

## 6.4.7 Type VS 120 – Type V with step-up ratio

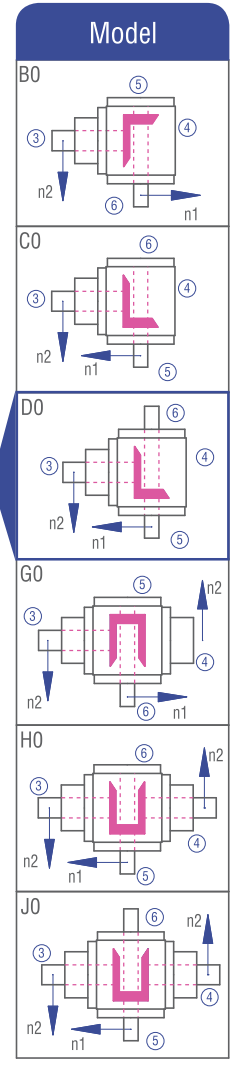
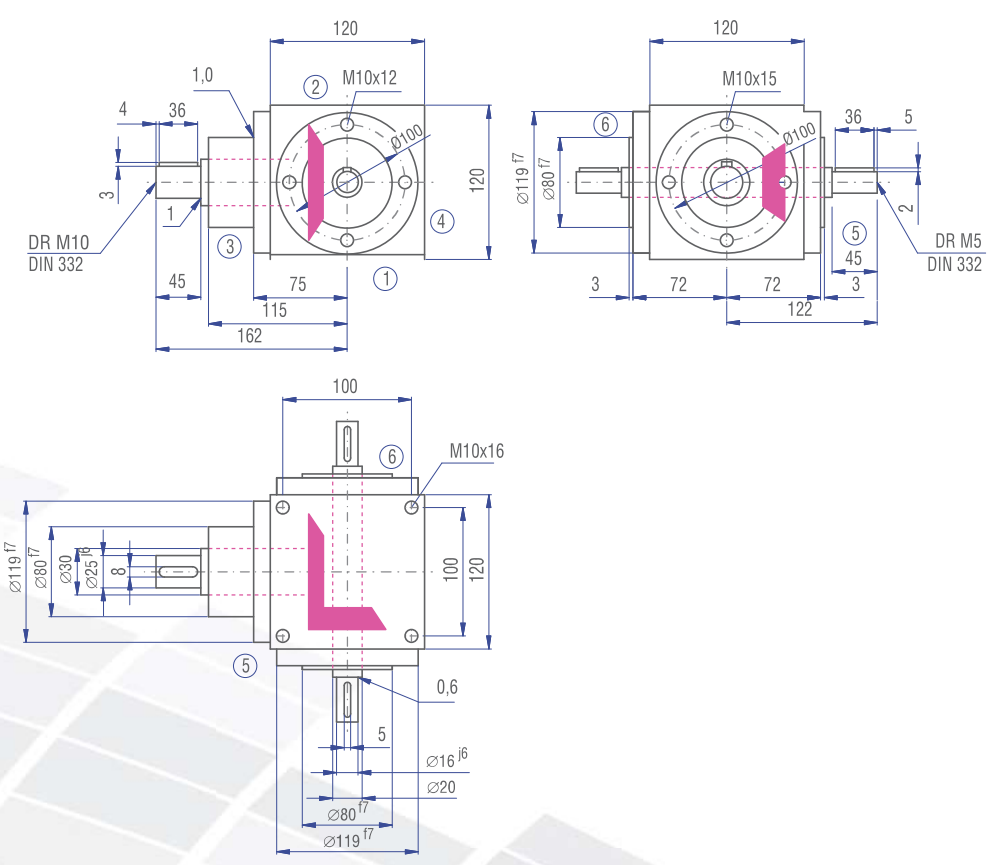


### Characteristics

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 <sub>1</sub> [rpm]	1.5:1			2:1		
	n <sub>2</sub> [rpm]	P <sub>1N</sub> [kW]	T <sub>2N</sub> [Nm]	n <sub>2</sub> [rpm]	P <sub>1N</sub> [kW]	T <sub>2N</sub> [Nm]
3000	2000	13.45	61	1500	9.26	56
2400	1600	11.46	65	1200	8.07	61
1500	1000	8.60	78	750	6.03	73
1000	667	6.32	86	500	4.40	80
750	500	5.18	94	375	3.30	80
500	333	3.70	100	250	2.20	80
250	167	1.84	100	125	1.10	80
50	33	0.37	100	25	0.22	80
P <sub>1Nt</sub> [kW]	6.2			6.2		
T <sub>2max</sub> [Nm]	100			80		



**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]
< 80	470	235	620	310	720	360	900	450	1150	575	1400	700
> 80	390	195	520	260	600	300	750	375	960	480	1170	585

**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]
< 60	580	290	770	385	960	480	1150	575	1460	730	1690	845
> 60	480	240	640	320	800	400	960	480	1220	610	1410	705

**Inertia moments/mass**

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

Model	Inertia moment [kgcm <sup>2</sup> ]	
	1.5:1	2:1
B0	9.60000	9.80000
C0	9.60000	9.80000
D0	9.70000	9.90000
G0	16.30000	16.40000
H0	16.30000	16.40000
J0	16.40000	16.50000

Mass ca. [kg]
11.5
11.5
11.5
15.0
15.0
15.0

