

# Parallel shaft geared motors



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# MOTOX Geared Motors

## Parallel shaft geared motors

### Orientation

### Overview



MOTOX parallel shaft gearboxes are part of the MOTOX modular system. With helical, bevel helical, helical worm, or variable speed gearboxes and three-phase AC motors with or without brakes, this system covers all possible drive combinations, right up to electronic variable speed drives.

MOTOX parallel shaft gearboxes are designed for continuous duty. The gearbox housings made of gray cast iron or aluminium are developed in 3D CAD and have an optimized structure in terms of rigidity and vibration absorption. Radial shaft seals with dust-protection lips prevent oil from leaking out of the housing and dust and water from entering it. The tooth flanks are ground or honed so that they are convex and corrected in terms of the profile. Optimum running smoothness is achieved thanks to the gear wheels' helical teeth. The output shaft is parallel to the input shaft on 2-stage and 3-stage gearboxes.

MOTOX parallel shaft gearboxes are available in 2-stage and 3-stage designs. Standard series gearboxes can be supplied for attaching in any position. The gearboxes are available in a solid-shaft or hollow-shaft design with a feather key connection, shrink disk connection, or splined shaft.

### Overview (continued)

The parallel shaft gearboxes are designated as follows:

#### Gearbox type:

**F** Parallel shaft gearbox

Transmission stage **Z** 2-stage  
**D** 3-stage

#### Type:

Shaft (-) Solid shaft  
**A** Hollow shaft

Mounting (-) Foot-mounted design  
**F** Flange-mounted design (A-type)  
**Z** Housing flange (C-type)  
**D** Torque arm  
**M** Mixer flange  
**E** Extruder flange

Connections (-) Feather key  
**S** Shrink disk  
**T** Hollow shaft with splined shaft

Special features **W** Reduced-backlash version

#### Type of intermediate gearbox:

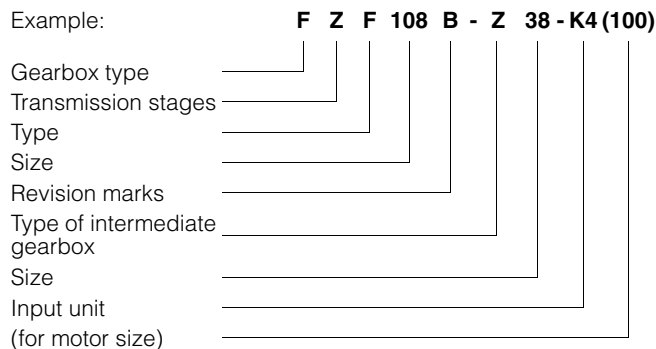
(-) Helical gearbox

Transmission stage **Z** 2-stage  
**D** 3-stage

#### Input unit:

- K2** Coupling lantern with flexible coupling for connecting an IEC motor
- K2TC** Coupling lantern with flexible coupling for connecting a NEMA motor <sup>1)</sup>
- K4** Short coupling lantern with clamp connection for connecting an IEC motor
- K5** Short coupling lantern with clamp connection for connecting a NEMA motor <sup>1)</sup>
- KQ** Lantern for servomotor with feather key and zero-backlash flexible coupling for connecting a servomotor
- KQS** Lantern for servomotor without feather key and zero-backlash flexible coupling for connecting a servomotor
- A** Input unit with free input shaft
- A5** Input unit with free input shaft (NEMA design) <sup>1)</sup>
- P** Input unit with free input shaft and piggy back for connecting an IEC motor
- P5** Input unit with free input shaft and piggy back for connecting a NEMA motor <sup>1)</sup>
- PS** Input unit with free input shaft and piggy back with protection cover

Example:



The series currently comprises 10 gearbox sizes.

The basic designs available are 2- and 3-stage gearboxes.

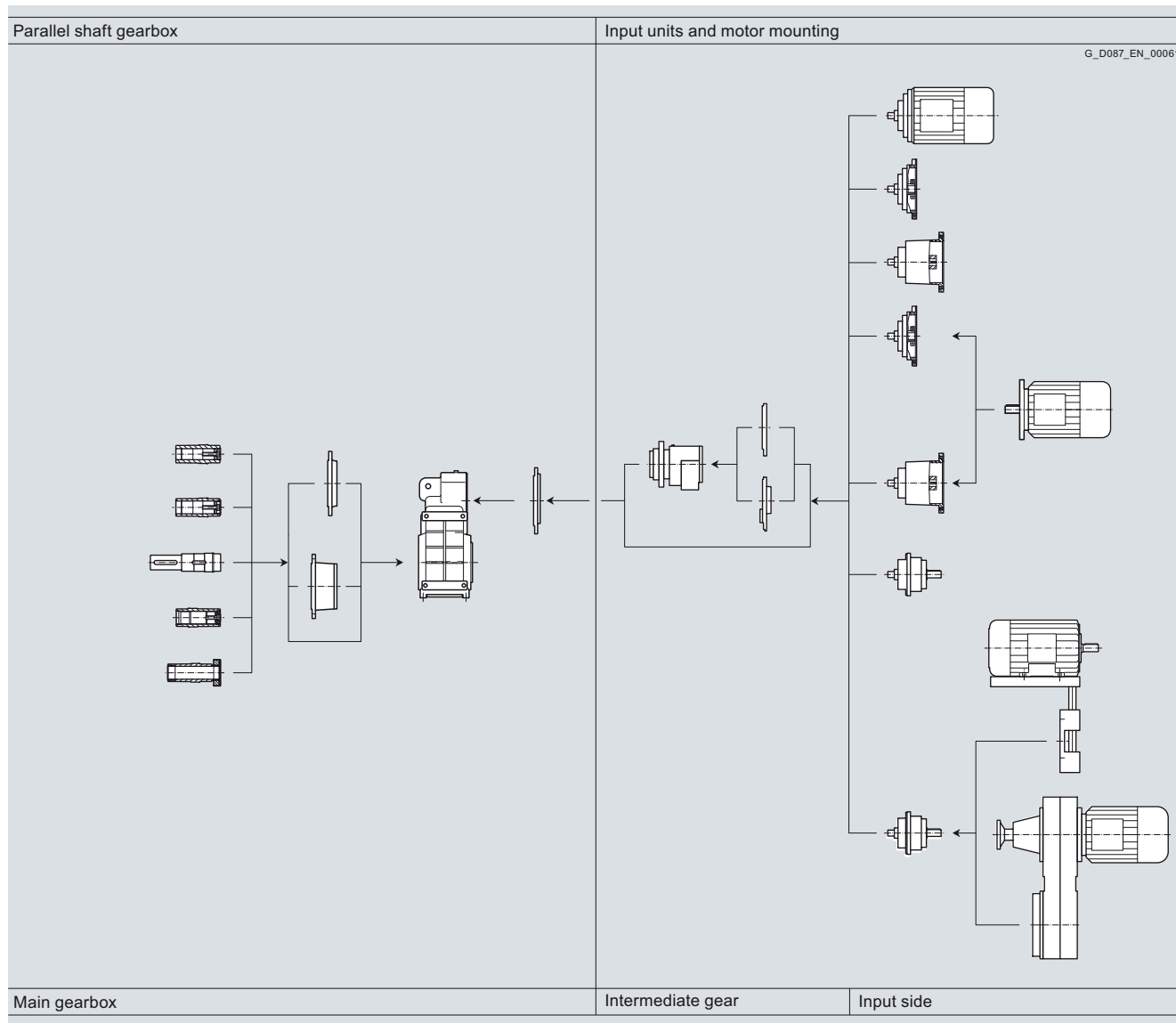
<sup>1)</sup> These designs can be selected from our MOTOX Configurator electronic catalog.

# MOTOX Geared Motors

## Parallel shaft geared motors

### Orientation

#### Modular system



### Use

MOTOX parallel shaft gearboxes are the ideal solution when space is at a premium, thanks to their compact, well-shaped structures.

The variety of output shafts – hollow or solid – and the range of mounting options available, which allow the device to be used as a shaft-mounted gearbox with a torque arm, or as a foot- or

flange-mounted design, enable you to achieve exactly the right solution, at the right price.

Parallel shaft gearboxes are extremely efficient. They are very economical, thanks to their low price and low maintenance requirements.

### Oil quantities

The oil quantities corresponding to the applicable mounting positions are specified in the operating instructions and on the rating plate.

### Permissible radial force $F_{Rperm}$

#### 2-stage and 3-stage parallel shaft gearbox – standard bearing arrangement

Gearbox type	d mm	l mm	y mm	z mm	a kNm	$F_{Rperm}$ in N with $x = l/2$ for output speeds $n_2$ in rpm Direction of rotation when viewing the output shaft	$F_{Rperm}$ in N with $x = l/2$ for output speeds $n_2$ in rpm							
							≤ 16	≤ 25	≤ 40	≤ 63	≤ 100	≤ 160	≤ 250	≤ 400
F.F28	25	50	128.5	104	115	Left	4 600	4 600	4 150	3 330	2 730	2 350	1 840	1 780
						Right	4 600	4 600	3 950	3 120	2 520	2 160	1 650	1 650
F.F38B	25	50	146.0	121	131	Left	5 246	5 246	4 810	4 020	2 980	2 870	2 590	2 480
						Right	5 246	5 246	4 360	3 610	2 500	2 480	2 450	2 370
F.F48B	30	60	176.0	146	245	Left	8 154	8 060	6 640	5 270	4 840	4 530	4 070	3 770
						Right	8 150	7 500	6 080	4 720	4 400	4 280	3 900	3 650
F.F68B	40	80	213.0	173	357	Left	8 927	7 680	6 160	5 050	3 710	3 930	3 710	3 650
						Right	8 927	6 830	5 310	4 200	2 860	3 290	3 300	3 440
F.F88B	50	100	262.0	212	741	Left	14 825	13 420	10 040	8 310	7 020	6 590	6 320	6 130
						Right	14 340	12 360	8 740	7 010	5 800	5 960	5 920	5 800
F.F108B	60	120	298.0	238	1 100	Left	17 930	13 620	10 750	8 190	6 070	6 610	6 840	7 080
						Right	15 860	11 550	8 680	6 120	4 040	4 960	5 780	6 390
F.F128B	70	140	371.5	302	1 786	Left	25 516	19 950	15 710	10 270	9 120	10 890	10 860	10 360
						Right	23 190	17 570	13 530	7 900	6 740	9 300	9 920	9 810
F.F148B	90	170	434.0	349	2 241	Left	23 390	17 850	13 190	8 530	9 840	11 680	11 800	11 660
						Right	20 390	14 850	10 180	5 620	7 380	10 030	10 530	10 830
F.F168B	110	210	517.5	413	4 814	Left	35 450	27 240	20 850	13 740	12 970	17 210	16 400	16 450
						Right	31 510	23 300	17 200	9 800	9 280	15 230	14 590	15 330
F.F188B	120	210	538.0	433	11 898	Left	113 314	113 314	113 314	106 120	88 810	78 120	76 850	–
						Right	113 314	113 314	113 314	102 690	84 350	75 050	74 100	–
F.F208	160	250	622.0	497	18 750	Left	150 000	150 000	150 000	150 000	143 760	127 130	121 290	–
						Right	150 000	150 000	150 000	150 000	135 990	120 310	114 800	–
			598.0	493										

#### 2-stage and 3-stage parallel shaft gearbox – reinforced bearing arrangement

Gearbox type	d mm	l mm	y mm	z mm	a kNm	$F_{Rperm}$ in N with $x = l/2$ for output speeds $n_2$ in rpm Direction of rotation when viewing the output shaft	$F_{Rperm}$ in N with $x = l/2$ for output speeds $n_2$ in rpm							
							≤ 16	≤ 25	≤ 40	≤ 63	≤ 100	≤ 160	≤ 250	≤ 400
F.F68B	40	80	213.0	173	546	Left	13 643	13 643	13 643	13 643	13 643	13 260	11 920	10 620
						Right	13 643	13 643	13 643	13 643	13 230	12 690	11 540	10 390
F.F88B	50	100	262.0	212	1 171	Left	23 411	23 411	23 411	23 411	23 411	21 180	19 050	18 130
						Right	23 411	23 411	23 411	23 411	22 960	20 520	18 620	17 790
F.F108B	60	120	298.0	238	1 723	Left	28 718	28 718	28 718	28 718	28 718	26 040	24 150	23 420
						Right	28 718	28 718	28 718	28 718	26 590	24 740	23 300	22 680
F.F128B	70	140	371.5	302	2 514	Left	35 921	35 921	35 921	35 921	35 921	35 921	35 921	34 420
						Right	35 921	35 921	35 921	35 921	35 921	35 921	35 921	33 830
F.F148B	90	170	434.0	349	5 737	Left	67 493	67 493	67 300	55 150	52 240	46 910	44 010	41 380
						Right	67 493	67 493	64 110	52 070	50 180	45 380	42 870	40 510
F.F168B	110	210	517.5	413	9 566	Left	91 102	91 102	91 102	87 720	78 620	71 650	65 350	62 000
						Right	91 102	91 102	91 102	83 520	75 920	69 990	63 850	60 810
F.F188B	120	210	538.0	433	11 898	Left	113 314	113 314	113 314	106 120	88 810	78 120	76 850	–
						Right	113 314	113 314	113 314	102 690	84 350	75 050	74 100	–
F.F208	160	250	622.0	497	18 750	Left	150 000	150 000	150 000	150 000	150 000	150 000	150 000	–
						Right	150 000	150 000	150 000	150 000	150 000	150 000	150 000	–
			598.0	493										

The values in the table apply to the worst-case scenario.  
The output shaft bearing arrangement can be calculated using our MOTOX Configurator electronic catalog.

See Chapter 1 of the configuring guide for more information on calculating the permissible radial force.

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

### Selection and ordering data

The selection tables show the most common variants and combinations. Other combinations can be selected using our MOTOX Configurator or made available on request.

At an identical power rating and output speed, priority is given in the selection tables to 4-pole geared motors.

At the available transmission ratios, they cover the majority of output speeds.

Due to their prevalence, 4-pole geared motors are easily available, with short delivery times and at a low cost. They also feature a favorable size / power ratio.

Power rating $P_{\text{Motor}}$ kW (50 Hz)	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight *) kg	
0.09	<b>FD.48B-LA71M8</b>							
	2.3	367	1.5	268.8	★ 2KJ1402 - ■CE13 - ■■S1	P02	27	
	2.6	326	1.7	238.65	2KJ1402 - ■CE13 - ■■R1	P02	27	
	3.0	285	1.9	209.23	★ 2KJ1402 - ■CE13 - ■■Q1	P02	27	
	<b>FD.38B-LA71M8</b>							
	2.6	330	0.88	241.91	★ 2KJ1401 - ■CE13 - ■■M1	P02	20	
	3.0	284	1.0	207.83	2KJ1401 - ■CE13 - ■■L1	P02	20	
	<b>FD.38B-LA71B6</b>							
	3.2	269	1.1	280.41	2KJ1401 - ■CB13 - ■■N1	P01	20	
	3.7	232	1.2	241.91	★ 2KJ1401 - ■CB13 - ■■M1	P01	20	
	4.3	200	1.5	207.83	2KJ1401 - ■CB13 - ■■L1	P01	20	
	4.7	184	1.6	191.34	★ 2KJ1401 - ■CB13 - ■■K1	P01	20	
	0.12	<b>FD.188B-D48-LA71B4</b>						
		0.05	15 668	1.3	28 045	★ 2KJ1440 - ■CB13 - ■■E1		638
		0.06	12 819	1.6	22 946	★ 2KJ1440 - ■CB13 - ■■C1		638
0.06		14 134	1.4	25 299	2KJ1440 - ■CB13 - ■■D1		638	
0.07		10 683	1.9	19 122	★ 2KJ1440 - ■CB13 - ■■A1		638	
0.07		11 680	1.7	20 906	2KJ1440 - ■CB13 - ■■B1		638	
<b>FD.188B-Z48-LA71B4</b>								
0.08		10 013	2.0	17 537	2KJ1438 - ■CB13 - ■■A2		638	
<b>FD.168B-D48-LA71B4</b>								
0.05		16 202	0.86	29 000	2KJ1436 - ■CB13 - ■■F1		455	
0.06		12 901	1.1	23 093	2KJ1436 - ■CB13 - ■■D1		455	
0.06		14 302	0.98	25 599	★ 2KJ1436 - ■CB13 - ■■E1		455	
0.07		10 661	1.3	19 083	2KJ1436 - ■CB13 - ■■B1		455	
0.07		11 701	1.2	20 944	★ 2KJ1436 - ■CB13 - ■■C1		455	
0.08		9 751	1.4	17 454	★ 2KJ1436 - ■CB13 - ■■A1		455	
<b>FD.168B-Z48-LA71B4</b>								
0.09		9 139	1.5	16 007	2KJ1435 - ■CB13 - ■■A2		454	
0.10		8 088	1.7	14 165	★ 2KJ1435 - ■CB13 - ■■X1		454	
0.11		7 353	1.9	12 878	2KJ1435 - ■CB13 - ■■W1		454	
<b>FD.148B-D38-LA71B4</b>								
0.07		10 870	0.83	19 456	2KJ1433 - ■CB13 - ■■B1		288	
0.08		9 891	0.91	17 704	★ 2KJ1433 - ■CB13 - ■■A1		288	
<b>FD.148B-Z38-LA71B4</b>								
0.09		9 272	0.97	16 239	★ 2KJ1432 - ■CB13 - ■■W1		287	
0.10	8 245	1.1	14 441	2KJ1432 - ■CB13 - ■■V1		287		
0.11	7 152	1.3	12 527	★ 2KJ1432 - ■CB13 - ■■U1		287		

★ Preferred transmission ratio

Shaft designs, see page 3/89

Frequency and voltage, see page 8/20

Gearbox housing mounting position, see page 3/92

\*) For mounting type B5-01

1, 2, 3, 5, 6 or 9

1 to 9

A, D, E, F, H or M

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
0.12	<b>FD.148B-Z38-LA71B4</b>						
	0.12	6 683	1.3	11 705	2KJ1432 - ■CB13 - ■■T1		287
	0.14	5 878	1.5	10 295	★ 2KJ1432 - ■CB13 - ■■S1		287
	0.16	5 148	1.7	9 016	2KJ1432 - ■CB13 - ■■R1		287
	0.18	4 553	2.0	7 975	★ 2KJ1432 - ■CB13 - ■■Q1		287
	<b>FD.128B-Z38-LA71B4</b>						
	0.12	6 445	0.95	11 289	2KJ1428 - ■CB13 - ■■T1		197
	0.12	6 899	0.88	12 083	★ 2KJ1428 - ■CB13 - ■■U1		197
	0.14	5 669	1.1	9 929	★ 2KJ1428 - ■CB13 - ■■S1		197
	0.16	4 965	1.2	8 696	2KJ1428 - ■CB13 - ■■R1		197
	0.18	4 391	1.4	7 691	★ 2KJ1428 - ■CB13 - ■■Q1		197
	0.20	3 980	1.5	6 971	2KJ1428 - ■CB13 - ■■P1		197
0.23	3 513	1.7	6 153	★ 2KJ1428 - ■CB13 - ■■N1		197	
0.25	3 169	1.9	5 551	2KJ1428 - ■CB13 - ■■M1		197	
<b>FD.108B-Z38-LA71B4</b>							
0.19	4 270	0.80	7 479	★ 2KJ1426 - ■CB13 - ■■F2		122	
0.21	3 870	0.88	6 778	2KJ1426 - ■CB13 - ■■E2		122	
0.23	3 416	1.0	5 983	★ 2KJ1426 - ■CB13 - ■■D2		122	
0.26	3 081	1.1	5 397	2KJ1426 - ■CB13 - ■■C2		122	
0.29	2 795	1.2	4 895	★ 2KJ1426 - ■CB13 - ■■B2		122	
0.31	2 546	1.3	4 460	2KJ1426 - ■CB13 - ■■A2		122	
0.34	2 329	1.5	4 079	★ 2KJ1426 - ■CB13 - ■■X1		122	
0.38	2 083	1.6	3 648	2KJ1426 - ■CB13 - ■■W1		122	
0.42	1 912	1.8	3 349	★ 2KJ1426 - ■CB13 - ■■V1		122	
0.46	1 724	2.0	3 019	2KJ1426 - ■CB13 - ■■U1		122	
<b>FD.88B-Z28-LA71B4</b>							
0.34	2 386	0.8	4 179	2KJ1422 - ■CB13 - ■■W1		73	
0.38	2 118	0.9	3 709	★ 2KJ1422 - ■CB13 - ■■V1		73	
0.43	1 856	1.0	3 251	2KJ1422 - ■CB13 - ■■U1		73	
0.49	1 632	1.2	2 858	★ 2KJ1422 - ■CB13 - ■■T1		73	
0.54	1 474	1.3	2 582	2KJ1422 - ■CB13 - ■■S1		73	
0.62	1 285	1.5	2 250	★ 2KJ1422 - ■CB13 - ■■R1		73	
0.69	1 154	1.6	2 021	2KJ1422 - ■CB13 - ■■Q1		73	
0.77	1 041	1.8	1 824	★ 2KJ1422 - ■CB13 - ■■P1		73	
0.85	944	2.0	1 654	2KJ1422 - ■CB13 - ■■N1		73	
<b>FD.68B-Z28-LA71B4</b>							
0.69	1 162	0.86	2 035	2KJ1417 - ■CB13 - ■■T1		43	
0.78	1 021	0.98	1 789	★ 2KJ1417 - ■CB13 - ■■S1		43	
0.87	923	1.1	1 616	2KJ1417 - ■CB13 - ■■R1		43	
0.99	804	1.2	1 408	★ 2KJ1417 - ■CB13 - ■■Q1		43	
1.1	722	1.4	1 265	2KJ1417 - ■CB13 - ■■P1		43	
1.2	652	1.5	1 142	★ 2KJ1417 - ■CB13 - ■■N1		43	
1.4	592	1.7	1 036	2KJ1417 - ■CB13 - ■■M1		43	
1.5	538	1.9	942	★ 2KJ1417 - ■CB13 - ■■L1		43	

★ Preferred transmission ratio

Shaft designs, see page 3/89

Frequency and voltage, see page 8/20

Gearbox housing mounting position, see page 3/92

\*) For mounting type B5-01

1, 2, 3, 5, 6 or 9

1 to 9

A, D, E, F, H or M

# MOTOX Geared Motors

## Parallel shaft geared motors

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## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
0.12	<b>FD.68B-LA71MB8</b>						
	2.2	526	1.9	296.18	★	2KJ1403 - ■CF13 - ■■S1	P02 43
	<b>FD.48B-Z28-LA71B4</b>						
	1.3	614	0.88	1 076	★	2KJ1413 - ■CB13 - ■■N1	29
	1.4	557	0.97	976		2KJ1413 - ■CB13 - ■■M1	29
	1.6	507	1.1	888	★	2KJ1413 - ■CB13 - ■■L1	29
	1.8	448	1.2	785		2KJ1413 - ■CB13 - ■■K1	29
	1.9	414	1.3	725	★	2KJ1413 - ■CB13 - ■■J1	29
	2.2	356	1.5	624		2KJ1413 - ■CB13 - ■■H1	29
	<b>FD.48B-LA71MB8</b>						
	2.4	478	1.1	268.8	★	2KJ1402 - ■CF13 - ■■S1	P02 27
	2.7	424	1.3	238.65		2KJ1402 - ■CF13 - ■■R1	P02 27
	3.1	372	1.5	209.23	★	2KJ1402 - ■CF13 - ■■Q1	P02 27
	<b>FD.48B-LA71C6</b>						
	3.2	358	1.5	268.8	★	2KJ1402 - ■CC13 - ■■S1	P01 27
	3.6	318	1.7	238.65		2KJ1402 - ■CC13 - ■■R1	P01 27
	4.1	279	1.9	209.23	★	2KJ1402 - ■CC13 - ■■Q1	P01 27
	<b>FZ.38B-Z28-LA71B4</b>						
	2.4	339	0.86	587		2KJ1313 - ■CB13 - ■■G1	22
	<b>FD.38B-LA71C6</b>						
	3.6	322	0.9	241.91	★	2KJ1401 - ■CC13 - ■■M1	P01 20
	4.1	277	1.0	207.83		2KJ1401 - ■CC13 - ■■L1	P01 20
	4.5	255	1.1	191.34	★	2KJ1401 - ■CC13 - ■■K1	P01 20
	<b>FD.38B-LA71B4</b>						
	5.0	230	1.3	280.41		2KJ1401 - ■CB13 - ■■N1	20
	5.8	198	1.5	241.91	★	2KJ1401 - ■CB13 - ■■M1	20
	6.7	170	1.7	207.83		2KJ1401 - ■CB13 - ■■L1	20
	7.3	157	1.9	191.34	★	2KJ1401 - ■CB13 - ■■K1	20
	8.0	142	2.0	173.94		2KJ1401 - ■CB13 - ■■J1	20
	<b>FD.28-LA71B4</b>						
	6.7	170	0.88	207.53		2KJ1400 - ■CB13 - ■■L1	11
	7.3	156	0.96	191.06	★	2KJ1400 - ■CB13 - ■■K1	11
	8.1	142	1.1	173.69		2KJ1400 - ■CB13 - ■■J1	11
	9.1	126	1.2	153.74	★	2KJ1400 - ■CB13 - ■■H1	11
	10.9	105	1.4	128.77		2KJ1400 - ■CB13 - ■■G1	11
	12.8	90	1.7	109.79	★	2KJ1400 - ■CB13 - ■■F1	11
	15.0	76	2.0	93.32	★	2KJ1400 - ■CB13 - ■■E1	11
	17.3	66	2.3	81.1		2KJ1400 - ■CB13 - ■■D1	11
	19.8	58	2.6	70.59	★	2KJ1400 - ■CB13 - ■■C1	11
	22	52	2.9	63.68		2KJ1400 - ■CB13 - ■■B1	11
	25	46	3.3	56.2		2KJ1400 - ■CB13 - ■■A1	11
	<b>FZ.28-LA71B4</b>						
	24	49	3.1	59.65		2KJ1300 - ■CB13 - ■■C2	11
	28	41	3.6	50.3	★	2KJ1300 - ■CB13 - ■■B2	11

★ Preferred transmission ratio

Shaft designs, see page 3/89

Frequency and voltage, see page 8/20

Gearbox housing mounting position, see page 3/92

\*) For mounting type B5-01

1, 2, 3, 5, 6 or 9

1 to 9

A, D, E, F, H or M



# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
0.12	<b>FZ.28-LA71B4</b>						
	31	37	4.1	44.66	2KJ1300 - ■CB13 - ■■A2		11
	36	32	4.7	39.15	★ 2KJ1300 - ■CB13 - ■■X1		11
	40	29	5.2	35.04	2KJ1300 - ■CB13 - ■■W1		11
	45	26	5.9	31.1	★ 2KJ1300 - ■CB13 - ■■V1		11
	51	22	6.7	27.25	2KJ1300 - ■CB13 - ■■U1		11
	58	20	7.6	23.96	★ 2KJ1300 - ■CB13 - ■■T1		11
	65	18	8.5	21.64	2KJ1300 - ■CB13 - ■■S1		11
	74	15	9.7	18.86	★ 2KJ1300 - ■CB13 - ■■R1		11
	83	14	10.8	16.94	2KJ1300 - ■CB13 - ■■Q1		11
	92	12	12.0	15.29	★ 2KJ1300 - ■CB13 - ■■P1		11
	101	11	13.2	13.87	2KJ1300 - ■CB13 - ■■N1		11
111	10	14.3	12.62	★ 2KJ1300 - ■CB13 - ■■M1		11	
0.18	<b>FD.188B-D48-LA71C4</b>						
	0.05	24 072	0.83	25 299	2KJ1440 - ■CC13 - ■■D1		638
	0.06	21 833	0.92	22 946	★ 2KJ1440 - ■CC13 - ■■C1		638
	0.07	18 195	1.1	19 122	★ 2KJ1440 - ■CC13 - ■■A1		638
	0.07	19 892	1.0	20 906	2KJ1440 - ■CC13 - ■■B1		638
	<b>FD.188B-Z48-LA71C4</b>						
	0.08	17 053	1.2	17 537	2KJ1438 - ■CC13 - ■■A2		638
	0.09	15 091	1.3	15 519	★ 2KJ1438 - ■CC13 - ■■X1		638
	0.10	13 719	1.5	14 108	2KJ1438 - ■CC13 - ■■W1		638
	0.11	12 325	1.6	12 674	★ 2KJ1438 - ■CC13 - ■■V1		638
	0.13	10 563	1.9	10 863	2KJ1438 - ■CC13 - ■■U1		638
	<b>FD.168B-D48-LA71C4</b>						
	0.08	16 608	0.84	17 454	★ 2KJ1436 - ■CC13 - ■■A1		455
	<b>FD.168B-Z48-LA71C4</b>						
	0.09	15 566	0.90	16 007	2KJ1435 - ■CC13 - ■■A2		454
	0.10	13 774	1.0	14 165	★ 2KJ1435 - ■CC13 - ■■X1		454
	0.11	12 523	1.1	12 878	2KJ1435 - ■CC13 - ■■W1		454
	0.12	11 249	1.2	11 568	★ 2KJ1435 - ■CC13 - ■■V1		454
	0.14	9 643	1.5	9 916	2KJ1435 - ■CC13 - ■■U1		454
	0.15	8 724	1.6	8 971	★ 2KJ1435 - ■CC13 - ■■T1		454
	0.16	8 053	1.7	8 281	2KJ1435 - ■CC13 - ■■S1		454
	0.19	7 002	2.0	7 201	★ 2KJ1435 - ■CC13 - ■■R1		454
	<b>FD.148B-Z38-LA71C4</b>						
	0.13	10 011	0.9	10 295	★ 2KJ1432 - ■CC13 - ■■S1		287
	0.15	8 767	1.0	9 016	2KJ1432 - ■CC13 - ■■R1		287
	0.17	7 755	1.2	7 975	★ 2KJ1432 - ■CC13 - ■■Q1		287
	0.19	7 028	1.3	7 227	2KJ1432 - ■CC13 - ■■P1		287
	0.22	6 204	1.5	6 380	★ 2KJ1432 - ■CC13 - ■■N1		287
	0.24	5 596	1.6	5 755	2KJ1432 - ■CC13 - ■■M1		287
	0.26	5 076	1.8	5 220	★ 2KJ1432 - ■CC13 - ■■L1		287
	0.29	4 25	1.9	4 756	2KJ1432 - ■CC13 - ■■K1		287

★ Preferred transmission ratio

Shaft designs, see page 3/89

1, 2, 3, 5, 6 or 9

Frequency and voltage, see page 8/20

1 to 9

Gearbox housing mounting position, see page 3/92

A, D, E, F, H or M

\*) For mounting type B5-01

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
<b>0.18</b>							
<b>FD.128B-Z38-LA71C4</b>							
0.18		7 479	0.82	7 691	★ 2KJ1428 - CC13 - Q1		197
0.20		6 779	0.9	6 971	2KJ1428 - CC13 - P1		197
0.22		5 983	1.0	6 153	★ 2KJ1428 - CC13 - N1		197
0.25		5 398	1.1	5 551	2KJ1428 - CC13 - M1		197
0.27		4 895	1.2	5 034	★ 2KJ1428 - CC13 - L1		197
0.30		4 461	1.4	4 587	2KJ1428 - CC13 - K1		197
0.33		4 079	1.5	4 195	★ 2KJ1428 - CC13 - J1		197
0.36		3 648	1.7	3 751	2KJ1428 - CC13 - H1		197
0.40		3 350	1.8	3 445	★ 2KJ1428 - CC13 - G1		197
0.44		3 019	2.0	3 105	2KJ1428 - CC13 - F1		197
<b>FD.108B-Z38-LA71C4</b>							
0.34		3 967	0.86	4 079	★ 2KJ1426 - CC13 - X1		122
0.38		3 547	0.96	3 648	2KJ1426 - CC13 - W1		122
0.41		3 257	1.0	3 349	★ 2KJ1426 - CC13 - V1		122
0.45		2 936	1.2	3 019	2KJ1426 - CC13 - U1		122
0.53		2 524	1.3	2 596	★ 2KJ1426 - CC13 - T1		122
0.59		2 251	1.5	2 315	2KJ1426 - CC13 - S1		122
0.64		2 067	1.6	2 126	★ 2KJ1426 - CC13 - R1		122
0.72		1 863	1.8	1 916	2KJ1426 - CC13 - Q1		122
<b>FD.88B-Z28-LA71C4</b>							
0.61		2 188	0.87	2 250	★ 2KJ1422 - CC13 - R1		73
0.68		1 965	0.97	2 021	2KJ1422 - CC13 - Q1		73
0.75		1 774	1.1	1 824	★ 2KJ1422 - CC13 - P1		73
0.83		1 608	1.2	1 654	2KJ1422 - CC13 - N1		73
0.91		1 464	1.3	1 505	★ 2KJ1422 - CC13 - M1		73
1.0		1 294	1.5	1 331	2KJ1422 - CC13 - L1		73
1.1		1 195	1.6	1 229	★ 2KJ1422 - CC13 - K1		73
1.3		1 029	1.8	1 058	2KJ1422 - CC13 - J1		73
1.4		935	2.0	962	★ 2KJ1422 - CC13 - H1		73
<b>FD.88B-LA80S8</b>							
1.7		1 031	1.8	404.92	2KJ1404 - DB13 - V1	P02	78
<b>FD.68B-Z28-LA71C4</b>							
1.1		1 230	0.81	1 265	2KJ1417 - CC13 - P1		43
1.2		1 111	0.90	1 142	★ 2KJ1417 - CC13 - N1		43
1.3		1 007	0.99	1 036	2KJ1417 - CC13 - M1		43
1.5		916	1.1	942	★ 2KJ1417 - CC13 - L1		43
1.6		810	1.2	833	2KJ1417 - CC13 - K1		43
1.8		748	1.3	769	★ 2KJ1417 - CC13 - J1		43
2.1		644	1.6	662	2KJ1417 - CC13 - H1		43
<b>FD.68B-LA80S8</b>							
2.3		754	1.3	296.18	★ 2KJ1403 - DB13 - S1	P02	47
2.6		671	1.5	263.39	2KJ1403 - DB13 - R1	P02	47

★ Preferred transmission ratio

Shaft designs, see page 3/89

1, 2, 3, 5, 6 or 9

Frequency and voltage, see page 8/20

1 to 9

Gearbox housing mounting position, see page 3/92

A, D, E, F, H or M

\*) For mounting type B5-01

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
0.18	<b>FD.68B-LA71S6</b>						
	2.9	599	1.7	296.18	★ 2KJ1403 - ■CD13 - ■■S1	P01	43
	3.2	533	1.9	263.39	2KJ1403 - ■CD13 - ■■R1	P01	43
	<b>FD.48B-Z28-LA71C4</b>						
	2.2	607	0.89	624	2KJ1413 - ■CC13 - ■■H1		29
	<b>FD.48B-LA80S8</b>						
	2.8	608	0.89	238.65	2KJ1402 - ■DB13 - ■■R1	P02	31
	<b>FD.48B-LA71S6</b>						
	3.2	544	0.99	268.8	★ 2KJ1402 - ■CD13 - ■■S1	P01	27
	3.6	483	1.1	238.65	2KJ1402 - ■CD13 - ■■R1	P01	27
	4.1	423	1.3	209.23	★ 2KJ1402 - ■CD13 - ■■Q1	P01	27
	4.5	379	1.4	187.24	2KJ1402 - ■CD13 - ■■P1	P01	27
	<b>FD.48B-LA71C4</b>						
	5.1	337	1.6	268.8	★ 2KJ1402 - ■CC13 - ■■S1		27
	5.7	299	1.8	238.65	2KJ1402 - ■CC13 - ■■R1		27
	6.5	263	2.1	209.23	★ 2KJ1402 - ■CC13 - ■■Q1		27
	<b>FD.38B-LA71C4</b>						
	4.9	352	0.82	280.41	2KJ1401 - ■CC13 - ■■N1		20
	5.7	304	0.96	241.91	★ 2KJ1401 - ■CC13 - ■■M1		20
	6.6	261	1.1	207.83	2KJ1401 - ■CC13 - ■■L1		20
	7.2	240	1.2	191.34	★ 2KJ1401 - ■CC13 - ■■K1		20
	7.9	218	1.3	173.94	2KJ1401 - ■CC13 - ■■J1		20
	8.9	193	1.5	153.96	★ 2KJ1401 - ■CC13 - ■■H1		20
	10.6	162	1.8	128.95	2KJ1401 - ■CC13 - ■■G1		20
	12.5	138	2.1	109.95	★ 2KJ1401 - ■CC13 - ■■F1		20
	<b>FD.28-LA71C4</b>						
	10.6	162	0.93	128.77	2KJ1400 - ■CC13 - ■■G1		11
	12.5	138	1.1	109.79	★ 2KJ1400 - ■CC13 - ■■F1		11
	14.7	117	1.3	93.32	★ 2KJ1400 - ■CC13 - ■■E1		11
	16.9	102	1.5	81.1	2KJ1400 - ■CC13 - ■■D1		11
19.4	89	1.7	70.59	★ 2KJ1400 - ■CC13 - ■■C1		11	
22	80	1.9	63.68	2KJ1400 - ■CC13 - ■■B1		11	
24	70	2.1	56.2	2KJ1400 - ■CC13 - ■■A1		11	
<b>FZ.28-LA71C4</b>							
23	75	2.0	59.65	2KJ1300 - ■CC13 - ■■C2		11	
27	63	2.4	50.3	★ 2KJ1300 - ■CC13 - ■■B2		11	
31	56	2.7	44.66	2KJ1300 - ■CC13 - ■■A2		11	
35	49	3.1	39.15	★ 2KJ1300 - ■CC13 - ■■X1		11	
39	44	3.4	35.04	2KJ1300 - ■CC13 - ■■W1		11	
44	39	3.8	31.1	★ 2KJ1300 - ■CC13 - ■■V1		11	
50	34	4.4	27.25	2KJ1300 - ■CC13 - ■■U1		11	
57	30	5.0	23.96	★ 2KJ1300 - ■CC13 - ■■T1		11	
63	27	5.5	21.64	2KJ1300 - ■CC13 - ■■S1		11	
73	24	6.3	18.86	★ 2KJ1300 - ■CC13 - ■■R1		11	

★ Preferred transmission ratio

Shaft designs, see page 3/89

Frequency and voltage, see page 8/20

Gearbox housing mounting position, see page 3/92

\*) For mounting type B5-01

1, 2, 3, 5, 6 or 9

1 to 9

A, D, E, F, H or M

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

### Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
<b>0.18</b>	<b>FZ.28-LA71C4</b>						
	<b>81</b>	21	7.1	16.94	<b>2KJ1300 - CC13 - Q1</b>		11
	<b>90</b>	19	7.8	15.29 ★	<b>2KJ1300 - CC13 - P1</b>		11
	<b>99</b>	17	8.6	13.87	<b>2KJ1300 - CC13 - N1</b>		11
	<b>109</b>	16	9.3	12.62 ★	<b>2KJ1300 - CC13 - M1</b>		11
	<b>123</b>	14	10.1	11.16	<b>2KJ1300 - CC13 - L1</b>		11
	<b>133</b>	13	10.7	10.3 ★	<b>2KJ1300 - CC13 - K1</b>		11
	<b>154</b>	11	11.8	8.87	<b>2KJ1300 - CC13 - J1</b>		11
	<b>170</b>	10	12.6	8.06 ★	<b>2KJ1300 - CC13 - H1</b>		11
	<b>190</b>	9	13.9	7.2 ★	<b>2KJ1300 - CC13 - G1</b>		11
<b>210</b>	8.2	14.9	6.53	<b>2KJ1300 - CC13 - F1</b>		11	
<b>0.25</b>	<b>FD.188B-Z48-LA71S4</b>						
	<b>0.09</b>	22 462	0.89	15 519	★	<b>2KJ1438 - CD13 - X1</b>	638
	<b>0.10</b>	20 419	0.98	14 108		<b>2KJ1438 - CD13 - W1</b>	638
	<b>0.11</b>	18 344	1.1	12 674	★	<b>2KJ1438 - CD13 - V1</b>	638
	<b>0.12</b>	15 723	1.3	10 863		<b>2KJ1438 - CD13 - U1</b>	638
	<b>0.14</b>	14 226	1.4	9 829	★	<b>2KJ1438 - CD13 - T1</b>	638
	<b>0.15</b>	13 132	1.5	9 073		<b>2KJ1438 - CD13 - S1</b>	638
	<b>0.17</b>	11 418	1.8	7 889	★	<b>2KJ1438 - CD13 - R1</b>	638
	<b>0.19</b>	10 367	1.9	7 163		<b>2KJ1438 - CD13 - Q1</b>	638
	<b>FD.168B-Z48-LA71S4</b>						
	<b>0.12</b>	16 743	0.84	11 568	★	<b>2KJ1435 - CD13 - V1</b>	454
	<b>0.14</b>	14 352	0.98	9 916		<b>2KJ1435 - CD13 - U1</b>	454
	<b>0.15</b>	12 984	1.1	8 971	★	<b>2KJ1435 - CD13 - T1</b>	454
	<b>0.16</b>	11 986	1.2	8 281		<b>2KJ1435 - CD13 - S1</b>	454
	<b>0.19</b>	10 422	1.3	7 201	★	<b>2KJ1435 - CD13 - R1</b>	454
	<b>0.21</b>	9 463	1.5	6 538		<b>2KJ1435 - CD13 - Q1</b>	454
	<b>0.23</b>	8 641	1.6	5 970	★	<b>2KJ1435 - CD13 - P1</b>	454
	<b>0.25</b>	7 927	1.8	5 477		<b>2KJ1435 - CD13 - N1</b>	454
	<b>0.27</b>	7 303	1.9	5 046	★	<b>2KJ1435 - CD13 - M1</b>	454
<b>FD.148B-Z38-LA71S4</b>							
<b>0.19</b>	10 460	0.86	7 227		<b>2KJ1432 - CD13 - P1</b>	287	
<b>0.21</b>	9 234	0.97	6 380	★	<b>2KJ1432 - CD13 - N1</b>	287	
<b>0.24</b>	8 330	1.1	5 755		<b>2KJ1432 - CD13 - M1</b>	287	
<b>0.26</b>	7 555	1.2	5 220	★	<b>2KJ1432 - CD13 - L1</b>	287	
<b>0.28</b>	6 884	1.3	4 756		<b>2KJ1432 - CD13 - K1</b>	287	
<b>0.31</b>	6 296	1.4	4 350	★	<b>2KJ1432 - CD13 - J1</b>	287	
<b>0.35</b>	5 629	1.6	3 889		<b>2KJ1432 - CD13 - H1</b>	287	
<b>0.38</b>	5 169	1.7	3 571	★	<b>2KJ1432 - CD13 - G1</b>	287	
<b>0.42</b>	4 659	1.9	3 219		<b>2KJ1432 - CD13 - F1</b>	287	
<b>FD.128B-Z38-LA71S4</b>							
<b>0.27</b>	7 286	0.84	5 034	★	<b>2KJ1428 - CD13 - L1</b>	197	
<b>0.29</b>	6 639	0.92	4 587		<b>2KJ1428 - CD13 - K1</b>	197	
<b>0.32</b>	6 072	1.0	4 195	★	<b>2KJ1428 - CD13 - J1</b>	197	

★ Preferred transmission ratio

Shaft designs, see page 3/89 ————— 1, 2, 3, 5, 6 or 9

Frequency and voltage, see page 8/20 ————— 1 to 9

Gearbox housing mounting position, see page 3/92 ————— A, D, E, F, H or M

\*) For mounting type B5-01

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
0.25	<b>FD.128B-Z38-LA71S4</b>						
	0.36	5 429	1.1	3 751	2KJ1428 - ■CD13 - ■■H1		197
	0.39	4 986	1.2	3 445	★ 2KJ1428 - ■CD13 - ■■G1		197
	0.44	4 494	1.4	3 105	2KJ1428 - ■CD13 - ■■F1		197
	0.51	3 864	1.6	2 670	★ 2KJ1428 - ■CD13 - ■■E1		197
	0.57	3 446	1.8	2 381	2KJ1428 - ■CD13 - ■■D1		197
	0.62	3 164	1.9	2 186	★ 2KJ1428 - ■CD13 - ■■C1		197
	<b>FD.108B-Z38-LA71S4</b>						
	0.52	3 757	0.9	2 596	★ 2KJ1426 - ■CD13 - ■■T1		122
	0.58	3 351	1.0	2 315	2KJ1426 - ■CD13 - ■■S1		122
	0.64	3 077	1.1	2 126	★ 2KJ1426 - ■CD13 - ■■R1		122
	0.70	2 773	1.2	1 916	2KJ1426 - ■CD13 - ■■Q1		122
	0.82	2 384	1.4	1 647	★ 2KJ1426 - ■CD13 - ■■P1		122
	0.88	2 209	1.5	1 526	2KJ1426 - ■CD13 - ■■N1		122
	0.98	2 003	1.7	1 384	★ 2KJ1426 - ■CD13 - ■■M1		122
	1.1	1 825	1.9	1 261	2KJ1426 - ■CD13 - ■■L1		122
	1.2	1 669	2.0	1 153	★ 2KJ1426 - ■CD13 - ■■K1		122
	<b>FD.88B-Z28-LA71S4</b>						
	0.9	2 178	0.87	1 505	★ 2KJ1422 - ■CD13 - ■■M1		73
	1.0	1 926	0.99	1 331	2KJ1422 - ■CD13 - ■■L1		73
	1.1	1 779	1.1	1 229	★ 2KJ1422 - ■CD13 - ■■K1		73
	1.3	1 531	1.2	1 058	2KJ1422 - ■CD13 - ■■J1		73
	1.4	1 392	1.4	962	★ 2KJ1422 - ■CD13 - ■■H1		73
	1.5	1 265	1.5	874	★ 2KJ1422 - ■CD13 - ■■G1		73
<b>FD.88B-LA80M8</b>							
1.7	1 411	1.3	404.92	2KJ1404 - ■DC13 - ■■V1	P02	78	
1.9	1 249	1.5	358.33	★ 2KJ1404 - ■DC13 - ■■U1	P02	78	
<b>FD.88B-LA71M6</b>							
2.1	1 124	1.7	404.92	2KJ1404 - ■CE13 - ■■V1	P01	74	
2.4	995	1.9	358.33	★ 2KJ1404 - ■CE13 - ■■U1	P01	74	
<b>FD.68B-Z28-LA71S4</b>							
1.6	1 206	0.83	833	2KJ1417 - ■CD13 - ■■K1		43	
1.8	1 113	0.9	769	★ 2KJ1417 - ■CD13 - ■■J1		43	
2.0	958	1.0	662	2KJ1417 - ■CD13 - ■■H1		43	
<b>FD.68B-LA80M8</b>							
2.3	1 032	0.97	296.18	★ 2KJ1403 - ■DC13 - ■■S1	P02	47	
2.6	918	1.1	263.39	2KJ1403 - ■DC13 - ■■R1	P02	47	
<b>FD.68B-LA71M6</b>							
2.9	822	1.2	296.18	★ 2KJ1403 - ■CE13 - ■■S1	P01	43	
3.3	731	1.4	263.39	2KJ1403 - ■CE13 - ■■R1	P01	43	
3.8	634	1.6	228.48	★ 2KJ1403 - ■CE13 - ■■Q1	P01	43	
4.0	593	1.7	213.48	2KJ1403 - ■CE13 - ■■P1	P01	43	

★ Preferred transmission ratio

Shaft designs, see page 3/89

Frequency and voltage, see page 8/20

Gearbox housing mounting position, see page 3/92

\*) For mounting type B5-01

1, 2, 3, 5, 6 or 9

1 to 9

A, D, E, F, H or M

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
0.25	<b>FD.68B-LA71S4</b>						
	4.6	524	1.9	296.18	★ 2KJ1403 - CD13 - S1		43
	5.1	466	2.1	263.39	2KJ1403 - CD13 - R1		43
	<b>FD.48B-LA71M6</b>						
	3.6	663	0.82	238.65	2KJ1402 - CE13 - R1	P01	27
	4.1	581	0.93	209.23	★ 2KJ1402 - CE13 - Q1	P01	27
	4.6	520	1.0	187.24	2KJ1402 - CE13 - P1	P01	27
	<b>FD.48B-LA71S4</b>						
	5.0	475	1.1	268.8	★ 2KJ1402 - CD13 - S1		27
	5.7	422	1.3	238.65	2KJ1402 - CD13 - R1		27
	6.5	370	1.5	209.23	★ 2KJ1402 - CD13 - Q1		27
	7.2	331	1.6	187.24	2KJ1402 - CD13 - P1		27
	8.1	294	1.8	166.19	★ 2KJ1402 - CD13 - N1		27
	9.3	258	2.1	145.63	2KJ1402 - CD13 - M1		27
	<b>FD.38B-LA71S4</b>						
	7.1	338	0.86	191.34	★ 2KJ1401 - CD13 - K1		20
	7.8	308	0.94	173.94	2KJ1401 - CD13 - J1		20
	8.8	272	1.1	153.96	★ 2KJ1401 - CD13 - H1		20
	10.5	228	1.3	128.95	2KJ1401 - CD13 - G1		20
	12.3	194	1.5	109.95	★ 2KJ1401 - CD13 - F1		20
	14.4	165	1.8	93.46	2KJ1401 - CD13 - E1		20
	16.6	144	2.0	81.22	★ 2KJ1401 - CD13 - D1		20
	19.1	125	2.3	70.7	2KJ1401 - CD13 - C1		20
	<b>FZ.38B-LA71S4</b>						
	24	100	2.1	56.72	★ 2KJ1301 - CD13 - B2		19
	<b>FD.28-LA71S4</b>						
	14.5	165	0.91	93.32	★ 2KJ1400 - CD13 - E1		11
	16.6	143	1.0	81.1	2KJ1400 - CD13 - D1		11
	19.1	125	1.2	70.59	★ 2KJ1400 - CD13 - C1		11
	21	113	1.3	63.68	2KJ1400 - CD13 - B1		11
24	99	1.5	56.2	2KJ1400 - CD13 - A1		11	
<b>FZ.28-LA71S4</b>							
23	105	1.4	59.65	2KJ1300 - CD13 - C2		11	
27	89	1.7	50.3	★ 2KJ1300 - CD13 - B2		11	
30	79	1.9	44.66	2KJ1300 - CD13 - A2		11	
34	69	2.2	39.15	★ 2KJ1300 - CD13 - X1		11	
38	62	2.4	35.04	2KJ1300 - CD13 - W1		11	
43	55	2.7	31.1	★ 2KJ1300 - CD13 - V1		11	
50	48	3.1	27.25	2KJ1300 - CD13 - U1		11	
56	42	3.5	23.96	★ 2KJ1300 - CD13 - T1		11	
62	38	3.9	21.64	2KJ1300 - CD13 - S1		11	
72	33	4.5	18.86	★ 2KJ1300 - CD13 - R1		11	
80	30	5.0	16.94	2KJ1300 - CD13 - Q1		11	
88	27	5.5	15.29	★ 2KJ1300 - CD13 - P1		11	

★ Preferred transmission ratio

Shaft designs, see page 3/89

1, 2, 3, 5, 6 or 9

Frequency and voltage, see page 8/20

1 to 9

Gearbox housing mounting position, see page 3/92

A, D, E, F, H or M

\*) For mounting type B5-01

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
0.25	<b>FZ.28-LA71S4</b>						
	97	24	6.1	13.87	2KJ1300 - CD13 - N1		11
	107	22	6.6	12.62	★ 2KJ1300 - CD13 - M1		11
	121	20	7.2	11.16	2KJ1300 - CD13 - L1		11
	131	18	7.6	10.3	★ 2KJ1300 - CD13 - K1		11
	152	16	8.4	8.87	2KJ1300 - CD13 - J1		11
	167	14	8.9	8.06	★ 2KJ1300 - CD13 - H1		11
	188	13	9.9	7.2	★ 2KJ1300 - CD13 - G1		11
	207	12	10.6	6.53	2KJ1300 - CD13 - F1		11
	227	10	11.2	5.94	★ 2KJ1300 - CD13 - E1		11
	257	9.3	12.0	5.25	2KJ1300 - CD13 - D1		11
	278	8.6	12.8	4.85	★ 2KJ1300 - CD13 - C1		11
	323	7.4	13.4	4.18	2KJ1300 - CD13 - B1		11
	355	6.7	14.3	3.8	★ 2KJ1300 - CD13 - A1		11
0.37	<b>FD.188B-Z48-LA71M4</b>						
	0.13	23 944	0.84	10 863	2KJ1438 - CE13 - U1		638
	0.14	21 665	0.92	9 829	★ 2KJ1438 - CE13 - T1		638
	0.15	19 998	1.0	9 073	2KJ1438 - CE13 - S1		638
	0.17	17 389	1.2	7 889	★ 2KJ1438 - CE13 - R1		638
	0.19	15 788	1.3	7 163	2KJ1438 - CE13 - Q1		638
	0.21	14 415	1.4	6 540	★ 2KJ1438 - CE13 - P1		638
	0.23	13 227	1.5	6 001	2KJ1438 - CE13 - N1		638
	0.25	12 187	1.6	5 529	★ 2KJ1438 - CE13 - M1		638
	0.27	11 067	1.8	5 021	2KJ1438 - CE13 - L1		638
	0.30	10 082	2.0	4 574	★ 2KJ1438 - CE13 - K1		638
	<b>FD.168B-Z48-LA71M4</b>						
	0.19	15 872	0.88	7 201	★ 2KJ1435 - CE13 - R1		454
	0.21	14 411	0.97	6 538	2KJ1435 - CE13 - Q1		454
	0.23	13 159	1.1	5 970	★ 2KJ1435 - CE13 - P1		454
	0.25	12 072	1.2	5 477	2KJ1435 - CE13 - N1		454
	0.27	11 122	1.3	5 046	★ 2KJ1435 - CE13 - M1		454
	0.30	10 102	1.4	4 583	2KJ1435 - CE13 - L1		454
	0.33	9 202	1.5	4 175	★ 2KJ1435 - CE13 - K1		454
	0.36	8 431	1.7	3 825	2KJ1435 - CE13 - J1		454
0.40	7 523	1.9	3 413	★ 2KJ1435 - CE13 - H1		454	
<b>FD.148B-Z38-LA71M4</b>							
0.29	10 483	0.86	4 756	2KJ1432 - CE13 - K1		287	
0.32	9 588	0.94	4 350	★ 2KJ1432 - CE13 - J1		287	
0.35	8 572	1.0	3 889	2KJ1432 - CE13 - H1		287	
0.38	7 871	1.1	3 571	★ 2KJ1432 - CE13 - G1		287	
0.43	7 095	1.3	3 219	2KJ1432 - CE13 - F1		287	
0.50	6 101	1.5	2 768	★ 2KJ1432 - CE13 - E1		287	
0.56	5 440	1.7	2 468	2KJ1432 - CE13 - D1		287	
0.60	4 995	1.8	2 266	★ 2KJ1432 - CE13 - C1		287	

★ Preferred transmission ratio

Shaft designs, see page 3/89

1, 2, 3, 5, 6 or 9

Frequency and voltage, see page 8/20

1 to 9

Gearbox housing mounting position, see page 3/92

A, D, E, F, H or M

\*) For mounting type B5-01

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg	
0.37	<b>FD.148B-Z38-LA71M4</b>							
	0.67	4 503	2.0	2 043	2KJ1432 - ■CE13 - ■■B1		287	
	<b>FD.128B-Z38-LA71M4</b>							
	0.40	7 593	0.80	3 445	★	2KJ1428 - ■CE13 - ■■G1	197	
	0.44	6 844	0.89	3 105		2KJ1428 - ■CE13 - ■■F1	197	
	0.51	5 885	1.0	2 670	★	2KJ1428 - ■CE13 - ■■E1	197	
	0.57	5 248	1.2	2 381		2KJ1428 - ■CE13 - ■■D1	197	
	0.63	4 818	1.3	2 186	★	2KJ1428 - ■CE13 - ■■C1	197	
	0.70	4 342	1.4	1 970		2KJ1428 - ■CE13 - ■■B1	197	
	0.81	3 734	1.6	1 694	★	2KJ1428 - ■CE13 - ■■A1	197	
	<b>FD.128B-Z48-LA71M4</b>							
	0.91	3 315	1.8	1 504		2KJ1431 - ■CE13 - ■■L1	206	
	1.0	3 020	2.0	1 370	★	2KJ1431 - ■CE13 - ■■K1	206	
	<b>FD.108B-Z38-LA71M4</b>							
	0.72	4 223	0.81	1 916		2KJ1426 - ■CE13 - ■■Q1	122	
	0.83	3 630	0.94	1 647	★	2KJ1426 - ■CE13 - ■■P1	122	
	0.90	3 364	1.0	1 526		2KJ1426 - ■CE13 - ■■N1	122	
	0.99	3 051	1.1	1 384	★	2KJ1426 - ■CE13 - ■■M1	122	
	1.1	2 779	1.2	1 261		2KJ1426 - ■CE13 - ■■L1	122	
	1.2	2 541	1.3	1 153	★	2KJ1426 - ■CE13 - ■■K1	122	
	1.3	2 272	1.5	1 031		2KJ1426 - ■CE13 - ■■J1	122	
	1.4	2 087	1.6	947	★	2KJ1426 - ■CE13 - ■■H1	122	
	<b>FD.108B-LA90SA8</b>							
	1.6	2 222	1.5	424.49	★	2KJ1405 - ■EB13 - ■■V1	P02	128
	1.8	2 004	1.7	382.79		2KJ1405 - ■EB13 - ■■U1	P02	128
	2.0	1 807	1.9	345.19	★	2KJ1405 - ■EB13 - ■■T1	P02	128
	<b>FD.88B-Z28-LA71M4</b>							
	1.3	2 332	0.81	1 058		2KJ1422 - ■CE13 - ■■J1		73
1.4	2 120	0.90	962	★	2KJ1422 - ■CE13 - ■■H1		73	
1.6	1 926	0.99	874	★	2KJ1422 - ■CE13 - ■■G1		73	
<b>FD.88B-LA90SA8</b>								
1.9	1 876	1.0	358.33	★	2KJ1404 - ■EB13 - ■■U1	P02	81	
<b>FD.88B-LA80S6</b>								
2.3	1 555	1.2	404.92		2KJ1404 - ■DB13 - ■■V1	P01	78	
2.6	1 376	1.4	358.33	★	2KJ1404 - ■DB13 - ■■U1	P01	78	
2.8	1 251	1.5	325.76		2KJ1404 - ■DB13 - ■■T1	P01	78	
3.1	1 124	1.7	292.64	★	2KJ1404 - ■DB13 - ■■S1	P01	78	
<b>FD.88B-LA71M4</b>								
3.4	1 044	1.8	404.92		2KJ1404 - ■CE13 - ■■V1		74	
<b>FD.68B-LA80S6</b>								
3.1	1 138	0.88	296.18	★	2KJ1403 - ■DB13 - ■■S1	P01	47	
3.5	1 012	0.99	263.39		2KJ1403 - ■DB13 - ■■R1	P01	47	
4.0	878	1.1	228.48	★	2KJ1403 - ■DB13 - ■■Q1	P01	47	
4.3	820	1.2	213.48		2KJ1403 - ■DB13 - ■■P1	P01	47	

★ Preferred transmission ratio

Shaft designs, see page 3/89

1, 2, 3, 5, 6 or 9

Frequency and voltage, see page 8/20

1 to 9

Gearbox housing mounting position, see page 3/92

A, D, E, F, H or M

\*) For mounting type B5-01



# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
0.37	<b>FD.68B-LA71M4</b>						
	4.6	764	1.3	296.18	★	2KJ1403 - ■CE13 - ■■S1	43
	5.2	679	1.5	263.39		2KJ1403 - ■CE13 - ■■R1	43
	6.0	589	1.7	228.48	★	2KJ1403 - ■CE13 - ■■Q1	43
	6.4	551	1.8	213.48		2KJ1403 - ■CE13 - ■■P1	43
	7.3	484	2.1	187.76	★	2KJ1403 - ■CE13 - ■■N1	43
	<b>FD.48B-LA71M4</b>						
	5.7	616	0.88	238.65		2KJ1402 - ■CE13 - ■■R1	27
	6.5	540	1.0	209.23	★	2KJ1402 - ■CE13 - ■■Q1	27
	7.3	483	1.1	187.24		2KJ1402 - ■CE13 - ■■P1	27
	8.2	429	1.3	166.19	★	2KJ1402 - ■CE13 - ■■N1	27
	9.4	376	1.4	145.63		2KJ1402 - ■CE13 - ■■M1	27
	10.7	330	1.6	128.04	★	2KJ1402 - ■CE13 - ■■L1	27
	11.8	298	1.8	115.68		2KJ1402 - ■CE13 - ■■K1	27
	13.6	260	2.1	100.8	★	2KJ1402 - ■CE13 - ■■J1	27
	<b>FD.38B-LA71M4</b>						
	10.6	333	0.87	128.95		2KJ1401 - ■CE13 - ■■G1	20
	12.5	284	1.0	109.95	★	2KJ1401 - ■CE13 - ■■F1	20
	14.7	241	1.2	93.46	★	2KJ1401 - ■CE13 - ■■E1	20
	16.9	209	1.4	81.22		2KJ1401 - ■CE13 - ■■D1	20
	19.4	182	1.6	70.7	★	2KJ1401 - ■CE13 - ■■C1	20
	22	164	1.8	63.77		2KJ1401 - ■CE13 - ■■B1	20
	24	145	2.0	56.28		2KJ1401 - ■CE13 - ■■A1	20
	<b>FZ.38B-LA71M4</b>						
	24	146	1.4	56.72	★	2KJ1301 - ■CE13 - ■■B2	19
	27	130	1.8	50.44		2KJ1301 - ■CE13 - ■■A2	19
	31	113	2.2	43.75	★	2KJ1301 - ■CE13 - ■■X1	19
34	105	2.6	40.88		2KJ1301 - ■CE13 - ■■W1	19	
<b>FD.28-LA71M4</b>							
19.4	182	0.82	70.59	★	2KJ1400 - ■CE13 - ■■C1	11	
22	164	0.91	63.68		2KJ1400 - ■CE13 - ■■B1	11	
24	145	1.0	56.2		2KJ1400 - ■CE13 - ■■A1	11	
<b>FZ.28-LA71M4</b>							
23	154	0.97	59.65		2KJ1300 - ■CE13 - ■■C2	11	
27	130	1.2	50.3	★	2KJ1300 - ■CE13 - ■■B2	11	
31	115	1.3	44.66		2KJ1300 - ■CE13 - ■■A2	11	
35	101	1.5	39.15	★	2KJ1300 - ■CE13 - ■■X1	11	
39	90	1.7	35.04		2KJ1300 - ■CE13 - ■■W1	11	
44	80	1.9	31.1	★	2KJ1300 - ■CE13 - ■■V1	11	
50	70	2.1	27.25		2KJ1300 - ■CE13 - ■■U1	11	
57	62	2.4	23.96	★	2KJ1300 - ■CE13 - ■■T1	11	
63	56	2.7	21.64		2KJ1300 - ■CE13 - ■■S1	11	
73	49	3.1	18.86	★	2KJ1300 - ■CE13 - ■■R1	11	

★ Preferred transmission ratio

Shaft designs, see page 3/89

Frequency and voltage, see page 8/20

Gearbox housing mounting position, see page 3/92

\*) For mounting type B5-01

1, 2, 3, 5, 6 or 9

1 to 9

A, D, E, F, H or M

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
0.55	<b>FD.188B-Z48-LA71ZMP4</b>						
	0.19	24 147	0.83	7 163	2KJ1438 - ■CG13 - ■■Q1		638
	0.21	22 047	0.91	6 540	★ 2KJ1438 - ■CG13 - ■■P1		638
	0.23	20 230	0.99	6 001	2KJ1438 - ■CG13 - ■■N1		638
	0.25	18 639	1.1	5 529	★ 2KJ1438 - ■CG13 - ■■M1		638
	0.27	16 926	1.2	5 021	2KJ1438 - ■CG13 - ■■L1		638
	0.30	15 419	1.3	4 574	★ 2KJ1438 - ■CG13 - ■■K1		638
	0.33	14 125	1.4	4 190	2KJ1438 - ■CG13 - ■■J1		638
	0.37	12 604	1.6	3 739	★ 2KJ1438 - ■CG13 - ■■H1		638
	<b>FD.168B-Z48-LA71ZMP4</b>						
	0.27	17 010	0.82	5 046	★ 2KJ1435 - ■CG13 - ■■M1		454
	0.30	15 450	0.91	4 583	2KJ1435 - ■CG13 - ■■L1		454
	0.33	14 074	0.99	4 175	★ 2KJ1435 - ■CG13 - ■■K1		454
	0.36	12 894	1.1	3 825	2KJ1435 - ■CG13 - ■■J1		454
	0.40	11 505	1.2	3 413	★ 2KJ1435 - ■CG13 - ■■H1		454
	0.65	7 143	2.0	2 119	★ 2KJ1435 - ■CG13 - ■■D1		454
	<b>FD.148B-Z48-LA71ZMP4</b>						
	0.84	5 508	1.6	1 634	2KJ1434 - ■CG13 - ■■K1		296
	0.92	5 020	1.8	1 489	★ 2KJ1434 - ■CG13 - ■■J1		296
	1.0	4 598	2.0	1 364	2KJ1434 - ■CG13 - ■■H1		296
	<b>FD.148B-Z38-LA71ZMP4</b>						
	0.43	10 852	0.83	3 219	2KJ1432 - ■CG13 - ■■F1		287
	0.50	9 331	0.96	2 768	★ 2KJ1432 - ■CG13 - ■■E1		287
	0.56	8 320	1.1	2 468	2KJ1432 - ■CG13 - ■■D1		287
	0.60	7 639	1.2	2 266	★ 2KJ1432 - ■CG13 - ■■C1		287
	0.67	6 887	1.3	2 043	2KJ1432 - ■CG13 - ■■B1		287
	0.78	5 923	1.5	1 757	★ 2KJ1432 - ■CG13 - ■■A1		287
	<b>FD.128B-Z48-LA71ZMP4</b>						
	0.91	5 070	1.2	1 504	2KJ1431 - ■CG13 - ■■L1		206
	1.0	4 618	1.3	1 370	★ 2KJ1431 - ■CG13 - ■■K1		206
	1.1	4 231	1.4	1 255	2KJ1431 - ■CG13 - ■■J1		206
	1.2	3 776	1.6	1 120	★ 2KJ1431 - ■CG13 - ■■H1		206
<b>FD.128B-Z38-LA71ZMP4</b>							
0.63	7 369	0.83	2 186	★ 2KJ1428 - ■CG13 - ■■C1		197	
0.70	6 641	0.92	1 970	2KJ1428 - ■CG13 - ■■B1		197	
0.81	5 711	1.1	1 694	★ 2KJ1428 - ■CG13 - ■■A1		197	
<b>FD.128B-LA90LA8</b>							
1.5	3 486	1.7	447.96	2KJ1406 - ■EE13 - ■■V1	P02	212	
1.7	3 155	1.9	405.47	★ 2KJ1406 - ■EE13 - ■■U1	P02	212	
<b>FD.108B-Z38-LA71ZMP4</b>							
1.1	4 251	0.80	1 261	2KJ1426 - ■CG13 - ■■L1		122	
1.2	3 887	0.87	1 153	★ 2KJ1426 - ■CG13 - ■■K1		122	
1.3	3 476	0.98	1 031	2KJ1426 - ■CG13 - ■■J1		122	
1.4	3 192	1.1	947	★ 2KJ1426 - ■CG13 - ■■H1		122	

★ Preferred transmission ratio

Shaft designs, see page 3/89

Frequency and voltage, see page 8/20

Gearbox housing mounting position, see page 3/92

\*) For mounting type B5-01

1, 2, 3, 5, 6 or 9

1 to 9

A, D, E, F, H or M

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg	
0.55	<b>FD.108B-LA90LA8</b>							
	1.6	3 303	1.0	424.49	★	2KJ1405 - ■EE13 - ■■V1	P02	131
	1.8	2 979	1.1	382.79		2KJ1405 - ■EE13 - ■■U1	P02	131
	2.0	2 686	1.3	345.19	★	2KJ1405 - ■EE13 - ■■T1	P02	131
	<b>FD.108B-LA80M6</b>							
	2.1	2 450	1.4	424.49	★	2KJ1405 - ■DC13 - ■■V1	P01	125
	2.4	2 209	1.5	382.79		2KJ1405 - ■DC13 - ■■U1	P01	125
	2.6	1 992	1.7	345.19	★	2KJ1405 - ■DC13 - ■■T1	P01	125
	3.0	1 742	2.0	301.88		2KJ1405 - ■DC13 - ■■S1	P01	125
	<b>FD.88B-LA80M6</b>							
	2.2	2 337	0.81	404.92		2KJ1404 - ■DC13 - ■■V1	P01	78
	2.5	2 068	0.92	358.33	★	2KJ1404 - ■DC13 - ■■U1	P01	78
	2.8	1 880	1.0	325.76		2KJ1404 - ■DC13 - ■■T1	P01	78
	3.1	1 689	1.1	292.64	★	2KJ1404 - ■DC13 - ■■S1	P01	78
	<b>FD.88B-LA71ZMP4</b>							
	3.4	1 552	1.2	404.92		2KJ1404 - ■CG13 - ■■V1		74
	3.8	1 374	1.4	358.33	★	2KJ1404 - ■CG13 - ■■U1		74
	4.2	1 249	1.5	325.76		2KJ1404 - ■CG13 - ■■T1		74
	4.7	1 122	1.7	292.64	★	2KJ1404 - ■CG13 - ■■S1		74
	5.5	962	2.0	250.83		2KJ1404 - ■CG13 - ■■R1		74
	<b>FD.68B-LA80M6</b>							
	4.3	1 232	0.81	213.48		2KJ1403 - ■DC13 - ■■P1	P01	47
	<b>FD.68B-LA71ZMP4</b>							
	4.6	1 136	0.88	296.18	★	2KJ1403 - ■CG13 - ■■S1		43
	5.2	1 010	0.99	263.39		2KJ1403 - ■CG13 - ■■R1		43
	6.0	876	1.1	228.48	★	2KJ1403 - ■CG13 - ■■Q1		43
	6.4	818	1.2	213.48		2KJ1403 - ■CG13 - ■■P1		43
	7.3	720	1.4	187.76	★	2KJ1403 - ■CG13 - ■■N1		43
	8.3	630	1.6	164.44		2KJ1403 - ■CG13 - ■■M1		43
	9.4	558	1.8	145.44	★	2KJ1403 - ■CG13 - ■■L1		43
	10.4	505	2.0	131.82		2KJ1403 - ■CG13 - ■■K1		43
	11.8	446	2.2	116.36	★	2KJ1403 - ■CG13 - ■■J1		43
	<b>FD.48B-LA71ZMP4</b>							
8.2	637	0.85	166.19	★	2KJ1402 - ■CG13 - ■■N1		27	
9.4	558	0.97	145.63		2KJ1402 - ■CG13 - ■■M1		27	
10.7	491	1.1	128.04	★	2KJ1402 - ■CG13 - ■■L1		27	
11.8	444	1.2	115.68		2KJ1402 - ■CG13 - ■■K1		27	
13.6	386	1.4	100.8	★	2KJ1402 - ■CG13 - ■■J1		27	
15.1	347	1.6	90.53		2KJ1402 - ■CG13 - ■■H1		27	
16.8	313	1.7	81.73	★	2KJ1402 - ■CG13 - ■■G1		27	
18.5	284	1.9	74.1		2KJ1402 - ■CG13 - ■■F1		27	
20	259	2.1	67.43	★	2KJ1402 - ■CG13 - ■■E1		27	
23	229	2.4	59.62		2KJ1402 - ■CG13 - ■■D1		27	

★ Preferred transmission ratio

Shaft designs, see page 3/89

1, 2, 3, 5, 6 or 9

Frequency and voltage, see page 8/20

1 to 9

Gearbox housing mounting position, see page 3/92

A, D, E, F, H or M

\*) For mounting type B5-01

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
0.55	<b>FZ.48B-LA71ZMP4</b>						
	23	233	1.7	60.71	★	2KJ1302 - ■CG13 - ■■B2	27
	25	212	2.4	55.19		2KJ1302 - ■CG13 - ■■A2	27
	<b>FD.38B-LA71ZMP4</b>						
	14.7	358	0.81	93.46	★	2KJ1401 - ■CG13 - ■■E1	20
	16.9	311	0.93	81.22		2KJ1401 - ■CG13 - ■■D1	20
	19.4	271	1.1	70.7	★	2KJ1401 - ■CG13 - ■■C1	20
	22	244	1.2	63.77		2KJ1401 - ■CG13 - ■■B1	20
	24	216	1.3	56.28		2KJ1401 - ■CG13 - ■■A1	20
	<b>FZ.38B-LA71ZMP4</b>						
	24	217	0.97	56.72	★	2KJ1301 - ■CG13 - ■■B2	19
	27	193	1.2	50.44		2KJ1301 - ■CG13 - ■■A2	19
	31	168	1.5	43.75	★	2KJ1301 - ■CG13 - ■■X1	19
	34	157	1.8	40.88		2KJ1301 - ■CG13 - ■■W1	19
	38	138	2.1	35.96	★	2KJ1301 - ■CG13 - ■■V1	19
	44	121	2.4	31.49		2KJ1301 - ■CG13 - ■■U1	19
	49	107	2.7	27.85	★	2KJ1301 - ■CG13 - ■■T1	19
	<b>FZ.28-LA71ZMP4</b>						
	31	171	0.88	44.66		2KJ1300 - ■CG13 - ■■A2	11
	35	150	1.0	39.15	★	2KJ1300 - ■CG13 - ■■X1	11
	39	134	1.1	35.04		2KJ1300 - ■CG13 - ■■W1	11
	44	119	1.3	31.1	★	2KJ1300 - ■CG13 - ■■V1	11
	50	104	1.4	27.25		2KJ1300 - ■CG13 - ■■U1	11
	57	92	1.6	23.96	★	2KJ1300 - ■CG13 - ■■T1	11
	63	83	1.8	21.64		2KJ1300 - ■CG13 - ■■S1	11
	73	72	2.1	18.86	★	2KJ1300 - ■CG13 - ■■R1	11
	81	65	2.3	16.94		2KJ1300 - ■CG13 - ■■Q1	11
90	59	2.6	15.29	★	2KJ1300 - ■CG13 - ■■P1	11	
99	53	2.8	13.87		2KJ1300 - ■CG13 - ■■N1	11	
109	48	3.1	12.62	★	2KJ1300 - ■CG13 - ■■M1	11	
123	43	3.3	11.16		2KJ1300 - ■CG13 - ■■L1	11	
133	40	3.5	10.3	★	2KJ1300 - ■CG13 - ■■K1	11	
154	34	3.9	8.87		2KJ1300 - ■CG13 - ■■J1	11	
170	31	4.1	8.06	★	2KJ1300 - ■CG13 - ■■H1	11	
0.75	<b>FD.188B-Z48-LA80ZMB4E</b>						
	0.28	22 934	0.87	5 021		2KJ1438 - ■DE13 - ■■L1	642
	0.31	20 892	0.96	4 574	★	2KJ1438 - ■DE13 - ■■K1	642
	0.33	19 138	1.0	4 190		2KJ1438 - ■DE13 - ■■J1	642
	0.37	17 078	1.2	3 739	★	2KJ1438 - ■DE13 - ■■H1	642
	0.42	15 242	1.3	3 337		2KJ1438 - ■DE13 - ■■G1	642
	0.49	12 945	1.5	2 834		2KJ1438 - ■DE13 - ■■F1	642
	0.59	10 775	1.9	2 359	★	2KJ1438 - ■DE13 - ■■E1	642
	0.60	10 606	1.9	2 322	★	2KJ1438 - ■DE13 - ■■D1	642

★ Preferred transmission ratio

Shaft designs, see page 3/89

Frequency and voltage, see page 8/20

Gearbox housing mounting position, see page 3/92

\*) For mounting type B5-01

1, 2, 3, 5, 6 or 9

1 to 9

A, D, E, F, H or M

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
0.75	<b>FD.168B-Z48-LA80ZMB4E</b>						
	0.37	17 471	0.80	3 825	2KJ1435 - DE13 - J1		458
	0.41	15 589	0.90	3 413	★ 2KJ1435 - DE13 - H1		458
	0.46	13 913	1.0	3 046	2KJ1435 - DE13 - G1		458
	0.54	11 816	1.2	2 587	2KJ1435 - DE13 - F1		458
	0.65	9 834	1.4	2 153	★ 2KJ1435 - DE13 - E1		458
	0.66	9 679	1.4	2 119	★ 2KJ1435 - DE13 - D1		458
	0.74	8 637	1.6	1 891	2KJ1435 - DE13 - C1		458
	0.87	7 336	1.9	1 606	2KJ1435 - DE13 - B1		458
	<b>FD.148B-Z38-LA80ZMB4E</b>						
	0.57	11 273	0.80	2 468	2KJ1432 - DE13 - D1		291
	0.62	10 350	0.87	2 266	★ 2KJ1432 - DE13 - C1		291
	0.68	9 332	0.96	2 043	2KJ1432 - DE13 - B1		291
	0.80	8 025	1.1	1 757	★ 2KJ1432 - DE13 - A1		291
	<b>FD.148B-Z48-LA80ZMB4E</b>						
	0.86	7 464	1.2	1 634	2KJ1434 - DE13 - K1		300
	0.94	6 801	1.3	1 489	★ 2KJ1434 - DE13 - J1		300
	1.0	6 230	1.4	1 364	2KJ1434 - DE13 - H1		300
	1.2	5 559	1.6	1 217	★ 2KJ1434 - DE13 - G1		300
	1.3	4 960	1.8	1 086	2KJ1434 - DE13 - F1		300
	<b>FD.148B-LA100LA8</b>						
	1.5	4 732	1.9	449.21	★ 2KJ1407 - FB13 - U1	P02	316
	<b>FD.128B-Z48-LA80ZMB4E</b>						
	0.93	6 870	0.89	1 504	2KJ1431 - DE13 - L1		210
	1.0	6 258	0.97	1 370	★ 2KJ1431 - DE13 - K1		210
	1.1	5 732	1.1	1 255	2KJ1431 - DE13 - J1		210
	1.2	5 116	1.2	1 120	★ 2KJ1431 - DE13 - H1		210
	1.4	4 563	1.3	999	2KJ1431 - DE13 - G1		210
	<b>FD.128B-LA100LA8</b>						
	1.9	3 739	1.6	354.99	2KJ1406 - FB13 - T1	P02	220
	<b>FD.128B-LA90SB6E</b>						
	2.1	3 469	1.8	447.96	2KJ1406 - ED13 - V1	P01	209
2.3	3 140	1.9	405.47	★ 2KJ1406 - ED13 - U1	P01	209	
<b>FD.108B-LA90SB6E</b>							
2.2	3 287	1.0	424.49	★ 2KJ1405 - ED13 - V1	P01	128	
2.4	2 964	1.1	382.79	2KJ1405 - ED13 - U1	P01	128	
2.7	2 673	1.3	345.19	★ 2KJ1405 - ED13 - T1	P01	128	
3.1	2 338	1.5	301.88	2KJ1405 - ED13 - S1	P01	128	
<b>FD.108B-LA80ZMB4E</b>							
3.3	2 172	1.6	424.49	★ 2KJ1405 - DE13 - V1		125	
3.7	1 958	1.7	382.79	2KJ1405 - DE13 - U1		125	
4.1	1 766	1.9	345.19	★ 2KJ1405 - DE13 - T1		125	
<b>FD.88B-LA90SB6E</b>							
3.2	2 266	0.84	292.64	★ 2KJ1404 - ED13 - S1	P01	81	

