

DATA SHEET

Linear Rotary Motors PR02-52 SSCH



- ✓ Motor housing / linear rotary shaft completely made of stainless steel for optimum use in the food or pharmaceutical sector
- ✓ Full IP protection (IP69S) for the entire motor
- ✓ High chemical resistance
- ✓ Option integrated MagSpring for load compensation (push or pull)
- ✓ Torque measurement shaft and force sensor option for high accuracy torque control and process data logging (on request)
- ✓ Independent linear and rotary movements

Product description

The SSCH version of the proven PR02-52 linear rotary motor features a special housing and a high quality linear rotary shaft, both made entirely of 1.4404/316L stainless steel. Thanks to a special sealing concept, the entire drive achieves a high degree of protection (IP69S), making it suitable for in-place cleaning processes such as CIP and SIP. This means that the motors meet the highest hygiene standards for use in demanding environments such as the food, pharmaceutical and medical industries.

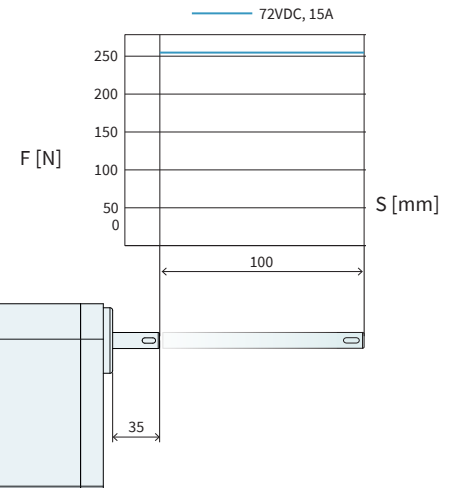
Various additional components are integrated into the slim housing. In addition to the linear motor and the rotary motor, an air feed-through and a magnetic spring (MagSpring) can be installed as options. The air feed-through through the hollow shaft allows pneumatic grippers to be actuated or vacuum applications to be easily implemented. The MagSpring passively compensates for the weight of the moving load and also prevents the axis from falling when the power is disconnected. In the future, the PR02-52 SSCH motors will also be equipped with a torque and force sensor to enable precise, repeatable and recordable closing operations.

The performance data of the PR02-52 SSCH is the same as that of the proven PR02-52 linear rotary motor, which guarantees a maximum stroke of 100 mm. In addition, the linear and rotary motor generates a maximum force of 255 N and a maximum torque of 2.2 Nm.



