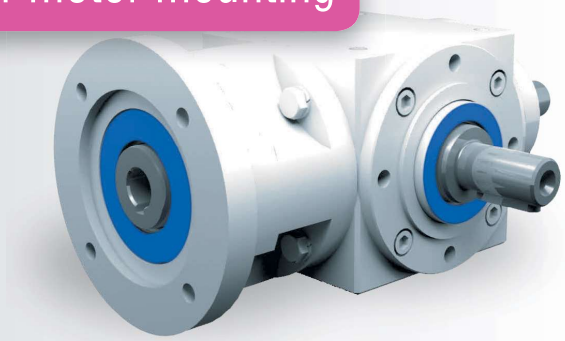
6.5.8 Type VL 120 – Type V with flange for motor mounting



Characteristics

Characteristic	Standard	Option
Toothing	Bevel gear set, spiral-toothed	See chapter 6.2.1
Gear ratio	1:1 to 6:1	
Housing / Flanges	Grey cast iron	
Threaded mounting hole	On all housing surfaces without flange and on all flanges.	See chapter 6.2.3
Shaft	Material 1 C45, shaft ends greased Fit with ISO 6 tolerance with parallel keyway: according to DIN 6885 Sheet 1	See chapter 4.6.2
Hollow shaft	Material 1 C45, shafts greased Fit with ISO 7 tolerance with parallel keyway: according to DIN 6885 Sheet 1	See chapter 4.6.3
Radial shaft seal ring	NBR, form A	See chapter 4.8
Ambient temperature	-10°C to +90°C. The values of the performance tables are valid for +20°C	See chapter 4.9.3
Circumferential backlash	< 30 arcmin	See chapter 6.2.10
Protection class	IP 54	See chapter 4.5
Corrosion protection	Prime coat; layer thickness > 40 µm	See chapter 4.4.1
Bearing life L10h	more than 15,000h	See chapter 4.9.1
Oil change intervals	Not required if the oil temperature is kept < 90°C The lifetime of the bearings can be increased by the factor 1.5 if the oil is changed after the first 500 service hours and then every 5000 service hours.	See chapter 6.2.8
Lubricants	Synthetic lubricants	See chapter 6.2.8
Flange	Suited for the mounting of IEC motors	
Coupling	Three-piece claw coupling	

Performance data

n_1 [rpm]	1:1			1.5:1			2:1			3:1			4:1			5:1			6:1		
	n_2 [rpm]	P_{1N} [kW]	T_{2N} [Nm]	n_2 [rpm]	P_{1N} [kW]	T_{2N} [Nm]	n_2 [rpm]	P_{1N} [kW]	T_{2N} [Nm]	n_2 [rpm]	P_{1N} [kW]	T_{2N} [Nm]	n_2 [rpm]	P_{1N} [kW]	T_{2N} [Nm]	n_2 [rpm]	P_{1N} [kW]	T_{2N} [Nm]	n_2 [rpm]	P_{1N} [kW]	T_{2N} [Nm]
3000	3000	21.82	66	2000	13.45	61	1500	9.26	56	1000	6.39	58	750	4.96	60	600	3.97	60	500	2.95	54
2400	2400	18.52	70	1600	11.46	65	1200	8.07	61	800	5.56	63	600	4.43	67	480	3.44	65	400	2.53	57
1500	1500	13.56	82	1000	8.60	78	750	6.03	73	500	4.08	74	375	3.06	74	300	2.38	72	250	1.75	64
1000	1000	10.14	92	667	6.32	86	500	4.40	80	333	3.01	82	250	2.18	79	200	1.76	80	167	1.22	66
750	750	8.51	103	500	5.18	94	375	3.30	80	250	2.40	87	188	1.69	82	150	1.42	86	125	0.94	68
500	500	6.34	115	333	3.70	100	250	2.20	80	167	1.66	90	125	1.16	84	100	0.98	89	83	0.63	69
250	250	3.39	123	167	1.84	100	125	1.10	80	83	0.87	95	63	0.60	87	50	0.51	92	42	0.33	71
50	50	0.72	130	33	0.37	100	25	0.22	80	17	0.21	110	13	0.12	90	10	0.10	95	8	0.06	66

P_{1Nt} [kW]	6.2	6.2	6.2	6.2	6.2	6.2	6.2
T_{2max} [Nm]	220	100	80	155	155	140	120

