Medium:
Compressed air, filtered, lubricated or non-lubricated
Particles size: Class 7, ISO 8573 – 1 (dated 2001)
Humidity and water content:
Air supply must be dry.
Corresponding of the application and working conditions the air must be dry enough to avoid condensate. The pressure dewpoint must be minimum 15° under the application and working conditions. Oil: Class 4, ISO 8573 – 1 (dated 2001)

Technical features

Standard:
Based on ISO 15552
(length, mounting pitch and thread dimensions according to ISO 15552. Some outside dimensions different to ISO 15552)

Operation:
Double acting, magnetic piston, adjustable cushioning

Operating pressure:
2 ... 8 bar (29 ... 116 psi)

Port size:
G1/8, G1/4, G3/8

Cylinder diameters:
32, 40, 50, 63, 80, 100 mm

Standard strokes:
See below

Non-standard strokes:
Available (25 ... 1000 mm)

Ambient temperature:
-5 ... +50°C (+23 ... +122°F) max.

EX-Protection
Details see page 2

Operating temperature:
-5 ... +70°C max. (+28 ... +158°F)

EX-Protection
Details see page 2

Supply voltage:
24 V d.c.

Multipole connection:
M12 x 1 connector 90°, 8 pin, 5 m Cable

Power consumption:
1 W max

Rating:
100 % E.D.

Protection class:
IP 67

For outdoor installation please protect all connections against the penetration of moisture!

Materials:
Profile barrel:
anodised aluminium,
End covers: pressure diecast anodised aluminium
Piston rod: stainless steel, see page 2
Piston rod seals: PUR
Piston seals: PUR
O-rings: NBR

Technical data

<table>
<thead>
<tr>
<th>Cylinder Ø (mm)</th>
<th>32</th>
<th>40</th>
<th>50</th>
<th>63</th>
<th>80</th>
<th>100</th>
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<tbody>
<tr>
<td>Piston rod Ø (mm)</td>
<td>12</td>
<td>16</td>
<td>20</td>
<td>20</td>
<td>25</td>
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<tr>
<td>Piston rod thread</td>
<td>M10 x 1,25</td>
<td>M12 x 1,25</td>
<td>M16 x 1,5</td>
<td>M16 x 1,5</td>
<td>M20 x 1,5</td>
<td>M20 x 1,5</td>
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<tr>
<td>Cushion length (mm)</td>
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<td>22</td>
<td>24</td>
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<tr>
<td>Theoretical thrusts at 6 bar outstroke (N)</td>
<td>482</td>
<td>754</td>
<td>1178</td>
<td>1870</td>
<td>3016</td>
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<tr>
<td>Theoretical thrusts at 6 bar instroke (N)</td>
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<td>633</td>
<td>990</td>
<td>1680</td>
<td>2722</td>
<td>4416</td>
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<td>Air consumption at 6 bar outstroke (l/cm)</td>
<td>0,066</td>
<td>0,088</td>
<td>0,137</td>
<td>0,218</td>
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<td>Air consumption at 6 bar instroke (l/cm)</td>
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<td>0,076</td>
<td>0,117</td>
<td>0,198</td>
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Standard strokes

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<th>Cylinder Ø (mm)</th>
<th>Stroke length (mm)</th>
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<th>125</th>
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<th>200</th>
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</table>
Cylinder variants

<table>
<thead>
<tr>
<th>Symbol</th>
<th>R</th>
<th>S</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>V</th>
<th>Model with magnetic piston</th>
<th>Description</th>
<th>Dimensions</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PRA/882000/MI</td>
<td>Standard cylinder</td>
<td>7</td>
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<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PRA/882000/W2</td>
<td>Cylinder with special wiper/ seal (suitable for appl. with cement, plaster (stucco), arizona sand, frost-free or ice)</td>
<td>7</td>
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<tr>
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<td></td>
<td>PRA/882000/MU</td>
<td>Cylinder with extended piston rod</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PRA/882000/MG</td>
<td>Cylinder with piston rod bellow</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

For the cylinder models style C, D, E, S and V see options selector

Option selector

Piston rod material | Substitute
--- | ---
Stainless steel (martensitic); Standard wiper seal | R
Stainless steel (austenitic); Standard wiper seal | S
Hard chromium plated; Standard wiper seal | C
Stainless steel (austenitic); Hard chromium plated; Standard wiper seal | D
Stainless steel (austenitic); Smooth wiper seal | V
Stainless steel (austenitic); Hard chromium plated; Smooth wiper seal | E
Cylinder Ø (mm) | Substitute
--- | ---
032, 040, 050, 063, 080, 100
Variants (magnetic piston) | Substitute
--- | ---
Standard | M1
Piston rod bellow | MG
Special wiper seal | W2
Extended piston rod, P*A/882***/MU*/M*/EX/****/*** | Extension (mm)

