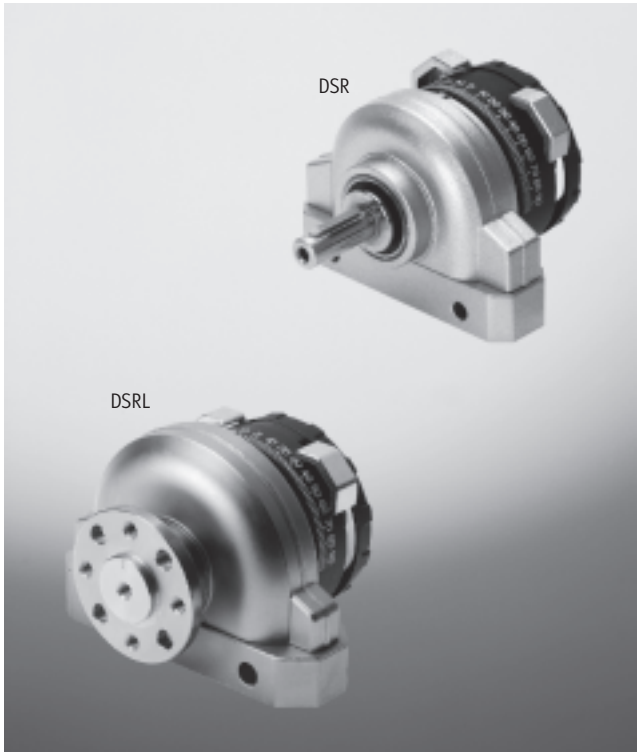


Semi-rotary actuators DSR/DSRL - Inch Series

FESTO



- Wide variety of mounting options
- Infinitely adjustable rotation angle
- Comprehensive range of accessories

Product range overview						
Function	Version	Piston Ø [in]	Rotation angle [°]	Torque [ft-lbf]	Variants	
					P	FW
Double-acting	Semi-rotary actuator with keyed drive shaft	3/8, 1/2	0 ... 181	0.6 ... 1.1	■	■
		5/8, 1, 1-1/4, 1-5/8	0 ... 184	2.2 ... 22.1	■	■

Variants

P	Flexible cushioning pads on each side	FW	With hollow flanged shaft
---	--	----	---------------------------

Semi-rotary actuators DSR/DSRL - Inch Series

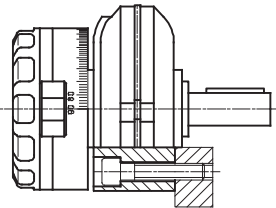
Features

Description			
In these semi-rotary actuators, the force is directly transmitted to the drive shaft via a rotary vane. The rotation angle is infinitely adjustable.	The adjustable stop system is separate from the rotary vane so that any forces which occur are absorbed by the stop blocks. The impacts are cushioned at the end positions by built-in flexible pads.	DSRL-...-FW This design with hollow flanged shaft permits the passage of liquid or	gaseous media, or even tubing or wiring. The force is transmitted directly and backlash-free via a splined shaft.

Mounting options

Without mounting attachments

Direct mounting



With mounting attachments

For DSR

Foot mounting HSR-...-FW



Flange mounting FSR



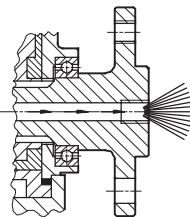
For DSRL

Foot mounting HSR-...-FW

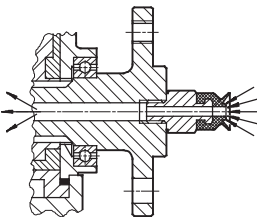


Sample applications with hollow flanged shaft in DSRL

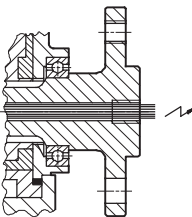
Air blast



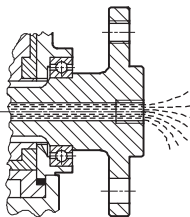
Vacuum



Electrical lines



Water, coolant, oil, glue, etc.

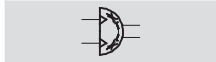


Semi-rotary actuators DSR/DSRL - Inch Series

FESTO

Technical data

Function



Variants

- With keyed shaft
- With hollow flanged shaft

Diameter

3/8 ... 1-5/8 inch

Force

0.6 ... 22.1 ft-lbf



General technical data						
Piston Ø	3/8	1/2	5/8	1	1-1/4	1-5/8
Pneumatic connection	M3	10-32 UNF	10-32 UNF	10-32 UNF	1/8" NPT	1/4" NPT
Design	Semi-rotary actuator with vane drive					
Cushioning	Non-adjustable at both ends					
Magnet for position sensing	Via electrical, pneumatic, or inductive switches (ordered separately, see accessories)					
Rotation angle	0 ... 181°		0 ... 184°			

Operating conditions						
Piston Ø	3/8	1/2	5/8	1	1-1/4	1-5/8
Operating medium	Filtered compressed air, lubricated or unlubricated					
Operating pressure [psi]	36.8 ... 117.6	29.4 ... 117.6		22.1 ... 117.6		
Temperature range ¹⁾ [°F]	+14 ... +140					

1) Note operating range of proximity sensors

Forces and torques						
Piston Ø	3/8	1/2	5/8	1	1-1/4	1-5/8
Torque at 90 psi [ft-lbf]	0.6	1.1	2.2	5.5	11.1	22.1
Max. rotating frequency ²⁾ [Hz]	3					
Max. perm. radial load ³⁾ [lbf]	6.7	10.1	16.9	27.0	45.0	78.7
Max. perm. axial load ³⁾ [lbf]	2.2	4.0	6.7	11.2	16.9	27.0
Max. perm. mass moment of inertia ³⁾	Diagrams					

