

6.5.11 Type VL 200 – 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	72.75	330	1500	51.25	310	1000	46.29	420	750	28.93	350	600	19.84	300	500	11.45	208
2400				1600	63.49	360	1200	45.24	342	800	39.24	445	600	26.45	400	480	17.99	340	400	9.60	218
1500	1500	74.40	450	1000	48.17	437	750	35.13	425	500	28.38	515	375	18.81	455	300	12.57	380	250	6.54	237
1000	1000	56.21	510	667	37.13	505	500	27.56	500	333	20.37	555	250	13.36	485	200	9.26	420	167	4.74	258
750	750	45.88	555	500	30.31	550	375	21.90	530	250	15.98	580	188	10.54	510	150	7.27	440	125	3.98	289
500	500	34.17	620	333	22.02	600	250	14.60	530	167	11.04	600	125	7.23	525	100	5.18	470	83	2.79	304
250	250	19.56	710	167	11.04	600	125	7.30	530	83	5.76	630	63	3.79	550	50	2.78	505	42	1.44	311
50	50	4.13	750	33	2.18	600	25	1.46	530	17	1.29	690	13	0.80	580	10	0.58	525	8	0.28	306
P _{1Nt} [kW]	26.0			26.0			26.0			26.0			26.0			26.0			26.0		
T _{2max} [Nm]	1090			600			530			910			860			860			625		

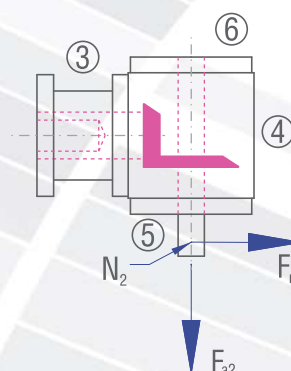
Permissible radial force F_{r2} and axial force F_{a2} on shaft N₂

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]
< 500	3200	1600	4300	2150	5000	2500	6500	3250	8000	4000	10000	5000
> 500	2670	1335	3580	1790	4170	2085	5420	2710	6670	3335	8330	4165

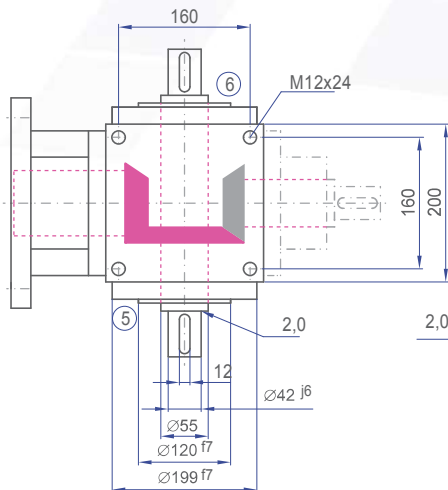
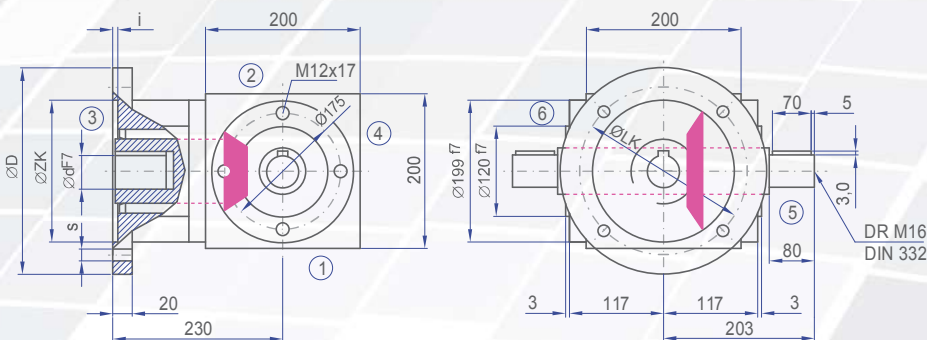
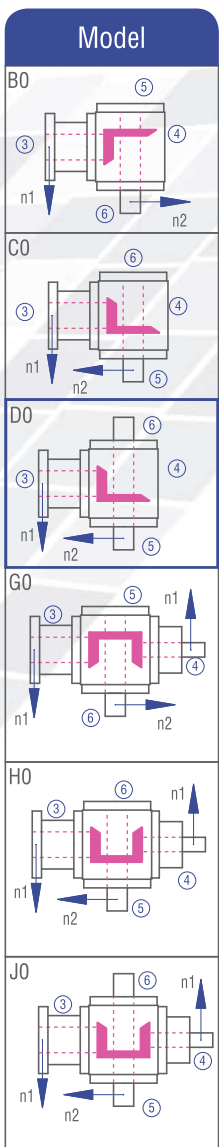
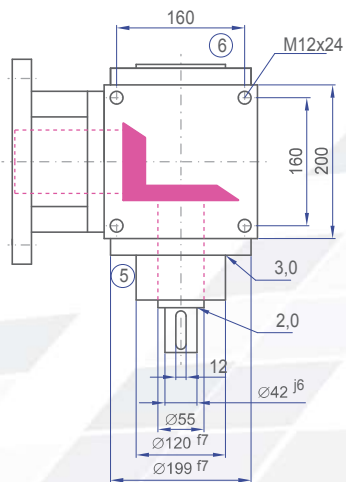
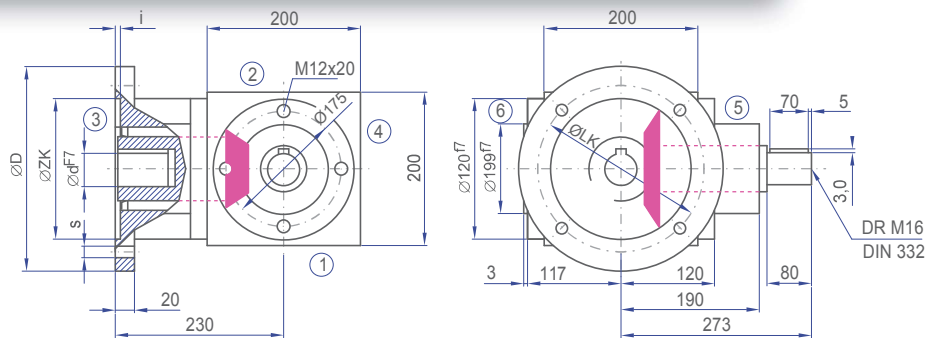
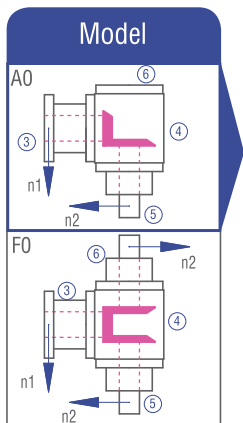
Inertia moments/mass

