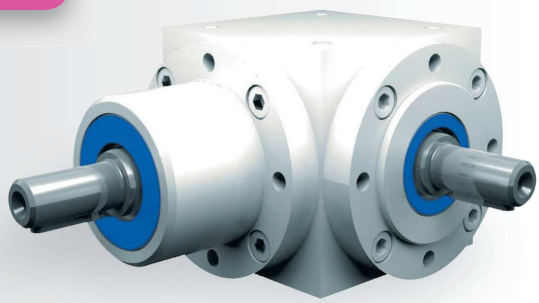
6.3.13 Type V 260 – Standard bevel gearboxes



Characteristics

Characteristic	Standard	Option
Toothing	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	189.58	860	1500	133.92	810	1000	85.97	780	750	57.87	700	600	46.29	700	500	27.27	495
2400				1600	158.72	900	1200	112.43	850	800	72.39	821	600	51.58	780	480	40.21	760	400	23.12	524
1500	1500	157.07	950	1000	104.71	950	750	78.53	950	500	49.60	900	375	37.20	900	300	29.10	880	250	16.36	594
1000	1000	115.73	1,050	667	77.19	1,050	500	57.87	1,050	333	36.34	990	250	28.93	1,050	200	21.82	990	167	12.93	702
750	750	96.72	1,170	500	64.48	1,170	375	48.36	1,170	250	28.93	1,050	188	22.73	1,100	150	18.19	1,100	125	10.91	792
500	500	72.75	1,320	333	47.72	1,300	250	35.27	1,280	167	20.43	1,110	125	16.26	1,180	100	13.23	1,200	83	8.06	878
250	250	42.44	1,540	167	27.43	1,490	125	20.12	1,460	83	11.16	1,220	63	8.61	1,250	50	7.11	1,290	42	4.35	940
50	50	9.64	1,750	33	6.18	1,700	25	4.55	1,650	17	2.55	1,360	13	1.82	1,320	10	1.47	1,330	8	0.87	951

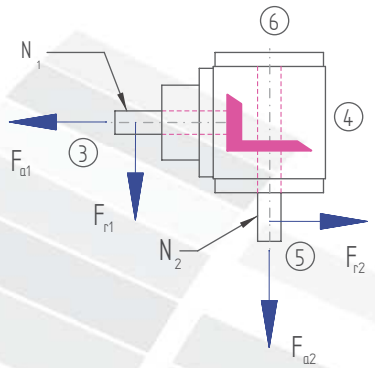
P_{1Nt} [kW]	42.0	42.0	42.0	42.0	42.0	42.0	42.0
T_{2max} [Nm]	2310	2100	2100	1940	1940	1910	1730

Permissible radial force F_{r1} and axial force F_{a1} on shaft N_1

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]
< 950	7000	3500	8600	4300	11200	5600	15000	7500	17500	8750	20000	10000
> 950	5830	2915	7170	3585	9330	4665	12500	6250	14580	7290	16670	8335

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

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]
< 950	8500	4250	13000	6500	16000	8000	18000	9000	22000	11000	28000	14000
> 950	7080	3540	10830	5415	13330	6665	15000	7500	18330	9165	23330	11665



Inertia moments/mass

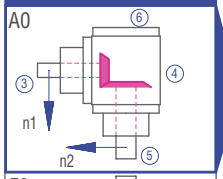
Inertia moment J_1 related to the fast-rotating shaft (N_1)

Model	Inertia moment [kgcm^2]							Mass [kg]
	1:1	1.5:1	2:1	3:1	4:1	5:1	6:1	
A0	814.200	305.933	194.275	85.0833	46.7738	37.2840	31.8083	85.0
B0	827.440	168.262	281.335	117.221	66.6638	50.0136	40.7039	85.0
C0	827.440	168.262	281.335	117.221	66.6638	50.0136	40.7039	85.0
D0	841.850	383.556	284.938	52.2667	67.5644	50.5900	41.1042	88.0
E0N	828.690	413.262	287.898	120.110	68.2888	51.0536	41.4261	82.0
E0S	892.340	441.551	303.810	127.180	72.2656	53.5988	43.1936	84.9
F0	1221.300	486.867	296.050	130.317	72.2175	53.5680	43.1167	105.0
G0	1234.540	293.262	373.835	157.071	87.9938	71.0136	61.2039	109.0
H0	1234.540	293.262	373.835	157.071	87.9938	71.0136	61.2039	109.0
J0	1248.950	508.556	377.438	92.1167	88.8944	71.5900	61.6042	112.0
K0N	1235.790	538.262	380.398	159.960	89.6188	72.0536	61.9261	106.0
K0S	1299.440	566.551	396.310	167.030	93.5956	74.5988	63.6936	108.9

