piè pagina di tutte le pagine del catalogo stesso. Per verificare la revisione attualmente in vostro possesso è necessario guardare l'ultima cifra che compone il codice del catalogo:

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3) Guardare con attenzione il simbolo inserito nella colonna "Classificazione Modifica". In questa colonna sarà inserito un simbolo che determina una classificazione delle modifiche apportate. Questo consente di identificare con estrema rapidità l'importanza della modifica apportata;

1) *Each STM catalogue is identified by a code printed on the last page and reported in the page footer. The last digit in the catalogue code identifies catalogue revision:*

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Classificazione <i>Classification</i> Klasse	Definizione Specificante gli elementi di modifica <i>Definition Change identifier</i> Erklärende Definition der Änderungselemente	Simbolo Identificativo <i>Symbol</i> Identifikationssymbol
Chiave <i>Key</i> Schlüssel	Uscita e immissione di un prodotto <i>Product issuance and marketing</i> Ausgabe und Einführung eines Produkts	
Importante <i>Major</i> Wichtig	Modifica che influenza gli ingombri/stato fornitura/installazione del prodotto <i>Change affecting overall dimensions/delivery condition/product installation</i> Änderung, die sich auf die Abmessungen/Lieferzustand/Produktinstallation auswirkt	
Secondaria <i>Minor</i> Sekundär	Modifica che riguarda traduzioni/impaginazioni/inserimento descrizioni <i>Change to translations/layout/captions</i> Änderung, die Übersetzungen/den Umbruch/eingefügte Beschreibungen betrifft	

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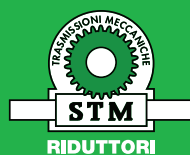
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