

Standard Filters MS12N-LF – Inch Series



Standard filters, with filtration grades of 5 microns or 40 microns, are equipped with a water separator that cleans the compressed air of impurities, rust, and condensate. For pre-filtering in pneumatic systems or for special applications.

- Pneumatic connection: 1 NPT, 1¼ NPT, 1½ NPT, 2 NPT
- Supply pressure
 - For manual drain: 12 ... 294 psi
 - For fully automatic drain: 29 ... 176 psi
 - For fully automatic drain, electrically actuated: 12 ... 235 psi
- Flow rate: 406.0 ... 564.8 scfm

| Product Range Overview | | | | | | | | | | | | | | |
|------------------------|------------------------------|-----------------------|---|---|----|------------|------------|-----------------|------------------------|------------------------------------|------------------------------------|-----------------------------------|-----------------------|--------------|
| Type | Pneumatic connections | Filtration grade [µm] | | | | Bowl guard | Bowl drain | | | | | | Contamination control | Reverse flow |
| | | 0.01 | 1 | 5 | 40 | | Manual | Fully automatic | Electrical 24 V DC M12 | Electrical 110 V AC with terminals | Electrical 230 V AC with terminals | Electrical 24 V DC with terminals | | |
| MS12N | AG... | A | B | C | E | U | M | V | E1 | E2 | E3 | E4 | DA | Z |
| LF | 1 NPT, 1¼ NPT, 1½ NPT, 2 NPT | - | - | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | - | ■ |

Features

- Sintered filter with centrifugal separation removes contamination, rust and condensate from the compressed air.
- High flow rate with minimal pressure drop
- Replaceable filter cartridges

Contents

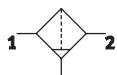
| | |
|----------------------|--------|
| Technical Data | → 1112 |
| Dimensional Drawings | → 1115 |
| Ordering Data | → 1116 |
| Accessories | → 1118 |

→ www.festo.com/catalog/ms12n-lf

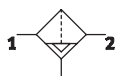
Standard Filters MS12N-LF – Inch Series

Technical Data

ISO Symbol



Manual bowl drain



Fully automatic bowl drain



| General Technical Data | | 1 NPT | 1¼ NPT | 1½ NPT | 2 NPT |
|---|------------|---|--------|--------|-------|
| Pneumatic connection 1, 2 ¹⁾ | | 1 NPT | 1¼ NPT | 1½ NPT | 2 NPT |
| Filtration grade | [µm] | 5 (air purity class at the output 3.7.– to DIN ISO 8573-1) | | | |
| | | 40 (air purity class at the output 5.7.– to DIN ISO 8573-1) | | | |
| Supply pressure | M [psi] | 12 ... 294 (manual drain) | | | |
| | V [psi] | 29 ... 176 (fully automatic drain) | | | |
| | E... [psi] | 12 ... 235 (fully automatic drain, electrically actuated) | | | |

1) Dependent on port plate selected, must be ordered separately as an accessory → 1119

| Standard Nominal Flow Rate q _N ²⁾ [scfm] | | 1 NPT | 1¼ NPT | 1½ NPT | 2 NPT |
|--|-------|-------|--------|--------|-------|
| Pneumatic connection 1, 2 | | 1 NPT | 1¼ NPT | 1½ NPT | 2 NPT |
| Filtration grade | 5 µm | 406.0 | 441.3 | 476.6 | 494.2 |
| | 40 µm | 441.3 | 458.9 | 494.2 | 564.8 |

2) Dependent on port plate selected, must be ordered separately as an accessory → 1119
Measured at p₁ = 88 psi and Δp = 7.4 psi

Standard Filters MS12N-LF – Inch Series

Technical Data

| Operating and Environmental Conditions | | | |
|---|---|----------------------|--|
| Bowl drain | Manual M | Fully automatic V | Fully automatic, electrically actuated E... |
| Operating medium | Compressed air, air quality class 5.7.– to DIN ISO 8573-1 | | |
| Max. condensate volume [in ³] | 24.40 | | |
| Bowl guard | Metal bowl | | |
| Ambient temperature [°F] | 14 ... 140 | 41 ... 140 | 34 ... 140 |
| Temperature of medium [°F] | 14 ... 140 | 41 ... 140 | 34 ... 140 |
| Storage temperature [°F] | 14 ... 140 | 14 ... 140 | 34 ... 140 |
| Assembly position | Vertical ±5° | | |
| Corrosion resistance CRC ¹⁾ | 2 | | |

