

LINEAR ROTARY MOTORS

PR01-52



10

- ✓ Direct linear drive
- ✓ Direct rotary drive
- ✓ Independent linear and rotary motions
- ✓ Integrated position sensors
- ✓ Integrated temperature monitoring
- ✓ Programmable motion a position profiles
- ✓ Programmable press force
- ✓ Programmable torque

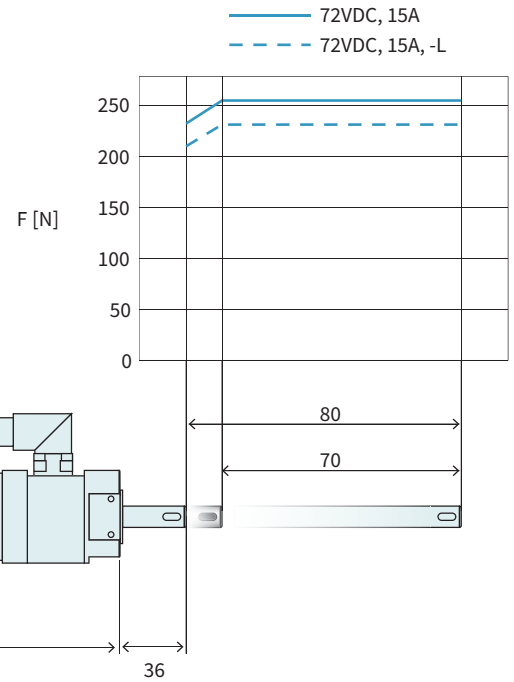


LINEAR ROTARY MOTORS PR01-52

PR01-52x40-R/37x120F-HP-C-80-(L) _____	787
PR01-52x60-R/37x120F-HP-C-100-(L) _____	789
PR01-52x60-R/37x120F-HP-C-150-(L) _____	791
Accessories _____	793

PR01-52x40-R/37x120F-HP-C-80 (-L)

