

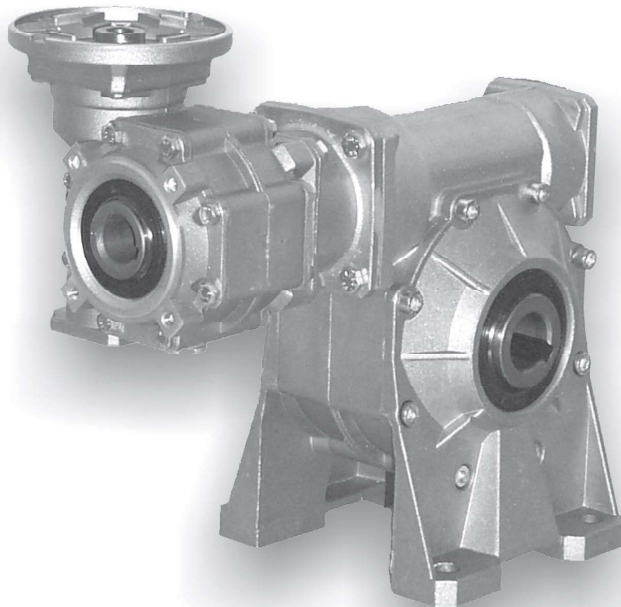
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RIDUTTORI A VITE SENZA FINE COMBINATI BCFK-BCRK

BCFK-BCRK COMBINED WORM GEARBOXES

KOMBINIERTE- SCHNECKENGETRIEBE BCFK-BCRK

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5.1 Caratteristiche

La combinazione di due riduttori a vite senza fine comporta rendimenti molto bassi, ma l'elevata riduzione di velocità ottenuta in uno spazio ridottissimo rende comunque interessante, e a volte insostituibile, questa soluzione.

Sono forniti con albero cavo di serie ed esiste un'ampia gamma 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.

5.1 Characteristics

The combination of two worm gearboxes provides very low efficiency, however the fact that substantial reduction in speed can be obtained in an extremely reduced space makes this solution very interesting and sometimes irreplaceable.

The hollow 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.

5.1 Merkmale

Die Kombination zweier Schneckengetriebe bringt sehr niedrigen Wirkungsgrad mit sich, es handelt sich jedoch um eine interessante und manchmal unersetzbare Lösung, weil eine hohe Drehzahlverringering in einem beträchtlich reduzierten Raum erzielt werden kann.

Die Hohlwelle gehört zur serienmäßigen Ausstattung. Eine breite Auswahl an Zubehör ist erhältlich: zweiter Antrieb, Kegelrollenlager auf Schneckenrad, Abtriebsflansch, standard oder doppelseitig herausragende Abtriebswelle, Drehmomentbegrenzer mit durchgehender Hohlwelle, Drehmomentstütze.

5.2 Designazione

5.2 Designation

5.2 Bezeichnung

Riduttore Gearbox Getriebe	Grandezza Size Größe	Rapporto rid. Ratio Untersetzung	Predispos.att. mot. Motor coupling Motoranschluss	Versione Version Version	Forma costruttiva Execution Bauform	Posizione di mont. Mounting position Einbaulage	Limitatore di coppia. Torque limiter Drehmomentbegrenzer	Seconda entrata Additional input Zusatzeintrieb	Albero uscita Output shaft Abtriebswelle	Braccio di reazione Torque arm Drehmomentstütze
BCFK	50/75	1200	P.A.M.	FS	a	B3	LD	SeA1	H	BR
	30/30 30/40 30/50 30/63 40/63 40/75 50/75	150 200 300 450 600 900 1200 1500 1950 2500 3250 4000 5000 10000	56 63 71 80 90	A B V P F...S F...D	ab cd ef gh ik im no pq	B3 B6 B7 B8 V5 V6			 H SD SS DD	 BR1 BR2

Versioni

Versions

Ausführungen

BCFK..**A**
BCRK..**A**

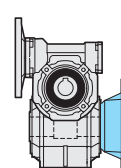
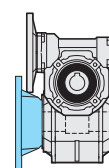
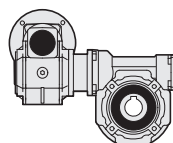
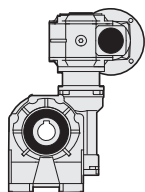
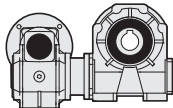
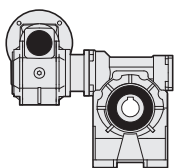
BCFK..**B**
BCRK..**B**

BCFK..**V**
BCRK..**V**

BCFK..**P**
BCRK..**P**

BCFK..**F_S**
BCRK..**F_S**

BCFK..**F_D**
BCRK..**F_D**

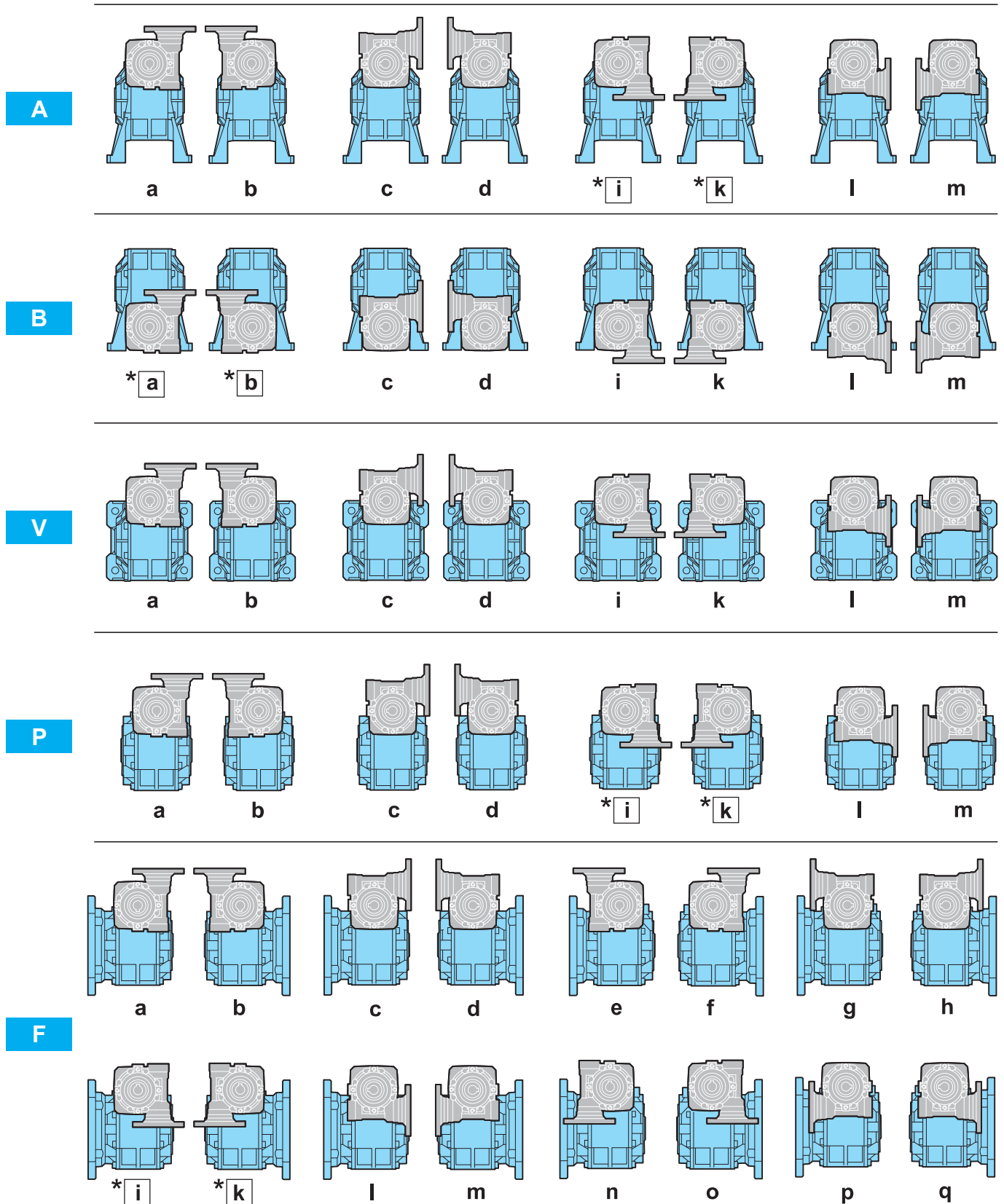


Specificare sempre in fase di ordinazione la versione.