2) Please observe the max. permissible mass moments of inertia

3) On the drive shaft at maximum frequency

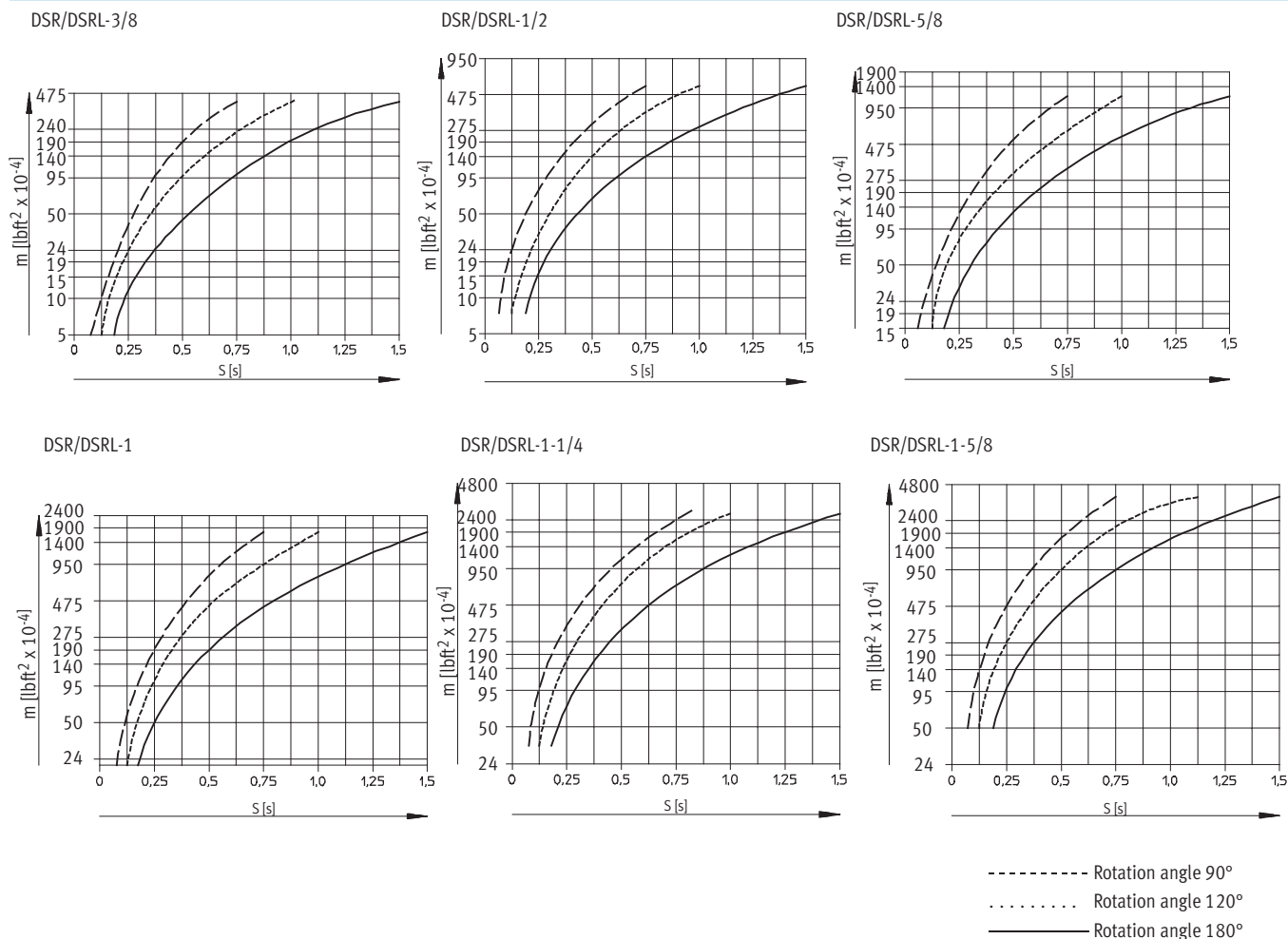
Semi-rotary actuators DSR/DSRL - Inch Series

Technical data

FESTO

Max. permissible mass moment of inertia

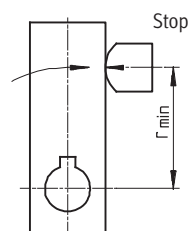
Mass moment of inertia m as a function of rotation time S and rotation angle



Assembly instructions:

If the listed maximum permissible mass moment of inertia is exceeded, external stops must be attached. Please note: the stop must not be less than the minimum radius to the drive shaft (r_{\min}). The stop force must not exceed the maximum force.

Due to the flexibility of the internal stops, a precise end position can only be achieved using external stops.



Ø [in]	Stop radius r_{\min} [in]	Maximum force [lbf]
3/8	0.5	13.5
1/2	0.6	20.2
5/8	0.7	36.0
1	0.8	71.9
1-1/4	1.1	107.9
1-5/8	1.6	146.1

Note

When throttling the semi-rotary drives to rotating speeds under 180°/s, the drives must be operated at a pressure

of at least 90 psi. A constant speed fluctuation of $\pm 30\%$ is to be expected. The flutters and the

rotating times shown in the diagrams can only be improved by using flow control valves.

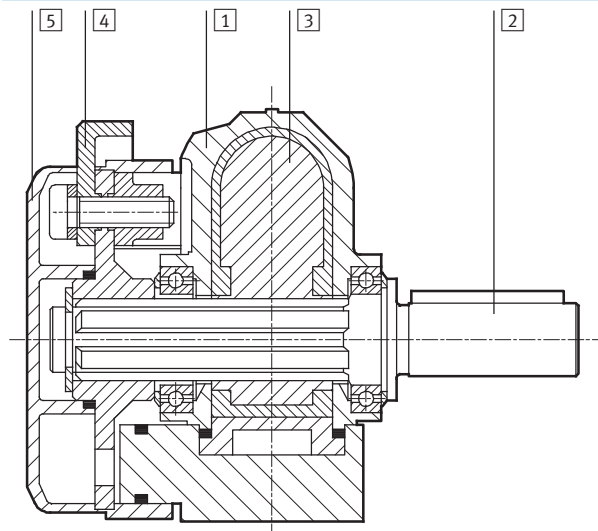
Semi-rotary actuators DSR/DSRL - Inch Series

Technical data



Materials

Sectional view



Rotary actuator		
1	Housing	Die-cast zinc
2	Drive shaft	Nickel plated steel
3	Rotary vane	Plastic
4	Trip cam	Sintered steel, nickel plated
5	Cover cap	Plastic
–	Seals	Nitrile rubber

Weights [oz]						
Piston Ø	3/8	1/2	5/8	1	1-1/4	1-5/8
DSR-...	3.5	7.1	10.9	19.1	45.3	84.7
DSRL-...-FW	4.9	8.5	12.4	21.5	49.0	95.2

