

6.5.12 Type VL 230 – 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				2000	99.20	450	1500	87.63	530	1000	44.09	400	750	36.37	440	600	33.73	510	500	20.17	366
2400				1600	91.35	518	1200	80.02	605	800	39.68	450	600	32.74	495	480	29.10	550	400	18.08	410
1500	1500	87.63	530	1000	72.20	655	750	59.11	715	500	29.76	540	375	24.80	600	300	21.00	635	250	13.50	490
1000	1000	71.65	650	667	56.21	765	500	45.19	820	333	23.33	635	250	18.60	675	200	15.76	715	167	9.92	540
750	750	60.76	735	500	45.47	825	375	36.79	890	250	19.29	700	188	15.19	735	150	12.73	770	125	7.78	565
500	500	45.19	820	333	33.79	920	250	26.73	970	167	14.07	765	125	10.95	795	100	9.15	830	83	5.42	590
250	250	26.73	970	167	20.57	1,120	125	16.88	1,225	83	7.58	825	63	5.99	870	50	5.07	920	42	2.82	610
50	50	7.00	1,270	33	4.89	1,330	25	3.66	1,330	17	1.63	870	13	1.35	980	10	1.09	990	8	0.57	625
P _{1Nt} [kW]	34.0			34.0			34.0			34.0			34.0			34.0			34.0		
T _{2max} [Nm]	1500			1400			1400			1300			1300			1200			1000		

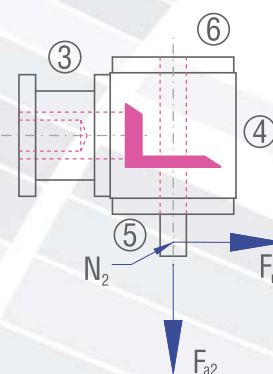
Permissible radial force F_{r2} and axial force F_{a2} on shaft N₂

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]
< 750	5850	2925	8650	4325	10500	5250	12250	6125	15000	7500	19000	9500
> 750	4876	2438	7208	3604	8750	4375	10208	5104	12500	6250	15830	7915

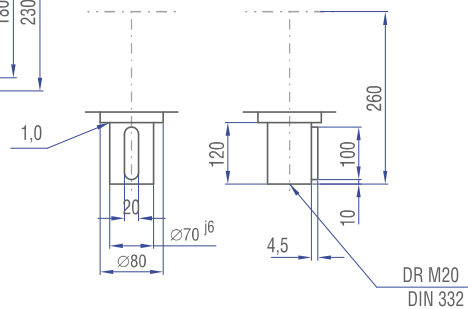
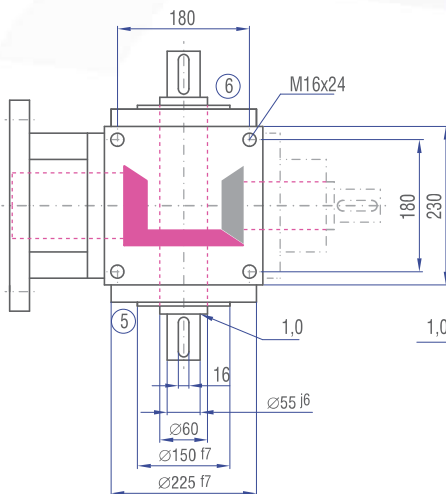
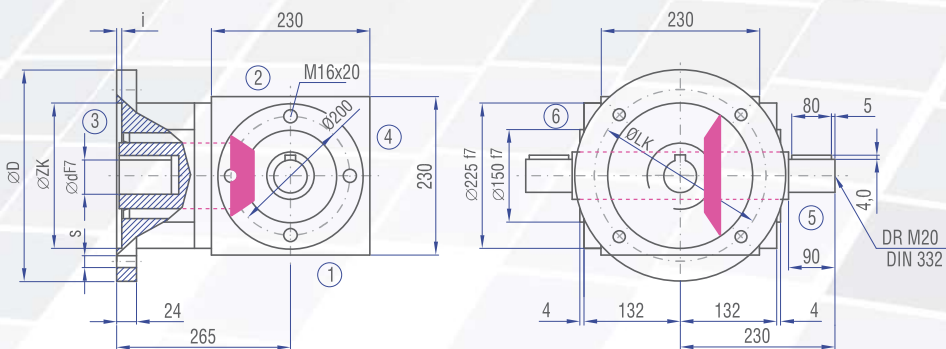
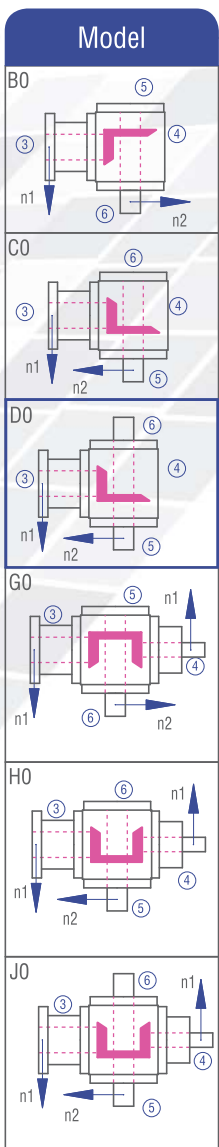
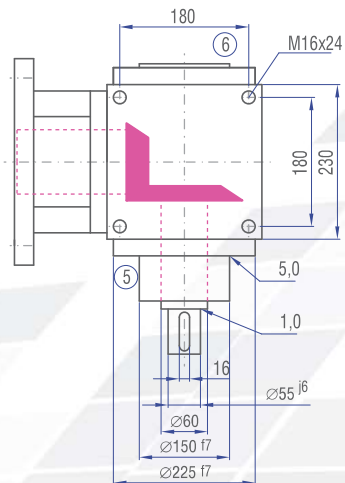
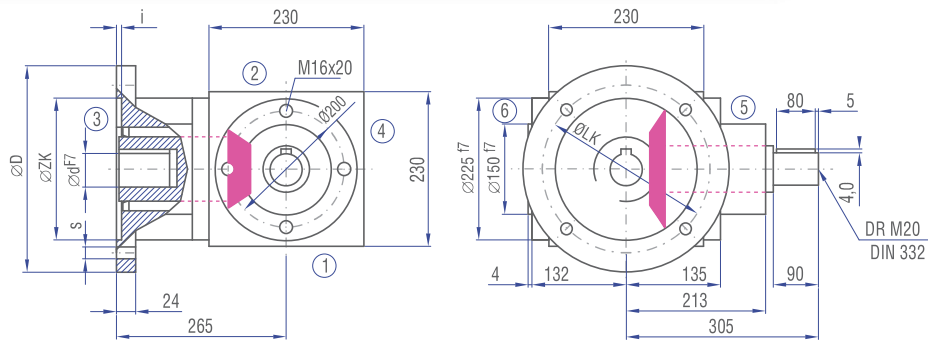
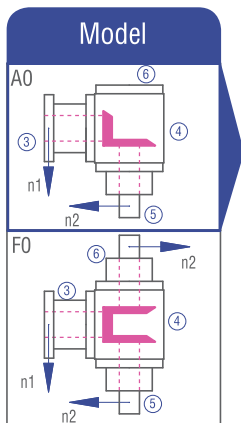
Inertia moments/mass

