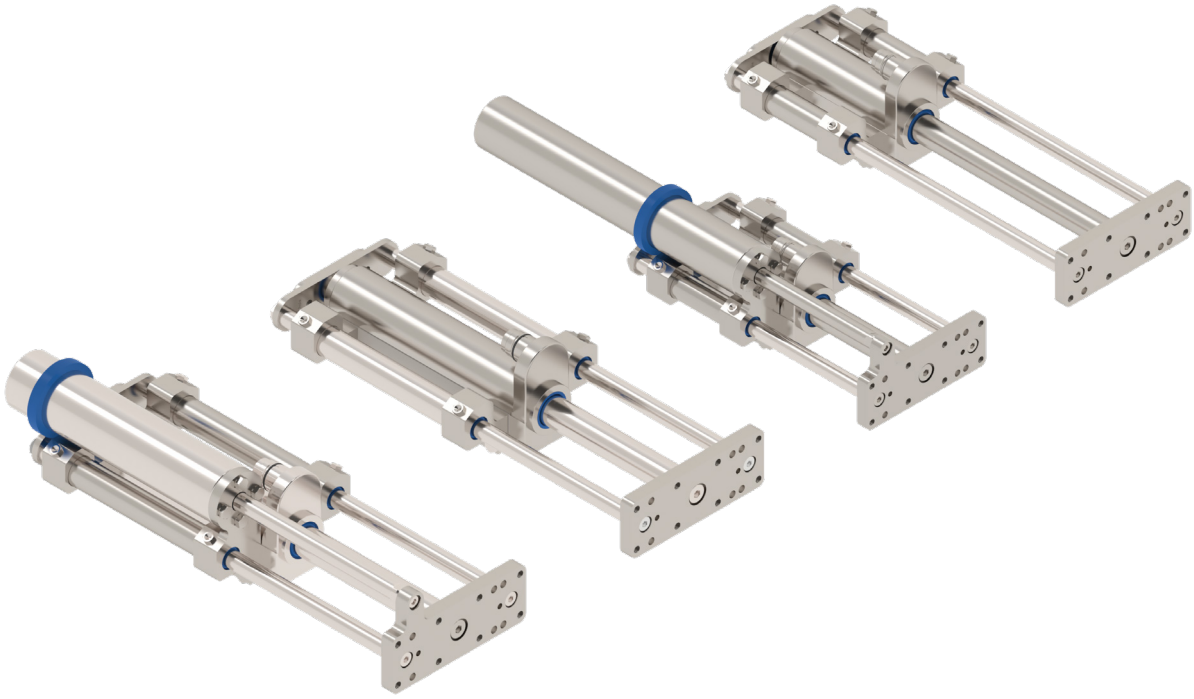
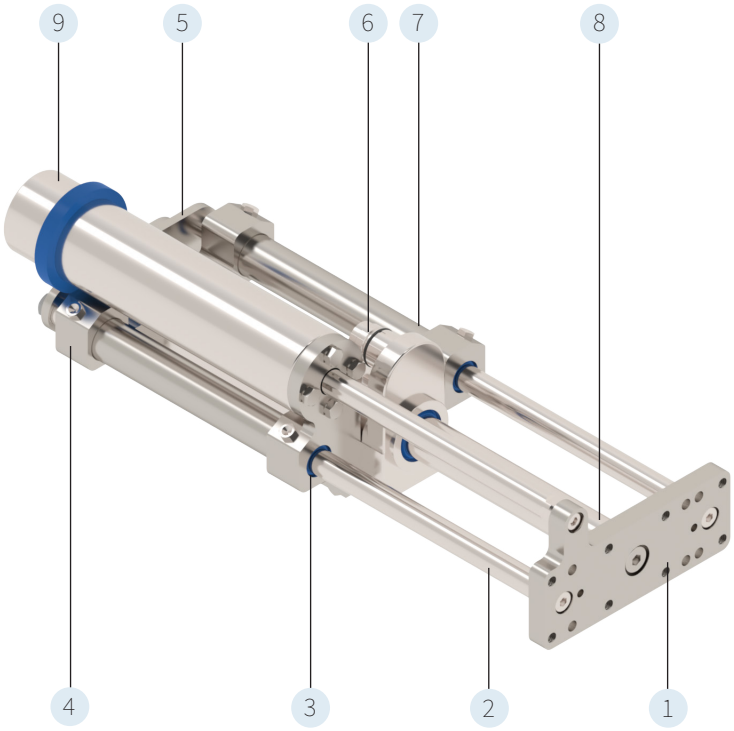
STAINLESS STEEL
LINEAR MODULES SM01_BEX0



- Especially for pharmaceutical applications and the food sector
- Suitable for "wash-down" with protection class IP67
- High resistance to chemicals
- Motor housing and mounting parts made of stainless steel 1.4404 (AISI 316L)
- Guide rods made of surface-hardened stainless steel 1.4112 (AISI 440B)
- Guide with stainless linear ball bearings and food-grade lubricant (NSF H1)
- Equipped with "plug and play" technology
- Simple load simulation by LinMot Designer software
- Optional with "stainless steel" MagSpring® for vertical load balancing

LINEAR MODULES SM01_BEX0



1. Front plate with counterbore holes for precise load mounting
2. Hardened stainless steel shafts with high corrosion resistance
3. Stainless linear ball bearings with food grade lubricant (NSF H1)
4. Guide block with built-in linear ball bearings
5. Back plate for higher mechanical stiffness of the linear guide
6. Stainless steel linear motor with integrated temperature and position sensors and mounting flange
7. Guide tube (only for linear ball bearing version)
8. Magnetic slider of the linear motor (Magnets are protected in a chrome steel tube.)
9. Magnetic spring MagSpring® for vertical load compensation (Optional)
10. Guide block made of polyoxymethylene (POM, FDA approved) with built-in linear ball bearings

Linearmodules SM01

The SM01 linear modules are complete drive solutions consisting of linear guides with integrated "LinMot" linear motors and optionally attached vertical load compensation elements "MagSpring". The modules have been specially developed for applications in the pharmaceutical or food industry which require a solution made of stainless steel with a high degree of protection. These guides are based on linear ball bearings with food-grade lubricant (NSF H1).

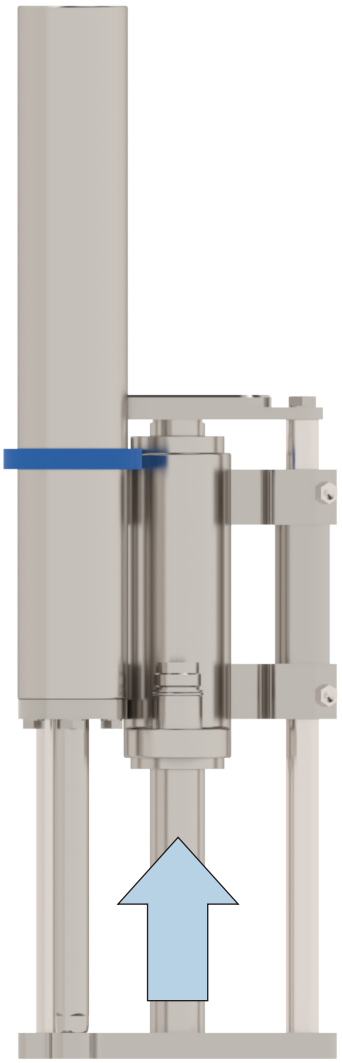
Each SM01 linear module is supplied to the customer fully assembled and does not have to be assembled from individual parts. Only one article number is required to order. The commissioning of the drives is very easy as all SM01 linear modules are equipped with the "Plug and Play" technology. The required type parameters do not have to be selected manually, but are read in automatically by the servo drive.

