

MSH series

Maximum working pressure up to 3.5 MPa (35 bar) - Flow rate up to 195 l/min



Description

Technical data

Spin-on filters

Maximum working pressure up to 3.5 MPa (35 bar)
Flow rate up to 195 l/min

MSH is a range of spin-on filters suitable to be used in low pressure lines. They offer a good balance between performances, dimensions and prices. They are directly connected to the lines of the system through the hydraulic fittings.

Available features:

- Female threaded connections up to 1 1/4", for a maximum flow rate of 195 l/min
- Fine filtration rating, to get a good cleanliness level into the reservoir
- Strong sealing between the housing and cans, to be used in heavy applications
- Bypass valve, to relieve excessive pressure drop across the filter media
- Visual, electrical and electronic differential clogging indicators for low pressure applications

Common applications:

- Delivery lines, in economic industrial equipment or mobile machines

Filter housing materials

- Head: Anodized Aluminium
- Bypass valve: Nylon - Steel
- Element: Aluminium - Painted Steel

Bypass valve

Opening pressure: 250 kPa (2.5 bar) ±10%

Δp element type

- Δp: 5 bar
- Oil flow from OUT to IN

Seals

- Standard NBR - series A
- Optional FPM - series V

Temperature

From -20 °C to +110 °C

Note

MSH filters are provided for vertical mounting



Weights [kg] and volumes [dm³]

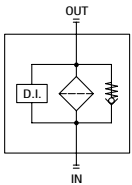
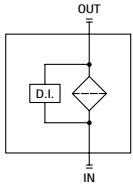
| Filter series | Weights [kg] | Volumes [dm ³] |
|----------------|--------------|----------------------------|
| MSH 050 | 1.50 | 0.65 |
| MSH 070 | 1.90 | 0.95 |
| MSH 100 | 3.30 | 1.80 |
| MSH 150 | 3.80 | 2.20 |

Cartridge

| Thread connections | |
|---------------------|------------|
| Type | Connection |
| CH 050 - 070 | M32 x 2 |
| CH 100 - 150 | M45 x 2 |

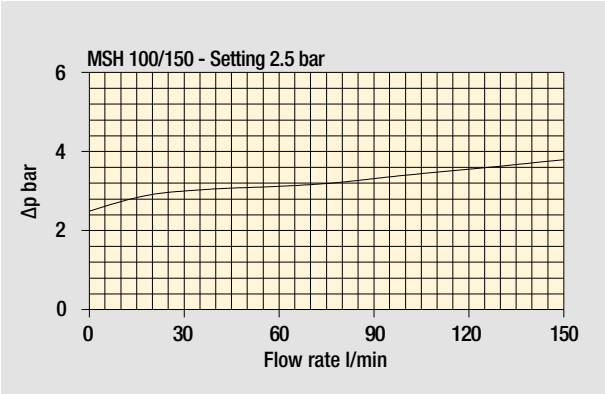
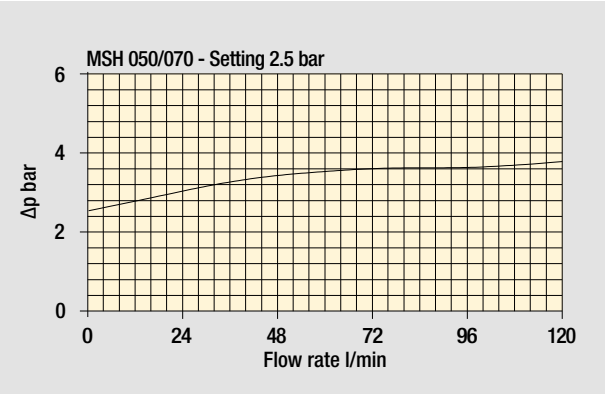
CH

| Filter series | Style S | Style B |
|----------------|---------|---------|
| MSH 050 | • | • |
| MSH 070 | • | • |
| MSH 100 | • | • |
| MSH 150 | • | • |



Pressure drop

Bypass valve pressure drop



The curves are plotted using mineral oil with density of 0.86 kg/dm³ in compliance with ISO 3968. Δp varies proportionally with density.

