

LINEAR MOTORS P04



The motor to replace pneumatics.

Product Description

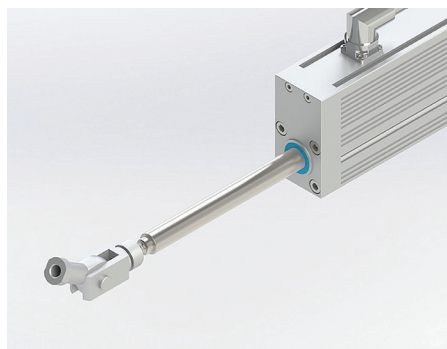
The P04 linear motor has all of the features of the tubular linear motors and has the additional advantage of an integrated guidance. Under the compact aluminum housing is a powerful LinMot PS01-37x120F or PS01-48x240F that drives the precision shaft on bearings. The shaft is guided by a linear ball bearing and has a maximum stroke of 150 mm. With the M10x1.25 thread on the front end, loads can be quickly and easily attached to the

shaft. Additional installation options are provided by the profile grooves and T-slots found on every side of the housing.

The ability to move to any position and accelerate up to 50 m/s² means that precision dynamic motions can be implemented for a broad range of applications.

Can be equipped with mechanical accessories for pneumatic systems

The P04 actuator can be equipped with familiar mechanical accessories for pneumatic systems. Several design details on the motor make this possible. The load end of rod has a thread that is identical to ISO 15552 pneumatic cylinders. All mounting elements for pneumatics can be used accordingly. This particularly includes swivel heads and clevis mounts. The PD04 linear motor itself can be mounted like a pneumatic cylinder or by using the T-slots in the housing. All known pivoting and stationary mounting flanges can be used.



HARDENED SHAFT FOR TRANSVERSE LOADS

The integrated bearing of the PD04 linear motor provides a substantial benefit. The transverse loads that are applied in special applications can be supported.

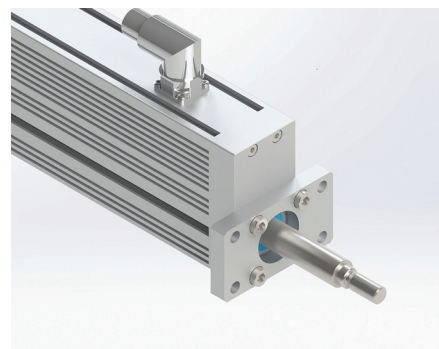
Simple applications such as ejectors can be implemented in the simplest manner without additional components.



HIGH AND CONTROLLED DYNAMICS

Max. acceleration values over 50 m/s² and travel speeds over 3 m/s allow cyclical motion sequences of several Hertz.

For handling applications with sensitive products, smooth motions with suitable accelerations can be obtained.



FREELY POSITIONABLE

LinMot linear motors can be freely positioned. With absolute or relative movement commands, they can move to any desired position in the stroke range. Since the LinMot linear drive is a closed-loop system, not only the end positions are monitored, but also deviations in position during travel. This allows, among other things, precise specification of travel speeds, acceleration and braking ramps, and travel through curved paths.

PROCESS STABILITY

For temperature monitoring, all linear motors are equipped with sensors, which transmit the data to the drive. The data can be evaluated in the higher-level control in such a way that the motor can be kept in a constant temperature range.

Since not only the end positions, but also speed and acceleration are controlled and monitored, motions that are programmed once are carried out the same way over the entire life of the machine.

SYNCHRONIZATION

For synchronous machines, the linear motor can be synchronized to the main shaft. By replacing mechanical cam discs with LinMot linear motors, for example, great variations can be achieved, with format changeovers at the push of a button.

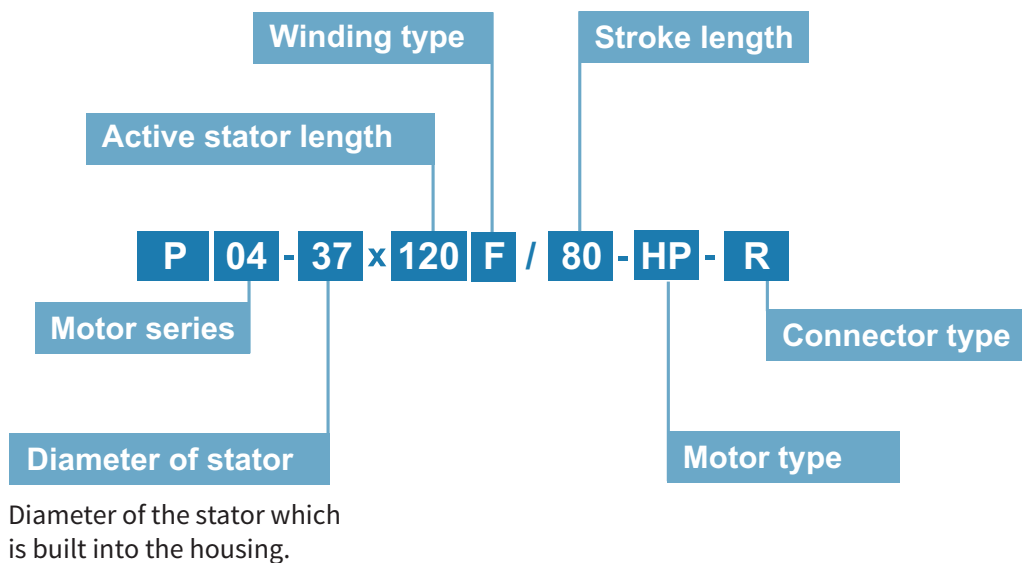
OVERLOAD PROTECTION

There are no mechanical components for force transfer that could be damaged in a crash or stall condition in a linear motor. Complex, expensive designs to protect gearboxes, gears, and shafts are thus eliminated. If the linear motor stalls, it acts like a pneumatic cylinder and tries to reach the target position with maximum force. The following error monitor in the drive can, however, immediately recognize a stall condition. Temperature sensors integrated in the stator prevent the drive from overloading in any case.

LONG LIFESPAN

Since the linear motion is generated purely magnetically, and no mechanical force transmission takes place, even extremely dynamic applications can be implemented with a long lifespan.

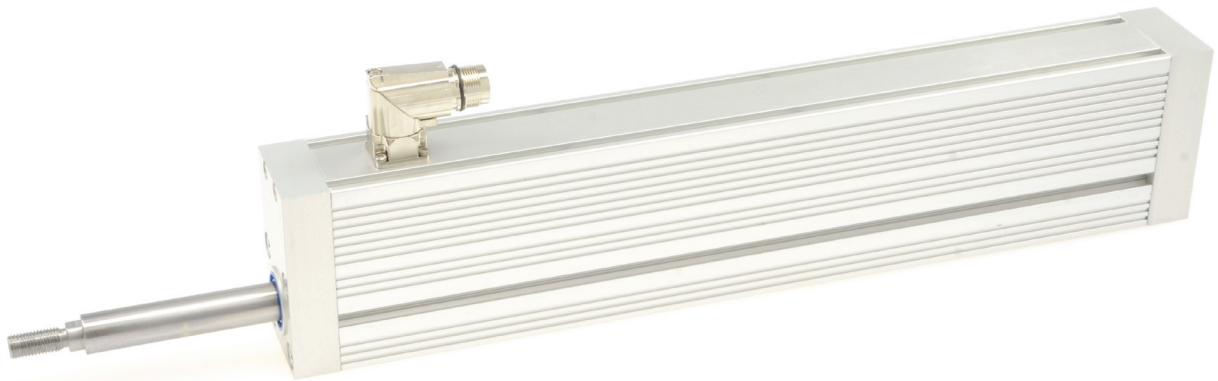
Type Code



For explanations of the terms, please refer to the section "Glossary"

Handwriting practice area consisting of 20 horizontal dotted lines.

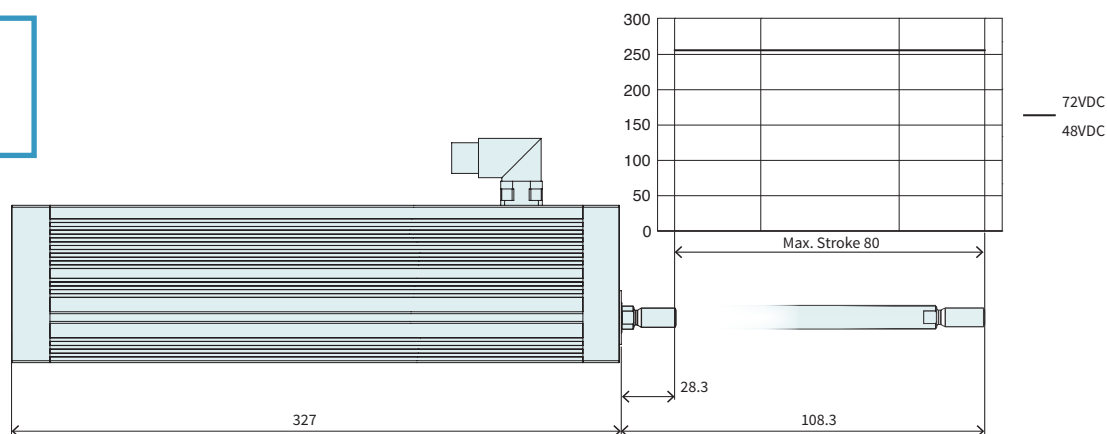
LINEAR MOTORS P04-37x120F-HP



- ✓ Peak Force bis for 255 N
- ✓ Stroke up to 135 mm
- ✓ Hardened rod capable to handle side load
- ✓ Mounting connection according to ISO pneumatic cylinder
- ✓ Stator encapsulated (IP65)
- ✓ Ideal for use in harsh environments

