Helical worm geared motors

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Orientation

Overview

MOTOX helical worm 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 helical worm gearboxes are designed for continuous duty. The sealed gearbox housings, made from gray cast iron or aluminum, are strong and absorb vibrations. A housing cover is not required for installing toothed components, which means that the housings are extremely rigid. Radial shaft seals with dust-protection lips prevent oil from leaking out of the housing and dust and water from entering it.
The gear wheels of the helical gear stages are milled and their surfaces hardened. The tooth flanks are ground or honed so that they are convex and corrected in terms of the profile.

Overview (continued)

Helical worm gearboxes are designated as follows:

Gearbox type:

C Helical worm gearbox

Transmission stage
(-) Unspecified

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
G Flange (A-type) on opposite side to output shaft

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

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 [1)]

K4 Short coupling lantern with clamp connection for connecting an IEC motor

K5 Short coupling lantern with clamp connection for connecting a NEMA motor [1)]

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

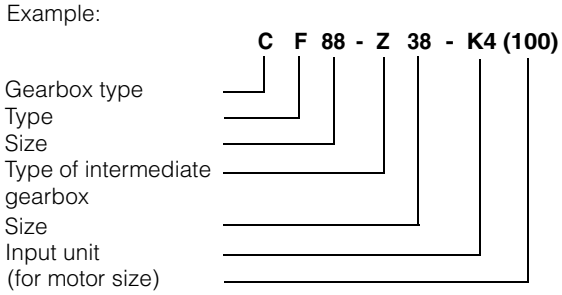
A5 Input unit with free input shaft (NEMA design) [1)]

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 [1)]

PS Input unit with free input shaft and piggy back with protection cover

Example:



The series currently comprises 4 gearbox sizes.

Helical worm gearboxes are available in a 2-stage version.

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[1)] These designs can be selected from our MOTOX Configurator electronic catalog.

Overview (continued)

Worm and wheel sets with CAVEX gearing

CAVEX concave-profile worm and wheel sets are used for size 38 and above. The concave-profile cylindrical worm with its enveloping worm wheel is very much different to conventional designs. The worm threads have a concave profile instead of an involute or convex one.

The concave-profile teeth are subject to only low specific tooth pressure. The retention of a separating oil film between the tooth flanks is facilitated in particular, as the hollow flanks are in contact with convex mating flanks. Therefore, profile contact is much more favorable than in conventional gear teeth systems.

The concave-profile teeth provide a particularly favorable position for the instantaneous axes, which extend mainly at right angles to the sliding direction. This assists the build-up of lubricating pressure, i.e. the generation of an oil film between the tooth flanks.

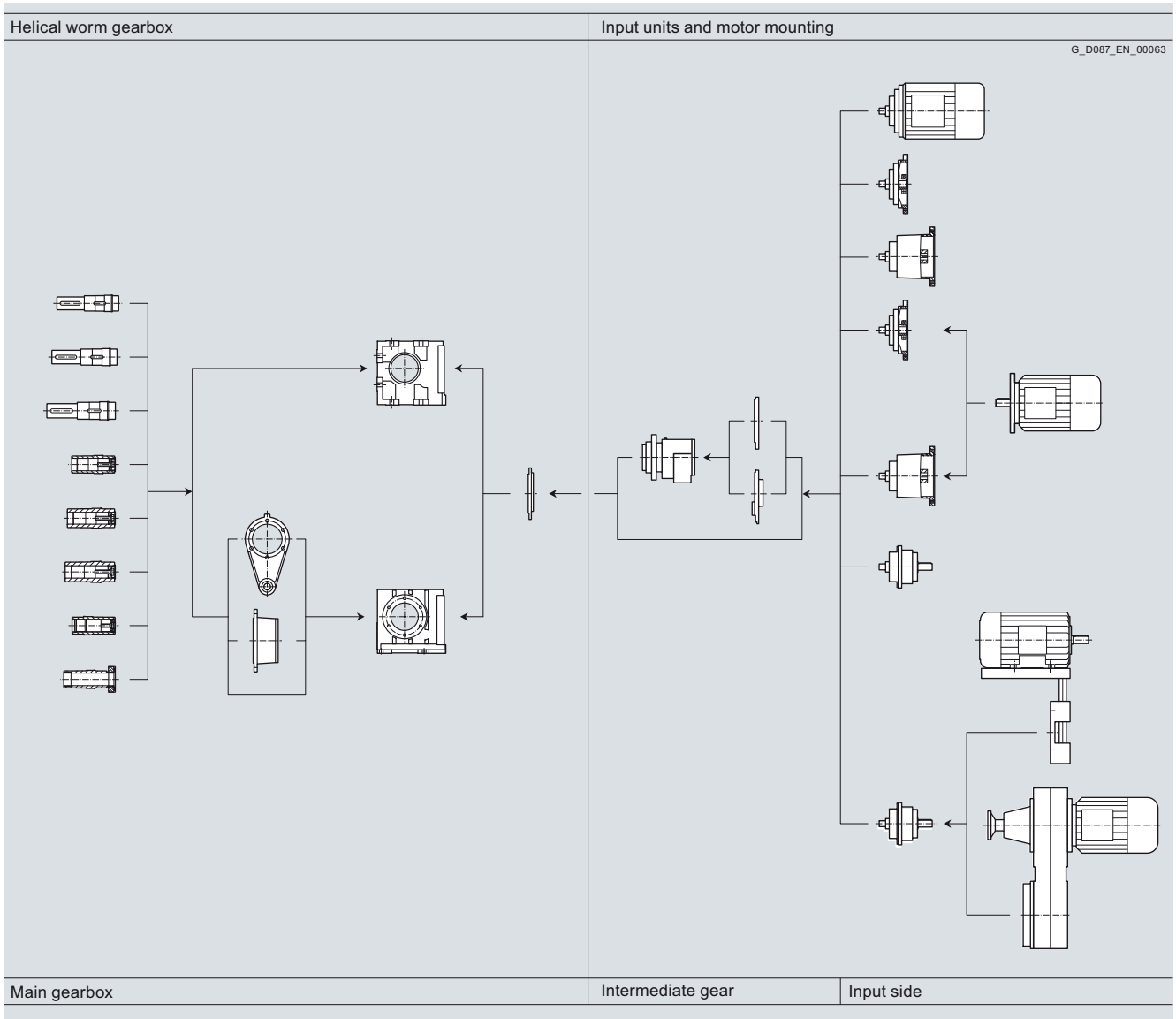
The tooth flanks on new gearboxes will not yet be fully smoothed, meaning that the friction angle will be greater and efficiency lower during initial operation. The smaller the lead angle or, in other words, the higher the transmission ratio, the more pronounced the effect. The run-in procedure should take approximately 24 to 30 hours of operation at full load.

Starting efficiency is never as great as the efficiency at operating speed. This fact should be taken into account when starting a machine at full load, depending on the starting characteristics of the motor.

Attention: In respect of torque driving back from the output shaft, please take into account the reduced gear tooth efficiency $\eta' = 2 - 1/\eta$, particularly with high transmission ratios of the worm gear stage (η = efficiency with driving worm).

Self-locking only occurs at high worm transmission ratios, which are not used for sizes 28 to 88.

Modular system



Use

MOTOX helical worm gearboxes are also ideal in difficult installation conditions. They reach high transmission ratios despite their extremely compact dimensions.

Helical worm gearboxes allow output flanges or torque arms to be attached in accordance with the relevant requirements.

Output shafts are available in different versions and diameters, as solid or hollow shafts.

Helical worm gearboxes are characterized by their very low noise emissions.

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_{Rperm1}

2-stage helical worm gearbox – standard bearing arrangement

Gearbox type	d mm	l mm	y mm	z mm	a kNmm	F_{Rperm} in N with x = l/2 for output speeds n_2 in rpm: Direction of rotation when viewing the output shaft	≤ 16	≤ 25	≤ 40	≤ 63	≤ 100	≤ 160
CF28	20	40	138	118	64.2	Left	3 210	3 210	3 210	3 210	–	–
						Right	3 210	3 210	3 210	3 210	–	–
CF38	25	50	146	121	152.5	Left	5 240	5 380	4 060	3 440	2 800	2 420
						Right	5 540	5 570	4 560	3 940	3 260	2 800
CF48	30	60	176	146	255.0	Left	8 500	8 500	6 700	5 500	4 730	4 090
						Right	8 500	8 500	7 350	6 010	5 190	4 480
CF68	40	80	213	173	440.0	Left	10 060	7 830	6 660	5 750	4 630	4 670
						Right	10 450	8 650	7 410	6 390	5 330	5 220
CF88	50	100	262	212	845.0	Left	13 980	12 390	10 560	9 040	7 460	6 820
						Right	14 640	13 270	11 300	9 680	8 400	7 620

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2-stage helical worm gearbox – reinforced bearing arrangement

Gearbox type	d mm	l mm	y mm	z mm	a kNmm	F_{Rperm} in N with x = l/2 for output speeds n_2 in rpm: Direction of rotation when viewing the output shaft	≤ 16	≤ 25	≤ 40	≤ 63	≤ 100	≤ 160
CF68	40	80	213	173	440	Left	11 000	11 000	11 000	11 000	11 000	11 000
						Right	11 000	11 000	11 000	11 000	11 000	11 000
CF88	50	100	262	212	845	Left	16 900	16 900	16 900	16 900	16 900	16 900
						Right	16 900	16 900	16 900	16 900	16 900	16 900

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.

For worm gearboxes, the values are the same whether they refer to a "clockwise" or "counterclockwise" direction of rotation, when viewing the output shaft.

The calculation does not include additional axial forces.
If the direction of rotation of the output shaft and the additional axial forces are known or the values in the table are insufficient, a calculation can be performed on request.

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_{Motor} kW (50 Hz)	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
0.09	**C.48-LA71M8**							
	2.0	241	1.5	320.67	★	**2KJ1602 - ■CE13 - ■■K2**	**P02**	30
	2.2	217	1.7	284.7		**2KJ1602 - ■CE13 - ■■J2**	**P02**	30
	2.5	194	1.9	249.6	★	**2KJ1602 - ■CE13 - ■■H2**	**P02**	30
	C.38-LA71M8							
	2.0	230	0.97	320.67	★	**2KJ1601 - ■CE13 - ■■K2**	**P02**	22
	2.2	207	1.1	284.7		**2KJ1601 - ■CE13 - ■■J2**	**P02**	22
	2.5	185	1.2	249.6	★	**2KJ1601 - ■CE13 - ■■H2**	**P02**	22
	C.38-LA71B6							
	2.8	170	1.3	320.67	★	**2KJ1601 - ■CB13 - ■■K2**	**P01**	22
	3.1	153	1.5	284.7		**2KJ1601 - ■CB13 - ■■J2**	**P01**	22
	3.6	137	1.6	249.6	★	**2KJ1601 - ■CB13 - ■■H2**	**P01**	22
	4.0	125	1.8	223.36		**2KJ1601 - ■CB13 - ■■G2**	**P01**	22
0.12	**C.88-D28-LA71B4**							
	0.21	1 913	0.83	6 722		**2KJ1615 - ■CB13 - ■■A1**		77
	C.88-Z28-LA71B4							
	0.23	1 739	0.91	6 016	★	**2KJ1614 - ■CB13 - ■■B2**		76
	0.26	1 554	1.0	5 342		**2KJ1614 - ■CB13 - ■■A2**		76
	0.30	1 374	1.2	4 683	★	**2KJ1614 - ■CB13 - ■■X1**		76
	0.33	1 239	1.3	4 191		**2KJ1614 - ■CB13 - ■■W1**		76
	0.38	1 109	1.4	3 719	★	**2KJ1614 - ■CB13 - ■■V1**		76
	0.43	983	1.6	3 260		**2KJ1614 - ■CB13 - ■■U1**		76
	0.49	874	1.8	2 866	★	**2KJ1614 - ■CB13 - ■■T1**		76
	0.54	798	2.0	2 589		**2KJ1614 - ■CB13 - ■■S1**		76
	C.68-Z28-LA71B4							
	0.51	846	0.80	2 745		**2KJ1610 - ■CB13 - ■■U1**		49
	0.58	751	0.90	2 414	★	**2KJ1610 - ■CB13 - ■■T1**		49
	0.64	683	0.99	2 180		**2KJ1610 - ■CB13 - ■■S1**		49
	0.74	602	1.1	1 900	★	**2KJ1610 - ■CB13 - ■■R1**		49
	0.82	545	1.2	1 706		**2KJ1610 - ■CB13 - ■■Q1**		49
	0.91	497	1.4	1 541	★	**2KJ1610 - ■CB13 - ■■P1**		49
	1.0	455	1.5	1 397		**2KJ1610 - ■CB13 - ■■N1**		49
	1.1	419	1.6	1 271	★	**2KJ1610 - ■CB13 - ■■M1**		49
	1.2	376	1.8	1 124		**2KJ1610 - ■CB13 - ■■L1**		49
	1.3	350	1.9	1 038	★	**2KJ1610 - ■CB13 - ■■K1**		49
	C.68-LA71MB8							
	1.8	380	1.8	364	★	**2KJ1603 - ■CF13 - ■■U2**	**P02**	47
	2.0	344	2.0	323.7		**2KJ1603 - ■CF13 - ■■T2**	**P02**	47

★ Preferred transmission ratio

Shaft designs, see page 5/45 — **1 to 9**

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

Gearbox housing mounting position, see page 5/47 — **A, D, F or H**

*) For mounting type B3

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
0.12	**C.48-Z28-LA71B4**							
	0.98	432	0.84	1 422		**2KJ1607 - ■CB13 - ■■Q1**		34
	1.1	394	0.93	1 284	★	**2KJ1607 - ■CB13 - ■■P1**		34
	1.2	360	1.0	1 164		**2KJ1607 - ■CB13 - ■■N1**		34
	1.3	331	1.1	1 059	★	**2KJ1607 - ■CB13 - ■■M1**		34
	1.5	297	1.2	937		**2KJ1607 - ■CB13 - ■■L1**		34
	1.6	277	1.3	865	★	**2KJ1607 - ■CB13 - ■■K1**		34
	1.9	243	1.5	745		**2KJ1607 - ■CB13 - ■■J1**		34
	C.48-LA71MB8							
	2.0	315	1.2	320.67	★	**2KJ1602 - ■CF13 - ■■K2**	**P02**	30
	2.3	284	1.3	284.7		**2KJ1602 - ■CF13 - ■■J2**	**P02**	30
	2.6	254	1.4	249.6	★	**2KJ1602 - ■CF13 - ■■H2**	**P02**	30
	C.48-LA71C6							
	2.7	246	1.5	320.67	★	**2KJ1602 - ■CC13 - ■■K2**	**P01**	30
	3.0	223	1.6	284.7		**2KJ1602 - ■CC13 - ■■J2**	**P01**	30
	3.4	200	1.8	249.6	★	**2KJ1602 - ■CC13 - ■■H2**	**P01**	30
	3.9	182	2.0	223.36		**2KJ1602 - ■CC13 - ■■G2**	**P01**	30
	C.38-Z28-LA71B4							
	1.6	264	0.84	865	★	**2KJ1605 - ■CB13 - ■■K1**		25
	1.9	231	0.96	745		**2KJ1605 - ■CB13 - ■■J1**		25
	C.38-LA71MB8							
	2.3	271	0.83	284.7		**2KJ1601 - ■CF13 - ■■J2**	**P02**	22
	2.6	242	0.93	249.6	★	**2KJ1601 - ■CF13 - ■■H2**	**P02**	22
	C.38-LA71C6							
	2.7	234	0.96	320.67	★	**2KJ1601 - ■CC13 - ■■K2**	**P01**	22
	3.0	212	1.1	284.7		**2KJ1601 - ■CC13 - ■■J2**	**P01**	22
	3.4	189	1.2	249.6	★	**2KJ1601 - ■CC13 - ■■H2**	**P01**	22
	3.9	173	1.3	223.36		**2KJ1601 - ■CC13 - ■■G2**	**P01**	22
	C.38-LA71B4							
	4.4	155	1.4	320.67	★	**2KJ1601 - ■CB13 - ■■K2**		22
	4.9	141	1.6	284.7		**2KJ1601 - ■CB13 - ■■J2**		22
	5.6	126	1.8	249.6	★	**2KJ1601 - ■CB13 - ■■H2**		22
	6.3	114	2.0	223.36		**2KJ1601 - ■CB13 - ■■G2**		22
	C.28-LA71B4							
	5.6	134	0.88	248		**2KJ1600 - ■CB13 - ■■M1**		10
	6.9	109	0.91	202.24		**2KJ1600 - ■CB13 - ■■L1**		10
	9.0	94	1.2	155		**2KJ1600 - ■CB13 - ■■K1**		10
	11.1	77	1.2	126.4		**2KJ1600 - ■CB13 - ■■J1**		10
	15.1	63	1.9	93		**2KJ1600 - ■CB13 - ■■H1**		10
	18.5	51	1.9	75.84		**2KJ1600 - ■CB13 - ■■G1**		10
	23	44	2.7	62		**2KJ1600 - ■CB13 - ■■F1**		10
	28	36	2.6	50.56		**2KJ1600 - ■CB13 - ■■E1**		10
	30	34	3.2	46.5		**2KJ1600 - ■CB13 - ■■D1**		10

★ Preferred transmission ratio

Shaft designs, see page 5/45 — **1 to 9**

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

Gearbox housing mounting position, see page 5/47 — **A, D, F or H**

*) For mounting type B3

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
0.12	**C.28-LA71B4**							
	37	28	3.2	37.92		**2KJ1600 - ■CB13 - ■■C1**		10
	45	23	4.3	31		**2KJ1600 - ■CB13 - ■■B1**		10
	55	19	4.3	25.28		**2KJ1600 - ■CB13 - ■■A1**		10
0.18	**C.88-Z28-LA71C4**							
	0.37	1 885	0.84	3 719	★	**2KJ1614 - ■CC13 - ■■V1**		76
	0.42	1 671	0.95	3 260		**2KJ1614 - ■CC13 - ■■U1**		76
	0.48	1 486	1.1	2 866	★	**2KJ1614 - ■CC13 - ■■T1**		76
	0.53	1 356	1.2	2 589		**2KJ1614 - ■CC13 - ■■S1**		76
	0.61	1 199	1.3	2 256	★	**2KJ1614 - ■CC13 - ■■R1**		76
	0.68	1 091	1.5	2 026		**2KJ1614 - ■CC13 - ■■Q1**		76
	0.75	998	1.6	1 829	★	**2KJ1614 - ■CC13 - ■■P1**		76
	0.83	917	1.7	1 659		**2KJ1614 - ■CC13 - ■■N1**		76
	0.91	846	1.9	1 510	★	**2KJ1614 - ■CC13 - ■■M1**		76
	C.68-Z28-LA71C4							
	0.89	845	0.80	1 541	★	**2KJ1610 - ■CC13 - ■■P1**		49
	0.98	774	0.87	1 397		**2KJ1610 - ■CC13 - ■■N1**		49
	1.1	711	0.95	1 271	★	**2KJ1610 - ■CC13 - ■■M1**		49
	1.2	638	1.1	1 124		**2KJ1610 - ■CC13 - ■■L1**		49
	1.3	595	1.1	1 038	★	**2KJ1610 - ■CC13 - ■■K1**		49
	1.5	522	1.3	893		**2KJ1610 - ■CC13 - ■■J1**		49
	1.7	481	1.4	812	★	**2KJ1610 - ■CC13 - ■■H1**		49
	C.68-LA80S8							
	2.1	497	1.4	323.7		**2KJ1603 - ■DB13 - ■■T2**	**P02**	51
	C.68-LA71S6							
	2.3	452	1.5	364	★	**2KJ1603 - ■CD13 - ■■U2**	**P01**	47
	2.6	409	1.7	323.7		**2KJ1603 - ■CD13 - ■■T2**	**P01**	47
	3.0	363	1.9	280.8	★	**2KJ1603 - ■CD13 - ■■S2**	**P01**	47
	3.2	343	2.0	262.36		**2KJ1603 - ■CD13 - ■■R2**	**P01**	47
	C.48-Z28-LA71C4							
	1.8	412	0.89	745		**2KJ1607 - ■CC13 - ■■J1**		34
	C.48-LA80S8							
	2.1	454	0.81	320.67	★	**2KJ1602 - ■DB13 - ■■K2**	**P02**	34
	2.4	410	0.89	284.7		**2KJ1602 - ■DB13 - ■■J2**	**P02**	34
	C.48-LA71S6							
	2.7	373	0.98	320.67	★	**2KJ1602 - ■CD13 - ■■K2**	**P01**	30
	3.0	337	1.1	284.7		**2KJ1602 - ■CD13 - ■■J2**	**P01**	30
	3.4	302	1.2	249.6	★	**2KJ1602 - ■CD13 - ■■H2**	**P01**	30
	3.8	275	1.3	223.36		**2KJ1602 - ■CD13 - ■■G2**	**P01**	30
	C.48-LA71C4							
	4.3	250	1.5	320.67	★	**2KJ1602 - ■CC13 - ■■K2**		30
	4.8	226	1.6	284.7		**2KJ1602 - ■CC13 - ■■J2**		30
	5.5	202	1.8	249.6	★	**2KJ1602 - ■CC13 - ■■H2**		30

★ Preferred transmission ratio

Shaft designs, see page 5/45 — **1 to 9**

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

Gearbox housing mounting position, see page 5/47 — **A, D, F or H**

*) For mounting type B3

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
0.18	**C.48-LA71C4**							
	6.1	184	2.0	223.36		**2KJ1602 - ■CC13 - ■■G2**		30
	C.38-LA71S6							
	3.8	261	0.86	223.36		**2KJ1601 - ■CD13 - ■■G2**	**P01**	22
	C.38-LA71C4							
	4.3	237	0.95	320.67	★	**2KJ1601 - ■CC13 - ■■K2**		22
	4.8	215	1.0	284.7		**2KJ1601 - ■CC13 - ■■J2**		22
	5.5	192	1.2	249.6	★	**2KJ1601 - ■CC13 - ■■H2**		22
	6.1	175	1.3	223.36		**2KJ1601 - ■CC13 - ■■G2**		22
	6.9	158	1.4	198.25	★	**2KJ1601 - ■CC13 - ■■F2**		22
	7.9	140	1.6	173.73		**2KJ1601 - ■CC13 - ■■E2**		22
	9.0	125	1.8	152.75	★	**2KJ1601 - ■CC13 - ■■D2**		22
	9.9	114	2.0	138		**2KJ1601 - ■CC13 - ■■C2**		22
	C.28-LA71C4							
	8.8	144	0.81	155		**2KJ1600 - ■CC13 - ■■K1**		10
	10.8	118	0.8	126.4		**2KJ1600 - ■CC13 - ■■J1**		10
	14.7	96	1.2	93		**2KJ1600 - ■CC13 - ■■H1**		10
	18.1	78	1.2	75.84		**2KJ1600 - ■CC13 - ■■G1**		10
	22	68	1.7	62		**2KJ1600 - ■CC13 - ■■F1**		10
	27	55	1.7	50.56		**2KJ1600 - ■CC13 - ■■E1**		10
	30	52	2.1	46.5		**2KJ1600 - ■CC13 - ■■D1**		10
	36	43	2.1	37.92		**2KJ1600 - ■CC13 - ■■C1**		10
	44	36	2.8	31		**2KJ1600 - ■CC13 - ■■B1**		10
	54	29	2.8	25.28		**2KJ1600 - ■CC13 - ■■A1**		10
0.25	**C.88-Z28-LA71S4**							
	0.60	1 782	0.89	2 256	★	**2KJ1614 - ■CD13 - ■■R1**		76
	0.67	1 621	0.98	2 026		**2KJ1614 - ■CD13 - ■■Q1**		76
	0.74	1 482	1.1	1 829	★	**2KJ1614 - ■CD13 - ■■P1**		76
	0.81	1 362	1.2	1 659		**2KJ1614 - ■CD13 - ■■N1**		76
	0.89	1 257	1.3	1 510	★	**2KJ1614 - ■CD13 - ■■M1**		76
	1.0	1 132	1.4	1 335		**2KJ1614 - ■CD13 - ■■L1**		76
	1.1	1 058	1.5	1 232	★	**2KJ1614 - ■CD13 - ■■K1**		76
	1.3	934	1.7	1 061		**2KJ1614 - ■CD13 - ■■J1**		76
	1.4	863	1.8	964	★	**2KJ1614 - ■CD13 - ■■H1**		76
	1.5	894	1.8	877	★	**2KJ1614 - ■CD13 - ■■G1**		76
	C.88-LA80M8							
	1.6	928	1.6	440.7		**2KJ1604 - ■DC13 - ■■T2**	**P02**	78
	1.8	840	1.9	390	★	**2KJ1604 - ■DC13 - ■■S2**	**P02**	78
	1.9	777	2.0	354.55		**2KJ1604 - ■DC13 - ■■R2**	**P02**	78
	C.88-LA71M6							
	2.0	771	2.0	440.7		**2KJ1604 - ■CE13 - ■■T2**	**P01**	74
	C.68-Z28-LA71S4							
	1.5	775	0.87	893		**2KJ1610 - ■CD13 - ■■J1**		49
	1.7	714	0.95	812	★	**2KJ1610 - ■CD13 - ■■H1**		49

★ Preferred transmission ratio

Shaft designs, see page 5/45 — **1 to 9**
Frequency and voltage, see page 8/20 — **1 to 9**
Gearbox housing mounting position, see page 5/47 — **A, D, F or H**

*) For mounting type B3

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
0.25	**C.68-LA80M8**							
	2.1	681	0.99	323.7		**2KJ1603 - ■DC13 - ■■T2**	**P02**	51
	C.68-LA71M6							
	2.4	621	1.1	364	★	**2KJ1603 - ■CE13 - ■■U2**	**P01**	47
	2.7	563	1.2	323.7		**2KJ1603 - ■CE13 - ■■T2**	**P01**	47
	3.1	499	1.4	280.8	★	**2KJ1603 - ■CE13 - ■■S2**	**P01**	47
	3.3	472	1.4	262.36		**2KJ1603 - ■CE13 - ■■R2**	**P01**	47
	C.68-LA71S4							
	3.7	425	1.6	364	★	**2KJ1603 - ■CD13 - ■■U2**		47
	4.2	385	1.8	323.7		**2KJ1603 - ■CD13 - ■■T2**		47
	4.8	340	2.0	280.8	★	**2KJ1603 - ■CD13 - ■■S2**		47
	5.1	321	2.1	262.36		**2KJ1603 - ■CD13 - ■■R2**		47
	C.48-LA71M6							
	3.4	416	0.88	249.6	★	**2KJ1602 - ■CE13 - ■■H2**	**P01**	30
	3.9	379	0.97	223.36		**2KJ1602 - ■CE13 - ■■G2**	**P01**	30
	C.48-LA71S4							
	4.2	352	1.0	320.67	★	**2KJ1602 - ■CD13 - ■■K2**		30
	4.7	318	1.2	284.7		**2KJ1602 - ■CD13 - ■■J2**		30
	5.4	285	1.3	249.6	★	**2KJ1602 - ■CD13 - ■■H2**		30
	6.0	259	1.4	223.36		**2KJ1602 - ■CD13 - ■■G2**		30
	6.8	234	1.6	198.25	★	**2KJ1602 - ■CD13 - ■■F2**		30
	7.8	208	1.8	173.73		**2KJ1602 - ■CD13 - ■■E2**		30
	8.8	185	2.0	152.75	★	**2KJ1602 - ■CD13 - ■■D2**		30
	C.38-LA71S4							
	5.4	270	0.83	249.6	★	**2KJ1601 - ■CD13 - ■■H2**		22
	6.0	246	0.92	223.36		**2KJ1601 - ■CD13 - ■■G2**		22
	6.8	222	1.0	198.25	★	**2KJ1601 - ■CD13 - ■■F2**		22
	7.8	198	1.1	173.73		**2KJ1601 - ■CD13 - ■■E2**		22
	8.8	176	1.3	152.75	★	**2KJ1601 - ■CD13 - ■■D2**		22
	9.8	161	1.4	138		**2KJ1601 - ■CD13 - ■■C2**		22
	11.2	141	1.6	120.25	★	**2KJ1601 - ■CD13 - ■■B2**		22
	12.5	128	1.8	108		**2KJ1601 - ■CD13 - ■■A2**		22
	13.8	116	2.0	97.5	★	**2KJ1601 - ■CD13 - ■■X1**		22
	15.3	105	2.1	88.4		**2KJ1601 - ■CD13 - ■■W1**		22
	16.8	96	2.3	80.44	★	**2KJ1601 - ■CD13 - ■■V1**		22
	22	91	2.2	60.3	★	**2KJ1601 - ■CD13 - ■■S1**		22
	C.28-LA71S4							
	14.5	136	0.87	93		**2KJ1600 - ■CD13 - ■■H1**		10
	17.8	111	0.86	75.84		**2KJ1600 - ■CD13 - ■■G1**		10
	22	95	1.2	62		**2KJ1600 - ■CD13 - ■■F1**		10
	27	78	1.2	50.56		**2KJ1600 - ■CD13 - ■■E1**		10
	29	74	1.5	46.5		**2KJ1600 - ■CD13 - ■■D1**		10
	36	60	1.5	37.92		**2KJ1600 - ■CD13 - ■■C1**		10
	44	50	2.0	31		**2KJ1600 - ■CD13 - ■■B1**		10

★ Preferred transmission ratio

Shaft designs, see page 5/45 — **1 to 9**

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

Gearbox housing mounting position, see page 5/47 — **A, D, F or H**

*) For mounting type B3

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
0.25	**C.28-LA71S4**							
	53	41	2.0	25.28		**2KJ1600 - ■CD13 - ■■A1**		10
0.37	**C.88-Z28-LA71M4**							
	0.91	1 918	0.83	1 510	★	**2KJ1614 - ■CE13 - ■■M1**		76
	1.0	1 728	0.92	1 335		**2KJ1614 - ■CE13 - ■■L1**		76
	1.1	1 615	0.98	1 232	★	**2KJ1614 - ■CE13 - ■■K1**		76
	1.3	1 426	1.1	1 061		**2KJ1614 - ■CE13 - ■■J1**		76
	1.4	1 318	1.2	964	★	**2KJ1614 - ■CE13 - ■■H1**		76
	C.88-LA90SA8							
	1.7	1 258	1.3	390	★	**2KJ1604 - ■EB13 - ■■S2**	**P02**	81
	1.9	1 164	1.4	354.55		**2KJ1604 - ■EB13 - ■■R2**	**P02**	81
	C.88-LA80S6							
	2.1	1 079	1.4	440.7		**2KJ1604 - ■DB13 - ■■T2**	**P01**	78
	2.4	976	1.6	390	★	**2KJ1604 - ■DB13 - ■■S2**	**P01**	78
	2.6	902	1.8	354.55		**2KJ1604 - ■DB13 - ■■R2**	**P01**	78
	2.9	824	1.9	318.5	★	**2KJ1604 - ■DB13 - ■■Q2**	**P01**	78
	C.68-LA80S6							
	2.8	787	0.86	323.7		**2KJ1603 - ■DB13 - ■■T2**	**P01**	51
	3.3	698	0.97	280.8	★	**2KJ1603 - ■DB13 - ■■S2**	**P01**	51
	3.5	659	1.0	262.36		**2KJ1603 - ■DB13 - ■■R2**	**P01**	51
	C.68-LA71M4							
	3.8	621	1.1	364	★	**2KJ1603 - ■CE13 - ■■U2**		47
	4.2	562	1.2	323.7		**2KJ1603 - ■CE13 - ■■T2**		47
	4.9	497	1.4	280.8	★	**2KJ1603 - ■CE13 - ■■S2**		47
	5.2	468	1.5	262.36		**2KJ1603 - ■CE13 - ■■R2**		47
	5.9	418	1.6	230.75	★	**2KJ1603 - ■CE13 - ■■Q2**		47
	6.8	370	1.8	202.09		**2KJ1603 - ■CE13 - ■■P2**		47
	7.7	331	2.0	178.75	★	**2KJ1603 - ■CE13 - ■■N2**		47
	8.5	301	2.1	162		**2KJ1603 - ■CE13 - ■■M2**		47
	C.48-LA71M4							
	5.5	416	0.89	249.6	★	**2KJ1602 - ■CE13 - ■■H2**		30
	6.1	378	0.98	223.36		**2KJ1602 - ■CE13 - ■■G2**		30
	6.9	341	1.1	198.25	★	**2KJ1602 - ■CE13 - ■■F2**		30
	7.9	304	1.2	173.73		**2KJ1602 - ■CE13 - ■■E2**		30
	9.0	270	1.4	152.75	★	**2KJ1602 - ■CE13 - ■■D2**		30
	9.9	246	1.5	138		**2KJ1602 - ■CE13 - ■■C2**		30
	11.4	217	1.7	120.25	★	**2KJ1602 - ■CE13 - ■■B2**		30
	12.7	195	1.9	108		**2KJ1602 - ■CE13 - ■■A2**		30
	14.1	177	2.1	97.5	★	**2KJ1602 - ■CE13 - ■■X1**		30
	15.5	161	2.2	88.4		**2KJ1602 - ■CE13 - ■■W1**		30
	17.0	147	2.3	80.44	★	**2KJ1602 - ■CE13 - ■■V1**		30
	C.38-LA71M4							
	9.0	257	0.88	152.75	★	**2KJ1601 - ■CE13 - ■■D2**		22
	9.9	234	0.97	138		**2KJ1601 - ■CE13 - ■■C2**		22

★ Preferred transmission ratio

Shaft designs, see page 5/45 — **1 to 9**

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

Gearbox housing mounting position, see page 5/47 — **A, D, F or H**

*) For mounting type B3

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
0.37	**C.38-LA71M4**							
	11.4	206	1.1	120.25	★	**2KJ1601 - ■CE13 - ■■B2**		22
	12.7	186	1.2	108		**2KJ1601 - ■CE13 - ■■A2**		22
	14.1	169	1.4	97.5	★	**2KJ1601 - ■CE13 - ■■X1**		22
	15.5	154	1.5	88.4		**2KJ1601 - ■CE13 - ■■W1**		22
	17.0	140	1.6	80.44	★	**2KJ1601 - ■CE13 - ■■V1**		22
	19.3	124	1.7	71.12		**2KJ1601 - ■CE13 - ■■U1**		22
	21	115	1.8	65.68	★	**2KJ1601 - ■CE13 - ■■T1**		22
	23	132	1.5	60.3	★	**2KJ1601 - ■CE13 - ■■S1**		22
	26	118	2.0	53.53		**2KJ1601 - ■CE13 - ■■R1**		22
	29	104	2.2	46.93	★	**2KJ1601 - ■CE13 - ■■Q1**		22
	33	94	2.3	42		**2KJ1601 - ■CE13 - ■■P1**		22
	42	74	2.6	32.67		**2KJ1601 - ■CE13 - ■■M1**		22
	C.28-LA71M4							
	22	139	0.84	62		**2KJ1600 - ■CE13 - ■■F1**		10
	27	113	0.83	50.56		**2KJ1600 - ■CE13 - ■■E1**		10
	30	108	1.0	46.5		**2KJ1600 - ■CE13 - ■■D1**		10
	36	88	1.0	37.92		**2KJ1600 - ■CE13 - ■■C1**		10
	44	73	1.4	31		**2KJ1600 - ■CE13 - ■■B1**		10
	54	60	1.4	25.28		**2KJ1600 - ■CE13 - ■■A1**		10
0.55	**C.88-LA90LA8**							
	1.7	1 870	0.85	390	★	**2KJ1604 - ■EE13 - ■■S2**	**P02**	84
	1.9	1 730	0.92	354.55		**2KJ1604 - ■EE13 - ■■R2**	**P02**	84
	C.88-LA80M6							
	2.1	1 618	0.94	440.7		**2KJ1604 - ■DC13 - ■■T2**	**P01**	78
	2.3	1 464	1.1	390	★	**2KJ1604 - ■DC13 - ■■S2**	**P01**	78
	2.6	1 353	1.2	354.55		**2KJ1604 - ■DC13 - ■■R2**	**P01**	78
	2.9	1 236	1.3	318.5	★	**2KJ1604 - ■DC13 - ■■Q2**	**P01**	78
	C.88-LA71ZMP4							
	3.1	1 151	1.4	440.7		**2KJ1604 - ■CG13 - ■■T2**		74
	3.5	1 036	1.5	390	★	**2KJ1604 - ■CG13 - ■■S2**		74
	3.9	953	1.7	354.55		**2KJ1604 - ■CG13 - ■■R2**		74
	4.3	865	1.8	318.5	★	**2KJ1604 - ■CG13 - ■■Q2**		74
	5.0	751	2.0	273		**2KJ1604 - ■CG13 - ■■P2**		74
	5.5	684	2.1	247	★	**2KJ1604 - ■CG13 - ■■N2**		74
	C.68-LA71ZMP4							
	4.2	835	0.81	323.7		**2KJ1603 - ■CG13 - ■■T2**		47
	4.9	739	0.92	280.8	★	**2KJ1603 - ■CG13 - ■■S2**		47
	5.2	696	0.98	262.36		**2KJ1603 - ■CG13 - ■■R2**		47
	5.9	621	1.1	230.75	★	**2KJ1603 - ■CG13 - ■■Q2**		47
	6.8	551	1.2	202.09		**2KJ1603 - ■CG13 - ■■P2**		47
	7.7	492	1.3	178.75	★	**2KJ1603 - ■CG13 - ■■N2**		47
	8.5	448	1.4	162		**2KJ1603 - ■CG13 - ■■M2**		47
	9.6	398	1.5	143	★	**2KJ1603 - ■CG13 - ■■L2**		47

★ Preferred transmission ratio

Shaft designs, see page 5/45 — **1 to 9**

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

Gearbox housing mounting position, see page 5/47 — **A, D, F or H**

*) For mounting type B3

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
0.55	**C.68-LA71ZMP4**							
	10.6	360	1.7	129		**2KJ1603 - ■CG13 - ■■K2**		47
	11.7	327	1.8	117	★	**2KJ1603 - ■CG13 - ■■J2**		47
	12.9	299	1.9	106.6		**2KJ1603 - ■CG13 - ■■H2**		47
	14.1	273	2.0	97.5	★	**2KJ1603 - ■CG13 - ■■G2**		47
	15.2	294	2.1	90	★	**2KJ1603 - ■CG13 - ■■F2**		47
	16.3	276	2.3	84.09		**2KJ1603 - ■CG13 - ■■E2**		47
	C.48-LA71ZMP4							
	7.9	451	0.82	173.73		**2KJ1602 - ■CG13 - ■■E2**		30
	9.0	402	0.93	152.75	★	**2KJ1602 - ■CG13 - ■■D2**		30
	9.9	366	1.0	138		**2KJ1602 - ■CG13 - ■■C2**		30
	11.4	322	1.2	120.25	★	**2KJ1602 - ■CG13 - ■■B2**		30
	12.7	291	1.3	108		**2KJ1602 - ■CG13 - ■■A2**		30
	14.1	263	1.4	97.5	★	**2KJ1602 - ■CG13 - ■■X1**		30
	15.5	239	1.5	88.4		**2KJ1602 - ■CG13 - ■■W1**		30
	17.0	218	1.6	80.44	★	**2KJ1602 - ■CG13 - ■■V1**		30
	19.3	193	1.7	71.12		**2KJ1602 - ■CG13 - ■■U1**		30
	21	178	1.8	65.68	★	**2KJ1602 - ■CG13 - ■■T1**		30
	24	154	2.0	56.55		**2KJ1602 - ■CG13 - ■■S1**		30
	27	140	2.1	51.41	★	**2KJ1602 - ■CG13 - ■■R1**		30
	29	157	1.8	46.93	★	**2KJ1602 - ■CG13 - ■■Q1**		30
	33	141	2.2	42		**2KJ1602 - ■CG13 - ■■P1**		30
	37	126	2.1	37.28	★	**2KJ1602 - ■CG13 - ■■N1**		30
	42	110	2.4	32.67		**2KJ1602 - ■CG13 - ■■M1**		30
	C.38-LA71ZMP4							
	12.7	277	0.83	108		**2KJ1601 - ■CG13 - ■■A2**		22
	14.1	251	0.91	97.5	★	**2KJ1601 - ■CG13 - ■■X1**		22
	15.5	228	0.98	88.4		**2KJ1601 - ■CG13 - ■■W1**		22
	17.0	208	1.0	80.44	★	**2KJ1601 - ■CG13 - ■■V1**		22
	19.3	185	1.1	71.12		**2KJ1601 - ■CG13 - ■■U1**		22
	21	171	1.2	65.68	★	**2KJ1601 - ■CG13 - ■■T1**		22
	23	197	1.0	60.3	★	**2KJ1601 - ■CG13 - ■■S1**		22
	26	176	1.4	53.53		**2KJ1601 - ■CG13 - ■■R1**		22
	29	155	1.5	46.93	★	**2KJ1601 - ■CG13 - ■■Q1**		22
	33	140	1.6	42		**2KJ1601 - ■CG13 - ■■P1**		22
	37	124	1.8	37.28	★	**2KJ1601 - ■CG13 - ■■N1**		22
	42	109	1.7	32.67		**2KJ1601 - ■CG13 - ■■M1**		22
	48	96	2.1	28.72	★	**2KJ1601 - ■CG13 - ■■L1**		22
	53	87	2.3	25.95		**2KJ1601 - ■CG13 - ■■K1**		22
	61	76	2.7	22.61	★	**2KJ1601 - ■CG13 - ■■J1**		22
	68	68	2.8	20.31		**2KJ1601 - ■CG13 - ■■H1**		22
	C.28-LA71ZMP4							
	44	109	0.91	31		**2KJ1600 - ■CG13 - ■■B1**		10
	54	89	0.91	25.28		**2KJ1600 - ■CG13 - ■■A1**		10

★ Preferred transmission ratio

Shaft designs, see page 5/45 — **1 to 9**

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

Gearbox housing mounting position, see page 5/47 — **A, D, F or H**

*) For mounting type B3

Selection and ordering data (continued)

Power rating P_{Motor}	Output speed	Output torque	Service factor	Gearbox ratio		Order No.	Order code	Weight *)
kW	n_2 (50 Hz) rpm	T_2 Nm	f_B	i_{tot}			(No. of poles)	kg
0.75	**C.88-LA90SB6E**							
	2.4	1 969	0.81	390	★	**2KJ1604 - ■ED13 - ■■S2**	**P01**	81
	2.6	1 819	0.87	354.55		**2KJ1604 - ■ED13 - ■■R2**	**P01**	81
	2.9	1 663	0.96	318.5	★	**2KJ1604 - ■ED13 - ■■Q2**	**P01**	81
	C.88-LA80ZMB4E							
	3.2	1 541	1.0	440.7		**2KJ1604 - ■DE13 - ■■T2**		78
	3.6	1 386	1.1	390	★	**2KJ1604 - ■DE13 - ■■S2**		78
	3.9	1 274	1.2	354.55		**2KJ1604 - ■DE13 - ■■R2**		78
	4.4	1 157	1.4	318.5	★	**2KJ1604 - ■DE13 - ■■Q2**		78
	5.1	1 004	1.5	273		**2KJ1604 - ■DE13 - ■■P2**		78
	5.7	914	1.6	247	★	**2KJ1604 - ■DE13 - ■■N2**		78
	6.1	847	1.6	228		**2KJ1604 - ■DE13 - ■■M2**		78
	7.1	740	1.8	198.25	★	**2KJ1604 - ■DE13 - ■■L2**		78
	7.8	673	1.9	180		**2KJ1604 - ■DE13 - ■■K2**		78
	8.5	615	2.0	164.36	★	**2KJ1604 - ■DE13 - ■■J2**		78
	9.3	565	2.1	150.8		**2KJ1604 - ■DE13 - ■■H2**		78
	C.68-LA80ZMB4E							
	6.1	831	0.82	230.75	★	**2KJ1603 - ■DE13 - ■■Q2**		51
	6.9	736	0.93	202.09		**2KJ1603 - ■DE13 - ■■P2**		51
	7.8	657	1.0	178.75	★	**2KJ1603 - ■DE13 - ■■N2**		51
	8.6	599	1.1	162		**2KJ1603 - ■DE13 - ■■M2**		51
	9.8	531	1.2	143	★	**2KJ1603 - ■DE13 - ■■L2**		51
	10.9	481	1.2	129		**2KJ1603 - ■DE13 - ■■K2**		51
	12.0	437	1.3	117	★	**2KJ1603 - ■DE13 - ■■J2**		51
	13.1	399	1.4	106.6		**2KJ1603 - ■DE13 - ■■H2**		51
	14.4	365	1.5	97.5	★	**2KJ1603 - ■DE13 - ■■G2**		51
	15.6	393	1.6	90	★	**2KJ1603 - ■DE13 - ■■F2**		51
	16.6	369	1.7	84.09		**2KJ1603 - ■DE13 - ■■E2**		51
	18.9	326	1.8	73.96	★	**2KJ1603 - ■DE13 - ■■D2**		51
	22	287	2.2	64.77		**2KJ1603 - ■DE13 - ■■C2**		51
	37	172	2.5	38		**2KJ1603 - ■DE13 - ■■V1**		51
	46	138	2.8	30.46		**2KJ1603 - ■DE13 - ■■Q1**		51
	C.48-LA80ZMB4E							
	11.6	430	0.87	120.25	★	**2KJ1602 - ■DE13 - ■■B2**		34
	13.0	388	0.96	108		**2KJ1602 - ■DE13 - ■■A2**		34
	14.4	351	1.0	97.5	★	**2KJ1602 - ■DE13 - ■■X1**		34
	15.8	319	1.1	88.4		**2KJ1602 - ■DE13 - ■■W1**		34
	17.4	291	1.2	80.44	★	**2KJ1602 - ■DE13 - ■■V1**		34
	19.7	258	1.3	71.12		**2KJ1602 - ■DE13 - ■■U1**		34
	21	238	1.3	65.68	★	**2KJ1602 - ■DE13 - ■■T1**		34
	25	205	1.5	56.55		**2KJ1602 - ■DE13 - ■■S1**		34
	27	186	1.6	51.41	★	**2KJ1602 - ■DE13 - ■■R1**		34
	30	210	1.4	46.93	★	**2KJ1602 - ■DE13 - ■■Q1**		34
	33	188	1.7	42		**2KJ1602 - ■DE13 - ■■P1**		34

★ Preferred transmission ratio

Shaft designs, see page 5/45 — **1 to 9**

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

Gearbox housing mounting position, see page 5/47 — **A, D, F or H**

*) For mounting type B3

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
0.75	**C.48-LA80ZMB4E**							
	38	168	1.6	37.28	★	**2KJ1602 - ■DE13 - ■■N1**		34
	43	147	1.8	32.67		**2KJ1602 - ■DE13 - ■■M1**		34
	49	130	2.2	28.72	★	**2KJ1602 - ■DE13 - ■■L1**		34
	54	117	2.3	25.95		**2KJ1602 - ■DE13 - ■■K1**		34
	62	102	2.6	22.61	★	**2KJ1602 - ■DE13 - ■■J1**		34
	69	92	3.0	20.31		**2KJ1602 - ■DE13 - ■■H1**		34
	C.38-LA80ZMB4E							
	19.7	246	0.85	71.12		**2KJ1601 - ■DE13 - ■■U1**		26
	21	228	0.89	65.68	★	**2KJ1601 - ■DE13 - ■■T1**		26
	26	235	1.0	53.53		**2KJ1601 - ■DE13 - ■■R1**		26
	30	207	1.1	46.93	★	**2KJ1601 - ■DE13 - ■■Q1**		26
	33	186	1.2	42		**2KJ1601 - ■DE13 - ■■P1**		26
	38	166	1.4	37.28	★	**2KJ1601 - ■DE13 - ■■N1**		26
	43	146	1.3	32.67		**2KJ1601 - ■DE13 - ■■M1**		26
	49	129	1.6	28.72	★	**2KJ1601 - ■DE13 - ■■L1**		26
	54	117	1.8	25.95		**2KJ1601 - ■DE13 - ■■K1**		26
	62	102	2.0	22.61	★	**2KJ1601 - ■DE13 - ■■J1**		26
	69	91	2.1	20.31		**2KJ1601 - ■DE13 - ■■H1**		26
	76	83	2.5	18.33	★	**2KJ1601 - ■DE13 - ■■G1**		26
	84	75	2.6	16.62		**2KJ1601 - ■DE13 - ■■F1**		26
	92	68	2.7	15.13	★	**2KJ1601 - ■DE13 - ■■E1**		26
	105	60	2.7	13.37		**2KJ1601 - ■DE13 - ■■D1**		26
	113	56	3.0	12.35	★	**2KJ1601 - ■DE13 - ■■C1**		26
	132	48	3.6	10.63		**2KJ1601 - ■DE13 - ■■B1**		26
	145	44	3.8	9.67	★	**2KJ1601 - ■DE13 - ■■A1**		26
1.1	**C.88-LA90SB4E**							
	3.7	1 983	0.80	390	★	**2KJ1604 - ■EM13 - ■■S2**		81
	4.1	1 822	0.87	354.55		**2KJ1604 - ■EM13 - ■■R2**		81
	4.5	1 654	0.95	318.5	★	**2KJ1604 - ■EM13 - ■■Q2**		81
	5.3	1 434	1.0	273		**2KJ1604 - ■EM13 - ■■P2**		81
	5.8	1 305	1.1	247	★	**2KJ1604 - ■EM13 - ■■N2**		81
	6.3	1 209	1.1	228		**2KJ1604 - ■EM13 - ■■M2**		81
	7.3	1 056	1.2	198.25	★	**2KJ1604 - ■EM13 - ■■L2**		81
	8.0	960	1.3	180		**2KJ1604 - ■EM13 - ■■K2**		81
	8.8	878	1.4	164.36	★	**2KJ1604 - ■EM13 - ■■J2**		81
	9.5	806	1.5	150.8		**2KJ1604 - ■EM13 - ■■H2**		81
	10.4	743	1.6	138.94	★	**2KJ1604 - ■EM13 - ■■G2**		81
	11.4	675	1.7	126.18		**2KJ1604 - ■EM13 - ■■F2**		81
	12.5	615	1.8	114.95	★	**2KJ1604 - ■EM13 - ■■E2**		81
	13.3	672	2.0	108.5		**2KJ1604 - ■EM13 - ■■D2**		81
	15.9	564	2.2	90.62		**2KJ1604 - ■EM13 - ■■B2**		81
	C.68-LA90SB4E							
	10.1	758	0.80	143	★	**2KJ1603 - ■EM13 - ■■L2**		54