ATTENTION:
A cylinder is a module consisting of several parts, each of which is subject to mandatory approval:
1. Cylinder with pilot control module (VCM)
2. Accessories: sensors (optional)
   - Each part is separate classified according ATEX for use in potentially explosive atmospheres.
   - The resulting range of approved applications for the module corresponds to that of the individual part assigned to the lowest category.
   - The result concerns the device category, potentially explosive atmosphere G or D, max. surface temperature and explosion classification if applicable.

Cylinder variants *4) | Magnetically switches | Resulting ATEX-Data *1)
--- | --- | ---
M1 | Without | Zone 2 and 22
W2 | Red: M/50/0/UXU/5V | T amb, -5 ... +50°C max
MU | Solid state: M/50/EXP/5V | Zone 2 and 22
MG |    | Zone 2 and 22

*1) The permissible ATEX zones and temperatures may changed when a different pilot control with separate specification is used (substitute .../IX/...).
*4) ATEX-marking only of the mechanical cylinder:

Cylinder variants
M1, W2, MU, MG II 3GD c T4 T120°C (with pilot control)
M1, W2, MU II 2GD c T4 T120°C (without pilot control)
ATEX-marking of electric valve control modul (VCM):
II 3E Ex na IIC F4 Gc X
II 3D Ex tc IIC T120°C Dc IP67 X
ATEX-marking of magnetically operated switches see page 6

*1) Without pilot control
Operation of the cylinder is only possible with an additional pilot control. A separate specification is available on request
*2) For Ø 40 ... 100 mm only
*3) External pilot pressure on request
Reduced Installation Time & Cost

To connect the IVAC you simply run a single ring main to provide an air supply to each unit. There is no mounting of valve islands to the machine framework or inside a cabinet and there is no pipework to run around the machine to connect each valve to each actuator.

One of the advantages of the IVAC cylinders is to use the output ports (2 & 4) from the main valve to operate an additional cylinder.
## Mountings and service kit

<table>
<thead>
<tr>
<th>Position</th>
<th>Style</th>
<th>Standard</th>
<th>Corrosion protected</th>
<th>Stainless steel</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>B, G</td>
<td>Clear anodised aluminium</td>
<td>Clear anodised aluminium, Screws: A2</td>
<td>X 5 Cr Ni 18 10 (1.4301; AISI 304), Screws: A2</td>
</tr>
<tr>
<td>2</td>
<td>C</td>
<td>Galvanized steel (ø 32 ... 63 mm) Painted steel (ø 80 &amp; 100 mm)</td>
<td>—</td>
<td>X 5 Cr Ni 18 10 (1.4301; AISI 304), Screws: A2</td>
</tr>
<tr>
<td>3</td>
<td>R</td>
<td>Diecast aluminium</td>
<td>Black corrosion protected diecast aluminium, Certified for the food industry, Screws: A2</td>
<td>—</td>
</tr>
<tr>
<td>4</td>
<td>UR</td>
<td>Galvanized aluminium Inner ring: steel Outer ring: brass</td>
<td>Black corrosion protected diecast aluminium Certified for the food industry Inner ring: stainless steel (austenitic) Outer ring: nickel plated hardened steel</td>
<td>—</td>
</tr>
<tr>
<td>5</td>
<td>D</td>
<td>Diecast aluminium Bolt: galvanized steel (martensitic) Circlip: galvanized steel</td>
<td>Black corrosion protected diecast aluminium Certified for the food industry Bolt: X 10 Cr Ni S 18 9 (1.4305, AISI 300) Circlip: Stainless steel (martensitic). Screws: A2</td>
<td>X 5 Cr Ni 18 10 (1.4301; AISI 304), Screws: A2 Bolt: X 10 Cr Ni S 18 9 (1.4305; AISI 303)</td>
</tr>
<tr>
<td>6</td>
<td>SW</td>
<td>Diecast aluminium</td>
<td>Black corrosion protected diecast aluminium Certified for the food industry</td>
<td>X 6 Cr Ni 18 9 (1.4308; AISI 304)</td>
</tr>
<tr>
<td>7</td>
<td>US</td>
<td>Galvanized aluminium, Inner ring: steel Outer ring: brass</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>8</td>
<td>D2</td>
<td>Painted cast iron Bolt: stainless steel (martensitic) Circlip: galvanized steel</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>9</td>
<td>FH</td>
<td>Cast iron</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>10</td>
<td>A</td>
<td>Galvanized steel</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>11</td>
<td>Screw</td>
<td>—</td>
<td>—</td>
<td>X 10 Cr Ni S 18 9 (1.4305; AISI 303)</td>
</tr>
<tr>
<td>12</td>
<td>S</td>
<td>Clear anodised aluminium Bearing: brass</td>
<td>—</td>
<td>X 10 Cr Ni S 18 9 (1.4305; AISI 303)</td>
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<tr>
<td>13</td>
<td>F</td>
<td>Galvanized steel Bolt: galvanized steel Circlip: galvanized steel</td>
<td>Nickel plated steel Circlip: X 10 Cr Ni S 18 9 (1.4305, AISI 303) Bolt: X 10 Cr Ni S 18 9 (1.4305, AISI 303)</td>
<td>X 10 Cr Ni S 18 9 (1.4305; AISI 303) Bolt: X 10 Cr Ni S 18 9 (1.4305; AISI 303) Eyebolt: X 10 Cr Ni S 18 9 (1.4305; AISI 303)</td>
</tr>
<tr>
<td>16</td>
<td>SS</td>
<td>Painted cast iron</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>17</td>
<td>UF</td>
<td>Galvanized steel Inner ring: steel Outer ring: brass</td>
<td>Nickel plated steel. Inner ring: stainless steel (austenitic) Outer ring: nickel plated hardened steel.</td>
<td>X 10 Cr Ni S 18 9 (1.4305; AISI 303), Inner ring X 105 Cr Co Mo 18-2 (1.4528), Outer ring X 5 Cr Ni 18 10 (1.4301; AISI 304)</td>
</tr>
<tr>
<td>18</td>
<td>AK</td>
<td>Galvanized steel</td>
<td>—</td>
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## Mountings

