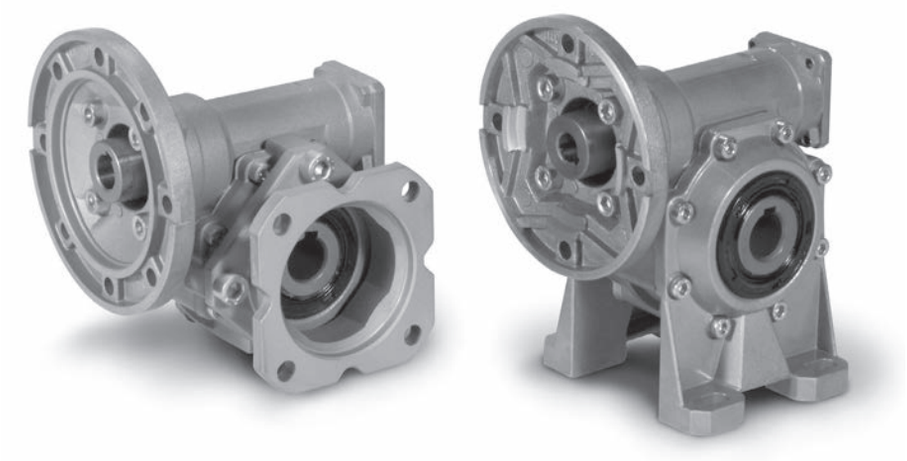
4 RIDUTTORI A VITE SENZA FINE BFK-BRK / *BFK*-BRK *WORM GEARBOXES* / SCHNECKENGETRIEBE BFK-BRK



11/2015

4.1 Caratteristiche

I riduttori della serie a vite senza fine BFK - BRK si presentano estremamente leggeri grazie alla forma compatta e la carcassa realizzata in alluminio pressofuso. La serie presenta una svariata possibilità di versioni, con e senza piedi e con numerosi accessori che la rendono più versatile nell'impiego delle più svariate tipologie di applicazioni.
La vite senza fine è in acciaio legato cementato-temprato ed è rettificata. La corona ha mozzo in ghisa con riporto di fusione in bronzo.

4.1 Characteristics

The BFK - BRK worm gearboxes are extremely light thanks to the compact shape of the housing made of cast aluminum. This series features a wide range of versions, with and without feet, with numerous accessories which make it extremely versatile for utilization in various applications.
The worm shaft is ground and is made of hardened-casehardened compound steel.
The worm wheel features a cast iron hub with bronze casting.

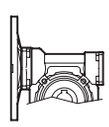
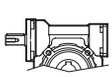
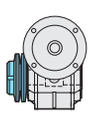
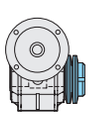
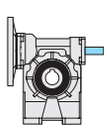
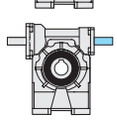
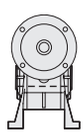
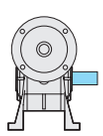
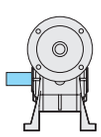
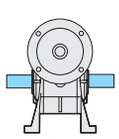
4.1 Merkmale

Die Schneckengetriebe der BFK - BRK Serie sind äußerst leicht dank der kompakten Form des Gehäuses aus Aluminiumguss. Die Serie bietet verschiedene Versionen mit und ohne Füße sowie zahlreiche Zubehörteile an, was zur vielseitigen Anwendbarkeit der Getriebe in vielerlei Applikationen dient.
Die Schneckenwelle ist aus legierten gehärteten Einsatzstahl und ist geschliffen.
Die Zahnkranz verfügt über eine Nabe aus Gusseisen mit Schmelzeneinsatz aus Bronze.

4.2 Designazione

4.2 Designation

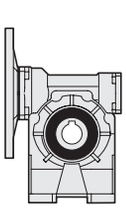
4.2 Bezeichnung

Riduttore *Gearbox* Getriebe	Grandezza *Size* Größe	Versione *Version* Ausführung	Rapporto rid. *Ratio* Untersetzung	Predispos.att. mot. *Motor coupling* Motoranschluss	Posizione di mont. *Mounting position* Einbaulage	Limitatore di coppia. *Torque limiter* Drehmoment-begrenzer	Seconda entrata *Additional input* Zusatzantrieb	Albero uscita *Output shaft* Abtriebswelle	Braccio di reazione *Torque arm* Drehmomentstütze
BFK	**50**	**FS**	**10**	**80 B14**	**B3**	**LD**	**SeA**	**H**	**BR2**
 **BFK**  **BRK**	**30** **40** **50** **63** **75**	**A** **B** **V** **P** **F...S** **F...D**	**5** **7.5** **10** **15** **20** **25** **30** **40** **50** **65** **80** **100**	**56 ÷ 112 B5** **56 ÷ 112 B14**	**B3** **B6** **B7** **B8** **V5** **V6**	 **LS**  **LD**	  **SeA**	 **H**  **SD**  **SS**  **DD**	 **BR2**

Versioni

Versions

Ausführungen

BFK..A_ **BRK..A_**


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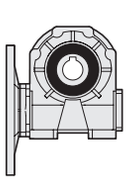
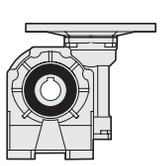


BFK..V_ **BRK..V_**


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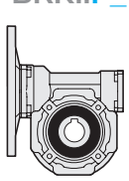

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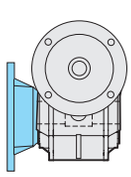
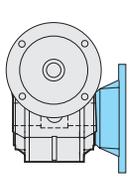


BFK..F_D **BRK..F_D**


Specificare sempre in fase di ordinazione la versione.

Specify the version when ordering.

Bei der Bestellung immer die Bauform angeben.

4.3 Lubrificazione

Riduttori a vite senza fine BFK - BRK sono forniti tutti e sempre completi di lubrificante sintetico a base PAG con classe di viscosità ISO 320.
Nei corpi in alluminio 30, 40, 50, 63, 75 è presente un solo tappo di riempimento olio.

4.3 Lubrication

BFK - BRK worm gearboxes are supplied with PAG synthetic lubricant featuring an ISO 320 viscosity class.
Aluminium housings size 30, 40, 50, 63 and 75 have one filling plug only.

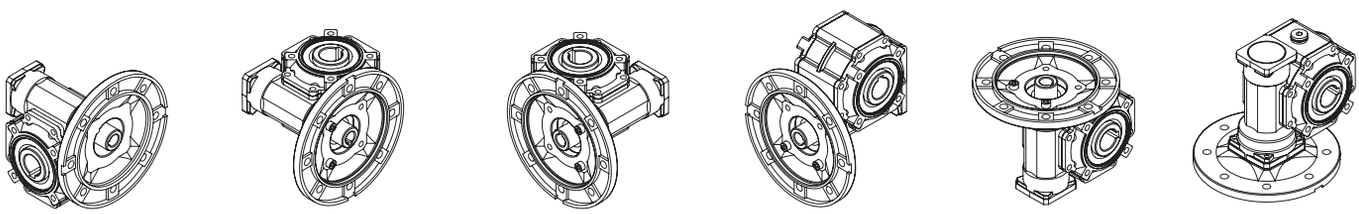
4.3 Schmierung

BFK - BRK Schneckengetriebe werden mit PAG synthetischen Schmierstoff Viskositätsklasse ISO 320 geliefert.
Gehäuse aus Alumiunium Größe 30, 40, 50, 63 und 75 verfügen über nur eine Einfüllschraube.

