

Алматы (7273)495-231  
Ангарск (3955)60-70-56  
Архангельск (8182)63-90-72  
Астрахань (8512)99-46-04  
Барнаул (3852)73-04-60  
Белгород (4722)40-23-64  
Благовещенск (4162)22-76-07  
Брянск (4832)59-03-52  
Владивосток (423)249-28-31  
Владикавказ (8672)28-90-48  
Владимир (4922)49-43-18  
Волгоград (844)278-03-48  
Вологда (8172)26-41-59  
Воронеж (473)204-51-73  
Екатеринбург (343)384-55-89

Иваново (4932)77-34-06  
Ижевск (3412)26-03-58  
Иркутск (395)279-98-46  
Казань (843)206-01-48  
Калининград (4012)72-03-81  
Калуга (4842)92-23-67  
Кемерово (3842)65-04-62  
Киров (8332)68-02-04  
Коломна (4966)23-41-49  
Кострома (4942)77-07-48  
Краснодар (861)203-40-90  
Красноярск (391)204-63-61  
Курск (4712)77-13-04  
Курган (3522)50-90-47  
Липецк (4742)52-20-81

Магнитогорск (3519)55-03-13  
Москва (495)268-04-70  
Мурманск (8152)59-64-93  
Набережные Челны (8552)20-53-41  
Нижний Новгород (831)429-08-12  
Новокузнецк (3843)20-46-81  
Ноябрьск (3496)41-32-12  
Новосибирск (383)227-86-73  
Омск (3812)21-46-40  
Орел (4862)44-53-42  
Оренбург (3532)37-68-04  
Пенза (8412)22-31-16  
Петрозаводск (8142)55-98-37  
Псков (8112)59-10-37

Пермь (342)205-81-47  
Ростов-на-Дону (863)308-18-15  
Рязань (4912)46-61-64  
Самара (846)206-03-16  
Саранск (8342)22-96-24  
Санкт-Петербург (812)309-46-40  
Саратов (845)249-38-78  
Севастополь (8692)22-31-93  
Симферополь (3652)67-13-56  
Смоленск (4812)29-41-54  
Сочи (862)225-72-31  
Ставрополь (8652)20-65-13  
Сургут (3462)77-98-35  
Сыктывкар (8212)25-95-17  
Тамбов (4752)50-40-97

Тверь (4822)63-31-35  
Тольятти (8482)63-91-07  
Томск (3822)98-41-53  
Тула (4872)33-79-87  
Тюмень (3452)66-21-18  
Ульяновск (8422)24-23-59  
Улан-Удэ (3012)59-97-51  
Уфа (347)229-48-12  
Хабаровск (4212)92-98-04  
Чебоксары (8352)28-53-07  
Челябинск (351)202-03-61  
Череповец (8202)49-02-64  
Чита (3022)38-34-83  
Якутск (4112)23-90-97  
Ярославль (4852)69-52-93

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# Технические характеристики на электромеханические реле давления Herion, Martonair, 18D, 20D, 8D, M/1339 компании **IMI NORGREN**

- > G1/8
- > For use in many applications where an electrical signal is required in response to a pneumatic signal
- > Can be wired for normally closed or normally open operation
- > Long life expectancy
- > Fixing screws supplied



## Technical features

### Medium:

Compressed air, filtered, lubricated and non-lubricated

### Operation:

Pressure switch, adjustable

### Mounting:

Holes in switch casing for self-tapping screws

### Port Size:

G1/8

### Operating Pressure:

2 ... 10 bar

### Switching Pressure:

2 ± 0,5 bar

### Electrical Connection:

Pg 9

### Maximum current:

10 A at 125 - 250 V 50 Hz

0,5 A at 125 d.c.

0,25 A at 250 V d.c.

### Switch Life:

2,000,000 operations at 3 A 125 - 250 V a.c.

100,000 - 200,000 operations at 10 A 125 - 250 V a.c.

### Operating Temperature:

-5°C\* ... +80°C

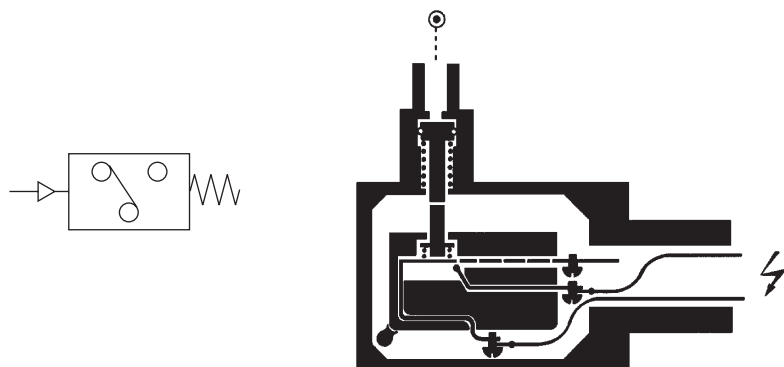
\*Consult our Technical Service for use below +2°C

### Materials:

Polyacetal casing, nitrile rubber seals.

### Ordering Information:

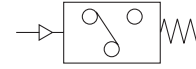
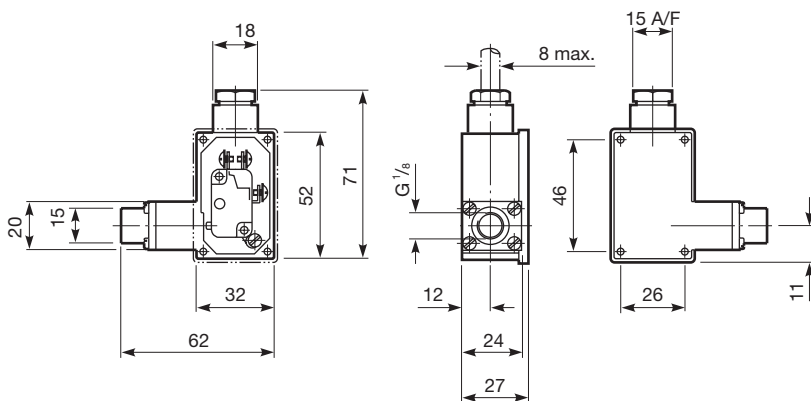
To order, quote model number M/1339



## General Information

| Model  | Type                             | Port Size | Weight (kg) | Spares Kit |
|--------|----------------------------------|-----------|-------------|------------|
| M/1339 | Normally closed or normally open | G1/8      | 0,09        | QM/1339/00 |

## Pressure switch



Model Number: **M/1339**

Type: Normally closed or normally open.