SM01 linear modules with vertical load compensation «MagSpring®»

In the vertical mounting position, linear modules and other direct drives must constantly apply a constant force to counteract the weight force. A magnetic spring, MagSpring®, installed parallel to the linear motor, can passively compensate for the weight load. The motor is only used for the actual positioning operation or for applying the dynamic forces and can be sized accordingly smaller. Since MagSprings are purely passive elements, a defined function or position of a device can be ensured in the de-energized state. Examples are the lifting of a gripper or print head in vertical arrangements.

The mode of operation is based on the attractive force of permanent magnets. Accordingly, no energy source (electricity, compressed air, etc.) is needed. The special design of the flow-guiding components and the magnets translates the strongly non-linear relationship between force and displacement in magnet-iron arrangements into a constant force curve. Depending on the strength class of the MagSpring, the permanent magnets are either in the stator, in the slider, or in both components. The slider is guided by an integrated plain bearing, so that MagSprings can be used comparably to gas pressure springs in a design. The effective force is in the range of +/- 10% of the nominal force, due to material and manufacturing tolerances.

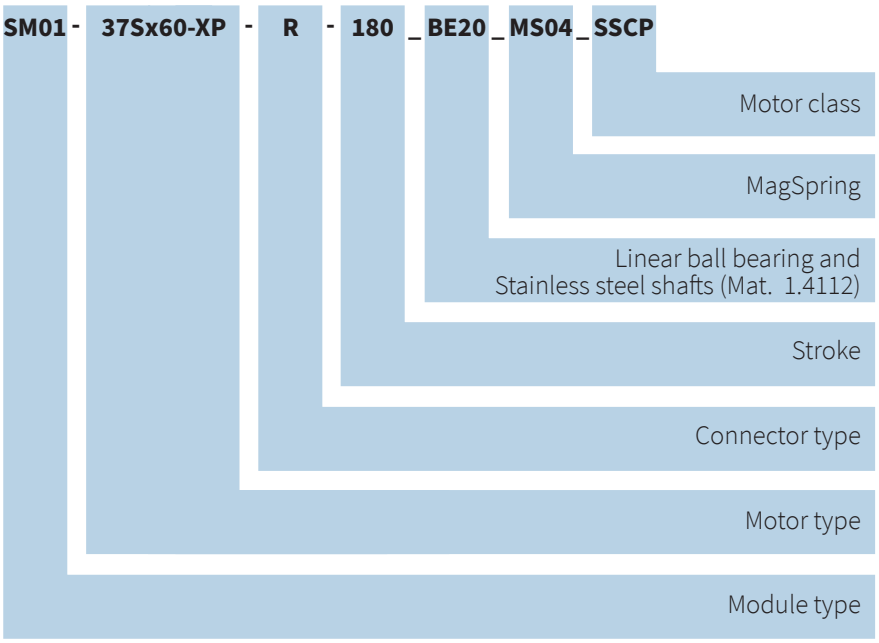
The SM01 linear modules are optionally available with permanently installed MagSpring (MSxx option). These cover various strength classes from 40 N to 60 N constant force and are arranged in such a way that a pulling action is exerted on the load axis.



Bearing type of the SM01 linear modules BEx0

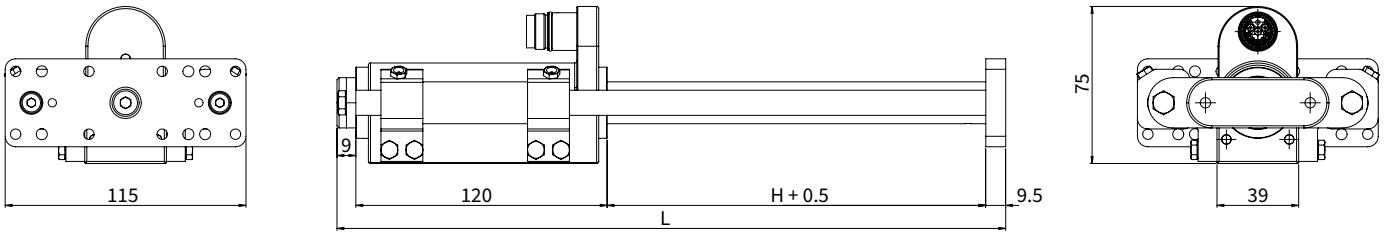
Guide systems based on rolling elements such as linear ball bearings are superior to plain bearings in general with regard to guiding accuracy, load capacity and friction. This is also shown in the respective load diagrams. The stainless steel linear ball bearings used in the SM01 linear modules require lubrication of the balls, which is why seals are necessary in practice to achieve an appropriate degree of protection. The lubricant used is a food grade lubricant (NSF H1) based on medical white oil.
The guide rods made of stainless steel 1.4112 / (AISI 440B) are suitable for use under extremely corrosive conditions due to their material suitability.

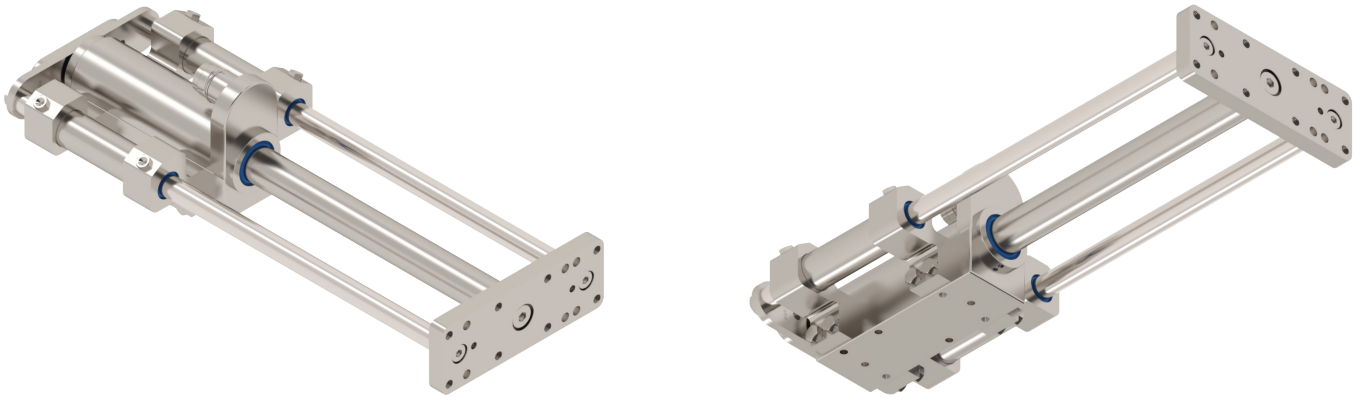
Designation Code Linear Modules SM01



The SM01 linear module BE20 and BE30 product family currently offers 24 product variants. Each variant has its own article number and is delivered fully assembled. The large variety of sizes, strokes, forces and features opens up a very comprehensive range of applications for the user.