Semi-rotary actuators DSR/DSRL - Inch Series

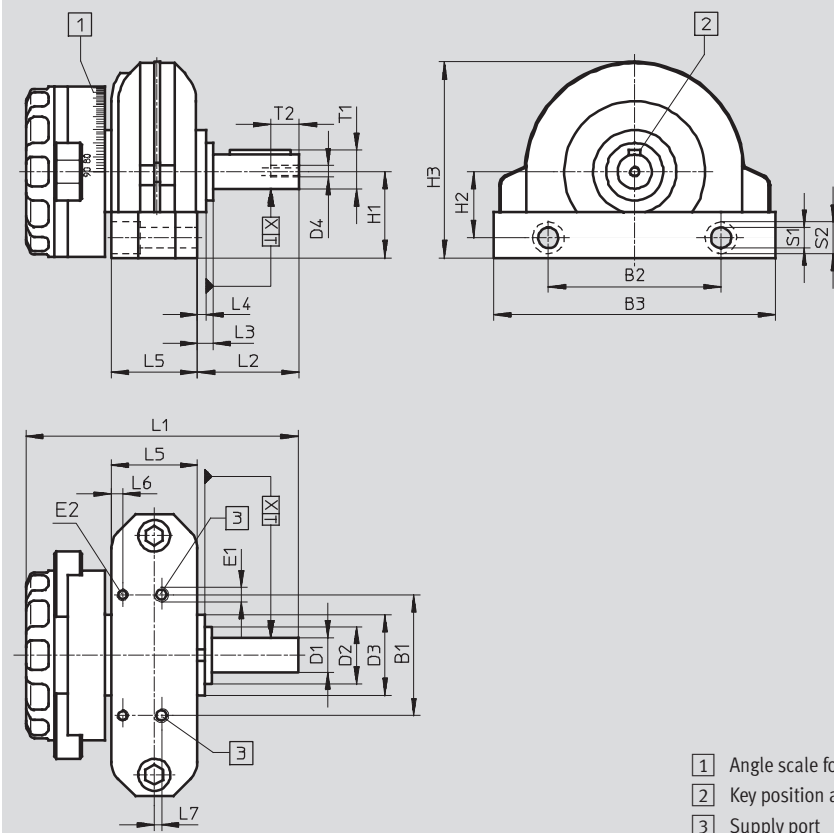
Technical data

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Dimensions

Download CAD Data → www.festo.com/us/cad

DSR



Note

The rotation angle in both directions is 90°, and it is pressure-dependent. The cushioning angle on each side is approx. 1.6° maximum, at 117.6 psi.

After the rotation process, the kinetic energy is converted by cushioning, the drive shaft rotates back by a corresponding angle.

The stops must not be removed as the rotary vane is not suitable for end-position limiting. The cover cap is equipped with an angle scale for adjusting.

When attaching additional components to the drive shaft, the maximum permissible tightening torque of the bolt at D4 must not be exceeded.

- 1 Angle scale for rotation angle reading
- 2 Key position at 0°
- 3 Supply port

Ø [in]	B1	B2	B3	D1 Ø	D2 Ø	D3 Ø	D4	E1	E2	H1	H2	H3	L1	L2
3/8	0.9	1.3	2.1	15/64	0.5	25/32	1-72 UNF	M3	4-48 UNF	0.8	0.6	1.5	2.2	0.9
1/2	1.0	1.6	2.6	5/16	0.6	7/8	4-48 UNF	10-32 UNF	4-48 UNF	0.9	0.7	1.9	2.6	1.0
5/8	1.2	1.8	3.1	3/8	0.7	61/64	4-48 UNF	10-32 UNF	4-48 UNF	1.1	0.8	2.2	3.0	1.1
1	1.7	2.4	3.9	7/16	0.7	1-7/64	8-32 UNC	10-32 UNF	8-32 UNC	1.2	0.9	2.7	3.7	1.4
1-1/4	2.1	3.1	5.1	5/8	1.1	1-21/32	10-32 UNF	1/8" NPT	8-32 UNC	1.7	1.3	3.6	4.9	2.0
1-5/8	2.8	3.9	6.3	3/4	1.4	2-3/64	1/4-28 UNF	1/4" NPT	8-32 UNC	2.1	1.6	4.8	6.4	2.4

Ø [in]	L3	L4	L5	L6	L7	S1	S2	T1	T2	X	Key ¹⁾ [mm]	Tightening torque at D4 [ft-lbf]
3/8	0.3	0.2	0.6	0.1	0.1	0.1	0.2	0.3	0.3	0.01	A2 x 2 x 12	0.5
1/2	0.2	0.1	0.7	0.1	0.1	0.2	0.3	0.3	0.4	0.01	A2 x 2 x 16	0.9
5/8	0.2	0.1	0.9	0.1	–	0.2	0.4	0.4	0.4	0.01	A3 x 3 x 18	0.9
1	0.2	0.1	1.2	0.2	–	0.3	0.4	0.5	0.4	0.02	A4 x 4 x 25	4.1
1-1/4	0.4	0.3	1.4	0.2	–	0.3	0.6	0.7	0.5	0.02	A5 x 5 x 36	4.1
1-5/8	0.4	0.2	2.0	0.2	–	0.3	0.6	0.9	0.6	0.02	A6 x 6 x 45	4.1

1) included in scope of delivery

Dimensions are in inches, unless otherwise noted.

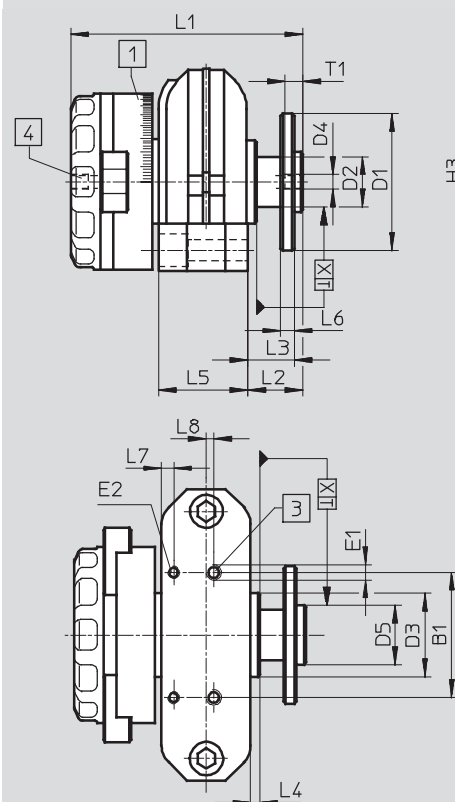
Semi-rotary actuators DSR/DSRL - Inch Series

Technical data

FESTO

Dimensions

DSRL



Note

The rotation angle in both directions is 90°, and it is pressure-dependent. The cushioning angle on each side is approx. 1.6° maximum, at 117.6 psi.