Common connection marked '1', normally closed connection marked '2' and normally open connection marked '3' on micro-switch.

The four mounting holes are cored to suit M3 x 9 mm long self-tapping screws, supplied with unit. The micro-switch may be replaced with another of the same type without affecting the operating characteristics of the valve.

## Warning

These products are intended for use in industrial compressed air systems only. Do not use these products where pressures and temperatures can exceed those listed under

### »Technical features/data«.

Before using these products with fluids other than those specified, for non-industrial applications, life-support systems or other applications not within published specifications, consult IMI Precision Engineering.

Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes.

The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure.

System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided.

System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products.

## 18D - ATEX

# Electro-mechanical pneumatic pressure switches



-1 ... 30 bar  
Port size: G1/4 or flange

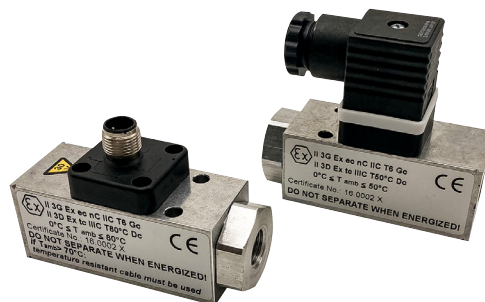
Microswitch with gold plated contacts

Vibration resistant to 15 g

Microswitch approved by UL and CSA

Intrinsically safe operation

For Ex applications conforming to ATEX:  
Zone 2 category ATEX 3G (gases):  
Ex ec nC IIC T6 Gc  
Zone 22 category ATEX 3D (dusts):  
Versions, form A connector: Ex tc IIIC T50 °C Dc; Versions, M12x1 connector:  
Ex tc IIIC T80 °C Dc  
Special condition to be observed during the installation



### Technical features

#### Medium:

For neutral, gaseous and liquid fluids

#### Operation:

Diaphragm

#### Operating pressure:

-1 ... 30 bar (-14 ... 435 psi)

#### Maximum over pressure:

80 bar (1160 psi)

#### Repeatability:

±3% for vacuum; ±4% of final value  
(depending on regulating pressure)

#### Port size:

G1/4 or flange

#### Media viscosity:

Up to 1000 mm²/s

#### Switching pressure difference/hysteresis:

Fixed

#### Switching cycles:

100 1/min

#### Life cycle of mechanical parts:

10<sup>7</sup> switching cycles

#### Switching element:

Microswitch with gold plated contacts

#### Mounting position:

Optional

#### Degree of protection:

IP65 for DIN EN 175301-803 (DIN 43650) form A connection  
IP67 for M12x1 connection

#### Electrical connection:

DIN EN 175301-803 (DIN 43650) form A or M12x1 IEC 947-5-2

#### Weight:

0,2 kg (0.44 lbs)

#### Ambient/Media temperature:

Versions, form A connector:  
0 ... +50°C (32 ... +122°F)  
Versions, M12x1 Connector:  
0 ... +80°C (32 ... +176°F)  
Air supply must be dry enough to avoid ice formation at temperatures below +2°C (+35°F)

#### Materials:

Housing: Aluminium  
Sealing: FPM/brass  
O-ring: NBR

### Technical data

#### Electrical connection acc. to DIN EN 175301-803, form A

| Symbol                                                                              | Port size | Pressure range *1) |              | Switching pressure difference |       |                   |       | Materials press sensor |            | Drawing No. | Model   |
|-------------------------------------------------------------------------------------|-----------|--------------------|--------------|-------------------------------|-------|-------------------|-------|------------------------|------------|-------------|---------|
|                                                                                     |           | (bar)              | (psi)        | Lower range (bar)             | (psi) | Upper range (bar) | (psi) | Body                   | Seal       |             |         |
|  | G1/4      | -1 ... 0           | -14 ... 0    | 0,15                          | 2,17  | 0,18              | 2,61  | AL                     | FPM/MS/NBR | 1           | 0880180 |
|                                                                                     | G1/4      | 0,2 ... 2          | 2,9 ... 29   | 0,20                          | 2,9   | 0,35              | 5,07  | AL                     | FPM/MS/NBR | 1           | 0880280 |
|                                                                                     | Flange    | 0,2 ... 2          | 2,9 ... 29   | 0,20                          | 2,9   | 0,35              | 5,07  | AL                     | FPM/MS/NBR | 3           | 0881280 |
|                                                                                     | G1/4      | 0,5 ... 8          | 7,2 ... 116  | 0,35                          | 5,07  | 0,85              | 12,3  | AL                     | FPM/MS/NBR | 2           | 0880380 |
|                                                                                     | Flange    | 0,5 ... 8          | 7,2 ... 116  | 0,35                          | 5,07  | 0,85              | 12,3  | AL                     | FPM/MS/NBR | 3           | 0881380 |
|                                                                                     | G1/4      | 1 ... 16           | 23,2 ... 232 | 0,40                          | 5,8   | 1,20              | 17,4  | AL                     | FPM/MS/NBR | 2           | 0880480 |
|                                                                                     | G1/4      | 1 ... 30           | 23,2 ... 435 | 1,0                           | 14,5  | 5,00              | 72,5  | AL                     | FPM/MS/NBR | 2           | 0880680 |

## Electrical connection M12x1 nach IEC 947-5-2 - plug not included, max. allowable voltage 30 V

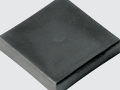
The pressure switch will loose the Ex approval when using wire sockets other than those listed in the data sheet.