★ Preferred transmission ratio

Shaft designs, see page 5/45 — **1 to 9**

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

Gearbox housing mounting position, see page 5/47 — **A, D, F or H**

*) For mounting type B3

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
1.1	**C.68-LA90SB4E**							
	11.2	686	0.86	129		**2KJ1603 - ■EM13 - ■■K2**		54
	12.3	623	0.91	117	★	**2KJ1603 - ■EM13 - ■■J2**		54
	13.5	569	0.97	106.6		**2KJ1603 - ■EM13 - ■■H2**		54
	14.8	520	1.0	97.5	★	**2KJ1603 - ■EM13 - ■■G2**		54
	16.0	562	1.1	90	★	**2KJ1603 - ■EM13 - ■■F2**		54
	17.1	526	1.2	84.09		**2KJ1603 - ■EM13 - ■■E2**		54
	19.5	465	1.3	73.96	★	**2KJ1603 - ■EM13 - ■■D2**		54
	22	409	1.5	64.77		**2KJ1603 - ■EM13 - ■■C2**		54
	25	363	1.8	57.29	★	**2KJ1603 - ■EM13 - ■■B2**		54
	28	329	1.9	51.92		**2KJ1603 - ■EM13 - ■■A2**		54
	31	291	2.1	45.83	★	**2KJ1603 - ■EM13 - ■■X1**		54
	35	263	2.2	41.35		**2KJ1603 - ■EM13 - ■■W1**		54
	38	238	2.4	37.5	★	**2KJ1603 - ■EM13 - ■■U1**		54
	38	245	1.8	38		**2KJ1603 - ■EM13 - ■■V1**		54
	42	217	2.5	34.17		**2KJ1603 - ■EM13 - ■■T1**		54
	43	217	2.0	33.61	★	**2KJ1603 - ■EM13 - ■■S1**		54
	46	199	2.7	31.25	★	**2KJ1603 - ■EM13 - ■■R1**		54
	47	197	2.0	30.46		**2KJ1603 - ■EM13 - ■■Q1**		54
	52	178	2.9	27.94		**2KJ1603 - ■EM13 - ■■P1**		54
	54	174	2.3	26.89	★	**2KJ1603 - ■EM13 - ■■N1**		54
	59	157	2.5	24.26		**2KJ1603 - ■EM13 - ■■L1**		54
	66	142	3.0	22	★	**2KJ1603 - ■EM13 - ■■J1**		54
	C.48-LA90SB4E							
	17.9	415	0.82	80.44	★	**2KJ1602 - ■EM13 - ■■V1**		37
	20	367	0.89	71.12		**2KJ1602 - ■EM13 - ■■U1**		37
	22	339	0.93	65.68	★	**2KJ1602 - ■EM13 - ■■T1**		37
	26	292	1.0	56.55		**2KJ1602 - ■EM13 - ■■S1**		37
	28	266	1.1	51.41	★	**2KJ1602 - ■EM13 - ■■R1**		37
	31	300	0.96	46.93	★	**2KJ1602 - ■EM13 - ■■Q1**		37
	34	269	1.2	42		**2KJ1602 - ■EM13 - ■■P1**		37
	39	239	1.1	37.28	★	**2KJ1602 - ■EM13 - ■■N1**		37
	44	210	1.2	32.67		**2KJ1602 - ■EM13 - ■■M1**		37
	50	185	1.5	28.72	★	**2KJ1602 - ■EM13 - ■■L1**		37
	56	167	1.6	25.95		**2KJ1602 - ■EM13 - ■■K1**		37
	64	146	1.8	22.61	★	**2KJ1602 - ■EM13 - ■■J1**		37
	71	131	2.1	20.31		**2KJ1602 - ■EM13 - ■■H1**		37
	79	118	2.5	18.33	★	**2KJ1602 - ■EM13 - ■■G1**		37
	87	107	2.7	16.62		**2KJ1602 - ■EM13 - ■■F1**		37
	95	98	2.7	15.13	★	**2KJ1602 - ■EM13 - ■■E1**		37
	108	86	2.7	13.37		**2KJ1602 - ■EM13 - ■■D1**		37
	117	80	3.1	12.35	★	**2KJ1602 - ■EM13 - ■■C1**		37
	135	69	3.6	10.63		**2KJ1602 - ■EM13 - ■■B1**		37
	149	62	3.8	9.67	★	**2KJ1602 - ■EM13 - ■■A1**		37

★ Preferred transmission ratio

Shaft designs, see page 5/45 — 1 to 9
Frequency and voltage, see page 8/20 — 1 to 9
Gearbox housing mounting position, see page 5/47 — A, D, F or H

*) For mounting type B3

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
1.1	**C.38-LA90SB4E**							
	34	266	0.82	42		**2KJ1601 - ■EM13 - ■■P1**		29
	39	237	0.96	37.28	★	**2KJ1601 - ■EM13 - ■■N1**		29
	44	209	0.90	32.67		**2KJ1601 - ■EM13 - ■■M1**		29
	50	184	1.1	28.72	★	**2KJ1601 - ■EM13 - ■■L1**		29
	56	166	1.2	25.95		**2KJ1601 - ■EM13 - ■■K1**		29
	64	145	1.4	22.61	★	**2KJ1601 - ■EM13 - ■■J1**		29
	71	130	1.5	20.31		**2KJ1601 - ■EM13 - ■■H1**		29
	79	118	1.7	18.33	★	**2KJ1601 - ■EM13 - ■■G1**		29
	87	107	1.8	16.62		**2KJ1601 - ■EM13 - ■■F1**		29
	95	97	1.9	15.13	★	**2KJ1601 - ■EM13 - ■■E1**		29
	108	86	1.9	13.37		**2KJ1601 - ■EM13 - ■■D1**		29
	117	79	2.1	12.35	★	**2KJ1601 - ■EM13 - ■■C1**		29
	135	68	2.5	10.63		**2KJ1601 - ■EM13 - ■■B1**		29
	149	62	2.7	9.67	★	**2KJ1601 - ■EM13 - ■■A1**		29
1.5	**C.88-LA90ZLB4E**							
	5.8	1 779	0.80	247	★	**2KJ1604 - ■EQ13 - ■■N2**		84
	6.3	1 648	0.84	228		**2KJ1604 - ■EQ13 - ■■M2**		84
	7.3	1 439	0.92	198.25	★	**2KJ1604 - ■EQ13 - ■■L2**		84
	8.0	1 309	0.98	180		**2KJ1604 - ■EQ13 - ■■K2**		84
	8.8	1 197	1.0	164.36	★	**2KJ1604 - ■EQ13 - ■■J2**		84
	9.5	1 099	1.1	150.8		**2KJ1604 - ■EQ13 - ■■H2**		84
	10.4	1 013	1.2	138.94	★	**2KJ1604 - ■EQ13 - ■■G2**		84
	11.4	920	1.2	126.18		**2KJ1604 - ■EQ13 - ■■F2**		84
	12.5	839	1.3	114.95	★	**2KJ1604 - ■EQ13 - ■■E2**		84
	13.3	917	1.4	108.5		**2KJ1604 - ■EQ13 - ■■D2**		84
	14.7	831	1.7	98.17	★	**2KJ1604 - ■EQ13 - ■■C2**		84
	15.9	769	1.6	90.62		**2KJ1604 - ■EQ13 - ■■B2**		84
	18.3	669	1.9	78.79	★	**2KJ1604 - ■EQ13 - ■■A2**		84
	20	608	2.1	71.54		**2KJ1604 - ■EQ13 - ■■X1**		84
	22	556	2.2	65.32	★	**2KJ1604 - ■EQ13 - ■■W1**		84
	24	510	2.3	59.93		**2KJ1604 - ■EQ13 - ■■V1**		84
	42	305	2.6	33.85		**2KJ1604 - ■EQ13 - ■■P1**		84
	C.68-LA90ZLB4E							
	16.0	766	0.80	90	★	**2KJ1603 - ■EQ13 - ■■F2**		57
	17.1	718	0.87	84.09		**2KJ1603 - ■EQ13 - ■■E2**		57
	19.5	635	0.94	73.96	★	**2KJ1603 - ■EQ13 - ■■D2**		57
	22	558	1.1	64.77		**2KJ1603 - ■EQ13 - ■■C2**		57
	25	495	1.3	57.29	★	**2KJ1603 - ■EQ13 - ■■B2**		57
	28	449	1.4	51.92		**2KJ1603 - ■EQ13 - ■■A2**		57
	31	397	1.5	45.83	★	**2KJ1603 - ■EQ13 - ■■X1**		57
	35	358	1.6	41.35		**2KJ1603 - ■EQ13 - ■■W1**		57
	38	325	1.7	37.5	★	**2KJ1603 - ■EQ13 - ■■U1**		57
	38	334	1.3	38		**2KJ1603 - ■EQ13 - ■■V1**		57

★ Preferred transmission ratio

Shaft designs, see page 5/45 — **1 to 9**

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

Gearbox housing mounting position, see page 5/47 — **A, D, F or H**

*) For mounting type B3

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
1.5	**C.68-LA90ZLB4E**							
	42	296	1.9	34.17		**2KJ1603 - ■EQ13 - ■■T1**		57
	43	296	1.4	33.61	★	**2KJ1603 - ■EQ13 - ■■S1**		57
	46	271	2.0	31.25	★	**2KJ1603 - ■EQ13 - ■■R1**		57
	47	268	1.4	30.46		**2KJ1603 - ■EQ13 - ■■Q1**		57
	52	242	2.1	27.94		**2KJ1603 - ■EQ13 - ■■P1**		57
	54	237	1.7	26.89	★	**2KJ1603 - ■EQ13 - ■■N1**		57
	56	223	2.3	25.66	★	**2KJ1603 - ■EQ13 - ■■M1**		57
	59	214	1.8	24.26		**2KJ1603 - ■EQ13 - ■■L1**		57
	62	201	2.4	23.13		**2KJ1603 - ■EQ13 - ■■K1**		57
	66	194	2.2	22	★	**2KJ1603 - ■EQ13 - ■■J1**		57
	72	173	2.7	19.89	★	**2KJ1603 - ■EQ13 - ■■G1**		57
	72	177	2.4	20.04		**2KJ1603 - ■EQ13 - ■■H1**		57
	79	161	2.6	18.33	★	**2KJ1603 - ■EQ13 - ■■F1**		57
	88	144	2.7	16.39		**2KJ1603 - ■EQ13 - ■■E1**		57
	96	133	3.0	15.05	★	**2KJ1603 - ■EQ13 - ■■D1**		57
	106	120	3.5	13.57		**2KJ1603 - ■EQ13 - ■■C1**		57
	123	103	3.6	11.67	★	**2KJ1603 - ■EQ13 - ■■B1**		57
	C.48-LA90ZLB4E							
	28	363	0.81	51.41	★	**2KJ1602 - ■EQ13 - ■■R1**		40
	34	367	0.85	42		**2KJ1602 - ■EQ13 - ■■P1**		40
	39	327	0.80	37.28	★	**2KJ1602 - ■EQ13 - ■■N1**		40
	44	287	0.91	32.67		**2KJ1602 - ■EQ13 - ■■M1**		40
	50	252	1.1	28.72	★	**2KJ1602 - ■EQ13 - ■■L1**		40
	56	228	1.2	25.95		**2KJ1602 - ■EQ13 - ■■K1**		40
	64	199	1.3	22.61	★	**2KJ1602 - ■EQ13 - ■■J1**		40
	71	179	1.5	20.31		**2KJ1602 - ■EQ13 - ■■H1**		40
	79	161	1.8	18.33	★	**2KJ1602 - ■EQ13 - ■■G1**		40
	87	146	2.0	16.62		**2KJ1602 - ■EQ13 - ■■F1**		40
	95	133	2.0	15.13	★	**2KJ1602 - ■EQ13 - ■■E1**		40
	108	118	2.0	13.37		**2KJ1602 - ■EQ13 - ■■D1**		40
	117	109	2.3	12.35	★	**2KJ1602 - ■EQ13 - ■■C1**		40
	135	94	2.7	10.63		**2KJ1602 - ■EQ13 - ■■B1**		40
	149	85	2.8	9.67	★	**2KJ1602 - ■EQ13 - ■■A1**		40
	C.38-LA90ZLB4E							
	50	251	0.81	28.72	★	**2KJ1601 - ■EQ13 - ■■L1**		32
	56	227	0.90	25.95		**2KJ1601 - ■EQ13 - ■■K1**		32
	64	198	1.0	22.61	★	**2KJ1601 - ■EQ13 - ■■J1**		32
	71	178	1.1	20.31		**2KJ1601 - ■EQ13 - ■■H1**		32
	79	161	1.3	18.33	★	**2KJ1601 - ■EQ13 - ■■G1**		32
	87	146	1.3	16.62		**2KJ1601 - ■EQ13 - ■■F1**		32
	95	133	1.4	15.13	★	**2KJ1601 - ■EQ13 - ■■E1**		32
	108	117	1.4	13.37		**2KJ1601 - ■EQ13 - ■■D1**		32
	117	108	1.6	12.35	★	**2KJ1601 - ■EQ13 - ■■C1**		32

★ Preferred transmission ratio

Shaft designs, see page 5/45 — **1 to 9**

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

Gearbox housing mounting position, see page 5/47 — **A, D, F or H**

*) For mounting type B3

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
1.5	**C.38-LA90ZLB4E**							
	135	93	1.8	10.63		**2KJ1601 - ■EQ13 - ■■B1**		32
	149	85	2.0	9.67	★	**2KJ1601 - ■EQ13 - ■■A1**		32
2.2	**C.88-LA100ZLP4E**							
	11.4	1 355	0.84	126.18		**2KJ1604 - ■FM13 - ■■F2**		92
	12.5	1 234	0.89	114.95	★	**2KJ1604 - ■FM13 - ■■E2**		92
	13.2	1 349	0.98	108.5		**2KJ1604 - ■FM13 - ■■D2**		92
	14.6	1 224	1.1	98.17	★	**2KJ1604 - ■FM13 - ■■C2**		92
	15.8	1 131	1.1	90.62		**2KJ1604 - ■FM13 - ■■B2**		92
	18.2	985	1.3	78.79	★	**2KJ1604 - ■FM13 - ■■A2**		92
	20	895	1.4	71.54		**2KJ1604 - ■FM13 - ■■X1**		92
	22	818	1.5	65.32	★	**2KJ1604 - ■FM13 - ■■W1**		92
	24	751	1.6	59.93		**2KJ1604 - ■FM13 - ■■V1**		92
	26	692	1.7	55.22	★	**2KJ1604 - ■FM13 - ■■U1**		92
	29	628	1.8	50.15		**2KJ1604 - ■FM13 - ■■T1**		92
	31	572	1.9	45.68	★	**2KJ1604 - ■FM13 - ■■S1**		92
	34	524	2.0	41.85		**2KJ1604 - ■FM13 - ■■R1**		92
	38	468	2.2	37.34	★	**2KJ1604 - ■FM13 - ■■Q1**		92
	42	448	1.8	33.85		**2KJ1604 - ■FM13 - ■■P1**		92
	43	418	2.3	33.33		**2KJ1604 - ■FM13 - ■■N1**		92
	46	409	2.0	30.9	★	**2KJ1604 - ■FM13 - ■■M1**		92
	51	355	2.6	28.3		**2KJ1604 - ■FM13 - ■■K1**		92
	51	376	2.1	28.36		**2KJ1604 - ■FM13 - ■■L1**		92
	55	346	2.3	26.13	★	**2KJ1604 - ■FM13 - ■■J1**		92
	60	314	2.4	23.73		**2KJ1604 - ■FM13 - ■■H1**		92
	61	295	2.9	23.56	★	**2KJ1604 - ■FM13 - ■■G1**		92
	66	286	2.8	21.61	★	**2KJ1604 - ■FM13 - ■■F1**		92
	72	262	3.0	19.8		**2KJ1604 - ■FM13 - ■■E1**		92
	81	234	3.3	17.67	★	**2KJ1604 - ■FM13 - ■■D1**		92
	C.68-LA100ZLP4E							
	25	728	0.89	57.29	★	**2KJ1603 - ■FM13 - ■■B2**		65
	28	661	0.95	51.92		**2KJ1603 - ■FM13 - ■■A2**		65
	31	584	1.0	45.83	★	**2KJ1603 - ■FM13 - ■■X1**		65
	35	527	1.1	41.35		**2KJ1603 - ■FM13 - ■■W1**		65
	38	479	1.2	37.5	★	**2KJ1603 - ■FM13 - ■■U1**		65
	38	492	0.87	38		**2KJ1603 - ■FM13 - ■■V1**		65
	42	436	1.3	34.17		**2KJ1603 - ■FM13 - ■■T1**		65
	43	435	0.98	33.61	★	**2KJ1603 - ■FM13 - ■■S1**		65
	46	399	1.3	31.25	★	**2KJ1603 - ■FM13 - ■■R1**		65
	47	395	0.98	30.46		**2KJ1603 - ■FM13 - ■■Q1**		65
	51	357	1.5	27.94		**2KJ1603 - ■FM13 - ■■P1**		65
	53	348	1.1	26.89	★	**2KJ1603 - ■FM13 - ■■N1**		65
	56	328	1.5	25.66	★	**2KJ1603 - ■FM13 - ■■M1**		65
	59	314	1.3	24.26		**2KJ1603 - ■FM13 - ■■L1**		65

★ Preferred transmission ratio

Shaft designs, see page 5/45 — **1 to 9**

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

Gearbox housing mounting position, see page 5/47 — **A, D, F or H**

*) For mounting type B3

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
2.2	**C.68-LA100ZLP4E**							
	62	295	1.7	23.13		**2KJ1603 - ■FM13 - ■■K1**		65
	65	285	1.5	22	★	**2KJ1603 - ■FM13 - ■■J1**		65
	72	254	1.8	19.89	★	**2KJ1603 - ■FM13 - ■■G1**		65
	72	260	1.6	20.04		**2KJ1603 - ■FM13 - ■■H1**		65
	78	238	1.7	18.33	★	**2KJ1603 - ■FM13 - ■■F1**		65
	88	212	1.9	16.39		**2KJ1603 - ■FM13 - ■■E1**		65
	95	195	2.0	15.05	★	**2KJ1603 - ■FM13 - ■■D1**		65
	106	176	2.3	13.57		**2KJ1603 - ■FM13 - ■■C1**		65
	123	151	2.5	11.67	★	**2KJ1603 - ■FM13 - ■■B1**		65
	C.48-LA100ZLP4E							
	78	238	1.2	18.33	★	**2KJ1602 - ■FM13 - ■■G1**		48
	86	215	1.3	16.62		**2KJ1602 - ■FM13 - ■■F1**		48
	95	196	1.3	15.13	★	**2KJ1602 - ■FM13 - ■■E1**		48
	107	173	1.3	13.37		**2KJ1602 - ■FM13 - ■■D1**		48
	116	160	1.5	12.35	★	**2KJ1602 - ■FM13 - ■■C1**		48
	135	138	1.8	10.63		**2KJ1602 - ■FM13 - ■■B1**		48
	148	125	1.9	9.67	★	**2KJ1602 - ■FM13 - ■■A1**		48
	C.38-LA100ZLP4E							
	78	236	0.86	18.33	★	**2KJ1601 - ■FM13 - ■■G1**		40
	86	214	0.90	16.62		**2KJ1601 - ■FM13 - ■■F1**		40
	95	195	0.94	15.13	★	**2KJ1601 - ■FM13 - ■■E1**		40
	107	172	0.94	13.37		**2KJ1601 - ■FM13 - ■■D1**		40
	116	159	1.1	12.35	★	**2KJ1601 - ■FM13 - ■■C1**		40
	135	137	1.2	10.63		**2KJ1601 - ■FM13 - ■■B1**		40
	148	125	1.3	9.67	★	**2KJ1601 - ■FM13 - ■■A1**		40
3	**C.88-LA100ZLD4E**							
	14.6	1 668	0.84	98.17	★	**2KJ1604 - ■FP13 - ■■C2**		92
	15.8	1 542	0.80	90.62		**2KJ1604 - ■FP13 - ■■B2**		92
	18.2	1 344	0.97	78.79	★	**2KJ1604 - ■FP13 - ■■A2**		92
	20	1 221	1.0	71.54		**2KJ1604 - ■FP13 - ■■X1**		92
	22	1 115	1.1	65.32	★	**2KJ1604 - ■FP13 - ■■W1**		92
	24	1 023	1.2	59.93		**2KJ1604 - ■FP13 - ■■V1**		92
	26	943	1.2	55.22	★	**2KJ1604 - ■FP13 - ■■U1**		92
	29	857	1.3	50.15		**2KJ1604 - ■FP13 - ■■T1**		92
	31	780	1.4	45.68	★	**2KJ1604 - ■FP13 - ■■S1**		92
	34	715	1.5	41.85		**2KJ1604 - ■FP13 - ■■R1**		92
	38	638	1.6	37.34	★	**2KJ1604 - ■FP13 - ■■Q1**		92
	42	611	1.3	33.85		**2KJ1604 - ■FP13 - ■■P1**		92
	43	569	1.7	33.33		**2KJ1604 - ■FP13 - ■■N1**		92
	46	558	1.4	30.9	★	**2KJ1604 - ■FP13 - ■■M1**		92
	51	483	1.9	28.3		**2KJ1604 - ■FP13 - ■■K1**		92
	51	512	1.6	28.36		**2KJ1604 - ■FP13 - ■■L1**		92
	55	472	1.7	26.13	★	**2KJ1604 - ■FP13 - ■■J1**		92

★ Preferred transmission ratio

Shaft designs, see page 5/45 — **1 to 9**

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

Gearbox housing mounting position, see page 5/47 — **A, D, F or H**

*) For mounting type B3

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
3	**C.88-LA100ZLD4E**							
	60	429	1.8	23.73		**2KJ1604 - ■FP13 - ■■H1**		92
	61	403	2.2	23.56	★	**2KJ1604 - ■FP13 - ■■G1**		92
	66	390	2.1	21.61	★	**2KJ1604 - ■FP13 - ■■F1**		92
	72	358	2.2	19.8		**2KJ1604 - ■FP13 - ■■E1**		92
	81	319	2.5	17.67	★	**2KJ1604 - ■FP13 - ■■D1**		92
	91	285	2.7	15.77		**2KJ1604 - ■FP13 - ■■C1**		92
	107	242	3.2	13.39		**2KJ1604 - ■FP13 - ■■B1**		92
	129	201	3.3	11.15	★	**2KJ1604 - ■FP13 - ■■A1**		92
	C.68-LA100ZLD4E							
	35	719	0.82	41.35		**2KJ1603 - ■FP13 - ■■W1**		65
	38	653	0.87	37.5	★	**2KJ1603 - ■FP13 - ■■U1**		65
	42	595	0.93	34.17		**2KJ1603 - ■FP13 - ■■T1**		65
	46	544	0.99	31.25	★	**2KJ1603 - ■FP13 - ■■R1**		65
	51	486	1.1	27.94		**2KJ1603 - ■FP13 - ■■P1**		65
	53	475	0.84	26.89	★	**2KJ1603 - ■FP13 - ■■N1**		65
	56	447	1.1	25.66	★	**2KJ1603 - ■FP13 - ■■M1**		65
	59	429	0.92	24.26		**2KJ1603 - ■FP13 - ■■L1**		65
	62	403	1.2	23.13		**2KJ1603 - ■FP13 - ■■K1**		65
	65	389	1.1	22	★	**2KJ1603 - ■FP13 - ■■J1**		65
	72	346	1.4	19.89	★	**2KJ1603 - ■FP13 - ■■G1**		65
	72	354	1.2	20.04		**2KJ1603 - ■FP13 - ■■H1**		65
	78	324	1.3	18.33	★	**2KJ1603 - ■FP13 - ■■F1**		65
	88	290	1.4	16.39		**2KJ1603 - ■FP13 - ■■E1**		65
	95	266	1.5	15.05	★	**2KJ1603 - ■FP13 - ■■D1**		65
	106	240	1.7	13.57		**2KJ1603 - ■FP13 - ■■C1**		65
	123	206	1.8	11.67	★	**2KJ1603 - ■FP13 - ■■B1**		65
	C.48-LA100ZLD4E							
	78	324	0.91	18.33	★	**2KJ1602 - ■FP13 - ■■G1**		48
	86	294	0.98	16.62		**2KJ1602 - ■FP13 - ■■F1**		48
	95	267	0.98	15.13	★	**2KJ1602 - ■FP13 - ■■E1**		48
	107	236	0.98	13.37		**2KJ1602 - ■FP13 - ■■D1**		48
	116	218	1.1	12.35	★	**2KJ1602 - ■FP13 - ■■C1**		48
	135	188	1.3	10.63		**2KJ1602 - ■FP13 - ■■B1**		48
	148	171	1.4	9.67	★	**2KJ1602 - ■FP13 - ■■A1**		48
	C.38-LA100ZLD4E							
	135	187	0.91	10.63		**2KJ1601 - ■FP13 - ■■B1**		40
	148	170	0.97	9.67	★	**2KJ1601 - ■FP13 - ■■A1**		40
4	**C.88-LA112ZMP4E**							
	22	1 482	0.82	65.32	★	**2KJ1604 - ■GJ13 - ■■W1**		99
	24	1 360	0.87	59.93		**2KJ1604 - ■GJ13 - ■■V1**		99
	26	1 253	0.92	55.22	★	**2KJ1604 - ■GJ13 - ■■U1**		99
	29	1 138	0.98	50.15		**2KJ1604 - ■GJ13 - ■■T1**		99
	32	1 037	1.0	45.68	★	**2KJ1604 - ■GJ13 - ■■S1**		99

★ Preferred transmission ratio

Shaft designs, see page 5/45 — **1 to 9**

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

Gearbox housing mounting position, see page 5/47 — **A, D, F or H**

*) For mounting type B3

Selection and ordering data (continued)

Power rating P_{Motor}	Output speed	Output torque	Service factor	Gearbox ratio		Order No.	Order code	Weight *)
kW	n_2 (50 Hz) rpm	T_2 Nm	f_B	i_{tot}			(No. of poles)	kg
4	**C.88-LA112ZMP4E**							
	34	950	1.1	41.85		**2KJ1604 - ■GJ13 - ■■R1**		99
	39	848	1.2	37.34	★	**2KJ1604 - ■GJ13 - ■■Q1**		99
	42	812	0.99	33.85		**2KJ1604 - ■GJ13 - ■■P1**		99
	43	757	1.3	33.33		**2KJ1604 - ■GJ13 - ■■N1**		99
	47	742	1.1	30.9	★	**2KJ1604 - ■GJ13 - ■■M1**		99
	51	642	1.4	28.3		**2KJ1604 - ■GJ13 - ■■K1**		99
	51	681	1.2	28.36		**2KJ1604 - ■GJ13 - ■■L1**		99
	55	627	1.3	26.13	★	**2KJ1604 - ■GJ13 - ■■J1**		99
	61	535	1.6	23.56	★	**2KJ1604 - ■GJ13 - ■■G1**		99
	61	570	1.3	23.73		**2KJ1604 - ■GJ13 - ■■H1**		99
	67	519	1.5	21.61	★	**2KJ1604 - ■GJ13 - ■■F1**		99
	73	475	1.7	19.8		**2KJ1604 - ■GJ13 - ■■E1**		99
	82	424	1.8	17.67	★	**2KJ1604 - ■GJ13 - ■■D1**		99
	91	379	2.0	15.77		**2KJ1604 - ■GJ13 - ■■C1**		99
	108	321	2.4	13.39		**2KJ1604 - ■GJ13 - ■■B1**		99
	129	268	2.5	11.15	★	**2KJ1604 - ■GJ13 - ■■A1**		99
	C.68-LA112ZMP4E							
	52	646	0.80	27.94		**2KJ1603 - ■GJ13 - ■■P1**		72
	56	594	0.85	25.66	★	**2KJ1603 - ■GJ13 - ■■M1**		72
	62	535	0.91	23.13		**2KJ1603 - ■GJ13 - ■■K1**		72
	66	517	0.81	22	★	**2KJ1603 - ■GJ13 - ■■J1**		72
	72	460	1.0	19.89	★	**2KJ1603 - ■GJ13 - ■■G1**		72
	72	471	0.90	20.04		**2KJ1603 - ■GJ13 - ■■H1**		72
	79	431	0.97	18.33	★	**2KJ1603 - ■GJ13 - ■■F1**		72
	88	385	1.0	16.39		**2KJ1603 - ■GJ13 - ■■E1**		72
	96	353	1.1	15.05	★	**2KJ1603 - ■GJ13 - ■■D1**		72
	106	319	1.3	13.57		**2KJ1603 - ■GJ13 - ■■C1**		72
	123	274	1.4	11.67	★	**2KJ1603 - ■GJ13 - ■■B1**		72
	C.48-LA112ZMP4E							
	117	290	0.84	12.35	★	**2KJ1602 - ■GJ13 - ■■C1**		55
	135	250	1	10.63		**2KJ1602 - ■GJ13 - ■■B1**		55
	149	227	1.1	9.67	★	**2KJ1602 - ■GJ13 - ■■A1**		55
5.5	**C.88-LA132SP4E**							
	34	1 302	0.81	41.85		**2KJ1604 - ■HG13 - ■■R1**		117
	39	1 161	0.87	37.34	★	**2KJ1604 - ■HG13 - ■■Q1**		117
	43	1 037	0.94	33.33		**2KJ1604 - ■HG13 - ■■N1**		117
	51	880	1.1	28.3		**2KJ1604 - ■HG13 - ■■K1**		117
	51	933	0.86	28.36		**2KJ1604 - ■HG13 - ■■L1**		117
	55	859	0.93	26.13	★	**2KJ1604 - ■HG13 - ■■J1**		117
	61	733	1.2	23.56	★	**2KJ1604 - ■HG13 - ■■G1**		117
	61	781	0.96	23.73		**2KJ1604 - ■HG13 - ■■H1**		117
	67	711	1.1	21.61	★	**2KJ1604 - ■HG13 - ■■F1**		117
	73	651	1.2	19.8		**2KJ1604 - ■HG13 - ■■E1**		117

★ Preferred transmission ratio

Shaft designs, see page 5/45 — **1 to 9**

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

Gearbox housing mounting position, see page 5/47 — **A, D, F or H**

*) For mounting type B3

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
5.5	**C.88-LA132SP4E**							
	82	581	1.3	17.67	★	**2KJ1604 - ■HG13 - ■■D1**		117
	92	519	1.5	15.77		**2KJ1604 - ■HG13 - ■■C1**		117
	108	440	1.7	13.39		**2KJ1604 - ■HG13 - ■■B1**		117
	130	367	1.8	11.15	★	**2KJ1604 - ■HG13 - ■■A1**		117
	C.68-LA132SP4E							
	96	484	0.81	15.05	★	**2KJ1603 - ■HG13 - ■■D1**		90
	106	437	0.95	13.57		**2KJ1603 - ■HG13 - ■■C1**		90
	124	376	0.99	11.67	★	**2KJ1603 - ■HG13 - ■■B1**		90
7.5	**C.88-LA132ZMP4E**							
	62	992	0.87	23.56	★	**2KJ1604 - ■HK13 - ■■G1**		117
	67	963	0.83	21.61	★	**2KJ1604 - ■HK13 - ■■F1**		117
	74	882	0.9	19.8		**2KJ1604 - ■HK13 - ■■E1**		117
	82	787	1.0	17.67	★	**2KJ1604 - ■HK13 - ■■D1**		117
	92	702	1.1	15.77		**2KJ1604 - ■HK13 - ■■C1**		117
	109	596	1.3	13.39		**2KJ1604 - ■HK13 - ■■B1**		117
	130	497	1.4	11.15	★	**2KJ1604 - ■HK13 - ■■A1**		117
9.2	**C.88-LA160MB4E**							
	109	732	1.0	13.39		**2KJ1604 - ■JP13 - ■■B1**		141
	130	609	1.1	11.15	★	**2KJ1604 - ■JP13 - ■■A1**		141
11	**C.88-LA160MB4E**							
	109	872	0.87	13.39		**2KJ1604 - ■JQ13 - ■■B1**		141
	131	726	0.92	11.15	★	**2KJ1604 - ■JQ13 - ■■A1**		141

★ Preferred transmission ratio

Shaft designs, see page 5/45 — **1 to 9**

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

Gearbox housing mounting position, see page 5/47 — **A, D, F or H**

*) For mounting type B3

Selection and ordering data

Efficiency table C.28

Transmission ratio	Ratio code	Output speed n_{mot} = 2 500 rpm				Output speed n_{mot} = 1750 rpm				Output speed n_{mot} = 1 450 rpm				Size for motor and input units							
i_{tot}	Order No. 15th and 16th position	n_2	T_2	P_{mot}	h	n_2	T_2	P_{mot}	h	n_2	T_2	P_{mot}	h								
		rpm	Nm	kW	%	rpm	Nm	kW	%	rpm	Nm	kW	%	63	71	80	90	100	112	132	160
372.00	**P1**	6.7	119	0.15	56	4.7	119	0.10	56	3.9	118	0.09	56		•						
303.36	**N1**	8.2	109	0.17	56	5.8	109	0.12	56	4.8	108	0.10	56		•						
248.00	**M1**	10.1	118	0.19	66	7.1	118	0.13	66	5.8	118	0.11	66		•						
202.24	**L1**	12.4	100	0.20	66	8.7	100	0.14	66	7.2	100	0.11	66		•						
155.00	**K1**	16.1	116	0.26	74	11.3	116	0.19	74	9.4	116	0.15	74		•						
126.40	**J1**	19.8	94	0.26	74	13.8	95	0.18	74	11.5	95	0.15	74		•						
93.00	**H1**	27.0	118	0.40	83	18.8	118	0.28	83	15.6	118	0.23	83		•						
75.84	**G1**	33.0	96	0.40	83	23.0	96	0.28	83	19.1	96	0.23	83		•						
62.00	**F1**	40.0	117	0.57	87	28.0	117	0.40	87	23.0	117	0.32	87		•						
50.56	**E1**	49.0	94	0.56	87	35.0	95	0.40	87	29.0	95	0.33	87		•						
46.50	**D1**	54.0	110	0.70	90	38.0	110	0.49	90	31.0	110	0.40	90		•						
37.92	**C1**	66.0	90	0.69	90	46.0	90	0.48	90	38.0	90	0.40	90		•						
31.00	**B1**	81.0	99	0.92	92	56.0	100	0.64	92	47.0	99	0.53	92		•						
25.28	**A1**	99.0	81	0.91	92	69.0	81	0.64	92	57.0	81	0.53	92		•						

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

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Efficiency table C.28

Transmission ratio	Ratio code	Output speed n_{mot} = 1 150 rpm				Output speed n_{mot} = 950 rpm				Size for motor and input units								
i_{tot}	Order No. 15th and 16th position	n_2	T_2	P_{mot}	h	n_2	T_2	P_{mot}	h									
		rpm	Nm	kW	%	rpm	Nm	kW	%	63	71	80	90	100	112	132	160
372.00	**P1**	3.1	117	0.07	55	2.6	116	0.06	55		•						
303.36	**N1**	3.8	108	0.08	55	3.1	107	0.06	55		•						
248.00	**M1**	4.6	118	0.09	66	3.8	117	0.07	65		•						
202.24	**L1**	5.7	99	0.09	66	4.7	99	0.07	65		•						
155.00	**K1**	7.4	116	0.12	74	6.1	116	0.10	74		•						
126.40	**J1**	9.1	94	0.12	74	7.5	94	0.10	74		•						
93.00	**H1**	12.4	118	0.19	83	10.2	118	0.15	82		•						
75.84	**G1**	15.2	95	0.18	83	12.5	95	0.15	82		•						
62.00	**F1**	18.5	117	0.26	87	15.3	117	0.22	87		•						
50.56	**E1**	23.0	94	0.26	87	18.8	94	0.21	87		•						
46.50	**D1**	25.0	110	0.32	90	20.0	110	0.26	89		•						
37.92	**C1**	30.0	90	0.31	90	25.0	89	0.26	89		•						
31.00	**B1**	37.0	99	0.42	92	31.0	99	0.35	92		•						
25.28	**A1**	45.0	81	0.42	92	38.0	81	0.35	92		•						

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

Selection and ordering data (continued)

Efficiency table C.28

Transmission ratio	Ratio code	Output speed n_{mot} = 850 rpm				Output speed n_{mot} = 700 rpm				Size for motor and input units							
i_{tot}	Order No. 15th and 16th position	n_2 rpm	T_2 Nm	P_{mot} kW	h %	n_2 rpm	T_2 Nm	P_{mot} kW	h %	63	71	80	90	100	112	132	160
372.00	**P1**	2.3	116	0.05	54	1.9	114	<0.05	54		•						
303.36	**N1**	2.8	106	0.06	54	2.3	104	<0.05	54		•						
248.00	**M1**	3.4	117	0.06	65	2.8	116	0.05	65		•						
202.24	**L1**	4.2	98	0.07	65	3.5	97	0.06	65		•						
155.00	**K1**	5.5	115	0.09	73	4.5	115	0.07	73		•						
126.40	**J1**	6.7	94	0.09	73	5.5	93	0.07	73		•						
93.00	**H1**	9.1	118	0.14	82	7.5	117	0.11	82		•						
75.84	**G1**	11.2	95	0.14	82	9.2	95	0.11	82		•						
62.00	**F1**	13.7	117	0.19	87	11.3	117	0.16	86		•						
50.56	**E1**	16.8	94	0.19	87	13.8	94	0.16	86		•						
46.50	**D1**	18.3	110	0.24	89	15.1	110	0.19	89		•						
37.92	**C1**	22.0	89	0.23	89	18.5	89	0.19	89		•						
31.00	**B1**	27.0	99	0.31	91	23.0	99	0.26	91		•						
25.28	**A1**	34.0	81	0.31	91	28.0	80	0.26	91		•						

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

Selection and ordering data (continued)

Efficiency table C.38-D/Z28

Transmission ratio	Ratio code	Output speed n_{mot} = 1 750 rpm				Output speed n_{mot} = 1 450 rpm				Size for motor and input units							
i_{tot}	Order No. 15th and 16th position	n_2 rpm	T_2 Nm	P_{mot} kW	h %	n_2 rpm	T_2 Nm	P_{mot} kW	h %	63	71	80	90	100	112	132	160
23 503	**N1**	0.07	222	<0.06	45	0.06	222	<0.06	45		•						
20 276	**M1**	0.09	222	<0.06	45	0.07	222	<0.06	45		•						
17 420	**L1**	0.10	222	<0.06	45	0.08	222	<0.06	45		•						
16 037	**K1**	0.11	222	<0.06	45	0.09	222	<0.06	45		•						
14 579	**J1**	0.12	222	<0.06	45	0.10	222	<0.06	45		•						
12 904	**H1**	0.14	222	<0.06	45	0.11	222	<0.06	45		•						
10 808	**G1**	0.16	222	<0.06	45	0.13	222	<0.06	45		•						
9 216	**F1**	0.19	222	<0.06	46	0.16	222	<0.06	45		•						
7 833	**E1**	0.22	222	<0.06	46	0.19	222	<0.06	46		•						
6 807	**D1**	0.26	222	<0.06	46	0.21	222	<0.06	46		•						
5 925	**C1**	0.30	222	<0.06	46	0.24	222	<0.06	46		•						
5 345	**B1**	0.33	222	<0.06	46	0.27	222	<0.06	46		•						
4 717	**A1**	0.37	222	<0.06	46	0.31	222	<0.06	46		•						
4 222	**B2**	0.41	222	<0.06	47	0.34	222	<0.06	46		•						
3 749	**A2**	0.47	222	<0.06	47	0.39	222	<0.06	46		•						
3 286	**X1**	0.53	222	<0.06	47	0.44	222	<0.06	47		•						
2 941	**W1**	0.60	222	<0.06	47	0.49	222	<0.06	47		•						
2 610	**V1**	0.67	222	<0.06	48	0.56	222	<0.06	47		•						
2 288	**U1**	0.76	223	<0.06	48	0.63	222	<0.06	47		•						
2 011	**T1**	0.87	223	<0.06	48	0.72	222	<0.06	48		•						
1 817	**S1**	0.96	223	<0.06	49	0.80	223	<0.06	48		•						
1 583	**R1**	1.11	223	<0.06	49	0.92	223	<0.06	49		•						
1 422	**Q1**	1.23	223	<0.06	50	1.02	223	<0.06	49		•						
1 284	**P1**	1.36	223	0.06	50	1.13	223	<0.06	49		•						
1 164	**N1**	1.50	223	0.07	51	1.25	223	<0.06	50		•						
1 059	**M1**	1.65	223	0.08	51	1.37	223	0.06	50		•						
937	**L1**	1.87	223	0.08	52	1.55	223	0.07	51		•						
865	**K1**	2.02	223	0.09	53	1.68	223	0.08	51		•						
745	**J1**	2.35	223	0.10	54	1.95	223	0.09	52		•						
677	**H1**	2.59	224	0.11	54	2.14	223	0.09	53		•						
615	**G1**	2.84	224	0.12	55	2.36	223	0.10	54		•						
558	**F1**	3.14	224	0.13	56	2.60	224	0.11	55		•						
508	**E1**	3.45	224	0.14	57	2.86	224	0.12	55		•						
449	**D1**	3.90	224	0.16	58	3.23	224	0.13	56		•						
414	**C1**	4.22	225	0.17	59	3.50	224	0.14	57		•						
357	**B1**	4.90	225	0.19	60	4.06	225	0.16	58		•						
324	**A1**	5.40	225	0.21	61	4.47	225	0.18	59		•						

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

Selection and ordering data (continued)

Efficiency table C.38

Transmission ratio		Ratio code	Output speed n_{mot} = 1 750 rpm				Output speed n_{mot} = 1 450 rpm				Output speed n_{mot} = 1 150 rpm				Size for motor and input units							
i_{tot}		Order No. 15th and 16th position	n_2 rpm	T_2 Nm	P_{mot} kW	h %	n_2 rpm	T_2 Nm	P_{mot} kW	h %	n_2 rpm	T_2 Nm	P_{mot} kW	h %	63	71	80	90	100	112	132	160
320.67	★	**K2**	5.5	225	0.21	62	4.5	225	0.18	60	3.6	224	0.15	58	•	•	•					
284.70		**J2**	6.1	226	0.23	63	5.1	225	0.20	62	4.0	224	0.16	59	•	•	•					
249.60	★	**H2**	7.0	226	0.26	64	5.8	226	0.22	63	4.6	225	0.18	61	•	•	•	•				
223.36		**G2**	7.8	227	0.28	65	6.5	226	0.24	64	5.1	225	0.20	62	•	•	•	•				
198.25	★	**F2**	8.8	227	0.32	66	7.3	226	0.27	65	5.8	225	0.22	63	•	•	•	•				
173.73		**E2**	10.1	228	0.36	67	8.3	227	0.30	66	6.6	226	0.24	64	•	•	•	•				
152.75	★	**D2**	11.5	228	0.41	68	9.5	227	0.34	67	7.5	226	0.27	65	•	•	•	•				
138.00		**C2**	12.7	229	0.45	68	10.5	228	0.37	67	8.3	227	0.30	66	•	•	•	•				
120.25	★	**B2**	14.6	230	0.51	68	12.1	229	0.43	68	9.6	228	0.34	67	•	•	•	•				
108.00		**A2**	16.2	226	0.56	69	13.4	229	0.47	68	10.6	228	0.38	67	•	•	•	•				
97.50	★	**X1**	17.9	219	0.60	69	14.9	230	0.53	68	11.8	229	0.42	68	•	•	•	•	•			
88.40		**W1**	19.8	211	0.64	69	16.4	224	0.56	69	13.0	229	0.46	68	•	•	•	•	•			
80.44	★	**V1**	22.0	203	0.68	69	18.0	217	0.60	69	14.3	230	0.50	68	•	•	•	•	•			
71.12		**U1**	25.0	195	0.74	69	20.0	210	0.64	69	16.2	225	0.56	69	•	•	•	•	•			
65.68	★	**T1**	27.0	191	0.78	69	22.0	204	0.68	69	17.5	220	0.59	69	•	•	•	•	•			
60.30	★	**S1**	29.0	204	0.71	87	24.0	202	0.59	87	19.1	199	0.47	85	•	•	•					
53.53		**R1**	33.0	245	0.96	88	27.0	243	0.79	87	21.0	239	0.61	86	•	•	•					
46.93	★	**Q1**	37.0	232	1.02	88	31.0	231	0.85	88	25.0	228	0.69	87	•	•	•	•				
42.00		**P1**	42.0	222	1.10	89	35.0	220	0.92	88	27.0	218	0.71	87	•	•	•	•				
37.28	★	**N1**	47.0	232	1.28	89	39.0	231	1.07	89	31.0	229	0.85	88	•	•	•	•				
32.67		**M1**	54.0	192	1.22	89	44.0	192	0.99	89	35.0	190	0.79	88	•	•	•	•				
28.72	★	**L1**	61.0	208	1.49	89	50.0	207	1.22	89	40.0	206	0.97	89	•	•	•	•				
25.95		**K1**	67.0	209	1.64	89	56.0	208	1.37	89	44.0	207	1.08	89	•	•	•	•				
22.61	★	**J1**	77.0	206	1.86	89	64.0	206	1.55	89	51.0	205	1.23	89	•	•	•	•				
20.31		**H1**	86.0	196	1.98	89	71.0	196	1.63	89	57.0	196	1.31	89	•	•	•	•				
18.33	★	**G1**	95.0	199	2.21	89	79.0	206	1.91	89	63.0	206	1.52	89	•	•	•	•	•			
16.62		**F1**	105.0	191	2.34	89	87.0	196	2.00	89	69.0	196	1.59	89	•	•	•	•	•			
15.13	★	**E1**	116.0	183	2.49	89	96.0	187	2.10	89	76.0	187	1.66	89	•	•	•	•	•			
13.37		**D1**	131.0	165	2.53	89	108.0	165	2.09	89	86.0	165	1.66	89	•	•	•	•	•			
12.35	★	**C1**	142.0	169	2.81	89	117.0	172	2.36	89	93.0	172	1.88	89	•	•	•	•	•			
10.63		**B1**	165.0	155	3.00	89	136.0	173	2.76	89	108.0	183	2.31	89	•	•	•	•	•			
9.67	★	**A1**	181.0	141	3.00	89	150.0	170	3.00	89	119.0	176	2.46	89	•	•	•	•	•			

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

Selection and ordering data (continued)

Efficiency table C.38

Transmission ratio		Ratio code	Output speed n_{mot} = 950 rpm				Output speed n_{mot} = 850 rpm				Output speed n_{mot} = 700 rpm				Size for motor and input units							
i_{tot}		Order No. 15th and 16th position	n_2 rpm	T_2 Nm	P_{mot} kW	h %	n_2 rpm	T_2 Nm	P_{mot} kW	h %	n_2 rpm	T_2 Nm	P_{mot} kW	h %	63	71	80	90	100	112	132	160
320.67	★	**K2**	3.0	224	0.12	56	2.7	224	0.11	56	2.2	223	0.10	54	•	•	•					
284.70		**J2**	3.3	224	0.13	58	3.0	224	0.12	57	2.5	224	0.11	55	•	•	•					
249.60	★	**H2**	3.8	224	0.15	59	3.4	224	0.14	58	2.8	224	0.12	56	•	•	•	•				
223.36		**G2**	4.3	225	0.17	60	3.8	224	0.15	59	3.1	224	0.13	57	•	•	•	•				
198.25	★	**F2**	4.8	225	0.19	61	4.3	225	0.17	60	3.5	224	0.14	58	•	•	•	•				
173.73		**E2**	5.5	225	0.21	62	4.9	225	0.19	61	4.0	224	0.16	59	•	•	•	•				
152.75	★	**D2**	6.2	226	0.23	63	5.6	225	0.21	62	4.6	225	0.18	61	•	•	•	•				
138.00		**C2**	6.9	226	0.25	64	6.2	226	0.23	63	5.1	225	0.20	62	•	•	•	•				
120.25	★	**B2**	7.9	227	0.29	65	7.1	226	0.26	65	5.8	226	0.22	63	•	•	•	•				
108.00		**A2**	8.8	227	0.32	66	7.9	227	0.29	65	6.5	226	0.24	64	•	•	•	•				
97.50	★	**X1**	9.7	228	0.35	67	8.7	227	0.31	66	7.2	226	0.26	65	•	•	•	•	•			
88.40		**W1**	10.7	228	0.38	67	9.6	228	0.34	67	7.9	227	0.29	65	•	•	•	•	•			
80.44	★	**V1**	11.8	229	0.42	68	10.6	228	0.38	67	8.7	227	0.31	66	•	•	•	•	•			
71.12		**U1**	13.4	229	0.47	68	12.0	229	0.42	68	9.8	228	0.35	67	•	•	•	•	•			
65.68	★	**T1**	14.5	230	0.51	68	12.9	229	0.46	68	10.7	228	0.38	67	•	•	•	•	•			
60.30	★	**S1**	15.8	196	0.39	84	14.1	195	0.34	84	11.6	192	0.28	82	•	•	•					
53.53		**R1**	17.7	236	0.52	85	15.9	234	0.46	84	13.1	231	0.38	83	•	•	•					
46.93	★	**Q1**	20.0	225	0.55	86	18.1	223	0.50	85	14.9	220	0.41	84	•	•	•	•				
42.00		**P1**	23.0	216	0.60	86	20.0	214	0.52	86	16.7	211	0.44	85	•	•	•	•				
37.28	★	**N1**	25.0	227	0.68	87	23.0	225	0.63	86	18.8	222	0.51	85	•	•	•	•				
32.67		**M1**	29.0	189	0.65	87	26.0	188	0.59	87	21.0	185	0.47	86	•	•	•	•				
28.72	★	**L1**	33.0	205	0.80	88	30.0	204	0.73	88	24.0	202	0.58	87	•	•	•	•				
25.95		**K1**	37.0	206	0.90	88	33.0	205	0.81	88	27.0	204	0.66	87	•	•	•	•				
22.61	★	**J1**	42.0	205	1.01	89	38.0	204	0.92	88	31.0	202	0.75	88	•	•	•	•				
20.31		**H1**	47.0	195	1.08	89	42.0	195	0.96	89	34.0	193	0.78	88	•	•	•	•				
18.33	★	**G1**	52.0	206	1.26	89	46.0	205	1.11	89	38.0	204	0.92	88	•	•	•	•	•			
16.62		**F1**	57.0	196	1.31	89	51.0	195	1.17	89	42.0	195	0.96	89	•	•	•	•	•			
15.13	★	**E1**	63.0	186	1.38	89	56.0	186	1.22	89	46.0	186	1.01	89	•	•	•	•	•			
13.37		**D1**	71.0	165	1.37	89	64.0	165	1.24	89	52.0	164	1.00	89	•	•	•	•	•			
12.35	★	**C1**	77.0	172	1.55	89	69.0	172	1.39	89	57.0	172	1.15	89	•	•	•	•	•			
10.63		**B1**	89.0	183	1.90	89	80.0	183	1.71	89	66.0	182	1.41	89	•	•	•	•	•			
9.67	★	**A1**	98.0	176	2.02	89	88.0	176	1.82	89	72.0	176	1.49	89	•	•	•	•	•			

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

Transmission ratios and maximum torques

Selection and ordering data (continued)

