

# LINEAR ROTARY MOTORS

## PR01-52



- ✓ 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



**LinMot**  
PRO1 52x40 R/37x120F  
HP-C-80-L  
P.N.: 0150-2703M1  
S.N.: 2703 64XX013

**LinMot**  
PRO1 52x40 R/37x120F  
HP-C-80  
S/N: 0150 1573  
P.N.: 1573 64XX044

**LinMot**  
PRO1 52x40 R/37x120F  
HP-C-80  
S/N: 0150 1573  
P.N.: 1573 64XX044

**LinMot**  
PRO1 52x40 R/37x120F  
HP-C-80-L  
P.N.: 0150-2703M1  
S.N.: 2703 64XX014

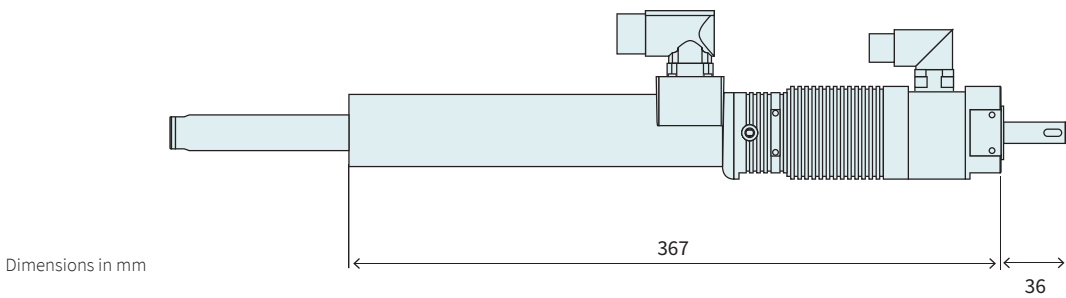
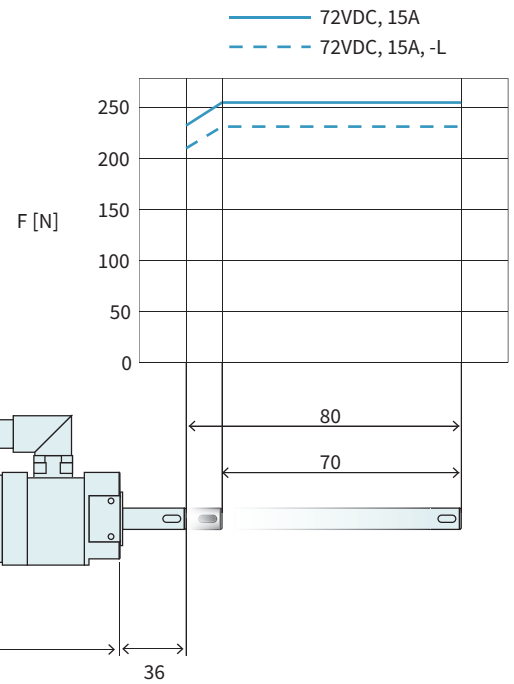
**LinMot**  
PRO1 52x40 R/37x120F  
HP-C-80-L  
P.N.: 0150-2703M1  
S.N.: 2703 64XX014

## LINEAR ROTARY MOTORS PR01-52

<b>/ TECHNICAL DATA /</b> .....	<b>787</b>
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
<b>/ ACCESSORIES /</b> .....	<b>794</b>

