LINEAR MOTORS P01-37X120F-HP-SSC

- Stainless steel housing EN 1.4404 / AISI / SAE 316L
- Hygienic design
- Welded connections
- Completely encapsulated
- IP Code IP69K
- Optional integrated water cooling
- For use in the food or in the pharmaceutical sector

5

LINEAR MOTORS P01-37x120F-HP-SSC

Technical Data ____ **641**

Motor Specifications

P01-37x120F/75-HP-PB24-SSC **644**

P01-37x120F/180-HP-PB24-SSC **645**

P01-37x120F/280-HP-PB24-SSC **646**

P01-37x120F/380-HP-PB24-SSC **647**

P01-37x120F/480-HP-PB24-SSC **648**

P01-37x120F/580-HP-PB24-SSC **649**

P01-37x120F/680-HP-PB24-SSC **650**

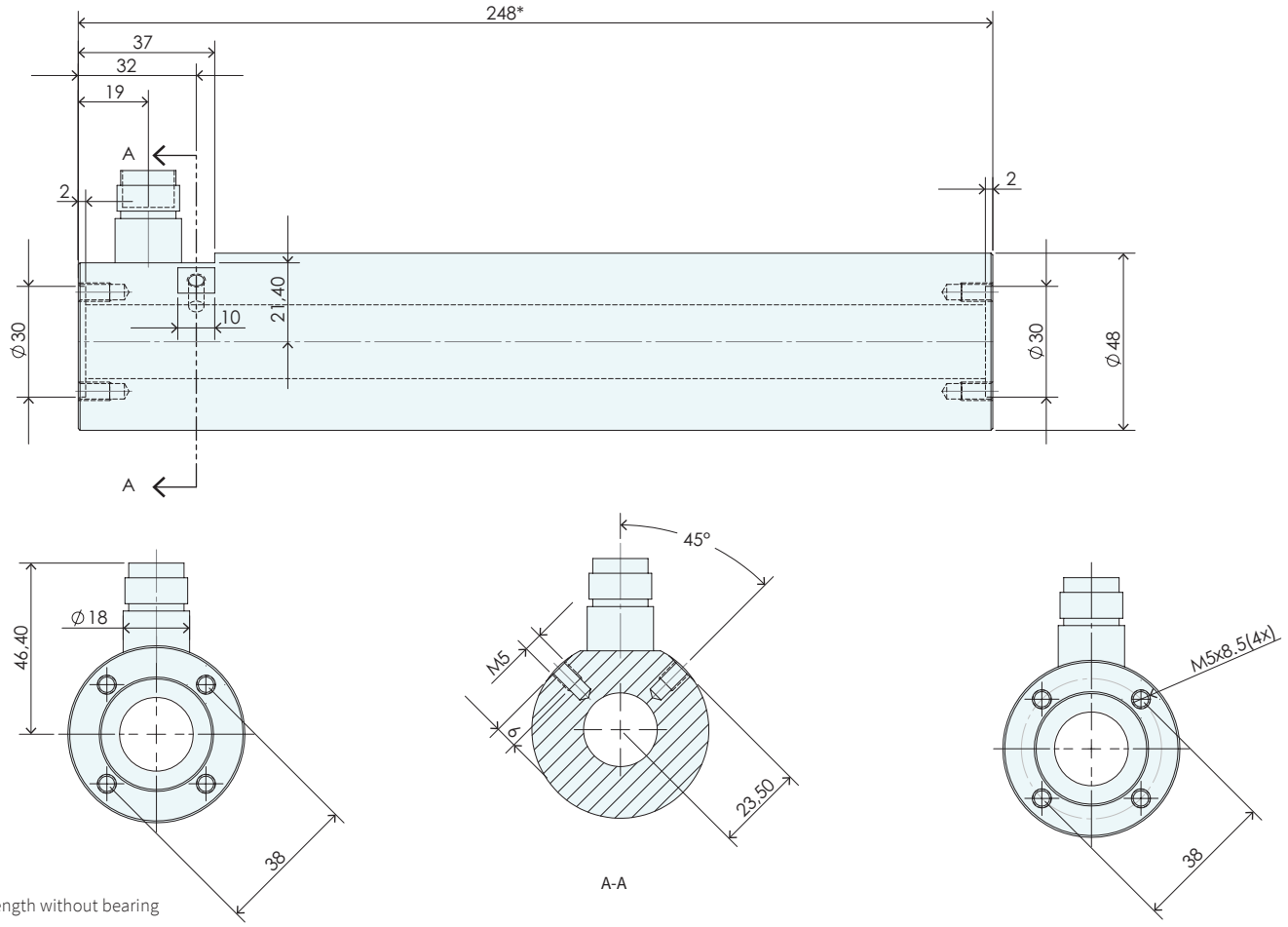
Linear Guides ____ **651**

Accessories ____ **652**

MOTOR FAMILY P01-37x120F-HP-SSC

Technical Data				
Stroke				
Max. Stroke	mm	(in)	680	(26.8)
Force				
Max. Force @ 48VDC	N	(lbf)	210	(47.1)
Max. Force @ 72VDC	N	(lbf)	210	(47.1)
Max. Cont. Force [Passive cooling/ Fan / Fluid]	N	(lbf)	35 / - / 93	(7.9 / - / 20.9)
Max. Border Force relative	%		≤ 100	
Force Constant	N/A_{pk}	(lbf/A_{pk})	14	(3.14)
Velocity				
Max. Velocity @ 48VDC	m/s	(in/s)	3.2	(119.9)
Max. Velocity @ 72VDC	m/s	(in/s)	4.6	(189.9)
Position Detection				
Position Resolution	mm	(in)	0.005	(0.0002)
Repeatability	mm	(in)	±0.05	(±0.002)
Position Resolution with ES	mm	(in)	0.001	(0.00004)
Repeatability with ES	mm	(in)	±0.01	(±0.0004)
Linearity with ES	mm	(in)	±0.01	(±0.0004)
Electrical Data				
Max. Current @ 48VDC	A_{pk}		14.9	
Max. Current @ 72VDC	A_{pk}		14.9	
Max. Cont. Current [Passive cooling /Fan / Fluid]	A_{pk}		2.5 / - / 6.6	
Terminal Resistance 25 °C / 120 °C	Ohm		2.4 / 3.5	
Terminal Inductivity	mH		1.6	
Magnetic Period	mm	(in)	40	(1.57)
Thermal Data				
Max. Winding Temperature (Sensor)	°C		120	