Efficiency table C.38

Transmission ratio		Ratio code	Output speed n_{mot} = 500 rpm				Output speed n_{mot} = 250 rpm				Output speed n_{mot} = 10 rpm				Size for motor and input units							
i_{tot}		Order No. 15th and 16th position	n_2 rpm	T_2 Nm	P_{mot} kW	h %	n_2 rpm	T_2 Nm	P_{mot} kW	h %	n_2 rpm	T_2 Nm	P_{mot} kW	h %	63	71	80	90	100	112	132	160
320.67	★	**K2**	1.6	223	0.07	52	0.78	223	<0.05	49	0.031	222	<0.05	46	•	•	•					
284.70		**J2**	1.8	223	0.08	53	0.88	223	<0.05	49	0.035	222	<0.05	46	•	•	•					
249.60	★	**H2**	2.0	223	0.09	53	1.00	223	<0.05	50	0.040	222	<0.05	46	•	•	•	•				
223.36		**G2**	2.2	223	0.09	54	1.10	223	0.05	50	0.045	222	<0.05	46	•	•	•	•				
198.25	★	**F2**	2.5	224	0.11	55	1.30	223	0.06	51	0.050	222	<0.05	46	•	•	•	•				
173.73		**E2**	2.9	224	0.12	56	1.40	223	0.06	51	0.058	222	<0.05	46	•	•	•	•				
152.75	★	**D2**	3.3	224	0.13	57	1.60	223	0.07	52	0.065	222	<0.05	46	•	•	•	•				
138.00		**C2**	3.6	224	0.15	58	1.80	223	0.08	53	0.072	222	<0.05	46	•	•	•	•				
120.25	★	**B2**	4.2	225	0.17	60	2.10	223	0.09	54	0.083	222	<0.05	46	•	•	•	•				
108.00		**A2**	4.6	225	0.18	61	2.30	223	0.10	54	0.093	222	<0.05	46	•	•	•	•				
97.50	★	**X1**	5.1	225	0.20	62	2.60	224	0.11	55	0.100	222	<0.05	46	•	•	•	•	•			
88.40		**W1**	5.7	225	0.22	63	2.80	224	0.12	56	0.110	222	<0.05	46	•	•	•	•	•			
80.44	★	**V1**	6.2	226	0.23	63	3.10	224	0.13	57	0.120	222	<0.05	46	•	•	•	•	•			
71.12		**U1**	7.0	226	0.26	64	3.50	224	0.14	58	0.140	222	<0.05	46	•	•	•	•	•			
65.68	★	**T1**	7.6	226	0.28	65	3.80	224	0.15	59	0.150	222	<0.05	46	•	•	•	•	•			
60.30	★	**S1**	8.3	188	0.20	80	4.10	181	0.10	78	0.170	173	<0.05	74	•	•	•					
53.53		**R1**	9.3	226	0.27	81	4.70	217	0.14	78	0.190	206	<0.05	74	•	•	•					
46.93	★	**Q1**	10.7	215	0.29	82	5.30	206	0.15	78	0.210	194	<0.05	74	•	•	•	•				
42.00		**P1**	11.9	206	0.31	82	6.00	197	0.16	79	0.240	185	<0.05	74	•	•	•	•				
37.28	★	**N1**	13.4	217	0.37	83	6.70	207	0.18	79	0.270	193	<0.05	74	•	•	•	•				
32.67		**M1**	15.3	181	0.35	84	7.70	173	0.17	80	0.310	160	<0.05	74	•	•	•	•				
28.72	★	**L1**	17.4	197	0.42	85	8.70	188	0.21	81	0.350	172	<0.05	74	•	•	•	•				
25.95		**K1**	19.3	199	0.47	85	9.60	190	0.23	81	0.390	173	<0.05	74	•	•	•	•				
22.61	★	**J1**	22.0	199	0.53	86	11.10	189	0.27	82	0.440	171	<0.05	74	•	•	•	•				
20.31		**H1**	25.0	190	0.57	87	12.30	181	0.28	83	0.490	163	<0.05	74	•	•	•	•				
18.33	★	**G1**	27.0	201	0.65	87	13.60	192	0.33	83	0.550	172	<0.05	74	•	•	•	•	•			
16.62		**F1**	30.0	192	0.69	88	15.00	184	0.34	84	0.600	163	<0.05	74	•	•	•	•	•			
15.13	★	**E1**	33.0	184	0.72	88	16.50	176	0.36	84	0.660	155	<0.05	74	•	•	•	•	•			
13.37		**D1**	37.0	163	0.71	88	18.70	157	0.36	85	0.750	138	<0.05	75	•	•	•	•	•			
12.35	★	**C1**	40.0	171	0.81	89	20.00	165	0.40	86	0.810	144	<0.05	75	•	•	•	•	•			
10.63		**B1**	47.0	182	1.00	89	24.00	177	0.51	86	0.940	153	<0.05	75	•	•	•	•	•			
9.67	★	**A1**	52.0	176	1.07	89	26.00	171	0.54	87	1.000	147	<0.05	75	•	•	•	•	•			

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

Selection and ordering data (continued)

Efficiency table C.48-D/Z28

Transmission ratio	Ratio code	Output speed n_{mot} = 1 750 rpm				Output speed n_{mot} = 1 450 rpm				Size for motor and input units							
i_{tot}	Order No. 15th and 16th position	n_2 rpm	T_2 Nm	P_{mot} kW	h %	n_2 rpm	T_2 Nm	P_{mot} kW	h %	63	71	80	90	100	112	132	160
23 503	**N1**	0.07	364	<0.06	47	0.06	364	<0.06	47		•						
20 276	**M1**	0.09	364	<0.06	47	0.07	364	<0.06	47		•						
17 420	**L1**	0.10	364	<0.06	47	0.08	364	<0.06	47		•						
16 037	**K1**	0.11	364	<0.06	47	0.09	364	<0.06	47		•						
14 579	**J1**	0.12	364	<0.06	47	0.10	364	<0.06	47		•						
12 904	**H1**	0.14	364	<0.06	47	0.11	364	<0.06	47		•						
10 808	**G1**	0.16	364	<0.06	47	0.13	364	<0.06	47		•						
9 216	**F1**	0.19	364	<0.06	47	0.16	364	<0.06	47		•						
7 833	**E1**	0.22	364	<0.06	48	0.19	364	<0.06	47		•						
6 807	**D1**	0.26	364	<0.06	48	0.21	364	<0.06	47		•						
5 925	**C1**	0.30	364	<0.06	48	0.24	364	<0.06	48		•						
5 345	**B1**	0.33	364	<0.06	48	0.27	364	<0.06	48		•						
4 717	**A1**	0.37	364	<0.06	48	0.31	364	<0.06	48		•						
4 222	**B2**	0.41	364	<0.06	48	0.34	364	<0.06	48		•						
3 749	**A2**	0.47	364	<0.06	49	0.39	364	<0.06	48		•						
3 286	**X1**	0.53	364	<0.06	49	0.44	364	<0.06	49		•						
2 941	**W1**	0.60	364	<0.06	49	0.49	364	<0.06	49		•						
2 610	**V1**	0.67	364	<0.06	50	0.56	364	<0.06	49		•						
2 288	**U1**	0.76	365	<0.06	50	0.63	364	<0.06	49		•						
2 011	**T1**	0.87	365	0.07	51	0.72	364	<0.06	50		•						
1 817	**S1**	0.96	365	0.07	51	0.80	365	0.06	50		•						
1 583	**R1**	1.11	365	0.08	52	0.92	365	0.07	51		•						
1 422	**Q1**	1.23	365	0.09	52	1.02	365	0.08	51		•						
1 284	**P1**	1.36	365	0.10	53	1.13	365	0.08	52		•						
1 164	**N1**	1.50	365	0.11	53	1.25	365	0.09	52		•						
1 059	**M1**	1.65	366	0.12	54	1.37	365	0.10	53		•						
937	**L1**	1.87	366	0.13	55	1.55	365	0.11	53		•						
865	**K1**	2.02	366	0.14	55	1.68	366	0.12	54		•						
745	**J1**	2.35	366	0.16	56	1.95	366	0.14	55		•						
677	**H1**	2.59	367	0.17	57	2.14	366	0.15	56		•						
615	**G1**	2.84	367	0.19	58	2.36	366	0.16	57		•						
558	**F1**	3.14	367	0.20	59	2.60	367	0.17	57		•						
508	**E1**	3.45	368	0.22	60	2.86	367	0.19	58		•						
449	**D1**	3.90	368	0.25	61	3.23	367	0.21	59		•						
414	**C1**	4.22	368	0.26	62	3.50	368	0.22	60		•						
357	**B1**	4.90	369	0.30	64	4.06	368	0.25	62		•						
324	**A1**	5.40	370	0.32	64	4.47	369	0.28	63		•						

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

Transmission ratios and maximum torques

Selection and ordering data (continued)

Efficiency table C.48

Transmission ratio		Ratio code	Output speed n_{mot} = 1 750 rpm				Output speed n_{mot} = 1 450 rpm				Output speed n_{mot} = 1 150 rpm				Size for motor and input units							
i_{tot}		Order No. 15th and 16th position	n_2 rpm	T_2 Nm	P_{mot} kW	h %	n_2 rpm	T_2 Nm	P_{mot} kW	h %	n_2 rpm	T_2 Nm	P_{mot} kW	h %	63	71	80	90	100	112	132	160
320.67	★	**K2**	5.5	370	0.32	66	4.5	369	0.27	64	3.6	368	0.23	61	•	•	•					
284.70		**J2**	6.1	370	0.35	67	5.1	369	0.30	65	4.0	368	0.25	63	•	•	•					
249.60	★	**H2**	7.0	371	0.40	68	5.8	370	0.34	66	4.6	369	0.28	64	•	•	•	•				
223.36		**G2**	7.8	372	0.44	69	6.5	371	0.38	67	5.1	369	0.30	65	•	•	•	•				
198.25	★	**F2**	8.8	373	0.49	70	7.3	372	0.42	68	5.8	370	0.34	66	•	•	•	•				
173.73		**E2**	10.1	374	0.56	70	8.3	373	0.47	69	6.6	371	0.38	67	•	•	•	•				
152.75	★	**D2**	11.5	375	0.64	71	9.5	374	0.53	70	7.5	372	0.43	68	•	•	•	•				
138.00		**C2**	12.7	377	0.70	71	10.5	375	0.58	71	8.3	373	0.47	69	•	•	•	•				
120.25	★	**B2**	14.6	363	0.78	72	12.1	376	0.67	71	9.6	374	0.54	70	•	•	•	•				
108.00		**A2**	16.2	350	0.83	72	13.4	377	0.74	71	10.6	375	0.59	71	•	•	•	•				
97.50	★	**X1**	17.9	339	0.88	72	14.9	378	0.82	72	11.8	376	0.65	71	•	•	•	•	•			
88.40		**W1**	19.8	329	0.95	72	16.4	380	0.91	72	13.0	375	0.72	71	•	•	•	•	•			
80.44	★	**V1**	22.0	318	1.02	72	18.0	381	1.00	72	14.3	365	0.76	72	•	•	•	•	•			
71.12		**U1**	25.0	305	1.11	72	20.0	382	1.11	72	16.2	352	0.83	72	•	•	•	•	•			
65.68	★	**T1**	27.0	297	1.17	72	22.0	384	1.23	72	17.5	343	0.87	72	•	•	•	•	•			
56.55	★	**S1**	31.0	285	1.28	72	26.0	386	1.46	72	20.0	329	0.96	72	•	•	•	•	•			
51.41		**R1**	34.0	276	1.37	72	28.0	387	1.58	72	22.0	319	1.02	72	•	•	•	•	•			
46.93	★	**Q1**	37.0	293	1.27	89	31.0	292	1.07	89	25.0	289	0.86	88	•	•	•	•				
42.00		**P1**	42.0	320	1.57	90	35.0	318	1.31	89	27.0	316	1.01	88	•	•	•	•				
37.28	★	**N1**	47.0	267	1.47	90	39.0	267	1.22	89	31.0	265	0.97	89	•	•	•	•				
32.67		**M1**	54.0	267	1.68	90	44.0	266	1.37	90	35.0	265	1.09	89	•	•	•	•				
28.72	★	**L1**	61.0	289	2.05	90	50.0	289	1.68	90	40.0	288	1.35	89	•	•	•	•				
25.95		**K1**	67.0	277	2.17	90	56.0	277	1.81	90	44.0	277	1.42	90	•	•	•	•				
22.61	★	**J1**	77.0	270	2.42	90	64.0	270	2.02	90	51.0	270	1.61	90	•	•	•	•				
20.31		**H1**	86.0	281	2.82	90	71.0	281	2.33	90	57.0	281	1.87	90	•	•	•	•				
18.33	★	**G1**	95.0	300	3.32	90	79.0	300	2.76	90	63.0	300	2.20	90	•	•	•	•	•			
16.62		**F1**	105.0	291	3.56	90	87.0	293	2.97	90	69.0	293	2.35	90	•	•	•	•	•			
15.13	★	**E1**	116.0	266	3.60	90	96.0	266	2.98	90	76.0	266	2.36	90	•	•	•	•	•			
13.37		**D1**	131.0	236	3.60	90	108.0	236	2.96	90	86.0	236	2.36	90	•	•	•	•	•			
12.35	★	**C1**	142.0	242	4.00	90	117.0	249	3.39	90	93.0	249	2.69	90	•	•	•	•	•			
10.63		**B1**	165.0	208	4.00	90	136.0	252	4.00	90	108.0	254	3.20	90	•	•	•	•	•			
9.67	★	**A1**	181.0	189	4.00	90	150.0	229	4.00	90	119.0	243	3.37	90	•	•	•	•	•			

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

Selection and ordering data (continued)

Efficiency table C.48

Transmission ratio		Ratio code	Output speed n_{mot} = 950 rpm				Output speed n_{mot} = 850 rpm				Output speed n_{mot} = 750 rpm				Size for motor and input units							
i_{tot}		Order No. 15th and 16th position	n_2 rpm	T_2 Nm	P_{mot} kW	h %	n_2 rpm	T_2 Nm	P_{mot} kW	h %	n_2 rpm	T_2 Nm	P_{mot} kW	h %	63	71	80	90	100	112	132	160
320.67	★	**K2**	3.0	367	0.19	59	2.7	367	0.18	58	2.2	366	0.15	57	•	•	•					
284.70		**J2**	3.3	367	0.21	61	3.0	367	0.19	59	2.5	366	0.17	58	•	•	•					
249.60	★	**H2**	3.8	368	0.24	62	3.4	368	0.22	61	2.8	367	0.18	59	•	•	•	•				
223.36		**G2**	4.3	368	0.26	63	3.8	368	0.24	62	3.1	367	0.20	60	•	•	•	•				
198.25	★	**F2**	4.8	369	0.29	64	4.3	368	0.26	63	3.5	368	0.22	61	•	•	•	•				
173.73		**E2**	5.5	370	0.32	66	4.9	369	0.29	64	4.0	368	0.25	62	•	•	•	•				
152.75	★	**D2**	6.2	370	0.36	67	5.6	370	0.33	66	4.6	369	0.28	64	•	•	•	•				
138.00		**C2**	6.9	371	0.40	68	6.2	370	0.36	67	5.1	369	0.30	65	•	•	•	•				
120.25	★	**B2**	7.9	372	0.45	69	7.1	371	0.41	68	5.8	370	0.34	66	•	•	•	•				
108.00		**A2**	8.8	373	0.49	70	7.9	372	0.45	69	6.5	371	0.38	67	•	•	•	•				
97.50	★	**X1**	9.7	374	0.54	70	8.7	373	0.49	69	7.2	371	0.41	68	•	•	•	•	•			
88.40		**W1**	10.7	375	0.59	71	9.6	374	0.54	70	7.9	372	0.45	69	•	•	•	•	•			
80.44	★	**V1**	11.8	376	0.65	71	10.6	375	0.59	71	8.7	373	0.49	69	•	•	•	•	•			
71.12		**U1**	13.4	373	0.73	71	12.0	376	0.66	71	9.8	374	0.55	70	•	•	•	•	•			
65.68	★	**T1**	14.5	363	0.77	72	12.9	377	0.71	71	10.7	375	0.59	71	•	•	•	•	•			
56.55	★	**S1**	16.8	348	0.85	72	15.0	361	0.79	72	12.4	376	0.69	71	•	•	•	•	•			
51.41		**R1**	18.5	338	0.91	72	16.5	350	0.84	72	13.6	372	0.74	71	•	•	•	•	•			
46.93	★	**Q1**	20.0	286	0.69	87	18.1	284	0.62	86	14.9	280	0.51	85	•	•	•	•				
42.00		**P1**	23.0	313	0.86	88	20.0	311	0.75	87	16.7	306	0.62	86	•	•	•	•				
37.28	★	**N1**	25.0	263	0.78	88	23.0	261	0.72	90	18.8	258	0.59	87	•	•	•	•				
32.67		**M1**	29.0	263	0.90	89	26.0	262	0.81	88	21.0	259	0.65	87	•	•	•	•				
28.72	★	**L1**	33.0	286	1.11	89	30.0	285	1.01	89	24.0	283	0.81	88	•	•	•	•				
25.95		**K1**	37.0	276	1.20	89	33.0	275	1.07	89	27.0	273	0.87	88	•	•	•	•				
22.61	★	**J1**	42.0	269	1.32	90	38.0	269	1.20	89	31.0	267	0.98	89	•	•	•	•				
20.31		**H1**	47.0	280	1.54	90	42.0	280	1.38	90	34.0	279	1.11	89	•	•	•	•				
18.33	★	**G1**	52.0	299	1.82	90	46.0	299	1.61	90	38.0	298	1.33	89	•	•	•	•	•			
16.62		**F1**	57.0	293	1.94	90	51.0	292	1.74	90	42.0	292	1.43	90	•	•	•	•	•			
15.13	★	**E1**	63.0	266	1.96	90	56.0	266	1.74	90	46.0	266	1.43	90	•	•	•	•	•			
13.37		**D1**	71.0	235	1.95	90	64.0	235	1.76	90	52.0	235	1.43	90	•	•	•	•	•			
12.35	★	**C1**	77.0	249	2.23	90	69.0	249	2.00	90	57.0	248	1.65	90	•	•	•	•	•			
10.63		**B1**	89.0	254	2.64	90	80.0	254	2.37	90	66.0	254	1.95	90	•	•	•	•	•			
9.67	★	**A1**	98.0	243	2.78	90	88.0	243	2.49	90	72.0	243	2.04	90	•	•	•	•	•			

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

Transmission ratios and maximum torques

Selection and ordering data (continued)

Efficiency table C.48

Transmission ratio	Ratio code	Output speed n_{mot} = 500 rpm				Output speed n_{mot} = 250 rpm				Output speed n_{mot} = 10 rpm				Size for motor and input units							
i_{tot}	Order No. 15th and 16th position	n_2 rpm	T_2 Nm	P_{mot} kW	h %	n_2 rpm	T_2 Nm	P_{mot} kW	h %	n_2 rpm	T_2 Nm	P_{mot} kW	h %	63	71	80	90	100	112	132	160
320.67 ★	**K2**	1.6	365	0.11	54	0.78	365	0.06	51	0.031	364	<0.05	47	•	•	•					
284.70	**J2**	1.8	366	0.13	55	0.88	365	0.07	51	0.035	364	<0.05	47	•	•	•					
249.60 ★	**H2**	2.0	366	0.14	56	1.00	365	0.07	52	0.040	364	<0.05	47	•	•	•	•				
223.36	**G2**	2.2	366	0.15	57	1.10	365	0.08	52	0.045	364	<0.05	47	•	•	•	•				
198.25 ★	**F2**	2.5	367	0.17	58	1.30	365	0.09	53	0.050	364	<0.05	47	•	•	•	•				
173.73	**E2**	2.9	367	0.19	59	1.40	365	0.10	54	0.058	364	<0.05	47	•	•	•	•				
152.75 ★	**D2**	3.3	367	0.21	60	1.60	366	0.11	55	0.065	364	<0.05	47	•	•	•	•				
138.00	**C2**	3.6	368	0.23	61	1.80	366	0.12	55	0.072	364	<0.05	47	•	•	•	•				
120.25 ★	**B2**	4.2	368	0.26	63	2.10	366	0.14	56	0.083	364	<0.05	48	•	•	•	•				
108.00	**A2**	4.6	369	0.28	64	2.30	366	0.15	57	0.093	364	<0.05	48	•	•	•	•				
97.50 ★	**X1**	5.1	369	0.30	65	2.60	367	0.17	58	0.100	364	<0.05	48	•	•	•	•	•			
88.40	**W1**	5.7	370	0.33	66	2.80	367	0.18	59	0.110	364	<0.05	48	•	•	•	•	•			
80.44 ★	**V1**	6.2	370	0.36	67	3.10	367	0.20	60	0.120	364	<0.05	48	•	•	•	•	•			
71.12	**U1**	7.0	371	0.40	68	3.50	368	0.22	61	0.140	364	<0.05	48	•	•	•	•	•			
65.68 ★	**T1**	7.6	372	0.43	69	3.80	368	0.24	62	0.150	364	<0.05	48	•	•	•	•	•			
56.55 ★	**S1**	8.8	373	0.49	70	4.40	369	0.27	63	0.180	364	<0.05	48	•	•	•	•	•			
51.41	**R1**	9.7	374	0.54	70	4.90	369	0.29	64	0.190	364	<0.05	48	•	•	•	•	•			
46.93 ★	**Q1**	10.7	272	0.37	83	5.30	258	0.18	78	0.210	238	<0.05	72	•	•	•	•				
42.00	**P1**	11.9	298	0.44	84	6.00	282	0.22	79	0.240	259	<0.05	72	•	•	•	•				
37.28 ★	**N1**	13.4	252	0.42	84	6.70	238	0.21	80	0.270	216	<0.05	72	•	•	•	•				
32.67	**M1**	15.3	253	0.48	85	7.70	240	0.24	81	0.310	216	<0.05	73	•	•	•	•				
28.72 ★	**L1**	17.4	277	0.59	86	8.70	262	0.29	81	0.350	234	<0.05	73	•	•	•	•				
25.95	**K1**	19.3	268	0.62	87	9.60	253	0.31	82	0.390	224	<0.05	73	•	•	•	•				
22.61 ★	**J1**	22.0	263	0.69	87	11.10	250	0.35	83	0.440	219	<0.05	73	•	•	•	•				
20.31	**H1**	25.0	275	0.82	88	12.30	262	0.40	84	0.490	228	<0.05	73	•	•	•	•				
18.33 ★	**G1**	27.0	295	0.94	88	13.60	282	0.48	84	0.550	243	<0.05	73	•	•	•	•	•			
16.62	**F1**	30.0	289	1.02	89	15.00	277	0.51	85	0.600	238	<0.05	73	•	•	•	•	•			
15.13 ★	**E1**	33.0	264	1.02	89	16.50	254	0.51	86	0.660	217	<0.05	73	•	•	•	•	•			
13.37	**D1**	37.0	234	1.02	89	18.70	227	0.51	87	0.750	192	<0.05	73	•	•	•	•	•			
12.35 ★	**C1**	40.0	247	1.16	89	20.00	241	0.58	87	0.810	203	<0.05	73	•	•	•	•	•			
10.63	**B1**	47.0	254	1.39	90	24.00	248	0.71	88	0.940	208	<0.05	73	•	•	•	•	•			
9.67 ★	**A1**	52.0	243	1.47	90	26.00	239	0.74	88	1.000	199	<0.05	74	•	•	•	•	•			

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

Selection and ordering data (continued)

Efficiency table C.68-D/Z28

Transmission ratio	Ratio code	Output speed n_{mot} = 1 750 rpm				Output speed n_{mot} = 1 450 rpm				Size for motor and input units							
i_{tot}	Order No. 15th and 16th position	n_2 rpm	T_2 Nm	P_{mot} kW	h %	n_2 rpm	T_2 Nm	P_{mot} kW	h %	63	71	80	90	100	112	132	160
28 203	**N1**	0.06	675	<0.06	49	0.05	675	<0.06	49		•						
24 331	**M1**	0.07	675	<0.06	49	0.06	675	<0.06	49		•						
20 903	**L1**	0.08	675	<0.06	49	0.07	675	<0.06	49		•						
19 244	**K1**	0.09	675	<0.06	49	0.08	675	<0.06	49		•						
17 495	**J1**	0.10	675	<0.06	49	0.08	675	<0.06	49		•						
15 485	**H1**	0.11	675	<0.06	49	0.09	675	<0.06	49		•						
12 970	**G1**	0.13	675	<0.06	49	0.11	675	<0.06	49		•						
11 059	**F1**	0.16	675	<0.06	49	0.13	675	<0.06	49		•						
9 400	**E1**	0.19	675	<0.06	50	0.15	675	<0.06	49		•						
8 169	**D1**	0.21	675	<0.06	50	0.18	675	<0.06	50		•						
7 110	**C1**	0.25	675	<0.06	50	0.20	675	<0.06	50		•						
6 414	**B1**	0.27	675	<0.06	50	0.23	675	<0.06	50		•						
5 661	**A1**	0.31	675	<0.06	50	0.26	675	<0.06	50		•						
5 066	**B2**	0.35	675	<0.06	51	0.29	675	<0.06	50		•						
4 498	**A2**	0.39	675	<0.06	51	0.32	675	< 0.06	51		•						
3 944	**X1**	0.44	675	0.06	51	0.37	675	<0.06	51		•						
3 529	**W1**	0.50	675	0.07	52	0.41	675	<0.06	51		•						
3 132	**V1**	0.56	675	0.08	52	0.46	675	0.06	51		•						
2 745	**U1**	0.64	675	0.09	53	0.53	675	0.07	52		•						
2 414	**T1**	0.73	676	0.10	53	0.60	675	0.08	52		•						
2 180	**S1**	0.80	676	0.11	54	0.67	675	0.09	53		•						
1 900	**R1**	0.92	676	0.12	54	0.76	676	0.10	53		•						
1 706	**Q1**	1.03	676	0.13	55	0.85	676	0.11	54		•						
1 541	**P1**	1.14	676	0.14	56	0.94	676	0.12	54		•						
1 397	**N1**	1.25	676	0.16	56	1.04	676	0.13	55		•						
1 271	**M1**	1.38	677	0.17	57	1.14	676	0.15	56		•						
1 124	**L1**	1.56	677	0.19	58	1.29	676	0.16	56		•						
1 038	**K1**	1.69	677	0.20	58	1.40	677	0.17	57		•						
893	**J1**	1.96	677	0.23	60	1.62	677	0.20	58		•						
812	**H1**	2.15	678	0.25	61	1.79	677	0.22	59		•						
738	**G1**	2.37	678	0.27	61	1.96	677	0.23	60		•						
669	**F1**	2.61	678	0.30	62	2.17	678	0.25	61		•						
609	**E1**	2.87	679	0.32	63	2.38	678	0.27	62		•						
539	**D1**	3.25	679	0.36	65	2.69	679	0.30	63		•						
497	**C1**	3.52	680	0.38	65	2.92	679	0.33	64		•						
428	**B1**	4.09	681	0.43	67	3.39	680	0.37	65		•						
389	**A1**	4.50	681	0.47	68	3.73	680	0.40	66		•						

★ Preferred transmission ratio
In the case of gearboxes of size 18 or 28, only possible with integrated motor or input unit KQ and KQS.

Transmission ratios and maximum torques

Selection and ordering data (continued)

Efficiency table C.68

Transmission ratio	Ratio code	Output speed n_{mot} = 1 750 rpm				Output speed n_{mot} = 1 450 rpm				Output speed n_{mot} = 1 150 rpm				Size for motor and input units							
i_{tot}	Order No. 15th and 16th position	n_2 rpm	T_2 Nm	P_{mot} kW	h %	n_2 rpm	T_2 Nm	P_{mot} kW	h %	n_2 rpm	T_2 Nm	P_{mot} kW	h %	63	71	80	90	100	112	132	160
364.00 ★	**U2**	4.8	682	0.49	70	4.0	680	0.42	68	3.2	679	0.35	65	•	•						
323.70	**T2**	5.4	682	0.55	71	4.5	681	0.47	69	3.6	680	0.38	67	•	•	•					
280.80 ★	**S2**	6.2	684	0.62	72	5.2	682	0.53	70	4.1	681	0.43	68	•	•	•	•				
262.36	**R2**	6.7	684	0.67	72	5.5	683	0.56	71	4.4	681	0.46	69	•	•	•	•				
230.75 ★	**Q2**	7.6	685	0.75	73	6.3	684	0.63	72	5.0	682	0.51	70	•	•	•	•				
202.09	**P2**	8.7	654	0.81	73	7.2	685	0.71	72	5.7	683	0.57	71	•	•	•	•	•			
178.75 ★	**N2**	9.8	627	0.87	74	8.1	662	0.77	73	6.4	684	0.64	72	•	•	•	•	•	•		
162.00	**M2**	10.8	606	0.93	74	9.0	687	0.88	73	7.1	683	0.70	72	•	•	•	•	•	•		
143.00 ★	**L2**	12.2	581	1.00	74	10.1	616	0.88	74	8.0	659	0.76	73	•	•	•	•	•	•		
129.00	**K2**	13.6	560	1.07	74	11.2	595	0.94	74	8.9	638	0.81	73	•	•	•	•	•	•		
117.00 ★	**J2**	15.0	542	1.15	74	12.4	691	1.21	74	9.8	619	0.86	74	•	•	•	•	•	•		
106.60	**H2**	16.4	526	1.21	74	13.6	559	1.07	74	10.8	601	0.92	74	•	•	•	•	•	•		
97.50 ★	**G2**	17.9	511	1.29	74	14.9	694	1.46	74	11.8	585	0.98	74	•	•	•	•	•	•		
90.00 ★	**F2**	19.4	347	0.80	88	16.1	344	0.67	87	12.8	339	0.53	86	•	•	•	•				
84.09	**E2**	21.0	531	1.33	88	17.2	528	1.09	87	13.7	521	0.87	86	•	•	•	•				
73.96 ★	**D2**	24.0	547	1.56	88	19.6	544	1.28	88	15.5	539	1.01	87	•	•	•	•				
64.77	**C2**	27.0	640	2.05	88	22.0	638	1.67	88	17.8	633	1.35	87	•	•	•	•	•			
57.29 ★	**B2**	31.0	617	2.27	88	25.0	661	1.96	88	20.0	709	1.69	88	•	•	•	•	•	•		
51.92	**A2**	34.0	599	2.41	88	28.0	660	2.19	88	22.0	657	1.72	88	•	•	•	•	•	•		
45.83 ★	**X1**	38.0	578	2.60	88	32.0	681	2.58	88	25.0	661	1.96	88	•	•	•	•	•	•		
41.35	**W1**	42.0	559	2.78	89	35.0	594	2.46	88	28.0	639	2.12	88	•	•	•	•	•	•		
37.50 ★	**U1**	47.0	540	3.00	89	39.0	645	2.98	88	31.0	619	2.27	88	•	•	•	•	•	•		
34.17	**T1**	51.0	526	3.17	89	42.0	561	2.79	89	34.0	601	2.42	88	•	•	•	•	•	•		
31.25 ★	**R1**	56.0	511	3.38	89	46.0	545	2.97	89	37.0	586	2.57	88	•	•	•	•	•	•		
27.94	**P1**	63.0	493	3.67	89	52.0	593	3.65	89	41.0	569	2.76	89	•	•	•	•	•	•		
25.66 ★	**M1**	68.0	480	3.86	89	57.0	571	3.85	89	45.0	550	2.93	89	•	•	•	•	•	•		
23.13	**K1**	76.0	464	4.17	89	63.0	557	4.15	89	50.0	534	3.16	89	•	•	•	•	•	•		
19.89 ★	**G1**	88.0	444	4.63	89	73.0	534	4.61	89	58.0	511	3.50	89	•	•	•	•	•	•		
38.00	**V1**	46.0	437	2.34	90	38.0	436	1.94	90	30.0	435	1.53	89	•	•	•	•	•			
33.61 ★	**S1**	52.0	435	2.64	90	43.0	435	2.18	90	34.0	434	1.72	90	•	•	•	•	•	•		
30.46	**Q1**	57.0	394	2.62	90	48.0	394	2.20	90	38.0	393	1.75	90	•	•	•	•	•	•		
26.89 ★	**N1**	65.0	406	3.07	90	54.0	406	2.55	90	43.0	406	2.03	90	•	•	•	•	•	•		
24.26	**L1**	72.0	401	3.36	90	60.0	401	2.80	90	47.0	401	2.20	90	•	•	•	•	•	•		
22.00 ★	**J1**	80.0	427	3.98	90	66.0	427	3.28	90	52.0	427	2.59	90	•	•	•	•	•	•		
20.04	**H1**	87.0	432	4.38	90	72.0	432	3.63	90	57.0	432	2.87	90	•	•	•	•	•	•		
18.33 ★	**F1**	95.0	422	4.67	90	79.0	422	3.88	90	63.0	422	3.10	90	•	•	•	•	•	•		
16.39	**E1**	107.0	401	5.00	90	88.0	401	4.11	90	70.0	401	3.27	90	•	•	•	•	•	•		
15.05 ★	**D1**	116.0	401	5.41	90	96.0	401	4.48	90	76.0	401	3.55	90	•	•	•	•	•	•		
13.57	**C1**	129.0	366	5.50	90	107.0	420	5.23	90	85.0	420	4.15	90	•	•	•	•	•	•		
11.67 ★	**B1**	150.0	315	5.50	90	124.0	378	5.45	90	99.0	378	4.35	90	•	•	•	•	•	•		

★ Preferred transmission ratio
In the case of gearboxes of size 18 or 28, only possible with integrated motor or input unit KQ and KQS.

Selection and ordering data (continued)

Efficiency table C.68

Transmission ratio	Ratio code	Output speed n_{mot} = 950 rpm				Output speed n_{mot} = 850 rpm				Output speed n_{mot} = 700 rpm				Size for motor and input units							
i_{tot}	Order No. 15th and 16th position	n_2 rpm	T_2 Nm	P_{mot} kW	h %	n_2 rpm	T_2 Nm	P_{mot} kW	h %	n_2 rpm	T_2 Nm	P_{mot} kW	h %	63	71	80	90	100	112	132	160
364.00 ★	**U2**	2.6	678	0.29	63	2.3	678	0.26	62	1.9	677	0.22	60	•	•						
323.70	**T2**	2.9	679	0.32	65	2.6	678	0.29	63	2.2	678	0.25	62	•	•	•					
280.80 ★	**S2**	3.4	680	0.37	66	3.0	679	0.33	65	2.5	678	0.28	63	•	•	•	•				
262.36	**R2**	3.6	680	0.38	67	3.2	679	0.35	66	2.7	678	0.30	64	•	•	•	•				
230.75 ★	**Q2**	4.1	681	0.43	68	3.7	680	0.39	67	3.0	679	0.33	65	•	•	•	•				
202.09	**P2**	4.7	681	0.48	69	4.2	681	0.44	68	3.5	680	0.38	66	•	•	•	•	•			
178.75 ★	**N2**	5.3	682	0.54	70	4.8	681	0.49	69	3.9	680	0.41	68	•	•	•	•	•	•		
162.00	**M2**	5.9	683	0.59	71	5.2	682	0.53	70	4.3	681	0.45	69	•	•	•	•	•	•		
143.00 ★	**L2**	6.6	684	0.66	72	5.9	683	0.59	71	4.9	682	0.50	70	•	•	•	•	•	•		
129.00	**K2**	7.4	671	0.72	73	6.6	684	0.66	72	5.4	682	0.55	71	•	•	•	•	•	•		
117.00 ★	**J2**	8.1	654	0.76	73	7.3	672	0.71	73	6.0	683	0.60	71	•	•	•	•	•	•		
106.60	**H2**	8.9	637	0.81	73	8.0	656	0.75	73	6.6	684	0.66	72	•	•	•	•	•	•		
97.50 ★	**G2**	9.7	621	0.86	74	8.7	641	0.80	73	7.2	675	0.70	72	•	•	•	•	•	•		
90.00 ★	**F2**	10.6	335	0.44	85	9.4	332	0.39	84	7.8	326	0.32	82	•	•	•	•				
84.09	**E2**	11.3	515	0.72	85	10.1	510	0.64	84	8.3	502	0.53	83	•	•	•	•				
73.96 ★	**D2**	12.8	533	0.83	86	11.5	529	0.75	85	9.5	521	0.62	84	•	•	•	•				
64.77	**C2**	14.7	627	1.12	86	13.1	623	1.00	86	10.8	614	0.82	85	•	•	•	•	•			
57.29 ★	**B2**	16.6	718	1.43	87	14.8	714	1.28	86	12.2	705	1.05	85	•	•	•	•	•	•		
51.92	**A2**	18.3	653	1.43	87	16.4	650	1.28	87	13.5	643	1.06	86	•	•	•	•	•	•		
45.83 ★	**X1**	21.0	676	1.69	88	18.5	673	1.49	87	15.3	667	1.23	87	•	•	•	•	•	•		
41.35	**W1**	23.0	669	1.83	88	21.0	667	1.67	88	16.9	662	1.35	87	•	•	•	•	•	•		
37.50 ★	**U1**	25.0	663	1.97	88	23.0	680	1.86	88	18.7	708	1.59	87	•	•	•	•	•	•		
34.17	**T1**	28.0	641	2.13	88	25.0	664	1.97	88	20.0	712	1.70	88	•	•	•	•	•	•		
31.25 ★	**R1**	30.0	628	2.23	88	27.0	649	2.08	88	22.0	693	1.81	88	•	•	•	•	•	•		
27.94	**P1**	34.0	605	2.44	88	30.0	630	2.24	88	25.0	668	1.98	88	•	•	•	•	•	•		
25.66 ★	**M1**	37.0	587	2.57	88	33.0	610	2.38	88	27.0	651	2.08	88	•	•	•	•	•	•		
23.13	**K1**	41.0	570	2.77	89	37.0	590	2.58	88	30.0	632	2.25	88	•	•	•	•	•	•		
19.89 ★	**G1**	48.0	544	3.09	89	43.0	564	2.87	89	35.0	604	2.50	88	•	•	•	•	•	•		
38.00	**V1**	25.0	433	1.27	89	22.0	431	1.12	89	18.4	427	0.94	88	•	•	•	•	•			
33.61 ★	**S1**	28.0	432	1.42	89	25.0	431	1.27	89	21.0	428	1.06	88	•	•	•	•	•	•		
30.46	**Q1**	31.0	392	1.42	89	28.0	391	1.29	89	23.0	389	1.06	89	•	•	•	•	•	•		
26.89 ★	**N1**	35.0	405	1.66	90	32.0	404	1.51	89	26.0	402	1.23	89	•	•	•	•	•	•		
24.26	**L1**	39.0	400	1.82	90	35.0	400	1.64	90	29.0,	399	1.36	89	•	•	•	•	•	•		
22.00 ★	**J1**	43.0	427	2.14	90	39.0	426	1.94	90	32.0	425	1.59	89	•	•	•	•	•	•		
20.04	**H1**	47.0	432	2.37	90	42.0	432	2.12	90	35.0	431	1.76	90	•	•	•	•	•	•		
18.33 ★	**F1**	52.0	422	2.56	90	46.0	422	2.26	90	38.0	421	1.87	90	•	•	•	•	•	•		
16.39	**E1**	58.0	401	2.71	90	52.0	401	2.43	90	43.0	400	2.01	90	•	•	•	•	•	•		
15.05 ★	**D1**	63.0	400	2.94	90	56.0	400	2.61	90	47.0	400	2.19	90	•	•	•	•	•	•		
13.57	**C1**	70.0	419	3.42	90	63.0	419	3.08	90	52.0	419	2.54	90	•	•	•	•	•	•		
11.67 ★	**B1**	81.0	378	3.56	90	73.0	378	3.21	90	60.0	377	2.64	90	•	•	•	•	•	•		

★ Preferred transmission ratio
In the case of gearboxes of size 18 or 28, only possible with integrated motor or input unit KQ and KQS.

Transmission ratios and maximum torques

Selection and ordering data (continued)

Efficiency table C.68

Transmission ratio	Ratio code	Output speed n_{mot} = 500 rpm				Output speed n_{mot} = 250 rpm				Output speed n_{mot} = 10 rpm				Size for motor and input units							
i_{tot}	Order No. 15th and 16th position	n_2 rpm	T_2 Nm	P_{mot} kW	h %	n_2 rpm	T_2 Nm	P_{mot} kW	h %	n_2 rpm	T_2 Nm	P_{mot} kW	h %	63	71	80	90	100	112	132	160
364.00 ★	**U2**	1.4	677	0.17	58	0.69	676	0.09	54	0.027	674	<0.05	49	•	•						
323.70	**T2**	1.5	677	0.18	59	0.77	676	0.10	54	0.031	674	<0.05	49	•	•	•					
280.80 ★	**S2**	1.8	677	0.21	60	0.89	676	0.11	55	0.036	610	<0.05	49	•	•	•	•				
262.36	**R2**	1.9	677	0.22	60	0.95	676	0.12	55	0.038	674	<0.05	49	•	•	•	•				
230.75 ★	**Q2**	2.2	678	0.25	62	1.10	676	0.14	56	0.043	675	<0.05	49	•	•	•	•				
202.09	**P2**	2.5	678	0.28	63	1.20	676	0.15	57	0.049	675	<0.05	49	•	•	•	•	•			
178.75 ★	**N2**	2.8	679	0.31	64	1.40	677	0.17	58	0.056	675	<0.05	50	•	•	•	•	•	•		
162.00	**M2**	3.1	679	0.34	65	1.50	677	0.18	59	0.062	675	<0.05	50	•	•	•	•	•	•		
143.00 ★	**L2**	3.5	680	0.38	66	1.70	677	0.20	60	0.070	675	<0.05	50	•	•	•	•	•	•		
129.00	**K2**	3.9	680	0.41	67	1.90	677	0.22	61	0.078	675	<0.05	50	•	•	•	•	•	•		
117.00 ★	**J2**	4.3	681	0.45	68	2.10	678	0.24	61	0.085	675	<0.05	50	•	•	•	•	•	•		
106.60	**H2**	4.7	681	0.48	69	2.30	678	0.26	62	0.094	675	<0.05	50	•	•	•	•	•	•		
97.50 ★	**G2**	5.1	682	0.52	70	2.60	678	0.29	63	0.100	675	<0.05	50	•	•	•	•	•	•		
90.00 ★	**F2**	5.6	317	0.23	80	2.80	300	0.12	76	0.110	279	<0.05	70	•	•	•	•				
84.09	**E2**	5.9	487	0.37	80	3.00	461	0.19	76	0.120	426	<0.05	70	•	•	•	•				
73.96 ★	**D2**	6.8	506	0.44	81	3.40	478	0.22	77	0.140	438	<0.05	70	•	•	•	•				
64.77	**C2**	7.7	598	0.58	82	3.90	563	0.30	78	0.150	511	<0.05	70	•	•	•	•	•			
57.29 ★	**B2**	8.7	687	0.75	83	4.40	647	0.38	78	0.170	582	<0.05	71	•	•	•	•	•	•		
51.92	**A2**	9.6	628	0.75	84	4.80	591	0.38	79	0.190	528	<0.05	71	•	•	•	•	•	•		
45.83 ★	**X1**	10.9	653	0.88	85	5.50	615	0.44	80	0.220	544	<0.05	71	•	•	•	•	•	•		
41.35	**W1**	12.1	650	0.96	85	6.00	613	0.48	81	0.240	538	<0.05	71	•	•	•	•	•	•		
37.50 ★	**U1**	13.3	696	1.13	86	6.70	659	0.57	81	0.270	573	<0.05	71	•	•	•	•	•	•		
34.17	**T1**	14.6	709	1.25	86	7.30	672	0.63	82	0.290	581	<0.05	71	•	•	•	•	•	•		
31.25 ★	**R1**	16.0	695	1.34	87	8.00	661	0.67	83	0.320	567	<0.05	71	•	•	•	•	•	•		
27.94	**P1**	17.9	663	1.42	87	8.90	634	0.71	83	0.360	539	<0.05	71	•	•	•	•	•	•		
25.66 ★	**M1**	19.5	665	1.55	88	9.70	638	0.77	84	0.390	539	<0.05	71	•	•	•	•	•	•		
23.13	**K1**	22.0	696	1.83	88	10.80	674	0.90	85	0.430	566	<0.05	71	•	•	•	•	•	•		
19.89 ★	**G1**	25.0	631	1.87	88	12.60	613	0.94	86	0.500	510	<0.05	71	•	•	•	•	•	•		
38.00	**V1**	13.2	419	0.67	86	6.60	399	0.34	82	0.260	362	<0.05	75	•	•	•	•	•			
33.61 ★	**S1**	14.9	420	0.76	87	7.40	400	0.38	83	0.300	361	<0.05	75	•	•	•	•	•	•		
30.46	**Q1**	16.4	383	0.75	87	8.20	365	0.38	83	0.330	327	<0.05	75	•	•	•	•	•	•		
26.89 ★	**N1**	18.6	397	0.88	88	9.30	380	0.44	84	0.370	337	<0.05	75	•	•	•	•	•	•		
24.26	**L1**	21.0	394	0.98	88	10.30	378	0.48	85	0.410	334	<0.05	75	•	•	•	•	•	•		
22.00 ★	**J1**	23.0	421	1.14	89	11.40	405	0.57	85	0.450	355	<0.05	75	•	•	•	•	•	•		
20.04	**H1**	25.0	428	1.26	89	12.50	413	0.63	86	0.500	360	<0.05	75	•	•	•	•	•	•		
18.33 ★	**F1**	27.0	419	1.33	89	13.60	405	0.67	86	0.550	352	<0.05	75	•	•	•	•	•	•		
16.39	**E1**	31.0	399	1.45	89	15.30	388	0.71	87	0.610	335	<0.05	75	•	•	•	•	•	•		
15.05 ★	**D1**	33.0	399	1.54	90	16.60	389	0.77	87	0.660	335	<0.05	75	•	•	•	•	•	•		
13.57	**C1**	37.0	418	1.81	90	18.40	410	0.90	88	0.740	351	<0.05	75	•	•	•	•	•	•		
11.67 ★	**B1**	43.0	377	1.89	90	21.00	372	0.92	88	0.860	317	<0.05	75	•	•	•	•	•	•		

★ Preferred transmission ratio
In the case of gearboxes of size 18 or 28, only possible with integrated motor or input unit KQ and KQS.

Selection and ordering data (continued)

Efficiency table C.88-D/Z28

Transmission ratio	Ratio code	Output speed n_{mot} = 1 750 rpm				Output speed n_{mot} = 1 450 rpm				Size for motor and input units							
i_{tot}	Order No. 15th and 16th position	n_2 rpm	T_2 Nm	P_{mot} kW	h %	n_2 rpm	T_2 Nm	P_{mot} kW	h %	63	71	80	90	100	112	132	160
33 491	**N1**	0.05	1 590	<0.06	47	0.04	1 590	<0.06	46		•						
28 893	**M1**	0.06	1 590	<0.06	47	0.05	1 590	<0.06	47		•						
24 823	**L1**	0.07	1 590	<0.06	47	0.06	1 590	<0.06	47		•						
22 853	**K1**	0.08	1 590	<0.06	47	0.06	1 590	<0.06	47		•						
20 775	**J1**	0.08	1 590	<0.06	47	0.07	1 590	<0.06	47		•						
18 389	**H1**	0.10	1 590	<0.06	47	0.08	1 590	<0.06	47		•						
15 402	**G1**	0.11	1 590	<0.06	47	0.09	1 590	<0.06	47		•						
13 132	**F1**	0.13	1 590	<0.06	47	0.11	1 590	<0.06	47		•						
11 162	**E1**	0.16	1 590	<0.06	48	0.13	1 590	<0.06	47		•						
9 701	**D1**	0.18	1 590	0.06	48	0.15	1 590	<0.06	48		•						
8 444	**C1**	0.21	1 590	0.07	48	0.17	1 590	<0.06	48		•						
7 616	**B1**	0.23	1 590	0.08	49	0.19	1 590	0.07	48		•						
6 722	**A1**	0.26	1 590	0.09	49	0.22	1 590	0.07	48		•						
6 016	**B2**	0.29	1 590	0.10	49	0.24	1 590	0.08	49		•						
5 342	**A2**	0.33	1 590	0.11	50	0.27	1 590	0.09	49		•						
4 683	**X1**	0.37	1 590	0.12	50	0.31	1 590	0.10	49		•						
4 191	**W1**	0.42	1 590	0.14	51	0.35	1 590	0.12	50		•						
3 719	**V1**	0.47	1 590	0.15	51	0.39	1 590	0.13	50		•						
3 260	**U1**	0.54	1 590	0.17	52	0.44	1 590	0.15	51		•						
2 866	**T1**	0.61	1 590	0.19	52	0.51	1 590	0.16	51		•						
2 589	**S1**	0.68	1 590	0.21	53	0.56	1 590	0.18	52		•						
2 256	**R1**	0.78	1 590	0.24	54	0.64	1 590	0.20	53		•						
2 026	**Q1**	0.86	1 590	0.26	55	0.72	1 590	0.22	53		•						
1 829	**P1**	0.96	1 590	0.29	56	0.79	1 590	0.24	54		•						
1 659	**N1**	1.05	1 590	0.31	57	0.87	1 590	0.26	55		•						
1 510	**M1**	1.16	1 590	0.34	57	0.96	1 590	0.29	56		•						
1 335	**L1**	1.31	1 590	0.37	59	1.09	1 590	0.32	57		•						
1 232	**K1**	1.42	1 590	0.40	59	1.18	1 590	0.34	58		•						
1 061	**J1**	1.65	1 590	0.45	61	1.37	1 590	0.39	59		•						
964	**H1**	1.81	1 590	0.49	62	1.50	1 590	0.42	60		•						
877	**G1**	2.00	1 590	0.53	63	1.65	1 590	0.45	61		•						
795	**F1**	2.20	1 590	0.57	64	1.82	1 590	0.49	62		•						
723	**E1**	2.42	1 590	0.62	65	2.00	1 590	0.53	63		•						
640	**D1**	2.74	1 590	0.68	67	2.27	1 590	0.58	65		•						
590	**C1**	2.96	1 590	0.73	68	2.46	1 590	0.62	66		•						
508	**B1**	3.44	1 590	0.83	69	2.85	1 590	0.71	67		•						
462	**A1**	3.79	1 590	0.90	70	3.14	1 590	0.77	68		•						

★ Preferred transmission ratio
In the case of gearboxes of size 18 or 28, only possible with integrated motor or input unit KQ and KQS.