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

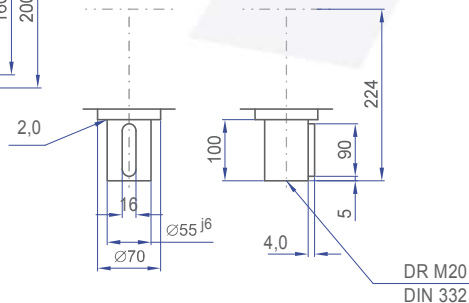
Model	Inertia moment [kgcm ²]							Mass [kg]
	1:1	1.5:1	2:1	3:1	4:1	5:1	6:1	
A0	160.794	103.333	79.4024	66.6041	62.5170	60.9854	60.2444	64.0
B0	214.242	149.221	114.714	81.9650	70.9700	67.7153	64.9180	60.0
C0	214.242	149.221	114.714	81.9650	70.9700	67.7153	64.9180	60.0
D0	217.359	150.606	115.494	82.3114	71.1649	67.8400	65.0046	62.0
E0N	240.932	154.665	119.527	82.9928	71.6107	68.6453	65.5638	60.0
E0S	261.954	164.009	124.783	85.3286	72.9245	69.4862	66.1478	61.3
F0	221.420	130.278	94.5590	73.3404	66.3062	63.4105	61.9285	72.0
G0	274.868	179.971	135.867	94.0610	81.4460	71.4373	68.6220	70.0
H0	274.868	179.971	135.867	94.0610	81.4460	71.4373	68.6220	70.0
J0	277.985	181.356	136.647	94.4074	81.6409	71.5620	68.7086	72.0
K0N	301.558	185.416	140.680	95.0888	82.0867	72.3673	69.2678	70.0
K0S	322.580	194.759	145.936	97.4246	83.4005	73.2082	69.8518	71.3