Thermal Resistance [Passive cooling / Fan / Fluid]	°K/W		3.7 / - / 0.55	
Thermal Time Constant [Passive cooling / Fan / Fluid]	s		1500 / - / 110	
Mechanical Data				
Stator Diameter	mm	(in)	48	(1.9)
Stator Length [Connector type / Cable type]	mm	(in)	296	(12)
Stator Mass	g	(lb)	2250	(4.95)
Slider Diameter	mm	(in)	19	(0.75)
Slider Length	mm	(in)	240 - 1000	(9.4 - 39)
Slider Mass	g	(lb)	415 - 1800	(0.91 - 3.96)
IP Code			IP 69k	

STATOR



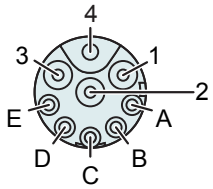
* Length without bearing

Item	Description	Item-No.
PS01-37x120F-HP-SSC-R	Stator Stainless Steel IP69K	0150-1282
PS01-37x120F-HP-SSC-R-FC	Stator stainless steel IP69K, FC	0150-1283

CONNECTOR

Motor Connector Wiring	PS01-37x120F-HP-SSC-R PS01-37x120F-HP-SSC-R-FC	Wire Color Motor Cable
	R-Connector	
Ph 1+	1	red
Ph 1-	2	pink
Ph 2+	3	blue
Ph 2-	4	grey
+5VDC	A	white
GND	B	inner Shield
Sinus	C	yellow
Cosinus	D	green
Temp.	E	black
Shield	Case	outer Shield

R-Connector

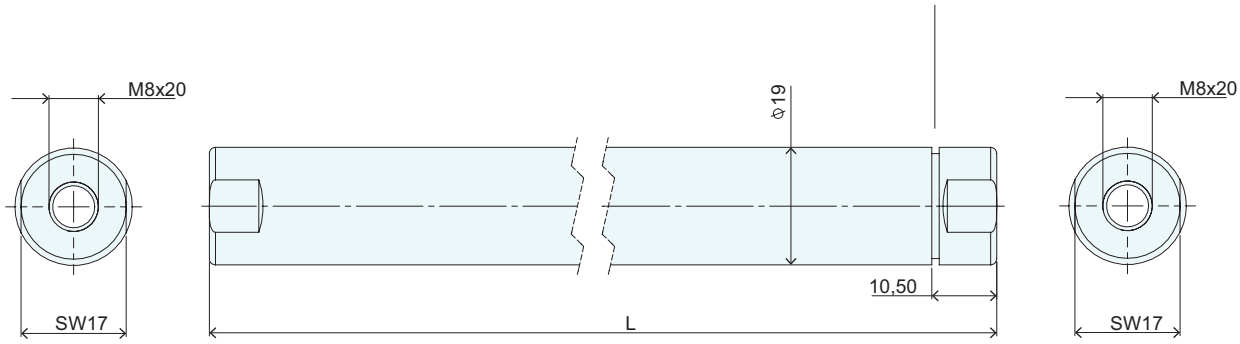


View: Motor connector, plug side

SLIDER

Slider High Clearance

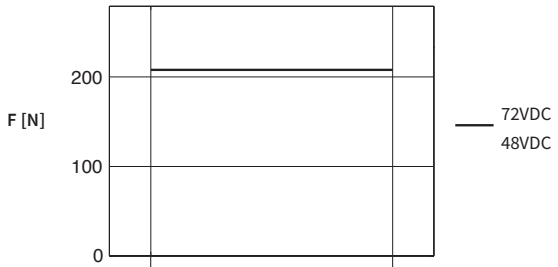
Number of grooves determines the slider type
(see chapter 2 / slider) and marks the front end.

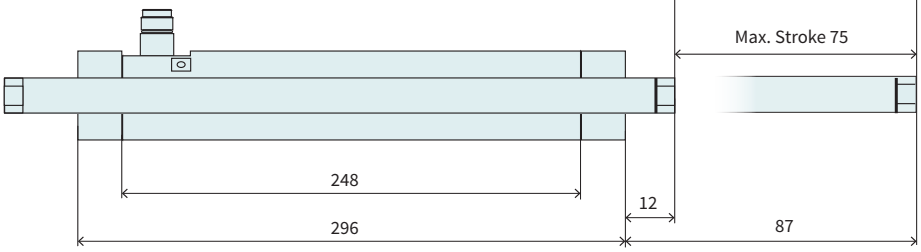


Slider High Clearance			
Item	**Description**	**Max. Stroke [mm]**	**Item-No.**
PL01-19x395/320	Slider 'High Clearance'	75	0150-1452
PL01-19x500/420	Slider 'High Clearance'	180	0150-1455
PL01-19x600/520	Slider 'High Clearance'	280	0150-1456
PL01-19x700/620	Slider 'High Clearance'	380	0150-1457
PL01-19x800/720	Slider 'High Clearance'	480	0150-1458
PL01-19x900/820	Slider 'High Clearance'	580	0150-1459
PL01-19x1000/920	Slider 'High Clearance'	680	0150-1460

