MM & MR SERIES

MANIFOLD MOUNT VALVES

CLEAN AIR SOLUTIONS PRODUCT LEAFLET
DESCRIPTION

Very high performance diaphragm valve designed to be mounted directly into the compressed air manifold. 1” and 1.5” models are supplied with outlet pipes to length specified; 3” and 3.5” models are supplied without outlet pipes.

SUITABLE FOR

Dust collector applications, in particular for reverse pulse jet filter cleaning and its variations, including bag filters, cartridge filters and envelope filters, ceramic filters and sintered metal fibre filters.

CONSTRUCTION


Refer to Q Series Solenoid product data sheet for solenoid construction details.

OPERATION

Recommended on-time range: 50–500 ms
Recommended time between pulses: 1 minute or greater

MAINTENANCE

Before conducting any maintenance activity on the system, ensure that components are fully isolated from pressure and power supplies. Pressure and power should not be reapplied until the valve has been fully assembled.

Diaphragm and pilot inspection should be conducted annually.

APPROVALS

- ATEX II 3 GD (RCA/RCAC only)
- CSA (C, US) [C22.2 No 139–10 and UL 429:2009] (CA & RCA)
- C-Tick (CA)
- EMC 2004/108/EC (CA)
- Low Voltage Directive 2006/95/EC (CA)
- 76MM CRN – Alberta, Quebec, Ontario (to 779 kPa/113.1 psi, 76°C/170°F), British Columbia
- 102MM CRN – Alberta, Quebec, Ontario (to 76°C/170°F)

INSTALLATION

1. MM valves are installed through the tank; refer to the appropriate template listed below.
2. To avoid any potential operational problems it is preferable that the valves are not mounted underneath the tank where condensation may collect. All O-rings should be coated with a silicone-based lubricant or similar.
3. Dresser nut seals where used are a pressure seal only, not a structural component. Do not rely on dresser seals to retain either the tanks or blowtubes. Tanks and blowtubes must be independently restrained.
4. Tighten dresser nuts to 20 Nm (15 ftlbs) max.
5. Tighten pipe outlets to 20 Nm (15 ftlbs).
6. Make electrical connections to solenoid or connect RCA pilot port to pilot valve (RCA valves only).
7. Ensure compressed-air supply is dry and free from oil and dirt.
8. Check all cleaning system components are secure before applying pressure.
9. Apply moderate pressure and check for leaks.
10. Fully pressurise system.
11. Test fire and listen for proper actuation and crisp pulse noises.

WEIGHTS

<table>
<thead>
<tr>
<th>SIZE</th>
<th>INTEGRAL PILOT (CA) KG (LB)</th>
<th>REMOTE PILOT (RCA) KG (LB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>0.720 (1.59)</td>
<td>0.500 (1.10)</td>
</tr>
<tr>
<td>40</td>
<td>1.120 (2.47)</td>
<td>0.900 (2.18)</td>
</tr>
<tr>
<td>76</td>
<td>3.900 (8.60)</td>
<td>3.680 (8.11)</td>
</tr>
<tr>
<td>102</td>
<td>3.900 (8.60)</td>
<td>3.680 (8.11)</td>
</tr>
</tbody>
</table>