PR02-52X60-R_37X120F-HP-R-100-X_MS0X_TSXX_FSXX_SSCH

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



Dimensions in mm

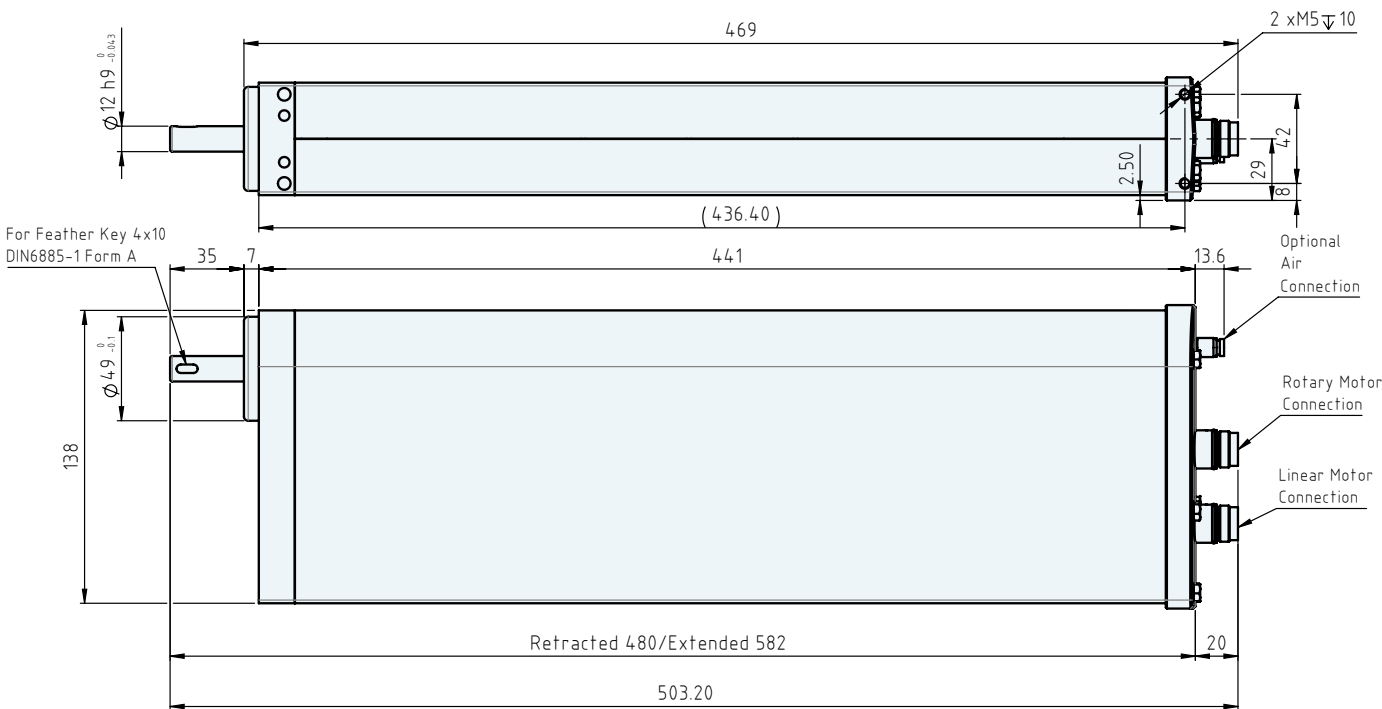
Motor Specifications			
Linear Motion			
Max. Stroke	mm (in)	100	(3.94)
Peak Forc E12x0 - UC	N (lbf)	255	(57.3)
Constant Force @25°C ¹⁾	N (lbf)	75	(16.9)
Force Constant @25°C	N/A _{pk} (lbf/A _{pk})	17	(3.8)
Max. Current @ 72VDC	A _{pk}	15	
Max. Velocity @ 72VDC	m/s (in/s)	3.9	(154)
Position Repeatability	mm (in)	±0.05	(±0.0020)
Linearity	%	±0.10	
Rotary Motion			
Peak Torque (± 10%)	Nm (lbf·in)	2.2	(19.5)
Constant Torque (Halt) @25°C ¹⁾	Nm (lbf·in)	0.55	(4.9)
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			
Width	mm (in)	53	(2.09)
Height	mm (in)	143	(5.63)
Length	mm (in)	469	(18.46)
Mass [without MagSpring / with MagSpring]	g (lb)	8000 / 8900	(17.64 / 19.62)
Linear moving mass [without MagSpring]	g (lb)	1010	(2.23)
Linear moving mass [with MagSpring 30N / with MagSpring 60N]	g (lb)	1200 / 1200	(2.65 / 2.65)
Linear moving mass [with MagSpring -30N / with MagSpring -60N]	g (lb)	1150 / 1150	(2.54 / 2.54)
Rotary Torque of Inertia	kgcm ² (lb·ft ²)	0.26	(0.00062)
Weight Compensation [Option MS01 / Option MS04]	N (lbf)	30 / 60	(6.74 / 13.5))
Weight Compensation [Option MS51 / Option MS54]	N (lbf)	-30 / -60	(-6.74 / -13.5))
Axle Diameter	mm (in)	12h9	(0.47)
Through bore-hole		Option-L: Hole diameter 2.5 mm Connection (front) M5; (back) Connector M5	
Protection Class		IP64	
		Torque Sensor*	Force Sensor*
Supply Voltage	VDC	24	24
Measuring Range	Nm (lbf·in)	±2.5 (±21.9)	FS01 = 100 (22.5) / FS02 = 250 (56.2)
Boundary Frequency -3dB	kHz	1	1
Output Signal	VDC	±10	±10
Current Consumption	mA	<160	<160
Zero Offset	mV	<±100	<±100
Mechanical Overload	%	200	300
Resolution (C1200)	Bit	12	12
Linearity	Nm	±0.025 (±0.22)	±1 (±0.22) / ±2.5 (±0.56)

