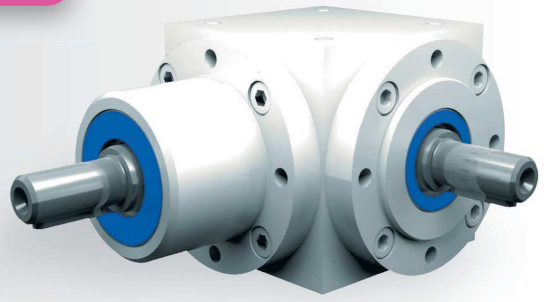


6.3.12 Type V 230 – Standard bevel gearboxes



Characteristics

Characteristic	Standard	Option
Toothings	Spiral toothed bevel gear set	See chapter 6.2.1
Gear ratio	1:1 to 6:1	
Housing / Flanges	Grey cast iron; steel	
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
Lubricant	Synthetic lubricants	See chapter 6.2.8

Performance data

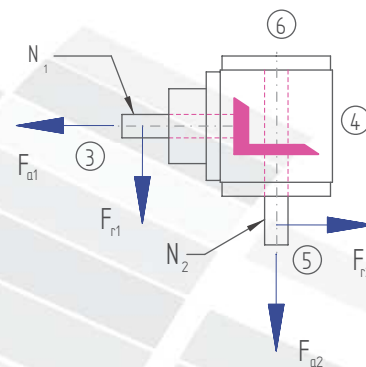
n ₁ [rpm]	1:1			1.5:1			2:1			3:1			4:1			5:1			6:1		
	n ₂ [rpm]	P _{1N} [kW]	T _{2N} [Nm]	n ₂ [rpm]	P _{1N} [kW]	T _{2N} [Nm]	n ₂ [rpm]	P _{1N} [kW]	T _{2N} [Nm]	n ₂ [rpm]	P _{1N} [kW]	T _{2N} [Nm]	n ₂ [rpm]	P _{1N} [kW]	T _{2N} [Nm]	n ₂ [rpm]	P _{1N} [kW]	T _{2N} [Nm]	n ₂ [rpm]	P _{1N} [kW]	T _{2N} [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_{r1} and axial force F_{a1} on shaft N₁

n ₁ [rpm]	3000		1000		500		250		100		50	
T ₂ [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	4600	2300	5150	2575	7200	3600	9450	4725	11250	5625	13100	6550
> 750	3832	1916	4290	2145	6000	3000	7876	3938	9376	4688	10918	5459

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

n ₂ [rpm]	3000		1000		500		250		100		50	
T ₂ [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

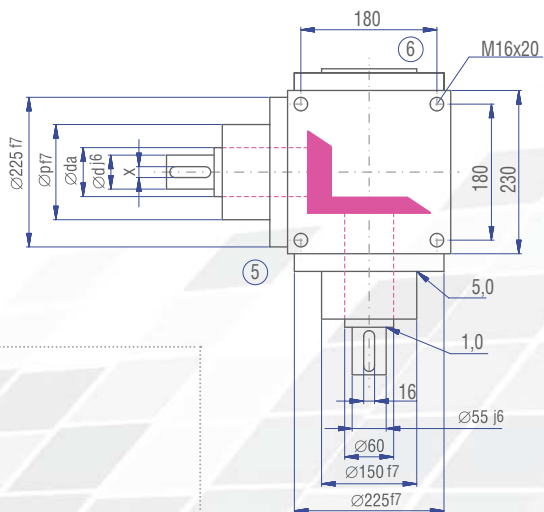
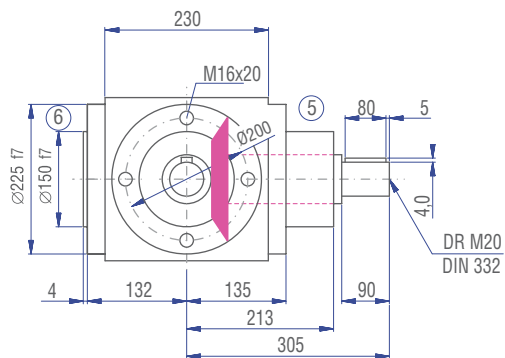
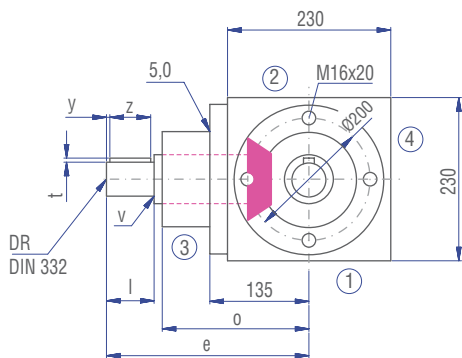
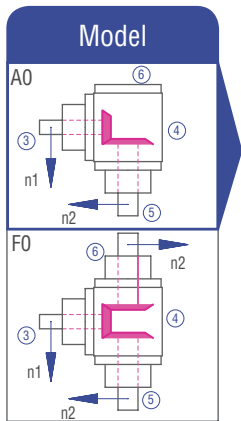