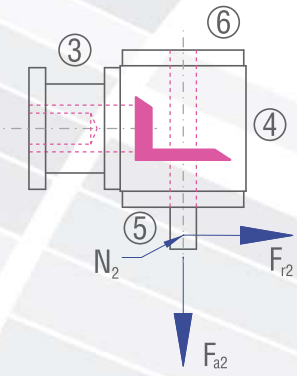
Permissible radial force F_{r2} and axial force F_{a2} on shaft N_2

n_2 [rpm]	3000		1000		500		250		100		50	
T_{2N} [Nm]	F_r [N]	F_a [N]	F_r [N]	F_a [N]	F_r [N]	F_a [N]	F_r [N]	F_a [N]	F_r [N]	F_a [N]	F_r [N]	F_a [N]
< 80	750	375	1000	500	1250	625	1500	750	1900	950	2200	1100
> 80	630	315	830	415	1040	520	1250	625	1580	790	1830	915

Inertia moments/mass

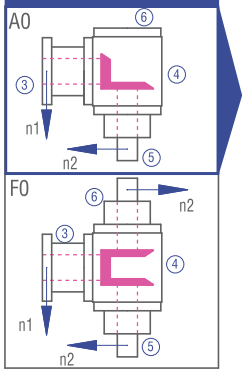
Inertia moment J_1 related to the fast-rotating shaft (N_1)

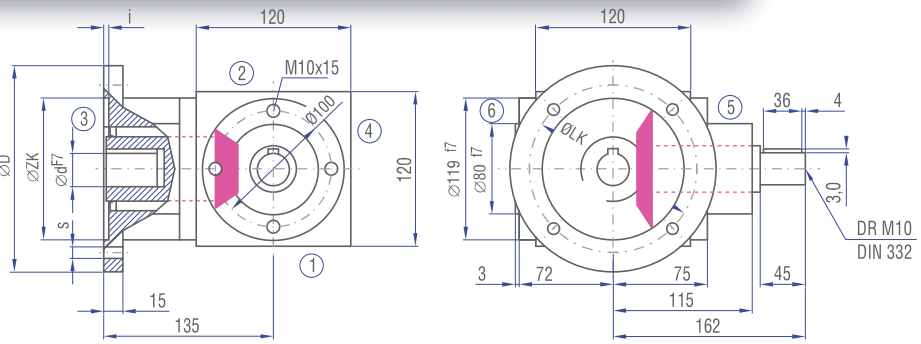
Model	Inertia moment [kgcm^2]							Mass [kg]
	1:1	1.5:1	2:1	3:1	4:1	5:1	6:1	
A0	12.5824	6.93340	5.40030	4.79750	4.46280	4.29660	4.22670	15.6
B0	17.3870	9.53660	6.72850	5.49390	4.91930	4.60430	4.44830	15.3
C0	17.3870	9.53660	6.72850	5.49390	4.91930	4.60430	4.44830	15.3
D0	17.6844	9.66870	6.80280	5.52690	4.93790	4.61620	4.45660	15.5
E0N	17.2787	9.48840	6.70140	5.48190	4.91250	4.60000	4.44530	15.0
E0S	19.0660	10.2828	7.14820	5.68040	5.02420	4.67150	4.49500	15.3
F0	17.8312	9.26620	6.71250	5.38070	4.79080	4.50650	4.37250	18.0
G0	22.6358	12.0447	9.06280	7.22660	5.80760	5.14590	4.97910	17.7
H0	22.6358	12.0447	9.06280	7.22660	5.80760	5.14590	4.97910	17.7
J0	22.9332	12.1768	9.13710	7.25960	5.82620	5.15780	4.98740	17.9
K0N	22.5275	11.9965	9.03570	7.21460	5.80080	5.14160	4.97610	17.4
K0S	24.3148	12.7909	9.48250	7.41310	5.91250	5.21310	5.02580	17.7