P04-37x120F/80-HP-R

Max. Stroke: 80 mm
Peak Force: 255 N



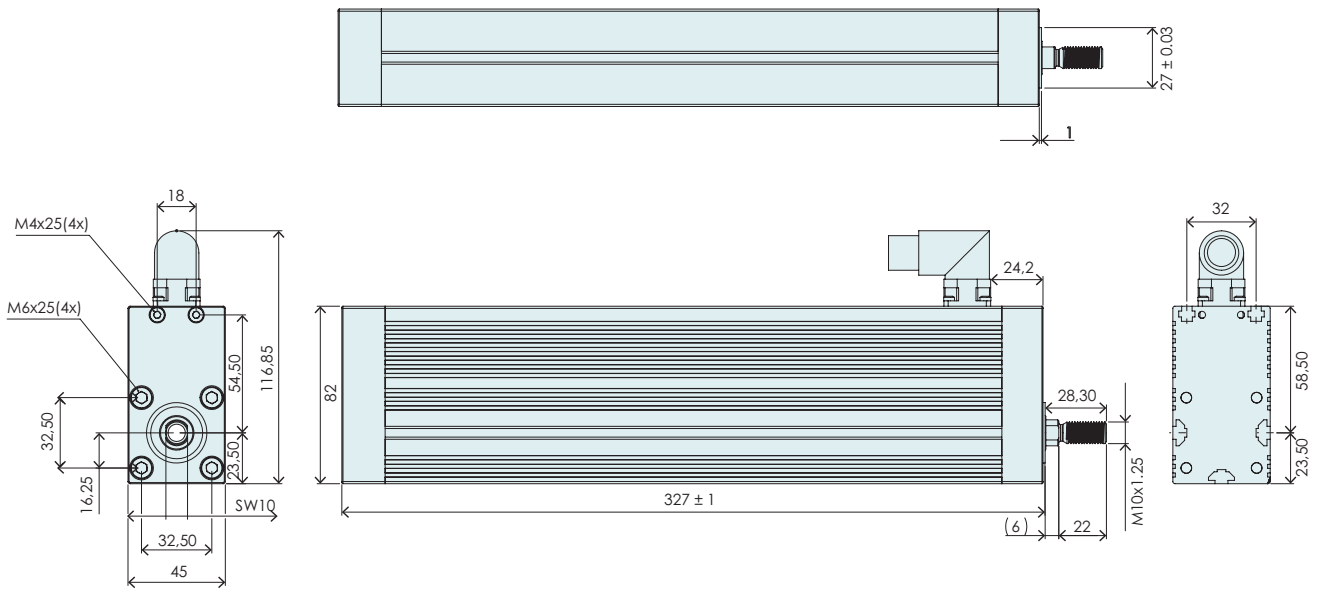
Dimensions in mm

Technical Data P04-37x120F/80-HP

Stroke			
Max. Stroke	mm (in)	80	(3.14)
Force			
Max. Force @ 48VDC	N (lbf)	255	(57.3)
Max. Force @ 72VDC	N (lbf)	255	(57.3)
Max. Cont. Force [Passive cooling / Fan / Fluid]	N (lbf)	63 / 93 / -	(14 / 21 / -)
Force Constant	N/A _{pk} (lbf/A _{pk})	17	(3.82)
Velocity			
Max. Velocity @ 48VDC	m/s (in/s)	2.5	(99.9)
Max. Velocity @ 72VDC	m/s (in/s)	3.8	(149.9)
Position Detection			
Position Resolution	mm (in)	0.005	(0.0002)
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}	3.7 / 5.5 / -	
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 / Fan / Fluid]	°K/W	1.7 / 0.78 / -	
Thermal Time Constant [Passive cooling / Fan / Fluid]	s	680 / 310 / -	
Mechanical Data			
Stator Width	mm (in)	45	(1.77)
Stator Height	mm (in)	82	(3.23)
Stator Length	mm (in)	327	(12.88)
Stator Mass	g (lb)	2365	(5.2)
Rod Diameter	mm (in)	16	(0.63)
Rod Mass	g (lb)	507	(1.12)
Max. shear force to the rod	N (lbf)	60	(13.5)
Max. torque to the rod	Nm (lbf·in)	1	(8.93)
IP Code		IP 65*	

*static (linear movement paused)

MOTOR

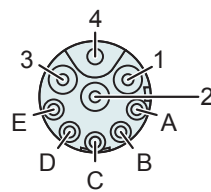


Item	Description	Item-No.
P04-37x120F/80-HP-R	Linear motor P04-37, 80 mm Stroke	0150-2756

CONNECTOR

Motor Connector Wiring	R-Connector	
	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

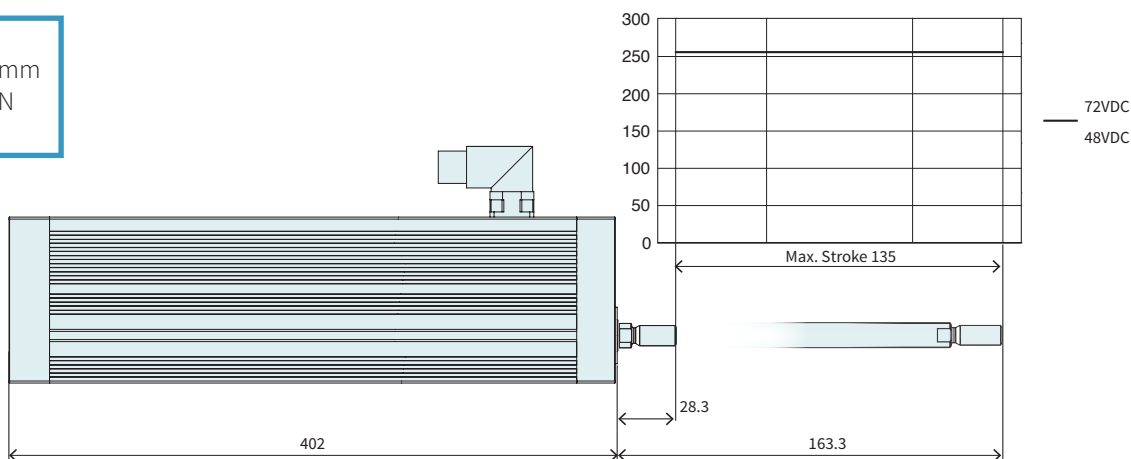
R-Connector



View: Motor connector, plug on

P04-37x120F/135-HP-R

Max. Stroke: 135 mm
Peak Force: 255 N



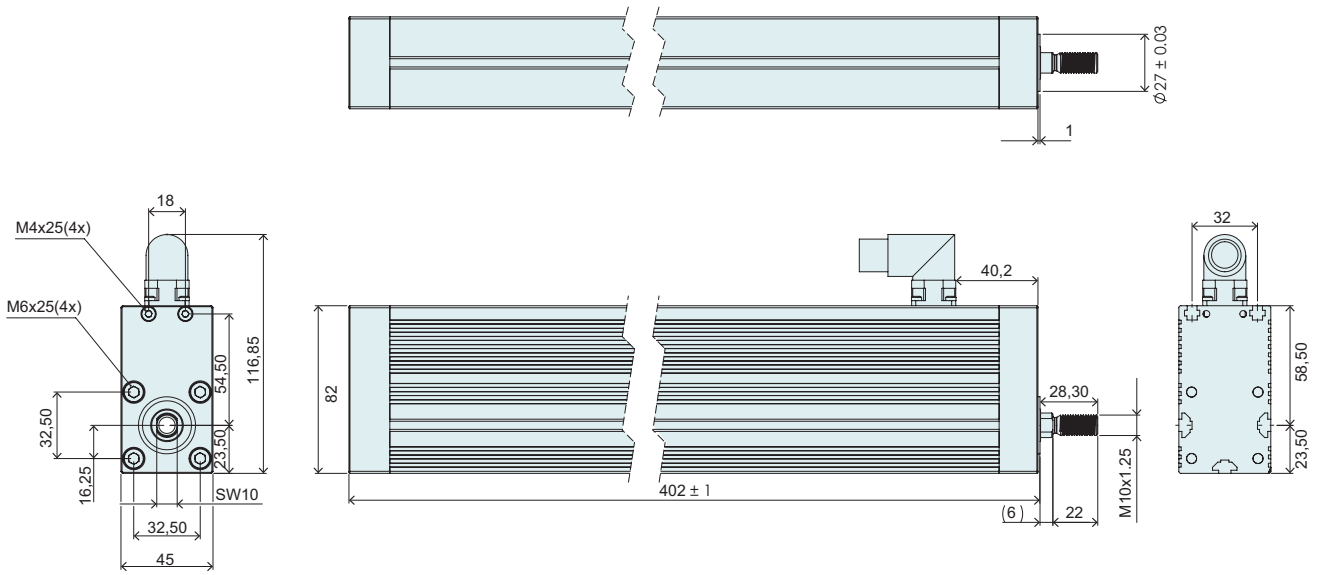
Dimensions in mm

Technical Data P04-37x120F/135-HP-R

Stroke			
Max. Stroke	mm (in)	135 (5.3)	
Force			
Max. Force @ 48VDC	N (lbf)	255 (57.3)	
Max. Force @ 72VDC	N (lbf)	255 (57.3)	
Max. Cont. Force [Passive cooling / Fan / Fluid]	N (lbf)	63 / 93 / - (14 / 21 / -)	
Force Constant	N/A _{pk} (lbf/A _{pk})	17 (3.82)	
Velocity			
Max. Velocity @ 48VDC	m/s (in/s)	2.5 (99.9)	
Max. Velocity @ 72VDC	m/s (in/s)	3.8 (149.9)	
Position Detection			
Position Resolution	mm (in)	0.005 (0.0002)	
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}	3.7 / 5.5 / -	
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 / Fan / Fluid]	°K/W	1.7 / 0.78 / -	
Thermal Time Constant [Passive cooling / Fan / Fluid]	s	680 / 310 / -	
Mechanical Data			
Stator Width	mm (in)	45	(1.77)
Stator Height	mm (in)	82	(3.23)
Stator Length	mm (in)	402	(15.83)
Stator Mass	g (lb)	2675	(5.89)
Rod Diameter	mm (in)	16	(0.63)
Rod Mass	g (lb)	625	(1.38)
Max. shear force to the rod	N (lbf)	60	(13.5)
Max. torque to the rod	Nm (lbf·in)	1	(8.93)
IP Code		IP 65*	