Specify the version when ordering.

Bei der Bestellung immer die Bauform angeben.

Forma costruttiva / version / Bauform



* Forma costruttiva non realizzabile su: / Version not feasible on: / Bauform nicht ausführbar für:
30/30, 30/40, 30/50 PAM 63B5 (ø 140), 40/63 PAM 71B5 (ø 160)



5.3 Lubrificazione

I riduttori a vite senza fine BCFK - BCRK sono forniti tutti e sempre completi di lubrificante sintetico a base PAG con classe di viscosità ISO 320.

Nei corpi in alluminio è presente un solo tappo di riempimento olio.

Si raccomanda di precisare sempre in fase di ordine la forma costruttiva e la posizione di lavoro desiderata.

Per ulteriori dettagli consultare pag. 12 paragrafo 1.13.

5.3 Lubrication

BCFK - BCRK worm gearboxes are supplied with PAG synthetic lubricant featuring an ISO 320 viscosity class.

Aluminium housings have one filling plug only.

Always specify the version and the mounting position when ordering.

For more details, see page 12, paragraph 1.13.

5.3 Schmierung

BCFK - BCRK Schneckengetriebe werden mit PAG synthetischen Schmierstoff Viskositätsklasse ISO 320 geliefert.

Gehäuse aus Aluminium verfügen über nur eine Einfüllschraube.

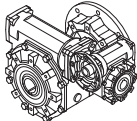
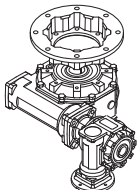
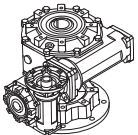
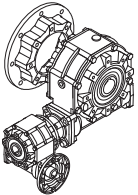
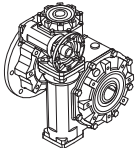
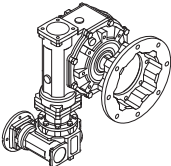
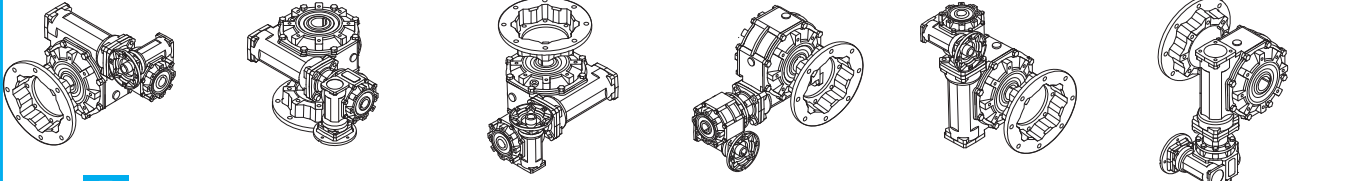
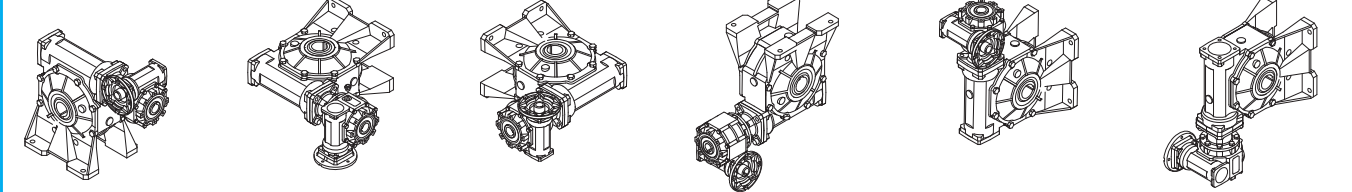
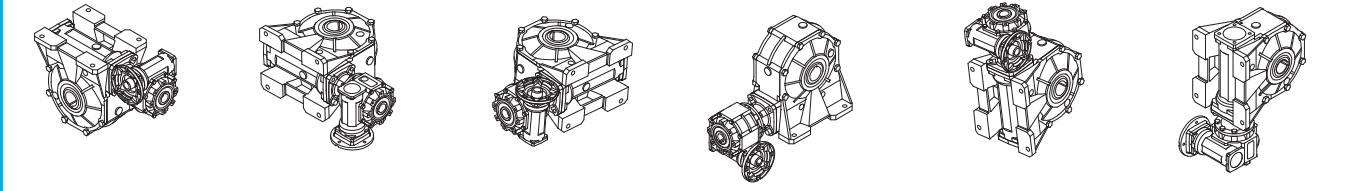
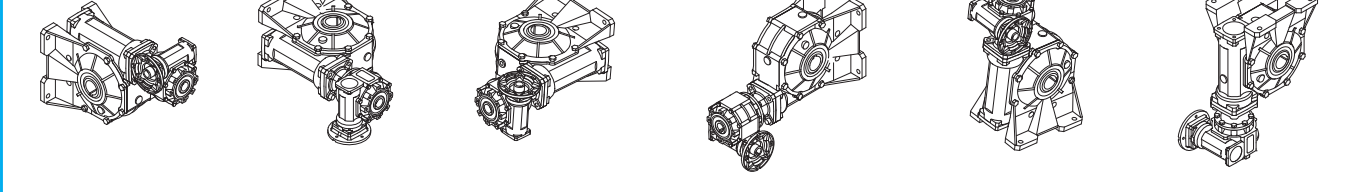
Im Auftrag sind immer Einbaulage und Bauform anzugeben.

Weitere Einzelheiten finden Sie auf Seite 12, Absatz 1.13

Posizioni di montaggio

Mounting positions

Bezeichnung

F,P					
					
F (b, d, f, h, k, m, o, q)	P (a, b, c, d, i, k, l, m)				
					
F (a, c, e, g, i, l, n, p)					
					
					
					
B3	B6	B7	B8	V5	V6

Quantità di lubrificante

Lubricant quantity

Schmiermittelmenge

			Q.tà olio / Oil quantity / Schmiermittelmenge [lt]					
			BCFK - BCRK					
			30/30	30/40	30/50	30/63	40/63	40/75
Posizioni di montaggio Mounting positions Einbaulage	B3	IN	0.015			0.04		0.08
		OUT	0.015	0.04	0.08	0.16	0.16	0.26
	B6	IN	0.015			0.04		0.08
		OUT	0.025	0.55	0.110	0.16	0.16	0.26
	B7	IN	0.015			0.04		0.08
		OUT	0.015	0.04	0.08	0.16	0.16	0.26
	B8	IN	0.015			0.04		0.08
		OUT	0.015	0.04	0.08	0.16	0.16	0.26
	V5	IN	0.025			0.055		0.110
		OUT	0.015	0.04	0.08	0.16	0.16	0.26
	V6	IN	0.025			0.055		0.110
		OUT	0.015	0.04	0.08	0.16	0.16	0.26

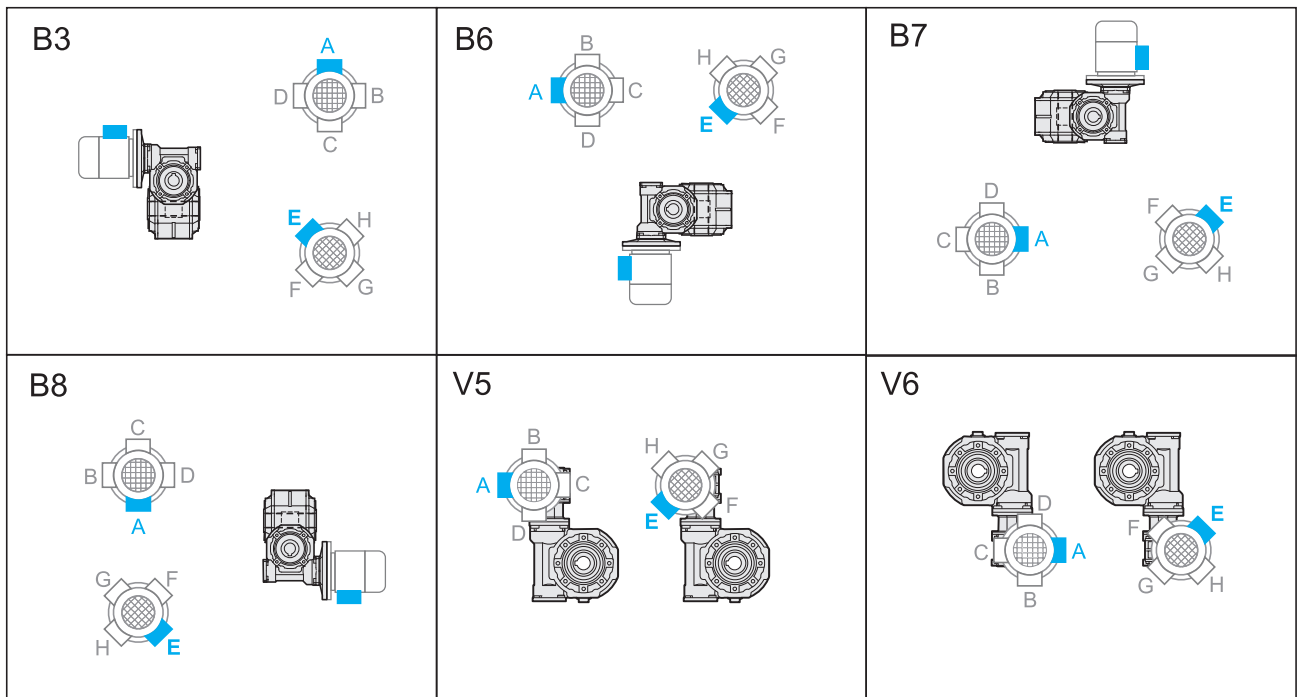
IN = Riduttore entrata / Gearbox at input / Getriebe am Antrieb