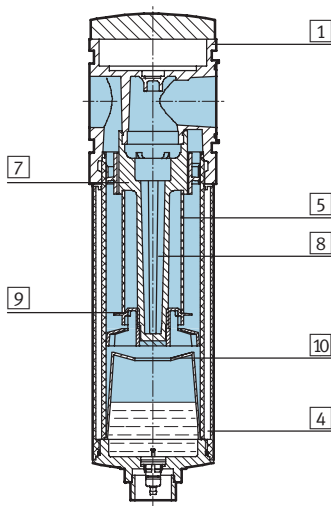
1) Corrosion resistance class 2 according to Festo standard 940 070
 Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

| Weights [lb] | |
|---|-------|
| With metal bowl | 13.00 |
| With metal bowl and fully automatic, electrically actuated bowl drain | 14.40 |

- Filter cartridges → 1121
- For spare parts go to: www.festo.com/en/spare_parts_service

Materials

Sectional view



| Filter | | |
|--------|------------------|------------------------|
| 1 | Body | Die-cast aluminum |
| 4 | Metal bowl | Wrought aluminum alloy |
| 5 | Filter element | Sintered bronze |
| 7 | Spin disk | Polyacetate |
| 8 | Filter holder | Polyacetate |
| 9 | Separating plate | Polyacetate |
| 10 | Stabilizing disk | Polyacetate |
| - | Seals | Nitrile rubber |

Standard Filters MS12N-LF – Inch Series

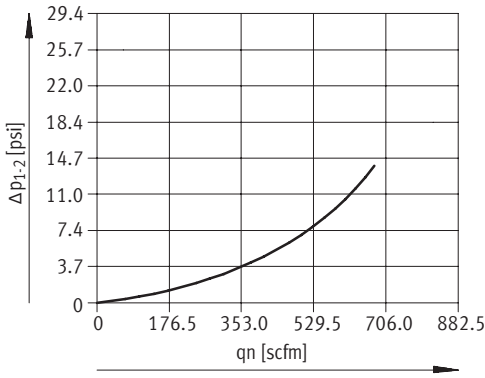
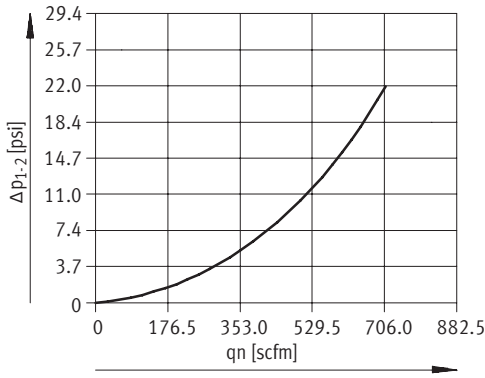
Technical Data



Standard Flow Rate q_n as a Function of the Differential Pressure Δp_{1-2}
 Filtration grade 5 μm

With port plate MS12-AGF
 Pneumatic connection 1 NPT

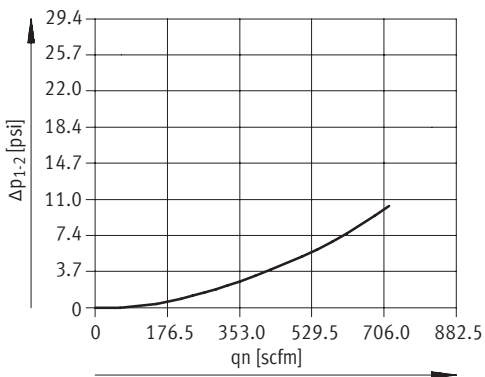
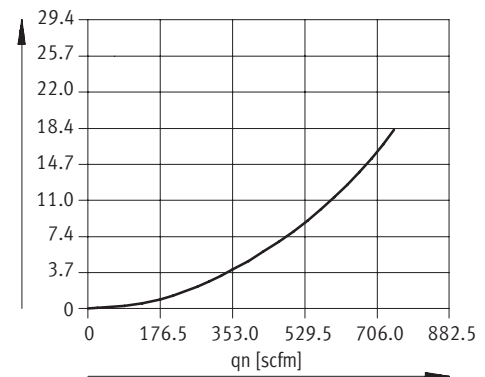
With port plate MS12-AGI
 Pneumatic connection 2 NPT