*static (linear movement paused)

MOTOR

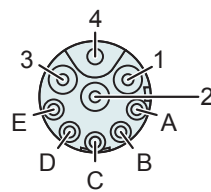


Item	Description	Item-No.
P04-37x120F/135-HP-R	Linear motor P04-37, 135 mm Stroke	0150-2738

CONNECTOR

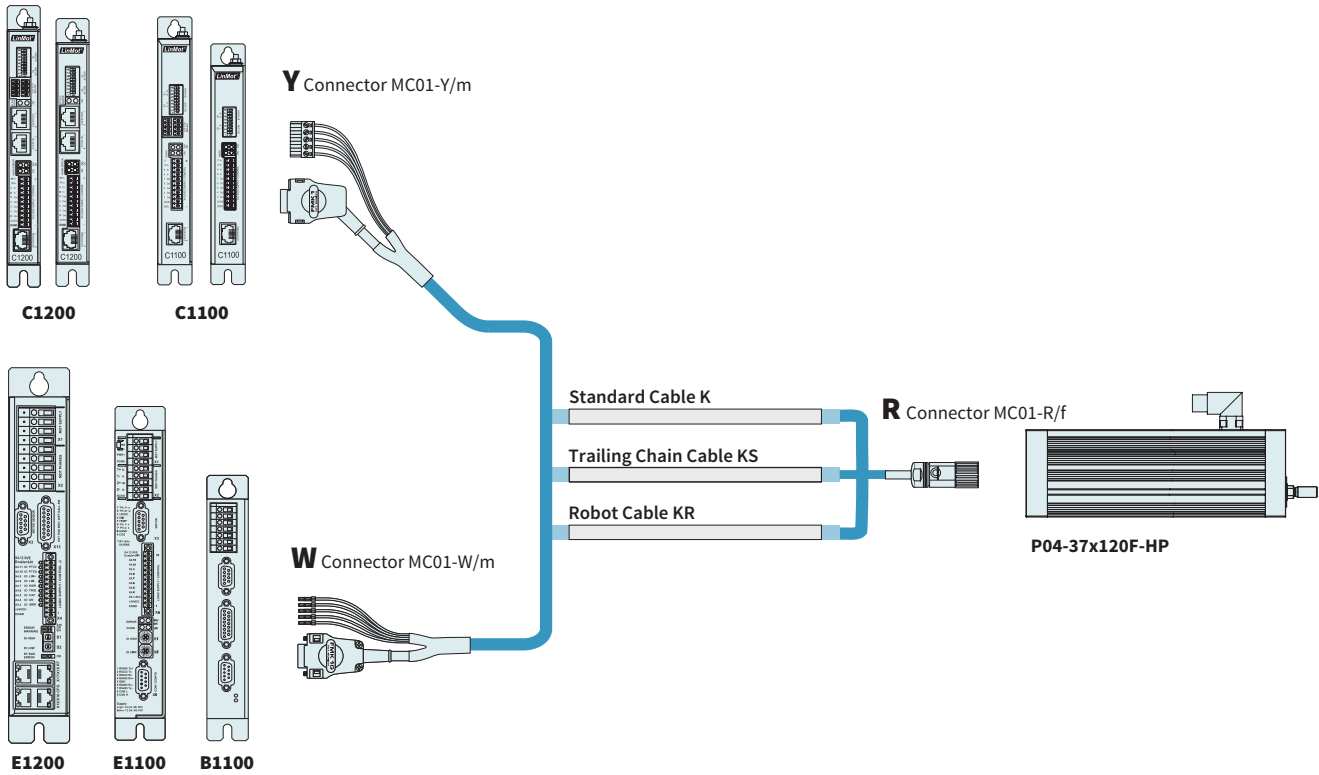
Motor Connector Wiring	R-Connector	
	R-Connector	Wire Color Motor Cable
Ph 1+	1	red
Ph 1-	2	pink
Ph 2+	3	blue
Ph 2-	4	grey
+5VDC	A	white
GND	B	Inner Shield
Sinus	C	yellow
Cosinus	D	green
Temp.	E	black
Shield	Case	Outer Shield

R-Connector



View: Motor connector, plug on

Motor Cable



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ORDERING INFORMATION

STANDARDKABEL

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 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 Y/R, Custom length	0150-3501

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 W/R, Custom 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/R-	Trailing Chain Cable Y/R, Custom length	0150-3507

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

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	Motor Connector R/f	0150-3129
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

Area with horizontal dotted lines for notes.

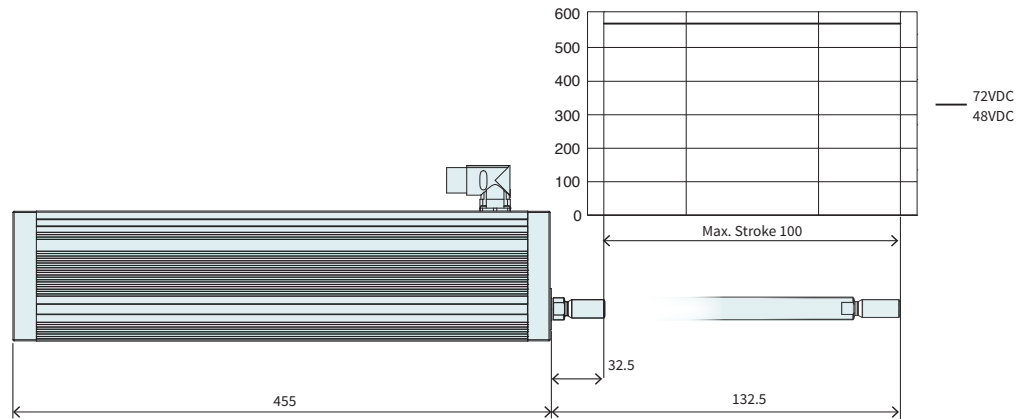
LINEAR MOTORS P04-48x240F



- ✓ Peak force up to 570 N
- ✓ Stroke up to 150 mm
- ✓ Hardened rod capable to handle side load
- ✓ Mounting connection according to ISO pneumatic cylinder
- ✓ Stator encapsulated (IP65)
- ✓ Ideal for use in harsh environments

P04-48x240F/100-C

Max. Stroke: 100 mm
Peak Force: 572 N



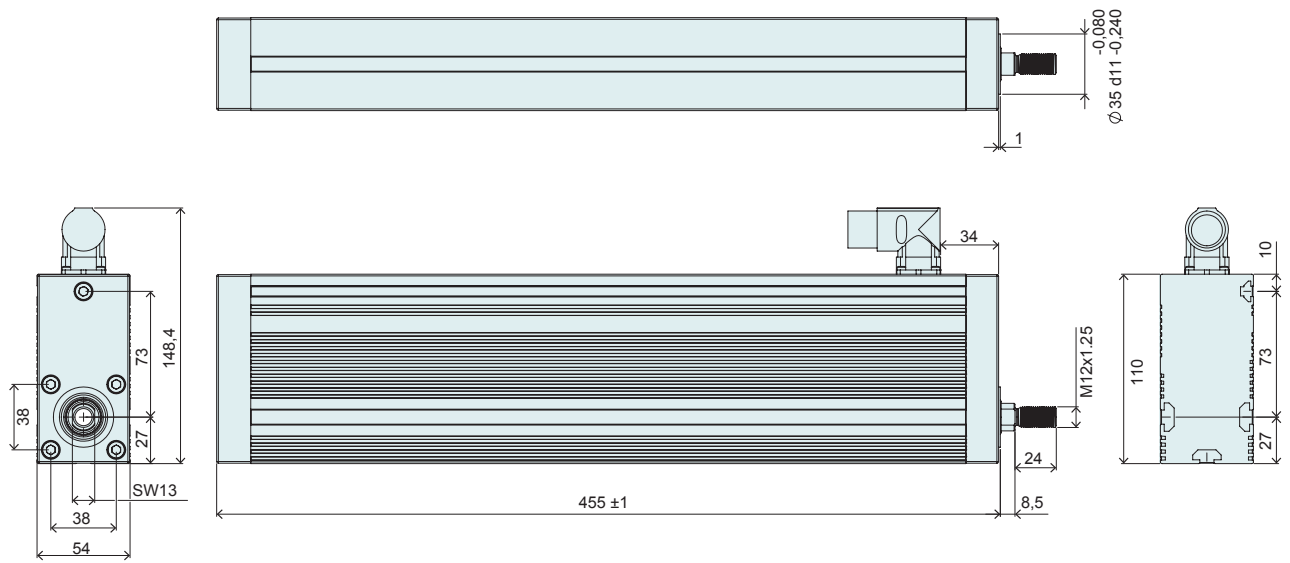
Dimensions in mm

Technical Data P04-48x240F/100

Technical Data P04-48x240F/100				
Stroke				
Max. Stroke	mm	(in)	100	(3.93)
Force				
Max. Force @ 48VDC	N	(lbf)	572	(129)
Max. Force @ 72VDC	N	(lbf)	572	(129)
Max. Cont. Force [Passive cooling / Fan / Fluid]	N	(lbf)	190 / 250 / -	(42 / 56 / -)
Force Constant	N/A _{pk}	(lbf/A _{pk})	22	(4.95)
Velocity				
Max. Velocity @ 48VDC	m/s	(in/s)	1.9	(78.9)
Max. Velocity @ 72VDC	m/s	(in/s)	2.9	(119.9)
Position Detection				
Position Resolution	mm	(in)	0.007	(0.0003)
Repeatability	mm	(in)	±0.05	(±0.002)
Linearity	%		± 0.4	
Electrical Data				
Max. Current @ 48VDC	A _{pk}		25.9	
Max. Current @ 72VDC	A _{pk}		25.9	
Max. Cont. Current [Passive cooling / Fan / Fluid]	A _{pk}		8.6 / 11 / -	
Terminal Resistance 25 °C / 120 °C	Ohm		0.97 / 1.3	
Terminal Inductivity	mH		1.1	
Magnetic Period	mm	(in)	60	(2.35)
Thermal Data				
Max. Winding Temperature (Sensor)	°C		90	
Thermal Resistance [Passive cooling / Fan / Fluid]	°K/W		0.54 / 0.31 / -	
Thermal Time Constant [Passive cooling / Fan / Fluid]	s		550 / 320 / -	
Mechanical Data				
Stator Width	mm	(in)	54	(2.13)
Stator Height	mm	(in)	110	(4.33)
Stator Length	mm	(in)	455	(17.92)
Stator Mass	g	(lb)	3555	(7.82)
Rod Diameter	mm	(in)	20	(0.79)
Rod Mass	g	(lb)	1109	(2.45)
Max. shear force to the rod	N	(lbf)	90	(20.25)
Max. torque to the rod	Nm	(lbf·in)	2.5	(22.32)
IP Code			IP 65*	

