

GOYEN MM & MR SERIES
**MANIFOLD MOUNT
VALVES**

GOYEN 'MM' SERIES

PULSE JET VALVES



MM Series

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

Body and dresser

nuts: Diecast aluminium

Ferrule: 305 SS

Armature: 430FR SS

Diaphragm and seals: Nitrile or Viton

Spring: 304 SS

Screws: 302 or 304 SS

Outlet pipe: Schedule 40 wrought steel zinc passivated

Diaphragm seat: PA-66 (25 & 40MM standard), Nitrile-coated mild steel (76MM standard), Acetal (102MM standard) or Viton-coated mild steel (all sizes)

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 2D Mechanical (RCA 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

| SIZE | INTEGRAL PILOT (CA) kg (lb) | REMOTE PILOT (RCA) kg (lb) |
|------|--------------------------------|-------------------------------|
| 25 | 0.720 [1.59] | 0.500 [1.10] |
| 40 | 1.120 [2.47] | 0.900 [1.98] |
| 76 | 3.900 [8.60] | 3.680 [8.11] |
| 102 | 3.900 [8.60] | 3.680 [8.11] |

MAINTENANCE KITS AND ACCESSORIES

| MODEL | NITRILE | VITON | INCLUDES |
|--|----------------------------------|--------|--|
| CA/RCA25MM Diaphragm kit | K2501 | K2503 | |
| CA/RCA40MM Diaphragm kit | K4000 | K4007 | |
| CA/RCA76MM Diaphragm kit | K7600 | K7601 | |
| CA/RCA102MM Diaphragm kit | K10200 | K10201 | |
| CA/RCA102MM Diaphragm kit for sulphur-rich environments (coal-fired boiler applications) | K10203 | | |
| Pilot repair kit (all models) | K0380 | K0384 | O-ring, armature assembly, armature spring, ferrule |
| CA/RCA25MM*P Installation template | Drawing 690048 | | Installation templates are available free of charge. |
| CA/RCA25MM*D Installation template | Drawing 690046 | | |
| CA/RCA40MM*P Installation template | Drawing 690045 | | |
| CA/RCA40MM*D Installation template | Drawing 609999 | | |
| CA/RCA76MM Installation template | Drawing 690151 RCA and 690051 CA | | |
| CA/RCA102MM Installation template | Drawing 691055 CA and 691056 RCA | | Suitable for 102MM hose |

GOYEN 'MM' SERIES

PULSE JET VALVES

PRODUCT CHARACTERISTICS AND PERFORMANCE

| NOM. SIZE | PORT SIZE | | NUMBER OF DIAPHRAGMS | FLOW | | PRESSURE RANGE* | TEMPERATURE RANGE °C (°F)* | |
|-----------|-----------|-----|----------------------|------|-----|-----------------|----------------------------|--------------------------|
| | mm | in. | | KV | CV | | NITRILE SEALS | VITON SEALS |
| 25 | 25 | 1 | 1 | 26 | 30 | 30(5)–860(125) | –40(–40) to 82(179.6) | –29(–20.2) to 232(449.6) |
| 40 | 40 | 1.5 | 2 | 44 | 51 | 30(5)–860(125) | –40(–40) to 82(179.6) | –29(–20.2) to 232(449.6) |
| 76 | 76 | 3 | 2 | 200 | 233 | 30(5)–860(125) | –40(–40) to 82(179.6) | –29(–20.2) to 232(449.6) |
| 102 | 102 | 3.5 | 2 | 238 | 277 | 30(5)–860(125) | –40(–40) to 82(179.6) | –29(–20.2) to 232(449.6) |

* Unless limited by CRN.