Filtration grade 40 μm

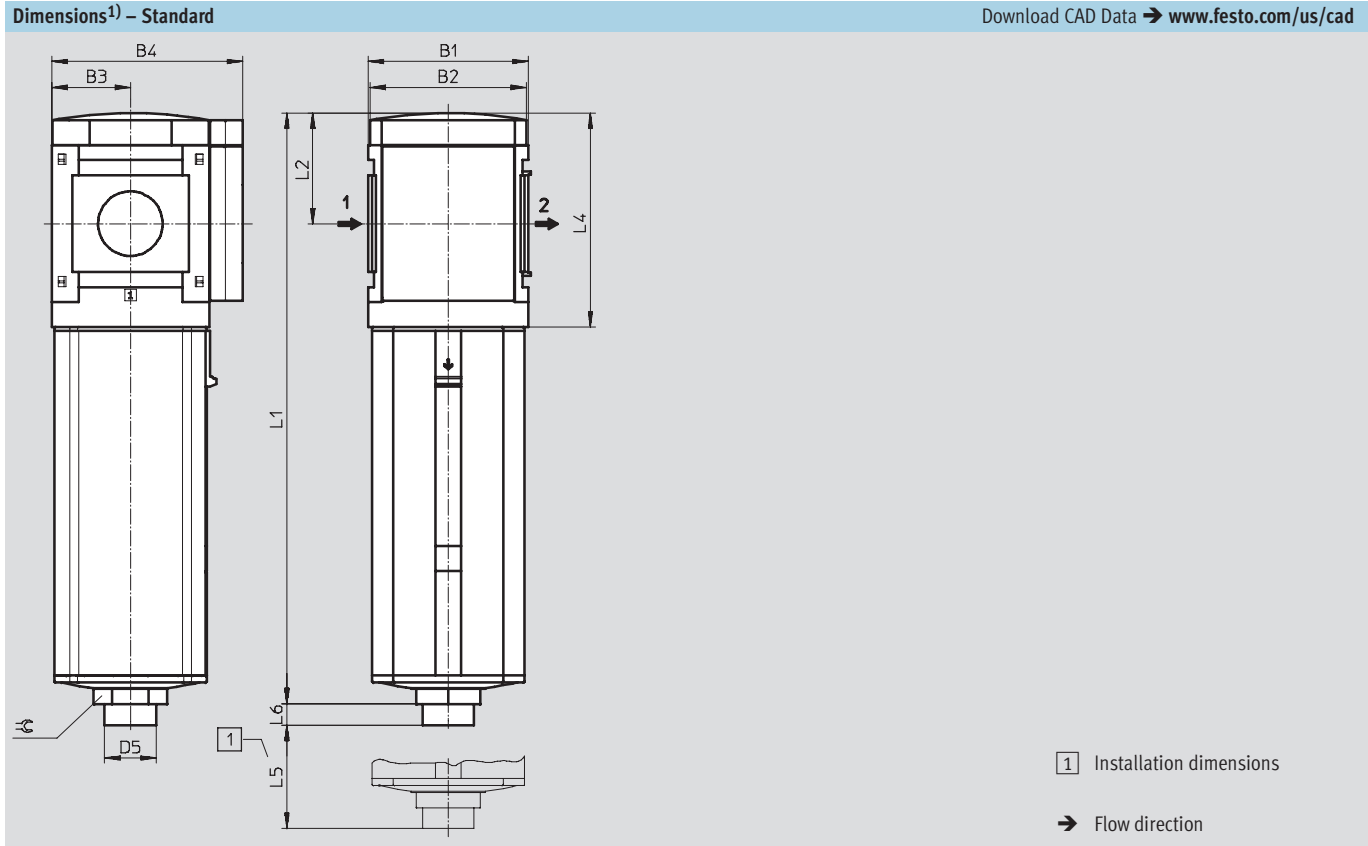
With port plate MS12-AGF
 Pneumatic connection 1 NPT