Max. Stroke: 80 mm
Peak Force: 255 N
Peak Torque: 1.53 Nm

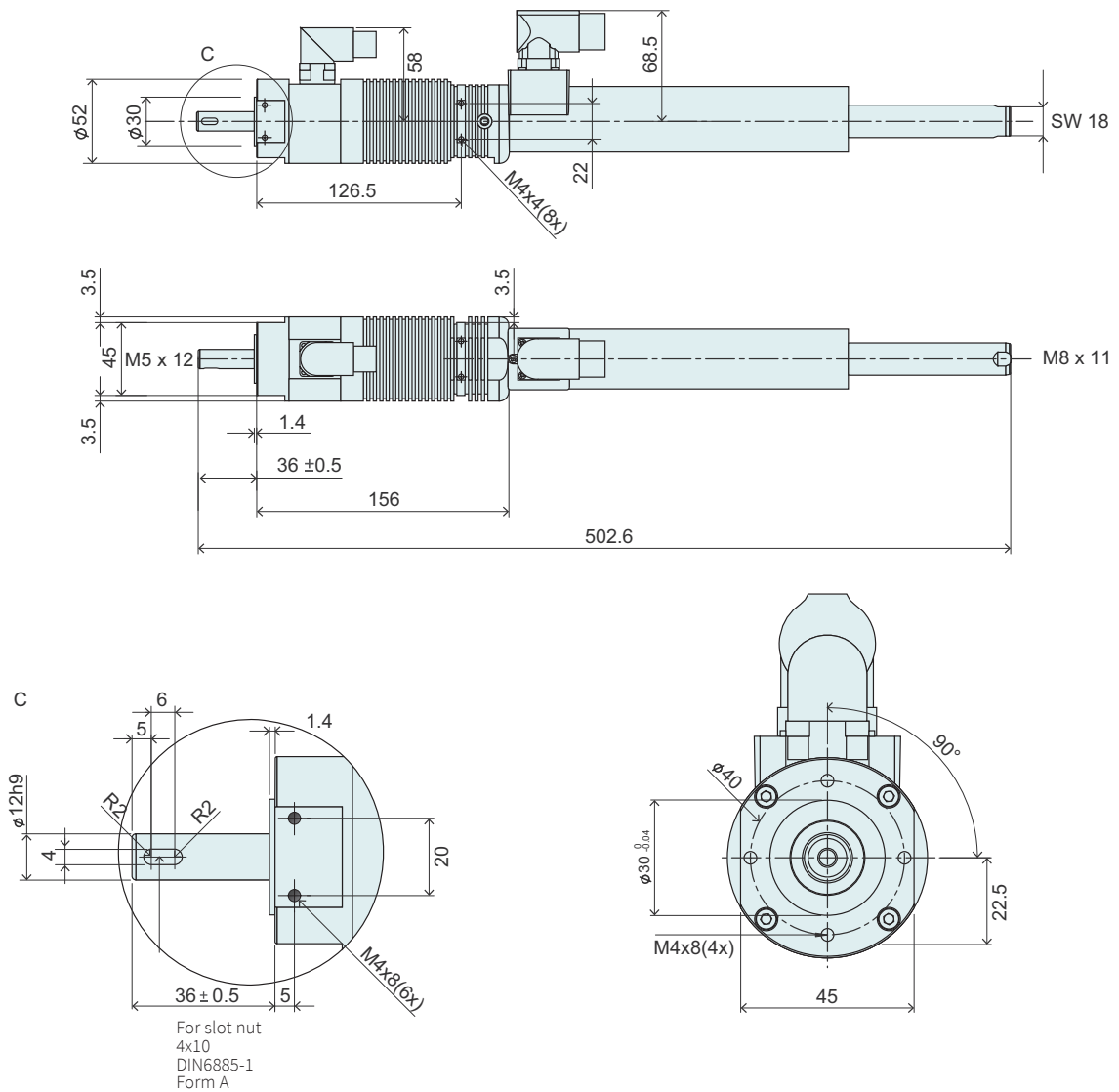


Dimensions in mm

Motor Specifications			
		PR01-52x40-R/37x120F-HP-C-80 (-L)	
Linear Motion			
Extended Stroke ES	mm (in)	80 (3.15)	
Standard Stroke SS	mm (in)	70 (2.76)	
Peak Force E12x0 - UC	N (lbf)	255 (-L 229) (57.3 (-L 51.5))	(-L: hollow Shaft version reduced forces)
Constant Force	N (lbf)	51 (-L 45) (11.5 (-L 10.1))	
Constant Force Fan cooling	N (lbf)	92 (-L 82) (20.7(-L 18.4))	
Force Constant	N/A _{pk} (lbf/A _{pk})	17 (3.8)	
Max. Current @ 72VDC	A _{pk}	15	
Max. Velocity @ 72VDC	m/s (in/s)	3.9 (154)	
Position Repeatability	mm (in)	±0.05 (±0.0020)	
Linearity	%	±0.10	
Rotary Motion			
Peak Torque (± 10%)	Nm (lbf·in)	1.53 (13.54)	
Constant Torque (Halt)	Nm (lbf·in)	0.32 (2.83)	
Max. Number of revolutions	rpm	1500	
Torque Constant 1	Nm/A _{pk} (lbf·in/A _{pk})	0.19 (1.68)	
Torque Constant 2	Nm/A _{rms} (lbf·in/A _{rms})	0.27 (2.39)	
Max. Current @ 72VDC	A _{pk} / A _{rms}	8 / 5.7	
Position Repeatability	°	±0.1	
Mechanical Data			
Overall length	mm (in)	503 (22.48)	
Diameter Linear Unit	mm (in)	37 (1.46)	
Diameter Rotary Unit	mm (in)	52 (2.05)	
Mass	g (lb)	2680 (5.91)	
Linear Moving mass	g (lb)	790 (1.74)	
Rotary Torque of Inertia	kg·cm ² (lb·in ²)	0.22 (0.00052)	
Axle Diameter	mm (in)	12h9 (0.47)	
Through bore-hole		-L Option	Hole diameter 2.5 mm Connection (front) M5, connection (back) 1/8" x 5
Protection Class			IP64

Note: hollow Shaft variants have 10% reduced forces

DIMENSIONS

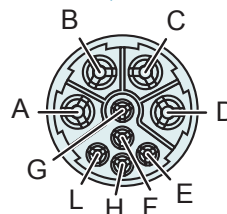


Dimensions in mm

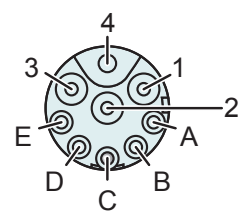
CONNECTORS

Motor Connector Wiring	Linear Unit: C-Connector	Rotary Unit: R-Connector	Wire Color Motor Cable
Ph 1+ / Ph A	A	1	red
Ph 1- / Ph B	B	2	pink
Ph 2+ / Ph C	C	3	blue
Ph 2- / (-)	D	4 (not connected)	grey
+5VDC	E	A	white
GND	F	B	inner shield
Sin	G	C	yellow
Cos	H	D	green
Temp.	L	E	black
Shield	Housing	Housing	outer Shield