★ Preferred transmission ratio

Shaft designs, see page 3/89

Frequency and voltage, see page 8/20

Gearbox housing mounting position, see page 3/92

\*) For mounting type B5-01

1, 2, 3, 5, 6 or 9

1 to 9

A, D, E, F, H or M

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
0.75	<b>FD.88B-LA80ZMB4E</b>						
	3.5	2 072	0.92	404.92	2KJ1404 - DE13 - V1		78
	3.9	1 833	1.0	358.33	★ 2KJ1404 - DE13 - U1		78
	4.3	1 667	1.1	325.76	2KJ1404 - DE13 - T1		78
	4.8	1 497	1.3	292.64	★ 2KJ1404 - DE13 - S1		78
	5.6	1 283	1.5	250.83	2KJ1404 - DE13 - R1		78
	6.2	1 161	1.6	226.94	★ 2KJ1404 - DE13 - P1		78
	6.7	1 072	1.8	209.49	2KJ1404 - DE13 - N1		78
	7.7	932	2.0	182.15	★ 2KJ1404 - DE13 - M1		78
	<b>FD.68B-LA80ZMB4E</b>						
	6.1	1 169	0.86	228.48	★ 2KJ1403 - DE13 - Q1		47
	6.6	1 092	0.92	213.48	2KJ1403 - DE13 - P1		47
	7.5	961	1.0	187.76	★ 2KJ1403 - DE13 - N1		47
	8.5	841	1.2	164.44	2KJ1403 - DE13 - M1		47
	9.6	744	1.3	145.44	★ 2KJ1403 - DE13 - L1		47
	10.6	674	1.5	131.82	2KJ1403 - DE13 - K1		47
	12.0	595	1.7	116.36	★ 2KJ1403 - DE13 - J1		47
	13.3	537	1.9	104.96	2KJ1403 - DE13 - H1		47
	14.7	487	2.1	95.2	★ 2KJ1403 - DE13 - G1		47
	16.1	444	2.3	86.74	2KJ1403 - DE13 - F1		47
	<b>FD.48B-LA80ZMB4E</b>						
	10.9	655	0.82	128.04	★ 2KJ1402 - DE13 - L1		31
	12.1	592	0.91	115.68	2KJ1402 - DE13 - K1		31
	13.9	516	1.0	100.8	★ 2KJ1402 - DE13 - J1		31
	15.5	463	1.2	90.53	2KJ1402 - DE13 - H1		31
	17.1	418	1.3	81.73	★ 2KJ1402 - DE13 - G1		31
	18.9	379	1.4	74.1	2KJ1402 - DE13 - F1		31
	21	345	1.6	67.43	★ 2KJ1402 - DE13 - E1		31
	24	305	1.8	59.62	2KJ1402 - DE13 - D1		31
	25	282	1.9	55.06	★ 2KJ1402 - DE13 - C1		31
	30	243	2.2	47.4	2KJ1402 - DE13 - B1		31
	32	220	2.4	43.09	★ 2KJ1402 - DE13 - A1		31
	<b>FZ.48B-LA80ZMB4E</b>						
	23	311	1.3	60.71	★ 2KJ1302 - DE13 - B2		31
	25	282	1.8	55.19	2KJ1302 - DE13 - A2		31
	28	254	2.1	49.58	★ 2KJ1302 - DE13 - X1		31
	33	217	2.5	42.5	2KJ1302 - DE13 - W1		31
	<b>FD.38B-LA80ZMB4E</b>						
	19.8	362	0.80	70.7	★ 2KJ1401 - DE13 - C1		24
	22	326	0.89	63.77	2KJ1401 - DE13 - B1		24
	25	288	1.0	56.28	2KJ1401 - DE13 - A1		24
	<b>FZ.38B-LA80ZMB4E</b>						
	28	258	0.89	50.44	2KJ1301 - DE13 - A2		23
	32	224	1.1	43.75	★ 2KJ1301 - DE13 - X1		23

★ Preferred transmission ratio

Shaft designs, see page 3/89

Frequency and voltage, see page 8/20

Gearbox housing mounting position, see page 3/92

\*) For mounting type B5-01

1, 2, 3, 5, 6 or 9

1 to 9

A, D, E, F, H or M

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
0.75	<b>FZ.38B-LA80ZMB4E</b>						
	34	209	1.3	40.88	2KJ1301 - DE13 - W1		23
	39	184	1.6	35.96	★ 2KJ1301 - DE13 - V1		23
	44	161	1.8	31.49	2KJ1301 - DE13 - U1		23
	50	142	2.0	27.85	★ 2KJ1301 - DE13 - T1		23
	56	129	2.2	25.24	2KJ1301 - DE13 - S1		23
	63	114	2.5	22.28	★ 2KJ1301 - DE13 - R1		23
	70	103	2.8	20.1	2KJ1301 - DE13 - Q1		23
	77	93	3.1	18.23	★ 2KJ1301 - DE13 - P1		23
	<b>FZ.28-LA80ZMB4E</b>						
	40	179	0.84	35.04	2KJ1300 - DE13 - W1		15
	45	159	0.94	31.1	★ 2KJ1300 - DE13 - V1		15
	51	139	1.1	27.25	2KJ1300 - DE13 - U1		15
	58	123	1.2	23.96	★ 2KJ1300 - DE13 - T1		15
	65	111	1.4	21.64	2KJ1300 - DE13 - S1		15
	74	96	1.6	18.86	★ 2KJ1300 - DE13 - R1		15
	83	87	1.7	16.94	2KJ1300 - DE13 - Q1		15
	92	78	1.9	15.29	★ 2KJ1300 - DE13 - P1		15
	101	71	2.1	13.87	2KJ1300 - DE13 - N1		15
	111	65	2.3	12.62	★ 2KJ1300 - DE13 - M1		15
	125	57	2.5	11.16	2KJ1300 - DE13 - L1		15
	136	53	2.6	10.3	★ 2KJ1300 - DE13 - K1		15
	158	45	2.9	8.87	2KJ1300 - DE13 - J1		15
	174	41	3.1	8.06	★ 2KJ1300 - DE13 - H1		15
	194	37	3.4	7.2	★ 2KJ1300 - DE13 - G1		15
	214	33	3.7	6.53	2KJ1300 - DE13 - F1		15
	236	30	3.9	5.94	★ 2KJ1300 - DE13 - E1		15
	267	27	4.1	5.25	2KJ1300 - DE13 - D1		15
289	25	4.4	4.85	★ 2KJ1300 - DE13 - C1		15	
335	21	4.6	4.18	2KJ1300 - DE13 - B1		15	
368	19	4.9	3.8	★ 2KJ1300 - DE13 - A1		15	
1.1	<b>FD.188B-Z48-LA90SB4E</b>						
	0.38	24 675	0.81	3 739	★ 2KJ1438 - EM13 - H1		645
	0.43	22 022	0.91	3 337	2KJ1438 - EM13 - G1		645
	0.51	18 703	1.1	2 834	2KJ1438 - EM13 - F1		645
	0.61	15 568	1.3	2 359	★ 2KJ1438 - EM13 - E1		645
	0.62	15 324	1.3	2 322	★ 2KJ1438 - EM13 - D1		645
	0.70	13 674	1.5	2 072	2KJ1438 - EM13 - C1		645
	0.82	11 615	1.7	1 760	2KJ1438 - EM13 - B1		645
	<b>FD.168B-Z48-LA90SB4E</b>						
	0.56	17 073	0.82	2 587	2KJ1435 - EM13 - F1		461
	0.67	14 209	0.99	2 153	★ 2KJ1435 - EM13 - E1		461
	0.68	13 984	1.0	2 119	★ 2KJ1435 - EM13 - D1		461
	0.76	12 480	1.1	1 891	2KJ1435 - EM13 - C1		461

★ Preferred transmission ratio

Shaft designs, see page 3/89 ————— 1, 2, 3, 5, 6 or 9

Frequency and voltage, see page 8/20 ————— 1 to 9

Gearbox housing mounting position, see page 3/92 ————— A, D, E, F, H or M

\*) For mounting type B5-01

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
<b>1.1</b>							
<b>FD.168B-Z48-LA90SB4E</b>							
	0.9	10 599	1.3	1 606	2KJ1435 - EM13 - B1		461
	1.1	8 823	1.6	1 337	★ 2KJ1435 - EM13 - A1		461
<b>FD.168B-Z68-LA90SB4E</b>							
	1.1	8 566	1.6	1 298	2KJ1437 - EM13 - H1		478
	1.3	7 312	1.9	1 108	★ 2KJ1437 - EM13 - G1		478
<b>FD.148B-Z48-LA90SB4E</b>							
	0.88	10 783	0.83	1 634	2KJ1434 - EM13 - K1		303
	0.97	9 827	0.92	1 489	★ 2KJ1434 - EM13 - J1		303
	1.1	9 002	1.0	1 364	2KJ1434 - EM13 - H1		303
	1.2	8 032	1.1	1 217	★ 2KJ1434 - EM13 - G1		303
	1.3	7 167	1.3	1 086	2KJ1434 - EM13 - F1		303
<b>FD.148B-LA100L8</b>							
	1.5	6 940	1.3	449.21	★ 2KJ1407 - FL13 - U1	P02	316
	1.7	6 364	1.4	411.98	2KJ1407 - FL13 - T1	P02	316
	1.8	5 686	1.6	368.06	★ 2KJ1407 - FL13 - S1	P02	316
	2.0	5 207	1.7	337.07	2KJ1407 - FL13 - R1	P02	316
<b>FD.128B-Z48-LA90SB4E</b>							
	1.3	7 391	0.83	1 120	★ 2KJ1431 - EM13 - H1		213
	1.4	6 593	0.93	999	2KJ1431 - EM13 - G1		213
<b>FD.128B-LA100L8</b>							
	1.9	5 484	1.1	354.99	2KJ1406 - FL13 - T1	P02	220
<b>FD.128B-LA90ZLD6E</b>							
	2.1	5 006	1.2	447.96	2KJ1406 - EQ13 - V1	P01	212
	2.3	4 531	1.3	405.47	★ 2KJ1406 - EQ13 - U1	P01	212
	2.6	3 967	1.5	354.99	2KJ1406 - EQ13 - T1	P01	212
	2.9	3 579	1.7	320.24	★ 2KJ1406 - EQ13 - S1	P01	212
<b>FD.128B-LA90SB4E</b>							
	3.2	3 268	1.9	447.96	2KJ1406 - EM13 - V1		209
<b>FD.108B-LA90ZLD6E</b>							
	2.7	3 858	0.88	345.19	★ 2KJ1405 - EQ13 - T1	P01	131
	3.1	3 374	1.0	301.88	2KJ1405 - EQ13 - S1	P01	131
<b>FD.108B-LA90SB4E</b>							
	3.4	3 097	1.1	424.49	★ 2KJ1405 - EM13 - V1		128
	3.8	2 793	1.2	382.79	2KJ1405 - EM13 - U1		128
	4.2	2 518	1.4	345.19	★ 2KJ1405 - EM13 - T1		128
	4.8	2 202	1.5	301.88	2KJ1405 - EM13 - S1		128
	5.3	1 977	1.7	271.01	★ 2KJ1405 - EM13 - R1		128
	5.8	1 806	1.9	247.53	2KJ1405 - EM13 - Q1		128
	6.6	1 602	2.1	219.66	★ 2KJ1405 - EM13 - P1		128
<b>FD.88B-LA90SB4E</b>							
	4.4	2 376	0.8	325.76	2KJ1404 - EM13 - T1		81
	4.9	2 135	0.89	292.64	★ 2KJ1404 - EM13 - S1		81
	5.7	1 830	1.0	250.83	2KJ1404 - EM13 - R1		81

★ Preferred transmission ratio

Shaft designs, see page 3/89

1, 2, 3, 5, 6 or 9

Frequency and voltage, see page 8/20

1 to 9

Gearbox housing mounting position, see page 3/92

A, D, E, F, H or M

\*) For mounting type B5-01



# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
<b>1.1</b>							
<b>FD.88B-LA90SB4E</b>							
	6.3	1 656	1.1	226.94	★ 2KJ1404 - ■EM13 - ■■P1		81
	6.9	1 528	1.2	209.49	2KJ1404 - ■EM13 - ■■N1		81
	7.9	1 329	1.4	182.15	★ 2KJ1404 - ■EM13 - ■■M1		81
	8.7	1 206	1.6	165.38	2KJ1404 - ■EM13 - ■■L1		81
	9.5	1 102	1.7	151.01	★ 2KJ1404 - ■EM13 - ■■K1		81
	10.4	1 011	1.9	138.56	2KJ1404 - ■EM13 - ■■J1		81
	11.3	931	2.0	127.66	★ 2KJ1404 - ■EM13 - ■■H1		81
	12.4	846	2.2	115.93	2KJ1404 - ■EM13 - ■■G1		81
<b>FD.68B-LA90SB4E</b>							
	8.8	1 200	0.83	164.44	2KJ1403 - ■EM13 - ■■M1		50
	9.9	1 061	0.94	145.44	★ 2KJ1403 - ■EM13 - ■■L1		50
	10.9	962	1.0	131.82	2KJ1403 - ■EM13 - ■■K1		50
	12.4	849	1.2	116.36	★ 2KJ1403 - ■EM13 - ■■J1		50
	13.7	766	1.3	104.96	2KJ1403 - ■EM13 - ■■H1		50
	15.1	694	1.4	95.2	★ 2KJ1403 - ■EM13 - ■■G1		50
	16.6	633	1.6	86.74	2KJ1403 - ■EM13 - ■■F1		50
	18.2	579	1.7	79.33	★ 2KJ1403 - ■EM13 - ■■E1		50
	20	517	1.9	70.93	2KJ1403 - ■EM13 - ■■D1		50
	22	475	2.1	65.14	★ 2KJ1403 - ■EM13 - ■■C1		50
	24	428	2.3	58.71	2KJ1403 - ■EM13 - ■■B1		50
<b>FZ.68B-LA90SB4E</b>							
	24	446	1.9	61.17	★ 2KJ1303 - ■EM13 - ■■B2		49
<b>FD.48B-LA90SB4E</b>							
	15.9	660	0.82	90.53	2KJ1402 - ■EM13 - ■■H1		34
	17.6	596	0.91	81.73	★ 2KJ1402 - ■EM13 - ■■G1		34
	19.4	541	1.0	74.1	2KJ1402 - ■EM13 - ■■F1		34
	21	492	1.1	67.43	★ 2KJ1402 - ■EM13 - ■■E1		34
	24	435	1.2	59.62	2KJ1402 - ■EM13 - ■■D1		34
	26	402	1.3	55.06	★ 2KJ1402 - ■EM13 - ■■C1		34
	30	346	1.6	47.4	2KJ1402 - ■EM13 - ■■B1		34
	33	314	1.7	43.09	★ 2KJ1402 - ■EM13 - ■■A1		34
<b>FZ.48B-LA90SB4E</b>							
	24	443	0.90	60.71	★ 2KJ1302 - ■EM13 - ■■B2		34
	26	403	1.2	55.19	2KJ1302 - ■EM13 - ■■A2		34
	29	362	1.5	49.58	★ 2KJ1302 - ■EM13 - ■■X1		34
	34	310	1.7	42.5	2KJ1302 - ■EM13 - ■■W1		34
	38	280	1.9	38.45	★ 2KJ1302 - ■EM13 - ■■V1		34
	41	259	2.1	35.49	2KJ1302 - ■EM13 - ■■U1		34
	47	225	2.4	30.86	★ 2KJ1302 - ■EM13 - ■■T1		34
	51	204	2.6	28.02	2KJ1302 - ■EM13 - ■■S1		34
	56	187	2.9	25.59	★ 2KJ1302 - ■EM13 - ■■R1		34
<b>FZ.38B-LA90SB4E</b>							
	35	298	0.92	40.88	2KJ1301 - ■EM13 - ■■W1		26

★ Preferred transmission ratio

Shaft designs, see page 3/89

Frequency and voltage, see page 8/20

Gearbox housing mounting position, see page 3/92

\*) For mounting type B5-01

1, 2, 3, 5, 6 or 9

1 to 9

A, D, E, F, H or M

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
1.1	<b>FZ.38B-LA90SB4E</b>						
	40	262	1.1	35.96	★ 2KJ1301 - EM13 - V1		26
	46	230	1.3	31.49	2KJ1301 - EM13 - U1		26
	52	203	1.4	27.85	★ 2KJ1301 - EM13 - T1		26
	57	184	1.6	25.24	2KJ1301 - EM13 - S1		26
	65	163	1.8	22.28	★ 2KJ1301 - EM13 - R1		26
	72	147	2.0	20.1	2KJ1301 - EM13 - Q1		26
	79	133	2.2	18.23	★ 2KJ1301 - EM13 - P1		26
	87	121	2.4	16.61	2KJ1301 - EM13 - N1		26
	95	111	2.6	15.19	★ 2KJ1301 - EM13 - M1		26
	106	99	2.9	13.58	2KJ1301 - EM13 - L1		26
	115	91	3.2	12.47	★ 2KJ1301 - EM13 - K1		26
	128	82	3.5	11.24	2KJ1301 - EM13 - J1		26
	<b>FZ.28-LA90SB4E</b>						
	60	175	0.86	23.96	★ 2KJ1300 - EM13 - T1		18
	66	158	0.95	21.64	2KJ1300 - EM13 - S1		18
	76	138	1.1	18.86	★ 2KJ1300 - EM13 - R1		18
	85	124	1.2	16.94	2KJ1300 - EM13 - Q1		18
	94	112	1.3	15.29	★ 2KJ1300 - EM13 - P1		18
	104	101	1.5	13.87	2KJ1300 - EM13 - N1		18
	114	92	1.6	12.62	★ 2KJ1300 - EM13 - M1		18
	129	81	1.7	11.16	2KJ1300 - EM13 - L1		18
	140	75	1.8	10.3	★ 2KJ1300 - EM13 - K1		18
	162	65	2.0	8.87	2KJ1300 - EM13 - J1		18
	179	59	2.2	8.06	★ 2KJ1300 - EM13 - H1		18
	200	52	2.4	7.2	★ 2KJ1300 - EM13 - G1		18
	221	48	2.6	6.53	2KJ1300 - EM13 - F1		18
	242	43	2.7	5.94	★ 2KJ1300 - EM13 - E1		18
	274	38	2.9	5.25	2KJ1300 - EM13 - D1		18
	297	35	3.1	4.85	★ 2KJ1300 - EM13 - C1		18
344	30	3.2	4.18	2KJ1300 - EM13 - B1		18	
379	28	3.5	3.8	★ 2KJ1300 - EM13 - A1		18	
1.5	<b>FD.188B-Z48-LA90ZLB4E</b>						
	0.61	21 388	0.94	2 359	★ 2KJ1438 - EQ13 - E1		648
	0.62	21 052	0.95	2 322	★ 2KJ1438 - EQ13 - D1		648
	0.70	18 786	1.1	2 072	2KJ1438 - EQ13 - C1		648
	0.82	15 957	1.3	1 760	2KJ1438 - EQ13 - B1		648
0.98	13 282	1.5	1 465	★ 2KJ1438 - EQ13 - A1		648	
	<b>FD.188B-Z68-LA90ZLB4E</b>						
	0.99	13 137	1.5	1 449	2KJ1441 - EQ13 - H1		665
1.2	11 206	1.8	1 236	★ 2KJ1441 - EQ13 - G1		665	
	<b>FD.168B-Z48-LA90ZLB4E</b>						
	0.76	17 145	0.82	1 891	2KJ1435 - EQ13 - C1		464
0.90	14 561	0.96	1 606	2KJ1435 - EQ13 - B1		464	

★ Preferred transmission ratio

Shaft designs, see page 3/89 ————— 1, 2, 3, 5, 6 or 9

Frequency and voltage, see page 8/20 ————— 1 to 9

Gearbox housing mounting position, see page 3/92 ————— A, D, E, F, H or M

\*) For mounting type B5-01

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
1.5	<b>FD.168B-Z48-LA90ZLB4E</b>						
	1.1	12 122	1.2	1 337	★ 2KJ1435 - ■EQ13 - ■■A1		464
	<b>FD.168B-Z68-LA90ZLB4E</b>						
	1.1	11 768	1.2	1 298	2KJ1437 - ■EQ13 - ■■H1		481
	1.3	10 046	1.4	1 108	★ 2KJ1437 - ■EQ13 - ■■G1		481
	<b>FD.148B-Z48-LA90ZLB4E</b>						
	1.2	11 034	0.82	1 217	★ 2KJ1434 - ■EQ13 - ■■G1		306
	1.3	9 846	0.91	1 086	2KJ1434 - ■EQ13 - ■■F1		306
	<b>FD.148B-LA112M8</b>						
	1.6	9 128	0.99	449.21	★ 2KJ1407 - ■GG13 - ■■U1	P02	323
	1.7	8 371	1.1	411.98	2KJ1407 - ■GG13 - ■■T1	P02	323
	1.9	7 479	1.2	368.06	★ 2KJ1407 - ■GG13 - ■■S1	P02	323
	<b>FD.148B-LA100ZLP6E</b>						
	2.1	6 882	1.3	449.21	★ 2KJ1407 - ■FM13 - ■■U1	P01	316
	2.3	6 312	1.4	411.98	2KJ1407 - ■FM13 - ■■T1	P01	316
	2.5	5 639	1.6	368.06	★ 2KJ1407 - ■FM13 - ■■S1	P01	316
	2.8	5 164	1.7	337.07	2KJ1407 - ■FM13 - ■■R1	P01	316
	3.0	4 757	1.9	310.51	★ 2KJ1407 - ■FM13 - ■■Q1	P01	316
	<b>FD.128B-LA100ZLP6E</b>						
	2.6	5 439	1.1	354.99	2KJ1406 - ■FM13 - ■■T1	P01	220
	2.9	4 906	1.2	320.24	★ 2KJ1406 - ■FM13 - ■■S1	P01	220
	<b>FD.128B-LA90ZLB4E</b>						
	3.2	4 456	1.4	447.96	2KJ1406 - ■EQ13 - ■■V1		212
	3.6	4 034	1.5	405.47	★ 2KJ1406 - ■EQ13 - ■■U1		212
	4.1	3 531	1.7	354.99	2KJ1406 - ■EQ13 - ■■T1		212
	4.5	3 186	1.9	320.24	★ 2KJ1406 - ■EQ13 - ■■S1		212
	<b>FD.108B-LA90ZLB4E</b>						
	3.4	4 223	0.81	424.49	★ 2KJ1405 - ■EQ13 - ■■V1		131
	3.8	3 808	0.89	382.79	2KJ1405 - ■EQ13 - ■■U1		131
	4.2	3 434	0.99	345.19	★ 2KJ1405 - ■EQ13 - ■■T1		131
	4.8	3 003	1.1	301.88	2KJ1405 - ■EQ13 - ■■S1		131
	5.3	2 696	1.3	271.01	★ 2KJ1405 - ■EQ13 - ■■R1		131
	5.8	2 462	1.4	247.53	2KJ1405 - ■EQ13 - ■■Q1		131
	6.6	2 185	1.6	219.66	★ 2KJ1405 - ■EQ13 - ■■P1		131
	7.1	2 017	1.7	202.77	2KJ1405 - ■EQ13 - ■■N1		131
	7.9	1 824	1.9	183.39	★ 2KJ1405 - ■EQ13 - ■■M1		131
	8.5	1 680	2.0	168.88	2KJ1405 - ■EQ13 - ■■L1		131
	<b>FD.88B-LA90ZLB4E</b>						
	6.3	2 258	0.84	226.94	★ 2KJ1404 - ■EQ13 - ■■P1		84
	6.9	2 084	0.91	209.49	2KJ1404 - ■EQ13 - ■■N1		84
	7.9	1 812	1.0	182.15	★ 2KJ1404 - ■EQ13 - ■■M1		84
	8.7	1 645	1.2	165.38	2KJ1404 - ■EQ13 - ■■L1		84
	9.5	1 502	1.3	151.01	★ 2KJ1404 - ■EQ13 - ■■K1		84
	10.4	1 378	1.4	138.56	2KJ1404 - ■EQ13 - ■■J1		84

★ Preferred transmission ratio

Shaft designs, see page 3/89

Frequency and voltage, see page 8/20

Gearbox housing mounting position, see page 3/92

\*) For mounting type B5-01

1, 2, 3, 5, 6 or 9

1 to 9

A, D, E, F, H or M

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
1.5	<b>FD.88B-LA90ZLB4E</b>						
	11.3	1 270	1.5	127.66	★	2KJ1404 - ■EQ13 - ■■H1	84
	12.4	1 153	1.6	115.93		2KJ1404 - ■EQ13 - ■■G1	84
	13.6	1 051	1.8	105.61	★	2KJ1404 - ■EQ13 - ■■F1	84
	14.9	962	2.0	96.75		2KJ1404 - ■EQ13 - ■■E1	84
	16.7	859	2.2	86.33	★	2KJ1404 - ■EQ13 - ■■D1	84
	<b>FD.68B-LA90ZLB4E</b>						
	12.4	1 158	0.86	116.36	★	2KJ1403 - ■EQ13 - ■■J1	53
	13.7	1 044	0.96	104.96		2KJ1403 - ■EQ13 - ■■H1	53
	15.1	947	1.1	95.2	★	2KJ1403 - ■EQ13 - ■■G1	53
	16.6	863	1.2	86.74		2KJ1403 - ■EQ13 - ■■F1	53
	18.2	789	1.3	79.33	★	2KJ1403 - ■EQ13 - ■■E1	53
	20	706	1.4	70.93		2KJ1403 - ■EQ13 - ■■D1	53
	22	648	1.5	65.14	★	2KJ1403 - ■EQ13 - ■■C1	53
	24	584	1.7	58.71		2KJ1403 - ■EQ13 - ■■B1	53
	28	502	2.0	50.48	★	2KJ1403 - ■EQ13 - ■■A1	53
	<b>FZ.68B-LA90ZLB4E</b>						
	24	609	1.4	61.17	★	2KJ1303 - ■EQ13 - ■■B2	52
	27	532	1.9	53.5		2KJ1303 - ■EQ13 - ■■A2	52
30	478	2.1	48.03	★	2KJ1303 - ■EQ13 - ■■X1	52	
33	436	2.3	43.87		2KJ1303 - ■EQ13 - ■■V1	52	
37	387	2.6	38.93	★	2KJ1303 - ■EQ13 - ■■U1	52	
<b>FD.48B-LA90ZLB4E</b>							
21	671	0.81	67.43	★	2KJ1402 - ■EQ13 - ■■E1	37	
24	593	0.91	59.62		2KJ1402 - ■EQ13 - ■■D1	37	
26	548	0.99	55.06	★	2KJ1402 - ■EQ13 - ■■C1	37	
30	472	1.1	47.4		2KJ1402 - ■EQ13 - ■■B1	37	
33	429	1.3	43.09	★	2KJ1402 - ■EQ13 - ■■A1	37	
<b>FZ.48B-LA90ZLB4E</b>							
26	549	0.91	55.19		2KJ1302 - ■EQ13 - ■■A2	37	
29	493	1.1	49.58	★	2KJ1302 - ■EQ13 - ■■X1	37	
34	423	1.3	42.5		2KJ1302 - ■EQ13 - ■■W1	37	
38	382	1.4	38.45	★	2KJ1302 - ■EQ13 - ■■V1	37	
41	353	1.5	35.49		2KJ1302 - ■EQ13 - ■■U1	37	
47	307	1.8	30.86	★	2KJ1302 - ■EQ13 - ■■T1	37	
51	279	1.9	28.02		2KJ1302 - ■EQ13 - ■■S1	37	
56	255	2.1	25.59	★	2KJ1302 - ■EQ13 - ■■R1	37	
61	234	2.3	23.48		2KJ1302 - ■EQ13 - ■■Q1	37	
67	215	2.5	21.63	★	2KJ1302 - ■EQ13 - ■■P1	37	
73	195	2.8	19.64		2KJ1302 - ■EQ13 - ■■N1	37	
80	178	3.0	17.89	★	2KJ1302 - ■EQ13 - ■■M1	37	
88	163	3.3	16.39		2KJ1302 - ■EQ13 - ■■L1	37	

★ Preferred transmission ratio

Shaft designs, see page 3/89

Frequency and voltage, see page 8/20

Gearbox housing mounting position, see page 3/92

\*) For mounting type B5-01

1, 2, 3, 5, 6 or 9

1 to 9

A, D, E, F, H or M

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight *) kg
1.5	<b>FZ.38B-LA90ZLB4E</b>						
	40	358	0.81	35.96	★ 2KJ1301 - ■EQ13 - ■■V1		29
	46	313	0.93	31.49	2KJ1301 - ■EQ13 - ■■U1		29
	52	277	1.0	27.85	★ 2KJ1301 - ■EQ13 - ■■T1		29
	57	251	1.2	25.24	2KJ1301 - ■EQ13 - ■■S1		29
	65	222	1.3	22.28	★ 2KJ1301 - ■EQ13 - ■■R1		29
	72	200	1.5	20.1	2KJ1301 - ■EQ13 - ■■Q1		29
	79	181	1.6	18.23	★ 2KJ1301 - ■EQ13 - ■■P1		29
	87	165	1.8	16.61	2KJ1301 - ■EQ13 - ■■N1		29
	95	151	1.9	15.19	★ 2KJ1301 - ■EQ13 - ■■M1		29
	106	135	2.1	13.58	2KJ1301 - ■EQ13 - ■■L1		29
	115	124	2.3	12.47	★ 2KJ1301 - ■EQ13 - ■■K1		29
	128	112	2.6	11.24	2KJ1301 - ■EQ13 - ■■J1		29
	149	96	3.0	9.67	★ 2KJ1301 - ■EQ13 - ■■H1		29
	169	85	3.4	8.52	★ 2KJ1301 - ■EQ13 - ■■G1		29
	186	77	3.8	7.76	2KJ1301 - ■EQ13 - ■■F1		29
	203	71	4.1	7.1	★ 2KJ1301 - ■EQ13 - ■■E1		29
	227	63	4.4	6.35	2KJ1301 - ■EQ13 - ■■D1		29
	247	58	4.7	5.83	★ 2KJ1301 - ■EQ13 - ■■C1		29
	274	52	4.8	5.25	2KJ1301 - ■EQ13 - ■■B1		29
319	45	5.1	4.52	★ 2KJ1301 - ■EQ13 - ■■A1		29	
<b>FZ.38B-LA90SB2E</b>							
159	90	3.2	18.23	★ 2KJ1301 - ■EM13 - ■■P1	P00	26	
174	82	3.5	16.61	2KJ1301 - ■EM13 - ■■N1	P00	26	
190	75	3.9	15.19	★ 2KJ1301 - ■EM13 - ■■M1	P00	26	
213	67	4.3	13.58	2KJ1301 - ■EM13 - ■■L1	P00	26	
<b>FZ.28-LA90ZLB4E</b>							
76	188	0.80	18.86	★ 2KJ1300 - ■EQ13 - ■■R1		21	
85	169	0.89	16.94	2KJ1300 - ■EQ13 - ■■Q1		21	
94	152	0.99	15.29	★ 2KJ1300 - ■EQ13 - ■■P1		21	
104	138	1.1	13.87	2KJ1300 - ■EQ13 - ■■N1		21	
114	126	1.2	12.62	★ 2KJ1300 - ■EQ13 - ■■M1		21	
129	111	1.3	11.16	2KJ1300 - ■EQ13 - ■■L1		21	
140	102	1.3	10.3	★ 2KJ1300 - ■EQ13 - ■■K1		21	
162	88	1.5	8.87	2KJ1300 - ■EQ13 - ■■J1		21	
179	80	1.6	8.06	★ 2KJ1300 - ■EQ13 - ■■H1		21	
200	72	1.8	7.2	★ 2KJ1300 - ■EQ13 - ■■G1		21	
221	65	1.9	6.53	2KJ1300 - ■EQ13 - ■■F1		21	
242	59	2.0	5.94	★ 2KJ1300 - ■EQ13 - ■■E1		21	
274	52	2.1	5.25	2KJ1300 - ■EQ13 - ■■D1		21	
297	48	2.3	4.85	★ 2KJ1300 - ■EQ13 - ■■C1		21	
344	42	2.4	4.18	2KJ1300 - ■EQ13 - ■■B1		21	
379	38	2.5	3.8	★ 2KJ1300 - ■EQ13 - ■■A1		21	

★ Preferred transmission ratio

Shaft designs, see page 3/89

1, 2, 3, 5, 6 or 9

Frequency and voltage, see page 8/20

1 to 9

Gearbox housing mounting position, see page 3/92

A, D, E, F, H or M

\*) For mounting type B5-01

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
2.2	<b>FD.188B-Z48-LA100ZLP4E</b>						
	0.82	23 638	0.85	1 760	2KJ1438 - FM13 - B1		656
	0.98	19676	1.0	1 465	★ 2KJ1438 - FM13 - A1		656
	<b>FD.188B-Z68-LA100ZLP4E</b>						
	0.99	19 461	1.0	1 449	2KJ1441 - FM13 - H1		673
	1.2	16 600	1.2	1 236	★ 2KJ1441 - FM13 - G1		673
	1.4	13 833	1.4	1 030	2KJ1441 - FM13 - F1		673
	<b>FD.188B-LA132S8</b>						
	1.7	12 122	1.6	403.86	★ 2KJ1410 - HE13 - U1	P02	676
	1.9	11 121	1.8	370.52	2KJ1410 - HE13 - T1	P02	676
	2.0	10 263	1.9	341.94	★ 2KJ1410 - HE13 - S1	P02	676
	<b>FD.168B-Z68-LA100ZLP4E</b>						
	1.1	17 433	0.80	1 298	2KJ1437 - FM13 - H1		489
	1.3	14 881	0.94	1 108	★ 2KJ1437 - FM13 - G1		489
	1.6	12 396	1.1	923	2KJ1437 - FM13 - F1		489
	<b>FD.168B-LA132S8</b>						
	1.9	11 083	1.3	369.26	★ 2KJ1408 - HE13 - V1	P02	495
	2.1	10 160	1.4	338.49	2KJ1408 - HE13 - U1	P02	495
	2.2	9 368	1.5	312.12	★ 2KJ1408 - HE13 - T1	P02	495
	2.4	8 682	1.6	289.26	2KJ1408 - HE13 - S1	P02	495
	2.5	8 255	1.7	275.03	★ 2KJ1408 - HE13 - R1	P02	495
	<b>FD.148B-LA132S8</b>						
	1.9	11 047	0.81	368.06	★ 2KJ1407 - HE13 - S1	P02	333
	<b>FD.148B-LA112ZMP6E</b>						
	2.1	9 883	0.91	449.21	★ 2KJ1407 - GJ13 - U1	P01	323
	2.3	9 064	0.99	411.98	2KJ1407 - GJ13 - T1	P01	323
	2.6	8 097	1.1	368.06	★ 2KJ1407 - GJ13 - S1	P01	323
	2.8	7 416	1.2	337.07	2KJ1407 - GJ13 - R1	P01	323
	3.1	6 831	1.3	310.51	★ 2KJ1407 - GJ13 - Q1	P01	323
	<b>FD.148B-LA100ZLP4E</b>						
	3.2	6 577	1.4	449.21	★ 2KJ1407 - FM13 - U1		316
	3.5	6 032	1.5	411.98	2KJ1407 - FM13 - T1		316
	3.9	5 389	1.7	368.06	★ 2KJ1407 - FM13 - S1		316
	4.3	4 935	1.8	337.07	2KJ1407 - FM13 - R1		316
	4.6	4 546	2.0	310.51	★ 2KJ1407 - FM13 - Q1		316
	5.0	4 209	2.1	287.49	2KJ1407 - FM13 - P1		316
	<b>FD.128B-LA112ZMP6E</b>						
	3.0	7 045	0.87	320.24	★ 2KJ1406 - GJ13 - S1	P01	227
	<b>FD.128B-LA100ZLP4E</b>						
	4.0	5 197	1.2	354.99	2KJ1406 - FM13 - T1		220
	4.5	4 689	1.3	320.24	★ 2KJ1406 - FM13 - S1		220
	4.9	4 293	1.4	293.22	2KJ1406 - FM13 - R1		220
	5.5	3 819	1.6	260.84	★ 2KJ1406 - FM13 - Q1		220
	6	3 490	1.7	238.39	2KJ1406 - FM13 - P1		220

★ Preferred transmission ratio

Shaft designs, see page 3/89

Frequency and voltage, see page 8/20

Gearbox housing mounting position, see page 3/92

\*) For mounting type B5-01

1, 2, 3, 5, 6 or 9

1 to 9

A, D, E, F, H or M

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
2.2	<b>FD.128B-LA100ZLP4E</b>						
	6.5	3 209	1.9	219.15	★	2KJ1406 - ■ FM13 - ■■ N1	220
	7.1	2 965	2.1	202.48		2KJ1406 - ■ FM13 - ■■ M1	220
	<b>FD.108B-LA100ZLP4E</b>						
	5.3	3 968	0.86	271.01	★	2KJ1405 - ■ FM13 - ■■ R1	139
	5.8	3 624	0.94	247.53		2KJ1405 - ■ FM13 - ■■ Q1	139
	6.5	3 216	1.1	219.66	★	2KJ1405 - ■ FM13 - ■■ P1	139
	7.1	2 969	1.1	202.77		2KJ1405 - ■ FM13 - ■■ N1	139
	7.8	2 685	1.3	183.39	★	2KJ1405 - ■ FM13 - ■■ M1	139
	8.5	2 473	1.4	168.88		2KJ1405 - ■ FM13 - ■■ L1	139
	9.2	2 287	1.5	156.19	★	2KJ1405 - ■ FM13 - ■■ K1	139
	9.9	2 123	1.6	144.99		2KJ1405 - ■ FM13 - ■■ J1	139
	11.2	1 873	1.8	127.92	★	2KJ1405 - ■ FM13 - ■■ H1	139
	12.1	1 729	2.0	118.11		2KJ1405 - ■ FM13 - ■■ G1	139
	13.6	1 549	2.2	105.81	★	2KJ1405 - ■ FM13 - ■■ F1	139
	<b>FD.88B-LA100ZLP4E</b>						
	9.5	2 211	0.86	151.01	★	2KJ1404 - ■ FM13 - ■■ K1	92
	10.4	2 029	0.94	138.56		2KJ1404 - ■ FM13 - ■■ J1	92
	11.2	1 869	1.0	127.66	★	2KJ1404 - ■ FM13 - ■■ H1	92
	12.4	1 697	1.1	115.93		2KJ1404 - ■ FM13 - ■■ G1	92
	13.6	1 546	1.2	105.61	★	2KJ1404 - ■ FM13 - ■■ F1	92
	14.8	1 417	1.3	96.75		2KJ1404 - ■ FM13 - ■■ E1	92
	16.6	1 264	1.5	86.33	★	2KJ1404 - ■ FM13 - ■■ D1	92
	18.6	1 128	1.7	77.04		2KJ1404 - ■ FM13 - ■■ C1	92
	22	958	2.0	65.43		2KJ1404 - ■ FM13 - ■■ B1	92
	26	798	2.4	54.47	★	2KJ1404 - ■ FM13 - ■■ A1	92
	<b>FZ.88B-LA100ZLP4E</b>						
	22	946	2.0	64.58	★	2KJ1304 - ■ FM13 - ■■ X1	91
	24	866	2.2	59.13		2KJ1304 - ■ FM13 - ■■ W1	91
	27	770	2.5	52.6	★	2KJ1304 - ■ FM13 - ■■ V1	91
	<b>FD.68B-LA100ZLP4E</b>						
	18.1	1 161	0.86	79.33	★	2KJ1403 - ■ FM13 - ■■ E1	61
	20	1 038	0.96	70.93		2KJ1403 - ■ FM13 - ■■ D1	61
	22	954	1.0	65.14	★	2KJ1403 - ■ FM13 - ■■ C1	61
	24	860	1.2	58.71		2KJ1403 - ■ FM13 - ■■ B1	61
	28	739	1.4	50.48	★	2KJ1403 - ■ FM13 - ■■ A1	61
	<b>FZ.68B-LA100ZLP4E</b>						
	27	783	1.3	53.5		2KJ1303 - ■ FM13 - ■■ A2	60
	30	703	1.4	48.03	★	2KJ1303 - ■ FM13 - ■■ X1	60
	33	642	1.6	43.87		2KJ1303 - ■ FM13 - ■■ V1	60
	37	570	1.8	38.93	★	2KJ1303 - ■ FM13 - ■■ U1	60
	40	526	1.9	35.93		2KJ1303 - ■ FM13 - ■■ T1	60
	44	476	2.1	32.5	★	2KJ1303 - ■ FM13 - ■■ S1	60
	48	438	2.3	29.93		2KJ1303 - ■ FM13 - ■■ R1	60

★ Preferred transmission ratio

Shaft designs, see page 3/89

1, 2, 3, 5, 6 or 9

Frequency and voltage, see page 8/20

1 to 9

Gearbox housing mounting position, see page 3/92

A, D, E, F, H or M

\*) For mounting type B5-01

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

### Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
<b>2.2</b>	<b>FZ.68B-LA100ZLP4E</b>						
	<b>52</b>	405	2.5	27.68	★	<b>2KJ1303 - FM13 - Q1</b>	60
	<b>56</b>	376	2.7	25.69		<b>2KJ1303 - FM13 - P1</b>	60
	<b>63</b>	332	3.0	22.67	★	<b>2KJ1303 - FM13 - N1</b>	60
	<b>FD.48B-LA100ZLP4E</b>						
	<b>33</b>	631	0.86	43.09	★	<b>2KJ1402 - FM13 - A1</b>	45
	<b>FZ.48B-LA100ZLP4E</b>						
	<b>34</b>	622	0.87	42.5		<b>2KJ1302 - FM13 - W1</b>	45
	<b>37</b>	563	0.96	38.45	★	<b>2KJ1302 - FM13 - V1</b>	45
	<b>40</b>	520	1.0	35.49		<b>2KJ1302 - FM13 - U1</b>	45
	<b>46</b>	452	1.2	30.86	★	<b>2KJ1302 - FM13 - T1</b>	45
	<b>51</b>	410	1.3	28.02		<b>2KJ1302 - FM13 - S1</b>	45
	<b>56</b>	375	1.4	25.59	★	<b>2KJ1302 - FM13 - R1</b>	45
	<b>61</b>	344	1.6	23.48		<b>2KJ1302 - FM13 - Q1</b>	45
	<b>66</b>	317	1.7	21.63	★	<b>2KJ1302 - FM13 - P1</b>	45
	<b>73</b>	288	1.9	19.64		<b>2KJ1302 - FM13 - N1</b>	45
	<b>80</b>	262	2.1	17.89	★	<b>2KJ1302 - FM13 - M1</b>	45
	<b>88</b>	240	2.3	16.39		<b>2KJ1302 - FM13 - L1</b>	45
	<b>98</b>	214	2.5	14.63	★	<b>2KJ1302 - FM13 - K1</b>	45
	<b>110</b>	191	2.8	13.05		<b>2KJ1302 - FM13 - J1</b>	45
	<b>129</b>	162	3.3	11.09		<b>2KJ1302 - FM13 - H1</b>	45
	<b>155</b>	135	3.9	9.23	★	<b>2KJ1302 - FM13 - G1</b>	45
	<b>171</b>	123	4.2	8.39	★	<b>2KJ1302 - FM13 - F1</b>	45
	<b>187</b>	112	4.2	7.68		<b>2KJ1302 - FM13 - E1</b>	45
	<b>209</b>	100	4.4	6.86	★	<b>2KJ1302 - FM13 - D1</b>	45
	<b>234</b>	90	4.5	6.12		<b>2KJ1302 - FM13 - C1</b>	45
	<b>331</b>	63	5.1	4.33	★	<b>2KJ1302 - FM13 - A1</b>	45
	<b>FZ.38B-LA100ZLP4E</b>						
	<b>64</b>	326	0.89	22.28	★	<b>2KJ1301 - FM13 - R1</b>	37
	<b>71</b>	294	0.99	20.1		<b>2KJ1301 - FM13 - Q1</b>	37
	<b>79</b>	267	1.1	18.23	★	<b>2KJ1301 - FM13 - P1</b>	37
	<b>86</b>	243	1.2	16.61		<b>2KJ1301 - FM13 - N1</b>	37
	<b>94</b>	222	1.3	15.19	★	<b>2KJ1301 - FM13 - M1</b>	37
	<b>106</b>	199	1.5	13.58		<b>2KJ1301 - FM13 - L1</b>	37
	<b>115</b>	183	1.6	12.47	★	<b>2KJ1301 - FM13 - K1</b>	37
	<b>128</b>	165	1.8	11.24		<b>2KJ1301 - FM13 - J1</b>	37
	<b>148</b>	142	2.0	9.67	★	<b>2KJ1301 - FM13 - H1</b>	37
	<b>168</b>	125	2.3	8.52	★	<b>2KJ1301 - FM13 - G1</b>	37
	<b>185</b>	114	2.6	7.76		<b>2KJ1301 - FM13 - F1</b>	37
	<b>202</b>	104	2.8	7.1	★	<b>2KJ1301 - FM13 - E1</b>	37
	<b>226</b>	93	3.0	6.35		<b>2KJ1301 - FM13 - D1</b>	37
	<b>246</b>	85	3.2	5.83	★	<b>2KJ1301 - FM13 - C1</b>	37
	<b>273</b>	77	3.3	5.25		<b>2KJ1301 - FM13 - B1</b>	37
	<b>317</b>	66	3.4	4.52	★	<b>2KJ1301 - FM13 - A1</b>	37

★ Preferred transmission ratio

Shaft designs, see page 3/89

Frequency and voltage, see page 8/20

Gearbox housing mounting position, see page 3/92

\*) For mounting type B5-01

1, 2, 3, 5, 6 or 9

1 to 9

A, D, E, F, H or M



# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
<b>2.2</b>	<b>FZ.38B-LA90ZLB2E</b>						
159	133	133	2.2	18.23	★ 2KJ1301 - ■EQ13 - ■■P1	P00	29
174	121	121	2.4	16.61	2KJ1301 - ■EQ13 - ■■N1	P00	29
190	110	110	2.6	15.19	★ 2KJ1301 - ■EQ13 - ■■M1	P00	29
213	99	99	2.9	13.58	2KJ1301 - ■EQ13 - ■■L1	P00	29
232	91	91	3.2	12.47	★ 2KJ1301 - ■EQ13 - ■■K1	P00	29
257	82	82	3.5	11.24	2KJ1301 - ■EQ13 - ■■J1	P00	29
299	70	70	4.1	9.67	★ 2KJ1301 - ■EQ13 - ■■H1	P00	29
339	62	62	4.7	8.52	★ 2KJ1301 - ■EQ13 - ■■G1	P00	29
372	56	56	5.1	7.76	2KJ1301 - ■EQ13 - ■■F1	P00	29
<b>3</b>	<b>FD.188B-Z68-LA100ZLD4E</b>						
1.2	22 720	22 720	0.88	1236	★ 2KJ1441 - ■FP13 - ■■G1		673
1.4	18 933	18 933	1.1	1030	2KJ1441 - ■FP13 - ■■F1		673
<b>FD.188B-LA132MA8</b>							
1.7	16 529	16 529	1.2	403.86	★ 2KJ1410 - ■HG13 - ■■U1	P02	684
1.9	15 165	15 165	1.3	370.52	2KJ1410 - ■HG13 - ■■T1	P02	684
2.0	13 995	13 995	1.4	341.94	★ 2KJ1410 - ■HG13 - ■■S1	P02	684
2.2	12 982	12 982	1.5	317.18	2KJ1410 - ■HG13 - ■■R1	P02	684
2.3	12 246	12 246	1.6	299.2	★ 2KJ1410 - ■HG13 - ■■Q1	P02	684
<b>FD.188B-LA132SB6E</b>							
2.4	12 180	12 180	1.6	403.86	★ 2KJ1410 - ■HF13 - ■■U1	P01	684
2.6	11 174	11 174	1.8	370.52	2KJ1410 - ■HF13 - ■■T1	P01	684
2.8	10 312	10 312	1.9	341.94	★ 2KJ1410 - ■HF13 - ■■S1	P01	684
<b>FD.168B-Z68-LA100ZLD4E</b>							
1.6	16 967	16 967	0.83	923	2KJ1437 - ■FP13 - ■■F1		489
<b>FD.168B-LA132MA8</b>							
1.9	15 113	15 113	0.93	369.26	★ 2KJ1408 - ■HG13 - ■■V1	P02	503
2.1	13 854	13 854	1.0	338.49	2KJ1408 - ■HG13 - ■■U1	P02	503
2.2	12 775	12 775	1.1	312.12	★ 2KJ1408 - ■HG13 - ■■T1	P02	503
2.4	11 839	11 839	1.2	289.26	2KJ1408 - ■HG13 - ■■S1	P02	503
2.5	11 257	11 257	1.2	275.03	★ 2KJ1408 - ■HG13 - ■■R1	P02	503
<b>FD.168B-LA132SB6E</b>							
2.6	11 136	11 136	1.3	369.26	★ 2KJ1408 - ■HF13 - ■■V1	P01	503
2.8	10 208	10 208	1.4	338.49	2KJ1408 - ■HF13 - ■■U1	P01	503
3.0	9 413	9 413	1.5	312.12	★ 2KJ1408 - ■HF13 - ■■T1	P01	503
3.3	8 723	8 723	1.6	289.26	2KJ1408 - ■HF13 - ■■S1	P01	503
3.5	8 294	8 294	1.7	275.03	★ 2KJ1408 - ■HF13 - ■■R1	P01	503
3.7	7 752	7 752	1.8	257.04	2KJ1408 - ■HF13 - ■■Q1	P01	503
<b>FD.148B-LA132SB6E</b>							
2.6	11 100	11 100	0.81	368.06	★ 2KJ1407 - ■HF13 - ■■S1	P01	341
2.8	10 165	10 165	0.89	337.07	2KJ1407 - ■HF13 - ■■R1	P01	341
3.1	9 364	9 364	0.96	310.51	★ 2KJ1407 - ■HF13 - ■■Q1	P01	341
<b>FD.148B-LA100ZLD4E</b>							
3.2	8 969	8 969	1.0	449.21	★ 2KJ1407 - ■FP13 - ■■U1		316

★ Preferred transmission ratio

Shaft designs, see page 3/89 ————— 1, 2, 3, 5, 6 or 9

Frequency and voltage, see page 8/20 ————— 1 to 9

Gearbox housing mounting position, see page 3/92 ————— A, D, E, F, H or M

\*) For mounting type B5-01

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
<b>3</b>	<b>FD.148B-LA100ZLD4E</b>						
	3.5	8 225	1.1	411.98	2KJ1407 - ■FP13 - ■■T1		316
	3.9	7 348	1.2	368.06	★ 2KJ1407 - ■FP13 - ■■S1		316
	4.3	6 730	1.3	337.07	2KJ1407 - ■FP13 - ■■R1		316
	4.6	6 199	1.5	310.51	★ 2KJ1407 - ■FP13 - ■■Q1		316
	5.0	5 740	1.6	287.49	2KJ1407 - ■FP13 - ■■P1		316
	5.4	5 338	1.7	267.35	★ 2KJ1407 - ■FP13 - ■■N1		316
	5.7	4 983	1.8	249.58	2KJ1407 - ■FP13 - ■■M1		316
	6.4	4 458	2.0	223.31	★ 2KJ1407 - ■FP13 - ■■L1		316
	<b>FD.128B-LA100ZLD4E</b>						
	4.0	7 087	0.86	354.99	2KJ1406 - ■FP13 - ■■T1		220
	4.5	6 394	0.95	320.24	★ 2KJ1406 - ■FP13 - ■■S1		220
	4.9	5 854	1.0	293.22	2KJ1406 - ■FP13 - ■■R1		220
	5.5	5 208	1.2	260.84	★ 2KJ1406 - ■FP13 - ■■Q1		220
	6.0	4 759	1.3	238.39	2KJ1406 - ■FP13 - ■■P1		220
	6.5	4 375	1.4	219.15	★ 2KJ1406 - ■FP13 - ■■N1		220
	7.1	4 043	1.5	202.48	2KJ1406 - ■FP13 - ■■M1		220
	7.6	3 751	1.6	187.88	★ 2KJ1406 - ■FP13 - ■■L1		220
	8.2	3 494	1.7	175.01	2KJ1406 - ■FP13 - ■■K1		220
	9.1	3 159	1.9	158.22	★ 2KJ1406 - ■FP13 - ■■J1		220
	9.9	2 908	2.1	145.66	2KJ1406 - ■FP13 - ■■H1		220
	<b>FD.108B-LA100ZLD4E</b>						
	7.1	4 048	0.84	202.77	2KJ1405 - ■FP13 - ■■N1		139
	7.8	3 661	0.93	183.39	★ 2KJ1405 - ■FP13 - ■■M1		139
	8.5	3 372	1.0	168.88	2KJ1405 - ■FP13 - ■■L1		139
	9.2	3 118	1.1	156.19	★ 2KJ1405 - ■FP13 - ■■K1		139
	9.9	2 895	1.2	144.99	2KJ1405 - ■FP13 - ■■J1		139
	11.2	2 554	1.3	127.92	★ 2KJ1405 - ■FP13 - ■■H1		139
	12.1	2 358	1.4	118.11	2KJ1405 - ■FP13 - ■■G1		139
	13.6	2 113	1.6	105.81	★ 2KJ1405 - ■FP13 - ■■F1		139
	14.7	1 948	1.7	97.57	2KJ1405 - ■FP13 - ■■E1		139
	17.5	1 634	2.1	81.86	2KJ1405 - ■FP13 - ■■D1		139
	<b>FZ.108B-LA100ZLD4E</b>						
	22	1 282	2.3	64.21	★ 2KJ1305 - ■FP13 - ■■A2		138
	<b>FD.88B-LA100ZLD4E</b>						
	12.4	2 315	0.82	115.93	2KJ1404 - ■FP13 - ■■G1		92
	13.6	2 109	0.90	105.61	★ 2KJ1404 - ■FP13 - ■■F1		92
	14.8	1 932	0.98	96.75	2KJ1404 - ■FP13 - ■■E1		92
	16.6	1 724	1.1	86.33	★ 2KJ1404 - ■FP13 - ■■D1		92
	18.6	1 538	1.2	77.04	2KJ1404 - ■FP13 - ■■C1		92
	22	1 306	1.5	65.43	2KJ1404 - ■FP13 - ■■B1		92
	26	1 088	1.7	54.47	★ 2KJ1404 - ■FP13 - ■■A1		92
	<b>FZ.88B-LA100ZLD4E</b>						
	22	1289	1.5	64.58	★ 2KJ1304 - ■FP13 - ■■X1		91

★ Preferred transmission ratio

Shaft designs, see page 3/89

1, 2, 3, 5, 6 or 9

Frequency and voltage, see page 8/20

1 to 9

Gearbox housing mounting position, see page 3/92

A, D, E, F, H or M

\*) For mounting type B5-01

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
<b>3</b>	<b>FZ.88B-LA100ZLD4E</b>						
	24	1 181	1.6	59.13	2KJ1304 - ■FP13 - ■■W1		91
	27	1 050	1.8	52.6 ★	2KJ1304 - ■FP13 - ■■V1		91
	30	959	2.0	48.03	2KJ1304 - ■FP13 - ■■U1		91
	32	882	2.2	44.2 ★	2KJ1304 - ■FP13 - ■■T1		91
	35	815	2.3	40.83	2KJ1304 - ■FP13 - ■■S1		91
	38	756	2.5	37.89 ★	2KJ1304 - ■FP13 - ■■R1		91
	41	705	2.7	35.29	2KJ1304 - ■FP13 - ■■Q1		91
	<b>FD.68B-LA100ZLD4E</b>						
	24	1 172	0.85	58.71	2KJ1403 - ■FP13 - ■■B1		61
	28	1 008	0.99	50.48 ★	2KJ1403 - ■FP13 - ■■A1		61
	<b>FZ.68B-LA100ZLD4E</b>						
	27	1 068	0.94	53.5	2KJ1303 - ■FP13 - ■■A2		60
	30	959	1.0	48.03 ★	2KJ1303 - ■FP13 - ■■X1		60
	33	876	1.1	43.87	2KJ1303 - ■FP13 - ■■V1		60
	37	777	1.3	38.93 ★	2KJ1303 - ■FP13 - ■■U1		60
	40	717	1.4	35.93	2KJ1303 - ■FP13 - ■■T1		60
	44	649	1.5	32.5 ★	2KJ1303 - ■FP13 - ■■S1		60
	48	598	1.7	29.93	2KJ1303 - ■FP13 - ■■R1		60
	52	553	1.8	27.68 ★	2KJ1303 - ■FP13 - ■■Q1		60
	56	513	1.9	25.69	2KJ1303 - ■FP13 - ■■P1		60
	63	453	2.2	22.67 ★	2KJ1303 - ■FP13 - ■■N1		60
	69	418	2.4	20.93	2KJ1303 - ■FP13 - ■■M1		60
	76	374	2.7	18.75 ★	2KJ1303 - ■FP13 - ■■L1		60
	83	345	2.9	17.29	2KJ1303 - ■FP13 - ■■K1		60
	99	290	3.5	14.51	2KJ1303 - ■FP13 - ■■J1		60
	<b>FZ.48B-LA100ZLD4E</b>						
	46	616	0.88	30.86 ★	2KJ1302 - ■FP13 - ■■T1		45
	51	559	0.97	28.02	2KJ1302 - ■FP13 - ■■S1		45
	56	511	1.1	25.59 ★	2KJ1302 - ■FP13 - ■■R1		45
	61	469	1.2	23.48	2KJ1302 - ■FP13 - ■■Q1		45
	66	432	1.3	21.63 ★	2KJ1302 - ■FP13 - ■■P1		45
	73	392	1.4	19.64	2KJ1302 - ■FP13 - ■■N1		45
80	357	1.5	17.89 ★	2KJ1302 - ■FP13 - ■■M1		45	
88	327	1.7	16.39	2KJ1302 - ■FP13 - ■■L1		45	
98	292	1.8	14.63 ★	2KJ1302 - ■FP13 - ■■K1		45	
110	261	2.1	13.05	2KJ1302 - ■FP13 - ■■J1		45	
129	221	2.4	11.09	2KJ1302 - ■FP13 - ■■H1		45	
155	184	2.9	9.23 ★	2KJ1302 - ■FP13 - ■■G1		45	
171	168	3.0	8.39 ★	2KJ1302 - ■FP13 - ■■F1		45	
187	153	3.0	7.68	2KJ1302 - ■FP13 - ■■E1		45	
209	137	3.2	6.86 ★	2KJ1302 - ■FP13 - ■■D1		45	
234	122	3.3	6.12	2KJ1302 - ■FP13 - ■■C1		45	
276	104	3.6	5.2	2KJ1302 - ■FP13 - ■■B1		45	
3	331	86	3.8	4.33 ★	2KJ1302 - ■FP13 - ■■A1		45

★ Preferred transmission ratio

Shaft designs, see page 3/89

Frequency and voltage, see page 8/20

Gearbox housing mounting position, see page 3/92

\*) For mounting type B5-01

1, 2, 3, 5, 6 or 9

1 to 9

A, D, E, F, H or M

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

### Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg	
<b>3</b>	<b>FZ.48B-LA100ZLB2E</b>							
	<b>162</b>	177	3.0	17.89	★	<b>2KJ1302 - FM13 - M1</b>	<b>P00</b>	45
	<b>176</b>	162	3.3	16.39		<b>2KJ1302 - FM13 - L1</b>	<b>P00</b>	45
	<b>198</b>	145	3.7	14.63	★	<b>2KJ1302 - FM13 - K1</b>	<b>P00</b>	45
	<b>221</b>	129	4.2	13.05		<b>2KJ1302 - FM13 - J1</b>	<b>P00</b>	45
	<b>FZ.38B-LA100ZLD4E</b>							
	<b>79</b>	364	0.80	18.23	★	<b>2KJ1301 - FP13 - P1</b>		37
	<b>86</b>	332	0.87	16.61		<b>2KJ1301 - FP13 - N1</b>		37
	<b>94</b>	303	0.96	15.19	★	<b>2KJ1301 - FP13 - M1</b>		37
	<b>106</b>	271	1.1	13.58		<b>2KJ1301 - FP13 - L1</b>		37
	<b>115</b>	249	1.2	12.47	★	<b>2KJ1301 - FP13 - K1</b>		37
	<b>128</b>	224	1.3	11.24		<b>2KJ1301 - FP13 - J1</b>		37
	<b>148</b>	193	1.5	9.67	★	<b>2KJ1301 - FP13 - H1</b>		37
	<b>168</b>	170	1.7	8.52	★	<b>2KJ1301 - FP13 - G1</b>		37
	<b>185</b>	155	1.9	7.76		<b>2KJ1301 - FP13 - F1</b>		37
	<b>202</b>	142	2.0	7.1	★	<b>2KJ1301 - FP13 - E1</b>		37
	<b>226</b>	127	2.2	6.35		<b>2KJ1301 - FP13 - D1</b>		37
	<b>246</b>	116	2.4	5.83	★	<b>2KJ1301 - FP13 - C1</b>		37
	<b>273</b>	105	2.4	5.25		<b>2KJ1301 - FP13 - B1</b>		37
	<b>317</b>	90	2.5	4.52	★	<b>2KJ1301 - FP13 - A1</b>		37
	<b>FZ.38B-LA100ZLB2E</b>							
	<b>159</b>	181	1.6	18.23	★	<b>2KJ1301 - FM13 - P1</b>	<b>P00</b>	37
	<b>174</b>	165	1.8	16.61		<b>2KJ1301 - FM13 - N1</b>	<b>P00</b>	37
	<b>190</b>	151	1.9	15.19	★	<b>2KJ1301 - FM13 - M1</b>	<b>P00</b>	37
	<b>213</b>	135	2.2	13.58		<b>2KJ1301 - FM13 - L1</b>	<b>P00</b>	37
	<b>232</b>	124	2.3	12.47	★	<b>2KJ1301 - FM13 - K1</b>	<b>P00</b>	37
	<b>257</b>	111	2.6	11.24		<b>2KJ1301 - FM13 - J1</b>	<b>P00</b>	37
	<b>299</b>	96	3.0	9.67	★	<b>2KJ1301 - FM13 - H1</b>	<b>P00</b>	37
	<b>339</b>	84	3.4	8.52	★	<b>2KJ1301 - FM13 - G1</b>	<b>P00</b>	37
	<b>372</b>	77	3.8	7.76		<b>2KJ1301 - FM13 - F1</b>	<b>P00</b>	37
	<b>407</b>	70	4.1	7.1	★	<b>2KJ1301 - FM13 - E1</b>	<b>P00</b>	37
	<b>455</b>	63	4.4	6.35		<b>2KJ1301 - FM13 - D1</b>	<b>P00</b>	37
	<b>496</b>	58	4.8	5.83	★	<b>2KJ1301 - FM13 - C1</b>	<b>P00</b>	37
	<b>550</b>	52	4.9	5.25		<b>2KJ1301 - FM13 - B1</b>	<b>P00</b>	37
	<b>639</b>	45	5.1	4.52	★	<b>2KJ1301 - FM13 - A1</b>	<b>P00</b>	37
	<b>FZ.28-LA100ZLD4E</b>							
	<b>199</b>	144	0.88	7.2	★	<b>2KJ1300 - FP13 - G1</b>		29
	<b>220</b>	130	0.94	6.53		<b>2KJ1300 - FP13 - F1</b>		29
	<b>242</b>	119	0.99	5.94	★	<b>2KJ1300 - FP13 - E1</b>		29
	<b>273</b>	105	1.1	5.25		<b>2KJ1300 - FP13 - D1</b>		29
	<b>296</b>	97	1.1	4.85	★	<b>2KJ1300 - FP13 - C1</b>		29
	<b>343</b>	84	1.2	4.18		<b>2KJ1300 - FP13 - B1</b>		29
	<b>378</b>	76	1.3	3.8	★	<b>2KJ1300 - FP13 - A1</b>		29

★ Preferred transmission ratio

Shaft designs, see page 3/89

Frequency and voltage, see page 8/20

Gearbox housing mounting position, see page 3/92

\*) For mounting type B5-01

1, 2, 3, 5, 6 or 9

1 to 9

A, D, E, F, H or M

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
4	<b>FD.188B-Z68-LA112ZMP4</b>						
	1.4	24 905	0.80	1 030	2KJ1441 - GJ13 - F1		680
	<b>FD.188B-LA132ZMB6E</b>						
	2.4	16 239	1.2	403.86	★ 2KJ1410 - HJ13 - U1	P01	684
	2.6	14 899	1.3	370.52	2KJ1410 - HJ13 - T1	P01	684
	2.8	13 750	1.5	341.94	★ 2KJ1410 - HJ13 - S1	P01	684
	3.0	12 754	1.6	317.18	2KJ1410 - HJ13 - R1	P01	684
	3.2	12 031	1.7	299.2	★ 2KJ1410 - HJ13 - Q1	P01	684
	3.4	11 253	1.8	279.86	2KJ1410 - HJ13 - P1	P01	684
	<b>FD.168B-LA132ZMB6E</b>						
	2.6	14 848	0.94	369.26	★ 2KJ1408 - HJ13 - V1	P01	503
	2.8	13 611	1.0	338.49	2KJ1408 - HJ13 - U1	P01	503
	3.0	12 551	1.1	312.12	★ 2KJ1408 - HJ13 - T1	P01	503
	3.3	11 631	1.2	289.26	2KJ1408 - HJ13 - S1	P01	503
	3.5	11 059	1.3	275.03	★ 2KJ1408 - HJ13 - R1	P01	503
	3.7	10 336	1.4	257.04	2KJ1408 - HJ13 - Q1	P01	503
	<b>FD.148B-LA112ZMP4E</b>						
	3.5	10 929	0.82	411.98	2KJ1407 - GJ13 - T1		323
	3.9	9 764	0.92	368.06	★ 2KJ1407 - GJ13 - S1		323
	4.3	8 942	1.0	337.07	2KJ1407 - GJ13 - R1		323
	4.6	8 237	1.1	310.51	★ 2KJ1407 - GJ13 - Q1		323
	5.0	7 626	1.2	287.49	2KJ1407 - GJ13 - P1		323
	5.4	7 092	1.3	267.35	★ 2KJ1407 - GJ13 - N1		323
	5.8	6 621	1.4	249.58	2KJ1407 - GJ13 - M1		323
	6.4	5 924	1.5	223.31	★ 2KJ1407 - GJ13 - L1		323
	7.0	5 489	1.6	206.93	2KJ1407 - GJ13 - K1		323
	7.6	5 032	1.8	189.69	★ 2KJ1407 - GJ13 - J1		323
	8.3	4 613	2.0	173.89	2KJ1407 - GJ13 - H1		323
	<b>FD.128B-LA112ZMP4E</b>						
	5.5	6 920	0.88	260.84	★ 2KJ1406 - GJ13 - Q1		227
	6.0	6 324	0.96	238.39	2KJ1406 - GJ13 - P1		227
	6.6	5 814	1.0	219.15	★ 2KJ1406 - GJ13 - N1		227
	7.1	5 371	1.1	202.48	2KJ1406 - GJ13 - M1		227
	7.7	4 984	1.2	187.88	★ 2KJ1406 - GJ13 - L1		227
	8.2	4 643	1.3	175.01	2KJ1406 - GJ13 - K1		227
	9.1	4 197	1.5	158.22	★ 2KJ1406 - GJ13 - J1		227
	9.9	3 864	1.6	145.66	2KJ1406 - GJ13 - H1		227
	11.0	3 475	1.8	131.01	★ 2KJ1406 - GJ13 - G1		227
	11.9	3 206	1.9	120.87	2KJ1406 - GJ13 - F1		227
	14.1	2 717	2.2	102.41	2KJ1406 - GJ13 - E1		227

★ Preferred transmission ratio

Shaft designs, see page 3/89

Frequency and voltage, see page 8/20

Gearbox housing mounting position, see page 3/92

\*) For mounting type B5-01

1, 2, 3, 5, 6 or 9

1 to 9

A, D, E, F, H or M

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
4	<b>FD.108B-LA112ZMP4E</b>						
	9.2	4 143	0.82	156.19	★	2KJ1405 - GJ13 - K1	146
	9.9	3 846	0.88	144.99		2KJ1405 - GJ13 - J1	146
	11.3	3 393	1.0	127.92	★	2KJ1405 - GJ13 - H1	146
	12.2	3 133	1.1	118.11		2KJ1405 - GJ13 - G1	146
	13.6	2 807	1.2	105.81	★	2KJ1405 - GJ13 - F1	146
	14.8	2 588	1.3	97.57		2KJ1405 - GJ13 - E1	146
	17.6	2 172	1.6	81.86		2KJ1405 - GJ13 - D1	146
	21	1 853	1.8	69.84	★	2KJ1405 - GJ13 - C1	146
	25	1 544	2.2	58.2		2KJ1405 - GJ13 - B1	146
<b>FZ.108B-LA112ZMP4E</b>							
22	1 703	1.8	64.21	★	2KJ1305 - GJ13 - A2	145	
24	1 560	1.9	58.8		2KJ1305 - GJ13 - X1	145	
27	1 437	2.4	54.17	★	2KJ1305 - GJ13 - W1	145	
<b>FD.88B-LA112ZMP4E</b>							
16.7	2 290	0.83	86.33	★	2KJ1404 - GJ13 - D1	99	
18.7	2 044	0.93	77.04		2KJ1404 - GJ13 - C1	99	
22	1 736	1.1	65.43		2KJ1404 - GJ13 - B1	99	
26	1 445	1.3	54.47	★	2KJ1404 - GJ13 - A1	99	
<b>FZ.88B-LA112ZMP4E</b>							
22	1 713	1.1	64.58	★	2KJ1304 - GJ13 - X1	98	
24	1 569	1.2	59.13		2KJ1304 - GJ13 - W1	98	
27	1 395	1.4	52.6	★	2KJ1304 - GJ13 - V1	98	
30	1 274	1.5	48.03		2KJ1304 - GJ13 - U1	98	
33	1 173	1.6	44.2	★	2KJ1304 - GJ13 - T1	98	
35	1 083	1.8	40.83		2KJ1304 - GJ13 - S1	98	
38	1 005	1.9	37.89	★	2KJ1304 - GJ13 - R1	98	
41	936	2.0	35.29		2KJ1304 - GJ13 - Q1	98	
45	847	2.2	31.91	★	2KJ1304 - GJ13 - P1	98	
49	779	2.4	29.38		2KJ1304 - GJ13 - N1	98	
54	701	2.7	26.42	★	2KJ1304 - GJ13 - M1	98	
59	647	2.9	24.38		2KJ1304 - GJ13 - L1	98	
<b>FZ.68B-LA112ZMP4E</b>							
33	1 164	0.86	43.87		2KJ1303 - GJ13 - V1	67	
37	1 033	0.97	38.93	★	2KJ1303 - GJ13 - U1	67	
40	953	1.0	35.93		2KJ1303 - GJ13 - T1	67	
44	862	1.2	32.5	★	2KJ1303 - GJ13 - S1	67	
48	794	1.3	29.93		2KJ1303 - GJ13 - R1	67	
52	734	1.4	27.68	★	2KJ1303 - GJ13 - Q1	67	
56	681	1.5	25.69		2KJ1303 - GJ13 - P1	67	
64	601	1.7	22.67	★	2KJ1303 - GJ13 - N1	67	
69	555	1.8	20.93		2KJ1303 - GJ13 - M1	67	
77	497	2.0	18.75	★	2KJ1303 - GJ13 - L1	67	
83	459	2.2	17.29		2KJ1303 - GJ13 - K1	67	

★ Preferred transmission ratio

Shaft designs, see page 3/89

1, 2, 3, 5, 6 or 9

Frequency and voltage, see page 8/20

1 to 9

Gearbox housing mounting position, see page 3/92

A, D, E, F, H or M

\*) For mounting type B5-01

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
4	<b>FZ.68B-LA112ZMP4E</b>						
	99	385	2.6	14.51	2KJ1303 - GJ13 - J1		67
	116	328	3.0	12.38	★ 2KJ1303 - GJ13 - H1		67
	140	274	3.7	10.31	2KJ1303 - GJ13 - G1		67
	179	213	4.2	8.03	2KJ1303 - GJ13 - E1		67
	<b>FZ.48B-LA112ZMP4E</b>						
	56	679	0.8	25.59	★ 2KJ1302 - GJ13 - R1		52
	61	623	0.87	23.48	2KJ1302 - GJ13 - Q1		52
	67	574	0.94	21.63	★ 2KJ1302 - GJ13 - P1		52
	73	521	1.0	19.64	2KJ1302 - GJ13 - N1		52
	80	475	1.1	17.89	★ 2KJ1302 - GJ13 - M1		52
	88	435	1.2	16.39	2KJ1302 - GJ13 - L1		52
	98	388	1.4	14.63	★ 2KJ1302 - GJ13 - K1		52
	110	346	1.6	13.05	2KJ1302 - GJ13 - J1		52
	130	294	1.8	11.09	2KJ1302 - GJ13 - H1		52
	156	245	2.1	9.23	★ 2KJ1302 - GJ13 - G1		52
172	223	2.3	8.39	★ 2KJ1302 - GJ13 - F1		52	
188	204	2.3	7.68	2KJ1302 - GJ13 - E1		52	
210	182	2.4	6.86	★ 2KJ1302 - GJ13 - D1		52	
235	162	2.5	6.12	2KJ1302 - GJ13 - C1		52	
277	138	2.7	5.2	2KJ1302 - GJ13 - B1		52	
333	115	2.8	4.33	★ 2KJ1302 - GJ13 - A1		52	
<b>FZ.48B-LA112ZMP2E</b>							
162	235	2.3	17.89	★ 2KJ1302 - GJ13 - M1	P00	52	
177	216	2.5	16.39	2KJ1302 - GJ13 - L1	P00	52	
199	192	2.8	14.63	★ 2KJ1302 - GJ13 - K1	P00	52	
223	172	3.1	13.05	2KJ1302 - GJ13 - J1	P00	52	
262	146	3.7	11.09	2KJ1302 - GJ13 - H1	P00	52	
315	121	4.3	9.23	★ 2KJ1302 - GJ13 - G1	P00	52	
346	110	4.6	8.39	★ 2KJ1302 - GJ13 - F1	P00	52	
378	101	4.6	7.68	2KJ1302 - GJ13 - E1	P00	52	
423	90	4.9	6.86	★ 2KJ1302 - GJ13 - D1	P00	52	
475	80	5.0	6.12	2KJ1302 - GJ13 - C1	P00	52	
559	68	5.5	5.2	2KJ1302 - GJ13 - B1	P00	52	
671	57	5.7	4.33	★ 2KJ1302 - GJ13 - A1	P00	52	
5.5	<b>FD.208-LA160MB8</b>						
	2.9	17 904	1.9	242.01	2KJ1411 - JF13 - T1	P02	1123
	<b>FD.188B-LA132ZMD6E</b>						
	2.4	22 097	0.91	403.86	★ 2KJ1410 - HK13 - U1	P01	684
	2.6	20 272	0.99	370.52	2KJ1410 - HK13 - T1	P01	684
	2.8	18 709	1.1	341.94	★ 2KJ1410 - HK13 - S1	P01	684
	3.0	17 354	1.2	317.18	2KJ1410 - HK13 - R1	P01	684
	3.2	16 370	1.2	299.2	★ 2KJ1410 - HK13 - Q1	P01	684
	3.4	15 312	1.3	279.86	2KJ1410 - HK13 - P1	P01	684

★ Preferred transmission ratio

Shaft designs, see page 3/89 ————— 1, 2, 3, 5, 6 or 9

Frequency and voltage, see page 8/20 ————— 1 to 9

Gearbox housing mounting position, see page 3/92 ————— A, D, E, F, H or M

\*) For mounting type B5-01

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg	
5.5	<b>FD.188B-LA132SP4E</b>							
	3.6	14 680	1.4	403.86	★	2KJ1410 - ■HG13 - ■■U1	684	
	3.9	13 468	1.5	370.52		2KJ1410 - ■HG13 - ■■T1	684	
	4.2	12 429	1.6	341.94	★	2KJ1410 - ■HG13 - ■■S1	684	
	4.6	11 529	1.7	317.18		2KJ1410 - ■HG13 - ■■R1	684	
	4.8	10 876	1.8	299.2	★	2KJ1410 - ■HG13 - ■■Q1	684	
	5.2	10 173	2.0	279.86		2KJ1410 - ■HG13 - ■■P1	684	
	<b>FD.168B-LA132ZMD6E</b>							
	3.1	17 077	0.82	312.12	★	2KJ1408 - ■HK13 - ■■T1	P01	503
	3.3	15 826	0.88	289.26		2KJ1408 - ■HK13 - ■■S1	P01	503
	3.5	15 048	0.93	275.03	★	2KJ1408 - ■HK13 - ■■R1	P01	503
	3.7	14 064	1.0	257.04		2KJ1408 - ■HK13 - ■■Q1	P01	503
	<b>FD.168B-LA132SP4E</b>							
	3.9	13 422	1.0	369.26	★	2KJ1408 - ■HG13 - ■■V1		503
	4.3	12 304	1.1	338.49		2KJ1408 - ■HG13 - ■■U1		503
	4.6	11 345	1.2	312.12	★	2KJ1408 - ■HG13 - ■■T1		503
	5.0	10 514	1.3	289.26		2KJ1408 - ■HG13 - ■■S1		503
	5.3	9 997	1.4	275.03	★	2KJ1408 - ■HG13 - ■■R1		503
	5.6	9 343	1.5	257.04		2KJ1408 - ■HG13 - ■■Q1		503
	6.4	8 242	1.7	226.74	★	2KJ1408 - ■HG13 - ■■P1		503
	6.8	7 774	1.8	213.87		2KJ1408 - ■HG13 - ■■N1		503
	7.5	6 966	2.0	191.63	★	2KJ1408 - ■HG13 - ■■M1		503
	<b>FD.148B-LA132SP4E</b>							
	4.7	11 287	0.80	310.51	★	2KJ1407 - ■HG13 - ■■Q1		341
5.0	10 450	0.86	287.49		2KJ1407 - ■HG13 - ■■P1		341	
5.4	9 718	0.93	267.35	★	2KJ1407 - ■HG13 - ■■N1		341	
5.8	9 072	0.99	249.58		2KJ1407 - ■HG13 - ■■M1		341	
6.5	8 117	1.1	223.31	★	2KJ1407 - ■HG13 - ■■L1		341	
7.0	7 522	1.2	206.93		2KJ1407 - ■HG13 - ■■K1		341	
7.6	6 895	1.3	189.69	★	2KJ1407 - ■HG13 - ■■J1		341	
8.3	6 321	1.4	173.89		2KJ1407 - ■HG13 - ■■H1		341	
9.8	5 386	1.7	148.18		2KJ1407 - ■HG13 - ■■G1		341	
11.1	4 753	1.9	130.76	★	2KJ1407 - ■HG13 - ■■F1		341	
13.0	4 045	2.2	111.29		2KJ1407 - ■HG13 - ■■E1		341	
<b>FZ.148B-LA132SP4E</b>								
21	2 480	2.3	68.23		2KJ1307 - ■HG13 - ■■V1		333	
<b>FD.128B-LA132SP4E</b>								
7.1	7 360	0.83	202.48		2KJ1406 - ■HG13 - ■■M1		245	
7.7	6 829	0.89	187.88	★	2KJ1406 - ■HG13 - ■■L1		245	
8.3	6 362	0.96	175.01		2KJ1406 - ■HG13 - ■■K1		245	
9.1	5 751	1.1	158.22	★	2KJ1406 - ■HG13 - ■■J1		245	
9.9	5 295	1.2	145.66		2KJ1406 - ■HG13 - ■■H1		245	
11.0	4 762	1.3	131.01	★	2KJ1406 - ■HG13 - ■■G1		245	
12.0	4 394	1.4	120.87		2KJ1406 - ■HG13 - ■■F1		245	