After the rotation process, the kinetic energy is converted by cushioning, the drive shaft rotates back by a corresponding angle.

The stops must not be removed as the rotary vane is not suitable for end-position limiting. The cover cap is equipped with an angle scale for adjusting.

When attaching additional components to the drive flange, the maximum permissible tightening torque of the bolt at D4 must not be exceeded.

- 1 Angle scale for rotation angle reading
- 2 Position of marking at angle scale 0°
- 3 Supply port
- 4 Through-hole

Ø [in]	B1	B2	B3	D1 Ø	D2 Ø	D3 Ø	D4	D5 Ø	D6 Ø	D7 Ø	D8 Ø min.	E1	E2	E3	H1
3/8	0.9	1.3	2.1	1-3/16	3/8	25/32	1-72 UNF	7/16	13/16	0.13	0.06	M3	4-48 UNF	4-48 UNF	0.8
1/2	1.0	1.6	2.6	1-5/16	1/2	7/8	4-48 UNF	35/64	1	0.13	0.06	10-32 UNF	4-48 UNF	4-48 UNF	0.9
5/8	1.2	1.8	3.1	1-1/2	35/64	61/64	4-48 UNF	5/8	1-7/64	0.20	0.14	10-32 UNF	4-48 UNF	10-32 UNF	1.1
1	1.7	2.4	3.9	1-3/4	43/64	1-7/64	8-32 UNC	3/4	1-3/8	0.20	0.14	10-32 UNF	8-32 UNC	10-32 UNF	1.2
1-1/4	2.1	3.2	5.1	2-3/8	15/16	1-21/32	10-32 UNF	1-3/32	1-3/4	0.27	0.28	1/8" NPT	8-32 UNC	1/4-28 UNF	1.7
1-5/8	2.7	3.9	6.3	2-3/4	1-11/64	2-3/64	1/4-28 UNF	1-13/32	2-1/8	0.33	0.28	1/4" NPT	8-32 UNC	5/16-24 UNF	2.1

Ø [in]	H2	H3	L1	L2	L3	L4	L5	L6	L7	L8	S1	S2	T1	X	Tightening torque at D4 [ft-lbf]
3/8	0.6	1.5	1.9	0.6	0.5	0.2	0.6	1/8	0.1	0.1	0.1	0.2	0.2	0.01	0.7
1/2	0.7	1.9	2.1	0.5	0.5	0.1	0.7	1/8	0.1	0.1	0.2	0.3	0.2	0.01	1.2
5/8	0.8	2.2	2.6	0.6	0.6	0.1	0.9	5/32	0.1	–	0.2	0.4	0.2	0.01	1.2
1	0.9	2.7	3.1	0.7	0.6	0.1	1.2	11/64	0.2	–	0.3	0.4	0.2	0.02	5.5
1-1/4	1.3	3.6	4.1	1.0	0.9	0.3	1.4	15/64	0.2	–	0.3	0.6	0.3	0.02	5.5
1-5/8	1.6	4.8	5.3	1.2	1.0	0.2	2.0	19/64	0.2	–	0.3	0.6	0.3	0.02	5.5

Dimensions are in inches, unless otherwise noted.

Semi-rotary actuators DSR/DSRL - Inch Series

Ordering Data

FESTO

M Mandatory data					
Function	Piston Ø	Rotation angle °	Cushioning	Magnet for position sensing	Shaft type
DSR DSRL	3/8 1/2 5/8 1 1 1/4 1 5/8	0 ... 184	P	A	FW
DSR	- 1	- 180	- P	- A	-

Ordering table									
Size		3/8	1/2	5/8	1	1 1/4	1 5/8	Code	Enter code
M	Function	Semi-rotary actuator with keyed shaft						DSR	
		Semi-rotary actuator, with flanged, hollow drive shaft ¹⁾						DSRL	
	Piston Ø [in]	1/2	5/8	3/4	1	1 1/4	1 5/8	-...	
	Rotation angle [°]	0 ... 181		0 ... 184				-...	
	Cushioning	Non-adjustable at both ends						-P	
	Magnet for position sensing	For use with magnetic proximity sensor						-A	
	Shaft type	Keyed shaft (standard - no product code necessary)							
		Hollow flanged shaft						-FW	

1) Shaft type -FW must be specified with DSRL.