ORDER CODE

1" and 1.5" Models

| RCA 25 MM F P 4 0 1 0 301 | | | | | | | | | |
|--|--|--|--|--|--|---------------------------------|--|--|--|
| Pilot type | | | Solenoid type | | | | | | |
| RCA=remotely piloted CA=integral pilot | | | Coil type for CA only. <i>See the RCA3 Solenoid Pilot Valves brochure for coil options.</i> | | | | | | |
| Valve size | | | Diaphragm material | | | | | | |
| 25 mm 40 mm | | | 0=Nitrile 1=Viton | | | | | | |
| Tank shape <i>(omit if ordering valve only)</i> | | | Pilot thread type (RCA) | | | Exhaust thread type (CA) | | | |
| F=Flat face only | | | 0=NPT 1=RC | | | 0=NPT 1=RC | | | |
| Outlet pipe type <i>(omit if ordering valve only)</i> | | | Thread and bleed size (RCA) | | | Bleed size (CA) | | | |
| P=Pipe flange D=Dresser nut | | | 0=1/8", 0.062" bleed diameter 1=1/4", 0.062" bleed diameter 2=1/8", 0.047" bleed diameter 3=1/4", 0.047" bleed diameter | | | 0=0.062" 1=0.047" | | | |
| Tank width <i>(omit if ordering valve only)</i> | | | | | | | | | |
| 4"* 5"* 6" 8"+ | | | | | | | | | |
| *25MM only, +40MM only | | | | | | | | | |

*25MM only, †40MM only

Examples: CA40MMFD6000-300

1.5" MM valve to suit a foil flat-faced tank with a dresser nut outlet, NPT exhaust port, Ø0.062" bleed, nitrile seals and 220/240V AC integral pilot with DIN socket terminals.

RCA25MM001

1" MM valve only, 1/8" NPT remote pilot, Ø0.062" bleed and viton seals.

3" and 3.5" Models

| RCA 76 MM 1 0 1 301 | | | | | | | | | |
|--|--|--|---|--|--|--|--|--|--|
| Pilot type | | | Solenoid type | | | | | | |
| RCA=remotely piloted CA=integral pilot | | | Coil type for CA only. See the RCA3 Solenoid Pilot Valves brochure for coil options. | | | | | | |
| Valve size | | | Diaphragm material | | | | | | |
| 76 mm 102 mm | | | 0=Nitrile 1=Viton | | | | | | |
| Remote pilot size (specify 0 for CA models) | | | Thread type (specify 4 for CA models) | | | | | | |
| 0=1/8" or CA 1=1/4" | | | 0=NPT 1=RC 4=CA valve | | | | | | |