Quantità di lubrificante (litri) — *Lubricant quantity (liters)* — Schmiermittelmenge (Liter)

BFK BRK	B3	B6-B7	B8	V5-V6
30	0.015			
40	0.040			
50	0.080			
63	0.160			
75	0.260			

Posizioni di montaggio — *Mounting positions* — Bezeichnung

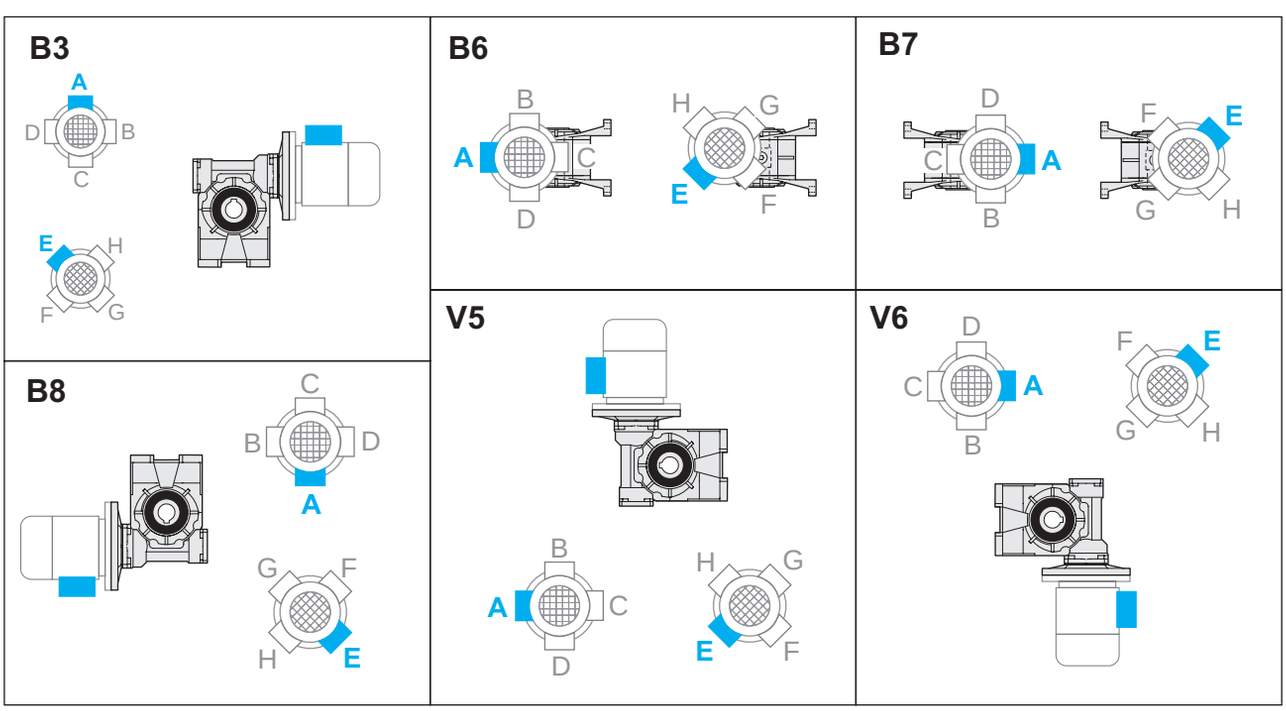


B3 B6 B7 B8 V5 V6

4.4 Posizione morsettiera

4.4 Terminal board position

4.4 Lage der Klemmenkaste



4.5 **Dati tecnici** *4.5 **Technical data*** 4.5 **Technische Daten**

	n_1 = 2800		BFK				BRK			
	i_n	n_2 [min^{-1}]	T_2 [Nm]	P_1 [kW]	FS'	input IEC B5 | B14	T_{2M} [Nm]	P [kW]	Rd	P_{t0}
30	**5**	560	5.6	**0.37**	2.5	63 56	**14**	0.92	0.89	—
	7.5	373	8	**0.37**	2.0		**16**	0.72	0.86	—
	10	280	11	**0.37**	1.5		**16**	0.56	0.84	—
	15	187	15	**0.37**	1.1		**17**	0.41	0.81	—
	20	140	13	**0.25**	1.2		**15**	0.29	0.76	—
	25	112	16	**0.25**	1.0		**16**	0.25	0.74	—
	30	93	13	**0.18**	1.0		**13**	0.18	0.71	—
	40	70	16	**0.18**	1.0		**16**	0.18	0.65	—
Kg	**50**	56	14	**0.13**	1.1		**15**	0.14	0.62	—
1.2	**65**	43	17	**0.13**	1.0	56	**17**	0.13	0.57	—
	80	35	13	**0.09**	1.0		**13**	0.09	0.54	—
	100	28	16	**0.09**	0.8		**12**	0.07	0.52	—

	n_1 = 1400		BFK				BRK			
	i_n	n_2 [min^{-1}]	T_2 [Nm]	P_1 [kW]	FS'	input IEC B5 | B14	T_{2M} [Nm]	P [kW]	Rd	P_{t0}
30	**5**	280	6.5	**0.22**	2.9	63 56	**19**	0.64	0.87	0.40
	7.5	187	9	**0.22**	2.2		**21**	0.49	0.84	0.40
	10	140	12	**0.22**	1.8		**22**	0.40	0.82	0.40
	15	93	17	**0.22**	1.3		**22**	0.28	0.77	0.30
	20	70	18	**0.18**	1.1		**19**	0.19	0.72	0.20
	25	56	15	**0.13**	1.1		**21**	0.18	0.69	0.20
	30	47	18	**0.13**	1.4		**20**	0.15	0.66	0.20
Kg	**40**	35	14	**0.09**	1.4		**21**	0.13	0.59	0.20
1.2	**50**	28	17	**0.09**	1.1		**19**	0.10	0.55	0.20
	65	22	14	**0.06**	1.3	56	**20**	0.09	0.51	0.10
	80	18	16	**0.06**	1.1		**17**	0.06	0.48	0.10
	100	14	18	**0.06**	0.8		**14**	0.05	0.45	0.10

	n_1 = 900		BFK				BRK			
	i_n	n_2 [min^{-1}]	T_2 [Nm]	P_1 [kW]	FS'	input IEC B5 | B14	T_{2M} [Nm]	P [kW]	Rd	P_{t0}
30	**5**	180	5.9	**0.13**	3.9	63 56	**23**	0.51	0.85	—
	7.5	120	9	**0.13**	2.9		**25**	0.38	0.82	—
	10	90	11	**0.13**	2.3		**25**	0.30	0.80	—
	15	60	15	**0.13**	1.6		**25**	0.21	0.75	—
	20	45	19	**0.13**	1.2		**22**	0.15	0.69	—
	25	36	23	**0.13**	1.1		**24**	0.14	0.66	—
	30	30	18	**0.09**	1.2		**21**	0.10	0.63	—
Kg	**40**	23	21	**0.09**	1.1		**24**	0.10	0.55	—
1.2	**50**	18	16	**0.06**	1.3		**21**	0.08	0.52	—
	65	14	20	**0.06**	1.1	56	**22**	0.07	0.48	—
	80	11	11	**0.03**	1.7		**19**	0.05	0.44	—
	100	9	13	**0.03**	1.1		**15**	0.03	0.42	—

	n_1 = 500		BFK				BRK			
	i_n	n_2 [min^{-1}]	T_2 [Nm]	P_1 [kW]	FS'	input IEC B5 | B14	T_{2M} [Nm]	P [kW]	Rd	P_{t0}
30	**5**	100	—	—	—	63 56	**29**	0.36	0.83	—
	7.5	67	—	—	—		**31**	0.27	0.80	—
	10	50	—	—	—		**31**	0.21	0.77	—
	15	33	—	—	—		**31**	0.15	0.72	—
	20	25	—	—	—		**26**	0.10	0.66	—
	25	20	—	—	—		**27**	0.09	0.62	—
	30	17	—	—	—		**25**	0.07	0.59	—
Kg	**40**	13	—	—	—		**28**	0.07	0.51	—
1.2	**50**	10	—	—	—		**25**	0.06	0.48	—
	65	8	—	—	—	56	**25**	0.05	0.43	—
	80	6	—	—	—		**20**	0.03	0.40	—
	100	5	—	—	—		**16**	0.02	0.38	—

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

4.5 **Dati tecnici** *4.5 **Technical data*** 4.5 **Technische Daten**

	n_1 = 2800		BFK					BRK			
	i_n	n_2 [min^{-1}]	T_2 [Nm]	P_1 [kW]	FS'	input IEC B5	input IEC B14	T_{2M} [Nm]	P [kW]	Rd	P_{t0}
40	**5**	560	11.3	**0.75**	2.2			**25**	1.67	0.88	—
	7.5	373	17	**0.75**	1.8			**30**	1.3	0.87	—
	10	280	22	**0.75**	1.4			**31**	1.1	0.86	—
	15	187	32	**0.75**	1.0	71		**32**	0.76	0.82	—
	20	140	30	**0.55**	1.0	63		**31**	0.57	0.80	—
	25	112	24	**0.37**	1.1			**27**	0.41	0.76	—
	30	93	28	**0.37**	1.3			**35**	0.47	0.73	—
Kg	**40**	70	24	**0.25**	1.4			**33**	0.35	0.70	—
	50	56	28	**0.25**	1.1			**30**	0.27	0.65	—
2.0	**65**	43	24	**0.18**	1.2	63		**28**	0.21	0.61	—
	80	35	21	**0.13**	1.3	56		**26**	0.16	0.58	—
	100	28	24	**0.13**	1.0			**25**	0.13	0.55	—