SM01-37Sx60_BE20_SSCP





Dimensions mm

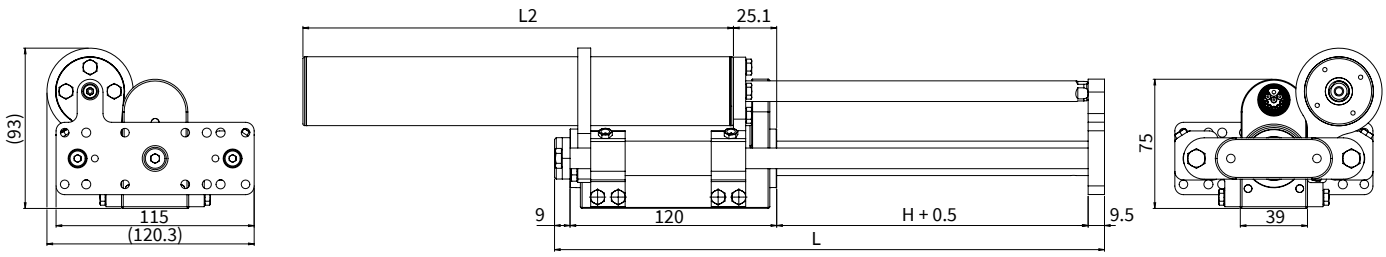
Linear Module	Stroke H [mm (inch)]		Carriage length L [mm (inch)]		Moving mass [1] [g (lb)]		Total weight [g (lb)]	
SM01-37Sx60-XP-R-180_BE20_SSCP	180	(7.09)	320	(12.60)	1681	(3.7)	3101	(6.84)
SM01-37Sx60-XP-R-280_BE20_SSCP	280	(11.02)	420	(16.54)	2092	(4.61)	3512	(7.74)
SM01-37Sx60-XP-R-380_BE20_SSCP	380	(14.96)	520	(20.47)	2503	(5.52)	3924	(8.65)

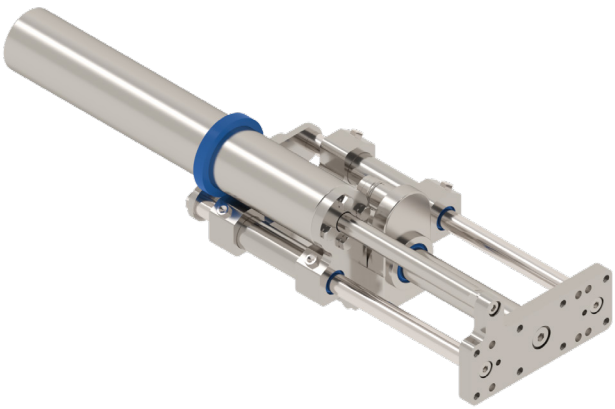
[1] Mass: Slider, Shafts, Front plate, Back plate

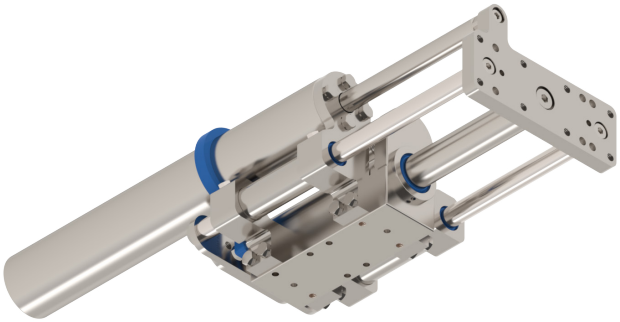
MATERIALS

Guide Block & Front Plate	Guide Shaft	Bearing	Wipers
Stainless Steel Mat. 1.4404 / 316 L	Stainless Steel Mat. 1.4112 / 440 B	Linear ball bearing (stainless)	NBR (FDA conform)

SM01-37Sx60_MSxx_BE20_SSCP WITH VERTICAL LOAD COMPENSATION MAGSPRING®







Dimensions mm

Linear Module with MagSpring	Stroke H [mm (inch)]		MS Stator length L2 [mm (inch)]		Carriage length L [mm (inch)]		Moving mass [1] [g (lb)]		Total weight [g (lb)]	
SM01-37Sx60-XP-R-100_BE20_MS04_SSCP [2]	100	(2.36)	255	(10.04)	240	(9.45)	1535	(3.38)	4230	(9.33)
SM01-37Sx60-XP-R-180_BE20_MS04_SSCP [2]	180	(3.93)	375	(14.76)	320	(12.60)	1669	(3.68)	5117	(11.28)

[1] Mass: Slider, Shafts, Front plate, Back plate, MagSpring slider
[2] MagSpring MS04: Constant force 60N

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MATERIALS

Guide Block & Front Plate	Guide Shaft	Bearing	Wipers
Stainless Steel Mat. 1.4404 / 316 L	Stainless Steel Mat. 1.4112 / 440 B	Linear ball bearing (stainless)	NBR (FDA conform)

PERFORMANCE DATA SM01-37Sx60_BE20_SSCP

Performance Data Linear Module SM01-37Sx60_BE20_SSCP				
Stroke				
Maximum Stroke	mm	(in)	380	(14.96)
Force				
Max. Force @ 48VDC	N	(lbf)	139.5	(31.4)
Max. Force @ 72VDC	N	(lbf)	139.5	(31.4)
Max. Cont. Force [Passive cooling/ Passive mounted[1] / Cold Plate[2]]	N	(lbf)	27 / 36 / 42.5	(6.1 / 8.1 / 9.6)
Force Constant	N/A_{pk}	(lbf/A_{pk})	13.4	(3.01)
Position Detection				
Position Resolution	mm	(in)	0.005	(0.0002)
Repeatability	mm	(in)	±0.05	(±0.002)
Position Resolution with ES	mm	(in)	-	(-)
Repeatability with ES	mm	(in)	-	(-)
Linearity with ES	mm	(in)	-	(-)
Electrical Data				
Max. Current @ 48VDC	A_{pk}		9.4	
Max. Current @ 72VDC	A_{pk}		9.4	
Max. Cont. Current [Passive cooling/ Passive mounted[1] / Cold Plate[2]]	A_{pk}		1.9 / 2.5 / 2.9	
Terminal Resistance 25 °C / 150 °C	Ohm		3.2 / 4.7	
Terminal Inductivity	mH		1.6	
Magnetic Period	mm	(in)	40	(1.57)
Thermal Data				
Max. Winding Temperature (Sensor)	°C		120	
Thermal Resistance [Passive cooling/ Passive mounted[1] / Cold Plate[2]]	K/W		4.7 / 3 / 2.2	
Thermal Time Constant [Passive cooling/ Passive mounted[1] / Cold Plate[2]]	s		1300 / 3200 / 800	
Mechanical Data				
Stator Diameter	mm	(in)	39	(1.5)
Slider Diameter	mm	(in)	20	(0.79)
IP Code [Plain Bearing / Linear Ball Bearing]			IP 67S	

1) Motor is mounted on a stainless steel surface of 0.02 m².
2) Motor is mounted on a 20°C cold plate.

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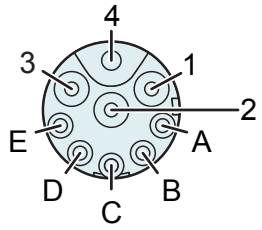
CONNECTOR

Motor Connector Wiring	R-Connector	Wire Color Motor Cable
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