MSH MSH050 - MSH070 MSH100 - MSH150

Designation & Ordering code

COMPLETE FILTER

Series and size **MSH050** | **MSH070** | **MSH100** | **MSH150** Configuration example: **MSH050** **B** **A** **G1** **A10** **P01**

Bypass valve
S Without bypass
B 2.5 bar

Seal
A NBR

| Connections | MSH 050 - 070 | MSH 100 - 150 |
|-------------|--------------------------|-------------------------|
| G1 | G 1" | G 1 1/2" |
| G2 | G 3/4" | G 1 1/4" |
| G3 | 1" NPT | 1 1/2" NPT |
| G4 | 3/4" NPT | 1 1/4" NPT |
| G5 | SAE 16 - 1 5/16" - 12 UN | SAE 24 - 1 7/8" - 12 UN |
| G6 | SAE 12 - 1 1/16" - 12 UN | SAE 20 - 1 5/8" - 12 UN |

Filtration rating (filter media)

| | |
|---------------------------------------|------------------------------------------|
| A03 Inorganic microfiber 3 µm | M25 Wire mesh 25 µm |
| A06 Inorganic microfiber 6 µm | M60 Wire mesh 60 µm |
| A10 Inorganic microfiber 10 µm | M90 Wire mesh 90 µm |
| A25 Inorganic microfiber 25 µm | P10 Resin impregnated paper 10 µm |
| | P25 Resin impregnated paper 25 µm |

Execution
P01 MP Filtri standard

CARTRIDGE

Cartridge series and size **CH050** | **CH070** | **CH100** | **CH150** Configuration example: **CH050** **A10** **A** **P01**

Filtration rating (filter media)

| | |
|---------------------------------------|------------------------------------------|
| A03 Inorganic microfiber 3 µm | M25 Wire mesh 25 µm |
| A06 Inorganic microfiber 6 µm | M60 Wire mesh 60 µm |
| A10 Inorganic microfiber 10 µm | M90 Wire mesh 90 µm |
| A25 Inorganic microfiber 25 µm | P10 Resin impregnated paper 10 µm |
| | P25 Resin impregnated paper 25 µm |