P01-37x120F/75-PB24-HP-SSC

Max. Stroke: 75 mm
Peak Force: 210 N





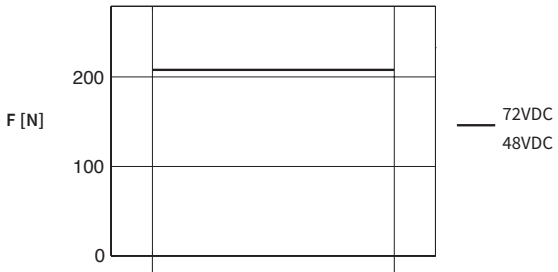
Dimensions in mm

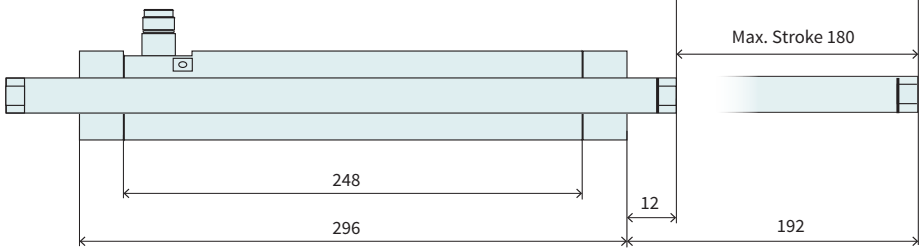
Technical Data P01-37x120F/75-HP-PB24-SSC				
Stroke				
Max. Stroke	mm	(in)	75	(2.95)
Force				
Max. Force @ 48VDC	N	(lbf)	210	(47.1)
Max. Force @ 72VDC	N	(lbf)	210	(47.1)
Max. Cont. Force [Passive cooling/ Fan / Fluid]	N	(lbf)	23 / - / 63	(5.3 / - / 14)
Max. Border Force relative	%		100	
Force Constant	N/A_{pk}	(lbf/A_{pk})	14	(3.14)
Velocity				
Max. Velocity @ 48VDC	m/s	(in/s)	3.2	(119.9)
Max. Velocity @ 72VDC	m/s	(in/s)	4.6	(189.9)
Position Detection				
Repeatability	mm	(in)	±0.05	(±0.002)
Linearity	%		± 0.75	
Electrical Data				
Max. Current @ 48VDC	A_{pk}		14.9	
Max. Current @ 72VDC	A_{pk}		14.9	
Max. Cont. Current [Passive cooling /Fan / Fluid]	A_{pk}		1.7 / - / 4.5	
Thermal Data				
Max. Winding Temperature (Sensor)	°C		120	
Thermal Resistance [Passive cooling / Fan / Fluid]	°K/W		8.3 / - / 1.1	
Thermal Time Constant [Passive cooling / Fan / Fluid]	s		3300 / - / 450	
Mechanical Data				
Slider Length	mm	(in)	395	(16)
Slider Mass	g	(lb)	748	(1.65)

Item	Description	Item-No.
PS01-37x120F-HP-SSC-R	Stator Stainless Steel IP69K	0150-1282
PS01-37x120F-HP-SSC-R-FC	Stator stainless steel IP69K, FC	0150-1283
PL01-19x395/320	Slider 'High Clearance'	0150-1452

P01-37x120F/180-PB24-HP-SSC

Max. Stroke: 180 mm
Peak Force: 210 N





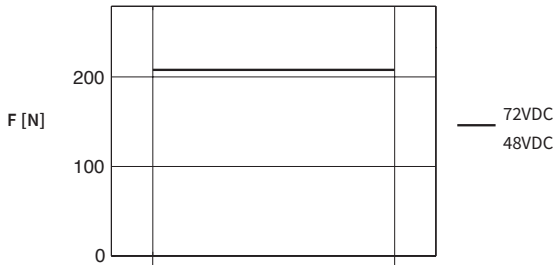
Dimensions in mm

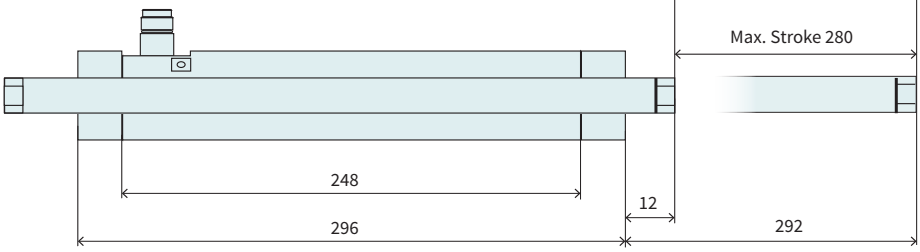
Technical Data P01-37x120F/180-HP-PB24-SSC				
Stroke				
Max. Stroke	mm	(in)	180	(7.08)
Force				
Max. Force @ 48VDC	N	(lbf)	210	(47.1)
Max. Force @ 72VDC	N	(lbf)	210	(47.1)
Max. Cont. Force [Passive cooling/ Fan / Fluid]	N	(lbf)	23 / - / 63	(5.3 / - / 14)
Max. Border Force relative	%		100	
Force Constant	N/A_{pk}	(lbf/A_{pk})	14	(3.14)
Velocity				
Max. Velocity @ 48VDC	m/s	(in/s)	3.2	(119.9)
Max. Velocity @ 72VDC	m/s	(in/s)	4.6	(189.9)
Position Detection				
Repeatability	mm	(in)	±0.05	(±0.002)
Linearity	%		± 0.4	
Electrical Data				
Max. Current @ 48VDC	A_{pk}		14.9	
Max. Current @ 72VDC	A_{pk}		14.9	
Max. Cont. Current [Passive cooling /Fan / Fluid]	A_{pk}		1.7 / - / 4.5	
Thermal Data				
Max. Winding Temperature (Sensor)	°C		120	
Thermal Resistance [Passive cooling / Fan / Fluid]	°K/W		8.3 / - / 1.1	
Thermal Time Constant [Passive cooling / Fan / Fluid]	s		3300 / - / 450	
Mechanical Data				
Slider Length	mm	(in)	500	(20)
Slider Mass	g	(lb)	960	(2.11)