6.3.13 Type V 260 – Standard bevel gearboxes

Model

A0



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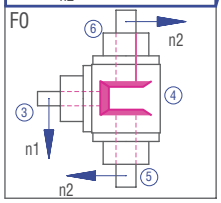
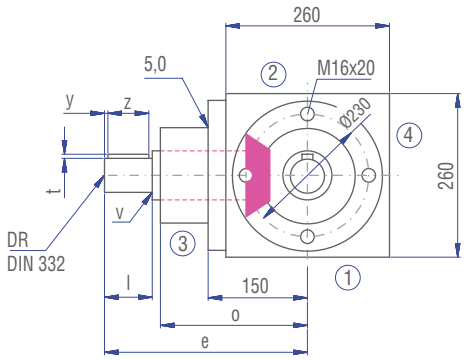
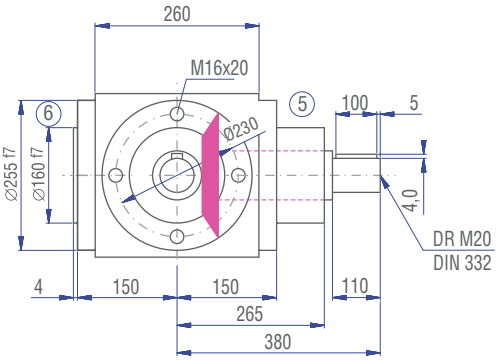
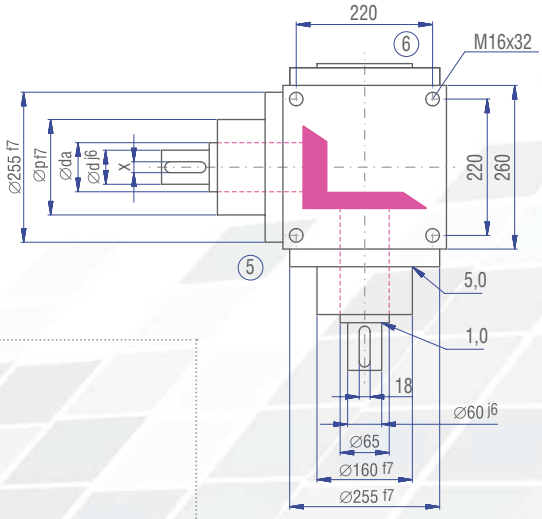




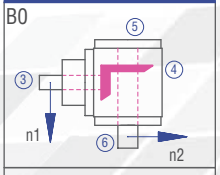




	Gear ratio						
	1:1	1.5:1	2:1	3:1	4:1	5:1	6:1
d [mm]	60	60	60	45	45	45	45
da [mm]	65	65	65	65	65	65	65
l [mm]	110	110	110	90	90	90	90
v [mm]	1	1	1	1.5	1.5	1.5	1.5
x [mm]	18	18	18	14	14	14	14
y [mm]	5	5	5	5	5	5	5
z [mm]	100	100	100	80	80	80	80
t [mm]	4	4	4	3.5	3.5	3.5	3.5
e [mm]	380	380	380	360	360	360	360
o [mm]	265	265	265	265	265	265	265
p [mm]	160	160	160	160	160	160	160
DR M	20	20	20	16	16	16	16

Model

B0



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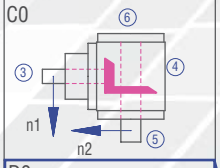

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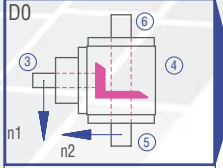

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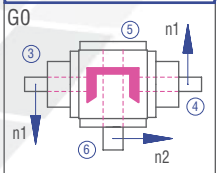

