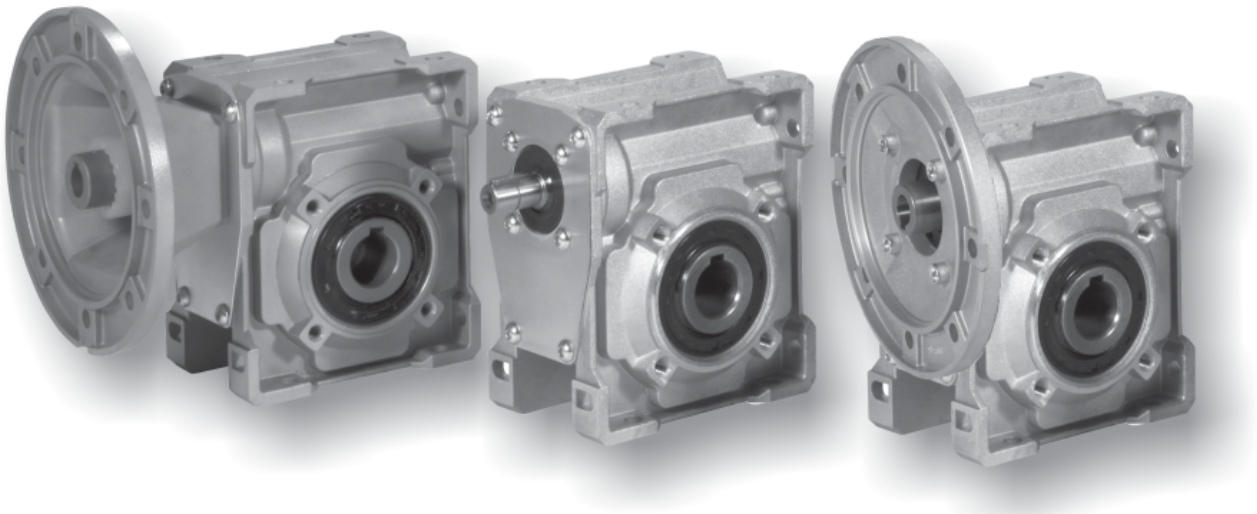
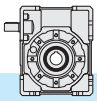
2.0 RIDUTTORI A VITE SENZA FINE X — X WORM GEARBOXES — SCHNECKENGETRIEBE X

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XF **XA** **XC**

03/2011



2.1 Caratteristiche

- I riduttori a vite senza fine della serie X sono disponibili nelle versioni alberata XA e con predisposizione per attacco motore XF-XC.
- La versione XF (campana + giunto), caratterizzata da una più ampia versatilità ai diversi tipi di applicazioni, presenta un più elevato rendimento rispetto a quello della serie compatta XC la quale, a sua volta, presenta il vantaggio di un ingombro più ridotto.
- La carcassa monoblocco è in ghisa nelle grandezze 90, 110 e 130, in alluminio pressofuso per le grandezze inferiori.
- La vite senza fine è in acciaio legato cementato-temprato ed è rettificata.
- La corona ha il mozzo in ghisa con riporto di fusione dell'anello in bronzo.
- Le carcasse in ghisa sono verniciate BLU RAL5010 mentre quelle in alluminio sono sabbiate.
- Viene fornito l'albero uscita cavo di serie ed esiste un'ampia disponibilità di accessori: seconda entrata, cuscinetti conici sulla corona, flangia uscita, albero lento con 1 o 2 sporgenze, limitatore di coppia con cavo passante, braccio di reazione, kit protezione albero cavo, kit protezione limitatore di coppia.

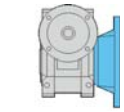
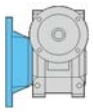
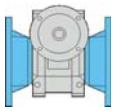
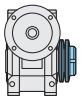
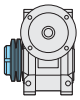
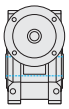
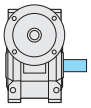
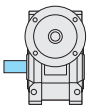
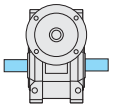
2.1 Characteristics

- *X series worm gearboxes are available in the following versions : XA with shaft, XF and XC suitable for motor mounting assembling.*
- *The XF version (bell + joint) suits a wider range of applications and provides higher efficiency than the XC compact version, which actually offers reduced space requirement.*
- *The enbloc housing is in cast-iron for sizes 90, 110 and 130, in die-cast aluminium for smaller sizes.*
- *The worm shaft is in case-and quench-hardened alloy steel and ground.*
- *The worm wheel has a cast-iron hub provided with inserted cast-bronze ring.*
- *The housings in cast iron are painted BLUE RAL 5010, those in aluminium are sandblasted.*
- *The hollow output shaft is supplied as standard. A broad range of accessories is available: second input, tapered roller bearings on the worm wheel, output flange, single or double-extended output shaft, torque limiter with through hollow shaft, torque arm, hollow shaft protection kit, torque limiter protection kit.*

2.1 Merkmale

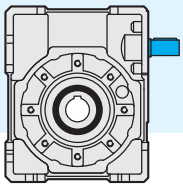
- Die Schneckengetriebe der Serie X sind in die Versiön XA mit Welle und XF / XC mit Motoranschluß lieferbar.
- Die Version XF (Glocke + Kupplung), die sich durch ihre zahlreichen Anwendungsmöglichkeiten auszeichnet, bietet höhere Leistung als die Kompaktserie XC, die wiederum Vorteile im Sinne der Platzersparnis mit sich bringt.
- Das Blockgehäuse ist aus Gusseisen für die Baugrößen 90, 110 und 130, aus Aluminiumdruckguß für die kleineren Versionen.
- Die Schnecke ist aus einsatzgehärtetem/abgeschrecktem und daraufhin geschliffenen Legierungsstahl.
- Das Schneckenrad besteht aus einer Nabe aus Gusseisen und einem aufgeschleuderten Gussbronze –Ring.
- Das Schneckenrad aus Gusseisen werden mit BLAU RAL 5010 lackiert, die aus Aluminium werden sandgestrahlt.
- Die Hohlwelle gehört zur serienmäßigen Ausstattung. Zahlreiches Zubehör ist lieferbar: zweiter Antrieb, Kegellager auf das Schneckenrad, Abtriebsflansch, Standard oder doppelseitig herausragende Abtriebswelle, Drehmomentbegrenzer mit durchgehender Hohlwelle, Drehmomentstütze, Schutzvorrichtung für Hohlwelle, Schutzvorrichtung für Drehmomentbegrenzer.

2.2 Designazione — *2.2 Designation* — 2.2 Bezeichnung

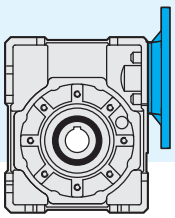
Riduttore *Gearbox* Getriebe	Tipo entrata *Input type* Antriebsart	Grandezza *Size* Größe	Rapporto rid. *Ratio* *Untersetzung*	Predispos.att. mot. *Motor coupling* Motoranschluss	Posizione di mont. *Mounting position* Einbaulage	Flangia in uscita. *Output flange* Abtriebsflansch	Limitatore di coppia. *Torque limiter* Drehmoment-begrenzer	Seconda entrata *Additional input* Zusatzantrieb	Albero uscita *Output shaft* Abtriebswelle	Braccio di reazione *Torque arm* Drehmomentstütze
X	**A**	**50**	**10/1**	**P.A.M**	**B3**	**F1S**	**LD**	**SeA**	**H**	**BR**
Riduttore a vite senza fine ***Wormgearbox*** **Schneckengetriebe**	 **A** **C** **F**	**30** **40** **50** **63** **75** **90** **110** **130**	**7.5** **10** **15** **20** **25** **30** **40** **50** **65** **80** **100**	**56** **63** **71** **80** **90** **100** **112** **132**	**B3, B6** **B7, B8** **V5, V6**	 **F1D-F2D-F3D**  **F1S-F2S-F3S**  **F12-F22-F32**	 **LD**  **LS**	 **SeA**	 **H**  **SD**  **SS**  **DD**	 **BR**

Tipo entrata — ***Input type*** — **Antriebstyp**

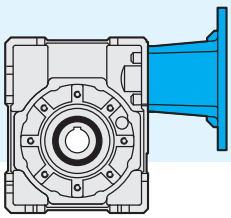
XA..



XC..



XF..



2.3 Lubrificazione

I riduttori a vite senza fine serie X, tranne la grandezza 130, sono forniti completi di lubrificante sintetico a base PAG con indice di viscosità ISO VG320.
Si raccomanda di precisare sempre, in fase di ordine, la posizione di lavoro desiderata.

2.3 Lubrication

X series worm gearboxes, except for the size 130, are supplied with synthetic lubricant, PAG base, viscosity index ISO VG320.
Mounting position always to be specified when ordering.

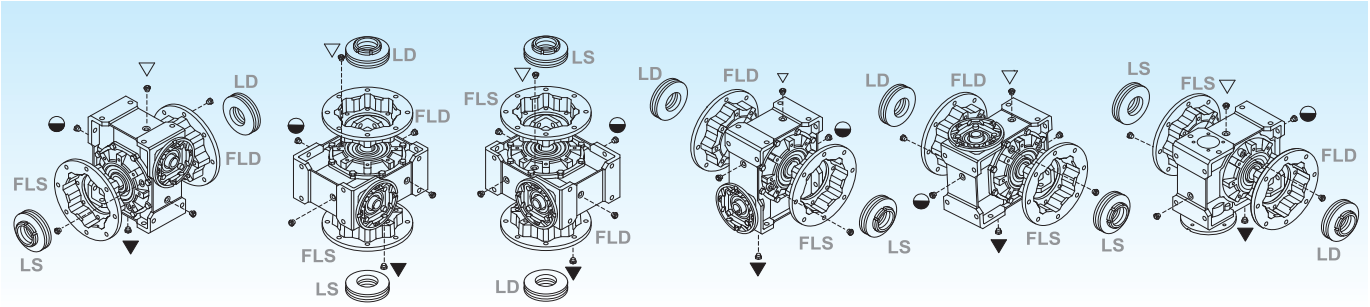
2.3 Schmierung

Schneckengetriebe der Serie X, außer Groesse 130, werden mit synthetischem Schmiermittel auf PAG Basis und Viskosität Index ISO VG320 geliefert.
Im Auftrag bitte immer die gewünschte Einbaulage angeben.

Posizioni di montaggio

Mounting positions

Einbaulagen



		Q.tà olio / *Oil quantity* / Schmiermittelmenge [lt]			
		Posizione di montaggio / *Mounting position* / Einbaulage			
		B3	**B6 - B7**	**B8**	**V5 - V6**
X	**30**	0.015			
	40	0.040			
	50	0.080			
	63	0.160			
	75	0.260			
	90	1.1	0.9	0.8	1.2
	110	2.2	1.8	1.6	2.4
	130	3.4	3	2.5	3.8

▽ Carico e sfiato / *Filling and breather* Einfüll und Entlüftung
◒ Livello / *Level* / Ölstand
▼ Scarico / *Drain* / Ablass

Nei corpi in alluminio 30, 40, 50, 63,75 è presente un solo tappo di riempimento olio.

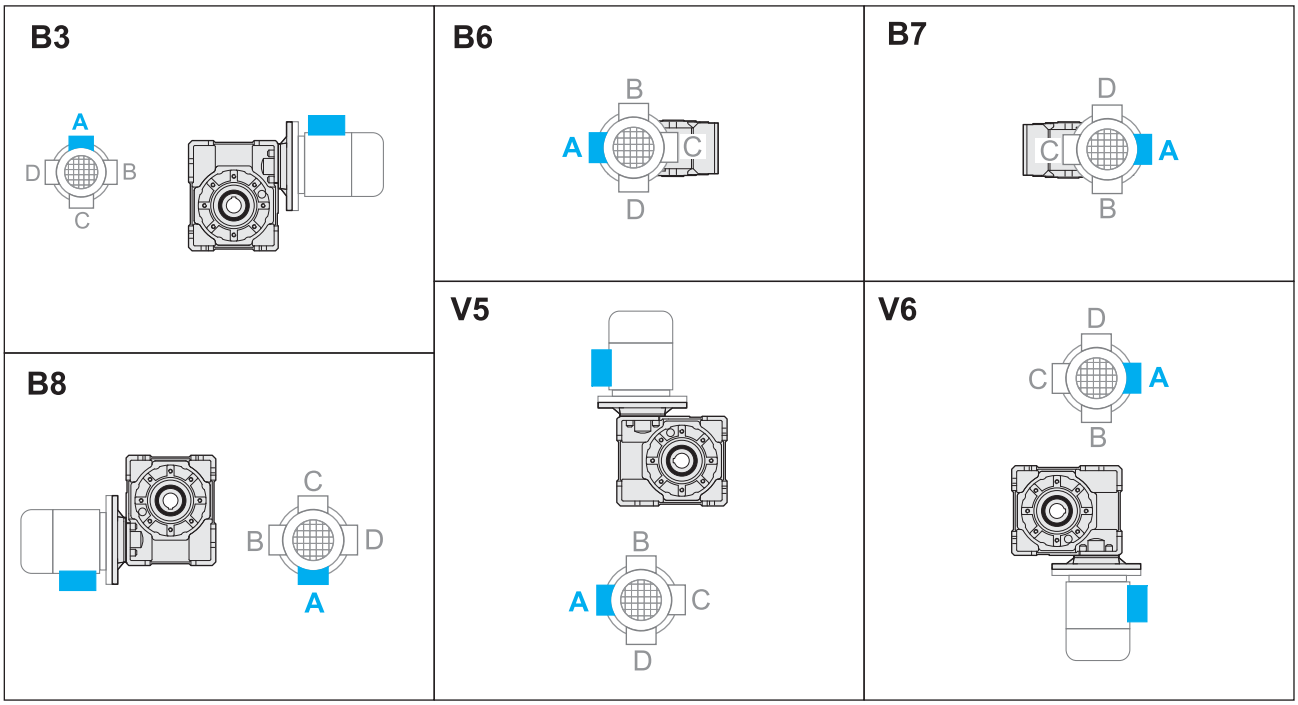
30, 40, 50, 63 and 75 aluminium housings have one oil filling plug only.

30, 40, 50, 63 und 75 Aluminiumgehäuse verfügen über 1 Einfüllschraube.

2.4 Posizione morsettiera

2.4 Terminal board position

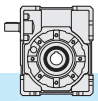
2.4 Lage der Klemmenkaste



Specificare sempre in fase di ordinazione la posizione di montaggio e la forma costruttiva.

Mounting position always to be specified when ordering.

Bei der Bestellung immer die gewünschte Montageposition und Bauform angeben.



