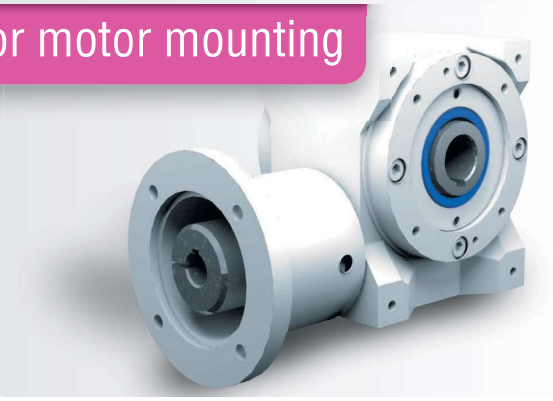
9.4.10 Type SL 100 – Type S with flange for motor mounting



Characteristics

Characteristic	Standard	Option
Toothing	Hardened and ground worm shaft / bronze worm gear	See chapter 9.2.1
Gear ratio	5:1 to 83:1	
Housing / Flanges	Grey cast iron	
Threaded mounting hole	On gearbox side 1 and on the flanges	See chapter 9.2.3
Shaft	Material 1 C45, shaft ends greased Fit with ISO j6 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 H7 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 9.2.10
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 below 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 9.2.8
Lubricants	Synthetic lubricants	See chapter 9.2.8
Flange	Suited for the mounting of IEC motors, models IM B5 and B14	
Coupling	Three-piece claw coupling	

Performance data

i	i ist		n_1 [1/min]					
			3000	1500	1000	750	500	150
5:1	30:6	n_2 [1/min]	600,0	300,0	200,0	150,0	100,0	30,0
		P_{1N} [kW]	29,45	19,31	14,99	12,45	9,47	4,01
		T_{2N} [Nm]	450	590	680	745	850	1.150
		P_{1NT} [kW]	11,30	8,60	7,55	6,87	5,96	0,00
		Wirkungsgrad	0,96	0,96	0,95	0,94	0,94	0,90
7,5:1	30:4	n_2 [1/min]	400,0	200,0	133,0	100,0	66,0	20,0
		P_{1N} [kW]	22,62	14,33	10,92	9,10	7,00	3,03
		T_{2N} [Nm]	513	650	743	817	932	1.258
		P_{1NT} [kW]	9,06	6,85	5,99	5,43	4,71	0,00
		Wirkungsgrad	0,95	0,95	0,95	0,94	0,93	0,87
10:1	40:4	n_2 [1/min]	300,0	150,0	100,0	75,0	50,0	15,0
		P_{1N} [kW]	18,55	11,75	8,95	7,45	5,79	2,02
		T_{2N} [Nm]	555	703	803	882	1.006	1.095
		P_{1NT} [kW]	8,57	6,35	5,49	4,95	4,30	0,00
		Wirkungsgrad	0,94	0,94	0,94	0,93	0,91	0,85
13:1	52:4	n_2 [1/min]	230,0	115,0	76,0	57,0	38,0	11,0
		P_{1N} [kW]	11,09	6,09	4,30	3,37	2,37	0,85
		T_{2N} [Nm]	427	464	486	502	523	586
		P_{1NT} [kW]	7,87	5,73	4,92	4,43	3,85	0,00
		Wirkungsgrad	0,93	0,92	0,91	0,90	0,89	0,83
15:1	30:2	n_2 [1/min]	200,0	100,0	66,0	50,0	33,0	10,0
		P_{1N} [kW]	13,12	8,32	6,41	5,34	4,16	1,88
		T_{2N} [Nm]	564	715	817	898	1.025	1.386
		P_{1NT} [kW]	5,76	4,31	3,75	3,40	2,95	0,00
		Wirkungsgrad	0,90	0,90	0,89	0,88	0,86	0,77
20:1	40:2	n_2 [1/min]	150,0	75,0	50,0	37,0	25,0	7,5
		P_{1N} [kW]	10,84	6,87	5,28	4,45	3,47	1,49
		T_{2N} [Nm]	614	778	888	975	1.112	1.441
		P_{1NT} [kW]	5,44	3,99	3,44	3,10	2,69	0,00
		Wirkungsgrad	0,89	0,89	0,88	0,86	0,84	0,76