| Symbol                                                                            | Port size | Pressure range *1) |              | Switching pressure difference |       |                   |       | Materials press sensor |            | Drawing No. | Model   |
|-----------------------------------------------------------------------------------|-----------|--------------------|--------------|-------------------------------|-------|-------------------|-------|------------------------|------------|-------------|---------|
|                                                                                   |           | (bar)              | (psi)        | Lower range (bar)             | (psi) | Upper range (bar) | (psi) | Body                   | Seal       |             |         |
|  | G1/4      | -1 ... 0           | -14 ... 0    | 0,15                          | 2,17  | 0,18              | 2,61  | AL                     | FPM/MS/NBR | 1           | 0880181 |
|                                                                                   | G1/4      | 0,2 ... 2          | 2,9 ... 29   | 0,20                          | 2,9   | 0,35              | 5,07  | AL                     | FPM/MS/NBR | 1           | 0880281 |
|                                                                                   | G1/4      | 0,5 ... 8          | 7,2 ... 116  | 0,35                          | 5,07  | 0,85              | 12,3  | AL                     | FPM/MS/NBR | 2           | 0880381 |
|                                                                                   | Flange    | 0,5 ... 8          | 7,2 ... 116  | 0,35                          | 5,07  | 0,85              | 12,3  | AL                     | FPM/MS/NBR | 3           | 0881381 |
|                                                                                   | G1/4      | 1 ... 16           | 23,2 ... 232 | 0,40                          | 5,8   | 1,20              | 17,4  | AL                     | FPM/MS/NBR | 2           | 0880481 |
|                                                                                   | Flange    | 1 ... 16           | 23,2 ... 232 | 0,40                          | 5,8   | 1,20              | 17,4  | AL                     | FPM/MS/NBR | 2           | 0881481 |

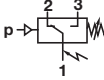
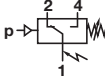
\*1) Setpoints should be ideally in the middle of the switching pressure range. Reference pressure = atmospheric pressure. Switching pressure must not exceed the indicated values.

MS = brass

## Accessories

| Pressure port reducing nipple                                                    | Surge damper                                                                      | Cover                                                                             | Connector DIN EN 175301-803                                                       | Connector M12x1 4-pin, 90°                                                          | 4-pin, straight                                                                     |
|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |  |  |  |  |
| Page 3                                                                           | Page 3                                                                            | Page 3                                                                            |                                                                                   |                                                                                     |                                                                                     |
| 0574767 (brass)                                                                  | 0574773 (brass)                                                                   | 0554737                                                                           | 0524210 (Form A)                                                                  | 0524207 (2 m cable, 4-core)                                                         | 0524206 (2 m cable, 4-core)                                                         |
| 0550083 (stainless steel)                                                        | 0553258 (stainless steel)                                                         |                                                                                   |                                                                                   | 0524209 (5 m cable, 4-core)                                                         | 0524208 (5 m cable, 4-core)                                                         |

## Switching function

|                                                                                     |                                                                                                                                                                            |                                                                                     |                                                                                                                                                                     |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | Connector DIN EN 175301-803, form A<br>Microswitch SPDT<br>Terminals 1 - 3:<br>Contacts close on rising pressure.<br>Terminals 1 - 2:<br>Contacts open on rising pressure. |  | Connector IEC 947-5-2, M12x1<br>Microswitch SPDT<br>Terminals 1 - 4:<br>Contacts close on rising pressure.<br>Terminals 1 - 2:<br>Contacts open on rising pressure. |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Switching capacity

### Commutator with gold plated contacts

| Current type | Load type *2)    | U min [V] | Max. permissible persistent current I <sub>max</sub> [A] at U *1) (UL & CSA) |                                |      |       |       | Electrical life-time                   |
|--------------|------------------|-----------|------------------------------------------------------------------------------|--------------------------------|------|-------|-------|----------------------------------------|
|              |                  |           |                                                                              | DIN EN 175301-803, form A 30 V | 48 V | 125 V | 250 V |                                        |
| a.c.         | Ohmic, inductive | 6         | 0,1                                                                          | 0,1                            | 0,1  | 0,1   | 0,1   | ≥ 2 x 10 <sup>5</sup> Switching cycles |
| d.c.         | Ohmic, inductive | 6         | 0,1                                                                          | 0,1                            | —    | —     | —     |                                        |

Reference number: 20/min, Reference temperature: +20°C.

I<sub>min</sub> = 1 mA at 24 V d.c. or 5 mA at 6 V d.c.

\*1) Higher currents (5 A max) will cause a reduction of the durability of the micro-switch contacts. Furthermore additional measures has to be taken to fulfil the EMV regulation 2014/30/EU by the manufacturer

\*2) Spark quenching/overload protection will be necessary using inductive loads.

## Recommended circuit

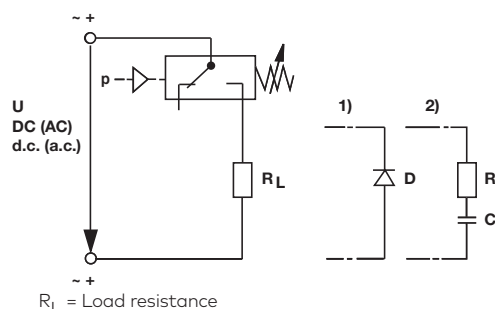
### Spark quenching and EMV intrinsically safe

1. Quick diode (D) with  $t_v \leq 200$  ns, parallel to inductive load.
2. RC link in parallel to load in parallel to switching contact.

Dimensioning principles:

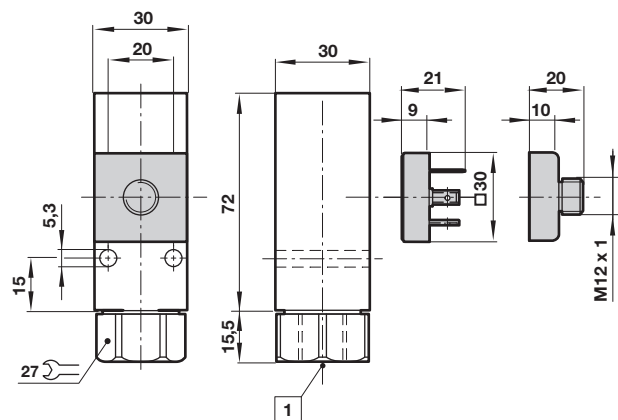
$R_L$  in  $\Omega \approx 0,2 \times R_{Load}$  in  $\Omega$

$C$  in  $[\mu F] \approx I_{Load}$  in [A]