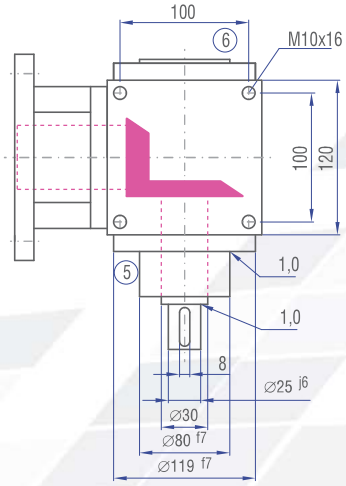


6.5.8 Type VL 120 – Type V with flange for motor mounting

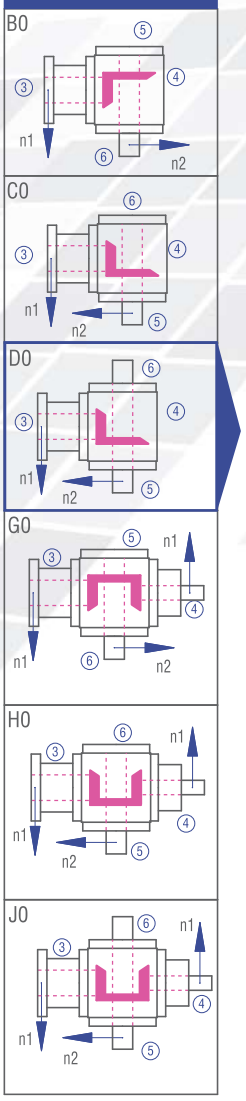
Model

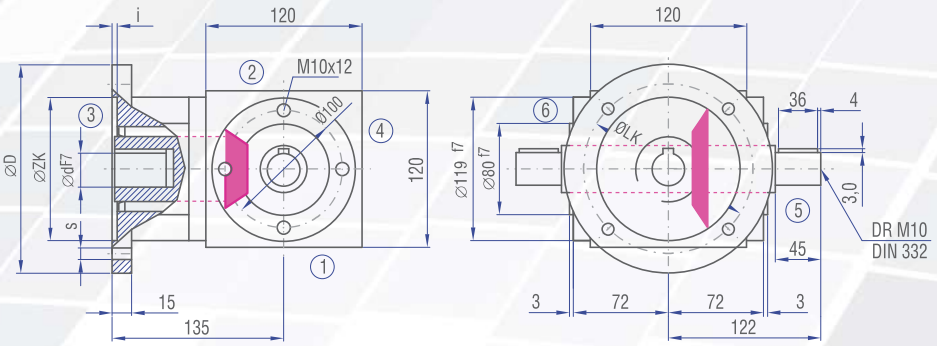


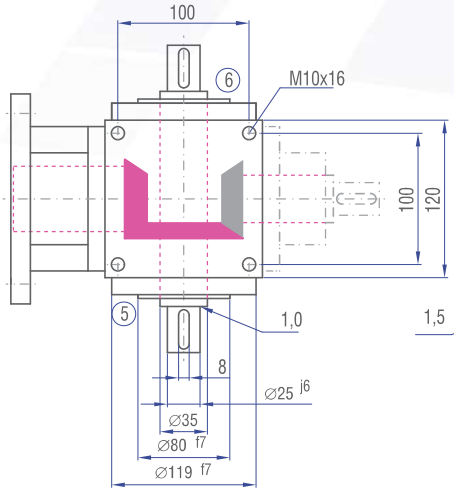




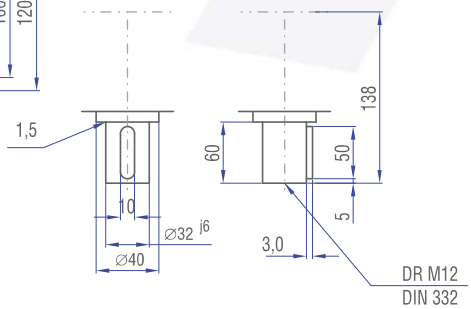
Model





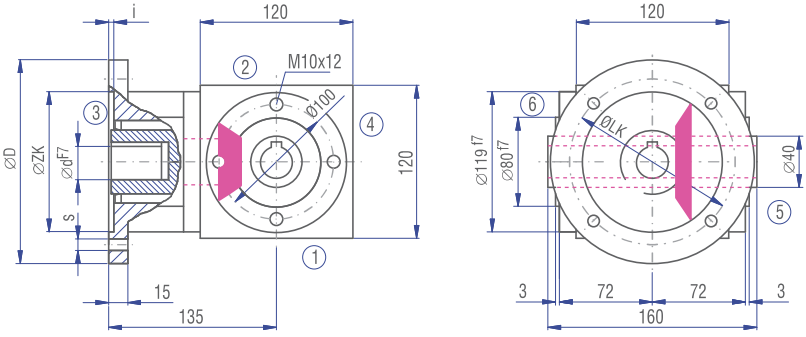


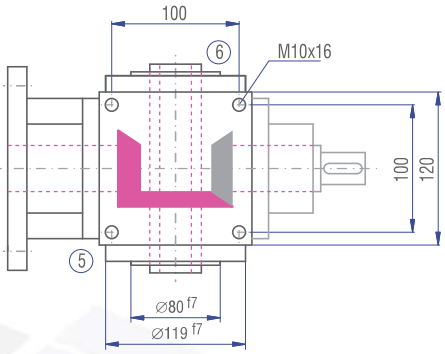
Implementation VV



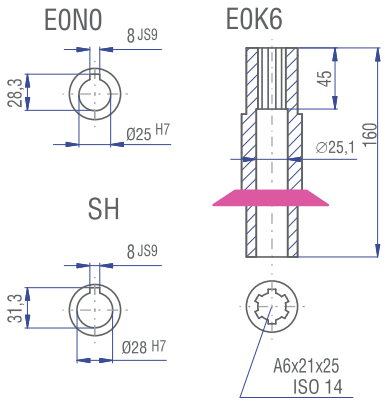
IEC motor	Model	Shaft (dxl)	D [mm]	LK [mm]	ZK [mm]	s [mm]	i [mm]
71	B14	14x30	140	115	95	9	3
80	B14	19x40	160	130	110	9	4