Seal
A NBR

Execution
P01 MP Filtri standard
Pxx Customized

CLOGGING INDICATORS

See page 724-725

Differential pressure indicators

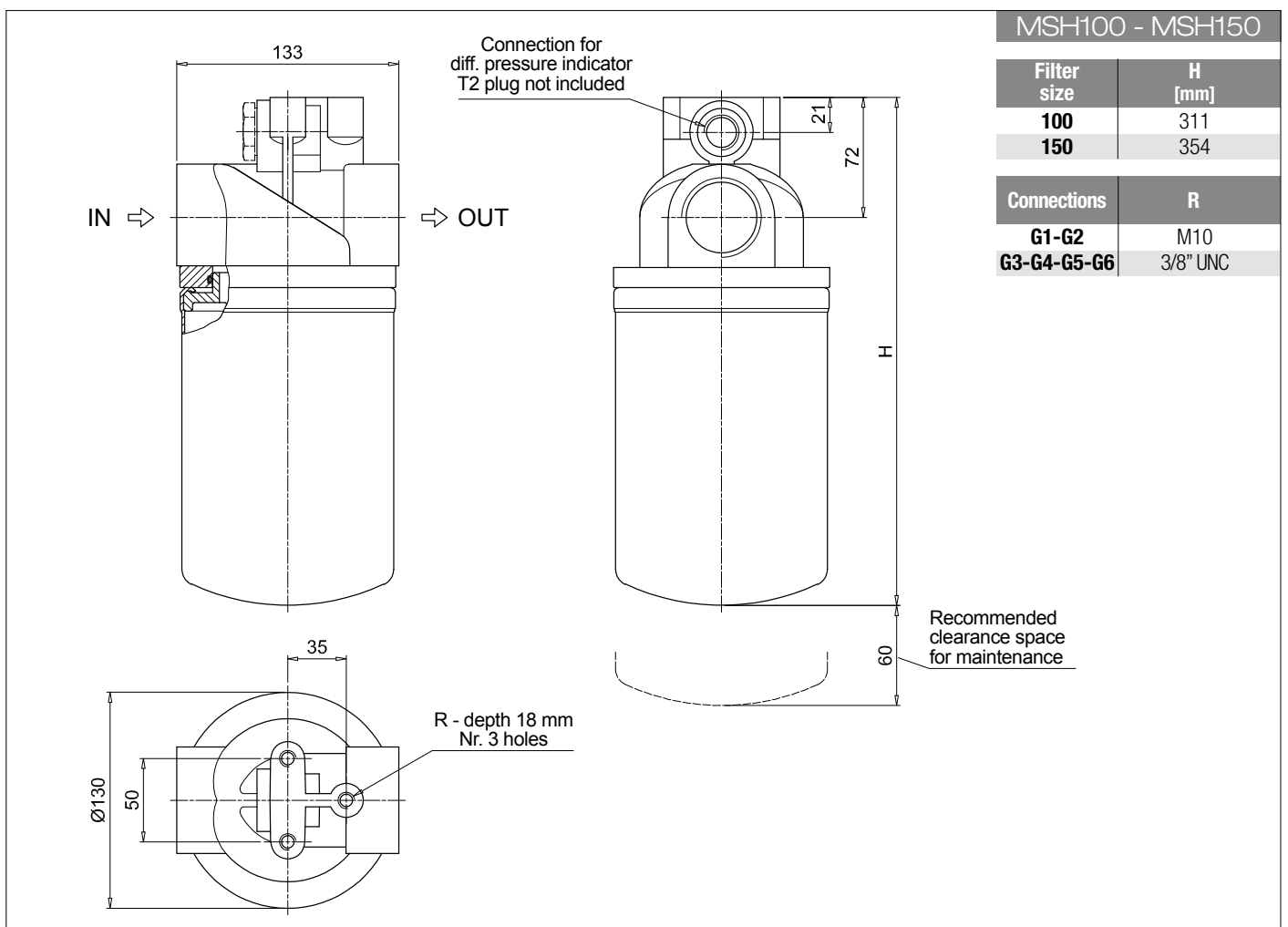
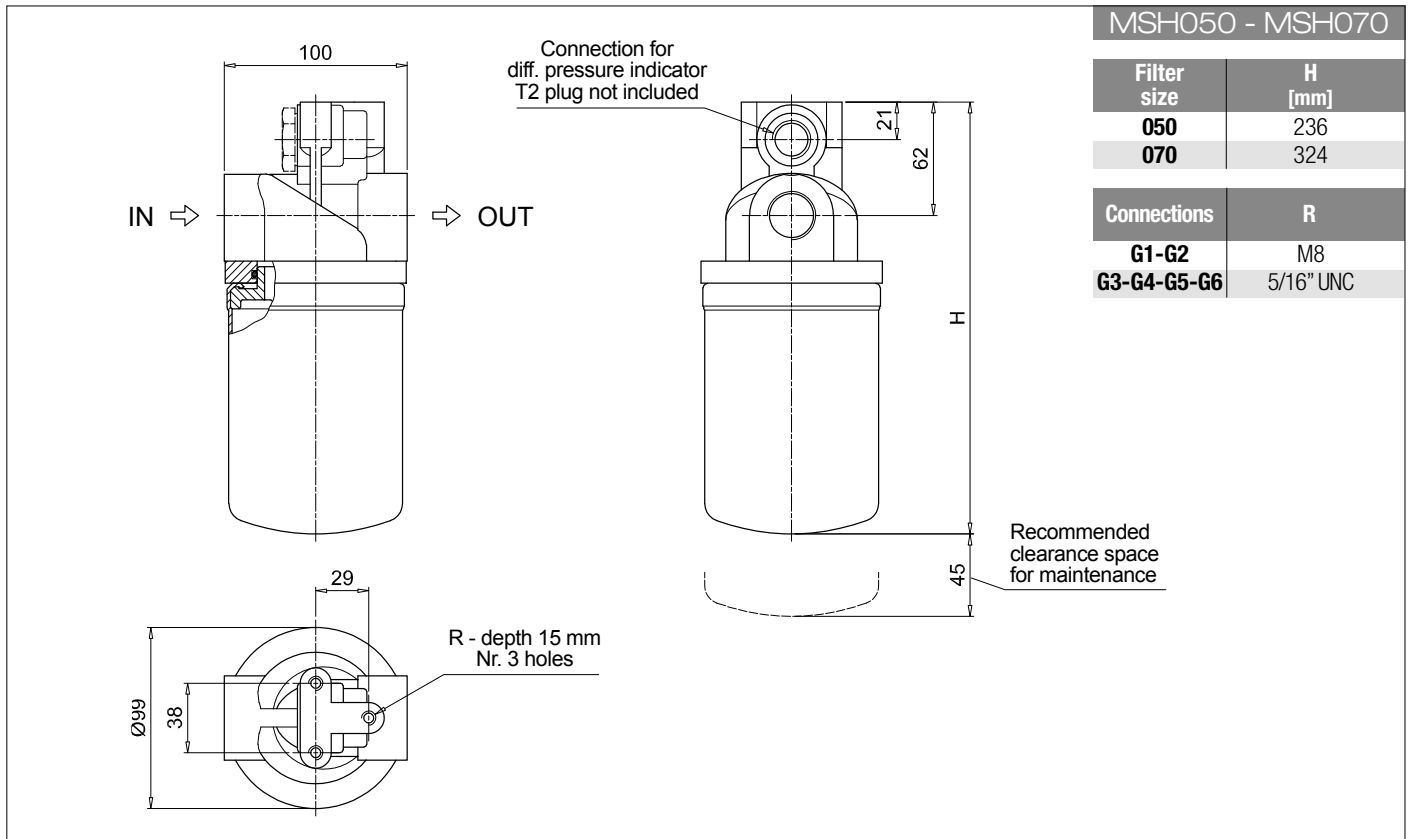
| |
|----------------------------------------------------------------|
| DEA Electrical differential pressure indicator |
| DEM Electrical differential pressure indicator |
| DLA Electrical / visual differential pressure indicator |
| DLE Electrical / visual differential pressure indicator |