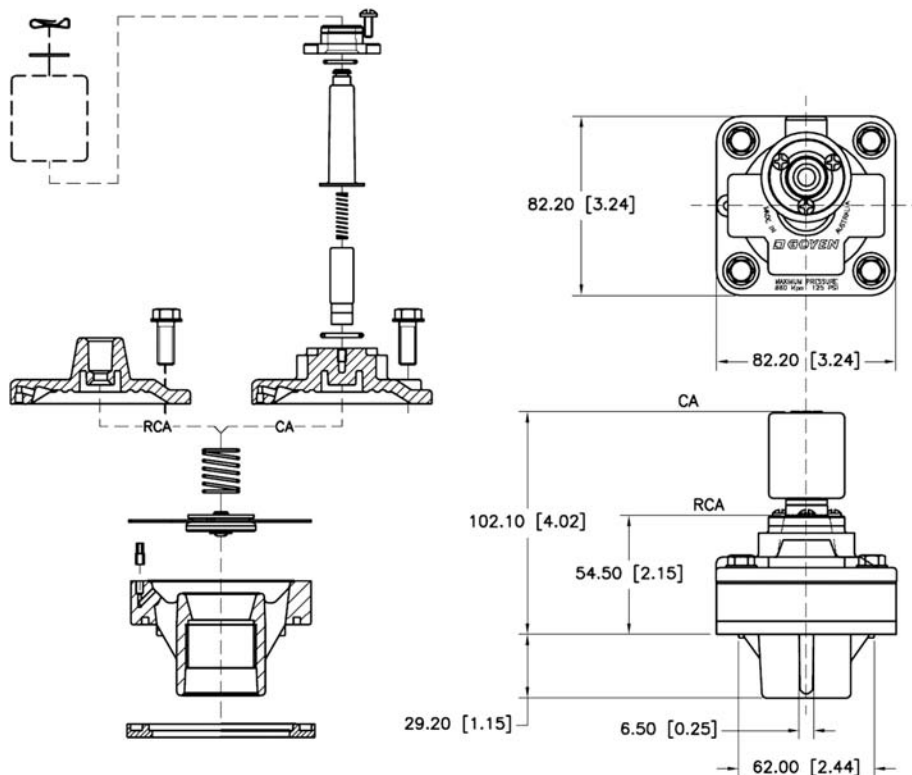
GOYEN 'MM' SERIES

PULSE JET VALVES

DIMENSIONS

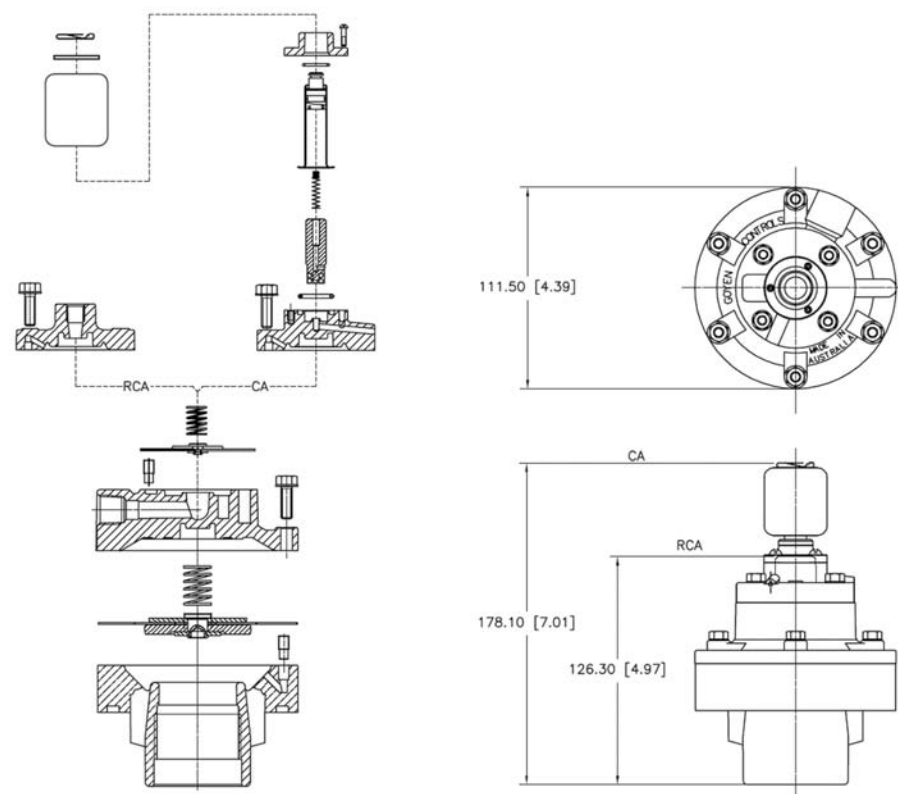
(Dimensions in mm and [inches])