1) Value depends on 2nd motor (see LinMot Designer)

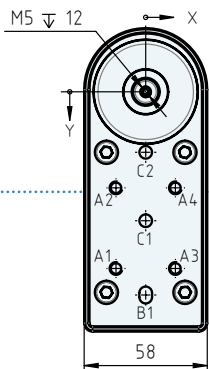
*On request

DOC-NO. 0185-0227-E / VERSION 1V0
SUBJECT TO ALTERATIONS

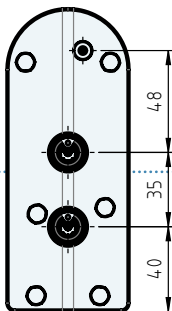
DIMENSIONS PR02-52X60-R_37X120F-HP-R-100-X_MS0X_TSXX_FSXX_SSCH



Tolerance ± 0.1 for all holes on the face, which are drawn starting from the zero position.



Standard



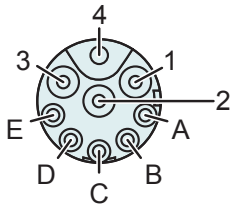
	X-POS.	Y-POS.	SIZE
A1	-14	83.25	M6 ∇ 12
A2	-14	45.25	
A3	14	83.25	
A4	14	45.25	
B1	0	95.75	$6. H7 \dots 0 \dots X.8 \dots 8$
C1	0	60.75	$6. H7 \dots 0 \dots X.8 \dots 8$
C2	0	28.50	$6. H7 \dots 0 \dots X.8 \dots 8$

Dimensions in mm

CONNECTORS

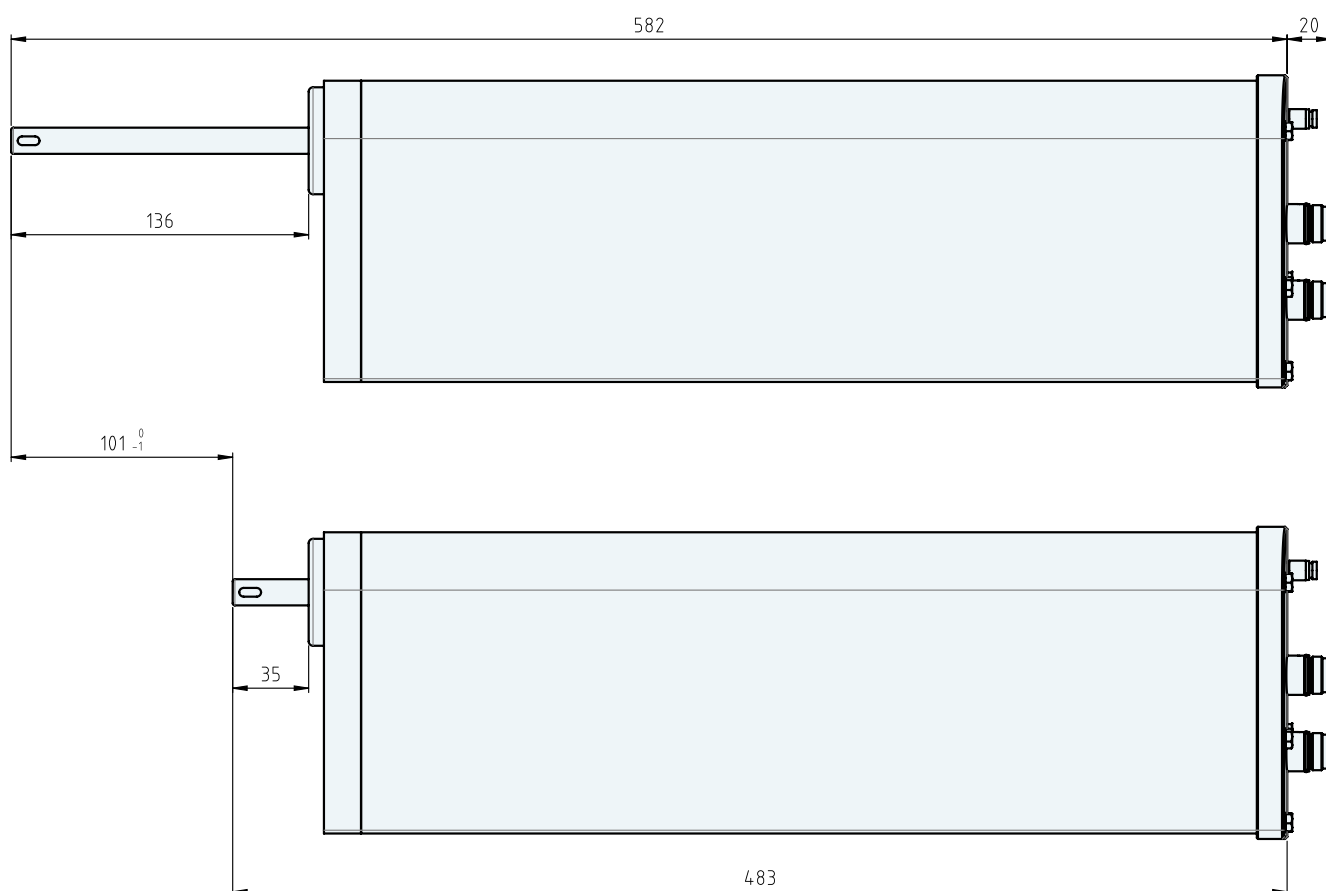
Motor Connector Wiring	Linear Unit: R-Connector	Rotary Unit: R-Connector	Wire Color Motor Cable
Ph 1+ / Ph A	1	1	red
Ph 1- / Ph B	2	2	pink
Ph 2+ / Ph C	3	3	blue
Ph 2- / (-)	4	4 (not connected)	grey
+5VDC	A	A	white
GND	B	B	inner shield
Sin	C	C	yellow
Cos	D	D	green
Temp.	E	E	black
Shield	Housing	Housing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