C-Connector



View: Motor connector, plug on

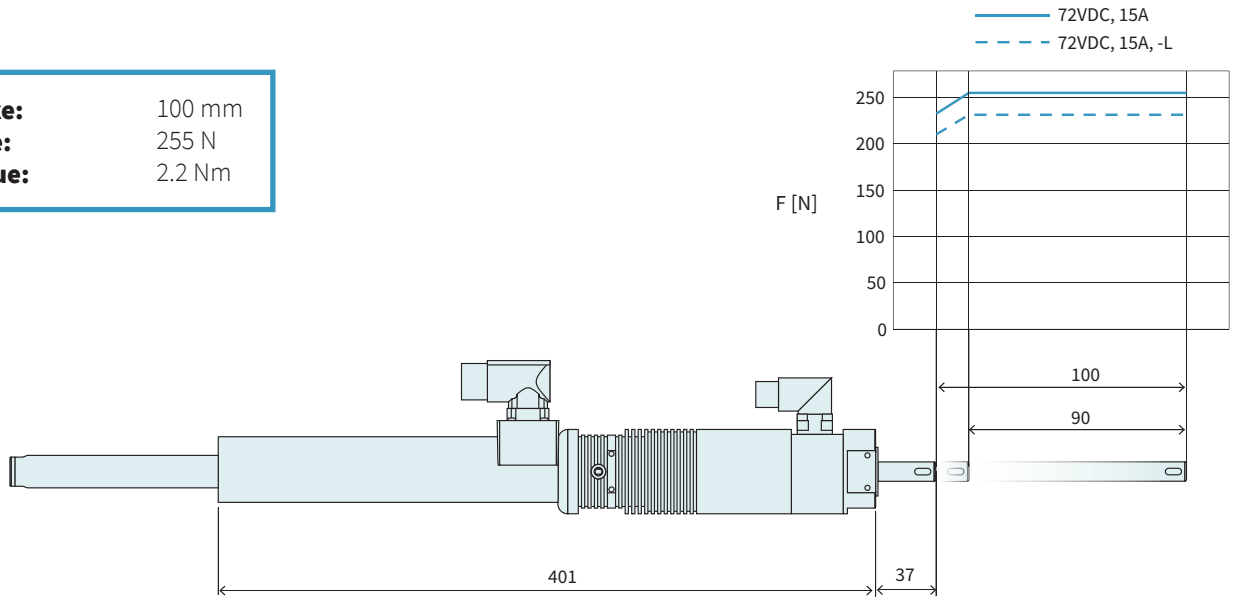


R-Connector

Item	Description	Item-No.
PR01-52x40-R/37x120F-HP-C-80	Linear Rotary Motor	0150-1573
PR01-52x40-R/37x120F-HP-C-80-L	Linear Rotary Motor with hollow Shaft	0150-2703

PR01-52x60-R/37x120F-HP-C-100 (-L)

Max. Stroke: 100 mm
Peak Force: 255 N
Peak Torque: 2.2 Nm

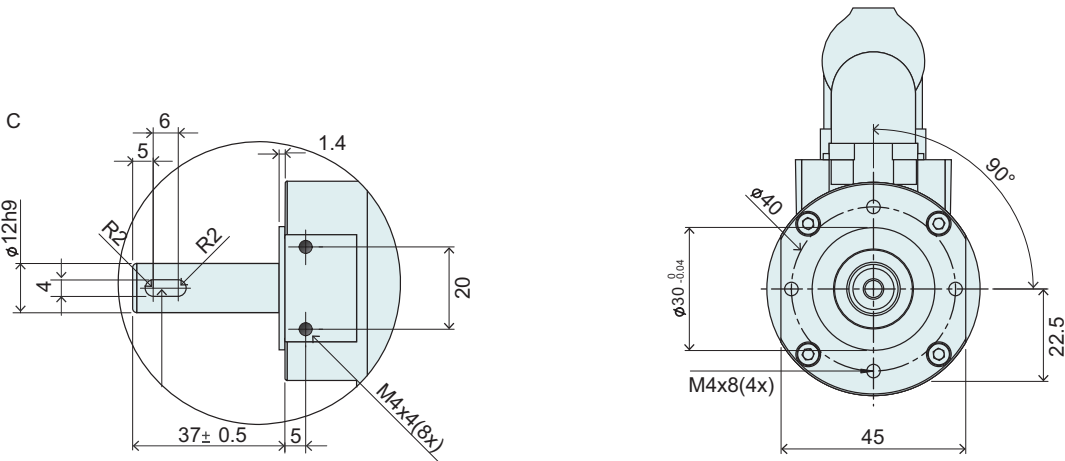
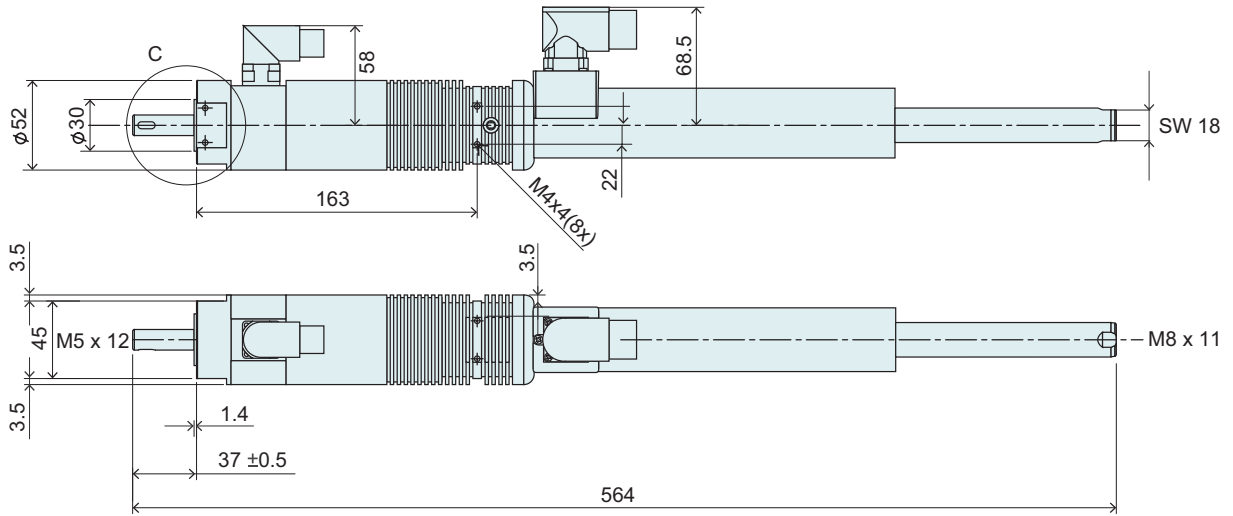