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

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

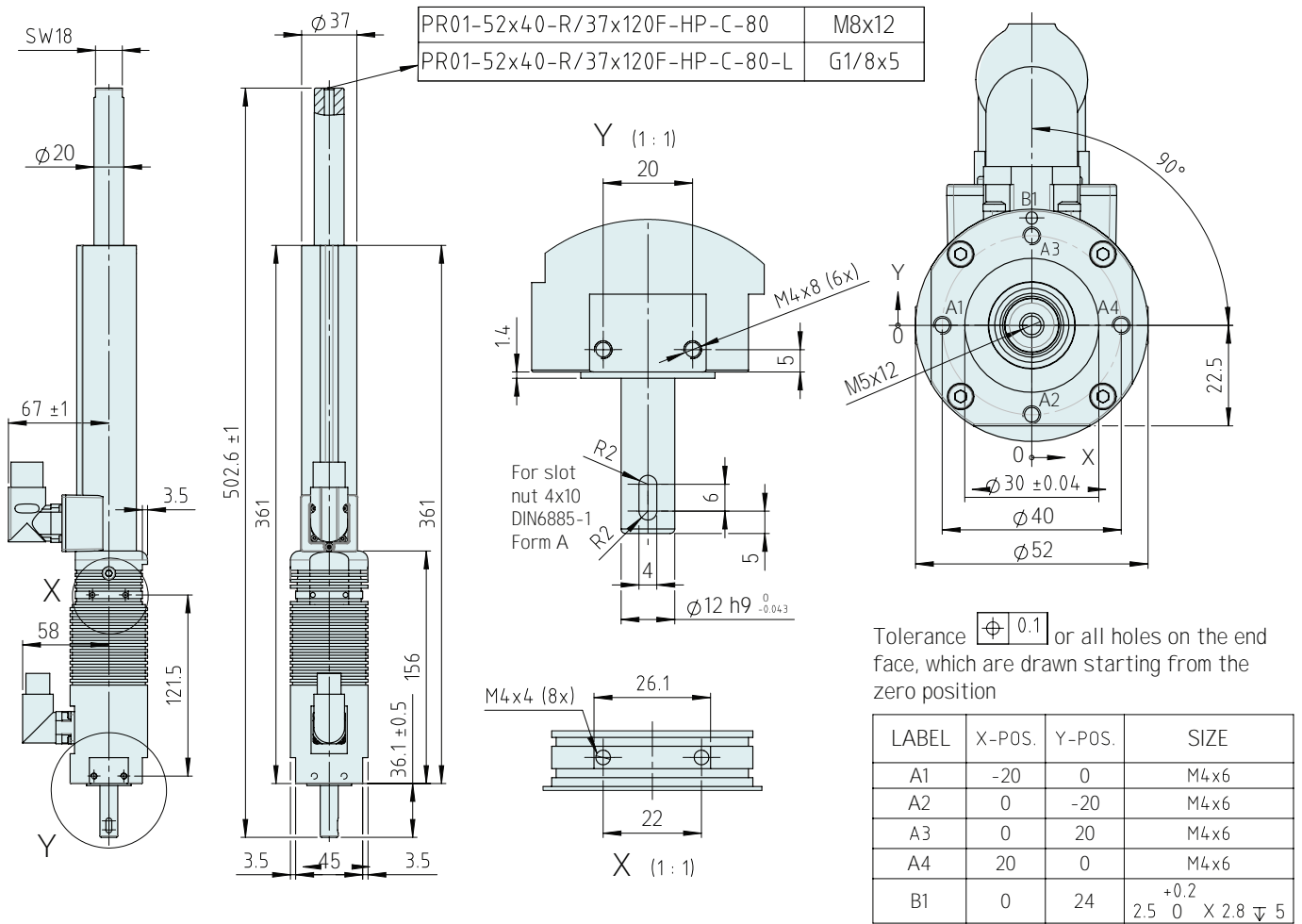


Dimensions in mm

Motor Specifications		PR01-52x40-R/37x120F-HP-C-80 (-L)	
<b>Linear Motion</b>			
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 <sub>pk</sub> (lbf/A <sub>pk</sub> )	17	(3.8)
Max. Current @ 72VDC	A <sub>pk</sub>	15	
Max. Velocity @ 72VDC	m/s (in/s)	3.9	(154)
Position Repeatability	mm (in)	±0.05	(±0.0020)
Linearity	%	±0.10	
<b>Rotary Motion</b>			
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 <sub>pk</sub> (lbf·in/A <sub>pk</sub> )	0.19	(1.68)
Torque Constant 2	Nm/A <sub>rms</sub> (lbf·in/A <sub>rms</sub> )	0.27	(2.39)
Max. Current @ 72VDC	A <sub>pk</sub> / A <sub>rms</sub>	8 / 5.7	
Position Repeatability	°	±0.1	
<b>Mechanical Data</b>			
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 <sup>2</sup> (lb·in <sup>2</sup> )	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**