CA/RCA25MM



Note: Pipe outlet not shown

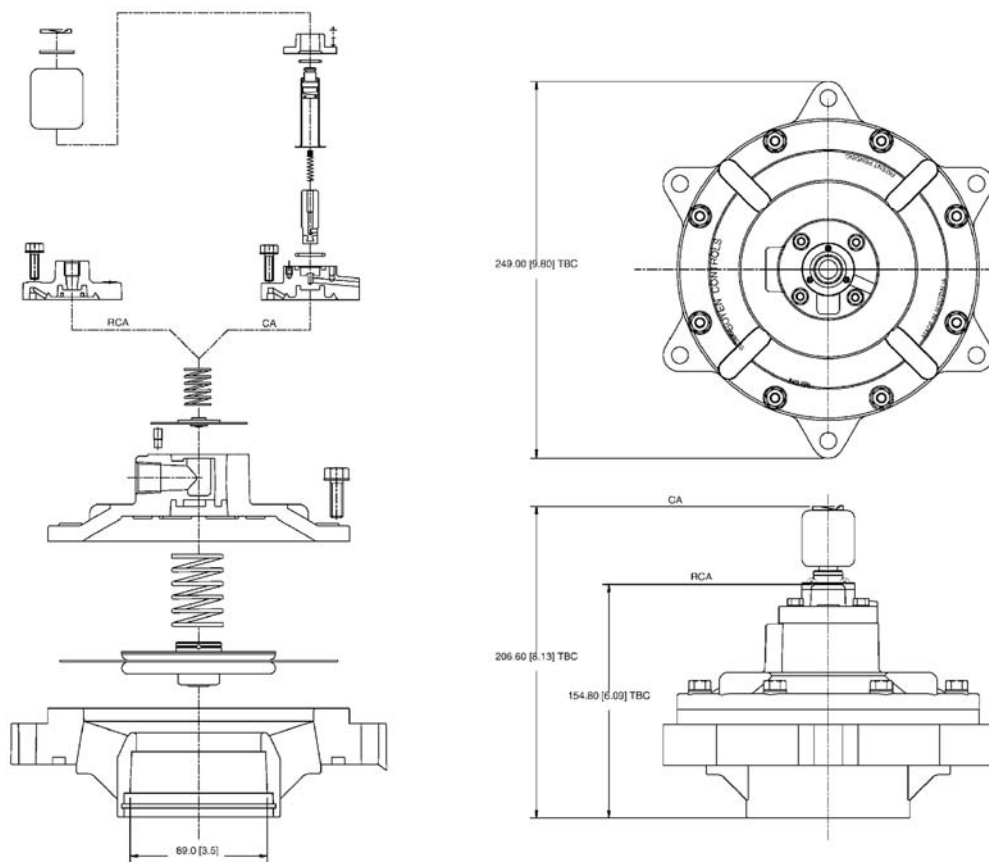
CA/RCA40MM



GOYEN 'MM' SERIES

PULSE JET VALVES

CA/RCA76MM

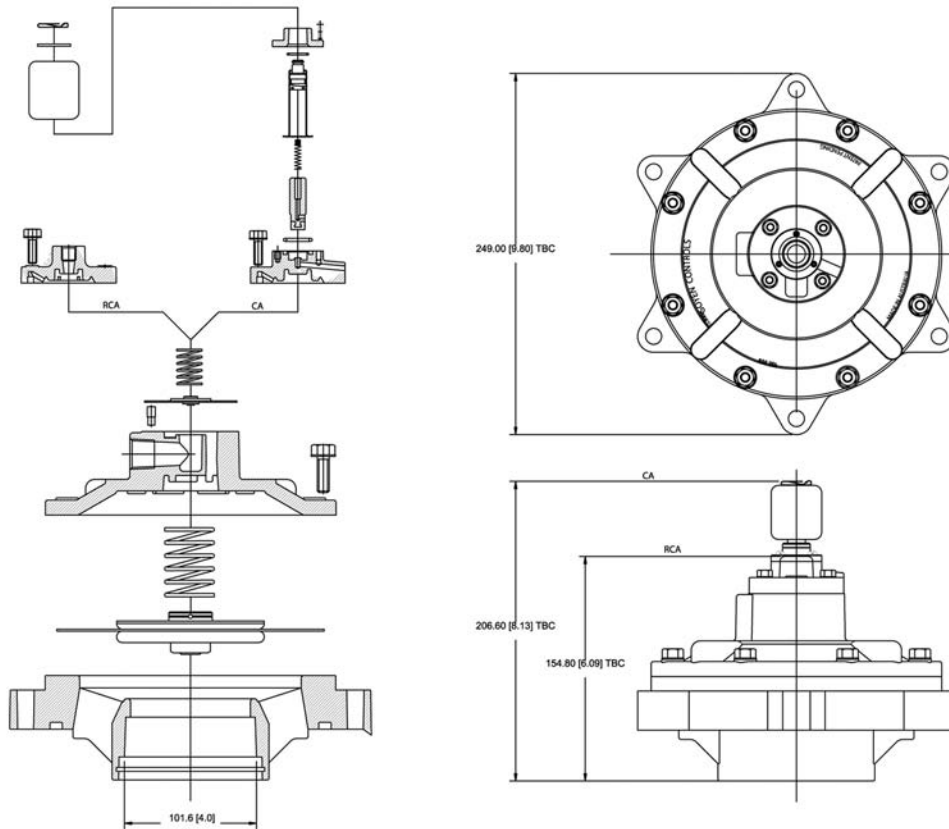


Note: Suggested pipe size is 3" NB Schedule 40 pipe (OD=89.0 mm, 3.5")

GOYEN 'MM' SERIES

PULSE JET VALVES

CA/RCA102MM



Note: Suggested pipe size is 3.5" NB Schedule 30 pipe (OD=101.6 mm, 4")

GOYEN 'MR' SERIES

PULSE JET VALVES



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.

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.

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

INSTALLATION

1. The valves are installed through the tank.
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.

WEIGHTS

| SIZE | INTEGRAL PILOT (CA) kg (lb) | REMOTE PILOT (RCA) kg (lb) |
|-------|--------------------------------|-------------------------------|
| 76MR | 4.27 kg (9.41 lb) | 4.05 kg (8.93 lb) |