★ Preferred transmission ratio

Shaft designs, see page 3/89

Frequency and voltage, see page 8/20

Gearbox housing mounting position, see page 3/92

\*) For mounting type B5-01

1, 2, 3, 5, 6 or 9

1 to 9

A, D, E, F, H or M



# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
5.5	<b>FD.128B-LA132SP4E</b>						
	14.1	3 723	1.6	102.41	2KJ1406 - ■ HG13 - ■ ■ E1		245
	16.2	3 244	1.9	89.25 ★	2KJ1406 - ■ HG13 - ■ ■ D1		245
	19.0	2 760	2.2	75.93	2KJ1406 - ■ HG13 - ■ ■ C1		245
	<b>FZ.128B-LA132SP4E</b>						
	26	2 051	2.1	56.42 ★	2KJ1306 - ■ HG13 - ■ ■ A2		241
	28	1 901	2.4	52.29	2KJ1306 - ■ HG13 - ■ ■ X1		241
	<b>FD.108B-LA132SP4E</b>						
	13.7	3 846	0.88	105.81 ★	2KJ1405 - ■ HG13 - ■ ■ F1		164
	14.8	3 547	0.96	97.57	2KJ1405 - ■ HG13 - ■ ■ E1		164
	17.7	2 976	1.1	81.86	2KJ1405 - ■ HG13 - ■ ■ D1		164
	21	2 539	1.3	69.84 ★	2KJ1405 - ■ HG13 - ■ ■ C1		164
	25	2 116	1.6	58.2	2KJ1405 - ■ HG13 - ■ ■ B1		164
	30	1 753	1.9	48.24 ★	2KJ1405 - ■ HG13 - ■ ■ A1		164
	<b>FZ.108B-LA132SP4E</b>						
	22	2 334	1.3	64.21 ★	2KJ1305 - ■ HG13 - ■ ■ A2		163
	25	2 137	1.4	58.8	2KJ1305 - ■ HG13 - ■ ■ X1		163
	27	1 969	1.7	54.17 ★	2KJ1305 - ■ HG13 - ■ ■ W1		163
	29	1 823	1.9	50.15	2KJ1305 - ■ HG13 - ■ ■ V1		163
	31	1 695	2.0	46.64 ★	2KJ1305 - ■ HG13 - ■ ■ U1		163
	33	1 583	2.1	43.54	2KJ1305 - ■ HG13 - ■ ■ T1		163
	37	1 416	2.4	38.95 ★	2KJ1305 - ■ HG13 - ■ ■ S1		163
	40	1 312	2.6	36.1	2KJ1305 - ■ HG13 - ■ ■ R1		163
	<b>FD.88B-LA132SP4E</b>						
22	2 378	0.80	65.43	2KJ1404 - ■ HG13 - ■ ■ B1		117	
26	1 980	0.96	54.47 ★	2KJ1404 - ■ HG13 - ■ ■ A1		117	
<b>FZ.88B-LA132SP4E</b>							
28	1 912	0.99	52.6 ★	2KJ1304 - ■ HG13 - ■ ■ V1		116	
30	1 746	1.1	48.03	2KJ1304 - ■ HG13 - ■ ■ U1		116	
33	1 607	1.2	44.2 ★	2KJ1304 - ■ HG13 - ■ ■ T1		116	
35	1 484	1.3	40.83	2KJ1304 - ■ HG13 - ■ ■ S1		116	
38	1 377	1.4	37.89 ★	2KJ1304 - ■ HG13 - ■ ■ R1		116	
41	1 283	1.5	35.29	2KJ1304 - ■ HG13 - ■ ■ Q1		116	
45	1 160	1.6	31.91 ★	2KJ1304 - ■ HG13 - ■ ■ P1		116	
49	1 068	1.8	29.38	2KJ1304 - ■ HG13 - ■ ■ N1		116	
55	960	2.0	26.42 ★	2KJ1304 - ■ HG13 - ■ ■ M1		116	
59	886	2.1	24.38	2KJ1304 - ■ HG13 - ■ ■ L1		116	
70	751	2.5	20.65	2KJ1304 - ■ HG13 - ■ ■ K1		116	
80	654	2.9	18 ★	2KJ1304 - ■ HG13 - ■ ■ J1		116	
94	557	3.4	15.31	2KJ1304 - ■ HG13 - ■ ■ H1		116	
<b>FZ.68B-LA132SP4E</b>							
44	1 181	0.85	32.5 ★	2KJ1303 - ■ HG13 - ■ ■ S1		85	
48	1 088	0.92	29.93	2KJ1303 - ■ HG13 - ■ ■ R1		85	
52	1 006	0.99	27.68 ★	2KJ1303 - ■ HG13 - ■ ■ Q1		85	

★ Preferred transmission ratio

Shaft designs, see page 3/89

Frequency and voltage, see page 8/20

Gearbox housing mounting position, see page 3/92

\*) For mounting type B5-01

1, 2, 3, 5, 6 or 9

1 to 9

A, D, E, F, H or M

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
<b>5.5</b>							
<b>FZ.68B-LA132SP4E</b>							
56		934	1.1	25.69	2KJ1303 - ■HG13 - ■■P1		85
64		824	1.2	22.67 ★	2KJ1303 - ■HG13 - ■■N1		85
69		761	1.3	20.93	2KJ1303 - ■HG13 - ■■M1		85
77		682	1.5	18.75 ★	2KJ1303 - ■HG13 - ■■L1		85
84		628	1.6	17.29	2KJ1303 - ■HG13 - ■■K1		85
100		527	1.9	14.51	2KJ1303 - ■HG13 - ■■J1		85
117		450	2.2	12.38 ★	2KJ1303 - ■HG13 - ■■H1		85
140		375	2.7	10.31	2KJ1303 - ■HG13 - ■■G1		85
169		311	3.2	8.55 ★	2KJ1303 - ■HG13 - ■■F1		85
180		292	3.1	8.03	2KJ1303 - ■HG13 - ■■E1		85
214		245	3.4	6.74	2KJ1303 - ■HG13 - ■■D1		85
251		209	3.6	5.75 ★	2KJ1303 - ■HG13 - ■■C1		85
302		174	3.9	4.79	2KJ1303 - ■HG13 - ■■B1		85
364		144	4.1	3.97 ★	2KJ1303 - ■HG13 - ■■A1		85
<b>FZ.68B-LA132SB2E</b>							
156		336	3.0	18.75 ★	2KJ1303 - ■HF13 - ■■L1	P00	77
169		310	3.2	17.29	2KJ1303 - ■HF13 - ■■K1	P00	77
202		260	3.8	14.51	2KJ1303 - ■HF13 - ■■J1	P00	77
237		222	4.5	12.38 ★	2KJ1303 - ■HF13 - ■■H1	P00	77
<b>7.5</b>							
<b>FD.208-LA160LB8</b>							
3.0		24 243	1.4	242.01	2KJ1411 - ■JJ13 - ■■T1	P02	1 135
3.3		21 892	1.6	218.54	2KJ1411 - ■JJ13 - ■■S1	P02	1 135
3.5		20 517	1.7	204.81	2KJ1411 - ■JJ13 - ■■R1	P02	1 135
<b>FD.208-LA160MD6E</b>							
4.0		17 963	1.9	242.01	2KJ1411 - ■JJ13 - ■■T1	P01	1 135
<b>FD.188B-LA160MD6E</b>							
3.2		22 207	0.90	299.2 ★	2KJ1410 - ■JJ13 - ■■Q1	P01	720
3.4		20 772	0.96	279.86	2KJ1410 - ■JJ13 - ■■P1	P01	720
<b>FD.188B-LA132ZMP4E</b>							
3.6		19 881	1.0	403.86 ★	2KJ1410 - ■HK13 - ■■U1		684
3.9		18 240	1.1	370.52	2KJ1410 - ■HK13 - ■■T1		684
4.3		16 833	1.2	341.94 ★	2KJ1410 - ■HK13 - ■■S1		684
4.6		15 614	1.3	317.18	2KJ1410 - ■HK13 - ■■R1		684
4.9		14 729	1.4	299.2 ★	2KJ1410 - ■HK13 - ■■Q1		684
5.2		13 777	1.5	279.86	2KJ1410 - ■HK13 - ■■P1		684
5.8		12 250	1.6	248.85 ★	2KJ1410 - ■HK13 - ■■N1		684
6.2		11 565	1.7	234.93	2KJ1410 - ■HK13 - ■■M1		684
6.9		10 381	1.9	210.89 ★	2KJ1410 - ■HK13 - ■■L1		684
7.5		9 528	2.1	193.56	2KJ1410 - ■HK13 - ■■K1		684
<b>FD.168B-LA132ZMP4E</b>							
4.3		16 663	0.84	338.49	2KJ1408 - ■HK13 - ■■U1		503
4.7		15 365	0.91	312.12 ★	2KJ1408 - ■HK13 - ■■T1		503
5.0		14 239	0.98	289.26	2KJ1408 - ■HK13 - ■■S1		503

★ Preferred transmission ratio

Shaft designs, see page 3/89 ————— 1, 2, 3, 5, 6 or 9

Frequency and voltage, see page 8/20 ————— 1 to 9

Gearbox housing mounting position, see page 3/92 ————— A, D, E, F, H or M

\*) For mounting type B5-01

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
7.5	<b>FD.168B-LA132ZMP4E</b>						
	5.3	13 539	1.0	275.03	★	2KJ1408 - ■HK13 - ■■R1	503
	5.7	12 653	1.1	257.04		2KJ1408 - ■HK13 - ■■Q1	503
	6.4	11 162	1.3	226.74	★	2KJ1408 - ■HK13 - ■■P1	503
	6.8	10 528	1.3	213.87		2KJ1408 - ■HK13 - ■■N1	503
	7.6	9 433	1.5	191.63	★	2KJ1408 - ■HK13 - ■■M1	503
	8.2	8 710	1.6	176.94		2KJ1408 - ■HK13 - ■■L1	503
	9.6	7 442	1.9	151.18		2KJ1408 - ■HK13 - ■■K1	503
	10.6	6 726	2.1	136.63	★	2KJ1408 - ■HK13 - ■■J1	503
	11.1	6 480	2.2	131.64		2KJ1408 - ■HK13 - ■■H1	503
		<b>FD.148B-LA132ZMP4E</b>					
6.5		10 993	0.82	223.31	★	2KJ1407 - ■HK13 - ■■L1	341
7.0		10 187	0.88	206.93		2KJ1407 - ■HK13 - ■■K1	341
7.7		9 338	0.96	189.69	★	2KJ1407 - ■HK13 - ■■J1	341
8.4		8 560	1.1	173.89		2KJ1407 - ■HK13 - ■■H1	341
9.8		7 294	1.2	148.18		2KJ1407 - ■HK13 - ■■G1	341
11.1		6 437	1.4	130.76	★	2KJ1407 - ■HK13 - ■■F1	341
13.1		5 478	1.6	111.29		2KJ1407 - ■HK13 - ■■E1	341
15.1		4 747	1.9	96.43	★	2KJ1407 - ■HK13 - ■■D1	341
17.9		3 995	2.3	81.15	★	2KJ1407 - ■HK13 - ■■C1	341
	<b>FZ.148B-LA132ZMP4E</b>						
	21	3 359	1.7	68.23		2KJ1307 - ■HK13 - ■■V1	333
	23	3 169	2.1	64.37	★	2KJ1307 - ■HK13 - ■■U1	333
	24	2 964	2.4	60.21		2KJ1307 - ■HK13 - ■■T1	333
	<b>FD.128B-LA132ZMP4E</b>						
	10.0	7 170	0.85	145.66		2KJ1406 - ■HK13 - ■■H1	245
	11.1	6 449	0.95	131.01	★	2KJ1406 - ■HK13 - ■■G1	245
	12.0	5 950	1.0	120.87		2KJ1406 - ■HK13 - ■■F1	245
	14.2	5 041	1.2	102.41		2KJ1406 - ■HK13 - ■■E1	245
	16.3	4 393	1.4	89.25	★	2KJ1406 - ■HK13 - ■■D1	245
	19.2	3 738	1.6	75.93		2KJ1406 - ■HK13 - ■■C1	245
	22	3 190	1.9	64.8	★	2KJ1406 - ■HK13 - ■■B1	245
	27	2 615	2.3	53.13	★	2KJ1406 - ■HK13 - ■■A1	245
	<b>FZ.128B-LA132ZMP4E</b>						
	26	2 777	1.5	56.42	★	2KJ1306 - ■HK13 - ■■A2	241
	28	2 574	1.8	52.29		2KJ1306 - ■HK13 - ■■X1	241
	29	2 447	2.0	49.71	★	2KJ1306 - ■HK13 - ■■W1	241
	31	2 287	2.3	46.46		2KJ1306 - ■HK13 - ■■V1	241
	<b>FD.108B-LA132ZMP4E</b>						
	17.8	4 030	0.84	81.86		2KJ1405 - ■HK13 - ■■D1	164
	21	3 438	0.99	69.84	★	2KJ1405 - ■HK13 - ■■C1	164
	25	2 865	1.2	58.2		2KJ1405 - ■HK13 - ■■B1	164
	30	2 375	1.4	48.24	★	2KJ1405 - ■HK13 - ■■A1	164

★ Preferred transmission ratio

Shaft designs, see page 3/89

Frequency and voltage, see page 8/20

Gearbox housing mounting position, see page 3/92

\*) For mounting type B5-01

1, 2, 3, 5, 6 or 9

1 to 9

A, D, E, F, H or M

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
7.5	<b>FZ.108B-LA132ZMP4E</b>						
	23	3 161	0.95	64.21	★	2KJ1305 - ■ HK13 - ■■ A2	163
	25	2 895	1.0	58.8		2KJ1305 - ■ HK13 - ■■ X1	163
	27	2 667	1.3	54.17	★	2KJ1305 - ■ HK13 - ■■ W1	163
	29	2 469	1.4	50.15		2KJ1305 - ■ HK13 - ■■ V1	163
	31	2 296	1.5	46.64	★	2KJ1305 - ■ HK13 - ■■ U1	163
	33	2 143	1.6	43.54		2KJ1305 - ■ HK13 - ■■ T1	163
	37	1 917	1.8	38.95	★	2KJ1305 - ■ HK13 - ■■ S1	163
	40	1 777	1.9	36.1		2KJ1305 - ■ HK13 - ■■ R1	163
	44	1 629	2.1	33.09	★	2KJ1305 - ■ HK13 - ■■ Q1	163
	48	1 493	2.3	30.33		2KJ1305 - ■ HK13 - ■■ P1	163
	56	1 273	2.7	25.85		2KJ1305 - ■ HK13 - ■■ N1	163
	64	1 123	3.0	22.81	★	2KJ1305 - ■ HK13 - ■■ M1	163
	<b>FZ.88B-LA132ZMP4E</b>						
	30	2 364	0.80	48.03		2KJ1304 - ■ HK13 - ■■ U1	116
	33	2 176	0.87	44.2	★	2KJ1304 - ■ HK13 - ■■ T1	116
	36	2 010	0.95	40.83		2KJ1304 - ■ HK13 - ■■ S1	116
	38	1 865	1.0	37.89	★	2KJ1304 - ■ HK13 - ■■ R1	116
	41	1 737	1.1	35.29		2KJ1304 - ■ HK13 - ■■ Q1	116
	46	1 571	1.2	31.91	★	2KJ1304 - ■ HK13 - ■■ P1	116
	50	1 446	1.3	29.38		2KJ1304 - ■ HK13 - ■■ N1	116
	55	1 301	1.5	26.42	★	2KJ1304 - ■ HK13 - ■■ M1	116
	60	1 200	1.6	24.38		2KJ1304 - ■ HK13 - ■■ L1	116
	70	1 017	1.9	20.65		2KJ1304 - ■ HK13 - ■■ K1	116
	81	886	2.1	18	★	2KJ1304 - ■ HK13 - ■■ J1	116
	95	754	2.5	15.31		2KJ1304 - ■ HK13 - ■■ H1	116
	111	643	3.0	13.07	★	2KJ1304 - ■ HK13 - ■■ G1	116
	136	527	3.6	10.71	★	2KJ1304 - ■ HK13 - ■■ F1	116
	158	452	3.7	9.19		2KJ1304 - ■ HK13 - ■■ E1	116
	182	394	3.9	8.01	★	2KJ1304 - ■ HK13 - ■■ D1	116
	213	336	4.3	6.82		2KJ1304 - ■ HK13 - ■■ C1	116
	250	286	4.7	5.82	★	2KJ1304 - ■ HK13 - ■■ B1	116
	<b>FZ.68B-LA132ZMP4E</b>						
	64	1 116	0.90	22.67	★	2KJ1303 - ■ HK13 - ■■ N1	85
	70	1 030	0.97	20.93		2KJ1303 - ■ HK13 - ■■ M1	85
	78	923	1.1	18.75	★	2KJ1303 - ■ HK13 - ■■ L1	85
84	851	1.2	17.29		2KJ1303 - ■ HK13 - ■■ K1	85	
100	714	1.4	14.51		2KJ1303 - ■ HK13 - ■■ J1	85	
118	609	1.6	12.38	★	2KJ1303 - ■ HK13 - ■■ H1	85	
141	508	2.0	10.31		2KJ1303 - ■ HK13 - ■■ G1	85	
170	421	2.4	8.55	★	2KJ1303 - ■ HK13 - ■■ F1	85	
181	395	2.3	8.03		2KJ1303 - ■ HK13 - ■■ E1	85	
216	332	2.5	6.74		2KJ1303 - ■ HK13 - ■■ D1	85	
253	283	2.7	5.75	★	2KJ1303 - ■ HK13 - ■■ C1	85	

★ Preferred transmission ratio

Shaft designs, see page 3/89

1, 2, 3, 5, 6 or 9

Frequency and voltage, see page 8/20

1 to 9

Gearbox housing mounting position, see page 3/92

A, D, E, F, H or M

\*) For mounting type B5-01

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
7.5	<b>FZ.68B-LA132ZMP4E</b>						
	304	236	2.9	4.79	2KJ1303 - ■HK13 - ■■B1		85
	366	195	3.0	3.97 ★	2KJ1303 - ■HK13 - ■■A1		85
	<b>FZ.68B-LA132ZSD2E</b>						
	156	458	2.2	18.75 ★	2KJ1303 - ■HJ13 - ■■L1	P00	85
	169	423	2.4	17.29	2KJ1303 - ■HJ13 - ■■K1	P00	85
	202	355	2.8	14.51	2KJ1303 - ■HJ13 - ■■J1	P00	85
	237	303	3.3	12.38 ★	2KJ1303 - ■HJ13 - ■■H1	P00	85
	284	252	4.0	10.31	2KJ1303 - ■HJ13 - ■■G1	P00	85
	343	209	4.8	8.55 ★	2KJ1303 - ■HJ13 - ■■F1	P00	85
	365	196	4.6	8.03	2KJ1303 - ■HJ13 - ■■E1	P00	85
	435	165	5.1	6.74	2KJ1303 - ■HJ13 - ■■D1	P00	85
	510	141	5.4	5.75 ★	2KJ1303 - ■HJ13 - ■■C1	P00	85
	612	117	5.8	4.79	2KJ1303 - ■HJ13 - ■■B1	P00	85
738	97	6.1	3.97 ★	2KJ1303 - ■HJ13 - ■■A1	P00	85	
9.2	<b>FD.188B-LA160MB4E</b>						
	4.9	18 067	1.1	299.2 ★	2KJ1410 - ■JP13 - ■■Q1		708
	5.2	16 899	1.2	279.86	2KJ1410 - ■JP13 - ■■P1		708
	5.8	15 027	1.3	248.85 ★	2KJ1410 - ■JP13 - ■■N1		708
	6.2	14 186	1.4	234.93	2KJ1410 - ■JP13 - ■■M1		708
	6.9	12 735	1.6	210.89 ★	2KJ1410 - ■JP13 - ■■L1		708
	7.5	11 688	1.7	193.56	2KJ1410 - ■JP13 - ■■K1		708
	8.7	10 086	2.0	167.03	2KJ1410 - ■JP13 - ■■J1		708
	<b>FD.168B-LA160MB4E</b>						
	5.3	16 608	0.84	275.03 ★	2KJ1408 - ■JP13 - ■■R1		527
	5.7	15 521	0.9	257.04	2KJ1408 - ■JP13 - ■■Q1		527
	6.4	13 692	1.0	226.74 ★	2KJ1408 - ■JP13 - ■■P1		527
	6.8	12 915	1.1	213.87	2KJ1408 - ■JP13 - ■■N1		527
	7.6	11 572	1.2	191.63 ★	2KJ1408 - ■JP13 - ■■M1		527
	8.2	10 685	1.3	176.94	2KJ1408 - ■JP13 - ■■L1		527
	9.6	9 129	1.5	151.18	2KJ1408 - ■JP13 - ■■K1		527
	10.6	8 250	1.7	136.63 ★	2KJ1408 - ■JP13 - ■■J1		527
	11.1	7 949	1.8	131.64	2KJ1408 - ■JP13 - ■■H1		527
	12.8	6 875	2.0	113.86	2KJ1408 - ■JP13 - ■■G1		527
	<b>FD.148B-LA160MB4E</b>						
	8.4	10 500	0.86	173.89	2KJ1407 - ■JP13 - ■■H1		365
	9.8	8 948	1.0	148.18	2KJ1407 - ■JP13 - ■■G1		365
	11.1	7 896	1.1	130.76 ★	2KJ1407 - ■JP13 - ■■F1		365
	13.1	6 720	1.3	111.29	2KJ1407 - ■JP13 - ■■E1		365
	15.1	5 823	1.5	96.43 ★	2KJ1407 - ■JP13 - ■■D1		365
	17.9	4 900	1.8	81.15 ★	2KJ1407 - ■JP13 - ■■C1		365
	19.9	4 421	2.0	73.22	2KJ1407 - ■JP13 - ■■B1		365
	23	3 800	2.4	62.93 ★	2KJ1407 - ■JP13 - ■■A1		365

★ Preferred transmission ratio

Shaft designs, see page 3/89

1, 2, 3, 5, 6 or 9

Frequency and voltage, see page 8/20

1 to 9

Gearbox housing mounting position, see page 3/92

A, D, E, F, H or M

\*) For mounting type B5-01

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
9.2	<b>FZ.148B-LA160MB4E</b>						
	23	3 887	1.7	64.37	★	2KJ1307 - ■JP13 - ■■U1	357
	24	3 636	1.9	60.21		2KJ1307 - ■JP13 - ■■T1	357
	27	3 232	2.5	53.53	★	2KJ1307 - ■JP13 - ■■S1	357
	<b>FD.128B-LA160MB4E</b>						
	12.0	7 299	0.84	120.87		2KJ1406 - ■JP13 - ■■F1	269
	14.2	6 184	0.99	102.41		2KJ1406 - ■JP13 - ■■E1	269
	16.3	5 389	1.1	89.25	★	2KJ1406 - ■JP13 - ■■D1	269
	19.2	4 585	1.3	75.93		2KJ1406 - ■JP13 - ■■C1	269
	22	3 913	1.6	64.8	★	2KJ1406 - ■JP13 - ■■B1	269
	27	3 208	1.9	53.13	★	2KJ1406 - ■JP13 - ■■A1	269
	<b>FZ.128B-LA160MB4E</b>						
	29	3 002	1.6	49.71	★	2KJ1306 - ■JP13 - ■■W1	265
	31	2 805	1.8	46.46		2KJ1306 - ■JP13 - ■■V1	265
	36	2 475	2.3	40.99	★	2KJ1306 - ■JP13 - ■■U1	265
	38	2 334	2.6	38.66		2KJ1306 - ■JP13 - ■■T1	265
	<b>FD.108B-LA160MB4E</b>						
	21	4 217	0.81	69.84	★	2KJ1405 - ■JP13 - ■■C1	188
	25	3 514	0.97	58.2		2KJ1405 - ■JP13 - ■■B1	188
	30	2 913	1.2	48.24	★	2KJ1405 - ■JP13 - ■■A1	188
	<b>FZ.108B-LA160MB4E</b>						
	31	2 816	1.2	46.64	★	2KJ1305 - ■JP13 - ■■U1	187
	33	2 629	1.3	43.54		2KJ1305 - ■JP13 - ■■T1	187
	37	2 352	1.4	38.95	★	2KJ1305 - ■JP13 - ■■S1	187
	40	2 180	1.6	36.1		2KJ1305 - ■JP13 - ■■R1	187
	44	1 998	1.7	33.09	★	2KJ1305 - ■JP13 - ■■Q1	187
	48	1 831	1.9	30.33		2KJ1305 - ■JP13 - ■■P1	187
56	1 561	2.2	25.85		2KJ1305 - ■JP13 - ■■N1	187	
64	1 377	2.5	22.81	★	2KJ1305 - ■JP13 - ■■M1	187	
75	1 172	2.9	19.41		2KJ1305 - ■JP13 - ■■L1	187	
86	1 016	3.3	16.82	★	2KJ1305 - ■JP13 - ■■K1	187	
<b>FZ.88B-LA160MB4E</b>							
38	2 288	0.83	37.89	★	2KJ1304 - ■JP13 - ■■R1	140	
41	2 131	0.89	35.29		2KJ1304 - ■JP13 - ■■Q1	140	
46	1 927	0.99	31.91	★	2KJ1304 - ■JP13 - ■■P1	140	
50	1 774	1.1	29.38		2KJ1304 - ■JP13 - ■■N1	140	
55	1 595	1.2	26.42	★	2KJ1304 - ■JP13 - ■■M1	140	
60	1 472	1.3	24.38		2KJ1304 - ■JP13 - ■■L1	140	
70	1 247	1.5	20.65		2KJ1304 - ■JP13 - ■■K1	140	
81	1 087	1.7	18	★	2KJ1304 - ■JP13 - ■■J1	140	
95	924	2.1	15.31		2KJ1304 - ■JP13 - ■■H1	140	
111	789	2.4	13.07	★	2KJ1304 - ■JP13 - ■■G1	140	
136	647	2.9	10.71	★	2KJ1304 - ■JP13 - ■■F1	140	
158	555	3.0	9.19		2KJ1304 - ■JP13 - ■■E1	140	

★ Preferred transmission ratio

Shaft designs, see page 3/89

1, 2, 3, 5, 6 or 9

Frequency and voltage, see page 8/20

1 to 9

Gearbox housing mounting position, see page 3/92

A, D, E, F, H or M

\*) For mounting type B5-01

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
9.2	<b>FZ.88B-LA160MB4E</b>						
	182	484	3.2	8.01	★ 2KJ1304 - ■JP13 - ■■D1		140
	213	412	3.5	6.82	2KJ1304 - ■JP13 - ■■C1		140
	250	351	3.8	5.82	★ 2KJ1304 - ■JP13 - ■■B1		140
	305	288	4.2	4.77	★ 2KJ1304 - ■JP13 - ■■A1		140
11	<b>FD.208-LG180LA8</b>						
	3.0	35 066	0.97	242.01	2KJ1411 - ■KM13 - ■■T1	P02	1 205
	3.3	31 666	1.1	218.54	2KJ1411 - ■KM13 - ■■S1	P02	1 205
	3.5	29 676	1.1	204.81	2KJ1411 - ■KM13 - ■■R1	P02	1 205
	<b>FD.208-LA160ZLP6E</b>						
	4.0	26 482	1.3	242.01	2KJ1411 - ■JT13 - ■■T1	P01	1 135
	4.4	23 914	1.4	218.54	2KJ1411 - ■JT13 - ■■S1	P01	1 135
	4.7	22 412	1.5	204.81	2KJ1411 - ■JT13 - ■■R1	P01	1 135
	5.5	19 250	1.8	175.92	★ 2KJ1411 - ■JT13 - ■■Q1	P01	1 135
	<b>FD.208-LA160MP4E</b>						
	6.0	17 413	2.0	242.01	2KJ1411 - ■JQ13 - ■■T1		1 123
	<b>FD.188B-LA160MP4E</b>						
	4.9	21 528	0.93	299.2	★ 2KJ1410 - ■JQ13 - ■■Q1		708
	5.2	20 137	0.99	279.86	2KJ1410 - ■JQ13 - ■■P1		708
	5.9	17 905	1.1	248.85	★ 2KJ1410 - ■JQ13 - ■■N1		708
	6.2	16 904	1.2	234.93	2KJ1410 - ■JQ13 - ■■M1		708
	6.9	15 174	1.3	210.89	★ 2KJ1410 - ■JQ13 - ■■L1		708
	7.5	13 927	1.4	193.56	2KJ1410 - ■JQ13 - ■■K1		708
	8.7	12 018	1.7	167.03	2KJ1410 - ■JQ13 - ■■J1		708
	10.0	10 513	1.9	146.11	2KJ1410 - ■JQ13 - ■■H1		708
	11.5	9 143	2.2	127.07	2KJ1410 - ■JQ13 - ■■G1		708
	<b>FD.168B-LA160MP4E</b>						
	6.4	16 314	0.86	226.74	★ 2KJ1408 - ■JQ13 - ■■P1		527
	6.8	15 388	0.91	213.87	2KJ1408 - ■JQ13 - ■■N1		527
	7.6	13 788	1.0	191.63	★ 2KJ1408 - ■JQ13 - ■■M1		527
	8.3	12 731	1.1	176.94	2KJ1408 - ■JQ13 - ■■L1		527
	9.7	10 878	1.3	151.18	2KJ1408 - ■JQ13 - ■■K1		527
	10.7	9 831	1.4	136.63	★ 2KJ1408 - ■JQ13 - ■■J1		527
	11.1	9 472	1.5	131.64	2KJ1408 - ■JQ13 - ■■H1		527
	12.8	8 192	1.7	113.86	2KJ1408 - ■JQ13 - ■■G1		527
	14.7	7 146	2.0	99.31	★ 2KJ1408 - ■JQ13 - ■■F1		527
	17.2	6 115	2.3	84.99	★ 2KJ1408 - ■JQ13 - ■■E1		527
	<b>FZ.168B-LA160MP4E</b>						
27	3 848	2.3	53.48	2KJ1308 - ■JQ13 - ■■R1		510	
<b>FD.148B-LA160MP4E</b>							
9.9	10 662	0.84	148.18	2KJ1407 - ■JQ13 - ■■G1		365	
11.2	9 408	0.96	130.76	★ 2KJ1407 - ■JQ13 - ■■F1		365	
13.1	8 008	1.1	111.29	2KJ1407 - ■JQ13 - ■■E1		365	
15.1	6 938	1.3	96.43	★ 2KJ1407 - ■JQ13 - ■■D1		365	

★ Preferred transmission ratio

Shaft designs, see page 3/89 ————— 1, 2, 3, 5, 6 or 9

Frequency and voltage, see page 8/20 ————— 1 to 9

Gearbox housing mounting position, see page 3/92 ————— A, D, E, F, H or M

\*) For mounting type B5-01

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
11	<b>FD.148B-LA160MP4E</b>						
	18.0	5 839	1.5	81.15	★	2KJ1407 - ■ JQ13 - ■■ C1	365
	19.9	5 268	1.7	73.22		2KJ1407 - ■ JQ13 - ■■ B1	365
	23	4 528	2.0	62.93	★	2KJ1407 - ■ JQ13 - ■■ A1	365
	<b>FZ.148B-LA160MP4E</b>						
	23	4 632	1.4	64.37	★	2KJ1307 - ■ JQ13 - ■■ U1	357
	24	4 332	1.6	60.21		2KJ1307 - ■ JQ13 - ■■ T1	357
	27	3 852	2.1	53.53	★	2KJ1307 - ■ JQ13 - ■■ S1	357
	29	3 636	2.2	50.54		2KJ1307 - ■ JQ13 - ■■ R1	357
	<b>FD.128B-LA160MP4E</b>						
	14.3	7 369	0.83	102.41		2KJ1406 - ■ JQ13 - ■■ E1	269
16.4	6 422	0.95	89.25	★	2KJ1406 - ■ JQ13 - ■■ D1	269	
19.2	5 463	1.1	75.93		2KJ1406 - ■ JQ13 - ■■ C1	269	
22	4 662	1.3	64.8	★	2KJ1406 - ■ JQ13 - ■■ B1	269	
28	3 823	1.6	53.13	★	2KJ1406 - ■ JQ13 - ■■ A1	269	
<b>FZ.128B-LA160MP4E</b>							
29	3 577	1.4	49.71	★	2KJ1306 - ■ JQ13 - ■■ W1	265	
31	3 343	1.5	46.46		2KJ1306 - ■ JQ13 - ■■ V1	265	
36	2 949	1.9	40.99	★	2KJ1306 - ■ JQ13 - ■■ U1	265	
38	2 782	2.2	38.66		2KJ1306 - ■ JQ13 - ■■ T1	265	
42	2 492	2.4	34.64	★	2KJ1306 - ■ JQ13 - ■■ S1	265	
46	2 301	2.7	31.98		2KJ1306 - ■ JQ13 - ■■ R1	265	
<b>FD.108B-LA160MP4E</b>							
25	4 188	0.81	58.2		2KJ1405 - ■ JQ13 - ■■ B1	188	
30	3 471	0.98	48.24	★	2KJ1405 - ■ JQ13 - ■■ A1	188	
<b>FZ.108B-LA160MP4E</b>							
31	3 356	1.0	46.64	★	2KJ1305 - ■ JQ13 - ■■ U1	187	
34	3 133	1.1	43.54		2KJ1305 - ■ JQ13 - ■■ T1	187	
38	2 803	1.2	38.95	★	2KJ1305 - ■ JQ13 - ■■ S1	187	
40	2 597	1.3	36.1		2KJ1305 - ■ JQ13 - ■■ R1	187	
44	2 381	1.4	33.09	★	2KJ1305 - ■ JQ13 - ■■ Q1	187	
48	2 182	1.6	30.33		2KJ1305 - ■ JQ13 - ■■ P1	187	
56	1 860	1.8	25.85		2KJ1305 - ■ JQ13 - ■■ N1	187	
64	1 641	2.1	22.81	★	2KJ1305 - ■ JQ13 - ■■ M1	187	
75	1 397	2.4	19.41		2KJ1305 - ■ JQ13 - ■■ L1	187	
87	1 210	2.8	16.82	★	2KJ1305 - ■ JQ13 - ■■ K1	187	
103	1 019	3.2	14.16	★	2KJ1305 - ■ JQ13 - ■■ J1	187	
114	919	3.5	12.77		2KJ1305 - ■ JQ13 - ■■ H1	187	
<b>FZ.88B-LA160MP4E</b>							
46	2 296	0.83	31.91	★	2KJ1304 - ■ JQ13 - ■■ P1	140	
50	2 114	0.90	29.38		2KJ1304 - ■ JQ13 - ■■ N1	140	
55	1 901	1.0	26.42	★	2KJ1304 - ■ JQ13 - ■■ M1	140	
60	1 754	1.1	24.38		2KJ1304 - ■ JQ13 - ■■ L1	140	
71	1 486	1.3	20.65		2KJ1304 - ■ JQ13 - ■■ K1	140	

★ Preferred transmission ratio

Shaft designs, see page 3/89

1, 2, 3, 5, 6 or 9

Frequency and voltage, see page 8/20

1 to 9

Gearbox housing mounting position, see page 3/92

A, D, E, F, H or M

\*) For mounting type B5-01



# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg	
11	<b>FZ.88B-LA160MP4E</b>							
	81	1 295	1.5	18	★	2KJ1304 - ■ JQ13 - ■■ J1	140	
	95	1 102	1.7	15.31		2KJ1304 - ■ JQ13 - ■■ H1	140	
	112	940	2.0	13.07	★	2KJ1304 - ■ JQ13 - ■■ G1	140	
	136	771	2.5	10.71	★	2KJ1304 - ■ JQ13 - ■■ F1	140	
	159	661	2.5	9.19		2KJ1304 - ■ JQ13 - ■■ E1	140	
	182	576	2.7	8.01	★	2KJ1304 - ■ JQ13 - ■■ D1	140	
	214	491	3.0	6.82		2KJ1304 - ■ JQ13 - ■■ C1	140	
	251	419	3.2	5.82	★	2KJ1304 - ■ JQ13 - ■■ B1	140	
306	343	3.5	4.77	★	2KJ1304 - ■ JQ13 - ■■ A1	140		
15	<b>FD.208-LG200L8</b>							
	3.5	40 468	0.84	204.81		2KJ1411 - ■ LL13 - ■■ R1	P02	1 255
	<b>FD.208-LG180ZLB6E</b>							
	4.0	35 557	0.96	242.01		2KJ1411 - ■ KP13 - ■■ T1	P01	1 205
	4.5	32 109	1.1	218.54		2KJ1411 - ■ KP13 - ■■ S1	P01	1 205
	4.8	30 091	1.1	204.81		2KJ1411 - ■ KP13 - ■■ R1	P01	1 205
	5.5	25 847	1.3	175.92	★	2KJ1411 - ■ KP13 - ■■ Q1	P01	1 205
	<b>FD.208-LA160ZLP4E</b>							
	6.0	23 745	1.4	242.01		2KJ1411 - ■ JT13 - ■■ T1		1 135
	6.7	21 442	1.6	218.54		2KJ1411 - ■ JT13 - ■■ S1		1 135
	7.1	20 095	1.7	204.81		2KJ1411 - ■ JT13 - ■■ R1		1 135
	8.3	17 261	2.0	175.92	★	2KJ1411 - ■ JT13 - ■■ Q1		1 135
	<b>FD.188B-LA160ZLP4E</b>							
	5.9	24 416	0.82	248.85	★	2KJ1410 - ■ JT13 - ■■ N1		720
	6.2	23 050	0.87	234.93		2KJ1410 - ■ JT13 - ■■ M1		720
	6.9	20 692	0.97	210.89	★	2KJ1410 - ■ JT13 - ■■ L1		720
	7.5	18 991	1.1	193.56		2KJ1410 - ■ JT13 - ■■ K1		720
	8.7	16 388	1.2	167.03		2KJ1410 - ■ JT13 - ■■ J1		720
	10.0	14 336	1.4	146.11		2KJ1410 - ■ JT13 - ■■ H1		720
	11.5	12 468	1.6	127.07		2KJ1410 - ■ JT13 - ■■ G1		720
	13.1	10 939	1.8	111.49	★	2KJ1410 - ■ JT13 - ■■ F1		720
	15.5	9 250	2.2	94.28	★	2KJ1410 - ■ JT13 - ■■ E1		720
	<b>FD.168B-LA160ZLP4E</b>							
	8.3	17 361	0.81	176.94		2KJ1408 - ■ JT13 - ■■ L1		539
	9.7	14 833	0.94	151.18		2KJ1408 - ■ JT13 - ■■ K1		539
	10.7	13 406	1.0	136.63	★	2KJ1408 - ■ JT13 - ■■ J1		539
	11.1	12 916	1.1	131.64		2KJ1408 - ■ JT13 - ■■ H1		539
	12.8	11 172	1.3	113.86		2KJ1408 - ■ JT13 - ■■ G1		539
	14.7	9 744	1.4	99.31	★	2KJ1408 - ■ JT13 - ■■ F1		539
	17.2	8 339	1.7	84.99	★	2KJ1408 - ■ JT13 - ■■ E1		539
19.2	7 469	1.9	76.12		2KJ1408 - ■ JT13 - ■■ D1		539	
23	6 326	2.2	64.47	★	2KJ1408 - ■ JT13 - ■■ C1		539	

★ Preferred transmission ratio

Shaft designs, see page 3/89

Frequency and voltage, see page 8/20

Gearbox housing mounting position, see page 3/92

\*) For mounting type B5-01

1, 2, 3, 5, 6 or 9

1 to 9

A, D, E, F, H or M

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
15	<b>FZ.168B-LA160ZLP4E</b>						
	27	5 247	1.7	53.48	2KJ1308 - ■JT13 - ■■R1		522
	30	4 738	2.2	48.29	2KJ1308 - ■JT13 - ■■Q1		522
	<b>FD.148B-LA160ZLP4E</b>						
	13.1	10 919	0.82	111.29	2KJ1407 - ■JT13 - ■■E1		377
	15.1	9 461	0.95	96.43	★ 2KJ1407 - ■JT13 - ■■D1		377
	18.0	7 962	1.1	81.15	★ 2KJ1407 - ■JT13 - ■■C1		377
	19.9	7 184	1.3	73.22	2KJ1407 - ■JT13 - ■■B1		377
	23	6 174	1.5	62.93	★ 2KJ1407 - ■JT13 - ■■A1		377
	<b>FZ.148B-LA160ZLP4E</b>						
	23	6 316	1.0	64.37	★ 2KJ1307 - ■JT13 - ■■U1		369
	24	5 908	1.2	60.21	2KJ1307 - ■JT13 - ■■T1		369
	27	5 252	1.5	53.53	★ 2KJ1307 - ■JT13 - ■■S1		369
	29	4 959	1.6	50.54	2KJ1307 - ■JT13 - ■■R1		369
	32	4 452	2.0	45.37	★ 2KJ1307 - ■JT13 - ■■Q1		369
35	4 086	2.2	41.64	2KJ1307 - ■JT13 - ■■P1		369	
41	3 525	2.6	35.93	2KJ1307 - ■JT13 - ■■N1		369	
<b>FD.128B-LA160ZLP4E</b>							
19.2	7 450	0.82	75.93	2KJ1406 - ■JT13 - ■■C1		281	
22	6 358	0.96	64.8	★ 2KJ1406 - ■JT13 - ■■B1		281	
28	5 213	1.2	53.13	★ 2KJ1406 - ■JT13 - ■■A1		281	
<b>FZ.128B-LA160ZLP4E</b>							
29	4 877	1.0	49.71	★ 2KJ1306 - ■JT13 - ■■W1		277	
31	4 558	1.1	46.46	2KJ1306 - ■JT13 - ■■V1		277	
36	4 022	1.4	40.99	★ 2KJ1306 - ■JT13 - ■■U1		277	
38	3 793	1.6	38.66	2KJ1306 - ■JT13 - ■■T1		277	
42	3 399	1.8	34.64	★ 2KJ1306 - ■JT13 - ■■S1		277	
46	3 138	1.9	31.98	2KJ1306 - ■JT13 - ■■R1		277	
53	2 682	2.3	27.33	2KJ1306 - ■JT13 - ■■Q1		277	
59	2 423	2.5	24.7	★ 2KJ1306 - ■JT13 - ■■P1		277	
61	2 335	2.6	23.8	2KJ1306 - ■JT13 - ■■N1		277	
71	2 019	3.0	20.58	2KJ1306 - ■JT13 - ■■L1		277	
<b>FZ.108B-LA160ZLP4E</b>							
34	4 272	0.80	43.54	2KJ1305 - ■JT13 - ■■T1		199	
38	3 822	0.89	38.95	★ 2KJ1305 - ■JT13 - ■■S1		199	
40	3 542	0.96	36.1	2KJ1305 - ■JT13 - ■■R1		199	
44	3 247	1.0	33.09	★ 2KJ1305 - ■JT13 - ■■Q1		199	
48	2 976	1.1	30.33	2KJ1305 - ■JT13 - ■■P1		199	
56	2 536	1.3	25.85	2KJ1305 - ■JT13 - ■■N1		199	
64	2 238	1.5	22.81	★ 2KJ1305 - ■JT13 - ■■M1		199	
75	1 904	1.8	19.41	2KJ1305 - ■JT13 - ■■L1		199	
87	1 650	2.1	16.82	★ 2KJ1305 - ■JT13 - ■■K1		199	
103	1 389	2.4	14.16	★ 2KJ1305 - ■JT13 - ■■J1		199	
114	1 253	2.6	12.77	2KJ1305 - ■JT13 - ■■H1		199	

★ Preferred transmission ratio

Shaft designs, see page 3/89

1, 2, 3, 5, 6 or 9

Frequency and voltage, see page 8/20

1 to 9

Gearbox housing mounting position, see page 3/92

A, D, E, F, H or M

\*) For mounting type B5-01

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg		
15	<b>FZ.108B-LA160ZLP4E</b>								
	133	1 077	2.9	10.98	★	2KJ1305 - ■JT13 - ■■G1	199		
	145	985	3.4	10.04		2KJ1305 - ■JT13 - ■■F1	199		
	168	854	3.6	8.7	★	2KJ1305 - ■JT13 - ■■E1	199		
	199	718	4.0	7.32	★	2KJ1305 - ■JT13 - ■■D1	199		
	221	648	4.1	6.6		2KJ1305 - ■JT13 - ■■C1	199		
	257	557	4.3	5.68	★	2KJ1305 - ■JT13 - ■■B1	199		
	<b>FZ.88B-LA160ZLP4E</b>								
	71	2 026	0.94	20.65		2KJ1304 - ■JT13 - ■■K1	152		
	81	1 766	1.1	18	★	2KJ1304 - ■JT13 - ■■J1	152		
	95	1 502	1.3	15.31		2KJ1304 - ■JT13 - ■■H1	152		
	112	1 282	1.5	13.07	★	2KJ1304 - ■JT13 - ■■G1	152		
	136	1 051	1.8	10.71	★	2KJ1304 - ■JT13 - ■■F1	152		
	159	902	1.8	9.19		2KJ1304 - ■JT13 - ■■E1	152		
	182	786	2.0	8.01	★	2KJ1304 - ■JT13 - ■■D1	152		
	214	669	2.2	6.82		2KJ1304 - ■JT13 - ■■C1	152		
	251	571	2.4	5.82	★	2KJ1304 - ■JT13 - ■■B1	152		
	306	468	2.6	4.77	★	2KJ1304 - ■JT13 - ■■A1	152		
	18.5	<b>FD.208-LG200L6E</b>							
		4.5	39 601	0.86	218.54		2KJ1411 - ■LL13 - ■■S1	P01	1 255
		4.8	37 113	0.92	204.81		2KJ1411 - ■LL13 - ■■R1	P01	1 255
		5.5	31 878	1.1	175.92	★	2KJ1411 - ■LL13 - ■■Q1	P01	1 255
		<b>FD.208-LG180ZMB4E</b>							
		6.1	29 086	1.2	242.01		2KJ1411 - ■KL13 - ■■T1		1 190
		6.7	26 266	1.3	218.54		2KJ1411 - ■KL13 - ■■S1		1 190
		7.2	24 616	1.4	204.81		2KJ1411 - ■KL13 - ■■R1		1 190
8.4		21 143	1.6	175.92	★	2KJ1411 - ■KL13 - ■■Q1		1 190	
9.7		18 267	1.9	151.99		2KJ1411 - ■KL13 - ■■P1		1 190	
11.0		16 124	2.1	134.16		2KJ1411 - ■KL13 - ■■N1		1 190	
<b>FD.188B-LG180ZMB4E</b>									
7.6		23 263	0.86	193.56		2KJ1410 - ■KL13 - ■■K1		775	
8.8		20 075	1.0	167.03		2KJ1410 - ■KL13 - ■■J1		775	
10.1		17 561	1.1	146.11		2KJ1410 - ■KL13 - ■■H1		775	
11.6		15 272	1.3	127.07		2KJ1410 - ■KL13 - ■■G1		775	
13.2		13 400	1.5	111.49	★	2KJ1410 - ■KL13 - ■■F1		775	
15.6		11 331	1.8	94.28	★	2KJ1410 - ■KL13 - ■■E1		775	
17.2		10 281	1.9	85.54		2KJ1410 - ■KL13 - ■■D1		775	
19.7		8 964	2.2	74.58	★	2KJ1410 - ■KL13 - ■■C1		775	
<b>FD.168B-LG180ZMB4E</b>									
10.8		16 421	0.85	136.63	★	2KJ1408 - ■KL13 - ■■J1		594	
11.2		15 821	0.88	131.64		2KJ1408 - ■KL13 - ■■H1		594	
12.9		13 685	1.0	113.86		2KJ1408 - ■KL13 - ■■G1		594	
14.8		11 936	1.2	99.31	★	2KJ1408 - ■KL13 - ■■F1		594	
17.3		10 215	1.4	84.99	★	2KJ1408 - ■KL13 - ■■E1		594	

★ Preferred transmission ratio

Shaft designs, see page 3/89

1, 2, 3, 5, 6 or 9

Frequency and voltage, see page 8/20

1 to 9

Gearbox housing mounting position, see page 3/92

A, D, E, F, H or M

\*) For mounting type B5-01

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
<b>18.5</b>	<b>FD.168B-LG180ZMB4E</b>						
	<b>19.3</b>	9 149	1.5	76.12	<b>2KJ1408 - KL13 - D1</b>		594
	<b>23</b>	7 748	1.8	64.47	★ <b>2KJ1408 - KL13 - C1</b>		594
	<b>26</b>	6 692	2.1	55.68	<b>2KJ1408 - KL13 - B1</b>		594
	<b>FZ.168B-LG180ZMB4E</b>						
	<b>28</b>	6 428	1.4	53.48	<b>2KJ1308 - KL13 - R1</b>		577
	<b>30</b>	5 804	1.8	48.29	<b>2KJ1308 - KL13 - Q1</b>		577
	<b>32</b>	5 438	2.1	45.25	<b>2KJ1308 - KL13 - P1</b>		577
	<b>FD.148B-LG180ZMB4E</b>						
	<b>18.1</b>	9 753	0.92	81.15	★ <b>2KJ1407 - KL13 - C1</b>		432
	<b>20</b>	8 800	1.0	73.22	<b>2KJ1407 - KL13 - B1</b>		432
	<b>23</b>	7 563	1.2	62.93	★ <b>2KJ1407 - KL13 - A1</b>		432
	<b>FZ.148B-LG180ZMB4E</b>						
	<b>28</b>	6 434	1.2	53.53	★ <b>2KJ1307 - KL13 - S1</b>		424
	<b>29</b>	6 074	1.3	50.54	<b>2KJ1307 - KL13 - R1</b>		424
	<b>32</b>	5 453	1.6	45.37	★ <b>2KJ1307 - KL13 - Q1</b>		424
	<b>35</b>	5 005	1.8	41.64	<b>2KJ1307 - KL13 - P1</b>		424
	<b>41</b>	4 318	2.1	35.93	<b>2KJ1307 - KL13 - N1</b>		424
	<b>47</b>	3 777	2.4	31.43	<b>2KJ1307 - KL13 - M1</b>		424
	<b>54</b>	3 286	2.7	27.34	<b>2KJ1307 - KL13 - L1</b>		424
	<b>FD.128B-LG180ZMB4E</b>						
	<b>28</b>	6 386	0.96	53.13	★ <b>2KJ1406 - KL13 - A1</b>		336
	<b>FZ.128B-LG180ZMB4E</b>						
	<b>36</b>	4 926	1.2	40.99	★ <b>2KJ1306 - KL13 - U1</b>		332
<b>38</b>	4 646	1.3	38.66	<b>2KJ1306 - KL13 - T1</b>		332	
<b>42</b>	4 163	1.5	34.64	★ <b>2KJ1306 - KL13 - S1</b>		332	
<b>46</b>	3 844	1.6	31.98	<b>2KJ1306 - KL13 - R1</b>		332	
<b>54</b>	3 285	1.9	27.33	<b>2KJ1306 - KL13 - Q1</b>		332	
<b>60</b>	2 969	2.1	24.7	★ <b>2KJ1306 - KL13 - P1</b>		332	
<b>62</b>	2 860	2.1	23.8	<b>2KJ1306 - KL13 - N1</b>		332	
<b>71</b>	2 473	2.5	20.58	<b>2KJ1306 - KL13 - L1</b>		332	
<b>82</b>	2 157	2.8	17.95	★ <b>2KJ1306 - KL13 - K1</b>		332	
<b>96</b>	1 846	3.2	15.36	★ <b>2KJ1306 - KL13 - J1</b>		332	
<b>107</b>	1 654	3.4	13.76	<b>2KJ1306 - KL13 - H1</b>		332	
<b>126</b>	1 400	3.8	11.65	★ <b>2KJ1306 - KL13 - G1</b>		332	
<b>213</b>	830	4.3	6.91	<b>2KJ1306 - KL13 - D1</b>		332	
<b>251</b>	703	4.7	5.85	★ <b>2KJ1306 - KL13 - C1</b>		332	
<b>FZ.108B-LG180ZMB4E</b>							
<b>44</b>	3 977	0.85	33.09	★ <b>2KJ1305 - KL13 - Q1</b>		254	
<b>48</b>	3 645	0.93	30.33	<b>2KJ1305 - KL13 - P1</b>		254	
<b>57</b>	3 107	1.1	25.85	<b>2KJ1305 - KL13 - N1</b>		254	
<b>64</b>	2 741	1.2	22.81	★ <b>2KJ1305 - KL13 - M1</b>		254	
<b>76</b>	2 333	1.5	19.41	<b>2KJ1305 - KL13 - L1</b>		254	
<b>87</b>	2 022	1.7	16.82	★ <b>2KJ1305 - KL13 - K1</b>		254	

★ Preferred transmission ratio

Shaft designs, see page 3/89

1, 2, 3, 5, 6 or 9

Frequency and voltage, see page 8/20

1 to 9

Gearbox housing mounting position, see page 3/92

A, D, E, F, H or M

\*) For mounting type B5-01

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

### Selection and ordering data (continued)

Power rating $P_{Motor}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{tot}$	Order No.	Order code (No. of poles)	Weight *) kg	
<b>18.5</b>	<b>FZ.108B-LG180ZMB4E</b>							
	<b>104</b>	1 702	1.9	14.16	★	2KJ1305 - ■ KL13 - ■■ J1	254	
	<b>115</b>	1 535	2.1	12.77		2KJ1305 - ■ KL13 - ■■ H1	254	
	<b>134</b>	1 320	2.4	10.98	★	2KJ1305 - ■ KL13 - ■■ G1	254	
	<b>146</b>	1 207	2.8	10.04		2KJ1305 - ■ KL13 - ■■ F1	254	
	<b>169</b>	1 046	3.0	8.7	★	2KJ1305 - ■ KL13 - ■■ E1	254	
	<b>201</b>	880	3.2	7.32	★	2KJ1305 - ■ KL13 - ■■ D1	254	
	<b>223</b>	793	3.3	6.6		2KJ1305 - ■ KL13 - ■■ C1	254	
	<b>259</b>	683	3.5	5.68	★	2KJ1305 - ■ KL13 - ■■ B1	254	
<b>22</b>	<b>FD.208-LG200ZLB6E</b>							
	<b>5.5</b>	37 909	0.90	175.92	★	2KJ1411 - ■ LM13 - ■■ Q1	P01	1 255
	<b>FD.208-LG180ZLB4E</b>							
	<b>6.1</b>	34 707	0.98	242.01		2KJ1411 - ■ KP13 - ■■ T1		1 205
	<b>6.7</b>	31 341	1.1	218.54		2KJ1411 - ■ KP13 - ■■ S1		1 205
	<b>7.2</b>	29 372	1.2	204.81		2KJ1411 - ■ KP13 - ■■ R1		1 205
	<b>8.3</b>	25 229	1.3	175.92	★	2KJ1411 - ■ KP13 - ■■ Q1		1 205
	<b>9.6</b>	21 797	1.6	151.99		2KJ1411 - ■ KP13 - ■■ P1		1 205
	<b>10.9</b>	19 240	1.8	134.16		2KJ1411 - ■ KP13 - ■■ N1		1 205
	<b>12.1</b>	17 320	2.0	120.77	★	2KJ1411 - ■ KP13 - ■■ M1		1 205
	<b>FD.188B-LG180ZLB4E</b>							
	<b>8.8</b>	23 954	0.83	167.03		2KJ1410 - ■ KP13 - ■■ J1		790
	<b>10.0</b>	20 954	0.95	146.11		2KJ1410 - ■ KP13 - ■■ H1		790
	<b>11.5</b>	18 223	1.1	127.07		2KJ1410 - ■ KP13 - ■■ G1		790
	<b>13.1</b>	15 989	1.3	111.49	★	2KJ1410 - ■ KP13 - ■■ F1		790
	<b>15.5</b>	13 521	1.5	94.28	★	2KJ1410 - ■ KP13 - ■■ E1		790
	<b>17.1</b>	12 268	1.6	85.54		2KJ1410 - ■ KP13 - ■■ D1		790
	<b>19.6</b>	10 696	1.9	74.58	★	2KJ1410 - ■ KP13 - ■■ C1		790
	<b>23</b>	9 081	2.2	63.32		2KJ1410 - ■ KP13 - ■■ B1		790
	<b>FZ.188B-LG180ZLB4E</b>							
	<b>28</b>	7 548	2.2	52.63		2KJ1310 - ■ KP13 - ■■ P1		767
	<b>30</b>	6 951	2.4	48.47		2KJ1310 - ■ KP13 - ■■ N1		767
	<b>FD.168B-LG180ZLB4E</b>							
	<b>12.9</b>	16 329	0.86	113.86		2KJ1408 - ■ KP13 - ■■ G1		609
	<b>14.8</b>	14 242	0.98	99.31	★	2KJ1408 - ■ KP13 - ■■ F1		609
	<b>17.2</b>	12 189	1.1	84.99	★	2KJ1408 - ■ KP13 - ■■ E1		609
	<b>19.2</b>	10 917	1.3	76.12		2KJ1408 - ■ KP13 - ■■ D1		609
	<b>23</b>	9 246	1.5	64.47	★	2KJ1408 - ■ KP13 - ■■ C1		609
	<b>26</b>	7 985	1.8	55.68		2KJ1408 - ■ KP13 - ■■ B1		609
	<b>35</b>	6 002	2.3	41.85	★	2KJ1408 - ■ KP13 - ■■ A1		609
	<b>FZ.168B-LG180ZLB4E</b>							
	<b>27</b>	7 670	1.2	53.48		2KJ1308 - ■ KP13 - ■■ R1		592
	<b>30</b>	6 925	1.5	48.29		2KJ1308 - ■ KP13 - ■■ Q1		592
	<b>32</b>	6 489	1.8	45.25		2KJ1308 - ■ KP13 - ■■ P1		592
	<b>38</b>	5 574	2.3	38.87	★	2KJ1308 - ■ KP13 - ■■ N1		592
	<b>44</b>	4 816	2.7	33.58		2KJ1308 - ■ KP13 - ■■ M1		592

★ Preferred transmission ratio

Shaft designs, see page 3/89

Frequency and voltage, see page 8/20

Gearbox housing mounting position, see page 3/92

\*) For mounting type B5-01

1, 2, 3, 5, 6 or 9

1 to 9

A, D, E, F, H or M

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
22	<b>FD.148B-LG180ZLB4E</b>						
	20	10 501	0.86	73.22	2KJ1407 - ■ KP13 - ■■ B1		447
	23	9 025	1.0	62.93	★	2KJ1407 - ■ KP13 - ■■ A1	447
	<b>FZ.148B-LG180ZLB4E</b>						
	27	7 677	1.0	53.53	★	2KJ1307 - ■ KP13 - ■■ S1	439
	29	7 248	1.1	50.54		2KJ1307 - ■ KP13 - ■■ R1	439
	32	6 507	1.3	45.37	★	2KJ1307 - ■ KP13 - ■■ Q1	439
	35	5 972	1.5	41.64		2KJ1307 - ■ KP13 - ■■ P1	439
	41	5 153	1.7	35.93		2KJ1307 - ■ KP13 - ■■ N1	439
	47	4 507	2.0	31.43		2KJ1307 - ■ KP13 - ■■ M1	439
	54	3 921	2.3	27.34		2KJ1307 - ■ KP13 - ■■ L1	439
	61	3 439	2.6	23.98	★	2KJ1307 - ■ KP13 - ■■ K1	439
	72	2 908	3.1	20.28	★	2KJ1307 - ■ KP13 - ■■ J1	439
	<b>FD.128B-LG180ZLB4E</b>						
	28	7 620	0.80	53.13	★	2KJ1406 - ■ KP13 - ■■ A1	351
	<b>FZ.128B-LG180ZLB4E</b>						
	36	5 878	0.97	40.99	★	2KJ1306 - ■ KP13 - ■■ U1	347
	38	5 544	1.1	38.66		2KJ1306 - ■ KP13 - ■■ T1	347
	42	4 968	1.2	34.64	★	2KJ1306 - ■ KP13 - ■■ S1	347
	46	4 586	1.3	31.98		2KJ1306 - ■ KP13 - ■■ R1	347
	54	3 919	1.6	27.33		2KJ1306 - ■ KP13 - ■■ Q1	347
	59	3 542	1.7	24.7	★	2KJ1306 - ■ KP13 - ■■ P1	347
62	3 413	1.8	23.8		2KJ1306 - ■ KP13 - ■■ N1	347	
71	2 951	2.1	20.58		2KJ1306 - ■ KP13 - ■■ L1	347	
82	2 574	2.4	17.95	★	2KJ1306 - ■ KP13 - ■■ K1	347	
95	2 203	2.7	15.36	★	2KJ1306 - ■ KP13 - ■■ J1	347	
106	1 973	2.9	13.76		2KJ1306 - ■ KP13 - ■■ H1	347	
126	1 671	3.2	11.65	★	2KJ1306 - ■ KP13 - ■■ G1	347	
145	1 444	3.5	10.07		2KJ1306 - ■ KP13 - ■■ F1	347	
194	1 086	4.2	7.57	★	2KJ1306 - ■ KP13 - ■■ E1	347	
212	991	3.6	6.91		2KJ1306 - ■ KP13 - ■■ D1	347	
250	839	3.9	5.85	★	2KJ1306 - ■ KP13 - ■■ C1	347	
290	724	4.3	5.05		2KJ1306 - ■ KP13 - ■■ B1	347	
386	545	5.0	3.8	★	2KJ1306 - ■ KP13 - ■■ A1	347	
<b>FZ.108B-LG180ZLB4E</b>							
57	3 707	0.92	25.85		2KJ1305 - ■ KP13 - ■■ N1	269	
64	3 271	1.0	22.81	★	2KJ1305 - ■ KP13 - ■■ M1	269	
76	2 784	1.2	19.41		2KJ1305 - ■ KP13 - ■■ L1	269	
87	2 412	1.4	16.82	★	2KJ1305 - ■ KP13 - ■■ K1	269	
103	2 031	1.6	14.16	★	2KJ1305 - ■ KP13 - ■■ J1	269	
115	1 831	1.8	12.77		2KJ1305 - ■ KP13 - ■■ H1	269	
133	1 575	2.0	10.98	★	2KJ1305 - ■ KP13 - ■■ G1	269	
146	1 440	2.3	10.04		2KJ1305 - ■ KP13 - ■■ F1	269	
168	1 248	2.5	8.7	★	2KJ1305 - ■ KP13 - ■■ E1	269	

★ Preferred transmission ratio

Shaft designs, see page 3/89

1, 2, 3, 5, 6 or 9

Frequency and voltage, see page 8/20

1 to 9

Gearbox housing mounting position, see page 3/92

A, D, E, F, H or M

\*) For mounting type B5-01

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
22	<b>FZ.108B-LG180ZLB4E</b>						
	200	1 050	2.7	7.32	★	2KJ1305 - ■ KP13 - ■■ D1	269
	222	947	2.8	6.6		2KJ1305 - ■ KP13 - ■■ C1	269
	258	815	3.0	5.68	★	2KJ1305 - ■ KP13 - ■■ B1	269
30	<b>FD.208-LG200LB4E</b>						
	6.7	42 449	0.80	218.54		2KJ1411 - ■ LM13 - ■■ S1	1 255
	7.2	39 782	0.85	204.81		2KJ1411 - ■ LM13 - ■■ R1	1 255
	8.4	34 170	1.0	175.92	★	2KJ1411 - ■ LM13 - ■■ Q1	1 255
	9.7	29 522	1.2	151.99		2KJ1411 - ■ LM13 - ■■ P1	1 255
	11.0	26 059	1.3	134.16		2KJ1411 - ■ LM13 - ■■ N1	1 255
	12.2	23 458	1.4	120.77	★	2KJ1411 - ■ LM13 - ■■ M1	1 255
	14.7	19 465	1.7	100.21	★	2KJ1411 - ■ LM13 - ■■ L1	1 255
	16.1	17 749	1.9	91.38		2KJ1411 - ■ LM13 - ■■ K1	1 255
	18.4	15 572	2.2	80.17	★	2KJ1411 - ■ LM13 - ■■ J1	1 255
	<b>FD.188B-LG200LB4E</b>						
	11.6	24 682	0.81	127.07		2KJ1410 - ■ LM13 - ■■ G1	840
	13.2	21 656	0.92	111.49	★	2KJ1410 - ■ LM13 - ■■ F1	840
	15.6	18 313	1.1	94.28	★	2KJ1410 - ■ LM13 - ■■ E1	840
	17.2	16 615	1.2	85.54		2KJ1410 - ■ LM13 - ■■ D1	840
	19.8	14 486	1.4	74.58	★	2KJ1410 - ■ LM13 - ■■ C1	840
	23	12 299	1.6	63.32		2KJ1410 - ■ LM13 - ■■ B1	840
	30	9 413	2.1	48.46	★	2KJ1410 - ■ LM13 - ■■ A1	840
<b>FZ.188B-LG200LB4E</b>							
28	10 223	1.6	52.63		2KJ1310 - ■ LM13 - ■■ P1	817	
30	9 415	1.8	48.47		2KJ1310 - ■ LM13 - ■■ N1	817	
35	8 172	2.1	42.07	★	2KJ1310 - ■ LM13 - ■■ M1	817	
40	7 202	2.4	37.08		2KJ1310 - ■ LM13 - ■■ L1	817	
<b>FD.168B-LG200LB4E</b>							
17.4	16 508	0.85	84.99	★	2KJ1408 - ■ LM13 - ■■ E1	659	
19.4	14 785	0.95	76.12		2KJ1408 - ■ LM13 - ■■ D1	659	
23	12 522	1.1	64.47	★	2KJ1408 - ■ LM13 - ■■ C1	659	
26	10 815	1.3	55.68		2KJ1408 - ■ LM13 - ■■ B1	659	
35	8 129	1.7	41.85	★	2KJ1408 - ■ LM13 - ■■ A1	659	
<b>FZ.168B-LG200LB4E</b>							
28	10 388	0.87	53.48		2KJ1308 - ■ LM13 - ■■ R1	642	
30	9 380	1.1	48.29		2KJ1308 - ■ LM13 - ■■ Q1	642	
33	8 789	1.3	45.25		2KJ1308 - ■ LM13 - ■■ P1	642	
38	7 550	1.7	38.87	★	2KJ1308 - ■ LM13 - ■■ N1	642	
44	6 522	2.0	33.58		2KJ1308 - ■ LM13 - ■■ M1	642	
50	5 757	2.4	29.64		2KJ1308 - ■ LM13 - ■■ L1	642	
55	5 182	2.7	26.68	★	2KJ1308 - ■ LM13 - ■■ K1	642	
<b>FZ.148B-LG200LB4E</b>							
29	9 817	0.81	50.54		2KJ1307 - ■ LM13 - ■■ R1	489	
32	8 813	0.99	45.37	★	2KJ1307 - ■ LM13 - ■■ Q1	489	

★ Preferred transmission ratio

Shaft designs, see page 3/89 ————— 1, 2, 3, 5, 6 or 9

Frequency and voltage, see page 8/20 ————— 1 to 9

Gearbox housing mounting position, see page 3/92 ————— A, D, E, F, H or M

\*) For mounting type B5-01

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

### Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg	
<b>30</b>	<b>FZ.148B-LG200LB4E</b>							
	<b>35</b>	8 088	1.1	41.64	<b>2KJ1307 - LM13 - P1</b>		489	
	<b>41</b>	6 979	1.3	35.93	<b>2KJ1307 - LM13 - N1</b>		489	
	<b>47</b>	6 105	1.5	31.43	<b>2KJ1307 - LM13 - M1</b>		489	
	<b>54</b>	5 310	1.7	27.34	<b>2KJ1307 - LM13 - L1</b>		489	
	<b>62</b>	4 658	1.9	23.98	★ <b>2KJ1307 - LM13 - K1</b>		489	
	<b>73</b>	3 939	2.3	20.28	★ <b>2KJ1307 - LM13 - J1</b>		489	
	<b>80</b>	3 574	2.5	18.4	<b>2KJ1307 - LM13 - H1</b>		489	
	<b>92</b>	3 116	2.9	16.04	★ <b>2KJ1307 - LM13 - G1</b>		489	
	<b>108</b>	2 646	3.2	13.62	<b>2KJ1307 - LM13 - F1</b>		489	
	<b>141</b>	2 026	3.9	10.43	★ <b>2KJ1307 - LM13 - E1</b>		489	
	<b>155</b>	1 847	3.6	9.51	<b>2KJ1307 - LM13 - D1</b>		489	
	<b>178</b>	1 610	3.9	8.29	★ <b>2KJ1307 - LM13 - C1</b>		489	
	<b>210</b>	1 367	4.3	7.04	<b>2KJ1307 - LM13 - B1</b>		489	
	<b>274</b>	1 047	4.9	5.39	★ <b>2KJ1307 - LM13 - A1</b>		489	
	<b>37</b>	<b>FZ.128B-LG200LB4E</b>						
		<b>38</b>	7 509	0.80	38.66	<b>2KJ1306 - LM13 - T1</b>		397
		<b>43</b>	6 728	0.91	34.64	★ <b>2KJ1306 - LM13 - S1</b>		397
		<b>46</b>	6 212	0.98	31.98	<b>2KJ1306 - LM13 - R1</b>		397
		<b>54</b>	5 309	1.1	27.33	<b>2KJ1306 - LM13 - Q1</b>		397
<b>60</b>		4 798	1.3	24.7	★ <b>2KJ1306 - LM13 - P1</b>		397	
<b>62</b>		4 623	1.3	23.8	<b>2KJ1306 - LM13 - N1</b>		397	
<b>72</b>		3 997	1.5	20.58	<b>2KJ1306 - LM13 - L1</b>		397	
<b>82</b>		3 487	1.7	17.95	★ <b>2KJ1306 - LM13 - K1</b>		397	
<b>96</b>		2 983	2.0	15.36	★ <b>2KJ1306 - LM13 - J1</b>		397	
<b>107</b>		2 673	2.1	13.76	<b>2KJ1306 - LM13 - H1</b>		397	
<b>127</b>		2 263	2.4	11.65	★ <b>2KJ1306 - LM13 - G1</b>		397	
<b>146</b>		1 956	2.6	10.07	<b>2KJ1306 - LM13 - F1</b>		397	
<b>195</b>		1 470	3.1	7.57	★ <b>2KJ1306 - LM13 - E1</b>		397	
<b>213</b>		1 342	2.7	6.91	<b>2KJ1306 - LM13 - D1</b>		397	
<b>252</b>		1 136	2.9	5.85	★ <b>2KJ1306 - LM13 - C1</b>		397	
<b>292</b>		981	3.2	5.05	<b>2KJ1306 - LM13 - B1</b>		397	
<b>388</b>		738	3.7	3.8	★ <b>2KJ1306 - LM13 - A1</b>		397	
<b>37</b>		<b>FD.208-LG225S4E</b>						
		<b>8.4</b>	42 287	0.80	175.92	★ <b>2KJ1411 - ME13 - Q1</b>		1 335
	<b>9.7</b>	36 534	0.93	151.99	<b>2KJ1411 - ME13 - P1</b>		1 335	
	<b>11.0</b>	32 249	1.1	134.16	<b>2KJ1411 - ME13 - N1</b>		1 335	
	<b>12.2</b>	29 030	1.2	120.77	★ <b>2KJ1411 - ME13 - M1</b>		1 335	
	<b>14.7</b>	24 088	1.4	100.21	★ <b>2KJ1411 - ME13 - L1</b>		1 335	
	<b>16.1</b>	21 965	1.5	91.38	<b>2KJ1411 - ME13 - K1</b>		1 335	
	<b>18.3</b>	19 271	1.8	80.17	★ <b>2KJ1411 - ME13 - J1</b>		1 335	
	<b>21</b>	16 562	2.1	68.9	<b>2KJ1411 - ME13 - H1</b>		1 335	
	<b>37</b>	<b>FD.188B-LG225S4E</b>						
<b>15.6</b>	22 662	0.88	94.28	★ <b>2KJ1410 - ME13 - E1</b>		920		

★ Preferred transmission ratio

Shaft designs, see page 3/89 ————— 1, 2, 3, 5, 6 or 9

Frequency and voltage, see page 8/20 ————— 1 to 9

Gearbox housing mounting position, see page 3/92 ————— A, D, E, F, H or M

\*) For mounting type B5-01



# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
37	<b>FD.188B-LG225S4E</b>						
	17.2	20 562	0.97	85.54	2KJ1410 - ■ME13 - ■■D1		920
	19.7	17 927	1.1	74.58 ★	2KJ1410 - ■ME13 - ■■C1		920
	23	15 220	1.3	63.32	2KJ1410 - ■ME13 - ■■B1		920
	30	11 649	1.7	48.46 ★	2KJ1410 - ■ME13 - ■■A1		920
	<b>FZ.188B-LG225S4E</b>						
	28	12 651	1.3	52.63	2KJ1310 - ■ME13 - ■■P1		897
	30	11 651	1.4	48.47	2KJ1310 - ■ME13 - ■■N1		897
	35	10 113	1.7	42.07 ★	2KJ1310 - ■ME13 - ■■M1		897
	40	8 913	2.0	37.08	2KJ1310 - ■ME13 - ■■L1		897
	45	7 822	2.4	32.54	2KJ1310 - ■ME13 - ■■K1		897
	50	7 050	2.8	29.33 ★	2KJ1310 - ■ME13 - ■■J1		897
	<b>FD.168B-LG225S4E</b>						
	23	15 497	0.90	64.47 ★	2KJ1408 - ■ME13 - ■■C1		739
	26	13 384	1.0	55.68	2KJ1408 - ■ME13 - ■■B1		739
	35	10 060	1.4	41.85 ★	2KJ1408 - ■ME13 - ■■A1		739
	<b>FZ.168B-LG225S4E</b>						
	30	11 608	0.90	48.29	2KJ1308 - ■ME13 - ■■Q1		722
	32	10 877	1.1	45.25	2KJ1308 - ■ME13 - ■■P1		722
	38	9 343	1.4	38.87 ★	2KJ1308 - ■ME13 - ■■N1		722
	44	8 072	1.6	33.58	2KJ1308 - ■ME13 - ■■M1		722
	50	7 125	2.0	29.64	2KJ1308 - ■ME13 - ■■L1		722
	55	6 413	2.2	26.68 ★	2KJ1308 - ■ME13 - ■■K1		722
	66	5 322	2.6	22.14 ★	2KJ1308 - ■ME13 - ■■J1		722
	73	4 853	2.9	20.19	2KJ1308 - ■ME13 - ■■H1		722
	83	4 257	3.3	17.71 ★	2KJ1308 - ■ME13 - ■■G1		722
	<b>FZ.148B-LG225S4E</b>						
	32	10 906	0.80	45.37 ★	2KJ1307 - ■ME13 - ■■Q1		569
	35	10 009	0.90	41.64	2KJ1307 - ■ME13 - ■■P1		569
	41	8 637	1.0	35.93	2KJ1307 - ■ME13 - ■■N1		569
	47	7 555	1.2	31.43	2KJ1307 - ■ME13 - ■■M1		569
	54	6 572	1.4	27.34	2KJ1307 - ■ME13 - ■■L1		569
	61	5 764	1.6	23.98 ★	2KJ1307 - ■ME13 - ■■K1		569
	72	4 875	1.8	20.28 ★	2KJ1307 - ■ME13 - ■■J1		569
	80	4 423	2.0	18.4	2KJ1307 - ■ME13 - ■■H1		569
	92	3 856	2.3	16.04 ★	2KJ1307 - ■ME13 - ■■G1		569
	108	3 274	2.6	13.62	2KJ1307 - ■ME13 - ■■F1		569
141	2 507	3.1	10.43 ★	2KJ1307 - ■ME13 - ■■E1		569	
155	2 286	2.9	9.51	2KJ1307 - ■ME13 - ■■D1		569	
177	1 993	3.1	8.29 ★	2KJ1307 - ■ME13 - ■■C1		569	
209	1 692	3.4	7.04	2KJ1307 - ■ME13 - ■■B1		569	
273	1 296	4.0	5.39 ★	2KJ1307 - ■ME13 - ■■A1		569	
<b>FZ.128B-K4-LGI225S4E</b>							
54	6 569	0.93	27.33	2KJ1306 - ■ME13 - ■■Q1		477	

★ Preferred transmission ratio

Shaft designs, see page 3/89

Frequency and voltage, see page 8/20

Gearbox housing mounting position, see page 3/92

\*) For mounting type B5-01

1, 2, 3, 5, 6 or 9

1 to 9

A, D, E, F, H or M

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
37	<b>FZ.128B-K4-LGI225S4E</b>						
	60	5 937	1.0	24.7	★	2KJ1306 - ■ME13 - ■■P1	477
	62	5 721	1.1	23.8		2KJ1306 - ■ME13 - ■■N1	477
	71	4 947	1.2	20.58		2KJ1306 - ■ME13 - ■■L1	477
	82	4 315	1.4	17.95	★	2KJ1306 - ■ME13 - ■■K1	477
	96	3 692	1.6	15.36	★	2KJ1306 - ■ME13 - ■■J1	477
	107	3 308	1.7	13.76		2KJ1306 - ■ME13 - ■■H1	477
	126	2 800	1.9	11.65	★	2KJ1306 - ■ME13 - ■■G1	477
	146	2 421	2.1	10.07		2KJ1306 - ■ME13 - ■■F1	477
	194	1 820	2.5	7.57	★	2KJ1306 - ■ME13 - ■■E1	477
	213	1 661	2.2	6.91		2KJ1306 - ■ME13 - ■■D1	477
	251	1 406	2.3	5.85	★	2KJ1306 - ■ME13 - ■■C1	477
	291	1 214	2.6	5.05		2KJ1306 - ■ME13 - ■■B1	477
	387	913	3.0	3.8	★	2KJ1306 - ■ME13 - ■■A1	477
45	<b>FD.208-LG225ZM4E</b>						
	11.0	39 088	0.87	134.16		2KJ1411 - ■MU13 - ■■N1	1 335
	12.2	35 187	0.97	120.77	★	2KJ1411 - ■MU13 - ■■M1	1 335
	14.7	29 197	1.2	100.21	★	2KJ1411 - ■MU13 - ■■L1	1 335
	16.1	26 624	1.3	91.38		2KJ1411 - ■MU13 - ■■K1	1 335
	18.4	23 358	1.5	80.17	★	2KJ1411 - ■MU13 - ■■J1	1 335
	21	20 074	1.7	68.9		2KJ1411 - ■MU13 - ■■H1	1 335
	28	15 634	2.2	53.66		2KJ1411 - ■MU13 - ■■G1	1 335
	<b>FD.188B-LG225ZM4E</b>						
	17.2	24 923	0.80	85.54		2KJ1410 - ■MU13 - ■■D1	920
	19.8	21 729	0.92	74.58	★	2KJ1410 - ■MU13 - ■■C1	920
	23	18 449	1.1	63.32		2KJ1410 - ■MU13 - ■■B1	920
	30	14 119	1.4	48.46	★	2KJ1410 - ■MU13 - ■■A1	920
	<b>FZ.188B-LG225ZM4E</b>						
	28	15 334	1.1	52.63		2KJ1310 - ■MU13 - ■■P1	897
	30	14 122	1.2	48.47		2KJ1310 - ■MU13 - ■■N1	897
	35	12 257	1.4	42.07	★	2KJ1310 - ■MU13 - ■■M1	897
	40	10 803	1.6	37.08		2KJ1310 - ■MU13 - ■■L1	897
	45	9 481	2.0	32.54		2KJ1310 - ■MU13 - ■■K1	897
	50	8 545	2.3	29.33	★	2KJ1310 - ■MU13 - ■■J1	897
	59	7 255	2.8	24.9	★	2KJ1310 - ■MU13 - ■■H1	897
	64	6 739	3.0	23.13		2KJ1310 - ■MU13 - ■■G1	897
	<b>FD.168B-LG225ZM4E</b>						
	26	16 223	0.86	55.68		2KJ1408 - ■MU13 - ■■B1	739
	35	12 193	1.1	41.85	★	2KJ1408 - ■MU13 - ■■A1	739
	<b>FZ.168B-LG225ZM4E</b>						
	33	13 184	0.87	45.25		2KJ1308 - ■MU13 - ■■P1	722
	38	11 325	1.1	38.87	★	2KJ1308 - ■MU13 - ■■N1	722
44	9 784	1.3	33.58		2KJ1308 - ■MU13 - ■■M1	722	
50	8 636	1.6	29.64		2KJ1308 - ■MU13 - ■■L1	722	