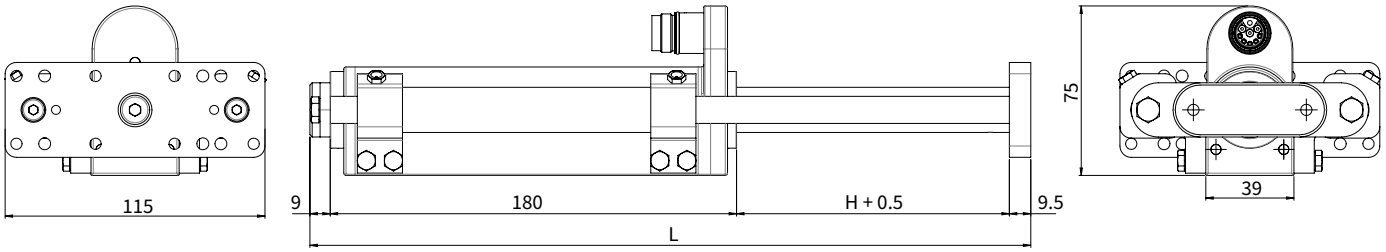


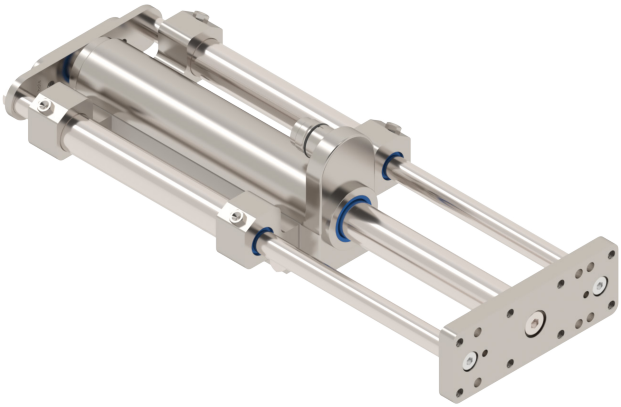
View: Motor connector, plug side

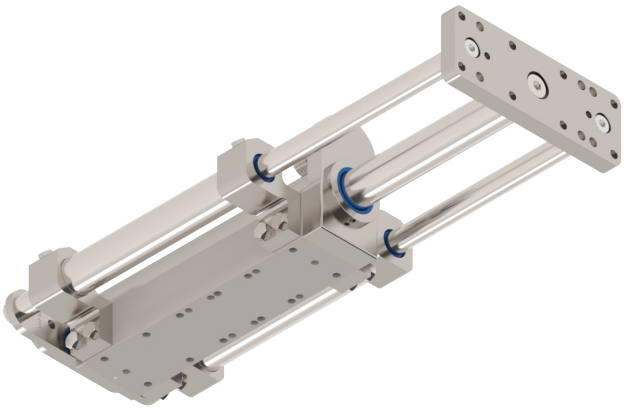
ORDERING INFORMATION

Item	Description	Item-No.
SM01-37Sx60-XP-R-180_BE20_SSCP	Linear Module SSCP, Linear Ball Bearing, 12 mm rods, Stroke max 180mm	0150-6707
SM01-37Sx60-XP-R-280_BE20_SSCP	Linear Module SSCP, Linear Ball Bearing, 12 mm rods, Stroke max 280mm	0150-6708
SM01-37Sx60-XP-R-380_BE20_SSCP	Linear Module SSCP, Linear Ball Bearing, 12 mm rods, Stroke max 380mm	0150-6709
SM01-37Sx60-XP-R-100_BE20_MS04_SSCP	Linear Module SSCP, Linear Ball Bearing, 12 mm rods, MagSpring 60N, stroke max 100mm	0150-6740
SM01-37Sx60-XP-R-180_BE20_MS04_SSCP	Linear Module SSCP, Linear Ball Bearing, 12 mm rods, MagSpring 60N, stroke max 180mm	0150-6711

SM01-37Sx120_BE20 _SSCP WITH LINEAR BALL BEARINGS







Dimensions mm

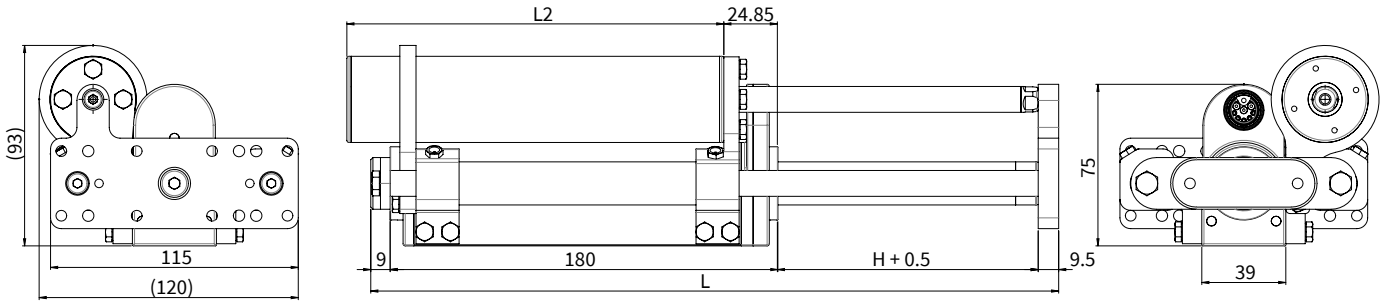
Linear Module	Stroke H [mm (inch)]		Carriage length L [mm (inch)]		Moving mass [1] [g (lb)]		Total weight [g (lb)]	
SM01-37Sx120F-XP-R-120_BE20_SSCP	120	(4.72)	320	(12.60)	1681	(3.71)	3601	(7.94)
SM01-37Sx120F-XP-R-220_BE20_SSCP	220	(8.66)	420	(16.54)	2092	(4.61)	4012	(8.84)
SM01-37Sx120F-XP-R-280_BE20_SSCP	280	(11.02)	480	(18.90)	2339	(5.16)	4260	(9.39)
SM01-37Sx120F-XP-R-320_BE20_SSCP	320	(12.60)	520	(20.47)	2503	(5.52)	4423	(9.75)

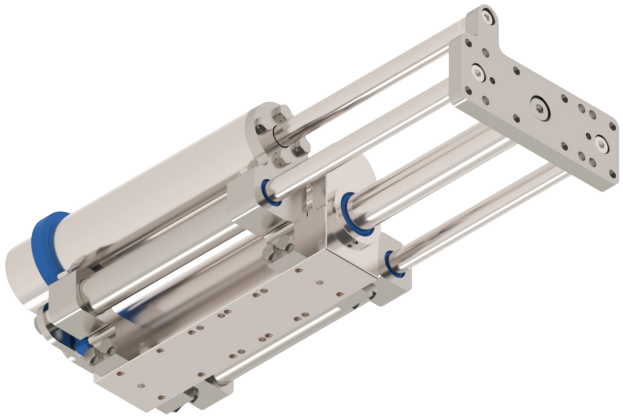
[1] Mass: Slider, Shafts, Front plate, Back plate

MATERIALS

Guide Block & Front Plate	Guide Shaft	Bearing	Wipers
Stainless Steel Mat. 1.4404 / 316 L	Stainless Steel Mat. 1.4112 / 440 B	Linear ball bearing (stainless)	NBR (FDA conform)

SM01-37Sx120 _MSxx_BE20_SSCP WITH VERTICAL LOAD COMPENSATION MAGSPRING®





Dimensions mm

Linear Module with MagSpring	Stroke H [mm (inch)]		MS Stator length L2 [mm (inch)]		Carriage length L [mm (inch)]		Moving mass [1] [g (lb)]		Total weight [g (lb)]	
SM01-37Sx120F-XP-R-120_BE20_MS04_SSCP [2]	120	(4.72)	175	(6.89)	320	(12.60)	1862	(4.10)	5058	(11.15)
SM01-37Sx120F-XP-R-220_BE20_MS04_SSCP [2]	220	(8.66)	325	(12.8)	420	(16.54)	2306	(5.08)	5996	(13.22)
SM01-37Sx120F-XP-R-320_BE20_MS04_SSCP [2]	320	(12.60)	400	(15.75)	520	(20.47)	2879	(6.35)	7540	(16.62)

[1] Mass: Slider, Shafts, Front plate, Back plate, MagSpring slider
[2] MagSpring MS04: Constant force 60N