Item	Description	Item-No.
PS01-37x120F-HP-SSC-R	Stator Stainless Steel IP69K	0150-1282
PS01-37x120F-HP-SSC-R-FC	Stator stainless steel IP69K, FC	0150-1283
PL01-19x500/420	Slider 'High Clearance'	0150-1455

P01-37x120F/280-PB24-HP-SSC

Max. Stroke: 280 mm
Peak Force: 210 N





Dimensions in mm

Technical Data P01-37x120F/280-HP-PB24-SSC				
Stroke				
Max. Stroke	mm	(in)	280	(10.99)
Force				
Max. Force @ 48VDC	N	(lbf)	210	(47.1)
Max. Force @ 72VDC	N	(lbf)	210	(47.1)
Max. Cont. Force [Passive cooling/ Fan / Fluid]	N	(lbf)	23 / - / 63	(5.3 / - / 14)
Max. Border Force relative	%		100	
Force Constant	N/A_{pk}	(lbf/A_{pk})	14	(3.14)
Velocity				
Max. Velocity @ 48VDC	m/s	(in/s)	3.2	(119.9)
Max. Velocity @ 72VDC	m/s	(in/s)	4.6	(189.9)
Position Detection				
Repeatability	mm	(in)	±0.05	(±0.002)
Linearity	%		± 0.3	
Electrical Data				
Max. Current @ 48VDC	A_{pk}		14.9	
Max. Current @ 72VDC	A_{pk}		14.9	
Max. Cont. Current [Passive cooling /Fan / Fluid]	A_{pk}		1.7 / - / 4.5	
Thermal Data				
Max. Winding Temperature (Sensor)	°C		120	
Thermal Resistance [Passive cooling / Fan / Fluid]	°K/W		8.3 / - / 1.1	
Thermal Time Constant [Passive cooling / Fan / Fluid]	s		3300 / - / 450	
Mechanical Data				
Slider Length	mm	(in)	600	(24)
Slider Mass	g	(lb)	1171	(2.58)

Item	Description	Item-No.
PS01-37x120F-HP-SSC-R	Stator Stainless Steel IP69K	0150-1282
PS01-37x120F-HP-SSC-R-FC	Stator stainless steel IP69K, FC	0150-1283
PL01-19x600/520	Slider 'High Clearance'	0150-1456

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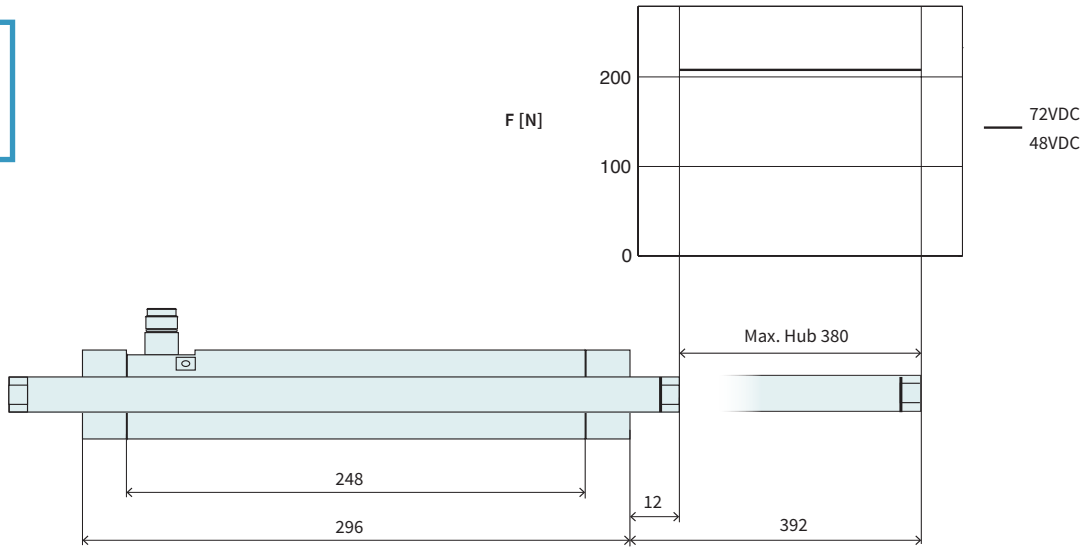
P01-37x120F/380-PB24-HP-SSC