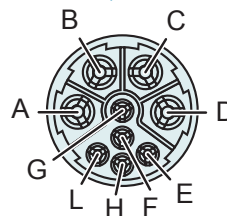


Dimensions in mm

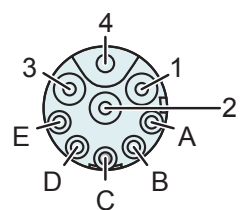
**CONNECTORS**

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

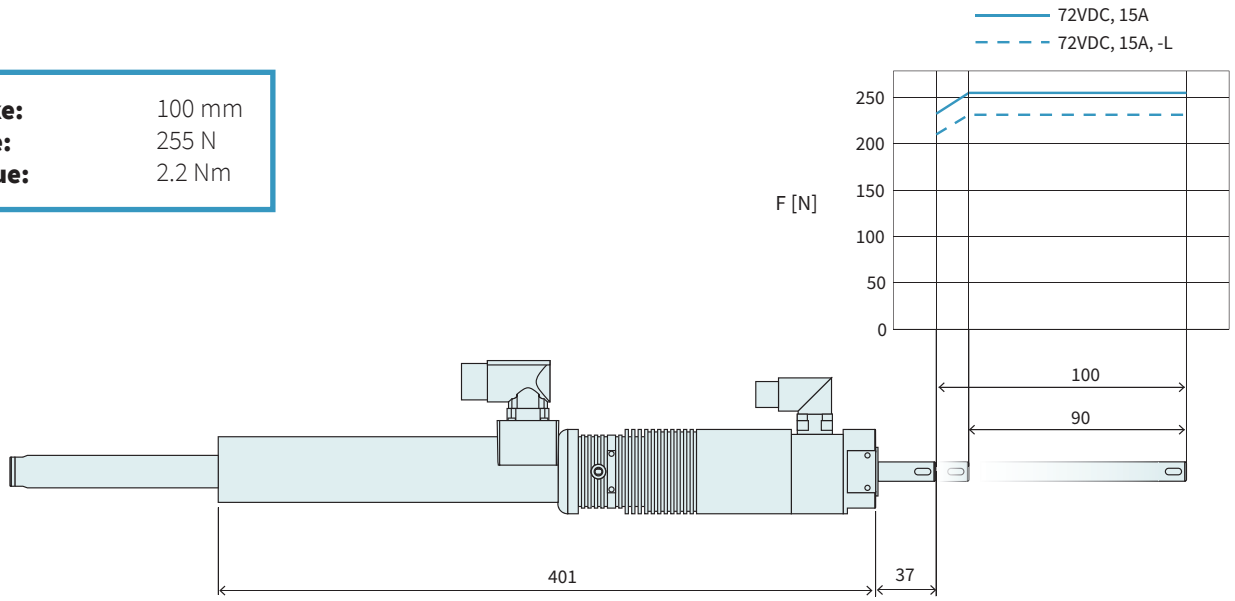


**R-Connector**

Item	Description	Item-No.
PR01-52x40-R/37x120F-HP-C-80	Linear Rotary Motor	<a href="#">0150-1573</a>
PR01-52x40-R/37x120F-HP-C-80-L	Linear Rotary Motor with hollow Shaft	<a href="#">0150-2703</a>