MATERIALS

Guide Block & Front Plate	Guide Shaft	Bearing	Wipers
Stainless Steel Mat. 1.4404 / 316 L	Stainless Steel Mat. 1.4112 / 440 B	Linear ball bearing (stainless)	NBR (FDA conform)

PERFORMANCE DATA SM01-37Sx120_BE20_SSCP

Performance Data Linear Module SM01-37Sx120_BE20_SSCP				
Stroke				
Maximum Stroke	mm	(in)	320	(12.6)
Force				
Max. Force @ 48VDC	N	(lbf)	278	(62.5)
Max. Force @ 72VDC	N	(lbf)	278	(62.5)
Max. Cont. Force [Passive cooling/ Passive mounted[1] / Cold Plate[2]]	N	(lbf)	50 / 63 / 85	(11.2 / 14.2 / 19.1)
Force Constant	N/A_{pk}	(lbf/A_{pk})	17	(3.82)
Position Detection				
Position Resolution	mm	(in)	0.005	(0.0002)
Repeatability	mm	(in)	±0.05	(±0.002)
Position Resolution with ES	mm	(in)	-	(-)
Repeatability with ES	mm	(in)	-	(-)
Linearity with ES	mm	(in)	-	(-)
Electrical Data				
Max. Current @ 48VDC	A_{pk}		14.9	
Max. Current @ 72VDC	A_{pk}		14.9	
Max. Cont. Current [Passive cooling/ Passive mounted[1] / Cold Plate[2]]	A_{pk}		2.7 / 3.4 / 4.6	
Terminal Resistance 25 °C / 150 °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/ Passive mounted[1] / Cold Plate[2]]	K/W		3 / 2 / 1.1	
Thermal Time Constant [Passive cooling/ Passive mounted[1] / Cold Plate[2]]	s		1000 / 2700 / 800	
Mechanical Data				
Stator Diameter	mm	(in)	39	(1.5)
Slider Diameter	mm	(in)	20	(0.79)
IP Code [Plain Bearing / Linear Ball Bearing]			IP 67S	

1) Motor is mounted on a stainless steel surface of 0.03 m².
2) Motor is mounted on a 20°C cold plate.

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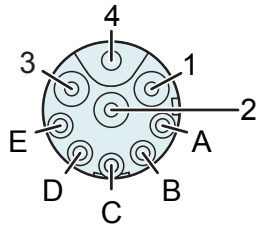
CONNECTOR

Motor Connector Wiring	R-Connector	Wire Color Motor Cable
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

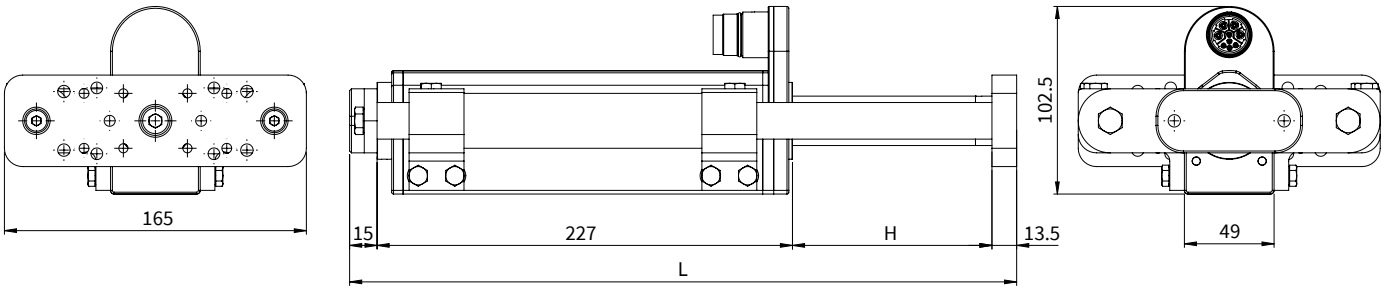


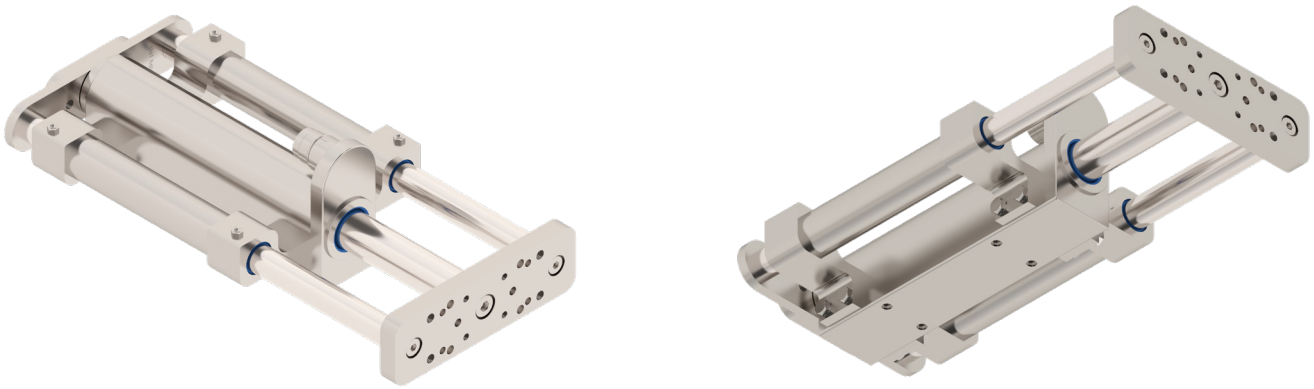
View: Motor connector, plug side

ORDERING INFORMATION

Item	Description	Item-No.
SM01-37Sx120F-XP-R-120_BE20_SSCP	Linear Module SSCP, Linear Ball Bearing, 12 mm rods, Stroke max 120mm	0150-6699
SM01-37Sx120F-XP-R-220_BE20_SSCP	Linear Module SSCP, Linear Ball Bearing, 12 mm rods, Stroke max 220mm	0150-6700
SM01-37Sx120F-XP-R-280_BE20_SSCP	Linear Module SSCP, Linear Ball Bearing, 12 mm rods, Stroke max 280mm	0150-6626
SM01-37Sx120F-XP-R-320_BE20_SSCP	Linear Module SSCP, Linear Ball Bearing, 12 mm rods, Stroke max 320mm	0150-6701
SM01-37Sx120F-XP-R-420_BE20_SSCP	Linear Module SSCP, Linear Ball Bearing, 12 mm rods, Stroke max 420mm	0150-6702
SM01-37Sx60-XP-R-120_BE20_MS04_SSCP	Linear Module SSCP, Linear Ball Bearing, 12 mm rods, MagSpring 60N, stroke max 120mm	0150-6714
SM01-37Sx60-XP-R-220_BE20_MS04_SSCP	Linear Module SSCP, Linear Ball Bearing, 12 mm rods, MagSpring 60N, stroke max 220mm	0150-6738
SM01-37Sx60-XP-R-320_BE20_MS04_SSCP	Linear Module SSCP, Linear Ball Bearing, 12 mm rods, MagSpring 60N, stroke max 320mm	0150-6703