2.5 Dati tecnici — *2.5 Technical data* — 2.5 Technische Daten

	n_1 = 2800				XA		XC - XF									
										Input - IEC						
	i_n	n_2 [min^{-1}]	Rd	P_{t0}	T_{2M} [Nm]	P [kW]	T_2 [Nm]	P_1 [kW]	FS'	XC		XF				
										B5/B14		B5		B14		
30	**7.5**	373	0.86		**16**	0.72	8	**0.37**	2.0							
	10	280	0.84		**16**	0.56	11	**0.37**	1.5							
	15	187	0.81		**17**	0.41	15	**0.37**	1.1							
	20	140	0.76		**15**	0.29	13	**0.25**	1.2							
	25	112	0.74		**16**	0.25	16	**0.25**	1.0							
	30	93	0.71	—	**13**	0.18	13	**0.18**	1.0	**63**	**56**	**63**	**56**	**63**	**56**	
Kg	**40**	70	0.65		**16**	0.18	16	**0.18**	1.0							
	50	56	0.62		**15**	0.14	14	**0.13**	1.1							
1.4	**65**	43	0.57		**17**	0.13	17	**0.13**	1.0							
	80	35	0.54		**13**	0.09	13	**0.09**	1.0	—						
	100	28	0.52		**12**	0.07	16	**0.09**	0.8							

	n_1 =1400				XA		XC - XF									
										Input - IEC						
	i_n	n_2 [min^{-1}]	Rd	P_{t0}	T_{2M} [Nm]	P [kW]	T_2 [Nm]	P_1 [kW]	FS'	XC		XF				
										B5/B14		B5		B14		
30	**7.5**	187	0.84	0.40	**21**	0.49	9	**0.22**	2.2							
	10	140	0.82	0.40	**22**	0.40	12	**0.22**	1.8							
	15	93	0.77	0.30	**22**	0.28	17	**0.22**	1.3							
	20	70	0.72	0.20	**19**	0.19	18	**0.18**	1.1							
	25	56	0.69	0.20	**21**	0.18	21	**0.18**	1.0							
	30	47	0.66	0.20	**20**	0.15	18	**0.13**	1.1	**63**	**56**	**63**	**56**	**63**	**56**	
Kg	**40**	35	0.59	0.20	**21**	0.13	21	**0.13**	1.0							
	50	28	0.55	0.20	**19**	0.10	17	**0.09**	1.1							
1.4	**65**	22	0.51	0.10	**20**	0.09	20	**0.09**	1.0							
	80	18	0.48	0.10	**17**	0.06	16	**0.06**	1.0	—						
	100	14	0.45	0.10	**14**	0.05	18	**0.06**	0.8							

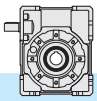
	n_1 = 900				XA		XC - XF									
										Input - IEC						
	i_n	n_2 [min^{-1}]	Rd	P_{t0}	T_{2M} [Nm]	P [kW]	T_2 [Nm]	P_1 [kW]	FS'	XC		XF				
										B5/B14		B5		B14		
30	**7.5**	120	0.82		**25**	0.38	9	**0.13**	2.9							
	10	90	0.80		**25**	0.30	11	**0.13**	2.3							
	15	60	0.75		**25**	0.21	15	**0.13**	1.6							
	20	45	0.69		**22**	0.15	19	**0.13**	1.2							
	25	36	0.66		**24**	0.14	23	**0.13**	1.1							
	30	30	0.63	—	**21**	0.10	18	**0.09**	1.2	**63**	**56**	**63**	**56**	**63**	**56**	
Kg	**40**	23	0.55		**24**	0.10	21	**0.09**	1.1							
	50	18	0.52		**21**	0.08	16	**0.06**	1.1							
1.4	**65**	14	0.48		**22**	0.07	20	**0.06**	1.1							
	80	11	0.44		**19**	0.05	11	**0.03**	1.7	—						
	100	9	0.42		**15**	0.03	13	**0.03**	1.1							

	n_1 = 500				XA		XC - XF									
										Input - IEC						
	i_n	n_2 [min^{-1}]	Rd	P_{t0}	T_{2M} [Nm]	P [kW]	T_2 [Nm]	P_1 [kW]	FS'	XC		XF				
										B5/B14		B5		B14		
30	**7.5**	67	0.80		**31**	0.27	—	—	—							
	10	50	0.77		**31**	0.21	—	—	—							
	15	33	0.72		**31**	0.15	—	—	—							
	20	25	0.66		**26**	0.10	—	—	—							
	25	20	0.62		**27**	0.09	—	—	—							
	30	17	0.59	—	**25**	0.07	—	—	—	**63**	**56**	**63**	**56**	**63**	**56**	
Kg	**40**	13	0.51		**28**	0.07	—	—	—							
	50	10	0.48		**25**	0.06	—	—	—							
1.4	**65**	8	0.43		**25**	0.05	—	—	—							
	80	6	0.40		**20**	0.03	—	—	—	—						
	100	5	0.38		**16**	0.02	—	—	—							

*** ATTENZIONE:** la coppia massima utilizzabile [T_{2M}] deve essere calcolata utilizzando il fattore di servizio: $T_{2M} = T_2 \times FS'$

**** WARNING:*** *Maximum allowable torque [T_{2M}] must be calculated using the following service factor : $T_{2M} = T_2 \times FS'$*

***ACHTUNG:** das max. anwendbare Drehmoment [T_{2M}] muss mit folgendem Betriebsfaktor berechnet werden: $T_{2M} = T_2 \times FS'$



2.5 Dati tecnici — *2.5 Technical data* — 2.5 Technische Daten

	n_1 = 2800				XA		XC - XF											
										Input - IEC								
	i_n	n_2 [min^{-1}]	Rd	P_{t0}	T_{2M} [Nm]	P [kW]	T_2 [Nm]	P_1 [kW]	FS'	XC			XF					
										B5/B14			B5			B14		
40	**7.5**	373	0.87		**30**	1.3	17	**0.75**	1.8									
	10	280	0.86		**31**	1.1	22	**0.75**	1.4									
	15	187	0.82		**32**	0.76	32	**0.75**	1.0									
	20	140	0.80		**31**	0.57	30	**0.55**	1.0	**71**	**63**	—						
	25	112	0.76		**27**	0.41	24	**0.37**	1.1									
	30	93	0.73	—	**35**	0.47	28	**0.37**	1.3				**71**	**63**	**56**	**71**	**63**	—
	40	70	0.70		**33**	0.35	24	**0.25**	1.4									
Kg	**50**	56	0.65		**30**	0.27	28	**0.25**	1.1									
2.4	**65**	43	0.61		**28**	0.21	24	**0.18**	1.2	—		**56**						
	80	35	0.58		**26**	0.16	21	**0.13**	1.3									
	100	28	0.55		**25**	0.13	24	**0.13**	1.0									

	n_1 = 1400				XA		XC - XF											
										Input - IEC								
	i_n	n_2 [min^{-1}]	Rd	P_{t0}	T_{2M} [Nm]	P [kW]	T_2 [Nm]	P_1 [kW]	FS'	XC			XF					
										B5/B14			B5			B14		
40	**7.5**	187	0.85	0.80	**40**	0.92	24	**0.55**	1.7									
	10	140	0.83	0.70	**41**	0.73	31	**0.55**	1.3									
	15	93	0.79	0.50	**42**	0.52	30	**0.37**	1.4									
	20	70	0.76	0.50	**40**	0.39	38	**0.37**	1.0	**71**	**63**	—						
	25	56	0.72	0.40	**35**	0.29	31	**0.25**	1.1									
	30	47	0.68	0.40	**41**	0.29	35	**0.25**	1.2				**71**	**63**	**56**	**71**	**63**	—
	40	35	0.64	0.30	**38**	0.22	38	**0.22**	1.0									
Kg	**50**	28	0.59	0.30	**38**	0.19	36	**0.18**	1.1									
2.4	**65**	22	0.54	0.20	**35**	0.15	31	**0.13**	1.1	—		**56**						
	80	18	0.52	0.20	**33**	0.12	31	**0.11**	1.1									
	100	14	0.49	0.20	**28**	0.08	30	**0.09**	0.9									

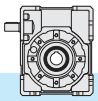
	n_1 = 900				XA		XC - XF											
										Input - IEC								
	i_n	n_2 [min^{-1}]	Rd	P_{t0}	T_{2M} [Nm]	P [kW]	T_2 [Nm]	P_1 [kW]	FS'	XC			XF					
										B5/B14			B5			B14		
40	**7.5**	120	0.83		**48**	0.72	25	**0.37**	2.0									
	10	90	0.81		**48**	0.56	32	**0.37**	1.5									
	15	60	0.76		**49**	0.40	45	**0.37**	1.1									
	20	45	0.74		**46**	0.29	39	**0.25**	1.2	**71**	**63**	—						
	25	36	0.69		**42**	0.23	33	**0.18**	1.3									
	30	30	0.65	—	**48**	0.23	37	**0.18**	1.3				**71**	**63**	**56**	**71**	**63**	—
	40	23	0.61		**42**	0.16	33	**0.13**	1.3									
Kg	**50**	18	0.55		**42**	0.14	38	**0.13**	1.1									
2.4	**65**	14	0.51		**39**	0.11	32	**0.09**	1.2	—		**56**						
	80	11	0.48		**37**	0.09	37	**0.09**	1.0									
	100	9	0.45		**30**	0.06	29	**0.06**	1.0									

	n_1 = 500				XA		XC - XF											
										Input - IEC								
	i_n	n_2 [min^{-1}]	Rd	P_{t0}	T_{2M} [Nm]	P [kW]	T_2 [Nm]	P_1 [kW]	FS'	XC			XF					
										B5/B14			B5			B14		
40	**7.5**	67	0.81		**58**	0.50	10	**0.09**	5.5									
	10	50	0.79		**59**	0.39	14	**0.09**	4.4									
	15	33	0.73		**59**	0.28	19	**0.09**	3.1									
	20	25	0.70		**55**	0.20	24	**0.09**	2.3	**71**	**63**	—						
	25	20	0.65		**48**	0.15	28	**0.09**	1.7									
	30	17	0.61	—	**58**	0.17	31	**0.09**	1.8				**71**	**63**	**56**	**71**	**63**	—
	40	13	0.57		**52**	0.12	39	**0.09**	1.3									
Kg	**50**	10	0.51		**51**	0.11	44	**0.09**	1.2									
2.4	**65**	8	0.46		**45**	0.08	52	**0.09**	0.9	—		**56**						
	80	6	0.44		**42**	0.06	61*	**0.09**	0.7*									
	100	5	0.41		**32**	0.04	71*	**0.09**	0.4*									

*** ATTENZIONE:** la coppia massima utilizzabile [T_{2M}] deve essere calcolata utilizzando il fattore di servizio: $T_{2M} = T_2 \times FS'$

**** WARNING:** Maximum allowable torque [T_{2M}] must be calculated using the following service factor : $T_{2M} = T_2 \times FS'$*

***ACHTUNG:** das max. anwendbare Drehmoment [T_{2M}] muss mit folgendem Betriebsfaktor berechnet werden: $T_{2M} = T_2 \times FS'$



2.5 Dati tecnici — *2.5 Technical data* — 2.5 Technische Daten

	n_1 = 2800				XA		XC - XF											
										Input - IEC								
	i_n	n_2 [min^{-1}]	Rd	P_{t0}	T_{2M} [Nm]	P [kW]	T_2 [Nm]	P_1 [kW]	FS'	XC			XF					
										B5/B14			B5			B14		
50	7.5	373	0.88		51	2.3	34	1.5	1.5									
	10	280	0.86		54	1.8	44	1.5	1.2									
	15	187	0.84		57	1.3	47	1.1	1.2									
	20	140	0.81		58	1.0	42	0.75	1.4	80		—						
	25	112	0.78		50	0.75	50	0.75	1.0									
	30	93	0.75	—	55	0.71	42	0.55	1.3		71		80	71	63	80	71	—
	40	70	0.72		54	0.63	54	0.55	1.0									
Kg	50	56	0.68		56	0.48	43	0.37	1.3			63						
4.0	65	43	0.64		53	0.37	53	0.37	1.0	—								
	80	35	0.61		48	0.29	41	0.25	1.2									
	100	28	0.58		45	0.23	35	0.18	1.3									

	n_1 = 1400				XA		XC - XF											
										Input - IEC								
	i_n	n_2 [min^{-1}]	Rd	P_{t0}	T_{2M} [Nm]	P [kW]	T_2 [Nm]	P_1 [kW]	FS'	XC			XF					
										B5/B14			B5			B14		
50	7.5	187	0.86	1.2	70	1.6	40	0.9	1.8									
	10	140	0.84	1.0	73	1.3	52	0.9	1.4									
	15	93	0.80	0.80	74	0.90	74	0.9	1.0									
	20	70	0.78	0.70	75	0.71	58	0.55	1.3	80		—						
	25	56	0.74	0.60	65	0.51	47	0.37	1.4									
	30	47	0.71	0.60	66	0.46	53	0.37	1.2		71		80	71	63	80	71	—
	40	35	0.67	0.50	69	0.38	68	0.37	1.0									
Kg	50	28	0.62	0.40	70	0.33	53	0.25	1.3			63						
4.0	65	22	0.58	0.40	64	0.25	64	0.25	1.0	—								
	80	18	0.54	0.40	60	0.20	53	0.18	1.1									
	100	14	0.51	0.30	55	0.16	45	0.13	1.2									

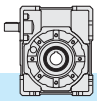
	n_1 = 900				XA		XC - XF											
										Input - IEC								
	i_n	n_2 [min^{-1}]	Rd	P_{t0}	T_{2M} [Nm]	P [kW]	T_2 [Nm]	P_1 [kW]	FS'	XC			XF					
										B5/B14			B5			B14		
50	7.5	120	0.84		83	1.23	50	0.75	1.6									
	10	90	0.82		86	0.98	66	0.75	1.3									
	15	60	0.78		88	0.71	68	0.55	1.3									
	20	45	0.75		87	0.54	59	0.37	1.5	80		—						
	25	36	0.71		75	0.40	70	0.37	1.1									
	30	30	0.67	—	79	0.37	79	0.37	1.0		71		80	71	63	80	71	—
	40	23	0.63		75	0.28	67	0.25	1.1									
Kg	50	18	0.59		80	0.26	78	0.25	1.0			63						
4.0	65	14	0.54		74	0.20	67	0.18	1.1	—								
	80	11	0.51		67	0.16	56	0.13	1.2									
	100	9	0.47		58	0.12	45	0.09	1.3									

	n_1 = 500				XA		XC - XF											
										Input - IEC								
	i_n	n_2 [min^{-1}]	Rd	P_{t0}	T_{2M} [Nm]	P [kW]	T_2 [Nm]	P_1 [kW]	FS'	XC			XF					
										B5/B14			B5			B14		
50	7.5	67	0.82		100	0.85	21	0.18	4.7									
	10	50	0.80		104	0.68	28	0.18	3.8									
	15	33	0.75		106	0.49	39	0.18	2.7									
	20	25	0.72		104	0.38	50	0.18	2.1	80		—						
	25	20	0.68		88	0.27	58	0.18	1.5									
	30	17	0.63	—	98	0.27	65	0.18	1.5		71		80	71	63	80	71	—
	40	13	0.59		95	0.21	81	0.18	1.2									
Kg	50	10	0.54		94	0.18	93	0.18	1.0			63						
4.0	65	8	0.50		86	0.14	56	0.09	1.5	—								
	80	6	0.46		77	0.11	63	0.09	1.2									
	100	5	0.43		61	0.07	74	0.09	0.8									