★ Preferred transmission ratio

Shaft designs, see page 3/89 ————— 1, 2, 3, 5, 6 or 9

Frequency and voltage, see page 8/20 ————— 1 to 9

Gearbox housing mounting position, see page 3/92 ————— A, D, E, F, H or M

\*) For mounting type B5-01

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
45	<b>FZ.168B-LG225ZM4E</b>						
	55	7 773	1.8	26.68	★	2KJ1308 - ■MU13 - ■■K1	722
	67	6 451	2.2	22.14	★	2KJ1308 - ■MU13 - ■■J1	722
	73	5 882	2.4	20.19		2KJ1308 - ■MU13 - ■■H1	722
	83	5 160	2.7	17.71	★	2KJ1308 - ■MU13 - ■■G1	722
	97	4 434	3.2	15.22		2KJ1308 - ■MU13 - ■■F1	722
	<b>FZ.148B-LG225ZM4E</b>						
	41	10 468	0.86	35.93		2KJ1307 - ■MU13 - ■■N1	569
	47	9 157	0.98	31.43		2KJ1307 - ■MU13 - ■■M1	569
	54	7 966	1.1	27.34		2KJ1307 - ■MU13 - ■■L1	569
	62	6 987	1.3	23.98	★	2KJ1307 - ■MU13 - ■■K1	569
	73	5 909	1.5	20.28	★	2KJ1307 - ■MU13 - ■■J1	569
	80	5 361	1.7	18.4		2KJ1307 - ■MU13 - ■■H1	569
	92	4 673	1.9	16.04	★	2KJ1307 - ■MU13 - ■■G1	569
	108	3 968	2.1	13.62		2KJ1307 - ■MU13 - ■■F1	569
	141	3 039	2.6	10.43	★	2KJ1307 - ■MU13 - ■■E1	569
	155	2 771	2.4	9.51		2KJ1307 - ■MU13 - ■■D1	569
	178	2 415	2.6	8.29	★	2KJ1307 - ■MU13 - ■■C1	569
	210	2 051	2.8	7.04		2KJ1307 - ■MU13 - ■■B1	569
	274	1 570	3.3	5.39	★	2KJ1307 - ■MU13 - ■■A1	569
	<b>FZ.128B-K4-LGI225ZM4E</b>						
	60	7 188	0.85	24.7	★	2KJ1306 - ■MU13 - ■■P1	477
	62	6 926	0.88	23.8		2KJ1306 - ■MU13 - ■■N1	477
	72	5 989	1.0	20.58		2KJ1306 - ■MU13 - ■■L1	477
	82	5 223	1.2	17.95	★	2KJ1306 - ■MU13 - ■■K1	477
	96	4 470	1.3	15.36	★	2KJ1306 - ■MU13 - ■■J1	477
	107	4 004	1.4	13.76		2KJ1306 - ■MU13 - ■■H1	477
	127	3 390	1.6	11.65	★	2KJ1306 - ■MU13 - ■■G1	477
	146	2 930	1.7	10.07		2KJ1306 - ■MU13 - ■■F1	477
	195	2 203	2.1	7.57	★	2KJ1306 - ■MU13 - ■■E1	477
213	2 011	1.8	6.91		2KJ1306 - ■MU13 - ■■D1	477	
252	1 702	1.9	5.85	★	2KJ1306 - ■MU13 - ■■C1	477	
292	1 470	2.1	5.05		2KJ1306 - ■MU13 - ■■B1	477	
388	1 106	2.4	3.8	★	2KJ1306 - ■MU13 - ■■A1	477	
55	<b>FD.208-LG250ZM4E</b>						
	14.8	35 564	0.96	100.21	★	2KJ1411 - ■NN13 - ■■L1	1 425
	16.2	32 431	1.0	91.38		2KJ1411 - ■NN13 - ■■K1	1 425
	18.5	28 452	1.2	80.17	★	2KJ1411 - ■NN13 - ■■J1	1 425
	22	24 453	1.4	68.9		2KJ1411 - ■NN13 - ■■H1	1 425
	28	19 044	1.8	53.66		2KJ1411 - ■NN13 - ■■G1	1 425
	35	15 129	2.2	42.63	★	2KJ1411 - ■NN13 - ■■F1	1 425
	38	13 784	2.5	38.84		2KJ1411 - ■NN13 - ■■E1	1 425

★ Preferred transmission ratio

Shaft designs, see page 3/89

Frequency and voltage, see page 8/20

Gearbox housing mounting position, see page 3/92

1, 2, 3, 5, 6 or 9

1 to 9

A, D, E, F, H or M

\*) For mounting type B5-01

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
55	<b>FD.188B-LG250ZM4E</b>						
	23	22 472	0.89	63.32	2KJ1410 - ■NN13 - ■■B1		1 010
	30	17 198	1.2	48.46 ★	2KJ1410 - ■NN13 - ■■A1		1 010
	<b>FZ.188B-LG250ZM4E</b>						
	30	17 202	0.98	48.47	2KJ1310 - ■NN13 - ■■N1		987
	35	14 931	1.2	42.07 ★	2KJ1310 - ■NN13 - ■■M1		987
	40	13 160	1.3	37.08	2KJ1310 - ■NN13 - ■■L1		987
	46	11 548	1.6	32.54	2KJ1310 - ■NN13 - ■■K1		987
	50	10 409	1.9	29.33 ★	2KJ1310 - ■NN13 - ■■J1		987
	59	8 837	2.3	24.9 ★	2KJ1310 - ■NN13 - ■■H1		987
	64	8 209	2.4	23.13	2KJ1310 - ■NN13 - ■■G1		987
	74	7 052	2.8	19.87 ★	2KJ1310 - ■NN13 - ■■F1		987
	87	6 016	3.1	16.95	2KJ1310 - ■NN13 - ■■E1		987
	<b>FD.168B-LG250ZM4E</b>						
	35	14 853	0.94	41.85 ★	2KJ1408 - ■NN13 - ■■A1		829
	<b>FZ.168B-LG250ZM4E</b>						
	38	13 795	0.94	38.87 ★	2KJ1308 - ■NN13 - ■■N1		812
	44	11 917	1.1	33.58	2KJ1308 - ■NN13 - ■■M1		812
	50	10 519	1.3	29.64	2KJ1308 - ■NN13 - ■■L1		812
	56	9 469	1.5	26.68 ★	2KJ1308 - ■NN13 - ■■K1		812
	67	7 857	1.8	22.14 ★	2KJ1308 - ■NN13 - ■■J1		812
	73	7 165	2.0	20.19	2KJ1308 - ■NN13 - ■■H1		812
	84	6 285	2.2	17.71 ★	2KJ1308 - ■NN13 - ■■G1		812
	97	5 402	2.6	15.22	2KJ1308 - ■NN13 - ■■F1		812
	125	4 209	3.1	11.86 ★	2KJ1308 - ■NN13 - ■■E1		812
	157	3 343	3.6	9.42 ★	2KJ1308 - ■NN13 - ■■D1		812
	173	3 031	3.7	8.54	2KJ1308 - ■NN13 - ■■C1		812
	223	2 360	4.2	6.65 ★	2KJ1308 - ■NN13 - ■■B1		812
	280	1 874	4.6	5.28 ★	2KJ1308 - ■NN13 - ■■A1		812
	<b>FZ.148B-K4-LGI250ZM4E</b>						
	47	11 154	0.81	31.43	2KJ1307 - ■NN13 - ■■M1		659
	54	9 703	0.93	27.34	2KJ1307 - ■NN13 - ■■L1		659
	62	8 510	1.1	23.98 ★	2KJ1307 - ■NN13 - ■■K1		659
	73	7 197	1.3	20.28 ★	2KJ1307 - ■NN13 - ■■J1		659
	80	6 530	1.4	18.4	2KJ1307 - ■NN13 - ■■H1		659
	92	5 693	1.6	16.04 ★	2KJ1307 - ■NN13 - ■■G1		659
	109	4 834	1.8	13.62	2KJ1307 - ■NN13 - ■■F1		659
	142	3 702	2.1	10.43 ★	2KJ1307 - ■NN13 - ■■E1		659
	156	3 375	1.9	9.51	2KJ1307 - ■NN13 - ■■D1		659
	179	2 942	2.1	8.29 ★	2KJ1307 - ■NN13 - ■■C1		659
	210	2 498	2.3	7.04	2KJ1307 - ■NN13 - ■■B1		659
	275	1 913	2.7	5.39 ★	2KJ1307 - ■NN13 - ■■A1		659

★ Preferred transmission ratio

Shaft designs, see page 3/89

Frequency and voltage, see page 8/20

Gearbox housing mounting position, see page 3/92

\*) For mounting type B5-01

1, 2, 3, 5, 6 or 9

1 to 9

A, D, E, F, H or M

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
75	<b>FD.208-K4-LGI280S4E</b>						
	18.5	38 668	0.88	80.17	★	2KJ1411 - PG13 - J1	1 550
	22	33 232	1.0	68.9		2KJ1411 - PG13 - H1	1 550
	28	25 881	1.3	53.66		2KJ1411 - PG13 - G1	1 550
	35	20 561	1.7	42.63	★	2KJ1411 - PG13 - F1	1 550
	38	18 733	1.8	38.84		2KJ1411 - PG13 - E1	1 550
	49	14 590	2.2	30.25	★	2KJ1411 - PG13 - D1	1 550
	62	11 590	2.6	24.03	★	2KJ1411 - PG13 - C1	1 550
	<b>FD.188B-K4-LGI280S4E</b>						
	31	23 373	0.86	48.46	★	2KJ1410 - PG13 - A1	1 135
	<b>FZ.188B-K4-LGI280S4E</b>						
	40	17 885	0.98	37.08		2KJ1310 - PG13 - L1	1 112
	46	15 695	1.2	32.54		2KJ1310 - PG13 - K1	1 112
	51	14 147	1.4	29.33	★	2KJ1310 - PG13 - J1	1 112
	60	12 010	1.7	24.9	★	2KJ1310 - PG13 - H1	1 112
	64	11 156	1.8	23.13		2KJ1310 - PG13 - G1	1 112
	75	9 584	2.1	19.87	★	2KJ1310 - PG13 - F1	1 112
	88	8 175	2.3	16.95		2KJ1310 - PG13 - E1	1 112
	111	6 439	2.7	13.35	★	2KJ1310 - PG13 - D1	1 112
138	5 180	3.1	10.74	★	2KJ1310 - PG13 - C1	1 112	
159	4 505	3.3	9.34		2KJ1310 - PG13 - B1	1 112	
178	4 023	3.5	8.34		2KJ1310 - PG13 - A1	1 112	
<b>FZ.168B-K4-LGI280S4E</b>							
44	16 196	0.80	33.58		2KJ1308 - PG13 - M1	937	
50	14 296	0.98	29.64		2KJ1308 - PG13 - L1	937	
56	12 868	1.1	26.68	★	2KJ1308 - PG13 - K1	937	
67	10 679	1.3	22.14	★	2KJ1308 - PG13 - J1	937	
74	9 738	1.4	20.19		2KJ1308 - PG13 - H1	937	
84	8 542	1.6	17.71	★	2KJ1308 - PG13 - G1	937	
98	7 341	1.9	15.22		2KJ1308 - PG13 - F1	937	
125	5 720	2.3	11.86	★	2KJ1308 - PG13 - E1	937	
158	4 543	2.7	9.42	★	2KJ1308 - PG13 - D1	937	
174	4 119	2.7	8.54		2KJ1308 - PG13 - C1	937	
223	3 207	3.1	6.65	★	2KJ1308 - PG13 - B1	937	
281	2 547	3.4	5.28	★	2KJ1308 - PG13 - A1	937	
90	<b>FD.208-K4-LGI280ZM4E</b>						
	22	39 878	0.85	68.9		2KJ1411 - PW13 - H1	1 590
	28	31 058	1.1	53.66		2KJ1411 - PW13 - G1	1 590
	35	24 674	1.4	42.63	★	2KJ1411 - PW13 - F1	1 590
	38	22 480	1.5	38.84		2KJ1411 - PW13 - E1	1 590
	49	17 508	1.8	30.25	★	2KJ1411 - PW13 - D1	1 590
	62	13 908	2.1	24.03	★	2KJ1411 - PW13 - C1	1 590

★ Preferred transmission ratio

Shaft designs, see page 3/89

1, 2, 3, 5, 6 or 9

Frequency and voltage, see page 8/20

1 to 9

Gearbox housing mounting position, see page 3/92

A, D, E, F, H or M

\*) For mounting type B5-01

# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

## Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg	
90	<b>FZ.208-K4-LGI280ZM4E</b>							
	74	11 610	2.8	20.06	2KJ1311 - ■PW13 - ■■H1		1 570	
	93	9 272	3.3	16.02 ★	2KJ1311 - ■PW13 - ■■G1		1 570	
	<b>FZ.188B-K4-LGI280ZM4E</b>							
	40	21 461	0.82	37.08	2KJ1310 - ■PW13 - ■■L1		1 152	
	46	18 834	0.98	32.54	2KJ1310 - ■PW13 - ■■K1		1 152	
	51	16 976	1.2	29.33 ★	2KJ1310 - ■PW13 - ■■J1		1 152	
	60	14 412	1.4	24.9 ★	2KJ1310 - ■PW13 - ■■H1		1 152	
	64	13 387	1.5	23.13	2KJ1310 - ■PW13 - ■■G1		1 152	
	75	11 501	1.7	19.87 ★	2KJ1310 - ■PW13 - ■■F1		1 152	
	88	9 810	1.9	16.95	2KJ1310 - ■PW13 - ■■E1		1 152	
	111	7 727	2.3	13.35 ★	2KJ1310 - ■PW13 - ■■D1		1 152	
	138	6 216	2.6	10.74 ★	2KJ1310 - ■PW13 - ■■C1		1 152	
	159	5 406	2.8	9.34	2KJ1310 - ■PW13 - ■■B1		1 152	
	178	4 827	2.9	8.34	2KJ1310 - ■PW13 - ■■A1		1 152	
	<b>FZ.168B-K4-LGI280ZM4E</b>							
	50	17 155	0.82	29.64	2KJ1308 - ■PW13 - ■■L1		977	
	56	15 442	0.91	26.68 ★	2KJ1308 - ■PW13 - ■■K1		977	
	67	12 814	1.1	22.14 ★	2KJ1308 - ■PW13 - ■■J1		977	
	74	11 686	1.2	20.19	2KJ1308 - ■PW13 - ■■H1		977	
	84	10 250	1.4	17.71 ★	2KJ1308 - ■PW13 - ■■G1		977	
	98	8 809	1.6	15.22	2KJ1308 - ■PW13 - ■■F1		977	
	125	6 864	1.9	11.86 ★	2KJ1308 - ■PW13 - ■■E1		977	
	158	5 452	2.2	9.42 ★	2KJ1308 - ■PW13 - ■■D1		977	
	174	4 943	2.3	8.54	2KJ1308 - ■PW13 - ■■C1		977	
	223	3 849	2.6	6.65 ★	2KJ1308 - ■PW13 - ■■B1		977	
	281	3 056	2.8	5.28 ★	2KJ1308 - ■PW13 - ■■A1		977	
	110	<b>FD.208-K2-LGI315S4E</b>						
		28	37 832	0.90	53.66	2KJ1411 - ■■QQ13 - ■■G1		1 770
		35	30 056	1.1	42.63 ★	2KJ1411 - ■■QQ13 - ■■F1		1 770
38		27 384	1.2	38.84	2KJ1411 - ■■QQ13 - ■■E1		1 770	
49		21 327	1.5	30.25 ★	2KJ1411 - ■■QQ13 - ■■D1		1 770	
62		16 942	1.8	24.03 ★	2KJ1411 - ■■QQ13 - ■■C1		1 770	
<b>FZ.208-K2-LGI315S4E</b>								
74		14 143	2.3	20.06	2KJ1311 - ■■QQ13 - ■■H1		1 750	
93		11 295	2.7	16.02 ★	2KJ1311 - ■■QQ13 - ■■G1		1 750	
114		9 229	3.1	13.09 ★	2KJ1311 - ■■QQ13 - ■■F1		1 750	
129		8 115	3.4	11.51	2KJ1311 - ■■QQ13 - ■■E1		1 750	
141		7 452	3.6	10.57	2KJ1311 - ■■QQ13 - ■■D1		1 750	
165		6 352	4.0	9.01	2KJ1311 - ■■QQ13 - ■■C1		1 750	
<b>FZ.188B-K2-LGI315S4E</b>								
88		11 950	1.6	16.95	2KJ1310 - ■■QQ13 - ■■E1		1 332	
112		9 412	1.9	13.35 ★	2KJ1310 - ■■QQ13 - ■■D1		1 332	
139		7 572	2.1	10.74 ★	2KJ1310 - ■■QQ13 - ■■C1		1 332	

★ Preferred transmission ratio

Shaft designs, see page 3/89 ————— 1, 2, 3, 5, 6 or 9

Frequency and voltage, see page 8/20 ————— 1 to 9

Gearbox housing mounting position, see page 3/92 ————— A, D, E, F, H or M

\*) For mounting type B5-01



# MOTOX Geared Motors

## Parallel shaft geared motors

Geared motors up to 200 kW

### Selection and ordering data (continued)

Power rating $P_{\text{Motor}}$ kW	Output speed $n_2$ (50 Hz) rpm	Output torque $T_2$ Nm	Service factor $f_B$	Gearbox ratio $i_{\text{tot}}$	Order No.	Order code (No. of poles)	Weight <sup>*)</sup> kg
200	<b>FZ.208-K2-LGI315ZLB4E</b>						
	114	16 780	1.7	13.09	★	2KJ1311 - ■QV13 - ■■F1	2 045
	129	14 754	1.9	11.51		2KJ1311 - ■QV13 - ■■E1	2 045
	141	13 549	2.0	10.57		2KJ1311 - ■QV13 - ■■D1	2 045
	165	11 550	2.2	9.01		2KJ1311 - ■QV13 - ■■C1	2 045
	<b>FZ.188B-K2-LGI315ZLB4E</b>						
	88	21 728	0.86	16.95		2KJ1310 - ■QV13 - ■■E1	1 627
	112	17 113	1.0	13.35	★	2KJ1310 - ■QV13 - ■■D1	1 627
	139	13 767	1.2	10.74	★	2KJ1310 - ■QV13 - ■■C1	1 627
	160	11 973	1.3	9.34		2KJ1310 - ■QV13 - ■■B1	1 627
	179	10 691	1.3	8.34		2KJ1310 - ■QV13 - ■■A1	1 627

★ Preferred transmission ratio

Shaft designs, see page 3/89

Frequency and voltage, see page 8/20

Gearbox housing mounting position, see page 3/92

1, 2, 3, 5, 6 or 9

1 to 9

A, D, E, F, H or M

\*) For mounting type B5-01



# MOTOX Geared Motors

## Parallel shaft geared motors

### Transmission ratios and maximum torques

#### Selection and ordering data

Gearbox size	Ratio code	Transmission ratio	Output speed	Twisting angle <sup>1)</sup>	Nominal torque	Permissible input torque $T_1$ [Nm]																	
						2.5x the value is permissible for a brief period (e.g. motor starting torque)																	
Max. gearbox torque Nm	Order No 15th and 16th position	$i_{tot}$	$n_2$ (50 Hz) rpm	$\varphi$ arcmin	$T_{2N}$ ( $f_B=1$ ) Nm	Motor size																	
						3	3	5	10	20	26	61	98	198	198	291	356	580	1290				
						63	71	80	90	100	112	132	160	180	200	225	250	280	315				
<b>FD.28</b> <b>150</b>	<b>N1</b>	280.00	5.2	21	150	•																	
	<b>M1</b>	241.56 ★	6.0	21	150	•	•																
	<b>L1</b>	207.53	7.0	21	150	•	•																
	<b>K1</b>	191.06 ★	7.6	21	150	•	•	•															
	<b>J1</b>	173.69	8.3	21	150	•	•	•															
	<b>H1</b>	153.74 ★	9.4	21	150	•	•	•															
	<b>G1</b>	128.77	11.3	21	150	•	•	•															
	<b>F1</b>	109.79 ★	13.2	21	150	•	•	•															
	<b>E1</b>	93.32 ★	15.5	21	150	•	•	•															
	<b>D1</b>	81.10	17.9	22	150	•	•	•															
	<b>C1</b>	70.59 ★	21.0	22	150	•	•	•															
	<b>B1</b>	63.68	23.0	22	150	•	•	•															
	<b>A1</b>	56.20	26.0	22	150	•	•	•															
<b>FZ.28</b> <b>96 ... 150</b>	<b>C2</b>	59.65	24	20	150	•																	
	<b>B2</b>	50.30 ★	29	20	150	•	•																
	<b>A2</b>	44.66	32	20	150	•	•																
	<b>X1</b>	39.15 ★	37	20	150	•	•	•															
	<b>W1</b>	35.04	41	20	150	•	•	•															
	<b>V1</b>	31.10 ★	47	20	150	•	•	•															
	<b>U1</b>	27.25	53	20	150	•	•	•															
	<b>T1</b>	23.96 ★	61	20	150	•	•	•															
	<b>S1</b>	21.64	67	20	150	•	•	•	•														
	<b>R1</b>	18.86 ★	77	20	150	•	•	•															
	<b>Q1</b>	16.94	86	20	150	•	•	•															
	<b>P1</b>	15.29 ★	95	21	150	•	•	•	•														
	<b>N1</b>	13.87	105	21	150	•	•	•	•														
	<b>M1</b>	12.62 ★	115	21	148	•	•	•	•														
	<b>L1</b>	11.16	130	21	142	•	•	•	•														
	<b>K1</b>	10.30 ★	141	21	138	•	•	•	•														
	<b>J1</b>	8.87	163	22	131	•	•	•	•														
	<b>H1</b>	8.06 ★	180	22	127	•	•	•	•														
	<b>G1</b>	7.20 ★	201	27	126	•	•	•	•														
	<b>F1</b>	6.53	222	28	122	•	•	•	•														
<b>E1</b>	5.94 ★	244	28	118	•	•	•	•															
<b>D1</b>	5.25	276	28	111	•	•	•	•															
<b>C1</b>	4.85 ★	299	28	110	•	•	•	•															
<b>B1</b>	4.18	347	29	99	•	•	•	•															

★ Preferred transmission ratio

<sup>1)</sup> Twisting angle applies to reduced-backlash gearboxes.

In the case of gearboxes of size 28, only possible with integrated motor or input unit KQ and KQS.

Calculation of maximum output torque  $T_{2max}$  for gearboxes with input units:

$$T_{2max} = T_1 \times i_{tot}, \text{ if } T_{2max} \leq T_{2N}$$

If  $T_{2max} \geq T_{2N}$  the max. output torque  $T_{2N}$  of the unit is the decisive factor.

# MOTOX Geared Motors

## Parallel shaft geared motors

### Transmission ratios and maximum torques

#### Selection and ordering data (continued)

Gearbox size	Ratio code	Transmission ratio	Output speed	Twisting angle <sup>2)</sup>	Nominal torque	Permissible input torque $T_1$ [Nm]														
						2.5x the value is permissible for a brief period (e.g. motor starting torque)														
Max. gearbox torque	Order No. 15th and 16th position	$i_{tot}$	$n_2$ (50 Hz) rpm	$\varphi$ arcmin	$T_{2N}$ ( $f_B=1$ ) Nm	3	3	5	10	20	26	61	98	198	198	291	356	580	1290	
						Motor size														
Nm						63	71	80	90	100	112	132	160	180	200	225	250	280	315	
<b>FZ.38B-D28</b> <b>290</b>	<b>M1</b>	7 591	0.18	–	290	•														
	<b>L1</b>	6 548	★ 0.21	–	290	•	•													
	<b>K1</b>	5 626		0.25	–	290	•	•												
	<b>J1</b>	5 179	★ 0.27	–	290	•	•	•												
	<b>H1</b>	4 709		0.30	–	290	•	•	•											
	<b>G1</b>	4 168	★ 0.34	–	290	•	•	•												
	<b>F1</b>	3 491		0.40	–	290	•	•	•											
	<b>E1</b>	2 976	★ 0.47	–	290	•	•	•												
	<b>D1</b>	2 530	★ 0.55	–	290	•	•	•												
	<b>C1</b>	2 199		0.64	–	290	•	•	•											
	<b>B1</b>	1 914	★ 0.73	–	290	•	•	•												
<b>A1</b>	1 726		0.81	–	290	•	•	•												
<b>FZ.38B-Z28</b> <b>290</b>	<b>Q1</b>	1 617		0.87	–	290	•													
	<b>P1</b>	1 364	★ 1.00	–	290	•	•													
	<b>N1</b>	1 211		1.20	–	290	•	•												
	<b>M1</b>	1 061	★ 1.30	–	290	•	•	•												
	<b>L1</b>	950		1.50	–	290	•	•	•											
	<b>K1</b>	843	★ 1.70	–	290	•	•	•												
	<b>J1</b>	739		1.90	–	290	•	•	•											
	<b>H1</b>	650	★ 2.20	–	290	•	•	•												
	<b>G1</b>	587		2.40	–	290	•	•	•	•										
	<b>F1</b>	511	★ 2.70	–	290	•	•	•												
	<b>E1</b>	459		3.10	–	290	•	•	•											
<b>D1</b>	415	★ 3.40	–	290	•	•	•	•												
<b>C1</b>	376		3.70	–	290	•	•	•	•											
<b>B1</b>	342	★ 4.10	–	290	•	•	•	•												
<b>A1</b>	303		4.60	–	290	•	•	•	•											

★ Preferred transmission ratio

<sup>1)</sup> Only possible with integrated motor.

<sup>2)</sup> Twisting angle applies to reduced-backlash gearboxes.

In the case of gearboxes of size 28, only possible with integrated motor or input unit KQ and KQS.

Calculation of maximum output torque  $T_{2max}$  for gearboxes with input unit.

$$T_{2max} = T_1 \times i_{tot}, \text{ if } T_{2max} \leq T_{2N}$$

If  $T_{2max} \geq T_{2N}$  the max. output torque  $T_{2N}$  of the unit is the decisive factor.

# MOTOX Geared Motors

## Parallel shaft geared motors

### Transmission ratios and maximum torques

#### Selection and ordering data (continued)

Gearbox size	Ratio code	Transmission ratio	Output speed	Twisting angle <sup>2)</sup>	Nominal torque	Permissible input torque $T_1$ [Nm]															
						2.5x the value is permissible for a brief period (e.g. motor starting torque)															
Max. gearbox torque	Order No. 15th and 16th position	$i_{tot}$	$n_2$ (50 Hz) rpm	$\varphi$ arcmin	$T_{2N}$ ( $f_B=1$ ) Nm	Motor size															
						3	3	5	10	20	26	61	98	198	198	291	356	580	1290		
Nm						63	71	80	90	100	112	132	160	180	200	225	250	280	315		
<b>FD.38B</b> <b>290</b>	<b>N1</b>	280.41	5.2	20	290	•	•														
	<b>M1</b>	241.91 ★	6.0	20	290	•	•	•													
	<b>L1</b>	207.83	7.0	20	290	•	•	•													
	<b>K1</b>	191.34 ★	7.6	20	290	•	•	•	•												
	<b>J1</b>	173.94	8.3	20	290	•	•	•	•	•											
	<b>H1</b>	153.96 ★	9.4	20	290	•	•	•	•	•											
	<b>G1</b>	128.95	11.2	20	290	•	•	•	•	•											
	<b>F1</b>	109.95 ★	13.2	20	290	•	•	•	•	•											
	<b>E1</b>	93.46 ★	15.5	20	290	•	•	•	•	•											
	<b>D1</b>	81.22	17.9	20	290	•	•	•	•	•											
	<b>C1</b>	70.70 ★	21.0	20	290	•	•	•	•	•											
	<b>B1</b>	63.77	23.0	20	290	•	•	•	•	•											
	<b>A1</b>	56.28	26.0	20	290	•	•	•	•	•											
<b>FZ.38B</b> <b>210 ... 290</b>	<b>B2</b>	56.72 ★	26	19	210	•	•	•													
	<b>A2</b>	50.44	29	19	230	•	•	•													
	<b>X1</b>	43.75 ★	33	19	250	•	•	•	•												
	<b>W1</b>	40.88	35	19	275	•	•	•	•	•											
	<b>V1</b>	35.96 ★	40	19	290	•	•	•	•	•											
	<b>U1</b>	31.49	46	19	290	•	•	•	•	•											
	<b>T1</b>	27.85 ★	52	19	290	•	•	•	•	•											
	<b>S1</b>	25.24	57	19	290	•	•	•	•	•											
	<b>R1</b>	22.28 ★	65	19	290	•	•	•	•	•											
	<b>Q1</b>	20.10	72	20	290	•	•	•	•	•											
	<b>P1</b>	18.23 ★	80	20	290	•	•	•	•	•											
	<b>N1</b>	16.61	87	20	290	•	•	•	•	•											
	<b>M1</b>	15.19 ★	95	20	290	•	•	•	•	•											
	<b>L1</b>	13.58	107	20	290	•	•	•	•	•											
	<b>K1</b>	12.47 ★	116	20	290	•	•	•	•	•											
	<b>J1</b>	11.24	129	20	290	•	•	•	•	•											
	<b>H1</b>	9.67 ★	150	20	290	•	•	•	•	•											
	<b>G1</b>	8.52 ★	170	20	290	•	•	•	•	•											
	<b>F1</b>	7.76	187	20	290	•	•	•	•	•											
	<b>E1</b>	7.10 ★	204	20	290	•	•	•	•	•											
<b>D1</b>	6.35	228	20	275	•	•	•	•	•												
<b>C1</b>	5.83 ★	249	20	275	•	•	•	•	•												
<b>B1</b>	5.25	276	20	253	•	•	•	•	•												
<b>A1</b>	4.52 ★	321	21	228	•	•	•	•	•												

★ Preferred transmission ratio

<sup>1)</sup> Only possible with integrated motor.

<sup>2)</sup> Twisting angle applies to reduced-backlash gearboxes.

In the case of gearboxes of size 28, only possible with integrated motor or input unit KQ and KQS.

Calculation of maximum output torque  $T_{2max}$  for gearboxes with input unit.

$$T_{2max} = T_1 \times i_{tot}, \text{ if } T_{2max} \leq T_{2N}$$

If  $T_{2max} \geq T_{2N}$  the max. output torque  $T_{2N}$  of the unit is the decisive factor.

# MOTOX Geared Motors

## Parallel shaft geared motors

### Transmission ratios and maximum torques

#### Selection and ordering data (continued)

Gearbox size	Ratio code	Transmission ratio	Output speed	Twisting angle <sup>2)</sup>	Nominal torque	Permissible input torque $T_1$ [Nm]															
						2.5x the value is permissible for a brief period (e.g. motor starting torque)															
Max. gearbox torque	Order No. 15th and 16th position	$i_{tot}$	$n_2$ (50 Hz) rpm	$\varphi$ arcmin	$T_{2N}$ ( $f_B=1$ ) Nm	Motor size															
						3	3	5	10	20	26	61	98	198	198	291	356	580	1290		
Nm						63	71	80	90	100	112	132	160	180	200	225	250	280	315		
<b>FD.48B-D28</b> 540	<b>M1</b>	19 701	0.07	–	540	•															
	<b>L1</b>	16 996	★ 0.08	–	540	•	•														
	<b>K1</b>	14 602	0.10	–	540	•	•														
	<b>J1</b>	13 443	★ 0.10	–	540	•	•	•													
	<b>H1</b>	12 221	0.11	–	540	•	•	•													
	<b>G1</b>	10 817	★ 0.13	–	540	•	•	•													
	<b>F1</b>	9 060	0.15	–	540	•	•	•													
	<b>E1</b>	7 725	★ 0.18	–	540	•	•	•													
	<b>D1</b>	6 566	★ 0.21	–	540	•	•	•													
	<b>C1</b>	5 706	0.25	–	540	•	•	•													
	<b>B1</b>	4 967	★ 0.28	–	540	•	•	•													
	<b>A1</b>	4 480	0.31	–	540	•	•	•													
<b>FD.48B-Z28</b> 540	<b>B2</b>	4 197	0.33	–	540	•															
	<b>A2</b>	3 539	★ 0.40	–	540	•	•														
	<b>X1</b>	3 142	0.45	–	540	•	•														
	<b>W1</b>	2 755	★ 0.51	–	540	•	•	•													
	<b>V1</b>	2 465	0.57	–	540	•	•	•													
	<b>U1</b>	2 188	★ 0.64	–	540	•	•	•													
	<b>T1</b>	1 918	0.73	–	540	•	•	•													
	<b>S1</b>	1 686	★ 0.83	–	540	•	•	•													
	<b>R1</b>	1 523	0.92	–	540	•	•	•	•												
	<b>Q1</b>	1 327	★ 1.10	–	540	•	•	•													
	<b>P1</b>	1 192	1.20	–	540	•	•	•													
	<b>N1</b>	1 076	★ 1.30	–	540	•	•	•	•												
	<b>M1</b>	976	1.40	–	540	•	•	•	•												
	<b>L1</b>	888	★ 1.60	–	540	•	•	•	•												
	<b>K1</b>	785	1.80	–	540	•	•	•	•												
	<b>J1</b>	725	★ 1.90	–	540	•	•	•	•												
	<b>H1</b>	624	2.20	–	540	•	•	•	•												
	<b>G1</b>	567	★ 2.50	–	540	•	•	•	•												
	<b>F1</b>	516	★ 2.70	–	540	•	•	•	•												
	<b>E1</b>	468	3.00	–	540	•	•	•	•												
<b>D1</b>	426	★ 3.30	–	540	•	•	•	•													
<b>C1</b>	376	3.70	–	540	•	•	•	•													
<b>B1</b>	347	★ 4.00	–	540	•	•	•	•													
<b>A1</b>	299	4.70	–	540	•	•	•	•													

★ Preferred transmission ratio

<sup>1)</sup> Only possible with integrated motor.

<sup>2)</sup> Twisting angle applies to reduced-backlash gearboxes.

In the case of gearboxes of size 28, only possible with integrated motor or input unit KQ and KQS.

Calculation of maximum output torque  $T_{2max}$  for gearboxes with input unit.

$$T_{2max} = T_1 \times i_{tot}, \text{ if } T_{2max} \leq T_{2N}$$

If  $T_{2max} \geq T_{2N}$  the max. output torque  $T_{2N}$  of the unit is the decisive factor.

# MOTOX Geared Motors

## Parallel shaft geared motors

### Transmission ratios and maximum torques

#### Selection and ordering data (continued)

Gearbox size	Ratio code	Transmission ratio	Output speed	Twisting angle <sup>2)</sup>	Nominal torque	Permissible input torque $T_1$ [Nm]													
						2.5x the value is permissible for a brief period (e.g. motor starting torque)													
Max. gearbox torque	Order No. 15th and 16th position	$i_{tot}$	$n_2$ (50 Hz) rpm	$\varphi$ arcmin	$T_{2N}$ ( $f_B=1$ ) Nm	Motor size													
						3	3	5	10	20	26	61	98	198	198	291	356	580	1290
Nm						63	71	80	90	100	112	132	160	180	200	225	250	280	315
<b>FD.48B</b> 540	<b>S1</b>	268.80 ★	5.4	12	540	•	•	•											
	<b>R1</b>	238.65	6.1	12	540	•	•	•											
	<b>Q1</b>	209.23 ★	6.9	12	540	•	•	•	•										
	<b>P1</b>	187.24	7.7	12	540	•	•	•	•										
	<b>N1</b>	166.19 ★	8.7	13	540	•	•	•	•										
	<b>M1</b>	145.63	10.0	13	540	•	•	•	•										
	<b>L1</b>	128.04 ★	11.3	13	540	•	•	•	•										
	<b>K1</b>	115.68	12.5	13	540	•	•	•	•										
	<b>J1</b>	100.80 ★	14.4	13	540	•	•	•	•										
	<b>H1</b>	90.53	16.0	13	540	•	•	•	•										
	<b>G1</b>	81.73 ★	17.7	13	540	•	•	•	•	•									
	<b>F1</b>	74.10	19.6	13	540	•	•	•	•	•									
	<b>E1</b>	67.43 ★	22.0	13	540	•	•	•	•	•									
	<b>D1</b>	59.62	24.0	13	540	•	•	•	•	•									
<b>C1</b>	55.06 ★	26.0	13	540	•	•	•	•	•										
<b>B1</b>	47.40	31.0	13	540	•	•	•	•	•										
<b>A1</b>	43.09 ★	34.0	13	540	•	•	•	•	•										
<b>FZ.48B</b> 325 ... 540	<b>B2</b>	60.71 ★	24	12	400	•	•	•	•										
	<b>A2</b>	55.19	26	12	500	•	•	•	•										
	<b>X1</b>	49.58 ★	29	12	540	•	•	•	•										
	<b>W1</b>	42.50	34	12	540	•	•	•	•	•									
	<b>V1</b>	38.45 ★	38	12	540	•	•	•	•	•	•								
	<b>U1</b>	35.49	41	12	540	•	•	•	•	•	•								
	<b>T1</b>	30.86 ★	47	12	540	•	•	•	•	•	•								
	<b>S1</b>	28.02	52	12	540	•	•	•	•	•	•								
	<b>R1</b>	25.59 ★	57	12	540	•	•	•	•	•	•								
	<b>Q1</b>	23.48	62	12	540	•	•	•	•	•	•								
	<b>P1</b>	21.63 ★	67	12	540	•	•	•	•	•	•								
	<b>N1</b>	19.64	74	12	540	•	•	•	•	•	•								
	<b>M1</b>	17.89 ★	81	12	540	•	•	•	•	•	•								
	<b>L1</b>	16.39	88	12	540	•	•	•	•	•	•								
	<b>K1</b>	14.63 ★	99	12	540	•	•	•	•	•	•								
	<b>J1</b>	13.05	111	13	540				•	•	•								
	<b>H1</b>	11.09	131	13	535				•	•	•								
	<b>G1</b>	9.23 ★	157	13	526				•	•	•								
	<b>F1</b>	8.39 ★	173	16	510	•	•	•	•	•	•								
	<b>E1</b>	7.68	189	16	467	•	•	•	•	•	•								
<b>D1</b>	6.86 ★	211	17	443	•	•	•	•	•	•									
<b>C1</b>	6.12	237	17	406				•	•	•									
<b>B1</b>	5.20	279	18	378				•	•	•									
<b>A1</b>	4.33 ★	335	19	325				•	•	•									

★ Preferred transmission ratio

<sup>1)</sup> Only possible with integrated motor.

<sup>2)</sup> Twisting angle applies to reduced-backlash gearboxes.

In the case of gearboxes of size 28, only possible with integrated motor or input unit KQ and KQS.

Calculation of maximum output torque  $T_{2max}$  for gearboxes with input unit.

$$T_{2max} = T_1 \times i_{tot}, \text{ if } T_{2max} \leq T_{2N}$$

If  $T_{2max} \geq T_{2N}$  the max. output torque  $T_{2N}$  of the unit is the decisive factor.

# MOTOX Geared Motors

## Parallel shaft geared motors

### Transmission ratios and maximum torques

#### Selection and ordering data (continued)

Gearbox size	Ratio code	Transmission ratio	Output speed	Twisting angle <sup>2)</sup>	Nominal torque	Permissible input torque $T_1$ [Nm]													
						2.5x the value is permissible for a brief period (e.g. motor starting torque)													
Max. gearbox torque	Order No. 15th and 16th position	$i_{tot}$	$n_2$ (50 Hz) rpm	$\varphi$ arcmin	$T_{2N}$ ( $f_B=1$ ) Nm	Motor size													
						3	3	5	10	20	26	61	98	198	198	291	356	580	1290
Nm						63	71	80	90	100	112	132	160	180	200	225	250	280	315
<b>FD.68B-D28</b> <b>1 000</b>	<b>T1</b>	39 638	0.04	–	1 000	•													
	<b>S1</b>	34 196	★	0.04	–	1 000	•	•											
	<b>R1</b>	29 378		0.05	–	1 000	•	•											
	<b>Q1</b>	27 047	★	0.05	–	1 000	•	•	•										
	<b>P1</b>	24 588		0.06	–	1 000	•	•	•										
	<b>N1</b>	21 763	★	0.06	–	1 000	•	•	•										
	<b>M1</b>	20 908		0.07	–	1 000	•												
	<b>L1</b>	18 038	★	0.08	–	1 000	•	•											
	<b>K1</b>	15 497	★	0.09	–	1 000	•	•											
	<b>J1</b>	14 267		0.10	–	1 000	•	•	•										
	<b>H1</b>	12 970	★	0.11	–	1 000	•	•	•										
	<b>G1</b>	11 480		0.12	–	1 000	•	•	•										
	<b>F1</b>	9 615		0.15	–	1 000	•	•	•										
	<b>E1</b>	8 198		0.17	–	1 000	•	•	•										
	<b>D1</b>	6 969		0.20	–	1 000	•	•	•										
	<b>C1</b>	6 056		0.23	–	1 000	•	•	•										
	<b>B1</b>	5 271		0.27	–	1 000	•	•	•										
<b>A1</b>	4 755		0.29	–	1 000	•	•	•											
<b>FD.68B-Z28</b> <b>1 000</b>	<b>B2</b>	4 454		0.31	–	1 000	•												
	<b>A2</b>	3 756	★	0.37	–	1 000	•	•											
	<b>X1</b>	3 335		0.42	–	1 000	•	•											
	<b>W1</b>	2 924	★	0.48	–	1 000	•	•	•										
	<b>V1</b>	2 916		0.54	–	1 000	•	•	•										
	<b>U1</b>	2 322	★	0.60	–	1 000	•	•	•										
	<b>T1</b>	2 035		0.69	–	1 000	•	•	•										
	<b>S1</b>	1 789	★	0.78	–	1 000	•	•	•										
	<b>R1</b>	1 616		0.87	–	1 000	•	•	•	•									
	<b>Q1</b>	1 408	★	0.99	–	1 000	•	•	•										
	<b>P1</b>	1 265		1.10	–	1 000	•	•	•										
	<b>N1</b>	1 142	★	1.20	–	1 000	•	•	•	•									
	<b>M1</b>	1 036		1.40	–	1 000	•	•	•	•									
	<b>L1</b>	942	★	1.50	–	1 000	•	•	•	•									
	<b>K1</b>	833		1.70	–	1 000	•	•	•	•									
	<b>J1</b>	769	★	1.80	–	1 000	•	•	•	•									
	<b>H1</b>	662		2.10	–	1 000	•	•	•	•									
	<b>G1</b>	602	★	2.30	–	1 000	•	•	•	•									
	<b>F1</b>	547	★	2.60	–	1 000	•	•	•	•									
	<b>E1</b>	496		2.80	–	1 000	•	•	•	•									
	<b>D1</b>	452	★	3.10	–	1 000	•	•	•	•									
<b>C1</b>	399		3.50	–	1 000	•	•	•	•										
<b>B1</b>	369	★	3.80	–	1 000	•	•	•	•										
<b>A1</b>	317		4.40	–	1 000	•	•	•	•										

★ Preferred transmission ratio

1) Only possible with integrated motor.

2) Twisting angle applies to reduced-backlash gearboxes.

In the case of gearboxes of size 28, only possible with integrated motor or input unit KQ and KQS.

Calculation of maximum output torque  $T_{2max}$  for gearboxes with input unit.

$$T_{2max} = T_1 \times i_{tot}, \text{ if } T_{2max} \leq T_{2N}$$

If  $T_{2max} \geq T_{2N}$  the max. output torque  $T_{2N}$  of the unit is the decisive factor.

# MOTOX Geared Motors

## Parallel shaft geared motors

### Transmission ratios and maximum torques

#### Selection and ordering data (continued)

Gearbox size	Ratio code	Transmission ratio	Output speed	Twisting angle <sup>2)</sup>	Nominal torque	Permissible input torque $T_1$ [Nm]															
						2.5x the value is permissible for a brief period (e.g. motor starting torque)															
Max. gearbox torque	Order No. 15th and 16th position	$i_{tot}$	$n_2$ (50 Hz) rpm	$\varphi$ arcmin	$T_{2N}$ ( $f_B=1$ ) Nm	Motor size															
						3	3	5	10	20	26	61	98	198	198	291	356	580	1290		
Nm						63	71	80	90	100	112	132	160	180	200	225	250	280	315		
<b>FD.68B</b> 1 000	<b>S1</b>	296.18 ★	4.9	10.	1 000	•	•	•													
	<b>R1</b>	263.39	5.5	10	1 000	•	•	•													
	<b>Q1</b>	228.48 ★	6.3	10	1 000	•	•	•	•												
	<b>P1</b>	213.48	6.8	10	1 000	•	•	•	•												
	<b>N1</b>	187.76 ★	7.7	11	1 000	•	•	•	•												
	<b>M1</b>	164.44	8.8	11	1 000	•	•	•	•	•											
	<b>L1</b>	145.44 ★	10.0	11	1 000	•	•	•	•	•											
	<b>K1</b>	131.82	11.0	11	1 000	•	•	•	•	•											
	<b>J1</b>	116.36 ★	12.5	11	1 000	•	•	•	•	•											
	<b>H1</b>	104.96	13.8	11	1 000	•	•	•	•	•											
	<b>G1</b>	95.20 ★	15.2	11	1 000	•	•	•	•	•											
	<b>F1</b>	86.74	16.7	11	1 000	•	•	•	•	•											
	<b>E1</b>	79.33 ★	18.3	11	1 000	•	•	•	•	•											
	<b>D1</b>	70.93	20.0	11	1 000	•	•	•	•	•											
	<b>C1</b>	65.14 ★	22.0	11	1 000	•	•	•	•	•											
	<b>B1</b>	58.71	25.0	11	1 000	•	•	•	•	•											
<b>A1</b>	50.48 ★	29.0	11	1 000	•	•	•	•	•												
<b>FZ.68B</b> 589 ... 1 000	<b>B2</b>	61.17 ★	24	10	850			•	•												
	<b>A2</b>	53.50	27	10	1 000			•	•	•											
	<b>X1</b>	48.03 ★	30	10	1 000			•	•	•	•										
	<b>V1</b>	43.87	33	10	1 000			•	•	•	•										
	<b>U1</b>	38.93 ★	37	10	1 000			•	•	•	•	•									
	<b>T1</b>	35.93	40	10	1 000			•	•	•	•	•	•								
	<b>S1</b>	32.50 ★	45	10	1 000			•	•	•	•	•	•	•							
	<b>R1</b>	29.93	48	10	1 000			•	•	•	•	•	•	•	•						
	<b>Q1</b>	27.68 ★	52	10	1 000			•	•	•	•	•	•	•	•	•					
	<b>P1</b>	25.69	56	10	1 000			•	•	•	•	•	•	•	•	•	•				
	<b>N1</b>	22.67 ★	64	10	1 000			•	•	•	•	•	•	•	•	•	•	•			
	<b>M1</b>	20.93	69	10	1 000			•	•	•	•	•	•	•	•	•	•	•			
	<b>L1</b>	18.75 ★	77	10	1 000			•	•	•	•	•	•	•	•	•	•	•			
	<b>K1</b>	17.29	84	10	1 000			•	•	•	•	•	•	•	•	•	•	•			
	<b>J1</b>	14.51	100	10	1 000			•	•	•	•	•	•	•	•	•	•	•			
	<b>H1</b>	12.38 ★	117	11	1 000			•	•	•	•	•	•	•	•	•	•	•			
	<b>G1</b>	10.31	141	11	1 000			•	•	•	•	•	•	•	•	•	•	•			
	<b>F1</b>	8.55 ★	170	11	1 000			•	•	•	•	•	•	•	•	•	•	•			
	<b>E1</b>	8.03	181	15	897			•	•	•	•	•	•	•	•	•	•	•			
	<b>D1</b>	6.74	215	15	835			•	•	•	•	•	•	•	•	•	•	•			
<b>C1</b>	5.75 ★	252	16	755			•	•	•	•	•	•	•	•	•	•	•				
<b>B1</b>	4.79	303	16	682			•	•	•	•	•	•	•	•	•	•	•				
<b>A1</b>	3.97 ★	365	17	589			•	•	•	•	•	•	•	•	•	•	•				

★ Preferred transmission ratio

<sup>1)</sup> Only possible with integrated motor.

<sup>2)</sup> Twisting angle applies to reduced-backlash gearboxes.

In the case of gearboxes of size 28, only possible with integrated motor or input unit KQ and KQS.

Calculation of maximum output torque  $T_{2max}$  for gearboxes with input unit.

$$T_{2max} = T_1 \times i_{tot}, \text{ if } T_{2max} \leq T_{2N}$$

If  $T_{2max} \geq T_{2N}$  the max. output torque  $T_{2N}$  of the unit is the decisive factor.

# MOTOX Geared Motors

## Parallel shaft geared motors

### Transmission ratios and maximum torques

#### Selection and ordering data (continued)

Gearbox size	Ratio code	Transmission ratio	Output speed	Twisting angle <sup>2)</sup>	Nominal torque	Permissible input torque $T_1$ [Nm]													
						2.5x the value is permissible for a brief period (e.g. motor starting torque)													
Max. gearbox torque	Order No. 15th and 16th position	$i_{tot}$	$n_2$ (50 Hz) rpm	$\varphi$ arcmin	$T_{2N}$ ( $f_B=1$ ) Nm	3	3	5	10	20	26	61	98	198	198	291	356	580	1290
						Motor size													
Nm						63	71	80	90	100	112	132	160	180	200	225	250	280	315
<b>FD.88B-D28</b> <b>1 900</b>	<b>T1</b>	54 705	0.03	–	1 900	•													
	<b>S1</b>	47 195	★ 0.03	–	1 900	•	•												
	<b>R1</b>	40 546	0.03	–	1 900	•	•												
	<b>Q1</b>	37 328	★ 0.04	–	1 900	•	•	•											
	<b>P1</b>	33 935	0.04	–	1 900	•	•	•											
	<b>N1</b>	30 036	★ 0.05	–	1 900	•	•	•											
	<b>M1</b>	28 814	0.05	–	1 900	•	•												
	<b>L1</b>	24 755	★ 0.06	–	1 900	•	•												
	<b>K1</b>	22 790	★ 0.06	–	1 900	•	•	•											
	<b>J1</b>	20 718	0.07	–	1 900	•	•	•											
	<b>H1</b>	18 338	★ 0.08	–	1 900	•	•	•											
	<b>G1</b>	15 360	0.09	–	1 900	•	•	•											
	<b>F1</b>	13 096	★ 0.11	–	1 900	•	•	•											
	<b>E1</b>	11 132	★ 0.13	–	1 900	•	•	•											
	<b>D1</b>	9 674	0.14	–	1 900	•	•	•											
	<b>C1</b>	8 420	★ 0.17	–	1 900	•	•	•											
<b>B1</b>	7 595	0.18	–	1 900	•	•	•												
<b>A1</b>	6 703	0.21	–	1 900	•	•	•												
<b>FD.88B-Z28</b> <b>1 900</b>	<b>B2</b>	6 000	★ 0.23	–	1 900	•	•												
	<b>A2</b>	5 327	0.26	–	1 900	•	•												
	<b>X1</b>	4 670	★ 0.30	–	1 900	•	•	•											
	<b>W1</b>	4 179	0.33	–	1 900	•	•	•											
	<b>V1</b>	3 709	★ 0.38	–	1 900	•	•	•											
	<b>U1</b>	3 251	0.43	–	1 900	•	•	•											
	<b>T1</b>	2 858	★ 0.49	–	1 900	•	•	•											
	<b>S1</b>	2 582	0.54	–	1 900	•	•	•	•										
	<b>R1</b>	2 250	★ 0.62	–	1 900	•	•	•											
	<b>Q1</b>	2 021	0.69	–	1 900	•	•	•											
	<b>P1</b>	1 824	★ 0.77	–	1 900	•	•	•	•										
	<b>N1</b>	1 654	0.85	–	1 900	•	•	•	•										
	<b>M1</b>	1 505	★ 0.93	–	1 900	•	•	•	•										
	<b>L1</b>	1 331	1.10	–	1 900	•	•	•	•	•									
	<b>K1</b>	1 229	★ 1.10	–	1 900	•	•	•	•										
	<b>J1</b>	1 058	1.30	–	1 900	•	•	•	•										
	<b>H1</b>	962	★ 1.50	–	1 900	•	•	•	•										
	<b>G1</b>	874	★ 1.60	–	1 900	•	•	•	•										
	<b>F1</b>	793	1.80	–	1 900	•	•	•	•										
	<b>E1</b>	721	★ 1.90	–	1 900	•	•	•	•										
<b>D1</b>	638	2.20	–	1 900	•	•	•	•											
<b>C1</b>	589	★ 2.40	–	1 900	•	•	•	•											
<b>B1</b>	507	2.80	–	1 900	•	•	•	•											
<b>A1</b>	461	★ 3.00	–	1 900	•	•	•	•											

★ Preferred transmission ratio

1) Only possible with integrated motor.

2) Twisting angle applies to reduced-backlash gearboxes.

In the case of gearboxes of size 28, only possible with integrated motor or input unit KQ and KQS.

Calculation of maximum output torque  $T_{2max}$  for gearboxes with input unit.

$$T_{2max} = T_1 \times i_{tot}, \text{ if } T_{2max} \leq T_{2N}$$

If  $T_{2max} \geq T_{2N}$  the max. output torque  $T_{2N}$  of the unit is the decisive factor.



# MOTOX Geared Motors

## Parallel shaft geared motors

### Transmission ratios and maximum torques

#### Selection and ordering data (continued)

Gearbox size	Ratio code	Transmission ratio	Output speed	Twisting angle <sup>2)</sup>	Nominal torque	Permissible input torque $T_1$ [Nm]													
						2.5x the value is permissible for a brief period (e.g. motor starting torque)													
Max. gearbox torque	Order No. 15th and 16th position	$i_{tot}$	$n_2$ (50 Hz) rpm	$\varphi$ arcmin	$T_{2N}$ ( $f_B=1$ ) Nm	Motor size													
						3	3	5	10	20	26	61	98	198	198	291	356	580	1290
Nm						63	71	80	90	100	112	132	160	180	200	225	250	280	315
<b>FD.88B</b> 1 900	V1	404.92	3.6	9	1 900	•	•	•											
	U1	358.33 ★	4.0	9	1 900	•	•	•	•										
	T1	325.76	4.5	9	1 900	•	•	•	•										
	S1	292.64 ★	5.0	9	1 900	•	•	•	•										
	R1	250.83	5.8	9	1 900	•	•	•	•	•									
	P1	226.94 ★	6.4	9	1 900	•	•	•	•	•	•								
	N1	209.49	6.9	9	1 900	•	•	•	•	•	•								
	M1	182.15 ★	8.0	9	1 900	•	•	•	•	•	•	•							
	L1	165.38	8.8	9	1 900	•	•	•	•	•	•	•							
	K1	151.01 ★	9.6	9	1 900	•	•	•	•	•	•	•							
	J1	138.56	10.5	9	1 900	•	•	•	•	•	•	•							
	H1	127.66 ★	11.4	9	1 900	•	•	•	•	•	•	•							
	G1	115.93	12.5	9	1 900	•	•	•	•	•	•	•							
	F1	105.61 ★	13.7	9	1 900	•	•	•	•	•	•	•							
	E1	96.75	15.0	9	1 900	•	•	•	•	•	•	•							
	D1	86.33 ★	16.8	9	1 900	•	•	•	•	•	•	•							
	C1	77.04	18.8	9	1 900				•	•	•	•	•						
B1	65.43	22.0	9	1 900				•	•	•	•	•	•						
A1	54.47 ★	27.0	9	1 900				•	•	•	•	•	•						
<b>FZ.88B</b> 1 199 ... 1 900	X1	64.58 ★	22	8	1 900				•	•	•	•							
	W1	59.13	25	8	1 900				•	•	•	•							
	V1	52.60 ★	28	8	1 900				•	•	•	•	•						
	U1	48.08	30	8	1 900				•	•	•	•	•						
	T1	44.20 ★	33	8	1 900				•	•	•	•	•						
	S1	40.83	36	8	1 900				•	•	•	•	•						
	R1	37.89 ★	38	8	1 900				•	•	•	•	•	•					
	Q1	35.29	41	8	1 900				•	•	•	•	•	•	•				
	P1	31.91 ★	45	8	1 900				•	•	•	•	•	•	•				
	N1	29.38	49	8	1 900				•	•	•	•	•	•	•	•			
	M1	26.42 ★	55	8	1 900				•	•	•	•	•	•	•	•			
	L1	24.38	59	9	1 900				•	•	•	•	•	•	•	•			
	K1	20.65	70	9	1 900				•	•	•	•	•	•	•	•	•		
	J1	18.00 ★	81	9	1 900				•	•	•	•	•	•	•	•	•		
	H1	15.31	95	9	1 900					•	•	•	•	•	•	•	•		
	G1	13.07 ★	111	9	1 900					•	•	•	•	•	•	•	•		
	F1	10.71 ★	135	9	1 900					•	•	•	•	•	•	•	•		
E1	9.19	158	12	1 658					•	•	•	•	•	•	•	•			
D1	8.01 ★	181	12	1 548					•	•	•	•	•	•	•	•			
C1	6.82	213	13	1 454						•	•	•	•	•	•	•			
B1	5.82 ★	249	13	1 348						•	•	•	•	•	•	•			
A1	4.77 ★	304	13	1 199						•	•	•	•	•	•	•			

★ Preferred transmission ratio

<sup>1)</sup> Only possible with integrated motor.

<sup>2)</sup> Twisting angle applies to reduced-backlash gearboxes.

In the case of gearboxes of size 28, only possible with integrated motor or input unit KQ and KQS.

Calculation of maximum output torque  $T_{2max}$  for gearboxes with input unit.

$$T_{2max} = T_1 \times i_{tot}, \text{ if } T_{2max} \leq T_{2N}$$

If  $T_{2max} \geq T_{2N}$  the max. output torque  $T_{2N}$  of the unit is the decisive factor.

# MOTOX Geared Motors

## Parallel shaft geared motors

### Transmission ratios and maximum torques

#### Selection and ordering data (continued)

Gearbox size	Ratio code	Transmission ratio	Output speed	Twisting angle <sup>2)</sup>	Nominal torque	Permissible input torque $T_1$ [Nm]															
						2.5x the value is permissible for a brief period (e.g. motor starting torque)															
Max. gearbox torque	Order No. 15th and 16th position	$i_{tot}$	$n_2$ (50 Hz) rpm	$\phi$ arcmin	$T_{2N}$ ( $f_B=1$ ) Nm	Motor size															
						3	3	5	10	20	26	61	98	198	198	291	356	580	1290		
Nm						63	71	80	90	100	112	132	160	180	200	225	250	280	315		
<b>FD.108B-D38</b> 3 400	<b>N1</b>	66 190	★	0.02	–	3 400	•	•	•												
	<b>M1</b>	58 766		0.02	–	3 400	•	•	•												
	<b>L1</b>	51 521	★	0.03	–	3 400	•	•	•	•											
	<b>K1</b>	46 105		0.03	–	3 400	•	•	•	•											
	<b>J1</b>	40 922	★	0.04	–	3 400	•	•	•	•											
	<b>H1</b>	35 860		0.04	–	3 400	•	•	•	•											
	<b>G1</b>	31 530	★	0.05	–	3 400	•	•	•	•											
	<b>F1</b>	28 485		0.05	–	3 400	•	•	•	•											
	<b>E1</b>	24 821	★	0.06	–	3 400	•	•	•	•											
	<b>D1</b>	22 293		0.07	–	3 400	•	•	•	•											
	<b>C1</b>	20 125	★	0.07	–	3 400	•	•	•	•											
<b>B1</b>	18 247		0.08	–	3 400	•	•	•	•												
<b>A1</b>	16 603	★	0.09	–	3 400	•	•	•	•												
<b>FD.108B-Z38</b> 3 400	<b>M2</b>	15 230	★	0.10	–	3 400	•	•	•												
	<b>L2</b>	13 544		0.11	–	3 400	•	•	•												
	<b>K2</b>	11 749	★	0.12	–	3 400	•	•	•	•											
	<b>J2</b>	10 977		0.13	–	3 400	•	•	•	•											
	<b>H2</b>	9 655	★	0.15	–	3 400	•	•	•	•											
	<b>G2</b>	8 456		0.17	–	3 400	•	•	•	•	•										
	<b>F2</b>	7 479	★	0.19	–	3 400	•	•	•	•	•										
	<b>E2</b>	6 778		0.21	–	3 400	•	•	•	•	•										
	<b>D2</b>	5 983	★	0.24	–	3 400	•	•	•	•	•										
	<b>C2</b>	5 397		0.27	–	3 400	•	•	•	•	•										
	<b>B2</b>	4 895	★	0.30	–	3 400	•	•	•	•	•										
	<b>A2</b>	4 460		0.33	–	3 400	•	•	•	•	•										
	<b>X1</b>	4 079	★	0.36	–	3 400	•	•	•	•	•										
	<b>W1</b>	3 648		0.40	–	3 400	•	•	•	•	•										
	<b>V1</b>	3 349	★	0.43	–	3 400	•	•	•	•	•										
	<b>U1</b>	3 019		0.48	–	3 400	•	•	•	•	•										
	<b>T1</b>	2 596	★	0.56	–	3 400	•	•	•	•	•										
	<b>S1</b>	2 315		0.63	–	3 400	•	•	•	•	•										
	<b>R1</b>	2 126	★	0.68	–	3 400	•	•	•	•	•										
	<b>Q1</b>	1 916		0.76	–	3 400	•	•	•	•	•										
	<b>P1</b>	1 647	★	0.88	–	3 400	•	•	•	•	•										
	<b>N1</b>	1 526		0.95	–	3 400	•	•	•	•	•										
	<b>M1</b>	1 384	★	1.00	–	3 400	•	•	•	•	•										
	<b>L1</b>	1 261		1.10	–	3 400	•	•	•	•	•										
	<b>K1</b>	1 153	★	1.30	–	3 400	•	•	•	•	•										
	<b>J1</b>	1 031		1.40	–	3 400	•	•	•	•	•										
	<b>H1</b>	947	★	1.50	–	3 400	•	•	•	•	•										
<b>G1</b>	853		1.70	–	3 400	•	•	•	•	•											
<b>F1</b>	734	★	2.00	–	3 400	•	•	•	•	•											
<b>E1</b>	732	★	2.00	–	3 400	•	•	•	•	•											
<b>D1</b>	654		2.20	–	3 400	•	•	•	•	•											
<b>C1</b>	601	★	2.40	–	3 400	•	•	•	•	•											
<b>B1</b>	541		2.70	–	3 400	•	•	•	•	•											
<b>A1</b>	466	★	3.10	–	3 400	•	•	•	•	•											

★ Preferred transmission ratio

<sup>1)</sup> Only possible with integrated motor.

<sup>2)</sup> Twisting angle applies to reduced-backlash gearboxes.

In the case of gearboxes of size 28, only possible with integrated motor or input unit KQ and KQS.

Calculation of maximum output torque  $T_{2max}$  for gearboxes with input unit.

$$T_{2max} = T_1 \times i_{tot}, \text{ if } T_{2max} \leq T_{2N}$$

If  $T_{2max} \geq T_{2N}$  the max. output torque  $T_{2N}$  of the unit is the decisive factor.

# MOTOX Geared Motors

## Parallel shaft geared motors

### Transmission ratios and maximum torques

#### Selection and ordering data (continued)

Gearbox size	Ratio code	Transmission ratio	Output speed	Twisting angle <sup>2)</sup>	Nominal torque	Permissible input torque $T_1$ [Nm]													
						2.5x the value is permissible for a brief period (e.g. motor starting torque)													
Max. gearbox torque	Order No. 15th and 16th position	$i_{tot}$	$n_2$ (50 Hz) rpm	$\varphi$ arcmin	$T_{2N}$ ( $f_B=1$ ) Nm	Motor size													
						3	3	5	10	20	26	61	98	198	198	291	356	580	1290
Nm						63	71	80	90	100	112	132	160	180	200	225	250	280	315
<b>FD.108B</b> <b>3 400</b>	<b>V1</b>	424.49 ★	3.4	7	3 400			•	•										
	<b>U1</b>	382.79	3.8	7	3 400			•	•										
	<b>T1</b>	345.19 ★	4.2	7	3 400			•	•										
	<b>S1</b>	301.88	4.8	7	3 400			•	•	•									
	<b>R1</b>	271.01 ★	5.4	7	3 400			•	•	•	•								
	<b>Q1</b>	247.53	5.9	7	3 400			•	•	•	•								
	<b>P1</b>	219.66 ★	6.6	7	3 400			•	•	•	•	•							
	<b>N1</b>	202.77	7.2	7	3 400			•	•	•	•	•							
	<b>M1</b>	183.39 ★	7.9	7	3 400			•	•	•	•	•							
	<b>L1</b>	168.88	8.6	8	3 400			•	•	•	•	•							
	<b>K1</b>	156.19 ★	9.3	8	3 400			•	•	•	•	•	•						
	<b>J1</b>	144.99	10.0	8	3 400			•	•	•	•	•	•						
	<b>H1</b>	127.92 ★	11.3	8	3 400			•	•	•	•	•	•						
	<b>G1</b>	118.11	12.3	8	3 400			•	•	•	•	•	•						
	<b>F1</b>	105.81 ★	13.7	8	3 400			•	•	•	•	•	•						
	<b>E1</b>	97.57	14.9	8	3 400			•	•	•	•	•	•						
	<b>D1</b>	81.86	17.7	8	3 400			•	•	•	•	•	•						
<b>C1</b>	69.84 ★	21.0	8	3 400			•	•	•	•	•	•							
<b>B1</b>	58.20	25.0	8	3 400			•	•	•	•	•	•							
<b>A1</b>	48.24 ★	30.0	8	3 400			•	•	•	•	•	•							
<b>FZ.108B</b> <b>2 422 ... 3 400</b>	<b>A2</b>	64.21 ★	23	7	3 000			•	•	•									
	<b>X1</b>	58.80	25	7	3 000			•	•	•									
	<b>W1</b>	54.17 ★	27	7	3 400			•	•	•									
	<b>V1</b>	50.15	29	7	3 400			•	•	•									
	<b>U1</b>	46.64 ★	31	7	3 400			•	•	•	•								
	<b>T1</b>	43.54	33	7	3 400			•	•	•	•								
	<b>S1</b>	38.95 ★	37	7	3 400			•	•	•	•	•							
	<b>R1</b>	36.10	40	7	3 400			•	•	•	•	•	•						
	<b>Q1</b>	33.09 ★	44	7	3 400			•	•	•	•	•	•						
	<b>P1</b>	30.33	48	7	3 400			•	•	•	•	•	•						
	<b>N1</b>	25.85	56	7	3 400			•	•	•	•	•	•						
	<b>M1</b>	22.81 ★	64	7	3 400			•	•	•	•	•	•						
	<b>L1</b>	19.41	75	7	3 400			•	•	•	•	•	•						
	<b>K1</b>	16.82 ★	86	7	3 400			•	•	•	•	•	•						
	<b>J1</b>	14.16 ★	102	7	3 304			•	•	•	•	•	•						
	<b>H1</b>	12.77	114	7	3 249			•	•	•	•	•	•						
	<b>G1</b>	10.98 ★	132	8	3 153			•	•	•	•	•	•						
<b>F1</b>	10.04	144	10	3 374			•	•	•	•	•	•							
<b>E1</b>	8.70 ★	167	10	3 102			•	•	•	•	•	•							
<b>D1</b>	7.32 ★	198	10	2 853			•	•	•	•	•	•							
<b>C1</b>	6.60	220	10	2 651			•	•	•	•	•	•							
<b>B1</b>	5.68 ★	255	10	2 422			•	•	•	•	•	•							

★ Preferred transmission ratio

1) Only possible with integrated motor.

2) Twisting angle applies to reduced-backlash gearboxes.

In the case of gearboxes of size 28, only possible with integrated motor or input unit KQ and KQS.

Calculation of maximum output torque  $T_{2max}$  for gearboxes with input unit.

$$T_{2max} = T_1 \times i_{tot}, \text{ if } T_{2max} \leq T_{2N}$$

If  $T_{2max} \geq T_{2N}$  the max. output torque  $T_{2N}$  of the unit is the decisive factor.

# MOTOX Geared Motors

## Parallel shaft geared motors

### Transmission ratios and maximum torques

#### Selection and ordering data (continued)

Gearbox size	Ratio code	Transmission ratio	Output speed	Twisting angle <sup>2)</sup>	Nominal torque	Permissible input torque $T_1$ [Nm]															
						2.5x the value is permissible for a brief period (e.g. motor starting torque)															
Max. gearbox torque	Order No. 15th and 16th position	$i_{tot}$	$n_2$ (50 Hz) rpm	$\varphi$ arcmin	$T_{2N}$ ( $f_B=1$ ) Nm	Motor size															
						3	3	5	10	20	26	61	98	198	198	291	356	580	1290		
Nm						63	71	80	90	100	112	132	160	180	200	225	250	280	315		
<b>FD.128B-D38</b> 6 100	<b>N1</b>	68 070	★	0.02	–	6 100	•	•	•												
	<b>M1</b>	60 435		0.02	–	6 100	•	•	•												
	<b>L1</b>	52 984	★	0.03	–	6 100	•	•	•	•											
	<b>K1</b>	47 415		0.03	–	6 100	•	•	•	•											
	<b>J1</b>	42 084	★	0.03	–	6 100	•	•	•	•											
	<b>H1</b>	36 878		0.04	–	6 100	•	•	•	•											
	<b>G1</b>	32 425	★	0.04	–	6 100	•	•	•	•											
	<b>F1</b>	29 294		0.05	–	6 100	•	•	•	•											
	<b>E1</b>	25 526	★	0.06	–	6 100	•	•	•	•											
	<b>D1</b>	22 926		0.06	–	6 100	•	•	•	•											
	<b>C1</b>	20 697	★	0.07	–	6 100	•	•	•	•											
	<b>B1</b>	18 765		0.08	–	6 100	•	•	•	•											
<b>A1</b>	17 075	★	0.08	–	6 100	•	•	•	•												
<b>FD.128B-Z38</b> 6 100	<b>W1</b>	15 663	★	0.09	–	6 100	•	•	•												
	<b>V1</b>	13 928		0.10	–	6 100	•	•	•												
	<b>U1</b>	12 083	★	0.12	–	6 100	•	•	•	•											
	<b>T1</b>	11 289		0.13	–	6 100	•	•	•	•											
	<b>S1</b>	9 929	★	0.15	–	6 100	•	•	•	•											
	<b>R1</b>	8 696		0.17	–	6 100	•	•	•	•											
	<b>Q1</b>	7 691	★	0.19	–	6 100	•	•	•	•											
	<b>P1</b>	6 971		0.21	–	6 100	•	•	•	•											
	<b>N1</b>	6 153	★	0.24	–	6 100	•	•	•	•											
	<b>M1</b>	5 551		0.26	–	6 100	•	•	•	•											
	<b>L1</b>	5 034	★	0.29	–	6 100	•	•	•	•											
	<b>K1</b>	4 587		0.32	–	6 100	•	•	•	•											
	<b>J1</b>	4 195	★	0.35	–	6 100	•	•	•	•											
	<b>H1</b>	3 751		0.39	–	6 100	•	•	•	•											
	<b>G1</b>	3 445	★	0.42	–	6 100	•	•	•	•											
	<b>F1</b>	3 105		0.47	–	6 100	•	•	•	•											
	<b>E1</b>	2 670	★	0.54	–	6 100	•	•	•	•											
	<b>D1</b>	2 381		0.61	–	6 100	•	•	•	•											
<b>C1</b>	2 186	★	0.66	–	6 100	•	•	•	•												
<b>B1</b>	1 970		0.74	–	6 100	•	•	•	•												
<b>A1</b>	1 694	★	0.86	–	6 100	•	•	•	•												
<b>FD.128B-Z48</b> 6 100	<b>L1</b>	1 504		0.96	–	6 100	•	•	•	•											
	<b>K1</b>	1 370	★	1.10	–	6 100	•	•	•	•											
	<b>J1</b>	1 255		1.20	–	6 100	•	•	•	•											
	<b>H1</b>	1 120	★	1.30	–	6 100	•	•	•	•											
	<b>G1</b>	999		1.50	–	6 100			•	•	•	•									
	<b>F1</b>	849		1.70	–	6 100			•	•	•	•									
	<b>E1</b>	706	★	2.10	–	6 100			•	•	•	•									
	<b>D1</b>	695	★	2.10	–	6 100	•	•	•	•	•	•									
	<b>C1</b>	620		2.30	–	6 100			•	•	•	•									
	<b>B1</b>	527		2.80	–	6 100			•	•	•	•									
<b>A1</b>	439	★	3.30	–	6 100			•	•	•	•										

★ Preferred transmission ratio

<sup>1)</sup> Only possible with integrated motor.<sup>2)</sup> Twisting angle applies to reduced-backlash gearboxes.

In the case of gearboxes of size 28, only possible with integrated motor or input unit KQ and KQS.

Calculation of maximum output torque  $T_{2max}$  for gearboxes with input unit.

$$T_{2max} = T_1 \times i_{tot} \text{ if } T_{2max} \leq T_{2N}$$

If  $T_{2max} \geq T_{2N}$  the max. output torque  $T_{2N}$  of the unit is the decisive factor.

# MOTOX Geared Motors

## Parallel shaft geared motors

### Transmission ratios and maximum torques

#### Selection and ordering data (continued)

Gearbox size	Ratio code	Transmission ratio	Output speed	Twisting angle <sup>2)</sup>	Nominal torque	Permissible input torque $T_1$ [Nm]																
						2.5x the value is permissible for a brief period (e.g. motor starting torque)																
Max. gearbox torque	Order No. 15th and 16th position	$i_{tot}$	$n_2$ (50 Hz) rpm	$\varphi$ arcmin	$T_{2N}$ ( $f_B=1$ ) Nm	Motor size																
						3	3	5	10	20	26	61	98	198	198	291	356	580	1290			
Nm						63	71	80	90	100	112	132	160	180	200	225	250	280	315			
<b>FD.128B</b> <b>6 100</b>	<b>V1</b>	447.96	3.2	7	6 100				*													
	<b>U1</b>	405.47 ★	3.6	7	6 100				*													
	<b>T1</b>	354.99	4.1	7	6 100				*	*												
	<b>S1</b>	320.24 ★	4.5	7	6 100				*	*	*											
	<b>R1</b>	293.22	4.9	7	6 100				*	*	*	*										
	<b>Q1</b>	260.84 ★	5.6	7	6 100				*	*	*	*	*									
	<b>P1</b>	238.39	6.1	7	6 100				*	*	*	*	*									
	<b>N1</b>	219.15 ★	6.6	7	6 100				*	*	*	*	*									
	<b>M1</b>	202.48	7.2	7	6 100				*	*	*	*	*									
	<b>L1</b>	187.88 ★	7.7	7	6 100				*	*	*	*	*	*								
	<b>K1</b>	175.01	8.3	7	6 100				*	*	*	*	*	*	*							
	<b>J1</b>	158.22 ★	9.2	7	6 100				*	*	*	*	*	*	*	*						
	<b>H1</b>	145.66	10.0	7	6 100				*	*	*	*	*	*	*	*	*					
	<b>G1</b>	131.01 ★	11.1	7	6 100				*	*	*	*	*	*	*	*	*	*				
	<b>F1</b>	120.87	12.0	7	6 100				*	*	*	*	*	*	*	*	*	*	*			
	<b>E1</b>	102.41	14.2	7	6 100				*	*	*	*	*	*	*	*	*	*	*	*		
	<b>D1</b>	89.25 ★	16.2	7	6 100				*	*	*	*	*	*	*	*	*	*	*	*	*	
<b>C1</b>	75.93	19.1	7	6 100				*	*	*	*	*	*	*	*	*	*	*	*	*	*	
<b>B1</b>	64.80 ★	22.0	7	6 100				*	*	*	*	*	*	*	*	*	*	*	*	*	*	
<b>A1</b>	53.13 ★	27.0	7	6 100				*	*	*	*	*	*	*	*	*	*	*	*	*	*	
<b>FZ.128B</b> <b>2 703 ... 6 100</b>	<b>A2</b>	56.42 ★	26	6	4 300						*	*										
	<b>X1</b>	52.29	28	6	4 600						*	*										
	<b>W1</b>	49.71 ★	29	6	4 900						*	*	*									
	<b>V1</b>	46.46	31	6	5 150						*	*	*	*								
	<b>U1</b>	40.99 ★	35	6	5 700						*	*	*	*	*							
	<b>T1</b>	38.66	38	6	6 000						*	*	*	*	*	*						
	<b>S1</b>	34.64 ★	42	6	6 100						*	*	*	*	*	*	*					<sup>1)</sup>
	<b>R1</b>	31.98	45	7	6 100						*	*	*	*	*	*	*	*				<sup>1)</sup>
	<b>Q1</b>	27.33	53	7	6 100						*	*	*	*	*	*	*	*	*			<sup>1)</sup>
	<b>P1</b>	24.70 ★	59	7	6 100						*	*	*	*	*	*	*	*	*	*		<sup>1)</sup>
	<b>N1</b>	23.80	61	7	6 100						*	*	*	*	*	*	*	*	*	*	*	<sup>1)</sup>
	<b>L1</b>	20.58	70	7	6 100						*	*	*	*	*	*	*	*	*	*	*	<sup>1)</sup>
	<b>K1</b>	17.95 ★	81	7	6 100						*	*	*	*	*	*	*	*	*	*	*	<sup>1)</sup>
	<b>J1</b>	15.36 ★	94	7	5 847						*	*	*	*	*	*	*	*	*	*	*	<sup>1)</sup>
	<b>H1</b>	13.76	105	7	5 640						*	*	*	*	*	*	*	*	*	*	*	<sup>1)</sup>
	<b>G1</b>	11.65 ★	124	7	5 347						*	*	*	*	*	*	*	*	*	*	*	<sup>1)</sup>
	<b>F1</b>	10.07	144	7	5 113						*	*	*	*	*	*	*	*	*	*	*	<sup>1)</sup>
<b>E1</b>	7.57 ★	192	7	4 565						*	*	*	*	*	*	*	*	*	*	*	<sup>1)</sup>	
<b>D1</b>	6.91	210	9	3 592						*	*	*	*	*	*	*	*	*	*	*	<sup>1)</sup>	
<b>C1</b>	5.85 ★	248	10	3 301						*	*	*	*	*	*	*	*	*	*	*	<sup>1)</sup>	
<b>B1</b>	5.05	287	10	3 137						*	*	*	*	*	*	*	*	*	*	*	<sup>1)</sup>	
<b>A1</b>	3.80 ★	382	10	2 708						*	*	*	*	*	*	*	*	*	*	*	<sup>1)</sup>	

★ Preferred transmission ratio

<sup>1)</sup> Only possible with integrated motor.<sup>2)</sup> Twisting angle applies to reduced-backlash gearboxes.

In the case of gearboxes of size 28, only possible with integrated motor or input unit KQ and KQS.

Calculation of maximum output torque  $T_{2max}$  for gearboxes with input unit.

$$T_{2max} = T_1 \times i_{tot}, \text{ if } T_{2max} \leq T_{2N}$$

If  $T_{2max} \geq T_{2N}$  the max. output torque  $T_{2N}$  of the unit is the decisive factor.

