

Low backlash precision gearboxes PSC

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

GEARBOX	Nominal ratio 1)	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 2a) [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-H	35.5	2422/65	575	445	625	1,545	120	4,000	6,000	1,070	3,645	2,090	185	152	55	18.0	11.0	57.8	7.7
	45	15224/325																	
	56	26296/455																	
	71	22836/325																	
	90	5882/65																	
	125	4844/39																	
PSC080-H	35.5	21614/611	980	770	1,075	2,530	100	3,500	5,000	1,280	4,345	2,730	305	168	57	18.5	11.5	68.8	11.2
	45	82012/1833																	
	56	169882/3055																	
	71	43935/611																	
	90	401273/4277																	
	125	820120/6721																	
PSC112-H	35.5	25422/725	1,480	1,165	1,630	3,780	100	3,500	5,000	2,410	5,910	3,315	480	270	85	29.5	18.0	73.3	15.9
	45	26537/600																	
	56	27429/500																	
	71	28321/400																	
	90	446/5																	
	125	3122/25																	
PSC160-H	35.5	218327/6188	1,850	1,450	2,030	4,800	100	3,500	5,000	2,750	7,800	3,670	690	292	97	31.0	19.0	72.9	19.9
	45	228342/5083																	
	56	236354/4199																	
	71	244366/3315																	
	90	250375/2652																	
	125	292438/2431																	
PSC224-H	35.5	206719/5733	2,325	1,820	2,550	6,090	90	3,000	4,500	3,060	9,280	4,100	820	315	100	32.0	20.0	65.7	27.7
	45	324046/7007																	
	56	94979/1729																	
	71	681614/9555																	
	90	698375/7644																	
	125	776593/6370																	
PSC300-H	35.5	228342/6409	3,435	2,690	3,765	8,990	80	2,500	4,000	4,800	11,410	8,810	1,240	400	140	42.5	26.5	71.9	37.4
	45	14021/312																	
	56	246369/4420																	
	71	274411/3757																	
	90	20030/221																	
	125	2003/17																	
PSC400-H	35.5	12544/351	4,495	3,505	4,905	11,980	70	2,000	3,500	6,080	13,750	10,250	1,460	535	170	46.0	29.0	69.7	50.3
	45	504/11																	
	56	13440/247																	
	71	4592/65																	
	90	1176/13																	
	125	4816/39																	

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.