*** ATTENZIONE:** la coppia massima utilizzabile [T_{2M}] deve essere calcolata utilizzando il fattore di servizio: $T_{2M} = T_2 \times FS'$

**** WARNING:** Maximum allowable torque [T_{2M}] must be calculated using the following service factor : $T_{2M} = T_2 \times FS'$*

***ACHTUNG:** das max. anwendbare Drehmoment [T_{2M}] muss mit folgendem Betriebsfaktor berechnet werden: $T_{2M} = T_2 \times FS'$



2.5 **Dati tecnici** *2.5* ***Technical data*** 2.5 **Technische Daten**

n1 = 2800

	i_n	n_2 [min-1]	Rd	P_{t0}	XA T_{2M} [Nm]	XA P [kW]	T_2 [Nm]	P_1 [kW]	FS'	XC - XF Input - IEC XC B5/B14			XF B5			XF B14		
63	7.5	373	0.88		88	3.9	68	3	1.3	90	80	—	90	80	71	90	80	—
	10	280	0.87		94	3.2	89	3	1.1									
	15	187	0.84		98	2.3	95	2.2	1.0									
	20	140	0.83		110	1.9	85	1.5	1.3									
	25	112	0.81		93	1.4	76	1.1	1.2									
	30	93	0.77	—	110	1.4	87	1.1	1.3									
Kg	40	70	0.74		117	1.2	111	1.1	1.1									
6.6	50	56	0.70		97	0.81	90	0.75	1.1									
	65	43	0.67		98	0.66	81	0.55	1.2	—		71						
	80	35	0.64		91	0.52	65	0.37	1.4									
	100	28	0.60		83	0.41	75	0.37	1.1									

n1 = 1400

	i_n	n_2 [min-1]	Rd	P_{t0}	XA T_{2M} [Nm]	XA P [kW]	T_2 [Nm]	P_1 [kW]	FS'	XC - XF Input - IEC XC B5/B14			XF B5			XF B14		
63	7.5	187	0.87	1.8	120	2.7	80	1.8	1.5	90	80	—	90	80	71	90	80	—
	10	140	0.85	1.6	127	2.2	105	1.8	1.2									
	15	93	0.81	1.2	130	1.6	125	1.5	1.1									
	20	70	0.80	1.2	144	1.3	120	1.1	1.2									
	25	56	0.77	1.0	118	0.90	118	0.9	1.0									
	30	47	0.73	0.90	142	0.95	134	0.9	1.1									
Kg	40	35	0.69	0.80	150	0.79	142	0.75	1.1									
6.6	50	28	0.65	0.70	122	0.55	122	0.55	1.0									
	65	22	0.61	0.60	122	0.45	100	0.37	1.2	—		71						
	80	18	0.58	0.60	113	0.36	79	0.25	1.4									
	100	14	0.53	0.50	102	0.28	91	0.25	1.1									

n1 = 900

	i_n	n_2 [min-1]	Rd	P_{t0}	XA T_{2M} [Nm]	XA P [kW]	T_2 [Nm]	P_1 [kW]	FS'	XC - XF Input - IEC XC B5/B14			XF B5			XF B14		
63	7.5	120	0.85		144	2.1	102	1.5	1.4	90	80	—	90	80	71	90	80	—
	10	90	0.83		150	1.7	133	1.5	1.1									
	15	60	0.79		152	1.2	139	1.1	1.1									
	20	45	0.77		167	1.0	123	0.75	1.4									
	25	36	0.74		140	0.71	109	0.55	1.3									
	30	30	0.70	—	164	0.74	122	0.55	1.3									
Kg	40	23	0.66		171	0.61	154	0.55	1.1									
6.6	50	18	0.61		141	0.44	120	0.37	1.2									
	65	14	0.57		139	0.35	98	0.25	1.4	—		71						
	80	11	0.54		128	0.28	115	0.25	1.1									
	100	9	0.50		115	0.22	95	0.18	1.2									

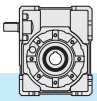
n1 = 500

	i_n	n_2 [min-1]	Rd	P_{t0}	XA T_{2M} [Nm]	XA P [kW]	T_2 [Nm]	P_1 [kW]	FS'	XC - XF Input - IEC XC B5/B14			XF B5			XF B14		
63	7.5	67	0.83		177	1.5	30	0.25	5.9	90	80	—	90	80	71	90	80	—
	10	50	0.81		182	1.2	39	0.25	4.7									
	15	33	0.76		184	0.84	55	0.25	3.4									
	20	25	0.74		200	0.70	71	0.25	2.8									
	25	20	0.71		165	0.49	85	0.25	1.9									
	30	17	0.65	—	195	0.52	94	0.25	2.1									
Kg	40	13	0.62		201	0.43	118	0.25	1.7									
6.6	50	10	0.56		165	0.31	135	0.25	1.2									
	65	8	0.52		161	0.25	163	0.25	1.0	—		71						
	80	6	0.50		148	0.19	137	0.18	1.1									
	100	5	0.45		122	0.14	77	0.09	1.6									

*** ATTENZIONE:** la coppia massima utilizzabile [T_{2M}] deve essere calcolata utilizzando il fattore di servizio: $T_{2M} = T_2 \times FS'$

**** WARNING:*** *Maximum allowable torque [T_{2M}] must be calculated using the following service factor : $T_{2M} = T_2 \times FS'$*

***ACHTUNG:** das max. anwendbare Drehmoment [T_{2M}] muss mit folgendem Betriebsfaktor berechnet werden: $T_{2M} = T_2 \times FS'$



2.5 Dati tecnici — *2.5 Technical data* — 2.5 Technische Daten

	n_1 = 2800				XA		XC - XF											
										Input - IEC								
										XC			XF					
										B5/B14			B5			B14		
	i_n	n_2 [min^{-1}]	Rd	P_{t0}	T_{2M} [Nm]	P [kW]	T_2 [Nm]	P_1 [kW]	FS'									
75	**7.5**	373	0.89		**131**	5.8	125	**5.5**	1.0									
	10	280	0.88		**143**	4.8	120	**4**	1.2									
	15	187	0.85		**152**	3.5	131	**3**	1.2	**112 100**	**90**	—	**112 100**	**90**	**80**	**112 100**	**90**	—
	20	140	0.84		**172**	3.0	171	**3**	1.0									
	25	112	0.82		**155**	2.2	154	**2.2**	1.0									
	30	93	0.78	—	**170**	2.1	120	**1.5**	1.4									
Kg	**40**	70	0.75		**183**	1.8	154	**1.5**	1.2									
	50	56	0.73		**166**	1.3	136	**1.1**	1.2									
11.0	**65**	43	0.69		**155**	1.0	114	**0.75**	1.4	—		**80**						
	80	35	0.66		**145**	0.80	135	**0.75**	1.1									
	100	28	0.62		**131**	0.62	159	**0.75**	0.8									

	n_1 = 1400				XA		XC - XF											
										Input - IEC								
										XC			XF					
										B5/B14			B5			B14		
	i_n	n_2 [min^{-1}]	Rd	P_{t0}	T_{2M} [Nm]	P [kW]	T_2 [Nm]	P_1 [kW]	FS'									
75	**7.5**	187	0.87	2.5	**180**	4.0	178	**4**	1.0									
	10	140	0.86	2.3	**193**	3.3	176	**3**	1.1									
	15	93	0.83	1.9	**202**	2.4	187	**2.2**	1.1	**112 100**	**90**	—	**112 100**	**90**	**80**	**112 100**	**90**	—
	20	70	0.81	1.7	**226**	2.0	199	**1.8**	1.1									
	25	56	0.78	1.5	**202**	1.5	200	**1.5**	1.0									
	30	47	0.74	1.2	**220**	1.5	167	**1.1**	1.3									
Kg	**40**	35	0.71	1.1	**235**	1.2	213	**1.1**	1.1									
	50	28	0.67	1.0	**211**	0.92	206	**0.9**	1.0									
11.0	**65**	22	0.63	0.90	**195**	0.70	154	**0.55**	1.3	—		**80**						
	80	18	0.60	0.80	**182**	0.55	180	**0.55**	1.0									
	100	14	0.56	0.70	**162**	0.43	210	**0.55**	0.8									

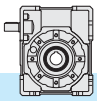
	n_1 = 900				XA		XC - XF											
										Input - IEC								
										XC			XF					
										B5/B14			B5			B14		
	i_n	n_2 [min^{-1}]	Rd	P_{t0}	T_{2M} [Nm]	P [kW]	T_2 [Nm]	P_1 [kW]	FS'									
75	**7.5**	120	0.86		**215**	3.1	205	**3**	1.0									
	10	90	0.84		**229**	2.6	197	**2.2**	1.2									
	15	60	0.81		**237**	1.9	231	**1.8**	1.0	**112 100**	**90**	—	**112 100**	**90**	**80**	**112 100**	**90**	—
	20	45	0.78		**263**	1.6	250	**1.5**	1.1									
	25	36	0.76		**233**	1.2	221	**1.1**	1.1									
	30	30	0.71	—	**254**	1.1	249	**1.1**	1.0									
Kg	**40**	23	0.67		**270**	0.94	214	**0.75**	1.3									
	50	18	0.64		**241**	0.71	186	**0.55**	1.3									
11.0	**65**	14	0.59		**221**	0.54	151	**0.37**	1.5	—		**80**						
	80	11	0.56		**205**	0.43	177	**0.37**	1.2									
	100	9	0.52		**184**	0.34	203	**0.37**	0.9									

	n_1 = 500				XA		XC - XF											
										Input - IEC								
										XC			XF					
										B5/B14			B5			B14		
	i_n	n_2 [min^{-1}]	Rd	P_{t0}	T_{2M} [Nm]	P [kW]	T_2 [Nm]	P_1 [kW]	FS'									
75	**7.5**	67	0.84		**265**	2.2	90	**0.75**	2.9									
	10	50	0.82		**279**	1.8	118	**0.75**	2.4									
	15	33	0.78		**286**	1.3	167	**0.75**	1.7	**112 100**	**90**	—	**112 100**	**90**	**80**	**112 100**	**90**	—
	20	25	0.75		**315**	1.1	216	**0.75**	1.5									
	25	20	0.72		**278**	0.80	260	**0.75**	1.1									
	30	17	0.67	—	**302**	0.79	288	**0.75**	1.1									
Kg	**40**	13	0.63		**317**	0.66	265	**0.55**	1.2									
	50	10	0.59		**282**	0.50	210	**0.37**	1.3									
11.0	**65**	8	0.55		**257**	0.38	251	**0.37**	1.0	—		**80**						
	80	6	0.52		**238**	0.30	197	**0.25**	1.2									
	100	5	0.47		**206**	0.23	161	**0.18**	1.3									

*** ATTENZIONE:** la coppia massima utilizzabile [T_{2M}] deve essere calcolata utilizzando il fattore di servizio: $T_{2M} = T_2 \times FS'$

**** WARNING:** Maximum allowable torque [T_{2M}] must be calculated using the following service factor : $T_{2M} = T_2 \times FS'$*

***ACHTUNG:** das max. anwendbare Drehmoment [T_{2M}] muss mit folgendem Betriebsfaktor berechnet werden: $T_{2M} = T_2 \times FS'$



2.5 Dati tecnici — *2.5 Technical data* — 2.5 Technische Daten

n_1 = 2800

	i_n	n_2 [min^{-1}]	Rd	P_{t0}	XA T_{2M} [Nm]	XA P [kW]	XC-XF T_2 [Nm]	XC-XF P_1 [kW]	FS'	XC B5/B14	XF B5	XF B14
90	**7.5**	373	0.89		**209**	9.2	171	**7.5**	1.2			
	10	280	0.88		**223**	7.4	165	**5.5**	1.3			
	15	187	0.86		**241**	5.5	241	**5.5**	1.0	**112 100**	**112 100**	**112 100**
	20	140	0.84		**272**	4.7	230	**4**	1.2			
	25	112	0.83		**255**	3.6	212	**3**	1.2			
	30	93	0.79	—	**270**	3.3	243	**3**	1.1	**90**	**90**	**90**
	40	70	0.77		**293**	2.8	230	**2.2**	1.3			
Kg	**50**	56	0.74		**278**	2.2	278	**2.2**	1.0			
23.6	**65**	43	0.71		**250**	1.6	235	**1.5**	1.1	—	**80**	**80**
	80	35	0.68		**238**	1.3	205	**1.1**	1.2			
	100	28	0.64		**212**	0.97	163	**0.75**	1.3			

n_1 = 1400

	i_n	n_2 [min^{-1}]	Rd	P_{t0}	XA T_{2M} [Nm]	XA P [kW]	XC-XF T_2 [Nm]	XC-XF P_1 [kW]	FS'	XC B5/B14	XF B5	XF B14
90	**7.5**	187	0.88	3.0	**290**	6.5	247	**5.5**	1.2			
	10	140	0.86	2.5	**305**	5.2	236	**4**	1.3			
	15	93	0.84	2.2	**320**	3.7	256	**3**	1.2	**112 100**	**112 100**	**112 100**
	20	70	0.82	2.0	**360**	3.2	334	**3**	1.1			
	25	56	0.80	1.8	**332**	2.4	299	**2.2**	1.1			
	30	47	0.76	1.5	**350**	2.3	340	**2.2**	1.0	**90**	**90**	**90**
	40	35	0.72	1.3	**377**	1.9	355	**1.8**	1.1			
Kg	**50**	28	0.69	1.1	**353**	1.5	353	**1.5**	1.0			
23.6	**65**	22	0.65	1.0	**317**	1.1	317	**1.1**	1.0	—	**80**	**80**
	80	18	0.63	1.0	**309**	0.90	309	**0.9**	1.0			
	100	14	0.58	0.80	**264**	0.67	217	**0.55**	1.2			

n_1 = 900

	i_n	n_2 [min^{-1}]	Rd	P_{t0}	XA T_{2M} [Nm]	XA P [kW]	XC-XF T_2 [Nm]	XC-XF P_1 [kW]	FS'	XC B5/B14	XF B5	XF B14
90	**7.5**	120	0.86		**345**	5.0	206	**3**	1.7			
	10	90	0.85		**362**	4.0	270	**3**	1.3			
	15	60	0.82		**377**	2.9	286	**2.2**	1.3	**112 100**	**112 100**	**112 100**
	20	45	0.79		**419**	2.5	371	**2.2**	1.1			
	25	36	0.77		**385**	1.9	369	**1.8**	1.0			
	30	30	0.73	—	**416**	1.8	416	**1.8**	1.0	**90**	**90**	**90**
	40	23	0.69		**440**	1.5	440	**1.5**	1.0			
Kg	**50**	18	0.66		**398**	1.1	384	**1.1**	1.0			
23.6	**65**	14	0.62		**358**	0.84	319	**0.75**	1.1	—	**80**	**80**
	80	11	0.59		**337**	0.68	274	**0.55**	1.2			
	100	9	0.54		**313**	0.55	313	**0.55**	1.0			