Dimensions in mm

Motor Specifications		PR01-52x60-R/37x120F-HP-C-100 (-L)	
Linear Motion			
Extended Stroke ES	mm (in)	100 (3.94)	
Standard Stroke SS	mm (in)	90 (3.54)	
Peak Forc E12x0 - UC	N (lbf)	255 (-L 229) (57.3 (-L 51.5))	(-L: hollow Shaft version reduced forces)
Constant Force	N (lbf)	51 (-L 45) (11.5 (-L 10.1))	
Constant Force Fan cooling	N (lbf)	92 (-L 82) (20.7(-L 18.4))	
Force Constant	N/A _{pk} (lbf/A _{pk})	17 (3.8)	
Max. Current @ 72VDC	A _{pk}	15	
Max. Velocity @ 72VDC	m/s (in/s)	3.9 (154)	
Position Repeatability	mm (in)	±0.05 (±0.0020)	
Linearity	%	±0.10	
Rotary Motion			
Peak Torque (± 10%)	Nm (lbf·in)	2.2 (19.5)	
Constant Torque (Halt)	Nm (lbf·in)	0.47 (4.2)	
Max. Number of revolutions	rpm	1500	
Torque Constant 1	Nm/A _{rpm} (lbf·in/A _{rpm})	0.16 (1.42)	
Torque Constant 2	Nm/A _{rms} (lbf·in/A _{rms})	0.23 (2.04)	
Max. Current @ 72VDC	A _{pk} / A _{rms}	13.5 / 9.55	
Position Repeatability	°	±0.1	
Mechanical Data			
Overall length	mm (in)	565 (22.24)	
Diameter Linear Unit	mm (in)	37 (1.46)	
Diameter Rotary Unit	mm (in)	52 (2.05)	
Mass	g (lb)	3120 (6.88)	
Linear Moving mass	g (lb)	860 (1.9)	
Rotary Torque of Inertia	kg·cm ² (lb·in ²)	0.26 (0.00062)	
Axle Diameter	mm (in)	12h9 (0.47)	
Through bore-hole		-L Option	Hole diameter 2.5 mm Connection (front) M5, connection (back) 1/8" x 5
Protection Class			IP64

Note: hollow Shaft variants have 10% reduced forces

DIMENSIONS



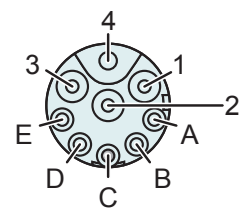
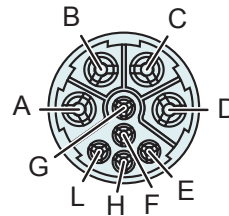
For slot nut
4x10
DIN6885-1
Form A

Dimensions in mm

CONNECTORS

Motor Connector Wiring	Linear Unit: C-Connector	Rotary Unit: R-Connector	Wire Color Motor Cable
Ph 1+ / Ph A	A	1	red
Ph 1- / Ph B	B	2	pink
Ph 2+ / Ph C	C	3	blue
Ph 2- / (-)	D	4 (not connected)	grey
+5VDC	E	A	white
GND	F	B	inner shield
Sin	G	C	yellow
Cos	H	D	green
Temp.	L	E	black
Shield	Housing	Housing	outer Shield

