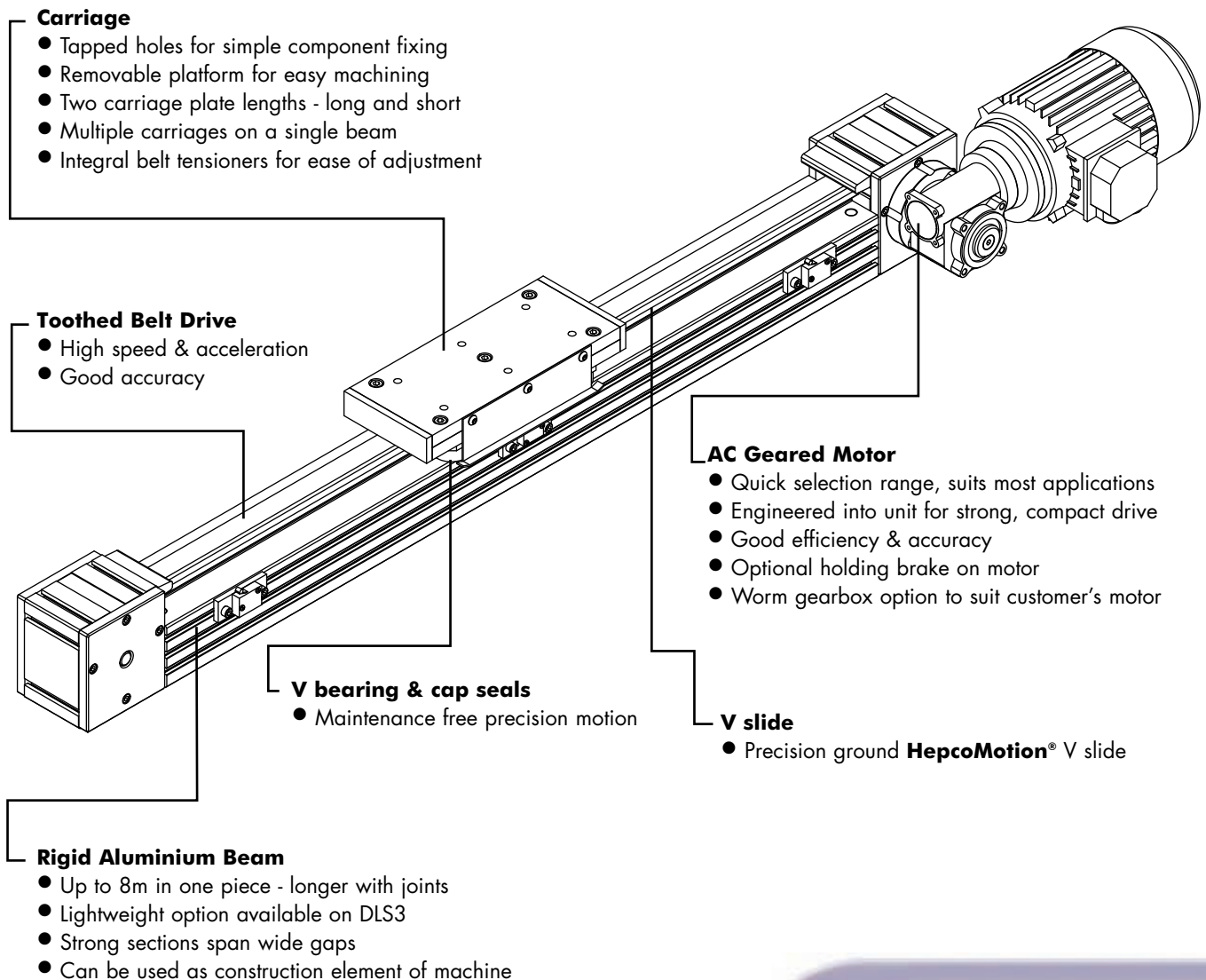


## New geared motors for DLS linear transmission

**HepcoMotion®** has introduced a new range of AC geared motors and gearboxes to enhance the DLS product. These are available on a short lead time, are very cost effective and are easy to specify. Motors up to 0.55kW are offered as are gearboxes with ratios from 5:1 to 80:1. This provides driving forces to 1020N and linear speeds from zero to 1.86m/s.