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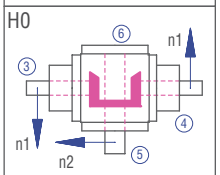
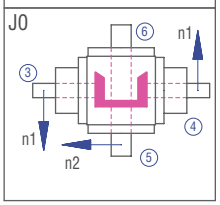
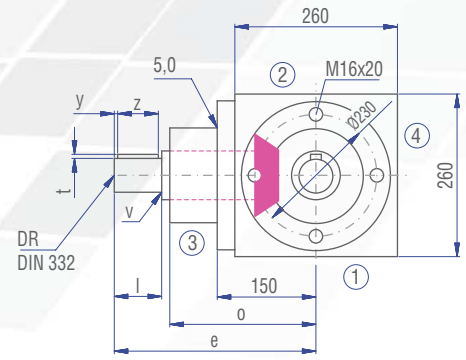
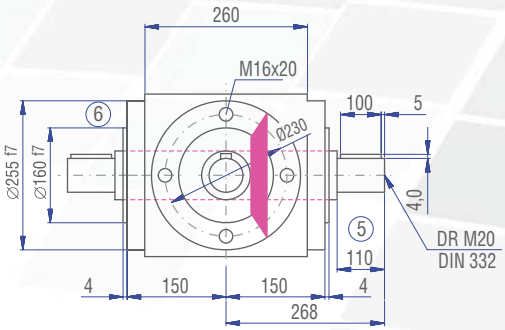
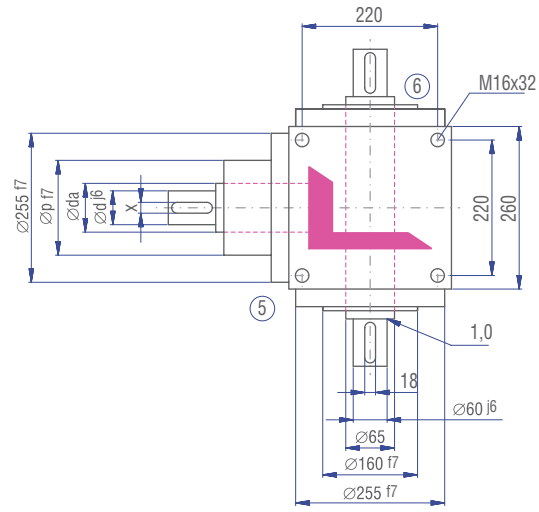


J0

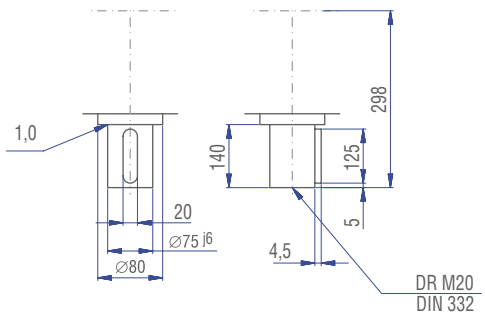




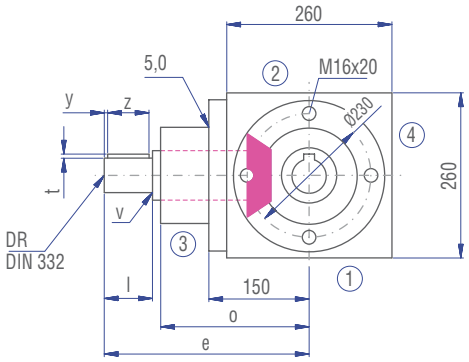


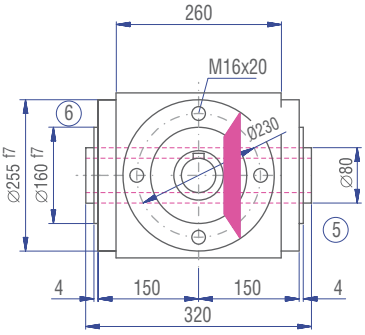


Implementation VV



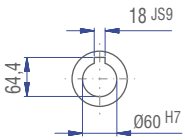
The dimensions of the Models not shown can be figured by mirroring available dimensions.