*static (linear movement paused)

MOTOR

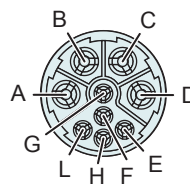


Item	Description	Item-No.
P04-48x240F/100-C	Linear motor P04-48, 100 mm Stroke	0150-2757

CONNECTOR

Motor Connector Wiring	C-Connector	
	C-Connector	Wire Color Motor Cable
Ph 1+	A	red
Ph 1-	B	pink
Ph 2+	C	blue
Ph 2-	D	grey
+5VDC	E	white
GND	F	InnerShield
Sinus	G	yellow
Cosinus	H	green
Temp.	L	black
Shield	Gehäuse	Outer Shield

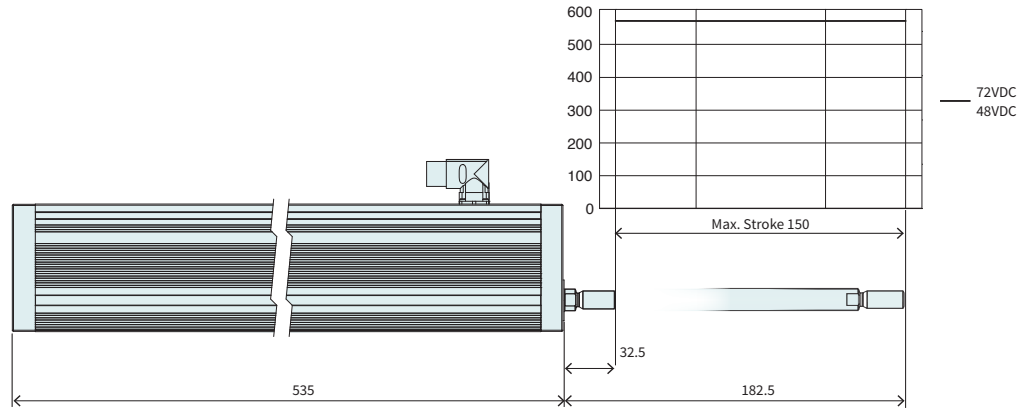
C-Connector



View: Motor connector, plug on

P04-48x240F/150-C

Max. Stroke: 150 mm
Peak Force: 572 N



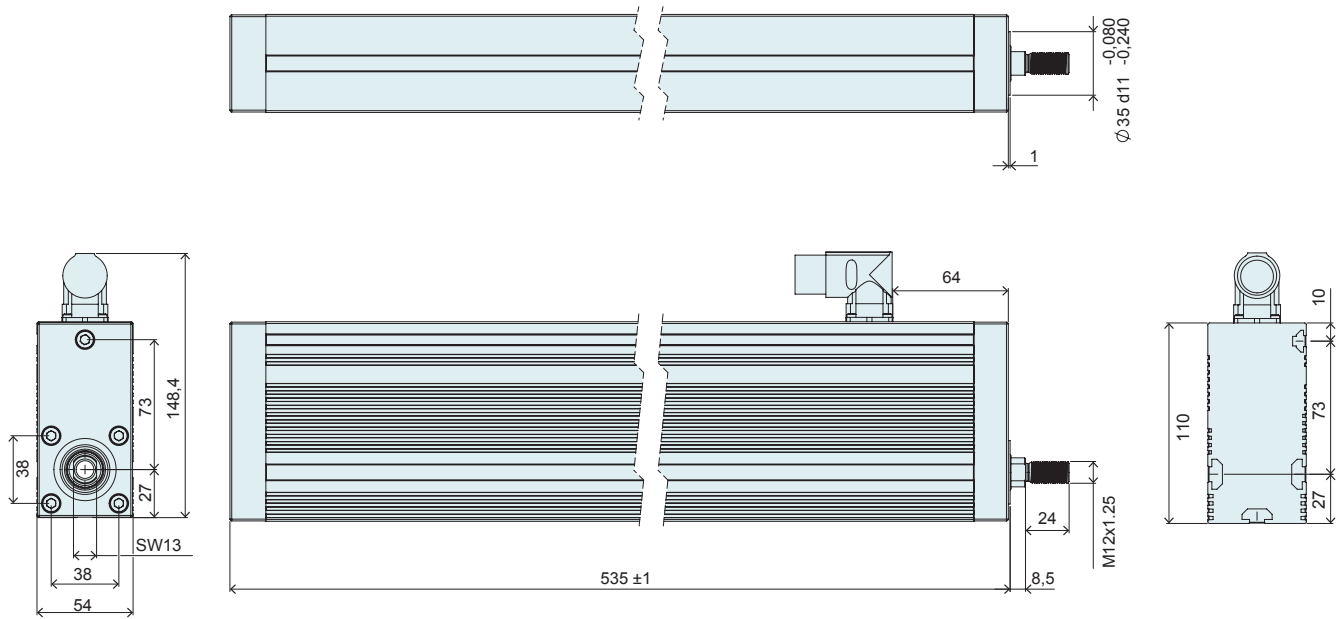
Dimensions in mm

Technical Data P04-48x240F/150

Stroke			
Max. Stroke	mm (in)	150	(5.91)
Force			
Max. Force @ 48VDC	N (lbf)	572	(129)
Max. Force @ 72VDC	N (lbf)	572	(129)
Max. Cont. Force [Passive cooling / Fan / Fluid]	N (lbf)	190 / 250 / -	(42 / 56 / -)
Force Constant	N/A _{pk} (lbf/A _{pk})	22	(4.95)
Velocity			
Max. Velocity @ 48VDC	m/s (in/s)	1.9	(78.9)
Max. Velocity @ 72VDC	m/s (in/s)	2.9	(119.9)
Position Detection			
Position Resolution	mm (in)	0.007	(0.0003)
Repeatability	mm (in)	±0.05	(±0.002)
Linearity	%	± 0.4	
Electrical Data			
Max. Current @ 48VDC	A _{pk}	25.9	
Max. Current @ 72VDC	A _{pk}	25.9	
Max. Cont. Current [Passive cooling / Fan / Fluid]	A _{pk}	8.6 / 11 / -	
Terminal Resistance 25 °C / 120 °C	Ohm	0.97 / 1.3	
Terminal Inductivity	mH	1.1	
Magnetic Period	mm (in)	60	(2.35)
Thermal Data			
Max. Winding Temperature (Sensor)	°C	90	
Thermal Resistance [Passive cooling / Fan / Fluid]	°K/W	0.54 / 0.31 / -	
Thermal Time Constant [Passive cooling / Fan / Fluid]	s	550 / 320 / -	
Mechanical Data			
Stator Width	mm (in)		
Stator Height	mm (in)		
Stator Length	mm (in)		
Stator Mass	g (lb)	3865	(6.9)
Rod Diameter	mm (in)		
Rod Mass	g (lb)		
Max. shear force to the rod	N (lbf)		
Max. torque to the rod	Nm (lbf·in)		
IP Code			IP 65*

*static (linear movement paused)

MOTOR

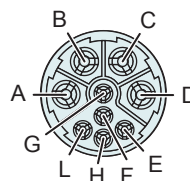


Item	Description	Item-No.
P04-48x240F/150-C	Linear motor P04-48, 150 mm Stroke	0150-2745