	n_1 = 1400		BFK					BRK			
	i_n	n_2 [min^{-1}]	T_2 [Nm]	P_1 [kW]	FS'	input IEC B5	input IEC B14	T_{2M} [Nm]	P [kW]	Rd	P_{t0}
40	**5**	280	16.3	**0.55**	2.1			**34**	1.14	0.87	0.80
	7.5	187	24	**0.55**	1.7			**40**	0.92	0.85	0.80
	10	140	31	**0.55**	1.3			**41**	0.73	0.83	0.70
	15	93	30	**0.37**	1.4	71		**42**	0.52	0.79	0.50
	20	70	38	**0.37**	1.0	63		**40**	0.39	0.76	0.50
	25	56	31	**0.25**	1.1			**35**	0.29	0.72	0.40
	30	47	35	**0.25**	1.3			**41**	0.29	0.68	0.40
Kg	**40**	35	38	**0.22**	1.1			**38**	0.22	0.64	0.30
	50	28	36	**0.18**	1.0			**38**	0.19	0.59	0.30
2.0	**65**	22	31	**0.13**	1.1	63		**35**	0.15	0.54	0.20
	80	18	31	**0.11**	1.1	56		**33**	0.12	0.52	0.20
	100	14	30	**0.09**	0.9			**28**	0.08	0.49	0.20

	n_1 = 900		BFK					BRK			
	i_n	n_2 [min^{-1}]	T_2 [Nm]	P_1 [kW]	FS'	input IEC B5	input IEC B14	T_{2M} [Nm]	P [kW]	Rd	P_{t0}
40	**5**	180	16.7	**0.37**	2.5			**42**	0.93	0.85	—
	7.5	120	25	**0.37**	2.0			**48**	0.72	0.83	—
	10	90	32	**0.37**	1.5			**48**	0.56	0.81	—
	15	60	45	**0.37**	1.1	71		**49**	0.40	0.76	—
	20	45	39	**0.25**	1.2	63		**46**	0.29	0.74	—
	25	36	33	**0.18**	1.3			**42**	0.23	0.69	—
	30	30	37	**0.18**	1.3			**48**	0.23	0.65	—
Kg	**40**	23	33	**0.13**	1.3			**42**	0.16	0.61	—
	50	18	38	**0.13**	1.1			**42**	0.14	0.55	—
2.0	**65**	14	32	**0.09**	1.2	63		**39**	0.11	0.51	—
	80	11	37	**0.09**	1.0	56		**37**	0.09	0.48	—
	100	9	29	**0.06**	1.0			**30**	0.06	0.45	—

	n_1 = 500		BFK					BRK			
	i_n	n_2 [min^{-1}]	T_2 [Nm]	P_1 [kW]	FS'	input IEC B5	input IEC B14	T_{2M} [Nm]	P [kW]	Rd	P_{t0}
40	**5**	100	7.1	**0.09**	7.1			**51**	0.64	0.83	—
	7.5	67	10	**0.09**	5.5			**58**	0.50	0.81	—
	10	50	14	**0.09**	4.4			**59**	0.39	0.79	—
	15	33	19	**0.09**	3.1	71		**59**	0.28	0.73	—
	20	25	24	**0.09**	2.3	63		**55**	0.20	0.70	—
	25	20	28	**0.09**	1.7			**48**	0.15	0.65	—
	30	17	31	**0.09**	1.8			**58**	0.17	0.61	—
Kg	**40**	13	39	**0.09**	1.3			**52**	0.12	0.57	—
	50	10	44	**0.09**	1.2			**51**	0.11	0.51	—
2.0	**65**	8	52	**0.09**	0.9	63		**45**	0.08	0.46	—
	80	6	61*	**0.09**	0.7*	56		**42**	0.06	0.44	—
	100	5	71*	**0.09**	0.4*			**32**	0.04	0.41	—

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

4.5 **Dati tecnici** *4.5 **Technical data*** 4.5 **Technische Daten**

n_1 = 2800

	i_n	n_2 [min^{-1}]	T_2 [Nm]	P_1 [kW]	FS'	input IEC B5	input IEC B14	T_{2M} [Nm]	P [kW]	Rd	P_{t0}
50	**5**	560	22.8	**1.5**	1.9	80	71	**44**	2.9	0.89	—
	7.5	373	34	**1.5**	1.5			**51**	2.3	0.88	—
	10	280	44	**1.5**	1.2			**54**	1.8	0.86	—
	15	187	47	**1.1**	1.2			**57**	1.3	0.84	—
	20	140	42	**0.75**	1.4			**58**	1.0	0.81	—
	25	112	50	**0.75**	1.0			**50**	0.75	0.78	—
	30	93	42	**0.55**	1.3			**55**	0.71	0.75	—
Kg	**40**	70	54	**0.55**	1.0	80-71-63		**54**	0.63	0.72	—
	50	56	43	**0.37**	1.3	71	63	**56**	0.48	0.68	—
3.4	**65**	43	53	**0.37**	1.0			**53**	0.37	0.64	—
	80	35	41	**0.25**	1.2			**48**	0.29	0.61	—
	100	28	35	**0.18**	1.3			**45**	0.23	0.58	—

n_1 = 1400

	i_n	n_2 [min^{-1}]	T_2 [Nm]	P_1 [kW]	FS'	input IEC B5	input IEC B14	T_{2M} [Nm]	P [kW]	Rd	P_{t0}
50	**5**	280	26.7	**0.9**	2.3	80	71	**62**	2.1	0.87	1.2
	7.5	187	40	0.9	1.8			**70**	1.6	0.86	1.2
	10	140	52	0.9	1.4			**73**	1.3	0.84	1.0
	15	93	61	0.75	1.2			**74**	0.90	0.80	0.80
	20	70	59	0.55	1.3			**75**	0.71	0.78	0.70
	25	56	47	0.37	1.4			**65**	0.51	0.74	0.60
	30	47	54	0.37	1.5			**66**	0.46	0.71	0.60
Kg	**40**	35	68	0.37	1.2	80-71-63		**69**	0.38	0.67	0.50
	50	28	53	0.25	1.3	71	63	**70**	0.33	0.62	0.40
3.4	**65**	22	64	0.25	1.0			**64**	0.25	0.58	0.40
	80	18	53	0.18	1.1			**60**	0.20	0.54	0.40
	100	14	45	0.13	1.2			**55**	0.16	0.51	0.30

n_1 = 900

	i_n	n_2 [min^{-1}]	T_2 [Nm]	P_1 [kW]	FS'	input IEC B5	input IEC B14	T_{2M} [Nm]	P [kW]	Rd	P_{t0}
50	**5**	180	33.8	**0.75**	2.2	80	71	**75**	1.66	0.85	—
	7.5	120	50	**0.75**	1.6			**83**	1.23	0.84	—
	10	90	66	**0.75**	1.3			**86**	0.98	0.82	—
	15	60	68	**0.55**	1.3			**88**	0.71	0.78	—
	20	45	59	**0.37**	1.5			**87**	0.54	0.75	—
	25	36	70	**0.37**	1.1			**75**	0.40	0.71	—
	30	30	79	**0.37**	1.0			**79**	0.37	0.67	—
Kg	**40**	23	67	**0.25**	1.1	80-71-63		**75**	0.28	0.63	—
	50	18	78	**0.25**	1.0	71	63	**80**	0.26	0.59	—
3.4	**65**	14	67	**0.18**	1.1			**74**	0.20	0.54	—
	80	11	56	**0.13**	1.2			**67**	0.16	0.51	—
	100	9	45	**0.09**	1.3			**58**	0.12	0.47	—

n_1 = 500

	i_n	n_2 [min^{-1}]	T_2 [Nm]	P_1 [kW]	FS'	input IEC B5	input IEC B14	T_{2M} [Nm]	P [kW]	Rd	P_{t0}
50	**5**	100	14.3	**0.18**	6.4	80	71	**92**	1.15	0.84	—
	7.5	67	21	**0.18**	4.7			**100**	0.85	0.82	—
	10	50	28	**0.18**	3.8			**104**	0.68	0.80	—
	15	33	39	**0.18**	2.7			**106**	0.49	0.75	—
	20	25	50	**0.18**	2.1			**104**	0.38	0.72	—
	25	20	58	**0.18**	1.5			**88**	0.27	0.68	—
	30	17	65	**0.18**	1.5			**98**	0.27	0.63	—
Kg	**40**	13	81	**0.18**	1.2	80-71-63		**95**	0.21	0.59	—
	50	10	93	**0.18**	1.0	71	63	**94**	0.18	0.54	—
3.4	**65**	8	56	**0.09**	1.5			**86**	0.14	0.50	—
	80	6	63	**0.09**	1.2			**77**	0.11	0.46	—
	100	5	74	**0.09**	0.8			**61**	0.07	0.43	—