| |
|-------------------------------------------------------|
| DTA Electronic differential pressure indicator |
| DVA Visual differential pressure indicator |
| DVM Visual differential pressure indicator |

PLUGS

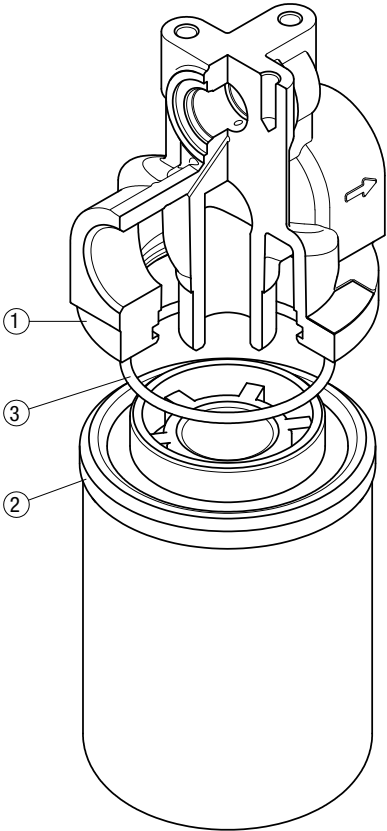
See page 747

| |
|-------------------------------|
| T2 Plug (not included) |
|-------------------------------|



MSH SPARE PARTS

Order number for spare parts



| Item: | Q.ty: 1 pc. 1 | Q.ty: 1 pc. 2 | Q.ty: 1 pc. 3 |
|--------------------|------------------|------------------|---------------------------|
| Filter series | Filter assembly | Cartridge | Seal code number |
| MSH 050-070 | See order table | See order table | 0-R 167 (ø 63.50 x 3.53) |
| MSH 100-150 | See order table | See order table | 0-R 4362 (ø 91.67 x 3.53) |