C-Connector



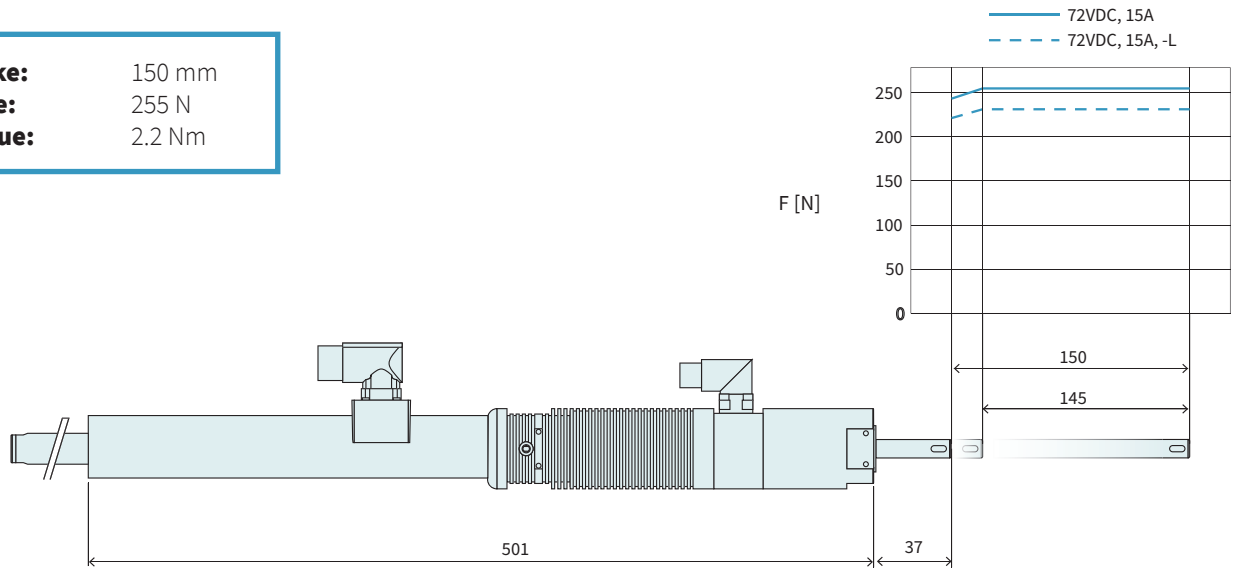
R-Connector

View: Motor connector, plug on

Item	Description	Item-No.
PR01-52x60-R/37x120F-HP-C-100	Linear Rotary Motor	0150-1197
PR01-52x60-R/37x120F-HP-C-100-L	Linear Rotary Motor with hollow Shaft	0150-2704

PR01-52x60-R/37x120F-HP-C-150 (-L)

Max. Stroke: 150 mm
Peak Force: 255 N
Peak Torque: 2.2 Nm

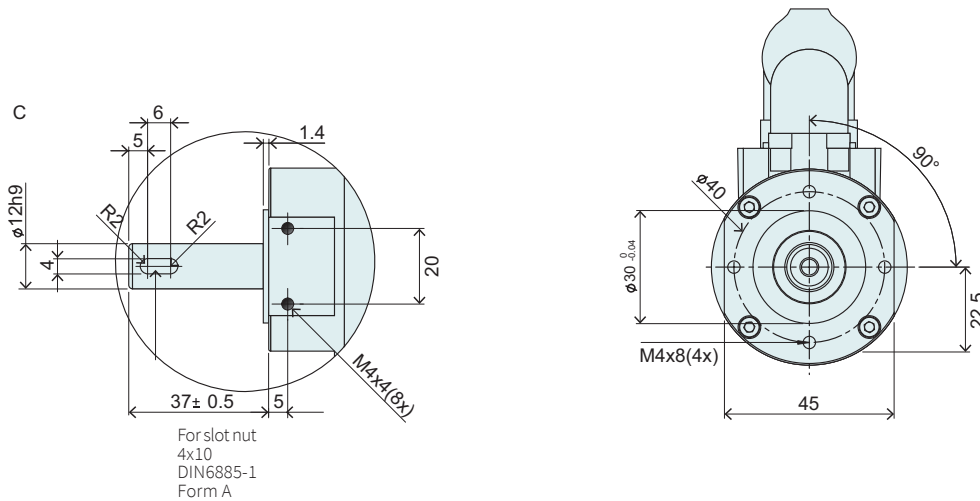
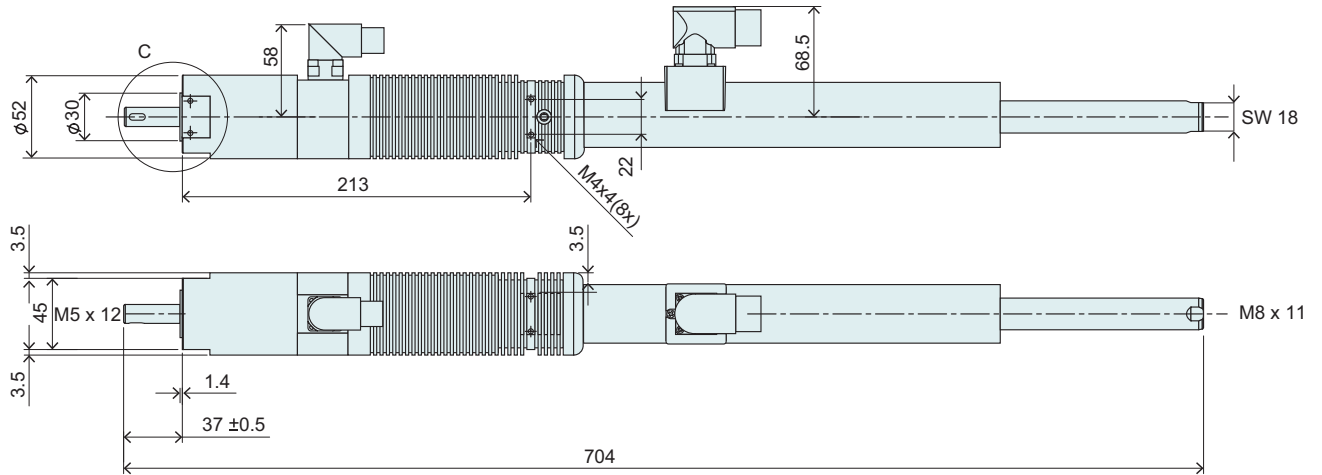