| 62MR | 4.58 kg (9.41 lb) | 4.36 kg (8.93 lb) |
| 40MMR | 1.63 kg (3.59 lb) | 1.41 kg (3.11 lb) |

PRODUCT CHARACTERISTICS AND PERFORMANCE

| SIZE | FLOW KV (CV) | PRESSURE RANGE kPa (psi)* | TEMPERATURE RANGE °C (°F)* | |
|-------|-----------------|---------------------------------|----------------------------------|-------------------------------------|
| | | | NITRILE SEALS | VITON SEALS |
| 76MR | 200 (233) | 30 kPa/5 psi to 860 kPa/125 psi | –40°C (–40°F) to 82°C (179.6°F). | –29°C (–20.2°F) to 232°C (449.6°F). |
| 62MR | 150.7 (175.2) | 30 kPa/5 psi to 860 kPa/125 psi | –40°C (–40°F) to 82°C (179.6°F). | –29°C (–20.2°F) to 232°C (449.6°F). |
| 40MMR | 52 (61) | 30 kPa/5 psi to 860 kPa/125 psi | –40°C (–40°F) to 82°C (179.6°F). | –29°C (–20.2°F) to 232°C (449.6°F). |

* Unless limited by CRN.

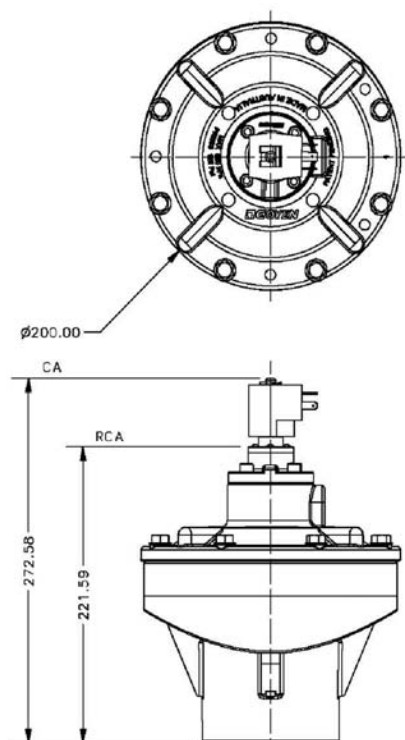
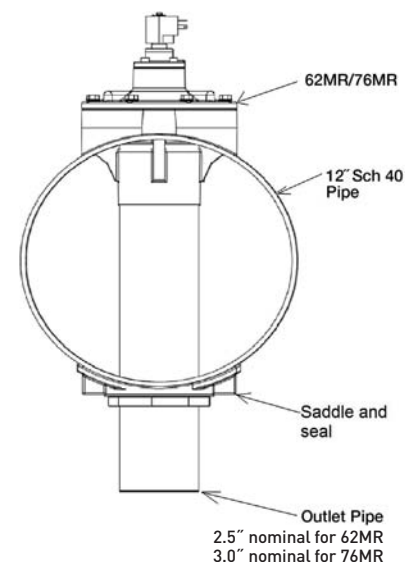
APPROVALS