Selection and ordering data (continued)

Efficiency table C.88

Transmission ratio	Ratio code	Output speed n_{mot} = 1 750 rpm				Output speed n_{mot} = 1 450 rpm				Output speed n_{mot} = 1 150 rpm				Size for motor and input units							
i_{tot}	Order No. 15th and 16th position	n_2 rpm	T_2 Nm	P_{mot} kW	h %	n_2 rpm	T_2 Nm	P_{mot} kW	h %	n_2 rpm	T_2 Nm	P_{mot} kW	h %	63	71	80	90	100	112	132	160
440.70	**T2**	4.0	1 590	0.93	71	3.3	1 590	0.79	70	2.6	1 590	0.64	67	•	•	•					
390.00 ★	**S2**	4.5	1 591	1.04	72	3.7	1 590	0.87	71	2.9	1 590	0.70	69	•	•	•	•				
354.55	**R2**	4.9	1 582	1.11	73	4.1	1 590	0.95	72	3.2	1 590	0.77	70	•	•	•	•				
318.50 ★	**Q2**	5.5	1 517	1.19	73	4.6	1 588	1.06	72	3.6	1 590	0.85	71	•	•	•	•				
273.00	**P2**	6.4	1 427	1.30	74	5.3	1 506	1.14	73	4.2	1 591	0.97	72	•	•	•	•	•			
247.00 ★	**N2**	7.1	1 366	1.37	74	5.9	1 443	1.34	74	4.7	1 534	1.04	72	•	•	•	•	•	•		
228.00	**M2**	7.7	1 317	1.43	74	6.4	1 394	1.44	74	5.0	1 495	1.07	73	•	•	•	•	•	•	•	
198.25 ★	**L2**	8.8	1 260	1.56	74	7.3	1 337	1.38	74	5.8	1 431	1.18	74	•	•	•	•	•	•	•	
180.00	**K2**	9.7	1 219	1.66	74	8.1	1 292	1.82	74	6.4	1 389	1.26	74	•	•	•	•	•	•	•	
164.36 ★	**J2**	10.6	1 182	1.76	74	8.8	1 257	1.56	74	7.0	1 351	1.34	74	•	•	•	•	•	•	•	
150.80	**H2**	11.6	1 146	1.87	74	9.6	1 220	1.65	74	7.6	1 315	1.41	74	•	•	•	•	•	•	•	
138.94 ★	**G2**	12.6	1 114	1.97	74	10.4	1 187	1.74	74	8.3	1 277	1.49	74	•	•	•	•	•	•	•	
126.18	**F2**	13.9	1 077	2.10	74	11.5	1 146	2.49	74	9.1	1 238	1.59	74	•	•	•	•	•	•	•	
114.95 ★	**E2**	15.2	1 042	2.23	74	12.6	1 109	1.97	74	10.0	1 197	1.68	74	•	•	•	•	•			
108.50	**D2**	16.1	1 353	2.63	87	13.4	1 347	2.19	86	10.6	1 336	1.73	85	•	•	•	•	•	•		
98.17 ★	**C2**	17.8	1 339	2.88	87	14.8	1 420	2.56	86	11.7	1 416	2.02	86	•	•	•	•	•	•		
90.62	**B2**	19.3	1 258	2.93	87	16.0	1 255	2.43	87	12.7	1 248	1.93	86	•	•	•	•	•	•	•	
78.79 ★	**A2**	22.0	1 243	3.30	87	18.4	1 318	2.93	87	14.6	1 362	2.41	86	•	•	•	•	•	•	•	
71.54	**X1**	24.0	1 207	3.49	87	20.0	1 282	3.09	87	16.1	1 301	2.53	87	•	•	•	•	•	•	•	
65.32 ★	**W1**	27.0	1 161	3.78	87	22.0	1 242	3.30	87	17.6	1 336	2.84	87	•	•	•	•	•	•	•	
59.93	**V1**	29.0	1 133	3.96	87	24.0	1 206	3.49	87	19.2	1 298	3.01	87	•	•	•	•	•	•	•	
55.22 ★	**U1**	32.0	1 096	4.23	87	26.0	1 174	3.68	87	21.0	1 260	3.19	87	•	•	•	•	•	•	•	
50.15	**T1**	35.0	1 064	4.49	87	29.0	1 132	4.55	87	23.0	1 223	3.39	87	•	•	•	•	•	•	•	
45.68 ★	**S1**	38.0	1 031	4.72	87	32.0	1 092	4.82	87	25.0	1 186	3.57	87	•	•	•	•	•	•	•	
41.85	**R1**	42.0	999	5.06	87	35.0	1 062	5.12	87	27.0	1 158	3.77	87	•	•	•	•	•	•	•	
37.34 ★	**Q1**	47.0	964	5.46	87	39.0	1 026	5.53	87	31.0	1 107	4.14	87	•	•	•	•	•	•	•	
33.33	**N1**	53.0	929	5.94	87	44.0	989	5.99	87	35.0	1 067	4.50	87	•		•	•	•	•	•	
28.30	**K1**	62.0	883	6.60	87	51.0	943	5.80	87	41.0	1 014	5.01	87	•		•	•	•	•	•	
23.56 ★	**G1**	74.0	823	7.34	87	62.0	873	7.48	87	49.0	945	5.58	87	•		•	•	•		•	
33.85	**P1**	52.0	817	4.84	92	43.0	817	4.00	92	34.0	816	3.17	92	•	•	•	•	•	•	•	
30.90 ★	**M1**	57.0	817	5.31	92	47.0	817	4.38	92	37.0	817	3.44	92	•	•	•	•	•	•	•	
28.36	**L1**	62.0	815	5.76	92	51.0	815	4.74	92	41.0	815	3.81	92	•	•	•	•	•	•	•	
26.13 ★	**J1**	67.0	815	6.22	92	56.0	815	5.20	92	44.0	815	4.09	92	•	•	•	•	•	•	•	
23.73	**H1**	74.0	763	6.43	92	61.0	763	5.30	92	48.0	763	4.17	92	•	•	•	•	•	•	•	
21.61 ★	**F1**	81.0	814	7.51	92	67.0	814	6.21	92	53.0	814	4.92	92	•	•	•	•	•	•	•	
19.80	**E1**	88.0	802	8.05	92	73.0	802	6.67	92	58.0	802	5.30	92	•	•	•	•	•	•	•	
17.67 ★	**D1**	99.0	795	8.97	92	82.0	795	7.43	92	65.0	795	5.89	92	•	•	•	•	•	•	•	
15.77	**C1**	111.0	776	9.81	92	92.0	781	8.19	92	73.0	781	6.50	92	•		•	•	•	•	•	
13.39	**B1**	131.0	727	10.86	92	108.0	776	9.55	92	86.0	806	7.90	92	•		•	•	•	•	•	
11.15 ★	**A1**	157.0	656	11.00	92	130.0	681	10.09	92	103.0	681	7.99	92	•		•	•	•	•	•	

★ Preferred transmission ratio
In the case of gearboxes of size 18 or 28, only possible with integrated motor or input unit KQ and KQS.

Selection and ordering data (continued)

Efficiency table C.88

Transmission ratio		Ratio code	Output speed n_{mot} = 950 rpm				Output speed n_{mot} = 850 rpm				Output speed n_{mot} = 700 rpm				Size for motor and input units							
i_{tot}		Order No. 15th and 16th position	n_2 rpm	T_2 Nm	P_{mot} kW	h %	n_2 rpm	T_2 Nm	P_{mot} kW	h %	n_2 rpm	T_2 Nm	P_{mot} kW	h %	63	71	80	90	100	112	132	160
440.70		**T2**	2.2	1 555	0.55	65	1.9	1 524	0.48	64	1.6	1 471	0.40	62	•	•	•					
390.00	★	**S2**	2.4	1 590	0.60	67	2.2	1 590	0.56	65	1.8	1 590	0.48	63	•	•	•	•				
354.55		**R2**	2.7	1 590	0.67	68	2.4	1 590	0.60	66	2.0	1 590	0.52	64	•	•	•	•				
318.50	★	**Q2**	3.0	1 590	0.73	69	2.7	1 590	0.67	68	2.2	1 590	0.56	65	•	•	•	•				
273.00		**P2**	3.5	1 590	0.83	70	3.1	1 590	0.75	69	2.6	1 590	0.65	67	•	•	•	•	•			
247.00	★	**N2**	3.8	1 590	0.89	71	3.4	1 590	0.81	70	2.8	1 590	0.68	68	•	•	•	•	•	•		
228.00		**M2**	4.2	1 559	0.96	72	3.7	1 590	0.87	71	3.1	1 590	0.75	69	•	•	•	•	•	•	•	
198.25	★	**L2**	4.8	1 506	1.04	73	4.3	1 547	0.97	72	3.5	1 590	0.83	70	•	•	•	•	•	•	•	
180.00		**K2**	5.3	1 466	1.11	73	4.7	1 513	1.03	73	3.9	1 581	0.91	71	•	•	•	•	•	•	•	
164.36	★	**J2**	5.8	1 428	1.18	73	5.2	1 471	1.10	73	4.3	1 543	0.97	72	•	•	•	•	•	•	•	
150.80		**H2**	6.3	1 392	1.24	74	5.6	1 441	1.15	73	4.6	1 518	1.01	72	•	•	•	•	•	•	•	
138.94	★	**G2**	6.8	1 359	1.31	74	6.1	1 404	1.22	74	5.0	1 484	1.07	73	•	•	•	•	•	•	•	
126.18		**F2**	7.5	1 317	1.39	74	6.7	1 363	1.29	74	5.5	1 444	1.13	73	•	•	•	•	•	•	•	
114.95	★	**E2**	8.3	1 271	1.49	74	7.4	1 318	1.38	74	6.1	1 397	1.21	74	•	•	•	•	•			
108.50		**D2**	8.8	1 321	1.44	85	7.8	1 311	1.28	84	6.5	1 290	1.06	83	•	•	•	•	•	•		
98.17	★	**C2**	9.7	1 403	1.68	85	8.7	1 394	1.50	85	7.1	1 373	1.23	83	•	•	•	•	•	•		
90.62		**B2**	10.5	1 239	1.59	85	9.4	1 231	1.43	85	7.7	1 215	1.17	84	•	•	•	•	•	•	•	
78.79	★	**A2**	12.1	1 354	2.00	86	10.8	1 348	1.78	86	8.9	1 334	1.47	85	•	•	•	•	•	•	•	
71.54		**X1**	13.3	1 295	2.09	86	11.9	1 290	1.87	86	9.8	1 279	1.54	85	•	•	•	•	•	•	•	
65.32	★	**W1**	14.5	1 420	2.50	86	13.0	1 469	2.32	86	10.7	1 556	2.04	86	•	•	•	•	•	•	•	
59.93		**V1**	15.9	1 379	2.65	87	14.2	1 429	2.46	86	11.7	1 515	2.16	86	•	•	•	•	•	•	•	
55.22	★	**U1**	17.2	1 344	2.79	87	15.4	1 392	2.60	87	12.7	1 431	2.21	86	•	•	•	•	•	•	•	
50.15		**T1**	18.9	1 304	2.98	87	17.0	1 349	2.77	87	14.0	1 434	2.44	86	•	•	•	•	•	•	•	
45.68	★	**S1**	21.0	1 256	3.18	87	18.6	1 307	2.93	87	15.3	1 391	2.58	87	•	•	•	•	•	•	•	
41.85		**R1**	23.0	1 221	3.39	87	20.0	1 279	3.09	87	16.7	1 355	2.74	87	•	•	•	•	•	•	•	
37.34	★	**Q1**	25.0	1 189	3.58	87	23.0	1 222	3.39	87	18.7	1 308	2.95	87	•	•	•	•	•	•	•	
33.33		**N1**	29.0	1 136	3.97	87	26.0	1 178	3.69	87	21.0	1 264	3.20	87	•		•	•	•	•	•	
28.30		**K1**	34.0	1 079	4.42	87	30.0	1 125	4.07	87	25.0	1 195	3.60	87	•		•	•	•	•	•	
23.56	★	**G1**	40.0	1 011	4.87	87	36.0,	1 047	4.54	87	30.0	1 112	4.02	87	•		•	•	•		•	
33.85		**P1**	28.0	815	2.61	92	25.0	814	2.33	92	21.0	812	1.96	91	•	•	•	•	•	•	•	
30.90	★	**M1**	31.0	816	2.89	92	28.0	815	2.61	92	23.0	813	2.14	91	•	•	•	•	•	•	•	
28.36		**L1**	34.0	814	3.16	92	30.0	814	2.79	92	25.0	812	2.32	92	•	•	•	•	•	•	•	
26.13	★	**J1**	36.0	814	3.34	92	33.0	814	3.06	92	27.0	813	2.51	92	•	•	•	•	•	•	•	
23.73		**H1**	40.0	763	3.48	92	36.0	762	3.13	92	30.0	762	2.61	92	•	•	•	•	•	•	•	
21.61	★	**F1**	44.0	814	4.08	92	39.0	813	3.62	92	32.0	813	2.97	92	•	•	•	•	•	•	•	
19.80		**E1**	48.0	802	4.39	92	43.0	802	3.93	92	35.0	802	3.20	92	•	•	•	•	•	•	•	
17.67	★	**D1**	54.0	795	4.89	92	48.0	795	4.35	92	40.0	795	3.63	92	•	•	•	•	•	•	•	
15.77		**C1**	60.0	781	5.34	92	54.0	781	4.81	92	44.0	781	3.92	92	•		•	•	•	•	•	
13.39		**B1**	71.0	806	6.53	92	63.0	806	5.79	92	52.0	806	4.78	92	•		•	•	•	•	•	
11.15	★	**A1**	85.0	681	6.60	92	76.0	681	5.90	92	63.0	681	4.89	92	•		•	•	•	•	•	

★ Preferred transmission ratio
In the case of gearboxes of size 18 or 28, only possible with integrated motor or input unit KQ and KQS.

Transmission ratios and maximum torques

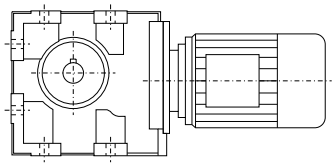
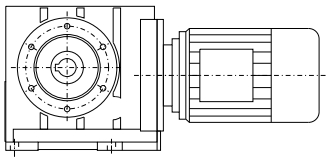
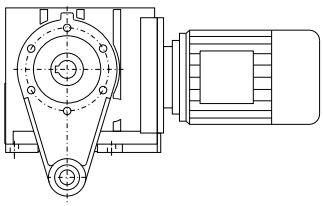
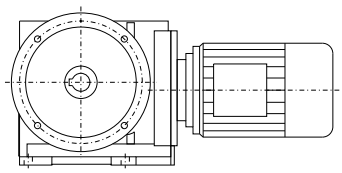
Selection and ordering data (continued)

Efficiency table C.88

Transmission ratio	Ratio code	Output speed n_{mot} = 500 rpm				Output speed n_{mot} = 250 rpm				Output speed n_{mot} = 10 rpm				Size for motor and input units							
i_{tot}	Order No. 15th and 16th position	n_2 rpm	T_2 Nm	P_{mot} kW	h %	n_2 rpm	T_2 Nm	P_{mot} kW	h %	n_2 rpm	T_2 Nm	P_{mot} kW	h %	63	71	80	90	100	112	132	160
440.70	**T2**	1.1	1 387	0.28	58	0.57	1 262	0.14	53	0.023	1 121	<0.05	47	•	•	•					
390.00 ★	**S2**	1.3	1 590	0.37	59	0.64	1 590	0.20	54	0.026	1 450	<0.05	47	•	•	•	•				
354.55	**R2**	1.4	1 590	0.39	60	0.71	1 590	0.22	54	0.028	1 590	<0.05	47	•	•	•	•				
318.50 ★	**Q2**	1.6	1 590	0.43	61	0.78	1 590	0.24	55	0.031	1 459	<0.05	47	•	•	•	•				
273.00	**P2**	1.8	1 590	0.47	63	0.92	1 590	0.27	56	0.037	1 440	<0.05	47	•	•	•	•	•			
247.00 ★	**N2**	2.0	1 590	0.52	64	1.0	1 590	0.29	57	0.040	1 590	<0.05	47	•	•	•	•	•	•		
228.00	**M2**	2.2	1 590	0.56	65	1.1	1 590	0.32	58	0.044	1 506	<0.05	47	•	•	•	•	•	•	•	
198.25 ★	**L2**	2.5	1 590	0.62	67	1.3	1 590	0.37	59	0.05	1 590	<0.05	47	•	•	•	•	•	•	•	
180.00	**K2**	2.8	1 590	0.69	68	1.4	1 590	0.39	60	0.056	1 590	<0.05	47	•	•	•	•	•	•	•	
164.36 ★	**J2**	3.0	1 590	0.72	69	1.5	1 590	0.41	61	0.061	1 590	<0.05	47	•	•	•	•	•	•	•	
150.80	**H2**	3.3	1 590	0.79	70	1.7	1 590	0.46	62	0.066	1 590	<0.05	47	•	•	•	•	•	•	•	
138.94 ★	**G2**	3.6	1 590	0.85	71	1.8	1 590	0.48	63	0.072	1 590	<0.05	47	•	•	•	•	•	•	•	
126.18	**F2**	4.0	1 562	0.92	71	2.0	1 590	0.52	64	0.079	1 590	<0.05	48	•	•	•	•	•	•	•	
114.95 ★	**E2**	4.3	1 535	0.96	72	2.2	1 590	0.56	65	0.087	1590	<0.05	48	•	•	•	•	•			
108.50	**D2**	4.6	1 248	0.75	80	2.3	1 162	0.38	74	0.092	1 034	<0.05	66	•	•	•	•	•	•		
98.17 ★	**C2**	5.1	1 331	0.88	81	2.5	1 239	0.43	75	0.10	1 092	<0.05	66	•	•	•	•	•	•		
90.62	**B2**	5.5	1 179	0.83	81	2.8	1 097	0.43	76	0.11	961	<0.05	66	•	•	•	•	•	•	•	
78.79 ★	**A2**	6.3	1 299	1.04	82	3.2	1 210	0.53	77	0.13	1 045	<0.05	66	•	•	•	•	•	•	•	
71.54	**X1**	7.0	1 249	1.1	83	3.5	1 165	0.55	78	0.14	997	<0.05	66	•	•	•	•	•	•	•	
65.32 ★	**W1**	7.7	1 532	1.47	84	3.8	1 432	0.73	78	0.15	1 215	<0.05	66	•	•	•	•	•	•	•	
59.93	**V1**	8.3	1 580	1.63	84	4.2	1 481	0.82	79	0.17	1 247	<0.05	67	•	•	•	•	•	•	•	
55.22 ★	**U1**	9.1	1 409	1.58	85	4.5	1 325	0.78	80	0.18	1 106	<0.05	67	•	•	•	•	•	•	•	
50.15	**T1**	10.0	1 496	1.84	85	5.0	1 413	0.92	81	0.20	1 170	<0.05	67	•	•	•	•	•	•	•	
45.68 ★	**S1**	10.9	1 541	2.05	86	5.5	1 522	1.08	81	0.22	1 249	<0.05	67	•	•	•	•	•	•	•	
41.85	**R1**	11.9	1 505	2.18	86	6.0	1 513	1.16	82	0.24	1 233	<0.05	67	•	•	•	•	•	•	•	
37.34 ★	**Q1**	13.4	1 454	2.37	86	6.7	1 516	1.28	83	0.27	1 225	0.05	67	•	•	•	•	•	•	•	
33.33	**N1**	15.0	1 409	2.56	86	7.5	1 502	1.41	84	0.30	1 205	0.06	67	•		•	•	•	•	•	
28.30	**K1**	17.7	1 339	2.86	87	8.8	1 570	1.71	85	0.35	1 249	0.07	67	•		•	•	•	•	•	
23.56 ★	**G1**	21.0	1 252	3.17	87	10.6	1 339	1.74	85	0.42	1 059	0.07	68	•		•	•	•		•	
33.85	**P1**	14.8	803	1.38	90	7.4	772	0.69	87	0.30	688	<0.05	77	•	•	•	•	•	•	•	
30.90 ★	**M1**	16.2	806	1.51	91	8.1	777	0.75	87	0.32	688	<0.05	77	•	•	•	•	•	•	•	
28.36	**L1**	17.6	806	1.63	91	8.8	779	0.82	88	0.35	687	<0.05	77	•	•	•	•	•	•	•	
26.13 ★	**J1**	19.1	808	1.77	91	9.6	783	0.89	88	0.38	688	<0.05	78	•	•	•	•	•	•	•	
23.73	**H1**	21.0	758	1.83	91	10.5	738	0.91	89	0.42	644	<0.05	78	•	•	•	•	•	•	•	
21.61 ★	**F1**	23.0	810	2.13	91	11.6	791	1.08	89	0.46	688	<0.05	78	•	•	•	•	•	•	•	
19.80	**E1**	25.0	800	2.29	92	12.6	783	1.15	90	0.51	679	<0.05	78	•	•	•	•	•	•	•	
17.67 ★	**D1**	28.0	794	2.54	92	14.2	781	1.29	90	0.57	674	0.05	78	•	•	•	•	•	•	•	
15.77	**C1**	32.0	780	2.85	92	15.9	770	1.41	91	0.63	663	0.06	78	•		•	•	•	•	•	
13.39	**B1**	37.0	806	3.4	92	18.7	799	1.72	91	0.75	687	0.07	78	•		•	•	•	•	•	
11.15 ★	**A1**	45.0	681	3.49	92	22.0	678	1.71	91	0.90	582	0.07	79	•		•	•	•	•	•	

★ Preferred transmission ratio
In the case of gearboxes of size 18 or 28, only possible with integrated motor or input unit KQ and KQS.

Selection and ordering data

Mounting type	Order No. 14th position	Code in type designation 2nd position for solid shaft, 3rd 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	

Selection and ordering data (continued)

Helical worm gearbox with torque arm

The torque arm consists of an arm with an eye; it can be screwed onto the gearbox housing at an angular pitch of 30° in any one of nine positions around the output.

The basic material of the torque arm is natural rubber with 60° Shore A, so it is suitable for all mounting positions and can withstand temperatures of between –45 °C and +70 °C.

See the dimension drawings in the Dimensions section for the torque arm dimensions.

If **D** appears in the **14th position** of the order number, the torque arm will be delivered loose.

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

Order code:
Figure 1 **G09**
Figure 2 **G10**

Figure 1

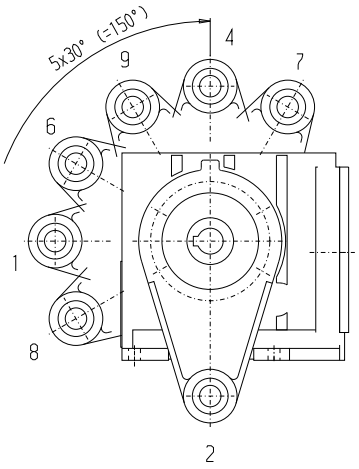
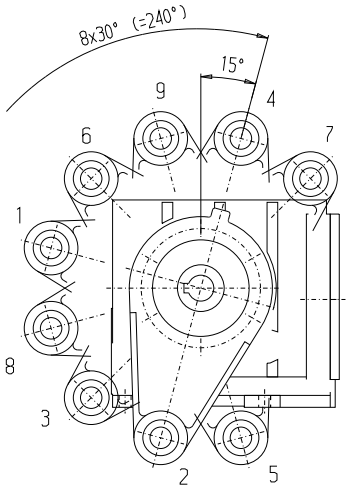


Figure 2



Selection and ordering data

Shaft design	Order No. 8th position	Order No. suffix	Shaft dimensions				
Helical worm gearbox C, foot-mounted design							
Size			**C.28**	**C.38**	**C.48**	**C.68**	**C.88**
Solid shaft with feather key	**1**		V20 x 40 *)	V25 x 50 *)	V30 x 60 *)	V35 x 70 *)	V45 x 90 *)
	3			V35 x 70	V40 x 80	V40 x 80	V50 x 100
	4					V50 x 100	V70 x 140
Hollow shaft	**5**		H20 x 120 *)	H25 x 120 *)	H30 x 150 *)	H40 x 180 *)	H50 x 210 *)
	6		H25 x 120	H30 x 120	H35 x 150	H45 x 180	H60 x 210
	7				H40 x 150		
Hollow shaft with shrink disk	**9**	**H3A**	H20 x 142 *)	H30 x 146 *)	H40 x 177	H50 x 209	H60 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**		N35x1.25x30x26x 9Hx 120	N40x2x30x18x 9H x 150	N50x2x30x24x 9H x 180	N60x2x30x28x 9H x 210
Helical worm gearbox C with housing flange							
Size			**C.28**	**C.38**	**C.48**	**C.68**	**C.88**
Solid shaft with feather key	**1**		V20 x 40 *)	V25 x 50 *)	V30 x 60 *)	V35 x 70 *)	V45 x 90 *)
	3			V35 x 70	V40 x 80	V40 x 80	V50 x 100
	4					V50 x 100	V70 x 140
Hollow shaft	**5**		H20 x 120 *)	H25 x 120 *)	H30 x 150 *)	H40 x 180 *)	H50 x 210 *)
	6		H25 x 120	H30 x 120	H35 x 150	H45 x 180	H60 x 210
	7				H40 x 150		
Hollow shaft with shrink disk	**9**	**H3A**	H20 x 142 *)	H30 x 146 *)	H40 x 177	H50 x 209	H60 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**		N35x1.25x30x26x 9Hx 120	N40x2x30x18x 9H x 150	N50x2x30x24x 9H x 180	N60x2x30x28x 9H x 210
Helical worm gearbox C with torque arm							
Size			**C.28**	**C.38**	**C.48**	**C.68**	**C.88**
Hollow shaft	**5**		H20 x 120 *)	H25 x 120 *)	H30 x 150 *)	H40 x 180 *)	H50 x 210 *)
	6		H25 x 120	H30 x 120	H35 x 150	H45 x 180	H60 x 210
	7				H40 x 150		
Hollow shaft with shrink disk	**9**	**H3A**	H20 x 142 *)	H30 x 146 *)	H40 x 177	H50 x 209	H60 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**		N35x1.25x30x26x 9Hx 120	N40x2x30x18x 9H x 150	N50x2x30x24x 9H x 180	N60x2x30x28x 9H x 210
Helical worm gearbox C, flange-mounted design (A-type)							
Size			**C.28**	**C.38**	**C.48**	**C.68**	**C.88**
Solid shaft with feather key	**2**		V20 x 40 (i2=I) *)	V25 x 50 (i2=I) *)	V30 x 60 (i2=I) *)	V35 x 70 (i2=I) *)	V45 x 90 (i2=I) *)
	7					V40 x 80 (i2=I)	V50 x 100 (i2=I)
Hollow shaft	**5**		H20 x 120 *)	H25 x 120 *)	H30 x 150 *)	H40 x 180 *)	H50 x 210 *)
	6		H25 x 120	H30 x 120	H35 x 150	H45 x 180	H60 x 210
	7				H40 x 150		
Hollow shaft with shrink disk	**9**	**H3A**	H20 x 142 *)	H30 x 146 *)	H40 x 177	H50 x 209	H60 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**		N35x1.25x30x26x 9Hx 120	N40x2x30x18x 9H x 150	N50x2x30x24x 9H x 180	N60x2x30x28x 9H x 210

*) Preferred series

Flange-mounted designs (A-type)

Selection and ordering data

Order code	Flange diameter				
Size	**C.28**	**C.38**	**C.48**	**C.68**	**C.88**
H02		160		200	250
H03	120		200		300
H04	160			250	
H05					

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.

Helical worm gearbox C, foot-mounted design

Oil control valves:

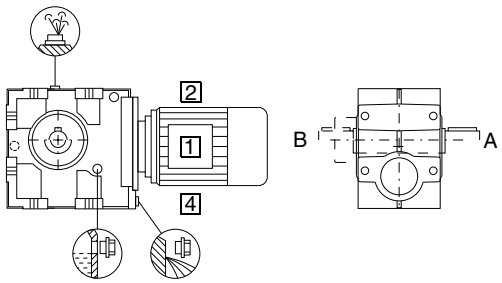
- Size 28: These types are lubricated for life. No ventilation, oil level, or drain plugs are present.
- From size 38 up: Oil level Ventilation Oil drain * On opposite side

A,B position of the customer's solid/plug-in shaft

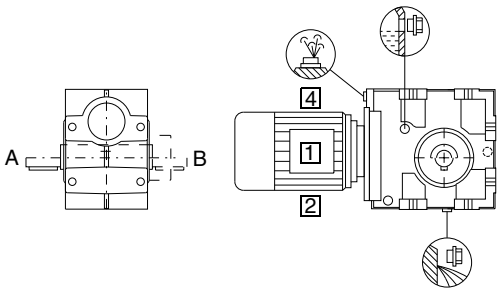
1 ... 4 Position of the terminal box, see Chapter 8

1) Standard mounting type

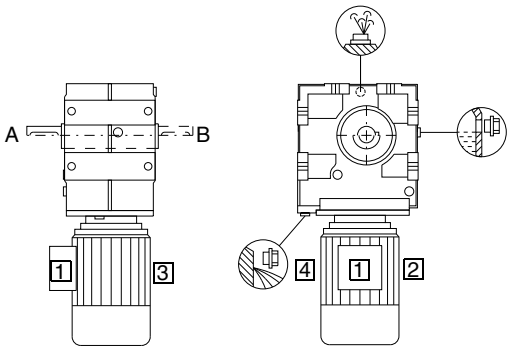
C: B3-00 (IM B3-00) 1)
Order code: Output side A **D06**, output side B **D08**
CA: H-01 1)
Order code: Output side A **D76**, output side B **D77**



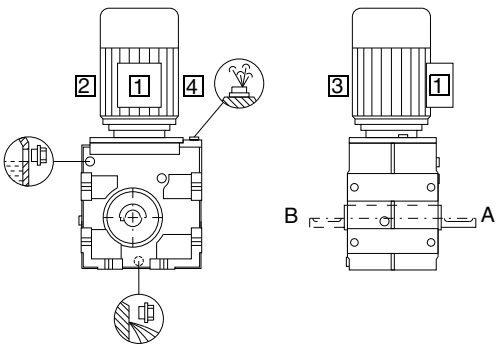
C: B8-00 (IM B8-00)
Order code: Output side A **D68**, output side B **D70**
CA: H-02
Order code: Output side A **D78**, output side B **D79**



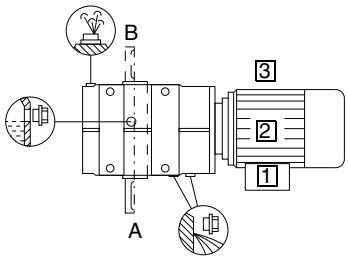
C: B6-00 (IM B6-00)
Order code: Output side A **D38**, output side B **D40**
CA: H-04
Order code: Output side A **D82**, output side B **D83**



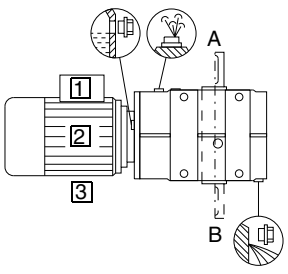
C: B7-00 (IM B7-00)
Order code: Output side A **D59**, output side B **D61**
CA: H-03
Order code: Output side A **D80**, output side B **D81**



C: V5-00 (IM V5-00)
Order code: Output side A **E03**, output side B **E05**
CA: H-05
Order code: Output side A **D84**, output side B **D85**



C: V6-00 (IM V6-00)
Order code: Output side A **E15**, output side B **E17**
CA: H-06
Order code: Output side A **D86**, output side B **D87**



5

Mounting types and mounting positions

Selection and ordering data (continued)

Helical worm gearbox C, flange-mounted design (C.F), with housing flange (C.Z) or torque arm (C.D)

Oil control valves:

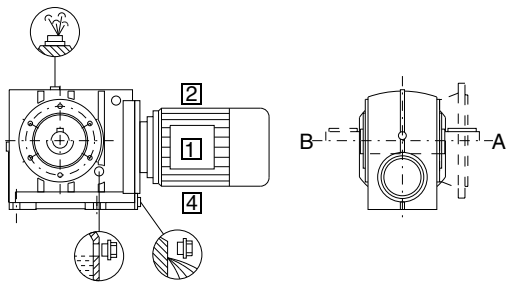
- Size 28: These types are lubricated for life. No ventilation, oil level, or drain plugs are present.
- From size 38 up: Oil level Ventilation Oil drain * On opposite side

A,B position of the customer's solid/plug-in shaft

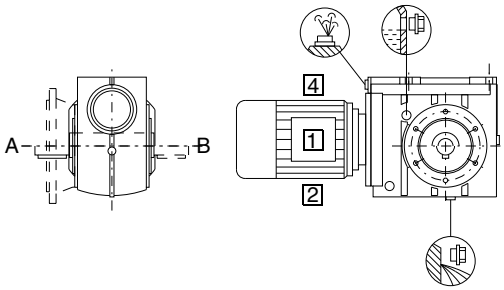
1 ... 4 Position of the terminal box, see Chapter 8

1) Standard mounting type

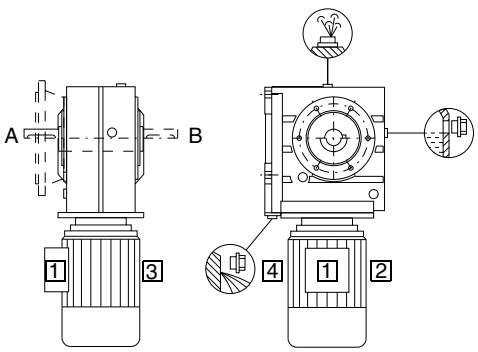
CF: B5-01 (IM B5-01) 1)
Order code: Output side A **D22**, output side B **D24**
CAD, CAF, CAZ: H-01 1)
Order code: Output side A **D76**, output side B **D77**



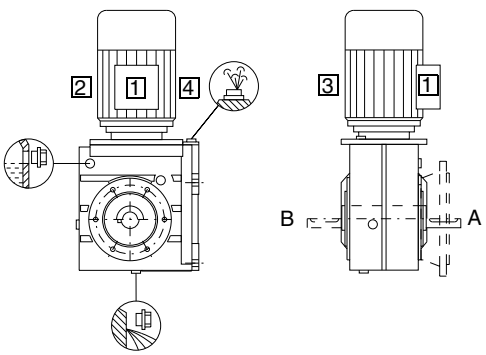
CF: B5-03 (IM B5-03)
Order code: Output side A **D32**, output side B **D34**
CAD, CAF, CAZ: H-02
Order code: Output side A **D78**, output side B **D79**



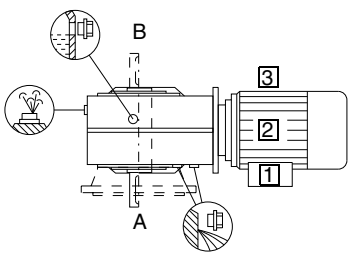
CF: B5-00 (IM B5-00)
Order code: Output side A **D18**, output side B **D20**
CAD, CAF, CAZ: H-04
Order code: Output side A **D82**, output side B **D83**



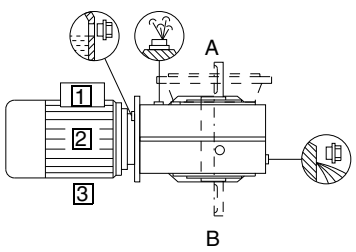
CF: B5-02 (IM B5-02)
Order code: Output side A **D68**, output side B **D29**
CAD, CAF, CAZ: H-03
Order code: Output side A **D80**, output side B **D81**



CF: V1-00 (IM V1-00)
Order code: Output side A **D90**, output side B **D92**
CAD, CAF, CAZ: H-05
Order code: Output side A **D84**, output side B **D85**



CF: V3-00 (IM V3-00)
Order code: Output side A **D98**, output side B **E00**
CAD, CAF, CAZ: H-06
Order code: Output side A **D86**, output side B **D87**



Selection and ordering data (continued)

Helical worm tandem gearbox

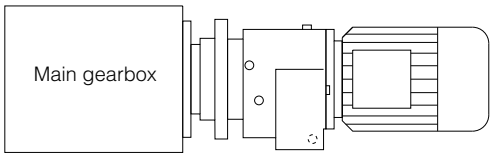
The mounting type / mounting position of the tandem gearbox corresponds to that of the main gearbox.
The figures below are only designed to show the position of the oil control valves of the 2nd gearbox.

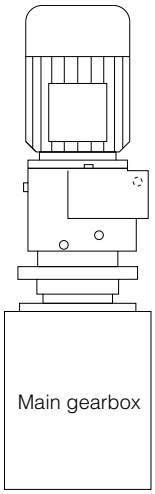
Note:

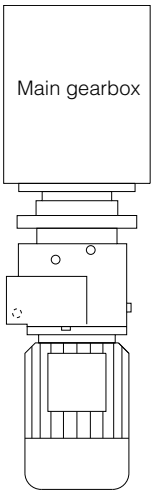
In a horizontal operating position the bulging part of the housing of the 2nd gearbox generally faces vertically downwards.

Oil control valves:

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







Special versions

Lubricants

Helical worm gearbox C is always filled with synthetic lubricant prior to despatch and is supplied ready for use. The rating plate contains information about the appropriate type of oil (PGLP) and ISO viscosity class.

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 [1]			DIN ISO designation	Order code
Standard oils					
Standard temperature	0	…	+60 °C	CLP ISO PG VG460	**K08**
Low temperature usage	-20	…	+50 °C	CLP ISO PG VG220	**K07**
Lowest temperature usage	-40	…	+40 °C	CLP ISO PAO VG220	[2]
Physiologically safe oils (for use in the food industry) in acc. with NSF(USDA)-H1					
Standard temperature	-30	…	+40 °C	CLP ISO H1 VG460	**K11**
Biologically degradable oils					
Standard temperature	-20	…	+40 °C	CLP ISO E VG220	**K10**

1) Recommendation
2) 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.

Gearboxes of sizes 38 to 88 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.

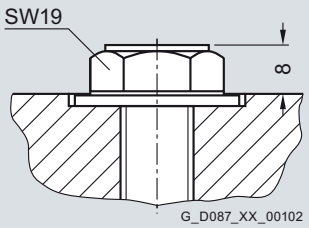
5

Oil level control

Oil sight glass

For size 38 and above, helical worm gearbox C 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**



SW = Wrench width

Gearbox	Size
Helical worm gearbox	C.38 … C.88

Electrical oil level monitoring system

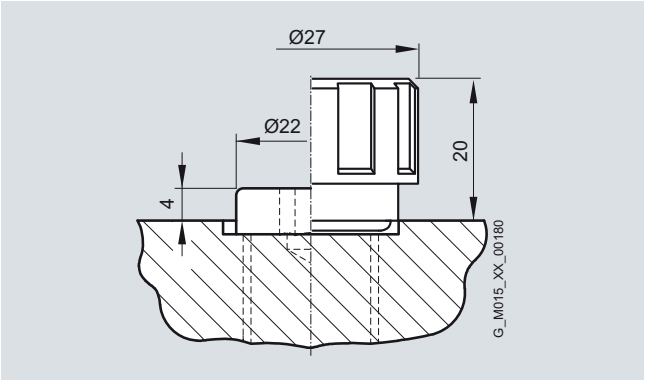
If required, the gearbox can be supplied with an electrical oil level monitoring system, which enables the oil level of the gearbox to be monitored remotely. The oil level is monitored by a capacitive sensor only when the gearbox starts up; it is not measured continuously during operation.

Gearbox ventilation

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

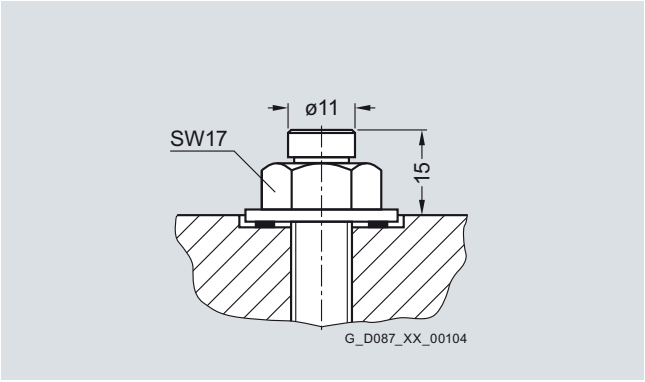
If required, a pressure ventilation valve can be used for helical worm gearbox C, size 38 and above.

Vent filter



Order code:
Vent filter **G44**

Pressure ventilation valve



SW = Wrench width

Order code:
Pressure ventilation valve **G45**

Oil drain

Magnetic oil drain plug

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

Order code:
Magnetic oil drain plug **G53**

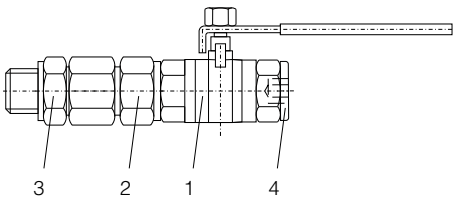
Oil drain valve

An oil drain valve is available for helical worm gearboxes of size 48 and above.

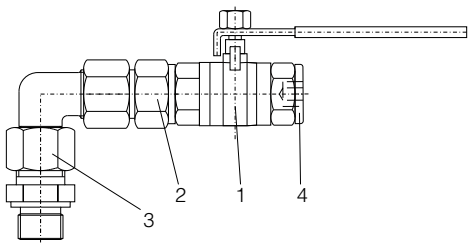
The oil drain valve may be designed as a complete unit featuring a screw plug, depending on the corresponding mounting position.

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



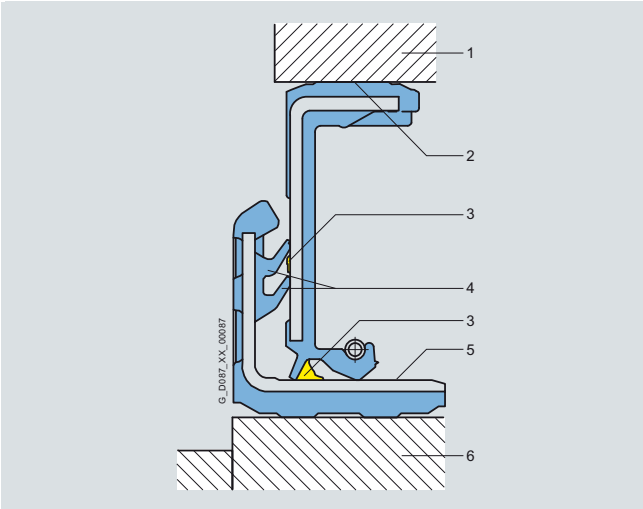
Item 1 Oil drain valve
Item 2 Screwed connection EGE
Item 3 Screwed connection GE
Item 4 Screw plug

Special versions

Sealing

Combination shaft sealing

A combination shaft sealing, which helps to prevent oil from leaking, is available for helical worm gearboxes of sizes 38 to 88.



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 helical worm gearboxes of size 28. Double sealing is particularly well suited to external use.

Order code:
Double sealing MSS1 (size 28) **G23**

High temperature resistant sealing

High temperature resistant sealing (Viton/fluorinated rubber) for higher operating temperatures of +60 °C and above are available for helical worm gearboxes.

Order code:
High temperature resistant sealing **G25**

Hollow shaft cover (protection cover)

Gearboxes with hollow shafts 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.

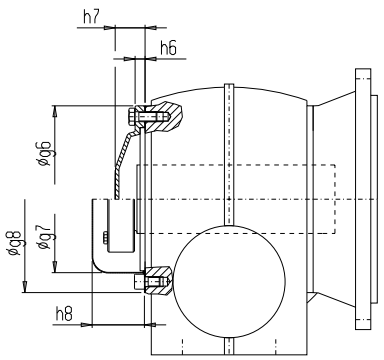
For outdoor applications we recommend the ATEX versions.

Order codes:

Protection cover	**G62**
Protection cover (ATEX)	**G63**
Steel protection cover	**G60**
Steel protection cover (ATEX)	**G61**

Protection cover

Protection cover Steel



Gearbox type	Steel protection cover			Protection cover		
	g7	g8	h8	g6	h6	h7
C.28	58.0	102	36.0	–	–	–
C.38	82.2	115	40.0	120	10	33
C.48	99.0	130	44.0	132	10	33
C.68	115.0	150	62.5	150	10	37
C.88	137.0	190	70.0	190	13	50

CAF, CAZ, CAD, CAFS[1)], CAZS[1)], CADS[1)], CAFT, CAZT, CADT

1) Only a steel protection cover is available for CAFS, CAZS, and CADS

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 radially reinforced output shaft bearing arrangement for applications with particularly high radial forces.

Order code:
Radially reinforced output shaft bearings **G20**

2nd output shaft extension

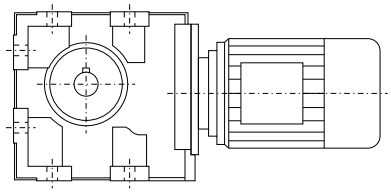
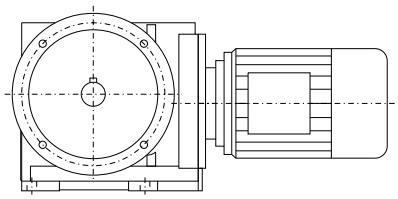
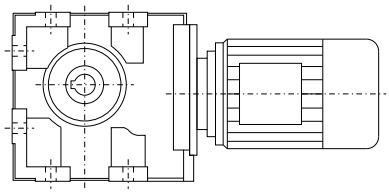
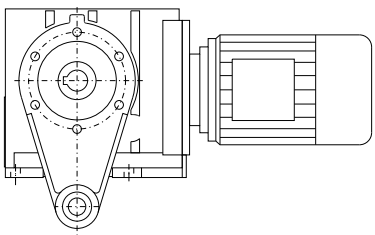
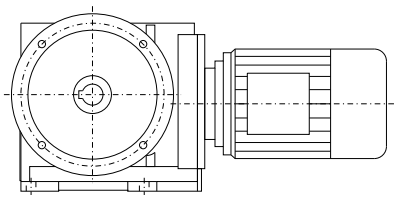
If required, helical worms in a foot-mounted design with solid shaft are available with a 2nd shaft extension.

See the dimension drawings for the corresponding design for the relevant dimensions.