i	i ist		n_1 [1/min]					
			3000	1500	1000	750	500	150
26:1	52:2	n_2 [1/min]	115,0	57,0	38,0	28,0	19,0	5,8
		P_{1N} [kW]	7,63	4,20	3,00	2,38	1,72	0,64
		T_{2N} [Nm]	556	605	634	655	683	773
		P_{1NT} [kW]	4,94	3,57	3,06	2,75	2,40	0,00
		Wirkungsgrad	0,88	0,87	0,85	0,83	0,80	0,73
30:1	30:1	n_2 [1/min]	100,0	50,0	33,0	25,0	16,0	5,0
		P_{1N} [kW]	7,53	4,78	3,60	3,19	2,51	1,18
		T_{2N} [Nm]	590	748	825	950	1.080	1.437
		P_{1NT} [kW]	3,50	2,60	2,27	2,06	1,81	0,00
		Wirkungsgrad	0,82	0,82	0,80	0,78	0,75	0,64
40:1	40:1	n_2 [1/min]	75,0	37,0	25,0	18,0	12,0	3,8
		P_{1N} [kW]	6,33	4,01	3,13	2,65	2,13	1,00
		T_{2N} [Nm]	645	817	933	1.025	1.169	1.581
		P_{1NT} [kW]	3,32	2,42	2,09	1,90	1,67	0,00
		Wirkungsgrad	0,80	0,80	0,78	0,76	0,72	0,62
53:1	52:1	n_2 [1/min]	57,0	28,0	18,0	14,0	9,4	2,8
		P_{1N} [kW]	4,76	2,63	1,92	1,53	1,11	0,45
		T_{2N} [Nm]	615	670	704	728	762	870
		P_{1NT} [kW]	3,04	2,19	1,88	1,71	1,51	0,00
		Wirkungsgrad	0,78	0,77	0,74	0,72	0,69	0,59
62:1	63:1	n_2 [1/min]	48,0	24,0	16,0	12,0	8,1	2,4
		P_{1N} [kW]	4,59	2,91	2,17	1,70	1,21	0,44
		T_{2N} [Nm]	645	817	886	886	886	886
		P_{1NT} [kW]	2,39	1,74	1,52	1,39	1,24	0,00
		Wirkungsgrad	0,70	0,70	0,68	0,65	0,61	0,50
83:1	82:1	n_2 [1/min]	36,0	18,0	12,0	9,0	6,0	1,8
		P_{1N} [kW]	3,33	1,74	1,23	0,94	0,67	0,24
		T_{2N} [Nm]	591	599	599	599	599	599
		P_{1NT} [kW]	2,24	1,61	1,40	1,28	1,15	0,00
		Wirkungsgrad	0,68	0,66	0,62	0,61	0,57	0,47

	5:1	7.5:1	10:1	13:1	15:1	20:1	26:1	30:1	40:1	53:1	62:1	83:1
T_{2max} [Nm]	1190	1360	1090	736	1610	1440	980	1765	1582	1080	1040	1000

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

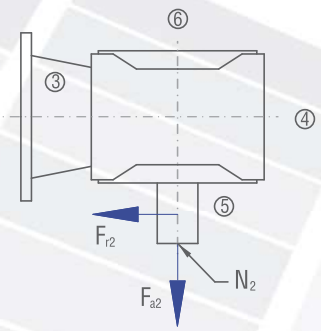
n_2 [rpm]	200		125		75		50		30		10	
T_2 [Nm]	F_r [N]	F_a [N]	F_r [N]	F_a [N]	F_r [N]	F_a [N]	F_r [N]	F_a [N]	F_r [N]	F_a [N]	F_r [N]	F_a [N]
< 800	3650	1825	4000	2000	4750	2375	5600	2800	6700	3350	9500	4750
> 800	2920	1460	3200	1600	3800	1900	4480	2240	5360	2680	7600	3800

Inertia moments/mass

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

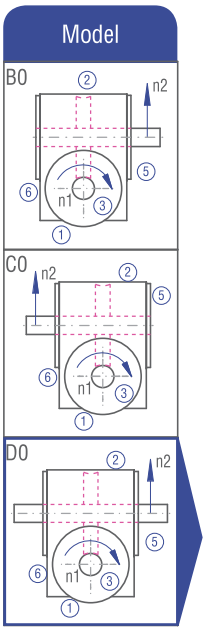
	Inertia moment [kgcm²]											
	5:1	7.5:1	10:1	13:1	15:1	20:1	26:1	30:1	40:1	53:1	62:1	83:1
J1	30.63	26.13	22.28	20.53	23.42	20.62	19.59	22.75	20.21	19.35	20.81	19.59

