750 Series - Multifunction

Compact solenoid multi-valve | 2/2 and 3/2 integrated functions
PNEUMATIC DIVISION

MATRIX mechatronics

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sales@matrix.to.it
750 multi-function Series encloses 8 separately controlled shutters in a single body. Its base version has 8 outputs with the following configurations:
- four 3/2 NC outlets
- four 3/2 NC outlets.
- two 2/2 NC outlets.
- two 2/2 NO inverted flow outlets.

The extreme modularity of 750 Series allows the arrangement of an almost unlimited number of customized configurations. For this aim, contact your local dealer or MATRIX technical staff. 750 multi-function Series is particularly fit for the control of intricate pneumatic system, where different functions are integrated.

In the present model, all the innovations offered by Matrix technology (this combines special dynamic performance to the simplicity and reliability of manufacture) are present. Response times are of millisecond range, while operation life is over 500 million cycles.

With a speed-up kind control, dynamic characteristics are even more improved. Standard 12/24 VDC control solenoid valves have a response time lower than 5 ms in opening and than 2 ms in closing, with a maximum operation frequency 200 Hz. Speed-up control solenoid valves have a response time lower than 2 ms both in opening and in closing, with a maximum operation frequency of 300 Hz.

Besides high-speed characteristics, 750 Series solenoid valves offer flow rate values up to 100 l/minute (ANR) for every single outlet, with feeding (supply) pressure from 0 to 8 bar.

For 750 multi-function series, a lot of accessories is available, such as IP 52 or IP 56 connectors, manifolds with different positions and speed-up driver boards.

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**Advantages**

- Compact dimension.
- Short response times.
- Insensitivity to frequency work and to vibrations.
- Low absorbed power.
- Precision, repetitiveness and flexibility.
- Long operating life.

**Applications**

- Process and precision instrumentation.
- Pressure and flow rate control devices.
- Positioning systems.
- Biomedical and measure sector.
- Robotics and industrial automation.

**Materials**

- Body in PPS.
- Flanges in Al.
- Seals in NBR (shutters in HNBR if required).
**758 MULTI-FUNCTION • 2/2 - 3/2**

**CONTROL:**
- DIRECT
- PFM
- PWM

**GENERAL CHARACTERISTICS**
- **FLUID:** Non-lubricated dry air, neutral gases (−10 to 50°C)
- **FILTRATION RATING:** Min 40 micron
- **TEMPERATURE:** −10 to 50°C (Standard version)
- **RESPONSE TIME IN OPENING:** 12 / JJ < 5 ms, KK < 2 ms
- **RESPONSE TIME IN CLOSING:** 12 / JJ < 2 ms, KK < 2 ms
- **MAXIMUM FREQUENCY:** 200 Hz, 300 Hz
- **WEIGHT:** 350 g
- **PRODUCT LIFE EXPECTANCY:** ≥ 500 M/s cycles
- **IP RATING:** IP 52 - IP 62 - IP 65

**IDENTIFICATION CODE**

- **OUTLETS:**
  - 8 Outlets

- **FLOW RATE** (at 6 bar)
  - H 50 Nl/min
  - B 80 Nl/min
  - M 100 Nl/min (control tension JJ XX KK)

- **VERSION**
  - Standard
  - H HNBR Shutters

- **No. ELECTRICAL CONTROLS**
  - 8 Controls

- **PORT CONNECTION**
  - 0 Integrated cables IP 62, L = 500 mm
  - E Presetting for Easy connection IP 52 - IP 65

- **SPECIAL PROTECTIONS**
  - Only with EASY IP 65 port connection
  - M Stainless steel (INOX) flanges
  - N EPOXY BLACK varnished flanges

- **FUNCTIONS**
  - N.2 NC
  - N.2 NO

- **TYPE**
  - R N.4 3/2 - N.2 2/2
  - N.2 2/2 Inverted flow

- **CONTROL TENSION**
  - 12 VDC ± 10 %
  - JJ 24 VDC ± 10 %
  - KK Speed-up in tension
  - ED 100 %

(1) Only with Electronic Driver Boards PRB or UDB

**OPERATING PRESSURE**

<table>
<thead>
<tr>
<th>RANGE</th>
<th>MODELS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0 - 4 bar</td>
</tr>
<tr>
<td>2</td>
<td>4 - 8 bar</td>
</tr>
<tr>
<td>3</td>
<td>0 - 8 bar</td>
</tr>
<tr>
<td>8</td>
<td>2 - 6 bar</td>
</tr>
</tbody>
</table>
CHARACTERISTICS OF THE ELECTRICAL CONTROL - MODELS KK

**N.B. KK MODELS ARE CONTROLLED IN TENSION**

- \( V_1 = 24 \) VDC
- \( t_1 = 2 \) ms
- \( V_2 = 5 \) VDC

**FLOW RATE \( Q \)**

\[ Q = 67 \text{ Nl/min} \]
\[ C = 15.3 \text{ Nl/min bar} \]
\[ b = 0.35 \]

<table>
<thead>
<tr>
<th>COLOUR</th>
<th>OUTLET</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLACK 1 - 2</td>
<td></td>
</tr>
<tr>
<td>BROWN</td>
<td>1 3/2 NC</td>
</tr>
<tr>
<td>RED</td>
<td>2 3/2 NC</td>
</tr>
<tr>
<td>ORANGE</td>
<td>3 2/2 NC</td>
</tr>
<tr>
<td>YELLOW</td>
<td>4 2/2 NA(1)</td>
</tr>
<tr>
<td>BLACK 3 - 4</td>
<td></td>
</tr>
<tr>
<td>GREEN</td>
<td>5 3/2 NC</td>
</tr>
<tr>
<td>BLUE</td>
<td>6 3/2 NC</td>
</tr>
<tr>
<td>VIOLET</td>
<td>7 2/2 NC</td>
</tr>
<tr>
<td>GREY</td>
<td>8 2/2 NA(1)</td>
</tr>
<tr>
<td>BLACK</td>
<td>COMMON</td>
</tr>
</tbody>
</table>

(1) Inverted flow