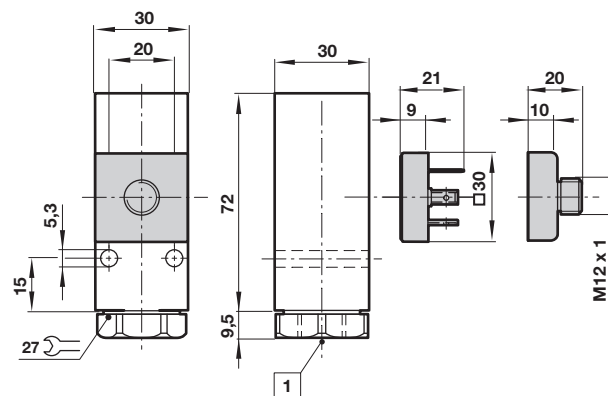


## Drawings

1



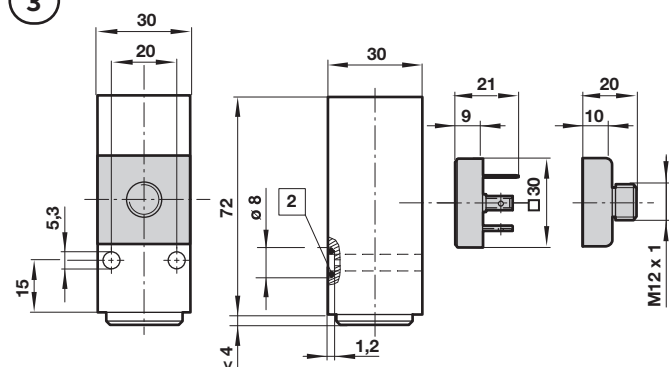
2



Dimensions in mm  
Projection/First angle



3

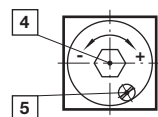


### Adjustable switch point

After releasing the locking screw

Clockwise rotation = increasing switch point

Counter clockwise rotation = decreasing the switch point

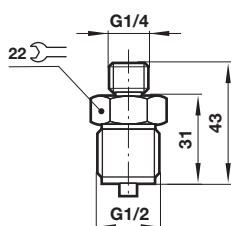


- 4 Switch point screw
- 5 Locking screw

- 1 Fluid port
- 2 O-ring 5 x 1,5

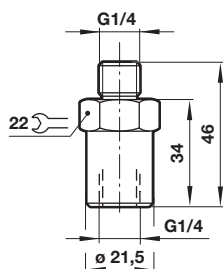
## Pressure port reducing nipple

Model: 0574767 (brass)  
0550083 (stainless steel)



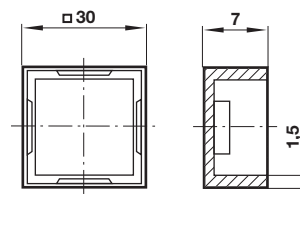
## Surge damper nipple

Model: 0574773 (brass)  
0553258 (stainless steel)



## Cover

Model: 0554737 (plastic)



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System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided.

System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products.

- > -0,025 to 1,6 bar (-0.36 ... 23 psi)
- > High accuracy
- > Microswitch with gold plated contacts (intrinsically safe operation)
- > Robust metal housing
- > **Electrical connection:**  
connector acc. to DIN EN 175301-803 (form A) or M20x1,5 (DIN 46320)



### Technical features

#### Medium:

For neutral, non-inflammable gases and fluids

#### Operation:

Diaphragm

#### Operating pressure:

-0,025 to 1,6 bar (-0.36 ... 23 psi)

#### Repeatability:

±1% of final value  
(depending on regulating pressure)

#### Port size:

G1/4

#### Sealing:

≤5 x 10<sup>-3</sup> mbar x l/s

#### Switching cycles:

10/min

#### Switching element:

Microswitch with gold plated contacts

#### Shock-/vibrations:

4 g max. (sinusoidal) / 5 Hz max.

#### Mounting position:

Optional

#### Degree of protection:

IP65

#### Electrical connection:

Cable gland M20 x 1,5

#### Weight:

1,1 kg (2.4 lbs)

#### Temperature:

Ambient:

-25 ... +80°C (-13 ... +176°F)

Media:

-10 ... +100°C (14 ... +212°F)

Air supply must be dry enough

to avoid ice formation at

temperatures below +2°C (+35°F)

#### Materials:

Housing: aluminium diecast

Sensor: stainless steel

Fluid contact parts: stainless steel

1.4305/1.4301

Sealing: diaphragm (NBR)

### Technical data

#### Standard models — 181xxxx (fixed switching pressure difference)

| Symbol                                                                              | Pressure range *1) |               | Over pressure *2) |       | Switching pressure difference |       |                           |       | Drawing No. | Model   |
|-------------------------------------------------------------------------------------|--------------------|---------------|-------------------|-------|-------------------------------|-------|---------------------------|-------|-------------|---------|
|                                                                                     | (bar)              | (psi)         | (bar)             | (psi) | Lower range minimum (bar)     | (psi) | Upper range maximum (bar) | (psi) |             |         |
|  | 0 ... 0,025        | 0 ... 0.36    | 0,5               | 7.2   | 0,003                         | 0.043 | 0,004                     | 0.058 | 1 & 3       | 1812500 |
|                                                                                     | 0 ... 0,06         | 0 ... 0.87    | 0,5               | 7.2   | 0,004                         | 0.058 | 0,006                     | 0.087 | 1 & 3       | 1812600 |
|                                                                                     | 0,004 ... 0,16     | 0.058 ... 2.3 | 0,5               | 7.2   | 0,004                         | 0.058 | 0,008                     | 0.11  | 1 & 3       | 1812700 |
|                                                                                     | 0 ... 0,25         | 0 ... 3.6     | 0,5               | 7.2   | 0,004                         | 0.058 | 0,009                     | 0.13  | 1 & 3       | 1812800 |
|                                                                                     | 0,05 ... 0,6       | 0.72 ... 8.7  | 15                | 217   | 0,03                          | 0.043 | 0,06                      | 0.87  | 1 & 2       | 1814100 |
|                                                                                     | 0,05 ... 1,6       | 0.72 ... 23   | 15                | 217   | 0,03                          | 0.043 | 0,12                      | 1.74  | 1 & 2       | 1814300 |