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

GOYEN 'MR' SERIES

PULSE JET VALVES WITHOUT MANIFOLD

62MR/76MR CONFIGURATIONS WITH OUTLET PIPE, WITHOUT MANIFOLD



RCA 76MR 12 0 0 0 000

Pilot type

RCA=remotely piloted
CA=integral pilot

Valve size

62MR
76MR

Nominal tank width

12"

Remote pilot size

0=1/8"
1=1/4"

Specify 0 for CA models.

Solenoid type

Solenoid order code for CA valve, drop the 'K-'.
Refer to Q Series Solenoid product specification.

Diaphragm material

0=Nitrile
1=Viton

Pilot thread type

0=NPT
1=RC
Specify 4 for CA models.

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

| | NITRILE | VITON |
|---------------------------------|---------|-------|
| CA/RCA76MR Diaphragm Kit | K7600 | K7601 |
| Pilot Repair Kit for all models | K0380 | K0384 |
| CA/RCA62MR Diaphragm Kit | K7604 | K7602 |
| CA/RCA40MMR Diaphragm Kit | K4502 | K4503 |

- Diaphragm kits include main and secondary diaphragms and all diaphragm springs.
- Pilot repair kit includes O-ring, armature assembly, armature spring and ferrule.

| TYPE | NOMINAL PORT SIZE | NO. DIAPH | PRESSURE RANGE (BAR) | | COIL | KV | CV |
|---------|-------------------|-----------|----------------------|------|------|-------|-------|
| | | | min. | max. | | | |
| CA62MR | 2.5" | 2 | 0.3 | 8.6 | YES | 150.7 | 175.2 |
| RCA62MR | 2.5" | 2 | 0.3 | 8.6 | NO | 150.7 | 175.2 |

RCA 40MMR 6 - 1 2 0 -

Pilot type

RCA=remotely piloted
CA=integral pilot

40MM

Nominal tank size

6"

Remote pilot size

0=1/8"

Solenoid type

Solenoid order code for CA valve, drop the 'K-'.
Refer to Q Series Solenoid product specification.

Diaphragm material

0=Nitrile
1=Viton

Pilot thread type

0=NPT
1=RC
2=G

GOYEN 'MR' SERIES

PULSE JET VALVES WITH MANIFOLD

INFORMATION WHEN ORDERING 62/76MR COMPLETE WITH MANIFOLD



ORDER CODE

| | | 62MR 76MR | | 2 0 | N04 | P211 | XXX | | |
|-------------------------|--|--------------|----------|-----|-----|------|-----|--|---|
| Goyen | | G | R | | | | | | |
| Piloting | | | | | | | | 3PV Pilot | |
| R=RCA | | | | | | | | M3 | Dual rating: 110 V DC 18 W or 220 V/240 V 50/60 Hz 46/37 VA |
| C=CA | | | | | | | | M4 | Dual rating: 48 V DC 18 W or 115 V 50/60 Hz 63/53 VA |
| Threading | | | | | | | | M5 | Dual rating: 24 V DC 18 W or 48 V 50/60 Hz 41/32VA |
| 0=NPT | | | | | | | | M6 | Dual rating: 12 V DC 18 W or 24 V 50/60 Hz 38/31 VA |
| 1=RC | | | | | | | | QR Solenoid Pilot | |
| 2=G | | | | | | | | 300 | 200/240 V 50/60 Hz |
| Diaphragm | | | | | | | | 301 | 100/120 V 50/60 Hz |
| 0=Nitrile | | | | | | | | 305 | 24 V DC DC |
| 1=Viton | | | | | | | | More options available below. See 'Voltage Range QR Series' table. | |
| Number of valves | | | | | | | | Pitch | |
| N01, N02, etc. | | | | | | | | Refer to 12" Nominal Pitches table below. | |