GOYEN MANIFOLD MOUNT VALVES
MAINTENANCE KITS AND ACCESSORIES

<table>
<thead>
<tr>
<th>MODEL</th>
<th>NITRILE</th>
<th>VITON</th>
<th>INCLUDES</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA/RCA25MM Diaphragm kit</td>
<td>K2501</td>
<td>K4503</td>
<td></td>
</tr>
<tr>
<td>CA/RCA40MM Diaphragm kit</td>
<td>K4000</td>
<td>K4511</td>
<td></td>
</tr>
<tr>
<td>CA/RCA76MM Diaphragm kit</td>
<td>K7600</td>
<td>K0384</td>
<td></td>
</tr>
<tr>
<td>CA/RCA102MM Diaphragm kit</td>
<td>K10200</td>
<td>K10203</td>
<td></td>
</tr>
<tr>
<td>CA/RCA102MM Diaphragm kit for sulphur-rich environments (coal-fired boiler applications)</td>
<td>K10203</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pilot repair kit (all models)</td>
<td>K0380</td>
<td>O-ring, armature assembly, armature spring, ferrule</td>
<td></td>
</tr>
<tr>
<td>CA/RCA25MM*P Installation template Drawing 690048</td>
<td>Installation templates are available free of charge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CA/RCA25MM*D Installation template Drawing 690045</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CA/RCA40MM*P Installation template Drawing 690045</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>CA/RCA40MM*D Installation template Drawing 690999</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CA/RCA76MM Installation template Drawing 690151 RCA and 690051 CA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CA/RCA102MM Installation template Drawing 691055 CA and 691056 RCA Suitable for 102MM hose</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PRODUCT CHARACTERISTICS AND PERFORMANCE

<table>
<thead>
<tr>
<th>NOM. SIZE</th>
<th>PORT SIZE MM</th>
<th>INCH</th>
<th>NUMBER OF DIAPHRAGMS</th>
<th>FLOW KV</th>
<th>CV</th>
<th>PRESSURE RANGE* KPA (PSI)</th>
<th>TEMPERATURE RANGE °C °(F)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>25</td>
<td>1</td>
<td>1</td>
<td>26</td>
<td>30</td>
<td>30(5)–860(125)</td>
<td>–40(–40) to 82(179.6) –29(–20.2) to 232(449.6)</td>
</tr>
<tr>
<td>40</td>
<td>40</td>
<td>1.5</td>
<td>2</td>
<td>44</td>
<td>51</td>
<td>30(5)–860(125)</td>
<td>–40(–40) to 82(179.6) –29(–20.2) to 232(449.6)</td>
</tr>
<tr>
<td>76</td>
<td>76</td>
<td>3</td>
<td>2</td>
<td>200</td>
<td>233</td>
<td>30(5)–860(125)</td>
<td>–40(–40) to 82(179.6) –29(–20.2) to 232(449.6)</td>
</tr>
<tr>
<td>102</td>
<td>102</td>
<td>3.5</td>
<td>2</td>
<td>238</td>
<td>277</td>
<td>30(5)–860(125)</td>
<td>–40(–40) to 82(179.6) –29(–20.2) to 232(449.6)</td>
</tr>
</tbody>
</table>

**CA=**integral pilot

**RCA=**remotely piloted

**0=**NPT

**1=**RC

**P=**Pipe flange

**D=**Dresser nut

**F=**Flat face only

**T=**Tank shape (omit if ordering valve only)

**S=**Tank width (omit if ordering valve only)

**4”**

**5”**

**6”**

**8”**

*Unless limited by CRN.

EXAMPLES

**CA40MMFD6000-300**

1.5” mm valve to suit a foil flat-faced tank with a dresser nut outlet, NPT exhaust port, Ø 0.062” bleed, nitrile seals and 220/240 V AC integral pilot with DIN socket terminals.

**RCA25MM001**

1” m valve only, 1 8” NPT remote pilot, Ø 0.062” bleed and viton seals.
GOYEN - MM/MR SERIES
MANIFOLD MOUNT VALVES

3” and 3.5” Models

Pilot type
RCA = remotely piloted
CA = integral pilot

Valve size
76 mm
102 mm

Remote pilot size (specify 0 for CA models)
0 = 1/8” or CA
1 = 1/4”

Solenoid type
Coil type for CA only.
See the RCA3 Solenoid Pilot Valves brochure for coil options.