Implementation

E0N0



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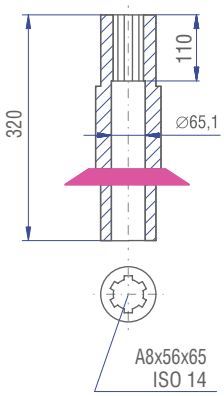
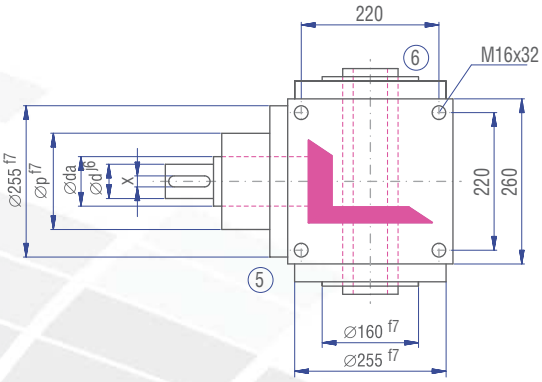
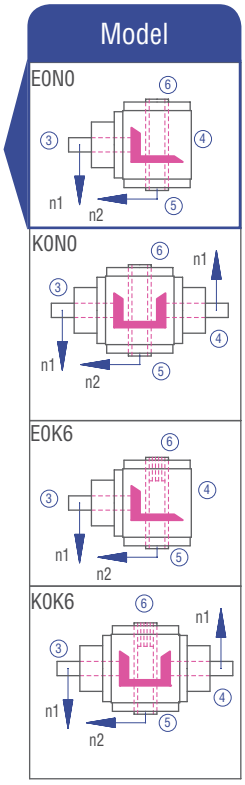
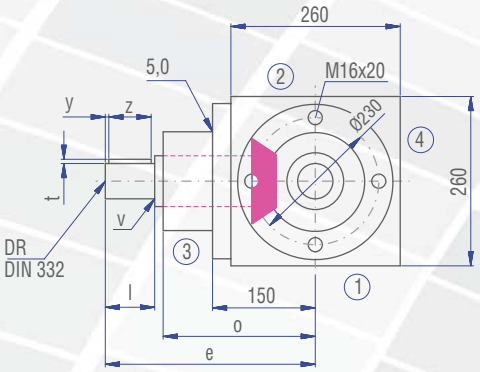
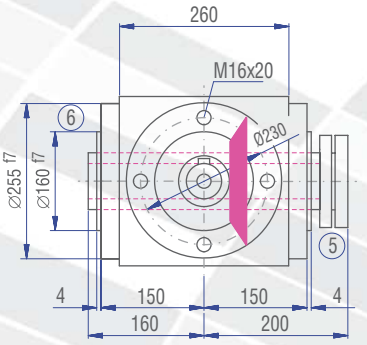


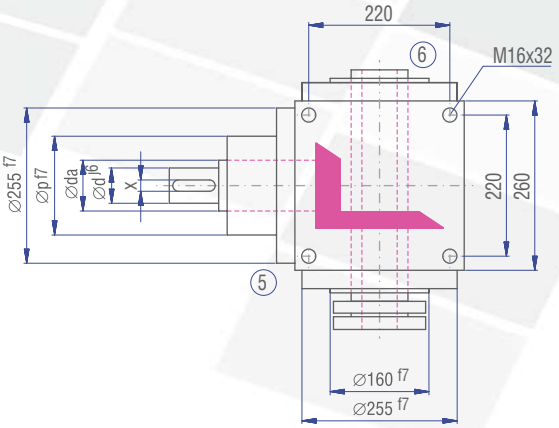


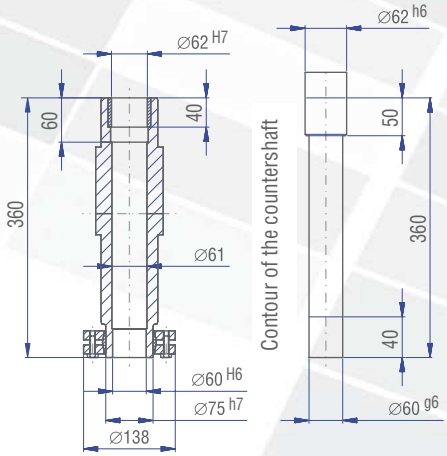
Model











Model