Designation & Ordering code

VACUUM INDICATORS

| Series | Configuration example 1: | VE | B | 21 | A | A | 50 | P01 | EX |
|----------------------------------------------|--------------------------|----|---|----|---|---|----|-----|----|
| VE Electrical vacuum indicator | Configuration example 2: | VL | B | 21 | A | A | 71 | P01 | |
| VL Electrical/Visual vacuum indicator | Configuration example 3: | VV | S | 20 | | | | P01 | |
| VV Vacuum gauge | | | | | | | | | |

| Type VE - VL | Type VV |
|--------------------------------------|---------------------------------------------|
| B Connection EN 10226 - R1/8" | B Axial connection EN 10226 - R1/8" |
| | S Radial connection EN 10226 - R1/8" |

| Vacuum setting | VE | VL | VV |
|---------------------|----|----|----|
| 20 -0.16 bar | - | - | • |
| 21 -0.21 bar | • | • | - |

| Seals | VE | VL |
|--------------|----|----|
| A NBR | • | • |

| Thermostat | VE | VL |
|-----------------------------|----|----|
| A Without thermostat | • | • |

| Electrical connections | VE | VL |
|----------------------------------------------------------------------------|----|----|
| 50 Connection EN 175301-803 | • | - |
| 51 Connection EN 175301-803, transparent base with lamps 24 Vdc | - | • |
| 52 Connection EN 175301-803, transparent base with lamps 110 Vdc | - | • |
| 53 Connection EN 175301-803, transparent base with lamps 230 Vac | - | • |
| 71 Connection IEC 61076-2-101 D (M12), black base with lamps 24 Vdc | - | • |

| Option |
|-------------------------------|
| P01 MP Filtri standard |
| Pxx Customized |

| Certifications | VEB | VL | VV |
|------------------------------|-----|----|----|
| Without | • | • | • |
| EX ATEX certification | • | - | - |
| UL UL certification | - | - | - |

BAROMETRIC (PRESSURE) INDICATORS

| Series | Configuration example 1: | BE | M | 15 | H | A | 41 | P01 |
|------------------------------------------------|--------------------------|----|---|----|---|---|----|-----|
| BE Electrical pressure indicator | Configuration example 2: | BL | A | 20 | H | A | 71 | P01 |
| BL Electrical/Visual pressure indicator | Configuration example 3: | BV | R | 14 | | | | P01 |
| BV Visual pressure indicator | Configuration example 4: | BV | P | 20 | H | | | P01 |

| Type | BE | BL | BV |
|-------------------------------------------|----|----|------------------------------------------------|
| A Standard type | • | • | A Axial connection pressure gauge |
| M With wired electrical connection | • | - | R Radial connection pressure gauge |
| | | | P Visual indicator with automatic reset |
| | | | Q Visual indicator with manual reset |

| Pressure setting | BEA-BEM | BLA | BVA-BVR | BVP-BVQ |
|-------------------|---------|-----|---------|---------|
| 14 1.4 bar | - | - | • | - |
| 15 1.5 bar | • | • | - | - |
| 20 2 bar | • | • | - | • |
| 25 2.5 bar | - | - | • | - |

| Seals | BE | BLA | BVA-BVR | BVP-BVQ |
|---------------|----|-----|---------|---------|
| H HNBR | • | • | - | • |

| Thermostat | BEA-BEM | BLA | BV |
|-----------------------------|---------|-----|----|
| A Without thermostat | • | • | - |

| Electrical connections | BEA | BEM | BL |
|----------------------------------------------------------------------------|-----|-----|----|
| 10 Connection AMP Superseal series 1.5 | - | - | - |
| 30 Connection Deutsch DT-04-2-P | - | - | - |
| 41 Connection via four-core cable | - | • | - |
| 50 Connection EN 175301-803 | • | - | - |
| 51 Connection EN 175301-803, transparent base with lamps 24 Vdc | - | - | • |
| 52 Connection EN 175301-803, transparent base with lamps 110 Vdc | - | - | • |
| 53 Connection EN 175301-803, transparent base with lamps 230 Vac | - | - | • |
| 71 Connection IEC 61076-2-101 D (M12), black base with lamps 24 Vdc | - | - | • |

| Option |
|-------------------------------|
| P01 MP Filtri standard |
| Pxx Customized |

| Certifications | BEA | BEM-BET | BL | BV |
|------------------------------|-----|---------|----|----|
| Without | • | • | • | • |
| EX ATEX certification | • | - | - | - |
| UL UL certification | • | - | - | - |