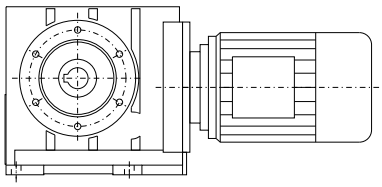
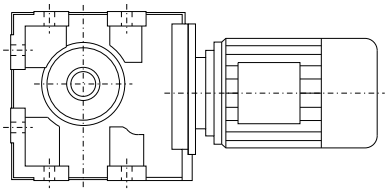
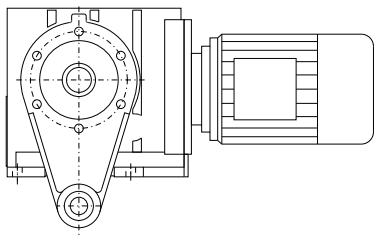
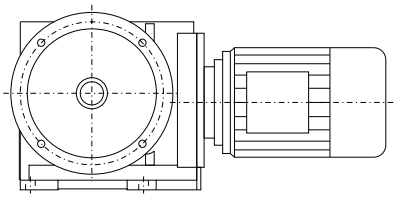
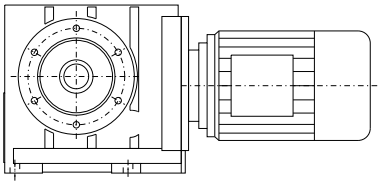
Order code:
2nd output shaft extension **G73**

Dimensions

Dimension drawing overview

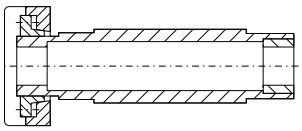
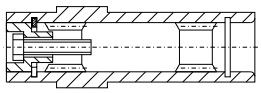
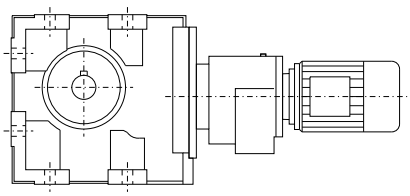
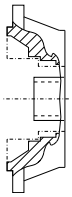
Representation	Gearbox type	Dimension drawing on page
	C28 / CZ28	5/57
	C38	5/65
	C48	5/75
	C68	5/85
	C88	5/95
	CF28	5/58
	CF38	5/66
	CF48	5/76
	CF68	5/86
	CF88	5/96
	CA28 / CAZ28	5/59
	CA38	5/67
	CA48	5/77
	CA68	5/87
	CA88	5/97
	CAD28	5/60
	CAD38	5/68
	CAD48	5/78
	CAD68	5/88
	CAD88	5/98
	CAF28	5/61
	CAF38	5/69
	CAF48	5/79
	CAF68	5/89
	CAF88	5/99

Dimension drawing overview (continued)

Representation	Gearbox type	Dimension drawing on page
	CAZ38	5/70
	CAZ48	5/80
	CAZ68	5/90
	CAZ88	5/100
	CAS28 / CAZS28	5/62
	CAS38	5/71
	CAS48	5/81
	CAS68	5/91
	CAS88	5/101
	CADS28	5/63
	CADS38	5/72
	CADS48	5/82
	CADS68	5/92
	CADS88	5/102
	CAFS28	5/64
	CAFS38	5/73
	CAFS48	5/83
	CAFS68	5/93
	CAFS88	5/103
	CAZS38	5/74
	CAZS48	5/84
	CAZS68	5/94
	CAZS88	5/104

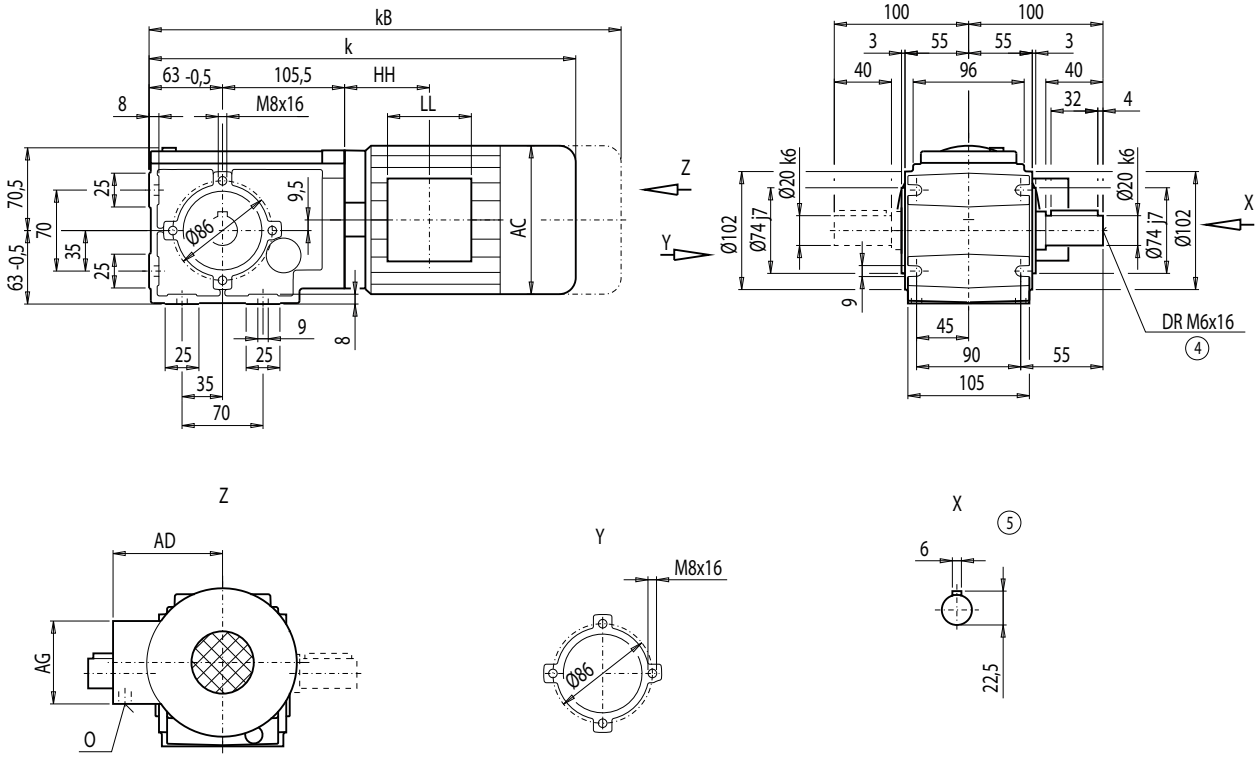
Dimensions

Dimension drawing overview (continued)

Representation	Gearbox type	Dimension drawing on page
	CA.S38 ... CA.S88	5/105
	CA.T38 ... CA.T88	5/106
	C.38-Z28 ... C.88-D/Z38	5/107
	Additional flange-mounted design	5/108

Gearbox C/CZ28, foot- and housing-flange-mounted designs (C-type)

C012
CZ012



Motor	C.28 k	kB	AC	AD	AG	LL	HH	O	Weight C.28
LA71	353	408	139	146	90	90	40.5	M20x1.5/M25x1.5	10
LA71Z	372	427	139	146	90	90	40.5	M20x1.5/M25x1.5	11

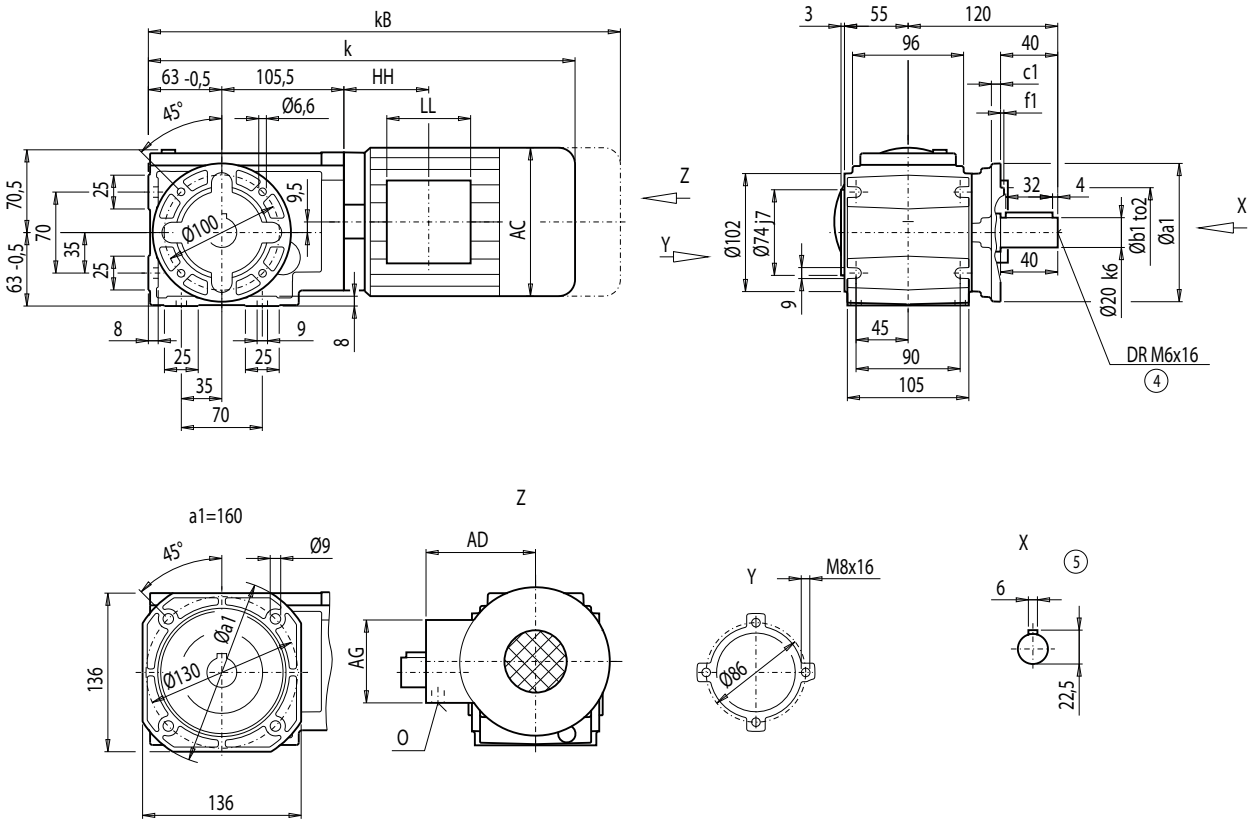
④ DIN 332

⑤ Feather key / keyway DIN 6885

Dimensions

Gearbox CF28, flange-mounted design (A-type)

CF012



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

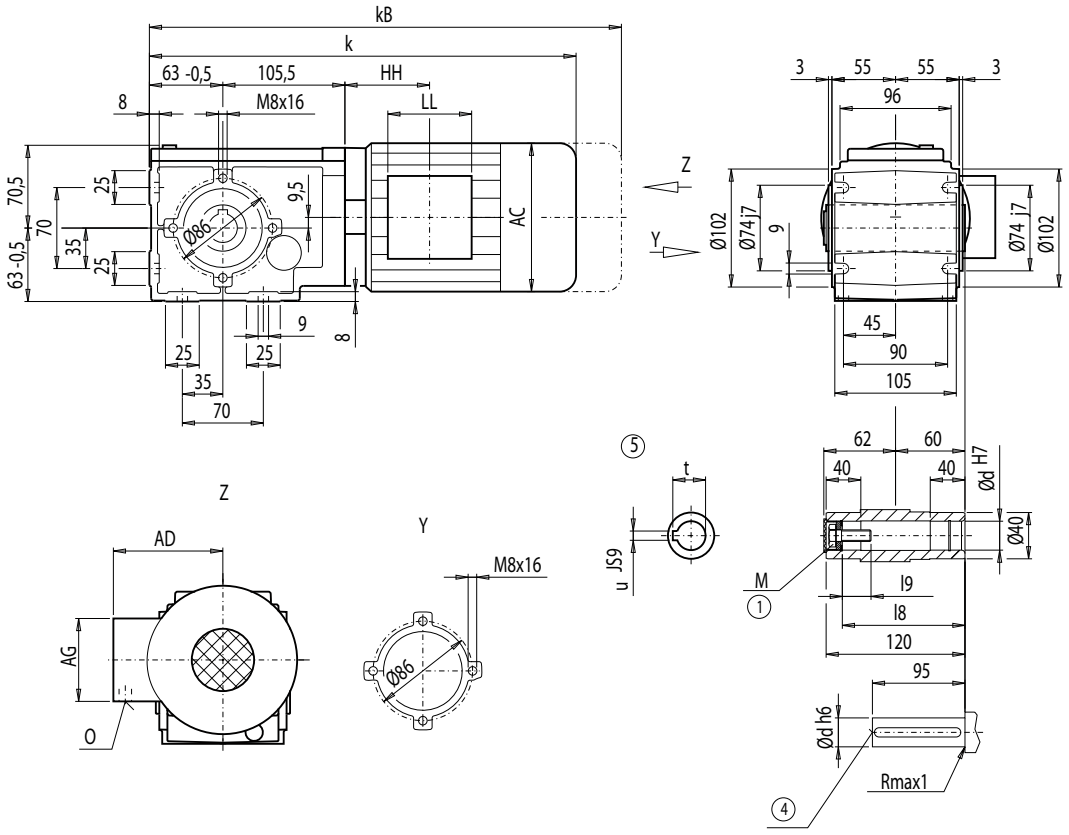
Motor	CF28 k	kB	AC	AD	AG	LL	HH	O	Weight CF28
LA71	353	408	139	146	90	90	40.5	M20x1.5/M25x1.5	12
LA71Z	372	427	139	146	90	90	40.5	M20x1.5/M25x1.5	12

④ DIN 332

⑤ Feather key / keyway DIN 6885

Gearbox CA/CAZ28, housing-flange-mounted design (C-type)

CA012
CAZ012



d	l9	l8	M	t	u
20 *)	23.4	106	M6	22.8	6
25	27.6	105	M10	28.3	8

*) Preferred series

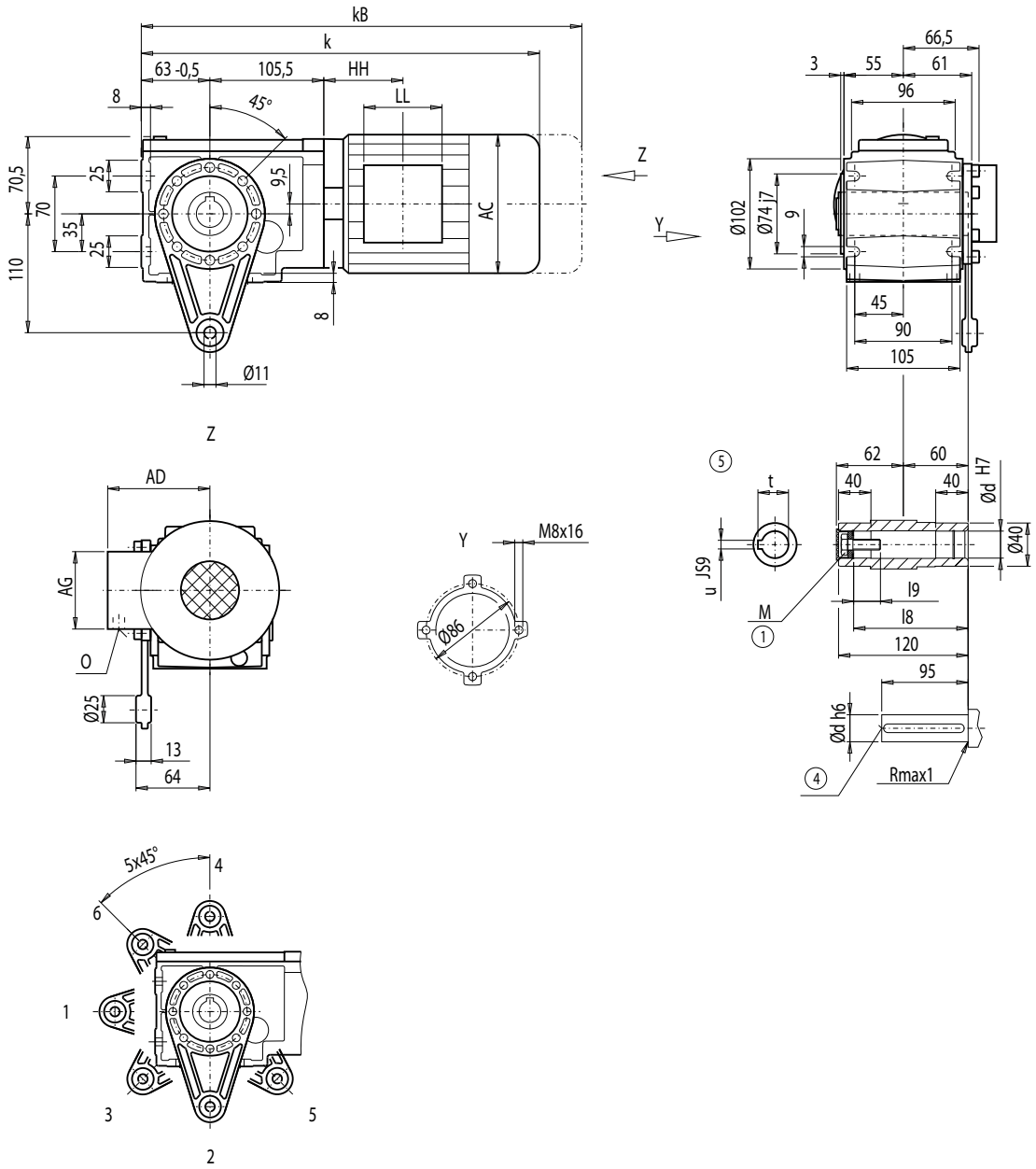
Motor	CA.28 k	kB	AC	AD	AG	LL	HH	O	Weight CA.28
LA71	353	408	139	146	90	90	40.5	M20x1.5/M25x1.5	9
LA71Z	372	427	139	146	90	90	40.5	M20x1.5/M25x1.5	10

④ DIN 332 ⑤ Feather key / keyway DIN 6885 ① EN ISO 4014

Dimensions

Gearbox CAD28, shaft-mounted design with torque arm

CAD012



d	l9	l8	M	t	u
20 *)	23.4	106	M6	22.8	6
25	27.6	105	M10	28.3	8

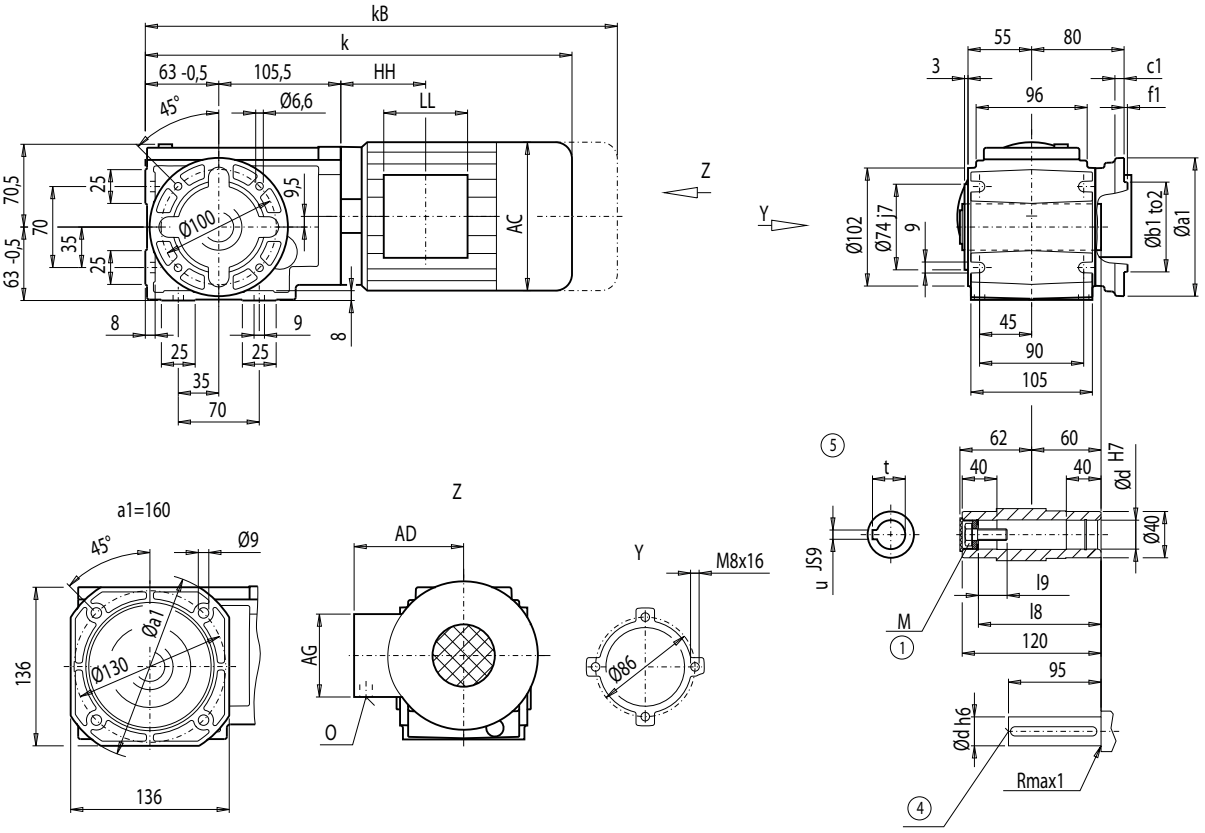
*) Preferred series

	CAD28								Weight
Motor	**k**	**kB**	**AC**	**AD**	**AG**	**LL**	**HH**	**O**	**CAD28**
LA71	353	408	139	146	90	90	40.5	M20x1.5/M25x1.5	10
LA71Z	372	427	139	146	90	90	40.5	M20x1.5/M25x1.5	11

④ DIN 332 ⑤ Feather key / keyway DIN 6885 ① EN ISO 4014

Gearbox CAF28, flange-mounted design

CAF012



Flange	a1	b1	to2	c1	f1	d	M	l9	l8	t	u
A120	120	80	j6	8	3.0	20 *)	M6	23.4	106	22.8	6
						25	M10	27.6	105	28.3	8
A160	160	110	j6	9	3.5	20 *)	M6	23.4	106	22.8	6
						25	M10	27.6	105	28.3	8

*) Preferred series

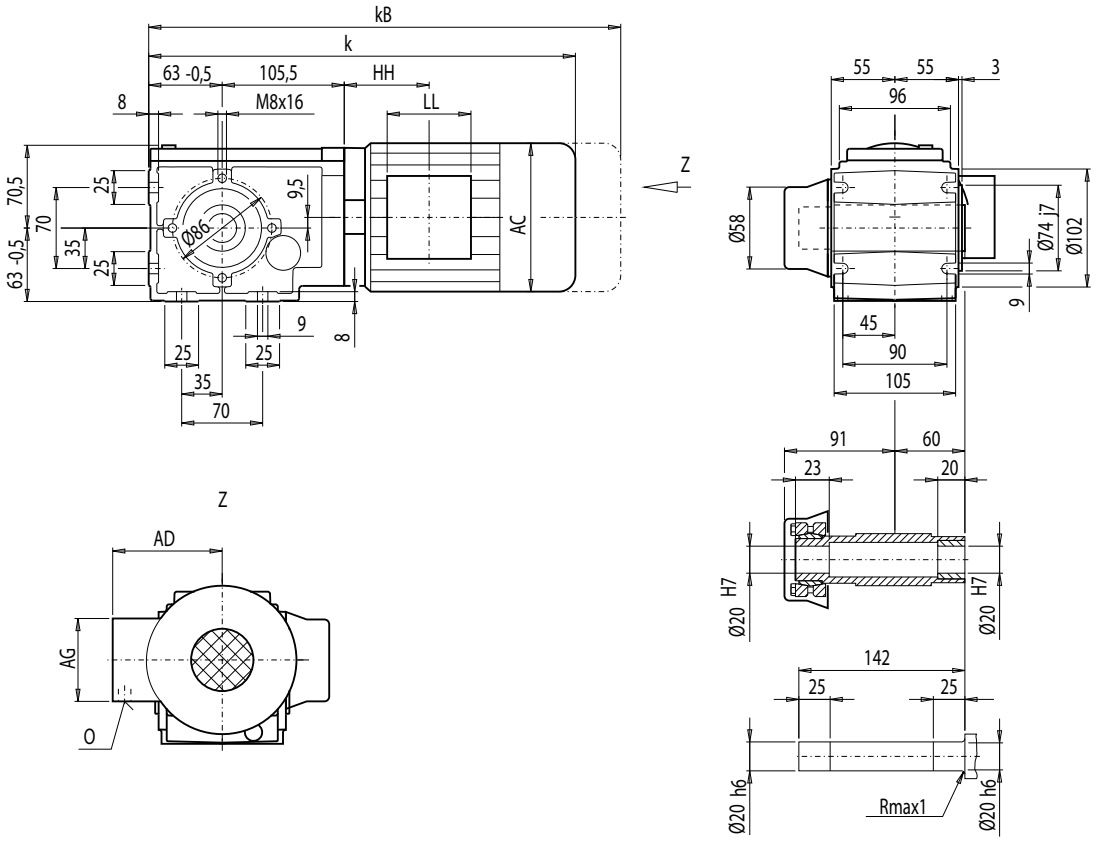
	CAF28								Weight
Motor	**k**	**kB**	**AC**	**AD**	**AG**	**LL**	**HH**	**O**	**CAF28**
LA71	353	408	139	146	90	90	40.5	M20x1.5/M25x1.5	11
LA71Z	372	427	139	146	90	90	40.5	M20x1.5/M25x1.5	12

④ DIN 332 ⑤ Feather key / keyway DIN 6885 ① EN ISO 4014

Dimensions

Gearbox CAS/CAZS28, shaft-mounted design with housing flange (C-type) and shrink disk

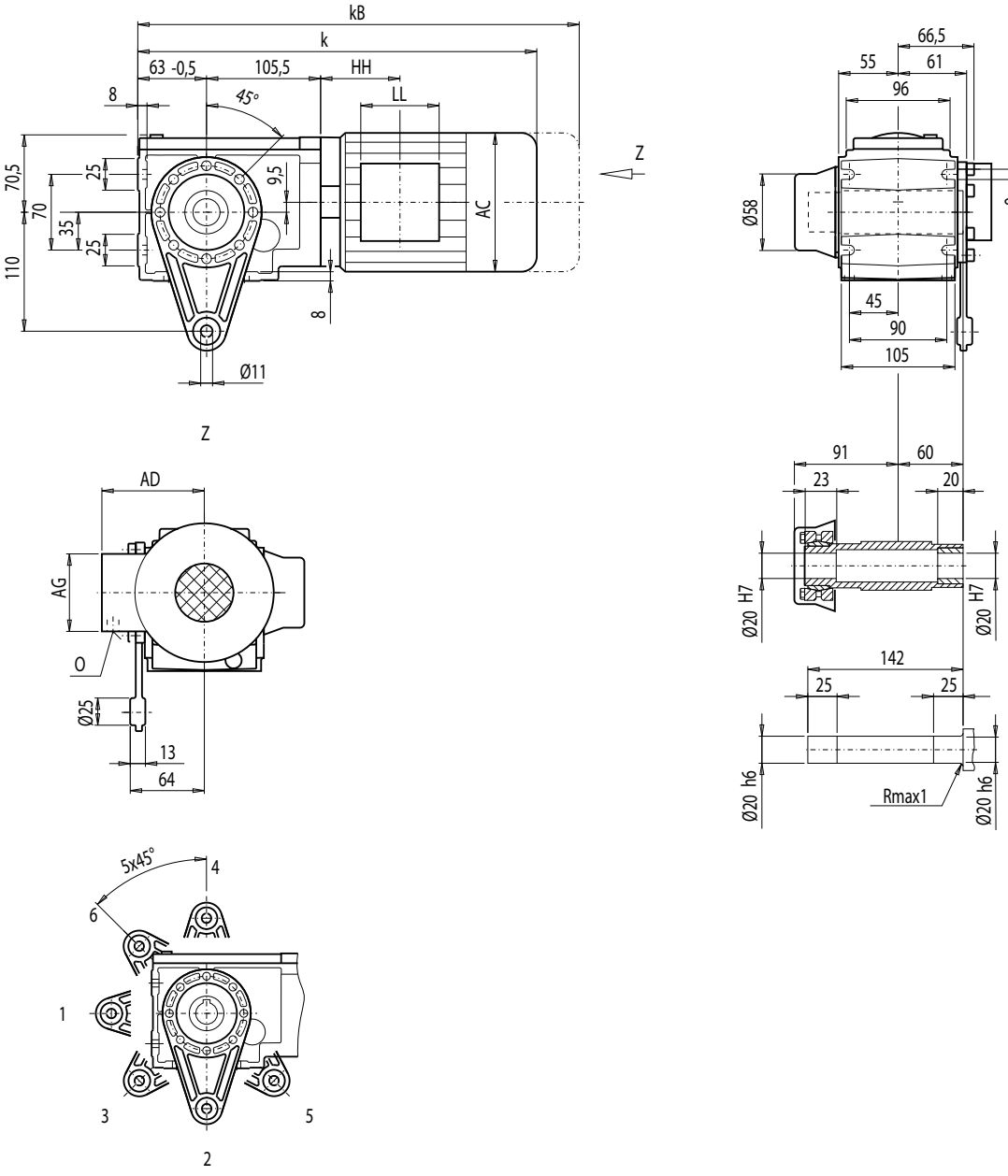
CAS012
CAZS012



Motor	CA.S28 k	kB	AC	AD	AG	LL	HH	O	Weight CA.S28
LA71	353	408	139	146	90	90	40.5	M20x1.5/M25x1.5	9
LA71Z	372	427	139	146	90	90	40.5	M20x1.5/M25x1.5	10

Gearbox CADS28, shaft-mounted design with torque arm and shrink disk

CADS012

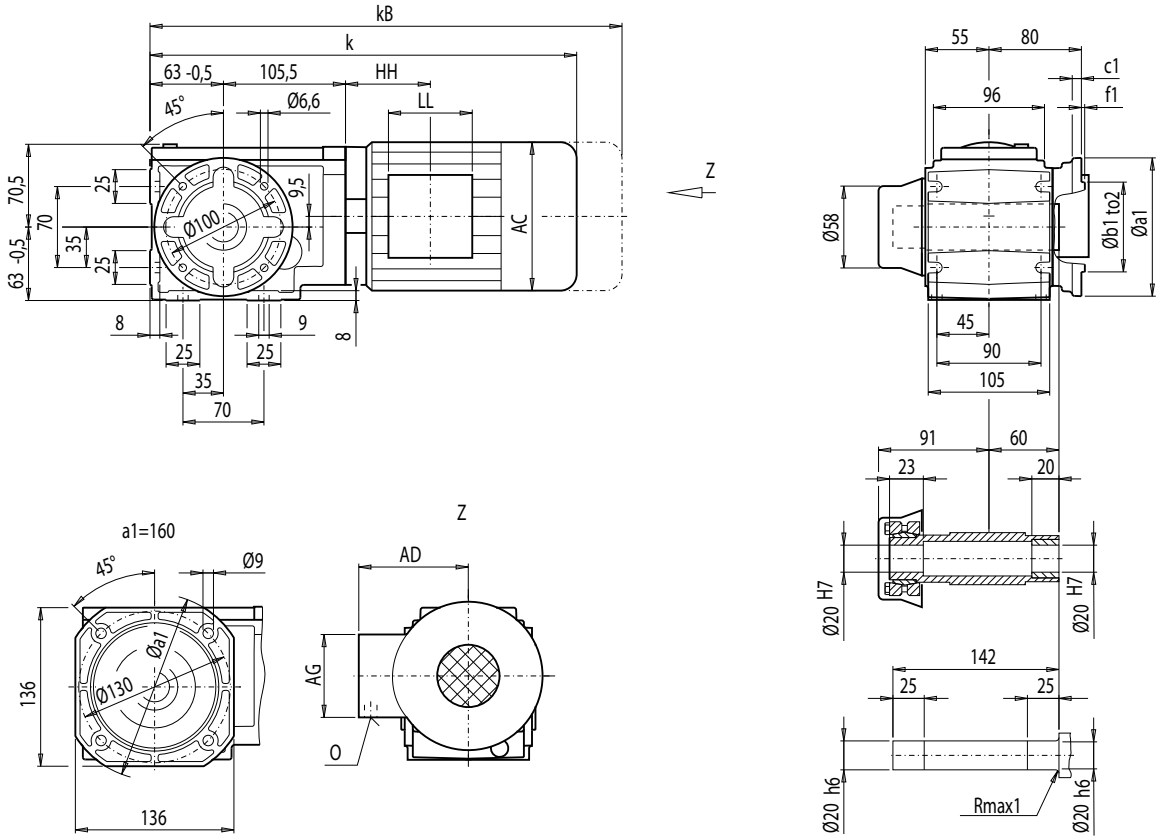


Motor	CADS28 k	kB	AC	AD	AG	LL	HH	O	Weight CADS28
LA71	353	408	139	146	90	90	40.5	M20x1.5/M25x1.5	10
LA71Z	372	427	139	146	90	90	40.5	M20x1.5/M25x1.5	11

Dimensions

Gearbox CAFS28, flange-mounted design and shrink disk

CAFS012

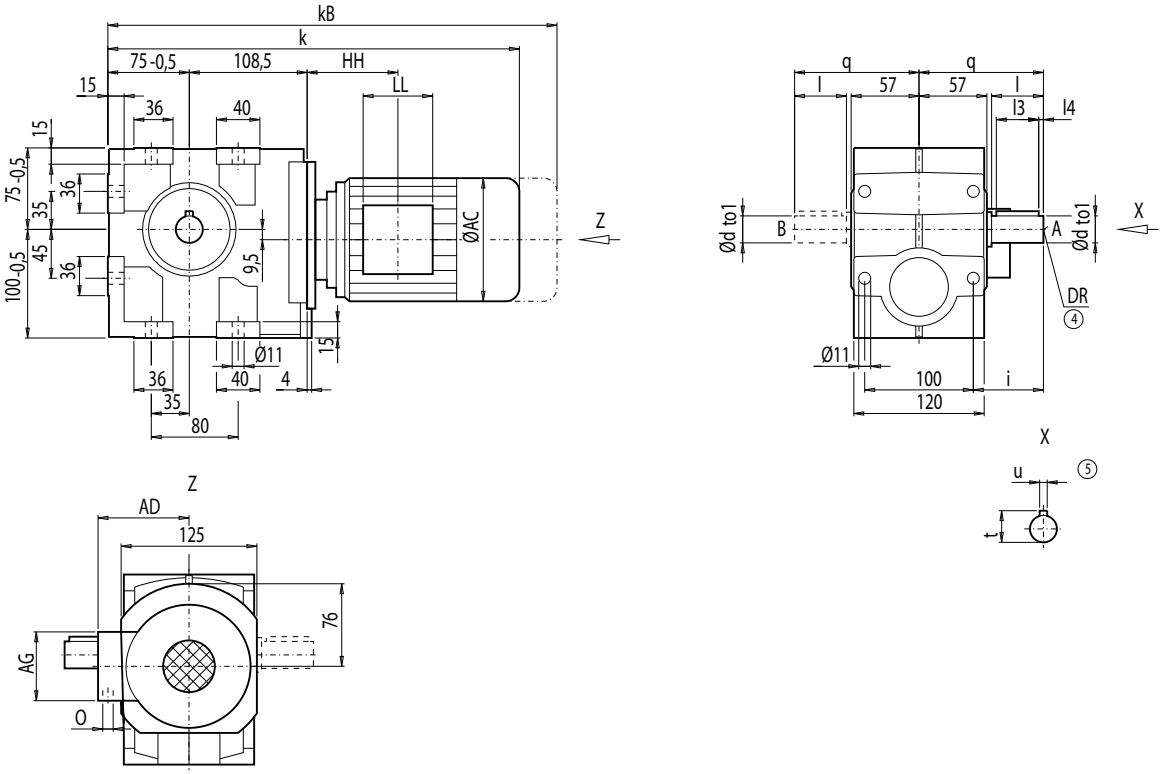


Flange	a1	b1	to2	c1	f1
A120	120	80	j6	8	3.0
A160	160	110	j6	9	3.5

Motor	CAFS28 k	kB	AC	AD	AG	LL	HH	O	Weight CAFS28
LA71	353	408	139	146	90	90	40.5	M20x1.5/M25x1.5	11
LA71Z	372	427	139	146	90	90	40.5	M20x1.5/M25x1.5	12

Gearbox C38, foot- and housing-flange-mounted designs (C-type)

C012



d	to1	l	l3	l4	t	u	i	q	DR
25 *)	k6	50	40	5	28	8	60	110	M10x22
35	k6	70	56	5	38	10	80	130	M12x28

*) Preferred series

	C38								Weight
Motor	**k**	**kB**	**AC**	**AD**	**AG**	**LL**	**HH**	**O**	**C38**
LA71	442.0	497.0	139.0	146	90	90	114.5	M20x1.5/M25x1.5	21
LA71Z	461.0	516.0	139.0	146	90	90	114.5	M20x1.5/M25x1.5	21
LA80	479.0	542.5	156.5	155	90	90	114.0	M20x1.5/M25x1.5	26
LA80Z	501.5	565.0	156.5	155	90	90	187.0	M20x1.5/M25x1.5	30
LA90S/L	510.0	581.0	174.0	163	90	90	114.0	M20x1.5/M25x1.5	31
LA90ZL	555.0	626.0	174.0	163	90	90	238.0	M20x1.5/M25x1.5	37
LA100L	556.0	637.0	195.0	168	120	120	154.5	2xM32x1.5	40
LA100ZL	626.0	707.0	195.0	168	120	120	286.5	2xM32x1.5	50
LA112M	585.5	666.5	219.0	181	120	120	160.0	2xM32x1.5	50
LA112ZM	613.5	694.5	219.0	181	120	120	264.0	2xM32x1.5	57

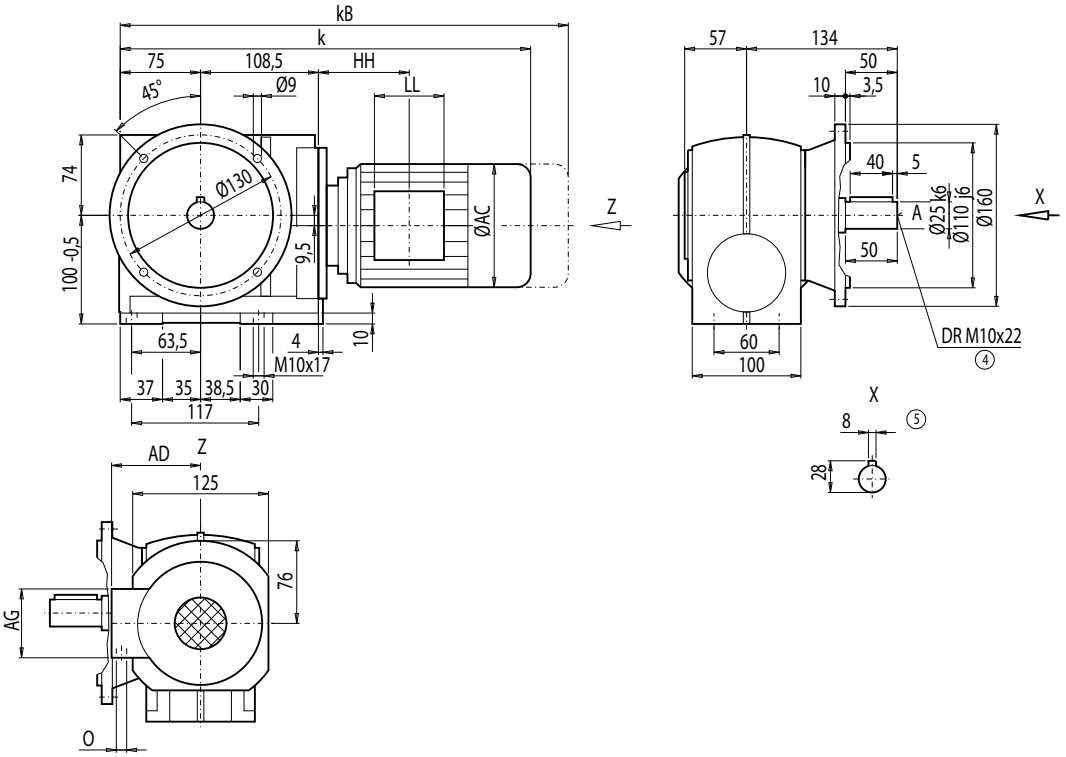
④ DIN 332

⑤ Feather key / keyway DIN 6885

Dimensions

Gearbox CF38, flange-mounted design (A-type)

CF012



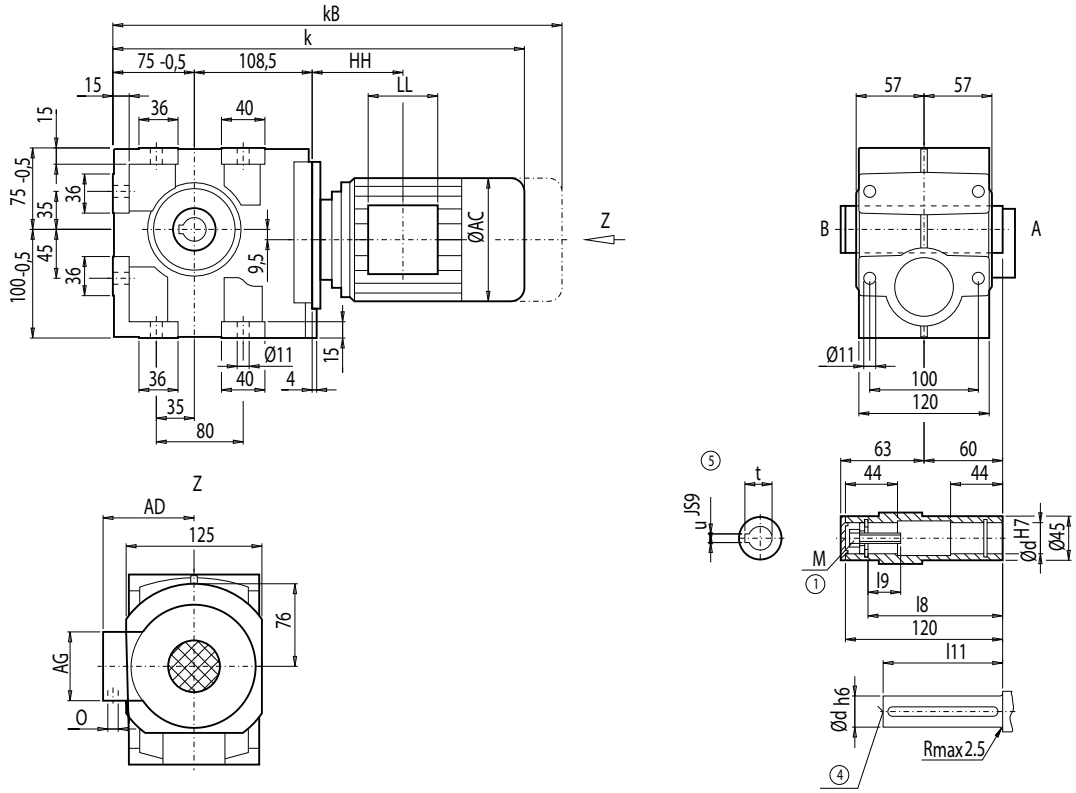
Motor	CF38 k	kB	AC	AD	AG	LL	HH	O	Weight CF38
LA71	442.0	497.0	139.0	146	90	90	114.5	M20x1.5/M25x1.5	25
LA71Z	461.0	516.0	139.0	146	90	90	114.5	M20x1.5/M25x1.5	25
LA80	479.0	542.5	156.5	155	90	90	114.0	M20x1.5/M25x1.5	30
LA80Z	501.5	565.0	156.5	155	90	90	187.0	M20x1.5/M25x1.5	34
LA90S/L	510.0	581.0	174.0	163	90	90	114.0	M20x1.5/M25x1.5	34
LA90ZL	555.0	626.0	174.0	163	90	90	238.0	M20x1.5/M25x1.5	40
LA100L	556.0	637.0	195.0	168	120	120	154.5	2xM32x1.5	44
LA100ZL	626.0	707.0	195.0	168	120	120	286.5	2xM32x1.5	54
LA112M	585.5	666.5	219.0	181	120	120	160.0	2xM32x1.5	54
LA112ZM	613.5	694.5	219.0	181	120	120	264.0	2xM32x1.5	61

④ DIN 332

⑤ Feather key / keyway DIN 6885

Gearbox CA38, shaft-mounted design

CA012



d	l9	l8	l11	M	t	u
25 *)	17	105	100	M10	28.3	8
30	31	102	90	M10	33.3	8

*) Preferred series

Motor	CA38 k	kB	AC	AD	AG	LL	HH	O	Weight CA38
LA71	442.0	497.0	139.0	146	90	90	114.5	M20x1.5/M25x1.5	20
LA71Z	461.0	516.0	139.0	146	90	90	114.5	M20x1.5/M25x1.5	20
LA80	479.0	542.5	156.5	155	90	90	114.0	M20x1.5/M25x1.5	25
LA80Z	501.5	565.0	156.5	155	90	90	187.0	M20x1.5/M25x1.5	29
LA90S/L	510.0	581.0	174.0	163	90	90	114.0	M20x1.5/M25x1.5	30
LA90ZL	555.0	626.0	174.0	163	90	90	238.0	M20x1.5/M25x1.5	36
LA100L	556.0	637.0	195.0	168	120	120	154.5	2xM32x1.5	39
LA100ZL	626.0	707.0	195.0	168	120	120	286.5	2xM32x1.5	49
LA112M	585.5	666.5	219.0	181	120	120	160.0	2xM32x1.5	49
LA112ZM	613.5	694.5	219.0	181	120	120	264.0	2xM32x1.5	56

④ DIN 332 ⑤ Feather key / keyway DIN 6885 ① EN ISO 4014

Dimensions

Gearbox CAD38, shaft-mounted design with torque arm

CAD012

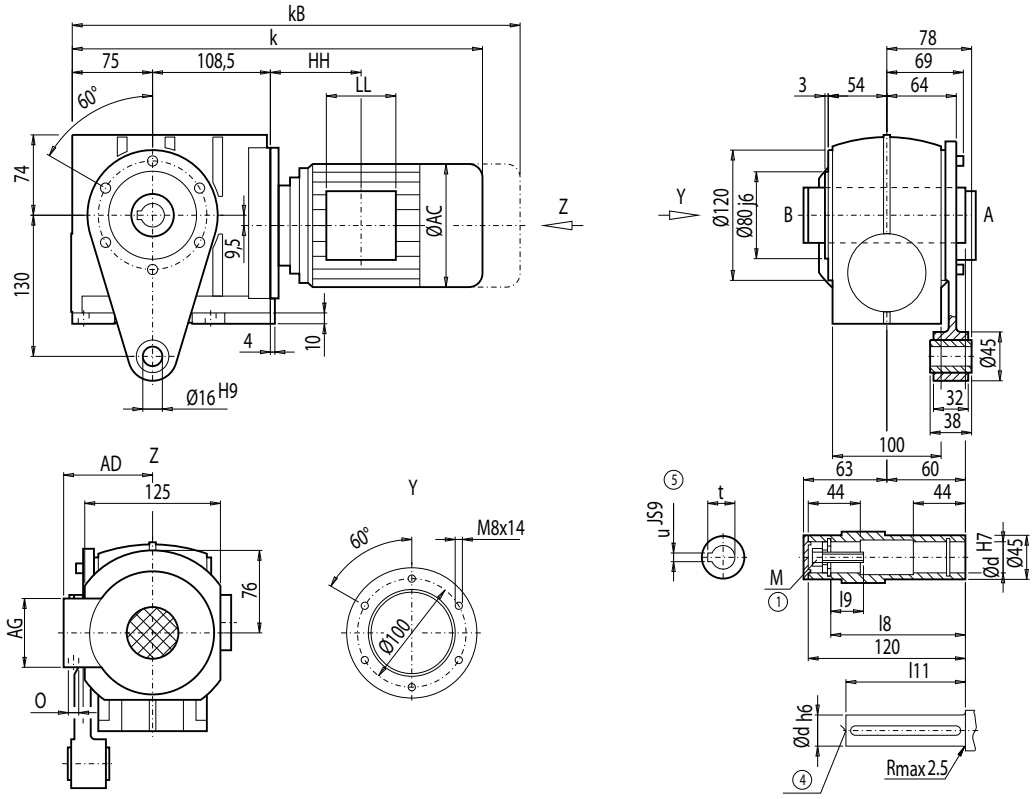


Fig.1

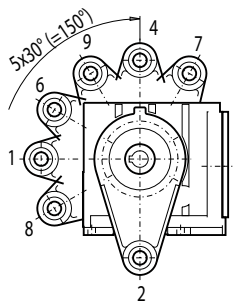
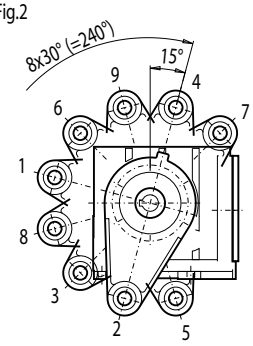


Fig.2



d	l9	l8	l11	M	t	u
25 *)	17	105	100	M10	28.3	8
30	31	102	90	M10	33.3	8

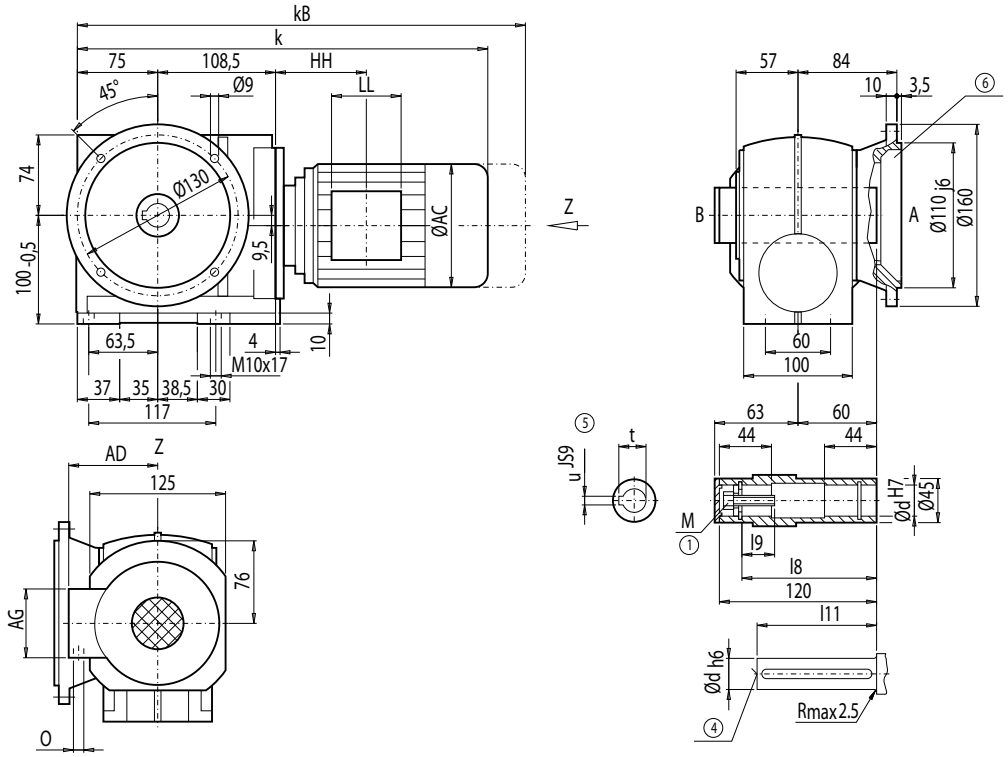
*) Preferred series

	CAD38								Weight
Motor	**k**	**kB**	**AC**	**AD**	**AG**	**LL**	**HH**	**O**	**CAD38**
LA71	442.0	497.0	139.0	146	90	90	114.5	M20x1.5/M25x1.5	23
LA71Z	461.0	516.0	139.0	146	90	90	114.5	M20x1.5/M25x1.5	23
LA80	479.0	542.5	156.5	155	90	90	114.0	M20x1.5/M25x1.5	28
LA80Z	501.5	565.0	156.5	155	90	90	187.0	M20x1.5/M25x1.5	32
LA90S/L	510.0	581.0	174.0	163	90	90	114.0	M20x1.5/M25x1.5	32
LA90ZL	555.0	626.0	174.0	163	90	90	238.0	M20x1.5/M25x1.5	38
LA100L	556.0	637.0	195.0	168	120	120	154.5	2xM32x1.5	41
LA100ZL	626.0	707.0	195.0	168	120	120	286.5	2xM32x1.5	51
LA112M	585.5	666.5	219.0	181	120	120	160.0	2xM32x1.5	52
LA112ZM	613.5	694.5	219.0	181	120	120	264.0	2xM32x1.5	59

④ DIN 332 ⑤ Feather key / keyway DIN 6885 ① EN ISO 4014

Gearbox CAF38, flange-mounted design

CAF012



d	l9	l8	l11	M	t	u
25 *)	17	105	100	M10	28.3	8
30	31	102	90	M10	33.3	8

*) Preferred series

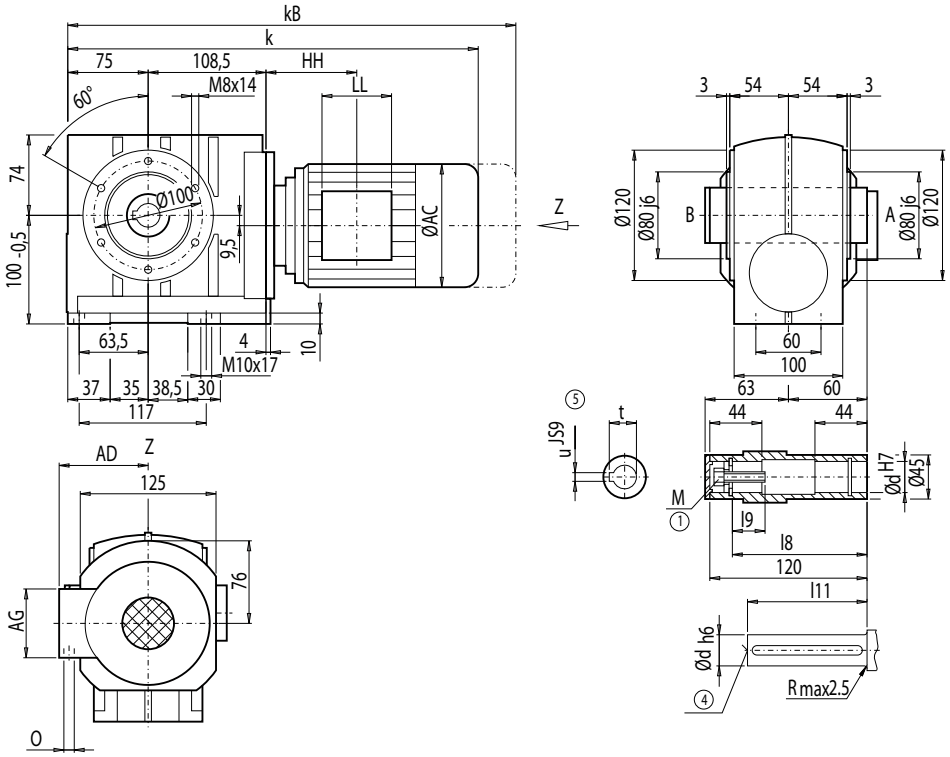
Motor	CAF38 k	kB	AC	AD	AG	LL	HH	O	Weight CAF38
LA71	442.0	497.0	139.0	146	90	90	114.5	M20x1.5/M25x1.5	24
LA71Z	461.0	516.0	139.0	146	90	90	114.5	M20x1.5/M25x1.5	24
LA80	479.0	542.5	156.5	155	90	90	114.0	M20x1.5/M25x1.5	29
LA80Z	501.5	565.0	156.5	155	90	90	187.0	M20x1.5/M25x1.5	33
LA90S/L	510.0	581.0	174.0	163	90	90	114.0	M20x1.5/M25x1.5	33
LA90ZL	555.0	626.0	174.0	163	90	90	238.0	M20x1.5/M25x1.5	39
LA100L	556.0	637.0	195.0	168	120	120	154.5	2xM32x1.5	42
LA100ZL	626.0	707.0	195.0	168	120	120	286.5	2xM32x1.5	52
LA112M	585.5	666.5	219.0	181	120	120	160.0	2xM32x1.5	53
LA112ZM	613.5	694.5	219.0	181	120	120	264.0	2xM32x1.5	60

④ DIN 332 ⑤ Feather key / keyway DIN 6885 ① EN ISO 4014 ⑥ For note, see page 5/108

Dimensions

Gearbox CAZ38, shaft-mounted design with housing flange (C-type)

CAZ012



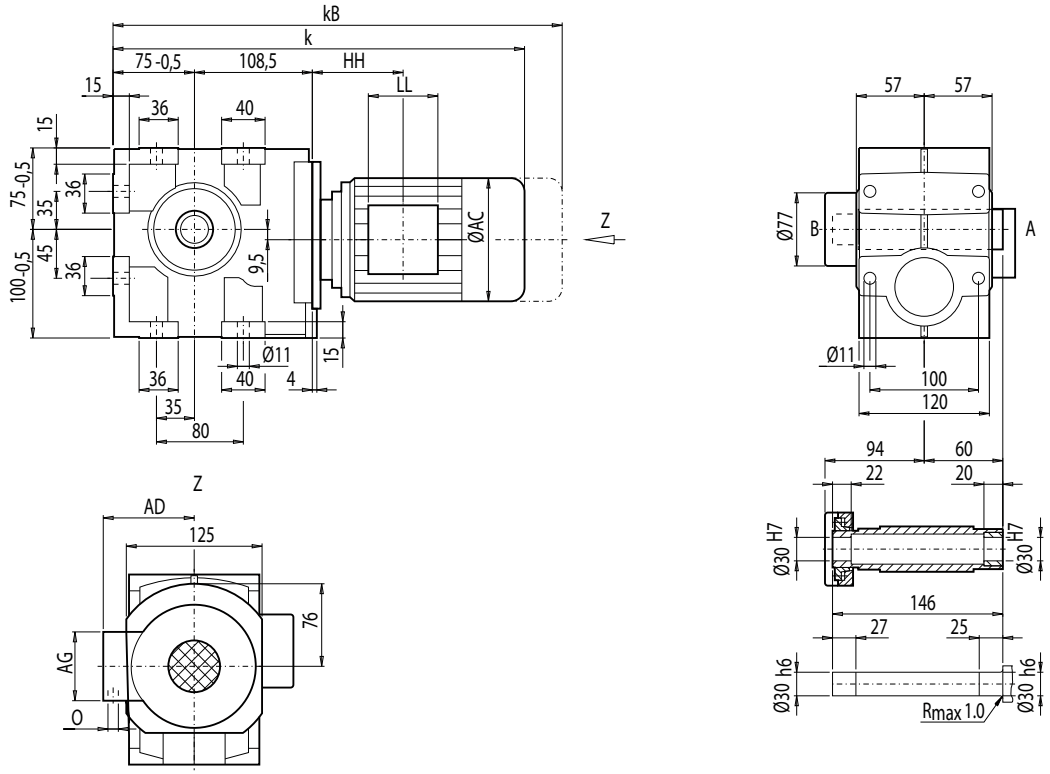
d	l9	l8	l11	M	t	u
25 *)	17	105	100	M10	28.3	8
30	31	102	90	M10	33.3	8