# MOTOX Geared Motors

## Parallel shaft geared motors

### Transmission ratios and maximum torques

#### Selection and ordering data (continued)

Gearbox size	Ratio code	Transmission ratio	Output speed	Twisting angle <sup>2)</sup>	Nominal torque	Permissible input torque $T_1$ [Nm]													
						2.5x the value is permissible for a brief period (e.g. motor starting torque)													
Max. gearbox torque	Order No. 15th and 16th position	$i_{tot}$	$n_2$ (50 Hz) rpm	$\varphi$ arcmin	$T_{2N}$ ( $f_B=1$ ) Nm	Motor size													
						3	3	5	10	20	26	61	98	198	198	291	356	580	1290
Nm						63	71	80	90	100	112	132	160	180	200	225	250	280	315
<b>FD.148B-D38</b> 9 000	<b>N1</b>	70 576	★	0.02	–	9 000	•	•	•										
	<b>M1</b>	62 660		0.02	–	9 000	•	•	•										
	<b>L1</b>	54 935	★	0.03	–	9 000	•	•	•	•									
	<b>K1</b>	49 161		0.03	–	9 000	•	•	•	•									
	<b>J1</b>	43 633	★	0.03	–	9 000	•	•	•	•									
	<b>H1</b>	38 236		0.04	–	9 000	•	•	•	•									
	<b>G1</b>	33 619	★	0.04	–	9 000	•	•	•	•									
	<b>F1</b>	30 373		0.05	–	9 000	•	•	•	•									
	<b>E1</b>	26 466	★	0.05	–	9 000	•	•	•	•									
	<b>D1</b>	23 770		0.06	–	9 000	•	•	•	•									
	<b>C1</b>	21 459	★	0.07	–	9 000	•	•	•	•									
<b>B1</b>	19 456		0.07	–	9 000	•	•	•	•										
<b>A1</b>	17 704	★	0.08	–	9 000	•	•	•	•										
<b>FD.148B-Z38</b> 9 000	<b>W1</b>	16 239	★	0.09	–	9 000	•	•	•										
	<b>V1</b>	14 441		0.10	–	9 000	•	•	•										
	<b>U1</b>	12 527	★	0.12	–	9 000	•	•	•	•									
	<b>T1</b>	11 705		0.12	–	9 000	•	•	•	•									
	<b>S1</b>	10 295	★	0.14	–	9 000	•	•	•	•									
	<b>R1</b>	9 016		0.16	–	9 000	•	•	•	•	•								
	<b>Q1</b>	7 975	★	0.18	–	9 000	•	•	•	•	•								
	<b>P1</b>	7 227		0.20	–	9 000	•	•	•	•	•								
	<b>N1</b>	6 380	★	0.23	–	9 000	•	•	•	•	•								
	<b>M1</b>	5 755		0.25	–	9 000	•	•	•	•	•								
	<b>L1</b>	5 220	★	0.28	–	9 000	•	•	•	•	•								
	<b>K1</b>	4 756		0.30	–	9 000	•	•	•	•	•								
	<b>J1</b>	4 350	★	0.33	–	9 000	•	•	•	•	•								
	<b>H1</b>	3 889		0.37	–	9 000	•	•	•	•	•								
	<b>G1</b>	3 571	★	0.41	–	9 000	•	•	•	•	•								
	<b>F1</b>	3 219		0.45	–	9 000	•	•	•	•	•								
	<b>E1</b>	2 768	★	0.52	–	9 000	•	•	•	•	•								
<b>D1</b>	2 468		0.59	–	9 000	•	•	•	•	•									
<b>C1</b>	2 266	★	0.64	–	9 000	•	•	•	•	•									
<b>B1</b>	2 043		0.71	–	9 000	•	•	•	•	•									
<b>A1</b>	1 757	★	0.83	–	9 000	•	•	•	•	•									
<b>FD.148B-Z48</b> 9 000	<b>K1</b>	1 634		0.89	–	9 000	•	•	•	•	•								
	<b>J1</b>	1 489	★	0.97	–	9 000	•	•	•	•	•								
	<b>H1</b>	1 364		1.10	–	9 000	•	•	•	•	•								
	<b>G1</b>	1 217	★	1.20	–	9 000	•	•	•	•	•								
	<b>F1</b>	1 086		1.30	–	9 000			•	•	•	•							
	<b>E1</b>	922		1.60	–	9 000			•	•	•	•							
	<b>D1</b>	768	★	1.90	–	9 000	•	•	•	•	•	•							
	<b>C1</b>	674		2.20	–	9 000			•	•	•	•							
	<b>B1</b>	573		2.50	–	9 000			•	•	•	•							
<b>A1</b>	477	★	3.00	–	9 000			•	•	•	•								

★ Preferred transmission ratio

1) Only possible with integrated motor.

2) Twisting angle applies to reduced-backlash gearboxes.

In the case of gearboxes of size 28, only possible with integrated motor or input unit KQ and KQS.

Calculation of maximum output torque  $T_{2max}$  for gearboxes with input unit.

$$T_{2max} = T_1 \times i_{tot}; \text{ if } T_{2max} \leq T_{2N}$$

If  $T_{2max} \geq T_{2N}$  the max. output torque  $T_{2N}$  of the unit is the decisive factor.

# MOTOX Geared Motors

## Parallel shaft geared motors

### Transmission ratios and maximum torques

#### Selection and ordering data (continued)

Gearbox size	Ratio code	Transmission ratio	Output speed	Twisting angle <sup>2)</sup>	Nominal torque	Permissible input torque $T_1$ [Nm]													
						2.5x the value is permissible for a brief period (e.g. motor starting torque)													
Max. gearbox torque	Order No. 15th and 16th position	$i_{tot}$	$n_2$ (50 Hz) rpm	$\varphi$ arcmin	$T_{2N}$ ( $f_B=1$ ) Nm	Motor size													
						3	3	5	10	20	26	61	98	198	198	291	356	580	1290
Nm						63	71	80	90	100	112	132	160	180	200	225	250	280	315
<b>FD.148B</b> 9 000	<b>U1</b>	449.21 ★	3.2	6	9 000					•	•								
	<b>T1</b>	411.98	3.5	6	9 000					•	•								
	<b>S1</b>	368.06 ★	3.9	6	9 000					•	•	•							
	<b>R1</b>	337.07	4.3	6	9 000					•	•	•							
	<b>Q1</b>	310.51 ★	4.7	6	9 000					•	•	•							
	<b>P1</b>	287.49	5.0	6	9 000					•	•	•							
	<b>N1</b>	267.35 ★	5.4	6	9 000					•	•	•	•						
	<b>M1</b>	249.58	5.8	6	9 000					•	•	•	•						
	<b>L1</b>	223.31 ★	6.5	6	9 000					•	•	•	•	•	•				
	<b>K1</b>	206.93	7.0	6	9 000					•	•	•	•	•	•				
	<b>J1</b>	189.69 ★	7.6	6	9 000					•	•	•	•	•	•	•			
	<b>H1</b>	173.89	8.3	6	9 000					•	•	•	•	•	•	•	•		
	<b>G1</b>	148.18	9.8	6	9 000					•	•	•	•	•	•	•	•		
	<b>F1</b>	130.76 ★	11.1	6	9 000					•	•	•	•	•	•	•	•		
	<b>E1</b>	111.29	13.0	6	9 000					•	•	•	•	•	•	•	•		
	<b>D1</b>	96.43 ★	15.0	6	9 000					•	•	•	•	•	•	•	•		
	<b>C1</b>	81.15 ★	17.9	6	9 000					•	•	•	•	•	•	•	•		
<b>B1</b>	73.22	19.8	6	9 000							•	•	•	•	•	•			
<b>A1</b>	62.93 ★	23.0	6	9 000							•	•	•	•	•	•			
<b>FZ.148B</b> 5 124 ... 9 000	<b>V1</b>	68.23	21	5	5 600						•								
	<b>U1</b>	64.37 ★	23	5	6 500						•	•							
	<b>T1</b>	60.21	24	5	7 000							•	•						
	<b>S1</b>	53.53 ★	27	6	8 000							•	•	•	•				
	<b>R1</b>	50.54	29	6	8 000							•	•	•	•				
	<b>Q1</b>	45.37 ★	32	6	8 700							•	•	•	•	•			
	<b>P1</b>	41.64	35	6	9 000							•	•	•	•	•			
	<b>N1</b>	35.93	40	6	9 000							•	•	•	•	•	•	• <sup>1)</sup>	
	<b>M1</b>	31.43	46	6	9 000							•	•	•	•	•	•	• <sup>1)</sup>	
	<b>L1</b>	27.34	53	6	9 000							•	•	•	•	•	•	• <sup>1)</sup>	
	<b>K1</b>	23.98 ★	60	6	9 000							•	•	•	•	•	•	• <sup>1)</sup>	
	<b>J1</b>	20.28 ★	71	6	9 000							•	•	•	•	•	•	• <sup>1)</sup>	
	<b>H1</b>	18.40	79	6	9 000							•	•	•	•	•	•	• <sup>1)</sup>	
	<b>G1</b>	16.04 ★	90	6	9 000							•	•	•	•	•	•	• <sup>1)</sup>	
	<b>F1</b>	13.62	106	6	8 519								•	•	•	•	•	• <sup>1)</sup>	
	<b>E1</b>	10.43 ★	139	6	7 822									•	•	•	•	• <sup>1)</sup>	
	<b>D1</b>	9.51	152	8	6 581									•	•	•	•	• <sup>1)</sup>	
<b>C1</b>	8.29 ★	175	9	6 204									•	•	•	•	• <sup>1)</sup>		
<b>B1</b>	7.04	206	9	5 820										•	•	•	• <sup>1)</sup>		
<b>A1</b>	5.39 ★	269	9	5 124											•	•	•	• <sup>1)</sup>	

★ Preferred transmission ratio

<sup>1)</sup> Only possible with integrated motor.

<sup>2)</sup> Twisting angle applies to reduced-backlash gearboxes.

In the case of gearboxes of size 28, only possible with integrated motor or input unit KQ and KQS.

Calculation of maximum output torque  $T_{2max}$  for gearboxes with input unit.

$$T_{2max} = T_1 \times i_{tot}, \text{ if } T_{2max} \leq T_{2N}$$

If  $T_{2max} \geq T_{2N}$  the max. output torque  $T_{2N}$  of the unit is the decisive factor.

# MOTOX Geared Motors

## Parallel shaft geared motors

### Transmission ratios and maximum torques

#### Selection and ordering data (continued)

Gearbox size	Ratio code	Transmission ratio	Output speed	Twisting angle <sup>2)</sup>	Nominal torque	Permissible input torque $T_1$ [Nm]													
						2.5x the value is permissible for a brief period (e.g. motor starting torque)													
Max. gearbox torque	Order No. 15th and 16th position	$i_{tot}$	$n_2$ (50 Hz) rpm	$\varphi$ arcmin	$T_{2N}$ ( $f_B=1$ ) Nm	3	3	5	10	20	26	61	98	198	198	291	356	580	1290
						Motor size													
Nm						63	71	80	90	100	112	132	160	180	200	225	250	280	315
<b>FD.168B-D48</b> 14 000	<b>N1</b>	65 160	★	0.02	–	14 000	•	•	•										
	<b>M1</b>	57 946		0.03	–	14 000	•	•	•										
	<b>L1</b>	50 267	★	0.03	–	14 000	•	•	•	•									
	<b>K1</b>	46 966		0.03	–	14 000	•	•	•	•									
	<b>J1</b>	41 307	★	0.04	–	14 000	•	•	•	•									
	<b>H1</b>	36 177		0.04	–	14 000	•	•	•	•	•								
	<b>G1</b>	31 998	★	0.05	–	14 000	•	•	•	•	•								
	<b>F1</b>	29 000		0.05	–	14 000	•	•	•	•	•								
	<b>E1</b>	25 599	★	0.06	–	14 000	•	•	•	•	•								
	<b>D1</b>	23 093		0.06	–	14 000	•	•	•	•	•								
	<b>C1</b>	20 944	★	0.07	–	14 000	•	•	•	•	•								
	<b>B1</b>	19 083		0.08	–	14 000	•	•	•	•	•								
<b>A1</b>	17 454	★	0.08	–	14 000	•	•	•	•	•									
<b>FD.168B-Z48</b> 14 000	<b>A2</b>	16 007		0.09	–	14 000	•	•	•										
	<b>X1</b>	14 165	★	0.10	–	14 000	•	•	•	•									
	<b>W1</b>	12 878		0.11	–	14 000	•	•	•	•									
	<b>V1</b>	11 568	★	0.13	–	14 000	•	•	•	•									
	<b>U1</b>	9 916		0.15	–	14 000	•	•	•	•	•								
	<b>T1</b>	8 971	★	0.16	–	14 000	•	•	•	•	•								
	<b>S1</b>	8 281		0.18	–	14 000	•	•	•	•	•								
	<b>R1</b>	7 201	★	0.20	–	14 000	•	•	•	•	•								
	<b>Q1</b>	6 538		0.22	–	14 000	•	•	•	•	•								
	<b>P1</b>	5 970	★	0.24	–	14 000	•	•	•	•	•								
	<b>N1</b>	5 477		0.26	–	14 000	•	•	•	•	•								
	<b>M1</b>	5 046	★	0.29	–	14 000	•	•	•	•	•								
	<b>L1</b>	4 583		0.32	–	14 000	•	•	•	•	•								
	<b>K1</b>	4 175	★	0.35	–	14 000	•	•	•	•	•								
	<b>J1</b>	3 825		0.38	–	14 000	•	•	•	•	•								
	<b>H1</b>	3 413	★	0.42	–	14 000	•	•	•	•	•								
	<b>G1</b>	3 046		0.48	–	14 000			•	•	•	•							
	<b>F1</b>	2 587		0.56	–	14 000			•	•	•	•							
	<b>E1</b>	2 153	★	0.67	–	14 000			•	•	•	•							
	<b>D1</b>	2 119	★	0.68	–	14 000	•	•	•	•	•								
<b>C1</b>	1 891		0.77	–	14 000			•	•	•	•								
<b>B1</b>	1 606		0.90	–	14 000			•	•	•	•								
<b>A1</b>	1 337	★	1.10	–	14 000			•	•	•	•								
<b>FD.168B-Z68</b> 14 000	<b>H1</b>	1 298		1.1	–	14 000			•	•	•	•							
	<b>G1</b>	1 108	★	1.3	–	14 000			•	•	•	•							
	<b>F1</b>	923		1.6	–	14 000				•	•	•							
	<b>E1</b>	765	★	1.9	–	14 000				•	•	•							
	<b>D1</b>	675		2.1	–	14 000			•	•	•	•							
	<b>C1</b>	576	★	2.5	–	14 000				•	•	•	•						
	<b>B1</b>	480		3.0	–	14 000					•	•	•						
<b>A1</b>	398	★	3.6	–	14 000					•	•	•							

★ Preferred transmission ratio

1) Only possible with integrated motor.

2) Twisting angle applies to reduced-backlash gearboxes.

In the case of gearboxes of size 28, only possible with integrated motor or input unit KQ and KQS.

Calculation of maximum output torque  $T_{2max}$  for gearboxes with input unit.

$$T_{2max} = T_1 \times i_{tot}, \text{ if } T_{2max} \leq T_{2N}$$

If  $T_{2max} \geq T_{2N}$  the max. output torque  $T_{2N}$  of the unit is the decisive factor.



# MOTOX Geared Motors

## Parallel shaft geared motors

### Transmission ratios and maximum torques

#### Selection and ordering data (continued)

Gearbox size	Ratio code	Transmission ratio	Output speed	Twisting angle <sup>2)</sup>	Nominal torque	Permissible input torque $T_1$ [Nm]													
						2.5x the value is permissible for a brief period (e.g. motor starting torque)													
Max. gearbox torque	Order No. 15th and 16th position	$i_{tot}$	$n_2$ (50 Hz) rpm	$\varphi$ arcmin	$T_{2N}$ ( $f_B=1$ ) Nm	Motor size													
						3	3	5	10	20	26	61	98	198	198	291	356	580	1290
Nm						63	71	80	90	100	112	132	160	180	200	225	250	280	315
<b>FD.168B</b> 14 000	V1	369.26 ★	3.9	6	14 000														
	U1	338.49	4.3	6	14 000														
	T1	312.12 ★	4.6	6	14 000														
	S1	289.26	5.0	6	14 000														
	R1	275.03 ★	5.3	6	14 000														
	Q1	257.04	5.6	6	14 000														
	P1	226.74 ★	6.4	6	14 000														
	N1	213.87	6.8	6	14 000														
	M1	191.63 ★	7.6	6	14 000														
	L1	176.94	8.2	6	14 000														
	K1	151.18	9.6	6	14 000														
	J1	136.63 ★	10.6	6	14 000														
	H1	131.64	11.0	6	14 000														
	G1	113.86	12.7	6	14 000														
	F1	99.31 ★	14.6	6	14 000														
	E1	84.99 ★	17.1	6	14 000														
	D1	76.12	19.0	6	14 000														
C1	64.47 ★	22.0	6	14 000															
B1	55.68	26.0	6	14 000															
A1	41.85 ★	35.0	6	14 000															
<b>FZ.168B</b> 8 683 ... 14 000	R1	53.48	27	5	9 000														
	Q1	48.29	30	6	10 500														
	P1	45.25	32	6	11 500														
	N1	38.87 ★	37	6	13 000														
	M1	33.58	43	6	13 000														
	L1	29.64	49	6	14 000														
	K1	26.68 ★	54	6	14 000														
	J1	22.14 ★	65	6	14 000														
	H1	20.19	72	6	14 000														
	G1	17.71 ★	82	6	14 000														
	F1	15.22	95	6	14 000														
	E1	11.86 ★	122	6	13 076														
	D1	9.42 ★	154	6	12 147														
	C1	8.54	170	7	11 257														
B1	6.65 ★	218	8	10 011															
A1	5.28 ★	275	8	8 682															

★ Preferred transmission ratio

<sup>1)</sup> Only possible with integrated motor.

<sup>2)</sup> Twisting angle applies to reduced-backlash gearboxes.

In the case of gearboxes of size 28, only possible with integrated motor or input unit KQ and KQS.

Calculation of maximum output torque  $T_{2max}$  for gearboxes with input unit.

$$T_{2max} = T_1 \times i_{tot}, \text{ if } T_{2max} \leq T_{2N}$$

If  $T_{2max} \geq T_{2N}$  the max. output torque  $T_{2N}$  of the unit is the decisive factor.

# MOTOX Geared Motors

## Parallel shaft geared motors

### Transmission ratios and maximum torques

#### Selection and ordering data (continued)

Gearbox size	Ratio code	Transmission ratio	Output speed	Twisting angle <sup>2)</sup>	Nominal torque	Permissible input torque $T_1$ [Nm]													
						2.5x the value is permissible for a brief period (e.g. motor starting torque)													
Max. gearbox torque	Order No. 15th and 16th position	$i_{tot}$	$n_2$ (50 Hz) rpm	$\varphi$ arcmin	$T_{2N}$ ( $f_B=1$ ) Nm	Motor size													
						3	3	5	10	20	26	61	98	198	198	291	356	580	1290
Nm						63	71	80	90	100	112	132	160	180	200	225	250	280	315
<b>FD.188B-D48</b> <b>20 000</b>	<b>N1</b>	71 388	★	0.02	–	20 000	•	•	•										
	<b>M1</b>	63 484		0.02	–	20 000	•	•	•										
	<b>L1</b>	55 070	★	0.03	–	20 000	•	•	•	•									
	<b>K1</b>	51 455		0.03	–	20 000	•	•	•	•									
	<b>J1</b>	45 255	★	0.03	–	20 000	•	•	•	•									
	<b>H1</b>	39 634		0.04	–	20 000	•	•	•	•	•								
	<b>G1</b>	35 056	★	0.04	–	20 000	•	•	•	•	•								
	<b>F1</b>	31 771		0.05	–	20 000	•	•	•	•	•								
	<b>E1</b>	28 045	★	0.05	–	20 000	•	•	•	•	•								
	<b>D1</b>	25 299		0.06	–	20 000	•	•	•	•	•								
	<b>C1</b>	22 946	★	0.06	–	20 000	•	•	•	•	•								
	<b>B1</b>	20 906		0.07	–	20 000	•	•	•	•	•								
<b>A1</b>	19 122	★	0.08	–	20 000	•	•	•	•	•									
<b>FD.188B-Z48</b> <b>20 000</b>	<b>A2</b>	17 537		0.08	–	20 000	•	•	•										
	<b>X1</b>	15 519	★	0.09	–	20 000	•	•	•	•									
	<b>W1</b>	14 108		0.10	–	20 000	•	•	•	•									
	<b>V1</b>	12 674	★	0.11	–	20 000	•	•	•	•									
	<b>U1</b>	10 863		0.13	–	20 000	•	•	•	•	•								
	<b>T1</b>	9 829	★	0.15	–	20 000	•	•	•	•	•								
	<b>S1</b>	9 073		0.16	–	20 000	•	•	•	•	•								
	<b>R1</b>	7 889	★	0.18	–	20 000	•	•	•	•	•								
	<b>Q1</b>	7 163		0.20	–	20 000	•	•	•	•	•								
	<b>P1</b>	6 540	★	0.22	–	20 000	•	•	•	•	•								
	<b>N1</b>	6 001		0.24	–	20 000	•	•	•	•	•								
	<b>M1</b>	5 529	★	0.26	–	20 000	•	•	•	•	•								
	<b>L1</b>	5 021		0.29	–	20 000	•	•	•	•	•								
	<b>K1</b>	4 574	★	0.32	–	20 000	•	•	•	•	•								
	<b>J1</b>	4 190		0.35	–	20 000	•	•	•	•	•								
	<b>H1</b>	3 739	★	0.39	–	20 000	•	•	•	•	•								
	<b>G1</b>	3 337		0.43	–	20 000			•	•	•	•							
	<b>F1</b>	2 834		0.51	–	20 000			•	•	•	•							
	<b>E1</b>	2 359	★	0.61	–	20 000			•	•	•	•							
	<b>D1</b>	2 322	★	0.62	–	20 000	•	•	•	•	•								
<b>C1</b>	2 072		0.70	–	20 000			•	•	•	•								
<b>B1</b>	1 760		0.82	–	20 000			•	•	•	•								
<b>A1</b>	1 465	★	0.99	–	20 000			•	•	•	•								
<b>FD.188B-Z68</b> <b>20 000</b>	<b>H1</b>	1 449		1.0	–	20 000			•	•	•	•	•						
	<b>G1</b>	1 236	★	1.2	–	20 000			•	•	•	•	•						
	<b>F1</b>	1 030		1.4	–	20 000				•	•	•	•						
	<b>E1</b>	854	★	1.7	–	20 000				•	•	•	•						
	<b>D1</b>	754		1.9	–	20 000				•	•	•	•						
	<b>C1</b>	643	★	2.3	–	20 000				•	•	•	•						
	<b>B1</b>	536		2.7	–	20 000					•	•	•						
	<b>A1</b>	444	★	3.3	–	20 000					•	•	•						

★ Preferred transmission ratio

1) Only possible with integrated motor.

2) Twisting angle applies to reduced-backlash gearboxes.

In the case of gearboxes of size 28, only possible with integrated motor or input unit KQ and KQS.

Calculation of maximum output torque  $T_{2max}$  for gearboxes with input unit.

$$T_{2max} = T_1 \times i_{tot}, \text{ if } T_{2max} \leq T_{2N}$$

If  $T_{2max} \geq T_{2N}$  the max. output torque  $T_{2N}$  of the unit is the decisive factor.

# MOTOX Geared Motors

## Parallel shaft geared motors

### Transmission ratios and maximum torques

#### Selection and ordering data (continued)

Gearbox size	Ratio code	Transmission ratio	Output speed	Twisting angle <sup>2)</sup>	Nominal torque	Permissible input torque $T_1$ [Nm]													
						2.5x the value is permissible for a brief period (e.g. motor starting torque)													
Max. gearbox torque	Order No. 15th and 16th position	$i_{tot}$	$n_2$ (50 Hz) rpm	$\varphi$ arcmin	$T_{2N}$ ( $f_B=1$ ) Nm	Motor size													
						3	3	5	10	20	26	61	98	198	198	291	356	580	1290
Nm						63	71	80	90	100	112	132	160	180	200	225	250	280	315
<b>FD.188B</b> 20 000	<b>U1</b>	403.86 ★	3.6	6	20 000														
	<b>T1</b>	370.52	3.9	6	20 000														
	<b>S1</b>	341.94 ★	4.2	6	20 000														
	<b>R1</b>	317.18	4.6	6	20 000														
	<b>Q1</b>	299.20 ★	4.8	6	20 000														
	<b>P1</b>	279.86	5.2	6	20 000														
	<b>N1</b>	248.85 ★	5.8	6	20 000														
	<b>M1</b>	234.93	6.2	6	20 000														
	<b>L1</b>	210.89 ★	6.9	6	20 000														
	<b>K1</b>	193.56	7.5	6	20 000														
	<b>J1</b>	167.03	8.7	6	20 000														
	<b>H1</b>	146.11	9.9	6	20 000														
	<b>G1</b>	127.07	11.4	6	20 000														
	<b>F1</b>	111.49 ★	13.0	6	20 000														
	<b>E1</b>	94.28 ★	15.4	6	20 000														
	<b>D1</b>	85.54	17.0	6	20 000														
<b>C1</b>	74.58 ★	19.4	6	20 000															
<b>B1</b>	63.32	23.0	6	20 000															
<b>A1</b>	48.46 ★	30.0	6	20 000															
<b>FZ.188B</b> 14 190 ... 20 000	<b>P1</b>	52.63	28	5	16 580														
	<b>N1</b>	48.47	30	5	16 870														
	<b>M1</b>	42.07 ★	34	5	17 500														
	<b>L1</b>	37.08	39	5	17 510														
	<b>K1</b>	32.54	45	5	18 550														
	<b>J1</b>	29.33 ★	49	5	20 000														
	<b>H1</b>	24.90 ★	58	5	20 000														
	<b>G1</b>	23.13	63	5	20 000														
	<b>F1</b>	19.87 ★	73	5	19 790														
	<b>E1</b>	16.95	86	5	18 870														
	<b>D1</b>	13.35 ★	109	6	17 560														
	<b>C1</b>	10.74 ★	135	6	16 070														
	<b>B1</b>	9.34	155	6	14 990														
<b>A1</b>	8.34	174	6	14 190															

★ Preferred transmission ratio

<sup>1)</sup> Only possible with integrated motor.

<sup>2)</sup> Twisting angle applies to reduced-backlash gearboxes.

In the case of gearboxes of size 28, only possible with integrated motor or input unit KQ and KQS.

Calculation of maximum output torque  $T_{2max}$  for gearboxes with input unit.

$$T_{2max} = T_1 \times i_{tot}, \text{ if } T_{2max} \leq T_{2N}$$

If  $T_{2max} \geq T_{2N}$  the max. output torque  $T_{2N}$  of the unit is the decisive factor.

# MOTOX Geared Motors

## Parallel shaft geared motors

### Transmission ratios and maximum torques

#### Selection and ordering data (continued)

Gearbox size	Ratio code	Transmission ratio	Output speed	Twisting angle <sup>2)</sup>	Nominal torque	Permissible input torque $T_1$ [Nm]													
						2.5x the value is permissible for a brief period (e.g. motor starting torque)													
Max. gearbox torque	Order No. 15th and 16th position	$i_{tot}$	$n_2$ (50 Hz) rpm	$\varphi$ arcmin	$T_{2N}$ ( $f_B=1$ ) Nm	3	3	5	10	20	26	61	98	198	198	291	356	580	1290
						Motor size													
Nm						63	71	80	90	100	112	132	160	180	200	225	250	280	315
<b>FD.208-D68</b> 34 000	V1	61 412	0.02	–	34 000	*	*												
	U1	54 347	0.03	–	34 000	*	*	*											
	T1	49 406	0.03	–	34 000	*	*	*											
	S1	44 383	0.03	–	34 000	*	*	*											
	R1	38 043	0.04	–	34 000	*	*	*	*										
	Q1	34 420	0.04	–	34 000	*	*	*	*										
	P1	31 772	0.04	–	34 000	*	*	*	*										
	N1	27 626	0.05	–	34 000	*	*	*	*										
	M1	25 083	0.06	–	34 000	*	*	*	*										
	L1	22 903	0.06	–	34 000	*	*	*	*										
	K1	21 014	0.07	–	34 000	*	*	*	*										
	J1	19 361	0.07	–	34 000	*	*	*	*										
	H1	17 583	0.08	–	34 000	*	*	*	*										
	G1	16 018	0.09	–	34 000	*	*	*	*										
	F1	14 674	0.10	–	34 000	*	*	*	*										
E1	13 093	0.11	–	34 000	*	*	*	*											
D1	11 685	0.12	–	34 000	*	*	*	*											
C1	9 924	0.14	–	34 000	*	*	*	*											
<b>FD.208-Z68</b> 34 000	X1	8 251	0.17	–	34 000		*	*	*	*									
	W1	7 536	0.19	–	34 000		*	*	*	*									
	V1	6 688	0.21	–	34 000		*	*	*	*	*								
	U1	6 173	0.23	–	34 000		*	*	*	*	*								
	T1	5 584	0.25	–	34 000		*	*	*	*	*								
	S1	5 142	0.27	–	34 000		*	*	*	*	*								
	R1	4 755	0.29	–	34 000		*	*	*	*	*	*							
	Q1	4 414	0.32	–	34 000		*	*	*	*	*	*							
	P1	3 895	0.36	–	34 000		*	*	*	*	*	*							
	N1	3 596	0.39	–	34 000		*	*	*	*	*	*							
	M1	3 222	0.43	–	34 000		*	*	*	*	*	*							
	L1	2 970	0.47	–	34 000		*	*	*	*	*	*							
	K1	2 492	0.56	–	34 000		*	*	*	*	*	*							
	J1	2 126	0.66	–	34 000		*	*	*	*	*	*							
	H1	1 772	0.79	–	34 000		*	*	*	*	*	*							
	G1	1 469	0.95	–	34 000		*	*	*	*	*	*							
	F1	1 296	1.08	–	34 000		*	*	*	*	*	*							
	E1	1 106	1.27	–	34 000		*	*	*	*	*	*							
D1	921	1.52	–	34 000		*	*	*	*	*	*								
C1	764	1.83	–	34 000		*	*	*	*	*	*								
<b>FD.208-Z88</b> 34 000	J1	694	2.02	–	34 000		*	*	*	*	*	*							
	H1	636	2.20	–	34 000		*	*	*	*	*	*							
	G1	543	2.58	–	34 000		*	*	*	*	*	*							
	F1	445	3.15	–	34 000		*	*	*	*	*	*							
	E1	406	3.45	–	34 000		*	*	*	*	*	*							
	D1	347	4.04	–	34 000		*	*	*	*	*	*							
C1	284	4.92	–	34 000		*	*	*	*	*	*								

★ Preferred transmission ratio

1) Only possible with integrated motor.

2) Twisting angle applies to reduced-backlash gearboxes.

In the case of gearboxes of size 28, only possible with integrated motor or input unit KQ and KQS.

Calculation of maximum output torque  $T_{2max}$  for gearboxes with input unit.

$$T_{2max} = T_1 \times i_{tot} \text{ if } T_{2max} \leq T_{2N}$$

If  $T_{2max} \geq T_{2N}$  the max. output torque  $T_{2N}$  of the unit is the decisive factor.

# MOTOX Geared Motors

## Parallel shaft geared motors

### Transmission ratios and maximum torques

#### Selection and ordering data (continued)

Gearbox size	Ratio code	Transmission ratio	Output speed	Twisting angle <sup>2)</sup>	Nominal torque	Permissible input torque $T_1$ [Nm]													
						2.5x the value is permissible for a brief period (e.g. motor starting torque)													
Max. gearbox torque	Order No. 15th and 16th position	$i_{tot}$	$n_2$ (50 Hz) rpm	$\varphi$ arcmin	$T_{2N}$ ( $f_B=1$ ) Nm	3	3	5	10	20	26	61	98	198	198	291	356	580	1290
						Motor size													
Nm						63	71	80	90	100	112	132	160	180	200	225	250	280	315
<b>FD.208</b> 29 901 ... 34 000	<b>T1</b>	242.01	6.1	5	34 000								*	*	*	*			
	<b>S1</b>	218.54	6.8	5	34 000								*	*	*	*	*		
	<b>R1</b>	204.81	7.2	5	34 000								*	*	*	*	*	*	
	<b>Q1</b>	175.92	8.4	5	34 000								*	*	*	*	*	*	*
	<b>P1</b>	151.99	9.7	5	34 000								*	*	*	*	*	*	*
	<b>N1</b>	134.16	11	5	34 000								*	*	*	*	*	*	*
	<b>M1</b>	120.77	12	5	34 000								*	*	*	*	*	*	*
	<b>L1</b>	100.21	15	5	34 000								*	*	*	*	*	*	*
	<b>K1</b>	91.38	16	5	34 000								*	*	*	*	*	*	*
	<b>J1</b>	80.17	18	5	34 000								*	*	*	*	*	*	*
	<b>H1</b>	68.90	21	5	34 000								*	*	*	*	*	*	*
	<b>G1</b>	53.66	28	5	34 000								*	*	*	*	*	*	*
	<b>F1</b>	42.63	35	5	34 000								*	*	*	*	*	*	*
	<b>E1</b>	38.84	38	5	34 000								*	*	*	*	*	*	*
<b>D1</b>	30.25	49	6	32 038								*	*	*	*	*	*	*	
<b>C1</b>	24.03	62	6	29 901								*	*	*	*	*	*	*	
<b>FZ.208</b> 25 469 ... 32 681	<b>H1</b>	20.06	74	5	32 681							*	*	*	*	*	*	*	
	<b>G1</b>	16.02	92	5	30 487							*	*	*	*	*	*	*	
	<b>F1</b>	13.09	113	5	28 634							*	*	*	*	*	*	*	
	<b>E1</b>	11.51	129	5	27 499							*	*	*	*	*	*	*	
	<b>D1</b>	10.57	140	5	26 785							*	*	*	*	*	*	*	
<b>C1</b>	9.01	164	5	25 469							*	*	*	*	*	*	*		

★ Preferred transmission ratio

<sup>1)</sup> Only possible with integrated motor.

<sup>2)</sup> Twisting angle applies to reduced-backlash gearboxes.

In the case of gearboxes of size 28, only possible with integrated motor or input unit KQ and KQS.

Calculation of maximum output torque  $T_{2max}$  for gearboxes with input unit.

$$T_{2max} = T_1 \times i_{tot}, \text{ if } T_{2max} \leq T_{2N}$$

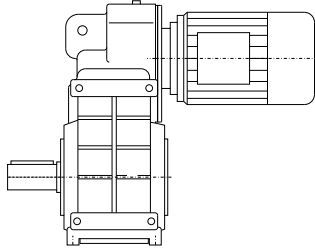
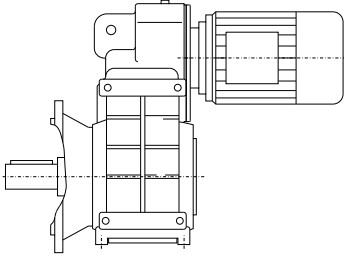
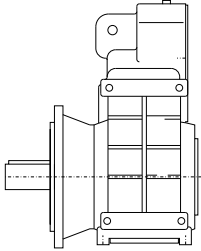
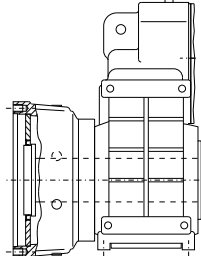
If  $T_{2max} \geq T_{2N}$  the max. output torque  $T_{2N}$  of the unit is the decisive factor.

# MOTOX Geared Motors

## Parallel shaft geared motors

### Mounting types

#### Selection and ordering data

Mounting type	Order No. 14th position	Code in type designation 3rd position for solid shaft, 4th position for hollow shaft	Representation
Foot-mounted design	A	-	
Housing flange (C-type)	H	Z	
Design with torque arm	D	D	
Flange-mounted design (A-type)	F	F	
Mixer flange	M	M	
Extruder flange	E	E	

3

### Selection and ordering data (continued)

#### Parallel shaft gearbox with torque arm

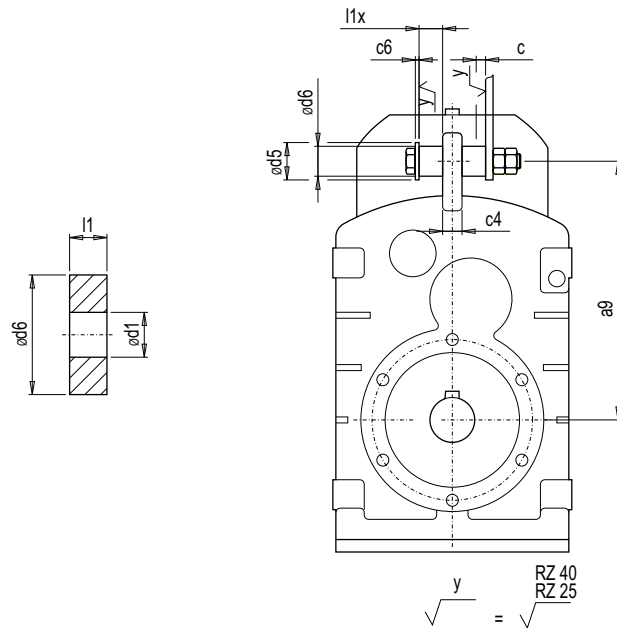
The rubber buffers (supplied loose) are used to flexibly support the gearbox on the housing plate provided. The rubber buffers are suitable for all mounting positions and can withstand temperatures of between  $-40\text{ °C}$  and  $+80\text{ °C}$ .

The rubber buffer must be stretched to the dimension  $l1$  during installation.

Material: Natural rubber, hardness  $70 \pm 5$ , Shore A.

Order No.: **D** in **14th position**

The shafts, mounting positions, and dimensions correspond to the design featuring a housing flange.



Gearbox type	a9	l1	l1x	d6	d1	d5	c6 <sub>min</sub>	c4	c <sup>*)</sup>
F.28	140	15	14.0	30	10.5 + 0.5	40	2.0	10	1.8
F.38B	140	15	13.1	30	10.5 + 0.5	40	2.5	12	3.8
F.48B	185	20	18.2	40	12.5 + 0.5	50	3.0	12	3.7
F.68B	218	20	17.0	40	12.5 + 0.5	50	3.0	16	5.6
F.88B	278	30	27.2	60	21.0 + 0.5	75	4.0	20	5.0
F.108B	346	30	26.0	60	21.0 + 0.5	75	4.0	26	7.3
F.128B	395	40	35.8	80	25.0 + 0.5	100	6.0	30	8.0
F.148B	485	40	34.8	80	25.0 + 0.5	100	6.0	36	9.4
F.168B	550	50	46.2	120	31.0 + 0.5	140	8.0	50	6.2
F.188B	620	50	45.1	120	31.0 + 0.5	140	8.0	50	8.3

\*) Spring compression at max. torque

# MOTOX Geared Motors

## Parallel shaft geared motors

### Mounting types

#### Selection and ordering data (continued)

##### Parallel shaft gearbox with mixer flange, sizes 88 to 168

###### Heavy-duty design

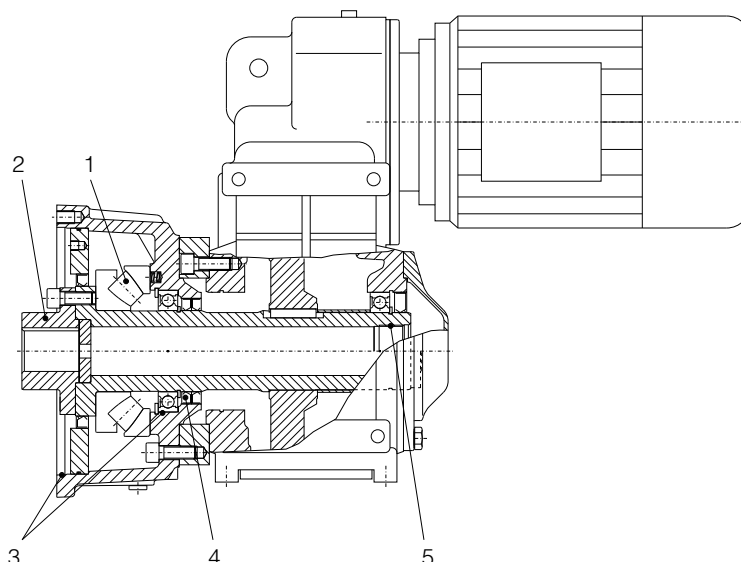
The mixer flange is fitted with a heavy-duty output bearing with a sizable bearing span for absorbing large radial and axial forces.

The optimized design ensures that no axial forces are transferred to the gearbox housing.

Bearing life can be calculated on request or using the MOTOX Configurator calculation program.

##### Parallel shaft gearbox with extruder flange, sizes 68 to 168

Gearboxes with an extruder flange are ideal for use in the extrusion industry, particularly in the low to medium performance range.



#### 1. Large axial spherical roller bearing

294 series spherical roller bearing for heavy axial loads.

#### 2. Simple, low-cost design

Flange hub supplied by customer, no grinding processes. Standard shaft-hub connection with feather key in acc. with DIN 6885/1.

#### 3. Good radial eccentricity

Radial bearing hole and center hole created in one clamping operation and direction.

#### Area of application

Parallel shaft gearbox		F.AE 68B	F.AE 88B	F.AE 108B	F.AE 128B	F.AE 148B	F.AE 168B
Max. power	[kW]	9.2	15	30	45	55	90
Transmission ratio min./max.	[2-stage]	3.97 / 61.17	4.77 / 64.58	5.60 / 64.21	3.8 / 56.42	5.39 / 68.23	5.28 / 53.48
Max. torque	[Nm]	1 000	1 900	3 400	6 100	9 000	14 000
Max. axial forces	[kN]	65	105	180	260	400	580
Spherical roller bearing	[.]	29414E	29417E	29420E	29424E	29426E	29432E

#### 4. Optimum lubrication

Extruder oil chamber separate from gearbox oil chamber.

#### 5. Standard connection

Metric thread for supporting the extruder worm (worm pulled out from rear).



## Selection and ordering data

Shaft design	Order No. 8th position	Order No. suffix	Shaft dimensions					
<b>Parallel shaft gearbox FZ, 2-stage and FD, 3-stage, foot-mounted design</b>								
<b>Size</b>			<b>F.28</b>	<b>F.38B</b>	<b>F.48B</b>	<b>F.68B</b>	<b>F.88B</b>	
Hollow shaft	5		H25 x 104 *)	H30 x 120 *)	H35 x 150 *)	H40 x 180 *)	H50 x 210 *)	
	6				H40 x 150	H45 x 180	H60 x 210	
Hollow shaft with shrink disk	9	H3A	H25 x 126 *)	H30 x 146 *)	H40 x 177	H50 x 209	H60 x 241	
	9	H3B		H30/31 x 146	H40/41 x 177	H50/51 x 209	H60/61 x 241	
	9	H3C			H35 x 177 *)	H40 x 209 *)	H50 x 241 *)	
	9	H3D				H40/42 x 209	H50/52 x 241	
Hollow shaft with splined shaft	9	H4A	N25x1.25x30x18x9H x 104	N35x1.25x30x26x9H x 120	N40x2x30x18x9H x 150	N50x2x30x24x9H x 180	N60x2x30x28x9H x 210	
<b>Size</b>			<b>F.108B</b>	<b>F.128B</b>	<b>F.148B</b>	<b>F.168B</b>	<b>F.188B</b>	<b>F.208</b>
Hollow shaft	5		H60 x 240 *)	H70 x 300 *)	H80 x 350	H100 x 410 *)	H120 x 500 *)	
	6		H70 x 240	H80 x 300	H90 x 350 *)	H110 x 410		
Hollow shaft with shrink disk	9	H3A	H70 x 280	H80 x 345	H95 x 404 *)	H105 x 483 *)	H125 x 580 *)	
	9	H3B	H70/71 x 280	H80/81 x 345	H95/96 x 404	H105/106 x 483		H145/146 x 728
	9	H3C	H65 x 280 *)	H75 x 345 *)				
	9	H3D	H65/66 x 280	H75/76 x 345				
Hollow shaft with splined shaft	9	H4A	N70x2x30x34x9H x 240	N80x3x30x25x9H x 300	N90x3x30x28x9H x 350	N110x3x30x35x9Hx410	N130x5x30x24x9H x 500	
<b>Parallel shaft gearbox FZ.Z, 2-stage and FD.Z, 3-stage with housing flange</b>								
<b>Size</b>			<b>F..Z28</b>	<b>F..Z38B</b>	<b>F..Z48B</b>	<b>F..Z68B</b>	<b>F..Z88B</b>	
Solid shaft with feather key	1		V25 x 50 *)	V25 x 50 *)	V30 x 60 *)	V40 x 80 *)	V50 x 100 *)	
	3			V35 x 70	V40 x 80	V50 x 100	V70 x 140	
	4					V35 x 70		
Hollow shaft	5		H25 x 104 *)	H30 x 120 *)	H35 x 150 *)	H40 x 180 *)	H50 x 210 *)	
	6				H40 x 150	H45 x 180	H60 x 210	
Hollow shaft with shrink disk	9	H3A	H25 x 126 *)	H30 x 146 *)	H40 x 177	H50 x 209	H60 x 241	
	9	H3B		H30/31 x 146	H40/41 x 177	H50/51 x 209	H60/61 x 241	
	9	H3C			H35 x 177 *)	H40 x 209 *)	H50 x 241 *)	
	9	H3D				H40/42 x 209	H50/52 x 241	
Hollow shaft with splined shaft	9	H4A	N25x1.25x30x18x9H x 104	N35x1.25x30x26x9H x 120	N40x2x30x18x9H x 150	N50x2x30x24x9H x 180	N60x2x30x28x9H x 210	
<b>Size</b>			<b>F..Z108B</b>	<b>F..Z128B</b>	<b>F..Z148B</b>	<b>F..Z168B</b>	<b>F..Z188B</b>	<b>F.208</b>
Solid shaft with feather key	1		V60 x 120 *)	V70 x 140 *)	V90 x 170 *)	V110 x 210 *)	V120 x 210 *)	V160 x 250 *)
	3		V80 x 170	V90 x 170	V100 x 210	V120 x 210	V140 x 250	
Hollow shaft	5		H60 x 240 *)	H70 x 300 *)	H80 x 350	H100 x 410	H120 x 500 *)	
	6		H70 x 240	H80 x 300	H90 x 350 *)	H110 x 410 *)		
Hollow shaft with shrink disk	9	H3A	H70 x 280	H80 x 345	H95 x 404 *)	H105 x 483 *)	H125 x 580 *)	
	9	H3B	H70/71 x 280	H80/81 x 345	H95/96 x 404	H105/106 x 483		H145/146 x 728
	9	H3C	H65 x 280 *)	H75 x 345 *)				
	9	H3D	H65/66 x 280	H75/76 x 345				
Hollow shaft with splined shaft	9	H4A	N70x2x30x34x9H x 240	N80x3x30x25x9H x 300	N90x3x30x28x9H x 350	N110x3x30x35x9H x 410	N130x5x30x24x9H x 500	

\*) Preferred series

# MOTOX Geared Motors

## Parallel shaft geared motors

### Shaft designs

#### Selection and ordering data (continued)

Shaft design	Order No. 8th position	Order No. suffix	Shaft dimensions				
<b>Parallel shaft gearbox FZ.F, 2-stage and FD.F, 3-stage, flange-mounted design (A-type)</b>							
Size			<b>F..F28</b>	<b>F..F38B</b>	<b>F..F48B</b>	<b>F..F68B</b>	<b>F..F88B</b>
Solid shaft with feather key	2		V25 x 50 (i2=l) *)	V25 x 50 (i2=l) *)	V30 x 60 (i2=l) *)	V40 x 80 (i2=l) *)	V50 x 100 (i2=l) *)
Hollow shaft	5		H25 x 104 *)	H30 x 120 *)	H35 x 150 *)	H40 x 180 *)	H50 x 210 *)
	6				H40 x 150	H45 x 180	H60 x 210
Hollow shaft with shrink disk	9	<b>H3A</b>	H25 x 126 *)	H30 x 146 *)	H40 x 177	H50 x 209	H60 x 241
	9	<b>H3B</b>		H30/31 x 146	H40/41 x 177	H50/51 x 209	H60/61 x 241
	9	<b>H3C</b>			H35 x 177 *)	H40 x 209 *)	H50 x 241 *)
	9	<b>H3D</b>				H40/42 x 209	H50/52 x 241
Hollow shaft with splined shaft	9	<b>H4A</b>	N25x1.25x30x18x9H x 104	N35x1.25x30x26x9H x 120	N40x2x30x18x9H x 150	N50x2x30x24x9H x 180	N60x2x30x28x9H x 210
Size			<b>F..F108B</b>	<b>F..F128B</b>	<b>F..F148B</b>	<b>F..F168B</b>	<b>F..F188B</b>
Solid shaft with feather key	2		V60 x 120 (i2=l) *)	V70 x 140 (i2=l) *)	V90 x 170 (i2=l) *)	V110 x 210 (i2=l) *)	V120 x 210 (i2=l) *)
Hollow shaft	5		H60 x 240 *)	H70 x 300 *)	H80 x 350	H100 x 410 *)	H120 x 500 *)
	6		H70 x 240	H80 x 300	H90 x 350 *)	H110 x 410	
Hollow shaft with shrink disk	9	<b>H3A</b>	H70 x 280	H80 x 345	H95 x 404 *)	H105 x 483 *)	H125 x 580 *)
	9	<b>H3B</b>	H70/71 x 280	H80/81 x 345	H95/96 x 404	H105/106 x 483	
	9	<b>H3C</b>	H65 x 280 *)	H75 x 345 *)			
	9	<b>H3D</b>	H65/66 x 280	H75/76 x 345			
Hollow shaft with splined shaft	9	<b>H4A</b>	N70x2x30x34x9H x 240	N80x3x30x25x9H x 300	N90x3x30x28x9H x 350	N110x3x30x35x9H x 410	N130x5x30x24x9H x 500

\*) Preferred series

#### Shaft designs for parallel shaft gearbox with mixer flange

Shaft design	Order No. 8th position	Order No. suffix	Shaft dimensions				
<b>Parallel shaft gearbox F..M, 2-stage and 3-stage</b>							
Size			<b>F..M88B</b>	<b>F..M108B</b>	<b>F..M128B</b>	<b>F..M148B</b>	<b>F..M168B</b>
Solid shaft with feather key	3		V70 x 140	V80 x 170	V90 x 170	V100 x 210	V120 x 210
Hollow shaft	9	<b>H2F</b>	H60 x 321	H70 x 366	H80 x 456	H90 x 524	H110 x 609

#### Shaft designs for parallel shaft gearbox with extruder flange

Shaft design	Order No. 8th position	Order No. suffix	Shaft dimensions					
<b>Parallel shaft gearbox F..E, 2-stage and 3-stage</b>								
Size			<b>F..AE68</b>	<b>F..AE88</b>	<b>F..AE108</b>	<b>F..AE128</b>	<b>F..AE148</b>	<b>F..AE168</b>
Hollow shaft	9	<b>H2A</b>	H20 x 48	H30 x 58	H40 x 71	H45 x 87	H60 x 95	H70 x 105
	9	<b>H2B</b>	H25 x 48	H35 x 58	H45 x 71	H50 x 87	H70 x 95	H80 x 105
	9	<b>H2C</b>	H30 x 48 *)	H40 x 58 *)	H50 x 71 *)	H60 x 87 *)	H75 x 95 *)	H90 x 105 *)

\*) Preferred series

# MOTOX Geared Motors

## Parallel shaft geared motors

Flange-mounted designs (A-type)

### Selection and ordering data

Order code	Flange diameter									
<b>Parallel shaft gearbox FZ.F, 2-stage</b>										
Size	FZ.F28	FZ.F38B	FZ.F48B	FZ.F68B	FZ.F88B	FZ.F108B	FZ.F128B	FZ.F148B	FZ.F168B	FZ.F188B
H02	120	160	200	250	300	350		450		660
H03	160						450		550	
<b>Parallel shaft gearbox FD.F, 3-stage</b>										
Size	FD.F28	FD.F38B	FD.F48B	FD.F68B	FD.F88B	FD.F108B	FD.F128B	FD.F148B	FD.F168B	FD.F188B
H02	120	160	200	250	300	350		450		660
H03	160						450		550	

# MOTOX Geared Motors

## Parallel shaft geared motors

### Mounting types and mounting positions

#### Selection and ordering data

The mounting type / mounting position must be specified when you place your order to ensure that the gearbox is supplied with the correct quantity of oil.

Please contact customer service to discuss the oil quantity if you wish to use a mounting position which is not shown here.

#### Position of the terminal box



The terminal box of the motor can be mounted in four different positions. See Chapter 8 for an accurate representation of the terminal box position and the corresponding order codes.

#### 2-stage and 3-stage parallel shaft gearbox, foot-mounted design, flange-mounted design, and with housing flange

##### Oil control valves:

• Size 28: These types are lubricated for life. No ventilation, oil level, or drain plugs are present.

• Size 38B: V Oil inlet

• From size 48B up:  Oil level  Ventilation  Oil drain  Oil dipstick - - - alternative

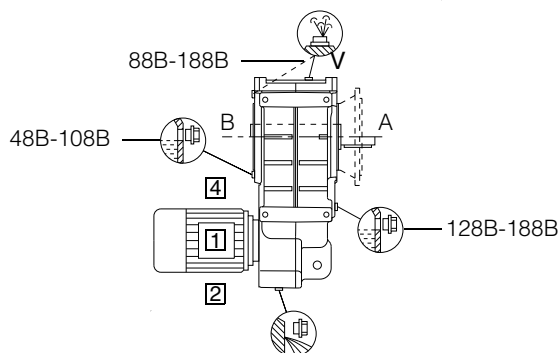
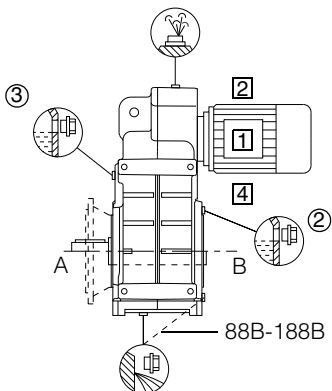
② 2-stage gearbox    ③ 3-stage gearbox    \* On opposite side    A,B position of the customer's solid/plug-in shaft

1 ... 4    Position of the terminal box, see Chapter 8.

1) Standard mounting type

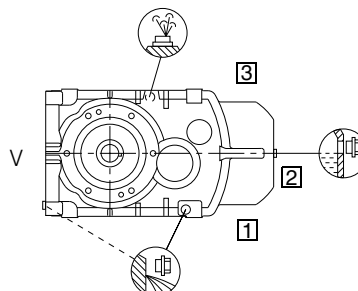
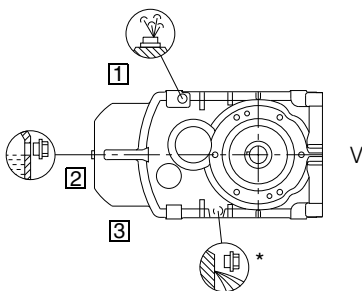
F,Z, F,F: B5-01 (IM B5-01) <sup>1)</sup>  
 Order code (output side A): **D22**  
 F,AZ, F,AF: H-01 <sup>1)</sup>  
 Order code (output side A): **D76**

F,Z, F,F: B5-03 (IM B5-03)  
 Order code (output side A): **D32**  
 F,AZ, F,AF: H-02  
 Order code (output side A): **D78**



F,Z, F,F: B5-02 (IM B5-02)  
 Order code (output side A): **D27**  
 F,AZ, F,AF: H-03  
 Order code (output side A): **D80**





F,Z, F,F: B5-00 (IM B5-00)  
 Order code (output side A): **D18**  
 F,AZ, F,AF: H-04  
 Order code (output side A): **D82**



#### Selection and ordering data (continued)

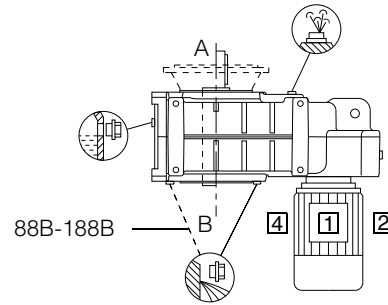
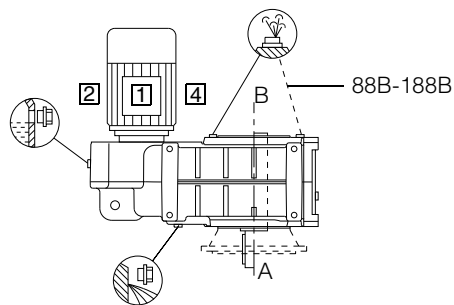
#### 2-stage and 3-stage parallel shaft gearbox, foot-mounted design, flange-mounted design and with housing flange

##### Oil control valves:

- Size 28: These types are lubricated for life. No ventilation, oil level, or drain plugs are present.
- Size 38B: V Oil inlet
- From size 48B up:  Oil level     Ventilation     Oil drain     Oil dipstick    - - - Alternative
- ② 2-stage gearbox    ③ 3-stage gearbox    \* On opposite side    A,B position of the customer's solid/plug-in shaft
- ① ... ④ Position of the terminal box, see Chapter 8.

F.Z, F.F: V1-00 (IM V1-00)  
Order code (output side A): **D90**  
F.AZ, F.AF: H-05  
Order code (output side A): **D84**

F.Z, F.F: V3-00 (IM V3-00)  
Order code (output side A): **D98**  
F.AZ, F.AF: H-06  
Order code (output side A): **D86**



#### 2-stage and 3-stage parallel shaft gearbox with mixer flange (FZ.M/FD.M)

Mounting positions correspond to those of standard gearboxes.

#### 2-stage and 3-stage parallel shaft gearbox with extruder flange (FZAE/FDAE)

Mounting positions correspond to those of standard gearboxes with hollow shaft.

# MOTOX Geared Motors

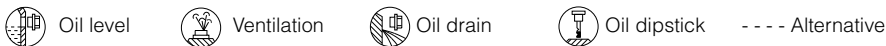
## Parallel shaft geared motors

### Mounting types and mounting positions

#### Selection and ordering data (continued)

2-stage and 3-stage parallel shaft gearbox, foot-mounted design, flange-mounted design, and with housing flange for size 208

#### Oil control valves:

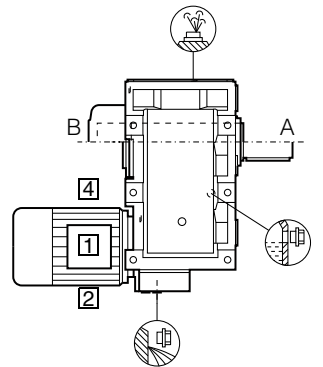
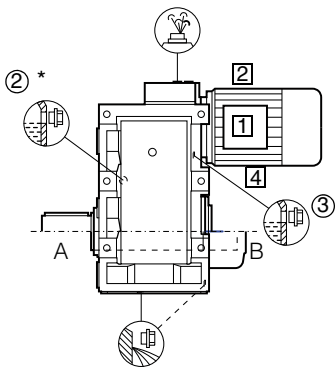


② 2-stage gearbox    ③ 3-stage gearbox    ④ Tandem gearbox \* On opposite side A,B position of the customer's solid/plug-in shaft

1 ... 4 Position of the terminal box, see Chapter 8.

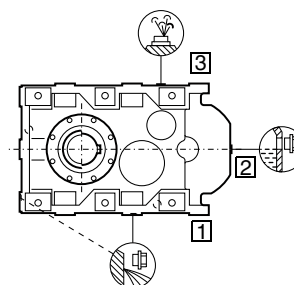
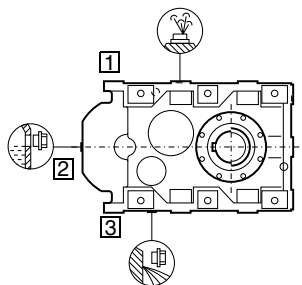
F.Z: B5-01 (IM B5-01) <sup>1)</sup>  
 Order code (output side A): **D22**  
 F.A.: H-01 <sup>1)</sup>  
 Order code (output side A): **D76**

F.Z: B5-03 (IM B5-03)  
 Order code (output side A): **D32**  
 F.A.: H-02  
 Order code (output side A): **D78**



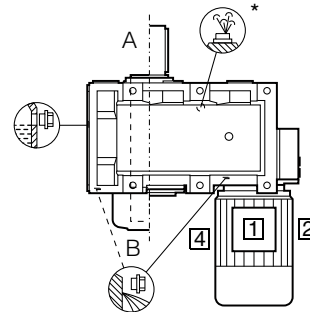
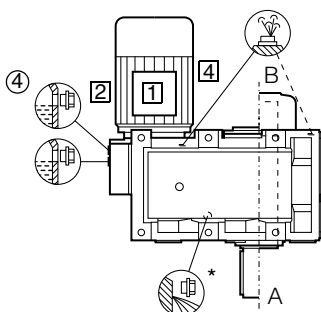
F.Z: B5-02 (IM B5-02)  
 Order code (output side A): **D27**  
 F.A.: H-03  
 Order code (output side A): **D80**

F.Z: B5-00 (IM B5-00)  
 Order code (output side A): **D18**  
 F.A.: H-04  
 Order code (output side A): **D82**



F.Z: V1-00 (IM V1-00)  
 Order code (output side A): **D90**  
 F.A.: H-05  
 Order code (output side A): **D84**

F.Z: V3-00 (IM V3-00)  
 Order code (output side A): **D98**  
 F.A.: H-06  
 Order code (output side A): **D86**



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#### Selection and ordering data (continued)

##### Parallel shaft tandem gearbox

The mounting type / mounting position of the tandem gearbox corresponds to that of the main gearbox. The figures below are only designed to show the position of the oil control valves of the 2nd gearbox.

##### Note:

In a horizontal operating position the bulging part of the housing of the 2nd gearbox generally faces vertically downwards.

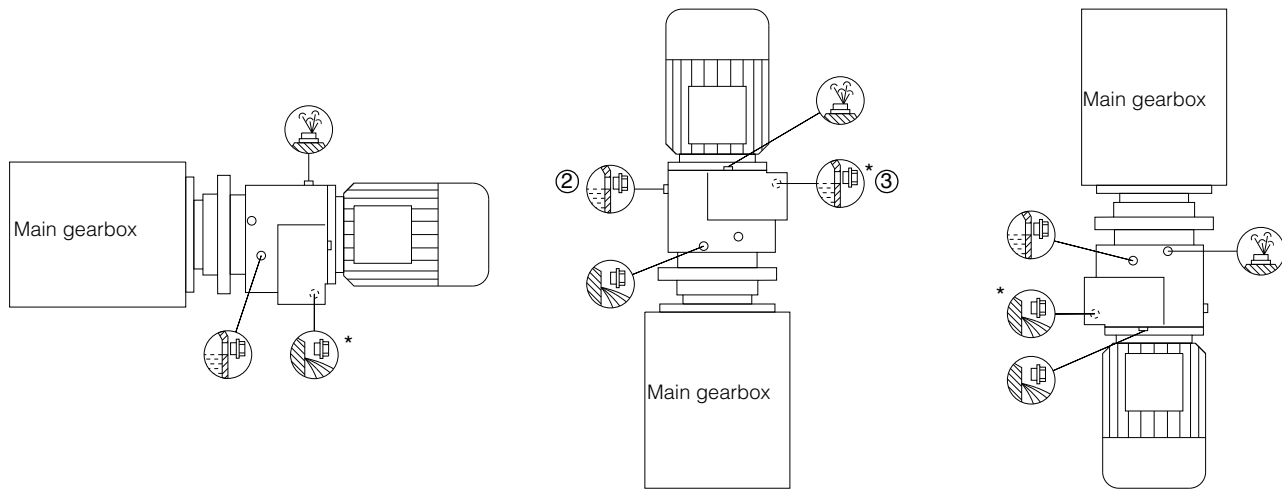
##### Oil control valves:

- Size 28/38 (2nd gearbox): These types are lubricated for life. No ventilation, oil level, or drain plugs are present.

- From size 48B up:  Oil level  Ventilation  Oil drain \* On opposite side

② 2-stage gearbox

③ 3-stage gearbox



# MOTOX Geared Motors

## Parallel shaft geared motors

### Special versions

#### Lubricants

Parallel shaft gearboxes are filled with mineral oil as standard.

If the gearbox is to be used in an application with special requirements, the lubricants listed in the table below can be used.

Area of application	Ambient temperature <sup>1)</sup>	DIN ISO designation	Order code
<b>Standard oils</b>			
Standard temperature	-10 ... +40 °C	CLP ISO VG220	<b>K06</b>
Improved oil service life	-20 ... +50 °C	CLP ISO PG VG220	<b>K07</b>
High temperature usage	0 ... +60 °C	CLP ISO PG VG460	<b>K08</b>
Low temperature usage	-40 ... +40 °C	CLP ISO PAO VG220	<sup>2)</sup>
Lowest temperature usage	-40 ... +10 °C	CLP ISO PAO VG68	<sup>2)</sup>
<b>Physiologically safe oils (for use in the food industry) in acc. with NSF (USDA)-H1</b>			
Standard temperature	-30 ... +40 °C	CLP ISO H1 VG460	<b>K11</b>
<b>Biologically degradable oils</b>			
Standard temperature	-20 ... +40 °C	CLP ISO E VG220	<b>K10</b>

<sup>1)</sup> Recommendation

<sup>2)</sup> On request

Size 28 does not feature any ventilation, oil level, or drain plugs. The lubricant does not need to be changed, due to the low thermal load the gearbox is subjected to.

Parallel shaft gearboxes of size 38B have an oil screw; these gearboxes do not require ventilation or ventilation elements.

Gearboxes of sizes 48B to 188B are fitted with filler, oil level, and drain plugs as standard. The ventilation and vent filter, which is delivered loose, must be attached in place of the filler plug prior to startup.

#### Oil level control

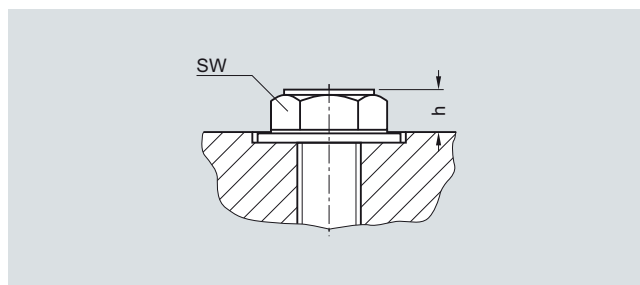
##### Oil sight glass

For size 48B and above, gearboxes can be equipped with a visual oil level indicator (oil sight glass) for most mounting types and mounting positions.

Order code:

Oil sight glass **G34**

Size	SW (Wrench width)	h
FD./FZ.48B ... FD./FZ.128B	19	8
FD./FZ.148B ... FD./FZ.188B	24	8
FD./FZ.208	32	11



##### Electrical oil level monitoring system

If required, the gearbox can be supplied with an electrical oil level monitoring system, which enables the oil level of the gearbox to be monitored remotely. The oil level is monitored by a capacitive sensor only when the gearbox starts up; it is not measured continuously.



### Gearbox ventilation

The positions of the ventilation and ventilation elements can be seen on the mounting position diagrams.

If required, a pressure ventilation valve can be used for size 48B and above.

Vent filter:

Size	d	d1	c	h
FD./FZ.48B ... FD./FZ.128B	27	22	4.0	20.0
FD./FZ.148B ... FD./FZ.188B	32	32	4.0	24.0
FD./FZ.208	45	40	6.5	23.5

Pressure ventilation valve:

Size	SW (Wrench width)	d2	h1
FD./FZ.48B ... FD./FZ.128B	17	11	15.0
FD./FZ.148B ... FD./FZ.188B	24	11	14.0
FD./FZ.208	27	11	29.5

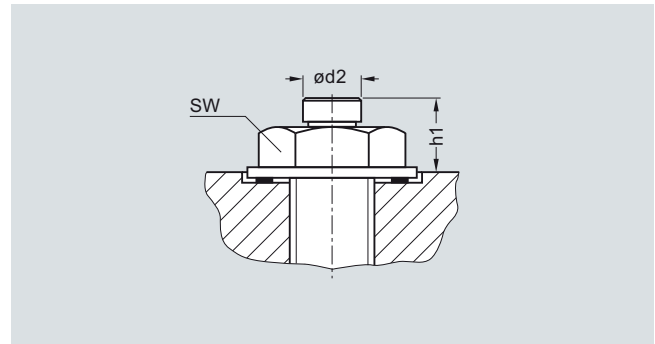
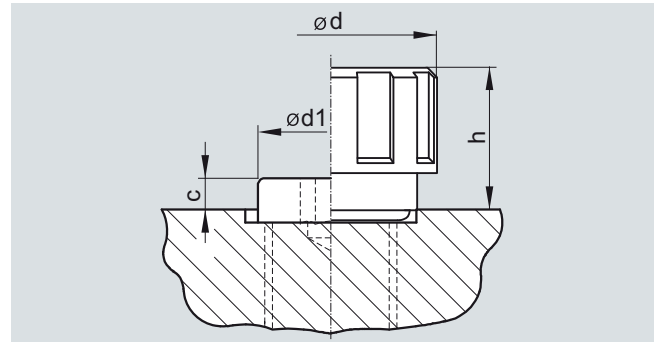
Order code:

Vent filter

**G44**

Pressure ventilation valve

**G45**



### Oil drain

#### Magnetic oil drain plug

A magnetic oil drain plug for inserting in the oil drainage hole is available on request for parallel shaft gearboxes of size 48B and above. This serves to collect any grit contained in the gear lubricant.

Order code:

Magnetic oil drain plug **G53**

#### Oil drain valve

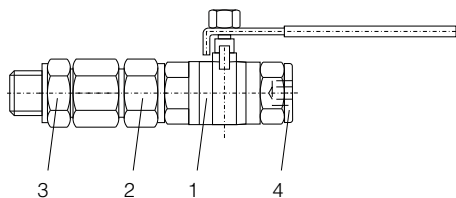
An oil drain valve is available on request for parallel shaft gearboxes of size 48B and above.

The oil drain valve may be designed as a complete unit featuring a screw plug, depending on the corresponding mounting position.

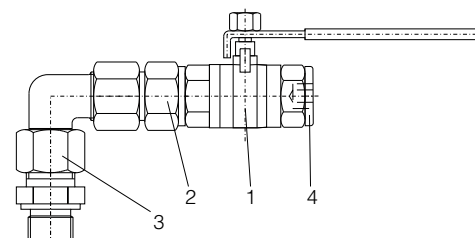
Order code:

Oil drain valve, straight **G54**

An angled oil drain valve is also available on request.



Item 1 Oil drain valve  
Item 2 Screwed connection EGE  
Item 3 Screwed connection GE  
Item 4 Screw plug



Item 1 Oil drain valve  
Item 2 Screwed connection EGE  
Item 3 Screwed connection GE  
Item 4 Screw plug

# MOTOX Geared Motors

## Parallel shaft geared motors

### Special versions

#### Sealing

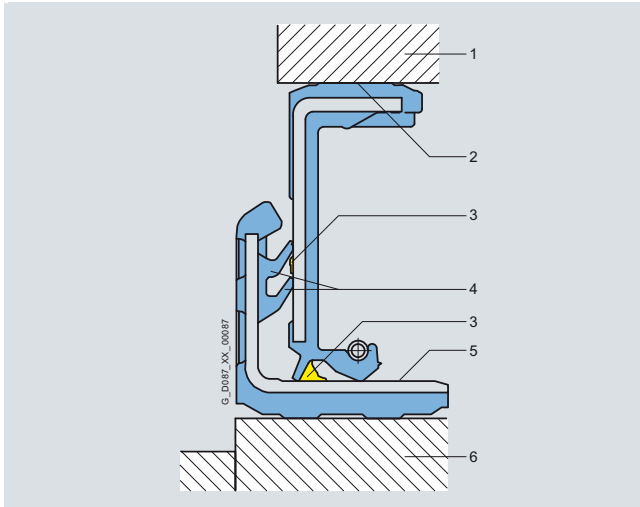
##### Combination shaft sealing

A combination shaft sealing, which helps to prevent oil from leaking, is available for parallel shaft gearboxes of sizes 38B to 168B.

A combination shaft sealing is particularly well suited to external use.

Order code:

Combination shaft sealing **G24**



- 1 • Housing
- 2 • Rubberized inner and outer diameter
- 3 • Grease filling prevents dry running of the sealing lips
- 4 • Additional sealing lips to protect against dirt
  - Decoupled sealing system prevents scoring of the shaft as a result of corrosion or dirt
- 5 • Protected running surface for radial shaft sealing ring
  - No damage when mounting
- 6 • Shaft

##### Double sealing

Double sealing is possible for parallel shaft gearboxes of sizes 28 and 188B. Double sealing is particularly well suited to external use.

Order code:

Double sealing MSS1 (size 28)

**G23**

Double radial shaft seal (sizes 188B)

**G22+G31**

##### High temperature resistant sealing

High temperature resistant sealings (Viton/fluorinated rubber) for high operating and ambient temperatures of +60 °C and above are available for parallel shaft gearboxes.

Order code:

High temperature resistant sealing **G25**

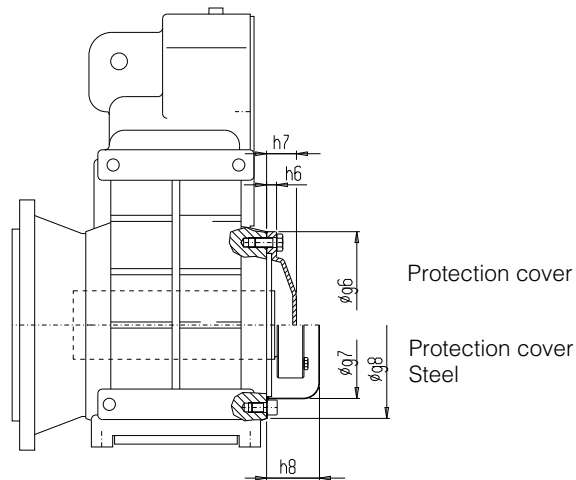
### Hollow shaft cover (protection cover)

Gearboxes with hollow shaft are delivered with a plastic sealing cap as standard.

If required, they can be fitted with a fixed protection cover. Gearboxes of size 28 are fitted with a steel protection cover as standard.

The steel protection cover can only be used for gearboxes with hollow shaft and shrink disk.

For outdoor applications we recommend the ATEX versions.



F.A, F.AF, F.AZ, F.AS <sup>1)</sup>, F.AFS <sup>1)</sup>, F.AZS <sup>1)</sup>, F.AT, F.AFT, F.AZT

<sup>1)</sup> Only a steel protection cover is available for F.AS, F.ADS, F.AFS, and F.AZS

Order codes:

Protection cover	<b>G62</b>
Protection cover (ATEX)	<b>G63</b>
Steel protection cover	<b>G60</b>
Steel protection cover (ATEX)	<b>G61</b>

Gearbox type	Steel protection cover			Protection cover		
	g7	g8	h8	g6	h6	h7
F.28	58.0	102	33.5	–	–	–
F.38B	82.2	115	40.0	120	10	33
F.48B	99.0	130	44.0	132	10	33
F.68B	115.0	150	62.5	150	10	37
F.88B	137.0	190	70.0	190	13	50
F.108B	187.0	240	80.0	245	13	55
F.128B	233.0	292	85.0	295	16	48
F.148B	257.5	334	100.0	335	13	50
F.168B	309.5	390	129.5	400	13	50
F.188B	309.5	390	129.5	400	13	50
F.208	373.0	373	179.0	–	–	–

### Radially reinforced output shaft bearings

The bearings of the MOTOX gearboxes are dimensioned such that they are strong enough to withstand most application cases.

However, the gearboxes can be fitted with a reinforced output shaft bearing arrangement for applications with particularly high radial forces.

Order code:

Radially reinforced output shaft bearings **G20**

# MOTOX Geared Motors

## Parallel shaft geared motors

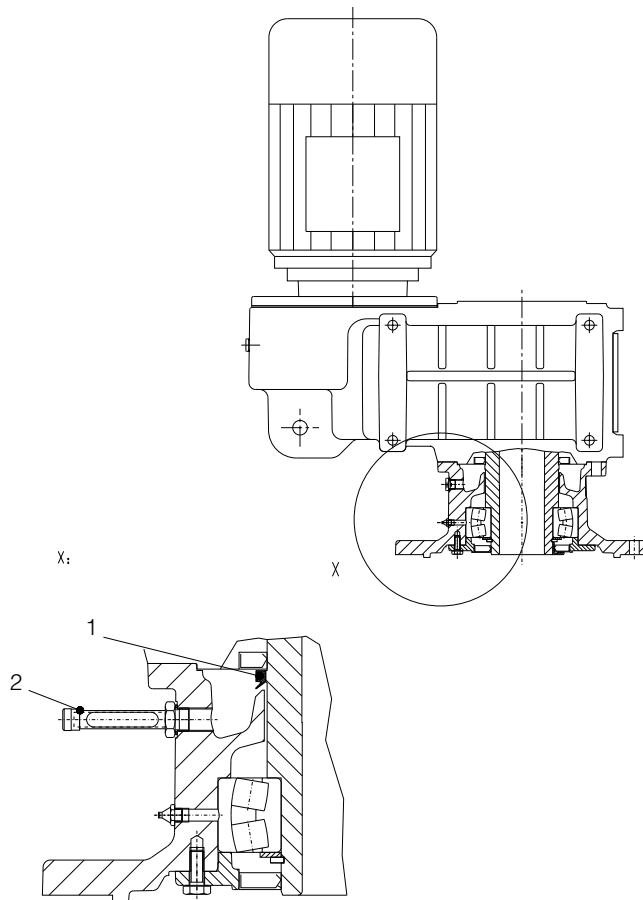
### Special versions

#### Mixer flange in dry-well design

The agitator flange can be fitted with an additional "V" ring (1) in mounting position V1-00 in order to drain off any leak oil to a safety chamber and protect the equipment against the effects of leakages.

The oil can either be viewed through a sight glass, or its presence indicated by an electrical sensor (2).

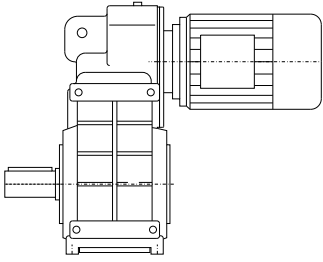
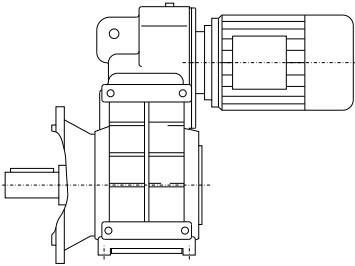
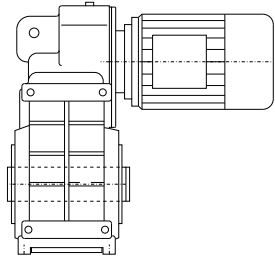
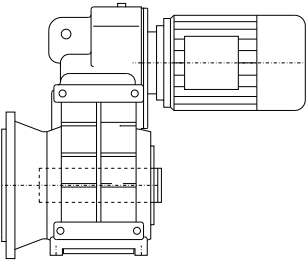
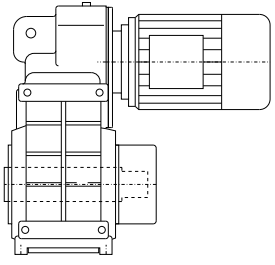
Order codes:  
 Dry-well design with sight glass **G89**  
 Dry-well design with sensor **G90**



#### Regreasing device for the mixer flange

The mixer gearbox can be fitted with a regreasing device on request.