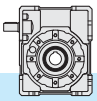
n_1 = 500

	i_n	n_2 [min^{-1}]	Rd	P_{t0}	XA T_{2M} [Nm]	XA P [kW]	XC-XF T_2 [Nm]	XC-XF P_1 [kW]	FS'	XC B5/B14	XF B5	XF B14
90	**7.5**	67	0.84		**430**	3.6	91	**0.75**	4.7			
	10	50	0.83		**443**	2.8	118	**0.75**	3.7			
	15	33	0.79		**456**	2.0	169	**0.75**	2.7	**112 100**	**112 100**	**112 100**
	20	25	0.76		**502**	1.7	219	**0.75**	2.3			
	25	20	0.74		**459**	1.3	265	**0.75**	1.7			
	30	17	0.68	—	**483**	1.2	294	**0.75**	1.6	**90**	**90**	**90**
	40	13	0.65		**512**	1.0	371	**0.75**	1.4			
Kg	**50**	10	0.61		**467**	0.80	439	**0.75**	1.1			
23.6	**65**	8	0.57		**417**	0.59	388	**0.55**	1.1	—	**80**	**80**
	80	6	0.54		**391**	0.48	305	**0.37**	1.3			
	100	5	0.49		**345**	0.37	344	**0.37**	1.0			

*** ATTENZIONE:** la coppia massima utilizzabile [T_{2M}] deve essere calcolata utilizzando il fattore di servizio: $T_{2M} = T_2 \times FS'$

**** WARNING:** Maximum allowable torque [T_{2M}] must be calculated using the following service factor : $T_{2M} = T_2 \times FS'$*

***ACHTUNG:** das max. anwendbare Drehmoment [T_{2M}] muss mit folgendem Betriebsfaktor berechnet werden: $T_{2M} = T_2 \times FS'$



2.5 Dati tecnici — *2.5 Technical data* — 2.5 Technische Daten

	n_1 = 2800				XA		XC - XF											
										Input - IEC								
	i_n	n_2 [min^{-1}]	Rd	P_{t0}	T_{2M} [Nm]	P [kW]	T_2 [Nm]	P_1 [kW]	FS'	XC			XF					
										B5/B14			B5			B14		
110	7.5	373	0.89		345	15.1	343	15	1.0									
	10	280	0.88		368	12.2	332	11	1.1									
	15	187	0.86		404	9.2	331	7.5	1.2	132		—						
	20	140	0.85		465	8.0	435	7.5	1.1									
	25	112	0.84		441	6.2	393	5.5	1.1									
	30	93	0.80	—	459	5.6	450	5.5	1.0		112 100		132	112 100	90	132	—	—
Kg	40	70	0.78		503	4.7	424	4	1.2			90						
	50	56	0.76		476	3.7	388	3	1.2			—						
44.0	65	43	0.73		417	2.6	354	2.2	1.2	—								
	80	35	0.70		400	2.1	287	1.5	1.4			90						
	100	28	0.66		364	1.6	339	1.5	1.1									

	n_1 = 1400				XA		XC - XF											
										Input - IEC								
	i_n	n_2 [min^{-1}]	Rd	P_{t0}	T_{2M} [Nm]	P [kW]	T_2 [Nm]	P_1 [kW]	FS'	XC			XF					
										B5/B14			B5			B14		
110	7.5	187	0.88	4.3	480	10.6	415	9.2	1.2									
	10	140	0.87	4.0	504	8.5	446	7.5	1.1									
	15	93	0.84	3.2	543	6.3	475	5.5	1.1	132		—						
	20	70	0.83	3.0	623	5.5	623	5.5	1.0									
	25	56	0.81	2.7	578	4.2	554	4	1.0									
	30	47	0.77	2.2	601	3.8	472	3	1.3		112 100		132	112 100	90	132	—	—
Kg	40	35	0.74	2.0	650	3.2	606	3	1.1			90						
	50	28	0.72	1.8	608	2.5	538	2.2	1.1			—						
44.0	65	22	0.68	1.6	528	1.8	451	1.5	1.2	—								
	80	18	0.65	1.5	503	1.4	390	1.1	1.3			90						
	100	14	0.61	1.3	458	1.1	458	1.1	1.0									

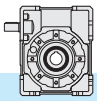
	n_1 = 900				XA		XC - XF											
										Input - IEC								
	i_n	n_2 [min^{-1}]	Rd	P_{t0}	T_{2M} [Nm]	P [kW]	T_2 [Nm]	P_1 [kW]	FS'	XC			XF					
										B5/B14			B5			B14		
110	7.5	120	0.87		578	8.3	381	5.5	1.5									
	10	90	0.86		600	6.6	500	5.5	1.2									
	15	60	0.83		641	4.9	526	4	1.2	132		—						
	20	45	0.81		720	4.2	685	4	1.1									
	25	36	0.79		672	3.2	628	3	1.1									
	30	30	0.74	—	697	2.9	520	2.2	1.3		112 100		132	112 100	90	132	—	—
Kg	40	23	0.71		749	2.5	664	2.2	1.1			90						
	50	18	0.68		697	1.9	653	1.8	1.1			—						
44.0	65	14	0.64		603	1.4	487	1.1	1.2	—								
	80	11	0.61		571	1.1	570	1.1	1.0			90						
	100	9	0.57		513	0.85	450	0.75	1.1									

	n_1 = 500				XA		XC - XF											
										Input - IEC								
	i_n	n_2 [min^{-1}]	Rd	P_{t0}	T_{2M} [Nm]	P [kW]	T_2 [Nm]	P_1 [kW]	FS'	XC			XF					
										B5/B14			B5			B14		
110	7.5	67	0.85		718	5.9	183	1.5	3.9									
	10	50	0.84		738	4.6	240	1.5	3.1									
	15	33	0.80		778	3.4	344	1.5	2.3	132		—						
	20	25	0.78		866	2.9	446	1.5	1.9									
	25	20	0.76		802	2.2	542	1.5	1.5									
	30	17	0.70	—	832	2.1	603	1.5	1.4		112 100		132	112 100	90	132	—	—
Kg	40	13	0.67		886	1.7	765	1.5	1.2			90						
	50	10	0.64		820	1.3	671	1.1	1.2			—						
44.0	65	8	0.59		705	0.96	553	0.75	1.3	—								
	80	6	0.56		664	0.77	643	0.75	1.0			90						
	100	5	0.52		594	0.60	542	0.55	1.1									

*** ATTENZIONE:** la coppia massima utilizzabile [T_{2M}] deve essere calcolata utilizzando il fattore di servizio: $T_{2M} = T_2 \times FS'$

**** WARNING:** Maximum allowable torque [T_{2M}] must be calculated using the following service factor : $T_{2M} = T_2 \times FS'$*

***ACHTUNG:** das max. anwendbare Drehmoment [T_{2M}] muss mit folgendem Betriebsfaktor berechnet werden: $T_{2M} = T_2 \times FS'$



2.5 Dati tecnici — *2.5 Technical data* — 2.5 Technische Daten

n_1 = 2800

	i_n	n_2 [min^{-1}]	Rd	P_{t0}	XA T_{2M} [Nm]	XA P [kW]	XC-XF T_2 [Nm]	XC-XF P_1 [kW]	FS'	XC B5/B14	XF B5	XF B14
130	**7.5**	373	0.90		**530**	23	345	**15**	1.5	132	132	—
	10	280	0.89		**549**	18.1	455	**15**	1.2			
	15	187	0.87		**636**	14.3	490	**11**	1.3			
	20	140	0.86		**733**	12.5	645	**11**	1.1			
	25	112	0.85		**710**	9.8	667	**9.2**	1.1			
	30	93	0.81	—	**729**	8.8	622	**7.5**	1.2	112/100	112/100	90
	40	70	0.80		**819**	7.5	819	**7.5**	1.0			
Kg	**50**	56	0.78		**758**	5.7	732	**5.5**	1.0			
55.0	**65**	43	0.75		**648**	3.9	499	**3**	1.3	—		
	80	35	0.73		**637**	3.2	598	**3**	1.1	90		
	100	28	0.70		**597**	2.5	525	**2.2**	1.1			

n_1 = 1400

	i_n	n_2 [min^{-1}]	Rd	P_{t0}	XA T_{2M} [Nm]	XA P [kW]	XC-XF T_2 [Nm]	XC-XF P_1 [kW]	FS'	XC B5/B14	XF B5	XF B14
130	**7.5**	187	0.89	6.0	**736**	16.2	418	**9.2**	1.8	132	132	—
	10	140	0.88	5.5	**756**	12.6	552	**9.2**	1.4			
	15	93	0.85	4.4	**855**	9.8	803	**9.2**	1.1			
	20	70	0.84	4.1	**974**	8.5	860	**7.5**	1.1			
	25	56	0.83	3.9	**920**	6.5	778	**5.5**	1.2			
	30	47	0.79	3.2	**947**	5.9	883	**5.5**	1.1			
Kg	**40**	35	0.76	2.8	**1037**	5.0	829	**4**	1.3	112/100	112/100	90
	50	28	0.74	2.6	**959**	3.8	757	**3**	1.3			
55.0	**65**	22	0.71	2.3	**801**	2.6	678	**2.2**	1.2	—		
	80	18	0.68	2.1	**758**	2.1	649	**1.8**	1.2	90		
	100	14	0.64	1.8	**699**	1.6	655	**1.5**	1.1			

n_1 = 900

	i_n	n_2 [min^{-1}]	Rd	P_{t0}	XA T_{2M} [Nm]	XA P [kW]	XC-XF T_2 [Nm]	XC-XF P_1 [kW]	FS'	XC B5/B14	XF B5	XF B14
130	**7.5**	120	0.88		**889**	12.7	385	**5.5**	2.3	132	132	—
	10	90	0.87		**905**	9.8	508	**5.5**	1.8			
	15	60	0.84		**1016**	7.6	735	**5.5**	1.4			
	20	45	0.82		**1149**	6.6	957	**5.5**	1.2			
	25	36	0.81		**1074**	5.0	860	**4**	1.3			
	30	30	0.76	—	**1113**	4.6	968	**4**	1.2	112/100	112/100	90
	40	23	0.73		**1208**	3.9	930	**3**	1.3			
Kg	**50**	18	0.70		**1077**	2.9	817	**2.2**	1.3			
55.0	**65**	14	0.67		**924**	2.0	832	**1.8**	1.1	—		
	80	11	0.64		**869**	1.6	815	**1.5**	1.1	90		
	100	9	0.60		**828**	1.3	700	**1.1**	1.2			

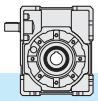
n_1 = 500

	i_n	n_2 [min^{-1}]	Rd	P_{t0}	XA T_{2M} [Nm]	XA P [kW]	XC-XF T_2 [Nm]	XC-XF P_1 [kW]	FS'	XC B5/B14	XF B5	XF B14
130	**7.5**	67	0.86		**1109**	9.0	228	**1.85**	4.9	132	132	—
	10	50	0.84		**1107**	6.9	297	**1.85**	3.7			
	15	33	0.81		**1230**	5.3	429	**1.85**	2.9			
	20	25	0.79		**1388**	4.6	558	**1.85**	2.5			
	25	20	0.78		**1266**	3.4	689	**1.85**	1.8			
	30	17	0.72	—	**1320**	3.2	763	**1.85**	1.7	112/100	112/100	90
	40	13	0.69		**1423**	2.7	975	**1.85**	1.5			
Kg	**50**	10	0.66		**1261**	2.0	1166	**1.85**	1.1			
55.0	**65**	8	0.63		**1095**	1.4	860	**1.10**	1.3	—		
	80	6	0.59		**1082**	1.2	992	**1.10**	1.1	90		
	100	5	0.55		**945**	0.9	788	**0.75**	1.2			

*** ATTENZIONE:** la coppia massima utilizzabile [T_{2M}] deve essere calcolata utilizzando il fattore di servizio: $T_{2M} = T_2 \times FS'$

**** WARNING:** Maximum allowable torque [T_{2M}] must be calculated using the following service factor : $T_{2M} = T_2 \times FS'$*

***ACHTUNG:** das max. anwendbare Drehmoment [T_{2M}] muss mit folgendem Betriebsfaktor berechnet werden: $T_{2M} = T_2 \times FS'$



2.6 **Momenti d' inerzia** [Kg.cm^2]
(riferiti all'albero veloce in entrata)

2.6 ***Moments of inertia*** *[Kg.cm^2]*
(referred to input shaft)