*) Preferred series

Motor	CAZ38 k	kB	AC	AD	AG	LL	HH	O	Weight CAZ38
LA71	442.0	497.0	139.0	146	90	90	114.5	M20x1.5/M25x1.5	22
LA71Z	461.0	516.0	139.0	146	90	90	114.5	M20x1.5/M25x1.5	22
LA80	479.0	542.5	156.5	155	90	90	114.0	M20x1.5/M25x1.5	27
LA80Z	501.5	565.0	156.5	155	90	90	187.0	M20x1.5/M25x1.5	31
LA90S/L	510.0	581.0	174.0	163	90	90	114.0	M20x1.5/M25x1.5	32
LA90ZL	555.0	626.0	174.0	163	90	90	238.0	M20x1.5/M25x1.5	38
LA100L	556.0	637.0	195.0	168	120	120	154.5	2xM32x1.5	41
LA100ZL	626.0	707.0	195.0	168	120	120	286.5	2xM32x1.5	51
LA112M	585.5	666.5	219.0	181	120	120	160.0	2xM32x1.5	51
LA112ZM	613.5	694.5	219.0	181	120	120	264.0	2xM32x1.5	58

Gearbox CAS38, shaft-mounted design with shrink disk

CAS012



Motor	CAS38 k	kB	AC	AD	AG	LL	HH	O	Weight CAS38
LA71	442.0	497.0	139.0	146	90	90	114.5	M20x1.5/M25x1.5	21
LA71Z	461.0	516.0	139.0	146	90	90	114.5	M20x1.5/M25x1.5	21
LA80	479.0	542.5	156.5	155	90	90	114.0	M20x1.5/M25x1.5	25
LA80Z	501.5	565.0	156.5	155	90	90	187.0	M20x1.5/M25x1.5	29
LA90S/L	510.0	581.0	174.0	163	90	90	114.0	M20x1.5/M25x1.5	30
LA90ZL	555.0	626.0	174.0	163	90	90	238.0	M20x1.5/M25x1.5	26
LA100L	556.0	637.0	195.0	168	120	120	154.5	2xM32x1.5	39
LA100ZL	626.0	707.0	195.0	168	120	120	286.5	2xM32x1.5	49
LA112M	585.5	666.5	219.0	181	120	120	160.0	2xM32x1.5	50
LA112ZM	613.5	694.5	219.0	181	120	120	264.0	2xM32x1.5	57

Dimensions

Gearbox CADS38, shaft-mounted design with torque arm and shrink disk

CADS012

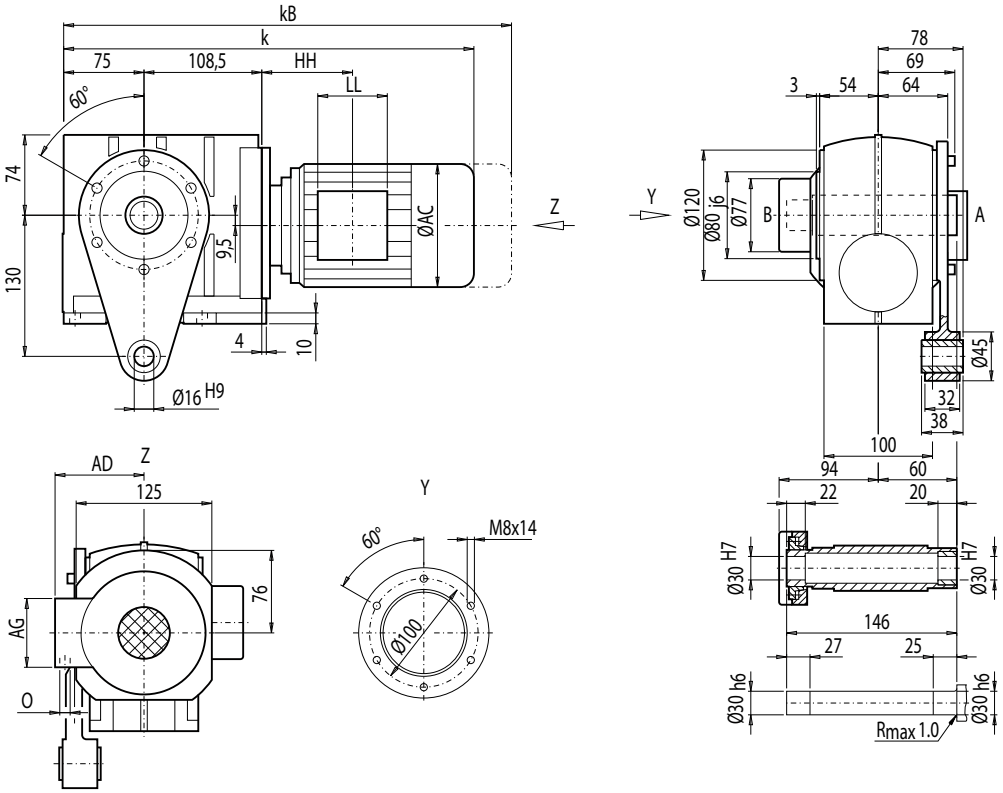


Fig.1

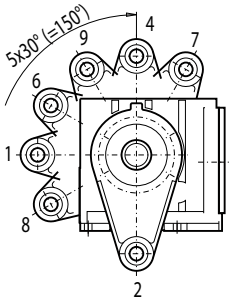
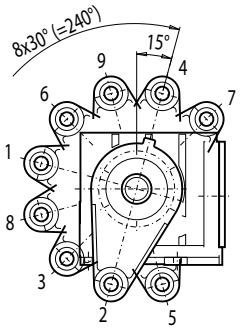


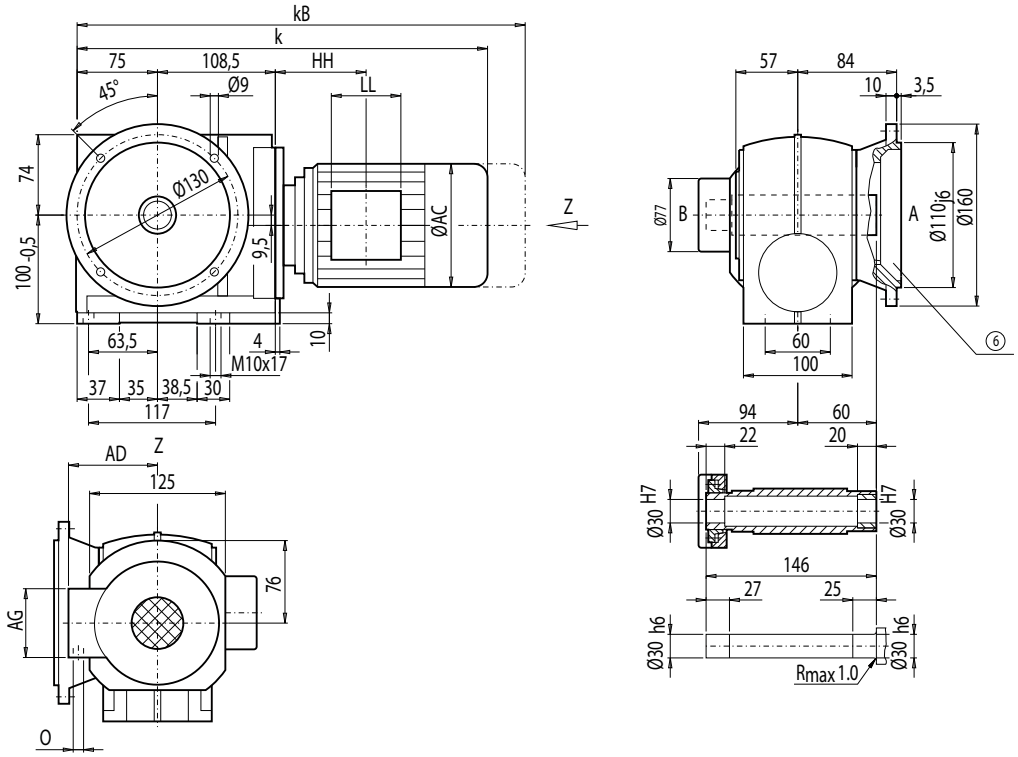
Fig.2



	CADS38								Weight
Motor	k	kB	AC	AD	AG	LL	HH	O	CADS38
LA71	442.0	497.0	139.0	146	90	90	114.5	M20x1.5/M25x1.5	23
LA71Z	461.0	516.0	139.0	146	90	90	114.5	M20x1.5/M25x1.5	23
LA80	479.0	542.5	156.5	155	90	90	114.0	M20x1.5/M25x1.5	28
LA80Z	501.5	565.0	156.5	155	90	90	187.0	M20x1.5/M25x1.5	32
LA90S/L	510.0	581.0	174.0	163	90	90	114.0	M20x1.5/M25x1.5	33
LA90ZL	555.0	626.0	174.0	163	90	90	238.0	M20x1.5/M25x1.5	39
LA100L	556.0	637.0	195.0	168	120	120	154.5	2xM32x1.5	42
LA100ZL	626.0	707.0	195.0	168	120	120	286.5	2xM32x1.5	52
LA112M	585.5	666.5	219.0	181	120	120	160.0	2xM32x1.5	52
LA112ZM	613.5	694.5	219.0	181	120	120	264.0	2xM32x1.5	59

Gearbox CAFS38, flange-mounted design and shrink disk

CAFS012



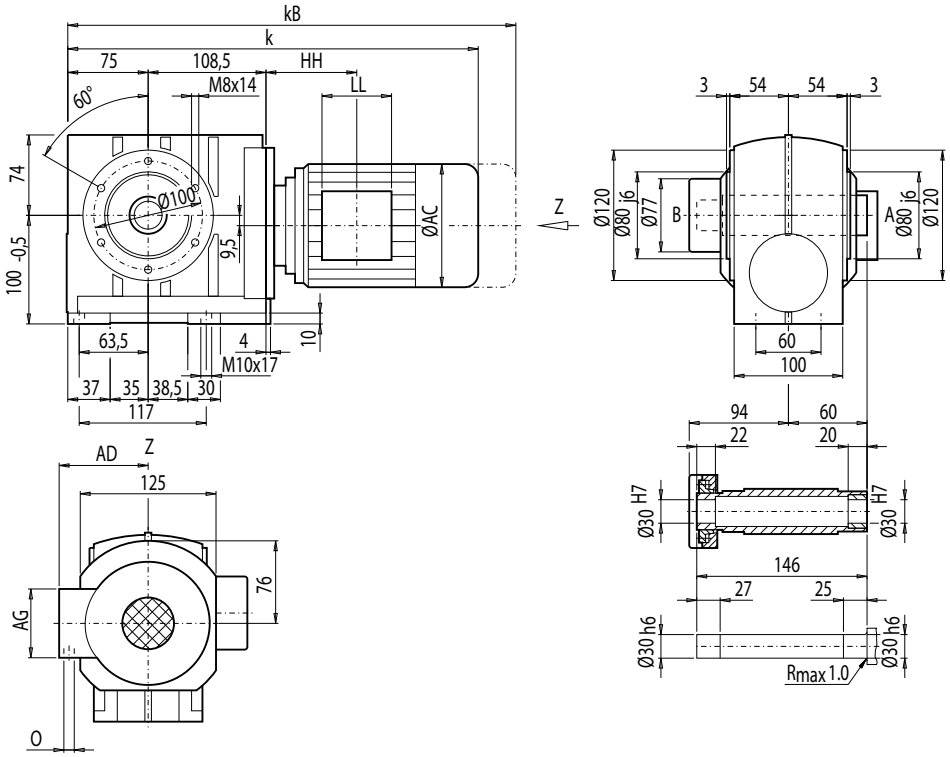
Motor	CAFS38 k	kB	AC	AD	AG	LL	HH	O	Weight CAFS38
LA71	442.0	497.0	139.0	146	90	90	114.5	M20x1.5/M25x1.5	24
LA71Z	461.0	516.0	139.0	146	90	90	114.5	M20x1.5/M25x1.5	24
LA80	479.0	542.5	156.5	155	90	90	114.0	M20x1.5/M25x1.5	29
LA80Z	501.5	565.0	156.5	155	90	90	187.0	M20x1.5/M25x1.5	33
LA90S/L	510.0	581.0	174.0	163	90	90	114.0	M20x1.5/M25x1.5	34
LA90ZL	555.0	626.0	174.0	163	90	90	238.0	M20x1.5/M25x1.5	40
LA100L	556.0	637.0	195.0	168	120	120	154.5	2xM32x1.5	43
LA100ZL	626.0	707.0	195.0	168	120	120	286.5	2xM32x1.5	53
LA112M	585.5	666.5	219.0	181	120	120	160.0	2xM32x1.5	53
LA112ZM	613.5	694.5	219.0	181	120	120	264.0	2xM32x1.5	60

⑥ For note, see page 5/108

Dimensions

Gearbox CAZS38, shaft-mounted design with housing flange (C-type) and shrink disk

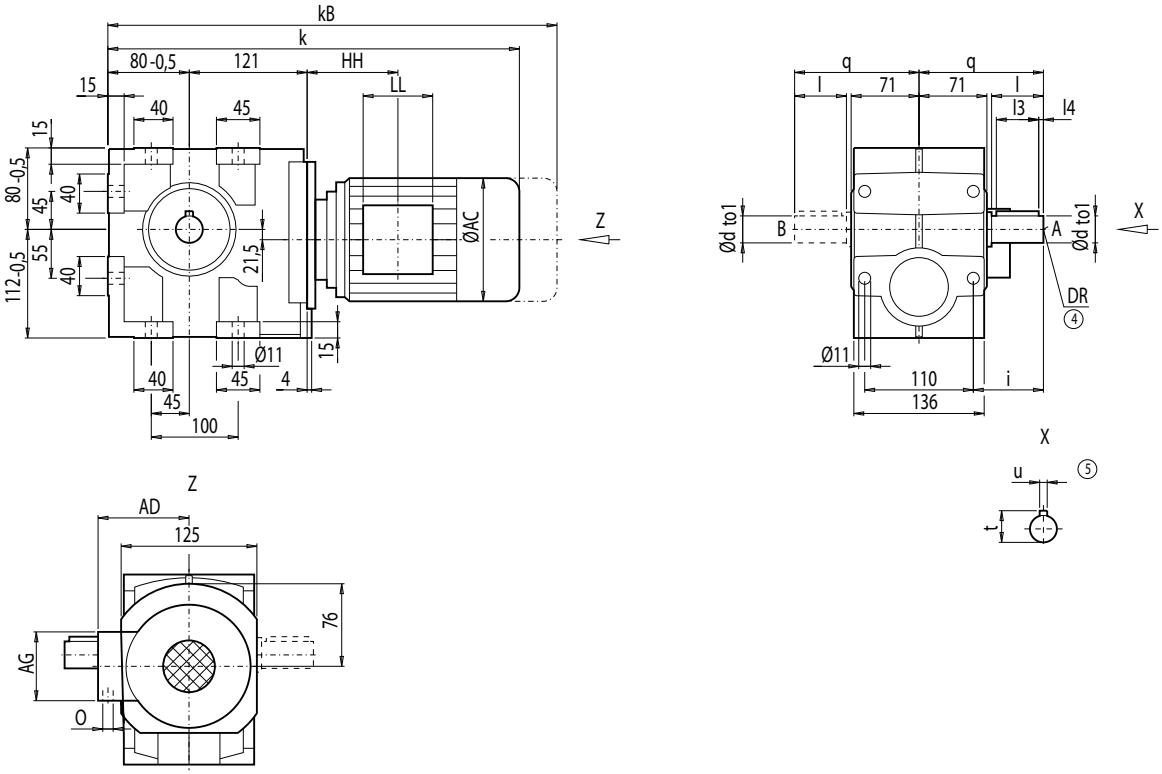
CAZS012



Motor	CAZS38 k	kB	AC	AD	AG	LL	HH	O	Weight CAZS38
LA71	442.0	497.0	139.0	146	90	90	114.5	M20x1.5/M25x1.5	23
LA71Z	461.0	516.0	139.0	146	90	90	114.5	M20x1.5/M25x1.5	23
LA80	479.0	542.5	156.5	155	90	90	114.0	M20x1.5/M25x1.5	27
LA80Z	501.5	565.0	156.5	155	90	90	187.0	M20x1.5/M25x1.5	31
LA90S/L	510.0	581.0	174.0	163	90	90	114.0	M20x1.5/M25x1.5	32
LA90ZL	555.0	626.0	174.0	163	90	90	238.0	M20x1.5/M25x1.5	38
LA100L	556.0	637.0	195.0	168	120	120	154.5	2xM32x1.5	41
LA100ZL	626.0	707.0	195.0	168	120	120	286.5	2xM32x1.5	51
LA112M	585.5	666.5	219.0	181	120	120	160.0	2xM32x1.5	52
LA112ZM	613.5	694.5	219.0	181	120	120	264.0	2xM32x1.5	59

Gearbox C48, foot- and housing-flange-mounted designs (C-type)

C012



d	to1	l	l3	l4	t	u	i	q	DR
30 *)	k6	60	50	3.5	33	8	80	135	M10x22
40	k6	80	70	5.0	43	12	100	155	M16x36

*) Preferred series

	C48								Weight
Motor	**k**	**kB**	**AC**	**AD**	**AG**	**LL**	**HH**	**O**	**C48**
LA71	459.5	514.5	139.0	146	90	90	114.5	M20x1.5/M25x1.5	30
LA71Z	478.5	533.5	139.0	146	90	90	114.5	M20x1.5/M25x1.5	30
LA80	496.5	560.0	156.5	155	90	90	114.0	M20x1.5/M25x1.5	34
LA80Z	519.0	582.5	156.5	155	90	90	187.0	M20x1.5/M25x1.5	38
LA90S/L	527.5	598.5	174.0	163	90	90	114.0	M20x1.5/M25x1.5	39
LA90ZL	572.5	643.5	174.0	163	90	90	238.0	M20x1.5/M25x1.5	45
LA100L	573.5	654.5	195.0	168	120	120	154.5	2xM32x1.5	48
LA100ZL	643.5	724.5	195.0	168	120	120	286.5	2xM32x1.5	58
LA112M	603.0	684.0	219.0	181	120	120	160.0	2xM32x1.5	59
LA112ZM	631.0	712.0	219.0	181	120	120	264.0	2xM32x1.5	66

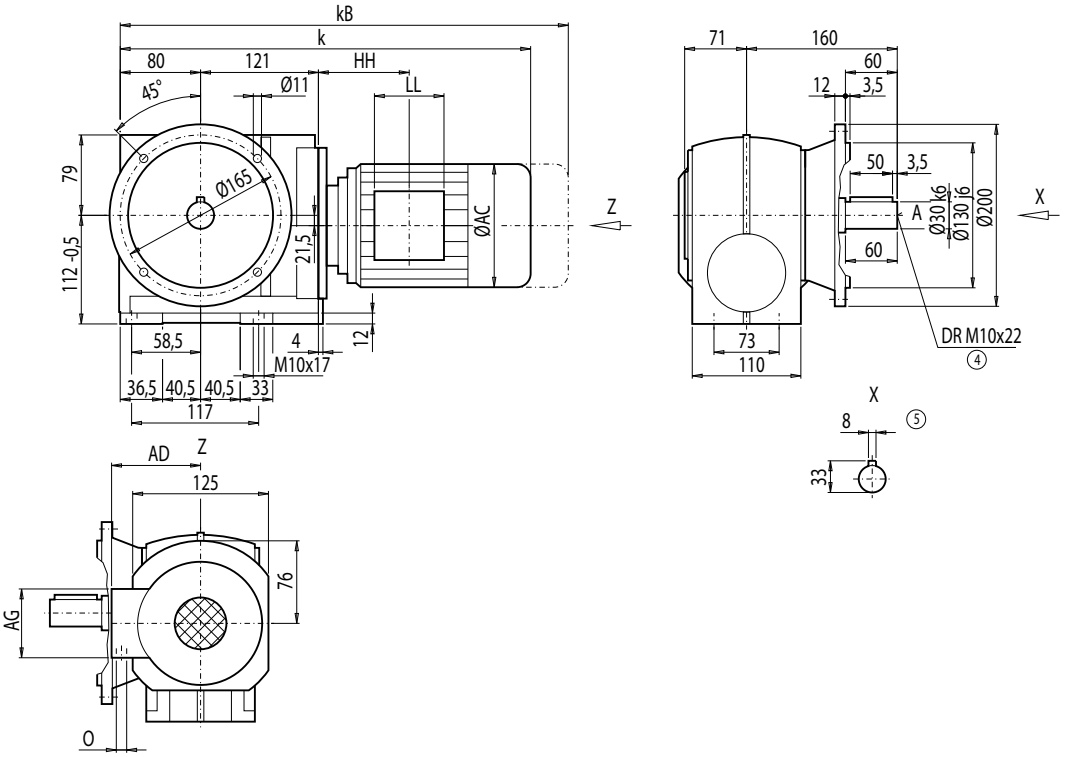
④ DIN 332

⑤ Feather key / keyway DIN 6885

Dimensions

Gearbox CF48, flange-mounted design (A-type)

CF012



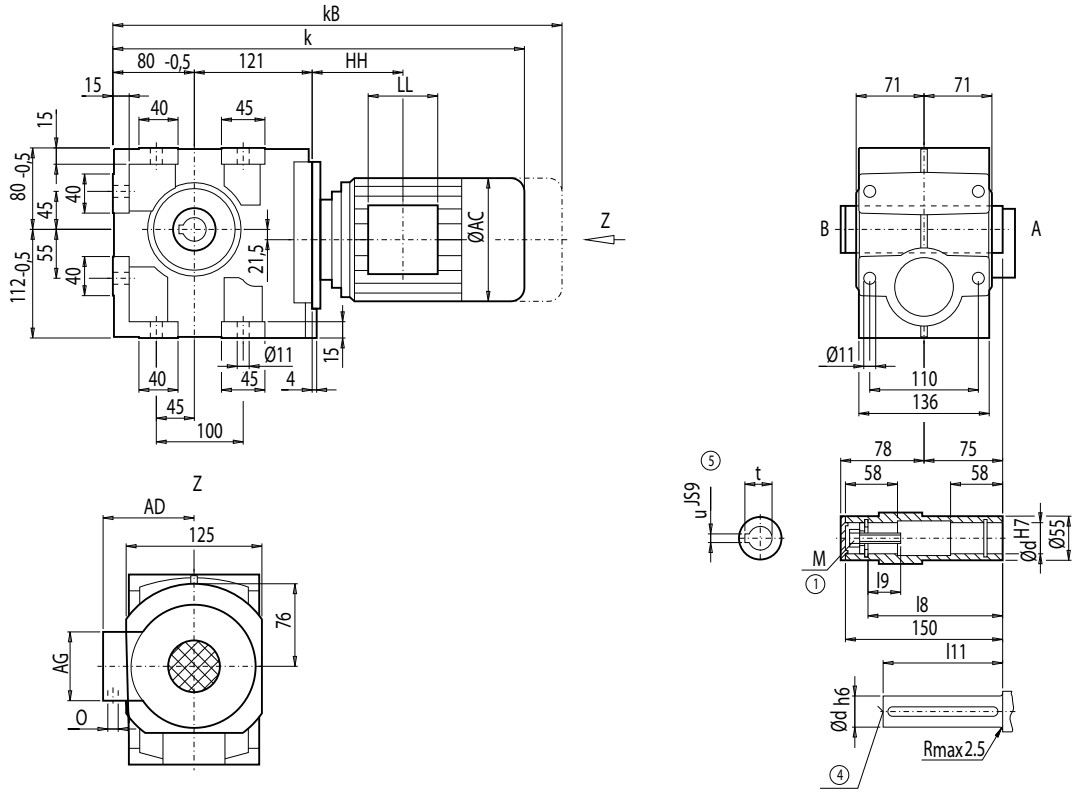
Motor	CF48 k	kB	AC	AD	AG	LL	HH	O	Weight CF48
LA71	459.5	514.5	139.0	146	90	90	114.5	M20x1.5/M25x1.5	34
LA71Z	478.5	533.5	139.0	146	90	90	114.5	M20x1.5/M25x1.5	34
LA80	496.5	560.0	156.5	155	90	90	114.0	M20x1.5/M25x1.5	39
LA80Z	519.0	582.5	156.5	155	90	90	187.0	M20x1.5/M25x1.5	43
LA90S/L	527.5	598.5	174.0	163	90	90	114.0	M20x1.5/M25x1.5	43
LA90ZL	572.5	643.5	174.0	163	90	90	238.0	M20x1.5/M25x1.5	49
LA100L	573.5	654.5	195.0	168	120	120	154.5	2xM32x1.5	52
LA100ZL	643.5	724.5	195.0	168	120	120	286.5	2xM32x1.5	62
LA112M	603.0	684.0	219.0	181	120	120	160.0	2xM32x1.5	63
LA112ZM	631.0	712.0	219.0	181	120	120	264.0	2xM32x1.5	70

④ DIN 332

⑤ Feather key / keyway DIN 6885

Gearbox CA48, shaft-mounted design

CA012



d	l9	l8	l11	M	t	u
30 *)	17	132	127	M10	33.3	8
35	40	128	115	M12	38.3	10
40	48	128	115	M16	43.3	12

*) Preferred series

	CA48								Weight
Motor	k	kB	AC	AD	AG	LL	HH	O	CA48
LA71	459.5	514.5	139.0	146	90	90	114.5	M20x1.5/M25x1.5	28
LA71Z	478.5	533.5	139.0	146	90	90	114.5	M20x1.5/M25x1.5	28
LA80	496.5	560.0	156.5	155	90	90	114.0	M20x1.5/M25x1.5	33
LA80Z	519.0	582.5	156.5	155	90	90	187.0	M20x1.5/M25x1.5	37
LA90S/L	527.5	598.5	174.0	163	90	90	114.0	M20x1.5/M25x1.5	38
LA90ZL	572.5	643.5	174.0	163	90	90	238.0	M20x1.5/M25x1.5	44
LA100L	573.5	654.5	195.0	168	120	120	154.5	2xM32x1.5	47
LA100ZL	643.5	724.5	195.0	168	120	120	286.5	2xM32x1.5	57
LA112M	603.0	684.0	219.0	181	120	120	160.0	2xM32x1.5	57
LA112ZM	631.0	712.0	219.0	181	120	120	264.0	2xM32x1.5	64

④ DIN 332 ⑤ Feather key / keyway DIN 6885 ① EN ISO 4014

Dimensions

Gearbox CAD48, shaft-mounted design with torque arm

CAD012

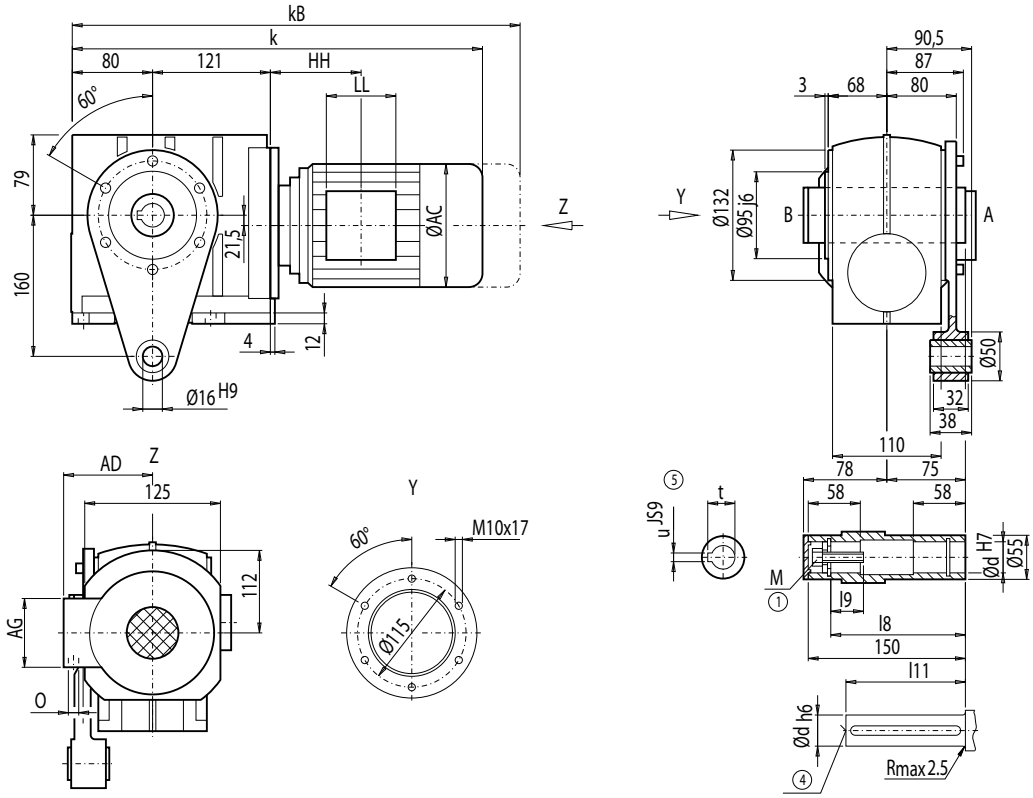


Fig.1

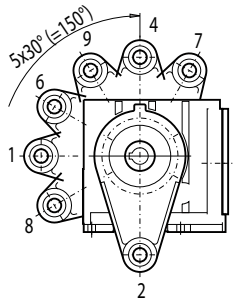
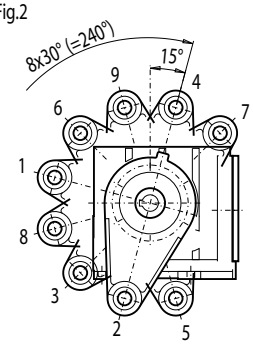


Fig.2



d	l9	l8	l11	M	t	u
30 *)	17	132	127	M10	33.3	8
35	40	128	115	M12	38.3	10
40	48	128	115	M16	43.3	12

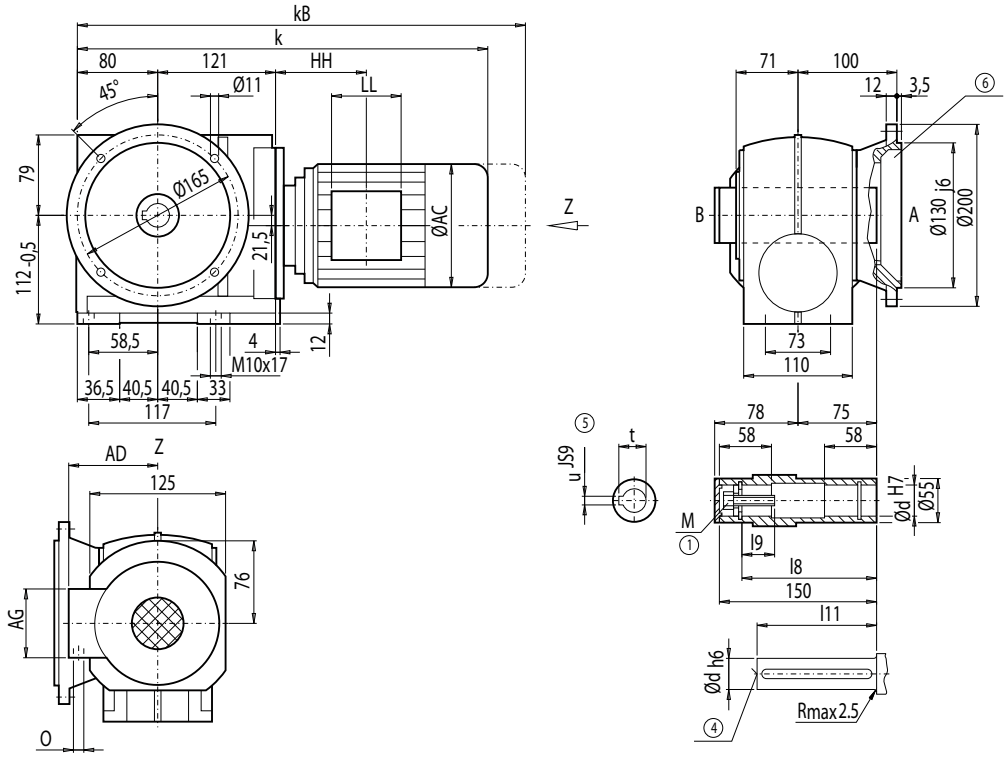
*) Preferred series

Motor	CAD48 k	kB	AC	AD	AG	LL	HH	O	Weight CAD48
LA71	459.5	514.5	139.0	146	90	90	114.5	M20x1.5/M25x1.5	31
LA71Z	478.5	533.5	139.0	146	90	90	114.5	M20x1.5/M25x1.5	31
LA80	496.5	560.0	156.5	155	90	90	114.0	M20x1.5/M25x1.5	36
LA80Z	519.0	582.5	156.5	155	90	90	187.0	M20x1.5/M25x1.5	40
LA90S/L	527.5	598.5	174.0	163	90	90	114.0	M20x1.5/M25x1.5	40
LA90ZL	572.5	643.5	174.0	163	90	90	238.0	M20x1.5/M25x1.5	46
LA100L	573.5	654.5	195.0	168	120	120	154.5	2xM32x1.5	49
LA100ZL	643.5	724.5	195.0	168	120	120	286.5	2xM32x1.5	59
LA112M	603.0	684.0	219.0	181	120	120	160.0	2xM32x1.5	60
LA112ZM	631.0	712.0	219.0	181	120	120	264.0	2xM32x1.5	67

④ DIN 332 ⑤ Feather key / keyway DIN 6885 ① EN ISO 4014

Gearbox CAF48, flange-mounted design

CAF012



d	l9	l8	l11	M	t	u
30 *)	17	132	127	M10	33.3	8
35	40	128	115	M12	38.3	10
40	48	128	115	M16	43.3	12

*) Preferred series

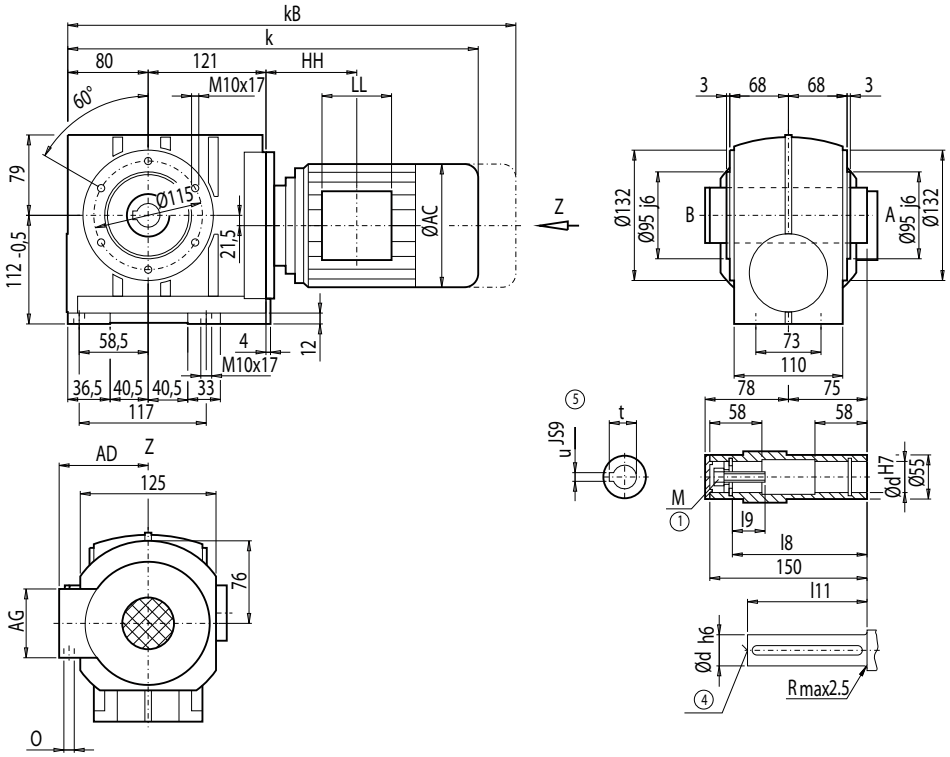
	CAF48								Weight
Motor	**k**	**kB**	**AC**	**AD**	**AG**	**LL**	**HH**	**O**	**CAF48**
LA71	459.5	514.5	139.0	146	90	90	114.5	M20x1.5/M25x1.5	32
LA71Z	478.5	533.5	139.0	146	90	90	114.5	M20x1.5/M25x1.5	32
LA80	496.5	560.0	156.5	155	90	90	114.0	M20x1.5/M25x1.5	37
LA80Z	519.0	582.5	156.5	155	90	90	187.0	M20x1.5/M25x1.5	41
LA90S/L	527.5	598.5	174.0	163	90	90	114.0	M20x1.5/M25x1.5	42
LA90ZL	572.5	643.5	174.0	163	90	90	238.0	M20x1.5/M25x1.5	48
LA100L	573.5	654.5	195.0	168	120	120	154.5	2xM32x1.5	51
LA100ZL	643.5	724.5	195.0	168	120	120	286.5	2xM32x1.5	61
LA112M	603.0	684.0	219.0	181	120	120	160.0	2xM32x1.5	61
LA112ZM	631.0	712.0	219.0	181	120	120	264.0	2xM32x1.5	68

① EN ISO 4014 ④ DIN 332 ⑤ Feather key / keyway DIN 6885 ⑥ For note, see page 5/108

Dimensions

Gearbox CAZ48, shaft-mounted design with housing flange (C-type)

CAZ012



d	l9	l8	l11	M	t	u
30 *)	17	132	127	M10	33.3	8
35	40	128	115	M12	38.3	10
40	48	128	115	M16	43.3	12

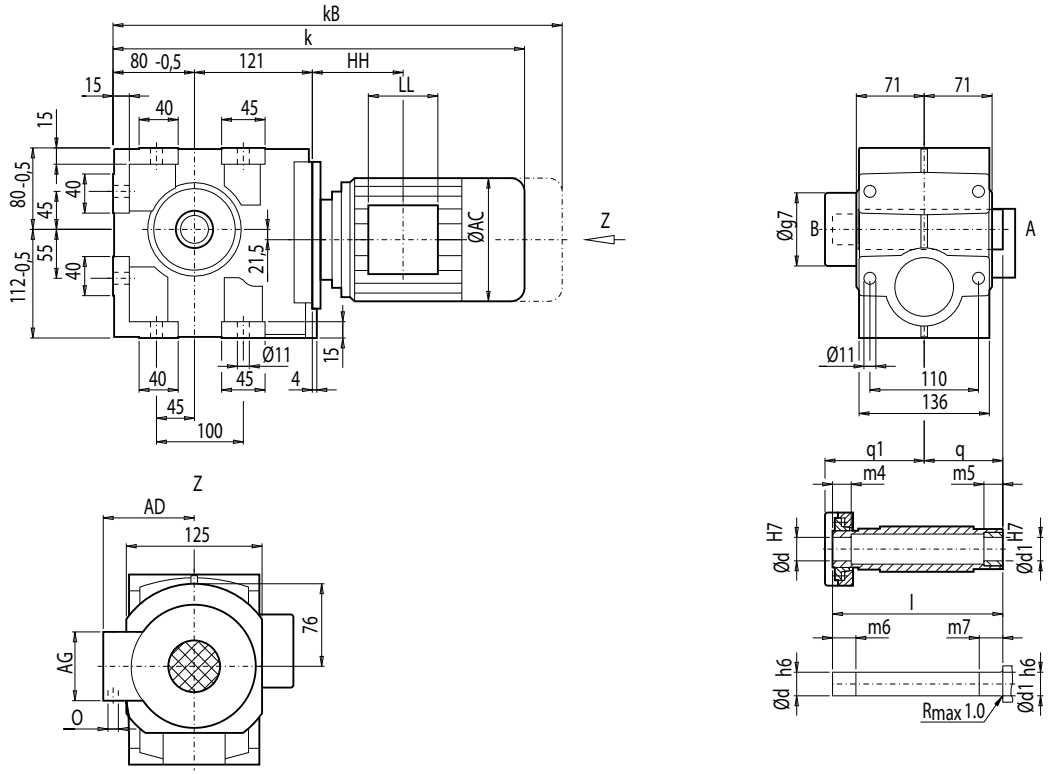
*) Preferred series

	CAZ48								Weight
Motor	**k**	**kB**	**AC**	**AD**	**AG**	**LL**	**HH**	**O**	**CAZ48**
LA71	459.5	514.5	139.0	146	90	90	114.5	M20x1.5/M25x1.5	30
LA71Z	478.5	533.5	139.0	146	90	90	114.5	M20x1.5/M25x1.5	30
LA80	496.5	560.0	156.5	155	90	90	114.0	M20x1.5/M25x1.5	34
LA80Z	519.0	582.5	156.5	155	90	90	187.0	M20x1.5/M25x1.5	38
LA90S/L	527.5	598.5	174.0	163	90	90	114.0	M20x1.5/M25x1.5	39
LA90ZL	572.5	643.5	174.0	163	90	90	238.0	M20x1.5/M25x1.5	45
LA100L	573.5	654.5	195.0	168	120	120	154.5	2xM32x1.5	48
LA100ZL	643.5	724.5	195.0	168	120	120	286.5	2xM32x1.5	58
LA112M	603.0	684.0	219.0	181	120	120	160.0	2xM32x1.5	59
LA112ZM	631.0	712.0	219.0	181	120	120	264.0	2xM32x1.5	66

① EN ISO 4014 ④ DIN 332 ⑤ Feather key / keyway DIN 6885

Gearbox CAS48, shaft-mounted design with shrink disk

CAS012



d	d1	l	m4	m5	m6	m7	q1	q	g7
35 *)	35	177	32	20	37	25	109	75	93
40	40	177	25	20	30	25	109	75	93

*) Preferred series

Motor	CAS48 k	kB	AC	AD	AG	LL	HH	O	Weight CAS48
LA71	459.5	514.5	139.0	146	90	90	114.5	M20x1.5/M25x1.5	29
LA71Z	478.5	533.5	139.0	146	90	90	114.5	M20x1.5/M25x1.5	29
LA80	496.5	560.0	156.5	155	90	90	114.0	M20x1.5/M25x1.5	34
LA80Z	519.0	582.5	156.5	155	90	90	187.0	M20x1.5/M25x1.5	38
LA90S/L	527.5	598.5	174.0	163	90	90	114.0	M20x1.5/M25x1.5	38
LA90ZL	572.5	643.5	174.0	163	90	90	238.0	M20x1.5/M25x1.5	44
LA100L	573.5	654.5	195.0	168	120	120	154.5	2xM32x1.5	47
LA100ZL	643.5	724.5	195.0	168	120	120	286.5	2xM32x1.5	57
LA112M	603.0	684.0	219.0	181	120	120	160.0	2xM32x1.5	58
LA112ZM	631.0	712.0	219.0	181	120	120	264.0	2xM32x1.5	65

Dimensions

Gearbox CADS48, shaft-mounted design with torque arm and shrink disk

CADS012

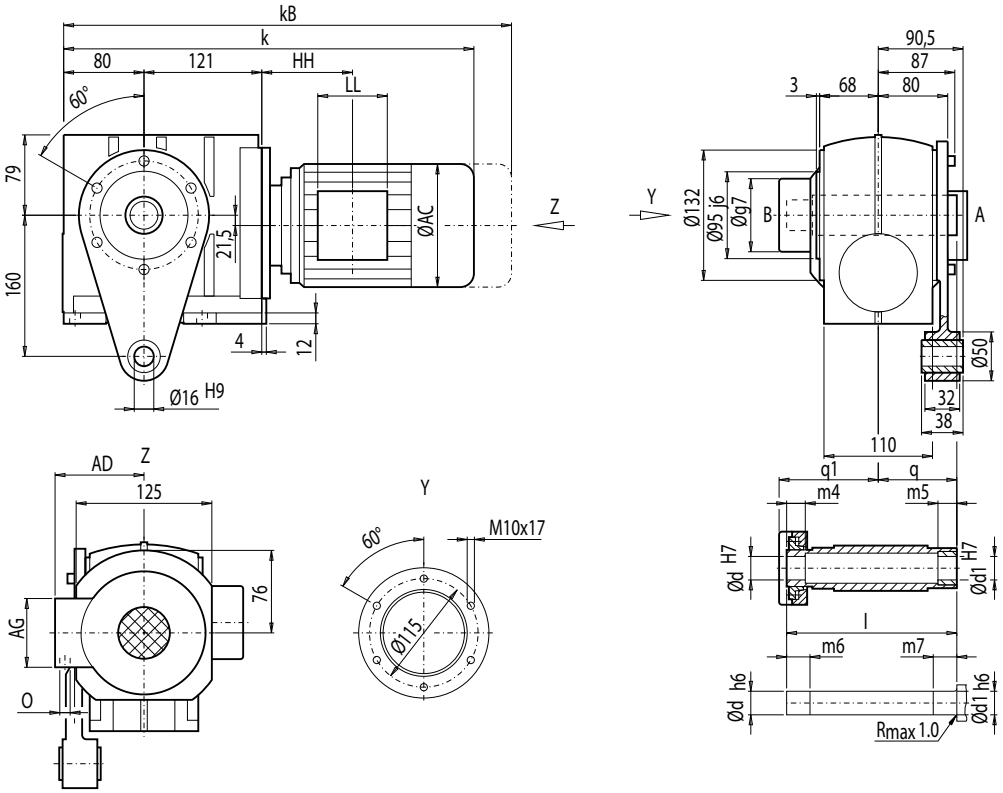


Fig.1

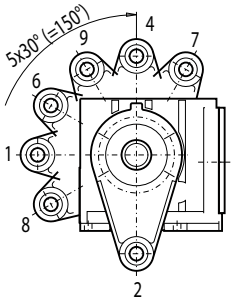
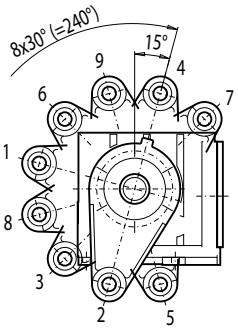


Fig.2



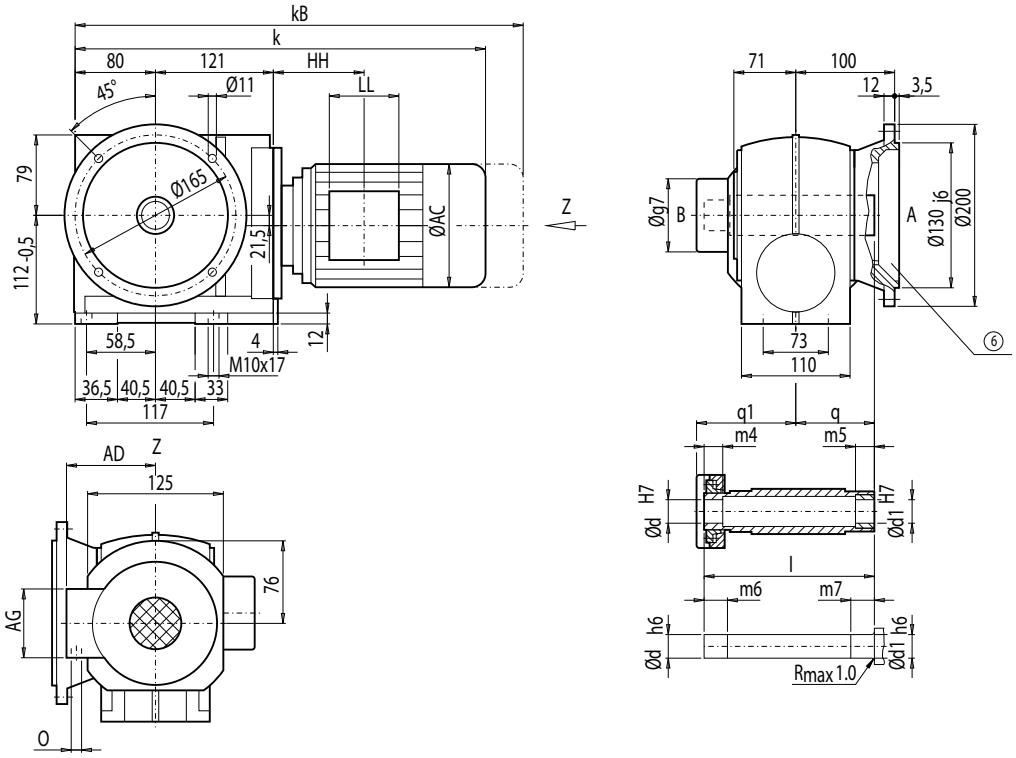
d	d1	l	m4	m5	m6	m7	q1	q	g7
35 *)	35	177	32	20	37	25	109	75	93
40	40	177	25	20	30	25	109	75	93

*) Preferred series

	CADS48								Weight
Motor	**k**	**kB**	**AC**	**AD**	**AG**	**LL**	**HH**	**O**	**CADS48**
LA71	459.5	514.5	139.0	146	90	90	114.5	M20x1.5/M25x1.5	32
LA71Z	478.5	533.5	139.0	146	90	90	114.5	M20x1.5/M25x1.5	32
LA80	496.5	560.0	156.5	155	90	90	114.0	M20x1.5/M25x1.5	37
LA80Z	519.0	582.5	156.5	155	90	90	187.0	M20x1.5/M25x1.5	41
LA90S/L	527.5	598.5	174.0	163	90	90	114.0	M20x1.5/M25x1.5	41
LA90ZL	572.5	643.5	174.0	163	90	90	238.0	M20x1.5/M25x1.5	47
LA100L	573.5	654.5	195.0	168	120	120	154.5	2xM32x1.5	50
LA100ZL	643.5	724.5	195.0	168	120	120	286.5	2xM32x1.5	60
LA112M	603.0	684.0	219.0	181	120	120	160.0	2xM32x1.5	61
LA112ZM	631.0	712.0	219.0	181	120	120	264.0	2xM32x1.5	68

Gearbox CAFS48, flange-mounted design and shrink disk

CAFS012



d	d1	l	m4	m5	m6	m7	q1	q	g7
35 *)	35	177	32	20	37	25	109	75	93
40	40	177	25	20	30	25	109	75	93