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

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

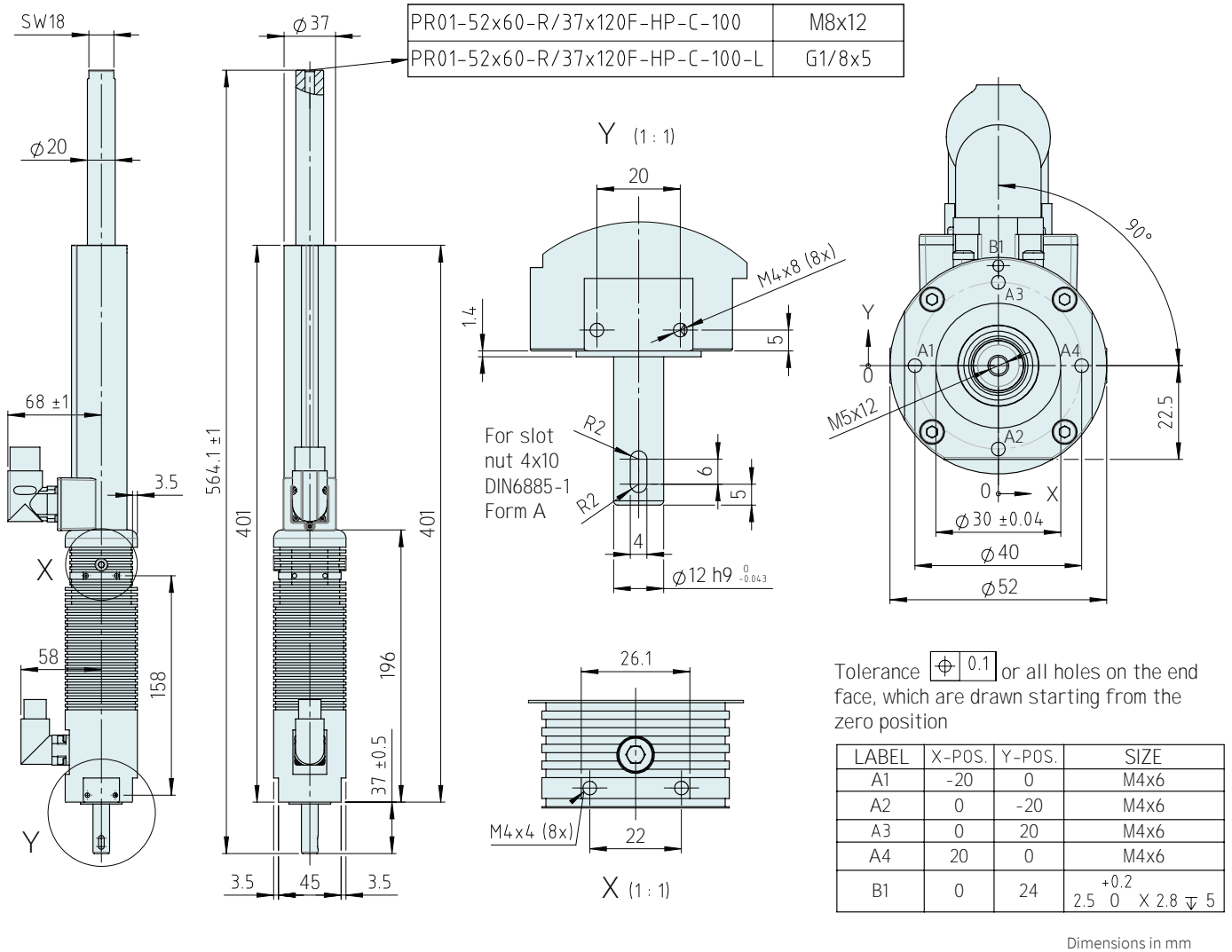


Dimensions in mm

Motor Specifications		PR01-52x60-R/37x120F-HP-C-100 (-L)	
<b>Linear Motion</b>			
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 <sub>pk</sub> (lbf/A <sub>pk</sub> )	17 (3.8)	
Max. Current @ 72VDC	A <sub>pk</sub>	15	
Max. Velocity @ 72VDC	m/s (in/s)	3.9 (154)	
Position Repeatability	mm (in)	±0.05 (±0.0020)	
Linearity	%	±0.10	
<b>Rotary Motion</b>			
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 <sub>rpm</sub> (lbf·in/A <sub>rpm</sub> )	0.16 (1.42)	
Torque Constant 2	Nm/A <sub>rms</sub> (lbf·in/A <sub>rms</sub> )	0.23 (2.04)	
Max. Current @ 72VDC	A <sub>pk</sub> / A <sub>rms</sub>	13.5 / 9.55	
Position Repeatability	°	±0.1	
<b>Mechanical Data</b>			
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 <sup>2</sup> (lb·in <sup>2</sup> )	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

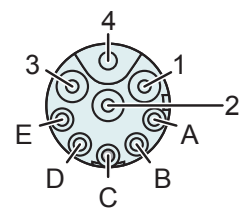
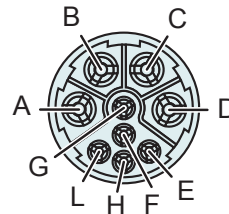
**DIMENSIONS**



**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**



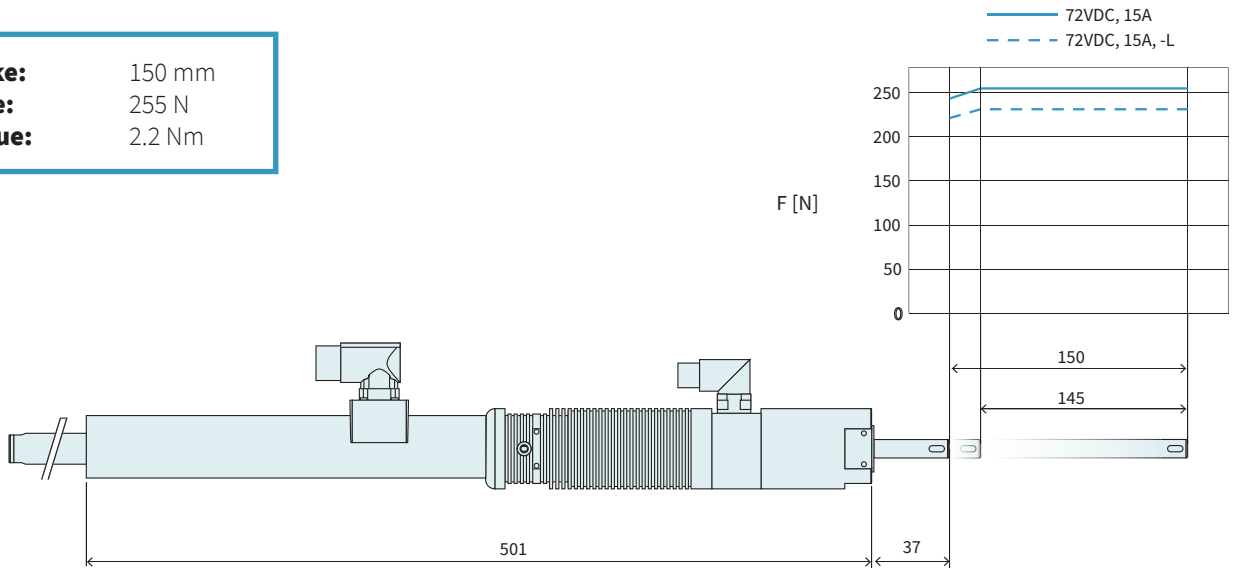
**R-Connector**

View: Motor connector, plug on

Item	Description	Item-No.
<b>PR01-52x60-R/37x120F-HP-C-100</b>	Linear Rotary Motor	<a href="#">0150-1197</a>
<b>PR01-52x60-R/37x120F-HP-C-100-L</b>	Linear Rotary Motor with hollow Shaft	<a href="#">0150-2704</a>