Diaphragm material
0 = Nitrile
1 = Viton

Thread type (specify 4 for CA models)
0 = NPT
1 = RC
4 = CA valve

DIMENSIONS IN MM (AND INCHES)

CA/RCA25MM

CA/RCA40MM

Note: Pipe outlet not shown
Note: Suggested pipe size is 3” NB Schedule 40 pipe (OD=89.0 mm, 3.5”)
Note: Suggested pipe size is 3.5" NB Schedule 30 pipe (OD=101.6 mm, 4")
MR SERIES - PULSE JET VALVES

CONSTRUCTION AND SPECIFICATIONS

Body and top cover: Diecast aluminium
Ferrule: 305 SS
Armature: 430FR SS
Diaphragm and seals: Nitrile or Viton
Spring: 304 SS
Screws: 302 SS and 304 SS
Outlet pipe: Schedule 40 wrought steel with surface protection (other materials on request)
Diaphragm seat: Nitrile encapsulated mild steel or Viton encapsulated mild steel

2. To avoid any potential operational problems it is preferable that the valves are not mounted underneath the tank where condensation may collect. All O-rings should be coated with a silicone based lubricant or similar.
3. Tighten pipe outlets to 340 Nm (251 ft-lbs).
4. Make electrical connections to solenoid or connect RCA pilot port to pilot valve (RCA valves only).
5. Ensure compressed-air supply is dry and free from oil and dirt.
6. Check all cleaning system components are secure before applying pressure.
7. Apply moderate pressure and check for leaks.
8. Fully pressurise system.
9. Test fire and listen for proper actuation and crisp pulse noises.

Note: Minimum valve-to-valve separation distance must be considered with due regard to the applicable pressure vessel design code (e.g. ASME, PED) and the required tank pressure rating.

DESCRIPTION

The 3” CA76MR, RCA76MR and the 2.5” CA62MR and RCA62MR pulse jet valves are designed for direct mounting to nominal 12” diameter cylindrical manifolds. The 40MMR is designed for nominal 6” diameter manifolds. The 62MR,76MR and 40MMR valves deliver very high flow performance and are suited to reverse pulse jet dust collector applications for a wide range of installations. The MR range is built to an exceptional quality standard and is supported by dedicated and experienced applications engineers.

APPROVALS

• 76MR CRN – Alberta (to 632 kPa/91.1 psi, 80°C/176°F)

INSTALLATION

1. The valves are installed through the tank.

SUITABLE FOR

Mounting to 12” nominal diameter pipe schedule steel or stainless steel manifolds in dust collector applications in reverse pulse jet filter cleaning. Typical applications include bag filters, cartridge filters, envelope filters, ceramic filters and sintered metal fibre filters.

The MR Series valves are available for purchase in three configurations – as a stand-alone valve, with an outlet pipe, or assembled to a manifold as part of a complete filter cleaning solution.

SUITE FOR

Mounting to 12” nominal diameter pipe schedule steel or stainless steel manifolds in dust collector applications in reverse pulse jet filter cleaning. Typical applications include bag filters, cartridge filters, envelope filters, ceramic filters and sintered metal fibre filters.

The MR Series valves are available for purchase in three configurations – as a stand-alone valve, with an outlet pipe, or assembled to a manifold as part of a complete filter cleaning solution.

PRODUCT CHARACTERISTICS AND PERFORMANCE

<table>
<thead>
<tr>
<th>NOMINAL PORT SIZE MM (INCH)</th>
<th>FLOW KV</th>
<th>CV</th>
<th>PRESSURE RANGE*</th>
<th>TEMPERATURE RANGE °C °(F)*</th>
<th>NITRILE SEALS</th>
<th>VITON SEALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>76MR</td>
<td>200</td>
<td>233</td>
<td>30 kPa/5 psi to 860 kPa/125 psi</td>
<td>-40°C (~-40°F) to 82°C (179.6°F)</td>
<td>-29°C (~-20.2°F) to 232°C (449.6°F)</td>
<td></td>
</tr>
<tr>
<td>62MR</td>
<td>150.7</td>
<td>175.2</td>
<td>30 kPa/5 psi to 860 kPa/125 psi</td>
<td>-40°C (~-40°F) to 82°C (179.6°F)</td>
<td>-29°C (~-20.2°F) to 232°C (449.6°F)</td>
<td></td>
</tr>
<tr>
<td>40MMR</td>
<td>52</td>
<td>61</td>
<td>30 kPa/5 psi to 860 kPa/125 psi</td>
<td>-40°C (~-40°F) to 82°C (179.6°F)</td>
<td>-29°C (~-20.2°F) to 232°C (449.6°F)</td>
<td></td>
</tr>
</tbody>
</table>