Dimensions in mm

Motor Specifications		PR01-52x60-R/37x120F-HP-C-150 (-L)	
Linear Motion			
Extended Stroke ES	mm (in)	150 (5.91)	
Standard Stroke SS	mm (in)	145 (5.71)	
Peak Force E12x0 - UC	N (lbf)	255 (-L 229) (57.3 (-L 51.5))	(-L: hollow Shaft version reduced forces)
Constant Force	N (lbf)	51 (-L 45) (11.5 (-L 10.1))	
Constant Force Fan cooling	N (lbf)	92 (-L 82) (20.7(-L 18.4))	
Force Constant	N/A _{pk} (lbf/A _{pk})	17 (3.8)	
Max. Current @ 72VDC	A _{pk}	15	
Max. Velocity @ 72VDC	m/s (in/s)	3.9 (154)	
Position Repeatability	mm (in)	±0.05 (±0.0020)	
Linearity	%	±0.10	
Rotary Motion			
Peak Torque (± 10%)	Nm (lbf·in)	2.2 (19.5)	
Constant Torque (Halt)	Nm (lbf·in)	0.47 (4.2)	
Max. Number of revolutions	rpm	1500	
Torque Constant 1	Nm/A _{tpk} (lbf·in/A _{tpk})	0.16 (1.42)	
Torque Constant 2	Nm/A _{rms} (lbf·in/A _{rms})	0.23 (2.04)	
Max. Current @ 72VDC	A _{pk} / A _{rms}	13.5 / 9.55	
Position Repeatability	°	±0.1	
Mechanical Data			
Overall length	mm (in)	704 (27.72)	
Diameter Linear Unit	mm (in)	37 (1.46)	
Diameter Rotary Unit	mm (in)	52 (2.05)	
Mass	g (lb)	3700 (8.16)	
Linear Moving mass	g (lb)	950 (2.09)	
Rotary Torque of Inertia	kg·cm ² (lb·in ²)	0.31 (0.00074)	
Axle Diameter	mm (in)	12h9 (0.47)	
Through bore-hole		-L Option	Hole diameter 2.5 mm Connection (front) M5, connection (back) 1/8" x 5
Protection Class			IP64

Note: hollow Shaft variants have 10% reduced forces

DIMENSIONS

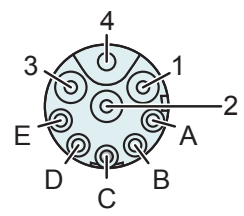
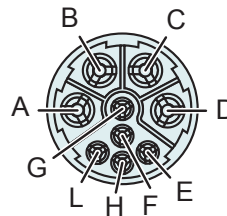


Dimensions in mm

CONNECTORS

Motor Connector Wiring	Linear Unit: C-Connector	Rotary Unit: R-Connector	Wire Color Motor Cable
Ph 1+ / Ph A	A	1	red
Ph 1- / Ph B	B	2	pink
Ph 2+ / Ph C	C	3	blue
Ph 2- / (-)	D	4 (not connected)	grey
+5VDC	E	A	white
GND	F	B	inner shield
Sin	G	C	yellow
Cos	H	D	green
Temp.	L	E	black
Shield	Housing	Housing	outer Shield