CONNECTOR

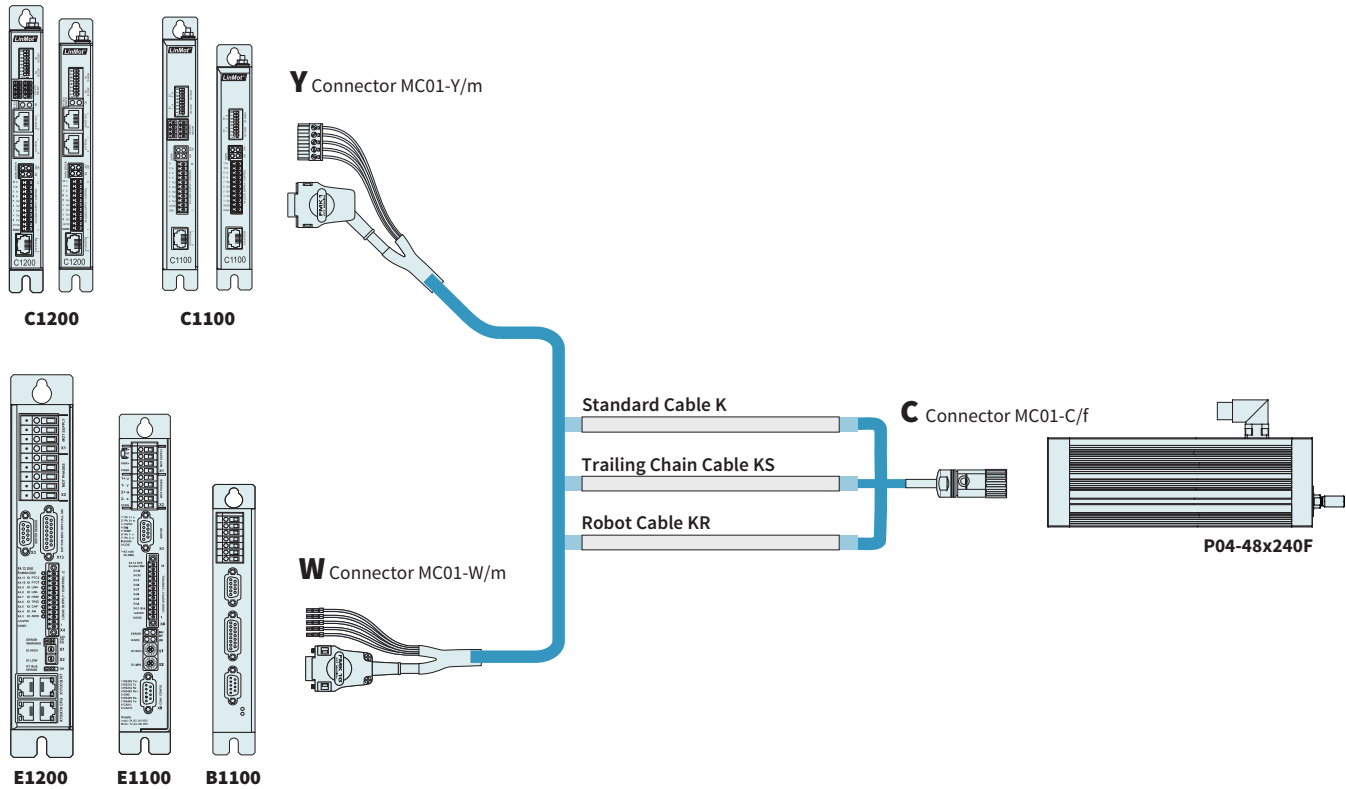
Motor Connector Wiring	C-Connector	
	C-Connector	Wire Color Motor Cable
Ph 1+	A	red
Ph 1-	B	pink
Ph 2+	C	blue
Ph 2-	D	grey
+5VDC	E	white
GND	F	Inner Shield
Sinus	G	yellow
Cosinus	H	green
Temp.	L	black
Shield	Gehäuse	Outer Shield

C-Connector



View: Motor connector, plug on

Motor Cable



ORDERING INFORMATION

STANDARDKABEL

Item	Description	Item-No.
K15-W/C-2	Motor Cable W/C, 2 m	0150-1811
K15-W/C-4	Motor Cable W/C, 4 m	0150-1801
K15-W/C-6	Motor Cable WC, 6 m	0150-1802
K15-W/C-8	Motor Cable W/C, 8 m	0150-1803
K15-W/C-	Motor Cable W/C, Custom length	0150-3131

K15-Y/C-2	Motor Cable Y/C, 2 m	0150-2429
K15-Y/C-4	Motor Cable Y/C, 4 m	0150-2430
K15-Y/C-6	Motor Cable Y/C, 6 m	0150-2431
K15-Y/C-8	Motor Cable Y/C, 8 m	0150-2432
K15-Y/C-	Motor Cable Y/C, Custom length	0150-3506

TRAILING CHAIN CABLE

Item	Description	Item-No.
KS10-W/C-4	Trailing Chain Cable W/C, 4 m	0150-1807
KS10-W/C-6	Trailing Chain Cable W/C, 6 m	0150-1858
KS10-W/C-8	Trailing Chain Cable W/C, 8 m	0150-1808
KS10-W/C-	Trailing Chain Cable W/C, Custom length	0150-3139

KS10-Y/C-4	Trailing Chain Cable Y/C, 4 m	0150-2439
KS10-Y/C-6	Trailing Chain Cable Y/C, 6 m	0150-2440
KS10-Y/C-8	Trailing Chain Cable Y/C, 8 m	0150-2441
KS10-Y/C-	Trailing Chain Cable Y/C, Custom length	0150-3511

ROBOT CABLE		
Item	Description	Item-No.
KR10-W/C-	Robot Cable KR10-W/C, Custom length	0150-3199
KR10-Y-Fe/C-	Robot Cable KR10-Y-Fe/C, Custom length	0150-3515

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-C/f	Motor Connector C/f	0150-3080
K15-04/05	Motor Cable per m	0150-1978
KS10-04/05	Trailing Chain Cable per m	0150-1977
KR10-04/05	Robot Cable per m	0150-1830

Handwriting practice area consisting of 20 horizontal dotted lines.

LINEAR MOTORS PD04



The motor to replace pneumatics.

Product Description

The P04 linear motor has all of the features of the tubular linear motors and has the additional advantage of an integrated guidance. Under the compact aluminum housing is a powerful LinMot PS01-37x120F or PS01-48x240F that drives the precision shaft on bearings. The shaft is guided by a linear ball bearing and has a maximum stroke of 150 mm. With the M10x1.25 thread on the front end, loads can be quickly and easily attached to the

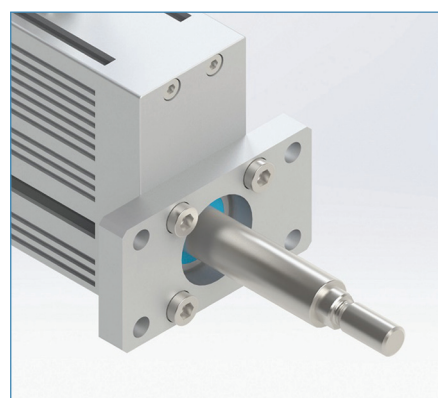
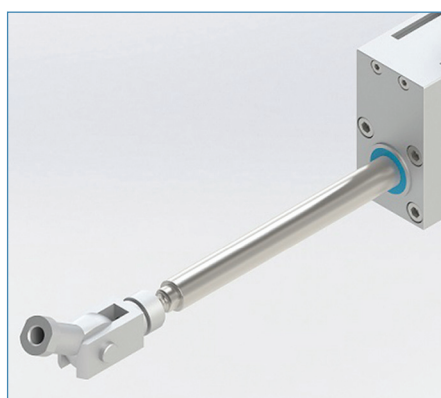
shaft. Additional installation options are provided by the profile grooves and T-slots found on every side of the housing.

The ability to move to any position and accelerate up to 50 m/s² means that precision dynamic motions can be implemented for a broad range of applications.



Programmable without a PC

The PD04 linear drive is very easy to use. It can be used to replace pneumatic cylinders and configured with no software or PC required. Motion data and force data can be set from a display directly on the drive in real time. The user can set up four positions easily. There is no need for a reference run, as the drive uses an absolute sensor system. The motor is ready to go as soon as it is connected and starts positioning immediately.



Can be equipped with mechanical accessories for pneumatic systems

The P04 actuator can be equipped with familiar mechanical accessories for pneumatic systems. Several design details on the motor make this possible. The load end of rod has a thread that is identical to ISO 15552 pneumatic cylinders. All mounting

elements for pneumatics can be used accordingly. This particularly includes swivel heads and clevis mounts. The PD04 linear motor itself can be mounted like a pneumatic cylinder or by using the T-slots in the housing. All known pivoting and stationary mounting flanges can be used.

HARDENED SHAFT FOR TRANSVERSE LOADS

The integrated bearing of the PD04 linear motor provides a substantial benefit. The transverse loads that are applied in special applications can be supported.

Simple applications such as ejectors can be implemented in the simplest manner without additional components.

HIGH AND CONTROLLED DYNAMICS

Max. acceleration values over 50 m/s² and travel speeds over 3 m/s allow cyclical motion sequences of several Hertz.

For handling applications with sensitive products, smooth motions with suitable accelerations can be obtained.

FREELY POSITIONABLE

LinMot linear motors can be freely positioned. With absolute or relative movement commands, they can move to any desired position in the stroke range. Since the LinMot linear drive system is a closed-loop system, not only the end positions are monitored, but also deviations in position during travel. This allows, among other things, precise specification of travel speeds, acceleration and braking ramps, and travel through curved paths.

PROCESS STABILITY

For temperature monitoring, all linear motors are equipped with sensors, which transmit the data to the drive. The data can be evaluated in the higher-level control in such a way that the motor can be kept in a constant temperature range.

Since not only the end positions, but also speed and acceleration are controlled and monitored, motions that are programmed once are carried out the same way over the entire life of the machine.

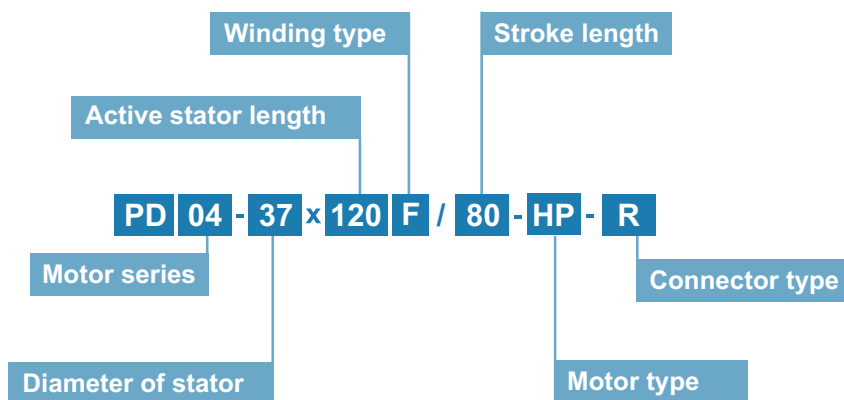
OVERLOAD PROTECTION

There are no mechanical components for force transfer that could be damaged in a crash or stall condition in a linear motor. Complex, expensive designs to protect gearboxes, gears, and shafts are thus eliminated. If the linear motor stalls, it acts like a pneumatic cylinder and tries to reach the target position with defined maximum force. The following error monitor in the drive can, however, immediately recognize a stall condition. Temperature sensors integrated in the stator prevent the drive from overloading in any case.