Max. Stroke: 380 mm
Peak Force: 210 N



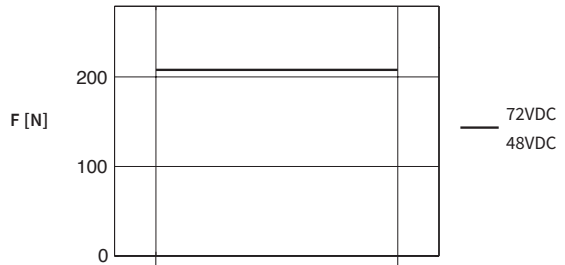
Dimensions in mm

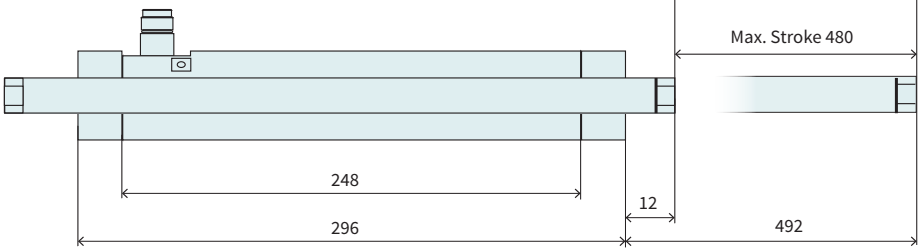
Technical Data P01-37x120F/380-HP-PB24-SSC				
Stroke				
Max. Stroke	mm	(in)	380	(14.99)
Force				
Max. Force @ 48VDC	N	(lbf)	210	(47.1)
Max. Force @ 72VDC	N	(lbf)	210	(47.1)
Max. Cont. Force [Passive cooling/ Fan / Fluid]	N	(lbf)	23 / - / 63	(5.3 / - / 14)
Max. Border Force relative	%		100	
Force Constant	N/A_{pk}	(lbf/A_{pk})	14	(3.14)
Velocity				
Max. Velocity @ 48VDC	m/s	(in/s)	3.2	(119.9)
Max. Velocity @ 72VDC	m/s	(in/s)	4.6	(189.9)
Position Detection				
Repeatability	mm	(in)	±0.05	(±0.002)
Linearity	%		± 0.25	
Electrical Data				
Max. Current @ 48VDC	A_{pk}		14.9	
Max. Current @ 72VDC	A_{pk}		14.9	
Max. Cont. Current [Passive cooling /Fan / Fluid]	A_{pk}		1.7 / - / 4.5	
Thermal Data				
Max. Winding Temperature (Sensor)	°C		120	
Thermal Resistance [Passive cooling / Fan / Fluid]	°K/W		8.3 / - / 1.1	
Thermal Time Constant [Passive cooling / Fan / Fluid]	s		3300 / - / 450	
Mechanical Data				
Slider Length	mm	(in)	700	(28)
Slider Mass	g	(lb)	1380	(3.04)

Item	Description	Item-No.
PS01-37x120F-HP-SSC-R	Stator Stainless Steel IP69K	0150-1282
PS01-37x120F-HP-SSC-R-FC	Stator stainless steel IP69K, FC	0150-1283
PL01-19x700/620	Slider 'High Clearance'	0150-1457

P01-37x120F/480-PB24-HP-SSC

Max. Stroke: 480 mm
Peak Force: 210 N





Dimensions in mm

Technical Data P01-37x120F/480-HP-PB24-SSC				
Stroke				
Max. Stroke	mm	(in)	480	(18.89)
Force				
Max. Force @ 48VDC	N	(lbf)	210	(47.1)
Max. Force @ 72VDC	N	(lbf)	210	(47.1)
Max. Cont. Force [Passive cooling/ Fan / Fluid]	N	(lbf)	23 / - / 63	(5.3 / - / 14)
Max. Border Force relative	%		100	
Force Constant	N/A_{pk}	(lbf/A_{pk})	14	(3.14)
Velocity				
Max. Velocity @ 48VDC	m/s	(in/s)	3.2	(119.9)
Max. Velocity @ 72VDC	m/s	(in/s)	4.6	(189.9)
Position Detection				
Repeatability	mm	(in)	±0.05	(±0.002)
Linearity	%		± 0.2	
Electrical Data				
Max. Current @ 48VDC	A_{pk}		14.9	
Max. Current @ 72VDC	A_{pk}		14.9	
Max. Cont. Current [Passive cooling /Fan / Fluid]	A_{pk}		1.7 / - / 4.5	
Thermal Data				
Max. Winding Temperature (Sensor)	°C		120	
Thermal Resistance [Passive cooling / Fan / Fluid]	°K/W		8.3 / - / 1.1	
Thermal Time Constant [Passive cooling / Fan / Fluid]	s		3300 / - / 450	
Mechanical Data				
Slider Length	mm	(in)	800	(31)
Slider Mass	g	(lb)	1590	(3.5)

Item	Description	Item-No.
PS01-37x120F-HP-SSC-R	Stator Stainless Steel IP69K	0150-1282
PS01-37x120F-HP-SSC-R-FC	Stator stainless steel IP69K, FC	0150-1283
PL01-19x800/720	Slider 'High Clearance'	0150-1458