With port plate MS12-AGI
 Pneumatic connection 2 NPT



Standard Filters MS12N-LF – Inch Series

Dimensional Drawings



| B1 | B2 | B3 | B4 | D5 Ø | L1 | L2 | L4 | L5 | L6 | ≅ |
|------|------|------|------|---------|-------|------|------|------|------|------|
| 4.88 | 4.80 | 2.40 | 5.83 | 1.57 | 18.03 | 3.39 | 6.54 | 9.84 | 0.63 | 1.97 |

1) Dimensions are in inches, unless otherwise noted.

Standard Filters MS12N-LF – Inch Series

Dimensional Drawings, Ordering Data – Pre-configured Products

Dimensions¹⁾ – Bowl Drain Download CAD Data → www.festo.com/us/cad

Manual M

Barbed fitting for plastic tubing
PCN-4

Fully automatic V

Barbed fitting for plastic tubing
PCN-4

| | |
|---------------|------|
| Type | L6 |
| MS12-LF-...-M | 0.43 |

| | |
|---------------|------|
| Type | L6 |
| MS12-LF-...-V | 0.51 |

Fully automatic, electrically actuated E1 ... E4 Technical data PWEA → www.festo.com/catalog/pwea

- 1) Variant E1
PWEA-AP-... with M12x1 plug,
5-pin for SIM-M12-5GD-...
- 2) Variant E2/E3/E4
PWEA-AC-... with cable conduit
fitting Pg9
- 3) Connection 360° rotatable for
plastic tubing PUN-H-12x2-...

1) Dimensions are in inches, unless otherwise noted.

| Ordering Data | | | | | | | |
|-----------------|-------------------------------|-----------------------|---------------|----|------------------------|---------------|----|
| Metal bowl | | | | | | | |
| Bowl drain | Connection | Filtration grade 5 µm | | | Filtration grade 40 µm | | |
| | | Part No. | Type | LT | Part No. | Type | LT |
| Fully automatic | 1 NPT ... 2 NPT ²⁾ | 537152 | MS12-LF-G-CUV | 1D | 537151 | MS12-LF-G-EUV | 1D |

LT = Lead time 1D typically ships same day/next day 1W typically ships within 1 week Q request a quote for lead time

2) Port plate must be ordered separately as an accessory → 1119

Standard Filters MS12N-LF – Inch Series



Ordering Data – Configurable Products

| M Mandatory Data | | | | | | | | | O Options | |
|----------------------|-----------|-----------|----------|-------------|-------------------------------|------------------|------------|--------------------------------|------------------|------------------------|
| Part No. | Series | Size | Thread | Function | Connection size | Filtration grade | Bowl | Bowl drain | Type of mounting | Reverse flow direction |
| 535026 | MS | 12 | N | LF | AQT AQU AQV AQW G | E C | U | M V E1 E2 E3 E4 | WP | Z |
| Order example | | | | | | | | | | |
| 535026 | MS | 12 | N | - LF | - G | - E | - U | - V | - | - |

| Ordering Table | | | Conditions | Code | Enter code |
|---------------------------|--|-----|------------|-------------|------------|
| Grid dimension | [mm] | 124 | | | |
| M Part No. | 535026 | | | | |
| Series | Standard | | | MS | MS |
| Size | 12 | | | 12 | 12 |
| Thread | NPT thread | | | N | N |
| Function | Filter | | | -LF | -LF |
| Connection size | Port plate 1 NPT (dimensions → 1119) | | | -AQT | |
| | Port plate 1¼ NPT (dimensions → 1119) | | | -AQU | |
| | Port plate 1½ NPT (dimensions → 1119) | | | -AQV | |
| | Port plate 2 NPT (dimensions → 1119) | | | -AQW | |
| | Module without connecting thread, without port plate | | | -G | |
| Filtration grade | 40 µm | | | -E | |
| | 5 µm | | | -C | |
| Bowl | Metal bowl | | | -U | -U |
| Bowl drain | Manual | | | -M | |
| | Fully automatic (P1 max. 176 psi) | | | -V | |
| | External fully automatic bowl drain, electrical, 24 V DC, M12 | | | -E1 | |
| | External fully automatic bowl drain, electrical, 110 V AC, terminals | | | -E2 | |
| | External fully automatic bowl drain, electrical, 230 V AC, terminals | | | -E3 | |
| | External fully automatic bowl drain, electrical, 24 V DC, terminals | | | -E4 | |
| O Type of mounting | Mounting bracket (dimensions → 1120) | | 1 | -WP | |
| Reverse flow direction | Flow direction from right to left | | | -Z | |