### Technical data

#### Standard models — 181xxxx (adjustable switching pressure difference)

| Symbol                                                                              | Pressure range *1) |              | Over pressure *2) |       | Switching pressure difference |       |                     |       |         |       | Drawing | Model   |
|-------------------------------------------------------------------------------------|--------------------|--------------|-------------------|-------|-------------------------------|-------|---------------------|-------|---------|-------|---------|---------|
|                                                                                     | (bar)              | (psi)        | (bar)             | (psi) | Lower range minimum           |       | Upper range minimum |       | maximum |       |         |         |
| (bar)                                                                               |                    |              |                   |       | (psi)                         | (bar) | (psi)               | (bar) | (psi)   | (bar) | (psi)   | No.     |
|  | 0 ... 0,025        | 0 ... 0.36   | 0,5               | 7.2   | 0,008                         | 0.11  | 0,011               | 0.13  | 0,025   | 0.36  | 1 & 3   | 1802500 |
|                                                                                     | 0 ... 0,06         | 0 ... 0.87   | 0,5               | 7.2   | 0,009                         | 0.13  | 0,015               | 0.21  | 0,04    | 0.58  | 1 & 3   | 1802600 |
|                                                                                     | 0 ... 0,16         | 0 ... 2.3    | 0,5               | 7.2   | 0,011                         | 0.15  | 0,023               | 0.33  | 0,12    | 1.74  | 1 & 3   | 1802700 |
|                                                                                     | 0 ... 0,25         | 0 ... 3.6    | 0,5               | 7.2   | 0,011                         | 0.15  | 0,028               | 0.40  | 0,2     | 2.90  | 1 & 3   | 1802800 |
|                                                                                     | 0,05 ... 0,6       | 0.72 ... 8.7 | 15                | 217   | 0,09                          | 1.30  | 0,16                | 2.32  | 0,5     | 7.25  | 1 & 2   | 1804100 |
|                                                                                     | 0,05 ... 1.6       | 0.72 ... 23  | 15                | 217   | 0,13                          | 1.88  | 0,25                | 3.62  | 1,2     | 17.4  | 1 & 2   | 1804300 |

Special pressure ranges on request

\*1) Short-term pressure peaks are not allowed to exceed this limit value during operations.

Operative utilization of the limit value is not permitted. The limit value corresponds to maximum testing pressure.

\*2) Reference pressure is the atmospheric air pressure

Option selector

18★★★★★

| Switching pressure difference | Substitute |
|-------------------------------|------------|
| Adjustable                    | 0          |
| Fixed                         | 1          |
| Pressure range (bar)          | Substitute |
| 0 ... 0,025                   | 25         |
| 0 ... 0,06                    | 26         |
| 0,004 ... 0,16                | 27         |
| 0 ... 0,25                    | 28         |
| 0,05 ... 0,6                  | 41         |
| 0,05 ... 1,6                  | 43         |

| Electrical connection                                | Substitute |
|------------------------------------------------------|------------|
| Interface for DIN EN 175301-803 form A connector *1) | 00         |
| Cable gland                                          | 05         |

\*1) Connector is not in scope of delivery

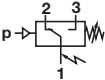
Accessories

| Surge damper                                                                      | Pressure port – reducing nipple                                                   | Brackets                                                                          |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|  |  |  |
| Page 4                                                                            | Page 4                                                                            | Page 4                                                                            |
| 0553258 (stainless steel G1/4)                                                    | 0550083 (G1/4 » G1/2)                                                             | 0574772 (steel)                                                                   |
| 0574773 (brass/steel G1/4)                                                        | 0574765 (G1/4 » 1/4 NPT)                                                          | 0553908 (stainless steel)                                                         |

Accessories

| Connector DIN EN 175301-803                                                       | Connector with LED                                                                  |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |
| Page 4                                                                            | Page 4                                                                              |
| 0570110 (Form A)                                                                  | 0585418                                                                             |

Switching function

|                                                                                     |                                                                                                                                                                                                                 |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>Connector<br/>DIN EN 175301-803,<br/>form A</p> <p>Microswitch SPDT</p> <p>Terminals 1 - 3:<br/>Contacts close<br/>on rising pressure.</p> <p>Terminals 1 - 2:<br/>Contacts open<br/>on rising pressure.</p> |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Switching capacity

### Commutator with gold plated contacts

| Load level                               | Current type | Load type *2)          | U min<br>[V] | Max. permissible persistent current I <sub>max</sub> [A] at U *1) |                                   |      |       |       | Electrical life-time                   |
|------------------------------------------|--------------|------------------------|--------------|-------------------------------------------------------------------|-----------------------------------|------|-------|-------|----------------------------------------|
|                                          |              |                        |              | M20 x 1,5<br>30 V                                                 | DIN EN 175301-803, form A<br>48 V | 60 V | 125 V | 250 V |                                        |
| Standard *3)<br>(contractors, solenoids) | a.c.         | Ohmic                  | 12           | 0,1                                                               | 0,1                               | 0,1  | 0,1   | 0,1   | ≥ 2 x 10 <sup>5</sup> Switching cycles |
|                                          | a.c.         | Inductive, cos φ ≈ 0,7 | 12           | 3                                                                 | 3                                 | 3    | 3     |       |                                        |
|                                          | d.c.         | Ohmic                  | 12           | 5                                                                 | 1,2                               | 0,8  | -     |       |                                        |
|                                          | d.c.         | Inductive, L/R ≈ 10 ms | 12           | 3                                                                 | 0,5                               | 0,35 | 0,05  |       |                                        |
| Minor *4)<br>(electronic circuits)       | a.c.         | Ohmic                  | 5 *5)        | 0,1                                                               |                                   |      |       |       |                                        |
|                                          | d.c.         | Inductive, L/R ≈ 10 ms | 5 *5)        | 0,1                                                               | 0,01                              |      |       |       |                                        |

Reference number: 20/min, Reference temperature: +20°C.

Spark quenching with diode with DC and inductive load:

$I_{\min} = 1 \text{ mA}$ ;  $I_{\max} = 1,5 \times I_{\max} \text{ of table}$

Creepage and air paths correspond to insulation group B according to VDE Reg. 0110 (except contact clearance of microswitch).

\*1) Higher currents (5 A max) will cause a reduction of the durability of the micro-switch contacts. Furthermore additional measures has to be taken to fulfil the EMV regulation 2004/108/EG by the manufacturer

\*2) Spark quenching/overload protection will be necessary using inductive loads.

\*3) Gold-plating not required as it would decay.

Max. perm. in-rush current (appr. 30 ms) | AC = max. 15 A

\*4) Gold-plating required (will not decay).

\*5) Lower value of critical voltage guarantees sufficient contact safety.

Lower voltages permissible under favourable conditions.