## Dimension drawing overview

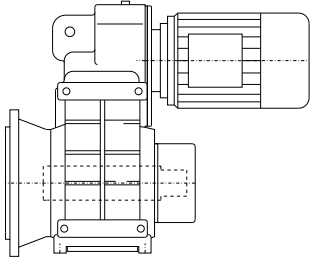
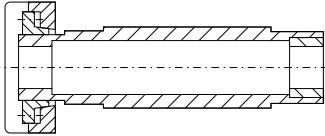
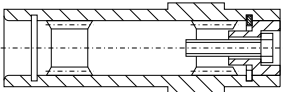
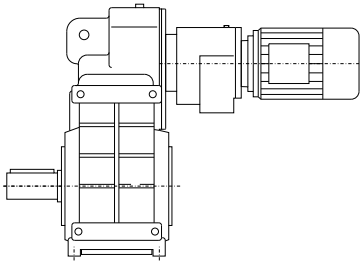
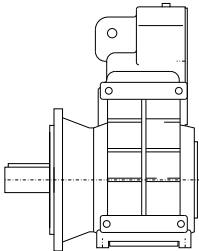
Representation	Gearbox type	Dimension drawing on page
	F.Z28	3/104
	F.Z38B	3/110
	F.Z48B	3/116
	F.Z68B	3/122
	F.Z88B	3/128
	F.Z108B	3/134
	F.Z128B	3/140
	F.Z148B	3/146
	F.Z168B	3/152
	F.Z188B	3/158
	F.Z208	3/164
		F.F28
F.F38B		3/111
F.F48B		3/117
F.F68B		3/123
F.F88B		3/129
F.F108B		3/135
F.F128B		3/141
F.F148B		3/147
F.F168B		3/153
F.F188B		3/159
	F.A28 / F.AZ28	3/106
	F.A38B / F.AZ38B	3/112
	F.A48B / F.AZ48B	3/118
	F.A68B / F.AZ68B	3/124
	F.A88B / F.AZ88B	3/130
	F.A108B / F.AZ108B	3/136
	F.A128B / F.AZ128B	3/142
	F.A148B / F.AZ148B	3/148
	F.A168B / F.AZ168B	3/154
	F.A188B / F.AZ188B	3/160
	F.AF28	3/107
	F.AF38B	3/113
	F.AF48B	3/119
	F.AF68B	3/125
	F.AF88B	3/131
	F.AF108B	3/137
	F.AF128B	3/143
	F.AF148B	3/149
	F.AF168B	3/155
	F.AF188B	3/161
	F.AS28 / F.AZS28	3/108
	F.AS38B / F.AZS38B	3/114
	F.AS48B / F.AZS48B	3/120
	F.AS68B / F.AZS68B	3/126
	F.AS88B / F.AZS88B	3/132
	F.AS108B / F.AZS108B	3/138
	F.AS128B / F.AZS128B	3/144
	F.AS148B / F.AZS148B	3/150
	F.AS168B / F.AZS168B	3/156
	F.AS188B / F.AZS188B	3/162
F.AS1208 / F.AZS208	3/165	

# MOTOX Geared Motors

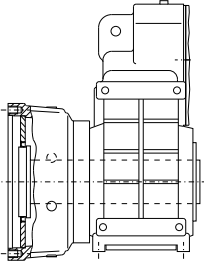
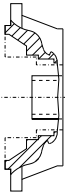
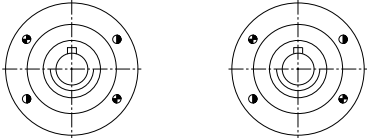
## Parallel shaft geared motors

### Dimensions

#### Dimension drawing overview (continued)

Representation	Gearbox type	Dimension drawing on page
	F.AFS28	3/109
	F.AFS38B	3/115
	F.AFS48B	3/121
	F.AFS68B	3/127
	F.AFS88B	3/133
	F.AFS108B	3/139
	F.AFS128B	3/145
	F.AFS148B	3/151
	F.AFS168B	3/157
	F.AFS188B	3/163
	F.A.S38B ... F.A.S188B	3/168
	F.A.T38B ... F.A.T188B	3/169
	F.38B-Z28 ... F.188B-Z68	3/170
	F.M88B ... F.M168B	3/174

## Dimension drawing overview (continued)

Representation	Gearbox type	Dimension drawing on page
	F.E88B ... F.E168B	3/176
	Additional flange-mounted design	3/178
	Pin holes	3/179

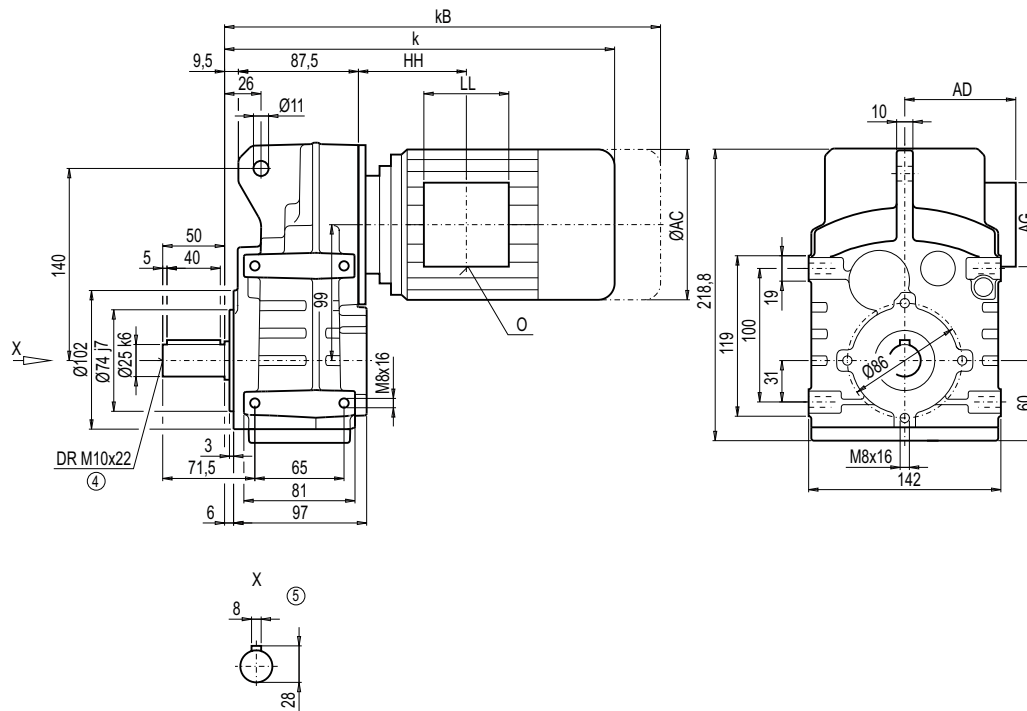
# MOTOX Geared Motors

## Parallel shaft geared motors

### Dimensions

#### Gearbox FDZ/FZZ28 (3- / 2-stage), housing-flange-mounted design (C-type)

FZ012



Motor	F.Z28		AC	AD	AG	LL	HH	O	Weight	
	k	kB							FDZ28	FZZ28
LA71	299.5	354.5	139.0	146	90	90	58.5	M20x1.5/M25x1.5	10	10
LA71Z	318.5	373.5	139.0	146	90	90	58.5	M20x1.5/M25x1.5	10	10
LA80	401.5	465.0	156.5	155	90	90	123.0	M20x1.5/M25x1.5	15	15
LA80Z	424.0	487.5	156.5	155	90	90	196.0	M20x1.5/M25x1.5	19	19
LA90S/L	396.5	467.5	174.0	163	90	90	87.0	M20x1.5/M25x1.5	26	25
LA90ZL	441.5	512.5	174.0	163	90	90	211.0	M20x1.5/M25x1.5	23	22
LA100L	478.5	559.5	195.0	168	120	120	163.5	2xM32x1.5	-	29
LA100ZL	548.5	629.5	195.0	168	120	120	295.5	2xM32x1.5	-	39

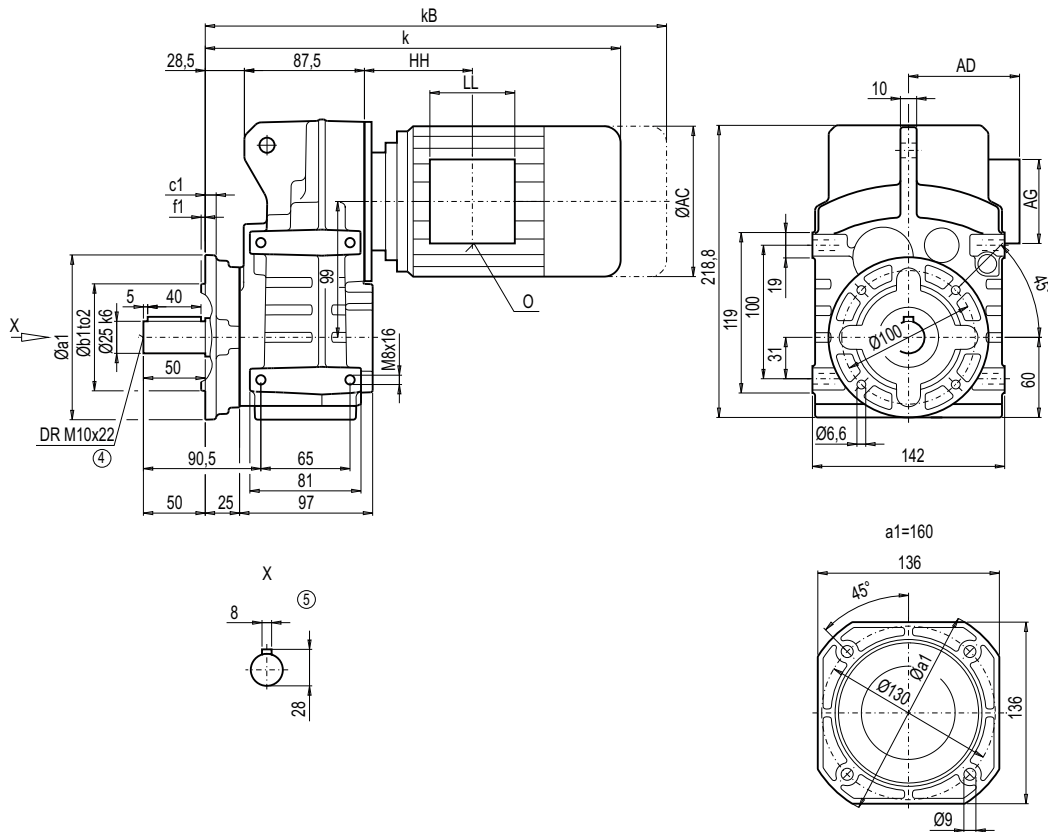
④ DIN 332

⑤ Feather key / keyway DIN 6885



### Gearbox FDF/FZF28 (3- / 2-stage), flange-mounted design (A-type)

FF012



Flange	a1	b1	to2	c1	f1
A120	120	80	j6	8	3.0
A160	160	110	j6	9	3.5

Motor	F.F28								Weight	
	k	kB	AC	AD	AG	LL	HH	O	FDF28	FZF28
LA71	318.5	373.5	139.0	146	90	90	58.5	M20x1.5/M25x1.5	11	10
LA71Z	337.5	392.5	139.0	146	90	90	58.5	M20x1.5/M25x1.5	11	10
LA80	420.5	474.0	156.5	155	90	90	123.0	M20x1.5/M25x1.5	15	15
LA80Z	443.0	506.5	156.5	155	90	90	196.0	M20x1.5/M25x1.5	19	19
LA90S/L	415.5	486.5	174.0	163	90	90	87.0	M20x1.5/M25x1.5	20	20
LA90ZL	460.5	531.5	174.0	163	90	90	211.0	M20x1.5/M25x1.5	29	29
LA100L	497.5	578.5	195.0	168	120	120	163.5	2xM32x1.5	-	29
LA100ZL	567.5	648.5	195.0	168	120	120	295.5	2xM32x1.5	-	39

④ DIN 332

⑤ Feather key / keyway DIN 6885

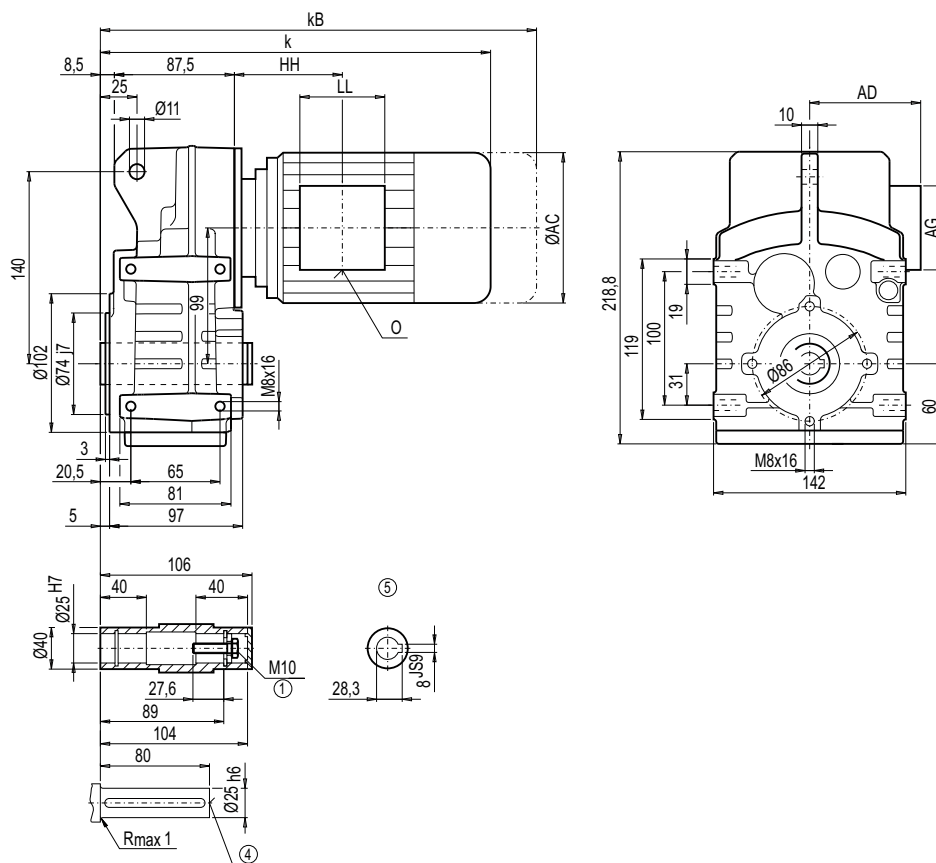
# MOTOX Geared Motors

## Parallel shaft geared motors

### Dimensions

#### Gearbox FDA/FZA28, FDAZ/FZAZ28 (3- / 2-stage), housing-flange-mounted design (C-type)

FA012  
FAZ012



Motor	F.A.28								Weight	
	k	kB	AC	AD	AG	LL	HH	O	FDA.28	FZA.28
LA71	299.5	354.5	139.0	146	90	90	58.5	M20x1.5/M25x1.5	10	9
LA71Z	318.5	373.5	139.0	146	90	90	58.5	M20x1.5/M25x1.5	10	9
LA80	401.5	465.0	156.5	155	90	90	123.0	M20x1.5/M25x1.5	15	15
LA80Z	424.0	487.5	156.5	155	90	90	196.0	M20x1.5/M25x1.5	19	19
LA90S/L	396.5	467.5	174.0	163	90	90	87.0	M20x1.5/M25x1.5	19	19
LA90ZL	441.5	512.5	174.0	163	90	90	211.0	M20x1.5/M25x1.5	28	28
LA100L	478.5	559.5	195.0	168	120	120	163.5	2xM32x1.5	-	28
LA100ZL	548.5	629.5	195.0	168	120	120	295.5	2xM32x1.5	-	38

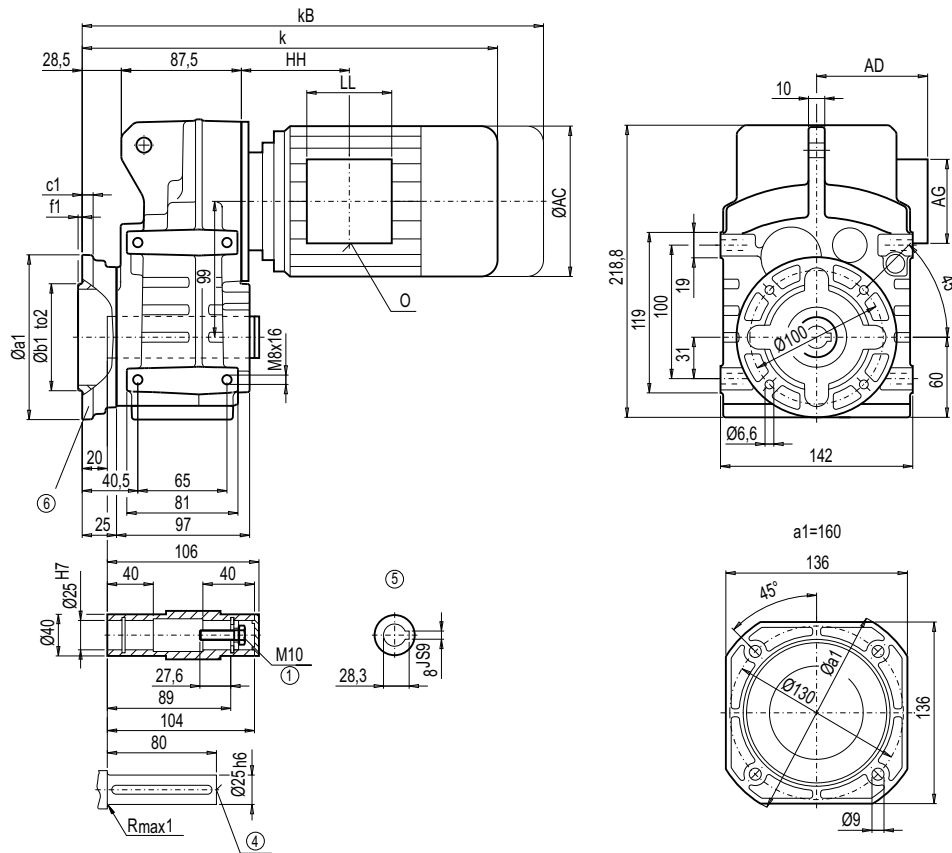
① DIN EN ISO 4017

④ DIN 332

⑤ Feather key / keyway DIN 6885

### Gearbox FDAF/FZAF28 (3- / 2-stage), flange-mounted design

FAF012



Flange	a1	b1	to2	c1	f1
A120	120	80	j6	8	3.0
A160	160	110	j6	9	3.5

Motor	F.AF28								Weight	
	k	kB	AC	AD	AG	LL	HH	O	FDAF28	FZAF28
LA71	318.5	373.5	139.0	146	90	90	58.5	M20x1.5/M25x1.5	10	9
LA71Z	337.5	392.5	139.0	146	90	90	58.5	M20x1.5/M25x1.5	10	9
LA80	420.5	474.0	156.5	155	90	90	123.0	M20x1.5/M25x1.5	15	15
LA80Z	443.0	506.5	156.5	155	90	90	196.0	M20x1.5/M25x1.5	19	19
LA90S/L	415.5	486.5	174.0	163	90	90	87.0	M20x1.5/M25x1.5	19	19
LA90ZL	460.5	531.5	174.0	163	90	90	211.0	M20x1.5/M25x1.5	28	28
LA100L	497.5	578.5	195.0	168	120	120	163.5	2xM32x1.5	-	28
LA100ZL	567.5	648.5	195.0	168	120	120	295.5	2xM32x1.5	-	38

① DIN EN ISO 4017

④ DIN 332

⑤ Feather key / keyway DIN 6885

⑥ For note, see page 3/178

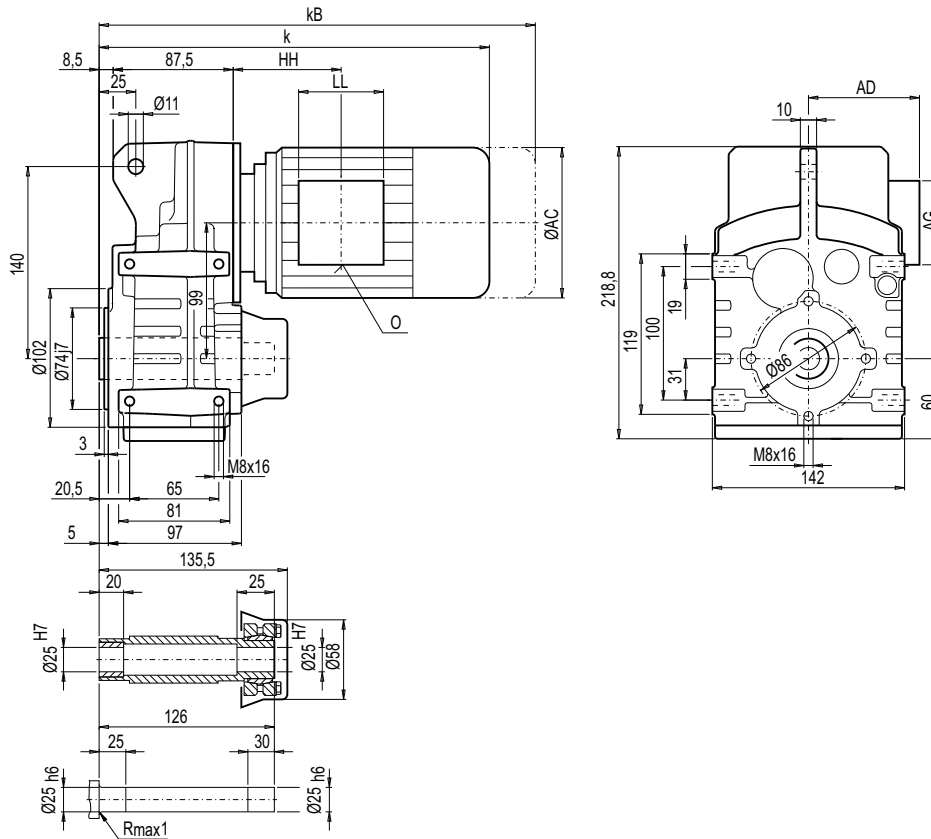
# MOTOX Geared Motors

## Parallel shaft geared motors

### Dimensions

Gearbox FDAS/FZAS28, FDAZS/FZAZS28 (3- / 2-stage) shaft-mounted design with shrink disk

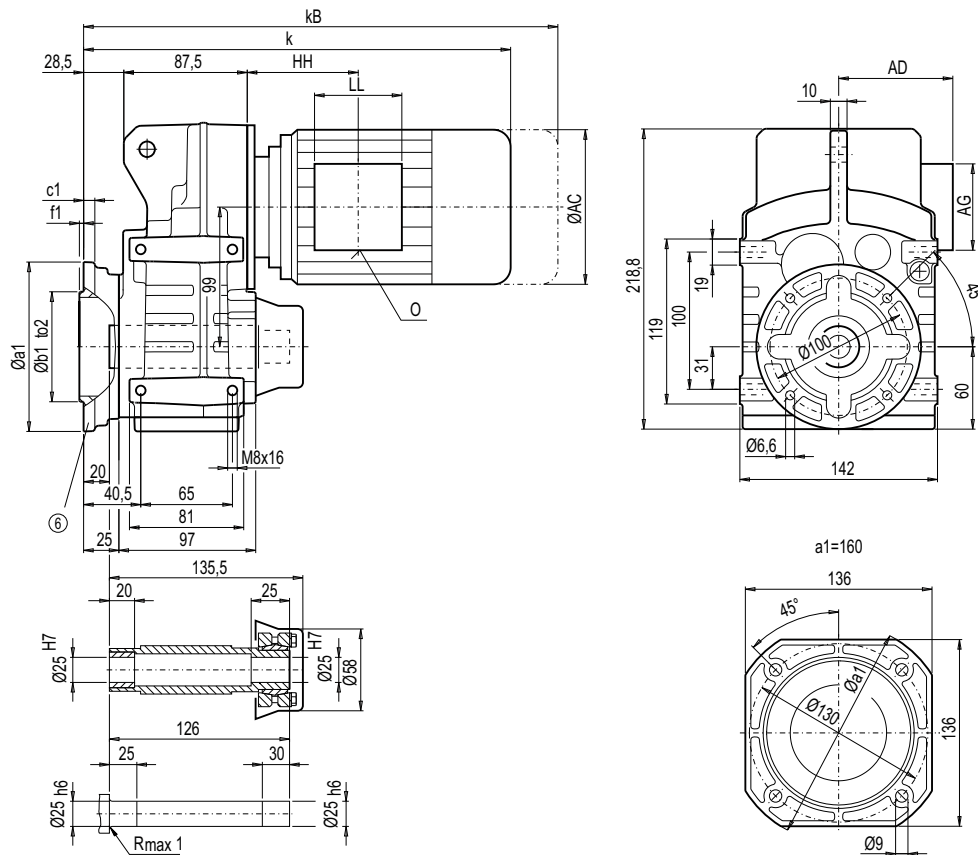
FAS012  
FAZS012



Motor	F.A.S28								Weight	
	k	kB	AC	AD	AG	LL	HH	O	FDA.S28	FZA.S28
LA71	299.5	354.5	139.0	146	90	90	58.5	M20x1.5/M25x1.5	10	9
LA71Z	318.5	373.5	139.0	146	90	90	58.5	M20x1.5/M25x1.5	10	9
LA80	401.5	465.0	156.5	155	90	90	123.0	M20x1.5/M25x1.5	15	15
LA80Z	424.0	487.5	156.5	155	90	90	196.0	M20x1.5/M25x1.5	19	19
LA90S/L	396.5	467.5	174.0	163	90	90	87.0	M20x1.5/M25x1.5	19	19
LA90ZL	441.5	512.5	174.0	163	90	90	211.0	M20x1.5/M25x1.5	28	28
LA100L	478.5	559.5	195.0	168	120	120	163.5	2xM32x1.5	-	28
LA100ZL	548.5	629.5	195.0	168	120	120	295.5	2xM32x1.5	-	38

### Gearbox FDAFS/FZAFS28 (3- / 2-stage), flange-mounted design and shrink disk

#### FAFS012



Flange	a1	b1	to2	c1	f1
A120	120	80	j6	8	3.0
A160	160	110	j6	9	3.5

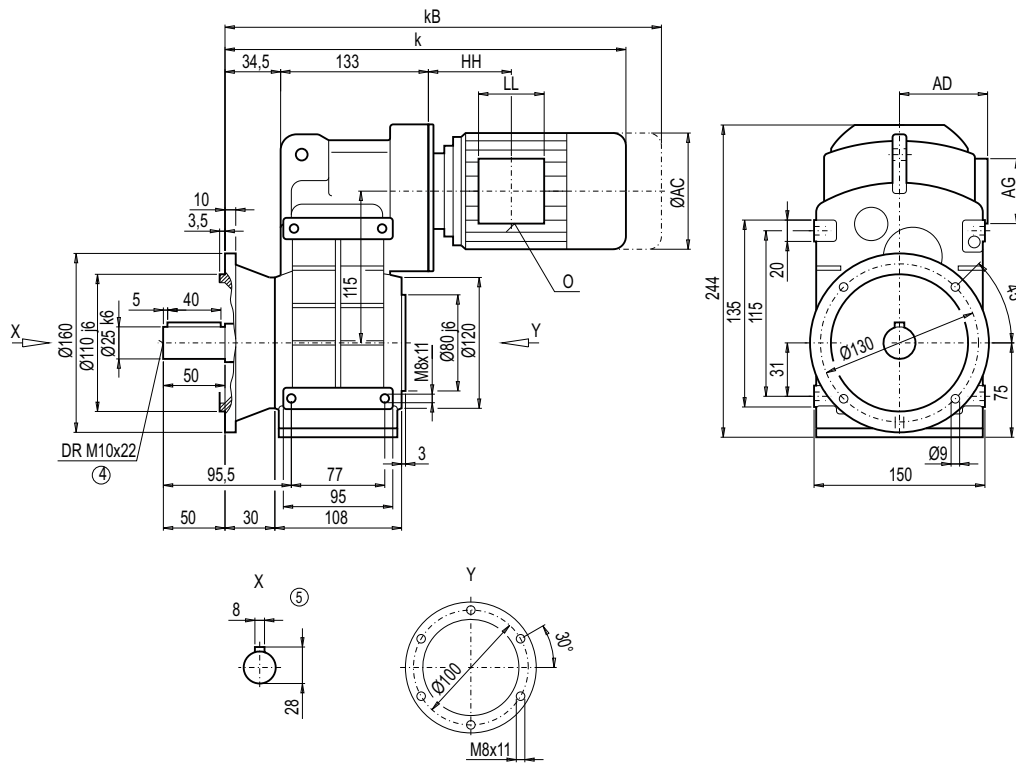
Motor	F.AFS28								Weight	
	k	kB	AC	AD	AG	LL	HH	O	FDAFS28	FZAFS28
LA71	318.5	373.5	139.0	146	90	90	58.5	M20x1.5/M25x1.5	10	10
LA71Z	337.5	392.5	139.0	146	90	90	58.5	M20x1.5/M25x1.5	10	10
LA80	420.5	474.0	156.5	155	90	90	123.0	M20x1.5/M25x1.5	15	15
LA80Z	443.0	506.5	156.5	155	90	90	196.0	M20x1.5/M25x1.5	19	19
LA90S/L	415.5	486.5	174.0	163	90	90	87.0	M20x1.5/M25x1.5	20	19
LA90ZL	460.5	531.5	174.0	163	90	90	211.0	M20x1.5/M25x1.5	29	28
LA100L	497.5	578.5	195.0	168	120	120	163.5	2xM32x1.5	-	29
LA100ZL	567.5	648.5	195.0	168	120	120	295.5	2xM32x1.5	-	39

© For note, see page 3/178



### Gearbox FDF/FZF38B (3- / 2-stage), flange-mounted design (A-type)

FF012



3

Motor	F.F38B								Weight	
	k	k <sub>B</sub>	AC	AD	AG	LL	HH	O	FDF38B	FZF38B
LA71	401.0	456.0	139.0	146	90	90	89.5	M20x1.5/M25x1.5	20	19
LA71Z	420.0	475.0	139.0	146	90	90	89.5	M20x1.5/M25x1.5	20	19
LA80	438.0	501.5	156.5	155	90	90	89.0	M20x1.5/M25x1.5	25	24
LA80Z	460.5	524.0	156.5	155	90	90	162.0	M20x1.5/M25x1.5	29	28
LA90S/L	469.0	540.0	174.0	163	90	90	89.0	M20x1.5/M25x1.5	29	29
LA90ZL	514.0	585.0	174.0	163	90	90	213.0	M20x1.5/M25x1.5	35	35
LA100L	515.0	596.0	195.0	168	120	120	129.5	2xM32x1.5	-	38
LA100ZL	585.0	666.0	195.0	168	120	120	261.5	2xM32x1.5	-	48

④ DIN 332

⑤ Feather key / keyway DIN 6885

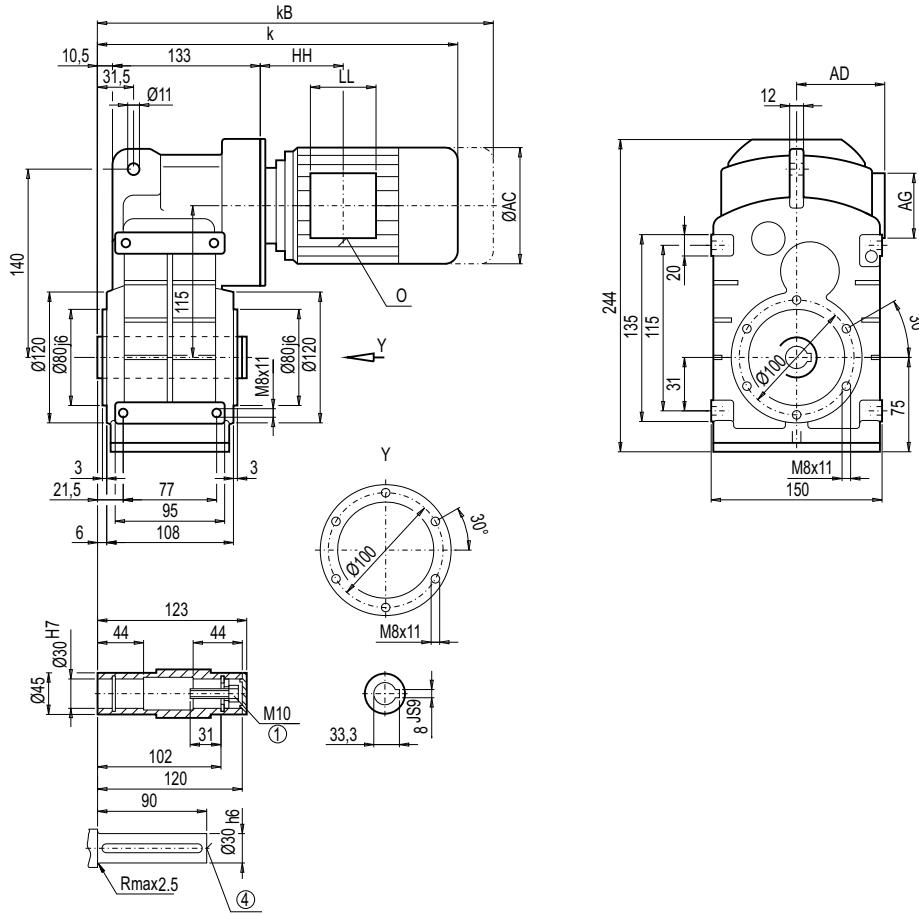
# MOTOX Geared Motors

## Parallel shaft geared motors

### Dimensions

#### Gearbox FDA/FZA38B, FDAZ/FZAZ38B (3- / 2-stage), housing-flange-mounted design (C-type)

FA012  
FAZ012



Motor	F.A.38B								Weight	
	k	kB	AC	AD	AG	LL	HH	O	FDA.38B	FZA.38B
LA71	377.0	432.0	139.0	146	90	90	89.5	M20x1.5/M25x1.5	16	16
LA71Z	396.0	451.0	139.0	146	90	90	89.5	M20x1.5/M25x1.5	16	16
LA80	414.0	477.5	156.5	155	90	90	89.0	M20x1.5/M25x1.5	21	21
LA80Z	436.5	500.0	156.5	155	90	90	162.0	M20x1.5/M25x1.5	25	25
LA90S/L	445.0	516.0	174.0	163	90	90	89.0	M20x1.5/M25x1.5	26	26
LA90ZL	490.0	561.0	174.0	163	90	90	213.0	M20x1.5/M25x1.5	32	32
LA100L	491.0	572.0	195.0	168	120	120	129.5	2xM32x1.5	-	35
LA100ZL	561.0	642.0	195.0	168	120	120	261.5	2xM32x1.5	-	45

① DIN 6912

④ DIN 332

⑤ Feather key / keyway DIN 6885





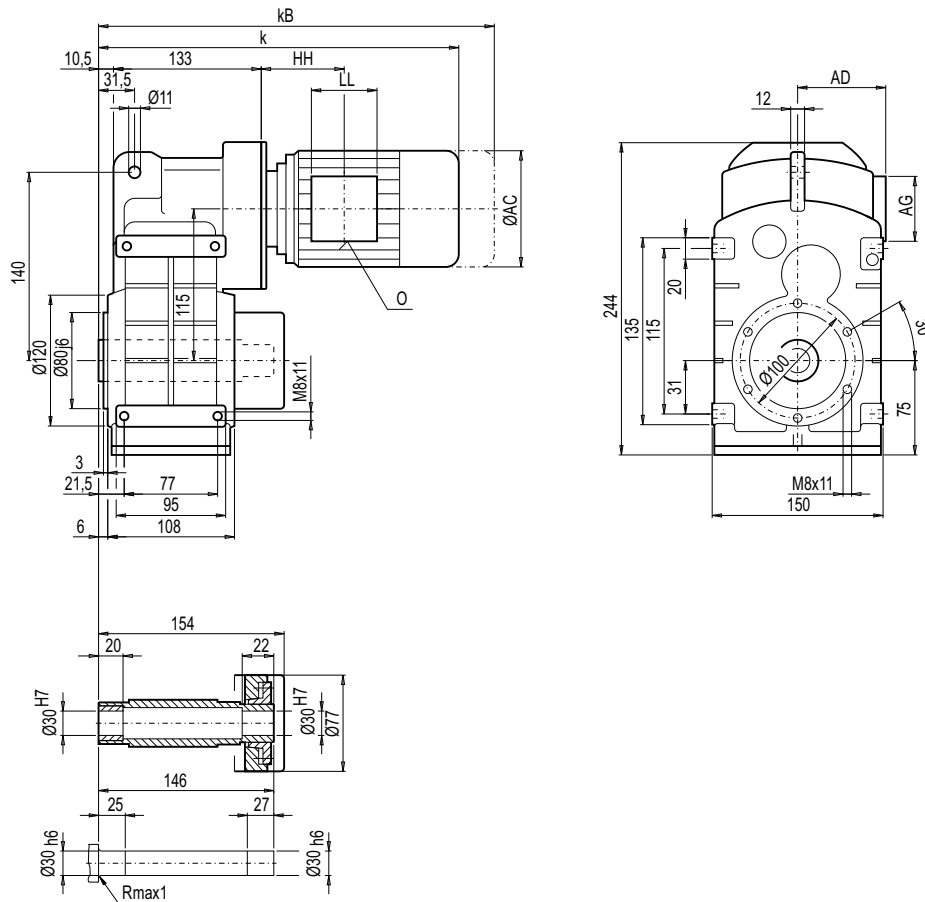
# MOTOX Geared Motors

## Parallel shaft geared motors

### Dimensions

Gearbox FDAS/FZAS38B, FDAZS/FZAZS38B (3- / 2-stage), shaft-mounted design with shrink disk

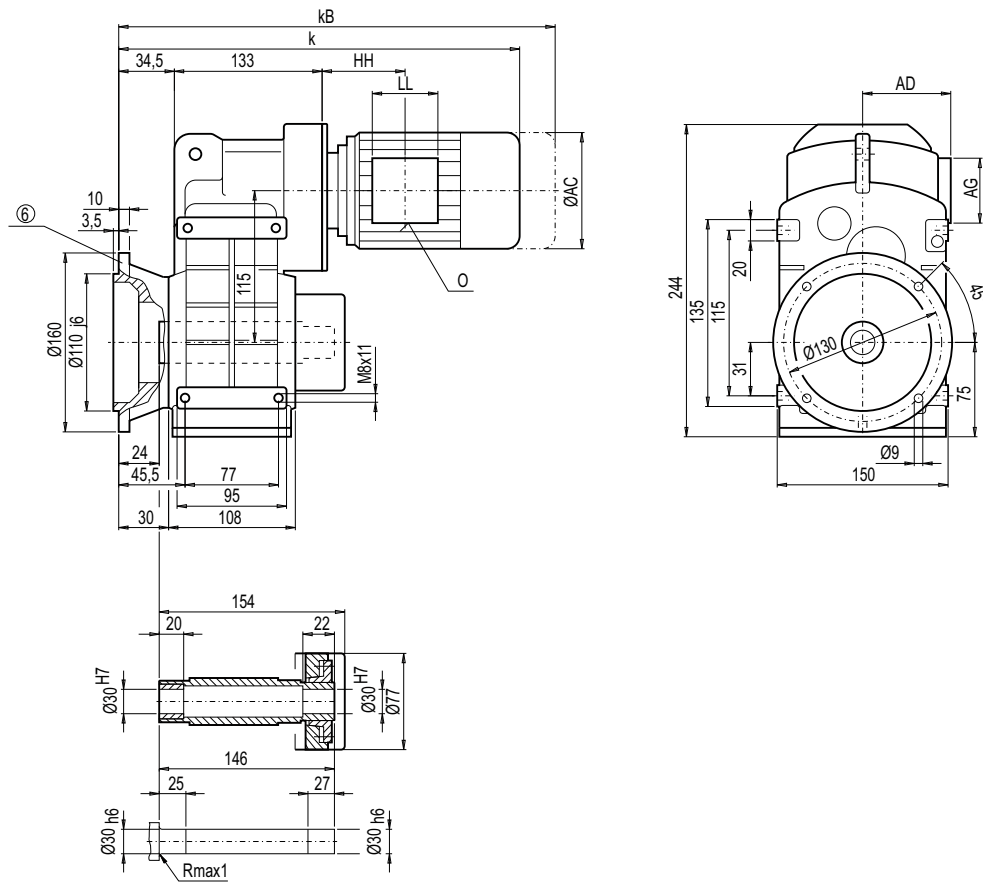
FAS012  
FAZS012



Motor	F.A.S38B								Weight	
	k	kB	AC	AD	AG	LL	HH	O	FDA.S38B	FZA.S38B
LA71	377.0	432.0	139.0	146	90	90	89.5	M20x1.5/M25x1.5	17	17
LA71Z	396.0	451.0	139.0	146	90	90	89.5	M20x1.5/M25x1.5	17	17
LA80	414.0	477.5	156.5	155	90	90	89.0	M20x1.5/M25x1.5	22	22
LA80Z	436.5	500.0	156.5	155	90	90	162.0	M20x1.5/M25x1.5	26	26
LA90S/L	445.0	516.0	174.0	163	90	90	89.0	M20x1.5/M25x1.5	27	26
LA90ZL	490.0	561.0	174.0	163	90	90	213.0	M20x1.5/M25x1.5	33	32
LA100L	491.0	572.0	195.0	168	120	120	129.5	2xM32x1.5	-	35
LA100ZL	561.0	642.0	195.0	168	120	120	261.5	2xM32x1.5	-	45

### Gearbox FDAFS/FZAFS38B (3- / 2-stage), flange-mounted design and shrink disk

FAFS012



3

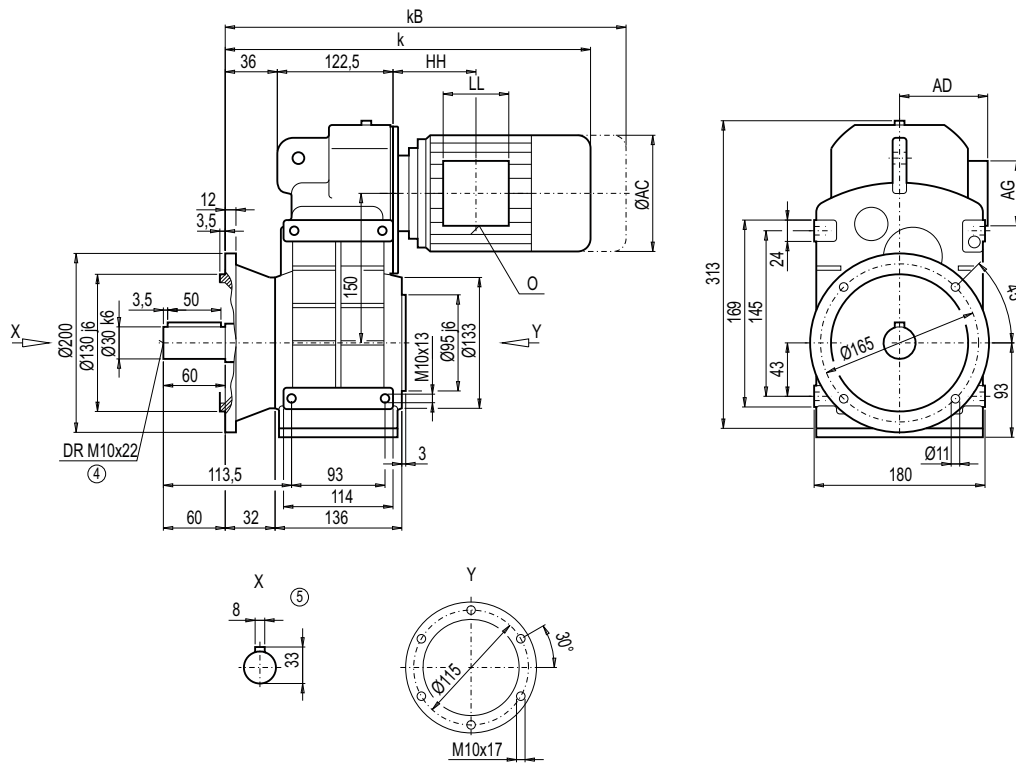
Motor	F.AFS38B								Weight	
	k	kB	AC	AD	AG	LL	HH	O	FDAFS38B	FZAFS38B
LA71	401.0	456.0	139.0	146	90	90	89.5	M20x1.5/M25x1.5	19	19
LA71Z	420.0	475.0	139.0	146	90	90	89.5	M20x1.5/M25x1.5	19	19
LA80	438.0	501.5	156.5	155	90	90	89.0	M20x1.5/M25x1.5	24	24
LA80Z	460.5	524.0	156.5	155	90	90	162.0	M20x1.5/M25x1.5	28	28
LA90S/L	469.0	540.0	174.0	163	90	90	89.0	M20x1.5/M25x1.5	29	28
LA90ZL	514.0	585.0	174.0	163	90	90	213.0	M20x1.5/M25x1.5	35	34
LA100L	515.0	596.0	195.0	168	120	120	129.5	2xM32x1.5	-	37
LA100ZL	585.0	666.0	195.0	168	120	120	261.5	2xM32x1.5	-	47

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### Gearbox FDF/FZF48B (3- / 2-stage), flange-mounted design (A-type)

FF012



3

Motor	F.F48B								Weight	
	k	kB	AC	AD	AG	LL	HH	O	FDF48B	FZF48B
LA71	417.0	472.0	139.0	146	90	90	114.5	M20x1.5/M25x1.5	28	28
LA71Z	436.0	491.0	139.0	146	90	90	114.5	M20x1.5/M25x1.5	28	28
LA80	454.0	517.5	156.5	155	90	90	114.0	M20x1.5/M25x1.5	33	33
LA80Z	476.5	540.0	156.5	155	90	90	187.0	M20x1.5/M25x1.5	37	37
LA90S/L	485.0	556.0	174.0	163	90	90	114.0	M20x1.5/M25x1.5	38	38
LA90ZL	530.0	601.0	174.0	163	90	90	238.0	M20x1.5/M25x1.5	44	44
LA100L	531.0	612.0	195.0	168	120	120	154.5	2xM32x1.5	47	47
LA100ZL	601.0	682.0	195.0	168	120	120	286.5	2xM32x1.5	57	57
LA112M	560.5	641.5	219.0	181	120	120	160.0	2xM32x1.5	-	57
LA112ZM	588.5	669.5	219.0	181	120	120	264.0	2xM32x1.5	-	64

④ DIN 332

⑤ Feather key / keyway DIN 6885

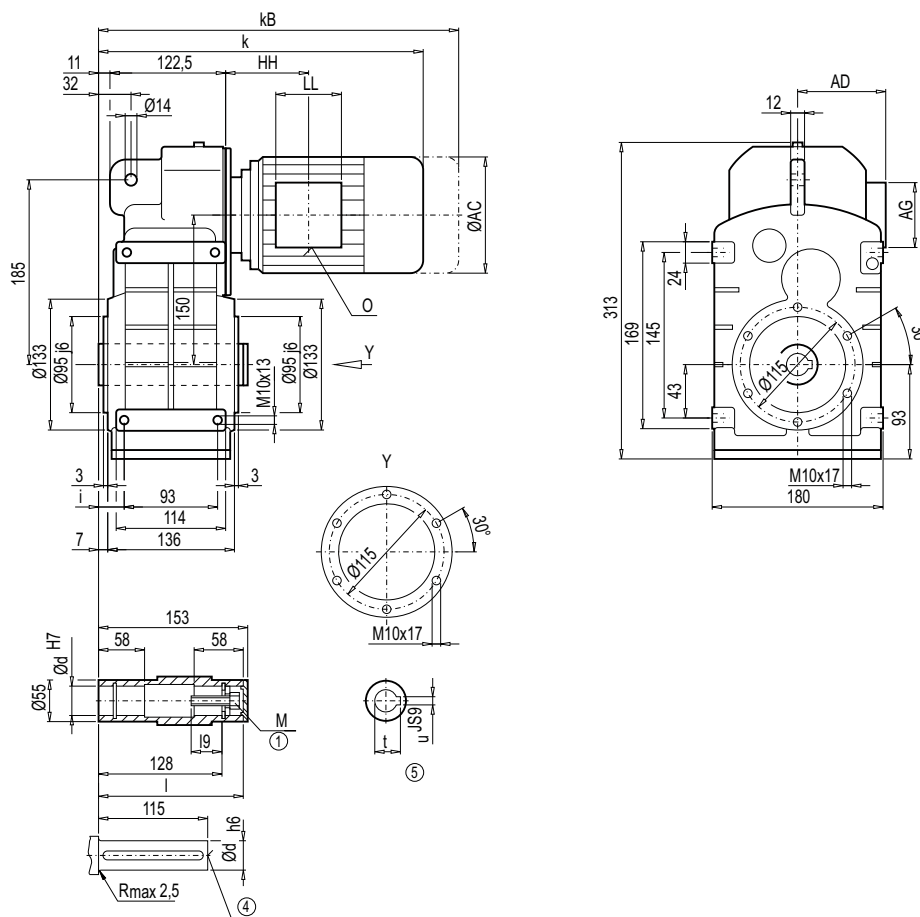
# MOTOX Geared Motors

## Parallel shaft geared motors

### Dimensions

#### Gearbox FDA/FZA48B, FDAZ/FZAZ48B (3- / 2-stage), housing-flange-mounted design (C-type)

FA012  
FAZ012



d	l	l <sub>9</sub>	M	t	u	i
35 *)	150	40	M12	38.3	10	28.5
40	150	48	M16	43.3	12	28.5

\*) Preferred series

Motor	F.A.48B								Weight	
	k	kB	AC	AD	AG	LL	HH	O	FDA.48B	FZA.48B
LA71	392.0	447.0	139.0	146	90	90	114.5	M20x1.5/M25x1.5	24	24
LA71Z	411.0	466.0	139.0	146	90	90	114.5	M20x1.5/M25x1.5	24	24
LA80	429.0	492.5	156.5	155	90	90	114.0	M20x1.5/M25x1.5	29	29
LA80Z	451.5	515.0	156.5	155	90	90	187.0	M20x1.5/M25x1.5	33	33
LA90S/L	460.0	531.0	174.0	163	90	90	114.0	M20x1.5/M25x1.5	34	33
LA90ZL	505.0	576.0	174.0	163	90	90	238.0	M20x1.5/M25x1.5	40	39
LA100L	506.0	587.0	195.0	168	120	120	154.5	2xM32x1.5	43	42
LA100ZL	576.0	657.0	195.0	168	120	120	286.5	2xM32x1.5	53	52
LA112M	535.5	616.5	219.0	181	120	120	160.0	2xM32x1.5	-	53
LA112ZM	563.5	644.5	219.0	181	120	120	264.0	2xM32x1.5	-	60

① DIN 6912

④ DIN 332

⑤ Feather key / keyway DIN 6885



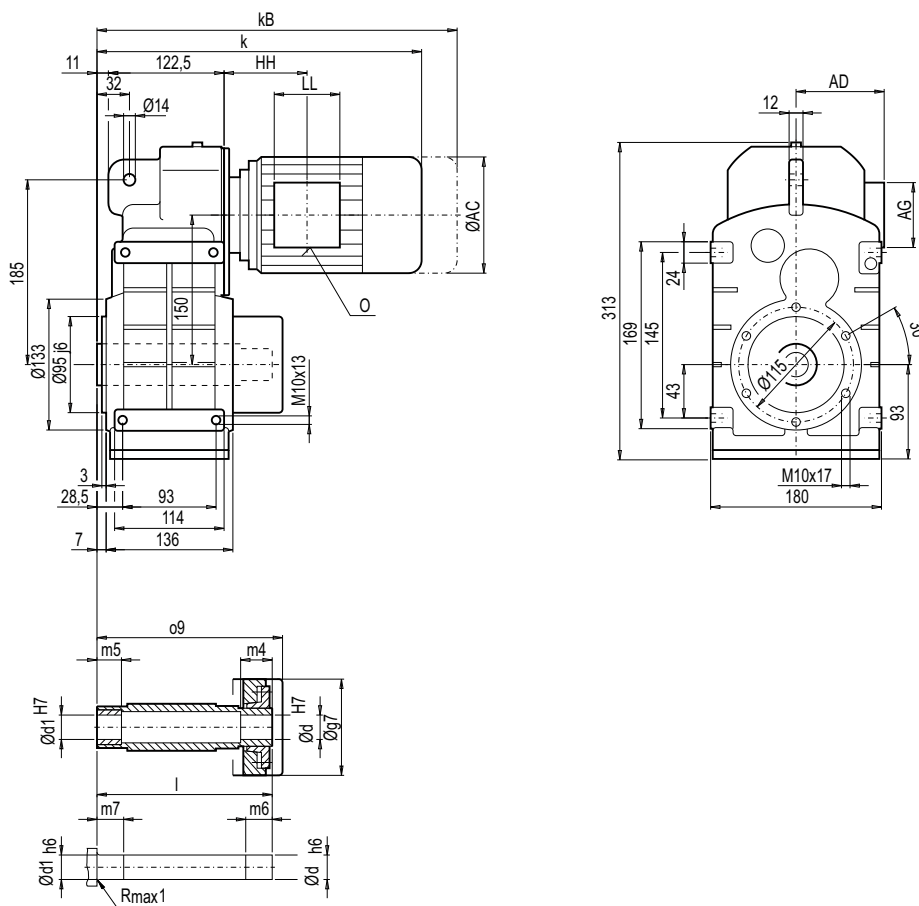
# MOTOX Geared Motors

## Parallel shaft geared motors

### Dimensions

Gearbox FDAS/FZAS48B, FDAZS/FZAZS48B (3- / 2-stage), shaft-mounted design with shrink disk

FAS012  
FAZS012



d	d1	l	o9	m4	m5	m6	m7	g7
35 *)	35	177	184	32	20	37	25	93
40	50	177	184	25	20	30	25	93

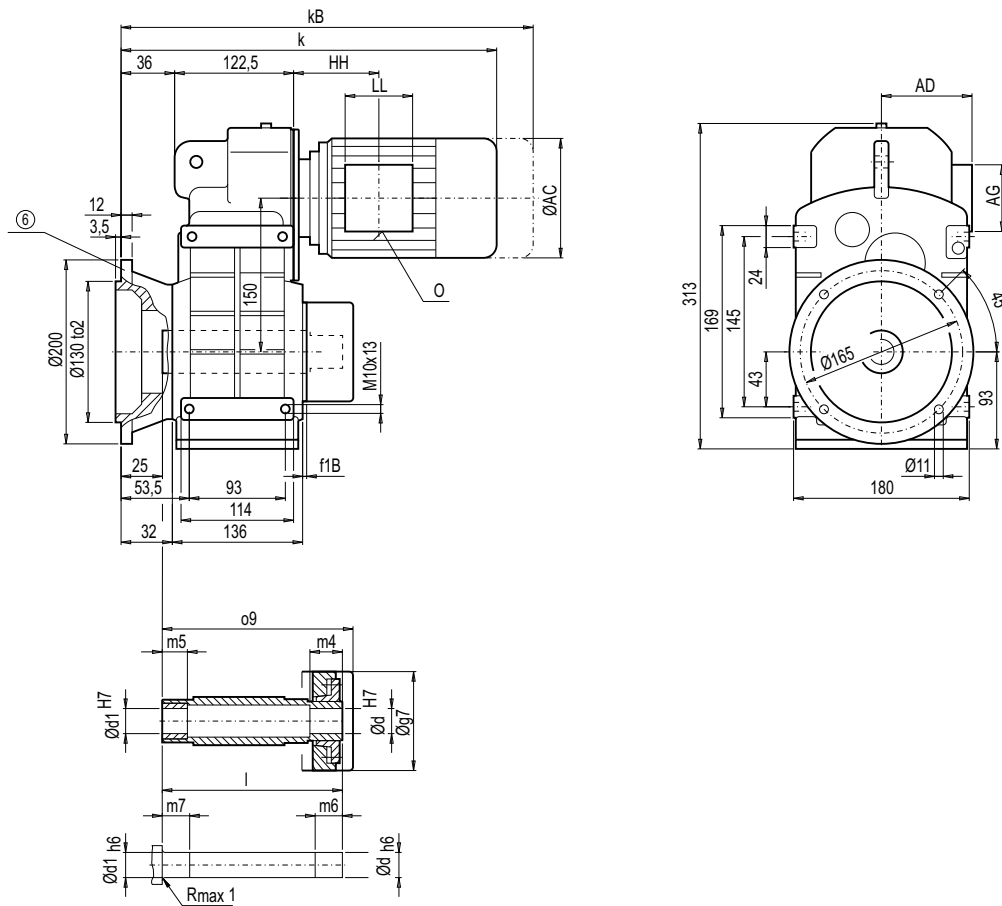
\*) Preferred series

Motor	F.A.S48B								Weight	
	k	kB	AC	AD	AG	LL	HH	O	FDA.S48B	FZA.S48B
LA71	392.0	447.0	139.0	146	90	90	114.5	M20x1.5/M25x1.5	25	25
LA71Z	411.0	466.0	139.0	146	90	90	114.5	M20x1.5/M25x1.5	25	25
LA80	429.0	492.5	156.5	155	90	90	114.0	M20x1.5/M25x1.5	30	30
LA80Z	451.5	515.0	156.5	155	90	90	187.0	M20x1.5/M25x1.5	34	34
LA90S/L	460.0	531.0	174.0	163	90	90	114.0	M20x1.5/M25x1.5	34	34
LA90ZL	505.0	576.0	174.0	163	90	90	238.0	M20x1.5/M25x1.5	40	40
LA100L	506.0	587.0	195.0	168	120	120	154.5	2xM32x1.5	43	43
LA100ZL	576.0	657.0	195.0	168	120	120	286.5	2xM32x1.5	53	53
LA112M	535.5	616.5	219.0	181	120	120	160.0	2xM32x1.5	-	54
LA112ZM	563.5	644.5	219.0	181	120	120	264.0	2xM32x1.5	-	61



### Gearbox FDAFS/FZAFS48B (3- / 2-stage), flange-mounted design and shrink disk

FAFS012



d	d1	l	o9	m4	m5	m6	m7	g7
35 *)	35	177	184	32	20	37	25	93
40	40	177	184	25	20	30	25	93

\*) Preferred series

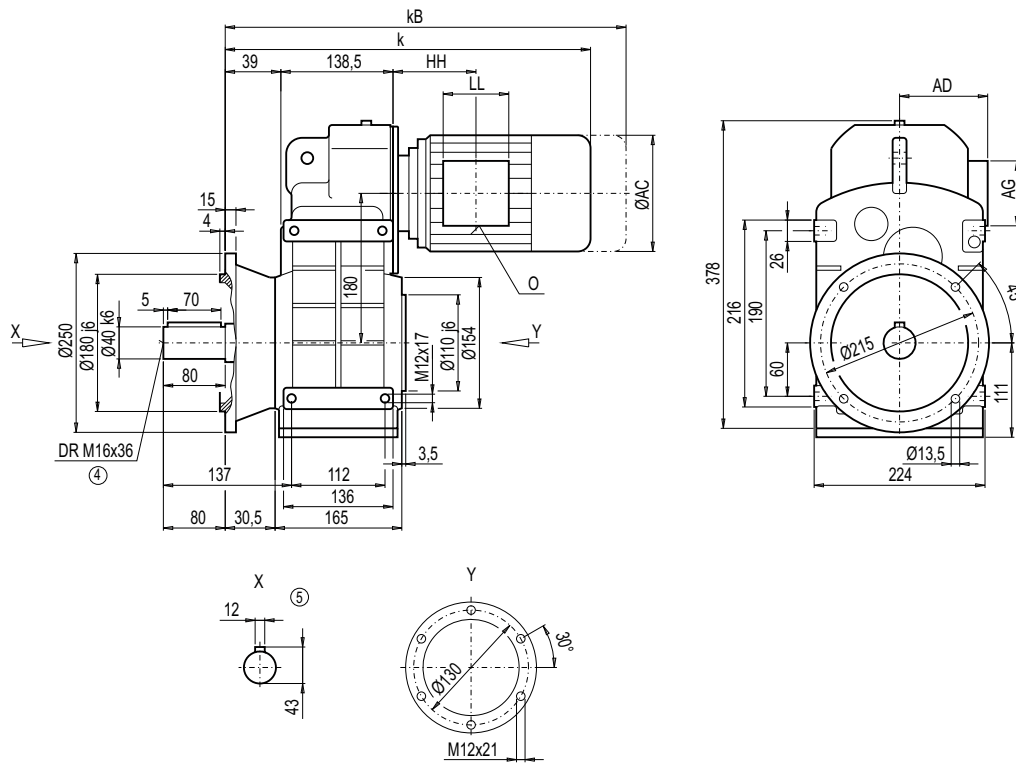
Motor	F.AFS48B								Weight	
	k	kB	AC	AD	AG	LL	HH	O	FDAFS48B	FZAFS48B
LA71	417.0	472.0	139.0	146	90	90	114.5	M20x1.5/M25x1.5	28	28
LA71Z	436.0	491.0	139.0	146	90	90	114.5	M20x1.5/M25x1.5	28	28
LA80	454.0	517.5	156.5	155	90	90	114.0	M20x1.5/M25x1.5	33	33
LA80Z	476.5	540.0	156.5	155	90	90	187.0	M20x1.5/M25x1.5	37	37
LA90S/L	485.0	556.0	174.0	163	90	90	114.0	M20x1.5/M25x1.5	37	37
LA90ZL	530.0	601.0	174.0	163	90	90	238.0	M20x1.5/M25x1.5	43	43
LA100L	531.0	612.0	195.0	168	120	120	154.5	2xM32x1.5	46	46
LA100ZL	601.0	682.0	195.0	168	120	120	286.5	2xM32x1.5	56	56
LA112M	560.5	641.5	219.0	181	120	120	160.0	2xM32x1.5	-	57
LA112ZM	588.5	669.5	219.0	181	120	120	264.0	2xM32x1.5	-	64

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### Gearbox FDF/FZF68B (3- / 2-stage), flange-mounted design (A-type)

FF012



Motor	F.F68B								Weight	
	k	kB	AC	AD	AG	LL	HH	O	FDF68B	FZF68B
LA71	430.5	485.5	139.0	146	90	90	109.0	M20x1.5/M25x1.5	48	-
LA71Z	449.5	504.5	139.0	146	90	90	109.0	M20x1.5/M25x1.5	48	-
LA80	467.5	531.0	156.5	155	90	90	108.5	M20x1.5/M25x1.5	53	53
LA80Z	490.0	553.5	156.5	155	90	90	181.5	M20x1.5/M25x1.5	57	57
LA90S/L	498.5	569.5	174.0	163	90	90	108.5	M20x1.5/M25x1.5	57	57
LA90ZL	543.5	614.5	174.0	163	90	90	232.5	M20x1.5/M25x1.5	63	63
LA100L	544.5	625.5	195.0	168	120	120	149.0	2xM32x1.5	67	67
LA100ZL	614.5	695.5	195.0	168	120	120	281.0	2xM32x1.5	77	77
LA112M	573.5	654.5	219.0	181	120	120	154.0	2xM32x1.5	-	78
LA112ZM	601.5	682.5	219.0	181	120	120	258.0	2xM32x1.5	-	85
LA132S/M	635.5	737.5	259.0	195	140	140	196.5	2xM32x1.5	-	88
LA132ZM	681.5	783.5	259.0	195	140	140	304.5	2xM32x1.5	-	109

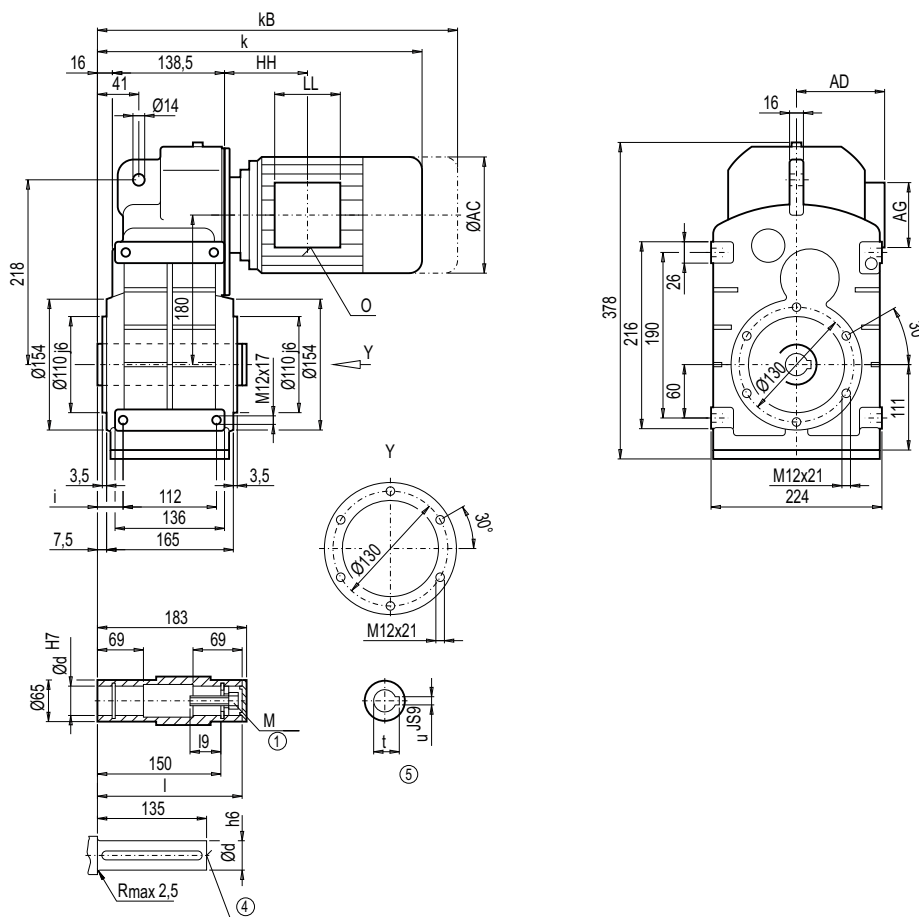
# MOTOX Geared Motors

## Parallel shaft geared motors

### Dimensions

#### Gearbox FDA/FZA68B, FDAZ/FZAZ68B (3- / 2-stage), housing-flange-mounted design (C-type)

FA012  
FAZ012



d	l	l <sub>9</sub>	M	t	u	i
40 *)	180	48	M16	43.3	12	34
45	180	47	M16	48.8	14	34

\*) Preferred series

Motor	F.A.68B								Weight	
	k	kB	AC	AD	AG	LL	HH	O	FDA.68B	FZA.68B
LA71	407.5	462.5	139.0	146	90	90	109.0	M20x1.5/M25x1.5	37	–
LA71Z	426.5	481.5	139.0	146	90	90	109.0	M20x1.5/M25x1.5	37	–
LA80	444.5	508.0	156.5	155	90	90	108.5	M20x1.5/M25x1.5	42	42
LA80Z	467.0	530.5	156.5	155	90	90	181.5	M20x1.5/M25x1.5	46	46
LA90S/L	475.5	546.5	174.0	163	90	90	108.5	M20x1.5/M25x1.5	46	46
LA90ZL	520.5	591.5	174.0	163	90	90	232.5	M20x1.5/M25x1.5	52	52
LA100L	521.5	602.5	195.0	168	120	120	149.0	2xM32x1.5	55	55
LA100ZL	591.5	672.5	195.0	168	120	120	281.0	2xM32x1.5	65	65
LA112M	550.5	631.5	219.0	181	120	120	154.0	2xM32x1.5	–	67
LA112ZM	578.5	659.5	219.0	181	120	120	258.0	2xM32x1.5	–	74
LA132S/M	612.5	714.5	259.0	195	140	140	196.5	2xM32x1.5	–	77
LA132ZM	658.5	760.5	259.0	195	140	140	304.5	2xM32x1.5	–	98

① DIN 6912

④ DIN 332

⑤ Feather key / keyway DIN 6885



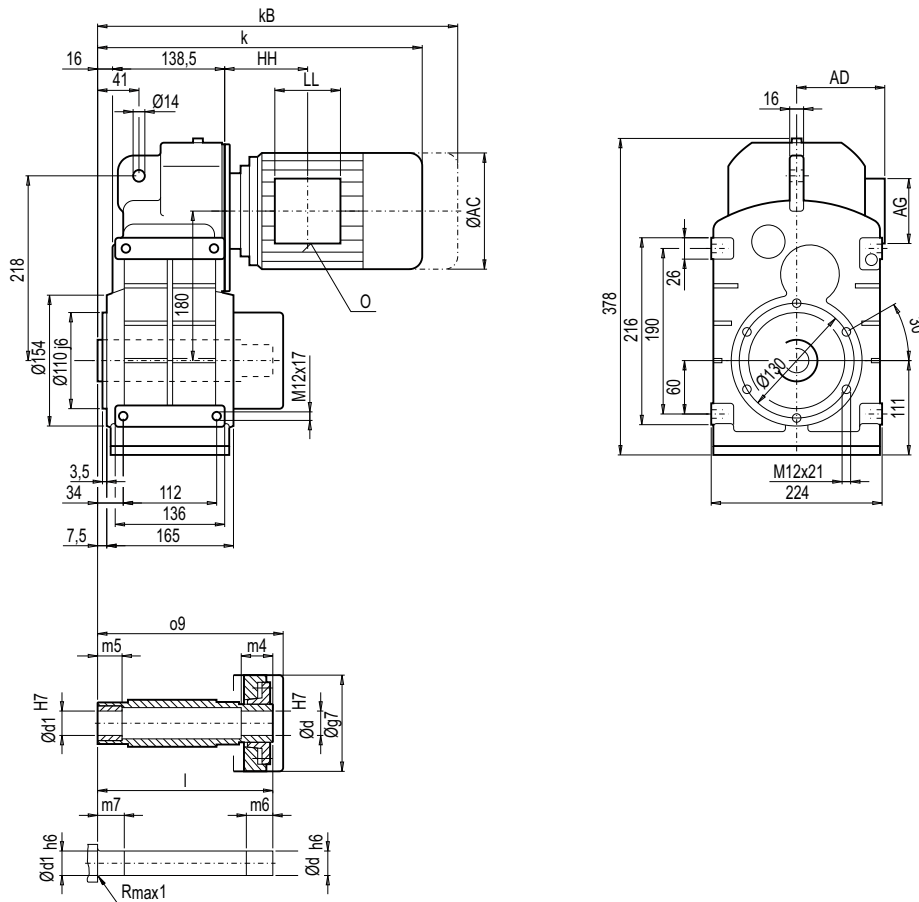
# MOTOX Geared Motors

## Parallel shaft geared motors

### Dimensions

Gearbox FDAS/FZAS68B, FDAZS/FZAZS68B (3- / 2-stage), shaft-mounted design with shrink disk

FAS012  
FAZS012



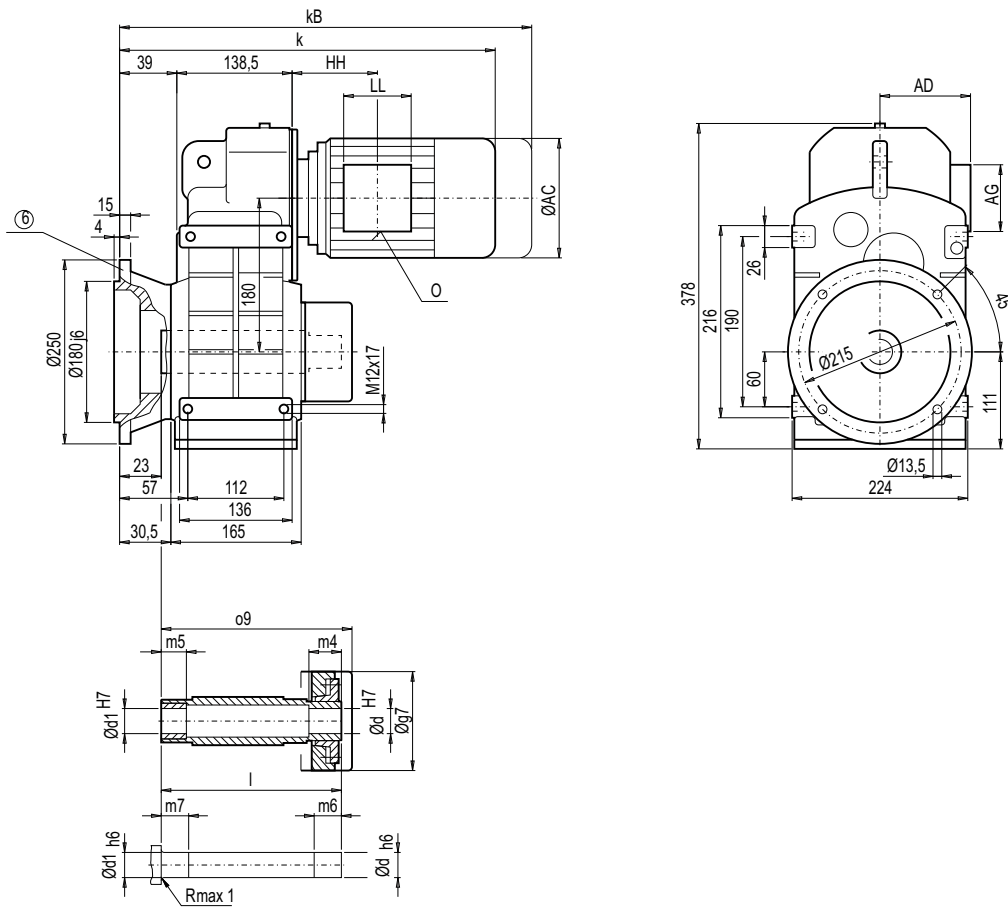
d	d1	l	o9	m4	m5	m6	m7	g7
40 *)	40	209	216	35	20	40	25	112
50	50	209	216	27	20	32	25	112

\*) Preferred series

Motor	F.A.S68B								Weight	
	k	kB	AC	AD	AG	LL	HH	O	FDA.S68B	FZA.S68B
LA71	407.5	462.5	139.0	146	90	90	109.0	M20x1.5/M25x1.5	38	–
LA71Z	426.5	481.5	139.0	146	90	90	109.0	M20x1.5/M25x1.5	38	–
LA80	444.5	508.0	156.5	155	90	90	108.5	M20x1.5/M25x1.5	43	43
LA80Z	467.0	530.5	156.5	155	90	90	181.5	M20x1.5/M25x1.5	47	47
LA90S/L	475.5	546.5	174.0	163	90	90	108.5	M20x1.5/M25x1.5	48	48
LA90ZL	520.5	591.5	174.0	163	90	90	232.5	M20x1.5/M25x1.5	54	54
LA100L	521.5	602.5	195.0	168	120	120	149.0	2xM32x1.5	57	57
LA100ZL	591.5	672.5	195.0	168	120	120	281.0	2xM32x1.5	67	67
LA112M	550.5	631.5	219.0	181	120	120	154.0	2xM32x1.5	–	68
LA112ZM	578.5	659.5	219.0	181	120	120	258.0	2xM32x1.5	–	75
LA132S/M	612.5	714.5	259.0	195	140	140	196.5	2xM32x1.5	–	78
LA132ZM	658.5	760.5	259.0	195	140	140	304.5	2xM32x1.5	–	99

### Gearbox FDAFS/FZAFS68B (3- / 2-stage), flange-mounted design and shrink disk

#### FAFS012



d	d1	l	o9	m4	m5	m6	m7	g7
40 *)	40	209	216	35	20	40	25	112
50	50	209	216	27	20	32	25	112

\*) Preferred series

Motor	F.AFS68B								Weight	
	k	kB	AC	AD	AG	LL	HH	O	FDAFS68B	FZAFS68B
LA71	430.5	485.5	139.0	146	90	90	109.0	M20x1.5/M25x1.5	46	-
LA71Z	449.5	504.5	139.0	146	90	90	109.0	M20x1.5/M25x1.5	46	-
LA80	467.5	531.0	156.5	155	90	90	108.5	M20x1.5/M25x1.5	51	51
LA80Z	490.0	553.5	156.5	155	90	90	181.5	M20x1.5/M25x1.5	55	55
LA90S/L	498.5	569.5	174.0	163	90	90	108.5	M20x1.5/M25x1.5	55	55
LA90ZL	543.5	614.5	174.0	163	90	90	232.5	M20x1.5/M25x1.5	61	61
LA100L	544.5	625.5	195.0	168	120	120	149.0	2xM32x1.5	65	65
LA100ZL	614.5	695.5	195.0	168	120	120	281.0	2xM32x1.5	75	75
LA112M	573.5	654.5	219.0	181	120	120	154.0	2xM32x1.5	-	76
LA112ZM	601.5	682.5	219.0	181	120	120	258.0	2xM32x1.5	-	83
LA132S/M	635.5	737.5	259.0	195	140	140	196.5	2xM32x1.5	-	86
LA132ZM	681.5	783.5	259.0	195	140	140	304.5	2xM32x1.5	-	107

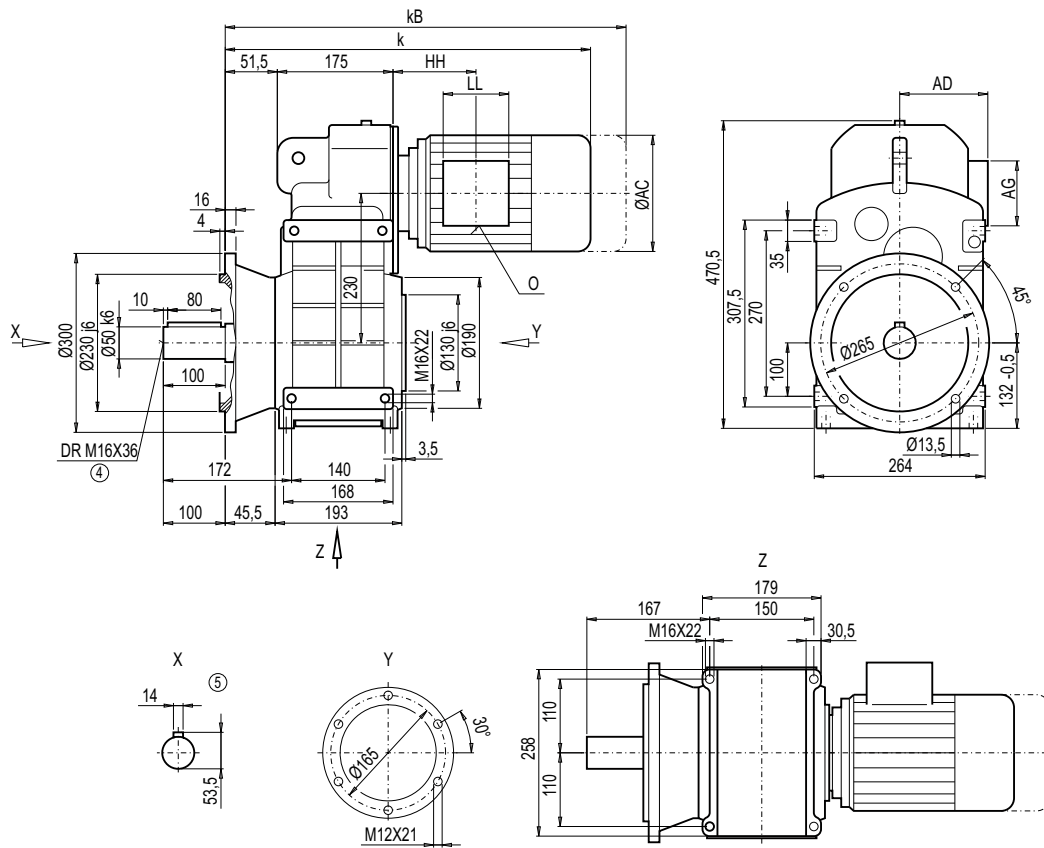
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### Gearbox FDF/FZF88B (3- / 2-stage), flange-mounted design (A-type)

FF012



3

Motor	F.F88B								Weight	
	k	kB	AC	AD	AG	LL	HH	O	FDF88B	FZF88B
LA71	473.5	528.5	139.0	146	90	90	103.0	M20x1.5/M25x1.5	81	-
LA71Z	492.5	547.5	139.0	146	90	90	103.0	M20x1.5/M25x1.5	81	-
LA80	510.5	574.0	156.5	155	90	90	102.5	M20x1.5/M25x1.5	86	86
LA80Z	533.0	596.5	156.5	155	90	90	175.5	M20x1.5/M25x1.5	90	90
LA90S/L	541.5	612.5	174.0	163	90	90	102.5	M20x1.5/M25x1.5	91	91
LA90ZL	586.5	657.5	174.0	163	90	90	226.5	M20x1.5/M25x1.5	97	97
LA100L	587.5	668.5	195.0	168	120	120	143.0	2xM32x1.5	100	100
LA100ZL	657.5	738.5	195.0	168	120	120	275.0	2xM32x1.5	110	110
LA112M	614.5	695.5	219.0	181	120	120	146.0	2xM32x1.5	111	112
LA112ZM	642.5	723.5	219.0	181	120	120	250.0	2xM32x1.5	118	119
LA132S/M	674.5	776.5	259.0	195	140	140	186.5	2xM32x1.5	124	125
LA132ZM	720.5	822.5	259.0	195	140	140	294.5	2xM32x1.5	146	146
LA160M/L	777.0	895.5	313.5	227	165	165	212.0	2xM40x1.5	-	158
LA160ZL	825.0	943.5	313.5	227	165	165	365.0	2xM40x1.5	-	197