6.5.11 Type VL 200 – Type V with flange for motor mounting

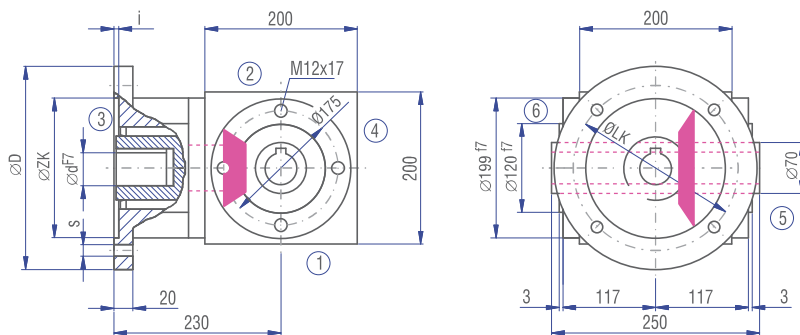


Implementation VV

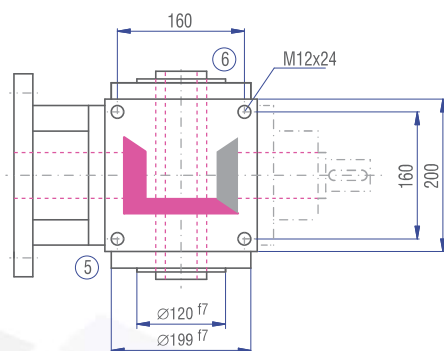


IEC motor	Model	Shaft (dxl)	D [mm]	LK [mm]	ZK [mm]	s [mm]	i [mm]
100	B14	28x60	200	165	130	11	4
	B5	28x60	250	215	180	14	5
112	B5	28x60	200	165	130	11	4
	B5	28x60	250	215	180	14	5
132	B14	38x80	200	165	130	11	4
	B5	38x80	300	265	230	14	5
160	B5	42x110	350	300	250	18	6
180	B5	48x110	350	300	250	18	6

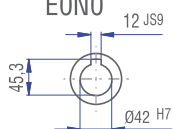
Gear ratios 3:1 through 6:1 only with intermediate flange or shortened motor shaft.



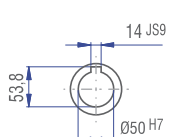
Implementation



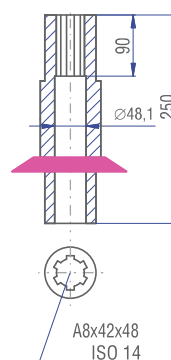
EON0



SH

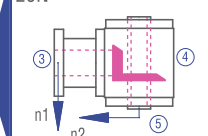


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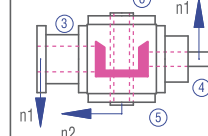


Model

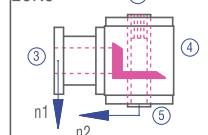
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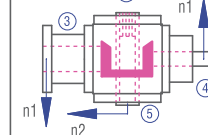
KON



EOK6

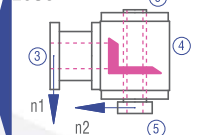


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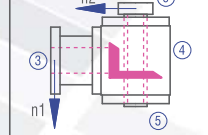


Model

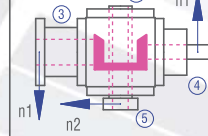
EOS5



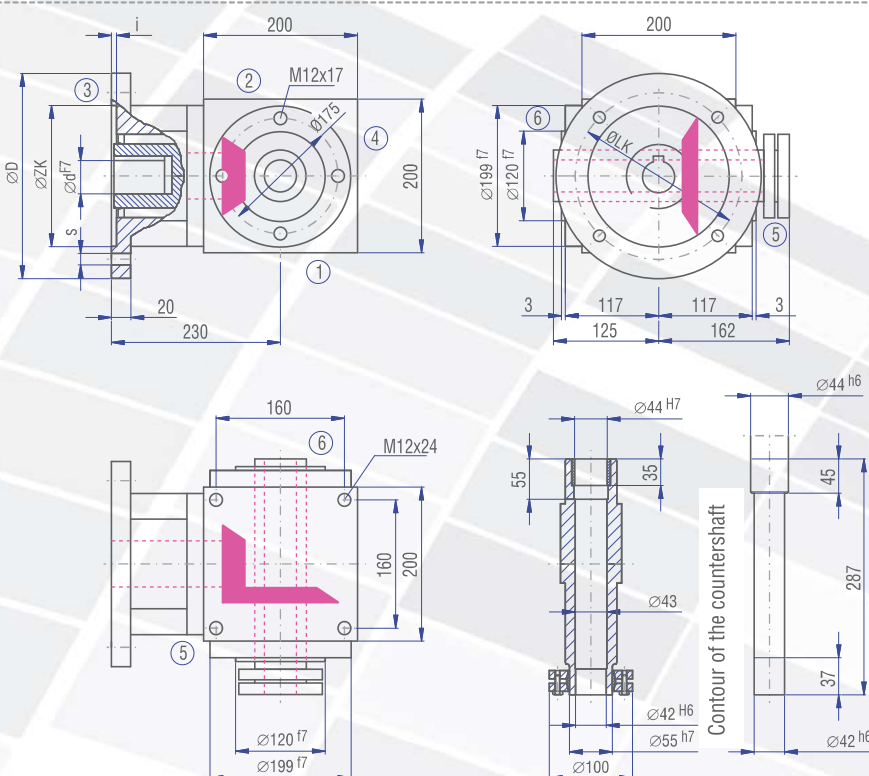
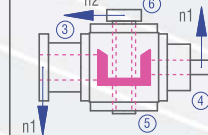
EOS6



KOS5



KOS6



Contour of the countershaft

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.

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