2.6 **Trägheitsmoment** [Kg.cm^2]
((bez. Antriebswelle)

	i_n	XA	XC		XF	
			B5 - B14		B5 - B14	
			IEC 56	IEC 63	IEC 56	IEC 63
X30	**7.5**	0.058	0.112	0.109	0.102	0.103
	10	0.049	0.103	0.100	0.093	0.094
	15	0.042	0.097	0.094	0.087	0.087
	20	0.039	0.095	0.092	0.084	0.084
	25	0.038	0.094	0.091	0.083	0.083
	30	0.038	0.093	0.090	0.083	0.084
	40	0.037	0.093	0.090	0.082	0.082
	50	0.037	0.092	0.089	0.081	0.082
	65	0.024	0.079	-	0.069	0.069
	80	0.024	0.079	-	0.069	0.069
	100	0.024	0.078	-	0.069	0.069

	i_n	XA	XC			XF		
			B5 - B14			B5	B5 - B14	
			IEC 56	IEC 63	IEC 71	IEC 56	IEC 63	IEC 71
X40	**7.5**	0.170	-	0.321	0.356	0.217	0.375	0.391
	10	0.144	-	0.272	0.347	0.190	0.348	0.365
	15	0.125	-	0.266	0.340	0.171	0.329	0.346
	20	0.094	-	0.263	0.338	0.141	0.298	0.315
	25	0.091	-	0.262	0.337	0.137	0.295	0.312
	30	0.113	-	0.262	0.337	0.160	0.318	0.335
	40	0.087	-	0.261	-	0.134	0.292	0.309
	50	0.087	0.182	0.261	-	0.133	0.291	0.308
	65	0.069	0.182	0.261	-	0.116	0.274	0.290
	80	0.069	0.182	0.261	-	0.115	0.273	0.290
	100	0.068	0.182	0.261	-	0.115	0.273	0.290

	i_n	XA	XC			XF		
			B5 - B14			B5	B5 - B14	
			IEC 63	IEC 71	IEC 80	IEC 63	IEC 71	IEC 80
X50	**7.5**	0.499	-	0.684	0.935	0.733	0.750	1.313
	10	0.417	-	0.602	0.853	0.651	0.668	1.231
	15	0.358	-	0.543	0.794	0.593	0.609	1.173
	20	0.281	-	0.523	0.774	0.516	0.532	1.096
	25	0.272	-	0.513	0.764	0.506	0.523	1.086
	30	0.323	-	0.508	0.759	0.557	0.574	1.137
	40	0.262	0.315	0.503	-	0.496	0.513	1.076
	50	0.183	0.313	0.501	-	0.417	0.434	0.997
	65	0.136	0.311	0.499	-	0.370	0.387	0.950
	80	0.136	0.310	0.498	-	0.370	0.387	0.950
	100	0.135	0.309	0.498	-	0.370	0.386	0.950

2.6 **Momenti d' inerzia** [Kg.cm^2]
(riferiti all'albero veloce in entrata)

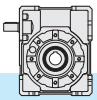
2.6 ***Moments of inertia*** *[Kg.cm^2]*
(referred to input shaft)

2.6 **Trägheitsmoment** [Kg.cm^2]
((bez. Antriebswelle)

	i_n	XA	XC			XF		
			B5 - B14			B5	B5 - B14	
			IEC 71	IEC 80	IEC 90	IEC 71	IEC 80	IEC 90
X63	**7.5**	1.363	-	1.949	2.269	2.142	2.276	3.354
	10	1.158	-	1.744	2.063	1.936	2.070	3.148
	15	1.011	-	1.597	1.916	1.789	1.924	3.001
	20	0.710	-	1.545	1.864	1.489	1.623	2.701
	25	0.679	-	1.514	1.833	1.458	1.592	2.670
	30	0.922	-	1.508	1.828	1.701	1.835	2.913
	40	0.660	0.966	1.495	-	1.439	1.573	2.651
	50	0.653	0.959	1.488	-	1.431	1.565	2.643
	65	0.552	0.955	1.484	-	1.330	1.465	2.542
	80	0.550	0.953	1.482	-	1.329	1.463	2.541
	100	0.549	0.952	1.481	-	1.327	1.462	2.539

	i_n	XA	XC			XF		
			B5 - B14			B5	B5 - B14	
			IEC 80	IEC 90	IEC 100-112	IEC 80	IEC 90	IEC 100-112
X75	**7.5**	2.970	-	3.712	4.462	5.138	5.066	6.837
	10	2.492	-	3.234	3.984	4.661	4.588	6.359
	15	2.151	-	2.893	3.643	4.320	4.247	6.018
	20	1.567	-	2.774	3.523	3.735	3.662	5.433
	25	1.501	-	2.709	3.458	3.670	3.597	5.368
	30	1.946	-	2.689	3.438	4.115	4.042	5.813
	40	1.451	1.595	2.659	-	3.620	3.547	5.318
	50	1.435	1.578	2.642	-	3.603	3.531	5.302
	65	1.158	1.569	2.633	-	3.326	3.253	5.024
	80	1.153	1.565	2.629	-	3.322	3.249	5.020
	100	1.150	1.562	2.626	-	3.318	3.246	5.017

	i_n	XA	XC			XF		
			B5 - B14			B5	B5 - B14	
			IEC 80	IEC 90	IEC 100-112	IEC 80	IEC 90	IEC 100-112
X90	**7.5**	6.167		6.898	7.671	8.335	8.263	10.033
	10	5.143	-	5.875	6.648	7.312	7.239	9.010
	15	4.413	-	5.144	5.917	6.581	6.508	8.279
	20	2.653	-	3.398	5.661	4.821	4.749	6.519
	25	2.511	-	3.256	5.520	4.680	4.607	6.378
	30	3.974	-	3.215	5.479	6.142	6.070	7.841
	40	2.406	-	3.151	-	4.574	4.502	6.273
	50	2.371	-	3.115	-	4.539	4.467	6.237
	65	1.672	2.024	3.096	-	3.841	3.768	5.539
	80	1.663	2.014	3.087	-	3.831	3.759	5.530
	100	1.656	2.008	3.080	-	3.825	3.752	5.523



2.6 **Momenti d' inerzia** [Kg.cm^2]
(riferiti all'albero veloce in entrata)

2.6 ***Moments of inertia*** *[Kg.cm^2]*
(referred to input shaft)

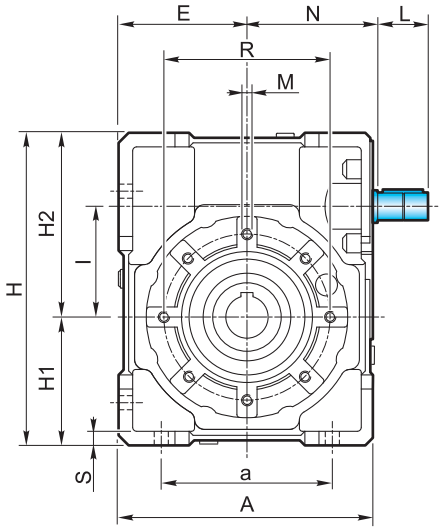
2.6 **Trägheitsmoment** [Kg.cm^2]
((bez. Antriebswelle)

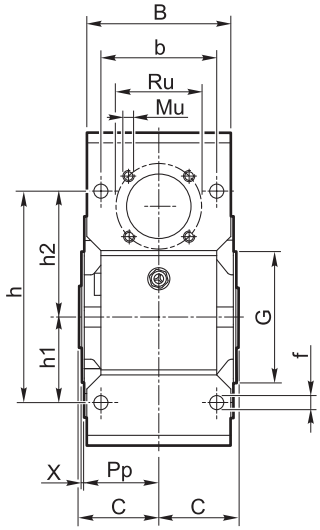
	i_n	XA	XC			XF			
			B5 - B14			B5			B5 - B14
			IEC 90	IEC 100-112	IEC 132	IEC 80	IEC 90	IEC 100-112	IEC 132
X110	**7.5**	16.247	-	17.980	20.038	20.584	20.535	20.711	22.704
	10	13.386	-	15.119	17.177	17.723	17.674	17.851	19.843
	15	11.343	-	13.076	15.134	15.679	15.631	15.807	17.799
	20	6.655	-	8.367	14.418	10.992	10.943	11.120	13.112
	25	6.257	-	7.969	14.020	10.594	10.545	10.722	12.714
	30	10.117	-	11.850	13.908	14.453	14.405	14.581	16.573
	40	5.965	-	7.677	-	10.302	10.254	10.430	12.422
	50	5.866	-	7.578	-	10.203	10.154	10.330	12.323
	65	3.792	5.592	7.510	-	8.128	8.080	8.256	10.248
	80	3.770	5.570	7.489	-	8.107	8.059	8.235	10.227
	100	3.755	5.555	7.474	-	8.092	8.044	8.220	10.212

	i_n	XA	XC			XF		
			B5 - B14			B5		
			IEC 90	IEC 100-112	IEC 132	IEC 90	IEC 100-112	IEC 132
X130	**7.5**	42.80	-	40.70	42.78	48.92	49.22	50.01
	10	35.06	-	32.96	35.04	41.18	41.48	42.27
	15	29.53	-	27.43	29.51	35.66	35.96	36.74
	20	18.95	-	16.68	27.58	25.07	25.37	26.16
	25	17.80	-	15.52	26.42	23.92	24.22	25.00
	30	26.22	-	24.12	26.20	32.34	32.64	33.42
	40	17.09	-	14.81	25.71	23.21	23.51	24.29
	50	16.80	-	12.57	-	22.92	23.22	24.00
	65	12.53	10.46	14.35	-	18.66	18.96	19.74
	80	12.48	10.41	14.30	-	18.60	18.90	19.68
	100	12.44	10.37	14.26	-	18.56	18.86	19.65

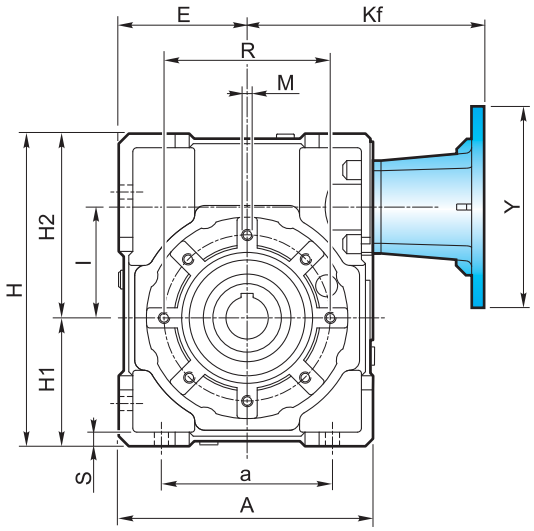
2.7 **Dimensioni** *2.7* ***Dimensions*** 2.7 **Abmessungen**

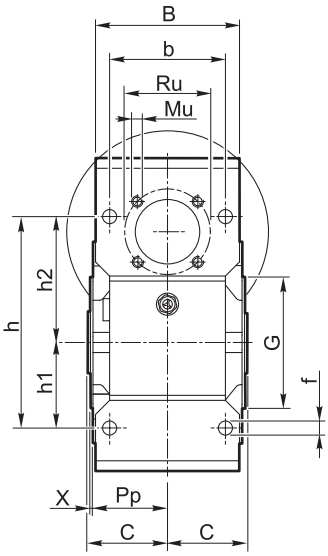
XA



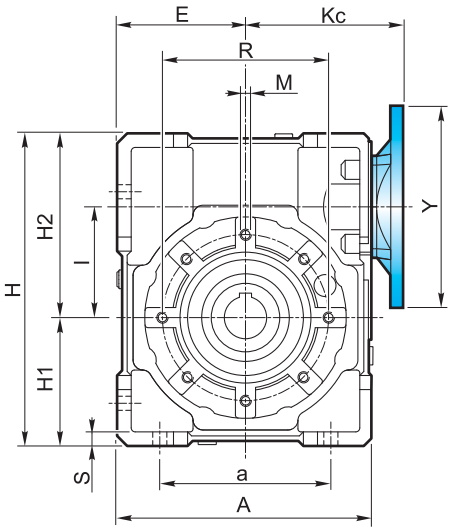


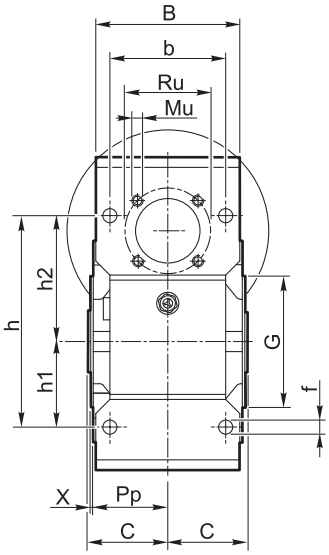
XF





XC

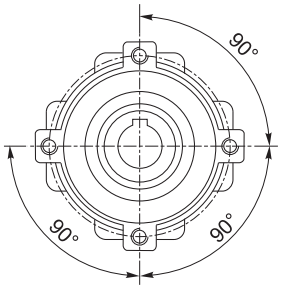




2.7 Dimensioni — *2.7 Dimensions* — 2.7 Abmessungen

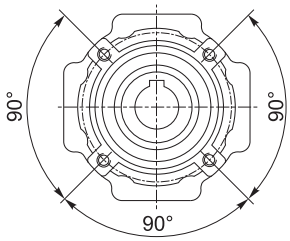
Flangia pendolare / *Shaft-mounted flange* / Aufsteckflansch

30



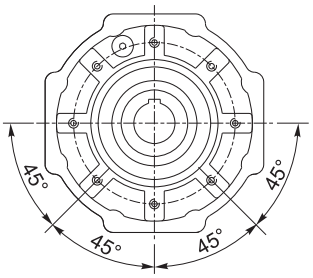
4 Fori / *Holes* / Bohrungen

40 - 50



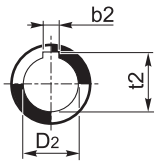
4 Fori / *Holes* / Bohrungen

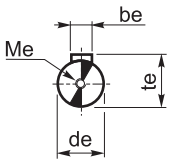
63 - 75 - 90 - 110 - 130



8 Fori / *Holes* / Bohrungen

Albero uscita cavo
Output hollow shaft
Abtriebshohlwelle





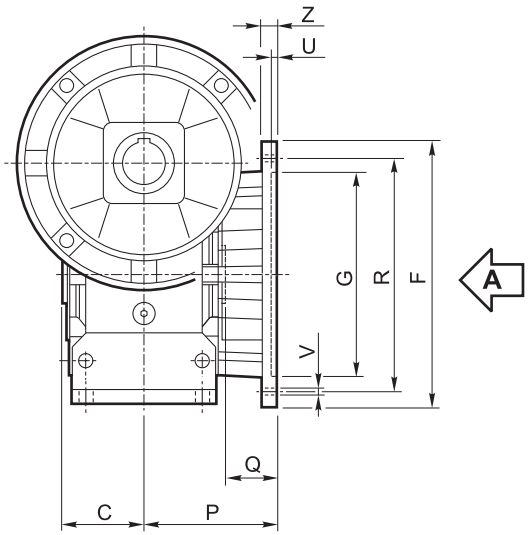
Albero entrata
Input shaft
Antriebswelle

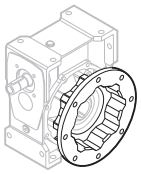
X	A	a	B	b	b_e	b_2		C	d_e j6	D_2 H7		E	f	G h8	H	H_1	H_2	h	h_1	h_2
30	80	54	56	44	3	**5**	—	31.5	9	**14**	—	40	6.5	55	97	40	57	71	27	44
40	105	70	71	60	4	**6**	6	39	11	**18**	19	50	6.5	60	125	50	75	90	35	55
50	125	80	85	70	5	**8**	8	46	14	**25**	24	60	8.5	70	150	60	90	104	40	64
63	147	100	103	85	6	**8**	—	56	19	**25**	—	72	9	80	182	72	110	130	50	80
75	176	120	112	90	8	**8**	8	60	24	**28**	30	86	11	95	219.5	86	133.5	153	60	93
90	203	140	130	100	8	**10**	—	70	24	**35**	—	103	13	110	248.5	103	145.5	172	70	102
110	252.5	170	143	115	8	**12**	—	77.5	28	**42**	—	127.5	14	130	310.5	127.5	183	210	85	125
130	292.5	200	155	120	10	**14**	14	85	38	**45**	48	147.5	15	180	355	147.5	207.5	240	100	140