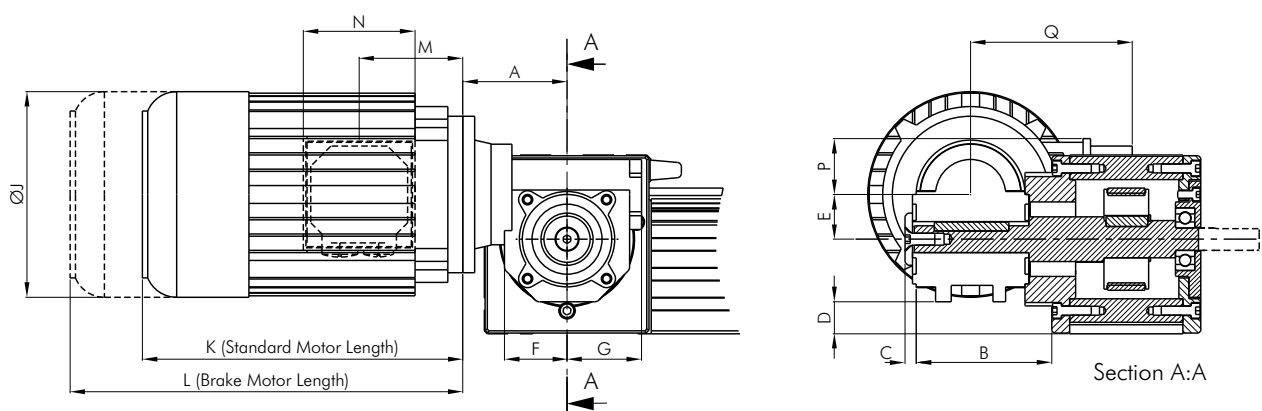
This addition to the popular DLS range enhances the product and adds to the existing features, just some of which are shown below. For a full list of product features and more technical information please see the full DLS linear transmission and positioning system catalogue.



## Data & Dimensions

**HepcoMotion**® offer 3 phase squirrel cage motors in 4 IEC frame sizes 50 to 71, with the choice of short (S) or long (L) field windings and 2 or 4 poles designs (running at approximately 2800 and 1400 rpm respectively). Powers from 45W to 550W are available. Motors are rated at 400/230V, are protected to IP55, and are finished in silver grey epoxy paint as standard. Motors with single and three phase windings, special finishes and enhanced IP ratings are available on request. The gearboxes are available in ratios from 5:1 to 80:1.

The gearbox is attached directly to the side of the DLS drive box, using specially designed mounting flanges, and an ingenious hollow shaft arrangement. This direct drive eliminates the torsional flexibility, which can compromise system accuracy if a flexible coupling is used.



### Gearbox Dimensions & Data

System	Suits	A	B	C	D	E	F	G	Weight	Rated Torque*	Available Ratios
SW3	DLS3	55	76	6.5	9.5	30	37.5	40	1.1kg	18Nm	5,7.5,10,15,20,25,30,40,50,60,80
SW4	DLS4	70	91	7.5	21.5	40	42	50	2.1kg	40Nm	5,7.5,10,15,20,25,30,40,50,60,80

\* The rated torque is a typical figure, the exact figure depends on the chosen ratio. The backlash is between 3 and 35 arc minutes depending on the ratio. The efficiency of the gearbox is dependent on both input speed and the ratio, with efficiency being greater for higher speeds and shorter ratios. Typical efficiencies are in the range 50 - 90%. Please consult **HepcoMotion**® for full details on your selection for torque, backlash and efficiency.

### Motor Dimensions & Data

Frame Size	Use With	Dia J	K	L	M	N	P	Q	Weight	Power			
										2 Pole 'S'	2 Pole 'L'	4 Pole 'S'	4 Pole 'L'
50	SW3	98	143	182	57	64	32	80	2.5kg	-	-	-	45W
56	SW3	110	167	193	67	74	58	110	3.2kg	90W	130W	-	90W
63	SW3&4	123	193	215	71	92	58	115	4.7kg	180W	250W	130W	180W
71	SW4	138	215	246	71	92	52	124	6.3kg	370W	550W	250W	375W

### Notes

- 1) For worm gearboxes with ratios of 30:1 and higher, a load will not back-drive a stationary gearbox (although the load may sustain movement in a gearbox which is already running). Ratios of 40:1 or greater will not back-drive dynamically.
- 2) Geared motors which will not back-drive can provide a useful element of safety (for instance in vertical applications), but in many duties the brake motor option should be selected. The brake option conveniently fits on the end of the standard motor under an extended fan cowl (see diagram above)
- 3) For operational details of the brake motor, please see the full DLS catalogue (page 17).