* Unless limited by CRN.
**OPERATION**

Recommended on-time range: 50 to 500 ms

Recommended time between pulses: 1 minute or greater

**MAINTENANCE**

Before conducting any maintenance activity on the system ensure that components are fully isolated from pressure and power supplies. Pressure and power should not be reapplied until the valve has been fully assembled. Diaphragm and pilot inspection should be conducted annually.

**MAINTENANCE KITS**

<table>
<thead>
<tr>
<th>MODEL</th>
<th>NITRILE</th>
<th>VITON</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA/RCA76MR</td>
<td>K7600</td>
<td>K7601</td>
</tr>
<tr>
<td>Diaphragm Kit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pilot Repair Kit for all models</td>
<td>K0380</td>
<td>K0384</td>
</tr>
<tr>
<td>CA/RCA62MR</td>
<td>K7604</td>
<td>K7602</td>
</tr>
<tr>
<td>Diaphragm Kit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CA/RCA40MMR</td>
<td>K4502</td>
<td>K4503</td>
</tr>
<tr>
<td>Diaphragm Kit</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Diaphragm kits include main and secondary diaphragms and all diaphragm springs.
- Pilot repair kit includes O-ring, armature assembly, armature spring and ferrule.
**GOYEN - MM/MR SERIES**

**MANIFOLD MOUNT VALVES**

**PRODUCT LEAFLET**

**INFORMATION WHEN ORDERING 62/76MR COMPLETE WITH MANIFOLD**

**ORDER CODE**

<table>
<thead>
<tr>
<th>G</th>
<th>R</th>
<th>62MR</th>
<th>76MR</th>
<th>2</th>
<th>0</th>
<th>N04</th>
<th>P211</th>
<th>XXX</th>
</tr>
</thead>
</table>

- **Goyen**
- **Piloting**
  - R=RCA
  - C=CA
- **Threading**
  - 0=NPT
  - 1=RC
  - 2=G
- **Diaphragm**
  - 0=Nitrile
  - 1=Viton
- **Number of valves**
  - N01, N02, etc.

**3PV Pilot**

<table>
<thead>
<tr>
<th>Dual rating:</th>
<th>110 V DC 18 W or 220 V/240 V 50/60 Hz 44/37 VA</th>
</tr>
</thead>
<tbody>
<tr>
<td>M3</td>
<td>15 V 50/60 Hz 4.5/3.3 VA</td>
</tr>
<tr>
<td>M4</td>
<td>48 V DC 15 W or 24 V DC 80 Hz 10/7.5 VA</td>
</tr>
<tr>
<td>M5</td>
<td>12 V DC 18 W or 24 V DC 50/60 Hz 38/31 VA</td>
</tr>
<tr>
<td>M6</td>
<td>12 V DC 18 W or 24 V DC 50/60 Hz 38/31 VA</td>
</tr>
</tbody>
</table>

**QR Solenoid Pilot**

<table>
<thead>
<tr>
<th>Voltage</th>
<th>300</th>
<th>301</th>
<th>305</th>
</tr>
</thead>
<tbody>
<tr>
<td>200/240 V</td>
<td>50/60 Hz</td>
<td>50/60 Hz</td>
<td>DC</td>
</tr>
<tr>
<td>100/120 V</td>
<td>50/60 Hz</td>
<td>50/60 Hz</td>
<td>DC</td>
</tr>
<tr>
<td>24 V DC</td>
<td>50/60 Hz</td>
<td>50/60 Hz</td>
<td>DC</td>
</tr>
</tbody>
</table>

More options available below. See ‘Voltage Range QR Series’ table.