OUT = Riduttore uscita / Gearbox at output / Getriebe am Abtrieb

5.4 Posizione morsetteria

5.4 Terminal board position

5.4 Lage der Klemmenkaste



30/30	$n_1 = 1400$				BCFK				BCRK			
	i_n	30 i_1	30 i_2	n_2 [min ⁻¹]	T_2 [Nm]	P_1 [kW]	FS'	Input IEC B5/B14	T_{2M} [Nm]	P [kW]	Rd	
	150	10	15	9.3	32	0.06	1.2	56-63	37	0.070	0.51	
200	20		7.0	39	0.06	0.8	32		0.050	0.47		
300	30	30	4.7	52*	0.06	0.8*	39		0.045	0.42		
450			3.1	73*	0.06	0.5*	39		0.032	0.40		
600			2.3	91*	0.06	0.4*	39		0.026	0.37		
900			1.6	125*	0.06	0.3*	39		0.019	0.34		
1200			1.2	149*	0.06	0.3*	39		0.016	0.30		
1500			0.9	173*	0.06	0.2*	39		0.014	0.28		
1950	65	50	50	0.7	209*	0.06	0.2*		56	39	0.011	0.26
2500	0.6			235*	0.06	0.1*	56-63		30	0.008	0.23	
3250	0.4			283*	0.06	0.11*	56	30	0.006	0.21		
4000	0.4			328*	0.06	0.09*		30	0.005	0.20		
5000	0.3			385*	0.06	0.08*		30	0.005	0.19		
10000	0.1			609*	0.06	0.03*		17	0.002	0.15		



3.0

30/40	$n_1 = 1400$				BCFK				BCRK			
	i_n	30 i_1	40 i_2	n_2 [min ⁻¹]	T_2 [Nm]	P_1 [kW]	FS'	Input IEC B5/B14	T_{2M} [Nm]	P [kW]	Rd	
	150	10	15	9.3	72	0.13	1.1	56-63	82	0.148	0.54	
200	20		7.0	76	0.11	1.0	76		0.110	0.51		
300	30	30	4.7	79	0.09	1.0	82		0.094	0.43		
450			3.1	74	0.06	1.1	82		0.067	0.40		
600			2.3	92	0.06	0.9	82		0.054	0.37		
900			1.6	126*	0.06	0.6*	82		0.039	0.34		
1200			1.2	151*	0.06	0.5*	82		0.033	0.31		
1500			0.9	176*	0.06	0.5*	82		0.028	0.29		
1950	65	50	50	0.7	212*	0.06	0.4*		56	82	0.023	0.27
2500	0.6			236*	0.06	0.3*	56-63		68	0.017	0.23	
3250	0.4			285*	0.06	0.24*	56	68	0.014	0.21		
4000	0.4			330*	0.06	0.21*		68	0.012	0.20		
5000	0.3			387*	0.06	0.18*		68	0.011	0.19		
10000	0.1			626*	0.06	0.06*		35	0.003	0.15		



4.0

30/50	$n_1 = 1400$				BCFK				BCRK			
	i_n	30 i_1	50 i_2	n_2 [min ⁻¹]	T_2 [Nm]	P_1 [kW]	FS'	Input IEC B5/B14	T_{2M} [Nm]	P [kW]	Rd	
	150	10	15	9.3	124	0.22	1.2	56-63	149	0.265	0.55	
200	20		7.0	129	0.18	1.1	144		0.201	0.52		
300	30	30	4.7	118	0.13	1.3	150		0.166	0.44		
450			3.1	140	0.11	1.1	150		0.118	0.42		
600			2.3	143	0.09	1.0	150		0.094	0.39		
900			1.6	131	0.06	1.1	150		0.069	0.36		
1200			1.2	156	0.06	1.0	150		0.058	0.32		
1500			0.9	182	0.06	0.8	150		0.049	0.30		
1950	65	50	50	0.7	220*	0.06	0.7*		56	150	0.041	0.28
2500	0.6			253*	0.06	0.5*	56-63		125	0.030	0.25	
3250	0.4			305*	0.06	0.41*	56	125	0.025	0.23		
4000	0.4			354*	0.06	0.35*		125	0.021	0.22		
5000	0.3			414*	0.06	0.30*		125	0.018	0.20		
10000	0.1			645*	0.06	0.11*		69	0.006	0.16		



6.0

* **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: $T_{2M} = T_2 \times FS'$

5.5 Dati tecnici

5.5 Technical data

5.5 Technische Daten

30/63	n ₁ = 1400				BCFK				BCRK		
	i _n	30 i ₁	63 i ₂	n ₂ [min ⁻¹]	T ₂ [Nm]	P ₁ [kW]	FS'	Input IEC B5/B14	T _{2M} [Nm]	P [kW]	Rd
	150	10	15	9.3	126	0.22	1.8	56-63	228	0.400	0.56
200	20		7.0	162	0.22	1.7	279		0.378	0.54	
300	30	30	4.7	207	0.22	1.3	268		0.285	0.46	
450			3.1	238	0.18	1.1	268		0.202	0.43	
600			2.3	215	0.13	1.2	268		0.162	0.40	
900			1.6	250	0.11	1.1	268		0.118	0.37	
1200			1.2	243	0.09	1.1	268		0.099	0.33	
1500			0.9	189	0.06	1.4	268		0.085	0.31	
1950	65	50	0.7	228	0.06	1.2	56		268	0.071	0.29
2500	50		0.6	265	0.06	0.8	56-63		222	0.050	0.26
3250	65		0.4	319*	0.06	0.70*	56	222	0.042	0.24	
4000	80		0.4	369*	0.06	0.60*		222	0.036	0.23	
5000	100		0.3	433*	0.06	0.51*		222	0.031	0.21	
10000	100		0.1	663*	0.06	0.21*		138	0.012	0.16	

 8.5

40/63	n ₁ = 1400				BCFK				BCRK		
	i _n	40 i ₁	63 i ₂	n ₂ [min ⁻¹]	T ₂ [Nm]	P ₁ [kW]	FS'	Input IEC B5/B14	T _{2M} [Nm]	P [kW]	Rd
	150	10	15	9.3	214	0.37	1.2	63-71	261	0.452	0.56
200	20		7.0	277	0.37	1.0	279		0.373	0.55	
300	30	30	4.7	238	0.25	1.1	268		0.282	0.46	
450			3.1	244	0.18	1.1	268		0.197	0.44	
600			2.3	226	0.13	1.2	268		0.154	0.43	
900			1.6	257	0.11	1.0	268		0.115	0.38	
1200			1.2	264	0.09	1.0	268		0.091	0.36	
1500			0.9	203	0.06	1.3	268		0.079	0.33	
1950	65	50	0.7	241	0.06	1.1	63		268	0.067	0.30
2500	50		0.6	284	0.06	0.8	56-63		222	0.047	0.28
3250	65		0.4	338*	0.06	0.66*		222	0.039	0.25	
4000	80		0.4	400*	0.06	0.55*		222	0.033	0.24	
5000	100		0.3	471*	0.06	0.47*		222	0.028	0.23	
10000	100		0.1	722*	0.06	0.19*	138	0.011	0.18		

 9.5

* **ATTENZIONE:** la coppia massima utilizzabile [T_{2M}] deve essere calcolata utilizzando il fattore di servizio: T_{2M} = T₂ x FS'

* **WARNING:** Maximum allowable torque [T_{2M}] must be calculated using the following service factor: T_{2M} = T₂ x FS'