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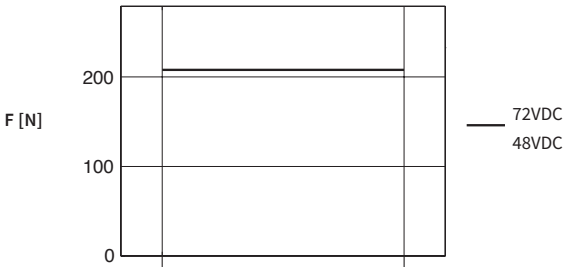
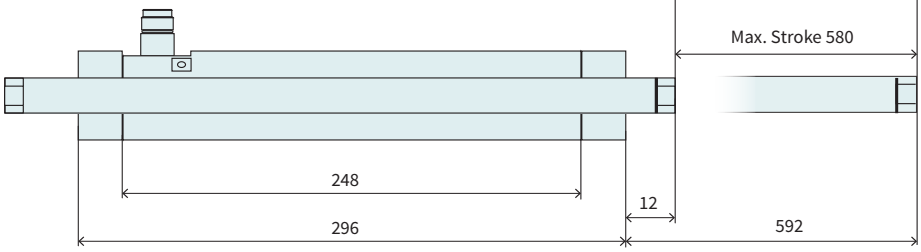
P01-37x120F/580-PB24-HP-SSC

Max. Stroke: 580 mm
Peak Force: 210 N





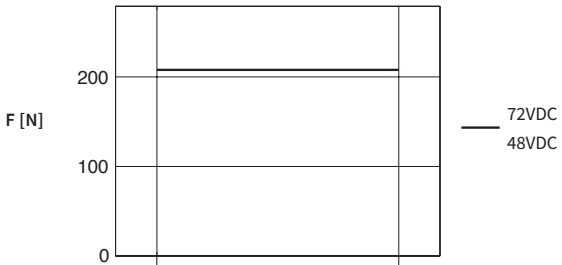
Dimensions in mm

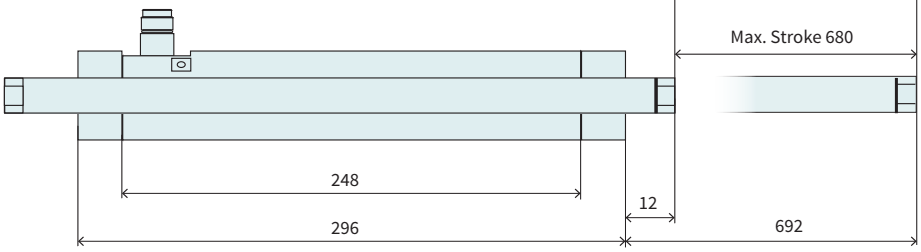
Technical Data P01-37x120F/580-HP-PB24-SSC				
Stroke				
Max. Stroke	mm	(in)	580	(22.8)
Force				
Max. Force @ 48VDC	N	(lbf)	210	(47.1)
Max. Force @ 72VDC	N	(lbf)	210	(47.1)
Max. Cont. Force [Passive cooling/ Fan / Fluid]	N	(lbf)	23 / - / 63	(5.3 / - / 14)
Max. Border Force relative	%		100	
Force Constant	N/A_{pk}	(lbf/A_{pk})	14	(3.14)
Velocity				
Max. Velocity @ 48VDC	m/s	(in/s)	3.2	(119.9)
Max. Velocity @ 72VDC	m/s	(in/s)	4.6	(189.9)
Position Detection				
Repeatability	mm	(in)	±0.05	(±0.002)
Linearity	%		± 0.2	
Electrical Data				
Max. Current @ 48VDC	A_{pk}		14.9	
Max. Current @ 72VDC	A_{pk}		14.9	
Max. Cont. Current [Passive cooling /Fan / Fluid]	A_{pk}		1.7 / - / 4.5	
Thermal Data				
Max. Winding Temperature (Sensor)	°C		120	
Thermal Resistance [Passive cooling / Fan / Fluid]	°K/W		8.3 / - / 1.1	
Thermal Time Constant [Passive cooling / Fan / Fluid]	s		3300 / - / 450	
Mechanical Data				
Slider Length	mm	(in)	900	(35)
Slider Mass	g	(lb)	1590	(3.5)

Item	Description	Item-No.
PS01-37x120F-HP-SSC-R	Stator Stainless Steel IP69K	0150-1282
PS01-37x120F-HP-SSC-R-FC	Stator stainless steel IP69K, FC	0150-1283
PL01-19x900/820	Slider 'High Clearance'	0150-1459

P01-37x120F/680-PB24-HP-SSC

Max. Stroke: 680 mm
Peak Force: 210 N





Dimensions in mm

Technical Data P01-37x120F/680-HP-PB24-SSC				
Stroke				
Max. Stroke	mm	(in)	680	(26.8)
Force				
Max. Force @ 48VDC	N	(lbf)	210	(47.1)
Max. Force @ 72VDC	N	(lbf)	210	(47.1)
Max. Cont. Force [Passive cooling/ Fan / Fluid]	N	(lbf)	23 / - / 63	(5.3 / - / 14)
Max. Border Force relative	%		100	
Force Constant	N/A_{pk}	(lbf/A_{pk})	14	(3.14)
Velocity				
Max. Velocity @ 48VDC	m/s	(in/s)	3.2	(119.9)
Max. Velocity @ 72VDC	m/s	(in/s)	4.6	(189.9)
Position Detection				
Repeatability	mm	(in)	±0.05	(±0.002)
Linearity	%		± 0.15	
Electrical Data				
Max. Current @ 48VDC	A_{pk}		14.9	
Max. Current @ 72VDC	A_{pk}		14.9	
Max. Cont. Current [Passive cooling /Fan / Fluid]	A_{pk}		1.7 / - / 4.5	
Thermal Data				
Max. Winding Temperature (Sensor)	°C		120	
Thermal Resistance [Passive cooling / Fan / Fluid]	°K/W		8.3 / - / 1.1	
Thermal Time Constant [Passive cooling / Fan / Fluid]	s		3300 / - / 450	
Mechanical Data				
Slider Length	mm	(in)	1000	(39)
Slider Mass	g	(lb)	1800	(3.96)