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

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



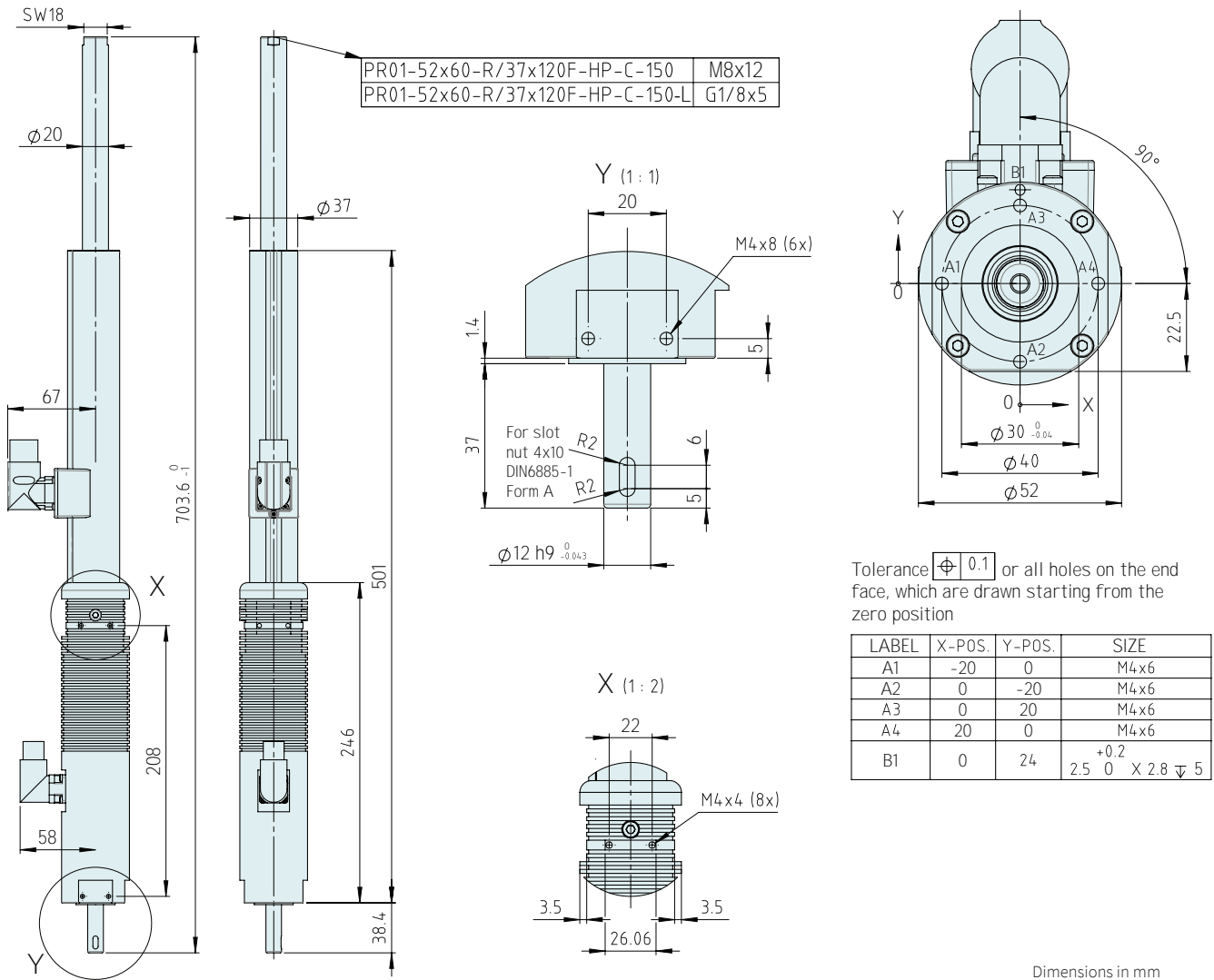
Dimensions in mm

Motor Specifications		PR01-52x60-R/37x120F-HP-C-150 (-L)	
<b>Linear Motion</b>			
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 <sub>pk</sub> (lbf/A <sub>pk</sub> )	17 (3.8)	
Max. Current @ 72VDC	A <sub>pk</sub>	15	
Max. Velocity @ 72VDC	m/s (in/s)	3.9 (154)	
Position Repeatability	mm (in)	±0.05 (±0.0020)	
Linearity	%	±0.10	
<b>Rotary Motion</b>			
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 <sub>tpk</sub> (lbf·in/A <sub>tpk</sub> )	0.16 (1.42)	
Torque Constant 2	Nm/A <sub>rms</sub> (lbf·in/A <sub>rms</sub> )	0.23 (2.04)	
Max. Current @ 72VDC	A <sub>pk</sub> / A <sub>rms</sub>	13.5 / 9.55	
Position Repeatability	°	±0.1	
<b>Mechanical Data</b>			
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 <sup>2</sup> (lb·in <sup>2</sup> )	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**

