6.4.10 Type VS 200 – Type V with step-up ratio

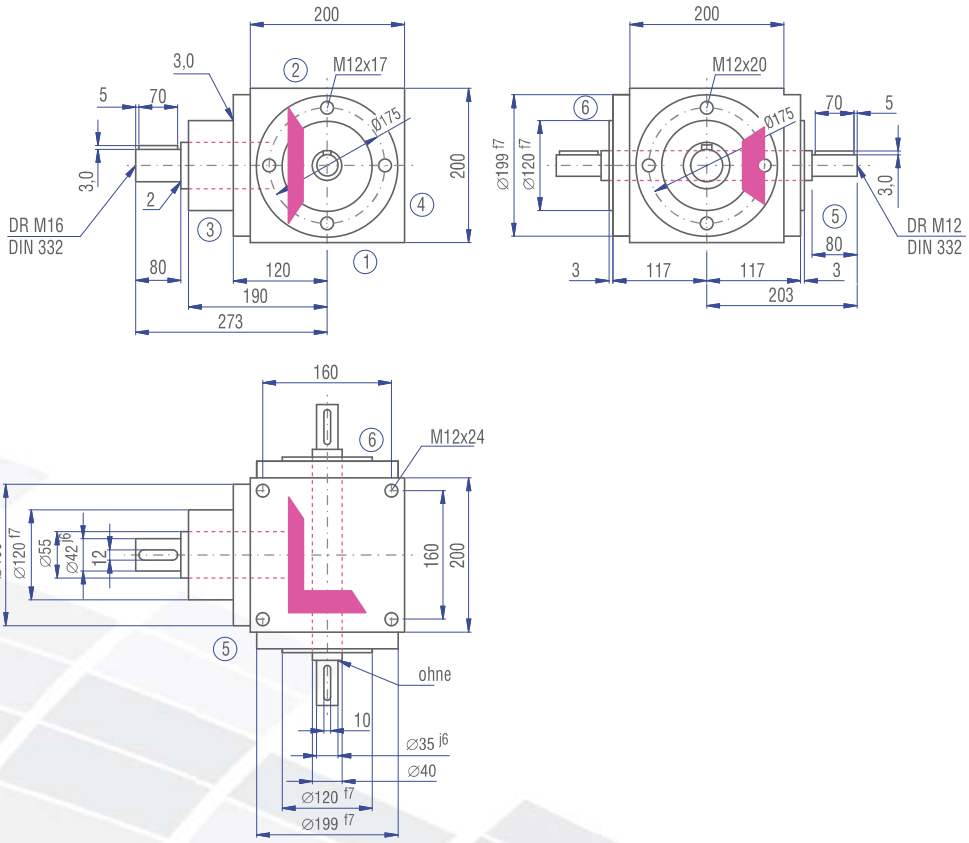
Characteristics

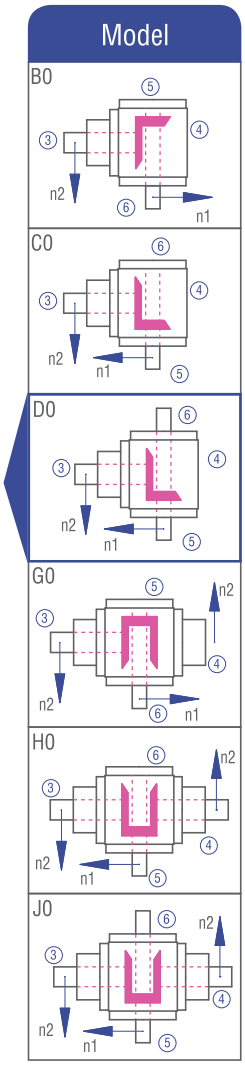
Characteristic	Standard	Option
Toothing	Bevel gear set, spiral-toothed	See chapter 6.2.1
Gear ratio	1.5:1 to 2:1	
Housing / Flanges	Grey cast iron; steel	
Threaded mounting holes	On all housing surfaces without flange and on all flanges.	See chapter 6.2.3
Shaft	Material 1 C45, shaft ends greased Fit 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	72.75	330	1500	51.25	310
2400	1600	63.49	360	1200	45.24	342
1500	1000	48.17	437	750	35.13	425
1000	667	37.13	505	500	27.56	500
750	500	30.31	550	375	21.90	530
500	333	22.02	600	250	14.60	530
250	167	11.04	600	125	7.30	530
50	33	2.18	600	25	1.46	530

P_{1Nt} [kW]	26.0	26.0
T_{2max} [Nm]	600	530





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]
< 500	2200	1100	1700	850	3200	1600	3900	1950	5000	2500	6200	3100
> 500	1840	920	1420	710	2670	1335	3250	1625	4170	2085	5170	2585

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]
< 350	2670	1335	3580	1790	4170	2085	5420	2710	6670	3335	8330	4165
> 350	2220	1110	2990	1495	3470	1735	4510	2255	5560	2780	6940	3470

Inertia moments/mass

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

Model	Inertia moment [kgcm^2]		Mass ca.[kg]
	1.5:1	2:1	
B0	225.000	235.000	48.0
C0	225.000	235.000	48.0
D0	227.000	239.000	50.0
G0	367.000	419.000	58.0
H0	367.000	419.000	58.0
J0	369.000	423.000	60.0