* **ACHTUNG:** das max. anwendbare Drehmoment [T_{2M}] muss mit folgendem Betriebsfaktor berechnet werden: T_{2M} = T₂ x FS'

40/75	$n_1 = 1400$				BCFK				BCRK		
	i_n	40 i_1	75 i_2	n_2 [min ⁻¹]	T_2 [Nm]	P_1 [kW]	FS'	Input IEC B5/B14	T_{2M} [Nm]	P [kW]	Rd
	150	10	15	9.3	322	0.55	1.3	63-71	409	0.698	0.57
200	20		7.0	417	0.55	1.1	442		0.593	0.56	
300	30	30	4.7	358	0.37	1.2	418		0.432	0.47	
450			3.1	346	0.25	1.2	418		0.302	0.45	
600			2.3	390	0.22	1.1	418		0.236	0.43	
900			1.6	309	0.13	1.4	418		0.176	0.39	
1200			1.2	388	0.13	1.1	418		0.140	0.36	
1500			0.9	379	0.11	1.1	63		418	0.121	0.34
1950	65	50	50	0.7	368	0.09	1.1		418	0.102	0.31
2500	50			0.6	296	0.06	1.3		381	0.077	0.29
3250	65			0.4	352	0.06	1.08	381	0.065	0.26	
4000	80			0.4	417	0.06	0.91	381	0.055	0.25	
5000	100			0.3	491*	0.06	0.78*	381	0.047	0.24	
10000				100	0.1	762*	0.06	0.30*	232	0.018	0.19



14.5

50/75	$n_1 = 1400$				BCFK				BCRK		
	i_n	50 i_1	75 i_2	n_2 [min ⁻¹]	T_2 [Nm]	P_1 [kW]	FS'	Input IEC B5/B14	T_{2M} [Nm]	P [kW]	Rd
	150	10	15	9.3	409	0.75	1.0	71-80	409	0.750	0.57
200	20		7.0	422	0.55	1.0	442		0.576	0.56	
300	30	30	4.7	363	0.37	1.2	418		0.427	0.48	
450			3.1	350	0.25	1.2	418		0.299	0.46	
600			2.3	418	0.25	1.0	418		0.250	0.42	
900			1.6	418	0.18	1.0	418		0.180	0.40	
1200			1.2	406	0.13	1.0	418		0.134	0.38	
1500			0.9	470	0.13	0.9	71		418	0.116	0.35
1950	65	50	50	0.7	572*	0.13	0.7*		418	0.095	0.33
2500	50			0.6	674*	0.13	0.6*		381	0.074	0.30
3250	65			0.4	819*	0.13	0.47*	381	0.060	0.28	
4000	80			0.4	939*	0.13	0.41*	381	0.053	0.26	
5000	100			0.3	1108*	0.13	0.34*	381	0.045	0.25	
10000				100	0.1	1719*	0.13	0.13*	232	0.018	0.19



14.5

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

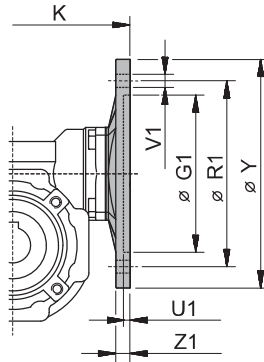
* **WARNING:** Maximum allowable torque [T_{2M}] must be calculated using the following service factor: $T_{2M} = T_2 \times FS'$



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

5.6 Predisposizioni possibili

5.6 Possible set-ups

5.6 Mögliche Vorrichtungen

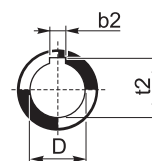
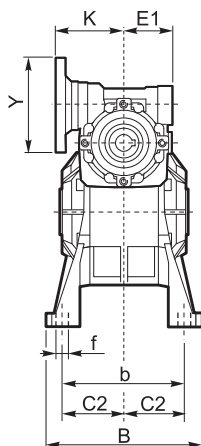
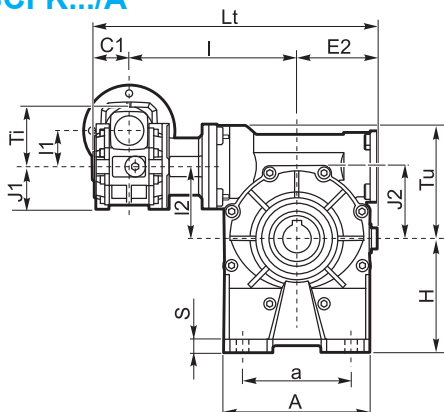


BCFK	PAM IEC	G ₁	K	R ₁	U ₁	V1			Y	Z ₁	Diametro fori PAM / Holes diameter IEC-Input Bohrungsdurchmesser IEC-Antrieb									
						Ø					150 200 300	450	600	900	1200	1500 2500	1950 3250	4000	5000 10000	
30/30 30/40 30/50 30/63	56 B5	80	57	100	4	7	n° 8		120	8	9	9	9	9	9	9	9	9	9	
	56 B14	50		65	3.5	6	n° 8		80	8	9	9	9	9	9	9	9	9	9	
	63 B5	95		115	4	9	n° 8		140	8	11	11	11	11	11	11	11	11	11	/
	63 B14	60		75	4	6	n° 8		90	8	11	11	11	11	11	11	11	11	11	/
40/63 40/75	56 B5	80	75	100	4	7	n° 8		120	9	/	/	/	/	/	/	/	9	9	
	56 B14	50		65	3.5	6		n° 4	80	8	/	/	/	/	/	/	/	9	9	
	63 B5	95		115	4	9	n° 8		140	9	11	11	11	11	11	11	11	11	11	
	63 B14	60		75	3.5	6		n° 4	90	8	11	11	11	11	11	11	11	11	11	
	71 B5	110		130	4.5	9	n° 8		160	10	14	14	14	14	14	14	14	14	/	/
	71 B14	70		85	3.5	7	n° 8		105	8	14	14	14	14	14	14	14	14	/	/
50/75	63 B5	95	82	115	4	9	n° 8		140	9	/	/	/	/	/	11	11	11		
	63 B14	60		75	3.5	6		n° 4	90	8	/	/	/	/	/	11	11	11		
	71 B5	110		130	4.5	9	n° 8		160	10	14	14	14	14	14	14	14	14		
	71 B14	70		85	3.5	7	(n° 8)*	n° 4	105	8	14	14	14	14	14	14	14	14		
	80 B5	130		165	4.5	11	n° 8		200	10	19	19	19	19	19	19	19	/	/	
	80 B14	80		100	4	7	n° 8		120	10	19	19	19	19	19	19	19	/	/	

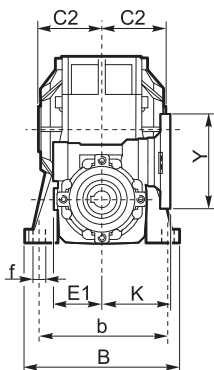
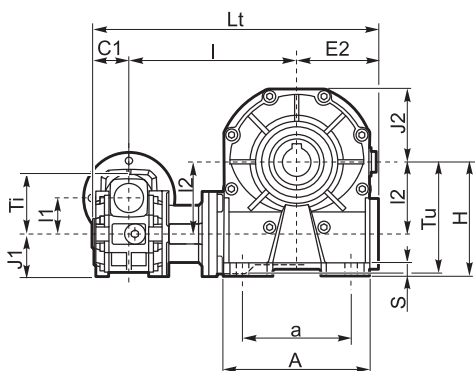
* A richiesta, solo con corpo speciale / Upon request, only with special body / Auf Wunsch nur mit speziellen Körper



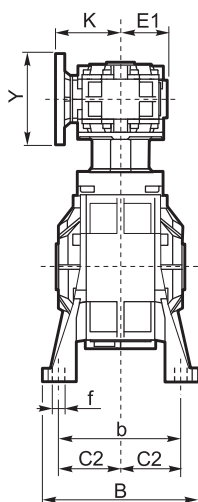
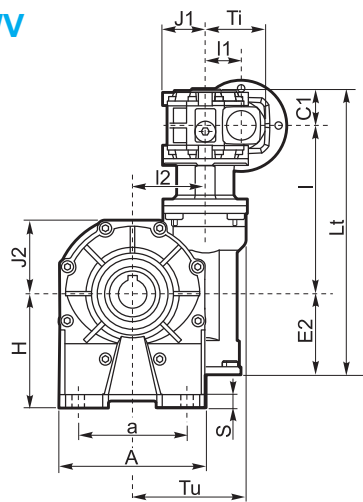
BCFK.../A