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

4.5 **Dati tecnici** *4.5 **Technical data*** 4.5 **Technische Daten**

	n_1 = 2800		BFK					BRK			
	i_n	n_2 [min^{-1}]	T_2 [Nm]	P_1 [kW]	FS'	input IEC B5 | B14		T_{2M} [Nm]	P [kW]	Rd	P_{t0}
63	**5**	560	45.5	**3**	1.7	80 90		**79**	5.2	0.89	—
	7.5	373	68	**3**	1.3			**88**	3.9	0.88	—
	10	280	89	**3**	1.1			**94**	3.2	0.87	—
	15	187	95	**2.2**	1.0			**98**	2.3	0.84	—
	20	140	85	**1.5**	1.3			**110**	1.9	0.83	—
	25	112	76	**1.1**	1.2			**93**	1.4	0.81	—
	30	93	87	**1.1**	1.3			**110**	1.4	0.77	—
Kg	**40**	70	111	**1.1**	1.1	71 80		**117**	1.2	0.74	—
6.3	**50**	56	90	**0.75**	1.1			**97**	0.81	0.70	—
	65	43	81	**0.55**	1.2			**98**	0.66	0.67	—
	80	35	65	**0.37**	1.4			**91**	0.52	0.64	—
	100	28	75	**0.37**	1.1			**83**	0.41	0.60	—

	n_1 = 1400		BFK					BRK			
	i_n	n_2 [min^{-1}]	T_2 [Nm]	P_1 [kW]	FS'	input IEC B5 | B14		T_{2M} [Nm]	P [kW]	Rd	P_{t0}
63	**5**	280	54	**1.8**	2.0	80 90		**111**	3.7	0.88	1.8
	7.5	187	80	1.8	1.5			**120**	2.7	0.87	1.8
	10	140	105	1.8	1.2			**127**	2.2	0.85	1.6
	15	93	125	1.5	1.1			**130**	1.6	0.81	1.2
	20	70	120	1.1	1.2			**144**	1.3	0.80	1.2
	25	56	118	0.9	1.0			**118**	0.90	0.77	1.0
	30	47	134	0.9	1.1			**142**	0.95	0.73	0.90
Kg	**40**	35	142	0.75	1.1	71 80		**150**	0.79	0.69	0.80
6.3	**50**	28	122	0.55	1.0			**122**	0.55	0.65	0.70
	65	22	100	0.37	1.2			**122**	0.45	0.61	0.60
	80	18	79	0.25	1.4			**113**	0.36	0.58	0.60
	100	14	91	0.25	1.1			**102**	0.28	0.53	0.50

	n_1 = 900		BFK					BRK			
	i_n	n_2 [min^{-1}]	T_2 [Nm]	P_1 [kW]	FS'	input IEC B5 | B14		T_{2M} [Nm]	P [kW]	Rd	P_{t0}
63	**5**	180	69	**1.5**	1.9	80 90		**135**	2.9	0.87	—
	7.5	120	102	**1.5**	1.4			**144**	2.1	0.85	—
	10	90	133	**1.5**	1.1			**150**	1.7	0.83	—
	15	60	139	**1.1**	1.1			**152**	1.2	0.79	—
	20	45	123	**0.75**	1.4			**167**	1.0	0.77	—
	25	36	109	**0.55**	1.3			**140**	0.71	0.74	—
	30	30	122	**0.55**	1.3			**164**	0.74	0.70	—
Kg	**40**	23	154	**0.55**	1.1	71 80		**171**	0.61	0.66	—
6.3	**50**	18	120	**0.37**	1.2			**141**	0.44	0.61	—
	65	14	98	**0.25**	1.4			**139**	0.35	0.57	—
	80	11	115	**0.25**	1.1			**128**	0.28	0.54	—
	100	9	95	**0.18**	1.2			**115**	0.22	0.50	—

	n_1 = 500		BFK					BRK			
	i_n	n_2 [min^{-1}]	T_2 [Nm]	P_1 [kW]	FS'	input IEC B5 | B14		T_{2M} [Nm]	P [kW]	Rd	P_{t0}
63	**5**	100	20	**0.25**	8.3	80 90		**169**	2.08	0.85	—
	7.5	67	30	**0.25**	5.9			**177**	1.5	0.83	—
	10	50	39	**0.25**	4.7			**182**	1.2	0.81	—
	15	33	55	**0.25**	3.4			**184**	0.84	0.76	—
	20	25	71	**0.25**	2.8			**200**	0.70	0.74	—
	25	20	85	**0.25**	1.9			**165**	0.49	0.71	—
	30	17	94	**0.25**	2.1			**195**	0.52	0.65	—
Kg	**40**	13	118	**0.25**	1.7	71 80		**201**	0.43	0.62	—
6.3	**50**	10	135	**0.25**	1.2			**165**	0.31	0.56	—
	65	8	163	**0.25**	1.0			**161**	0.25	0.52	—
	80	6	137	**0.18**	1.1			**148**	0.19	0.50	—
	100	5	77	**0.09**	1.6			**122**	0.14	0.45	—

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

4.5 **Dati tecnici** | *4.5* ***Technical data*** | 4.5 **Technische Daten**

75

Kg 7.6

n_1 = 2800		BFK					BRK			
i_n	n_2 [min^{-1}]	T_2 [Nm]	P_1 [kW]	FS'	input IEC B5	input IEC B14	T_{2M} [Nm]	P [kW]	Rd	P_{t0}
7.5	373	125	**5.5**	1.0	90 100 112		**131**	5.8	0.89	—
10	280	120	**4**	1.2			**143**	4.8	0.88	—
15	187	131	**3**	1.2			**152**	3.5	0.85	—
20	140	171	**3**	1.0			**172**	3.0	0.84	—
25	112	154	**2.2**	1.0			**155**	2.2	0.82	—
30	93	120	**1.5**	1.4	71(B5)-80-90-100-112		**170**	2.1	0.78	—
40	70	154	**1.5**	1.2	80 90		**183**	1.8	0.75	—
50	56	136	**1.1**	1.2			**166**	1.3	0.73	—
65	43	114	**0.75**	1.4	71 80 90	80 90	**155**	1.0	0.69	—
80	35	135	**0.75**	1.1			**145**	0.80	0.66	—
100	28	159	**0.75**	0.8			**131**	0.62	0.62	—

75

Kg 7.6

n_1 = 1400		BFK					BRK			
i_n	n_2 [min^{-1}]	T_2 [Nm]	P_1 [kW]	FS'	input IEC B5	input IEC B14	T_{2M} [Nm]	P [kW]	Rd	P_{t0}
7.5	187	178	4	1.0	90 100 112		**180**	4.0	0.87	2.5
10	140	176	3	1.1			**193**	3.3	0.86	2.3
15	93	187	2.2	1.1			**202**	2.4	0.83	1.9
20	70	199	1.8	1.1			**226**	2.0	0.81	1.7
25	56	200	1.5	1.0			**202**	1.5	0.78	1.5
30	47	167	1.1	1.3	71(B5)-80-90-100-112		**220**	1.5	0.74	1.2
40	35	213	1.1	1.1	80 90		**235**	1.2	0.71	1.1
50	28	206	0.9	1.0			**211**	0.92	0.67	1.0
65	22	154	0.55	1.3	71 80 90	80 90	**195**	0.70	0.63	0.90
80	18	180	0.55	1.0			**182**	0.55	0.60	0.80
100	14	210	0.55	0.8			**182**	0.43	0.56	0.70

75

Kg 7.6

n_1 = 900		BFK					BRK			
i_n	n_2 [min^{-1}]	T_2 [Nm]	P_1 [kW]	FS'	input IEC B5	input IEC B14	T_{2M} [Nm]	P [kW]	Rd	P_{t0}
7.5	120	205	**3**	1.0	90 100 112		**215**	3.1	0.86	—
10	90	197	**2.2**	1.2			**229**	2.6	0.84	—
15	60	231	**1.8**	1.0			**237**	1.9	0.81	—
20	45	250	**1.5**	1.1			**263**	1.6	0.78	—
25	36	221	**1.1**	1.1			**233**	1.2	0.76	—
30	30	249	**1.1**	1.0	71(B5)-80-90-100-112		**254**	1.1	0.71	—
40	23	214	**0.75**	1.3	80 90		**270**	0.94	0.67	—
50	18	186	**0.55**	1.3			**241**	0.71	0.64	—
65	14	151	**0.37**	1.5	71 80 90	80 90	**221**	0.54	0.59	—
80	11	177	**0.37**	1.2			**205**	0.43	0.56	—
100	9	203	**0.37**	0.9			**184**	0.34	0.52	—