LONG LIFESPAN

Since the linear motion is generated purely magnetically, and no mechanical force transmission takes place, even extremely dynamic applications can be implemented with a long lifespan.

Type Code



Diameter of the stator which is built into the housing.

For explanations of the terms, please refer to the section "Glossary"

Area with horizontal dotted lines for notes.

LINEAR MOTORS PD04-37x120F-HP

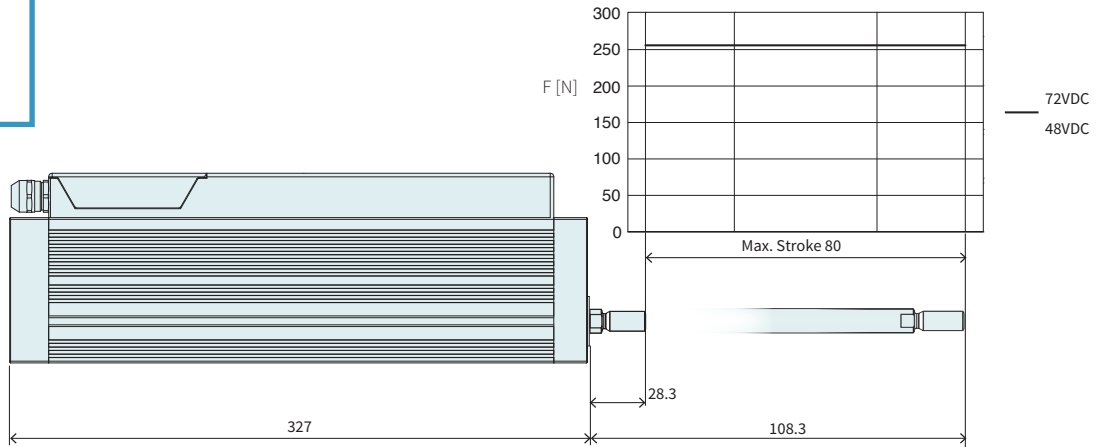


9

- ✓ Linear Motor with integrated Drive
- ✓ Integrated linear guide
- ✓ Quick and easy commissioning
- ✓ Stand alone configuration of the motor
- ✓ Highly dynamic
- ✓ Absolute sensor, no homing required
- ✓ Freely programmable positions
- ✓ "In position" signal for each position

PD04-37x120F/80-HP-R

Max. Stroke: 80 mm
Peak Force: 255 N



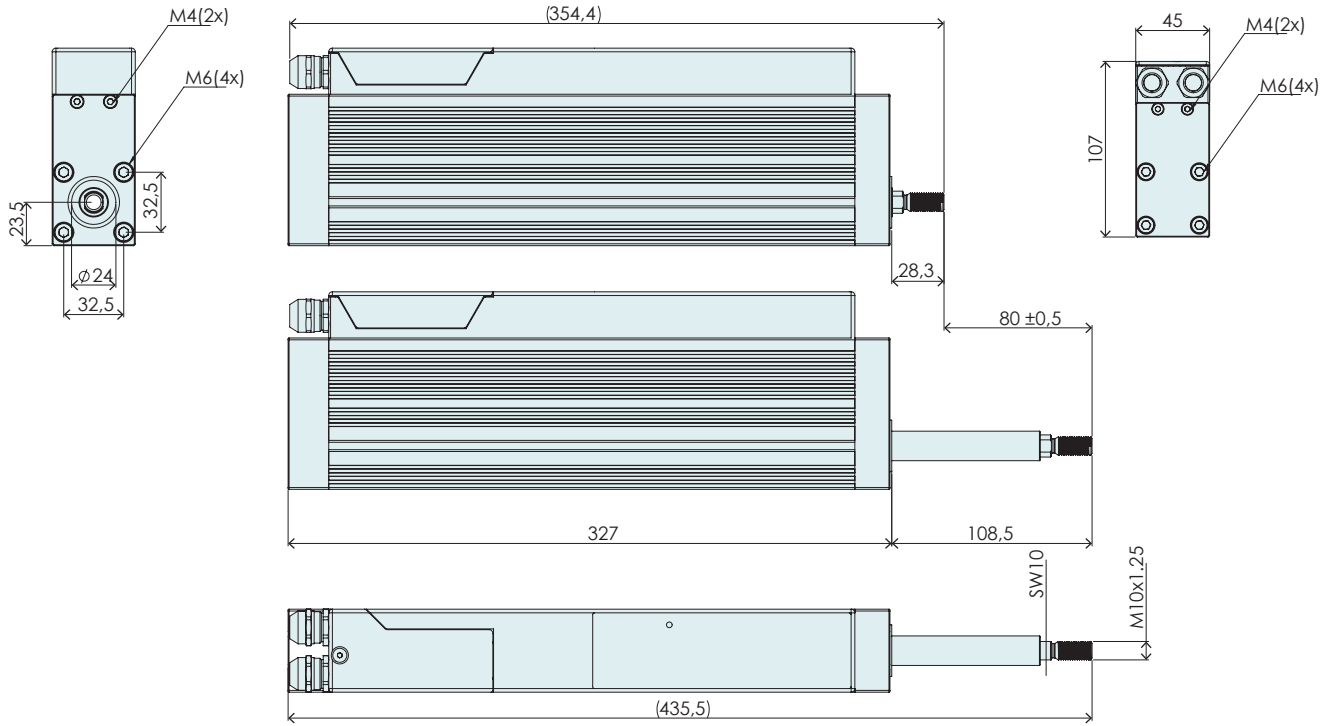
Dimensions in mm

Technical Data PD04-37x120F/80-HP-R

Stroke				
Max. Stroke	mm (in)		80 (3.14)	
Force				
Max. Force @ 48VDC	N (lbf)		255 (57.3)	
Max. Force @ 72VDC	N (lbf)		255 (57.3)	
Max. Cont. Force [Passive cooling / Fan / Fluid]	N (lbf)		63 / 93 / - (14 / 21 / -)	
Force Constant	N/A _{pk} (lbf/A _{pk})		17 (3.82)	
Velocity				
Max. Velocity @ 48VDC	m/s (in/s)		2.5 (99.9)	
Max. Velocity @ 72VDC	m/s (in/s)		3.8 (149.9)	
Position Detection				
Position Resolution	mm (in)		0.005 (0.0002)	
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}		3.7 / 5.5 / -	
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 / Fan / Fluid]	°K/W		1.7 / 0.78 / -	
Thermal Time Constant [Passive cooling / Fan / Fluid]	s		680 / 310 / -	
Mechanical Data				
Stator Width	mm (in)		45 (1.77)	
Stator Height	mm (in)		82 (3.23)	
Stator Length	mm (in)		327 (12.88)	
Stator Mass	g (lb)		2365 (5.2)	
Rod Diameter	mm (in)		16 (0.63)	
Rod Mass	g (lb)		507 (1.12)	
Max. shear force to the rod	N (lbf)		60 (13.5)	
Max. torque to the rod	Nm (lbf·in)		1 (8.93)	
IP Code			IP 65*	

*static (linear movement paused)

MOTOR

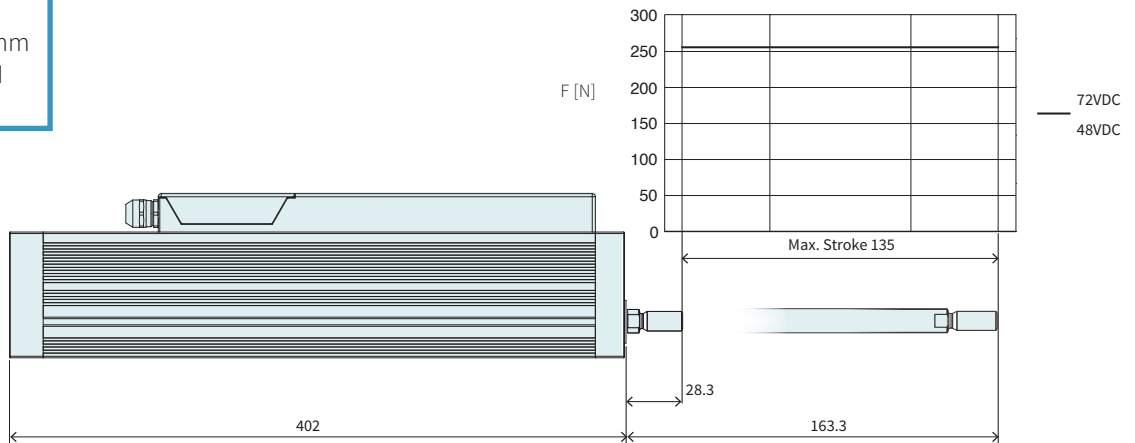


Item	Description	Item-No.
PD04-37x120F/80-HP	Linear motor PD04-37, 80 mm Stroke	0150-2792