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

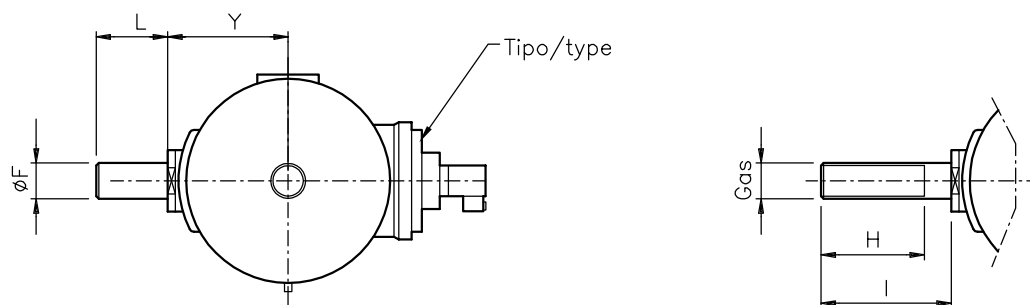


| 12" MINIMAL PITCH DISTANCES | | | |
|---|---------------------------------|---------------------------------|---|
| HEADER MATERIAL CALCULATION STANDARD WALL | CARBON STEEL ASME 6.35 mm | CARBON STEEL ASME 7.14 mm | STAINLESS STEEL ASME/PED AT TEMPERATURE DESIGN 70°C 4.57 mm |
| 400 kPa | 203 mm/8" | 203 mm/8" | 203 mm/8" |
| 500 kPa | 203 mm/8" | 203 mm/8" | 214 mm/8.4" |
| 600 kPa | 210 mm/8.3" | 205 mm/8.1" | 227 mm/8.9" |
| 700 kPa | 215 mm/8.5" | 210 mm/8.3" | 240 mm/9.4" |
| 800 kPa | 225 mm/8.9" | 215 mm/8.5" | 257 mm/10" |
| 860 kPa | 230 mm/9.1" | 220 mm/8.7" | 268 mm/11" |