1 WP Only with port plate AQT, AQU, AQV or AQW

Transfer order code

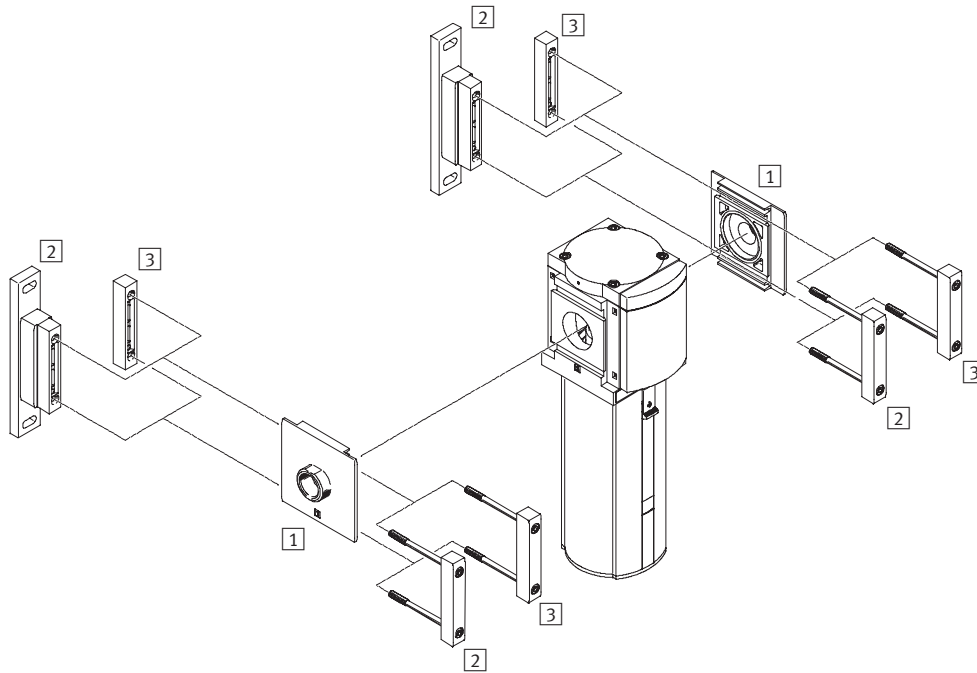
| | | | | | | | | | | | | | | | |
|---------------|-----------|-----------|----------|-------------|---|--|---|--|------------|---|--|---|--|---|--|
| 535026 | MS | 12 | N | - LF | - | | - | | - U | - | | - | | - | |
|---------------|-----------|-----------|----------|-------------|---|--|---|--|------------|---|--|---|--|---|--|

Standard Filters MS12N-LF – Inch Series

Accessories Overview



Mounting Attachments and Accessories



| Mounting Attachments and Accessories | | → Page |
|--------------------------------------|-----------------------------|--------|
| 1 | Port plate MS12-AQ... | 1119 |
| 2 | Mounting bracket MS12-WP | 1120 |
| 3 | Body connector MS12-MV | 1119 |