*) Preferred series

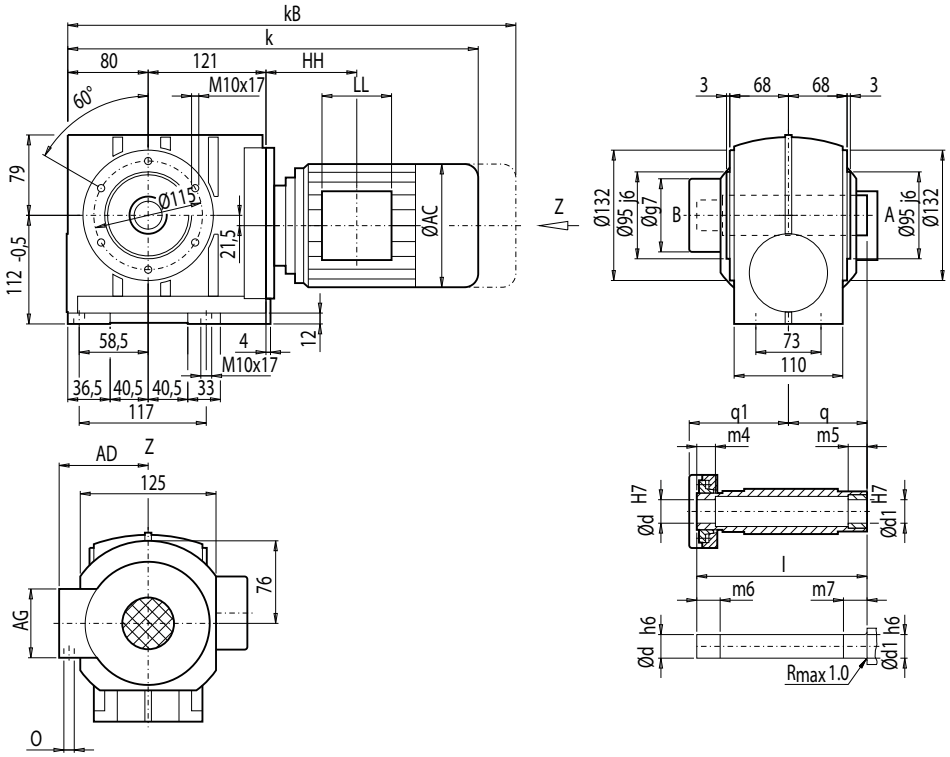
	CAFS48								Weight
Motor	**k**	**kB**	**AC**	**AD**	**AG**	**LL**	**HH**	**O**	**CAFS48**
LA71	459.5	514.5	139.0	146	90	90	114.5	M20x1.5/M25x1.5	33
LA71Z	478.5	533.5	139.0	146	90	90	114.5	M20x1.5/M25x1.5	33
LA80	496.5	560.0	156.5	155	90	90	114.0	M20x1.5/M25x1.5	38
LA80Z	519.0	582.5	156.5	155	90	90	187.0	M20x1.5/M25x1.5	42
LA90S/L	527.5	598.5	174.0	163	90	90	114.0	M20x1.5/M25x1.5	42
LA90ZL	572.5	643.5	174.0	163	90	90	238.0	M20x1.5/M25x1.5	48
LA100L	573.5	654.5	195.0	168	120	120	154.5	2xM32x1.5	52
LA100ZL	643.5	724.5	195.0	168	120	120	286.5	2xM32x1.5	62
LA112M	603.0	684.0	219.0	181	120	120	160.0	2xM32x1.5	62
LA112ZM	631.0	712.0	219.0	181	120	120	264.0	2xM32x1.5	69

⑥ For note, see page 5/108

Dimensions

Gearbox CAZS48, shaft-mounted design with housing flange (C-type) and shrink disk

CAZS012



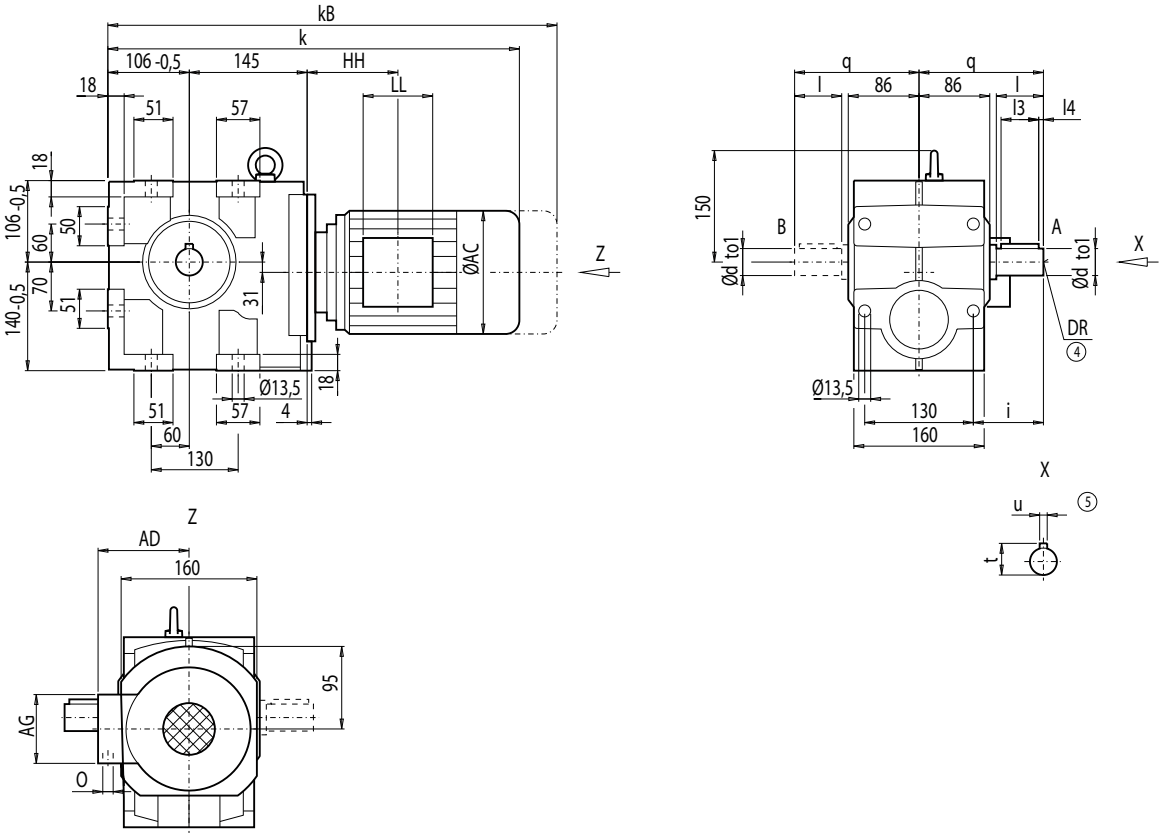
d	d1	l	m4	m5	m6	m7	q1	q	g7
35 *)	35	177	32	20	37	25	109	75	93
40	40	177	25	20	30	25	109	75	93

*) Preferred series

	CAZS48								Weight
Motor	**k**	**kB**	**AC**	**AD**	**AG**	**LL**	**HH**	**O**	**CAZS48**
LA71	459.5	514.5	139.0	146	90	90	114.5	M20x1.5/M25x1.5	30
LA71Z	478.5	533.5	139.0	146	90	90	114.5	M20x1.5/M25x1.5	30
LA80	496.5	560.0	156.5	155	90	90	114.0	M20x1.5/M25x1.5	35
LA80Z	519.0	582.5	156.5	155	90	90	187.0	M20x1.5/M25x1.5	39
LA90S/L	527.5	598.5	174.0	163	90	90	114.0	M20x1.5/M25x1.5	40
LA90ZL	572.5	643.5	174.0	163	90	90	238.0	M20x1.5/M25x1.5	46
LA100L	573.5	654.5	195.0	168	120	120	154.5	2xM32x1.5	49
LA100ZL	643.5	724.5	195.0	168	120	120	286.5	2xM32x1.5	59
LA112M	603.0	684.0	219.0	181	120	120	160.0	2xM32x1.5	60
LA112ZM	631.0	712.0	219.0	181	120	120	264.0	2xM32x1.5	67

Gearbox C68, foot- and housing-flange-mounted designs (C-type)

C012



d	to1	l	l3	l4	t	u	i	q	DR
35 *)	k6	70	56	5	38.0	10	95	160	M12x28
40	k6	80	70	5	43.0	12	105	170	M16x36
50	k6	100	80	10	53.5	14	125	190	M16x36

*) Preferred series

	C68								Weight
Motor	**k**	**kB**	**AC**	**AD**	**AG**	**LL**	**HH**	**O**	**C68**
LA71	504.0	559.0	139.0	146	90	90	109.0	M20x1.5/M25x1.5	46
LA71Z	523.0	578.0	139.0	146	90	90	109.0	M20x1.5/M25x1.5	46
LA80	541.0	604.5	156.5	155	90	90	108.5	M20x1.5/M25x1.5	51
LA80Z	563.5	627.0	156.5	155	90	90	181.5	M20x1.5/M25x1.5	55
LA90S/L	572.0	643.0	174.0	163	90	90	108.5	M20x1.5/M25x1.5	56
LA90ZL	617.0	688.0	174.0	163	90	90	232.5	M20x1.5/M25x1.5	62
LA100L	618.0	699.0	195.0	168	120	120	149.0	2xM32x1.5	65
LA100ZL	688.0	769.0	195.0	168	120	120	281.0	2xM32x1.5	75
LA112M	647.0	728.0	219.0	181	120	120	154.0	2xM32x1.5	76
LA112ZM	675.0	756.0	219.0	181	120	120	258.0	2xM32x1.5	83
LA132S/M	709.0	811.0	259.0	195	140	140	196.5	2xM32x1.5	86
LA132ZM	755.0	857.0	259.0	195	140	140	304.5	2xM32x1.5	107

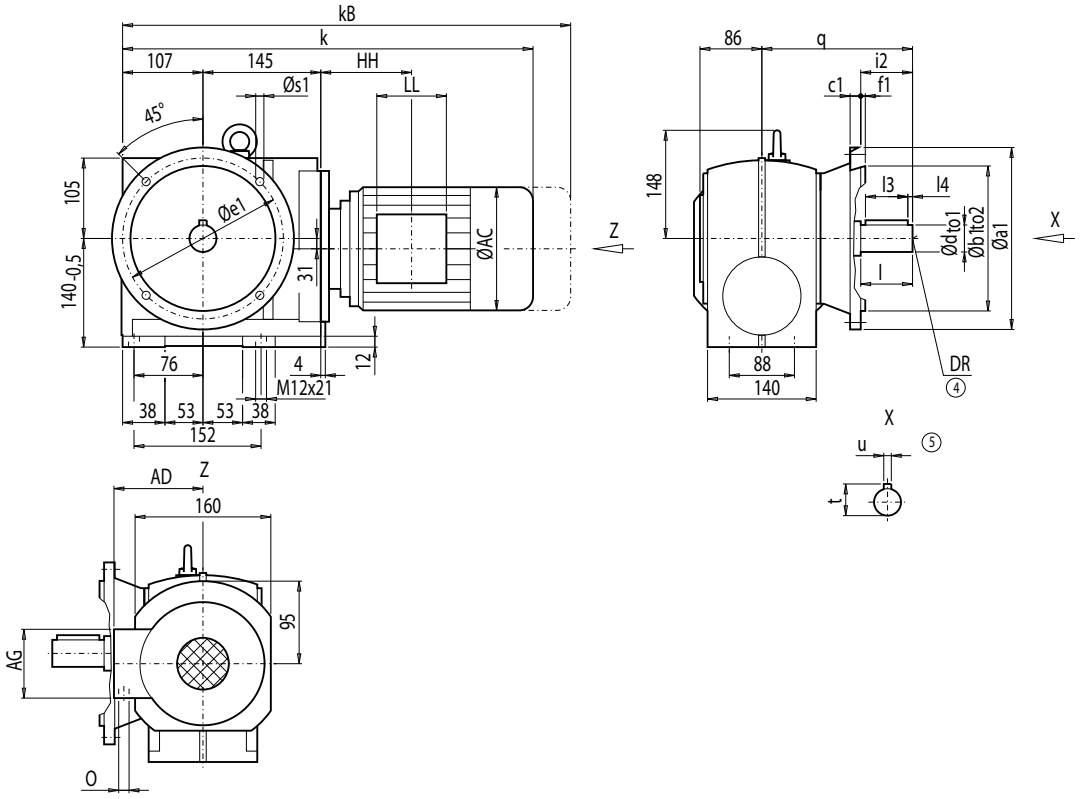
④ DIN 332

⑤ Feather key / keyway DIN 6885

Dimensions

Gearbox CF68, flange-mounted design (A-type)

CF012



Flange	a1	b1	to2	c1	e1	f1	s1	d	to1	l	l3	l4	t	u	i2	q	DR
A200	200	130	j6	12	165	4	11.0	35 *)	k6	70	56	5	38	10	70	202.5	M12x28
A250	250	180	j6	15	215	4	13.5	40	k6	80	70	5	43	12	80	193.0	M16x36

*) Preferred series

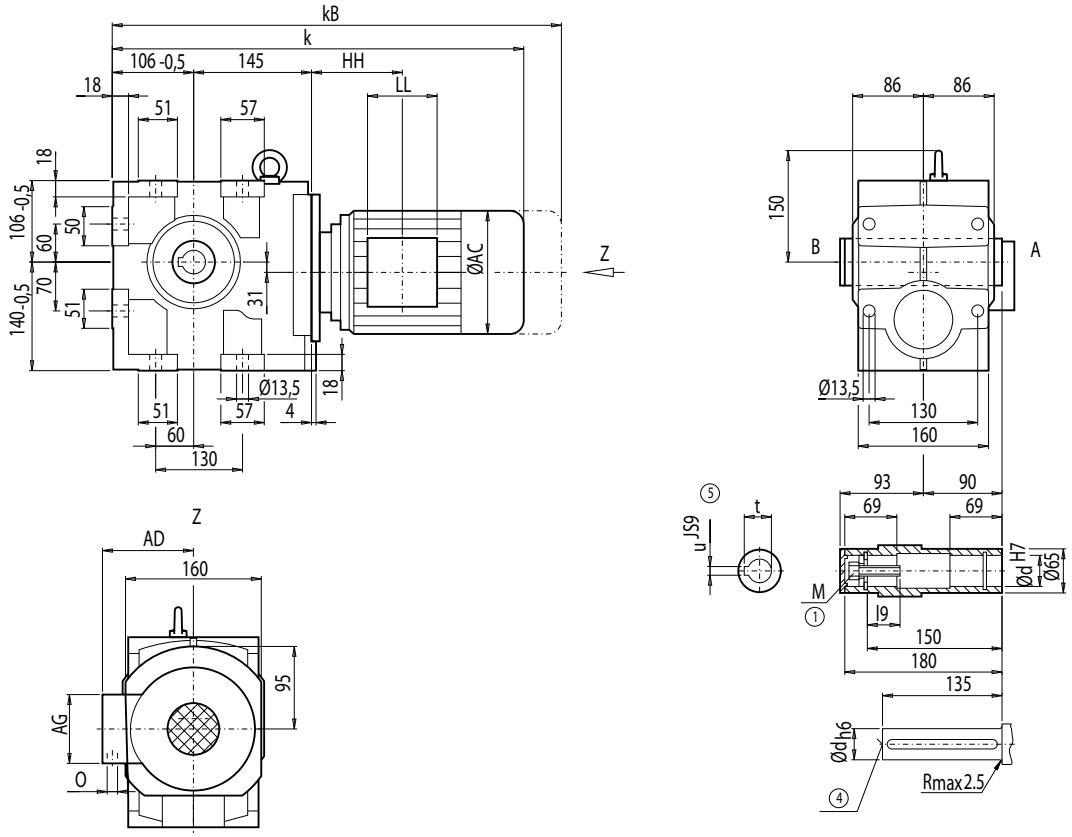
	CF68								Weight
Motor	**k**	**kB**	**AC**	**AD**	**AG**	**LL**	**HH**	**O**	**CF68**
LA71	505.0	560.0	139.0	146	90	90	109.0	M20x1.5/M25x1.5	55
LA71Z	524.0	579.0	139.0	146	90	90	109.0	M20x1.5/M25x1.5	55
LA80	542.0	605.5	156.5	155	90	90	108.5	M20x1.5/M25x1.5	60
LA80Z	564.5	628.0	156.5	155	90	90	181.5	M20x1.5/M25x1.5	64
LA90S/L	573.0	644.0	174.0	163	90	90	108.5	M20x1.5/M25x1.5	65
LA90ZL	618.0	689.0	174.0	163	90	90	232.5	M20x1.5/M25x1.5	71
LA100L	619.0	700.0	195.0	168	120	120	149.0	2xM32x1.5	74
LA100ZL	689.0	770.0	195.0	168	120	120	281.0	2xM32x1.5	84
LA112M	648.0	729.0	219.0	181	120	120	154.0	2xM32x1.5	85
LA112ZM	676.0	757.0	219.0	181	120	120	258.0	2xM32x1.5	92
LA132S/M	710.5	812.5	259.0	195	140	140	196.5	2xM32x1.5	95
LA132ZM	756.5	858.5	259.0	195	140	140	304.5	2xM32x1.5	116

④ DIN 332

⑤ Feather key / keyway DIN 6885

Gearbox CA68, shaft-mounted design

CA012



d	l9	M	t	u
40 *)	48	M16	43.3	12
45	47	M16	48.3	14

*) Preferred series

Motor	CA68 k	kB	AC	AD	AG	LL	HH	O	Weight CA68
LA71	504.0	559.0	139.0	146	90	90	109.0	M20x1.5/M25x1.5	43
LA71Z	523.0	578.0	139.0	146	90	90	109.0	M20x1.5/M25x1.5	43
LA80	541.0	604.5	156.5	155	90	90	108.5	M20x1.5/M25x1.5	48
LA80Z	563.5	627.0	156.5	155	90	90	181.5	M20x1.5/M25x1.5	52
LA90S/L	572.0	643.0	174.0	163	90	90	108.5	M20x1.5/M25x1.5	52
LA90ZL	617.0	688.0	174.0	163	90	90	232.5	M20x1.5/M25x1.5	58
LA100L	618.0	699.0	195.0	168	120	120	149.0	2xM32x1.5	61
LA100ZL	688.0	769.0	195.0	168	120	120	281.0	2xM32x1.5	71
LA112M	647.0	728.0	219.0	181	120	120	154.0	2xM32x1.5	73
LA112ZM	675.0	756.0	219.0	181	120	120	258.0	2xM32x1.5	80
LA132S/M	709.0	811.0	259.0	195	140	140	196.5	2xM32x1.5	83
LA132ZM	755.0	857.0	259.0	195	140	140	304.5	2xM32x1.5	104

④ DIN 332 ⑤ Feather key / keyway DIN 6885 ① EN ISO 4014

Dimensions

Gearbox CAD68, shaft-mounted design with torque arm

CAD012

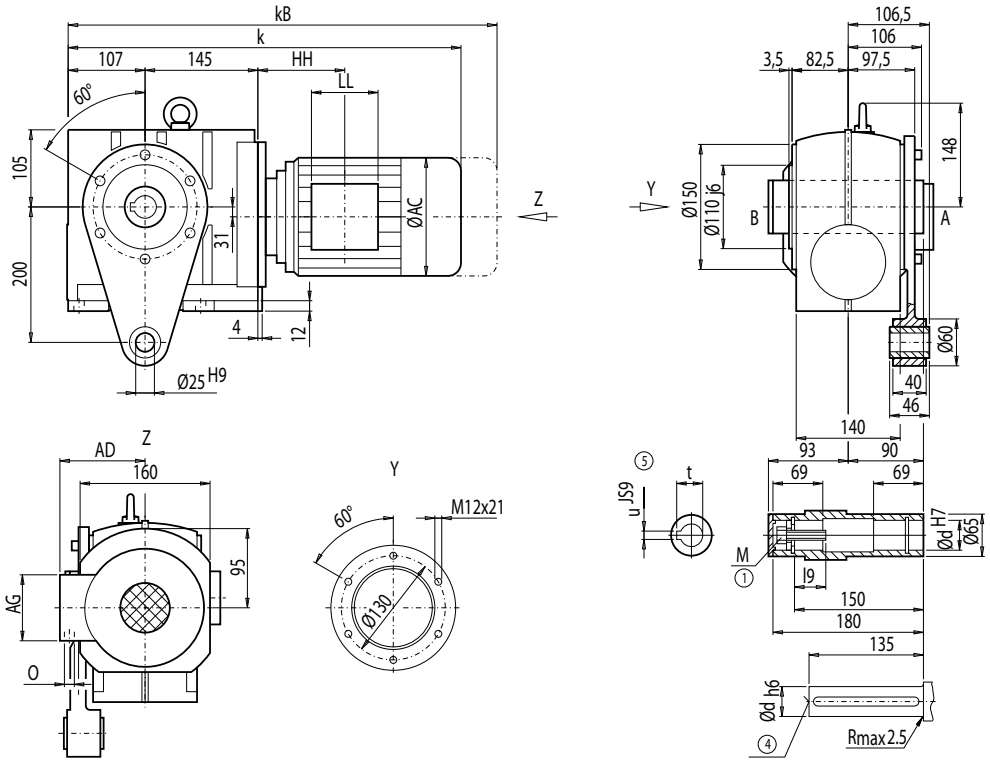


Fig.1

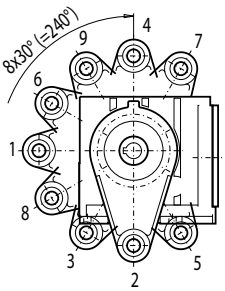
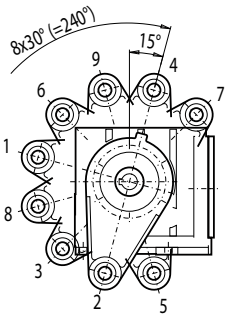


Fig.2



d	l9	M	t	u
40 *)	48	M16	43.3	12
45	47	M16	48.3	14

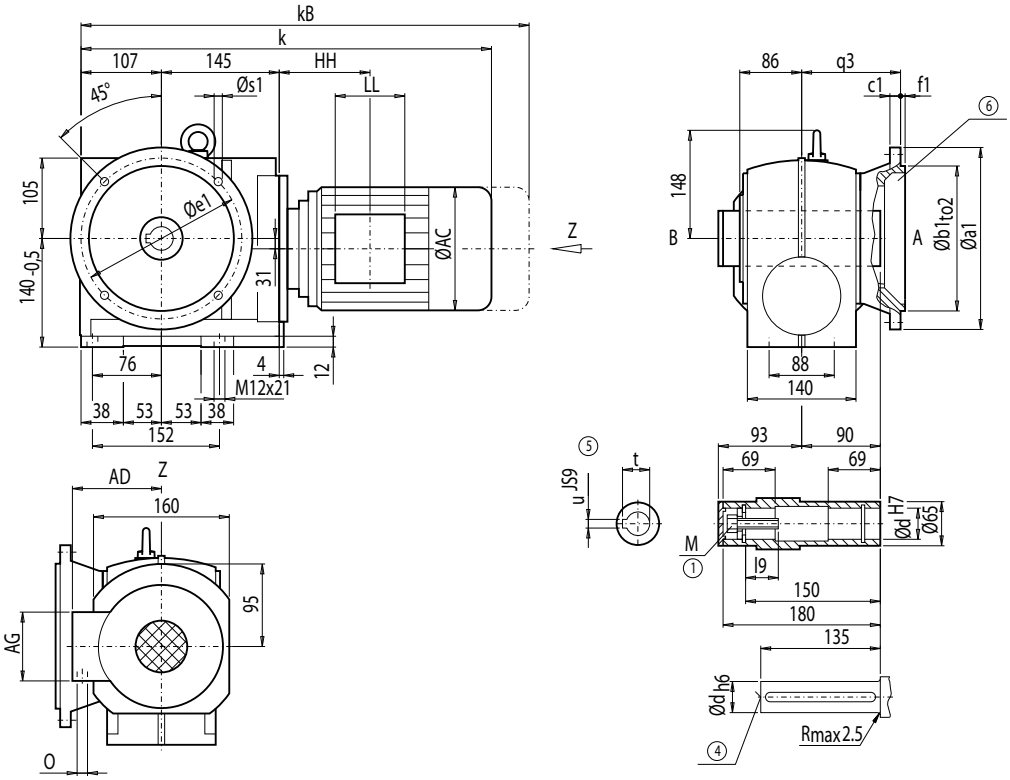
*) Preferred series

Motor	CAD68 k	kB	AC	AD	AG	LL	HH	O	Weight CAD68
LA71	505.0	560.0	139.0	146	90	90	109.0	M20x1.5/M25x1.5	48
LA71Z	524.0	579.0	139.0	146	90	90	109.0	M20x1.5/M25x1.5	48
LA80	542.0	605.5	156.5	155	90	90	108.5	M20x1.5/M25x1.5	53
LA80Z	564.5	628.0	156.5	155	90	90	181.5	M20x1.5/M25x1.5	57
LA90S/L	573.0	644.0	174.0	163	90	90	108.5	M20x1.5/M25x1.5	57
LA90ZL	618.0	689.0	174.0	163	90	90	232.5	M20x1.5/M25x1.5	63
LA100L	619.0	700.0	195.0	168	120	120	149.0	2xM32x1.5	67
LA100ZL	689.0	770.0	195.0	168	120	120	281.0	2xM32x1.5	77
LA112M	648.0	729.0	219.0	181	120	120	154.0	2xM32x1.5	78
LA112ZM	676.0	757.0	219.0	181	120	120	258.0	2xM32x1.5	85
LA132S/M	710.5	812.5	259.0	195	140	140	196.5	2xM32x1.5	88
LA132ZM	756.5	858.5	259.0	195	140	140	304.5	2xM32x1.5	109

④ DIN 332 ⑤ Feather key / keyway DIN 6885 ① EN ISO 4014

Gearbox CAF68, flange-mounted design

CAF012



Flange	a1	b1	to2	c1	e1	f1	s1	q3	d	l9	M	t	u
A200	200	130	j6	12	165	4	11.0	132.5	40 *)	48	M16	43.3	12
									45	47	M16	48.3	14
A250	250	180	j6	15	215	4	13.5	113.0	40 *)	48	M16	43.3	12
									45	47	M16	48.3	14

*) Preferred series

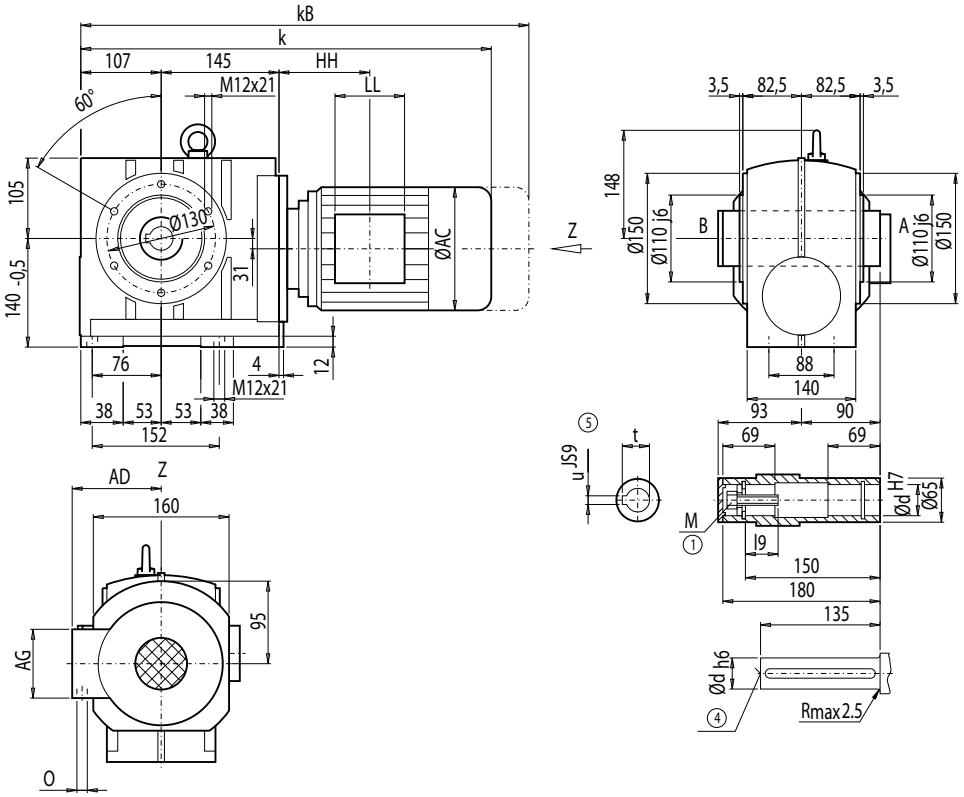
	CAF68								Weight
Motor	**k**	**kB**	**AC**	**AD**	**AG**	**LL**	**HH**	**O**	**CAF68**
LA71	505.0	560.0	139.0	146	90	90	109.0	M20x1.5/M25x1.5	52
LA71Z	524.0	579.0	139.0	146	90	90	109.0	M20x1.5/M25x1.5	52
LA80	542.0	605.5	156.5	155	90	90	108.5	M20x1.5/M25x1.5	57
LA80Z	564.5	628.0	156.5	155	90	90	181.5	M20x1.5/M25x1.5	61
LA90S/L	573.0	644.0	174.0	163	90	90	108.5	M20x1.5/M25x1.5	61
LA90ZL	618.0	689.0	174.0	163	90	90	232.5	M20x1.5/M25x1.5	68
LA100L	619.0	700.0	195.0	168	120	120	149.0	2xM32x1.5	70
LA100ZL	689.0	770.0	195.0	168	120	120	281.0	2xM32x1.5	80
LA112M	648.0	729.0	219.0	181	120	120	154.0	2xM32x1.5	82
LA112ZM	676.0	757.0	219.0	181	120	120	258.0	2xM32x1.5	89
LA132S/M	710.5	812.5	259.0	195	140	140	196.5	2xM32x1.5	92
LA132ZM	756.5	858.5	259.0	195	140	140	304.5	2xM32x1.5	113

④ DIN 332 ⑤ Feather key / keyway DIN 6885 ① EN ISO 4014 ⑥ For note, see page 5/108

Dimensions

Gearbox CAZ68, shaft-mounted design with housing flange (C-type)

CAZ012



d	l9	M	t	u
40 *)	48	M16	43.3	12
45	47	M16	48.3	14

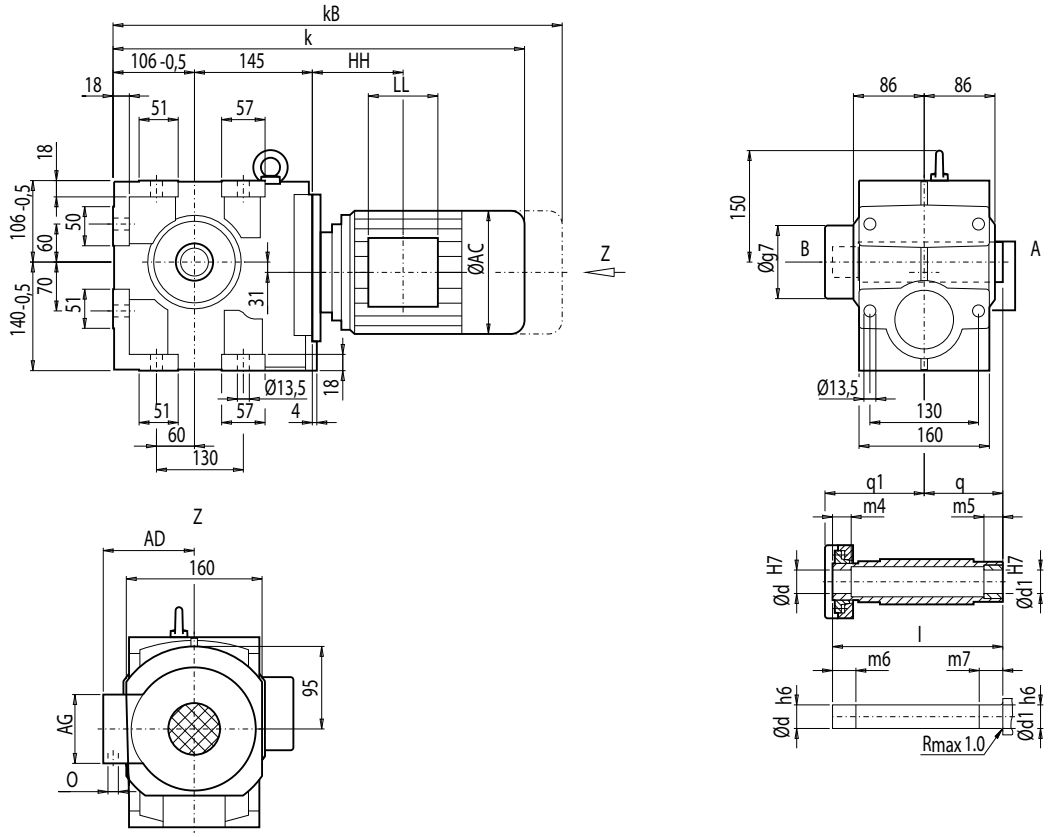
*) Preferred series

Motor	CAZ68 k	kB	AC	AD	AG	LL	HH	O	Weight CAZ68
LA71	505.0	560.0	139.0	146	90	90	109.0	M20x1.5/M25x1.5	47
LA71Z	524.0	579.0	139.0	146	90	90	109.0	M20x1.5/M25x1.5	47
LA80	542.0	605.5	156.5	155	90	90	108.5	M20x1.5/M25x1.5	52
LA80Z	564.5	628.0	156.5	155	90	90	181.5	M20x1.5/M25x1.5	56
LA90S/L	573.0	644.0	174.0	163	90	90	108.5	M20x1.5/M25x1.5	57
LA90ZL	618.0	689.0	174.0	163	90	90	232.5	M20x1.5/M25x1.5	63
LA100L	619.0	700.0	195.0	168	120	120	149.0	2xM32x1.5	66
LA100ZL	689.0	770.0	195.0	168	120	120	281.0	2xM32x1.5	76
LA112M	648.0	729.0	219.0	181	120	120	154.0	2xM32x1.5	77
LA112ZM	676.0	757.0	219.0	181	120	120	258.0	2xM32x1.5	84
LA132S/M	710.5	812.5	259.0	195	140	140	196.5	2xM32x1.5	87
LA132ZM	756.5	858.5	259.0	195	140	140	304.5	2xM32x1.5	108

① EN ISO 4014 ④ DIN 332 ⑤ Feather key / keyway DIN 6885

Gearbox CAS68, shaft-mounted design with shrink disk

CAS012



d	d1	l	m4	m5	m6	m7	q1	q	g7
40 *)	40	209	35	20	40	25	126	90	112
50	50	209	27	20	32	25	126	90	112

*) Preferred series

	CAS68								Weight
Motor	**k**	**kB**	**AC**	**AD**	**AG**	**LL**	**HH**	**O**	**CAS68**
LA71	505.0	560.0	139.0	146	90	90	109.0	M20x1.5/M25x1.5	44
LA71Z	524.0	579.0	139.0	146	90	90	109.0	M20x1.5/M25x1.5	44
LA80	542.0	605.5	156.5	155	90	90	108.5	M20x1.5/M25x1.5	49
LA80Z	564.5	628.0	156.5	155	90	90	181.5	M20x1.5/M25x1.5	53
LA90S/L	573.0	644.0	174.0	163	90	90	108.5	M20x1.5/M25x1.5	54
LA90ZL	618.0	689.0	174.0	163	90	90	232.5	M20x1.5/M25x1.5	60
LA100L	619.0	700.0	195.0	168	120	120	149.0	2xM32x1.5	63
LA100ZL	689.0	770.0	195.0	168	120	120	281.0	2xM32x1.5	73
LA112M	648.0	729.0	219.0	181	120	120	154.0	2xM32x1.5	74
LA112ZM	676.0	757.0	219.0	181	120	120	258.0	2xM32x1.5	81
LA132S/M	710.5	812.5	259.0	195	140	140	196.5	2xM32x1.5	84
LA132ZM	756.5	858.5	259.0	195	140	140	304.5	2xM32x1.5	105

Dimensions

Gearbox CADS68, shaft-mounted design with torque arm and shrink disk

CADS012

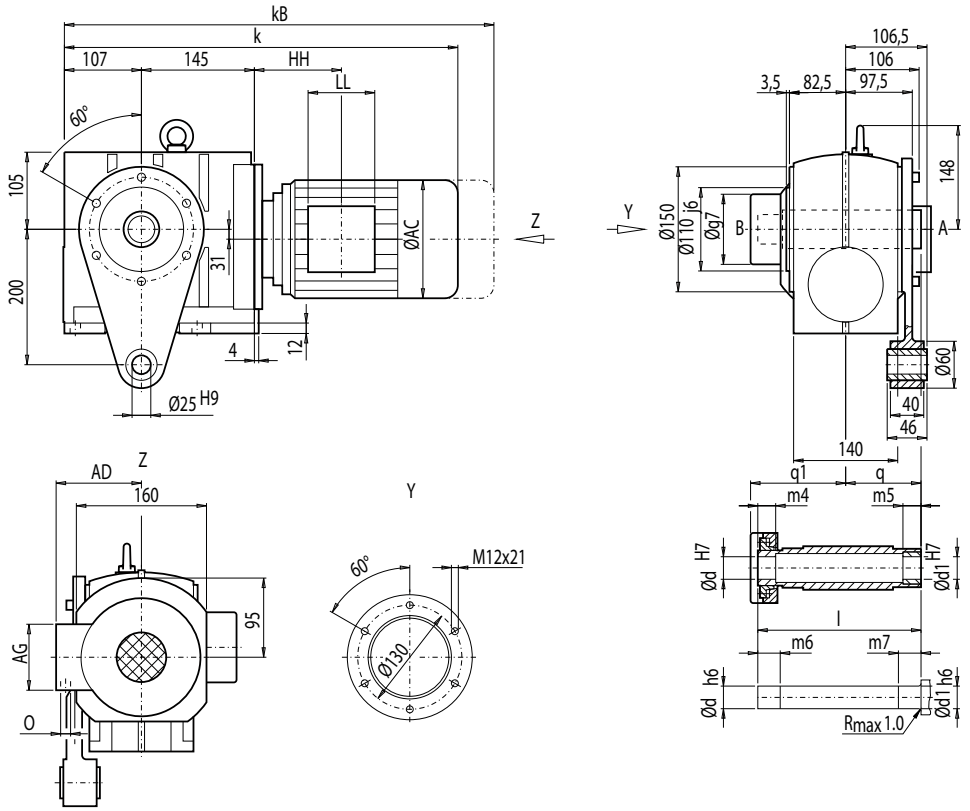


Fig.1

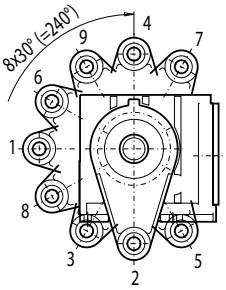
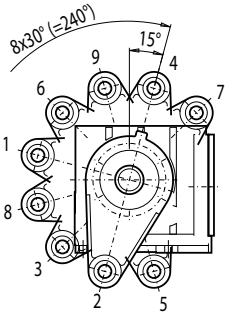


Fig.2



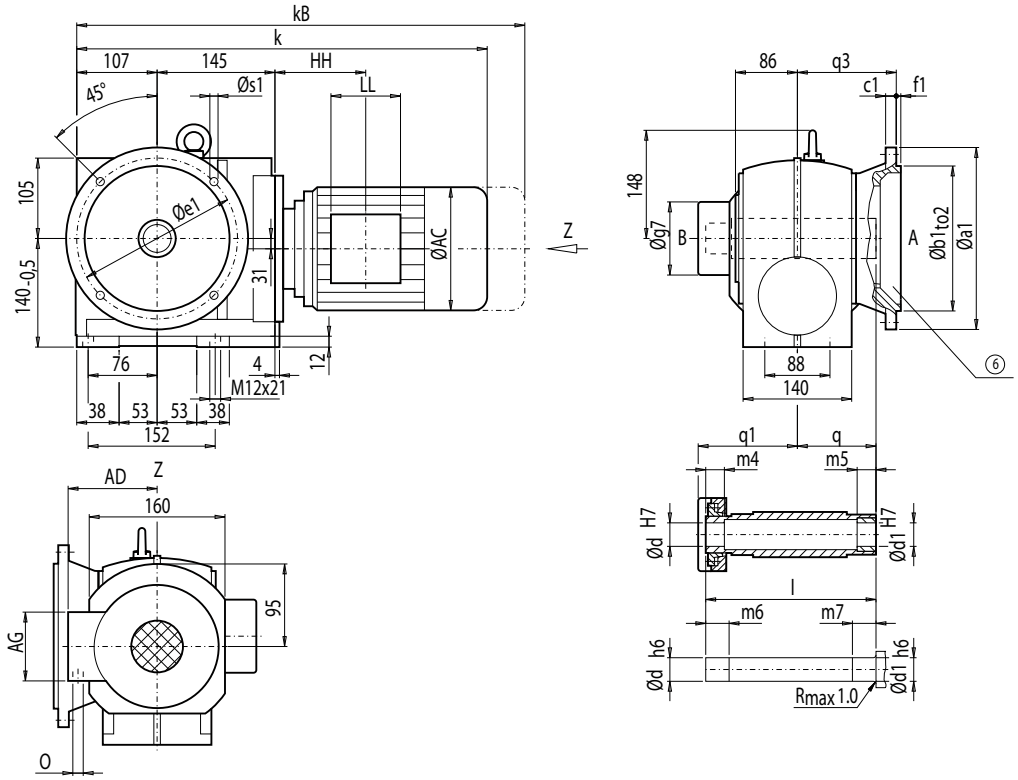
d	d1	l	m4	m5	m6	m7	q1	q	g7
40 *)	40	209	35	20	40	25	126	90	112
50	50	209	27	20	32	25	126	90	112

*) Preferred series

	CADS68								Weight
Motor	**k**	**kB**	**AC**	**AD**	**AG**	**LL**	**HH**	**O**	**CADS68**
LA71	505.0	560.0	139.0	146	90	90	109.0	M20x1.5/M25x1.5	50
LA71Z	524.0	579.0	139.0	146	90	90	109.0	M20x1.5/M25x1.5	50
LA80	542.0	605.5	156.5	155	90	90	108.5	M20x1.5/M25x1.5	55
LA80Z	564.5	628.0	156.5	155	90	90	181.5	M20x1.5/M25x1.5	59
LA90S/L	573.0	644.0	174.0	163	90	90	108.5	M20x1.5/M25x1.5	60
LA90ZL	618.0	689.0	174.0	163	90	90	232.5	M20x1.5/M25x1.5	66
LA100L	619.0	700.0	195.0	168	120	120	149.0	2xM32x1.5	69
LA100ZL	689.0	770.0	195.0	168	120	120	281.0	2xM32x1.5	79
LA112M	648.0	729.0	219.0	181	120	120	154.0	2xM32x1.5	80
LA112ZM	676.0	757.0	219.0	181	120	120	258.0	2xM32x1.5	87
LA132S/M	710.5	812.5	259.0	195	140	140	196.5	2xM32x1.5	90
LA132ZM	756.5	858.5	259.0	195	140	140	304.5	2xM32x1.5	111

Gearbox CAFS68, flange-mounted design and shrink disk

CAFS012



Flange	a1	b1	to2	c1	e1	f1	s1	q3	d	d1	l	m4	m5	m6	m7	q1	q	g7
A200	200	130	j6	12	165	4	11.0	132.5	40 *)	40	209	35	20	40	25	126	90	112
									50	50	209	27	20	32	25	126	90	112
A250	250	180	j6	15	215	4	13.5	113.0	40 *)	40	209	35	20	40	25	126	90	112
									50	50	209	27	20	32	25	126	90	112

*) Preferred series

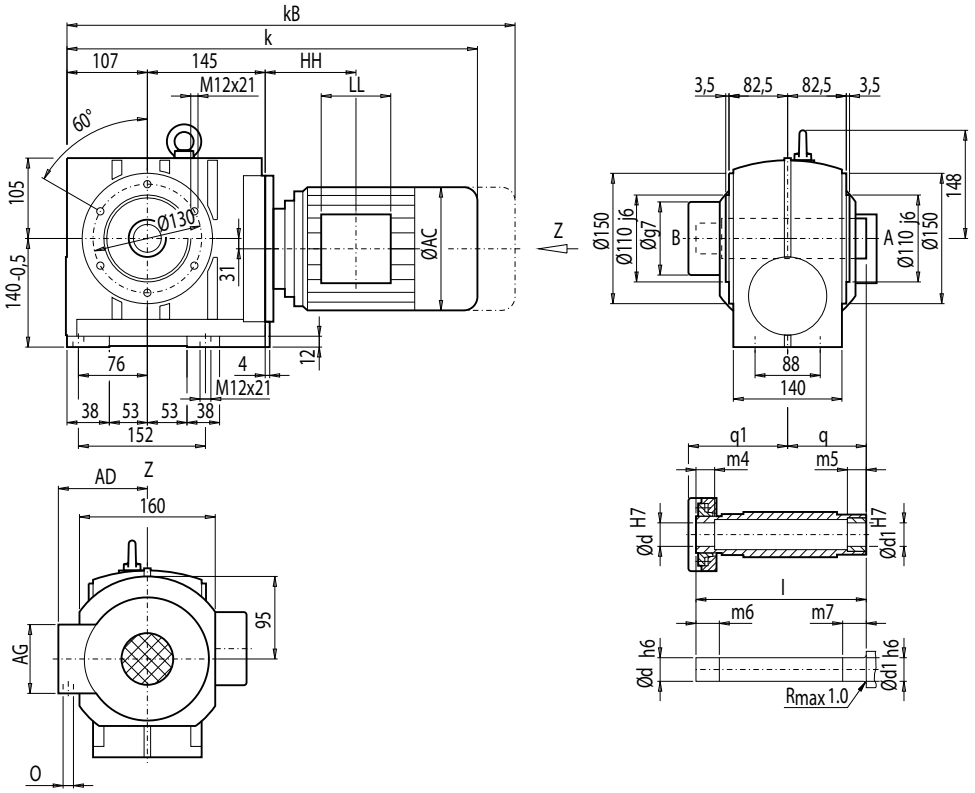
	CAFS68								Weight
Motor	**k**	**kB**	**AC**	**AD**	**AG**	**LL**	**HH**	**O**	**CAFS68**
LA71	505.0	560.0	139.0	146	90	90	109.0	M20x1.5/M25x1.5	53
LA71Z	524.0	579.0	139.0	146	90	90	109.0	M20x1.5/M25x1.5	53
LA80	542.0	605.5	156.5	155	90	90	108.5	M20x1.5/M25x1.5	58
LA80Z	564.5	628.0	156.5	155	90	90	181.5	M20x1.5/M25x1.5	62
LA90S/L	573.0	644.0	174.0	163	90	90	108.5	M20x1.5/M25x1.5	63
LA90ZL	618.0	689.0	174.0	163	90	90	232.5	M20x1.5/M25x1.5	69
LA100L	619.0	700.0	195.0	168	120	120	149.0	2xM32x1.5	72
LA100ZL	689.0	770.0	195.0	168	120	120	281.0	2xM32x1.5	82
LA112M	648.0	729.0	219.0	181	120	120	154.0	2xM32x1.5	83
LA112ZM	676.0	757.0	219.0	181	120	120	258.0	2xM32x1.5	90
LA132S/M	710.5	812.5	259.0	195	140	140	196.5	2xM32x1.5	93
LA132ZM	756.5	858.5	259.0	195	140	140	304.5	2xM32x1.5	114

⑥ For note, see page 5/108

Dimensions

Gearbox CAZS68, shaft-mounted design with housing flange (C-type) and shrink disk

CAZS012



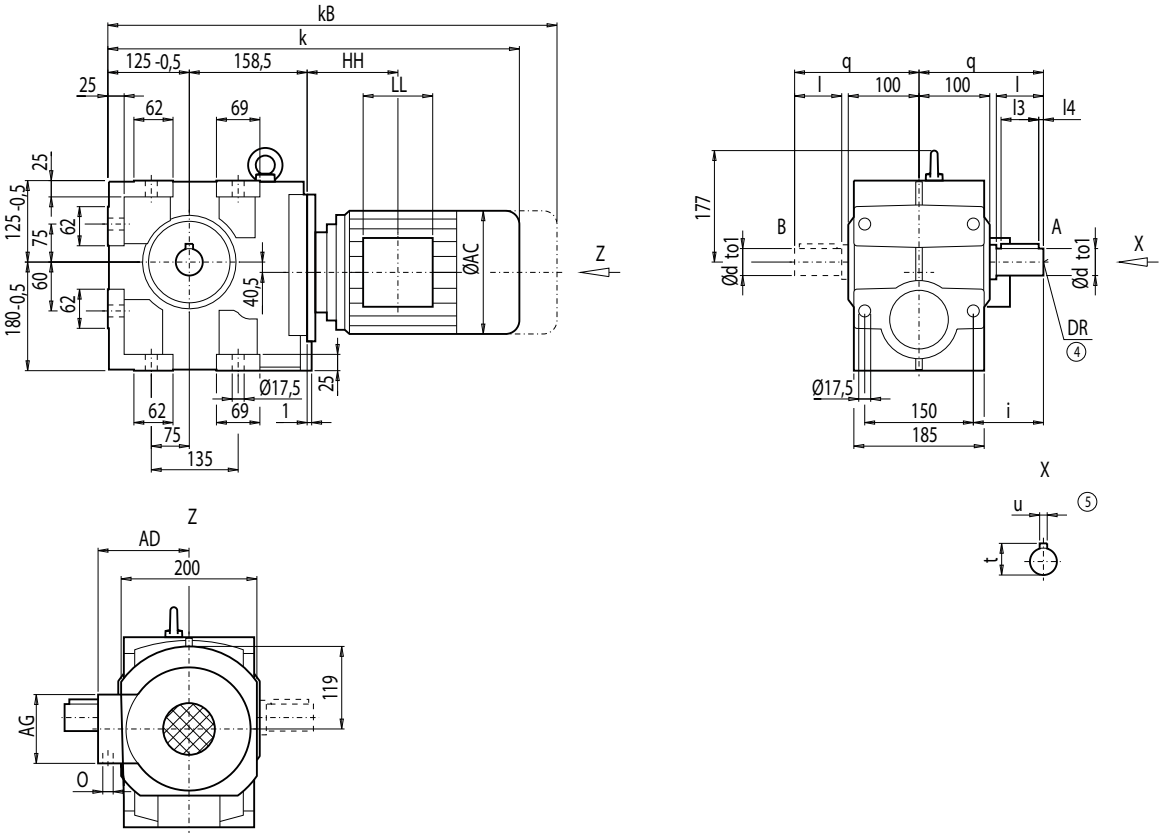
d	d1	l	m4	m5	m6	m7	q1	q	g7
40 *)	40	209	35	20	40	25	126	90	112
50	50	209	27	20	32	25	126	90	112