X	I	K_c	Kf	L	M	M_e	M_u	N	P_p	R	Ru	S	t_e	t_2		X
30	31.5	57	vedi pag. see page siehe S. 32	15	M6x8	M4x10	M5x7.5	44.5	29	65	35.4	5.5	10.2	16.3	—	1.5
40	40	75		20	M6X10	M4X12	M5X10	57.5	36.5	75	42.4	6	12.5	20.8	21.8	1.5
50	50	82		25	M8x10	M5x13	M6x10	67.5	43.5	85	53.7	7	16	28.3	27.3	1.5
63	63	95		30	M8x14	M8x20	M6x12	77.5	53	95	60.8	8	21.5	28.3	—	2
75	75	112		40	M8x14	M8x20	M8x12	95	57	115	70.7	10	27	31.3	33.3	2
90	90	122		40	M10x18	M8x20	M8x14	105	67	130	70.7	12	27	38.3	—	2
110	110	153		50	M10x18	M8x20	M10x18	130	74	165	85.0	14	31	45.3	—	2.5
130	130	173		70	M12x20	M10x25	M10x16	152	81	215	104	15	41	48.8	51.8	3

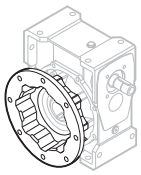
2.7 Dimensioni — *2.7 Dimensions* — 2.7 Abmessungen

Flangia uscita / *Output flange* / Abtriebsflansch

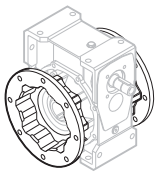




F...D
Standard

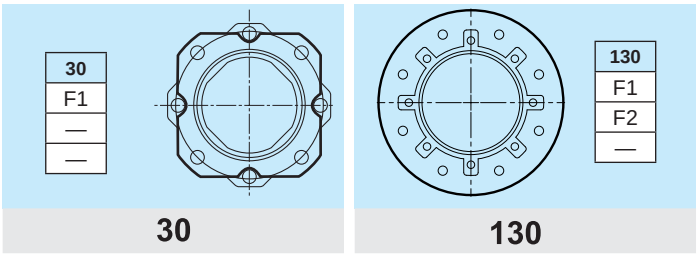


F...S

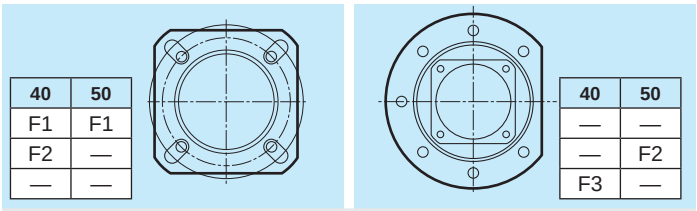


F...2

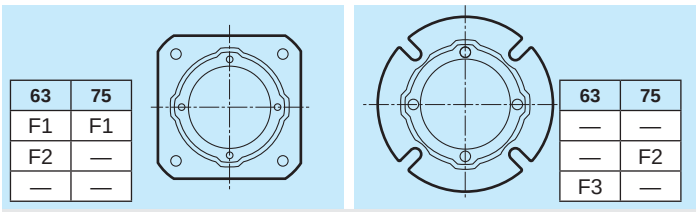
Vista da A / *View from A* / Ansicht von A



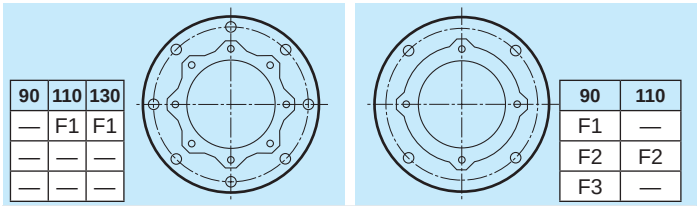
30 **130**



40 - 50



63 - 75



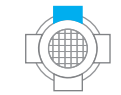
90 - 110

Tipo *Type* Typ		C	F		G H8	P	Q	R	U	V		Ø	Z
30	F1	31.5		66	50	54.5	23	68	4	n° 4		6.5	6
	F2												
	F3												
40	F1	39		85	60	67	28	75-90	4	n° 4		9	8
	F2			85	60	97	58	75-90	4	n° 4		9	8
	F3		140		95	80	41	115	5		n° 7	9	10
50	F1	46		94	70	90	44	85-100	5	n° 4		11	10
	F2		160		110	89	43	130	5		n° 7	11	11
	F3												
63	F1	56		142	115	82	26	150	5	n° 4		11	11
	F2			142	115	112	56	150	5	n° 4		11	11
	F3		160		110	80.5	24.5	130	5	n° 4		11	12
75	F1	60		160	130	111	51	165	5	n° 4		13	12
	F2		160		110	90	30	130	6	n° 4		11	13
	F3												
90	F1	70	200		152	111	41	175	5	n° 4		13	12
	F2		200		152	151	81	175	5	n° 4		13	13
	F3		200		130	110	40	165	6	n° 4		11	11
110	F1	77.5	260		170	131	53.5	230	6		n° 8	13	15
	F2		250		180	150	72.5	215	5	n° 4		15	16
	F3												
130	F1	85	320		180	140	55	255	7		n° 8 *	16	16
	F2		300		230			265					
	F3												

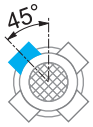
* Foratura ruotata di 22.5° — * *Drilling turned of 22.5°* — * Durchbohrung 22.5° versetzt

2.7 Dimensioni — *2.7 Dimensions* — 2.7 Abmessungen

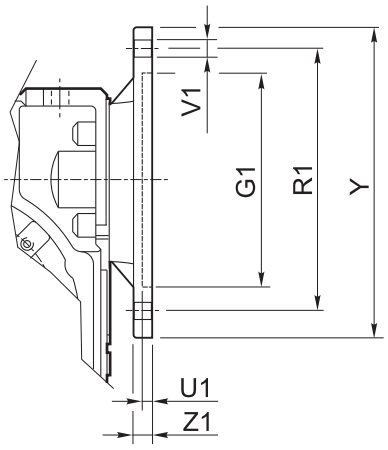
Flangia entrata / *Input flange* / Antriebsflansch

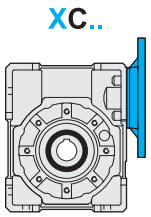


PM = 1



PM = 2





XC	IEC	G_1 H7	PM 1	PM 2	R_1	U_1	V_1 Ø	V_1	V_1	Y	Z_1	Diametro fori PAM / *Holes diameter IEC* / IEC Durchmesser 7.5	10	15	20	25	30	40	50	65	80	100
30	56 B5	80	•	•	100	4	7	8			8	9	9	9	9	9	9	9	9	9	9	9
	56 B14	50	•	•	65	3.5	6	8		80	8	9	9	9	9	9	9	9	9	9	9	9
	63 B5	95	•	•	115	4	9	8		140	8	11	11	11	11	11	11	11	11	/	/	/
	63 B14	60	•	•	75	4	6	8		90	8	11	11	11	11	11	11	11	11	/	/	/
40	56 B5	80	•	•	100	4	7	8		120	9	/	/	/	/	/	/	/	9	9	9	9
	56 B14	50		•	65	3.5	6		4	80	8	/	/	/	/	/	/	/	9	9	9	9
	63 B5	95	•	•	115	4	9	8		140	9	11	11	11	11	11	11	11	11	11	11	11
	63 B14	60		•	75	3.5	6		4	90	8	11	11	11	11	11	11	11	11	11	11	11
	71 B5	110	•	•	130	4.5	9	8		160	10	14	14	14	14	14	14	14	/	/	/	/
	71 B14	70	•	•	85	3.5	7	8		105	8	14	14	14	14	14	14	14	/	/	/	/
50	63 B5	95	•	•	115	4	9	8		140	9	/	/	/	/	/	/	11	11	11	11	11
	63 B14	60		•	75	3.5	6		4	90	8	/	/	/	/	/	/	11	11	11	11	11
	71 B5	110	•	•	130	4.5	9	8		160	10	14	14	14	14	14	14	14	14	14	14	14
	71 B14	70		•	85	3.5	7		4	105	8	14	14	14	14	14	14	14	14	14	14	14
	80 B5	130	•	•	165	4.5	11	8		200	10	19	19	19	19	19	19	19	/	/	/	/
	80 B14	80	•	•	100	4	7	8		120	10	19	19	19	19	19	19	19	/	/	/	/
63	71 B5	110	•	•	130	4.5	9	8		160	10	/	/	/	/	/	/	14	14	14	14	14
	71 B14	70		•	85	3.5	7		4	105	10	/	/	/	/	/	/	14	14	14	14	14
	80 B5	130	•	•	165	4.5	11	8		200	10	19	19	19	19	19	19	19	19	19	19	19
	80 B14	80		•	100	4	7		4	120	10	19	19	19	19	19	19	19	19	19	19	19
	90 B5	130	•	•	165	4.5	11	8		200	10	24	24	24	24	24	24	/	/	/	/	/
	90 B14	95	•	•	115	4	8.5	8		140	10	24	24	24	24	24	24	/	/	/	/	/
75	80 B5	130	•	•	165	4.5	11	8		200	10	/	/	/	/	/	/	19	19	19	19	19
	80 B14	80		•	100	4	7		4	120	11	/	/	/	/	/	/	19	19	19	19	19
	90 B5	130	•	•	165	4.5	11	8		200	10	24	24	24	24	24	24	24	24	24	24	24
	90 B14	95		•	115	4	9		4	140	11	24	24	24	24	24	24	24	24	24	24	24
	100/112 B5	180	•	•	215	5	14	8		250	13	28	28	28	28	28	28	/	/	/	/	/
	100/112 B14	110	•	•	130	4.5	9	8		160	11	28	28	28	28	28	28	/	/	/	/	/
90	80 B5	130	•	•	165	4.5	11	8		200	10	/	/	/	/	/	/	/	/	19	19	19
	80 B14	80		•	100	4	7		4	120	11	/	/	/	/	/	/	/	/	19	19	19
	90 B5	130	•	•	165	4.5	11	8		200	10	24	24	24	24	24	24	24	24	24	24	24
	90 B14	95		•	115	4	9		4	140	11	24	24	24	24	24	24	24	24	24	24	24
	100/112 B5	180	•	•	215	5	14	8		250	13	28	28	28	28	28	28	/	/	/	/	/
	100/112 B14	110	•	•	130	4.5	9	8		160	11	28	28	28	28	28	28	/	/	/	/	/
110	90 B5	130	•		165	5	11	4		200	12	/	/	/	/	/	/	24	/	24	24	24
	90 B14	95		•	115	5	9		4	140	12	/	/	/	/	/	/	24	/	24	24	24
	100/112 B5	180	•		215	5	14	4		250	14	28	28	28	28	28	28	28	28	28	28	28
	100/112 B14	110		•	130	5	9		4	160	12	28	28	28	28	28	28	28	28	28	28	28
	132 B5	230	•		265	5	14	4		300	14	38	38	38	38	38	38	/	/	/	/	/
	132 B14	130	•		165	5	11	4		200	12	38	38	38	38	38	38	/	/	/	/	/
130	90 B5	130	•		165	5	11	4		200	12	/	/	/	/	/	/	/	/	24	24	24
	90 B14	95		•	115	5	9		4	140	12	/	/	/	/	/	/	/	/	24	24	24
	100/112 B5	180	•		215	5	14	4		250	14	28	28	28	28	28	28	28	28	28	28	28
	100/112 B14	110		•	130	5	9		4	160	12	28	28	28	28	28	28	28	28	28	28	28
	132 B5	230	•		265	5	14	4		300	14	38	38	38	38	38	38	38	/	/	/	/
	132 B14	130	•		165	5	11	4		200	12	38	38	38	38	38	38	38	/	/	/	/

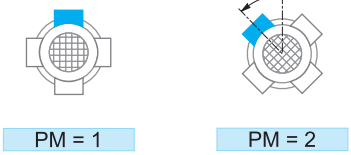
N.B.: Il montaggio STD di P_M=2 solo quando non è possibile il montaggio STD di P_M=1.
N.B.: E' possibile realizzare anche tutte le composizioni ibride ottenibili dalle flange esistenti.

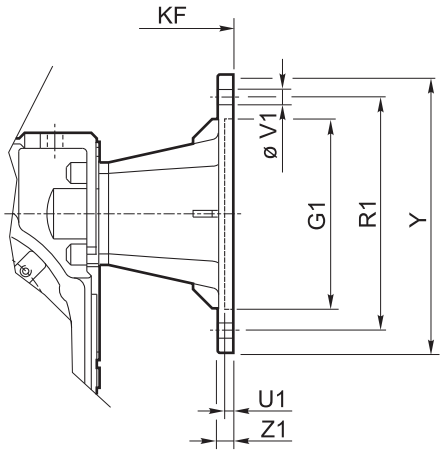
N.B.: STD mounting of P_M=2 only if STD mounting of P_M=1 is not possible.
N.B.: it is possible to create hybrid combinations with the existing flanges.

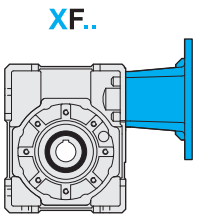
ANMERKUNG: STD Montage von P_M=2 nur wenn STD Montage von P_M=1 unmöglich ist.
ANMERKUNG: Mischkombinationen mit der verfügbaren Flanschen sind möglich.