SM01-48x150_BE30 _SSCP





Dimensions mm

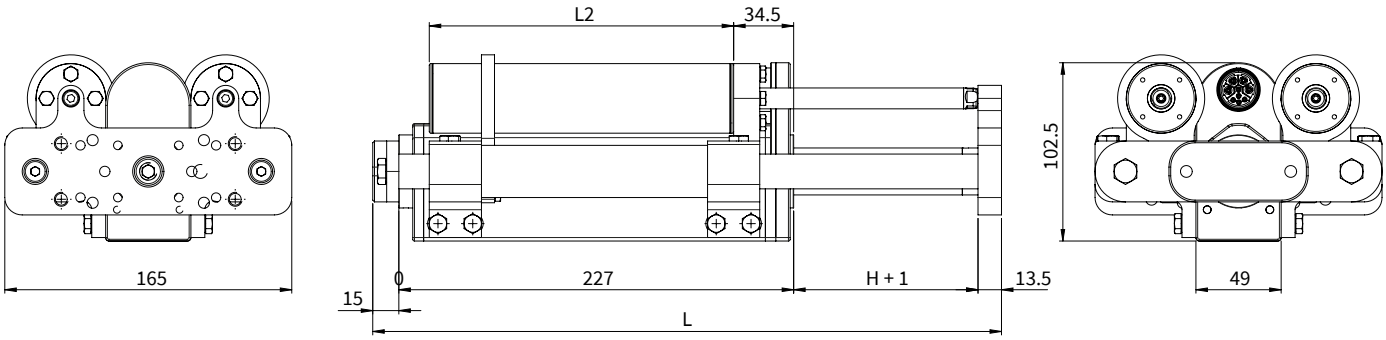
Linear Module	Stroke H [mm (inch)]		Carriage length L [mm (inch)]		Moving mass [1] [g (lb)]		Total weight [g (lb)]	
SM01-48Sx150G-HP-C-105_BE30_SSCP	105	(4.13)	364.5	(14.35)	4017	(8.86)	8177	(18.03)
SM01-48Sx150G-HP-C-165_BE30_SSCP	165	(6.50)	424.5	(16.71)	4515	(9.95)	8675	(19.13)
SM01-48Sx150G-HP-C-255_BEe0_SSCP	255	(10.04)	514.5	(20.26)	5250	(11.57)	9397	(20.72)

[1] Mass: Slider, Shafts, Front plate, Back plate

MATERIALS

Guide Block & Front Plate	Guide Shaft	Bearing	Wipers
Stainless Steel Mat. 1.4404 / 316 L	Stainless Steel Mat. 1.4112 / 440 B	Linear ball bearing (stainless)	NBR (FDA conform)

SM01-48x150_BE30 _SSCP WITH VERTICAL LOAD COMPENSATION MAGSPRING®



Dimensions mm

Linear Module with MagSpring	Stroke H [mm (inch)]		MS Stator length L2 [mm (inch)]		Carriage length L [mm (inch)]		Moving mass [1] [g (lb)]		Total weight [g (lb)]	
SM01-48x150G-HP-C-105_BE30_MS08_SSCP [2]	105	(4.13)	175	(6.89)	364.5	(14.35)	4407	(9.72)	11410	(25.15)
SM01-48x150G-HP-C-165_BE30_MS08_SSCP [2]	165	(6.50)	250	(9.84)	424.5	(16.71)	5035	(11.10)	13040	(28.74)
SM01-48x150G-HP-C-255_BE30_MS08_SSCP [2]	255	(10.04)	365	(14.37)	514.5	(20.26)	5899	(13.01)	14886	(32.82)

[1] Mass: Slider, Shafts, Front plate, Back plate, MagSpring slider
[2] MagSpring MS04: Constant force 60N

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MATERIALS

Guide Block & Front Plate	Guide Shaft	Bearing	Wipers
Stainless Steel Mat. 1.4404 / 316 L	Stainless Steel Mat. 1.4112 / 440 B	Linear ball bearing (stainless)	NBR (FDA conform)

PERFORMANCE DATA SM01-48x150_BE30_SSCP

Performance Data Linear Module SM01-48x150_BE30_SSCP				
Stroke				
Maximum Stroke	mm	(in)	255	(10.0)
Force				
Max. Force @ 48VDC	N	(lbf)	312	(69.64)
Max. Force @ 72VDC	N	(lbf)	312	(69.64)
Max. Cont. Force [Passive cooling/ Passive mounted[1] / Cold Plate[2]]	N	(lbf)	75 / 87 / 120	(16.9 / 19.6 / 27)
Force Constant	N/A_{pk}	(lbf/A_{pk})	15.65	(3.52)
Position Detection				
Position Resolution	mm	(in)	0.007	(0.0003)
Repeatability	mm	(in)	±0.05	(0.002)
Position Resolution with ES	mm	(in)	-	(-)
Repeatability with ES	mm	(in)	-	(-)
Linearity with ES	mm	(in)	-	(-)
Electrical Data				
Max. Current @ 48VDC	A_{pk}		23	
Max. Current @ 72VDC	A_{pk}		23	
Max. Cont. Current [Passive cooling/ Passive mounted[1] / Cold Plate[2]]	A_{pk}		5.5 / 6.6 / 8.8	
Terminal Resistance 25 °C / 150 °C	Ohm		0.81 / 1.2	
Terminal Inductivity	mH		0.7	
Magnetic Period	mm	(in)	60	(2.36)
Thermal Data				
Max. Winding Temperature (Sensor)	°C		120	
Thermal Resistance [Passive cooling/ Passive mounted[1] / Cold Plate[2]]	K/W		2.3 / 1.7 / 0.95	
Thermal Time Constant [Passive cooling/ Passive mounted[1] / Cold Plate[2]]	s		1400 / 1.7 / 0.95	
Mechanical Data				
Stator Diameter	mm	(in)	49	(1.93)
Slider Diameter	mm	(in)	27	(1.06)
IP Code [Linear Ball Bearing]			IP 67S	

1) Motor is mounted on a stainless steel surface of 0.03 m².
2) Motor is mounted on a 20°C cold plate.

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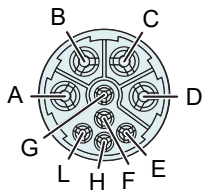
CONNECTOR

Motor Connector Wiring	R-Connector	Wire Color Motor Cable
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

C-Connector

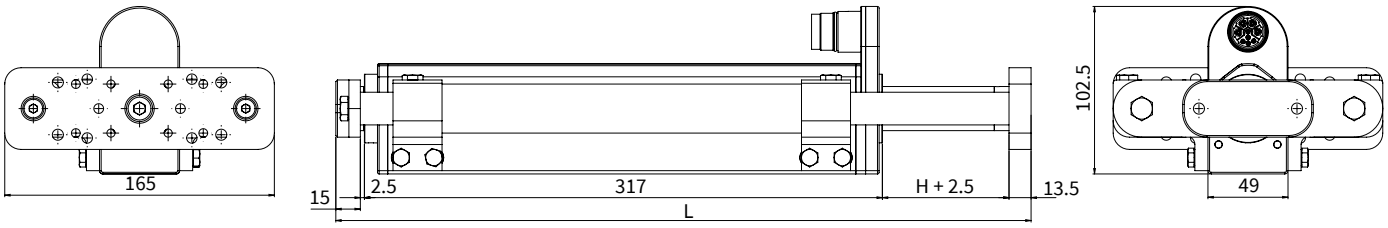


View: Motor connector, plug side

ORDERING INFORMATION

Item	Description	Item-No.
SM01-48x150G-HP-C-105_BE30_SSCP	Linear Module SSCP, Linear Ball Bearing, solid rods, stroke max 105mm	0150-6912
SM01-48x150G-HP-C-165_BE30_SSCP	Linear Module SSCP, Linear Ball Bearing, solid rods, stroke max 165mm	0150-6913
SM01-48x150G-HP-C-255_BE30_SSCP	Linear Module SSCP, Linear Ball Bearing, solid rods, stroke max 255mm	0150-6897
SM01-48x150G-HP-C-105_BE30_MS08_SSCP	Linear Module SSCP, Linear Ball Bearing, MagSpring 120N, solid rods, stroke max 105mm	0150-6914
SM01-48x150G-HP-C-165_BE30_MS08_SSCP	Linear Module SSCP, Linear Ball Bearing, MagSpring 120N, solid rods, stroke max 165mm	0150-6915
SM01-48x150G-HP-C-255_BE30_MS08_SSCP	Linear Module SSCP, Linear Ball Bearing, MagSpring 120N, solid rods, stroke max 255mm	0150-7048