Inertia moments/mass

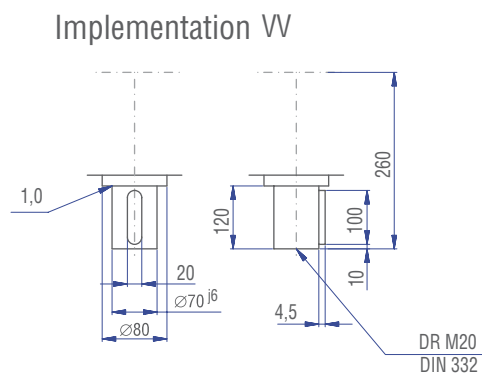
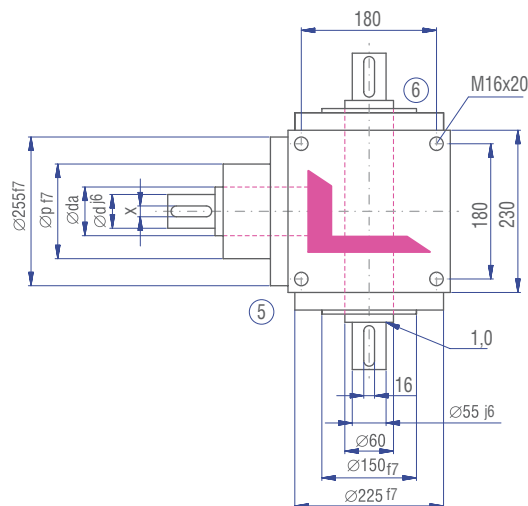
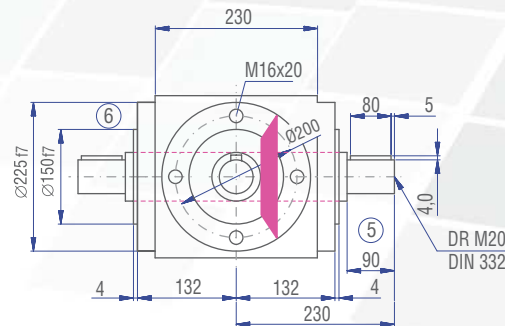
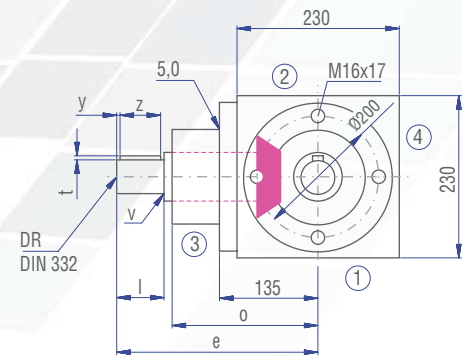
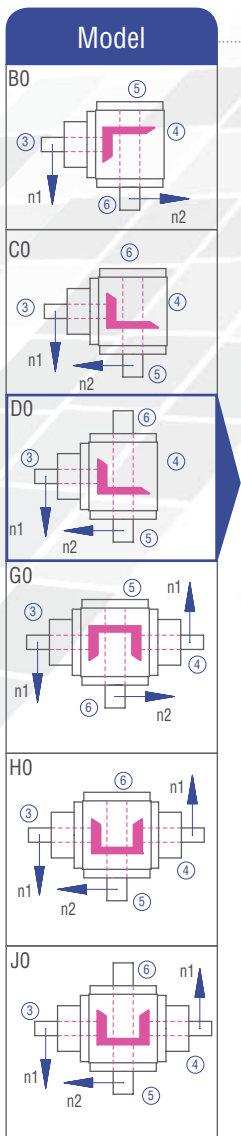
Inertia moment J₁ related to the fast-rotating shaft (N₁)