## Choosing the Right System

### Quick Selection Range

**HepcoMotion**<sup>®</sup> has selected a range of AC geared motors that will cover vast majority of applications. Simply select the unit with the suitable nominal speed. These combinations of geared motor will produce the nominal linear force at speeds ranging from 50% to 120% of the nominal speed. The units will perform with a lower force and duty cycle over a much wider speed range from 10% to 200% of the nominal speed.

### DLS3 with AC Geared Motor

Nominal Speed m/s at 50Hz	Motor Power in kW	Gearbox Ratio	Nominal Linear Force in N	Weight	Part Number
1.26	0.25	5	139	5.7 kg	SW3 R5 1 M63L2 A1
0.84	0.25	7.5	215		SW3 R7.5 1 M63L2 A1
0.63	0.18	5	212		SW3 R5 1 M63L4 A1
0.42	0.18	7.5	322		SW3 R7.5 1 M63L4 A1
0.32	0.18	10	425		SW3 R10 1 M63L4 A1
0.25	0.18	25	486		SW3 R25 1 M63S2 A1
0.21	0.13	15	410		SW3 R15 1 M63S4 A1
0.16	0.13	20	525		SW3 R20 1 M63S4 A1
0.13	0.13	25	615		SW3 R25 1 M63S4 A1
0.11	0.09	30	514		4.3 kg
0.08	0.09	40	627	SW3 R40 1 M56L4 A1	
0.06	0.045	50	320	3.6 kg	SW3 R50 1 M50L4 A1
0.05	0.045	60	359		SW3 R60 1 M50L4 A1
0.04	0.045	80	417		SW3 R80 1 M50L4 A1

### DLS4 with AC Geared Motor

Nominal Speed m/s at 50Hz	Motor Power in kW	Gearbox Ratio	Nominal Linear Force in N	Weight	Part Number	
1.86	0.55	5	189	8.4 kg	SW4 R5 1 M71L2 A1	
1.24	0.55	7.5	300		SW4 R7.5 1 M71L2 A1	
0.93	0.37	5	275		SW4 R4 1 M71L4 A1	
0.62	0.37	7.5	422		SW4 R7.5 1 M71L4 A1	
0.47	0.37	10	561		SW4 R10 1 M71L4 A1	
0.37	0.37	25	575		SW4 R25 1 M71S2 A1	
0.31	0.25	15	552		SW4 R15 1 M71S4 A1	
0.23	0.25	20	711		SW4 R20 1 M71S4 A1	
0.19	0.18	25	650		6.7 kg	SW4 R25 1 M63L4 A1
0.16	0.18	30	733			SW4 R30 1 M63L4 A1
0.12	0.13	40	622	SW4 R40 1 M63S4 A1		
0.09	0.13	50	750	SW4 R50 1 M63S4 A1		
0.08	0.13	60	846	SW4 R60 1 M63S4 A1		
0.06	0.13	80	1020	SW4 R80 1 M63S4 A1		

### Notes

- Other motor sizes are available upon request.
- This selection should be made after reading the section '**How to Select the Right DLS + AC Geared Motor Combination**' shown in the full DLS linear positioning and transmission system catalogue (pages 15-18).
- If the **HepcoMotion**<sup>®</sup> quick selection range does not meet your application requirements, please contact our technical department for details.

# Ordering Details

## Fitted Worm Gearbox or AC Geared Motor

**SW 3 R20 1 M 56 L 4 B A 1**

<b>Prefix -</b>	SW Identifies a fitted worm gearbox	SW
<b>Size -</b>	3 to suit a DLS3	3
	4 to suit a DLS4	4
<b>Reduction Ratio -</b>	R20 identifies 20:1	R20
<b>Gearbox Position -</b>	Choose from 1 - 8 see page 8 for options	1
<b>Input Option -</b>	F indicates IEC adapter flange	F
	M indicates fitted AC motor	M
<b>Frame Size -</b>	56 is the frame size of motor or flange	56
<b>Field Length -</b>	S identifies short field winding	S
	L identifies long field winding	L
<b>Motor Poles -</b>	2 identifies 2 pole motor (~2800 rpm @ 50Hz)	2
	4 identifies 4 pole motor (~1400 rpm @ 50Hz)	4
<b>Brake Motor -</b>	B indicates that a motor brake is fitted	B
<b>Terminal Box -</b>	Orientation: choose from A - D	A
<b>Cable Exit Position -</b>	Choose from 1 - 4	1

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