PD04-37x120F/135-HP-R

Max. Stroke: 135 mm
Peak Force: 255 N

Dimensions in mm

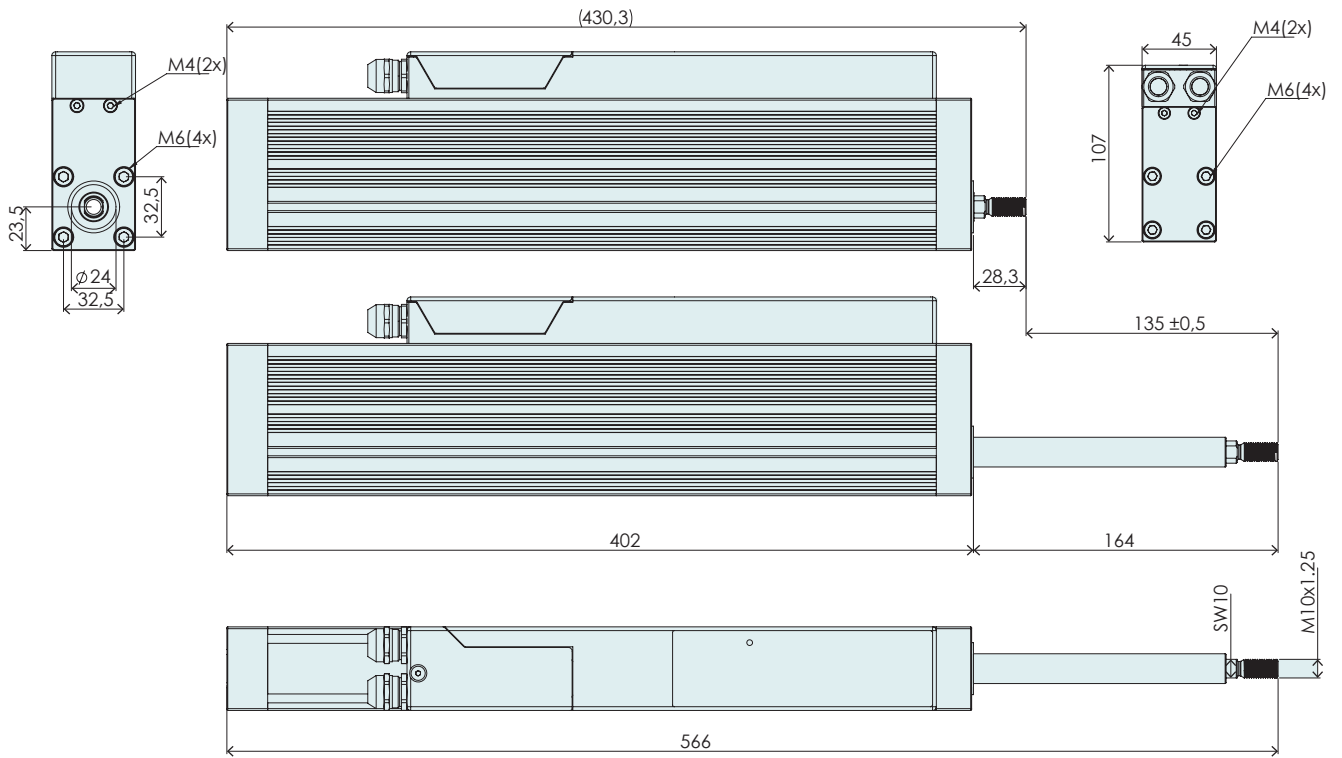


Technical Data PD04-37x120F/135-HP-R

Stroke			
Max. Stroke	mm (in)	135 (5.3)	
Force			
Max. Force @ 48VDC	N (lbf)	255 (57.3)	
Max. Force @ 72VDC	N (lbf)	255 (57.3)	
Max. Cont. Force [Passive cooling / Fan / Fluid]	N (lbf)	63 / 93 / - (14 / 21 / -)	
Force Constant	N/A _{pk} (lbf/A _{pk})	17 (3.82)	
Velocity			
Max. Velocity @ 48VDC	m/s (in/s)	2.5 (99.9)	
Max. Velocity @ 72VDC	m/s (in/s)	3.8 (149.9)	
Position Detection			
Position Resolution	mm (in)	0.005 (0.0002)	
Repeatability	mm (in)	±0.05 (±0.002)	
Linearity	%	± 0.4	
Electrical Data			
Max. Current @ 48VDC	A _{pk} / A _{ms}	14.9	
Max. Current @ 72VDC	A _{pk} / A _{ms}	14.9	
Max. Cont. Current [Passive cooling / Fan / Fluid]	A _{pk}	3.7 / 5.5 / -	
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 / Fan / Fluid]	°K/W	1.7 / 0.78 / -	
Thermal Time Constant [Passive cooling / Fan / Fluid]	s	680 / 310 / -	
Mechanical Data			
Stator Width	mm (in)	45	(1.77)
Stator Height	mm (in)	82	(3.23)
Stator Length	mm (in)	402	(15.83)
Stator Mass	g (lb)	2675	(5.89)
Rod Diameter	mm (in)	16	(0.63)
Rod Mass	g (lb)	625	(1.38)
Max. shear force to the rod	N (lbf)	60	(13.5)
Max. torque to the rod	Nm (lbfin)	1	(8.93)
IP Code		IP 65*	

*static (linear movement paused)

MOTOR



Item	Description	Item-No.
PD04-37x120F/135-HP	Linear motor PD04-37, 135 mm Stroke	0150-2793

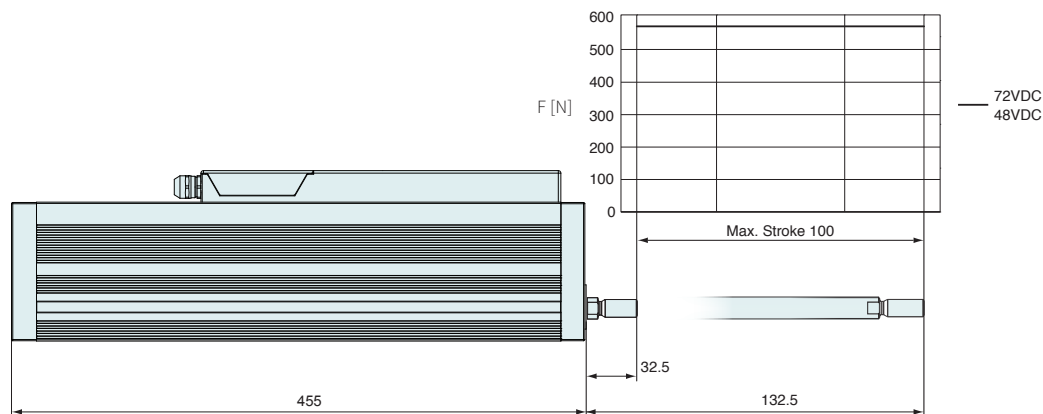
LINEAR MOTORS PD04-48x240F



- ✓ Linear Motor with integrated Drive
- ✓ Integrated linear guide
- ✓ Quick and easy commissioning
- ✓ Stand alone configuration of the motor
- ✓ Highly dynamic
- ✓ Absolute sensor, no homing required
- ✓ Freely programmable positions
- ✓ "In position" signal for each position