Item	Description	Item-No.
PS01-37x120F-HP-SSC-R	Stator Stainless Steel IP69K	0150-1282
PS01-37x120F-HP-SSC-R-FC	Stator stainless steel IP69K, FC	0150-1283
PL01-19x1000/920	Slider 'High Clearance'	0150-1460

Linear Guides H01-SSC

HM01-37x120/85-SSC	Linear module SSC 37x120 with 85 mm Stroke		
H-Guide	H01-37x304/85-SSC	H-Guide for PS01-37x120F-HP-SSC, Stroke max.85 mm	0150-5271
Stator	PS01-37x120F-HP-SSC-R	Stator Stainless Steel IP69K	0150-1282
	PS01-37x120F-HP-SSC-R-FC	Stator stainless steel IP69K, FC	0150-1283
Slider	PL01-19x395/320	Slider 'High Clearance'	0150-1452

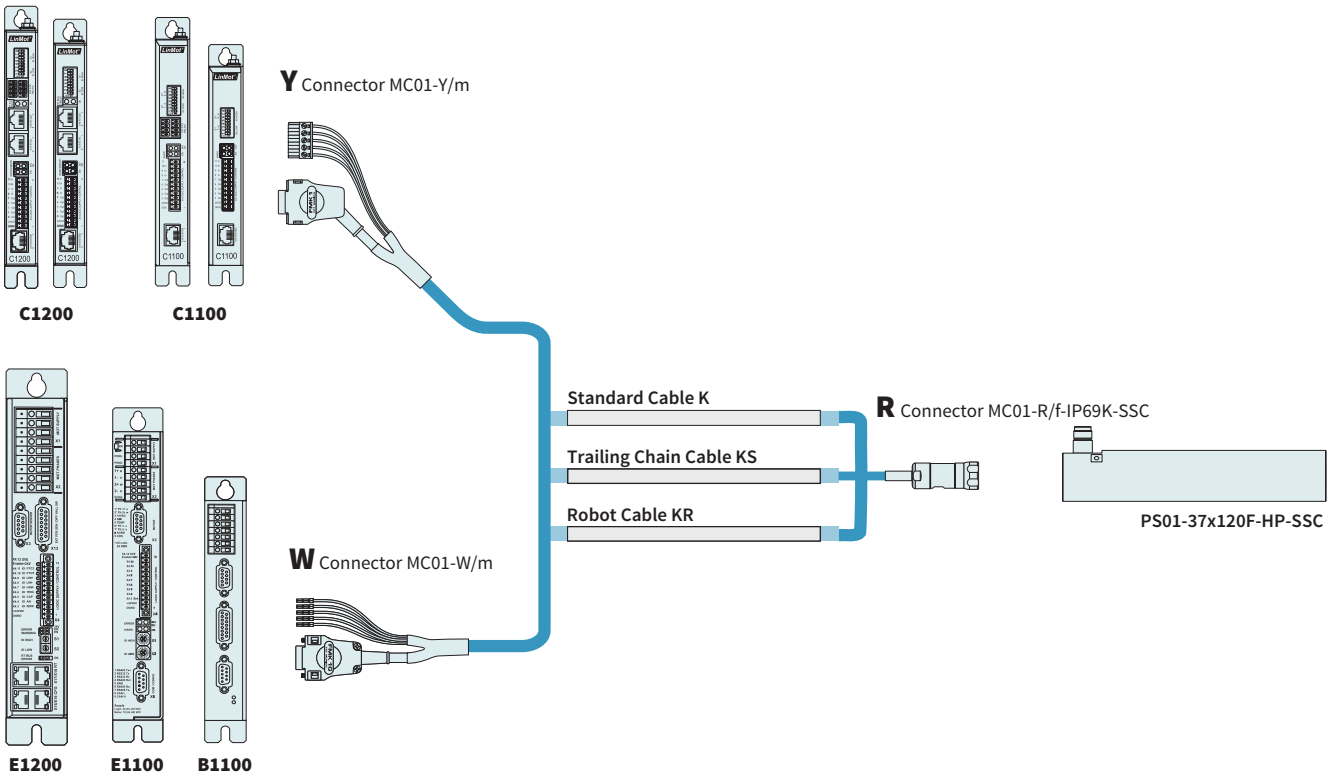
HM01-37x120/190-SSC	Linear module SSC 37x120 with 190 mm Stroke		
H-Guide	H01-37x304/190-SSC	H-Guide for PS01-37x120F-HP-SSC, Stroke max.190 mm	0150-5272
Stator	PS01-37x120F-HP-SSC-R	Stator Stainless Steel IP69K	0150-1282
	PS01-37x120F-HP-SSC-R-FC	Stator stainless steel IP69K, FC	0150-1283
Slider	PL01-19x500/420	Slider 'High Clearance'	0150-1455

HM01-37x120/290-SSC	Linear module SSC 37x120 with 290 mm Stroke		
H-Guide	H01-37x304/290-SSC	H-Guide for PS01-37x120F-HP-SSC, Stroke max.290 mm	0150-5273
Stator	PS01-37x120F-HP-SSC-R	Stator Stainless Steel IP69K	0150-1282
	PS01-37x120F-HP-SSC-R-FC	Stator stainless steel IP69K, FC	0150-1283
Slider	PL01-19x600/520	Slider 'High Clearance'	0150-1456

HM01-37x120/390-SSC	Linear module SSC 37x120 with 390 mm Stroke		
H-Guide	H01-37x304/390-SSC	H-Guide for PS01-37x120F-HP-SSC, Stroke max.390 mm	0150-5274
Stator	PS01-37x120F-HP-SSC-R	Stator Stainless Steel IP69K	0150-1282
	PS01-37x120F-HP-SSC-R-FC	Stator stainless steel IP69K, FC	0150-1283
Slider	PL01-19x700/620	Slider 'High Clearance'	0150-1457

FIND MORE PRODUCT DETAILS IN THE CHAPTER "LINEAR GUIDES".

