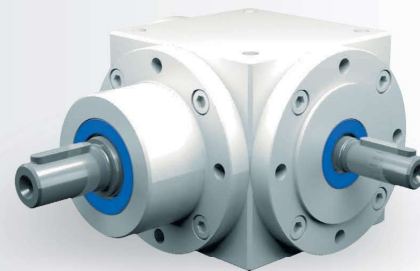


6.4.6 Type VS 090 – Type V with step-up ratio

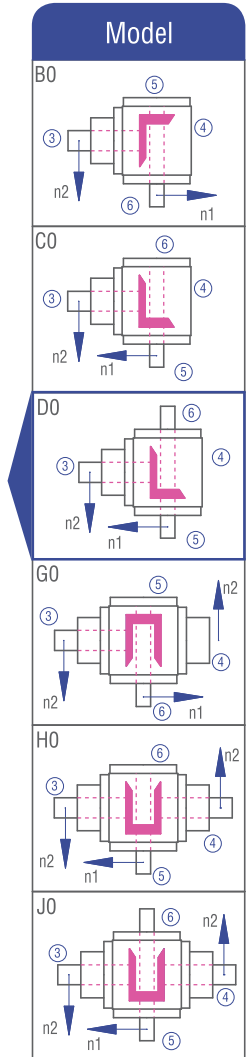
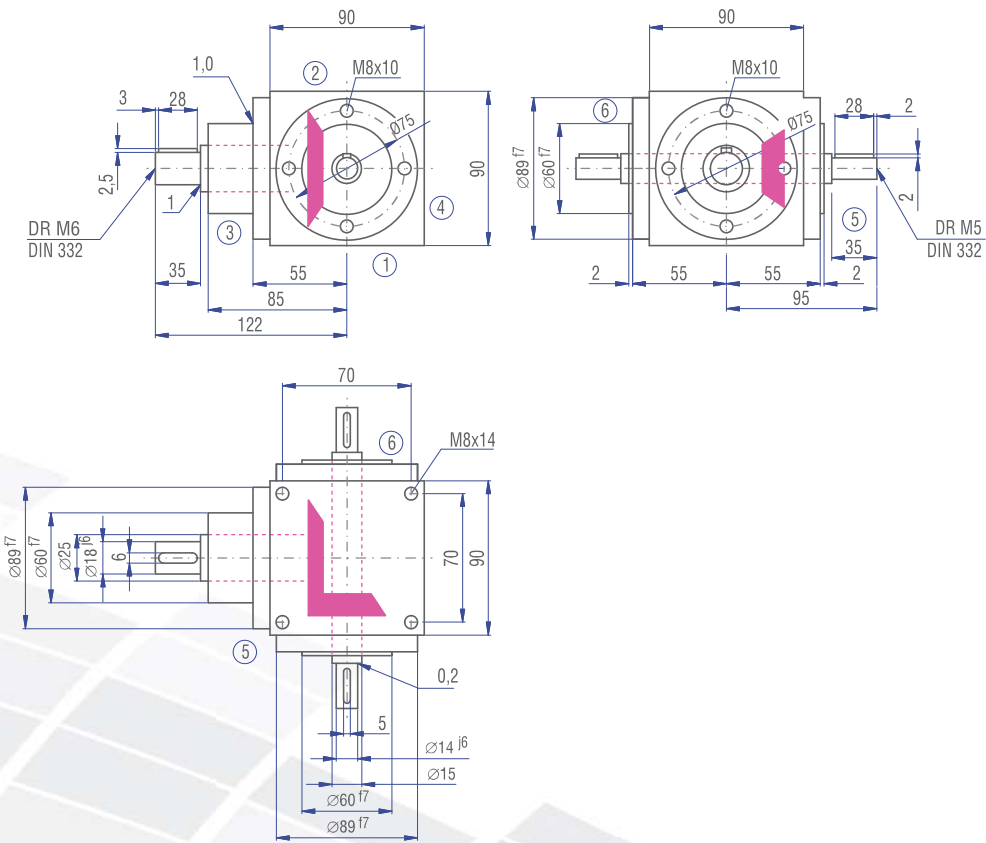


Characteristics

Characteristic	Standard	Option
Toothing	Bevel gear set, spiral-toothed	See chapter 6.2.1
Gear ratio	1.5:1 to 2:1	
Housing / Flanges	Grey cast iron; steel	
Threaded mounting holes	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	Not deliverable	
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]	1.5:1			2:1		
	n ₂ [rpm]	P _{1N} [kW]	T _{2N} [Nm]	n ₂ [rpm]	P _{1N} [kW]	T _{2N} [Nm]
3000	2000	5.51	25	1500	3.80	23
2400	1600	4.59	26	1200	3.17	24
1500	1000	3.20	29	750	2.23	27
1000	667	2.35	32	500	1.65	30
750	500	1.93	35	375	1.24	30
500	333	1.36	37	250	0.82	30
250	167	0.74	40	125	0.41	30
50	33	0.15	40	25	0.08	30
P _{1Nt} [kW]	3.8			3.8		
T _{2max} [Nm]	40			30		



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

n_2 [rpm]	1500		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]
< 30		300	150	400	200	470	235	580	290	700	350	800	400
> 30		250	125	330	165	390	195	490	245	590	295	670	335

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

n_1 [rpm]	3000		1000		500		250		100		50		
	T_{1N} [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]
< 20		390	195	510	255	620	310	730	365	960	480	1150	575
> 20		320	160	420	210	510	255	610	305	800	400	960	480

Inertia moments/mass

Inertia moment J_2 related to the slowly rotating shaft (N_2)

Model	Inertia moment [kgcm ²]	
	1.5:1	2:1
B0	2.40750	1.82000
C0	2.40750	1.82000
D0	2.45250	1.90000
G0	4.20750	3.12000
H0	4.20750	3.12000
J0	4.25250	3.20000

Mass ca. [kg]
5.1
5.1
5.1
6.6
6.6
6.6