75

Kg 7.6

n_1 = 500		BFK					BRK			
i_n	n_2 [min^{-1}]	T_2 [Nm]	P_1 [kW]	FS'	input IEC B5	input IEC B14	T_{2M} [Nm]	P [kW]	Rd	P_{t0}
7.5	67	90	**0.75**	2.9	90 100 112		**265**	2.2	0.84	—
10	50	118	**0.75**	2.4			**279**	1.8	0.82	—
15	33	167	**0.75**	1.7			**286**	1.3	0.78	—
20	25	216	**0.75**	1.5			**315**	1.1	0.75	—
25	20	260	**0.75**	1.1			**278**	0.80	0.72	—
30	17	288	**0.75**	1.1	71(B5)-80-90-100-112		**302**	0.79	0.67	—
40	13	265	**0.55**	1.2	80 90		**317**	0.66	0.63	—
50	10	210	**0.37**	1.3			**282**	0.50	0.59	—
65	8	251	**0.37**	1.0	71 80 90	80 90	**257**	0.38	0.55	—
80	6	197	**0.25**	1.2			**238**	0.30	0.52	—
100	5	161	**0.18**	1.3			**206**	0.23	0.47	—

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

4.6 **Momenti d' inerzia** [Kg·cm²] (riferiti all'albero veloce in entrata)

4.6 ***Moments of inertia*** *[Kg·cm²] (referred to input shaft)*

4.6 **Trägheitsmoment** [Kg·cm²] (bez. Antriebswelle)

30

i_n	BRK	BFK B5 - B14	
		IEC 56	IEC 63
5	0.077	0.130	0.127
7.5	0.058	0.112	0.109
10	0.049	0.103	0.100
15	0.042	0.097	0.094
20	0.039	0.095	0.092
25	0.038	0.094	0.091
30	0.038	0.093	0.090
40	0.037	0.093	0.090
50	0.037	0.092	0.089
65	0.024	0.079	-
80	0.024	0.079	-
100	0.024	0.078	-

40

i_n	BRK	BFK B5 - B14		
		IEC 56	IEC 63	IEC 71
5	0.242	-	0.391	0.463
7.5	0.170	-	0.321	0.356
10	0.144	-	0.272	0.347
15	0.125	-	0.266	0.340
20	0.094	-	0.263	0.338
25	0.091	-	0.262	0.337
30	0.113	-	0.262	0.337
40	0.087	-	0.261	0.337
50	0.087	0.182	0.261	-
65	0.069	0.182	0.261	-
80	0.069	0.182	0.261	-
100	0.068	0.182	0.261	-

50

i_n	BRK	BFK B5 - B14		
		IEC 63	IEC 71	IEC 80
5	0.744	-	0.922	1.046
7.5	0.499	-	0.684	0.935
10	0.417	-	0.602	0.853
15	0.358	-	0.543	0.794
20	0.281	-	0.523	0.774
25	0.272	-	0.513	0.764
30	0.323	-	0.508	0.759
40	0.262	0.311	0.503	0.755
50	0.183	0.311	0.501	-
65	0.136	0.311	0.499	-
80	0.136	0.310	0.498	-
100	0.135	0.309	0.498	-

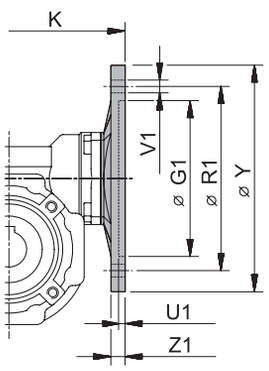
63

i_n	BRK	BFK B5 - B14		
		IEC 71	IEC 80	IEC 90
5	1.853	-	2.431	2.671
7.5	1.363	-	1.949	2.269
10	1.158	-	1.744	2.063
15	1.011	-	1.597	1.916
20	0.710	-	1.545	1.864
25	0.679	-	1.514	1.833
30	0.922	-	1.508	1.828
40	0.660	0.958	1.495	-
50	0.653	0.958	1.488	-
65	0.552	0.955	1.484	-
80	0.550	0.953	1.482	-
100	0.549	0.952	1.481	-

75

i_n	BRK	BFK B5 - B14			
		IEC 71	IEC 80	IEC 90	IEC 100-112
7.5	2.970	-	-	3.712	4.462
10	2.492	-	-	3.234	3.984
15	2.151	-	-	2.893	3.643
20	1.567	-	-	2.774	3.523
25	1.501	-	-	2.709	3.458
30	1.946	1.615	1.575	2.689	3.438
40	1.451	-	1.573	2.659	-
50	1.435	-	1.570	2.642	-
65	1.158	1.609	1.569	2.633	-
80	1.153	1.605	1.565	2.629	-
100	1.150	1.602	1.562	2.626	-

4.7 Predisposizioni possibili — *4.7 Possible set-ups* — 4.7 Mögliche Vorrichtungen

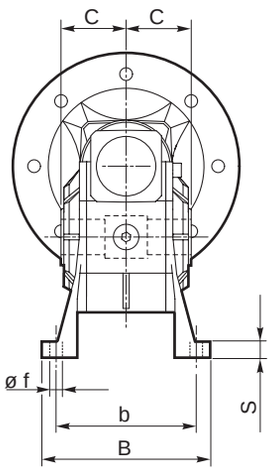


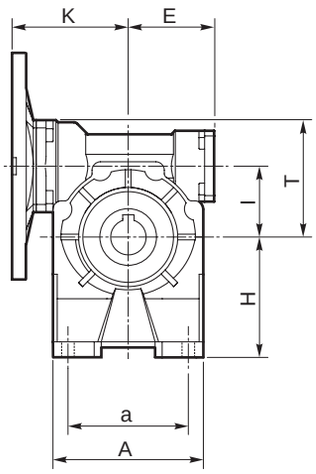
BFK	PAM IEC	G_1	K	R_1	U1	V1 Ø	V1	V1	Y	Z_1	Diametro fori PAM / *Holes diameter IEC-Input* Bohrungdurchmesser IEC-Antrieb 5	7.5	10	15	20	25	30	40	50	65	80	100
30	56 B5	80	57	100	4	7	n° 8		120	8	9	9	9	9	9	9	9	9	9	9	9	9
	56 B14	50		65	3.5	6	n° 8		80	8	9	9	9	9	9	9	9	9	9	9	9	9
	63 B5	95		115	4	9	n° 8		140	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	56 B5	80	75	100	4	7	n° 8		120	9	/	/	/	/	/	/	/	/	9	9	9	9
	56 B14	50		65	3.5	6		n° 4	80	8	/	/	/	/	/	/	/	/	9	9	9	9
	63 B5	95		115	4	9	n° 8		140	9	11	11	11	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	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	63 B5	95	82	115	4	9	n° 8		140	9	/	/	/	/	/	/	/	11	11	11	11	11
	63 B14	60		75	3.5	6		n° 4	90	8	/	/	/	/	/	/	/	11	11	11	11	11
	71 B5	110		130	4.5	9	n° 8		160	10	14	14	14	14	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	14	14	14	14
	80 B5	130		165	4.5	11	n° 8		200	10	19	19	19	19	19	19	19	19	/	/	/	/
	80 B14	80		100	4	7	n° 8		120	10	19	19	19	19	19	19	19	19	/	/	/	/
63	71 B5	110	97	130	4.5	9	n° 8		160	10	/	/	/	/	/	/	/	14	14	14	14	14
	71 B14	70		85	3.5	7		n° 4	105	10	/	/	/	/	/	/	/	14	14	14	14	14
	80 B5	130		165	4.5	11	n° 8		200	10	19	19	19	19	19	19	19	19	19	19	19	19
	80 B14	80		100	4	7		n° 4	120	10	19	19	19	19	19	19	19	19	19	19	19	19
	90 B5	130		165	4.5	11	n° 8		200	10	24	24	24	24	24	24	24	/	/	/	/	/
	90 B14	95		115	4	8.5	n° 8		140	10	24	24	24	24	24	24	24	/	/	/	/	/
75	71 B5	110	114	130	4.5	9	n° 8		160	10	/	/	/	/	/	/	14	/	/	14	14	14
	80 B5	130		165	4.5	11	n° 8		200	10	/	/	/	/	/	/	19	19	19	19	19	19
	80 B14	80		100	4	7		n° 4	120	11	/	/	/	/	/	/	19	19	19	19	19	19
	90 B5	130		165	4.5	11	n° 8		200	10	/	24	24	24	24	24	24	24	24	24	24	24
	90 B14	95		115	4	9		n° 4	140	11	/	24	24	24	24	24	24	24	24	24	24	24
	100/112 B5	180		215	5	14	n° 8		250	13	/	28	28	28	28	28	28	/	/	/	/	/
	100 B14	110		130	4.5	9	n° 8		160	11	/	28	28	28	28	28	28	/	/	/	/	/