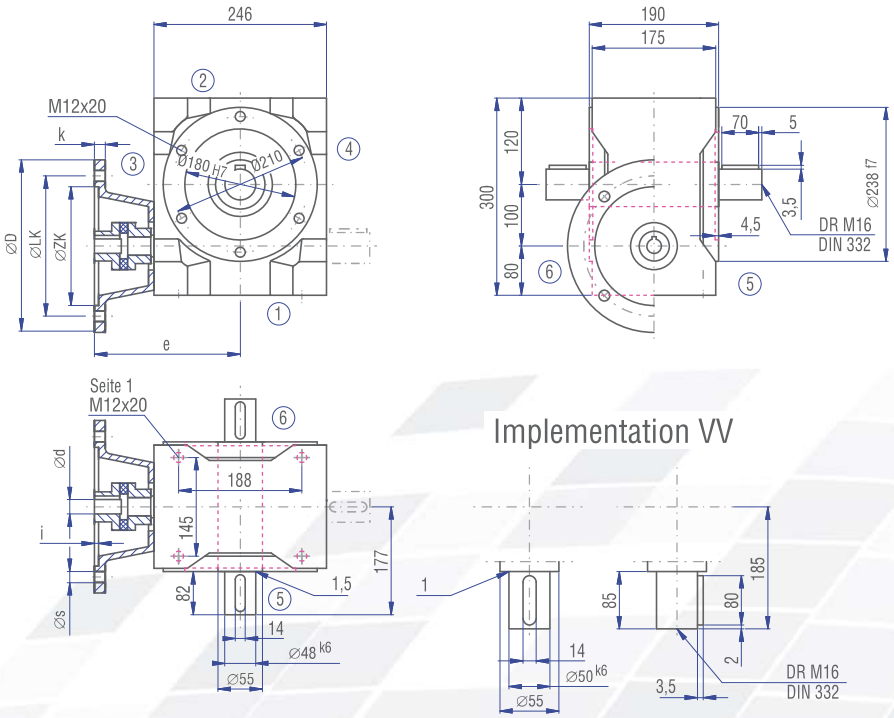
Mass ca. [kg]
55



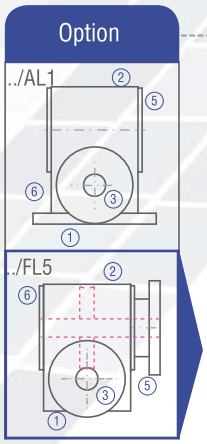
The mass of the gearbox may deviate depending on the flange size, the type and the gear ratio.

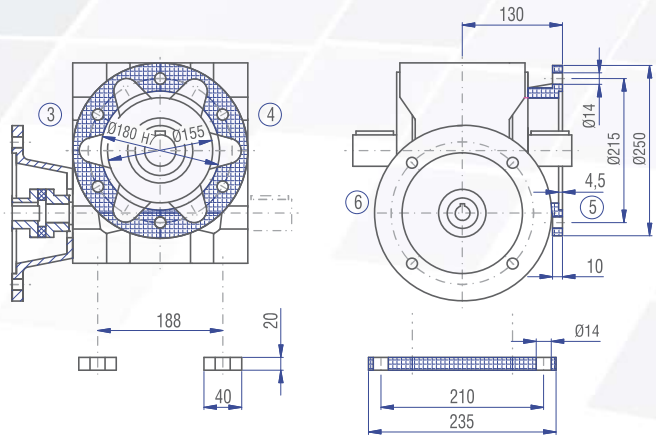
9.4.10 Type SL 100 – Type S with flange for motor mounting





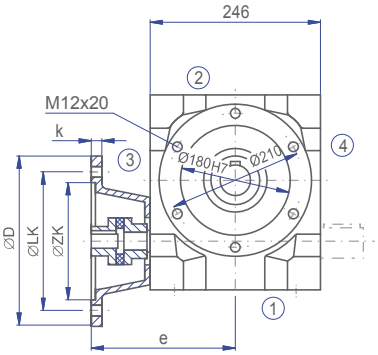
Implementation VV

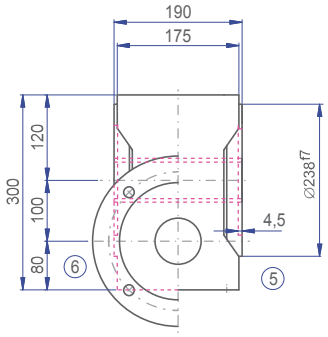




IEC motor	Model	Motor shaft (dxl)	Flange diameter D [mm]	LK [mm]	ZK [mm]	s [mm]	i [mm]	k [mm]	e [mm]
90	B5	24x50	200	165	130	M10	4	18	235
100	B5	28x60	250	215	180	14	5	18	245
112	B5	28x60	250	215	180	14	5	18	245
132	B5	38x80	300	265	230	14	5	18	265

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





E0N0

E0K5 / E0K6