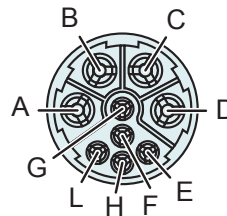


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**CONNECTORS**

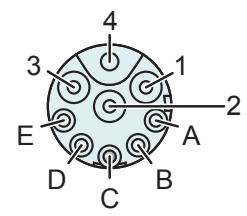
Motor Connector Wiring	Linear Unit: C-Connector	Rotary Unit: R-Connector	Wire Color Motor Cable
Ph 1+ / Ph A	A	1	red
Ph 1- / Ph B	B	2	pink
Ph 2+ / Ph C	C	3	blue
Ph 2- / (-)	D	4 (not connected)	grey
+5VDC	E	A	white
GND	F	B	inner shield
Sin	G	C	yellow
Cos	H	D	green
Temp.	L	E	black
Shield	Housing	Housing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

**C-Connector**



View: Motor connector, plug on

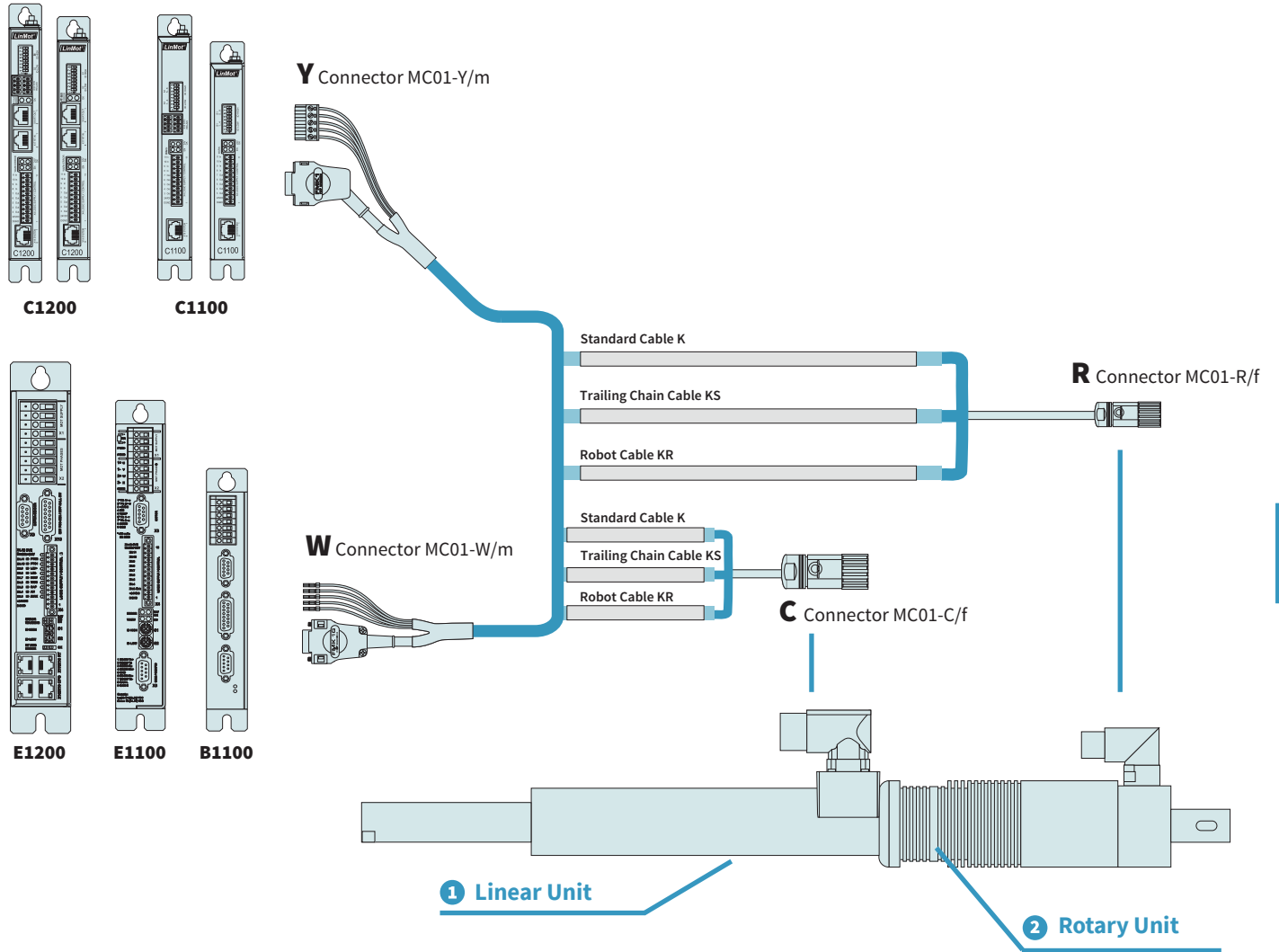
**R-Connector**



Item	Description	Item-No.
PR01-52x60-R/37x120F-HP-C-150	Linear Rotary Motor	<a href="#">0150-2705</a>
PR01-52x60-R/37x120F-HP-C-150-L	Linear Rotary Motor with hollow Shaft	<a href="#">0150-2706</a>