<table>
<thead>
<tr>
<th>Model</th>
<th>A</th>
<th>AK</th>
<th>B, G</th>
<th>C</th>
<th>D</th>
<th>D2</th>
<th>F</th>
<th>FH</th>
<th>R</th>
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<tbody>
<tr>
<td>Cyl. Ø</td>
<td>32</td>
<td>40</td>
<td>50</td>
<td>63</td>
<td>80</td>
<td>100</td>
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### Corrosion protected

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<th>50</th>
<th>63</th>
<th>80</th>
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<tbody>
<tr>
<td>QA/8032/22</td>
<td>QA/8040/22</td>
<td>QA/8050/22</td>
<td>QA/8063/22</td>
<td>QA/8080/22</td>
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### Stainless steel

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<tbody>
<tr>
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### Mounting options

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<th>SW</th>
<th>UF</th>
<th>UR</th>
<th>US</th>
<th>Cover screws</th>
<th>Plug protection</th>
<th>Service kit</th>
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<td>80</td>
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### Corrosion protected

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### Stainless steel

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<td>KQA/8063/22</td>
<td>KQA/8080/22</td>
<td>KQA/8100/22</td>
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</table>
Technical data - Reed switches - additional informations see data sheet N/en 4.3.015

<table>
<thead>
<tr>
<th>Voltage (V a.c.)</th>
<th>Current maximum (mA)</th>
<th>Power (W)</th>
<th>Ex-Protection category/class</th>
<th>Operating temperature (°C)</th>
<th>LED</th>
<th>Cable length (m)</th>
<th>Cable type</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 ... 240</td>
<td>180</td>
<td>10</td>
<td>II 3G Ex ic IIC T5 Gc X</td>
<td>-20 ... +50</td>
<td>•</td>
<td>5</td>
<td>PVC 2 x 0.25</td>
<td>M/50/LXU/5V</td>
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<tr>
<td>10 ... 170</td>
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<td>II 3D Ex ic IIC T120°C Dc X</td>
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Technical data - Solid state - additional informations see data sheet N/en 4.3.017