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

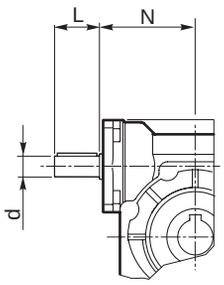
4.8 **Dimensioni** *4.8 **Dimensions*** 4.8 **Abmessungen**

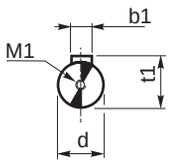
BFK.../A





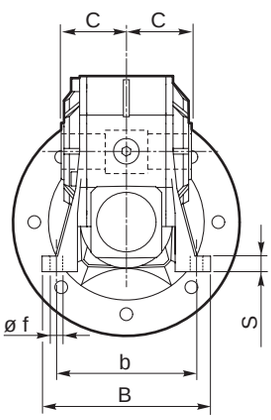
BRK.../A

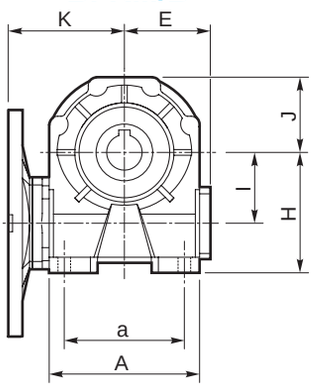




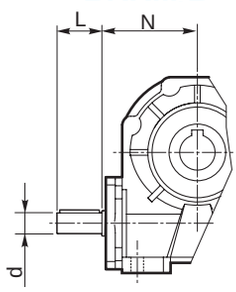
BRK	Albero entrata *Input shaft* Eingangswelle			
	d (j6)	**b1**	**t1**	**M1**
30	9	3	10.2	M4x10
40	11	4	12.5	M4x10
50	14	5	16	M5x13
63	18	6	20.5	M6x16
75	19	6	21.5	M6x16

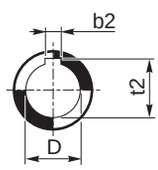
BFK.../B





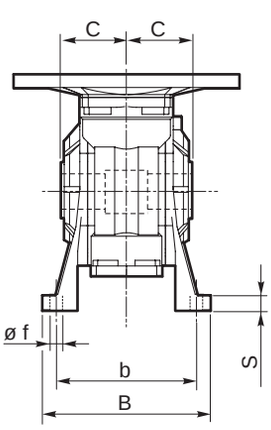
BRK.../B

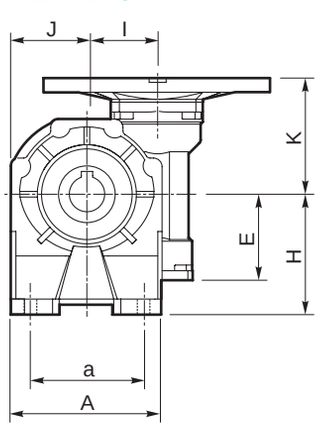




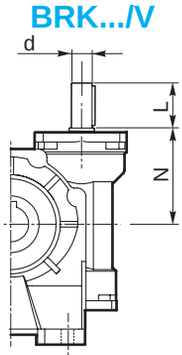
BFK BRK	Albero lento cavo *Hollow output shaft* Ausgangshohlwelle		
	D H8	**b2**	**t2**
30	**14**	5	16.3
40	**18**	6	20.8
50	**25**	8	28.3
63	**25**	8	28.3
75	**28** (30)	8 (8)	31.3 (33.3)

BFK.../V





BRK.../V



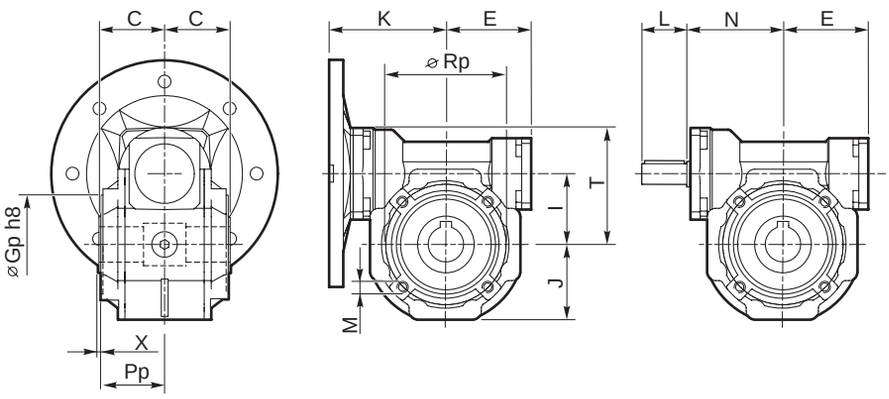
A, B, V

BFK BRK	A	a	B	b	C	E	f	H	I	J	K	L	N	s	T
30	67	52 ÷ 40	78	66	27.5	41	6.5	55	31.5	37.5	57	20	47	8	52.5
40	86.5	52	98	81	32	51	8.5	72	40	43.5	75	22	64	10	68.5
50	107	63	118	98.5	41	60	9	82	50	53.5	82	30	74	10	82.5
63	127.5	95	136	111	60	71	11	100	63	64	97	45	80	12	100.5
75	155.5	120	140	112 ÷ 120	60	85	11	115	75	78	114	40	98	12	116.5

4.8 **Dimensioni** *4.8* ***Dimensions*** 4.8 **Abmessungen**

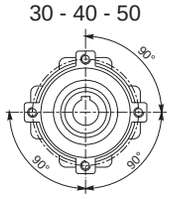
BFK.../P

BRK.../P



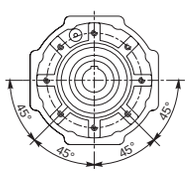
Flangia pendolare / *Side cover for shaft mounting* / Flansch für Drehmomentstutze

30 - 40 - 50



4 Fori / *Holes* / Bohrungen

63 - 75



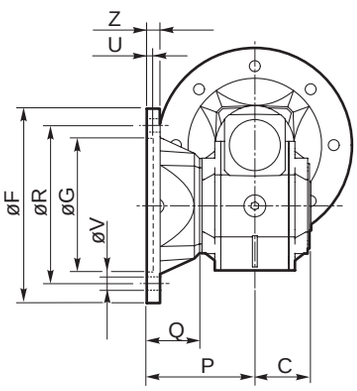
8 Fori / *Holes* / Bohrungen

P					
BFK BRK	**30**	**40**	**50**	**63**	**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

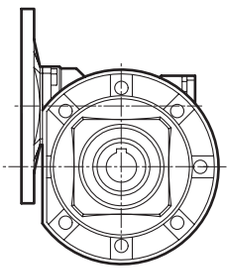
P								
BFK BRK	**C**	**E**	**I**	**J**	**K**	**L**	**N**	**T**
30	27.5	41	31.5	37.5	57	20	47	52.5
40	32	51	40	43.5	75	22	64	68.5
50	41	60	50	53.5	82	30	74	82.5
63	60	71	63	64	97	45	80	100.5
75	60	85	75	78	114	40	98	116.5

4.8 **Dimensioni** *4.8* ***Dimensions*** 4.8 **Abmessungen**

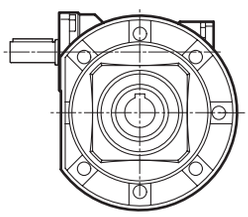
Flangia uscita / *Output flange* / Abtriebsflansch