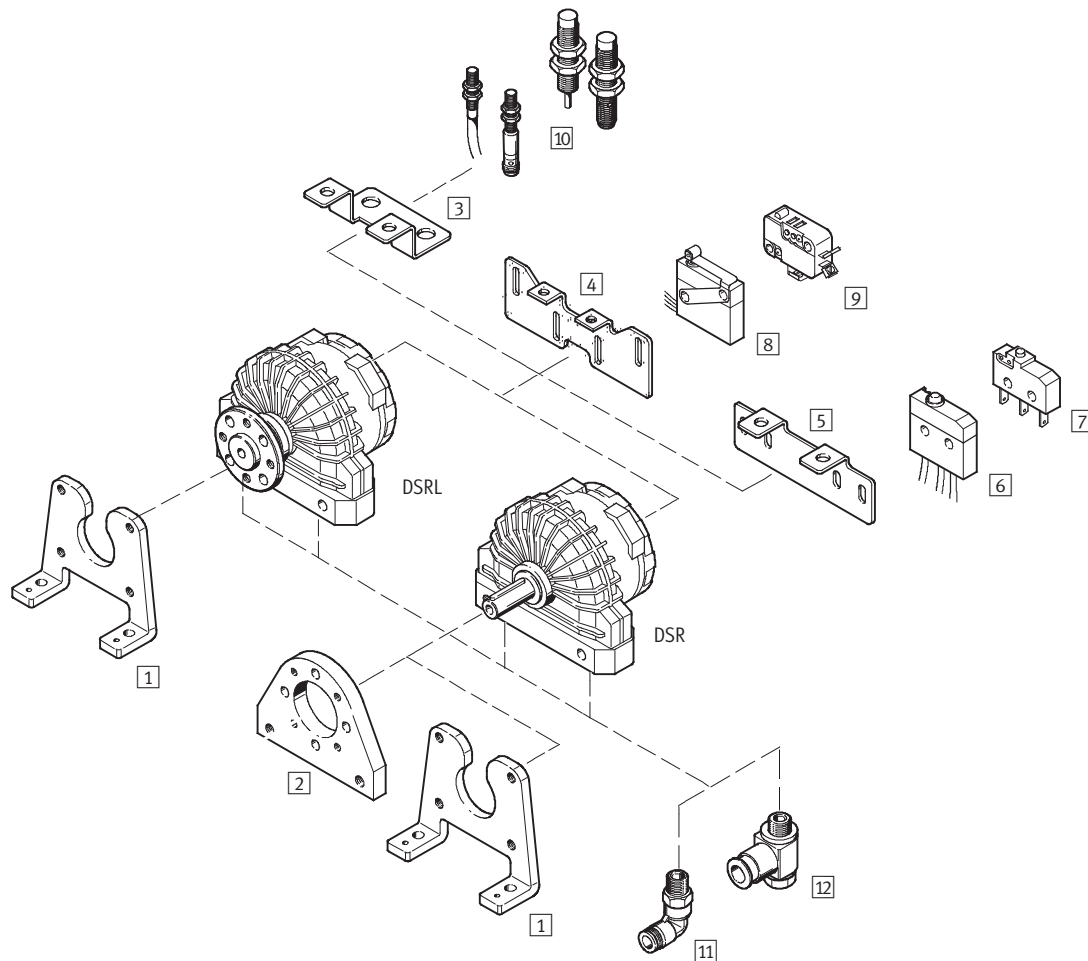
Transfer order code

	-		-		-	P	-	A	-	
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Semi-rotary actuators DSR/DSRL - Inch Series

Accessories overview

FESTO



Mounting attachments and accessories		DSR	DSRL
	Description		
1	Foot mounting HSR-...-FW	■	■
2	Flange mounting FSR	■	—
3	Mounting kit WSR-...	■	■
4	Mounting kit WSR-12 ... 40	■	■
5	Mounting kit WSR-10/12-K	■	■
6	Micro switch S-3-BE-SW	■	■
7	Micro switch S-3-BE	■	■
8	Micro switch SR-3-E-SW	■	■
9	Micro switch S-3-E	■	■
10	Proximity sensors SIEN	■	■
11	Push-in elbow fitting QSL	■	■
12	One-way flow control valve GRLA	■	■

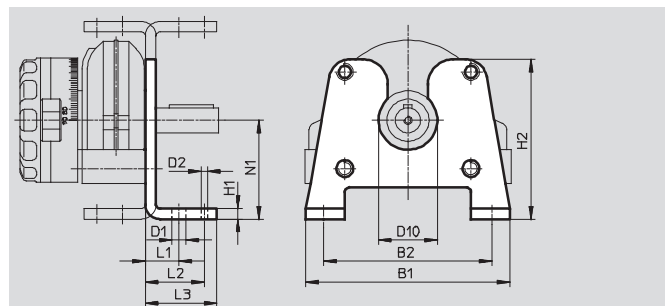
Semi-rotary actuators DSR/DSRL - Inch Series

Accessories

FESTO

Foot mounting HSR-...-FW

Material:
Steel

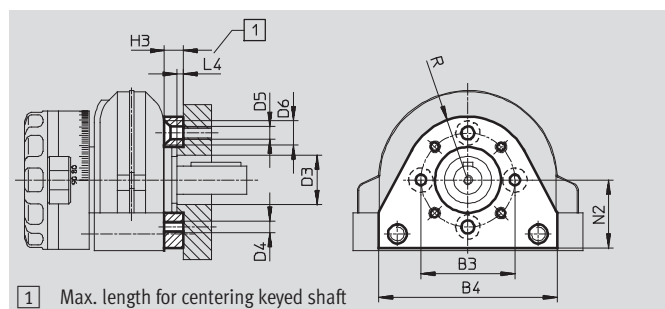


Dimensions and ordering data														
For Ø [in]	B1	B2	D1 Ø	D2	D10	H1	H2	L1	L2	L3	N1	CRC ¹⁾	Weight [oz]	Part No. Type
3/8	2.1	1.7	0.1	0.1	0.8	0.2	2.1	0.4	0.7	0.8	1.3	2	2.2	33317 HSR-10-FW
1/2	2.5	2.0	0.1	0.1	0.9	0.2	2.5	0.4	0.7	0.8	1.6	2	3.1	30923 HSR-12-FW
5/8	3.0	2.5	0.2	0.1	0.9	0.2	2.8	0.6	0.9	1.0	1.7	2	6.0	30924 HSR-16-FW
1	3.8	3.1	0.3	0.1	1.1	0.2	3.0	0.6	1.1	1.3	1.9	2	8.3	30925 HSR-25-FW
1-1/4	5.1	4.1	0.3	0.2	1.7	0.3	4.3	0.8	1.3	1.7	2.6	2	23.3	30926 HSR-32-FW
1-5/8	6.3	5.1	0.3	0.2	2.0	0.3	5.3	1.0	1.7	2.0	3.2	2	36.7	30927 HSR-40-FW

1) Corrosion resistance class 2 according to Festo standard 940 070
Components with moderate corrosion resistance for use in normal industrial environments subjected to contact with coolants or lubricating agents.