<table>
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<th>Current maximum (mA)</th>
<th>Power (W)</th>
<th>Ex-Protection category/class</th>
<th>Operating temperature (°C)</th>
<th>LED</th>
<th>Features</th>
<th>Cable length (m)</th>
<th>Cable type</th>
<th>Model</th>
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<td>-</td>
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<td>-20 ... +50</td>
<td>•</td>
<td>PNP</td>
<td>5</td>
<td>PVC 3 x 0.25</td>
<td>M/50/EXP/5V</td>
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<tr>
<td>10 ... 30</td>
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<td>II 3D Ex ic IIC T110°C Dc X</td>
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</table>

Wiring diagram for M12 male connector

Valves | Wiring diagram for connector cable M/P74582
---|---
Pin 1  | Not used | White
Pin 2  | Solenoid 2 (instroke) | Brown
Pin 3  | 0 V | Green
Pin 4  | Solenoid 1 (outstroke) | Yellow

Switches | Wiring diagram for connector cable M/P74582
---|---
Pin 5  | + 24 V d.c. | Grey
Pin 6  | Switch 2 (rear end cover) | Pink
Pin 7  | 0 V | Blue
Pin 8  | Switch 1 (front end cover) | Red
Dimensions

### Dimensions in mm

<table>
<thead>
<tr>
<th>#</th>
<th>Model</th>
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</thead>
<tbody>
<tr>
<td>32</td>
<td>0,66 kg 0,07 kg</td>
</tr>
<tr>
<td>40</td>
<td>1,03 kg 0,11 kg</td>
</tr>
<tr>
<td>50</td>
<td>1,58 kg 0,18 kg</td>
</tr>
<tr>
<td>63</td>
<td>2,42 kg 0,19 kg</td>
</tr>
<tr>
<td>80</td>
<td>4,12 kg 0,29 kg</td>
</tr>
<tr>
<td>100</td>
<td>6,34 kg 0,35 kg</td>
</tr>
</tbody>
</table>

* Please insert standard stroke length
+ Please insert valve function
- Please insert switch variants (Reed switches for Ø 40 ... 100 mm only)
P.A/882000/MG./M+/*; Cylinder with piston rod bellow

<table>
<thead>
<tr>
<th>Cyl. Ø</th>
<th>Ø A</th>
<th>Stroke max per bellow</th>
<th>Piston rod extension B for first bellow</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>32</td>
<td>40</td>
<td>60</td>
<td>30</td>
<td>PWA/882032/MG+/M.*</td>
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<tr>
<td>40</td>
<td>63</td>
<td>145</td>
<td>50</td>
<td>PWA/882040/MG+/M.*</td>
</tr>
<tr>
<td>50</td>
<td>63</td>
<td>145</td>
<td>40</td>
<td>PWA/882050/MG+/M.*</td>
</tr>
<tr>
<td>83</td>
<td>63</td>
<td>145</td>
<td>40</td>
<td>PWA/882063/MG+/M.*</td>
</tr>
<tr>
<td>80</td>
<td>80</td>
<td>250</td>
<td>50</td>
<td>PWA/882080/MG+/M.*</td>
</tr>
<tr>
<td>100</td>
<td>80</td>
<td>250</td>
<td>50</td>
<td>PWA/882100/MG+/M.*</td>
</tr>
</tbody>
</table>

* Standard stroke length
# Piston rod material
+ Valve function
. Magnetic switch (Reed switches for Ø 40 ... 100 mm only)
### Mountings

**Front or rear stud mounting A**

Conforms to ISO 15552, type MX1

![Diagram of a stud mounting A](image)

**Dimensions in mm**

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### Piston rod swivel AK

Conforms to ISO 15552, type MX1

![Diagram of a piston rod swivel AK](image)

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### Foot mounting C

Conforms to ISO 15525, type MS1

![Diagram of a foot mounting C](image)

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**Stainless steel**

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en 1.5.265.09
Rear clevis D  
Conforms to ISO 15552, type MP2

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Corrosion protected version

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Stainless steel

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Front or rear detachable trunnion FH  
Conforms to VDMA 24562 part 2, type MT 5/6

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en 1.5.265.10
Our policy is one of continued research and development. We therefore reserve the right to amend, without notice, the specifications given in this document. (2013 - 1237e) © 2015 Norgren GmbH
Universal rear eye UR  
Conforms to ISO 15552, type MP6

Narrow hinge SS

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### Swivel hinge US

Conforms to VDMA 24562 part 2

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### Cover screw (stainless steel)

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Dimensions in mm

Projection/First angle

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Our policy is one of continued research and development. We therefore reserve the right to amend, without notice, the specifications given in this document. (2013 - 1237e) © 2015 Norgren GmbH
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 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.