Motor Cable



ORDERING INFORMATION

TRAILING CHAIN CABLE		
Item	**Description**	**Item-No.**
KS05-W/R-SSC-2	Trailing Chain Cable W/R-SSC, 2 m	0150-2683
KS05-W/R-SSC-4	Trailing Chain Cable W/R-SSC, 4 m	0150-2684
KS05-W/R-SSC-6	Trailing Chain Cable W/R-SSC, 6 m	0150-2685
KS05-W/R-SSC-8	Trailing Chain Cable W/R-SSC, 8 m	0150-2686
KS05-W/R-SSC-	Trailing Chain Cable W/R-SSC, Custom length	0150-3583
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

ROBOT CABLE		
Item	**Description**	**Item-No.**
KR05-W/R-SSC-	Robot Cable KR05-W/R-SSC-, Custom length	0150-3587

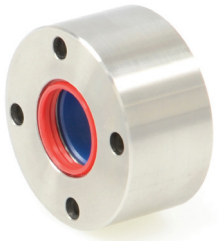
CONNECTOR & CABLE (INDIVIDUAL)		
Item	**Description**	**Item-No.**
MC01-W/m	Motor Connector W/m	0150-3140
MC01-Y-Fe/m	Motor Connector Y-Fe/m	0150-3289
MC01-R/f-IP69K-SSC	Motor Connector R/f, IP69k, SSC	0150-3347
K05-04/05	Motor Cable per m	0150-1920
KS05-04/05	Trailing Chain Cable per m	0150-1938
KR05-04/05	Robot Cable per m	0150-1846

SLIDER MOUNTING

Item	Description	Item-No.
PLF01-20-SS	Fixed Bearing Set for 19/20 mm sliders, stainless steel	0150-3296
PLL01-19	Floating support for PL01-19 sliders, Material 1.4305 / AISI 303	0150-3335

FIND MORE PRODUCT DETAILS IN THE CHAPTER "ACCESSORIES".

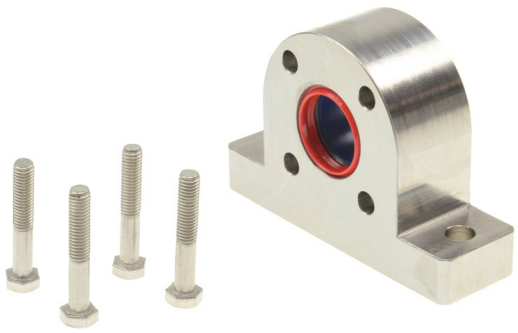
BEARING KITS



Item	Description	Item-No.
PB02-37x24-P-WD	Bearing for PS01-37x...-SSC (Plastic)	0150-3299
PB01-37x24-P-SSC	Bearing for PS01-37x...-SSC, stainless steel	0150-3290

FIND MORE PRODUCT DETAILS IN THE CHAPTER "ACCESSORIES".

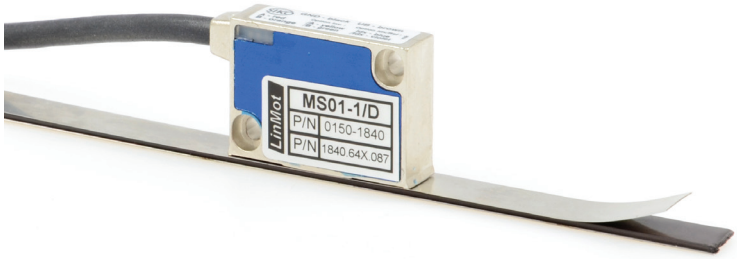
BEARING FLANGE



Item	Description	Item-No.
PB03-37x24-SSC	Bearing for PS01-37x...-SSC (Stainless)	0150-3737

FIND MORE PRODUCT DETAILS IN THE CHAPTER "ACCESSORIES".

EXTERNAL POSITION SENSORS



Item	Description	Item-No.
MS01-1/D	Linear Encoder 1µm, A/B (for incremental strip)	0150-1840
MB01-1000	Magnetic incremental strip for MS01-1/D, per cm	0150-1963
KS025-D/D-Encoder	Special cable KS025-D15/D-Encoder-	0150-3166
KS025-D/D15-Encoder	Special cable KS025-D15/D-Encoder-	0150-3168

FIND MORE PRODUCT DETAILS IN THE CHAPTER "ACCESSORIES".

Item	Description	Item-No.
MS01-1/D-SSI	Linear Encoder 1µm, A/B (for absolute strip)	0150-2095
MB01-1000-ABS	Magnetic absolute strip for MS01-1/D-SSI (per cm)	0150-2096
EC01-ABS/ENC-12-S	MS01-1/D-SSI Encoder connector straigth	0150-3616
KSS01-12-D15/ABS-ENC	For MS01-1/D-SSI on C1100/C1200/C1400/E1200/E1400 Drives	0150-3652

FIND MORE PRODUCT DETAILS IN THE CHAPTER "ACCESSORIES".