Inertia moment J₁ related to the fast-rotating shaft (N₁)

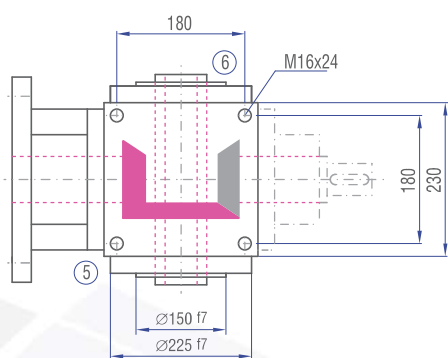
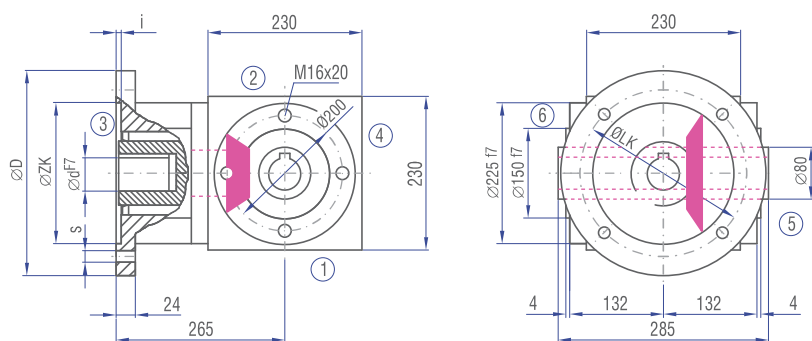
Model	Inertia moment [kgcm ²]							Mass [kg]
	1:1	1.5:1	2:1	3:1	4:1	5:1	6:1	
A0	577.000	287.000	203.000	141.000	134.000	131.000	126.000	94.0
B0	573.000	292.000	207.000	143.000	135.000	131.000	127.000	112.0
C0	573.000	292.000	207.000	143.000	135.000	131.000	127.000	112.0
D0	583.000	296.000	209.000	144.000	135.000	132.000	127.000	91.0
E0N	583.000	301.000	213.000	146.000	136.000	132.000	127.000	86.0
E0S	644.000	328.000	228.000	153.000	140.000	135.000	129.000	87.0
F0	830.000	404.000	272.000	163.000	149.000	142.000	134.000	112.0
G0	826.000	390.000	271.000	177.000	168.000	161.000	157.000	115.0
H0	826.000	390.000	271.000	177.000	168.000	161.000	157.000	115.0
J0	836.000	394.000	273.000	178.000	168.000	162.000	157.000	117.0
K0N	836.000	399.000	277.000	180.000	169.000	162.000	157.000	110.0
K0S	897.000	426.000	292.000	187.000	173.000	165.000	159.000	111.0