### Recommended circuit

## Spark quenching and EMV intrinsically safe

1. Diode D in parallel to inductive load.

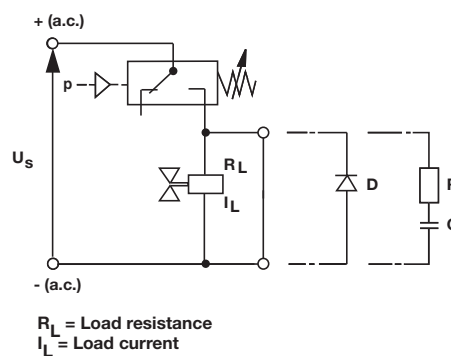
Observance of correct polarity (positive pole to cathode).

Dimensioning specifications for quenching diode:

Rated voltage at diode:  $U_D \geq 1,4 \times U_S$

Rated current at diode:  $I_N \geq I_{load}$

Selection of a quick switching diode (recovery time  $t_{rr} \leq 200 \text{ ms}$ )



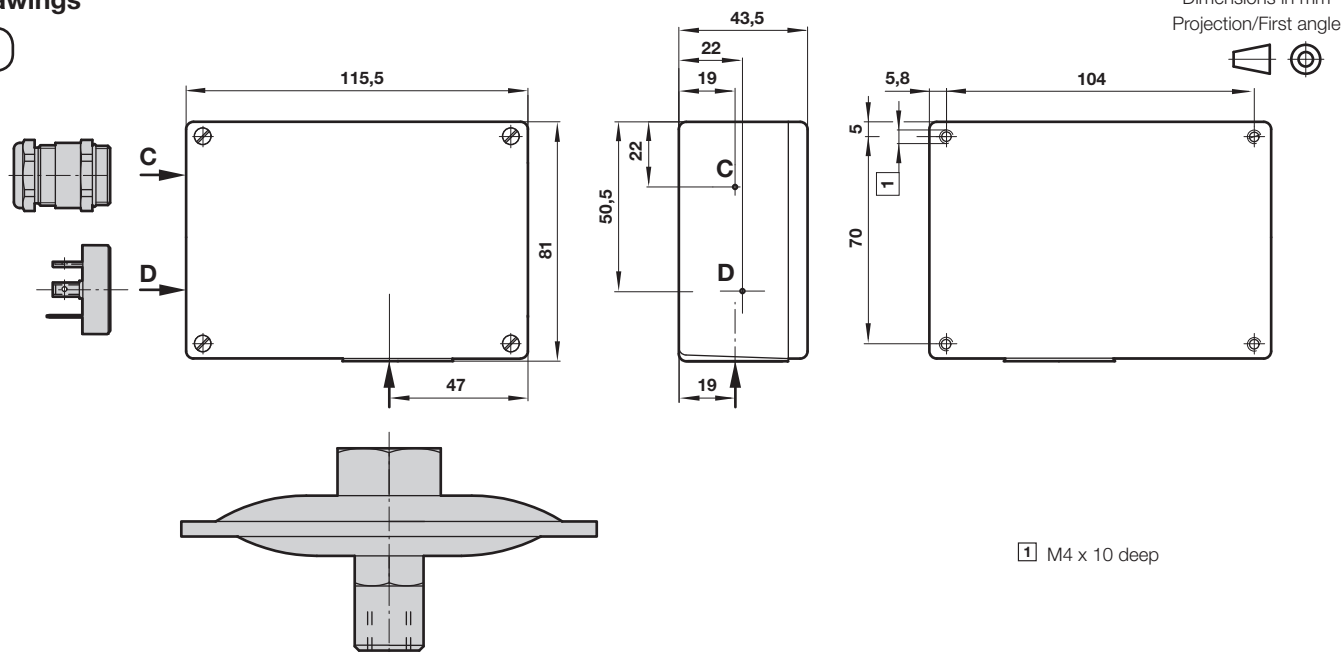
2. RC link in parallel to load in parallel to switching contact.

Dimensioning principles:

$$R_l \text{ in } \Omega \approx 0,2 \times R_l \text{ cad in } \Omega$$
$$C \text{ in } [\mu F] \approx I_{load} \text{ in } [A]$$

## Drawings

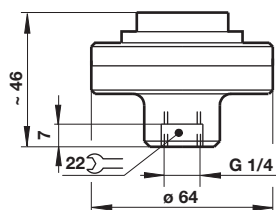
①



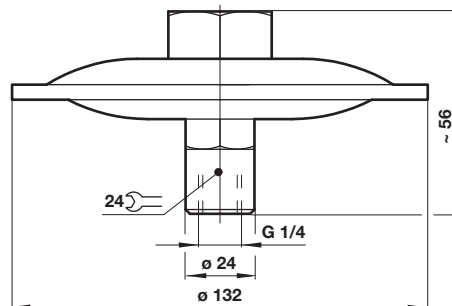
## Fluid port

Dimensions in mm  
Projection/First angle

2

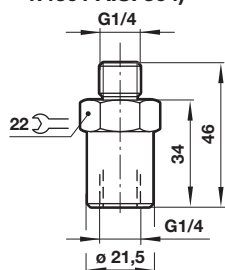


3



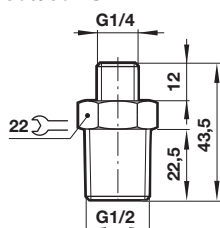
## Surge damper

Model: 0574773 (brass)  
0553258 (stainless steel  
1.4301 AISI 304)

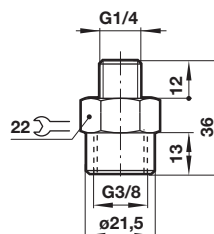


## Pressure port/reducing nipple

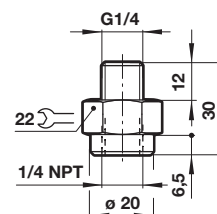
Model: 0550083  
(stainless steel 1.4305  
AISI 303/304 S



Model: 0574764  
(steel)



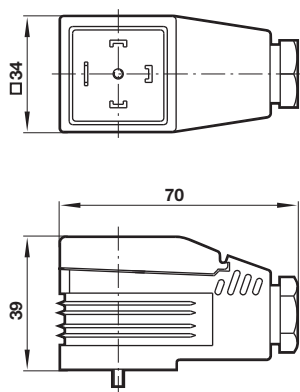
Model: 0574765  
(brass)



## Connectors (black) with light indicator 3-pin + protective conductor

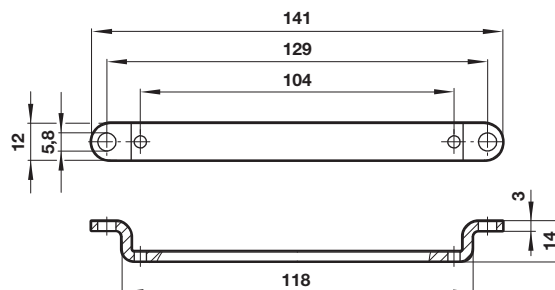
Connection acc. to  
DIN EN 175301-803 (form A)  
Voltage: 12 ... 28 V d.c./a.c.