C-Connector



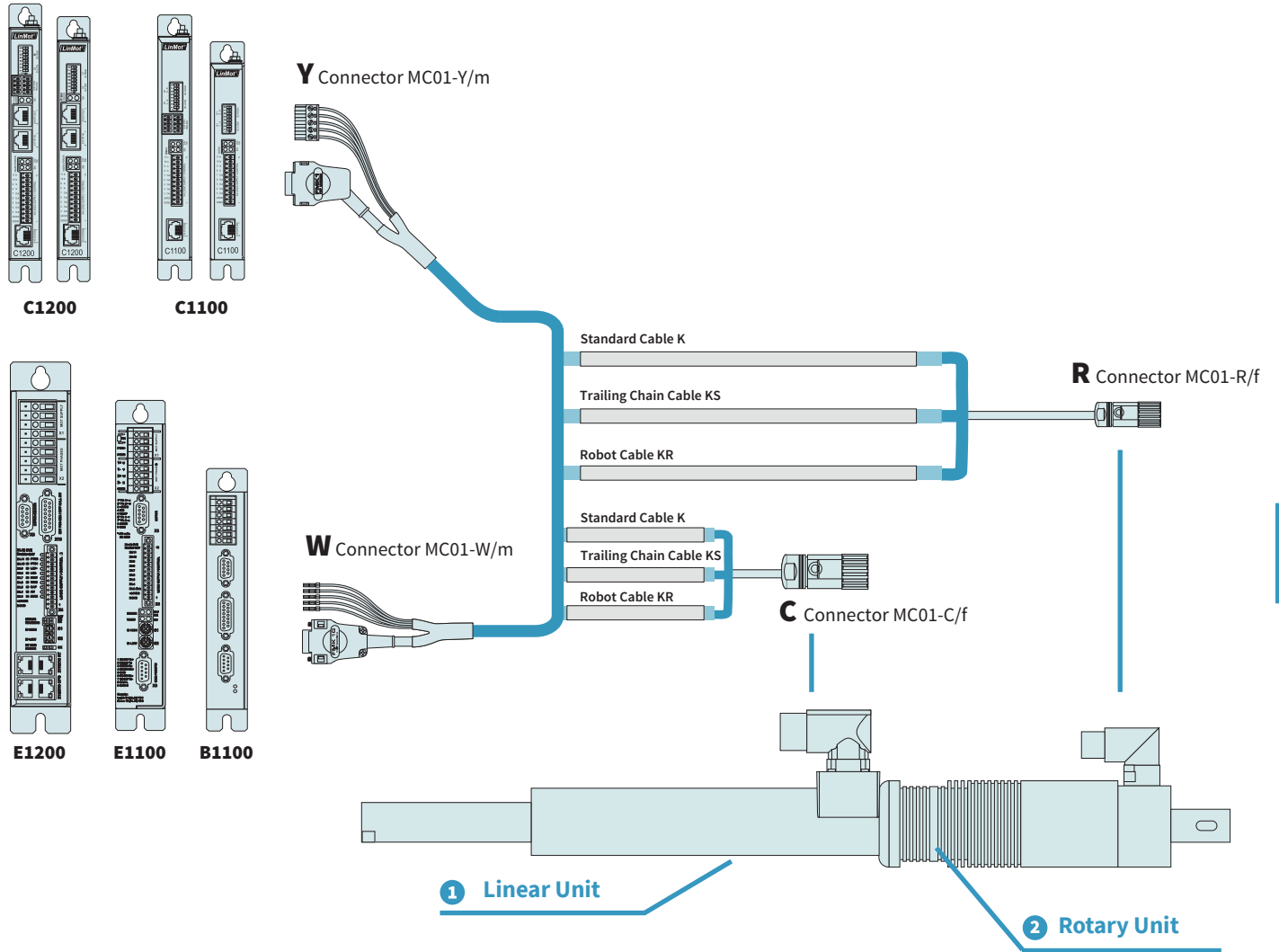
View: Motor connector, plug on

R-Connector

Item	Description	Item-No.
PR01-52x60-R/37x120F-HP-C-150	Linear Rotary Motor	0150-2705
PR01-52x60-R/37x120F-HP-C-150-L	Linear Rotary Motor with hollow Shaft	0150-2706

Accessories

MOTOR CABLE



ORDERING INFORMATION

1 Linear Unit

Standard Cable		
Item	Description	Item-No.
K05-W/C-2	Motor Cable W/C, 2 m	0150-2123
K05-W/C-4	Motor Cable W/C, 4 m	0150-2124
K05-W/C-6	Motor Cable W/C, 6 m	0150-2125
K05-W/C-8	Motor Cable W/C, 8 m	0150-2126
K05-W/C-	Motor Cable W/C, Custom length	0150-3263

K05-Y/C-2	Motor Cable Y/C, 2 m	0150-2425
K05-Y/C-4	Motor Cable Y/C, 4 m	0150-2426
K05-Y/C-6	Motor Cable Y/C, 6 m	0150-2427
K05-Y/C-8	Motor Cable Y/C, 8 m	0150-2428
K05-Y-Fe/C-	Motor Cable Y-Fe/C, Custom length	0150-3502

Robot Cable		
Item	Description	Item-No.
KR05-Y-Fe/C-	Robot Cable KR05-Y-Fe/C-, Custom length	0150-3513

Trailing Chain Cable		
Item	Description	Item-No.
KS05-W/C-4	Trailing Chain Cable W/C, 4 m	0150-2127
KS05-W/C-6	Trailing Chain Cable W/C, 6 m	0150-2128
KS05-W/C-8	Trailing Chain Cable W/C, 8 m	0150-2129
KS05-W/C-	Trailing Chain Cable W/C, Custom length	0150-3204

KS05-Y/C-4	Trailing Chain Cable Y/C, 4 m	0150-2436
KS05-Y/C-6	Trailing Chain Cable Y/C, 6 m	0150-2437
KS05-Y/C-8	Trailing Chain Cable Y/C, 8 m	0150-2438
KS05-Y-Fe/C-	Trailing Chain Cable Y/C, Custom length	0150-3508

Connector & Cable (individual)		
Item	Description	Item-No.
MC01-C/f	Motor connector C/f	0150-3080
MC01-W/m	Motor connector W/m	0150-3140
MC01-Y-Fe/m	Motor connector Y-Fe/m	0150-3289
K05-04/05	Motor Cable per m	0150-1920
KS05-04/05	Trailing Chain Cable per m	0150-1938
KR05-04/05	Robot Cable per m	0150-1846

2 Rotary Unit

Standard Cable		
Item	Description	Item-No.
K05-W/R-2	Motor Cable W/R, 2 m	0150-2119
K05-W/R-4	Motor Cable W/R, 4 m	0150-2120
K05-W/R-6	Motor Cable W/R, 6 m	0150-2121
K05-W/R-8	Motor Cable W/R, 8 m	0150-2122
K05-W/R-	Motor Cable K05-W/R, Custom length	0150-3262

K05-Y/R-2	Motor Cable Y/R, 2 m	0150-2421
K05-Y/R-4	Motor Cable Y/R, 4 m	0150-2422
K05-Y/R-6	Motor Cable Y/R, 6 m	0150-2423
K05-Y/R-8	Motor Cable Y/R, 8 m	0150-2424
K05-Y-Fe/R-	Motor Cable K05-Y-Fe/R, Custom length	0150-3501