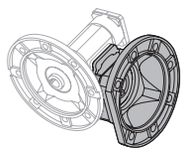


BFK.../F

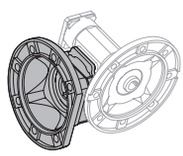


BRK.../F



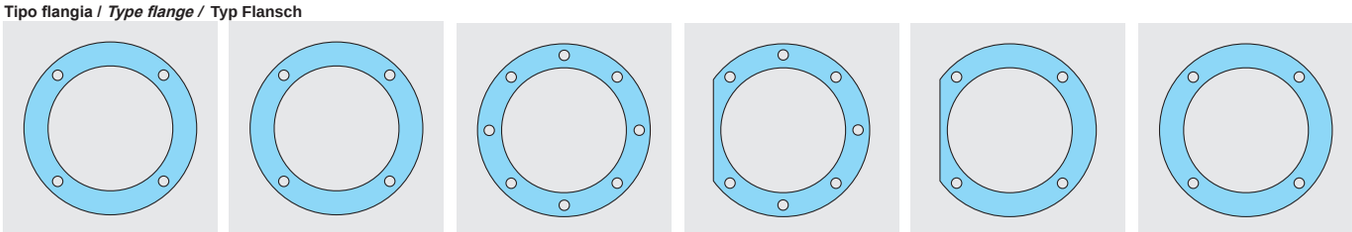


F...D
Standard



F...S

Tipo flangia / *Type flange* / Typ Flansch

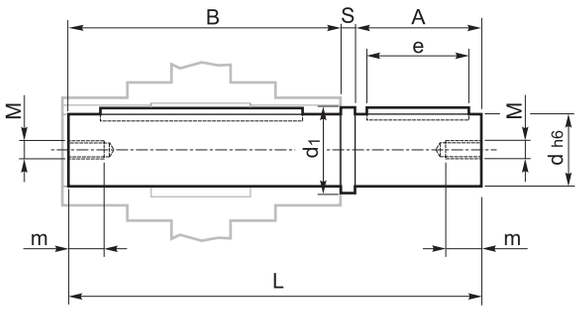


30	40	50	63	63	75	63	75	75
F	F	F - F1	F	F1	F - F1	F2	F2 - F3 F3A	F4

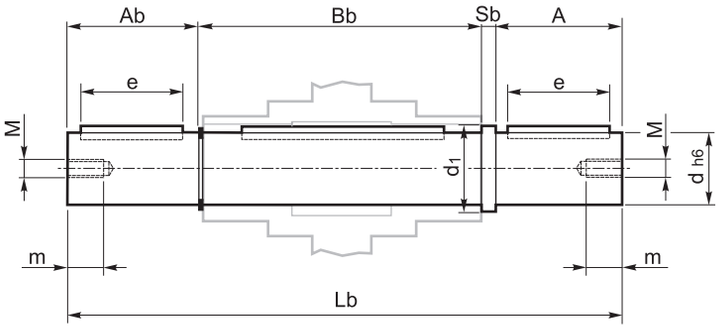
BFK BRK	Tipo flangia *Type flange* Typ flansch	C	F		G (H8)	P	Q	R	U	V			Z
												ø	
30	F	27.5	82		50	50.5	23	68	3.5	n° 4		6.0	6
40	F	32	110		60	60	28	87	5	n° 4		9	8
50	F	41	125		70	85	44	90	5	n° 4		10.5	10
	F1		125		70	115	74	90	5	n° 4		10.5	10
63	F	60	180		115	116	56	150	7		n° 8	11	12
	F1		180	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

4.9 Accessori — *4.9 Accessories* — 4.9 Zubehör

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



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

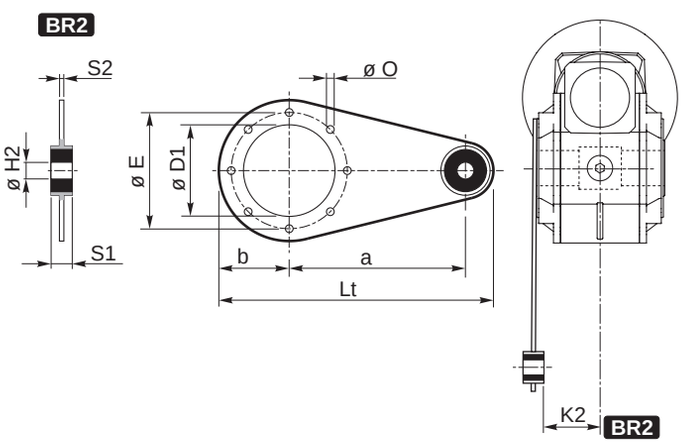


BFK BRK	A	Ab	B	Bb	d (h6)	d1	e	L	Lb	M	m	S	Sb
30	30	29	52	56	14	18.5	20	84.5	117.5	M6	16	2.5	2.5
40	40	39	62	65.2	18	24.5	30	105	147.2	M6	16	3	3
50	60	59	80	83.2	25	29.5	50	143.5	205.7	M8	22	3.5	3.5
63	60	59	119	121.2	25	29.5	50	183	244.2	M8	22	4	4
75	60	59	119	121.5	28	34.5	50	183	244.5	M8	22	4	4

Braccio di reazione / *Torque arm* / Drehmomentstütze

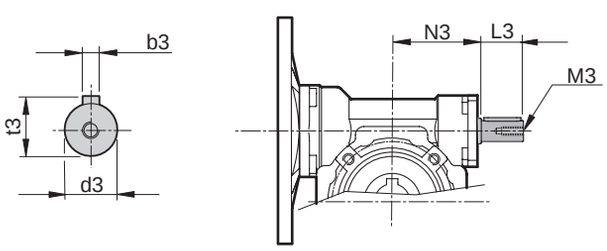
BR2 Con boccola / *With bush* / Mit Büchse

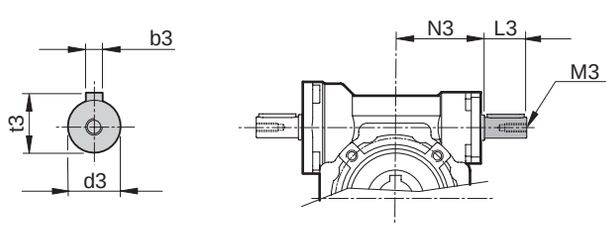
BFK BRK	a	b	D1	E	H2	K2	Lt	O	S1	S2
30	100	40	50	65	8	24.5	157.5	7	15	4
40	100	40	50	65	8	32.5	157.5	7	15	4
50	100	55	68	94	8	38.5	175	7	15	4
63	150	55	75	90	10	38	233	9	20	6
75	200	63	90	110	10	36.5	300	9	25	6



Entrata supplementare (vite bisporgente) — *Additional input (double extended input shaft)* — Zusatzantrieb (beidseitige Welle)

S.e.A.





BFK	d3 (j6)	L3	M3	N3	b3	t3
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	72.5	6	21.5
75	24	40	M8x20	89	8	27

BRK	d3 (j6)	L3	M3	N3	b3	t3
30	9	20	M4x10	42.5	3	10.2
40	11	22	M4x10	52.5	4	12.5
50	14	30	M5x13	62.5	5	16
63	18	45	M6x16	72.5	6	20.5
75	19	40	M6x16	89	6	21.5

Opzioni disponibili:

Cuscinetti a rulli conici corona

Available options:

Tapered roller bearing for worm wheel

Auf Anfrage ist folgendes Zubehör erhältlich:
Kegelrollenlager für Schneckenrad

4.10 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 compres- sione 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.

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.

4.10 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.
Calibration values feature a ±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.

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.

4.10 Drehmomentenbegrenzer mit durchgehender Hohlwelle

Die Anwendung eines Drehmoment- Die Anwendung eines Drehmoment- begrenzers wird empfohlen, um die Anlage und/ oder das Getriebe gegen ungewünschte und unerwartete Überbe- lastungen 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 Kegelrollenlager am Abtrieb
- Längerer Rutschbetrieb

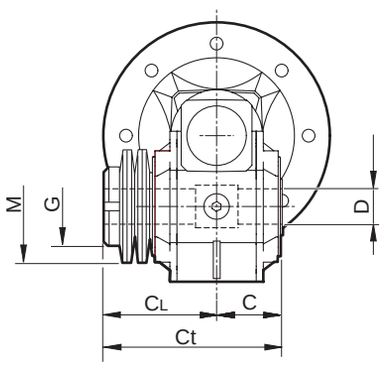
Die nachstehende Tabelle zeigt die Werte der Rutschmomente M_{2S} abhängig von der Anzahl der Umdrehungen der Mutter.
Die Eichwerte weisen ±10% Toleranz auf und beziehen sich auf statische Bedingungen.
Unter dynamischen Bedingungen hat das Rutschmoment verschiedene Werte je nach Art der Überbelastung. Die Werte sind 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 Reibungsfaktor zwischen den Berüehrungsflächen 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.

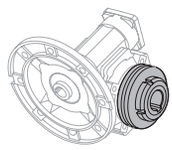
Es ist wichtig zu beachten, dass das Rutschmoment über die gesamte Lebensdauer der Rutschkupplung nicht konstant bleibt, sondern üblicherweise in Verbindung mit längeren Rutschzyklen aufgrund der eingelaufenen Berührungsflächen abnimmt.
Deswegen ist es ratsam, die Eichung der Vorrichtung besonders während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

4.10 Limitatore di coppia cavo passante

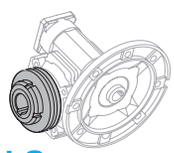
4.10 Torque limiter with through hollow shaft

4.10 Drehmomentenbegrenzer mit durchgehender Hohlwelle





LD



LS

BFK BRK	C	CL	Ct	D (H8)	M	G
63	60	97	157	25	71x40.5x2	M40X1.5
75	60	100	160	28 (30)	90x51x2.7	M50X1.5

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

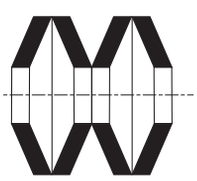
Nella versione con limitatore non è prevista la fornitura degli alberi lenti.
Il dispositivo viene consegnato tarato alla coppia riportata a catalogo T2M salvo diversa indicazione espressa in fase di ordinazione.