BCFK.../B



BCFK.../V



BCFK	Albero lento cavo Hollow output shaft Ausgangshohlwelle		
	D H8	b2	t2
30/30	14	5	16.3
30/40	18	6	20.8
30/50	25	8	28.3
30/63 40/63	25	8	28.3
40/75 50/75	28 (30)	8 (8)	31.3 (33.3)

A, B, V

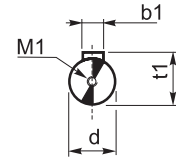
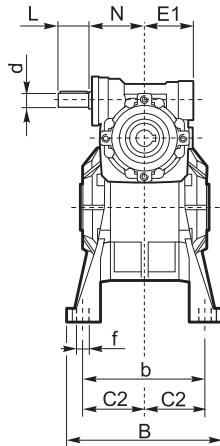
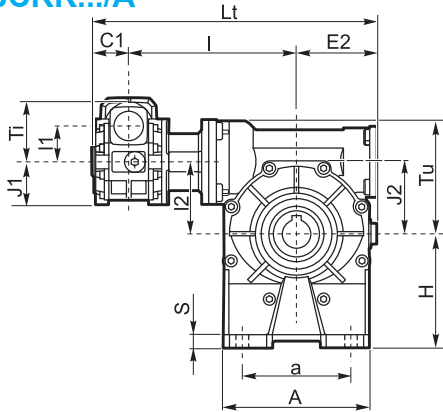
BCFK	A	a	B	b	C1	C2	E1	E2	f	H	I	I1	I2	J1	J2	Kc	Lt	S	Ti	Tu
30/30	67	52 ÷ 40	78	66	31.5	27.5	41	41	6.5	55	100	31.5	31.5	37.5	37.5	57	171.5	8	52.5	52.5
30/40	86.5	52	98	81		32		51	8.5	72	122		40		43.5	57	203.5	10		68.5
30/50	107	63	118	98.5		41		60	9	82	132		50		53.5	57	223.5	10		82.5
30/63	127.5	95	136	111		60		71	11	100	147		63		64	57	248.5	12		100.5
40/63	127.5	95	136	111	39	60	51	71	11	100	152	40	63	43.5	64	75	261	12	68.5	100.5
40/75	155.5	120	140	115		60		85	11	115	176.5		75		78	75	301.5	12		116.5
50/75	155.5	120	140	115		46		60	60	85	11		115		192	50	75	53.5		78

5.7 Dimensioni

5.7 Dimensions

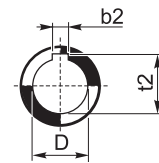
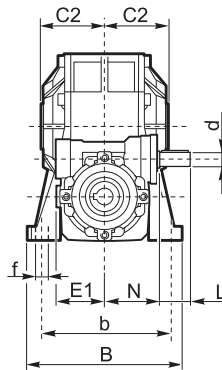
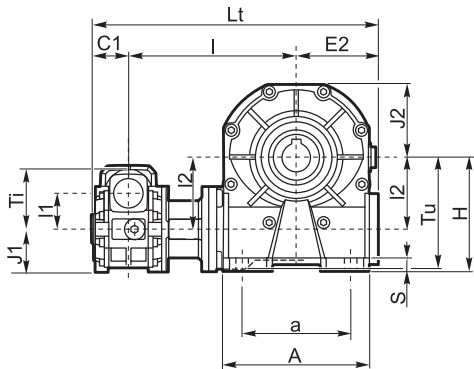
5.7 Abmessungen

BCRK.../A

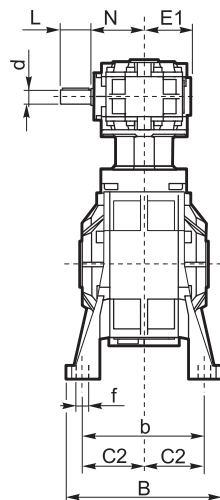
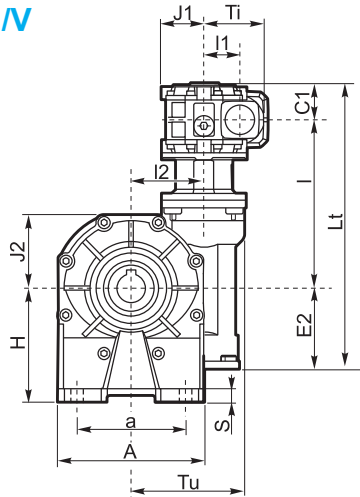


BCRK	Albero entrata Input shaft Eingangswelle			
	d (j6)	b1	t1	M1
30/30 30/40 30/50 30/63	9	3	10.2	M4x10
40/63 40/75	11	4	12.5	M4x10
50/75	14	5	16	M5x13

BCRK.../B



BCRK.../V



BCRK	Albero lento cavo Hollow output shaft Ausgangshohlwelle		
	D H8	b2	t2
3030	14	5	16.3
30/40	18	6	20.8
30/50	25	8	28.3
30/63 40/63	25	8	28.3
40/75 50/75	28 (30)	8 (8)	31.3 (33.3)

A, B, V

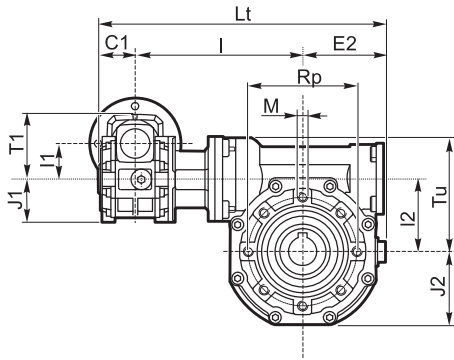
BCRK	A	a	B	b	C1	C2	E1	E2	f	H	I	I1	I2	J1	J2	Lt	L	N	S	Ti	Tu
30/30	67	52 ÷ 40	78	66	31.5	27.5	41	41	6.5	55	100	31.5	31.5	37.5	37.5	171.5	20	47	8	52.5	52.5
30/40	86.5	52	98	81		32		51	8.5	72	122		40		43.5	203.5			10		68.5
30/50	107	63	118	98.5		41		60	9	82	132		50		53.5	223.5			10		82.5
30/63	127.5	95	136	111		60		71	11	100	147		63		64	248.5			12		100.5
40/63	127.5	95	136	111	39	60	51	71	11	100	152	40	63	43.5	64	261	22	64	12	68.5	100.5
40/75	155.5	120	140	115		60		85	11	115	176.5		75		78	301.5			12		116.5
50/75	155.5	120	140	115		46		60	60	85	11		115		192	50			75		53.5



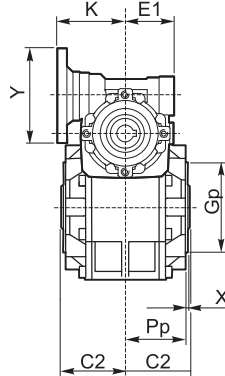
5.7 Dimensioni

5.7 Dimensions

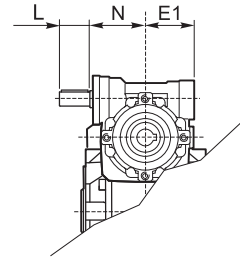
5.7 Abmessungen



BCFK.../P

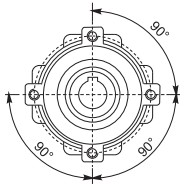


BCRK.../P



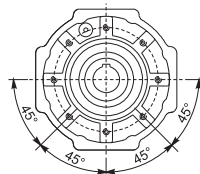
Flangia pendolare / Side cover for shaft mounting / Flansch für Drehmomentstütze

30 - 40 - 50



4 Fori / Holes / Bohrungen

63 - 75

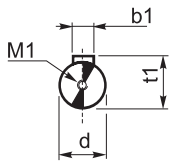


8 Fori / Holes / Bohrungen

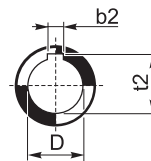
P

BCFK BCRK	30/30	30/40	30/50	30/63 40/63	40/75 50/75
G _p h8	50	50	68	75	90
M	M6x8	M6X10	M6x8	M8x14	M8x14
P _p	30	38	44	45	46
R _p	65	65	94	90	110
X	1.5	1.5	2	10	13

BCRK	Albero entrata Input shaft Eingangswelle			
	d (j6)	b1	t1	M1
30/30 30/40 30/50 30/63	9	3	10.2	M4x10
40/63 40/75	11	4	12.5	M4x10
50/75	14	5	16	M5x13