Model: 0585418



## Brackets (2 brackets and 4 screws)

Model: 0574772 (steel)  
0553908 (stainless steel 1.4301 AISI 304)



## Warning

These products are intended for use in industrial compressed air and fluid systems only. Do not use these products where pressures and temperatures can exceed those listed under »**Technical features/data**«. Before using these products with fluids other than those specified, for non-industrial applications, life-support systems, or other applications not within published specifications, consult IMI NORGREN.

Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes. The system designer is warned to consider the failure modes of all

component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure.

System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided.

System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products.

- > **5 ... 250 bar**  
Port size: G1/4 or flange
- > **Robust design**
- > **Preferred for pressure monitoring**
- > **High accuracy**



### Technical features

#### Medium:

For neutral liquid fluids

#### Operation:

Diaphragm

#### Operating pressure:

5 ... 250 bar (72 ... 3625 psi)

#### Maximum over pressure:

See table below

#### Repeatability:

±2% of final value  
(depending on regulating pressure)

#### Port size:

G1/4 or flange

#### Media viscosity:

Up to 1000 mm²/s

#### Switching pressure

#### difference/hysteresis:

Fixed

#### Switching cycles:

20 1/min

#### Switching element:

Microswitch with silver plated contacts

#### Mounting position:

Vertical, bottom pneumatic port

#### Degree of protection:

IP64 for DIN EN 175301-803  
(DIN 43650) form A and cable gland

#### Electrical connection:

DIN EN 175301-803 (DIN 43650)  
form A or cable

#### Weight:

0,4 kg (0.88 lbs)

#### Ambient/Media temperature:

Ambient:

-10 ... +80°C (14 ... +176°F)

Media:

0 ... +80°C (0 ... +176°F)

Air supply must be dry enough  
to avoid ice formation at  
temperatures below +2°C (+35°F)

#### Materials:

Body: Aluminium

Sealing: NBR; FPM/PTFE

### Technical data

**Electrical connection acc. to DIN EN 175301-803, form A - Connectors are not scope of delivery**

**Electrical connection with cable gland (Pg 13,5) - Cable glands are scope of delivery**

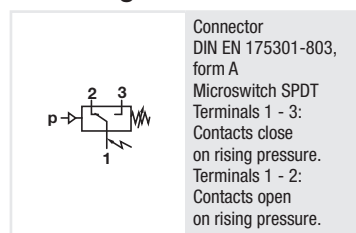
| Symbol                                                                              | Port size | Pressure range *1) |              | Switching pressure difference |       |                   |       | Electrical connection | Materials press |          | Drawing No. | Model   |
|-------------------------------------------------------------------------------------|-----------|--------------------|--------------|-------------------------------|-------|-------------------|-------|-----------------------|-----------------|----------|-------------|---------|
|                                                                                     |           | (bar)              | (psi)        | Lower range (bar)             | (psi) | Upper range (bar) | (psi) |                       | Body            | Seal     |             |         |
|  | G1/4      | 5 ... 70           | 72 ... 1015  | 7                             | 101   | 12                | 174   | Cable gland           | AL              | NBR      | 1           | 0821051 |
|                                                                                     | Flange    | 5 ... 70           | 72 ... 1015  | 7                             | 101   | 12                | 174   | Cable gland           | AL              | NBR      | 3           | 0821151 |
|                                                                                     | G1/4      | 10 ... 160         | 145 ... 2320 | 9                             | 130   | 18                | 261   | Cable gland           | AL              | NBR      | 1           | 0821050 |
|                                                                                     | Flange    | 10 ... 160         | 145 ... 2320 | 9                             | 130   | 18                | 261   | Cable gland           | AL              | NBR      | 3           | 0821150 |
|                                                                                     | G1/4      | 50 ... 250         | 725 ... 3625 | 12                            | 174   | 16                | 232   | Cable gland           | AL              | FPM/PTFE | 1           | 0821097 |
|                                                                                     | G1/4      | 5 ... 70           | 72 ... 1015  | 7                             | 101   | 12                | 174   | Form A                | AL              | NBR      | 2           | 0821055 |

\*1) Setpoints should be ideally in the middle of the switching pressure range. Reference pressure = atmospheric pressure. Switching pressure must not exceed the indicated values.

## Accessories

| Pressure port reducing nipple                                                     | Surge damper                                                                      | Connector<br>DIN EN 175301-803                                                    |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|  |  |  |
| Page 3                                                                            | Page 3                                                                            |                                                                                   |
| 0574767 (brass)                                                                   | 0574773 (brass)                                                                   | 0570110 (Form A)                                                                  |
| 0550083 (stainless steel)                                                         | 0553258 (stainless steel)                                                         |                                                                                   |

## Switching function



## Switching capacity

### Commutator with silver plated contacts

| Current type | Load type                              | Max. permissible persistent current I <sub>max</sub> [A] at U *1) |      |       |       | Electrical life-time *1)               |
|--------------|----------------------------------------|-------------------------------------------------------------------|------|-------|-------|----------------------------------------|
|              |                                        | 24 V                                                              | 60 V | 110 V | 230 V |                                        |
| a.c.         | Resistive load                         | 5                                                                 | 5    | 5     | 5     | ~ 1 x 10 <sup>6</sup> Switching cycles |
| a.c.         | Inductive load, cos φ 0,7              | 4                                                                 | 2,5  | 1,5   | 0,9   |                                        |
| d.c.         | Resistive load                         | 2                                                                 | 0,9  | 0,45  | 0,2   |                                        |
| d.c.         | Inductive load, L/R <sup>a</sup> 10 ms | 1                                                                 | 0,3  | 0,09  | 0,02  |                                        |

Reference number: 60/min, Reference temperature + 30 °C (with a reference temperature of + 70 °C, I<sub>max</sub> corresponds to 50% of the tabulated values only).