GOYEN 'MR' SERIES

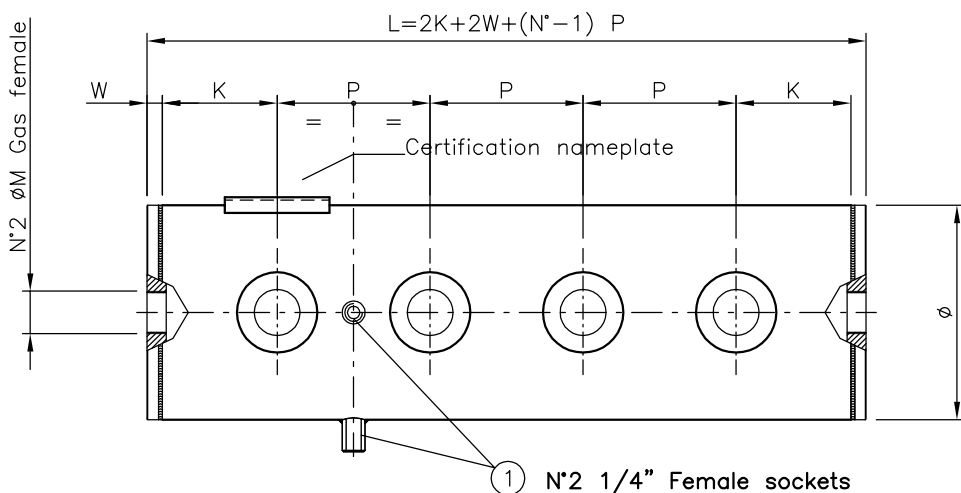
PULSE JET VALVES WITH MANIFOLD

TANK DIMENSIONS



Valve Blowpipe

| Ø TANK | Ø F | Y | SHORT UNTHREADED | L | LONG UNTHREADED | L | LONG THREADED | Ø G GAS | H | I |
|--------|------|-----------------|------------------|----------------|-----------------|-----------------|---------------|---------|-----------------|-----------------|
| DN12" | 88.9 | 187 mm/ 7.4" | TS520 | 80 mm/ 3.1" | TL520 | 140 mm/ 5.5" | TF520 | 2.5" | 130 mm/ 5.1" | 140 mm/ 5.5" |



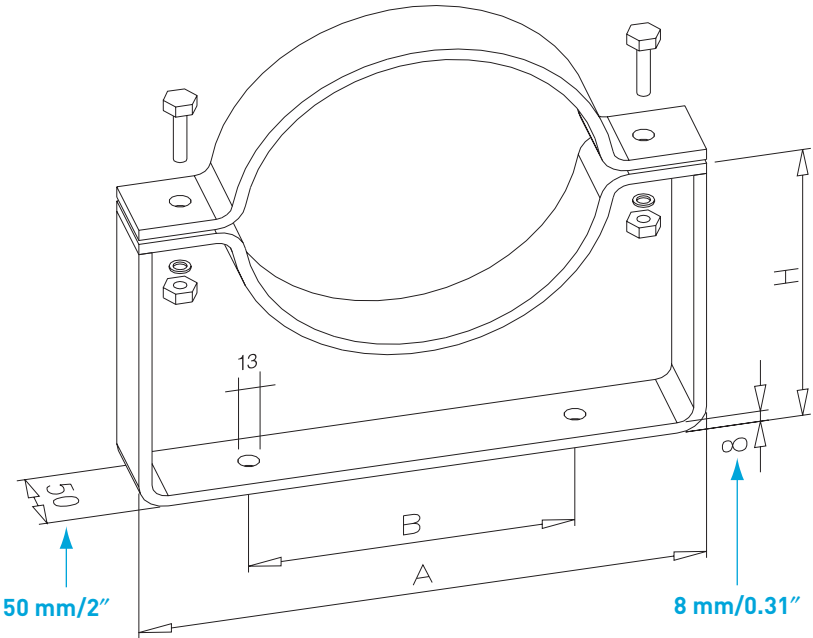
| Ø TANK | Ø VALVE | P MIN. | K MIN. | W | Ø M |
|--------|---------|--------------|-------------|-------------|-----|
| DN12" | 2.5" | 205 mm*/8.1" | 130 mm/5.1" | 25 mm/0.98" | 2" |

* Refer to 12" Nominal Pitches table above.

| TO BE COMPLETED BY CUSTOMER | | |
|-----------------------------|-----------------------|---------------|
| P DISTANCE REQUIRED | N NUMBER OF VALVES | K OPTIONAL |
| | | |

GOYEN 'MR' SERIES

PULSE JET VALVES WITH MANIFOLD



| BRACKET DIMENSIONS | | | | |
|--------------------|-----------------|------------|------------|-------------|
| DN TANK | TYPE OF BRACKET | A | B | H |
| 12" [323, 9] | TH12 | 490 mm/19" | 300 mm/12" | 340 mm/13" |
| | TM12 | 490 mm/19" | 300 mm/12" | 288 mm/11" |
| | TB12 | 490 mm/19" | 300 mm/12" | 234 mm/9.2" |



CLEANAIRSYSTEMS.COM

© 2014 Pentair Clean Air Systems reserves the right to change product designs and specifications without notice.