	B5	19x40	200	165	130	11	4
90	B14	24x50	160	130	110	9	4
	B5	24x50	200	165	130	11	4
100	B14	28x60	200	165	130	11	4
	B5	28x60	250	215	180	14	5
112	B14	28x60	200	165	130	11	4
	B5	28x60	250	215	180	14	5

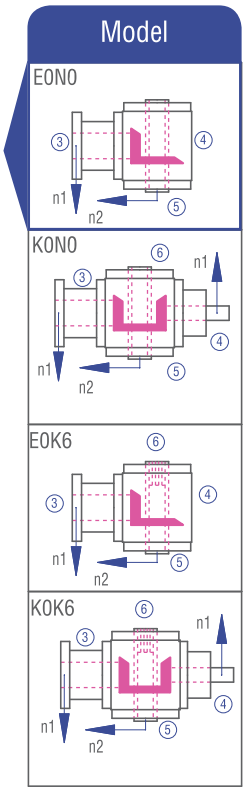
ATEK ANTRIEBSTECHNIK

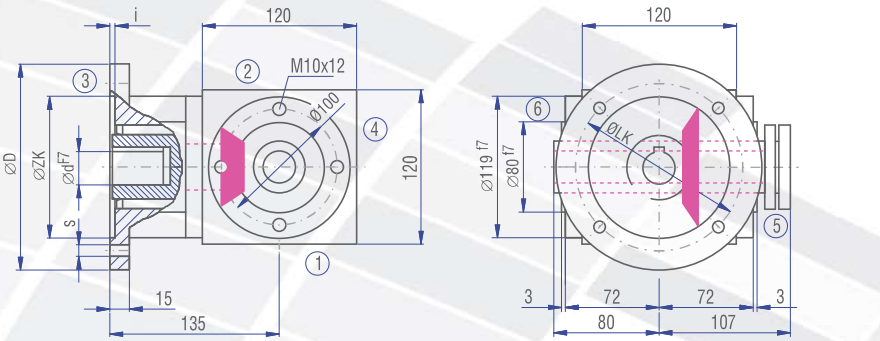


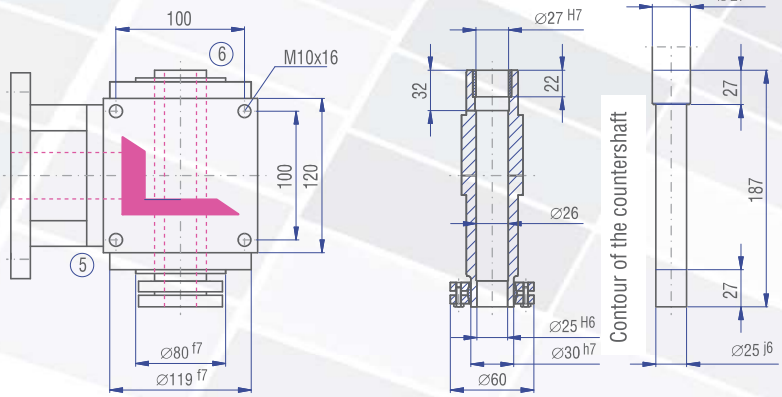


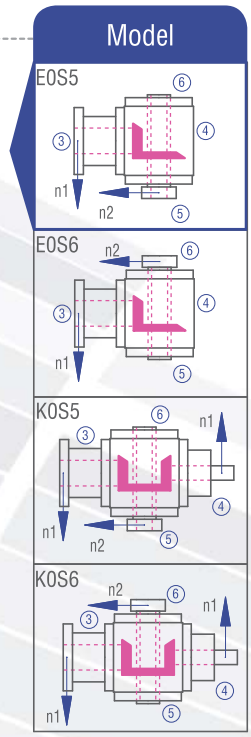
Implementation











The dimensions of the Models not shown can be figured by mirroring available dimensions.
The shaft dimensions on side 4 follow from the dimensions of type A0.