**TANK TEMPERATURE & PRESSURE RANGES**

- **Carbon steel**
  - -40°C to 110°C
  - -40°F to 230°F
- **Stainless steel**
  - -50°C to 93°C
  - -58°F to 199°F
- **Pressure range**
  - 100 kPa to 800 kPa
  - 14.5 psi to 116 psi

**CERTIFICATIONS**

- Tank temperature & pressure ranges
- Carbon steel
- Stainless steel
- Pressure range

**12” MINIMAL PITCH DISTANCES**

<table>
<thead>
<tr>
<th>HEADER MATERIAL CALCULATION</th>
<th>CARBON STEEL ASME 6.35 MM</th>
<th>CARBON STEEL ASME 7.14 MM</th>
<th>STAINLESS STEEL ASME/PED AT TEMPERATURE DESIGN 70°C 4.57 MM</th>
</tr>
</thead>
<tbody>
<tr>
<td>400 kPa</td>
<td>203 mm/8”</td>
<td>203 mm/8”</td>
<td>203 mm/8”</td>
</tr>
<tr>
<td>500 kPa</td>
<td>203 mm/8”</td>
<td>203 mm/8”</td>
<td>214 mm/8.4”</td>
</tr>
<tr>
<td>600 kPa</td>
<td>210 mm/8.3”</td>
<td>205 mm/8.1”</td>
<td>227 mm/8.9”</td>
</tr>
<tr>
<td>700 kPa</td>
<td>215 mm/8.5”</td>
<td>210 mm/8.3”</td>
<td>240 mm/9.4”</td>
</tr>
<tr>
<td>800 kPa</td>
<td>215 mm/8.5”</td>
<td>215 mm/8.5”</td>
<td>257 mm/10”</td>
</tr>
<tr>
<td>860 kPa</td>
<td>230 mm/9.1”</td>
<td>220 mm/8.7”</td>
<td>268 mm/11”</td>
</tr>
</tbody>
</table>
MR SERIES - PULSE JET VALVES WITH MANIFOLD
TANK DIMENSIONS

<table>
<thead>
<tr>
<th>Ø TANK</th>
<th>Ø F</th>
<th>Y</th>
<th>SHORT UNTHREADED</th>
<th>L</th>
<th>LONG UNTHREADED</th>
<th>L</th>
<th>LONG THREADED</th>
<th>Ø GAS</th>
<th>H</th>
<th>I</th>
</tr>
</thead>
<tbody>
<tr>
<td>DN12&quot;</td>
<td>88.9</td>
<td>187 mm/7.4&quot;</td>
<td>T5520</td>
<td>80 mm/3.1&quot;</td>
<td>TL520</td>
<td>140 mm/5.5&quot;</td>
<td>TF520</td>
<td>2.5&quot;</td>
<td>130 mm/5.1&quot;</td>
<td>140 mm/5.5&quot;</td>
</tr>
</tbody>
</table>

* Refer to 12" Nominal Pitches table above.

TO BE COMPLETED BY CUSTOMER

<table>
<thead>
<tr>
<th>P</th>
<th>DISTANCE REQUIRED</th>
<th>N</th>
<th>NUMBER OF VALVES</th>
<th>K</th>
<th>OPTIONAL</th>
</tr>
</thead>
</table>

* Refer to 12" Nominal Pitches table above.
The information and data contained in this document are based on our general experience and are believed to be correct. They are given in good faith and are intended to provide a guideline for the selection and use of our products. Since the conditions under which our products may be used are beyond our control, this information does not imply any guarantee of final product performance and we cannot accept any liability with respect to the use of our products. The quality of our products is guaranteed under our conditions of sale. Existing industrial property rights must be observed.

GOYEN CONTROLS PTY LIMITED
268 MILPERRA ROAD, MILPERRA NSW 2214, AUSTRALIA   WWW.GOYENMECAIR.PENTAIR.COM

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