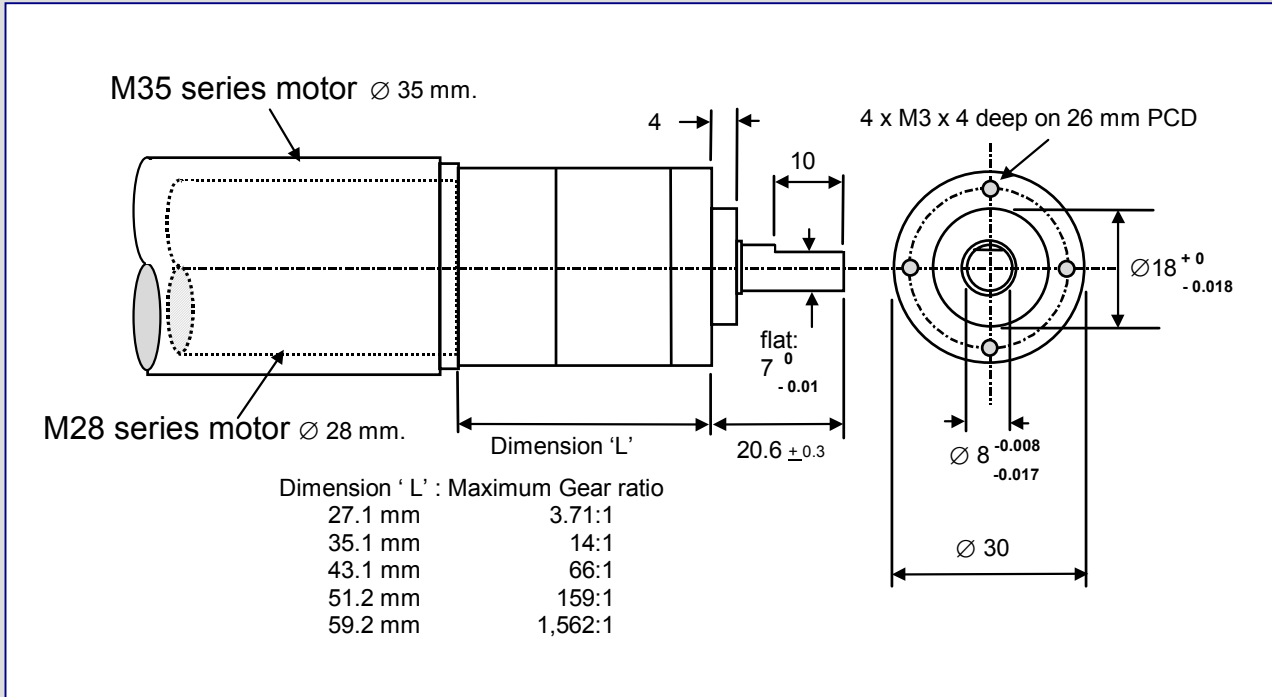


# Planetary geared dc servo motors

# P30-1 series

The P30 series is a precision planetary gearhead featuring controlled backlash down to less than 1 degree and a peak torque capability up to 6 Nm. In standard execution the 30/1 series utilises a combination of plastic first stage and metal final planetary gear stages. For heavy duty applications the P30-1S series utilise steel gear stages throughout the planetary unit. The P30 series is suitable for fitting to M28 and M35 series dc servo motors and provide a combination of high torque and smooth running ideally suited to high performance servo applications which require a combination of high dynamic operation and compact overall dimensions

## Dimensions: mm



## Typical Performance:

### using M28 series motor

Gear Ratio	Gearbox Efficiency	Gearhead	Rated Speed (rpm)	Rated Torque (Ncm)	Peak Torque (Ncm)
3.71:1	88%		) 800	6.5	16
14:1	80%	P30-1	) 200	22	50
43:1	70%		) 60	60	150
66:1	70%	P30-1	) 40	90	230
134:1	60%		) 20	160	450
159:1	60%		) 18	190	470
246:1	60%		) 12	290	600*
415:1	55%	P30-1	) 7	450*	600*
592:1	55%		) 5	450*	600*
989:1	55%		) 3	450*	600*
1526:1	55%		) 2	450*	600*

### using M35 series motor

Gearhead	Rated Speed (rpm)	Rated Torque (Ncm)	Peak Torque (Ncm)
P30-1 - 3.71:1	800	15	50
P30-1 - 14:1	200	35	50
P30-1 - 43:1	60	120	160
P30-1S - 43:1	60	130	450
P30-1S - 66:1	40	210	600*
P30-1S -134:1	20	360	600*
P30-1 - 159:1	) 18	430	600*
P30-1 - 246:1	) 12	450*	600*

Note\* Torque limited by gearbox strength, use appropriate current limit circuit

## General gearbox specification

Backlash @ no load	$\leq 1$ degree
Max Radial load on output shaft	150 N ( 15 mm from mounting face )
Max axial load	150 N
Operating temperature range	-30 <sup>o</sup> C to + 100 <sup>o</sup> C
Housing Material	metal, nickel plated
Output Bearings	double shielded ball
Assembly Torque Constant	= gear ratio x $\frac{\text{Efficiency}}{100}$ x motor torque constant

Typical Operating current = motor no-load current +  $\frac{\text{Load Torque}}{\text{Assembly torque Constant}}$