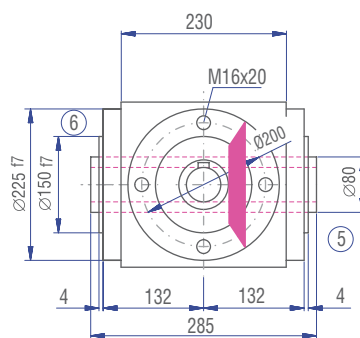
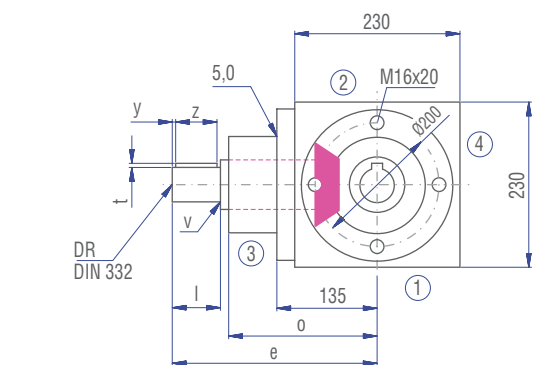
Model	Inertia moment [kgcm ²]							Mass [kg]
	1:1	1.5:1	2:1	3:1	4:1	5:1	6:1	
A0	506.0000	215.0000	132.0000	55.0000	48.0000	42.0000	37.0000	79.0
B0	502.0000	220.0000	136.0000	57.0000	49.0000	42.0000	38.0000	76.0
C0	502.0000	220.0000	136.0000	57.0000	49.0000	42.0000	38.0000	76.0
D0	512.0000	224.0000	138.0000	58.0000	49.0000	43.0000	38.0000	78.0
E0N	512.0000	229.0000	142.0000	60.0000	50.0000	43.0000	38.0000	71.0
E0S	573.0000	256.0000	157.0000	67.0000	54.0000	46.0000	40.0000	72.0
F0	759.0000	332.0000	201.0000	77.0000	63.0000	53.0000	45.0000	97.0
G0	755.0000	318.0000	200.0000	91.0000	82.0000	72.0000	68.0000	100.0
H0	755.0000	318.0000	200.0000	91.0000	82.0000	72.0000	68.0000	100.0
J0	765.0000	322.0000	202.0000	92.0000	82.0000	73.0000	68.0000	102.0
K0N	765.0000	327.0000	206.0000	94.0000	83.0000	73.0000	68.0000	95.0
K0S	826.0000	354.0000	221.0000	101.0000	87.0000	76.0000	70.0000	96.0

6.3.12 Type V 230 – Standard bevel gearboxes



	Gear ratio						
	1:1	1.5:1	2:1	3:1	4:1	5:1	6:1
d [mm]	55	55	55	40	40	35	35
da [mm]	60	60	60	50	50	45	45
l [mm]	90	90	90	80	80	70	70
v [mm]	1	1	1	1	1	1	1
x [mm]	16	16	16	12	12	10	10
y [mm]	5	5	5	5	5	3	3
z [mm]	80	80	80	70	70	63	63
t [mm]	2.5	2.5	2.5	3	3	3	3
e [mm]	305	305	305	310	310	300	300
o [mm]	213	213	213	228	228	228	228
p [mm]	150	150	150	140	140	140	140
DR M	20	20	20	16	16	16	16





Implementation