2.7 Dimensioni — *2.7 Dimensions* — 2.7 Abmessungen

Flangia entrata / *Input flange* / Antriebsflansch







XF	IEC	PM		G_1 H7	K_F	R_1	U_1	V_1				Y	Z_1
		1	2					Ø					
30	56 B5	•	•	80	82.5	100	3.5	7		8		120	8
	56 B14		•	50	82.5	65	3.5	6			4	80	8
	63 B5	•	•	95	85.5	115	4	9		8		140	10
	63 B14	•	•	60	85.5	75	3.5	6		8		90	8
40	56 B5	•	•	80	101.5	100	3.5	7		8		120	8
	63 B5	•	•	95	104.5	115	4	9		8		140	10
	63 B14	•	•	60	104.5	75	3.5	6		8		90	8
	71 B5	•	•	110	111.5	130	4.5	9		8		160	10
	71 B14	•	•	70	111.5	85	4	7		8		105	10
50	63 B5	•	•	95	119.5	115	4	9		8		140	10
	71 B5	•	•	110	126.5	130	4.5	9		8		160	10
	71 B14		•	70	126.5	85	3.5	7			4	105	10
	80 B5	•	•	130	136.5	165	4.5	11		8		200	10
	80 B14	•	•	80	136.5	100	4	7		8		120	10
63	71 B5	•	•	110	141.5	130	4.5	9		8		160	10
	80/90 B5	•	•	130	161.5	165	4.5	11		8		200	10
	80 B14	•	•	80	151.5	100	4	7		8		120	10
	90 B14	•	•	95	161.5	115	4	9		8		140	10
75	80/90 B5	•	•	130	190	165	4.5	11		8		200	10
	90 B14		•	95	190	115	4	9			4	140	10
	100/112 B5	•	•	180	200	215	5	14		8		250	14
	100/112 B14	•	•	110	200	130	4.5	9		8		160	10
90	80/90 B5	•	•	130	200	165	4.5	11		8		200	10
	90 B14		•	95	200	115	4	9			4	140	10
	100/112 B5	•	•	180	210	215	5	14		8		250	14
	100/112 B14	•	•	110	210	130	4.5	9		8		160	10
110	80/90 B5	•		130	235	165	4.5	11	4			200	12
	100/112 B5	•		180	245	215	5	14	4			250	14
	132 B5	•		230	266	265	5	14	4			300	16
	132 B14	•		130	266	165	4.5	11	4			200	12
130	90 B5	•		130	281	165	4.5	M10	4			200	12
	100/112 B5	•		180	289	215	5	13	4			250	16
	132 B5	•		230	310	265	5	13	4			300	20

N.B.: Il montaggio STD di P_M=2 solo quando non è possibile il montaggio STD di P_M=1.

N.B.: STD mounting of P_M=2 only if STD mounting of P_M=1 is not possible.

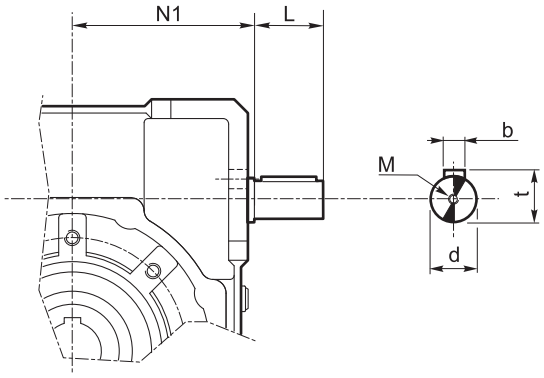
ANMERKUNG: STD Montage von P_M=2 nur wenn STD Montage von P_M=1 unmöglich ist.

2.8 Entrata supplementare (vite bisporgente)

2.8 Additional input (double extended shaft)

2.8 Zusatzantrieb (beidseitige Welle)

S.e.A.



X	d j6	L	M	N1	b	t
30	9	15	M4x10	42.5	3	10.2
40	11	20	M4x12	52.5	4	12.5
50	14	25	M5x13	62.5	5	16
63	19	30	M8x20	74.5	6	21.5
75	24	40	M8x20	91	8	27
90	24	40	M8x20	108	8	27
110	28	50	M8x20	132.5	8	31
130	38	70	M10x25	152	10	41

2.9 Limitatore di coppia cavo passante

Il limitatore di coppia viene consigliato in tutte quelle applicazioni che richiedono una limitazione sulla coppia trasmissibile per proteggere l'impianto e/o preservare il riduttore evitando sovraccarichi o urti indesiderati quanto inaspettati.
È un dispositivo con albero dotato di cavo passante, con funzionamento a frizione, ed è integrato al riduttore, presentando un ingombro limitato.
Concepito per lavorare a bagno d'olio, il dispositivo risulta affidabile nel tempo ed è esente da usura se non viene mantenuto in condizioni prolungate di slittamento (condizione che si verifica quando la coppia presenta valori superiori a quelli di taratura).
La taratura è facilmente regolabile dall'esterno attraverso il serraggio di una ghiera autobloccante che porta a compressione le 4 molle a tazza disposte tra loro in serie.
Il dispositivo non consente:
- l'impiego di cuscinetti a rulli conici in uscita
- funzionamento prolungato in condizioni di slittamento.

Nella tabella seguente vengono riportati i valori delle coppie di slittamento M_{2S} in funzione del n° di giri della ghiera.
I valori di taratura presentano una tolleranza del ±10% e si riferiscono ad una condizione statica.
In condizioni dinamiche è da notare che la coppia di slittamento assume valori diversi a seconda del tipo e/o modalità in cui si verifica il sovraccarico: con valori maggiori in caso di carico uniformemente crescente rispetto a volori più contenuti in seguito al verificarsi di picchi improvvisi di carico.
NOTA: quando si supera il valore di taratura si ha slittamento.
Il coefficiente di attrito tra le superfici di contatto da statico diventa dinamico e la coppia trasmessa cala del 30% circa.
E' quindi opportuno prevedere uno stop per poter ripartire al valore di taratura iniziale.

2.9 Torque limiter with through hollow shaft

The use of a torque limiter is advised when the application requires the limitation of the transmissible torque to safeguard the plant and/or to prevent from unexpected and undesired overloads or shocks which might damage the gearbox.
The torque limiter is a device equipped with through hollow shaft and a friction clutch. It is integrated with the gearbox, therefore the space requirement is limited.
Designed to work in oil bath, the device is reliable over time and is not subject to wear unless kept under conditions of prolonged slipping (it occurs when the torque values are higher than the calibration values).
Calibration can be easily adjusted from outside by tightening the self-locking ring nut which causes the compression of the 4 Belleville washers arranged in series.
The device does not go together with:
- *the use of tapered roller bearings at output*
- *Prolonged operation under slipping conditions.*

The following table shows the values of M_{2S} slipping torques depending on the number of revolutions of the ring nut.
Calibration values feature a ±10% tolerance and refer to static conditions.
Under dynamic conditions, the values of the slipping torque differ depending to the type of overload: the values are higher if the load increase is uniform, the values are lower if sudden load peaks occur.
***NOTE:** Slipping occurs when the setting values are exceeded.*
The friction coefficient between the contact surfaces from static becomes dynamic and the transmitted torque is approx. 30% lower.
It is advisable to have a stop first in order to have a restart based on the initial setting value.

2.9 Drehmomentbegrenzer mit durchgehender Hohlwelle

Die Anwendung eines Drehmomentbegrenzers wird empfohlen, um die Anlage und/oder das Getriebe gegen ungewünschte und unerwartete Überbelastungen oder Stoßen zu schützen.
Der Begrenzer verfügt über eine Welle mit durchgehende Hohlwelle und eine Kupplung. Er ist in dem Getriebe integriert, d.h. der Raumbedarf ist klein.
Der Drehmomentbegrenzer wurde für Betrieb in einem Ölbad entworfen. Er ist zuverlässig über Zeit und verschleissfest (außer wenn Rutschen für lange Zeit besteht: das passiert, wenn das Drehmoment hoher als der Eichwert ist).
Die Einstellung darf mühelos von außen durch das Anziehen einer selbstsperrenden Mutter ausgeführt werden.
Das Anziehen verursacht die Zusammedrückung der 4 wechelsinniggeschichteten Tellerfeder.
Der Begrenzer sieht das folgende nicht vor:
- die Verwendung von Kegelrollenlager am Abtrieb
- Längerer Rutschbetrieb.

Die nachstehende Tabelle zeigt die Werte der Rutschmomente M_{2S} abhängig von der Zahl der Umdrehungen der Mutter.
Die Eichwerte weisen ±10% Toleranz auf und beziehen sich auf statische Bedingungen.
Unter dynamischen Bedingungen hat das Rutschmoment verschiedene Werte je nach Art der Überbelastung. Die Werte sind hoher, wenn die Belastung gleichmäßig zunimmt; sie sind niedriger im Falle von plötzlichen Belastungsspitzen.
BEMERKUNG: Rutschen tritt auf, wenn die eingestellten Werte überschritten werden. Der Reibungsfaktor zwischen den Berührungsflächen wird dynamisch anstatt statisch und das übertragene Drehmoment sinkt um ca. 30%.
Es ist daher ratsam, vor dem erneuten Anfahren anzuhalten, um die ursprünglichen Drehmomentwerte zu erreichen.

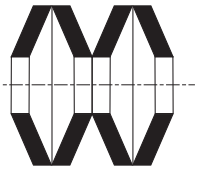
E' importante notare che la coppia di slittamento non resta sempre la medesima durante tutta la vita del limitatore.
Tende infatti a diminuire in rapporto al numero e alla durata degli slittamenti che, rodando le superfici di contatto, ne aumentano il rendimento.
È quindi opportuno verificare periodicamente, soprattutto durante la fase di rodaggio, la taratura del dispositivo.
Là dove sia richiesto un errore più contenuto nella taratura, è necessario testare la coppia trasmissibile sull' impianto.
Il dispositivo viene consegnato tarato alla coppia riportata a catalogo T_{2M} salvo diversa indicazione espressa in fase di ordinazione.

It is important to note that the slipping torque is not the same for the entire life of the torque limiter. It usually decreases in connection with the number and the duration of slippings, this is due to the surface of the torque limiter becoming more engaged, therefore increasing the efficiency. For this reason it is advisable to check the calibration of the device at regular intervals, specially during the running-in period. Should a smaller calibration error be required, it is necessary to test the transmissible torque on the plant.
The torque limiter is supplied already calibrated at the torque value T_{2M}, unless otherwise specified in the order.

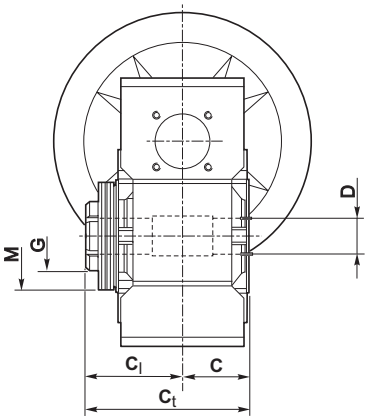
Es ist wichtig zu beachten, dass das Rutschmoment der Rutschkupplung über die gesamte Lebensdauer nicht konstant bleibt, sondern üblicherweise in Verbindung mit längeren Rutschzyklen aufgrund der eingelaufenen Berührungsflächen abnimmt.
Deswegen ist es ratsam, die Einstellung der Vorrichtung besonders während der Einlaufzeit in regelmäßigen Zeitabständen zu prüfen.
Wenn der Drehmomentbegrenzer geliefert wird, ist dieser schon auf dem im Katalog unter T_{2M} angegebenen Wert eingestellt, außer wenn es in der Bestellung anders angegeben wird.

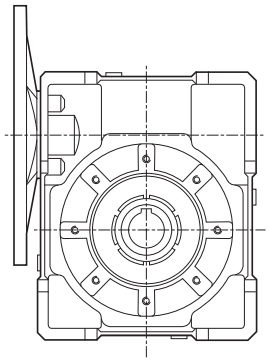
X	N°. giri della ghiera di regolazione / *N°. revolutions of ring nut* / Nr. Umdrehungen der Mutter										
	1	1 1/4	1 1/2	1 3/4	2	2 1/4	2 1/2	2 3/4	3	3 1/4	1/2	3 3/4
	M_{2S} [Nm]											
30		15	20	23	25							
40	30	37	45									
50		45	55	63	70	77						
63				85	95	110	125	137	150			
75					130	147	165	177	190	205	220	230
90				193	220	247	275	297	320	350	380	
110		425	550	600	700							
130												

Disposizione delle molle
Washers' arrangement
Lage der Feder



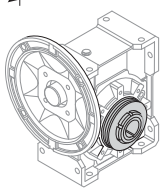
IN SERIE (min. coppia, max. sensibilità)
SERIES *(min. torque, max sensitivity)*
SERIE (min. Moment, max. Empfindlichkeit)



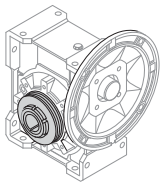


X	C	C_l	C_t	D H7	M	G
30	31.5	55.5	87	14	50x25.4x1.25	M25x1.5
40	39	65	104	18 (19)	56x30.5x1.5	M30x1.5
50	46	76	122	25 (24)	63x40.5x1.8	M40x1.5
63	56	91	147	25	71x40.5x2	M40x1.5
75	60	100	160	28 (30)	90x50.5x2.5	M50x1.5
90	70	109	179	35 (32)	100x51x2.7	M50x1.5
110	77.5	127.5	205	42	125x61x4	M60x2.0
130						

( ) A richiesta / *On request* / Auf Anfrage



LD



LS

Nella versione con limitatore non è prevista la fornitura degli alberi lenti.

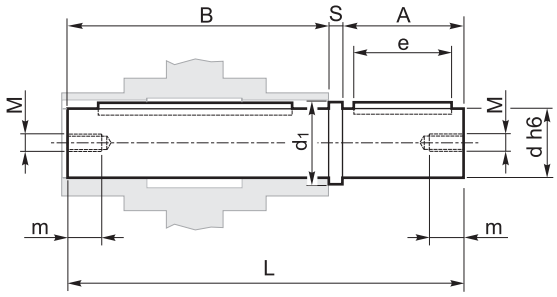
The version with torque limiter is supplied without output shafts.

Die Version mit Drehmomentbegrenzer wird ohne Abtriebswellen geliefert.

