

Low backlash precision gearboxes PSC

Performance table PSC solid shaft gearboxes
valid for sub-assemblies and fully enclosed units

GEARBOX	Nominal ratio	Exact ratio	Permanent output torque [Nm]	Nominal output torque 1a) 12×10^6 [Nm]	Acceleration torque 1b) 6×10^6 [Nm]	Emergency Stop Torque 1c) [Nm]	Max. output speed 3) [1/min]	Permissible average input speed 4) [1/min]	Max. permissible input speed 3) [1/min]	Permanet bending moment 2b) [Nm]	Emergency Stop bending moment max. 1c) 7) [Nm]	Tilting stiffness [Nm/arcmin]	Torsion stiffness 5) [Nm/arcmin]	Max. axial force static 2b) [kN]	max. radial force static 2c) [kN]	Max. axial force dynamic 2b) [kN]	Max. radial force dynamic 2c) [kN]	Power density [Nm/kg]	Weight 6) [kg]
PSC056-V	50	564788/11745	575	445	625	1,545	120	4,000	6,000	1,070	3,645	1,170	165	152	55	18.0	11.0	57.8	7.7
	63	85946/1305																	
	80	116641/1450																	
	100	239421/2465																	
	125	3508/29																	
	160	251699/1595																	
PSC080-V	50	754/15	980	770	1,075	2,530	100	3,500	5,000	1,280	4,345	1,560	260	168	57	18.5	11.5	68.8	11.2
	63	33176/525																	
	80	57304/735																	
	100	1508/15																	
	125	12818/105																	
	160	1508/9																	
PSC112-V	50	325367/6525	1,480	1,165	1,630	3,780	100	3,500	5,000	2,410	5,910	2,230	430	270	85	29.5	18.0	73.3	15.9
	63	227143/3625																	
	80	6139/75																	
	100	42973/435																	
	125	834904/6525																	
	160	853321/5220																	
PSC160-V	50	354928/6975	1,850	1,450	2,030	4,800	100	3,500	5,000	2,750	7,800	2,300	570	292	97	31.0	19.0	72.9	19.9
	63	3169/50																	
	80	386618/4725																	
	100	15845/162																	
	125	136267/1050																	
	160	415139/2700																	
PSC224-V	50	3531/70	2,325	1,820	2,550	6,090	90	3,000	4,500	3,060	9,280	2,620	680	315	100	32.0	20.0	65.7	27.7
	63	1584/25																	
	80	3828/49																	
	100	11880/119																	
	125	12177/98																	
	160	162																	
PSC300-V	50	6338/125	3,435	2,690	3,765	8,990	80	2,500	4,000	4,800	11,410	5,490	1,130	400	140	42.5	26.5	71.9	37.4
	63	358097/5625																	
	80	186971/2250																	
	100	383449/3825																	
	125	129929/1050																	
	160	434153/2700																	
PSC400-V	50	354928/6975	4,495	3,505	4,905	11,980	70	2,000	3,500	6,080	13,750	6,260	1,350	535	170	46.0	29.0	69.7	50.3
	63	3169/50																	
	80	34859/450																	
	100	9507/95																	
	125	72887/600																	
	160	224999/1350																	

Backlash [arcmin] - output torque	≤ 0.1
Lost Motion [arcmin] - output torque	≤ 0.6
Angular transmission accuracy [arcsec]	≤ 50
Efficiency under full load	≥ 90%
Lifetime	20,000 operating hours
Noise level	< 70 dB(A)
Lubrication	sub-assemblies: delivery without oil fully enclosed gearboxes: filled with standard mineral oil, viscosity 320

1a) Referring to 12 million times during lifetime

1b) Referring to 6 million times during lifetime

1c) Referring to 3,000 times during lifetime

2a) Permanent tilting moment for load case $F_a = 0$ and $F_r = 0$

2b) Max. axial force for load case permanent tilting moment = 0 and $F_r = 0$

2c) Max. radial force for load case permanent tilting moment = 0 and $F_a = 0$

3) higher max. speeds are possible - please contact us

4) at nominal torque and 20 ° C ambient temperature

5) at 50% to 100% of nominal torque

6) The indicated mass refers in each case to gearbox sub-assemblies with nominal ratio 50

7) Calculation of the screw connection has to be provided by the user!

(permissible strength class 12.9 for housing and output flange and 10.9 for cover flange)

General:

Calculations are based on an output speed of $n_2 = 15 \text{ min}^{-1}$

Calculations are valid for S5 intermittent operation; for S1 continuous operation, please contact us

Further ratios are available on request.