BCFK BCRK	Albero lento cavo Hollow output shaft Ausgangshohlwelle		
	D H8	b2	t2
30/30	14	5	16.3
30/40	18	6	20.8
30/50	25	8	28.3
30/63 40/63	25	8	28.3
40/75	28	8	31.3
50/75	(30)	(8)	(33.3)



P

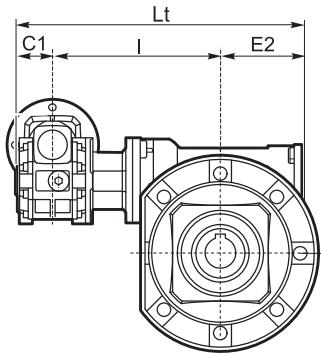
BCFK BCRK	C1	C2	E1	E2	I	I1	I2	J1	J2	Kc	L	Lt	N	Ti	Tu
30/30	27.5	27.5	41	41	100	31.5	31.5	37.5	37.5	57	20	171.5	47	52.5	52.5
30/40		32		51	122		40		43.5	57		203.5			68.5
30/50		41		60	132		50		53.5	57		223.5			82.5
30/63		60		71	147		63		64	57		248.5			100.5
40/63	32	60	51	71	152	40	63	43.5	64	75	22	261	64	68.5	100.5
40/75		60		85	176.6		75		78	75		301.5			116.5
50/75		41		60	60		85		192	50		75			53.5

5.7 Dimensioni

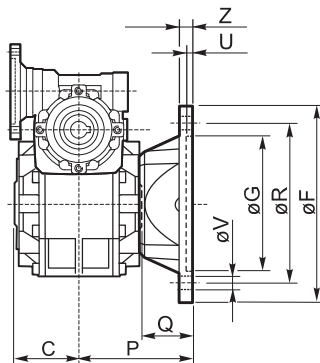
5.7 Dimensions

5.7 Abmessungen

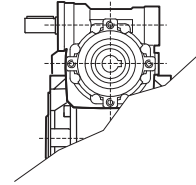
Flangia uscita / Output flange / Abtriebsflansch



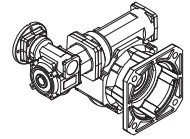
BCFK.../F



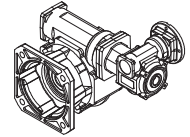
BCRK.../F



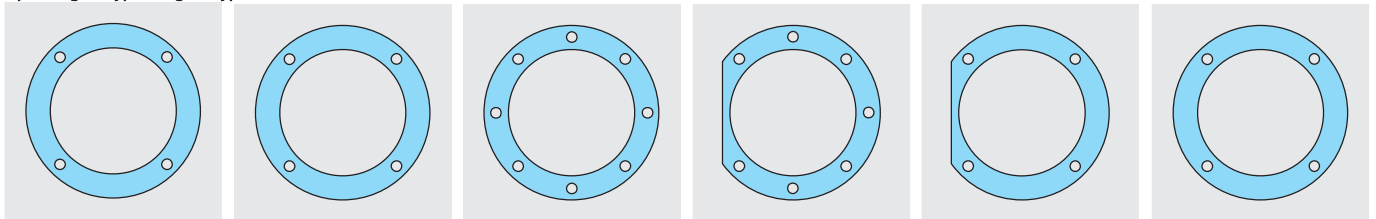
F...D
Standard



F...S



Tipo flangia / Type flange / Typ flansch



30/30	30/40	30/50	30/63 40/63	30/63 40/63	40/75 50/75	30/63 40/63	40/75 50/75	40/75 50/75
F	F	F - F1	F	F1	F - F1	F2	F2 - F3 F3A	F4

BFK BRK	Tipo flangia Type flange Typ flansch	C	F		G (H8)	P	Q	R	U	V			Z
30/30	F	27.5	82		50	50.5	23	68	3.5	n° 4		6.0	6
30/40	F	32	110		60	60	28	87	5	n° 4		9	8
30/50	F	41	125		70	85	44	90	5	n° 4		10.5	10
	F1		125		70	115	74	90	5	n° 4		10.5	10
30/63 40/63	F	60	180		115	116	56	150	7		n° 8	11	12
	F1		180		115	86	26	150	5		n° 7	11	11
	F2		200		130	102	42	165	6	n° 4		11	11
40/75 50/75	F	60	200		130	111	51	165	6		n° 7	13	13
	F1		200		130	85	25	165	6		n° 7	13	13
	F2		175		115	116	56	150	6	n° 4		11	12
	F3		175		115	85	25	150	5	n° 4		11	12
	F3A		160		110	85	25	130	5	n° 4		11	12
	F4		160		110	101	41	130	6	n° 4		11	12

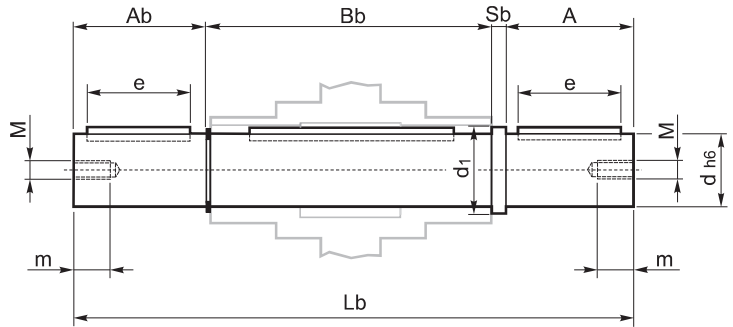
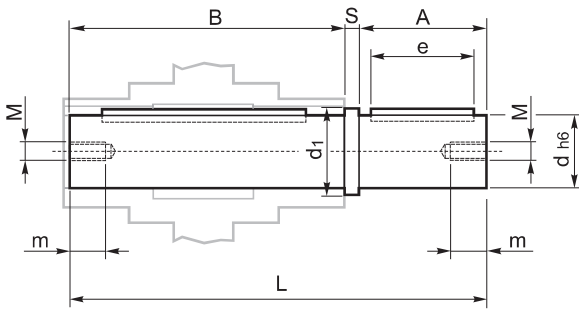
5.8 Accessori

5.8 Accessories

5.8 Zubehör

Albero lento semplice / *Single output shaft* / Standard Abtriebswelle

Albero lento doppio / *Double output shaft* / Doppelte Abtriebswelle

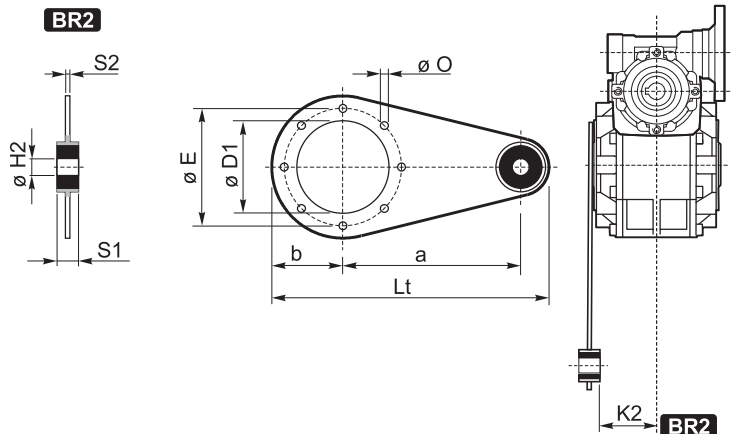


BCFK BCRK	A	Ab	B	Bb	d (h6)	d1	e	L	Lb	M	m	S	Sb
30/30	30	29	52	56	14	18.5	20	84.5	117.5	M6	16	2.5	2.5
30/40	40	39	62	65.2	18	24.5	30	105	147.2	M6	16	3	3
30/50	60	59	80	83.2	25	29.5	50	143.5	205.7	M8	22	3.5	3.5
30/63 40/63	60	59	119	121.2	25	29.5	50	183	244.2	M8	22	4	4
40/75 50/75	60	59	119	121.5	28	34.5	50	183	244.5	M8	22	4	4

Braccio di reazione / *Torque arm* / Drehmomentstütze

BR2 Con boccola / *With bush* / Mit Büchse

BCFK BCRK	a	b	D1	E	H2	K2	Lt	O	S1	S2
30/30	100	40	50	65	8	24.5	157.5	7	15	4
30/40	100	40	50	65	8	32.5	157.5	7	15	4
30/50	100	55	68	94	8	38.5	175	7	15	4
30/63 40/63	150	55	75	90	10	38	233	9	20	6
40/75 50/75	200	63	90	110	10	36.5	300	9	25	6



Opzioni disponibili:

Cuscinetti a rulli conici corona

Available options:

Tapered roller bearing for worm wheel

Auf Anfrage ist folgendes Zubehör erhältlich:

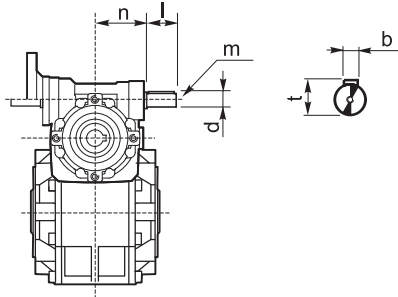
Kegelrollenlager für Schneckenrad

5.9 Esecuzione con vite bisporgente

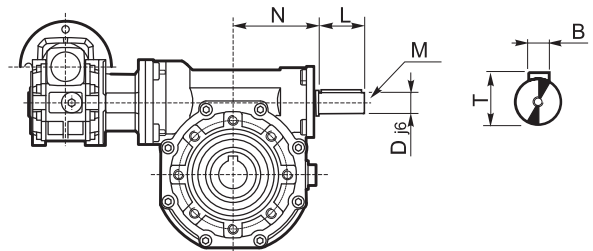
5.9 Double extended worm shaft design

5.9 Versionen mit Doppelseitig Herausragender Schneckenwelle

SeA1



SeA2



BCFK	SeA1					
	b	d j6	l	m	n	t
30/30 30/40 30/50 30/63	3	9	15	M4x10	42.5	10.2
40/63 40/75	4	11	20	M4x12	52.5	12.5
50/75	5	14	25	M5x13	62.5	16

BCFK BCRK	SeA2					
	B	D j6	L	M	N	T
30/30	3	9	15	M4x10	42.5	10.2
30/40	4	11	20	M4x12	52.5	12.5
30/50	5	14	25	M5x13	62.5	16
30/63 40/63	6	19	30	M8x20	72.5	21.5
40/75 50/75	8	24	40	M8x20	93	27

BCRK	SeA1					
	b	d j6	l	m	n	t
30/30 30/40 30/50 30/63	3	9	20	M4x10	42.5	10.2
40/63 40/75	4	11	22	M4x10	52.5	12.5
50/75	5	14	30	M5x13	62.5	16

L'entrata supplementare del riduttore in uscita (SeA2) non può essere utilizzata come comando in quanto il relativo movimento risulta impedito dalla irreversibilità del primo riduttore.
Utilizzato come asse condotto, avrà velocità corrispondente a quella di ingresso ridotta del rapporto del primo riduttore.

The second input shaft of the output gearbox (SeA2) can not be utilized as a drive because its motion will be stopped by the reversibility of the first gearbox. If utilized as a drive shaft its speed will be equal to the input speed decreased by the ratio of the first gearbox.

Die verlängerte Schneckenwelle des zweiten Getriebes (SeA2) kann nicht als Antrieb verwendet werden, da die Selbsthemmung des ersten Getriebes entgegengewirkt.
Wird sie als Abtriebswelle verwendet, besitzt sie eine um die Untersetzung des ersten Getriebes entsprechend reduzierte Drehzahl und Drehmoment.



5.10 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.

BCFK BCRK	N°. giri della ghiera di regolazione N°. revolutions of ring nut / Nr. Umdrehungen der Mutter											
	1 1/4	1 1/2	1 3/4	2	2 1/4	2 1/2	2 3/4	3	3 1/4	3 1/2	3 3/4	4
30/63	110	125	145	160	180	200	220	230	245	255	265	285
40/63												
40/75		220	245	275	310	350	375	410	450			
50/75												

I valori di taratura presentano una tolleranza del $\pm 10\%$ 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 valori 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.

5.10 Torque limiter with through hollow shaft

The use of a torque limiter is advisable when the application requires the limitation of the transmissible torque to safeguard the plant and/or the gearbox from unexpected or undesired overloads.

The torque limiter is equipped with a through hollow shaft and a friction clutch. It is integrated in the gearbox, therefore space requirement is limited.

Designed to be working in oil bath, the device is reliable over time and is not subject to wear unless in case of operation with prolonged slipping (it occurs when the torque values are higher than the calibration values).

Calibration can be easily adjusted from outside by tightening of 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.

5.10 Drehmomentenbegrenzer mit durchgehender Hohlwelle

Die Anwendung eines Drehmomentbegrenzers wird empfohlen, um die Anlage und/oder das Getriebe gegen ungewünschte und unerwartete Überbelastungen zu schützen.

Es handelt sich um eine Vorrichtung mit einer durchgehenden Hohlwelle.

Er ist in dem Getriebe integriert, d.h. der Raumbedarf ist klein. Der Begrenzer wurde für Betrieb in einem Ölbad entworfen.

Er ist zuverlässig und verschleißfrei (nur im Falle eines dauerhaften Rutschens entsteht Verschleiß, hier ist das Drehmoment größer als der eingestellte Eichwert).

Die Eichung kann mühelos von aussen durch das Anziehen einer selbstsperrenden Mutter ausgeführt werden, dadurch wird der Druck auf die 4 wechselseitig angeordneten Tellerfedern erhöht.

Die Vorrichtung sieht das folgende nicht vor:

- die Verwendung von Kegellager am Abtrieb
- Längerer Rutschbetrieb

Die nachstehende Tabelle zeigt die Werte der Rutschmomente M_{2S} abhängig von der Anzahl der Umdrehungen der Mutter. Die Eichwerte weisen $\pm 10\%$ Toleranz

Disposition delle molle
Washers' arrangement
Lage der Feder

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



Calibration values feature a $\pm 10\%$ tolerance and refer to static conditions.

Under dynamic conditions the values of the slipping torque will change according 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.

auf und beziehen sich auf statische Bedingungen.

Unter dynamischen Bedingungen hat das Rutschmoment verschiedene Werte je nach Art der Überbelastung. Die Werte sind höher, wenn die Belastung gleichmäßig zunimmt; sie sind niedriger im Falle von plötzlichen Belastungsspitzen.

BEMERKUNG: Rutschen tritt auf, wenn die eingestellten Werte überschritten werden. Der Reibungskoeffizient zwischen den Berührungsfleichen 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.

5.10 Limitatore di coppia cavo passante

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.

5.10 Torque limiter with through hollow shaft

It is important to note that the slipping torque is not the same for the whole life of the torque limiter.

It usually decreases in connection with the numbers and the duration of the slipping which because of the surfaces' lapping will increase 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 device is supplied already calibrated at the torque reported in the catalogue T_{2M}, unless otherwise specified in the order.

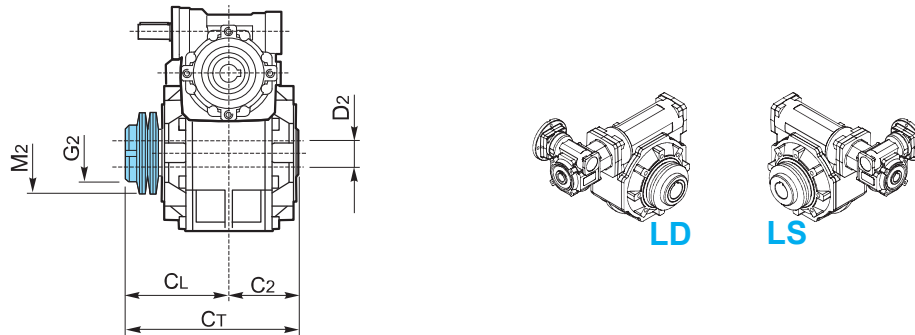
5.10 Drehmomentbegrenzer mit durchgehender Hohlwelle

Es ist wichtig zu beachten, dass das Rutschmoment über die gesamte Lebensdauer der Rutschkupplung nicht konstant bleibt, sondern üblicherweise in Verbindung mit längeren Rutschzyklen aufgrund der eingelaufenen Berührungsflächen abnimmt.

Deswegen ist es ratsam, die Eichung der Vorrichtung besonders während der Einlaufzeit zu prüfen.

Falls ein niedrigerer Eichfehler gewünscht ist, sollte das übertragbare Drehmoment auf der Anlage getestet werden.

Wenn die Vorrichtung geliefert wird, ist sie schon auf das im Katalog T_{2M} angegebenen Drehmoment geeicht, ausser wenn es in der Bestellung anders angegebene wird.



BCFK BCRK	C ₂	C _L	C _t	D ₂ H8	M ₂	G ₂
LD - LS						
30/63 40/63	60	97	157	25	71x40.5x2.5	M40X1.5
40/75 50/75	60	100	160	28 (30)	90x50.5x3.5	M50X1.5

() A richiesta / On request / Auf Anfrage

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

Il dispositivo viene consegnato tarato alla coppia riportata a catalogo T_{2M} salvo diversa indicazione espressa in fase di ordinazione.