# Accessories

## MOTOR CABLE



## ORDERING INFORMATION

### 1 Linear Unit

Standard Cable		
Item	Description	Item-No.
<b>K05-W/C-2</b>	Motor Cable W/C, 2 m	<a href="#">0150-2123</a>
<b>K05-W/C-4</b>	Motor Cable W/C, 4 m	<a href="#">0150-2124</a>
<b>K05-W/C-6</b>	Motor Cable W/C, 6 m	<a href="#">0150-2125</a>
<b>K05-W/C-8</b>	Motor Cable W/C, 8 m	<a href="#">0150-2126</a>
<b>K05-W/C-</b>	Motor Cable W/C, Custom length	<a href="#">0150-3263</a>

<b>K05-Y/C-2</b>	Motor Cable Y/C, 2 m	<a href="#">0150-2425</a>
<b>K05-Y/C-4</b>	Motor Cable Y/C, 4 m	<a href="#">0150-2426</a>
<b>K05-Y/C-6</b>	Motor Cable Y/C, 6 m	<a href="#">0150-2427</a>
<b>K05-Y/C-8</b>	Motor Cable Y/C, 8 m	<a href="#">0150-2428</a>
<b>K05-Y-Fe/C-</b>	Motor Cable Y-Fe/C, Custom length	<a href="#">0150-3502</a>

Robot Cable		
Item	Description	Item-No.
<b>KR05-Y-Fe/C-</b>	Robot Cable KR05-Y-Fe/C-, Custom length	<a href="#">0150-3513</a>

Trailing Chain Cable		
Item	Description	Item-No.
<b>KS05-W/C-4</b>	Trailing Chain Cable W/C, 4 m	<a href="#">0150-2127</a>
<b>KS05-W/C-6</b>	Trailing Chain Cable W/C, 6 m	<a href="#">0150-2128</a>
<b>KS05-W/C-8</b>	Trailing Chain Cable W/C, 8 m	<a href="#">0150-2129</a>
<b>KS05-W/C-</b>	Trailing Chain Cable W/C, Custom length	<a href="#">0150-3204</a>

<b>KS05-Y/C-4</b>	Trailing Chain Cable Y/C, 4 m	<a href="#">0150-2436</a>
<b>KS05-Y/C-6</b>	Trailing Chain Cable Y/C, 6 m	<a href="#">0150-2437</a>
<b>KS05-Y/C-8</b>	Trailing Chain Cable Y/C, 8 m	<a href="#">0150-2438</a>
<b>KS05-Y-Fe/C-</b>	Trailing Chain Cable Y/C, Custom length	<a href="#">0150-3508</a>

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

### 2 Rotary Unit

Standard Cable		
Item	Description	Item-No.
<b>K05-W/R-2</b>	Motor Cable W/R, 2 m	<a href="#">0150-2119</a>
<b>K05-W/R-4</b>	Motor Cable W/R, 4 m	<a href="#">0150-2120</a>
<b>K05-W/R-6</b>	Motor Cable W/R, 6 m	<a href="#">0150-2121</a>
<b>K05-W/R-8</b>	Motor Cable W/R, 8 m	<a href="#">0150-2122</a>
<b>K05-W/R-</b>	Motor Cable K05-W/R, Custom length	<a href="#">0150-3262</a>

<b>K05-Y/R-2</b>	Motor Cable Y/R, 2 m	<a href="#">0150-2421</a>
<b>K05-Y/R-4</b>	Motor Cable Y/R, 4 m	<a href="#">0150-2422</a>
<b>K05-Y/R-6</b>	Motor Cable Y/R, 6 m	<a href="#">0150-2423</a>
<b>K05-Y/R-8</b>	Motor Cable Y/R, 8 m	<a href="#">0150-2424</a>
<b>K05-Y-Fe/R-</b>	Motor Cable K05-Y-Fe/R, Custom length	<a href="#">0150-3501</a>

Robot Cable		
Item	Description	Item-No.
<b>KR05-W/R-</b>	Robot Cable KR05-W/R, Custom length	<a href="#">0150-3336</a>
<b>KR05-Y-Fe/R-</b>	Robot Cable KR05-Y-Fe/R, Custom length	<a href="#">0150-3512</a>