SM01-48x240_BE30 _SSCP WITH LINEAR BALL BEARINGS



Dimensions mm

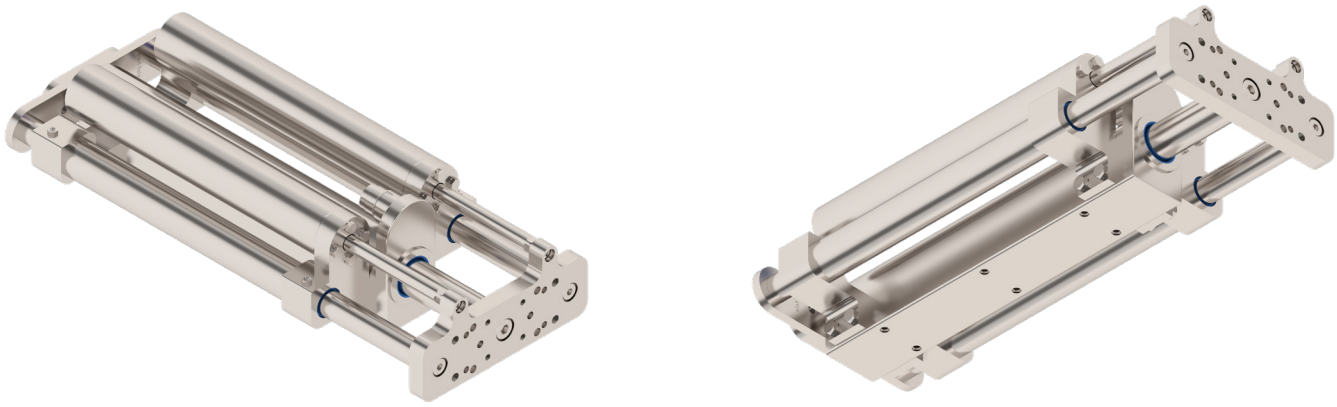
Linear Module	Stroke H [mm (inch)]		Carriage length L [mm (inch)]		Moving mass [1] [g (lb)]		Total weight [g (lb)]	
SM01-48x240F-HP-C-75_BE30_SSCP	75	(2.95)	424.5	(16.71)	4515	(9.95)	9941	(21.92)
SM01-48x240F-HP-C-165_BE30_SSCP	165	(6.50)	514.5	(20.26)	5250	(11.57)	10676	(23.54)
SM01-48x240F-HP-C-285_BE30_SSCP	285	(11.22)	634.5	(24.98)	6237	(13.75)	11659	(25.70)

[1] Mass: Slider, Shafts, Front plate, Back plate

MATERIALS

Guide Block & Front Plate	Guide Shaft	Bearing	Wipers
Stainless Steel Mat. 1.4404 / 316 L	Stainless Steel Mat. 1.4112 / 440 B	Linear ball bearing (stainless)	NBR (FDA conform)

SM01-48x240_MSxx_BE30_SSCP WITH VERTICAL LOAD COMPENSATION MAGSPRING®



Dimensions mm

Linear Module with MagSpring	Stroke H [mm (inch)]		MS Stator length L2 [mm (inch)]		Carriage length L [mm (inch)]		Moving mass [1] [g (lb)]		Total weight [g (lb)]	
SM01-48x240F-HP-C-75_BE30_MS08_SSCP [2]	75	(2.95)	175	(6.89)	320	(12.60)	5034	(11.10)	14304	(31.53)
SM01-48x240F-HP-C-165_BE30_MS08_SSCP [2]	165	(6.50)	250	(9.84)	420	(16.54)	5897	(13.00)	16163	(35.63)
SM01-48x240F-HP-C-285_BE30_MS08_SSCP [2]	285	(11.22)	400	(15.75)	520	(20.47)	7014	(15.46)	18243	(40.22)

[1] Mass: Slider, Shafts, Front plate, Back plate, MagSpring slider
[2] MagSpring MS04: Constant force 60N

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MATERIALS

Guide Block & Front Plate	Guide Shaft	Bearing	Wipers
Stainless Steel Mat. 1.4404 / 316 L	Stainless Steel Mat. 1.4112 / 440 B	Linear ball bearing (stainless)	NBR (FDA conform)

PERFORMANCE DATA SM01-48x240_BE30_SSCP

Performance Data Linear Module SM01-48x240_BE30_SSCP				
Stroke				
Maximum Stroke	mm	(in)	285	(11.2)
Force				
Max. Force @ 48VDC	N	(lbf)	477	(106.47)
Max. Force @ 72VDC	N	(lbf)	477	(106.47)
Max. Cont. Force [Passive cooling/ Passive mounted[1] / Cold Plate[2]]	N	(lbf)	115 / 139 / 172	(25.9 / 31.3 / 38.7)
Force Constant	N/A_{pk}	(lbf/A_{pk})	22	(4.95)
Position Detection				
Position Resolution	mm	(in)	0.007	(0.0003)
Repeatability	mm	(in)	±0.05	(0.002)
Position Resolution with ES	mm	(in)	-	(-)
Repeatability with ES	mm	(in)	-	(-)
Linearity with ES	mm	(in)	-	(-)
Electrical Data				
Max. Current @ 48VDC	A_{pk}		25.9	
Max. Current @ 72VDC	A_{pk}		25.9	
Max. Cont. Current [Passive cooling/ Passive mounted[1] / Cold Plate[2]]	A_{pk}		6 / 7.2 / 8.9	
Terminal Resistance 25 °C / 150 °C	Ohm		0.97 / 1.4	
Terminal Inductivity	mH		1.1	
Magnetic Period	mm	(in)	60	(2.36)
Thermal Data				
Max. Winding Temperature (Sensor)	°C		120	
Thermal Resistance [Passive cooling/ Passive mounted[1] / Cold Plate[2]]	K/W		1.6 / 1.1 / 0.72	
Thermal Time Constant [Passive cooling/ Passive mounted[1] / Cold Plate[2]]	s		1410 / 1.1 / 0.72	
Mechanical Data				
Stator Diameter	mm	(in)	49	(1.93)
Slider Diameter	mm	(in)	27	(1.06)
IP Code [Linear Ball Bearing]			IP 67S	

1) Motor is mounted on a stainless steel surface of 0.03 m².
2) Motor is mounted on a 20°C cold plate.