The version with torque limiter is supplied without output shafts.

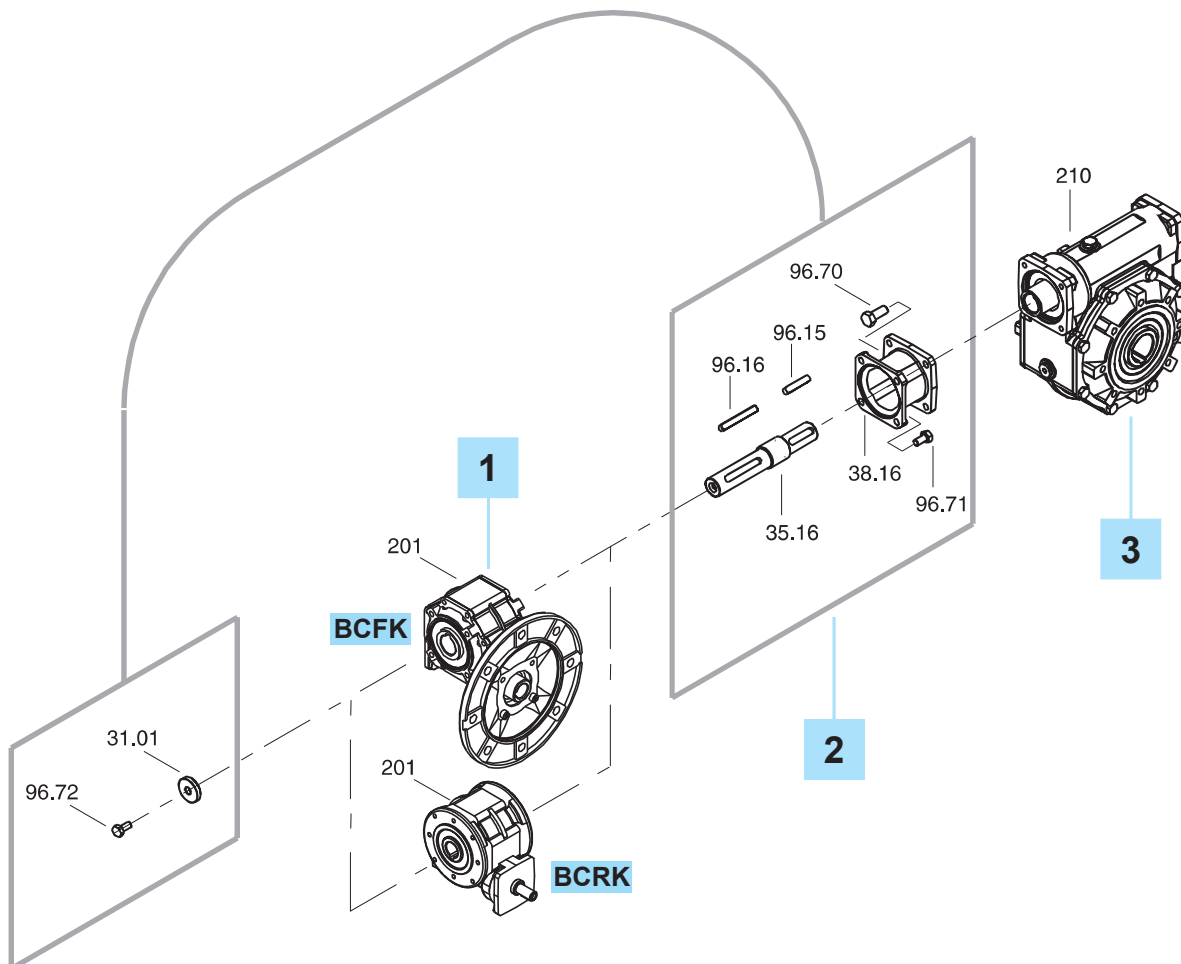
The device is supplied already calibrated at the torque reported in the catalogue T_{2M}, unless otherwise specified in the order.

Die Version mit Drehmomentbegrenzer wird ohne Abtriebswellen geliefert.

Wenn die Vorrichtung geliefert wird, ist sie schon auf dem im Katalog T_{2M} angegebenen Drehmoment geeicht, ausser wenn es in der Bestellung anders angegeben wird.



BCFK - BCRK



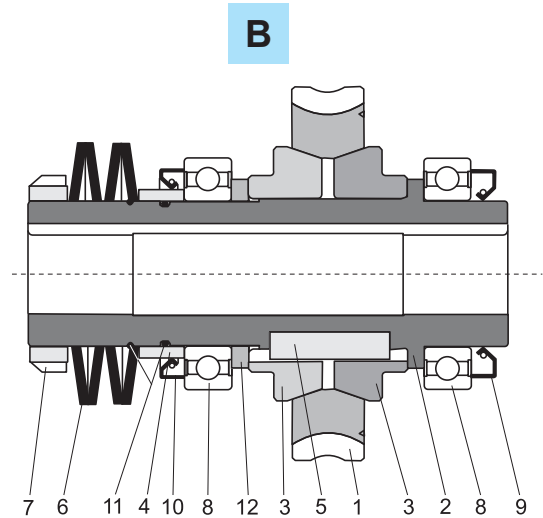
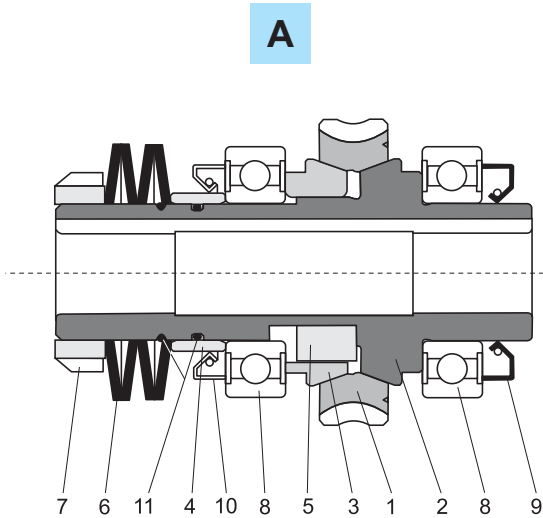
		1	2	3
	IN (SCFK)	IN (SCRK)	KIT	OUT
30/30	KC30	KA30	KIT 30/30 (2850002010)	30/9
30/40			KIT 30/40 (2850002013)	40/11
30/50			KIT 30/50 (2850002016)	50/14
30/63			KIT 30/63 (2850002019)	63/19
40/63	KC40	KA40	KIT 40/63 (2850002028)	63/19
40/75			KIT 40/75 (2850002031)	75/24
50/75	KC50	KA50	KIT 50/75 (2850002034)	75/24

BCFK - BCRK

Limitatore di coppia cavo passante

Torque limiter with through hollow shaft

Drehmomentbegrenzer mit durchgehende Hohlwelle



A		BCFK - BCRK			B	
30/63 (L1)	40/63 (L1) 40/75 (L1)	50/75 (L1)	30/63 (LD - LS) 40/63 (LD - LS)	40/75 (LD - LS) 50/75 (LD - LS)		
1 Corona in bronzo / Bronze wheel / Bronzerad						
2 Albero cavo limitatore / Hollow shaft torque limiter / Rutschkupplungs-Hohlwelle						
3 Anello di frizione / Friction ring / Reibring						
4 Distanziale molle / Washers' distance ring / Federdistanzring						
5 Linguetta / Key / Passfeder						
8x7x10AB	10x8x13AB	12x8x18AB	12x8x40A	16x10x40A		
6 Molle a tazza / Belleville washers / Tellerfeder						
7 Ghiera / Metal ring / Metall Ring						
8 Cuscinetti / Bearings / Lager						
6005 25x47x12	6006 30x55x13	6008 40x68x15	6008 40x68x15	6010 50x80x16		
9 Anelli di tenuta / Oilseals / Öldichtungen						
25x40x7	30x47x7	40x62x8	40x62x8	50x72x8		
10 Anelli di tenuta / Oilseals / Öldichtungen						
30x40x5	35x47x7	48x62x8	48x62x8	58x72x8		
11 O-rings in gomma / Rubber O-rings / Gummi-O-ringe						
OR2087 21.95x1.78	OR2106 26.7x1.78	OR 36.27x1.78	OR 36.27x1.78	OR2187 47.37x1.78		
12 -			Distanziale / Spacer / Abstandshülse			