*) Preferred series

	CAZS68								Weight
Motor	**k**	**kB**	**AC**	**AD**	**AG**	**LL**	**HH**	**O**	**CAZS68**
LA71	505.0	560.0	139.0	146	90	90	109.0	M20x1.5/M25x1.5	49
LA71Z	524.0	579.0	139.0	146	90	90	109.0	M20x1.5/M25x1.5	49
LA80	542.0	605.5	156.5	155	90	90	108.5	M20x1.5/M25x1.5	53
LA80Z	564.5	628.0	156.5	155	90	90	181.5	M20x1.5/M25x1.5	57
LA90S/L	573.0	644.0	174.0	163	90	90	108.5	M20x1.5/M25x1.5	58
LA90ZL	618.0	689.0	174.0	163	90	90	232.5	M20x1.5/M25x1.5	64
LA100L	619.0	700.0	195.0	168	120	120	149.0	2xM32x1.5	67
LA100ZL	689.0	770.0	195.0	168	120	120	281.0	2xM32x1.5	77
LA112M	648.0	729.0	219.0	181	120	120	154.0	2xM32x1.5	79
LA112ZM	676.0	757.0	219.0	181	120	120	258.0	2xM32x1.5	86
LA132S/M	710.5	812.5	259.0	195	140	140	196.5	2xM32x1.5	89
LA132ZM	756.5	858.5	259.0	195	140	140	304.5	2xM32x1.5	110

Gearbox C88, foot- and housing-flange-mounted designs (C-type)

C012



d	to1	l	l3	l4	t	u	i	q	DR
45 *)	k6	90	80	2.5	48.0	14	120	195	M16x36
50	k6	100	80	10.0	53.5	14	130	205	M16x36
70	m6	140	110	15.0	74.5	20	170	245	M20x42

*) Preferred series

	C88								Weight
Motor	**k**	**kB**	**AC**	**AD**	**AG**	**LL**	**HH**	**O**	**C88**
LA71	530.5	585.5	139.0	146	90	90	103.0	M20x1.5/M25x1.5	74
LA71Z	549.5	604.5	139.0	146	90	90	103.0	M20x1.5/M25x1.5	74
LA80	567.5	631.0	156.5	155	90	90	102.5	M20x1.5/M25x1.5	78
LA80Z	590.0	653.5	156.5	155	90	90	175.5	M20x1.5/M25x1.5	82
LA90S/L	598.5	669.5	174.0	163	90	90	102.5	M20x1.5/M25x1.5	83
LA90ZL	643.5	714.5	174.0	163	90	90	226.5	M20x1.5/M25x1.5	89
LA100L	644.5	725.5	195.0	168	120	120	143.0	2xM32x1.5	92
LA100ZL	714.5	795.5	195.0	168	120	120	275.0	2xM32x1.5	102
LA112M	671.5	752.5	219.0	181	120	120	146.0	2xM32x1.5	104
LA112ZM	699.5	780.5	219.0	181	120	120	250.0	2xM32x1.5	111
LA132S/M	731.5	833.5	259.0	195	140	140	186.5	2xM32x1.5	117
LA132ZM	777.5	879.5	259.0	195	140	140	294.5	2xM32x1.5	138
LA160M/L	834.0	952.5	313.5	227	165	165	212.0	2xM40x1.5	150
LA160ZL	882.0	1 000.5	313.5	227	165	165	365.0	2xM40x1.5	189

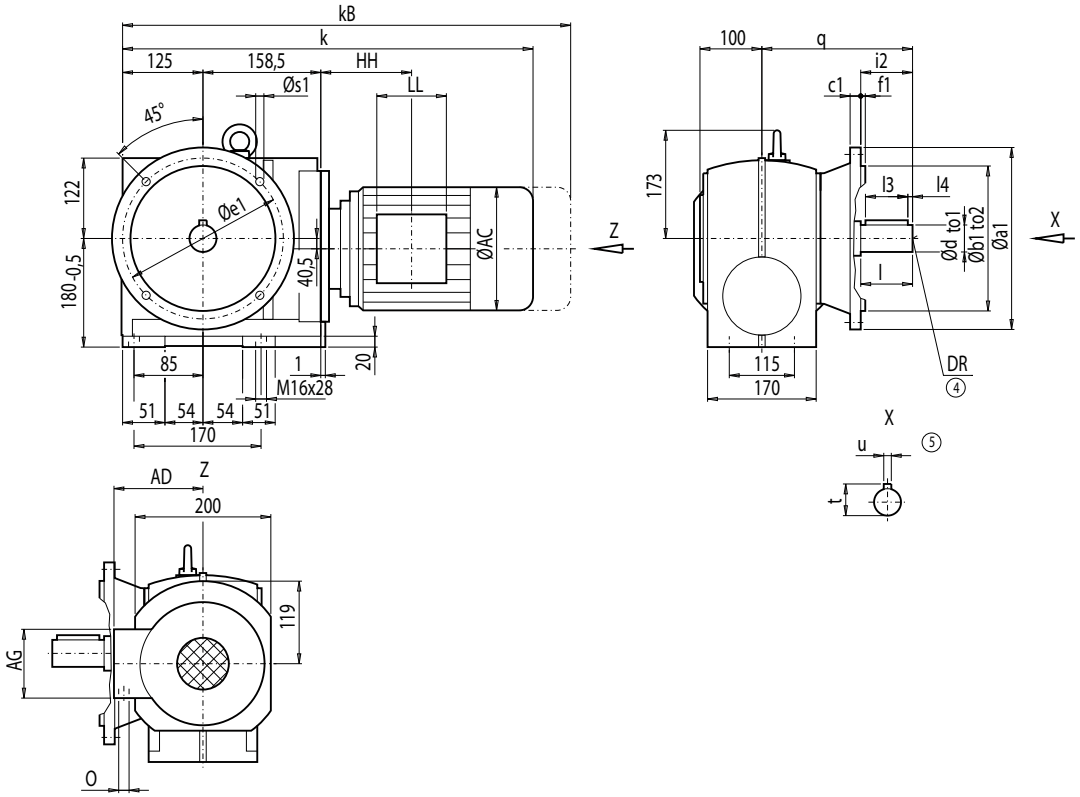
④ DIN 332

⑤ Feather key / keyway DIN 6885

Dimensions

Gearbox CF88, flange-mounted design (A-type)

CF012



Flange	a1	b1	to2	c1	e1	f1	s1	d	to1	l	l3	l4	t	u	i2	q	DR
A250	250	180	j6	15	215	4	13.5	45 *)	k6	90	80	2.5	48.0	14	90	240.5	M16x36
A300	300	230	j6	16	265	4	13.5	50	k6	100	80	10.0	53.5	14	100	242.0	M16x36

*) Preferred series

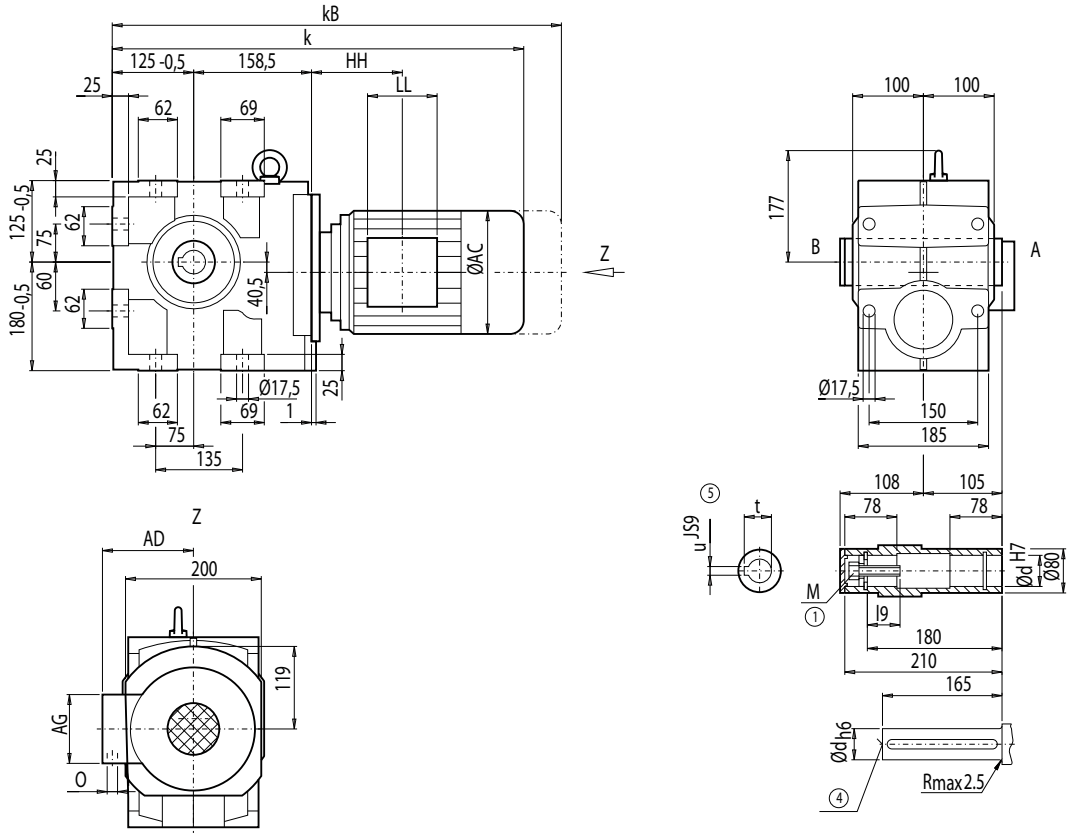
	CF88								Weight
Motor	**k**	**kB**	**AC**	**AD**	**AG**	**LL**	**HH**	**O**	**CF88**
LA71	530.5	585.5	139.0	146	90	90	103.0	M20x1.5/M25x1.5	87
LA71Z	549.5	604.5	139.0	146	90	90	103.0	M20x1.5/M25x1.5	87
LA80	567.5	631.0	156.5	155	90	90	102.5	M20x1.5/M25x1.5	92
LA80Z	590.0	653.5	156.5	155	90	90	175.5	M20x1.5/M25x1.5	96
LA90S/L	598.5	669.5	174.0	163	90	90	102.5	M20x1.5/M25x1.5	97
LA90ZL	643.5	714.5	174.0	163	90	90	226.5	M20x1.5/M25x1.5	103
LA100L	644.5	725.5	195.0	168	120	120	143.0	2xM32x1.5	106
LA100ZL	714.5	795.5	195.0	168	120	120	275.0	2xM32x1.5	116
LA112M	671.5	752.5	219.0	181	120	120	146.0	2xM32x1.5	118
LA112ZM	699.5	780.5	219.0	181	120	120	250.0	2xM32x1.5	125
LA132S/M	731.5	833.5	259.0	195	140	140	186.5	2xM32x1.5	131
LA132ZM	777.5	879.5	259.0	195	140	140	294.5	2xM32x1.5	152
LA160M/L	834.0	952.5	313.5	227	165	165	212.0	2xM40x1.5	164
LA160ZL	882.0	1 000.5	313.5	227	165	165	365.0	2xM40x1.5	203

④ DIN 332

⑤ Feather key / keyway DIN 6885

Gearbox CA88, shaft-mounted design

CA012



d	l9	M	t	u
50 *)	44.5	M16	53.8	14
60	54.0	M20	64.4	18

*) Preferred series

Motor	CA88 k	kB	AC	AD	AG	LL	HH	O	Weight CA88
LA71	530.5	585.5	139.0	146	90	90	103.0	M20x1.5/M25x1.5	65
LA71Z	549.5	604.5	139.0	146	90	90	103.0	M20x1.5/M25x1.5	65
LA80	567.5	631.0	156.5	155	90	90	102.5	M20x1.5/M25x1.5	70
LA80Z	590.0	653.5	156.5	155	90	90	175.5	M20x1.5/M25x1.5	74
LA90S/L	598.5	669.5	174.0	163	90	90	102.5	M20x1.5/M25x1.5	75
LA90ZL	643.5	714.5	174.0	163	90	90	226.5	M20x1.5/M25x1.5	81
LA100L	644.5	725.5	195.0	168	120	120	143.0	2xM32x1.5	84
LA100ZL	714.5	795.5	195.0	168	120	120	275.0	2xM32x1.5	94
LA112M	671.5	752.5	219.0	181	120	120	146.0	2xM32x1.5	96
LA112ZM	699.5	780.5	219.0	181	120	120	250.0	2xM32x1.5	103
LA132S/M	731.5	833.5	259.0	195	140	140	186.5	2xM32x1.5	109
LA132ZM	777.5	879.5	259.0	195	140	140	294.5	2xM32x1.5	130
LA160M/L	834.0	952.5	313.5	227	165	165	212.0	2xM40x1.5	142
LA160ZL	882.0	1 000.5	313.5	227	165	165	365.0	2xM40x1.5	181

④ DIN 332 ⑤ Feather key / keyway DIN 6885 ① EN ISO 4014

Dimensions

Gearbox CAD88, shaft-mounted design with torque arm

CAD012

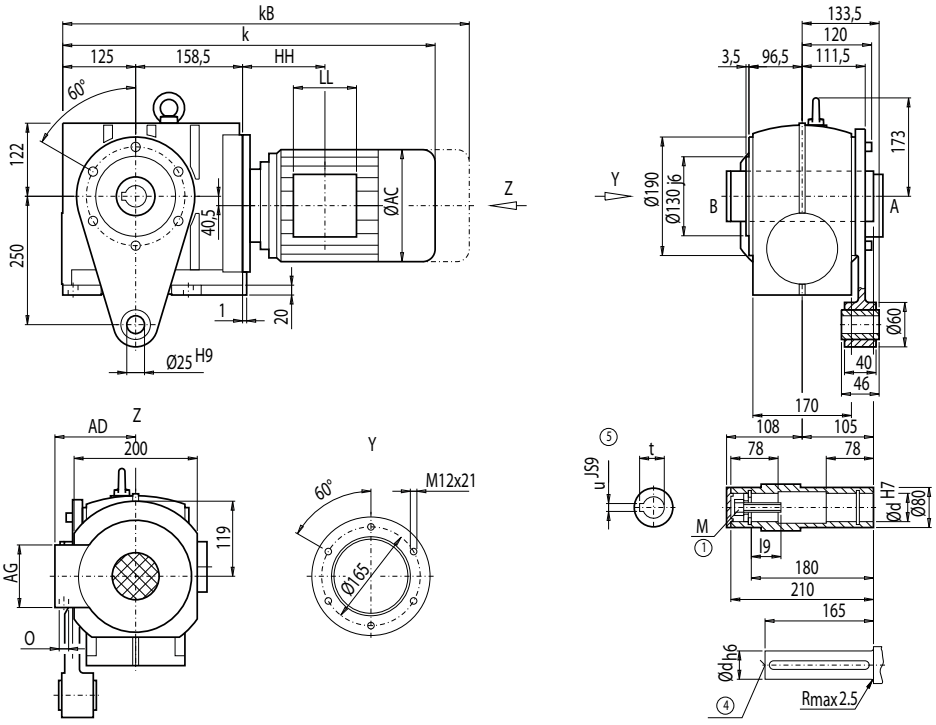


Fig.1

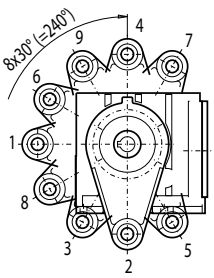
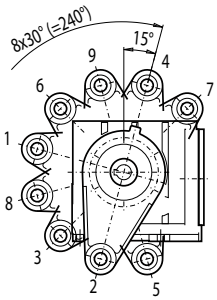


Fig.2



d	l9	M	t	u
50 *)	44.5	M16	53.8	14
60	54.0	M20	64.4	18

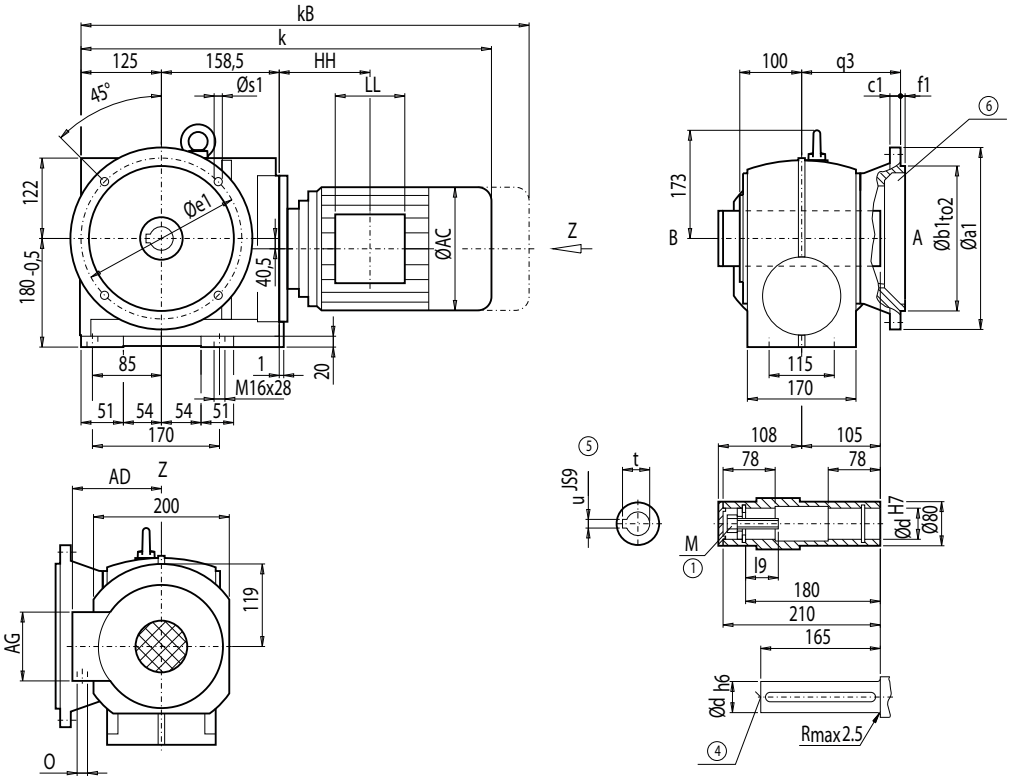
*) Preferred series

Motor	CAD88 k	kB	AC	AD	AG	LL	HH	O	Weight CAD88
LA71	530.5	585.5	139.0	146	90	90	103.0	M20x1.5/M25x1.5	75
LA71Z	549.5	604.5	139.0	146	90	90	103.0	M20x1.5/M25x1.5	75
LA80	567.5	631.0	156.5	155	90	90	102.5	M20x1.5/M25x1.5	80
LA80Z	590.0	653.5	156.5	155	90	90	175.5	M20x1.5/M25x1.5	84
LA90S/L	598.5	669.5	174.0	163	90	90	102.5	M20x1.5/M25x1.5	85
LA90ZL	643.5	714.5	174.0	163	90	90	226.5	M20x1.5/M25x1.5	91
LA100L	644.5	725.5	195.0	168	120	120	143.0	2xM32x1.5	94
LA100ZL	714.5	795.5	195.0	168	120	120	275.0	2xM32x1.5	104
LA112M	671.5	752.5	219.0	181	120	120	146.0	2xM32x1.5	106
LA112ZM	699.5	780.5	219.0	181	120	120	250.0	2xM32x1.5	113
LA132S/M	731.5	833.5	259.0	195	140	140	186.5	2xM32x1.5	119
LA132ZM	777.5	879.5	259.0	195	140	140	294.5	2xM32x1.5	140
LA160M/L	834.0	952.5	313.5	227	165	165	212.0	2xM40x1.5	151
LA160ZL	882.0	1 000.5	313.5	227	165	165	365.0	2xM40x1.5	190

④ DIN 332 ⑤ Feather key / keyway DIN 6885 ① EN ISO 4014

Gearbox CAF88, flange-mounted design

CAF012



Flange	a1	b1	to2	c1	e1	f1	q3	s1	d	l9	M	t	u
A250	250	180	j6	15	215	4	150.5	13.5	50 *)	44.5	M16	53.8	14
									60	54.0	M20	64.4	18
A300	300	230	j6	16	265	4	142.0	13.5	50*)	44.5	M16	53.8	14
									60	54.0	M20	64.4	18

*) Preferred series

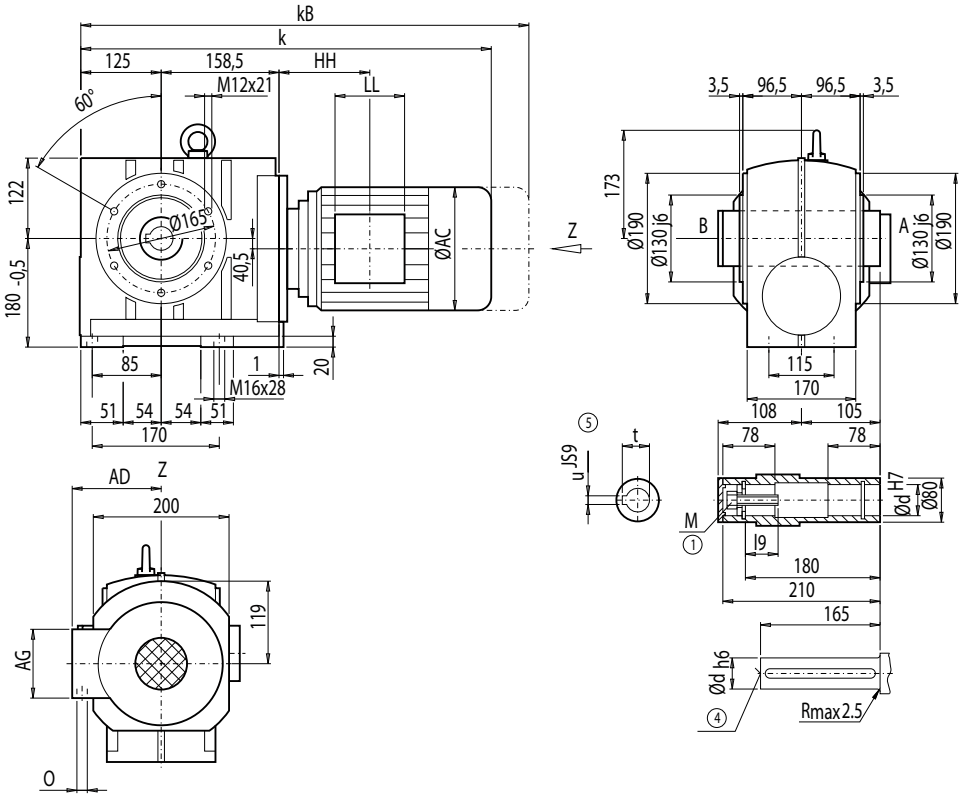
	CAF88								Weight
Motor	**k**	**kB**	**AC**	**AD**	**AG**	**LL**	**HH**	**O**	**CAF88**
LA71	530.5	585.5	139.0	146	90	90	103.0	M20x1.5/M25x1.5	79
LA71Z	549.5	604.5	139.0	146	90	90	103.0	M20x1.5/M25x1.5	79
LA80	567.5	631.0	156.5	155	90	90	102.5	M20x1.5/M25x1.5	84
LA80Z	590.0	653.5	156.5	155	90	90	175.5	M20x1.5/M25x1.5	88
LA90S/L	598.5	669.5	174.0	163	90	90	102.5	M20x1.5/M25x1.5	89
LA90ZL	643.5	714.5	174.0	163	90	90	226.5	M20x1.5/M25x1.5	95
LA100L	644.5	725.5	195.0	168	120	120	143.0	2xM32x1.5	98
LA100ZL	714.5	795.5	195.0	168	120	120	275.0	2xM32x1.5	108
LA112M	671.5	752.5	219.0	181	120	120	146.0	2xM32x1.5	110
LA112ZM	699.5	780.5	219.0	181	120	120	250.0	2xM32x1.5	117
LA132S/M	731.5	833.5	259.0	195	140	140	186.5	2xM32x1.5	123
LA132ZM	777.5	879.5	259.0	195	140	140	294.5	2xM32x1.5	144
LA160M/L	834.0	952.5	313.5	227	165	165	212.0	2xM40x1.5	155
LA160ZL	882.0	1 000.5	313.5	227	165	165	365.0	2xM40x1.5	194

④ DIN 332 ⑤ Feather key / keyway DIN 6885 ① EN ISO 4014 ⑥ For note, see page 5/108

Dimensions

Gearbox CAZ88, shaft-mounted design with housing flange (C-type)

CAZ012



d	l9	M	t	u
50 *)	44.5	M16	53.8	14
60	54.0	M20	64.4	18

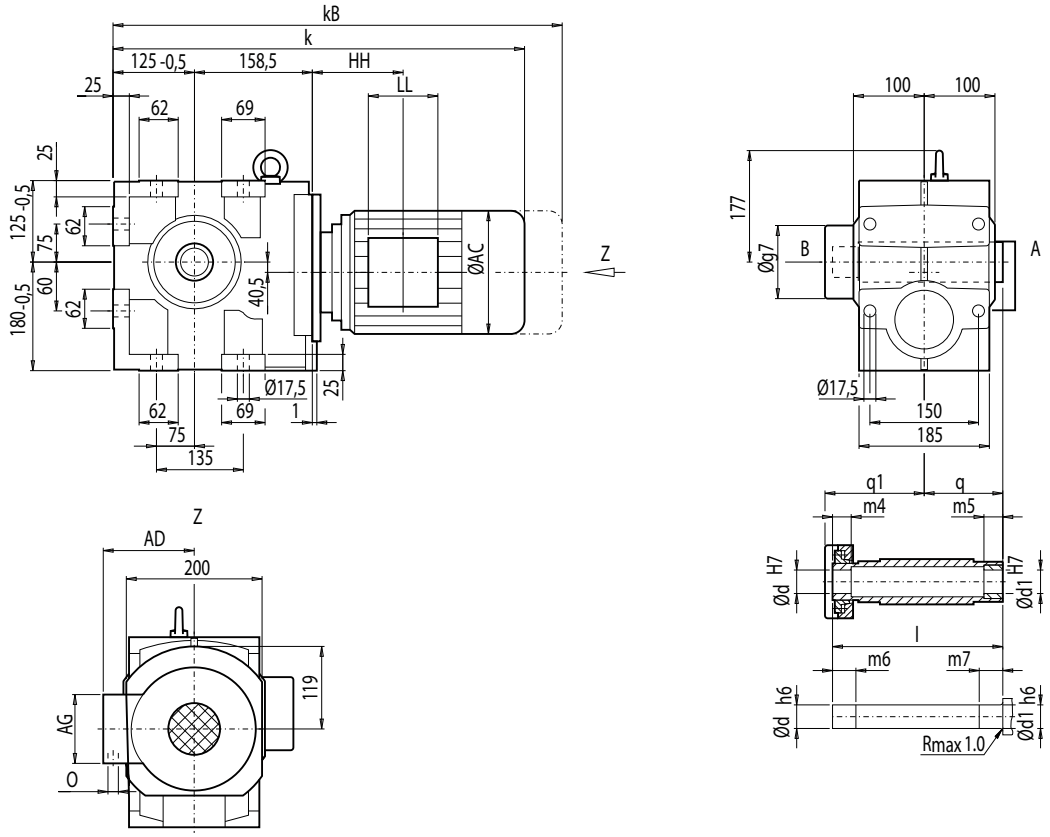
*) Preferred series

Motor	CAZ88 k	kB	AC	AD	AG	LL	HH	O	Weight CAZ88
LA71	530.5	585.5	139.0	146	90	90	103.0	M20x1.5/M25x1.5	72
LA71Z	549.5	604.5	139.0	146	90	90	103.0	M20x1.5/M25x1.5	72
LA80	567.5	631.0	156.5	155	90	90	102.5	M20x1.5/M25x1.5	77
LA80Z	590.0	653.5	156.5	155	90	90	175.5	M20x1.5/M25x1.5	81
LA90S/L	598.5	669.5	174.0	163	90	90	102.5	M20x1.5/M25x1.5	82
LA90ZL	643.5	714.5	174.0	163	90	90	226.5	M20x1.5/M25x1.5	88
LA100L	644.5	725.5	195.0	168	120	120	143.0	2xM32x1.5	91
LA100ZL	714.5	795.5	195.0	168	120	120	275.0	2xM32x1.5	101
LA112M	671.5	752.5	219.0	181	120	120	146.0	2xM32x1.5	103
LA112ZM	699.5	780.5	219.0	181	120	120	250.0	2xM32x1.5	110
LA132S/M	731.5	833.5	259.0	195	140	140	186.5	2xM32x1.5	116
LA132ZM	777.5	879.5	259.0	195	140	140	294.5	2xM32x1.5	137
LA160M/L	834.0	952.5	313.5	227	165	165	212.0	2xM40x1.5	149
LA160ZL	882.0	1 000.5	313.5	227	165	165	365.0	2xM40x1.5	188

① EN ISO 4014 ④ DIN 332 ⑤ Feather key / keyway DIN 6885

Gearbox CAS88, shaft-mounted design with shrink disk

CAS012



d	d1	l	m4	m5	m6	m7	q1	q	g7
50 *)	50	241	29	30	34	35	144	105	132
60	60	241	29	30	34	35	144	105	132

*) Preferred series

	CAS88								Weight
Motor	**k**	**kB**	**AC**	**AD**	**AG**	**LL**	**HH**	**O**	**CAS88**
LA71	530.5	585.5	139.0	146	90	90	103.0	M20x1.5/M25x1.5	67
LA71Z	549.5	604.5	139.0	146	90	90	103.0	M20x1.5/M25x1.5	67
LA80	567.5	631.0	156.5	155	90	90	102.5	M20x1.5/M25x1.5	72
LA80Z	590.0	653.5	156.5	155	90	90	175.5	M20x1.5/M25x1.5	76
LA90S/L	598.5	669.5	174.0	163	90	90	102.5	M20x1.5/M25x1.5	77
LA90ZL	643.5	714.5	174.0	163	90	90	226.5	M20x1.5/M25x1.5	83
LA100L	644.5	725.5	195.0	168	120	120	143.0	2xM32x1.5	86
LA100ZL	714.5	795.5	195.0	168	120	120	275.0	2xM32x1.5	96
LA112M	671.5	752.5	219.0	181	120	120	146.0	2xM32x1.5	98
LA112ZM	699.5	780.5	219.0	181	120	120	250.0	2xM32x1.5	105
LA132S/M	731.5	833.5	259.0	195	140	140	186.5	2xM32x1.5	111
LA132ZM	777.5	879.5	259.0	195	140	140	294.5	2xM32x1.5	132
LA160M/L	834.0	952.5	313.5	227	165	165	212.0	2xM40x1.5	143
LA160ZL	882.0	1 000.5	313.5	227	165	165	365.0	2xM40x1.5	182

Dimensions

Gearbox CADS88, shaft-mounted design with torque arm and shrink disk

CADS012

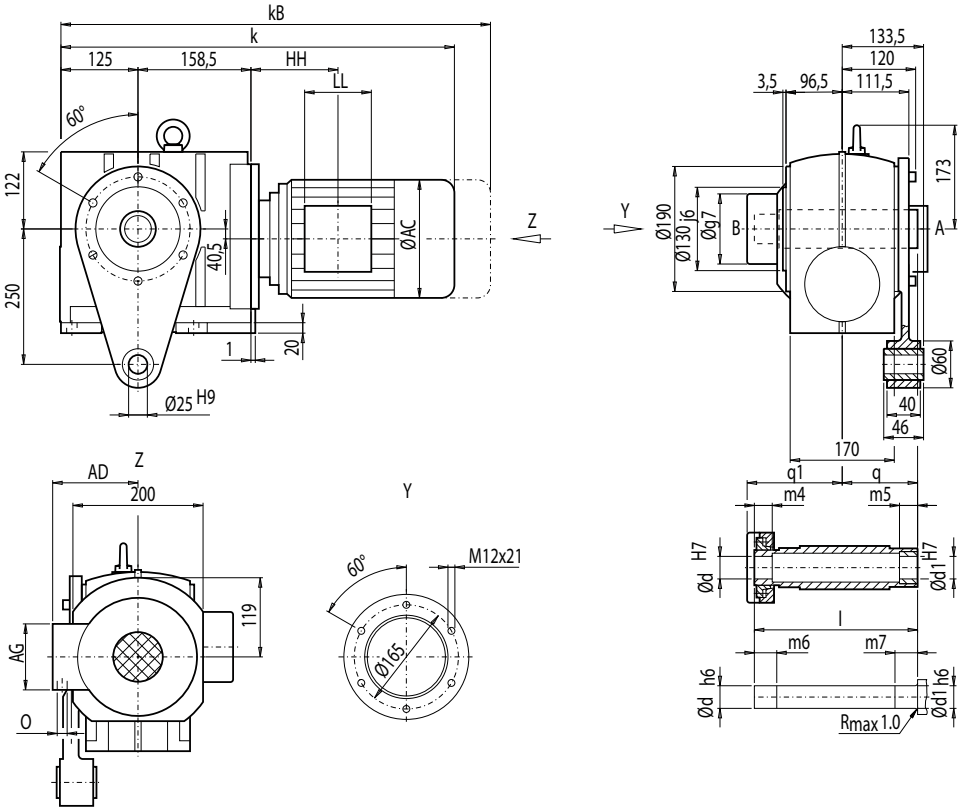


Fig.1

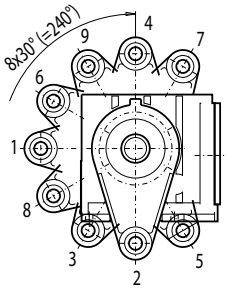
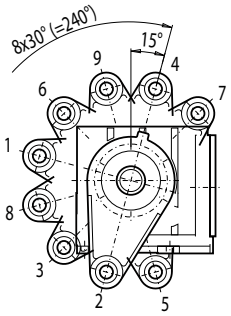


Fig.2



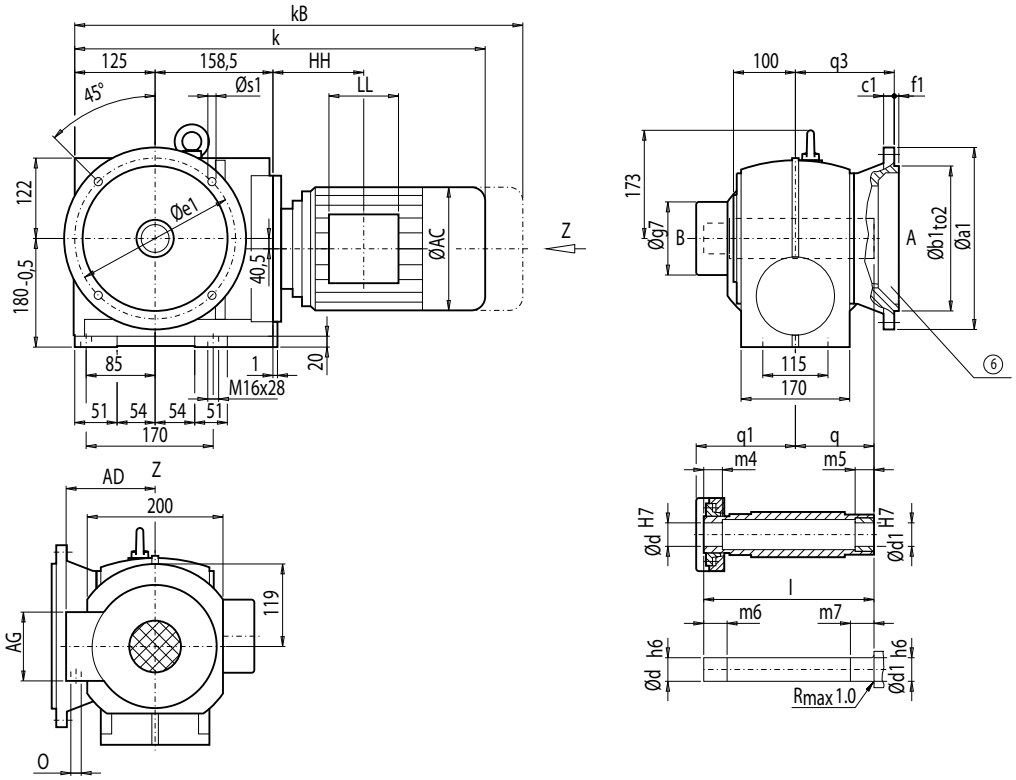
d	d1	l	m4	m5	m6	m7	q1	q	g7
50 *)	50	241	29	30	34	35	144	105	132
60	60	241	29	30	34	35	144	105	132

*) Preferred series

Motor	CADS88 k	kB	AC	AD	AG	LL	HH	O	Weight CADS88
LA71	530.5	585.5	139.0	146	90	90	103.0	M20x1.5/M25x1.5	77
LA71Z	549.5	604.5	139.0	146	90	90	103.0	M20x1.5/M25x1.5	77
LA80	567.5	631.0	156.5	155	90	90	102.5	M20x1.5/M25x1.5	82
LA80Z	590.0	653.5	156.5	155	90	90	175.5	M20x1.5/M25x1.5	86
LA90S/L	598.5	669.5	174.0	163	90	90	102.5	M20x1.5/M25x1.5	87
LA90ZL	643.5	714.5	174.0	163	90	90	226.5	M20x1.5/M25x1.5	93
LA100L	644.5	725.5	195.0	168	120	120	143.0	2xM32x1.5	96
LA100ZL	714.5	795.5	195.0	168	120	120	275.0	2xM32x1.5	106
LA112M	671.5	752.5	219.0	181	120	120	146.0	2xM32x1.5	108
LA112ZM	699.5	780.5	219.0	181	120	120	250.0	2xM32x1.5	115
LA132S/M	731.5	833.5	259.0	195	140	140	186.5	2xM32x1.5	121
LA132ZM	777.5	879.5	259.0	195	140	140	294.5	2xM32x1.5	142
LA160M/L	834.0	952.5	313.5	227	165	165	212.0	2xM40x1.5	153
LA160ZL	882.0	1 000.5	313.5	227	165	165	365.0	2xM40x1.5	192

Gearbox CAFS88, flange-mounted design and shrink disk

CAFS012



Flange	a1	b1	to2	c1	e1	f1	s1	q3	d	d1	l	m4	m5	m6	m7	q1	q	g7
A250	250	180	j6	15	215	4	13.5	150.5	50 *)	50	241	29	30	34	35	144	105	132
									60	60	241	29	30	34	35	144	105	132
A300	300	230	j6	16	265	4	13.5	142.0	50 *)	50	241	29	30	34	35	144	105	132
									60	60	241	29	30	34	35	144	105	132

*) Preferred series

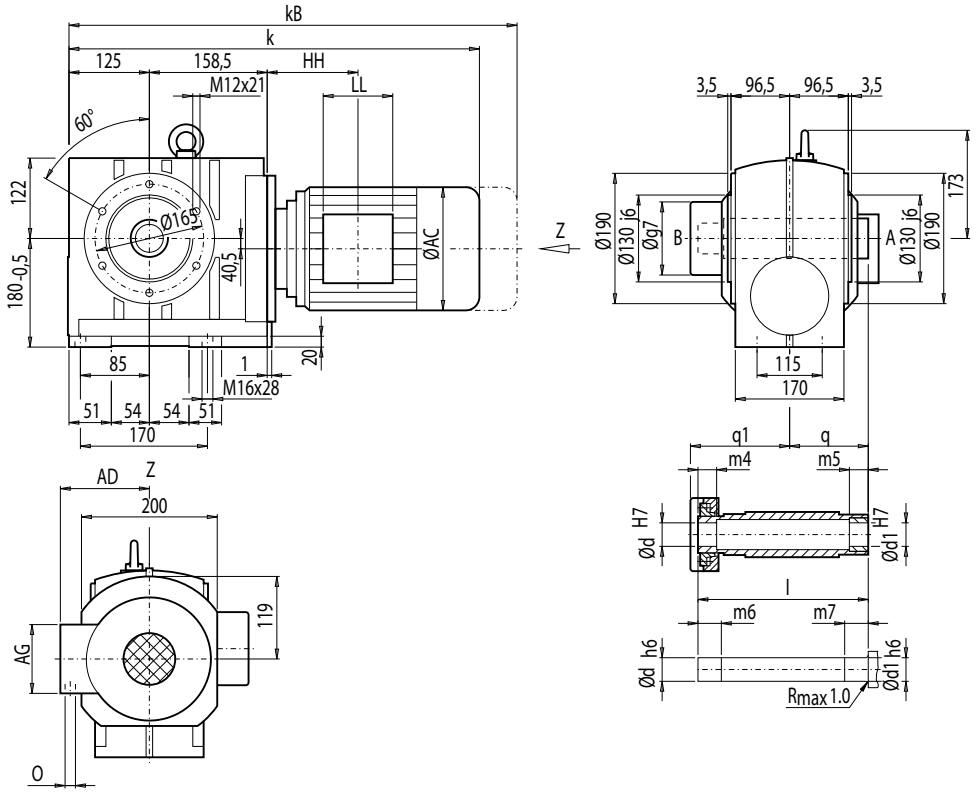
	CAFS88								Weight
Motor	**k**	**kB**	**AC**	**AD**	**AG**	**LL**	**HH**	**O**	**CAFS88**
LA71	530.5	585.5	139.0	146	90	90	103.0	M20x1.5/M25x1.5	81
LA71Z	549.5	604.5	139.0	146	90	90	103.0	M20x1.5/M25x1.5	81
LA80	567.5	631.0	156.5	155	90	90	102.5	M20x1.5/M25x1.5	86
LA80Z	590.0	653.5	156.5	155	90	90	175.5	M20x1.5/M25x1.5	90
LA90S/L	598.5	669.5	174.0	163	90	90	102.5	M20x1.5/M25x1.5	91
LA90ZL	643.5	714.5	174.0	163	90	90	226.5	M20x1.5/M25x1.5	97
LA100L	644.5	725.5	195.0	168	120	120	143.0	2xM32x1.5	100
LA100ZL	714.5	795.5	195.0	168	120	120	275.0	2xM32x1.5	110
LA112M	671.5	752.5	219.0	181	120	120	146.0	2xM32x1.5	112
LA112ZM	699.5	780.5	219.0	181	120	120	250.0	2xM32x1.5	119
LA132S/M	731.5	833.5	259.0	195	140	140	186.5	2xM32x1.5	125
LA132ZM	777.5	879.5	259.0	195	140	140	294.5	2xM32x1.5	146
LA160M/L	834.0	952.5	313.5	227	165	165	212.0	2xM40x1.5	157
LA160ZL	882.0	1 000.5	313.5	227	165	165	365.0	2xM40x1.5	196

⑥ For note, see page 5/108

Dimensions

Gearbox CAZS88, shaft-mounted design with housing flange (C-type) and shrink disk

CAZS012



d	d1	l	m4	m5	m6	m7	q1	q	g7
50 *)	50	241	29	30	34	35	144	105	132
60	60	241	29	30	34	35	144	105	132

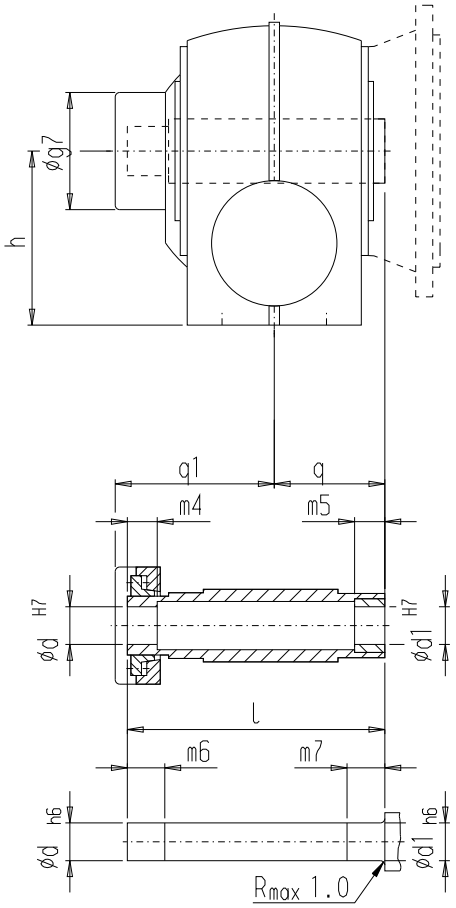
*) Preferred series

	CAZS88								Weight
Motor	**k**	**kB**	**AC**	**AD**	**AG**	**LL**	**HH**	**O**	**CAZS88**
LA71	530.5	585.5	139.0	146	90	90	103.0	M20x1.5/M25x1.5	74
LA71Z	549.5	604.5	139.0	146	90	90	103.0	M20x1.5/M25x1.5	74
LA80	567.5	631.0	156.5	155	90	90	102.5	M20x1.5/M25x1.5	79
LA80Z	590.0	653.5	156.5	155	90	90	175.5	M20x1.5/M25x1.5	83
LA90S/L	598.5	669.5	174.0	163	90	90	102.5	M20x1.5/M25x1.5	84
LA90ZL	643.5	714.5	174.0	163	90	90	226.5	M20x1.5/M25x1.5	90
LA100L	644.5	725.5	195.0	168	120	120	143.0	2xM32x1.5	93
LA100ZL	714.5	795.5	195.0	168	120	120	275.0	2xM32x1.5	103
LA112M	671.5	752.5	219.0	181	120	120	146.0	2xM32x1.5	105
LA112ZM	699.5	780.5	219.0	181	120	120	250.0	2xM32x1.5	112
LA132S/M	731.5	833.5	259.0	195	140	140	186.5	2xM32x1.5	118
LA132ZM	777.5	879.5	259.0	195	140	140	294.5	2xM32x1.5	139
LA160M/L	834.0	952.5	313.5	227	165	165	212.0	2xM40x1.5	150
LA160ZL	882.0	1 000.5	313.5	227	165	165	365.0	2xM40x1.5	189

Offset hollow shafts with shrink disk

Optional hollow shafts for helical worm gearbox with shrink disk.

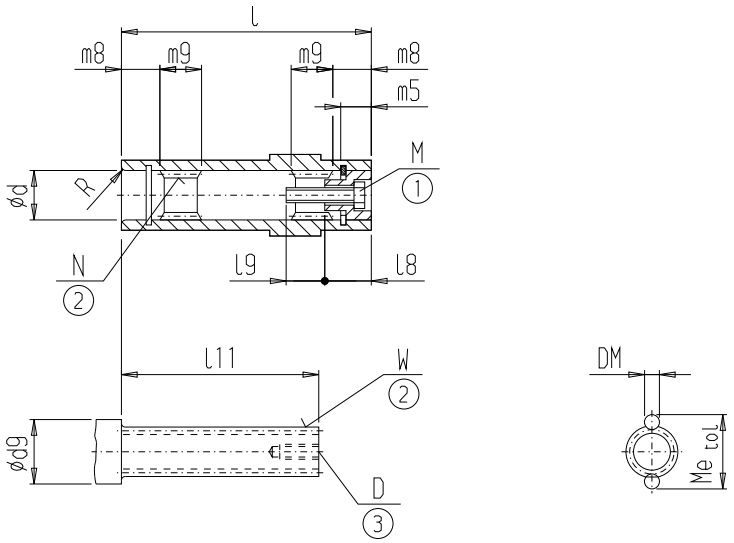
CA.S



Gearbox	d	d1	l	m4	m5	m6	m7	q1	q	g7	h
CAS/CAFS38	30	31	146	22	20	27	25	94	60	77	100
CAS/CAFS48	40	41	177	25	20	30	25	109	75	93	112
CAS/CAFS68	40	42	209	35	20	40	25	126	90	112	140
	50	51	209	27	20	32	25	126	90	112	140
CAS/CAFS88	50	52	241	29	30	34	35	144	105	132	180
	60	61	241	29	30	34	35	144	105	132	180

Dimensions

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

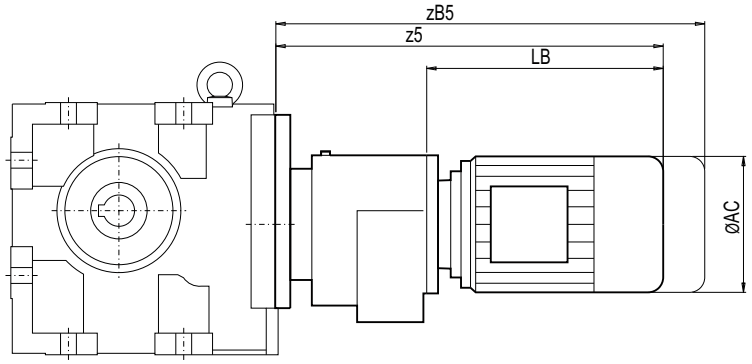


Gearbox type	d	l	d9 min.	l11	W	D	R	m8	m9
CA.T38	35	120	45	95	W35x1.25x30x26 8f	M10	R2	17.0	27
CA.T48	40	150	52	120	W40x2x30x18 8f	M12	R3	22.0	34
CA.T68	55	180	65	142	W50x2x30x24 8f	M16	R2	21.0	40
CA.T88	65	210	80	172	W60x2x30x28 8f	M16	R2	22.5	49

Gearbox type	N	m5	l8	l9	M	DM	Me	tol
CA.T38	N35x1.25x30x26 9H	12.0	18	27.0	M10x35	2.5	37.423	- 0.041
CA.T48	N40x2x30x18 9H	14.0	20	37.0	M12x45	4.5	45.083	- 0.043
CA.T68	N50x2x30x24 9H	16.0	23	49.5	M16x55	4.0	54.156	- 0.049
CA.T88	N60x2x30x28 9H	16.5	26	46.5	M16x55	4.0	63.918	- 0.053

① DIN 912 ② DIN 5480 ③ DIN 332-D

Helical worm tandem gearbox



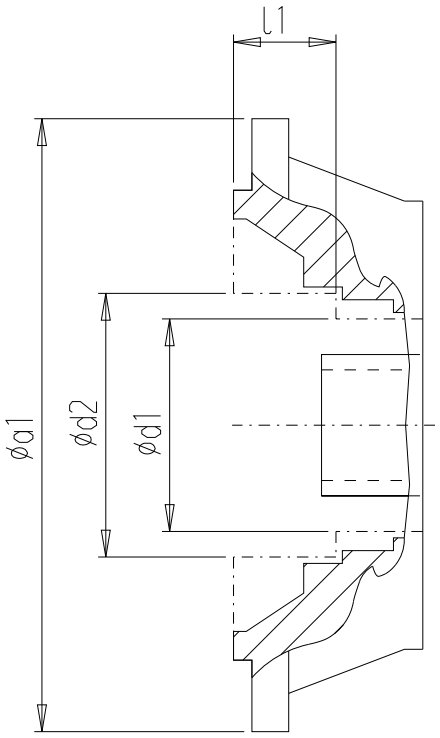
Gearbox	Motor	AC	z5	zB5	LB
C.38-Z28	LA71	139.0	363.0	418.0	202.5
	LA71Z	139.0	382.0	437.0	221.5
	LA80	156.5	465.0	528.5	304.5
	LA80Z	156.5	487.5	551.0	327.0
	LA90S/L	174.0	460.0	531.0	299.5
	LA90ZL	174.0	505.0	576.0	344.5
	LA100L	195.0	542.0	623.0	381.5
	LA100ZL	195.0	612.0	693.0	451.5
C.38-D28	LA71	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
C_48-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
C.48-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

Gearbox	Motor	AC	z5	zB5	LB
C.68-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
C.68-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
C.88-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
	LA100L	195.0	530.5	611.5	381.5
	LA100ZL	195.0	600.5	681.5	451.5
C.88-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

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
CAF.28	120	70	72	24.0
CAF.28	160	70	103	8.5
CAF.38	160	70	77	20.0
CAF.48	200	84	90	22.5
CAF.68	200	100	100	–
CAF.68	250	96	96	–
CAF.88	250	124	124	–
CAF.88	300	126	138	31.0