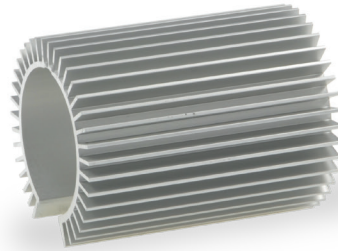
Trailing Chain Cable		
Item	Description	Item-No.
<b>KS05-W/R-4</b>	Trailing Chain Cable W/R, 4 m	<a href="#">0150-2106</a>
<b>KS05-W/R-6</b>	Trailing Chain Cable W/R, 6 m	<a href="#">0150-2131</a>
<b>KS05-W/R-8</b>	Trailing Chain Cable W/R, 8 m	<a href="#">0150-2107</a>
<b>KS05-W/R-</b>	Trailing Chain Cable KS05-W/R, Overall length	<a href="#">0150-3256</a>

<b>KS05-Y/R-4</b>	Trailing Chain Cable Y/R, 4 m	<a href="#">0150-2433</a>
<b>KS05-Y/R-6</b>	Trailing Chain Cable Y/R, 6 m	<a href="#">0150-2434</a>
<b>KS05-Y/R-8</b>	Trailing Chain Cable Y/R, 8 m	<a href="#">0150-2435</a>
<b>KS05-Y-Fe/R-</b>	Trailing Chain Cable KS05-Y-Fe/R, Custom length	<a href="#">0150-3507</a>

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

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**COOLING PROFILE**



Item	Description	Item-No.
<b>PC01-37x68</b>	Cooling profile for PS01-37 Linear Motor, Length 68 mm	<a href="#">0160-2131</a>
<b>PC01-37x132</b>	Cooling profile for PS01-37 Linear Motor, Length 132 mm	<a href="#">0160-2156</a>

**FLANGE**



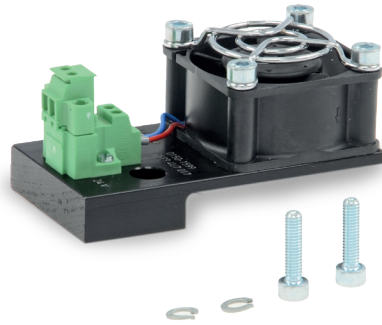
Item	Description	Item-No.
<b>PF02-37x100</b>	Flange 37x100 mm	<a href="#">0150-1998</a>
<b>PF02-37x140</b>	Flange 37x140 mm	<a href="#">0150-2105</a>

**FAN COOLING FOR LINEAR UNIT**



Item	Description	Item-No.
<b>HV01-37/48</b>	Fan cooling for H01-37/48 & PF02-37/48	<a href="#">0150-5051</a>

**FAN COOLING FOR ROTARY UNIT**



Item	Description	Item-No.
<b>RS01-VA52-Kit</b>	Fan Kit for RS01-52 Linear Rotary Motor	<a href="#">0150-1599</a>

**MOUNTING FLANGE**



Item	Description	Item-No.
<b>MF01-PR01-52x40-20</b>	Mounting Flange MS01-20-140	<a href="#">0250-2322</a>
<b>MF01-PR01-52x40-37</b>	Mounting Flange MS01-37-155	<a href="#">0250-2319</a>

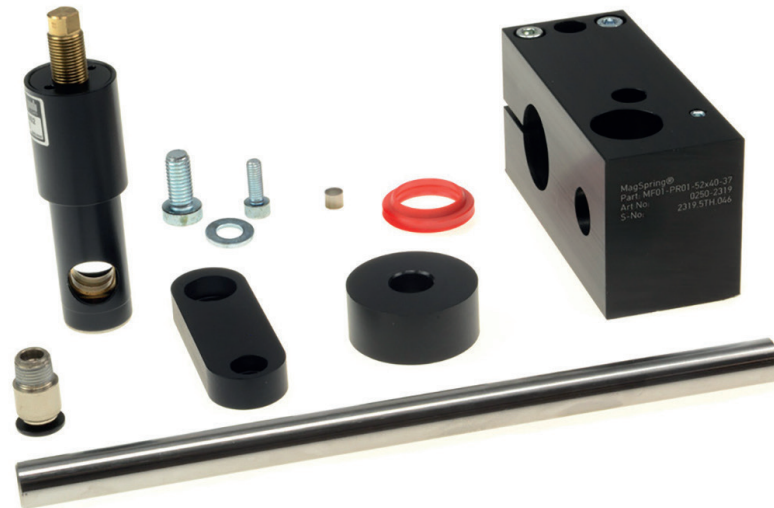
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**MAGSPRING ADAPTER**



Item	Description	Item-No.
MA01-PR01-52-37/20	MagSpring Adapter for Linear Rotary Motors	<a href="#">0250-0128</a>

**BRAKE KIT**



Item	Description	Item-No.
MF01-BK52	Brake Kit for PR01-52 Linear Rotary Motor	<a href="#">0250-2344</a>

**SHAFT-HUB CLAMPING**



Item	Description	Item-No.
RS01-SS12x22	Shaft-hub clamping for 12 mm shaft	<a href="#">0230-0101</a>