\*1) At maximum current (at 50% of max. current, contact life is appr. 3 times as long).

## Recommended circuit

### Spark quenching and EMV intrinsically safe

1. Diode in parallel to inductive load.

Make sure polarity is correct when making connections.

Dimensioning of quenching diode (rectifier):

Rated voltage of diode  $U_D \geq 1,4 \times U_S$ .

Rated current of diode  $I_N \geq I_{Load}$

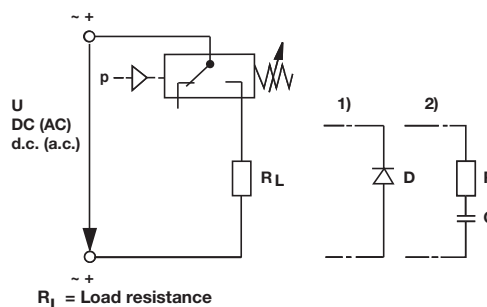
Quick diode (D) with  $t_v \leq 200$  ns, parallel to inductive load.

2. RC link in parallel to load in parallel to switching contact.

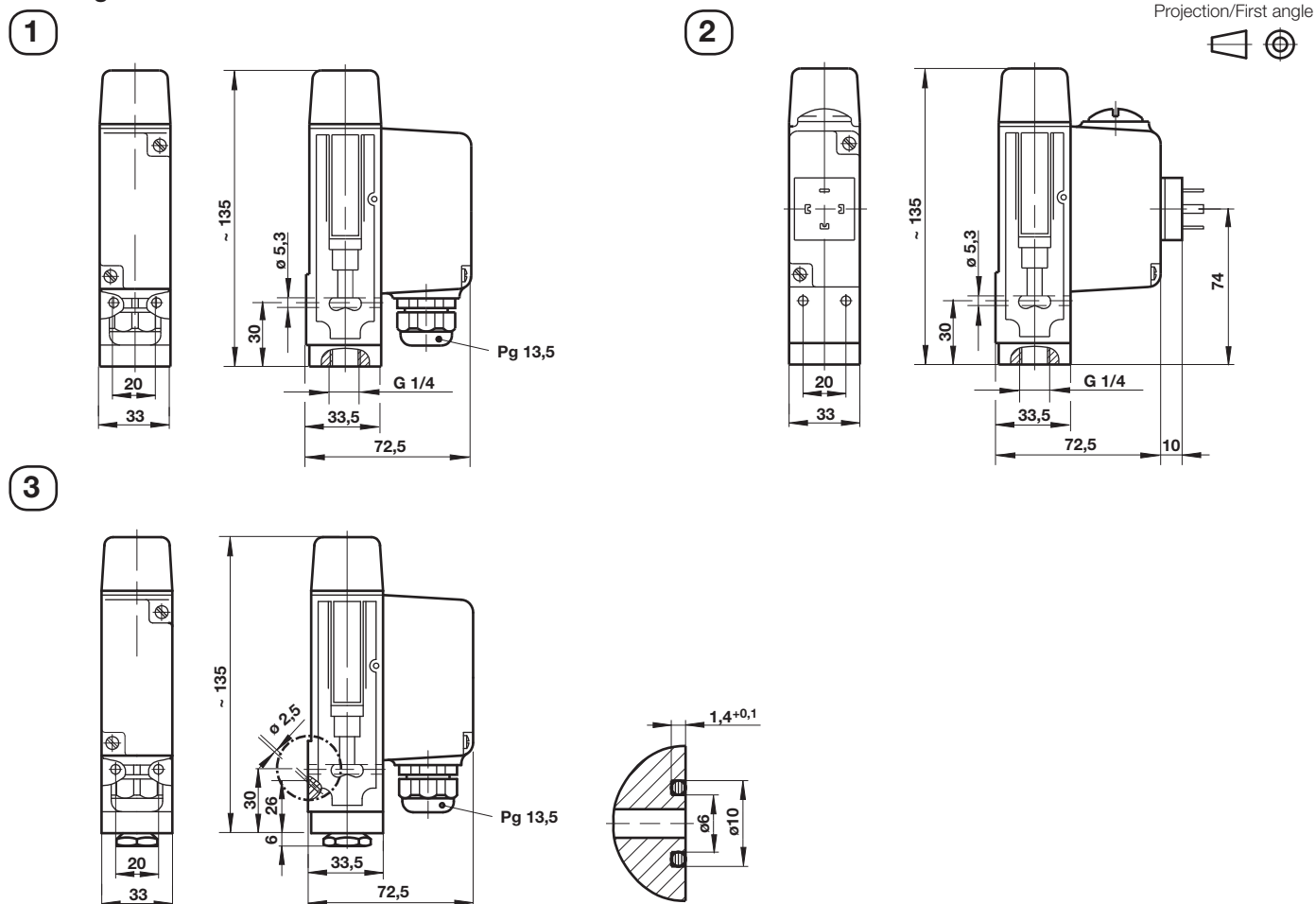
Dimensioning principles:

$R_L$  in  $\Omega \approx 0,2 \times R_{Load}$  in  $\Omega$

$C$  in  $[\mu F] \approx I_{Load}$  in [A]

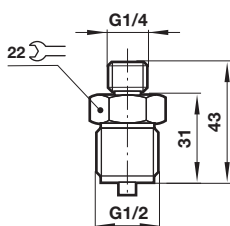


## Drawings



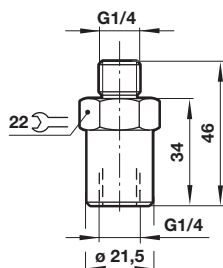
## Pressure port reducing nipple

Model: 0574767 (brass)  
0550083 (stainless steel)



## Surge damper nipple

Model: 0574773 (brass)  
0553258 (stainless steel)



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component parts used in hydraulic systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure.

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Ангарск (3955)60-70-56  
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Астрахань (8512)99-46-04  
Барнаул (3852)73-04-60  
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Благовещенск (4162)22-76-07  
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Смоленск (4812)29-41-54  
Сочи (862)225-72-31  
Ставрополь (8652)20-65-13  
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