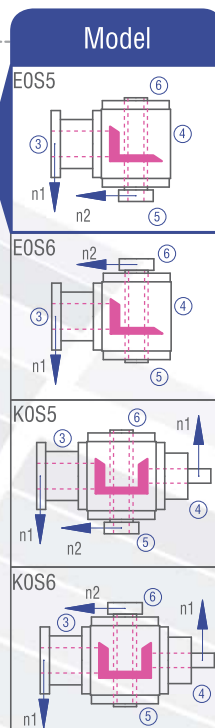
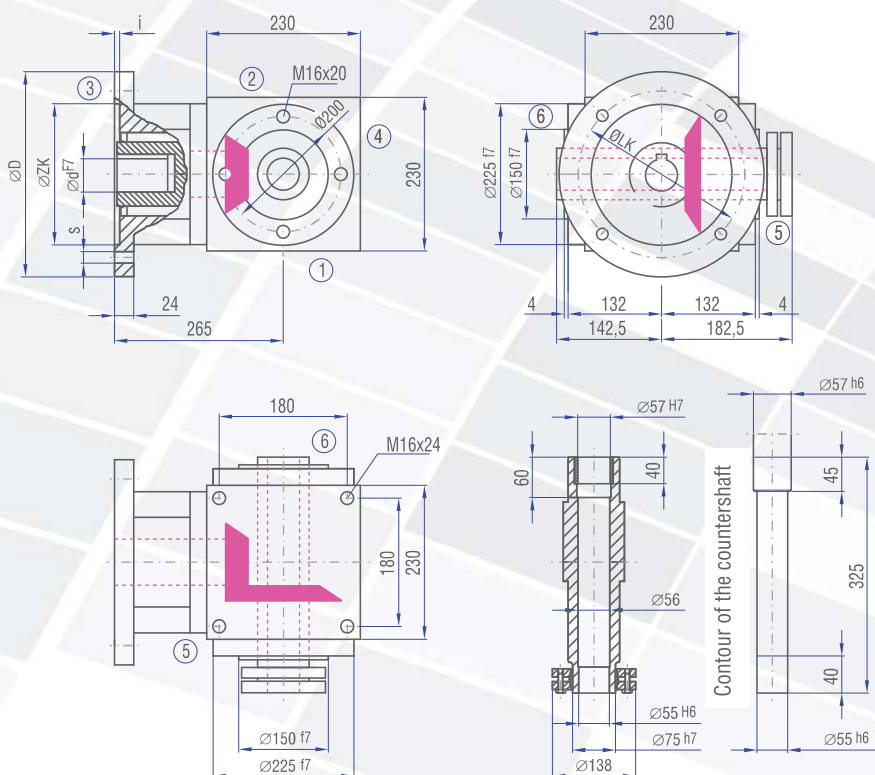
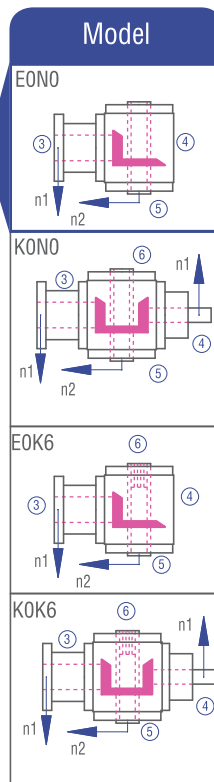
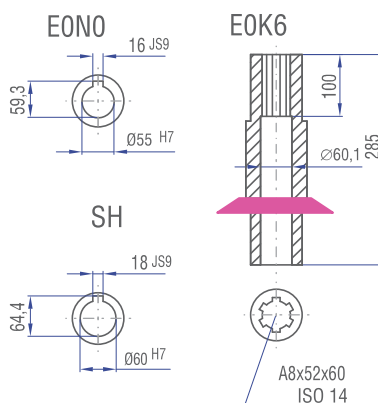
6.5.12 Type VL 230 – Type V with flange for motor mounting



IEC motor	Model	Shaft (dxl)	D [mm]	LK [mm]	ZK [mm]	s [mm]	i [mm]
132	B5	38x80	300	265	230	14	5
160	B5	42x110	350	300	250	18	6
180	B5	48x110	350	300	250	18	6
200	B5	55x110	400	350	300	18	6



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.