R-Connector



View: Motor connector, plug on

MAX. STROKE



ORDERING INFORMATION

LINEAR ROTARY MOTORS PR02

Item	Description	Item-No.
PR02-52x60-R_37x120F-HP-R-100_MS00_TS00_SSCH	Linear rotary motor, stainless steel housing	0150-6178
PR02-52x60-R_37x120F-HP-R-100-L_MS00_TS00_SSCH	Linear rotary motor, stainless steel housing, hollow shaft	0150-6179
PR02-52x60-R_37x120F-HP-R-100_MS01_TS00_SSCH	Linear rotary motor, stainless steel housing, MagSpring 30N	0150-6180
PR02-52x60-R_37x120F-HP-R-100_MS04_TS00_SSCH	Linear rotary motor, stainless steel housing, MagSpring 60N	0150-6215
PR02-52x60-R_37x120F-HP-R-100-L_MS01_TS00_SSCH	Linear rotary motor, stainless steel housing, hollow shaft, MagSpring 30N	0150-4866

ACCESSORIES

Item	Description	Item-No.
K05-Y-Fe/R-SSC-	Motor cable K05-Y-Fe/R-SSC-, custom length	0150-3715
KS05-Y/R-SSC-2	Trailing chain cable Y/R-SSC, 2 m	0150-2687
KS05-Y/R-SSC-4	Trailing chain cable Y/R-SSC, 4 m	0150-2688
KS05-Y/R-SSC-6	Trailing chain cable Y/R-SSC, 6 m	0150-2689
KS05-Y/R-SSC-8	Trailing chain cable Y/R-SSC, 8 m	0150-2690
KS05-Y-Fe/R-SSC-	Trailing chain cable Y-Fe/R-SSC, custom length	0150-3646
KS05-R/R-SSC-	Trailing chain cable KS05-R/R-SSC-, custom length	0150-3730
KR05-Y-Fe/R-SSC-	Robot cable KR05-Y-Fe/R-SSC-, custom length	0150-4364
RS01-SS12x22-SSC	Stainless steel shaft-hub clamping for 12 mm shaft	0230-0485

ALL LINEAR MOTION FROM A SINGLE SOURCE

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