



# PLS-HP

## High Performance Planetary Servo Gearhead

Technical Data



**Design Life • Emergency Peak Torque • IP Class • Efficiency • Backlash • Torsional Stiffness • Gearhead Weight • Recommended Maximum Unsupported Motor Weight • Operating Temperatures • Lubrication • Mounting Positions •**

		<i>PLS-HP 70</i>	<i>PLS-HP 90</i>	<i>PLS-HP 115</i>	<i>PLS-HP 142</i>
Rotational Backlash <sup>(1)</sup> ( <i>arc.min</i> )	1 stage	< 3	< 3	< 3	< 3
	2 stage	< 5	< 5	< 5	< 5
Torsional (Rotational) Stiffness <sup>(2)</sup> <i>Nm/arc.min ( lbin /arc.min)</i>	1 stage	7 (62)	10 (88)	22 (195)	46 (411)
	2 stage	8 (70)	11 (97)	24 (212)	48 (424)
Gearhead Weight <i>kg (lb)</i>	1 stage	2.6 (5.6)	4.0 (8.9)	7.5 (17)	16 (35)
	2 stage	3.2 (7.0)	5.0 (11)	10 (22)	20 (44)
Max. Unsupported Motor Weight <sup>(3)</sup> <i>kg (lb)</i>		15 (33)	20 (44)	40 (88)	60 (132)
Operating Temperature <sup>(4)</sup> °C (°F)	Minimum	-25 (-13)			
	Maximum	+110 (232)			
Lubrication	Lubricated for life with semi fluid synthetic grease "Klubersynth GE 46-1200" (Kluber Lubrication LP - <a href="http://www.kluber.com">www.kluber.com</a> )				
Mounting Positions	Any				

Design Life ( L10 Life)	20000 hrs	
Emergency Stop Peak Torque	200% of the continuous duty rated torque. The gearbox will withstand this torque only a very limited time (about 500 to 1000 times during the life of the gearbox) . <b>-Torques at this magnitude should not be part of the standard operating cycle!</b>	
IP Protection Class	IP 65	
Full Load Efficiency %	1 stage	98 %
	2 stage	95 %

- 1) Maximum value of the rotational backlash measured at the output in arc minutes (1 arc min = 1 angular min).  
 2) Measured at the output shaft  
 3) For horizontal mounting position (support recommended if motor weight exceeds the given value)  
 4) Measured at the middle of the gearbox main body

### Output Shaft Radial and Axial Loads • Input Speeds • Noise Level •

		<i>PLS-HP 70</i>	<i>PLS-HP 90</i>	<i>PLS-HP 115</i>	<i>PLS-HP 142</i>
Output Shaft Radial Load <sup>(1)</sup> ( at 20000 hrs L10 and 100 output shaft rpm )	<i>N (lb)</i>	4500 (1012)	6000 (1349)	9000 (2023)	12000 (2698)
Output Shaft Axial Load ( at 20000 hrs L10 and 100 output shaft rpm )	<i>N (lb)</i>	4000 (899)	5000 (1124)	10000 (2248)	12000 (2698)
Output Shaft Radial Load <sup>(1)</sup> ( at 30000 hrs L10 and 100 output shaft rpm )	<i>N (lb)</i>	4000 (899)	5200 (1169)	8500 (1911)	10000 (2248)
Output Shaft Axial Load ( at 30000 hrs L10 and 100 output shaft rpm )	<i>N (lb)</i>	4000 (899)	5000 (1124)	10000 (2248)	12000 (2698)
Max Input Speed	<i>rpm</i>	16000	12000	10000	80000
Continuous / Average Input Speed	<i>rpm</i>	any rpm as long as the gearbox temperature does not exceed the +110 °C (232 °F)			
Noise Level <sup>(2)</sup>	<i>dBA</i>	65	65	68	70

- (1) Radial load at shaft midpoint.  
 (2) Sound pressure level measured at 3000 rpm, no load, 1m distance from the gearbox.