2.10 Accessori

Albero lento

Albero lento semplice
Single output shaft
Standard Abtriebswelle



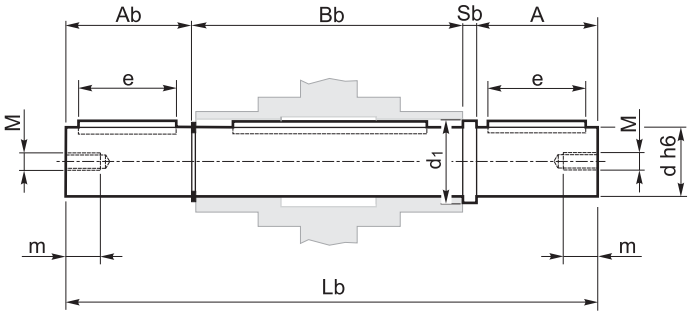
2.10 Accessories

Output shaft

2.10 Accessories

Abtriebswelle

Albero lento doppio
Double output shaft
Doppelte Abtriebswelle

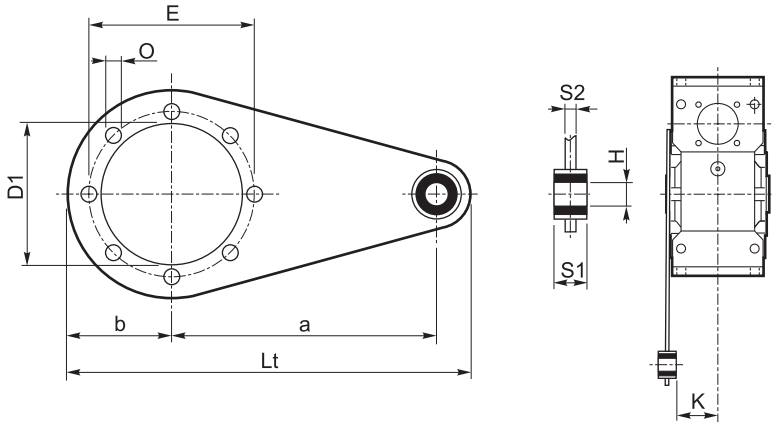


X	A	A_b	B	B_b	d h6	d_1	e	L	L_b	M	m	S	S_b
30	30	29	62	64	14	18.5	20	94.5	126	M6	16	2.5	2.5
40	40	39	77	79	18	23.5	30	120	161	M6	16	3	3
50	50	49	90	93	25	31.5	40	143.5	195.5	M8	22	3.5	3.5
63	50	49	111	113	25	31.5	40	165	216	M8	22	4	4
75	60	59	119	121	28	34.5	50	183	244	M8	22	4	4
90	80	78.5	139	141.5	35	41.5	60	224	305	M10	28	5	5
110	80	77.5	154.5	157	42	49.5	60	242.5	322.5	M10	28	8	8
130	80	78	168	172	45	54.5	70	253	335	M16	36	5	5

Braccio di reazione

Torque arm

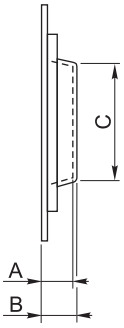
Drehmomentstütze



X	a	b	D_1	E	H	K	L_t	O	S1	S2
30	85	37.5	55	65	8	24	141.5	7	14	4
40	100	45	60	75	10	31.5	167	7	14	4
50	100	50	70	85	10	39	172	9	14	5
63	150	55	80	95	10	49	227	9	14	6
75	200	70	95	115	20	47.5	302	9	25	6
90	200	80	110	130	20	57.5	312	11	25	6
110	250	100	130	165	25	62	390	11	30	6
130	250	125	180	215	25	69	415	13	30	6

Kit di protezione:

Albero cavo / *Hollow shaft* / Hohlwelle

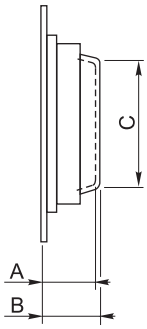


X	A	B	C
30	12	13	39
40	14	15.5	44.5
50	15	16.5	54
63	17	19	60
75	17.5	20	70
90	21.5	24	80
110	22	25	96
130	22	25	130

Protection Kit:

Schutzvorrichtung

Limitatore di coppia / *Torque limiter* / Drehmomentbegrenzer



X	A	B	C
30	36	37	36
40	40	41.5	44
50	47	48.5	53
63	52	54	55
75	58	60	68
90	60.5	63	70
110	72	75	85
130			

Opzioni disponibili:

Cuscinetti a rulli conici corona

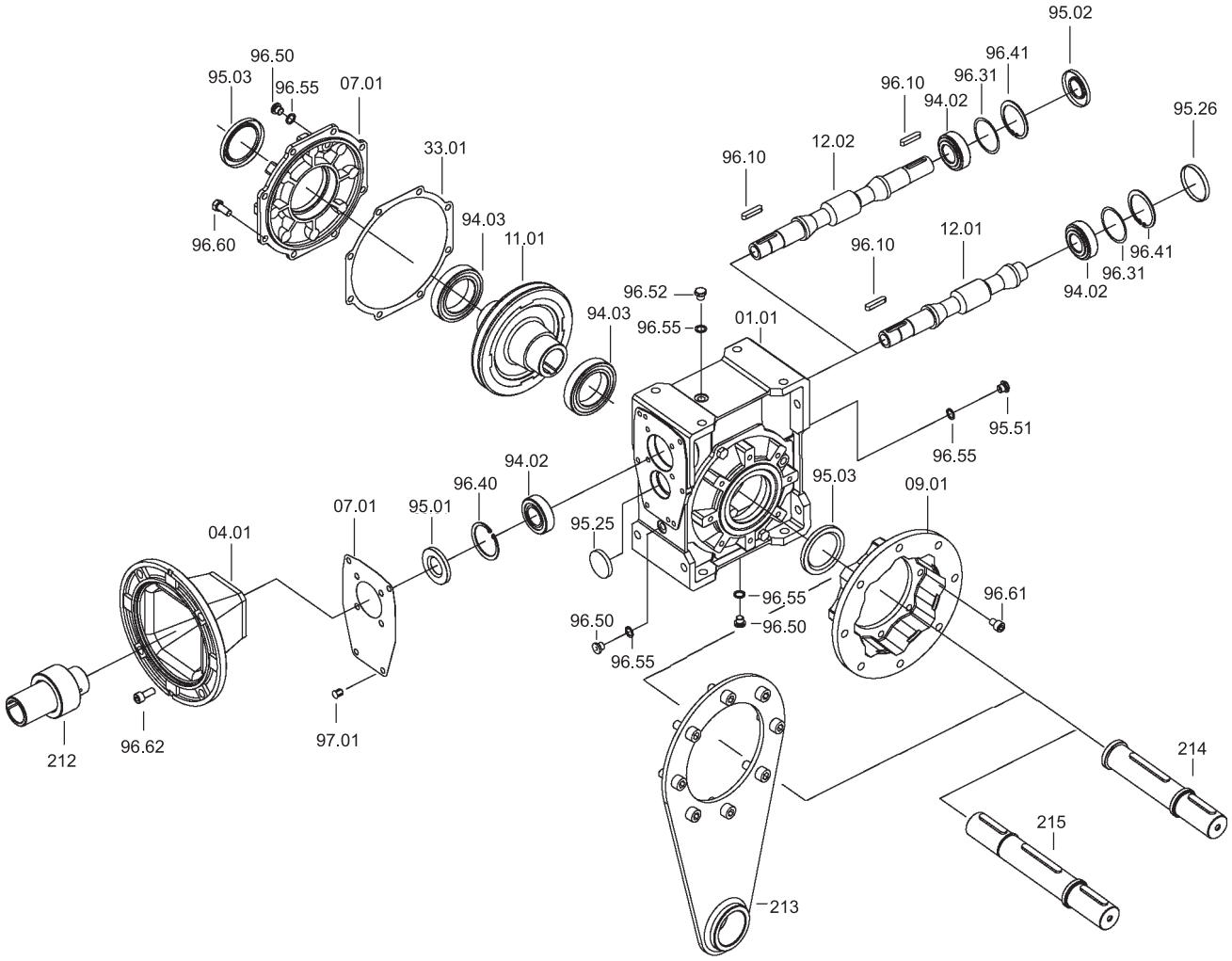
Available options:

Tapered roller bearing on wormgear

Auf Anfrage ist folgendes Zubehör erhältlich:

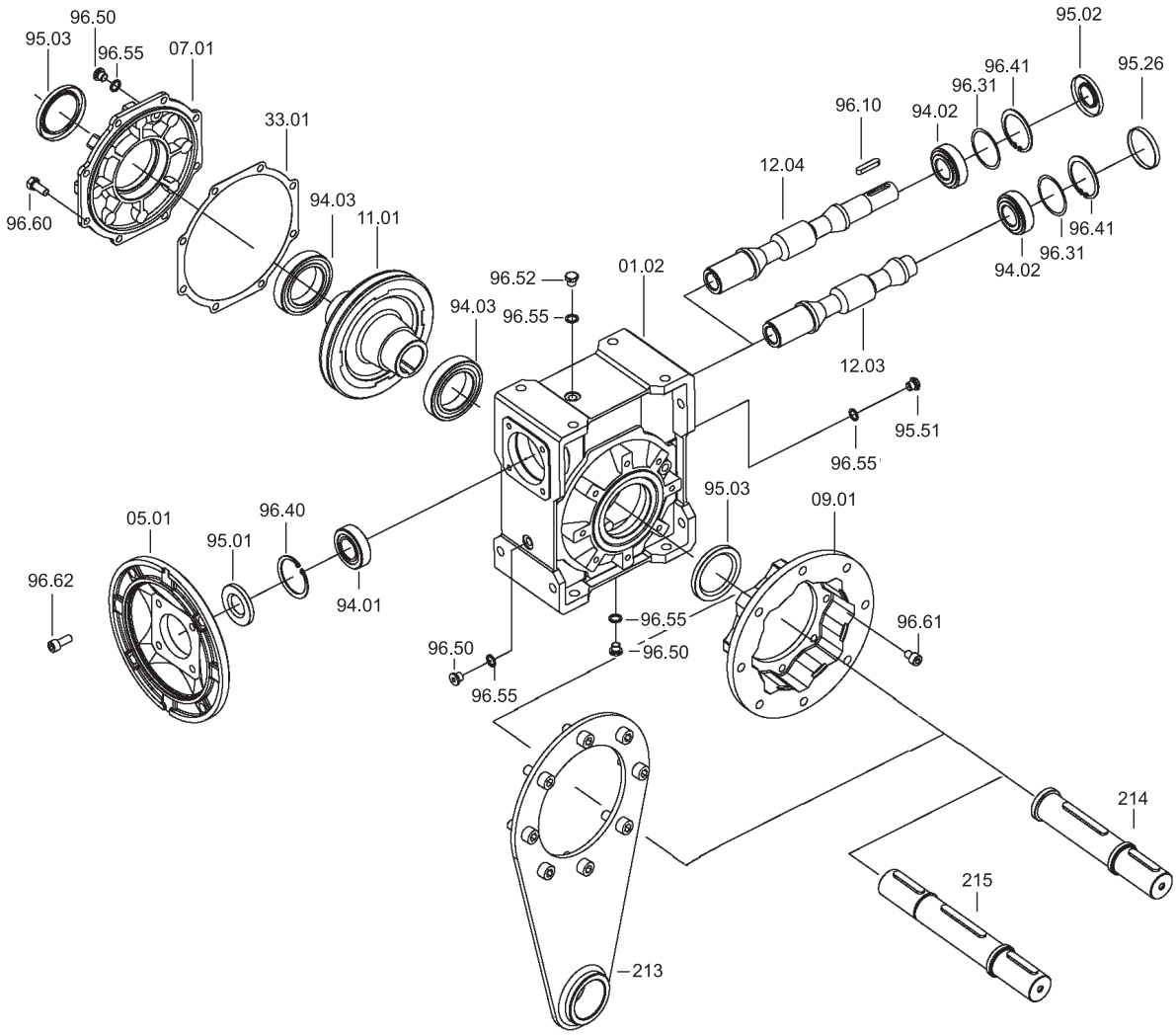
Kegelrollenlager auf Schneckenrad

XA - XF



X	Cuscinetti / *Bearings* / Lager		Anelli di tenuta / Oilseals Öldichtungen			Cappellotto / *Closed oil seal* Geschlossene Öldichtung	
	94.02	**94.03**	**95.01**	**95.02**	**95.03**	**95.25**	**95.26**
30	**6000** 10x26x8	**6005** 25x47x12	10/26/5.5	10/26/7	25/40/7	—	ø 6x7
40	**6201** 12x32x10	**6006** 30x55x13	12/32/7	12/32/7	30/47/7	—	ø 32x7
50	**6203** 17x40x12	**6008** 40x68x15	17/40/7	17/40/7	40/62/8	—	ø 40x7
63	**30204** 20x47x15.25	**6008** 40x68x15	20/47/7	20/47/7	40/62/8	—	ø 47x7
75	**30205** 25x52x16.25	**6010** 50x80x16	25/52/7	25/52/7	50/72/8	—	ø 52x7
90	**32205** 25x52x19.25	**6010** 50x80x16	25/52/7	25/52/7	50/72/8	ø 35x5	ø 52x7
110	**32206B** 30x62x21.25	**6012** 60x95x18	30/62/7	30/62/7	60/85/8	ø 47x7	ø 62x7
130	**33208** 40x80x32	**6015** 75x115x20	40/80/10	40/80/10	75/100/10	ø 52x7	ø 80x10

XC



X	IEC	Cuscinetti / *Bearings* / Lager			Anelli di tenuta / Oilseals Öldichtungen			Cappellotto / *Closed oil seal* Geschlossene Öldichtung
		94.01	**94.02**	**94.03**	**95.01**	**95.02**	**95.03**	**95.26**
30	56	**61804** (20x32x7)	**6000** 10x26x8	**6005** 25x47x12	20/32/7	10/26/7	25/40/7	ø 26x7
	63	**61804** (20x32x7)			20/32/7			
40	56	**6303** (17x47x14)	**6201** 12x32x10	**6006** 30x55x13	17/47/7	12/32/7	30/47/7	ø 32x7
	63	**6204** (20x47x14)			20/47/7			
	71	**6005** (25x47x12)			25/47/7			
50	63	**6204** (20x47x14)	**6203** 17x40x12	**6008** 40x68x15	20/47/7	17/40/7	40/62/8	ø 40x7
	71	**6005** (25x47x12)			25/47/7			
	80	**6006** (30x55x13)			30/55/7			
63	71	**30305** (25x62x18.25)	**30204** 20x47x15.25	**6008** 40x68x15	25/62/7	20/47/7	40/62/8	ø 47x7
	80	**30206** (30x62x17.25)			30/62/7			
	90	**32007** (35x62x18)			35/62/7			
75	80	**30206** (30x62x17.25)	**30205** 25x52x16.25	**6010** 50x80x16	30/62/7	25/52/7	50/72/8	ø 52x7
	90	**32007** (35x62x18)			35/62/7			
	100/112	**32008** (40x68x19)			40/68/10			
90	80	**30206** (30x62x17.25)	**32205B** 25x52x19.25	**6010** 50x80x16	30/62/7	25/52/7	50/72/8	ø 52x7
	90	**32007** (35x62x18)			35/62/7			
	100/112	**32008** (40x68x19)			40/68/10			
110	90	**30208** (40x80x19.75)	**32206B** 30x62x21.25	**6012** 60x95x18	40/80/10	30/62/7	60/85/8	ø 62x7
	100/112	**30208** (40x80x19.75)			40/80/10			
	132	**32010** (50x80x20)			50/80/10			
130	90	**30208** (40x80x19.75)	**33208** 40x80x32	**6015** 75x115x20	40/80/10	40/80/10	75/100/10	ø 80x10
	100/112	**30208** (40x80x19.75)			40/80/10			
	132	**32010** (50x80x20)			50/80/10			