Standard Filters MS12N-LF – Inch Series

Accessories

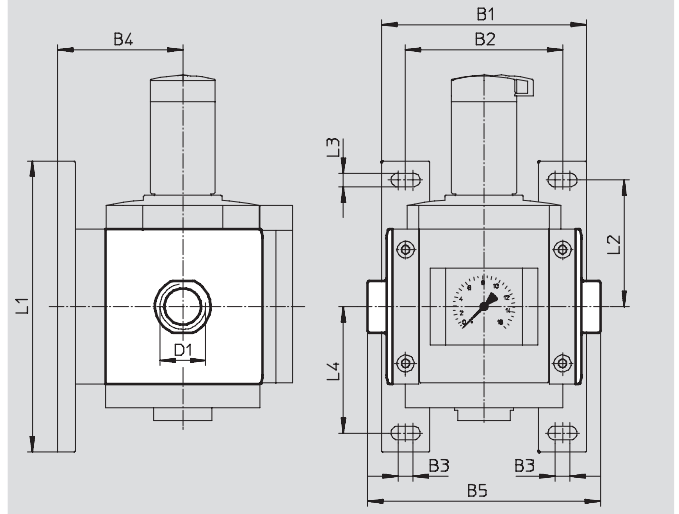
1 Port plate MS12-AQ...

- Adapter for pneumatic connection

Material:

Die-cast aluminum

Free of copper and PTFE



| Dimensions and Ordering Data | | | | | | | | | | | | |
|------------------------------|------|------|------|------|--------|------|------|------|------|----------------|----------|----------|
| B1 | B2 | B3 | B4 | B5 | D1 | L1 | L2 | L3 | L4 | Weight [[b] | Part No. | Type |
| 6.38 | 4.88 | 0.47 | 3.90 | 7.24 | 1 NPT | 9.06 | 3.94 | 0.43 | 3.94 | 2.60 | 537139 | MS12-AQT |
| | | | | 7.24 | 1¼ NPT | | | | | | 537140 | MS12-AQU |
| | | | | 7.24 | 1½ NPT | | | | | | 537141 | MS12-AQV |
| | | | | 7.72 | 2 NPT | | | | | | 537142 | MS12-AQW |

3 Body connector MS12-MV

- For connecting modules

Material:

Die-cast aluminum,

Free of copper and PTFE



| Ordering Data | | | |
|---------------|----------------|----------|---------|
| Size | Weight [[b] | Part No. | Type |
| MS12 | 1.00 | 537134 | MS12-MV |

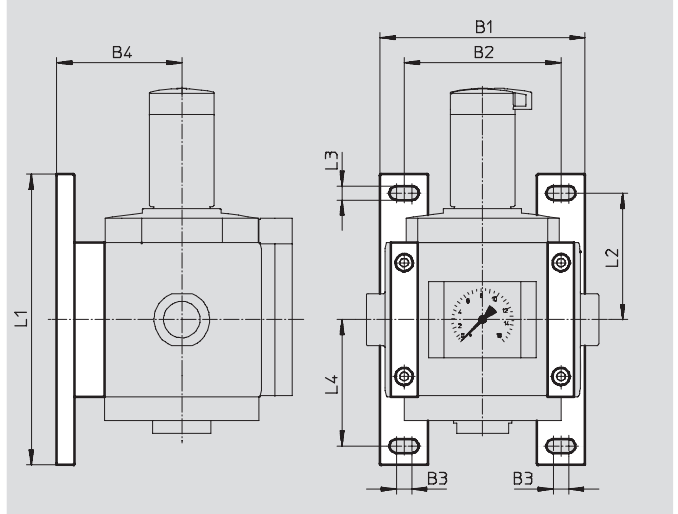
Standard Filters MS12N-LF – Inch Series

Accessories

2 Mounting bracket MS12-WP

- To connect the modules for wall mounting
- In combination with a port plate for mounting an individual unit on a wall

Material:
Die-cast aluminum
Free of copper and PTFE



| Dimensions and Ordering Data | | | | | | | | | | | |
|------------------------------|------|------|------|------|------|------|------|------|----------------|----------|---------|
| Size | B1 | B2 | B3 | B4 | L1 | L2 | L3 | L4 | Weight [[b] | Part No. | Type |
| MS12 | 6.38 | 4.88 | 0.47 | 3.90 | 9.06 | 3.94 | 0.43 | 3.94 | 1.40 | 537133 | MS12-WP |

Standard Filters MS12N-LF – Inch Series

Replacement Parts



| Ordering Data – Filter Cartridges | | | |
|-----------------------------------|------------------------------------|----------|------------|
| Size | Filtration grade [μm] | Part No. | Type |
| MS12 | 5 | 537143 | MS12-LFP-C |
| | 40 | 537144 | MS12-LFP-E |

- For spare parts go to: www.festo.com/en/spare_parts_service

Product Range and Company Overview

A Complete Suite of Automation Services

Our experienced engineers provide complete support at every stage of your development process, including: conceptualization, analysis, engineering, design, assembly, documentation, validation, and production.