Flange mounting FSR

Material:
Die-cast Aluminum



Dimensions and ordering data														
For Ø	B3	B4	D3 Ø	D4	D5 Ø	D6 Ø	H3	L4	N2	R	CRC ¹⁾	Weight	Part No.	Type
[in]			min.					max.				[oz]		
3/8	1.1	1.8	0.5	M3	0.1	0.3	0.3	0.1	0.8	0.7	2	0.8	34480	FSR-10
1/2	1.2	2.1	0.7	M3	0.1	0.3	0.3	0.1	0.9	0.8	2	1.1	14658	FSR-12
5/8	1.4	2.4	0.7	M4	0.2	0.3	0.3	0.1	1.0	0.9	2	1.8	13236	FSR-16
1	1.6	3.0	0.8	M5	0.2	0.4	0.3	0.1	1.1	1.1	2	2.5	13237	FSR-25
1-1/4	2.2	3.9	1.3	M6	0.3	0.5	0.5	0.1	1.7	1.4	2	6.3	13238	FSR-32
1-5/8	2.8	4.7	1.5	M8	0.4	0.6	0.6	0.2	2.0	1.8	2	10.6	14655	FSR-40

1) Corrosion resistance class 2 according to Festo standard 940 070
Components with moderate corrosion resistance for use in normal industrial environments subjected to contact with coolants or lubricating agents.

Dimensions are in inches, unless otherwise noted.

Semi-rotary actuators DSR/DSRL - Inch Series

Accessories

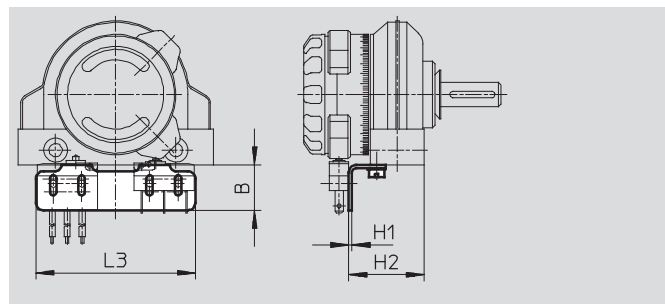
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Mounting kit WSR-10/12-K

For micro switch S-3-BE, S-3-BE-SW

Material:

Steel



Dimensions and ordering data								
For Ø [in]	B	H1	H2	L3	CRC ¹⁾	Weight [oz]	Part No.	Type
3/8	0.6	0.04	0.9	1.9	2	0.4	33414	WSR-10-K
1/2	0.6	0.04	1.0	2.1	2	0.5	15686	WSR-12-K

1) Corrosion resistance class 2 according to Festo standard 940 070

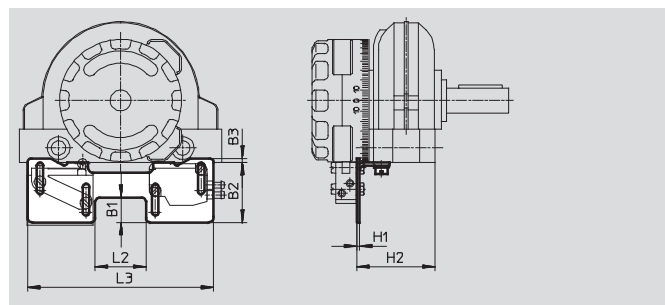
Components with moderate corrosion resistance for use in normal industrial environments subjected to contact with coolants or lubricating agents.

Mounting kit WSR-1/2 ... 1-5/8

For micro switch S-3-E, SR-3-E-SW

Material:

Steel



Dimensions and ordering data										
For Ø [in]	B1	B2	B3	H1	H2	L2	L3	CRC ¹⁾	Weight [oz]	Part No. Type
1/2	0.2	0.9	0.2	0.1	0.9	0.6	3.1	2	0.4	15684 WSR-12
5/8	0.4	1.0	0.2	0.1	1.2	0.7	3.3	2	0.8	14874 WSR-16
1	0.5	1.1	0.1	0.1	1.5	1.0	3.5	2	0.9	14796 WSR-25
1-1/4	0.5	1.1	0.1	0.1	1.9	1.6	4.2	2	1.0	14960 WSR-32
1-5/8	0.5	1.1	0.1	0.1	2.7	2.0	4.7	2	1.1	14961 WSR-40

1) Corrosion resistance class 2 according to Festo standard 940 070

Components with moderate corrosion resistance for use in normal industrial environments subjected to contact with coolants or lubricating agents.

Dimensions are in inches, unless otherwise noted.

Semi-rotary actuators DSR/DSRL - Inch Series

Accessories

FESTO

Mounting kits WSR

WSR-...-J

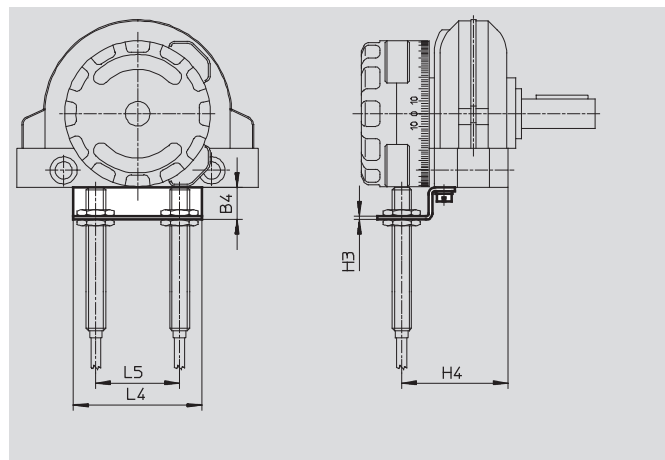
For proximity sensors SIEN-M8

WSR-...-J-M5

For proximity sensors SIEN-M5

Material:

Steel



Dimensions and ordering data									
WSR-...-J									
For Ø [in]	B4	H3	H4	L4	L5	CRC ¹⁾	Weight [oz]	Part No.	Type
3/8	0.5	0.1	1.4	2.0	1.1	2	0.4	14873	WSR-16-J
1/2	0.5	0.1	1.7	2.0	1.3	2	0.6	14799	WSR-25-J
5/8	0.5	0.1	2.1	2.5	1.9	2	0.6	14962	WSR-32-J
1	0.5	0.1	3.0	3.1	2.4	2	0.8	14963	WSR-40-J

Dimensions and ordering data									
WSR-...-J-M5									
For Ø [in]	B4	H3	H4	L4	L5	CRC ¹⁾	Weight [oz]	Part No.	Type
3/8	0.3	0.04	1.0	1.2	0.8	2	0.2	33413	WSR-10-J-M5
1/2	0.3	0.04	1.1	1.3	1.0	2	0.4	15685	WSR-12-J-M5
5/8	0.3	0.04	1.4	1.5	1.1	2	2.8	15931	WSR-16-J-M5
1	0.5	0.06	1.7	2.0	1.3	2	0.6	15932	WSR-25-J-M5
1-1/4	0.5	0.06	2.1	2.5	1.9	2	0.9	15933	WSR-32-J-M5
1-5/8	0.5	0.06	3.0	3.1	2.4	2	1.1	15934	WSR-40-J-M5

1) Corrosion resistance class 2 according to Festo standard 940 070

Components with moderate corrosion resistance for use in normal industrial environments subjected to contact with coolants or lubricating agents.