④ DIN 332

⑤ Feather key / keyway DIN 6885

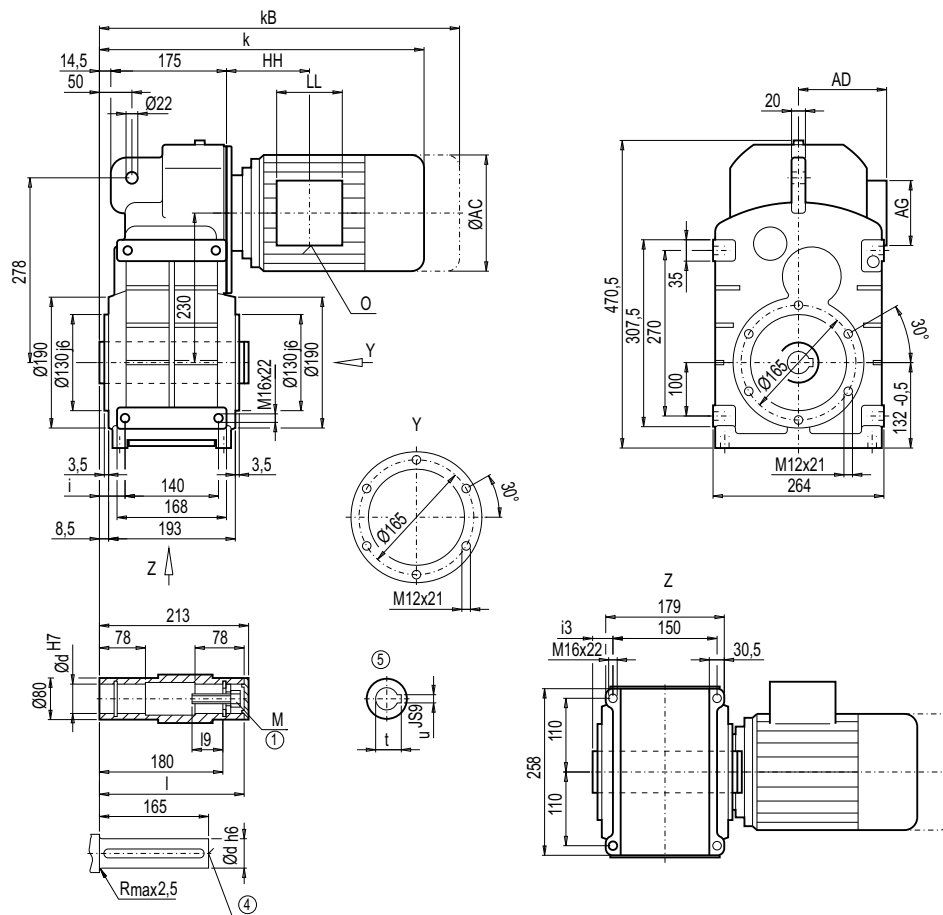
# MOTOX Geared Motors

## Parallel shaft geared motors

### Dimensions

#### Gearbox FDA/FZA88B, FDAZ/FZAZ88B (3- / 2-stage), housing-flange-mounted design (C-type)

FA012  
FAZ012



d	l	l <sub>9</sub>	M	t	u	i	i <sub>3</sub>
50 *)	210	44.5	M16	53.8	14	35	30
60	210	54.0	M20	64.4	18	35	30

\*) Preferred series

Motor	F.A.88B								Weight	
	k	kB	AC	AD	AG	LL	HH	O	FDA.88B	FZA.88B
LA71	436.5	491.5	139.0	146	90	90	103.0	M20x1.5/M25x1.5	62	-
LA71Z	455.5	510.5	139.0	146	90	90	103.0	M20x1.5/M25x1.5	62	-
LA80	473.5	537.0	156.5	155	90	90	102.5	M20x1.5/M25x1.5	67	67
LA80Z	496.0	559.5	156.5	155	90	90	175.5	M20x1.5/M25x1.5	71	71
LA90S/L	504.5	575.5	174.0	163	90	90	102.5	M20x1.5/M25x1.5	71	72
LA90ZL	549.5	620.5	174.0	163	90	90	226.5	M20x1.5/M25x1.5	77	78
LA100L	550.5	631.5	195.0	168	120	120	143.0	2xM32x1.5	81	81
LA100ZL	620.5	701.5	195.0	168	120	120	275.0	2xM32x1.5	91	91
LA112M	577.5	658.5	219.0	181	120	120	146.0	2xM32x1.5	92	93
LA112ZM	605.5	686.5	219.0	181	120	120	250.0	2xM32x1.5	99	100
LA132S/M	637.5	739.5	259.0	195	140	140	186.5	2xM32x1.5	105	106
LA132ZM	683.5	785.5	259.0	195	140	140	294.5	2xM32x1.5	126	127
LA160M/L	740.0	858.5	313.5	227	165	165	212.0	2xM40x1.5	-	139
LA160ZL	788.0	906.5	313.5	227	165	165	365.0	2xM40x1.5	-	178

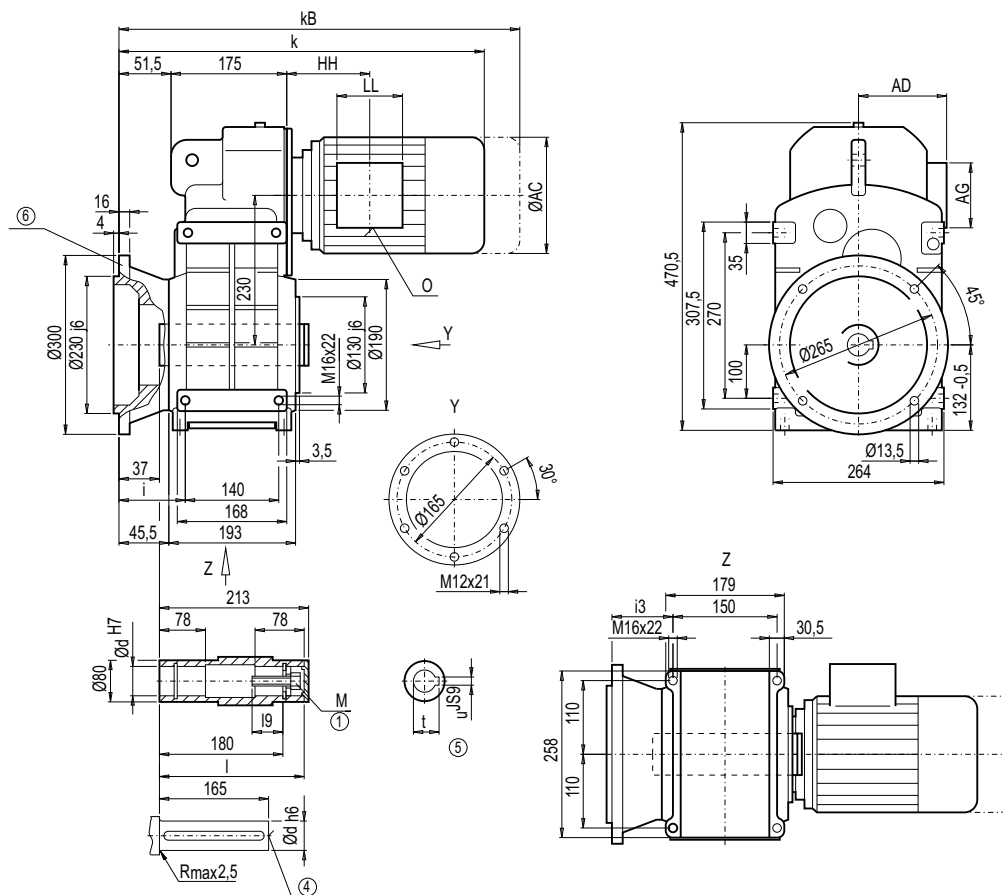
① DIN EN ISO 4014

④ DIN 332

⑤ Feather key / keyway DIN 6885

#### Gearbox FDAF/FZAF88B (3- / 2-stage), flange-mounted design

FAF012



d	l	l9	M	t	u	i	i3
50 *)	210	44.5	M16	53.8	14	72	67
60	210	54.0	M20	64.4	18	72	67

\*) Preferred series

Motor	F.AF88B								Weight	
	k	kB	AC	AD	AG	LL	HH	O	FDAF88B	FZAF88B
LA71	473.5	528.5	139.0	146	90	90	103.0	M20x1.5/M25x1.5	73	-
LA71Z	492.5	547.5	139.0	146	90	90	103.0	M20x1.5/M25x1.5	73	-
LA80	510.5	574.0	156.5	155	90	90	102.5	M20x1.5/M25x1.5	78	78
LA80Z	533.0	596.5	156.5	155	90	90	175.5	M20x1.5/M25x1.5	82	82
LA90S/L	541.5	612.5	174.0	163	90	90	102.5	M20x1.5/M25x1.5	82	83
LA90ZL	586.5	657.5	174.0	163	90	90	226.5	M20x1.5/M25x1.5	88	89
LA100L	587.5	668.5	195.0	168	120	120	143.0	2xM32x1.5	92	92
LA100ZL	657.5	738.5	195.0	168	120	120	275.0	2xM32x1.5	102	102
LA112M	614.5	695.5	219.0	181	120	120	146.0	2xM32x1.5	103	104
LA112ZM	642.5	723.5	219.0	181	120	120	250.0	2xM32x1.5	110	111
LA132S/M	674.5	776.5	259.0	195	140	140	186.5	2xM32x1.5	116	117
LA132ZM	720.5	822.5	259.0	195	140	140	294.5	2xM32x1.5	137	138
LA160M/L	777.0	895.5	313.5	227	165	165	212.0	2xM40x1.5	-	150
LA160ZL	825.0	943.5	313.5	227	165	165	365.0	2xM40x1.5	-	189

① DIN EN ISO 4014

④ DIN 332

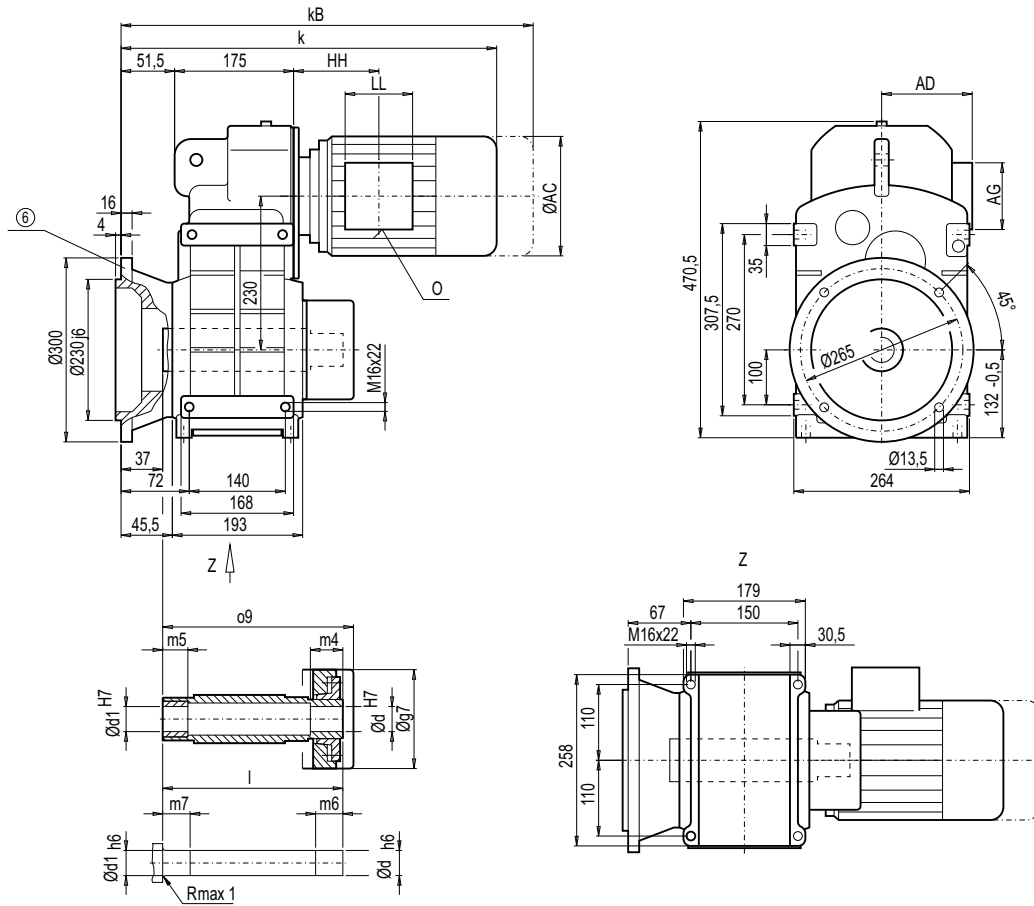
⑤ Feather key / keyway DIN 6885

⑥ For note, see page 3/178



### Gearbox FDAFS/FZAFS88B (3- / 2-stage), flange-mounted design and shrink disk

#### FAFS012



d	d1	l	o9	m4	m5	m6	m7	g7
50 *)	50	241	249	29	30	34	35	132
60	60	241	249	29	30	34	35	132

\*) Preferred series

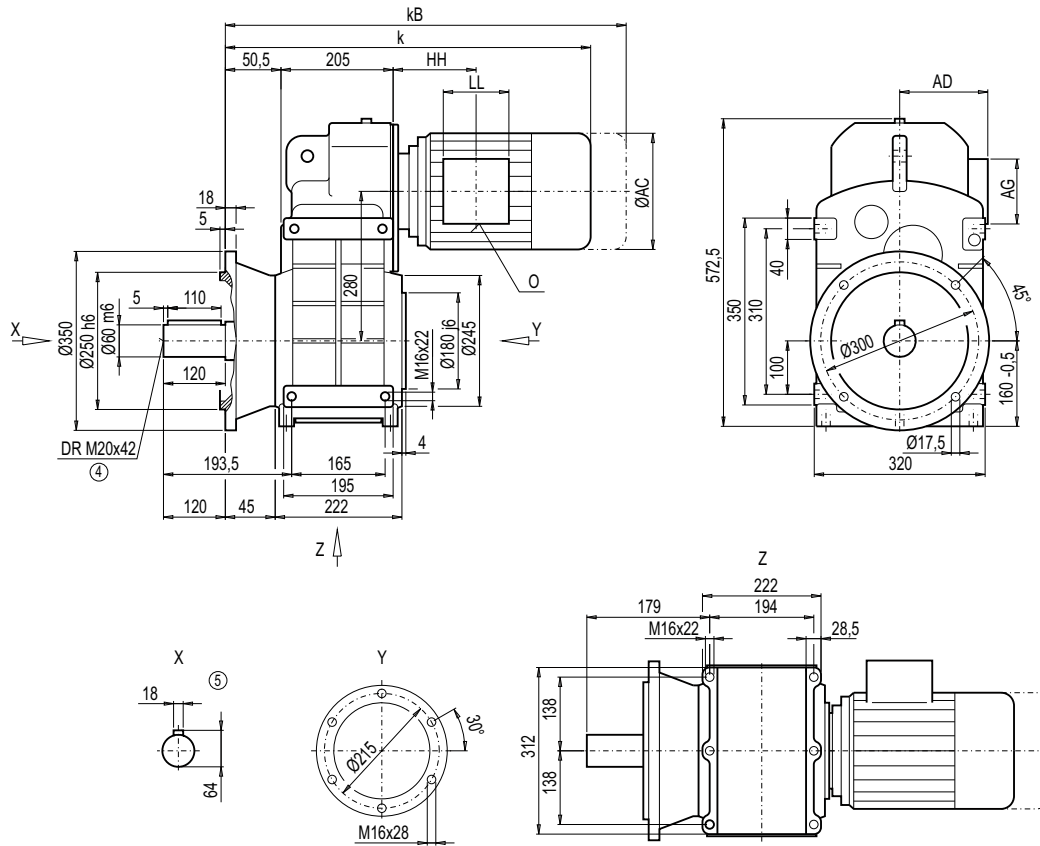
Motor	F.AFS88B								Weight	
	k	kB	AC	AD	AG	LL	HH	O	FDAFS88B	FZAFS88B
LA71	473.5	528.5	139.0	146	90	90	103.0	M20x1.5/M25x1.5	75	-
LA71Z	492.5	547.5	139.0	146	90	90	103.0	M20x1.5/M25x1.5	75	-
LA80	510.5	574.0	156.5	155	90	90	102.5	M20x1.5/M25x1.5	80	80
LA80Z	533.0	596.5	156.5	155	90	90	175.5	M20x1.5/M25x1.5	84	84
LA90S/L	541.5	612.5	174.0	163	90	90	102.5	M20x1.5/M25x1.5	84	85
LA90ZL	586.5	657.5	174.0	163	90	90	226.5	M20x1.5/M25x1.5	90	91
LA100L	587.5	668.5	195.0	168	120	120	143.0	2xM32x1.5	93	94
LA100ZL	657.5	738.5	195.0	168	120	120	275.0	2xM32x1.5	103	104
LA112M	614.5	695.5	219.0	181	120	120	146.0	2xM32x1.5	105	106
LA112ZM	642.5	723.5	219.0	181	120	120	250.0	2xM32x1.5	112	113
LA132S/M	674.5	776.5	259.0	195	140	140	186.5	2xM32x1.5	118	119
LA132ZM	720.5	822.5	259.0	195	140	140	294.5	2xM32x1.5	139	140
LA160M/L	777.0	895.5	313.5	227	165	165	212.0	2xM40x1.5	-	151
LA160ZL	825.0	943.5	313.5	227	165	165	365.0	2xM40x1.5	-	190

© For note, see page 3/178



### Gearbox FDF/FZF108B (3- / 2-stage), flange-mounted design (A-type)

FF012



3

Motor	F.F108B								Weight	
	k	kB	AC	AD	AG	LL	HH	O	FDF108B	FZF108B
LA80	524.5	588.0	156.5	155.0	90	90	87.5	M20x1.5/M25x1.5	134	–
LA80Z	547.0	610.5	156.5	155.0	90	90	160.5	M20x1.5/M25x1.5	138	–
LA90S/L	555.5	626.5	174.0	163.0	90	90	87.5	M20x1.5/M25x1.5	139	–
LA90ZL	600.5	671.5	174.0	163.0	90	90	211.5	M20x1.5/M25x1.5	145	–
LA100L	599.0	680.0	195.0	168.0	120	120	125.5	2xM32x1.5	147	147
LA100ZL	669.0	750.0	195.0	168.0	120	120	257.5	2xM32x1.5	157	157
LA112M	625.0	706.0	219.0	181.0	120	120	127.5	2xM32x1.5	159	159
LA112ZM	653.0	734.0	219.0	181.0	120	120	231.5	2xM32x1.5	166	166
LA132S/M	685.0	787.0	259.0	195.0	140	140	168.0	2xM32x1.5	170	171
LA132ZM	731.0	833.0	259.0	195.0	140	140	276.0	2xM32x1.5	192	192
LA160M/L	789.5	908.0	313.5	227.0	165	165	195.5	2xM40x1.5	205	206
LA160ZL	837.5	956.0	313.5	227.0	165	165	348.5	2xM40x1.5	244	245
LG180M/L	849.0	971.0	348.0	322.5	260	192	212.5	2xM40x1.5	–	298
LG180ZM/ZL	900.0	1 022.0	348.0	322.5	260	192	212.5	2xM40x1.5	–	328

④ DIN 332

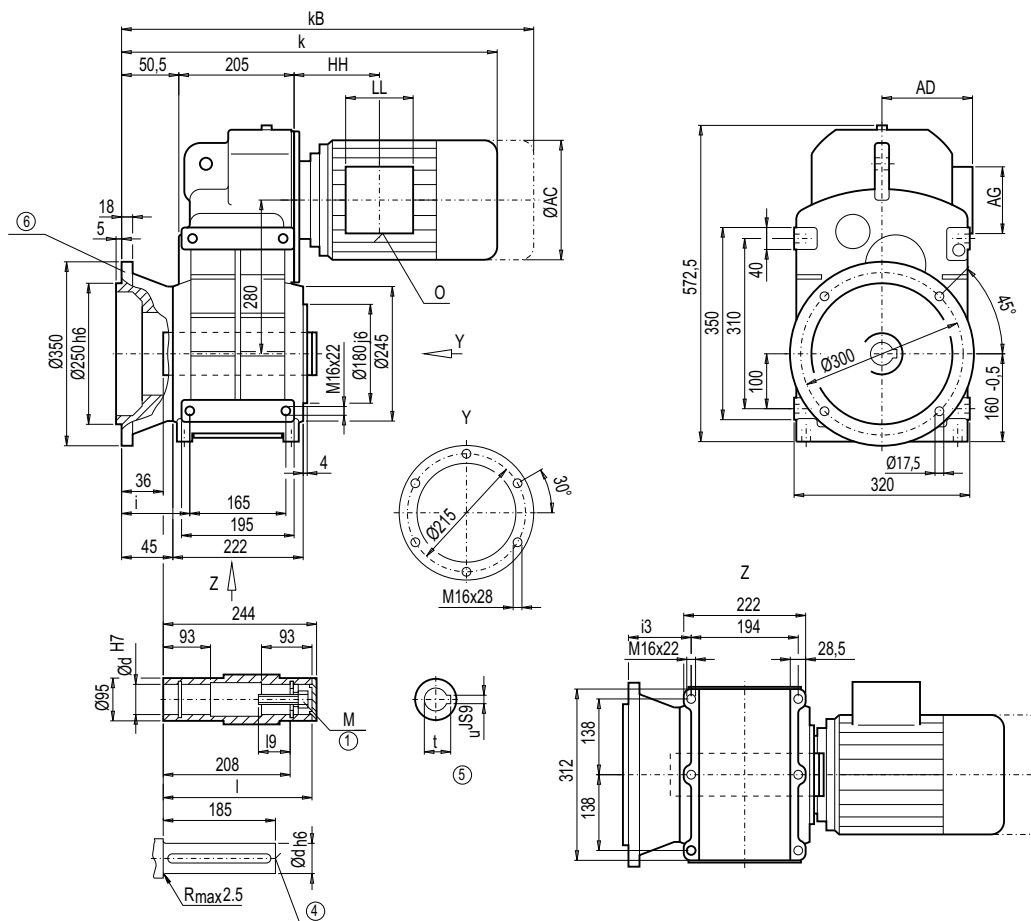
⑤ Feather key / keyway DIN 6885





### Gearbox FDAF/FZAF108B (3- / 2-stage), flange-mounted design

#### FAF012



d	l	l9	M	t	u	i	i3
60 *)	240	63.5	M20	64.4	18	73.5	59
70	240	63.5	M20	74.9	20	73.5	59

\*) Preferred series

Motor	F.AF108B								Weight	
	k	kB	AC	AD	AG	LL	HH	O	FDAF108B	FZAF108B
LA80	524.5	588.0	156.5	155.0	90	90	87.5	M20x1.5/M25x1.5	121	-
LA80Z	547.0	610.5	156.5	155.0	90	90	160.5	M20x1.5/M25x1.5	125	-
LA90S/L	555.5	626.5	174.0	163.0	90	90	87.5	M20x1.5/M25x1.5	126	-
LA90ZL	600.5	671.5	174.0	163.0	90	90	211.5	M20x1.5/M25x1.5	132	-
LA100L	599.0	680.0	195.0	168.0	120	120	125.5	2xM32x1.5	134	134
LA100ZL	669.0	750.0	195.0	168.0	120	120	257.5	2xM32x1.5	144	144
LA112M	625.0	706.0	219.0	181.0	120	120	127.5	2xM32x1.5	146	147
LA112ZM	653.0	734.0	219.0	181.0	120	120	231.5	2xM32x1.5	153	154
LA132S/M	685.0	787.0	259.0	195.0	140	140	168.0	2xM32x1.5	158	158
LA132ZM	731.0	833.0	259.0	195.0	140	140	276.0	2xM32x1.5	179	179
LA160M/L	789.5	908.0	313.5	227.0	165	165	195.5	2xM40x1.5	192	193
LA160ZL	837.5	956.0	313.5	227.0	165	165	348.5	2xM40x1.5	231	232
LG180M/L	849.0	971.0	348.0	322.5	260	192	212.5	2xM40x1.5	-	285
LG180ZM/ZL	900.0	1 022.0	348.0	322.5	260	192	212.5	2xM40x1.5	-	315

① DIN EN ISO 4014

④ DIN 332

⑤ Feather key / keyway DIN 6885

⑥ For note, see page 3/178

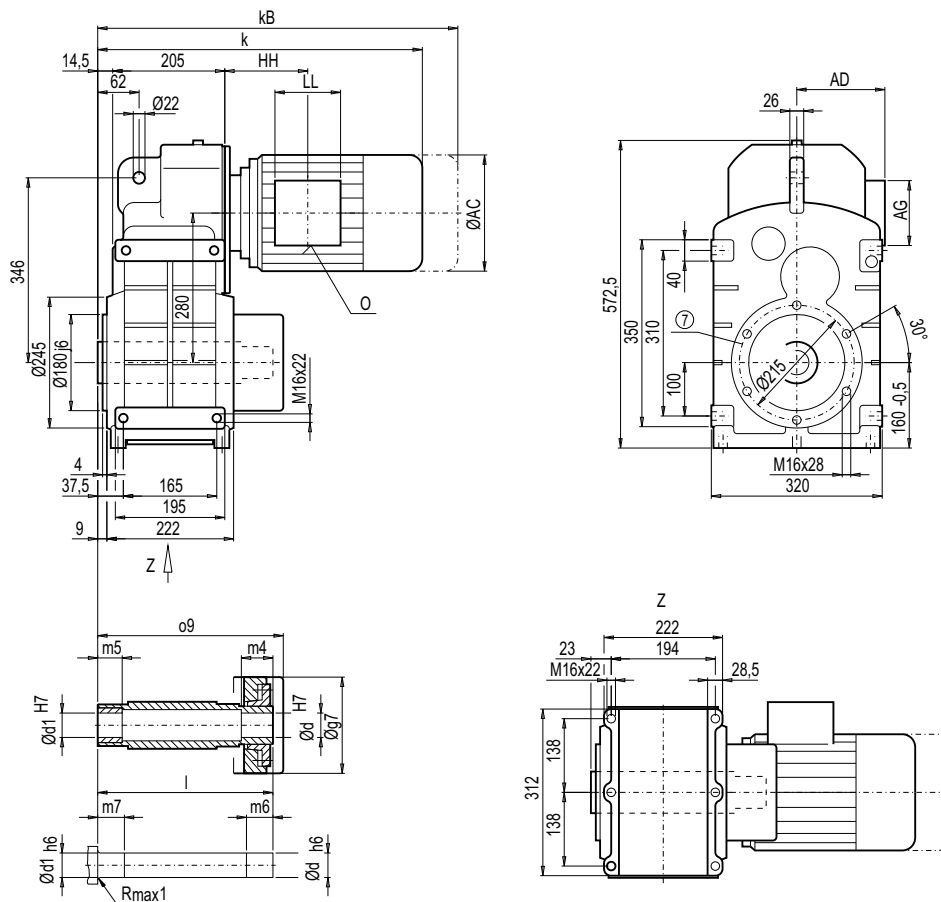
# MOTOX Geared Motors

## Parallel shaft geared motors

### Dimensions

#### Gearbox FDAS/FZAS108B, FDAZS/FZAZS108B (3- / 2-stage), shaft-mounted design with shrink disk

FAS012  
FAZS012



d	d1	l	o9	m4	m5	m6	m7	g7
65 *)	65	280	288	30	40	35	45	144
70	70	280	288	30	40	35	45	144

\*) Preferred series

Motor	F.A.S108B								Weight	
	k	kB	AC	AD	AG	LL	HH	O	FDA.S108B	FZA.S108B
LA80	488.5	552.0	156.5	155.0	90	90	87.5	M20x1.5/M25x1.5	115	-
LA80Z	511.0	574.5	156.5	155.0	90	90	160.5	M20x1.5/M25x1.5	119	-
LA90S/L	519.5	590.5	174.0	163.0	90	90	87.5	M20x1.5/M25x1.5	120	-
LA90ZL	564.5	635.5	174.0	163.0	90	90	211.5	M20x1.5/M25x1.5	126	-
LA100L	563.0	644.0	195.0	168.0	120	120	125.5	2xM32x1.5	128	128
LA100ZL	633.0	714.0	195.0	168.0	120	120	257.5	2xM32x1.5	138	138
LA112M	589.0	670.0	219.0	181.0	120	120	127.5	2xM32x1.5	140	140
LA112ZM	617.0	698.0	219.0	181.0	120	120	231.5	2xM32x1.5	147	147
LA132S/M	649.0	751.0	259.0	195.0	140	140	168.0	2xM32x1.5	151	152
LA132ZM	695.0	797.0	259.0	195.0	140	140	276.0	2xM32x1.5	173	173
LA160M/L	753.5	872.0	313.5	227.0	165	165	195.5	2xM40x1.5	186	187
LA160ZL	801.5	920.0	313.5	227.0	165	165	348.5	2xM40x1.5	225	226
LG180M/L	813.0	935.0	348.0	322.5	260	192	212.5	2xM40x1.5	-	279
LG180ZM/ZL	864.0	986.0	348.0	322.5	260	192	212.5	2xM40x1.5	-	309

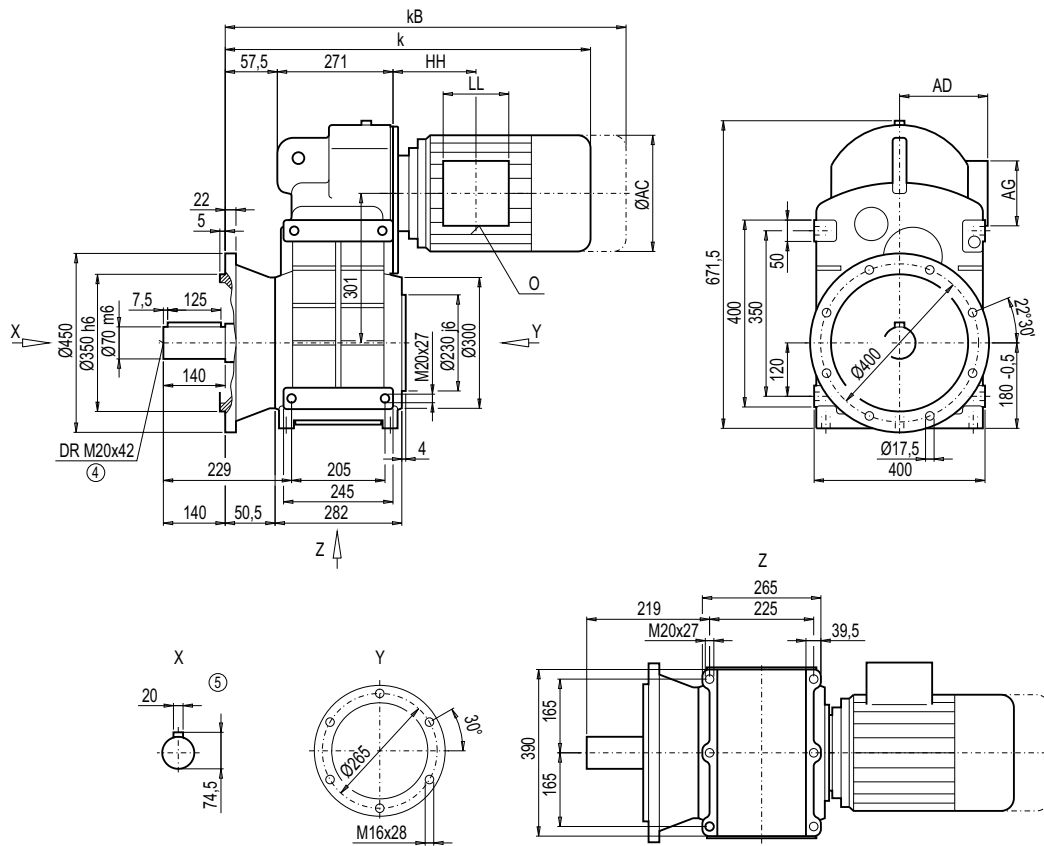
⑦ For note, see page 3/179





### Gearbox FDF/FZF128B (3- / 2-stage), flange-mounted design (A-type)

FF012



Motor	F.F128B								Weight	
	k	kB	AC	AD	AG	LL	HH	O	FDF128B	FZF128B
LA90S/L	617.0	688.0	174.0	163.0	90	90	76.0	M20x1.5/M25x1.5	226	–
LA90ZL	662.0	733.0	174.0	163.0	90	90	200.0	M20x1.5/M25x1.5	232	–
LA100L	660.0	741.0	195.0	168.0	120	120	113.5	2xM32x1.5	234	–
LA100ZL	730.0	811.0	195.0	168.0	120	120	245.5	2xM32x1.5	244	–
LA112M	686.5	767.5	219.0	181.0	120	120	116.0	2xM32x1.5	246	244
LA112ZM	714.5	795.5	219.0	181.0	120	120	220.0	2xM32x1.5	253	251
LA132S/M	745.5	847.5	259.0	195.0	140	140	155.5	2xM32x1.5	256	255
LA132ZM	791.5	893.5	259.0	195.0	140	140	263.5	2xM32x1.5	278	276
LA160M/L	851.0	969.5	313.5	227.0	165	165	184.0	2xM40x1.5	291	289
LA160ZL	899.0	1 017.5	313.5	227.0	165	165	337.0	2xM40x1.5	230	328
LG180M/L	907.5	1 029.5	348.0	322.5	260	192	198.0	2xM40x1.5	387	386
LG180ZM/ZL	958.5	1 080.5	348.0	322.5	260	192	198.0	2xM40x1.5	417	416
LG200L	963.5	1 089.5	385.0	301.0	260	192	228.0	2xM50x1.5	467	466
K4-LGI225S	1 224.0	1 463.0	442.0	325.0	260	192	443.0	2xM50x1.5	–	621
K4-LGI225M	1 224.0	1 463.0	442.0	325.0	260	192	443.0	2xM50x1.5	–	609
K4-LGI225ZM	1 284.0	1 523.0	442.0	325.0	260	192	443.0	2xM50x1.5	–	667





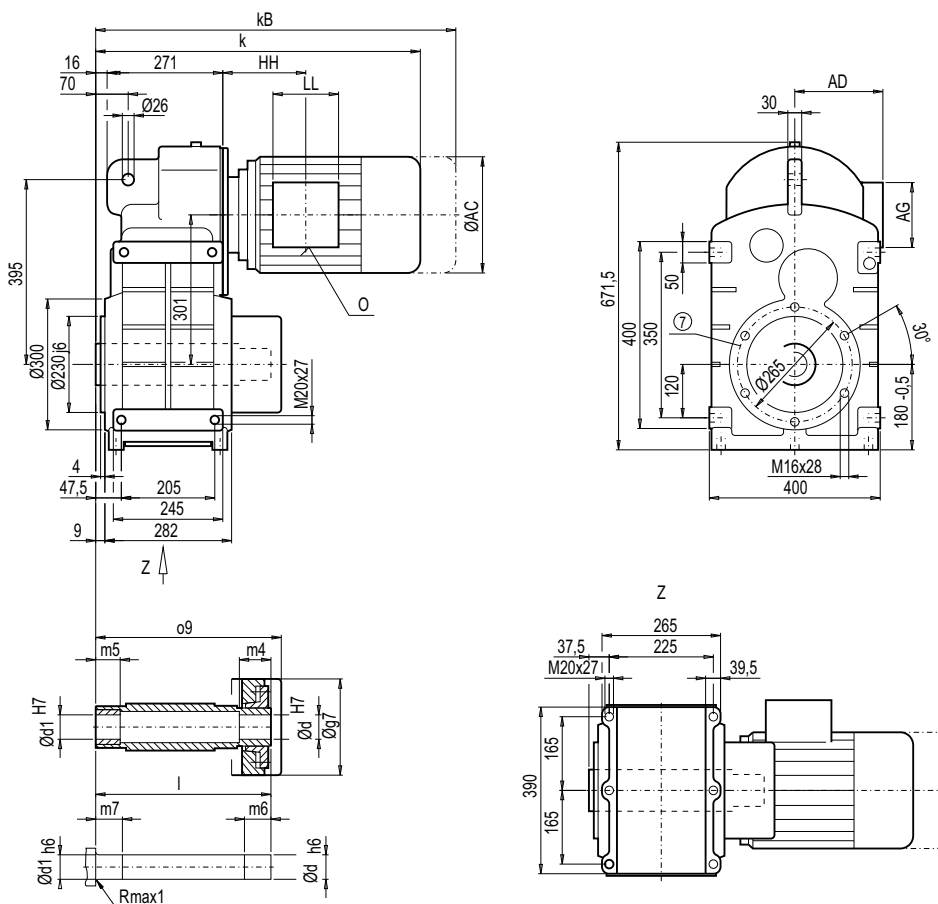
# MOTOX Geared Motors

## Parallel shaft geared motors

### Dimensions

#### Gearbox FDAS/FZAS128B, FDAZS/FZAZS128B (3- / 2-stage), shaft-mounted design with shrink disk

FAS012  
FAZS012



d	d1	l	o9	m4	m5	m6	m7	g7
75 *)	75	345	357	44	50	49	55	180
80	80	345	357	40	50	45	55	180

\*) Preferred series

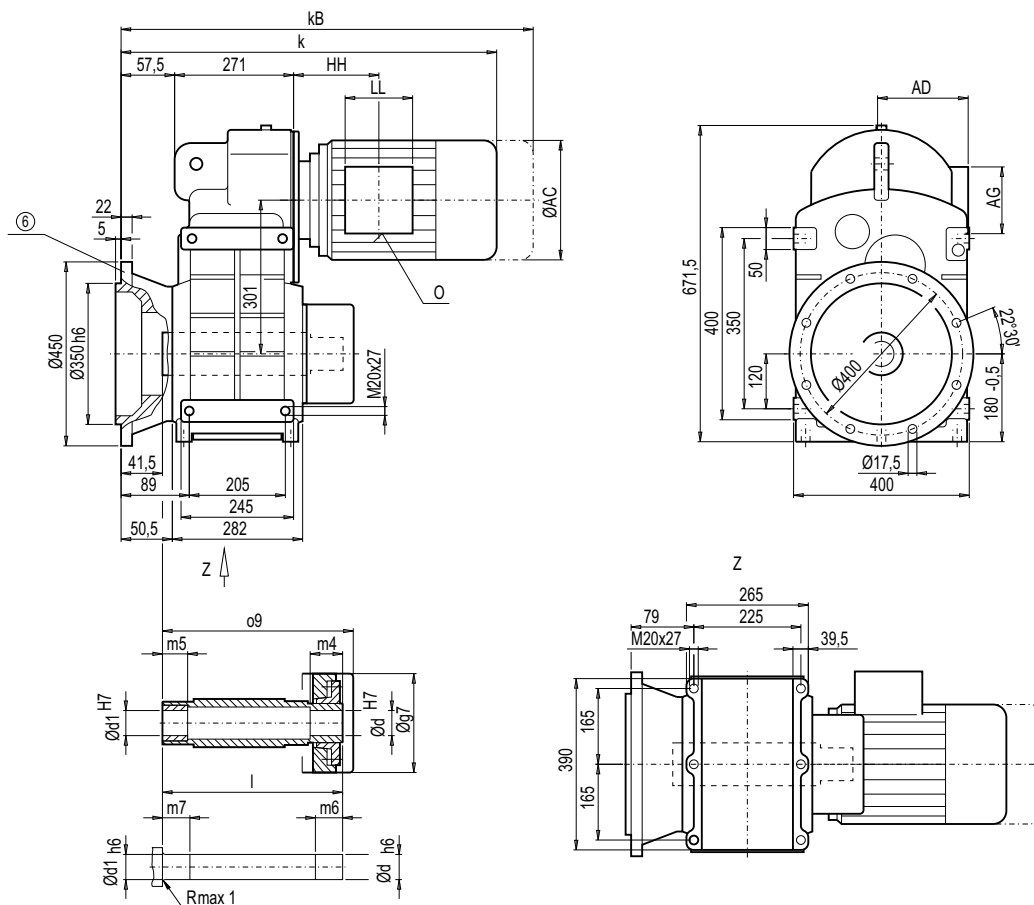
Motor	F.A.S128B								Weight	
	k	kB	AC	AD	AG	LL	HH	O	FDA.S128B	FZA.S128B
LA90S/L	575.5	646.5	174.0	163.0	90	90	76.0	M20x1.5/M25x1.5	191	-
LA90ZL	620.5	691.5	174.0	163.0	90	90	200.0	M20x1.5/M25x1.5	197	-
LA100L	618.5	699.5	195.0	168.0	120	120	113.5	2xM32x1.5	199	-
LA100ZL	688.5	769.5	195.0	168.0	120	120	245.5	2xM32x1.5	209	-
LA112M	645.0	726.0	219.0	181.0	120	120	116.0	2xM32x1.5	210	209
LA112ZM	673.0	754.0	219.0	181.0	120	120	220.0	2xM32x1.5	217	216
LA132S/M	704.0	806.0	259.0	195.0	140	140	155.5	2xM32x1.5	221	219
LA132ZM	750.0	852.0	259.0	195.0	140	140	263.5	2xM32x1.5	242	240
LA160M/L	809.5	928.0	313.5	227.0	165	165	184.0	2xM40x1.5	256	254
LA160ZL	857.5	976.0	313.5	227.0	165	165	337.0	2xM40x1.5	295	293
LG180M/L	866.0	988.0	348.0	322.5	260	192	198.0	2xM40x1.5	352	350
LG180ZM/ZL	917.0	1 039.0	348.0	322.5	260	192	198.0	2xM40x1.5	382	380
LG200L	922.0	1 048.0	385.0	301.0	260	192	228.0	2xM50x1.5	432	430
K4-LGI225S	1 182.5	1 421.5	442.0	325.0	260	192	443.0	2xM50x1.5	-	585
K4-LGI225M	1 182.5	1 421.5	442.0	325.0	260	192	443.0	2xM50x1.5	-	573
K4-LGI225ZM	1 242.5	1 481.5	442.0	325.0	260	192	443.0	2xM50x1.5	-	631

⑦ For note, see page 3/179



### Gearbox FDAFS/FZAFS128B (3- / 2-stage), flange-mounted design and shrink disk

#### FAFS012



d	d1	l	o9	m4	m5	m6	m7	g7
75 *)	75	345	357	44	50	49	55	180
80	80	345	357	40	50	45	55	180

\*) Preferred series

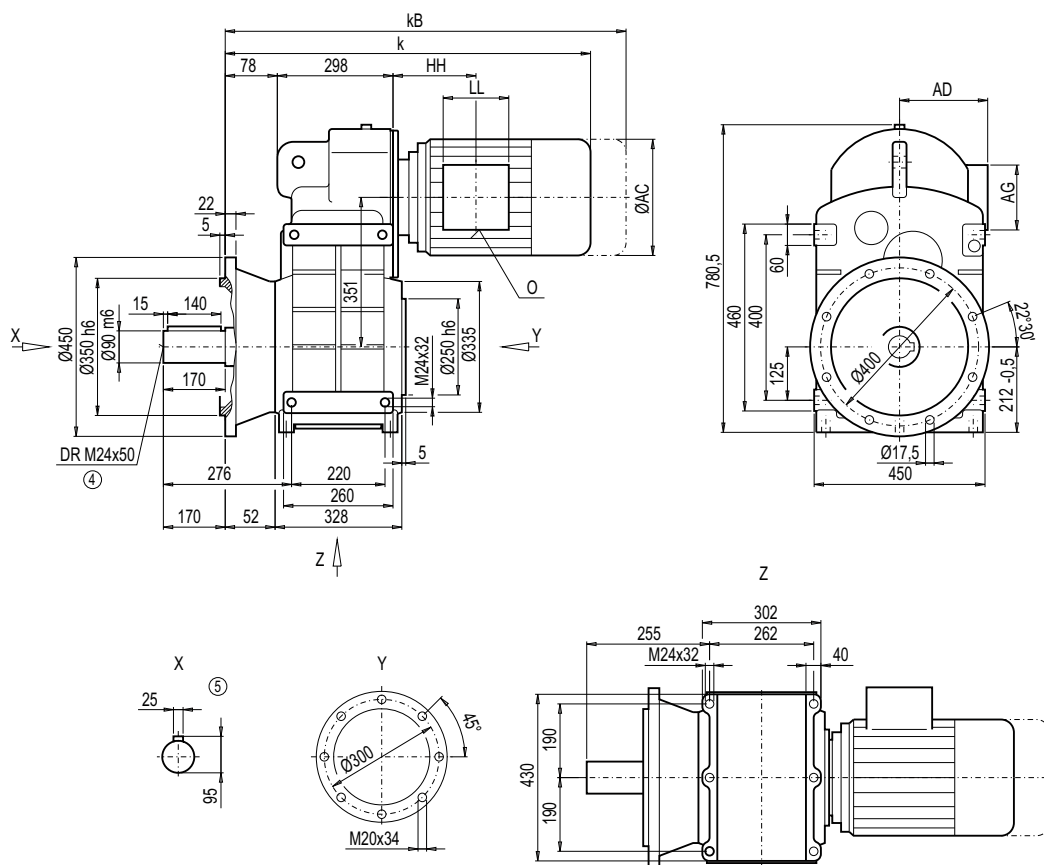
Motor	F.AFS128B								Weight	
	k	kB	AC	AD	AG	LL	HH	O	FDAFS128B	FZAFS128B
LA90S/L	617.0	688.0	174.0	163.0	90	90	76.0	M20x1.5/M25x1.5	210	–
LA90ZL	662.0	733.0	174.0	163.0	90	90	200.0	M20x1.5/M25x1.5	216	–
LA100L	660.0	741.0	195.0	168.0	120	120	113.5	2xM32x1.5	218	–
LA100ZL	730.0	811.0	195.0	168.0	120	120	245.5	2xM32x1.5	228	–
LA112M	686.5	767.5	219.0	181.0	120	120	116.0	2xM32x1.5	230	228
LA112ZM	714.5	795.5	219.0	181.0	120	120	220.0	2xM32x1.5	237	235
LA132S/M	745.5	847.5	259.0	195.0	140	140	155.5	2xM32x1.5	241	239
LA132ZM	791.5	893.5	259.0	195.0	140	140	263.5	2xM32x1.5	262	260
LA160M/L	851.0	969.5	313.5	227.0	165	165	184.0	2xM40x1.5	275	274
LA160ZL	899.0	1 017.5	313.5	227.0	165	165	337.0	2xM40x1.5	314	313
LG180M/L	907.5	1 029.5	348.0	322.5	260	192	198.0	2xM40x1.5	372	370
LG180ZM/ZL	958.5	1 080.5	348.0	322.5	260	192	198.0	2xM40x1.5	402	400
LG200L	963.5	1 089.5	385.0	301.0	260	192	228.0	2xM50x1.5	452	450
K4-LGI225S	1 224.0	1 463.0	442.0	325.0	260	192	443.0	2xM50x1.5	–	615
K4-LGI225M	1 224.0	1 463.0	442.0	325.0	260	192	443.0	2xM50x1.5	–	593
K4-LGI225ZM	1 284.0	1 523.0	442.0	325.0	260	192	443.0	2xM50x1.5	–	651

© For note, see page 3/178



### Gearbox FDF/FZF148B (3- / 2-stage), flange-mounted design (A-type)

FF012



Motor	F.F148B								Weight	
	k	kB	AC	AD	AG	LL	HH	O	FDF148B	FZF148B
LA100L	698.0	779.0	195.0	168.0	120	120	104.0	2xM32x1.5	333	—
LA100ZL	768.0	849.0	195.0	168.0	120	120	236.0	2xM32x1.5	343	—
LA112M	723.5	804.5	219.0	181.0	120	120	105.5	2xM32x1.5	345	—
LA112ZM	751.5	832.5	219.0	181.0	120	120	209.5	2xM32x1.5	352	—
LA132S/M	782.5	884.5	259.0	195.0	140	140	145.0	2xM32x1.5	354	350
LA132ZM	828.5	930.5	259.0	195.0	140	140	253.0	2xM32x1.5	375	371
LA160M/L	882.0	1 000.5	313.5	227.0	165	165	167.5	2xM40x1.5	393	389
LA160ZL	930.0	1 048.5	313.5	227.0	165	165	320.5	2xM40x1.5	432	428
LG180M/L	941.5	1 063.5	348.0	322.5	260	192	184.5	2xM40x1.5	484	480
LG180ZM/ZL	992.5	1 114.5	348.0	322.5	260	192	184.5	2xM40x1.5	514	510
LG200L	997.5	1 123.5	385.0	301.0	260	192	214.5	2xM50x1.5	564	560
LG225S	1 068.5	1 307.5	442.0	325.0	260	192	250.5	2xM50x1.5	638	637
LG225M	1 068.5	1 307.5	442.0	325.0	260	192	250.5	2xM50x1.5	626	625
LG225ZM	1 128.5	1 367.5	442.0	325.0	260	192	250.5	2xM50x1.5	684	683
K4-LGI250M	1 355.5	1 580.5	495.0	392.0	300	236	469.5	2xM63x1.5	—	804
K4-LGI250ZM	1 425.5	1 650.5	495.0	392.0	300	236	469.5	2xM63x1.5	—	907

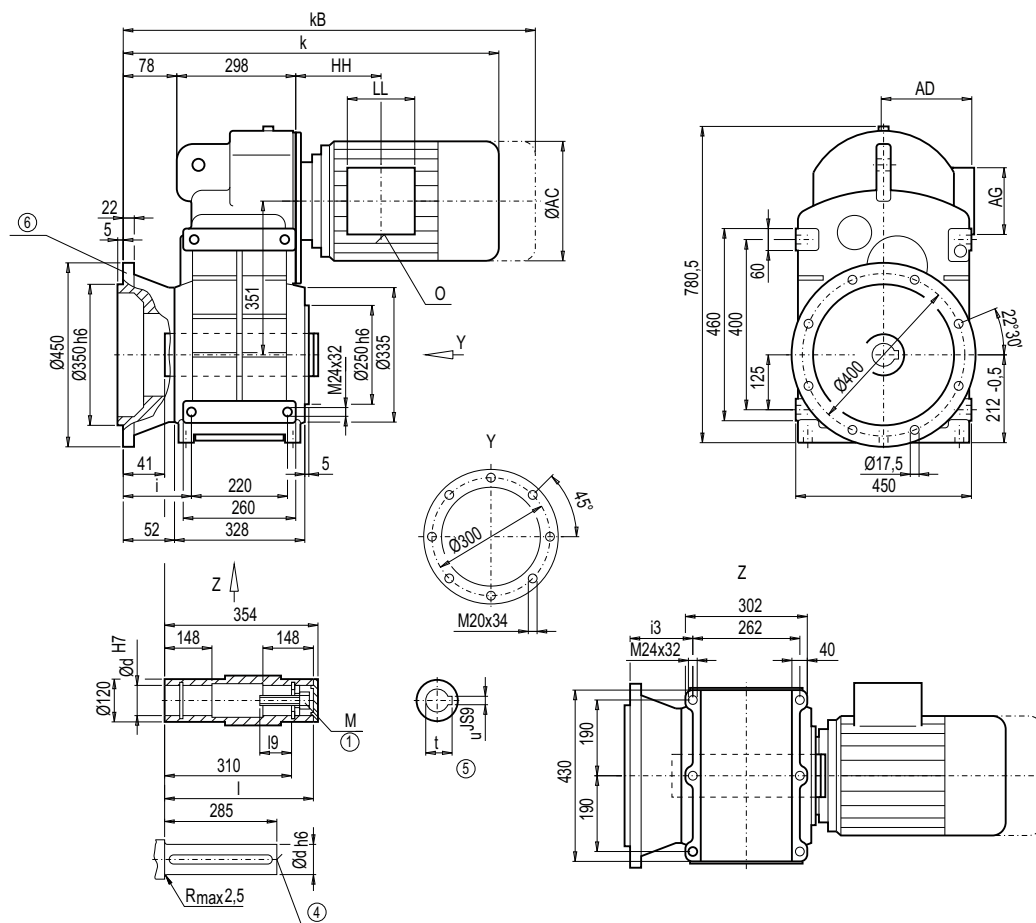
④ DIN 332

⑤ Feather key / keyway DIN 6885



### Gearbox FDAF/FZAF148B (3- / 2-stage), flange-mounted design

FAF012



d	l	i9	M	t	u	i	i3
80 *)	350	63.5	M20	85.4	22	106	85
90	350	72.0	M24	95.4	25	106	85

\*) Preferred series

Motor	F.AF148B								Weight	
	k	kB	AC	AD	AG	LL	HH	O	FDAF148B	FZAF148B
LA100L	698.0	779.0	195.0	168.0	120	120	104.0	2xM32x1.5	305	-
LA100ZL	768.0	849.0	195.0	168.0	120	120	236.0	2xM32x1.5	315	-
LA112M	723.5	804.5	219.0	181.0	120	120	105.5	2xM32x1.5	317	-
LA112ZM	751.5	832.5	219.0	181.0	120	120	209.5	2xM32x1.5	324	-
LA132S/M	782.5	884.5	259.0	195.0	140	140	145.0	2xM32x1.5	326	322
LA132ZM	828.5	930.5	259.0	195.0	140	140	253.0	2xM32x1.5	347	343
LA160M/L	882.0	1 000.5	313.5	227.0	165	165	167.5	2xM40x1.5	365	361
LA160ZL	930.0	1 048.5	313.5	227.0	165	165	320.5	2xM40x1.5	404	400
LG180M/L	941.5	1 063.5	348.0	322.5	260	192	184.5	2xM40x1.5	456	452
LG180ZM/ZL	992.5	1 114.5	348.0	322.5	260	192	184.5	2xM40x1.5	486	482
LG200L	997.5	1 123.5	385.0	301.0	260	192	214.5	2xM50x1.5	536	532
LG225S	1 068.5	1 307.5	442.0	325.0	260	192	250.5	2xM50x1.5	610	609
LG225M	1 068.5	1 307.5	442.0	325.0	260	192	250.5	2xM50x1.5	598	597
LG225ZM	1 128.5	1 367.5	442.0	325.0	260	192	250.5	2xM50x1.5	656	655
K4-LGI250M	1 355.5	1 580.5	495.0	392.0	300	236	469.5	2xM63x1.5	-	776
K4-LGI250ZM	1 425.5	1 650.5	495.0	392.0	300	236	469.5	2xM63x1.5	-	879

① DIN EN ISO 4014

④ DIN 332

⑤ Feather key / keyway DIN 6885

⑥ For note, see page 3/178

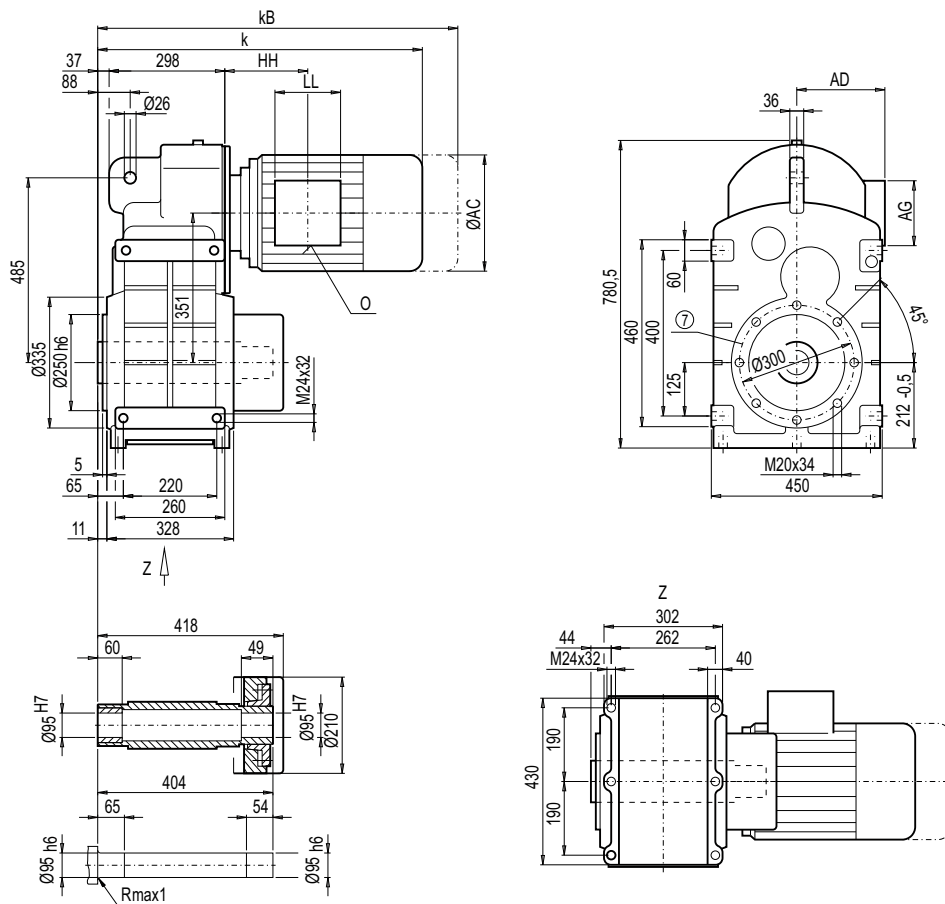
# MOTOX Geared Motors

## Parallel shaft geared motors

### Dimensions

#### Gearbox FDAS/FZAS148B, FDAZS/FZAZS148B (3- / 2-stage), shaft-mounted design with shrink disk

FAS012  
FAZS012

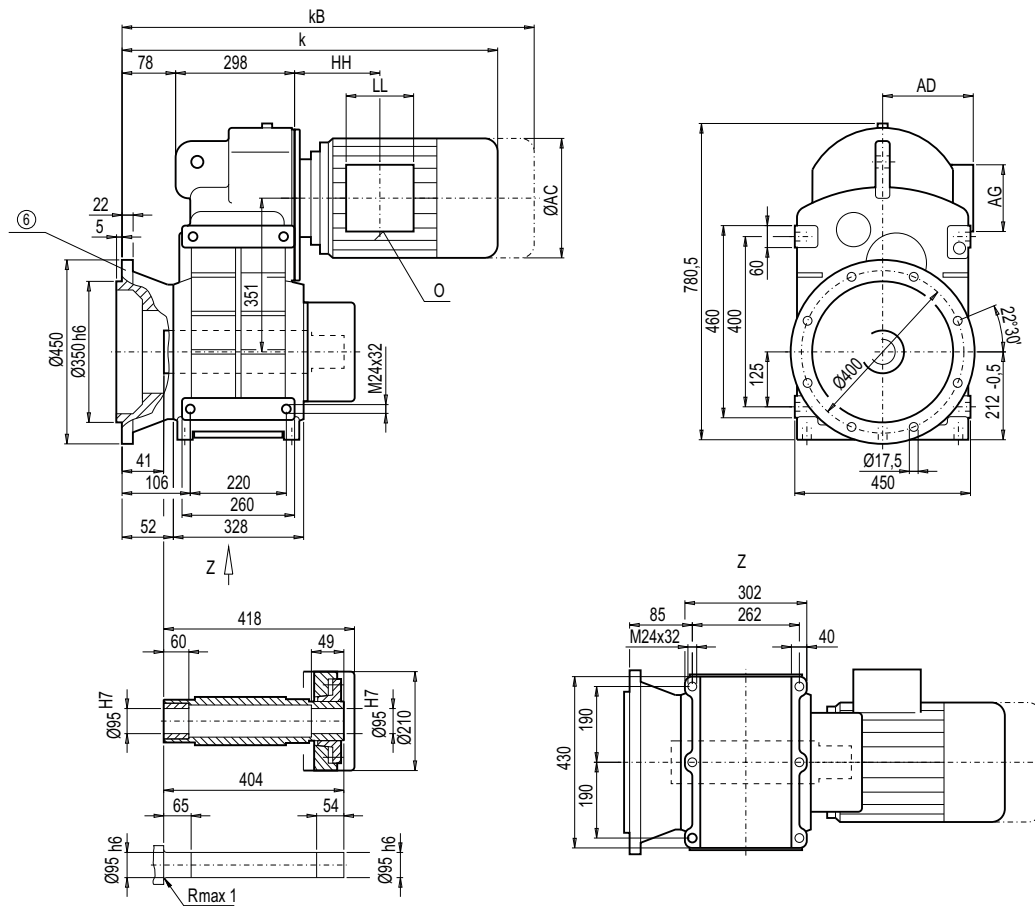


Motor	F.A.S148B								Weight	
	k	kB	AC	AD	AG	LL	HH	O	FDA.S148B	FZA.S148B
LA100L	657.0	738.0	195.0	168.0	120	120	104.0	2xM32x1.5	290	–
LA100ZL	727.0	808.0	195.0	168.0	120	120	236.0	2xM32x1.5	300	–
LA112M	682.5	763.5	219.0	181.0	120	120	105.5	2xM32x1.5	301	–
LA112ZM	710.5	791.5	219.0	181.0	120	120	209.5	2xM32x1.5	308	–
LA132S/M	741.5	843.5	259.0	195.0	140	140	145.0	2xM32x1.5	310	306
LA132ZM	787.5	889.5	259.0	195.0	140	140	253.0	2xM32x1.5	331	327
LA160M/L	841.0	959.5	313.5	227.0	165	165	167.5	2xM40x1.5	350	345
LA160ZL	889.0	1 007.5	313.5	227.0	165	165	320.5	2xM40x1.5	389	384
LG180M/L	900.5	1 022.5	348.0	322.5	260	192	184.5	2xM40x1.5	441	436
LG180ZM/ZL	951.5	1 073.5	348.0	322.5	260	192	184.5	2xM40x1.5	471	466
LG200L	956.5	1 082.5	385.0	301.0	260	192	214.5	2xM50x1.5	521	516
LG225S	1 027.5	1 266.5	442.0	325.0	260	192	250.5	2xM50x1.5	597	593
LG225M	1 027.5	1 266.5	442.0	325.0	260	192	250.5	2xM50x1.5	585	581
LG225ZM	1 087.5	1 326.5	442.0	325.0	260	192	250.5	2xM50x1.5	643	639
K4-LGI250M	1 314.5	1 539.5	495.0	392.0	300	236	469.5	2xM63x1.5	–	760
K4-LGI250ZM	1 384.5	1 609.5	495.0	392.0	300	236	469.5	2xM63x1.5	–	863

⑦ For note, see page 3/179

### Gearbox FDAFS/FZAFS148B (3- / 2-stage), flange-mounted design and shrink disk

FAFS012



Motor	F.AFS148B								Weight	
	k	kB	AC	AD	AG	LL	HH	O	FDAFS148B	FZAFS148B
LA100L	698.0	779.0	195.0	168.0	120	120	104.0	2xM32x1.5	312	-
LA100ZL	768.0	849.0	195.0	168.0	120	120	236.0	2xM32x1.5	322	-
LA112M	723.5	804.5	219.0	181.0	120	120	105.5	2xM32x1.5	324	-
LA112ZM	751.5	832.5	219.0	181.0	120	120	209.5	2xM32x1.5	331	-
LA132S/M	782.5	884.5	259.0	195.0	140	140	145.0	2xM32x1.5	333	329
LA132ZM	828.5	930.5	259.0	195.0	140	140	253.0	2xM32x1.5	354	350
LA160M/L	882.0	1 000.5	313.5	227.0	165	165	167.5	2xM40x1.5	372	368
LA160ZL	930.0	1 048.5	313.5	227.0	165	165	320.5	2xM40x1.5	411	407
LG180M/L	941.5	1 063.5	348.0	322.5	260	192	184.5	2xM40x1.5	463	459
LG180ZM/ZL	992.5	1 114.5	348.0	322.5	260	192	184.5	2xM40x1.5	493	489
LG200L	997.5	1 123.5	385.0	301.0	260	192	214.5	2xM50x1.5	543	539
LG225S	1 068.5	1 307.5	442.0	325.0	260	192	250.5	2xM50x1.5	617	616
LG225M	1 068.5	1 307.5	442.0	325.0	260	192	250.5	2xM50x1.5	605	604
LG225ZM	1 128.5	1 367.5	442.0	325.0	260	192	250.5	2xM50x1.5	663	662
K4-LGI250M	1 355.5	1 580.5	495.0	392.0	300	236	469.5	2xM63x1.5	-	783
K4-LGI250ZM	1 425.5	1 650.5	495.0	392.0	300	236	469.5	2xM63x1.5	-	886

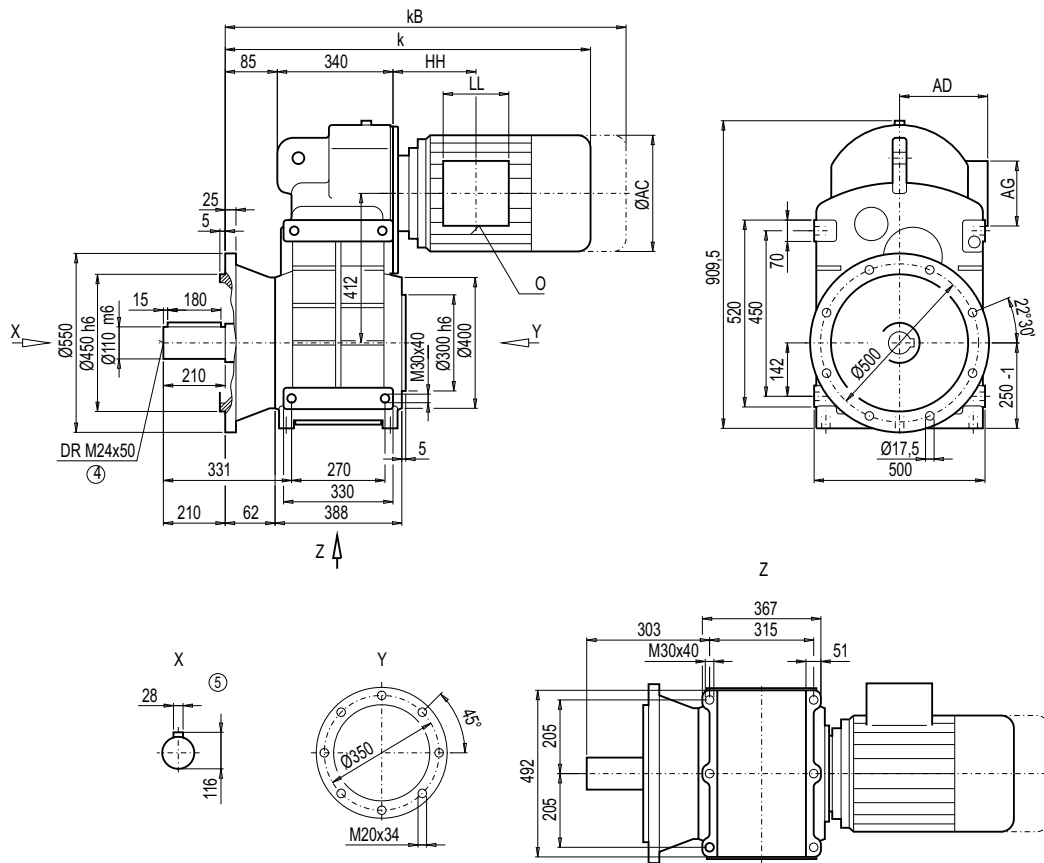
© For note, see page 3/178





### Gearbox FDF/FZF168B (3- / 2-stage), flange-mounted design (A-type)

FF012



3

Motor	F.F168B								Weight	
	k	kB	AC	AD	AG	LL	HH	O	FDF168B	FZF168B
LA132S/M	823.5	925.5	259.0	195.0	140	140	137.0	2xM32x1.5	533	522
LA132ZM	869.5	971.5	259.0	195.0	140	140	245.0	2xM32x1.5	554	543
LA160M/L	923.5	1 042.0	313.5	227.0	165	165	160.0	2xM40x1.5	567	556
LA160ZL	971.5	1 090.0	313.5	227.0	165	165	313.0	2xM40x1.5	606	595
LG180M/L	983.0	1 105.0	348.0	322.5	260	192	177.0	2xM40x1.5	663	651
LG180ZM/ZL	1 034.0	1 156.0	348.0	322.5	260	192	177.0	2xM40x1.5	693	681
LG200L	1 039.0	1 165.0	385.0	301.0	260	192	207.0	2xM50x1.5	743	731
LG225S	1 110.0	1 349.0	442.0	325.0	260	192	243.0	2xM50x1.5	816	805
LG225M	1 110.0	1 349.0	442.0	325.0	260	192	243.0	2xM50x1.5	804	793
LG225ZM	1 170.0	1 409.0	442.0	325.0	260	192	243.0	2xM50x1.5	862	851
LG250M	1 203.5	1 428.5	495.0	392.0	300	236	278.5	2xM63x1.5	906	895
LG250ZM	1 273.5	1 499.0	495.0	392.0	300	236	278.5	2xM63x1.5	1 009	998
K4-LGI280S	1 482.5	1 709.5	555.0	432.0	300	236	489.5	2xM63x1.5	-	1 125
K4-LGI280M	1 482.5	1 709.5	555.0	432.0	300	236	489.5	2xM63x1.5	-	1 138
K4-LGI280ZM	1 592.5	1 819.5	555.0	432.0	300	236	489.5	2xM63x1.5	-	1 226

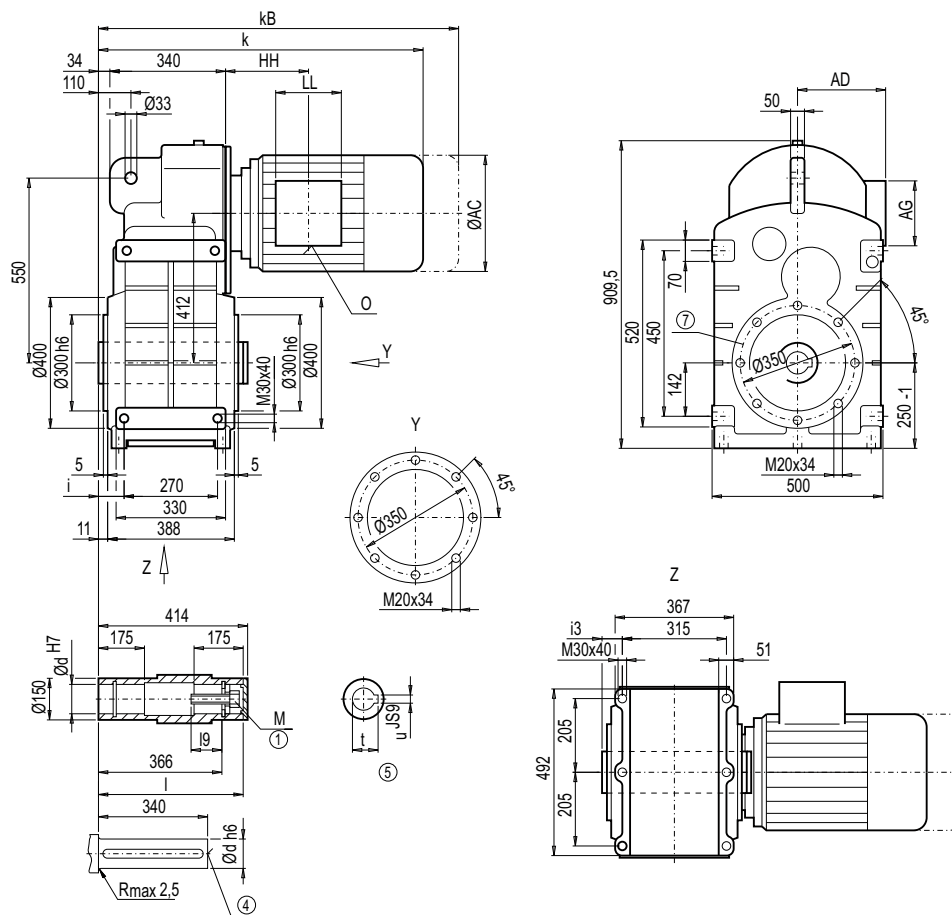
# MOTOX Geared Motors

## Parallel shaft geared motors

### Dimensions

#### Gearbox FDA/FZA168B, FDAZ/FZAZ168B (3- / 2-stage), housing-flange-mounted design (C-type)

FA012  
FAZ012



d	l	i9	M	t	u	i	i3
100 <sup>*)</sup>	410	72	M24	106.4	28	70	42
110	410	73	M24	116.4	28	70	42

<sup>\*)</sup> Preferred series

Motor	F.A.168B								Weight	
	k	kB	AC	AD	AG	LL	HH	O	FDA.168B	FZA.168B
LA132S/M	772.5	874.5	259.0	195.0	140	140	137.0	2xM32x1.5	451	440
LA132ZM	818.5	920.5	259.0	195.0	140	140	245.0	2xM32x1.5	472	461
LA160M/L	872.5	991.0	313.5	227.0	165	165	160.0	2xM40x1.5	485	474
LA160ZL	920.5	1 039.0	313.5	227.0	165	165	313.0	2xM40x1.5	524	513
LG180M/L	932.0	1 054.0	348.0	322.5	260	192	177.0	2xM40x1.5	581	569
LG180ZM/ZL	983.0	1 105.0	348.0	322.5	260	192	177.0	2xM40x1.5	611	599
LG200L	988.0	1 114.0	385.0	301.0	260	192	207.0	2xM50x1.5	661	649
LG225S	1 059.0	1 298.0	442.0	325.0	260	192	243.0	2xM50x1.5	734	723
LG225M	1 059.0	1 298.0	442.0	325.0	260	192	243.0	2xM50x1.5	722	711
LG225ZM	1 119.0	1 358.0	442.0	325.0	260	192	243.0	2xM50x1.5	780	769
LG250M	1 152.5	1 377.5	495.0	392.0	300	236	278.5	2xM63x1.5	824	813
LG250ZM	1 222.5	1 448.0	495.0	392.0	300	236	278.5	2xM63x1.5	927	916
K4-LGI280S	1 431.5	1 658.5	555.0	432.0	300	236	489.5	2xM63x1.5	-	1 044
K4-LGI280M	1 431.5	1 658.5	555.0	432.0	300	236	489.5	2xM63x1.5	-	1 056
K4-LGI280ZM	1 541.5	1 768.5	555.0	432.0	300	236	489.5	2xM63x1.5	-	1 144

① DIN EN ISO 4014

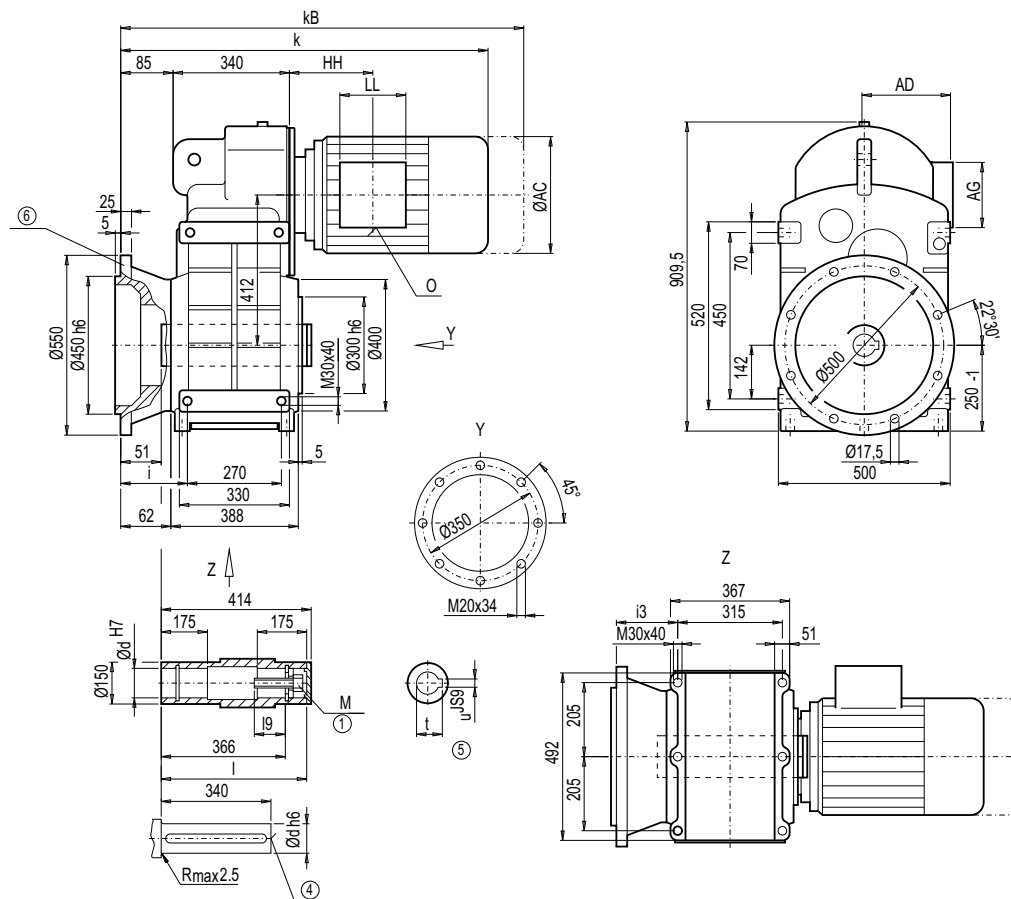
④ DIN 332

⑤ Feather key / keyway DIN 6885

⑦ For note, see page 3/179

### Gearbox FDAF/FZAF168B (3- / 2-stage), flange-mounted design

#### FAF012



d	l	l9	M	t	u	i	i3
100 *)	410	72	M24	106.4	28	121	93
110	410	73	M24	116.4	28	121	93

\*) Preferred series

Motor	F.AF168B								Weight	
	k	kB	AC	AD	AG	LL	HH	O	FDAF168B	FZAF168B
LA132S/M	823.5	925.5	259.0	195.0	140	140	137.0	2xM32x1.5	488	477
LA132ZM	869.5	971.5	259.0	195.0	140	140	245.0	2xM32x1.5	509	498
LA160M/L	923.5	1 042.0	313.5	227.0	165	165	160.0	2xM40x1.5	522	511
LA160ZL	971.5	1 090.0	313.5	227.0	165	165	313.0	2xM40x1.5	561	550
LG180M/L	983.0	1 105.0	348.0	322.5	260	192	177.0	2xM40x1.5	618	606
LG180ZM/ZL	1 034.0	1 156.0	348.0	322.5	260	192	177.0	2xM40x1.5	648	636
LG200L	1 039.0	1 165.0	385.0	301.0	260	192	207.0	2xM50x1.5	698	686
LG225S	1 110.0	1 349.0	442.0	325.0	260	192	243.0	2xM50x1.5	771	760
LG225M	1 110.0	1 349.0	442.0	325.0	260	192	243.0	2xM50x1.5	759	748
LG225ZM	1 170.0	1 409.0	442.0	325.0	260	192	243.0	2xM50x1.5	817	806
LG250M	1 203.5	1 428.5	495.0	392.0	300	236	278.5	2xM63x1.5	861	850
LG250ZM	1 273.5	1 499.0	495.0	392.0	300	236	278.5	2xM63x1.5	964	953
K4-LGI280S	1 482.5	1 709.5	555.0	432.0	300	236	489.5	2xM63x1.5	-	1 081
K4-LGI280M	1 482.5	1 709.5	555.0	432.0	300	236	489.5	2xM63x1.5	-	1 093
K4-LGI280ZM	1 592.5	1 819.5	555.0	432.0	300	236	489.5	2xM63x1.5	-	1 181

① DIN EN ISO 4014

④ DIN 332

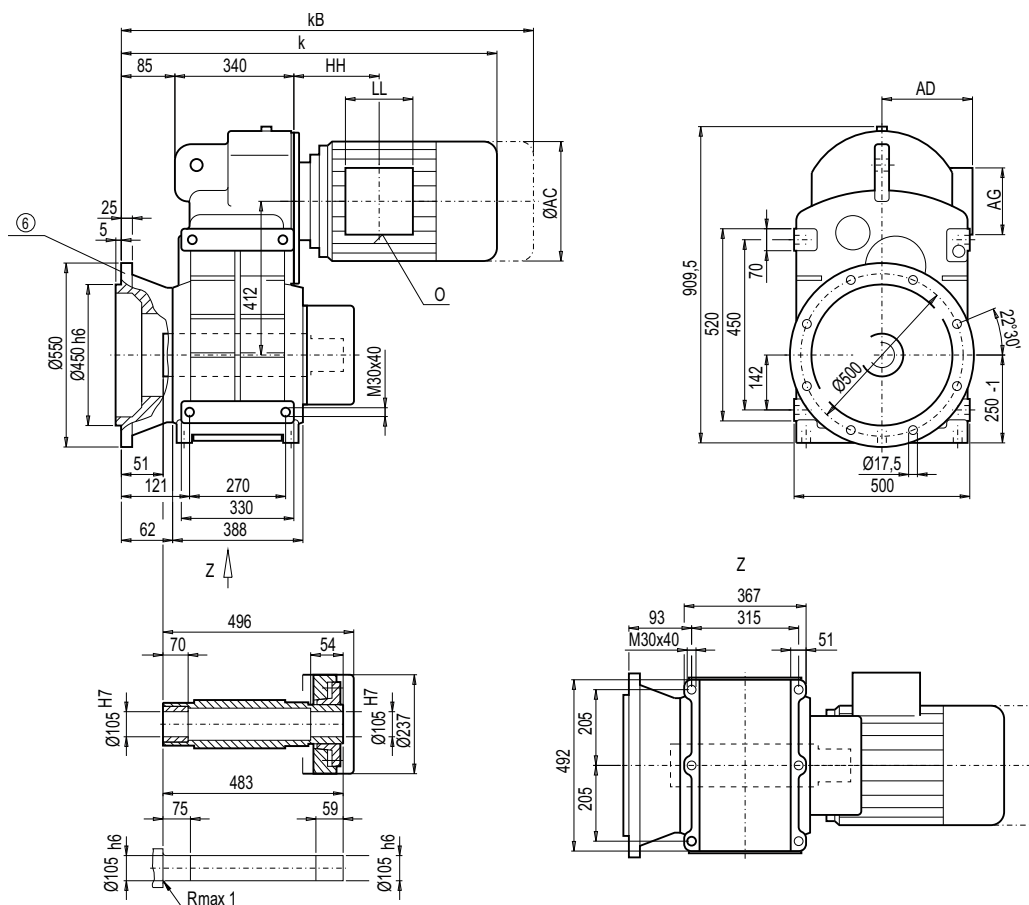
⑤ Feather key / keyway DIN 6885

⑥ For note, see page 3/178



### Gearbox FDAFS/FZAFS168B (3- / 2-stage), flange-mounted design and shrink disk

#### FAFS012



Motor	F.AFS168B								Weight	
	k	kB	AC	AD	AG	LL	HH	O	FDAFS168B	FZAFS168B
LA132S/M	823.5	925.5	259.0	195.0	140	140	137.0	2xM32x1.5	498	487
LA132ZM	869.5	971.5	259.0	195.0	140	140	245.0	2xM32x1.5	519	508
LA160M/L	923.5	1 042.0	313.5	227.0	165	165	160.0	2xM40x1.5	532	521
LA160ZL	971.5	1 090.0	313.5	227.0	165	165	313.0	2xM40x1.5	571	560
LG180M/L	983.0	1 105.0	348.0	322.5	260	192	177.0	2xM40x1.5	628	616
LG180ZM/ZL	1 034.0	1 156.0	348.0	322.5	260	192	177.0	2xM40x1.5	658	646
LG200L	1 039.0	1 165.0	385.0	301.0	260	192	207.0	2xM50x1.5	708	696
LG225S	1 110.0	1 349.0	442.0	325.0	260	192	243.0	2xM50x1.5	781	770
LG225M	1 110.0	1 349.0	442.0	325.0	260	192	243.0	2xM50x1.5	769	758
LG225ZM	1 170.0	1 409.0	442.0	325.0	260	192	243.0	2xM50x1.5	827	816
LG250M	1 203.5	1 428.5	495.0	392.0	300	236	278.5	2xM63x1.5	871	860
LG250ZM	1 273.5	1 499.0	495.0	392.0	300	236	278.5	2xM63x1.5	974	963
K4-LGI280S	1 482.5	1 709.5	555.0	432.0	300	236	489.5	2xM63x1.5	-	1 091
K4-LGI280M	1 482.5	1 709.5	555.0	432.0	300	236	489.5	2xM63x1.5	-	1 103
K4-LGI280ZM	1 592.5	1 819.5	555.0	432.0	300	236	489.5	2xM63x1.5	-	1 191