Robot Cable		
Item	Description	Item-No.
KR05-W/R-	Robot Cable KR05-W/R, Custom length	0150-3336
KR05-Y-Fe/R-	Robot Cable KR05-Y-Fe/R, Custom length	0150-3512

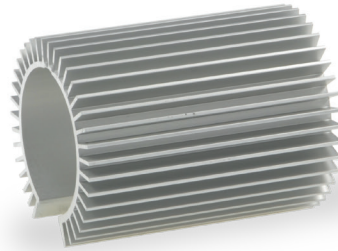
Trailing Chain Cable		
Item	Description	Item-No.
KS05-W/R-4	Trailing Chain Cable W/R, 4 m	0150-2106
KS05-W/R-6	Trailing Chain Cable W/R, 6 m	0150-2131
KS05-W/R-8	Trailing Chain Cable W/R, 8 m	0150-2107
KS05-W/R-	Trailing Chain Cable KS05-W/R, Overall length	0150-3256

KS05-Y/R-4	Trailing Chain Cable Y/R, 4 m	0150-2433
KS05-Y/R-6	Trailing Chain Cable Y/R, 6 m	0150-2434
KS05-Y/R-8	Trailing Chain Cable Y/R, 8 m	0150-2435
KS05-Y-Fe/R-	Trailing Chain Cable KS05-Y-Fe/R, Custom length	0150-3507

Connector & Cable (individual)		
Item	Description	Item-No.
MC01-R/f	Motor cable R/f	0150-3129
MC01-W/m	Motor cable W/m	0150-3140
MC01-Y-Fe/m	Motor cable Y-Fe/m	0150-3289
K05-04/05	Motor Cable per m	0150-1920
KS05-04/05	Trailing Chain Cable per m	0150-1938
KR05-04/05	Robot Cable per m	0150-1846

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COOLING PROFILE



Item	Description	Item-No.
PC01-37x68	Cooling profile for PS01-37 Linear Motor, Length 68 mm	0160-2131
PC01-37x132	Cooling profile for PS01-37 Linear Motor, Length 132 mm	0160-2156

FLANGE



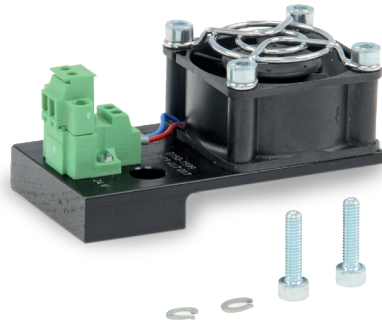
Item	Description	Item-No.
PF02-37x100	Flange 37x100 mm	0150-1998
PF02-37x140	Flange 37x140 mm	0150-2105

FAN COOLING FOR LINEAR UNIT



Item	Description	Item-No.
HV01-37/48	Fan cooling for H01-37/48 & PF02-37/48	0150-5051

FAN COOLING FOR ROTARY UNIT



Item	Description	Item-No.
RS01-VA52-Kit	Fan Kit for RS01-52 Linear Rotary Motor	0150-1599

MOUNTING FLANGE



Item	Description	Item-No.
MF01-PR01-52x40-20	Mounting Flange MS01-20-140	0250-2322
MF01-PR01-52x40-37	Mounting Flange MS01-37-155	0250-2319

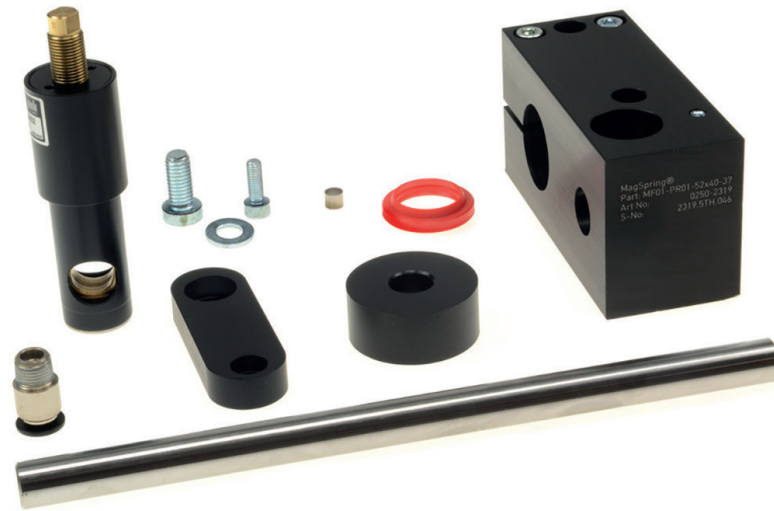
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MAGSPRING ADAPTER



Item	Description	Item-No.
MA01-PR01-52-37/20	MagSpring Adapter for Linear Rotary Motors	0250-0128

BRAKE KIT



Item	Description	Item-No.
MF01-BK52	Brake Kit for PR01-52 Linear Rotary Motor	0250-2344

SHAFT-HUB CLAMPING



Item	Description	Item-No.
RS01-SS12x22	Shaft-hub clamping for 12 mm shaft	0230-0101