DIFFERENTIAL PRESSURE INDICATORS

| Series | Configuration example 1: | | | | | | | | Configuration example 2: | | Configuration example 3: | | Configuration example 4: | | Configuration example 5: | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------------------------------------|--------------------------|---|----|---|---|----|-----|----|--------------------------|----|--------------------------|---|--------------------------|-----|--------------------------|----|---|----|---|---|----|-----|----|---|----|---|---|----|-----|----|---|----|---|--|--|-----|--|--|
| DE Electrical differential pressure indicator | DE | M | 12 | H | F | 50 | P01 | DE | U | 50 | V | A | 50 | P01 | UL | DL | E | 20 | V | A | 71 | P01 | DT | A | 50 | H | F | 70 | P01 | DV | M | 70 | V | | | P01 | | |
| DL Electrical/Visual differential pressure indicator | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DT Electronic differential pressure indicator | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| DV Visual differential pressure indicator | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| Type | DE | DL | DT | DV | | | |
|----------------------------------------------|----|----|----|-------------------------------|--|--|--|
| A Standard type | • | • | • | A With automatic reset | | | |
| M With wired electrical connection | • | - | - | M With manual reset | | | |
| U Standard type 210 bar, UL certified | • | - | - | | | | |
| E For high power supply | - | • | - | | | | |

| Pressure setting | DEA | DEM | DEU | DLA | DLE | DTA | DVA | DVM |
|-------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| 12 1.2 bar | • | • | - | • | • | • | • | • |
| 20 2.0 bar | • | • | • | • | • | • | • | • |

| Seals | DEA | DEM | DEU | DLA | DLE | DTA | DVA | DVM |
|---------------|-----|-----|-----|-----|-----|-----|-----|-----|
| H HNBR | • | • | - | • | • | • | • | • |
| V FPM | • | • | • | • | • | • | • | • |

| Thermostat | DEA | DEM | DEU | DLA | DLE | DT |
|-----------------------------|-----|-----|-----|-----|-----|----|
| A Without thermostat | • | • | • | • | • | - |
| F With thermostat | - | • | - | - | • | • |

| Electrical connections | DEA | DEM | DEU | DLA | DLE | DT |
|----------------------------------------------------------------------------|-----|-----|-----|-----|-----|----|
| 10 Connection AMP Superseal series 1.5 | - | • | - | - | - | - |
| 20 Connection AMP Timer Junior | - | • | - | - | - | - |
| 30 Connection Deutsch DT-04-2-P | - | • | - | - | - | - |
| 35 Connection Deutsch DT-04-3-P | - | • | - | - | - | - |
| 50 Connection EN 175301-803 | • | - | • | - | • | - |
| 51 Connection EN 175301-803, transparent base with lamps 24 Vdc | - | - | - | • | - | - |
| 52 Connection EN 175301-803, transparent base with lamps 110 Vdc | - | - | - | • | - | - |
| 70 Connection IEC 61076-2-101 D (M12) | - | - | - | - | - | • |
| 71 Connection IEC 61076-2-101 D (M12), black base with lamps 24 Vdc | - | - | - | • | - | - |

| Option | DEU | OTHERS |
|-------------------------------|-----|--------|
| P01 MP Filtri standard | - | • |
| Pxx Customized | - | - |

| Certifications | DEU | OTHERS |
|----------------------------|-----|--------|
| Without | - | • |
| UL UL certification | • | - |

PLUGS

| Series | Configuration example | |
|----------------|-----------------------|---|
| T2 Plug | T2 | H |

| Seals |
|---------------|
| H HNBR |
| V FPM |