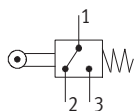
Dimensions are in inches, unless otherwise noted.

Semi-rotary actuators DSR/DSRL - Inch Series

Accessories

FESTO

Electrical limit switch for end-position sensing

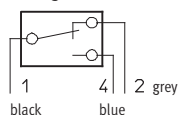


The switching point may only be exceeded by 0.02 inch in these electrical limit switches. Actuation only vertical to stem axis.

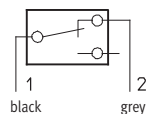
	S-3-BE	S-3-BE-SW	S-3-E	SR-3-E-SW
Connection	3 push-in connectors (0.11x0.02 inch)	3 wires (0.0012 in²)	Screw connector	3 wires 3.3 ft long
Contact rating	See table below			
Operating voltage	250 V AC/250 V DC			
Line current ohmic load	–	–	6 A/250 V AC 0.25 A/250 V DC	5 A/250 V AC 0.25 A/250 V DC
Line current inductive load	–	–	2 A/250 V AC 0.1 A/250 V DC	2 A/250 V AC 0.03 A/250 V DC
Utilization category	AC 12/DC 12 (ohmic load)			
	AC 14/DC 13 (inductive load)			
CE symbol	Yes, as per EU Directive 73/23/EEC			
Protection class to EN 60529	IP40	IP67	IP00	IP65
Temperature range	–4 ... +185 °F		–4 ... +176 °F	
Material	Housing, cover: black plastic			
Weight	0.07 oz	0.56 oz	0.25 oz	0.35 oz

Contact configuration:

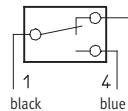
Changeover switch



NC contact



NO contact



Contact rating				
S-3-BE, S-3-BE-SW				
AC voltage				
Voltage [V] ~	Resistance load [A]		Inductive load [A]	
12	6		6	
24	3		2	
60	1		0.5	
110	0.5		0.2	
220	0.25		0.1	
S-3-E	DC	AC	DC	AC
12	6	–	6	–
24	6	–	6	–
60	1	–	0.5	–
110	0.5	–	0.2	–
220	0.25	–	0.1	–
250	–	6	–	2
SR-3-E-SW	DC	AC	DC	AC
15	3	–	5	–
30	3	–	5	–
50	1	–	1	–
75	0.25	–	0.75	–
125	0.03	5	0.5	5
250	0.03	5	0.25	5

Semi-rotary actuators DSR/DSRL - Inch Series

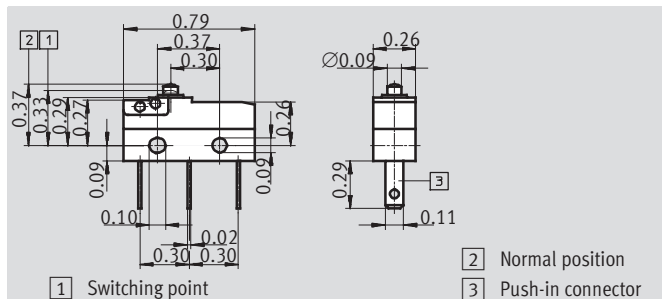
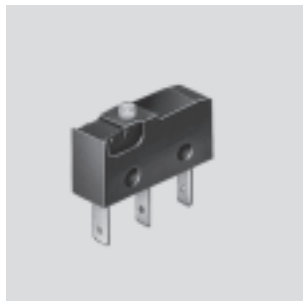
Accessories

FESTO

Electrical limit switches for end-position sensing

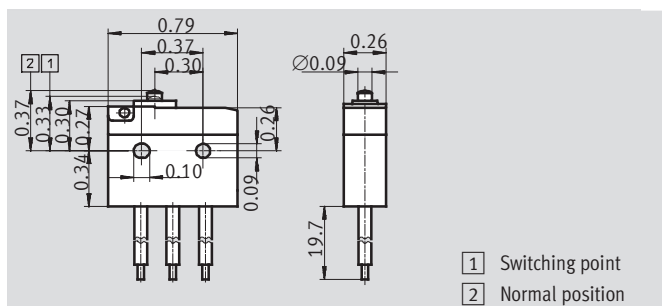
Micro switch

S-3-BE



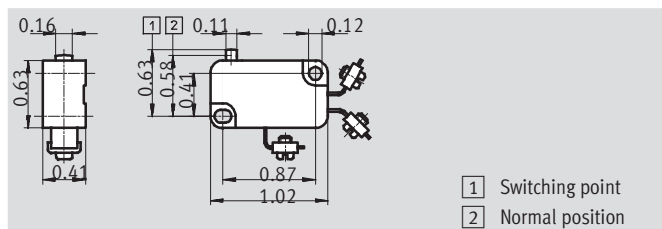
Micro switch with cable (splash-proof)

S-3-BE-SW



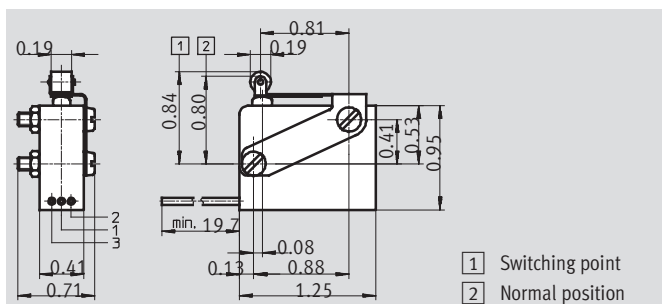
Micro switch

S-3-E



Micro switch with roller lever
(splash-proof)

SR-3-E-SW



Ordering data


For Ø [in]	Description	Design	Part No.	Type
3/8 ... 1/2	Micro switch	Spade connectors	30648	S-3-BE
	Micro switch, splash-proof	With cable	30649	S-3-BE-SW
5/8 ... 1-5/8	Micro switch	Screw connectors	7347	S-3-E
	Micro switch, splash-proof	With roller lever	14797	SR-3-E-SW



Dimensions are in inches, unless otherwise noted.