The version with torque limiter is supplied without output shafts.
The device is supplied already calibrated at the torque reported in the catalogue T2M, 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 T2M angegebenen Drehmoment geeicht, ausser wenn es in der Bestellung anders angegeben wird.

BFK BRK	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	3 1/2	3 3/4	4	4 1/4
63		80	90	100	110	120	130	140	150	160	170	180	190	200
75	140	160	180	200	220	240	260	280	300					

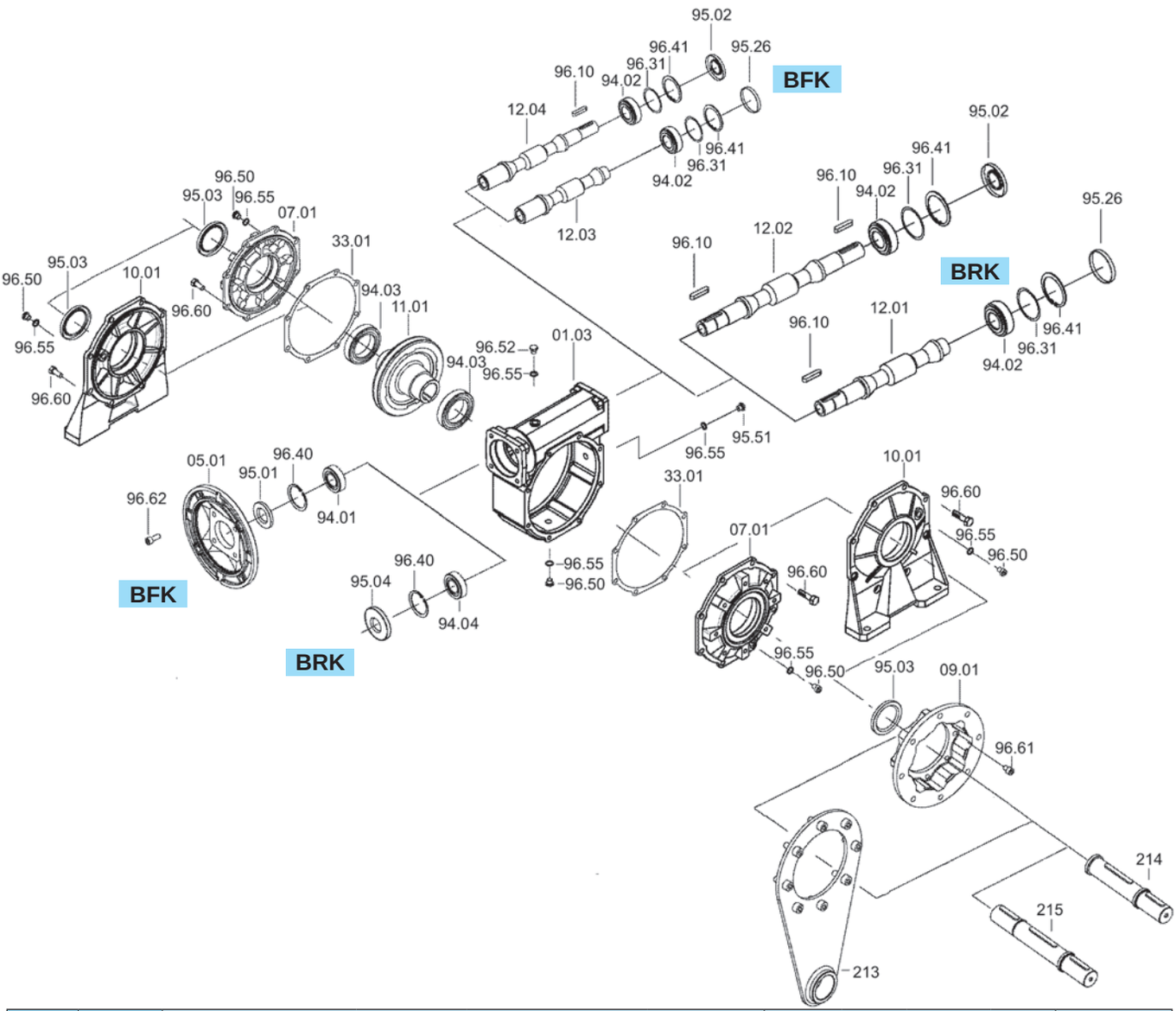
Disposizione delle molle
Washers' arrangement
Lage der Feder



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

4.11 **Lista parti di ricambio** *4.11* ***Spare parts list*** 4.11 **Ersatzteilliste**

BFK - BRK

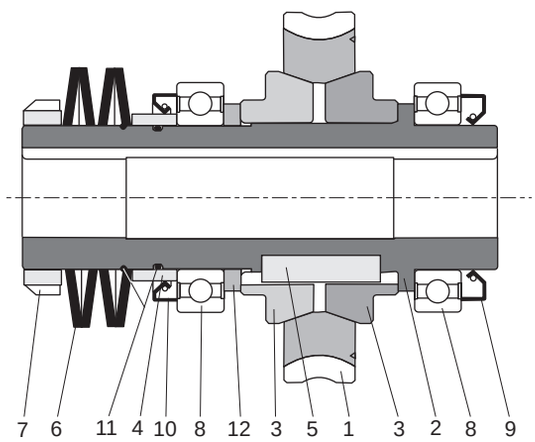


BFK BRK	IEC	Cuscinetti / *Bearings* / Lager					Anelli di tenuta / Oilseals Öldichtungen				Cappellotto *Closed oil seal* Geschlossene Öldichtung
		94.01	**94.02**	**94.03**		**94.04**	**95.01**	**95.02**	**95.03**	**95.04**	**95.26**
30	56	**61804** (20x32x7)	**6000** 10x26x8	**16005** 25x47x8		**6201** 12x32x10	20/32/7	10/26/7	25/40/7	12/32/7	ø 26x7
	63	**61804** (20x32x7)					20/32/7				
40	56	**6303** (17x47x14)	**6201** 12x32x10	**16006** 30x55x9		**6303** 17x47x14	17/47/7	12/32/7	30/47/7 (A, B, V) 30/45/7 (P)	17/47/7	ø 32x7
	63	**6204** (20x47x14)					20/47/7				
	71	**6005** (25x47x12)					25/47/7				
50	63	**6204** (20x47x14)	**6203** 17x40x12	**6008** 40x68x15	*32008 40x68x19	**6204** 20x47x14	20/47/7	17/40/7	40/62/8 (A, B, V) 40/56/8 (P)	20/47/7	ø 40x7
	71	**6005** (25x47x12)					25/47/7				
	80	**6006** (30x55x13)					30/55/7				
63	71	**30305** (25x62x18.25)	**30204** 20x47x15.25	**6008** 40x68x15	*32008 40x68x19	**30305** 25x62x18.25	25/62/7	20/47/7	40/62/8	25/62/7	ø 47x7
	80	**30206** (30x62x17.25)					30/62/7				
	90	**32007** (35x62x18)					35/62/7				
75	71	**30206** (30x62x17.25)	**30205** 25x52x16.25	**6010** 50x80x16	*32010 50x80x20	**30305** 25x62x18.25	30/62/7	25/52/7	50/72/8	25/62/7	ø 52x7
	80	**30206** (30x62x17.25)					30/62/7				
	90	**32007** (35x62x18)					35/62/7				
	100/112	**32008** (40x68x19)					40/68/10				

* Cuscinetti a rulli conici a richiesta - Tapered roller bearings on request - Auf Wunsch Kegelrollenlager

BFK - BRK

Limitatore di coppia cavo passante | *Torque limiter with through hollow shaft* | Drehmomentbegrenzer mit durchgehende Hohlwelle



	BFK - BRK	
	63 (LD - LS)	**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	
	12x8x40A	16x10x40A
6	Molle a tazza / *Belleville washers* / Tellerfeder	
7	Ghiera / *Metal ring* / Metall Ring	
8	Cuscinetti / *Bearings* / Lager	
	6008 40x68x15	6010 50x80x16
9	Anelli di tenuta / *Oilseals* / Öldichtungen	
	40x62x8	50x72x8
10	Anelli di tenuta / *Oilseals* / Öldichtungen	
	48x62x8	58x72x8
11	O-rings in gomma / *Rubber O-rings* / Gummi-O-ringe	
	OR 36.27x1.78	OR2187 47.37x1.78
12	Distanziale / *Spacer* / Abstandshülse	