13

CONNECTOR

Motor Connector Wiring	R-Connector	Wire Color Motor Cable
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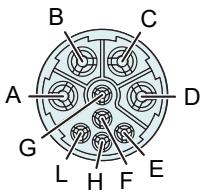
GND	B	inner Shield
Sinus	C	yellow
Cosinus	D	green
Temp.	E	black
Shield	Case	outer Shield

C-Connector



View: Motor connector, plug side

ORDERING INFORMATION

Item	Description	Item-No.
SM01-48X240F-HP-C-75_BE30_SSCP	Linear Module SSCP, Linear Ball Bearing, solid rods, Stroke max 75mm	0150-6917
SM01-48X240F-HP-C-165_BE30_SSCP	Linear Module SSCP, Linear Ball Bearing, solid rods, Stroke max 165mm	0150-6918
SM01-48X240F-HP-C-285_BE30_SSCP	Linear Module SSCP, Linear Ball Bearing, solid rods, Stroke max 285mm	0150-6919
SM01-48X240F-HP-C-75_BE30_MS08_SSCP	Linear Module SSCP, Linear Ball Bearing, MagSpring 120N, solid rods, stroke max 75mm	0150-6920
SM01-48X240F-HP-C-165_BE30_MS08_SSCP	Linear Module SSCP, Linear Ball Bearing, MagSpring 120N, solid rods, stroke max 165mm	0150-6921
SM01-48X240F-HP-C-285_BE30_MS08_SSCP	Linear Module SSCP, Linear Ball Bearing, MagSpring 120N, solid rods, stroke max 285mm	0150-6922

SM01 LINEAR MODULES AS COMBINED YZ MOTION UNITS

SM01 linear modules can be directly screwed together using the LinMot mounting kit, so that any YZ combinations can be realized. In addition, a classic pillar system is available, with which the units can be flexibly adjusted in height if required.

SM01 to SM01 with pillars

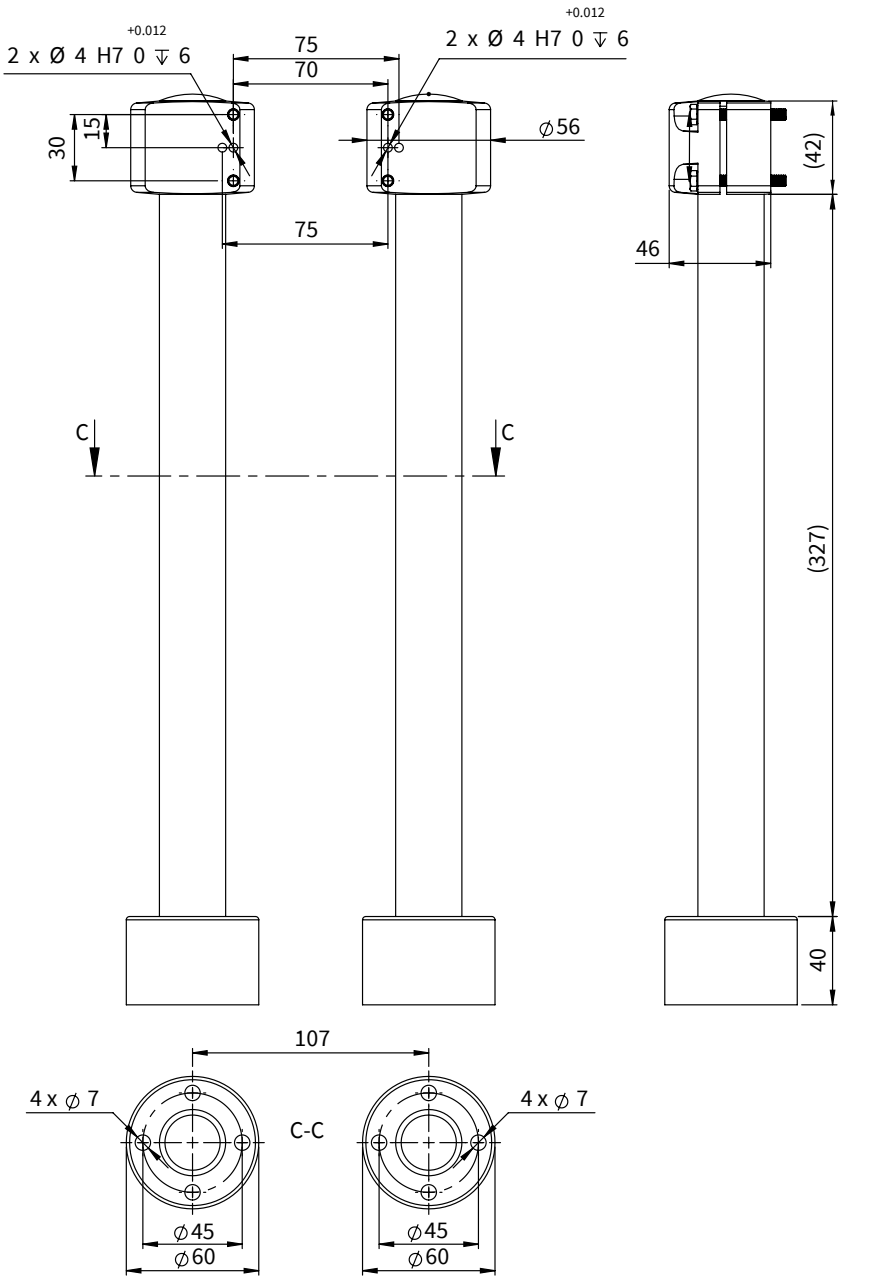
MOUNTING ACCESSORIES

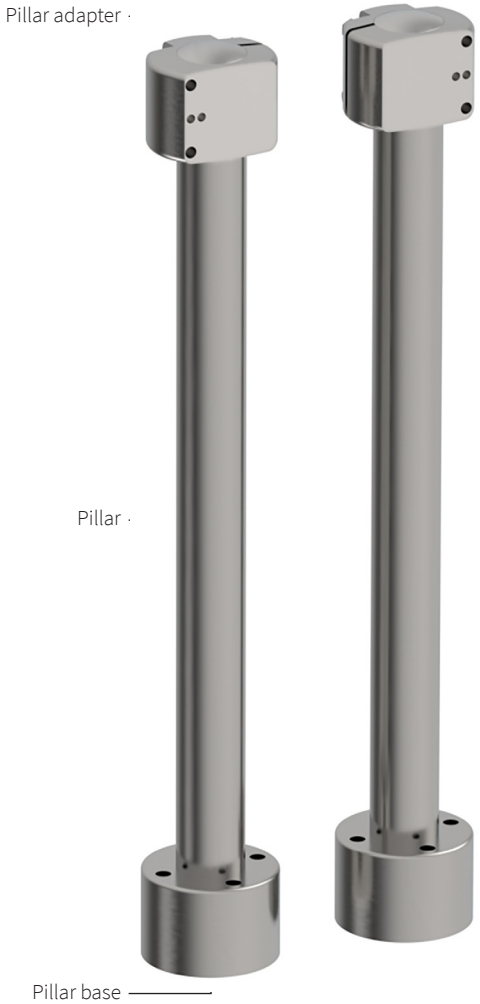
The mounting kit includes all necessary screws to mount SM01-37S with SM01-37S and SM01-37Sx120 with SM01-48. The adapter plate is needed to mount SM01-37Sx60 with SM01-48.

Item	Description	Item-No.
Z01-AsKit-SM01-SM01	Mounting kit for SM01 on SM0x Linear Modules includes: 4 x Hexagon head screw M5x16 A4 (ISO 4017) 4 x Hexagon head screw M5x40 A4 (ISO 4017)	0150-4507
SM01-48-AP-37Sx60	Adapter Plate-Kit for SM01-37Sx60 to SM01-48	0150-4187

DOC.-NR. 0185-0236-E / VERSION 1V1
SUBJECT TO ALTERATIONS

PILLAR SYSTEM FOR SM01-37 LINEAR MODULE





Material: Stainless steel 1.4404 (AISI 316L)

Item	Description	Item-No.
Z01-VF-30-SSC	Pillar adapter 30	0150-4501
Z01-SL30x400-HP-SSC	Pillar SSC Ø30 Length=400 mm, Mat. 1.4112	0150-4508
Z01-SL30-25x400-SSCP	Pillar Ø30 Length=400 mm, Mat. 1.4404 with Heat Pipe	0150-4502
Z01-SF-30-SSC	Pillar base	0150-4500

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