Semi-rotary actuators DSR/DSRL - Inch Series

Accessories

FESTO

Ordering data – Sensors					
	For Ø [in]	Remarks	Connection	Part No.	Type
	3/8 ... 1-5/8	For mounting kit WSR-...-J-M5	Cable	150370	SIEN-M5B-PS-K-L
			Plug	150371	SIEN-M5B-PS-S-L
	5/8 ... 1-5/8	For mounting kit WRM-...-J	Cable	150386	SIEN-M8B-PS-K-L
			Plug	150387	SIEN-M8B-PS-S-L

Ordering data – Plug sockets							
	Mounting	Switch output		Connection	Cable length [ft]	Part No.	Type
		PNP	NPN				
Straight socket							
	M8 union nut	■	■	3-pin	8.2	159420	SIM-M8-3GD-2.5-PU
					16.4	159421	SIM-M8-3GD-5-PU
Angled socket							
	M8 union nut	■	■	3-pin	8.2	159422	SIM-M8-3WD-2.5-PU
					16.4	159423	SIM-M8-3WD-5-PU

Ordering data – One-way flow control valves				
	Connection		Part No.	Type
	Thread	For tubing OD		
	10-32 UNF	5/32"	165008	GRLA-10-32-UNF-QS-5/32-U
		1/4"	192753	GRLA-10-32-UNF-QS-1/4-U
	1/8" NPT	5/32"	165009	GRLA-1/8-NPT-QS-5/32-U
		3/16"	190941	GRLA-1/8-NPT-QS-3/16-U
		1/4"	165010	GRLA-1/8-NPT-QS-1/4-U
		5/16"	165013	GRLA-1/8-NPT-QS-5/16-U
	1/4" NPT	3/16"	190944	GRLA-1/4-NPT-QS-3/16-U
		1/4"	165011	GRLA-1/4-NPT-QS-1/4-U
		5/16"	165014	GRLA-1/4-NPT-QS-5/16-U
		3/8"	190947	GRLA-1/4-NPT-QS-3/8-U

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Custom Automation Components
Complete custom engineered solutions



Custom Control Cabinets
Comprehensive engineering support and on-site services



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The Broadest Range of Automation Components

With a comprehensive line of more than 30,000 automation components, Festo is capable of solving the most complex automation requirements.



Electromechanical
Electromechanical actuators, motors, controllers & drives



Pneumatics
Pneumatic linear and rotary actuators, valves, and air supply



PLCs and I/O Devices
PLC's, operator interfaces, sensors and I/O devices

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Festo is a leading global manufacturer of pneumatic and electromechanical systems, components and controls for industrial automation, with more than 12,000 employees in 56 national headquarters serving more than 180 countries. For more than 80 years, Festo has continuously elevated the state of manufacturing with innovations and optimized motion control solutions that deliver higher performing, more profitable automated manufacturing and processing equipment. Our dedication to the advancement of automation extends beyond technology to the education and development of current and future automation and robotics designers with simulation tools, teaching programs, and on-site services.

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Festo North America

Festo Regional Contact Center

5300 Explorer Drive
Mississauga, Ontario L4W 5G4
Canada

USA Customers:

For ordering assistance,

Call: 1.800.99.FESTO (1.800.993.3786)

Fax: 1.800.96.FESTO (1.800.963.3786)

Email: customer.service@us.festo.com

For technical support,

Call: 1.866.GO.FESTO (1.866.463.3786)

Fax: 1.800.96.FESTO (1.800.963.3786)

Email: product.support@us.festo.com

Canadian Customers:

Call: 1.877.GO.FESTO (1.877.463.3786)

Fax: 1.877.FX.FESTO (1.877.393.3786)

Email: festo.canada@ca.festo.com

USA Headquarters

Festo Corporation
395 Moreland Road
P.O. Box 18023
Hauppauge, NY 11788, USA
www.festo.com/us

USA Sales Offices

Appleton

North 922 Tower View Drive, Suite N
Greenville, WI 54942, USA

Boston

120 Presidential Way, Suite 330
Woburn, MA 01801, USA

Chicago

1441 East Business Center Drive
Mt. Prospect, IL 60056, USA

Dallas

1825 Lakeway Drive, Suite 600
Lewisville, TX 75057, USA

Detroit – Automotive Engineering Center

2601 Cambridge Court, Suite 320
Auburn Hills, MI 48326, USA

New York

395 Moreland Road
Hauppauge, NY 11788, USA

Silicon Valley

4935 Southfront Road, Suite F
Livermore, CA 94550, USA

United States



USA Headquarters, East: Festo Corp., 395 Moreland Road, Hauppauge, NY 11788
Phone: 1.631.435.0800; Fax: 1.631.435.8026;
Email: info@festo-usa.com www.festo.com/us

Canada



Headquarters: Festo Inc., 5300 Explorer Drive, Mississauga, Ontario L4W 5G4
Phone: 1.905.624.9000; Fax: 1.905.624.9001;
Email: festo.canada@ca.festo.com www.festo.ca

Mexico



Headquarters: Festo Pneumatic, S.A., Av. Ceylán 3, Col. Tequesquinhuauc, 54020 Tlalnepantla, Edo. de México
Phone: 011 52 [55] 53 21 66 00; Fax: 011 52 [55] 53 21 66 65;
Email: festo.mexico@mx.festo.com www.festo.com/mx

Central USA

Festo Corporation
1441 East Business
Center Drive
Mt. Prospect, IL 60056, USA
Phone: 1.847.759.2600
Fax: 1.847.768.9480



Western USA

Festo Corporation
4935 Southfront Road,
Suite F
Livermore, CA 94550, USA
Phone: 1.925.371.1099
Fax: 1.925.245.1286



Festo Worldwide

Argentina Australia Austria Belarus Belgium Brazil Bulgaria Canada Chile China Colombia Croatia Czech Republic Denmark
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