Custom Automation Components
Complete custom engineered solutions



Custom Control Cabinets
Comprehensive engineering support and on-site services



Complete Systems
Shipment, stocking and storage services

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

Supporting Advanced Automation... As No One Else Can!

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.

Quality Assurance, ISO 9001 and ISO 14001 Certifications

Festo Corporation is committed to supply all Festo products and services that will meet or exceed our customers' requirements in product quality, delivery, customer service and satisfaction.

To meet this commitment, we strive to ensure a consistent, integrated, and systematic approach to management that will meet or exceed the requirements of the ISO 9001 standard for Quality Management and the ISO 14001 standard for Environmental Management.



© Copyright 2008, Festo Corporation. While every effort is made to ensure that all dimensions and specifications are correct, Festo cannot guarantee that publications are completely free of any error, in particular typing or printing errors. Accordingly, Festo cannot be held responsible for the same. For Liability and Warranty conditions, refer to our "Terms and Conditions of Sale", available from your local Festo office. All rights reserved. No part of this publication may be reproduced, distributed, or transmitted in any form or by any means, electronic, mechanical, photocopying or otherwise, without the prior written permission of Festo. All technical data subject to change according to technical update.



Printed on recycled paper at New Horizon Graphic, Inc., FSC certified as an environmentally friendly printing plant.

Festo North America

United States

Customer Resource Center
502 Earth City Expy., Suite 125
Earth City, MO 63045

For ordering assistance, or to find
your nearest Festo Distributor,

Call: 1.800.99.FESTO
Fax: 1.800.96.FESTO
Email: customer.service@us.festo.com

For technical support,

Call: 1.866.GO.FESTO
Fax: 1.800.96.FESTO
Email: product.support@us.festo.com

Headquarters

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

Sales Offices

Appleton

N. 922 Tower View Drive, Suite N
Greenville, WI 54942

Boston

120 Presidential Way, Suite 330
Woburn, MA 01801

Chicago

1441 East Business Center Drive
Mt. Prospect, IL 60056

Dallas

1825 Lakeway Drive, Suite 600
Lewisville, TX 75057

Detroit - Automotive Engineering Center
2601 Cambridge Court, Suite 320
Auburn Hills, MI 48326

New York

395 Moreland Road
Hauppauge, NY 11788

Silicon Valley

4935 Southfront Road, Suite F
Livermore, CA 94550

Design and Manufacturing Operations



East: 395 Moreland Road, Hauppauge, NY 11788



Central: 1441 East Business Center Drive, Mt. Prospect, IL 60056



West: 4935 Southfront Road, Suite F, Livermore, CA 94550

Mexico

Headquarters

Festo Pneumatic, S.A.
Av. Ceylán 3, Col. Tequesquahuac
54020 Tlalnepantla, Edo. de México
Call: 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



Canada

Headquarters

Festo Inc.
5300 Explorer Drive
Mississauga, Ontario L4W 5G4
Call: 1.905.624.9000
Fax: 1.905.624.9001
Email: info.ca@ca.festo.com
www.festo.com/ca



Festo Worldwide

Argentina Australia Austria Belarus Belgium Brazil Bulgaria Canada Chile China Colombia Croatia Czech Republic Denmark
Estonia Finland France Germany Great Britain Greece Hong Kong Hungary India Indonesia Iran Ireland Israel Italy Japan
Latvia Lithuania Malaysia Mexico Netherlands New Zealand Norway Peru Philippines Poland Romania Russia Serbia Singapore
Slovakia Slovenia South Africa South Korea Spain Sweden Switzerland Taiwan Thailand Turkey Ukraine United States Venezuela

www.festo.com