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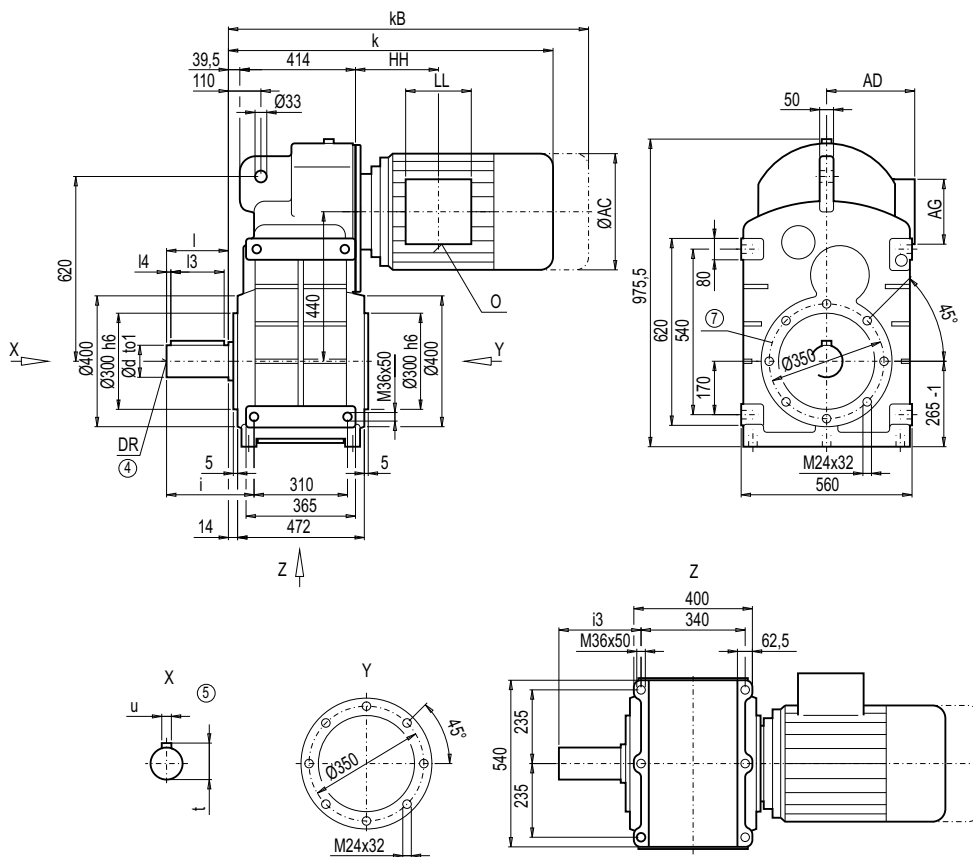
# MOTOX Geared Motors

## Parallel shaft geared motors

### Dimensions

#### Gearbox FDZ/FZZ188B (3- / 2-stage), housing-flange-mounted design (C-type)

FZ012



d	to1	l	i3	l4	t	u	i	i3	DR
120 <sup>*)</sup>	m6	210	180,	15	127	32	305	290	M24x50
140	m6	250	220	10	148	36	345	330	M24x50

<sup>\*)</sup> Preferred series

F.Z188B									Weight	
Motor	k	kB	AC	AD	AG	LL	HH	O	FDZ188B	FZZ188B
LA132S/M	837.5	939.5	259.0	195.0	140	140	122.5	2xM32x1.5	685	-
LA132ZM	883.5	985.5	259.0	195.0	140	140	230.5	2xM32x1.5	706	-
LA160M/L	937.5	1 056.0	313.5	227.0	165	165	145.5	2xM40x1.5	718	704
LA160ZL	985.5	1 104.0	313.5	227.0	165	165	298.5	2xM40x1.5	757	743
LG180M/L	997.0	1 119.0	348.0	322.5	260	192	162.5	2xM40x1.5	814	799
LG180ZM/ZL	1 048.0	1 170.0	348.0	322.5	260	192	162.5	2xM40x1.5	844	829
LG200L	1 053.0	1 179.0	385.0	301.0	260	192	192.5	2xM50x1.5	894	879
LG225S	1 124.0	1 363.0	442.0	325.0	260	192	228.5	2xM50x1.5	967	952
LG225M	1 124.0	1 363.0	442.0	325.0	260	192	228.5	2xM50x1.5	955	940
LG225ZM	1 184.0	1 423.0	442.0	325.0	260	192	228.5	2xM50x1.5	1 013	998
LG250M	1 217.5	1 442.5	495.0	392.0	300	236	264.0	2xM63x1.5	1 057	1 042
LG250ZM	1 287.5	1 513.0	495.0	392.0	300	236	264.0	2xM63x1.5	1 160	1 145
K4-LGI280S	1 497.0	1 724.0	555.0	432.0	300	236	475.5	2xM63x1.5	1 185	1 171
K4-LGI280M	1 497.0	1 724.0	555.0	432.0	300	236	475.5	2xM63x1.5	1 291	1 276
K4-LGI280ZM	1 607.0	1 834.0	555.0	432.0	300	236	475.5	2xM63x1.5	1 379	1 364
K2-LGI315S/M	1 685.0	1 950.0	610.0	500.0	380	307	584.5	2xM63x1.5	-	1 406
K2-LGI315ZM	1 845.0	2 110.0	610.0	500.0	380	307	584.5	2xM63x1.5	-	1 561
K2-LGI315L	1 845.0	2 110.0	610.0	500.0	380	307	584.5	2xM63x1.5	-	1 701
K2-LGI315ZL	1 985.0	2 250.0	610.0	500.0	380	307	584.5	2xM63x1.5	-	1 901

Ⓔ DIN 332

Ⓕ Feather key / keyway DIN 6885

Ⓖ For note, see page 3/179



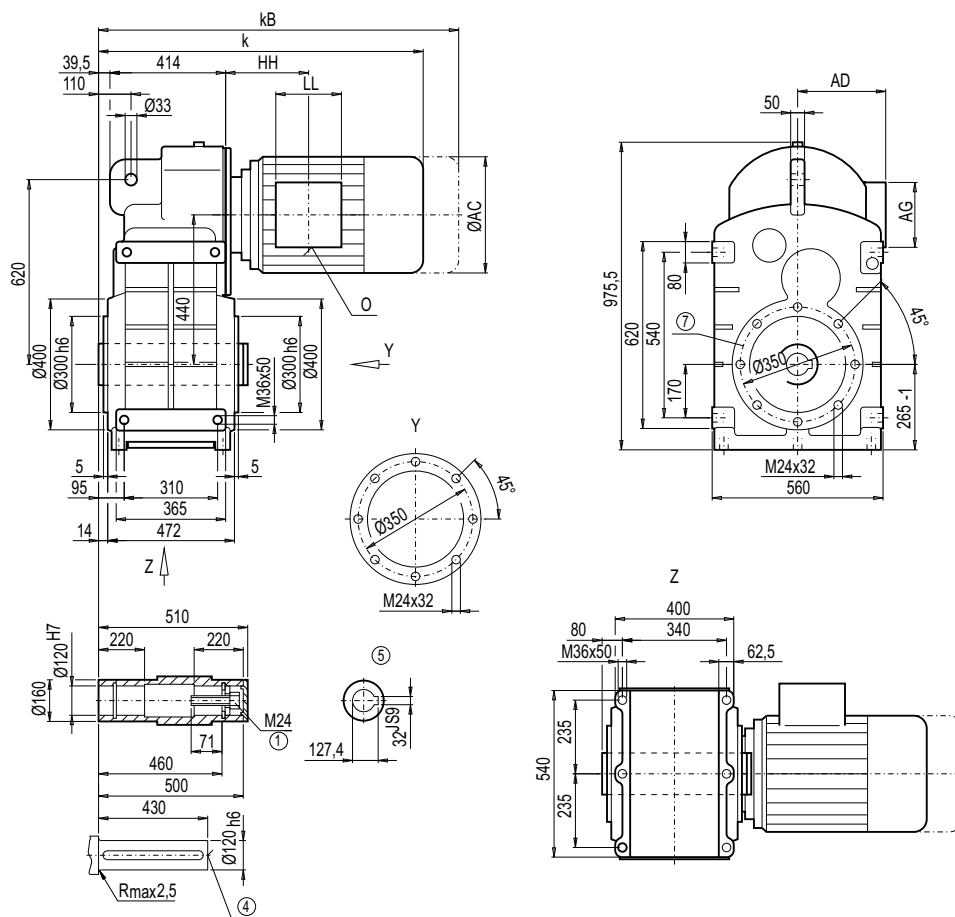
# MOTOX Geared Motors

## Parallel shaft geared motors

### Dimensions

#### Gearbox FDA/FZA188B, FDAZ/FZAZ188B (3- / 2-stage), housing-flange-mounted design (C-type)

FA012  
FAZ012



Motor	F.A.188B								Weight	
	k	kB	AC	AD	AG	LL	HH	O	FDA.188B	FZA.188B
LA132S/M	837.5	939.5	259.0	195.0	140	140	122.5	2xM32x1.5	622	–
LA132ZM	883.5	985.5	259.0	195.0	140	140	230.5	2xM32x1.5	643	–
LA160M/L	937.5	1 056.0	313.5	227.0	165	165	145.5	2xM40x1.5	655	641
LA160ZL	985.5	1 104.0	313.5	227.0	165	165	298.5	2xM40x1.5	694	680
LG180M/L	997.0	1 119.0	348.0	322.5	260	192	162.5	2xM40x1.5	751	736
LG180ZM/ZL	1 048.0	1 170.0	348.0	322.5	260	192	162.5	2xM40x1.5	781	766
LG200L	1 053.0	1 179.0	385.0	301.0	260	192	192.5	2xM50x1.5	831	816
LG225S	1 124.0	1 363.0	442.0	325.0	260	192	228.5	2xM50x1.5	904	889
LG225M	1 124.0	1 363.0	442.0	325.0	260	192	228.5	2xM50x1.5	892	877
LG225ZM	1 184.0	1 423.0	442.0	325.0	260	192	228.5	2xM50x1.5	950	935
LG250M	1 217.5	1 442.5	495.0	392.0	300	236	264.0	2xM63x1.5	994	979
LG250ZM	1 287.5	1 513.0	495.0	392.0	300	236	264.0	2xM63x1.5	1 097	1 082
K4-LGI280S	1 497.0	1 724.0	555.0	432.0	300	236	475.5	2xM63x1.5	1 122	1 108
K4-LGI280M	1 497.0	1 724.0	555.0	432.0	300	236	475.5	2xM63x1.5	1 228	1 213
K4-LGI280ZM	1 607.0	1 834.0	555.0	432.0	300	236	475.5	2xM63x1.5	1 316	1 301
K2-LGI315S/M	1 685.0	1 950.0	610.0	500.0	380	307	584.5	2xM63x1.5	–	1 343
K2-LGI315ZM	1 845.0	2 110.0	610.0	500.0	380	307	584.5	2xM63x1.5	–	1 498
K2-LGI315L	1 845.0	2 110.0	610.0	500.0	380	307	584.5	2xM63x1.5	–	1 643
K2-LGI315ZL	1 985.0	2 250.0	610.0	500.0	380	307	584.5	2xM63x1.5	–	1 838

① DIN EN ISO 4014

④ DIN 332

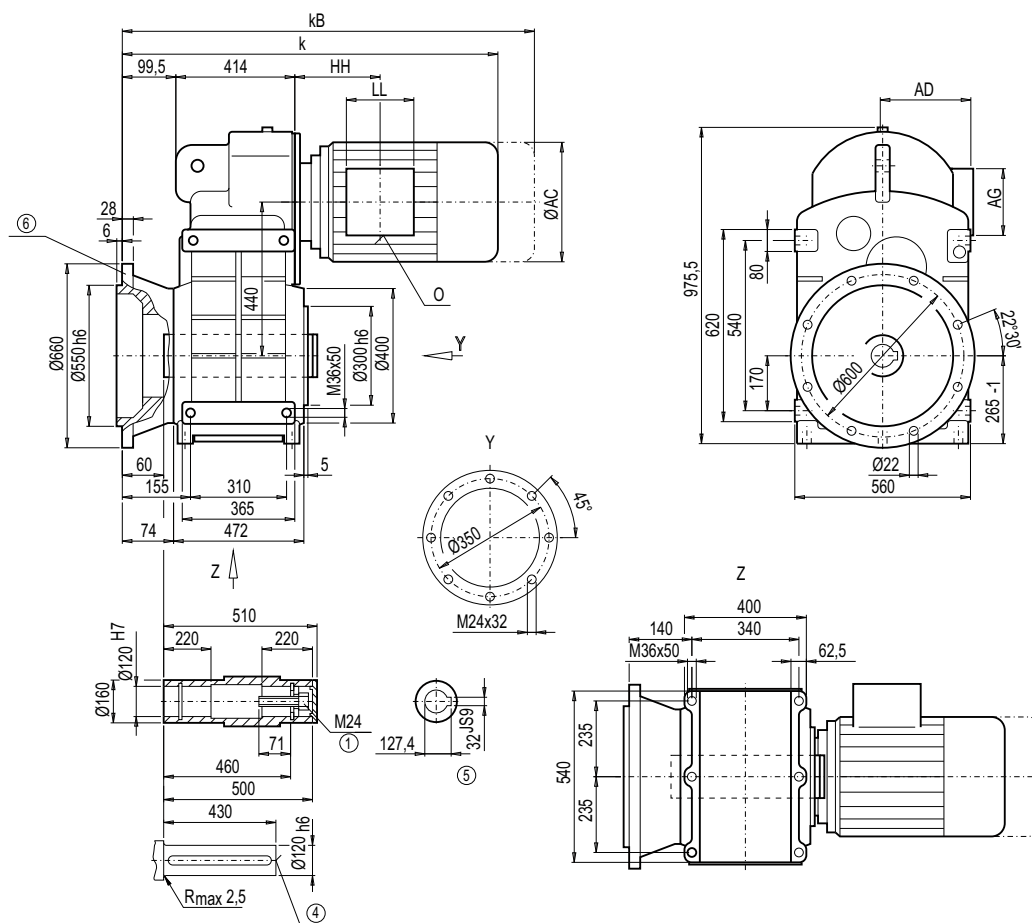
⑤ Feather key / keyway DIN 6885

⑦ For note, see page 3/179



### Gearbox FDAF/FZAF188B (3- / 2-stage), flange-mounted design

FAF012



Motor	F.AF188B								Weight	
	k	kB	AC	AD	AG	LL	HH	O	FDAF188B	FZAF188B
LA132S/M	897.5	999.5	259.0	195.0	140	140	122.5	2xM32x1.5	677	-
LA132ZM	943.5	1 045.5	259.0	195.0	140	140	230.5	2xM32x1.5	698	-
LA160M/L	997.5	1 116.0	313.5	227.0	165	165	145.5	2xM40x1.5	710	696
LA160ZL	1 045.5	1 164.0	313.5	227.0	165	165	298.5	2xM40x1.5	749	735
LG180M/L	1 057.0	1 179.0	348.0	322.5	260	192	162.5	2xM40x1.5	806	791
LG180ZM/ZL	1 108.0	1 230.0	348.0	322.5	260	192	162.5	2xM40x1.5	836	821
LG200L	1 113.0	1 239.0	385.0	301.0	260	192	192.5	2xM50x1.5	886	871
LG225S	1 184.0	1 423.0	442.0	325.0	260	192	228.5	2xM50x1.5	959	944
LG225M	1 184.0	1 423.0	442.0	325.0	260	192	228.5	2xM50x1.5	947	932
LG225ZM	1 244.0	1 483.0	442.0	325.0	260	192	228.5	2xM50x1.5	1 005	990
LG250M	1 277.5	1 502.5	495.0	392.0	300	236	264.0	2xM63x1.5	1 051	1 034
LG250ZM	1 347.5	1 573.0	495.0	392.0	300	236	264.0	2xM63x1.5	1 152	1 137
K4-LGI280S	1 557.0	1 784.0	555.0	432.0	300	236	475.5	2xM63x1.5	1 177	1 163
K4-LGI280M	1 557.0	1 784.0	555.0	432.0	300	236	475.5	2xM63x1.5	1 283	1 268
K4-LGI280ZM	1 667.0	1 894.0	555.0	432.0	300	236	475.5	2xM63x1.5	1 371	1 356
K2-LGI315S/M	1 745.0	2 010.0	610.0	500.0	380	307	584.5	2xM63x1.5	-	1 398
K2-LGI315ZM	1 905.0	2 170.0	610.0	500.0	380	307	584.5	2xM63x1.5	-	1 553
K2-LGI315L	1 905.0	2 170.0	610.0	500.0	380	307	584.5	2xM63x1.5	-	1 693
K2-LGI315ZL	2 045.0	2 310.0	610.0	500.0	380	307	584.5	2xM63x1.5	-	1 893

① DIN EN ISO 4014

④ DIN 332

⑤ Feather key / keyway DIN 6885

⑥ For note, see page 3/178

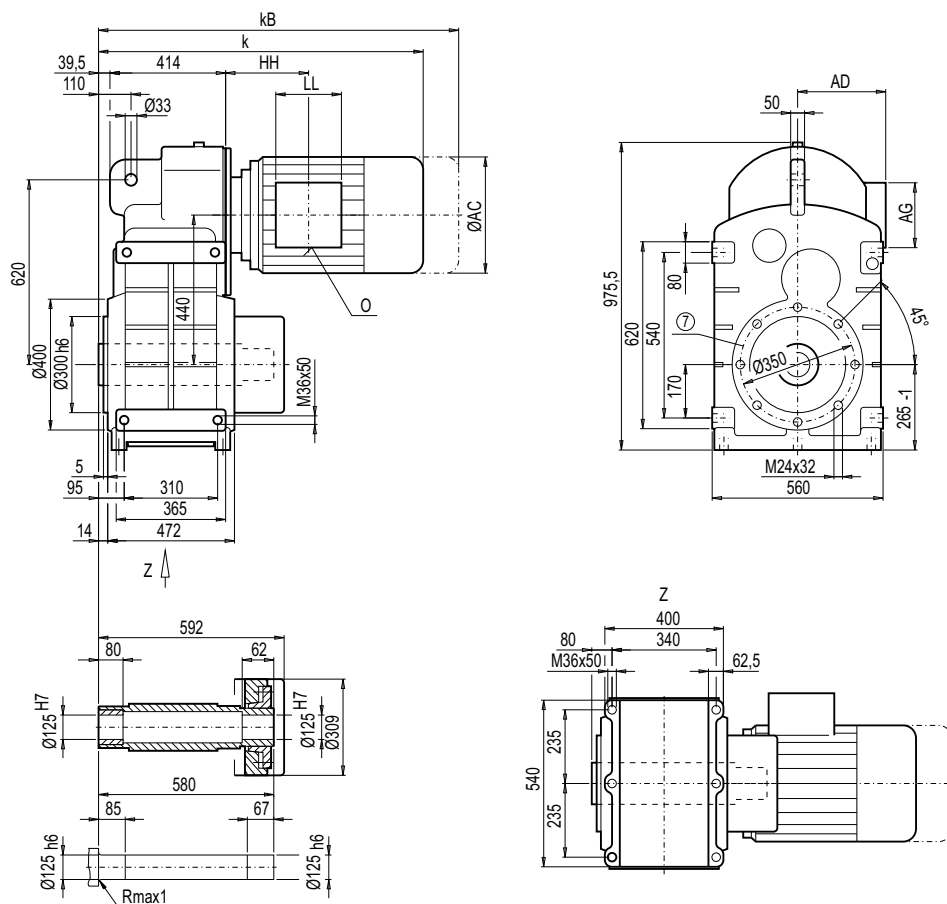
# MOTOX Geared Motors

## Parallel shaft geared motors

### Dimensions

**Gearbox FDAS/FZAS188B, FDAZS/FZAZS188B (3- / 2-stage), shaft-mounted design with shrink disk**

FAS012  
FAZS012

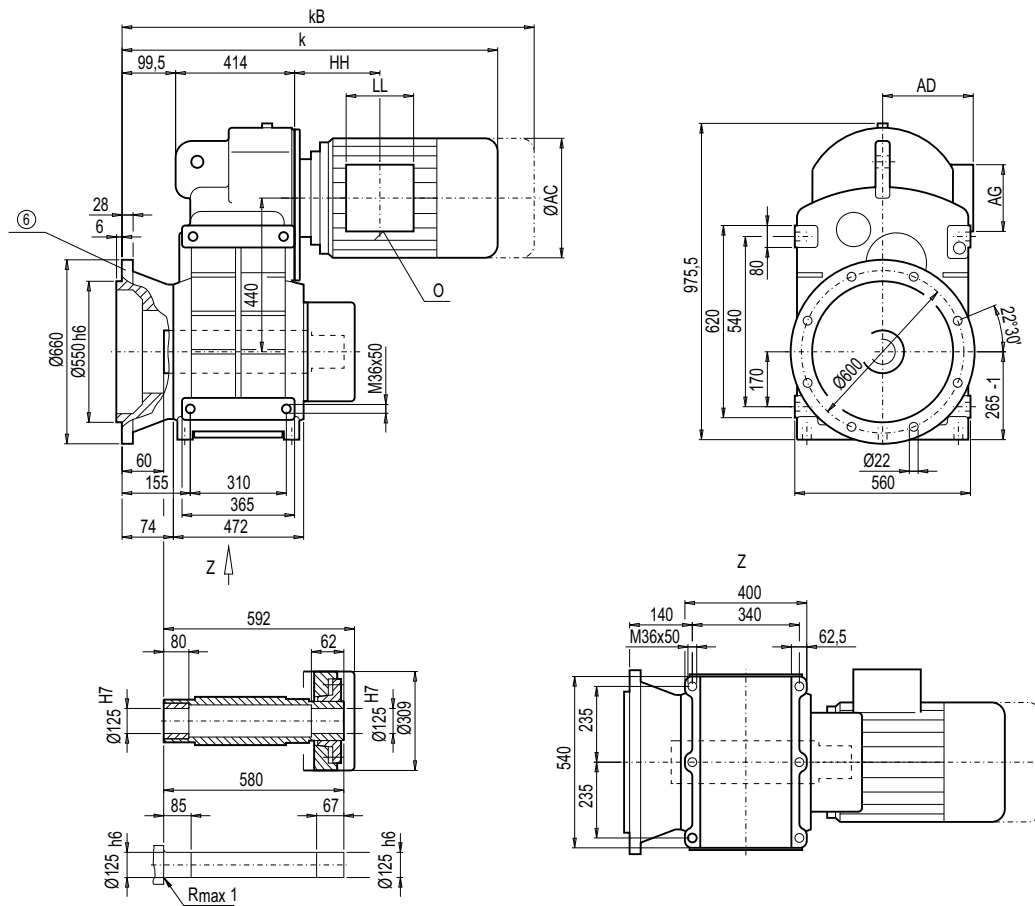


Motor	F.A.S188B								Weight	
	k	kB	AC	AD	AG	LL	HH	O	FDA.S188B	FZA.S188B
LA132S/M	837.5	939.5	259.0	195.0	140	140	122.5	2xM32x1.5	738	–
LA132ZM	883.5	985.5	259.0	195.0	140	140	230.5	2xM32x1.5	759	–
LA160M/L	937.5	1 056.0	313.5	227.0	165	165	145.5	2xM40x1.5	771	757
LA160ZL	985.5	1 104.0	313.5	227.0	165	165	298.5	2xM40x1.5	810	796
LG180M/L	997.0	1 119.0	348.0	322.5	260	192	162.5	2xM40x1.5	867	852
LG180ZM/ZL	1 048.0	1 170.0	348.0	322.5	260	192	162.5	2xM40x1.5	897	882
LG200L	1 053.0	1 179.0	385.0	301.0	260	192	192.5	2xM50x1.5	947	932
LG225S	1 124.0	1 363.0	442.0	325.0	260	192	228.5	2xM50x1.5	1 020	1 005
LG225M	1 124.0	1 363.0	442.0	325.0	260	192	228.5	2xM50x1.5	1 008	993
LG225ZM	1 184.0	1 423.0	442.0	325.0	260	192	228.5	2xM50x1.5	1 066	1 051
LG250M	1 217.5	1 442.5	495.0	392.0	300	236	264.0	2xM63x1.5	1 110	1 095
LG250ZM	1 287.5	1 513.0	495.0	392.0	300	236	264.0	2xM63x1.5	1 213	1 198
K4-LGI280S	1 497.0	1 724.0	555.0	432.0	300	236	475.5	2xM63x1.5	1 238	1 224
K4-LGI280M	1 497.0	1 724.0	555.0	432.0	300	236	475.5	2xM63x1.5	1 344	1 329
K4-LGI280ZM	1 607.0	1 834.0	555.0	432.0	300	236	475.5	2xM63x1.5	1 432	1 417
K2-LGI315S/M	1 685.0	1 950.0	610.0	500.0	380	307	584.5	2xM63x1.5	–	1 459
K2-LGI315ZM	1 845.0	2 110.0	610.0	500.0	380	307	584.5	2xM63x1.5	–	1 614
K2-LGI315L	1 845.0	2 110.0	610.0	500.0	380	307	584.5	2xM63x1.5	–	1 754
K2-LGI315ZL	1 985.0	2 250.0	610.0	500.0	380	307	584.5	2xM63x1.5	–	1 954

⑦ For note, see page 3/179

### Gearbox FDAFS/FZAFS188B (3- / 2-stage), flange-mounted design and shrink disk

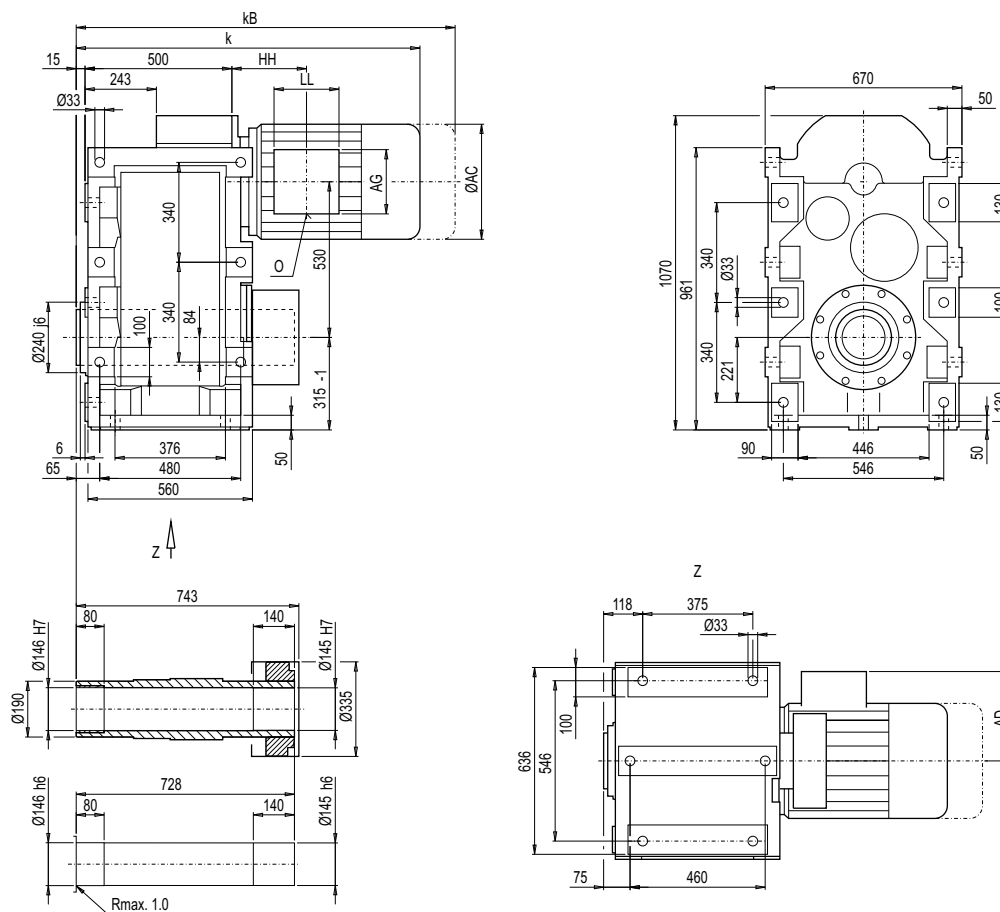
#### F.AFS012



3

Motor	F.AFS188B								Weight	
	k	kB	AC	AD	AG	LL	HH	O	FDAFS188B	FZAFS188B
LA132S/M	897.5	999.5	259.0	195.0	140	140	122.5	2xM32x1.5	687	-
LA132ZM	943.5	1 045.5	259.0	195.0	140	140	230.5	2xM32x1.5	708	-
LA160M/L	997.5	1 116.0	313.5	227.0	165	165	145.5	2xM40x1.5	721	706
LA160ZL	1 045.5	1 164.0	313.5	227.0	165	165	298.5	2xM40x1.5	760	745
LG180M/L	1 057.0	1 179.0	348.0	322.5	260	192	162.5	2xM40x1.5	816	802
LG180ZM/ZL	1 108.0	1 230.0	348.0	322.5	260	192	162.5	2xM40x1.5	846	832
LG200L	1 113.0	1 239.0	385.0	301.0	260	192	192.5	2xM50x1.5	896	882
LG225S	1 184.0	1 423.0	442.0	325.0	260	192	228.5	2xM50x1.5	969	954
LG225M	1 184.0	1 423.0	442.0	325.0	260	192	228.5	2xM50x1.5	957	942
LG225ZM	1 244.0	1 483.0	442.0	325.0	260	192	228.5	2xM50x1.5	1 015	1 000
LG250M	1 277.5	1 502.5	495.0	392.0	300	236	264.0	2xM63x1.5	1 059	1 044
LG250ZM	1 347.5	1 573.0	495.0	392.0	300	236	264.0	2xM63x1.5	1 162	1 147
K4-LGI280S	1 557.0	1 784.0	555.0	432.0	300	236	475.5	2xM63x1.5	1 187	1 173
K4-LGI280M	1 557.0	1 784.0	555.0	432.0	300	236	475.5	2xM63x1.5	1 293	1 278
K4-LGI280ZM	1 667.0	1 894.0	555.0	432.0	300	236	475.5	2xM63x1.5	1 381	1 366
K2-LGI315S/M	1 745.0	2 010.0	610.0	500.0	380	307	584.5	2xM63x1.5	-	1 408
K2-LGI315ZM	1 905.0	2 170.0	610.0	500.0	380	307	584.5	2xM63x1.5	-	1 563
K2-LGI315L	1 905.0	2 170.0	610.0	500.0	380	307	584.5	2xM63x1.5	-	1 703
K2-LGI315ZL	2 045.0	2 310.0	610.0	500.0	380	307	584.5	2xM63x1.5	-	1 903



**Gearbox FDAS/FZAS208, FDAZS/FZASZ208 (3- / 2-stage) shaft-mounted design with shrink disk**
**FAS012**  
**FAZS012**


Motor	F.A.S208B								Weight	
	k	kB	AC	AD	AG	LL	HH	O	FDA.S208	FZA.S208
LA132S/M	899.0	1 001.0	259.0	195.0	140	140	122.5	2xM32x1.5	1 054	–
LA132ZM	945.0	1 047.0	259.0	195.0	140	140	230.5	2xM32x1.5	1 075	–
LA160M/L	999.0	1 117.5	313.5	227.0	165	165	145.5	2xM40x1.5	1 088	1 060
LA160ZL	1 047.0	1 165.5	313.5	227.0	165	165	298.5	2xM40x1.5	1 127	1 099
LG180M/L	1 058.5	1 180.5	348.0	322.5	260	192	162.5	2xM40x1.5	1 183	1 155
LG180ZM/ZL	1 109.5	1 231.5	348.0	322.5	260	192	162.5	2xM40x1.5	1 213	1 185
LG200L	1 114.5	1 240.5	385.0	301.0	260	192	192.5	2xM50x1.5	1 263	1 235
LG225S	1 185.5	1 424.5	442.0	325.0	260	192	228.5	2xM50x1.5	1 336	1 308
LG225M	1 185.5	1 424.5	442.0	325.0	260	192	228.5	2xM50x1.5	1 324	1 296
LG225ZM	1 245.5	1 484.5	442.0	325.0	260	192	228.5	2xM50x1.5	1 382	1 354
LG250M	1 279.0	1 504.5	495.0	392.0	300	236	264.0	2xM63x1.5	1 426	1 398
LG250ZM	1 349.0	1 574.5	495.0	392.0	300	236	264.0	2xM63x1.5	1 529	1 501
K4-LGI280S	1 558.5	1 785.5	555.0	432.0	300	236	475.5	2xM63x1.5	1 555	1 527
K4-LGI280M	1 558.5	1 785.5	555.0	432.0	300	236	475.5	2xM63x1.5	1 660	1 632
K4-LGI280ZM	1 668.5	1 895.5	555.0	432.0	300	236	475.5	2xM63x1.5	1 748	1 720
K2-LGI315S/M	1 746.5	2 011.5	610.0	500.0	380	307	584.5	2xM63x1.5	1 790	1 762
K2-LGI315ZM	1 906.5	2 171.5	610.0	500.0	380	307	584.5	2xM63x1.5	1 945	1 917
K2-LGI315L	1 906.5	2 171.5	610.0	500.0	380	307	584.5	2xM63x1.5	2 085	2 057
K2-LGI315ZL	2 046.5	2 311.5	610.0	500.0	380	307	584.5	2xM63x1.5	2 285	2 257



# MOTOX Geared Motors

## Parallel shaft geared motors

### Dimensions

#### Gearbox FDADS/FZADS208 (3- / 2-stage), shaft-mounted design with torque arm (continued)

##### FADS012

Motor	F.ADS208								Weight	
	k	kB	AC	AD	AG	LL	HH	O	FDADS208	FZADS208
LA132S/M	899.0	1 001.0	259.0	195.0	140	140	122.5	2xM32x1.5	1 077	–
LA132ZM	945.0	1 047.0	259.0	195.0	140	140	230.5	2xM32x1.5	1 098	–
LA160M/L	999.0	1 117.5	313.5	227.0	165	165	145.5	2xM40x1.5	1 111	1 083
LA160ZL	1 047.0	1 165.5	313.5	227.0	165	165	298.5	2xM40x1.5	1 150	1 122
LG180M/L	1 058.5	1 180.5	348.0	322.5	260	192	162.5	2xM40x1.5	1 206	1 178
LG180ZM/ZL	1 109.5	1 231.5	348.0	322.5	260	192	162.5	2xM40x1.5	1 236	1 208
LG200L	1 114.5	1 240.5	385.0	301.0	260	192	192.5	2xM50x1.5	1 286	1 258
LG225S	1 185.5	1 424.5	442.0	325.0	260	192	228.5	2xM50x1.5	1 359	1 331
LG225M	1 185.5	1 424.5	442.0	325.0	260	192	228.5	2xM50x1.5	1 348	1 319
LG225ZM	1 245.5	1 484.5	442.0	325.0	260	192	228.5	2xM50x1.5	1 405	1 377
LG250M	1 279.0	1 504.5	495.0	392.0	300	236	264.0	2xM63x1.5	1 449	1 421
LG250ZM	1 349.0	1 574.5	495.0	392.0	300	236	264.0	2xM63x1.5	1 552	1 524
K4-LGI280S	1 558.5	1 785.5	555.0	432.0	300	236	475.5	2xM63x1.5	1 578	1 550
K4-LGI280M	1 558.5	1 785.5	555.0	432.0	300	236	475.5	2xM63x1.5	1 683	1 655
K4-LGI280ZM	1 668.5	1 895.5	555.0	432.0	300	236	475.5	2xM63x1.5	1 771	1 743
K2-LGI315S/M	1 746.5	2 011.5	610.0	500.0	380	307	584.5	2xM63x1.5	1 813	1 785
K2-LGI315ZM	1 906.5	2 171.5	610.0	500.0	380	307	584.5	2xM63x1.5	1 968	1 940
K2-LGI315L	1 906.5	2 171.5	610.0	500.0	380	307	584.5	2xM63x1.5	2 108	2 080
K2-LGI315ZL	2 046.5	2 311.5	610.0	500.0	380	307	584.5	2xM63x1.5	2 308	2 280

# MOTOX Geared Motors

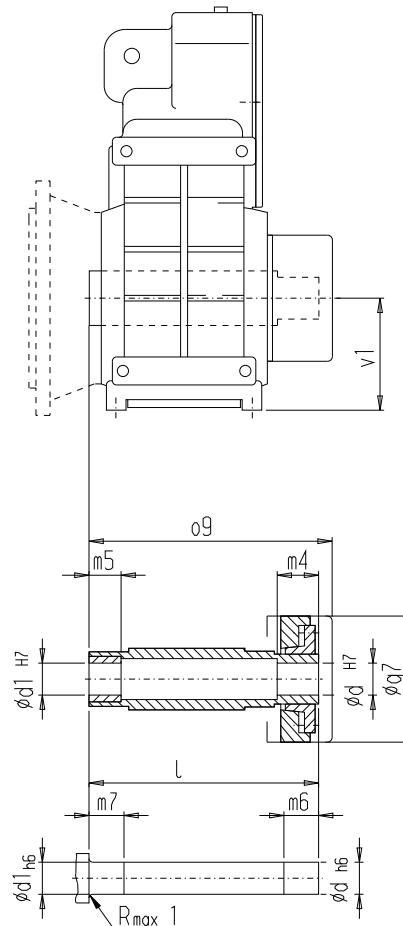
## Parallel shaft geared motors

### Dimensions

#### Offset hollow shafts with shrink disk

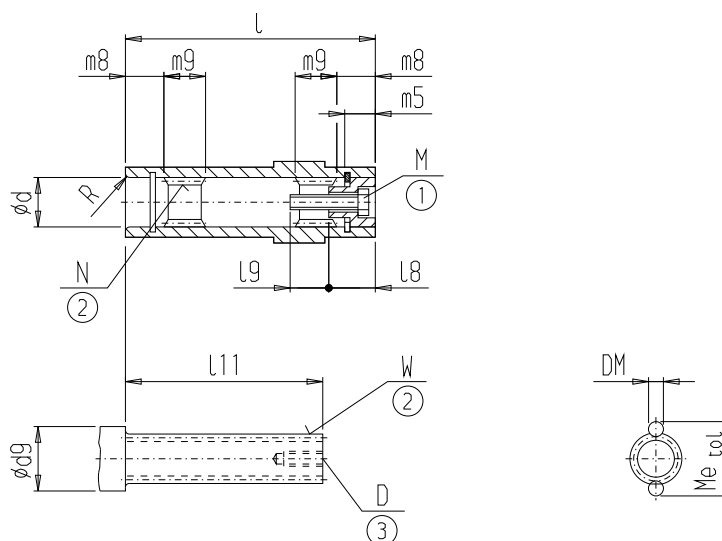
Optional hollow shafts for parallel shaft gearbox with shrink disk

FA.S



Gearbox	d	d1	l	o9	m4	m5	m6	m7	g7	v1
F.AS/F.AFS38B	30	31	146	154	22	20	27	25	77	75
F.AS/F.AFS48B	40	41	177	184	25	20	30	25	93	93
F.AS/F.AFS68B	40	42	209	216	35	20	40	25	112	111
	50	51	209	216	27	20	32	25	112	111
F.AS/F.AFS88B	50	52	214	249	29	30	34	35	132	132
	60	61	241	249	29	30	34	35	132	132
F.AS/F.AFS108B	65	66	280	288	30	40	35	45	144	160
	70	71	280	288	30	40	35	45	144	160
F.AS/F.AFS128B	75	76	345	357	44	50	49	55	180	180
	80	81	345	357	40	50	45	55	180	180
F.AS/F.AFS148B	95	96	404	418	49	60	54	65	210	212
F.AS/F.AFS168B	105	106	483	496	54	70	59	75	237	250
F.AS/F.AFS188B	125	126	580	592	61	80	67	85	263	265



**Shaft-mounted design with splined shaft in acc. with DIN 5480**


3

Gearbox	d	l	d9 min.	l11	W	D	R	m8	m9
F.A.T28	30	104	36	72	W25x1.25x30x18 8f	M10	R1.6	17.0	25
F.A.T38B	35	120	45	95	W35x1.25x30x26 8f	M10	R2	17.0	27
F.A.T48B	40	150	52	120	W40x2x30x18 8f	M12	R3	22.0	34
F.A.T68B	55	180	65	142	W50x2x30x24 8f	M16	R2	21.0	40
F.A.T88B	65	210	80	172	W60x2x30x28 8f	M16	R2	22.5	49
F.A.T108B	72	240	85	201	W70x2x30x34 8f	M20	R2	22.5	56
F.A.T128B	90	300	105	257	W80x3x30x25 8f	M20	R2	24.0	71
F.A.T148B	90	350	110	306	W90x3x30x28 8f	M20	R3	25.0	88
F.A.T168B	110	410	130	350	W110x3x30x35 8f	M24	R3	32.0	99
F.A.T188B	135	500	145	445	W130x5x30x24 8f	M24	R4	42.0	120

Gearbox	N	m5	l8	l9	M	DM	Me	tol
F.A.T28	N25x1.25x30x18 9H	9.0	17	31.8	M10x40	2.75	28.023	-0.049
F.A.T38B	N35x1.25x30x26 9H	12.0	18	27.0	M10x35	2.50	37.423	-0.041
F.A.T48B	N40x2x30x18 9H	14.0	20	37.0	M12x45	4.50	45.083	-0.043
F.A.T68B	N50x2x30x24 9H	16.0	23	49.5	M16x55	4.00	54.156	-0.049
F.A.T88B	N60x2x30x28 9H	16.5	26	46.5	M16x55	4.00	63.918	-0.053
F.A.T108B	N70x2x30x34 9H	16.5	28	51.0	M20x60	4.00	74.181	-0.057
F.A.T128B	N80x3x30x25 9H	17.0	31	46.0	M20x60	6.00	85.856	-0.053
F.A.T148B	N90x3x30x28 9H	17.0	31	51.0	M20x60	6.00	95.911	-0.053
F.A.T168B	N110x3x30x35 9H	20.0	41	65.5	M24x80	6.00	115.998	-0.061
F.A.T188B	N130x5x30x24 9H	20.0	50	35.5	M24x60	10.00	139.848	-0.061

① DIN 912

② DIN 5480

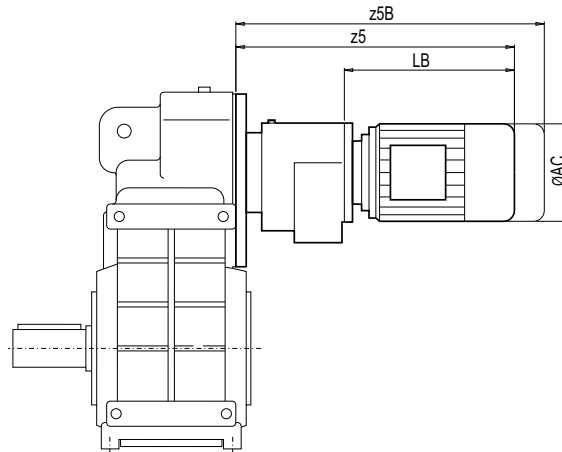
③ DIN 332-D

# MOTOX Geared Motors

## Parallel shaft geared motors

### Dimensions

#### Parallel shaft tandem gearbox

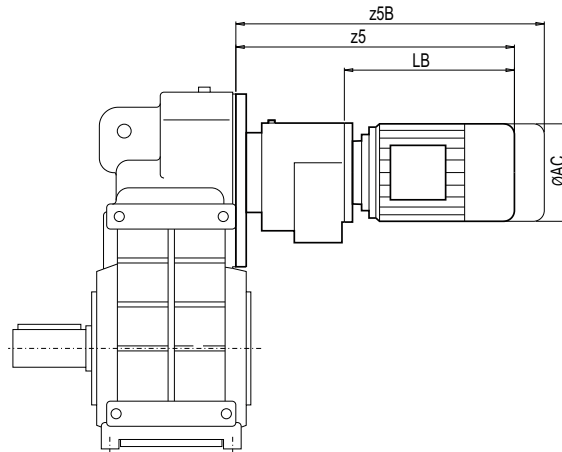


Gearbox	Motor	AC	z5	zB5	LB
FZ.38B-Z28	LA71	139.0	338.0	393.0	202.5
	LA71Z	139.0	357.0	412.0	221.5
	LA80	156.5	440.0	503.5	304.5
	LA80Z	156.5	462.5	526.0	327.0
	LA90S/L	174.0	435.0	506.0	299.5
	LA90ZL	174.0	480.0	551.0	344.5
	LA100L	195.0	517.0	598.0	381.5
	LA100ZL	195.0	587.0	668.0	451.5
FZ.38B-D28	LA71	139.0	338.0	393.0	202.5
	LA71Z	139.0	357.0	412.0	221.5
	LA80	156.5	440.0	503.5	304.5
	LA80Z	156.5	462.5	526.0	327.0
	LA90S/L	174.0	435.0	506.0	299.5
	LA90ZL	174.0	480.0	551.0	344.5
	LA100ZL	195.0	612.0	693.0	451.5
FD.48B-Z28	LA71	139.0	363.0	418.0	202.5
	LA71Z	139.0	382.0	437.0	221.5
	LA80	156.5	465.0	528.5	304.5
	LA80Z	156.5	487.5	551.0	327.0
	LA90S/L	174.0	460.0	531.0	299.5
	LA90ZL	174.0	505.0	576.0	344.5
	LA100L	195.0	542.0	623.0	381.5
	LA100ZL	195.0	612.0	693.0	451.5
FD.48B-D28	LA71	139.0	363.0	418.0	202.5
	LA71Z	139.0	382.0	437.0	221.5
	LA80	156.5	465.0	528.5	304.5
	LA80Z	156.5	487.5	551.0	327.0
	LA90S/L	174.0	460.0	531.0	299.5
	LA90ZL	174.0	505.0	576.0	344.5
	LA100L	195.0	542.0	623.0	381.5
	LA100ZL	195.0	612.0	693.0	451.5
FD.68B-Z28	LA71	139.0	357.5	412.5	202.5
	LA71Z	139.0	376.5	431.5	221.5
	LA80	156.5	459.5	523.0	304.5
	LA80Z	156.5	482.0	545.5	327.0
	LA90S/L	174.0	454.5	525.5	299.5
	LA90ZL	174.0	499.5	570.5	344.5
	LA100L	195.0	536.5	617.5	381.5
	LA100ZL	195.0	606.5	687.5	451.5
	LA112M <sup>1)</sup>	219.0	609.0	690.0	402.0

Gearbox	Motor	AC	z5	zB5	LB
FD.68B-D28	LA71	139.0	357.5	412.5	202.5
	LA71Z	139.0	376.5	431.5	221.5
	LA80	156.5	459.5	523.0	304.5
	LA80Z	156.5	482.0	545.5	327.0
	LA90S/L	174.0	454.5	525.5	299.5
	LA90ZL	174.0	499.5	570.5	344.5
	LA100ZL	195.0	600.5	681.5	451.5
FD.88B-Z28	LA71	139.0	351.5	406.5	202.5
	LA71Z	139.0	370.5	425.5	221.5
	LA80	156.5	453.5	517.0	304.5
	LA80Z	156.5	476.0	539.5	327.0
	LA90S/L	174.0	448.5	519.5	299.5
	LA90ZL	174.0	493.5	564.5	344.5
	LA100ZL	195.0	600.5	681.5	451.5
FD.88B-D28	LA71	139.0	351.5	406.5	202.5
	LA71Z	139.0	370.5	425.5	221.5
	LA80	156.5	453.5	517.0	304.5
	LA80Z	156.5	476.0	539.5	327.0
	LA90S/L	174.0	448.5	519.5	299.5
	LA90ZL	174.0	493.5	564.5	344.5
	LA100ZL	195.0	600.5	681.5	451.5
FD.108B-Z38	LA71 <sup>1)</sup>	139.0	465.5	520.5	258.5
	LA71Z <sup>1)</sup>	139.0	484.5	539.5	277.5
	LA80 <sup>1)</sup>	156.5	502.5	566.0	295.5
	LA80Z <sup>1)</sup>	156.5	525.0	588.5	318.0
	LA90S/L <sup>1)</sup>	174.0	533.5	604.5	326.5
	LA90ZL <sup>1)</sup>	174.0	578.5	649.5	371.5
	LA100L <sup>1)</sup>	195.0	579.5	660.5	372.5
	LA100ZL <sup>1)</sup>	195.0	649.5	730.5	442.5
	LA112M <sup>1)</sup>	219.0	609.0	690.0	402.0
	LA112ZM <sup>1)</sup>	219.0	637.0	718.0	430.0
	LA71 <sup>2)</sup>	139.0	476.0	531.0	258.5
	LA71Z <sup>2)</sup>	139.0	495.0	550.0	277.5
LA80 <sup>2)</sup>	156.5	513.0	576.5	295.5	
LA80Z <sup>2)</sup>	156.5	535.5	599.0	318.0	
LA90S/L <sup>2)</sup>	174.0	544.0	615.0	326.5	
LA90ZL <sup>2)</sup>	174.0	589.0	660.0	371.5	

1)  $i_{tot} \geq 1647$ 2)  $i_{tot} < 1647$

## Parallel shaft tandem gearbox (continued)



Gearbox	Motor	AC	z5	zB5	LB
FD.108B-Z38	LA100L <sup>2)</sup>	195.0	590.0	671.0	372.5
	LA100ZL <sup>2)</sup>	195.0	660.0	741.0	442.5
	LA112M <sup>2)</sup>	219.0	619.5	700.5	402.0
	LA112ZM <sup>2)</sup>	219.0	647.5	728.5	430.0
FD.108B-D38	LA71	139.0	480.5	535.5	273.5
	LA71Z	139.0	499.5	554.5	292.5
	LA80	156.5	517.5	581.0	310.5
	LA80Z	156.5	540.0	603.5	333.0
	LA90S/L	174.0	548.5	619.5	341.5
FD.128B-Z38	LA90ZL	174.0	593.5	664.5	386.5
	LA71	139.0	458.5	513.5	258.5
	LA71Z	139.0	477.5	532.5	277.5
	LA80	156.5	495.5	559.0	295.5
	LA80Z	156.5	518.0	581.5	318.0
	LA90S/L	174.0	526.5	597.5	326.5
	LA90ZL	174.0	571.5	642.5	371.5
	LA100L	195.0	572.5	653.5	372.5
	LA100ZL	195.0	642.5	723.5	442.5
	LA112M	219.0	602.0	683.0	402.0
	LA112ZM	219.0	630.0	711.0	430.0
FD.128B-D38	LA71	139.0	473.5	528.5	273.5
	LA71Z	139.0	492.5	547.5	292.5
	LA80	156.5	510.5	574.0	310.5
	LA80Z	156.5	533.0	596.5	333.0
	LA90S/L	174.0	541.5	612.5	341.5
FD.128B-Z48	LA90ZL	174.0	586.5	657.5	386.5
	LA71	139.0	532.0	587.0	253.0
	LA71Z	139.0	551.0	606.0	272.0
	LA80	156.5	569.0	632.5	290.0
	LA80Z	156.5	591.5	655.0	312.5
FD.128B-D48	LA90S	174.0	600.0	671.0	321.0
	LA90L	174.0	600.0	671.0	321.0
	LA90ZL	174.0	645.0	716.0	366.0
	LA100L	195.0	646.0	727.0	367.0
	LA100ZL	195.0	716.0	797.0	437.0

Gearbox	Motor	AC	z5	zB5	LB	
FD.128B-Z48	LA112M	219.0	675.0	756.0	396.0	
	LA112ZM	219.0	703.0	784.0	424.0	
	LA132S	259.0	737.0	839.0	458.0	
	LA132M	259.0	737.0	839.0	458.0	
	LA132ZM	259.0	783.0	885.0	504.0	
FD.148B-Z38	LA71	139.0	454.0	509.0	258.5	
	LA71Z	139.0	473.0	528.0	277.5	
	LA80	156.5	491.0	554.5	295.5	
	LA80Z	156.5	513.5	577.0	318.0	
	LA90S	174.0	522.0	593.0	326.5	
	LA90L	174.0	522.0	593.0	326.5	
	LA90ZL	174.0	567.0	638.0	371.5	
	LA100L	195.0	568.0	649.0	372.5	
	LA100ZL	195.0	638.0	719.0	442.5	
	LA112M	219.0	597.5	678.5	402.0	
FD.148B-D38	LA112ZM	219.0	625.5	706.5	430.0	
	LA71	139.0	469.0	524.0	273.5	
	LA71Z	139.0	488.0	543.0	292.5	
	LA80	156.5	506.0	569.5	310.5	
	LA80Z	156.5	528.5	592.0	333.0	
	LA90S	174.0	537.0	608.0	341.5	
	LA90L	174.0	537.0	608.0	341.5	
	LA90ZL	174.0	582.0	653.0	386.5	
	FD.148B-Z48	LA71	139.0	521.5	576.5	253.0
		LA71Z	139.0	540.5	595.5	272.0
LA80		156.5	558.5	622.0	290.0	
LA80Z		156.5	581.0	644.5	312.5	
LA90S/L		174.0	589.5	660.5	321.0	
LA90ZL		174.0	634.5	705.5	366.0	
LA100L		195.0	635.5	716.5	367.0	
LA100ZL		195.0	705.5	786.5	437.0	
LA112M		219.0	664.5	745.5	396.0	
LA112ZM		219.0	692.5	773.5	424.0	
LA132S/M		259.0	726.5	828.5	458.0	
LA132ZM	259.0	772.5	874.5	504.0		

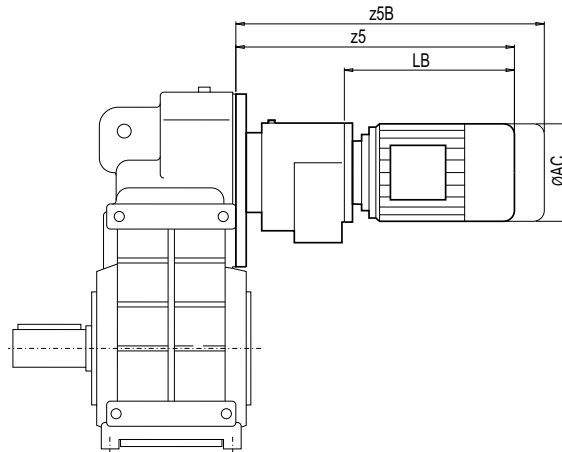
2)  $t_{tot} < 1647$

# MOTOX Geared Motors

## Parallel shaft geared motors

### Dimensions

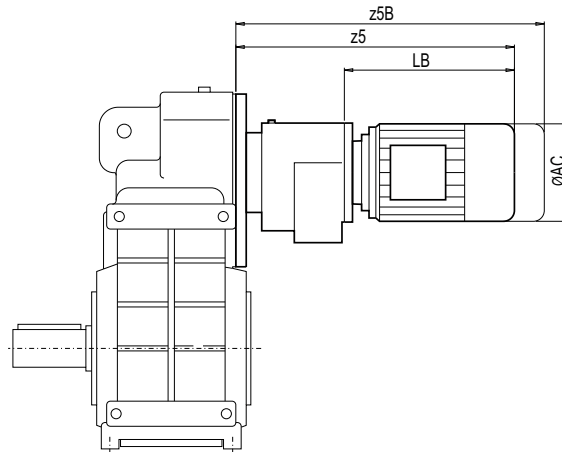
#### Parallel shaft tandem gearbox (continued)



Gearbox	Motor	AC	z5	zB5	LB
FD.168B-Z48	LA71	139.0	513.5	568.5	253.0
	LA71Z	139.0	532.5	587.5	272.0
	LA80	156.5	550.5	614.0	290.0
	LA80Z	156.5	573.0	636.5	312.5
	LA90S	174.0	581.5	652.5	321.0
	LA90L	174.0	581.5	652.5	321.0
	LA90ZL	174.0	626.5	697.5	366.0
	LA100L	195.0	627.5	708.5	367.0
	LA100ZL	195.0	697.5	778.5	437.0
	LA112M	219.0	656.5	737.5	396.0
	LA112ZM	219.0	684.5	765.5	424.0
	LA132S	259.0	718.5	820.5	458.0
	LA132M	259.0	718.5	820.5	458.0
	LA132ZM	259.0	764.5	866.5	504.0
FD.168B-D48	LA71	139.0	530.5	585.5	270.0
	LA71Z	139.0	549.5	604.5	289.0
	LA80	156.5	567.5	631.0	307.0
	LA80Z	156.5	590.0	653.5	329.5
	LA90S/L	174.0	598.5	669.5	338.0
	LA90ZL	174.0	643.5	714.5	383.0
	LA100L	195.0	644.5	725.5	384.0
	LA100ZL	195.0	714.5	795.5	454.0
	FD.168B-Z68	LA71	139.0	583.0	638.0
LA71Z		139.0	602.0	657.0	266.0
LA80		156.5	620.0	683.5	284.0
LA80Z		156.5	642.5	706.0	306.5
LA90S/L		174.0	651.0	722.0	315.0
LA90ZL		174.0	696.0	767.0	360.0
LA100L		195.0	697.0	778.0	361.0
LA100ZL		195.0	767.0	848.0	431.0
LA112M		219.0	724.0	805.0	388.0
LA112ZM		219.0	752.0	833.0	416.0
LA132S/M		259.0	784.0	886.0	448.0
LA132ZM		259.0	830.0	932.0	494.0
LA160M/L		313.5	886.5	1 005.0	550.5
LA160ZL		313.5	934.5	1 053.0	598.5

Gearbox	Motor	AC	z5	zB5	LB
FD.188B-Z48	LA71	139.0	499.0	554.0	253.0
	LA71Z	139.0	518.0	573.0	272.0
	LA80	156.5	536.0	599.5	290.0
	LA80Z	156.5	558.5	622.0	312.5
	LA90S/L	174.0	567.0	638.0	321.0
	LA90ZL	174.0	612.0	683.0	366.0
	LA100L	195.0	613.0	694.0	367.0
	LA100ZL	195.0	683.0	764.0	437.0
	LA112M	219.0	642.0	723.0	396.0
	LA112ZM	219.0	670.0	751.0	424.0
	LA132S/M	259.0	704.0	806.0	458.0
LA132ZM	259.0	750.0	852.0	504.0	
FD_188B-D48	LA71	139.0	516.0	571.0	270.0
	LA71Z	139.0	535.0	590.0	289.0
	LA80	156.5	553.0	616.5	307.0
	LA80Z	156.5	575.5	639.0	329.5
	LA90S	174.0	584.0	655.0	338.0
	LA90L	174.0	584.0	655.0	338.0
	LA90ZL	174.0	629.0	700.0	383.0
	LA100L	195.0	630.0	711.0	384.0
	LA100ZL	195.0	700.0	781.0	454.0
FD_188B-Z68	LA71	139.0	585.0	640.0	247.0
	LA71Z	139.0	604.0	659.0	266.0
	LA80	156.5	622.0	685.5	284.0
	LA80Z	156.5	644.5	708.0	306.5
	LA90S/L	174.0	653.0	724.0	315.0
	LA90ZL	174.0	698.0	769.0	360.0
	LA100L	195.0	699.0	780.0	361.0
	LA100ZL	195.0	769.0	850.0	431.0
	LA132S/M	259.0	786.0	888.0	448.0
	LA132ZM	259.0	832.0	934.0	494.0
	LA160M/L	313.5	888.5	1 007.0	550.5
LA160ZL	313.5	936.5	1 055.0	598.5	

## Parallel shaft tandem gearbox (continued)



Gearbox	Motor	AC	z5	zB5	LB
FD.208-Z68	LA71	139.0	585.0	640.0	247.0
	LA71Z	139.0	604.0	659.0	266.0
	LA80	156.5	622.0	685.5	284.0
	LA80Z	156.5	644.5	708.0	306.5
	LA90S/L	174.0	653.0	724.0	315.0
	LA90ZL	174.0	698.0	769.0	360.0
	LA100L	195.0	699.0	780.0	361.0
	LA100ZL	195.0	769.0	850.0	431.0
	LA132S/M	259.0	786.0	888.0	448.0
	LA132ZM	259.0	832.0	934.0	494.0
	LA160M/L	313.5	888.5	1 007.0	550.5
	LA160ZL	313.5	936.5	1 055.0	598.5
FD_208-D68	LA71	139.0	603.5	658.5	265.5
	LA71Z	139.0	622.5	677.5	284.5
	LA80	156.5	640.5	704.0	302.5
	LA80Z	156.5	663.0	726.5	325.0
	LA90S/L	174.0	671.5	742.5	333.5
	LA90ZL	174.0	716.5	787.5	378.5
	LA100L	195.0	717.5	798.5	379.5
LA100ZL	195.0	787.5	868.5	449.5	

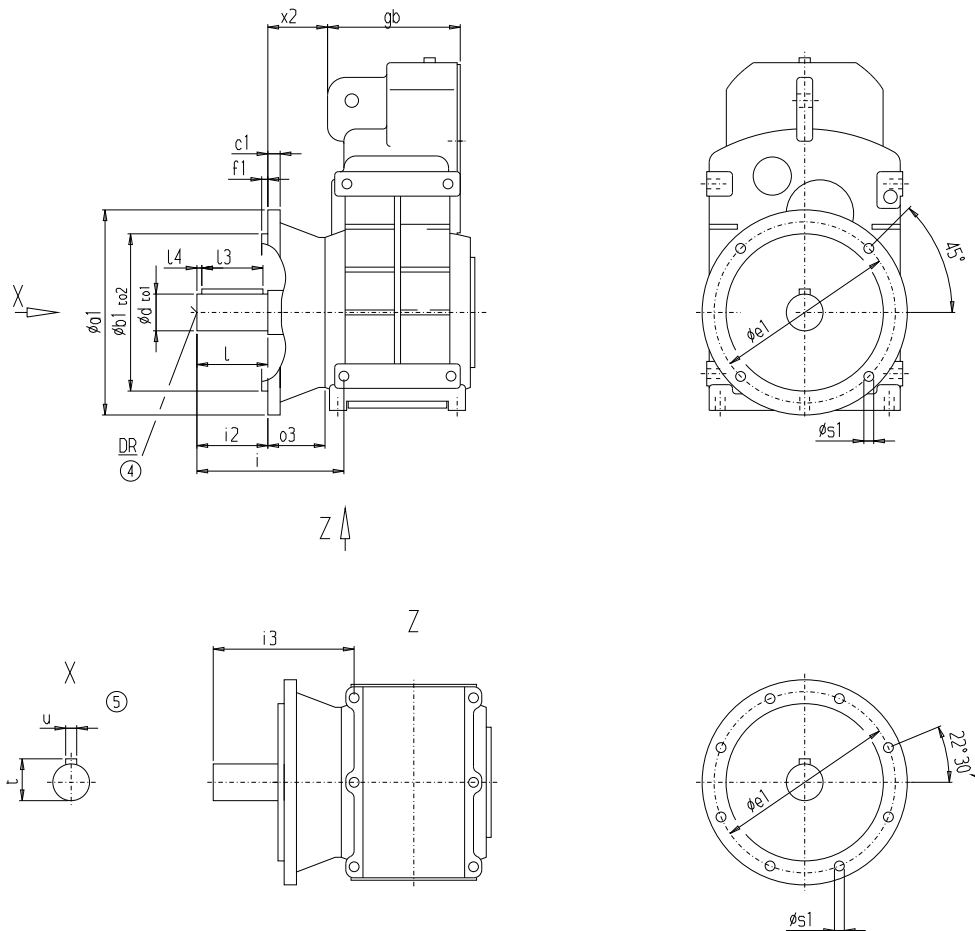
Gearbox	Motor	AC	z5	zB5	LB
FD.208-Z88	LA90S/L	174.0	776.5	847.5	300.0
	LA90ZL	174.0	821.5	892.5	345.0
	LA100L	195.0	820.0	901.0	343.5
	LA100ZL	195.0	890.0	971.0	413.5
	LA112M	219.0	846.0	927.0	369.5
	LA112ZM	219.0	874.0	955.0	397.5
	LA132S/M	259.0	906.0	1 008.0	429.5
	LA132ZM	259.0	952.0	1 054.0	475.5
	LA160M/L	313.5	1 010.5	1 129.0	534.0
	LA160ZL	313.5	1 058.5	1 177.0	582.0
	LG180M/L	348.0	1 070.0	1 192.0	593.5
	LG180ZM/ZL	348.0	1 121.0	1 243.0	644.5

# MOTOX Geared Motors

## Parallel shaft geared motors

### Dimensions

#### Flange design for mixers



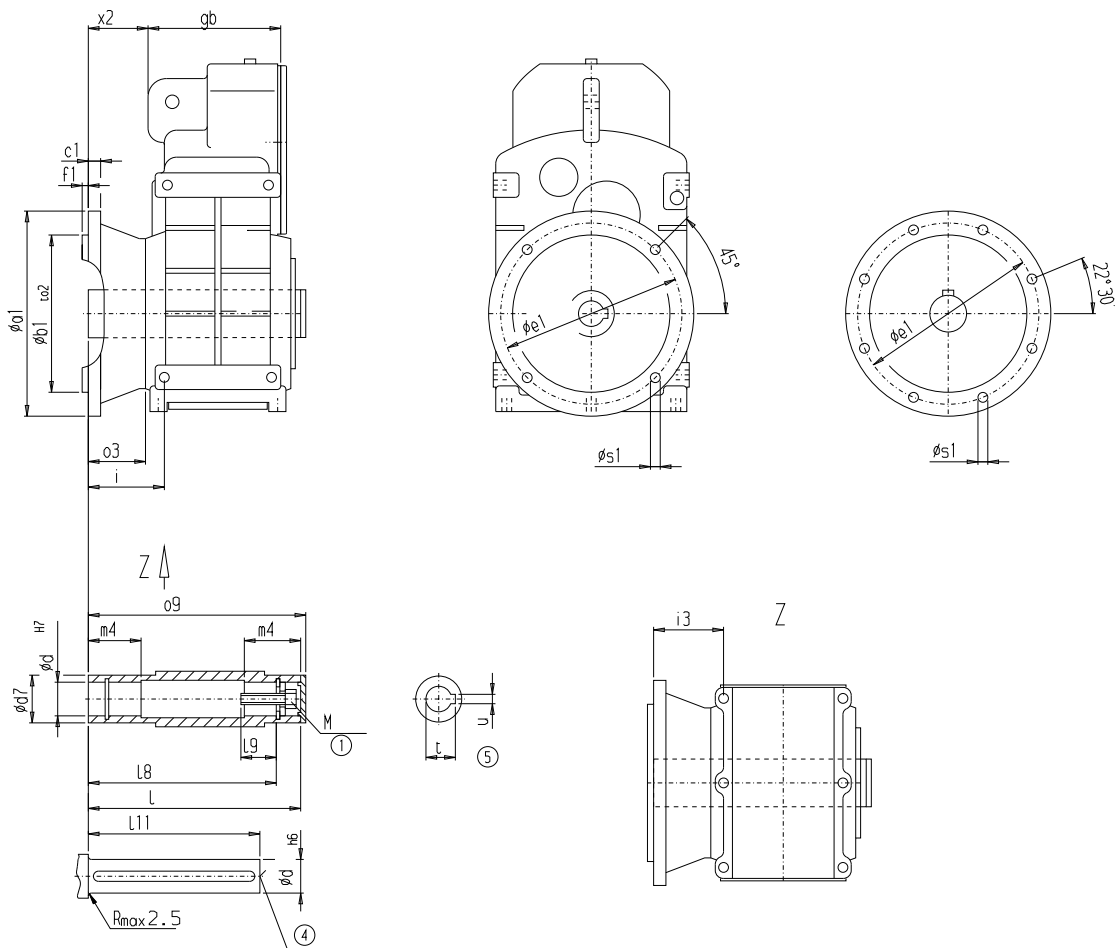
Gearbox	a1	b1	to2	c1	e1	f1	s1	o3	i	i2	i3
FDM88B FZM88B	300	230	j6	20	265	4	13.5	120	286.5	140	281.5
FDM108B FZM108B	350	250	h6	20	300	5	17.5	135	333.5	170	319.0
FDM128B FZM128B	450	350	h6	25	400	5	17.5	165	373.5	170	363.5
FDM148B FZM148B	450	350	h6	25	400	5	17.5	185	449.0	210	428.0
FDM168B FZM168B	550	450	h6	28	500	5	17.5	210	479.0	210	451.0

Gearbox	x2	gb	d	to1	l	i3	l4	t	u	DR	Weights	
											FDM	FZM
FDM88B FZM88B	126.0	175	70	m6	140	110	15	74.5	20	M20x42	80	81
FDM108B FZM108B	140.5	205	80	m6	170	125	20	85.0	22	M20x42	135	135
FDM128B FZM128B	172.0	271	90	m6	170	140	15	95.0	25	M24x50	236	234
FDM148B FZM148B	211.0	298	100	m6	210	180	15	106.0	28	M24x50	337	333
FDM168B FZM168B	237.0	336	120	m6	210	180	15	127.0	32	M24x50	540	529

④ DIN 332

⑤ Feather key / keyway DIN 6885

## Shaft-mounted design with mixer flanges



Gearbox	a1	b1	to2	c1	e1	f1	s1	o3	i	i3	x2	gb
FDAM88B FZAM88B	300	230	j6	20	265	4	13.5	120	146.5	141.5	126.0	175
FDAM108B FZAM108B	350	250	h6	20	300	5	17.5	135	163.5	149.0	140.5	205
FDAM128B FZAM128B	450	350	h6	25	400	5	17.5	165	203.5	193.5	172.0	271
FDAM148B FZAM148B	450	350	h6	25	400	5	17.5	185	239.0	218.0	211.0	298
FDAM168B FZAM168B	550	450	h6	28	500	5	17.5	210	269.0	241.0	237.0	336

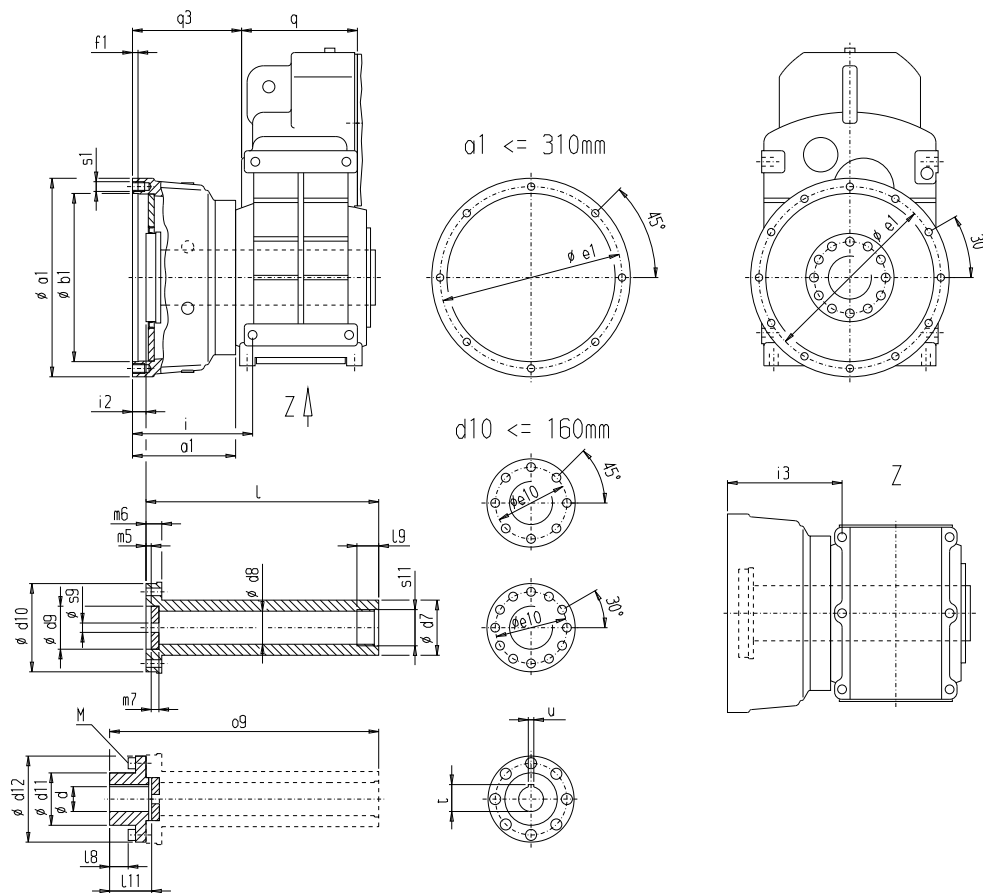
Gearbox	o9	d	d7	l	m4	l8	l9	l11	t	u	M	Weights	
												FDAM	FZAM
FDAM88B FZAM88B	324.0	60	80	321	78	291	54.0	275	64.4	18	M20	72	73
FDAM108B FZAM108B	369.5	70	95	366	93	334	63.5	310	74.9	20	M20	122	122
FDAM128B FZAM128B	458.0	80	110	456	123	419	63.5	395	85.4	22	M20	216	214
FDAM148B FZAM148B	526.0	90	120	524	148	484	72.0	460	95.4	25	M24	309	305
FDAM168B FZAM168B	611.0	110	150	609	175	565	73.0	540	116.4	28	M24	495	484

# MOTOX Geared Motors

## Parallel shaft geared motors

### Dimensions

#### Flange design for extruder drives



Gearbox	a1	b1	e1	f1	s1	q1	i	i3	i2	q3	q	
FDAE/FZAE68B	260	220	+0.046 / 0	236	10	M12x17	147.5	174.0	–	15.0	156.0	138.5
FDAE/FZAE88B	310	255	+0.052 / 0	280	10	M16x22	171.0	197.5	192.5	15.5	177.0	175.0
FDAE/FZAE108B	360	305	+0.052 / 0	330	10	M16x22	188.0	216.5	202.0	23.0	193.5	205.0
FDAE/FZAE128B	420	345	+0.057 / 0	380	10	M20x27	206.0	244.5	234.5	25.0	213.0	271.0
FDAE/FZAE148B	450	360	+0.057 / 0	400	10	M24x32	225.0	279.0	258.0	27.0	251.0	298.0
FDAE/FZAE168B	510	420	+0.063 / 0	460	15	M24x32	262.0	321.0	293.0	38.0	285.0	340.0



**Flange design for extruder drives (continued)**

Gearbox	d	l11	d7	d8	l9	s11	o9 l	d10 d12	m6	e10
FDAE/FZAE68B	20	48	65	38	30	M42x2	349.0	105	14	88
	25									
	30									
FDAE/FZAE88B	30	58	80	49	39	M56x2	410.5	130	23	110
	35									
	40									
FDAE/FZAE108B	40	71	95	60	39	M64x2	462.0	160	25	130
	45									
	50									
FDAE/FZAE128B	45	87	110	71	49	M80x3	554.0	175	31	150
	50									
	60									
FDAE/FZAE148B	60	95	120	88	52	M95x3	626.0	190	33	160
	70									
	75									
FDAE/FZAE168B	70	105	150	104	57	M110x3	722.0	230	42	195
	80									
	90									

Gearbox	d	d9	s9	m7	d11	m5	l8	M	t	u	
FDAE/FZAE68B	20	48	+0.025 / 0	11	11	65	4.0	20.0	M10x25	22.8	6
	25									28.3	8
	30									33.3	8
FDAE/FZAE88B	30	63	+0.030 / 0	17	12	80	4.5	23.5	M12x35	33.3	8
	35									38.3	10
	40									43.3	12
FDAE/FZAE108B	40	78	+0.030 / 0	17	14	95	5.0	31.0	M16x40	43.3	12
	45									48.8	14
	50									53.8	14
FDAE/FZAE128B	45	88	+0.035 / 0	22	17	110	5.0	42.0	M16x45	48.8	14
	50									53.8	14
	60									64.4	18
FDAE/FZAE148B	60	105	+0.035 / 0	22	20	120	6.0	45.0	M16x55	64.4	18
	70									74.9	20
	75									79.9	20
FDAE/FZAE168B	70	125	+0.040 / 0	25	22	150	6.0	49.0	M20x55	74.9	20
	80									85.4	22
	90									95.4	25

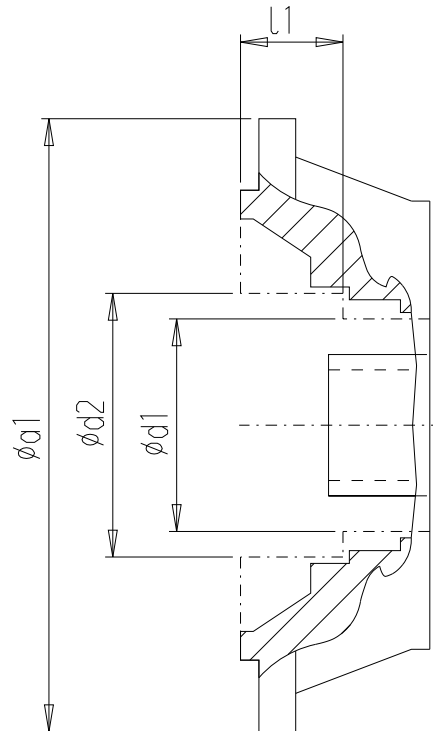
# MOTOX Geared Motors

## Parallel shaft geared motors

### Dimensions

#### Inside contour of the flange-mounted design (A-type)

Design notes for the customer's interface, e.g. plug-in shaft for hollow shaft design.



Gearbox	a1	d1	d2	l1
F.F.28	120	70	72	24.0
F.F.28	160	70	103	8.5
F.F.38B	160	70	77	20.0
F.F.48B	200	84	90	22.5
F.F.68B	250	96	96	-
F.F.88B	300	126	138	31.0
F.F.108B	350	176	185	32.0
F.F.128B	450	226	234	38.5
F.F.148B	450	246	262	34.0
F.F.168B	550	296	313	39.0
F.F.188B	660	296	296	-



# MOTOX Geared Motors

## Parallel shaft geared motors

Notes

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