PD04-48x240F/100-C

Max. Stroke: 100 mm
Peak Force: 572 N



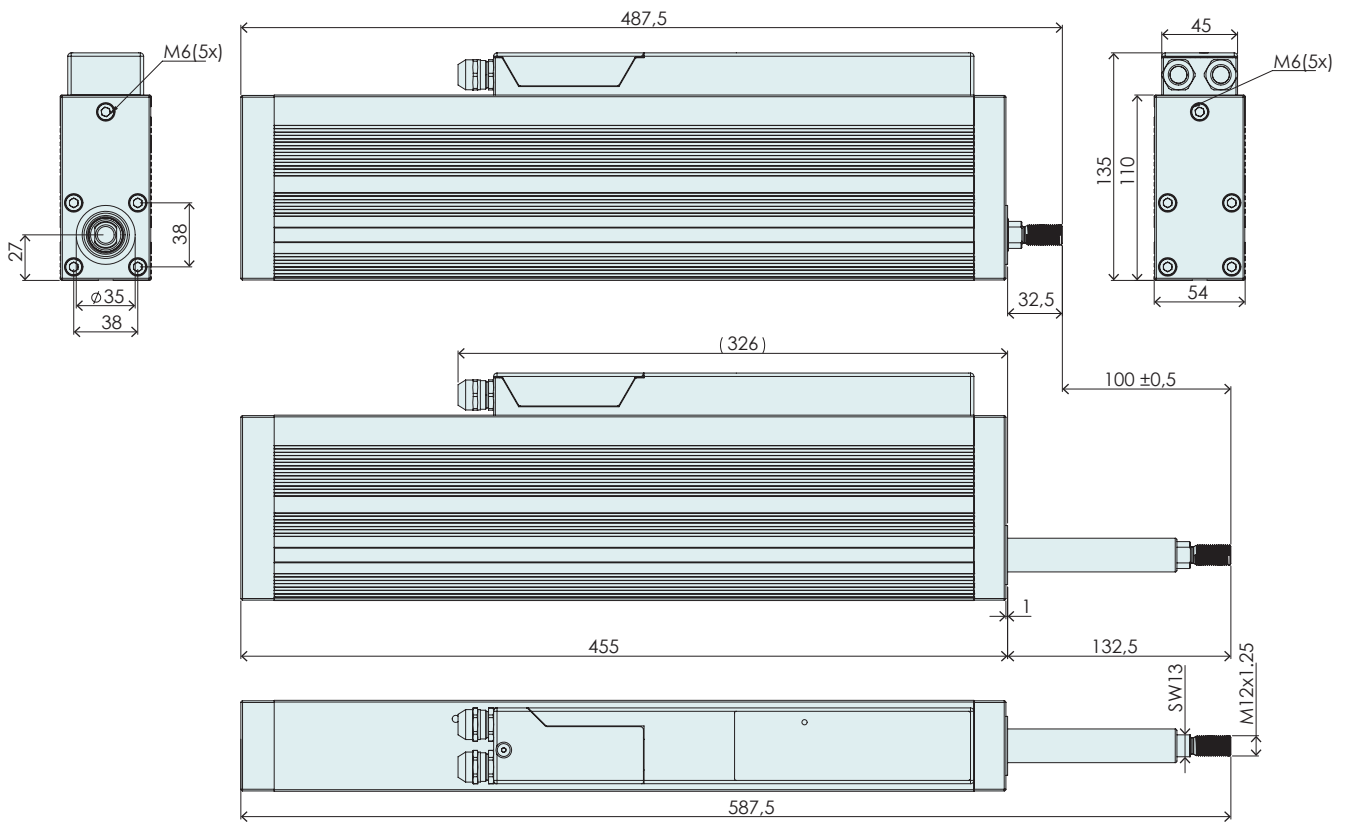
Dimensions in mm

Technical Data PD04-48x240F/100-C

Stroke			
Max. Stroke	mm (in)	100	(3.93)
Force			
Max. Force @ 48VDC	N (lbf)	572	(129)
Max. Force @ 72VDC	N (lbf)	572	(129)
Max. Cont. Force [Passive cooling / Fan / Fluid]	N (lbf)	190 / 250 / -	(42 / 56 / -)
Force Constant	N/A _{pk} (lbf/A _{pk})	22	(4.95)
Velocity			
Max. Velocity @ 48VDC	m/s (in/s)	1.9	(78.9)
Max. Velocity @ 72VDC	m/s (in/s)	2.9	(119.9)
Position Detection			
Position Resolution	mm (in)	0.007	(0.0003)
Repeatability	mm (in)	±0.05	(±0.002)
Linearity	%	± 0.4	
Electrical Data			
Max. Current @ 48VDC	A _{pk} / A _{rms}	25.9	
Max. Current @ 72VDC	A _{pk} / A _{rms}	25.9	
Max. Cont. Current [Passive cooling / Fan / Fluid]	A _{pk}	8.6 / 11 / -	
Terminal Resistance 25 °C / 120 °C	Ohm	0.97 / 1.3	
Terminal Inductivity	mH	1.1	
Magnetic Period	mm (in)	60	(2.35)
Thermal Data			
Max. Winding Temperature (Sensor)	°C	90	
Thermal Resistance [Passive cooling / Fan / Fluid]	°K/W	0.54 / 0.31 / -	
Thermal Time Constant [Passive cooling / Fan / Fluid]	s	550 / 320 / -	
Mechanical Data			
Stator Width	mm (in)	54	(2.13)
Stator Height	mm (in)	110	(4.33)
Stator Length	mm (in)	455	(17.92)
Stator Mass	g (lb)	3555	(7.82)
Rod Diameter	mm (in)	20	(0.79)
Rod Mass	g (lb)	1109	(2.45)
Max. shear force to the rod	N (lbf)	90	(20.25)
Max. torque to the rod	Nm (lbf·in)	2.5	(22.32)
IP Code		IP 65*	

*static (linear movement paused)

MOTOR

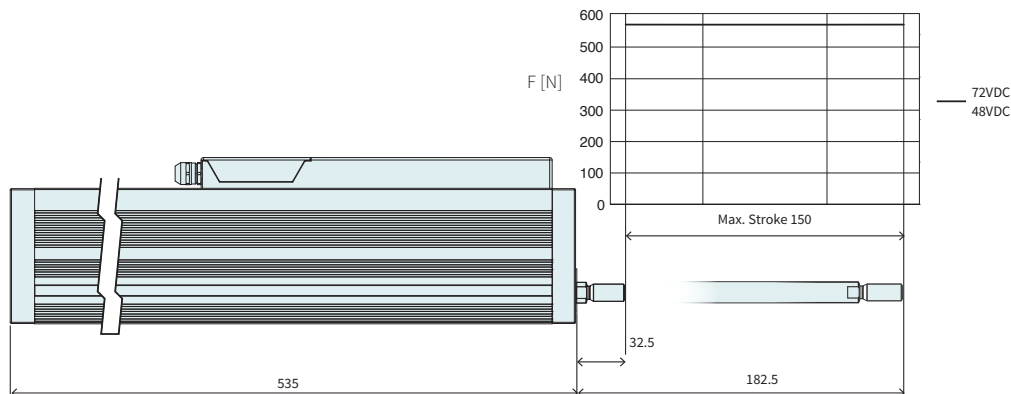


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Item	Description	Item-No.
PD04-48x240F/100	Linear motor PD04-48, 100 mm Stroke	0150-2794

PD04-48x240F/150-C

Max. Stroke: 150 mm
Peak Force: 572 N



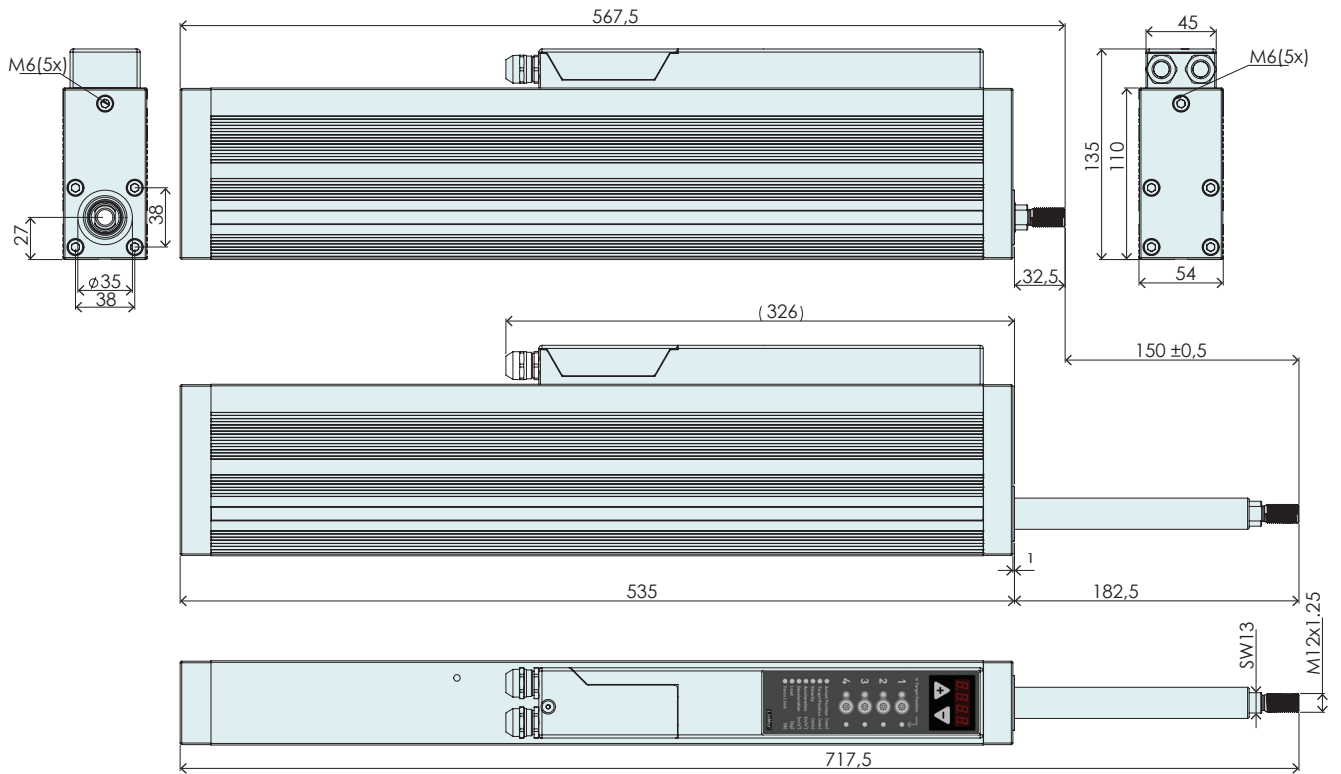
Dimensions in mm

Technical Data PD04-48x240F/150-C

Stroke			
Max. Stroke	mm (in)	150 (5.91)	
Force			
Max. Force @ 48VDC	N (lbf)	572 (129)	
Max. Force @ 72VDC	N (lbf)	572 (129)	
Max. Cont. Force [Passive cooling / Fan / Fluid]	N (lbf)	190 / 250 / - (42 / 56 / -)	
Force Constant	N/A _{pk} (lbf/A _{pk})	22 (4.95)	
Velocity			
Max. Velocity @ 48VDC	m/s (in/s)	1.9 (78.9)	
Max. Velocity @ 72VDC	m/s (in/s)	2.9 (119.9)	
Position Detection			
Position Resolution	mm (in)	0.007 (0.0003)	
Repeatability	mm (in)	±0.05 (±0.002)	
Linearity	%	± 0.4	
Electrical Data			
Max. Current @ 48VDC	A _{pk}	25.9	
Max. Current @ 72VDC	A _{pk}	25.9	
Max. Cont. Current [Passive cooling / Fan / Fluid]	A _{pk}	8.6 / 11 / -	
Terminal Resistance 25 °C / 120 °C	Ohm	0.97 / 1.3	
Terminal Inductivity	mH	1.1	
Magnetic Period	mm (in)	60	(2.35)
Thermal Data			
Max. Winding Temperature (Sensor)	°C	90	
Thermal Resistance [Passive cooling / Fan / Fluid]	°K/W	0.54 / 0.31 / -	
Thermal Time Constant [Passive cooling / Fan / Fluid]	s	550 / 320 / -	
Mechanical Data			
Stator Width	mm (in)	54 (2.13)	
Stator Height	mm (in)	110 (4.33)	
Stator Length	mm (in)	535 (21.07)	
Stator Mass	g (lb)	3865 (8.5)	
Rod Diameter	mm (in)	20 (0.79)	
Rod Mass	g (lb)	1305 (2.88)	
Max. shear force to the rod	N (lbf)	90 (20.25)	
Max. torque to the rod	Nm (lbf·in)	2.5 (22.32)	
IP Code		IP 65*	

*static (linear movement paused)

MOTOR



Item	Description	Item-No.
PD04-48x240F/150	Linear motor PD04-48, 150 mm Stroke	0150-2795

Horizontal dotted lines for notes.