750 Series

Compact solenoid multi-valve | 2/2-3/2 NC-NO
PNEUMATIC DIVISION

MATRIX mechatronics
750 Series 2/2 and 2/3 encloses in a single body eight shutters in NC or NO configuration. The series modularity allows to have at disposal a single outlet or 2, 4, 8 independent outlets. All innovations offered by Matrix technology are present. Said characteristics couple manufacturing simplicity and ability of dynamic high-performances. Response times are of millisecond range, while operation life is over 500 million cycles. The Series includes the Vacuum versions designed for use with vacuum technique. Due to the facility to be speed-up controlled, dynamic characteristics are even more improved: standard solenoid valves equipped with 24 VDC control present response times lower than 5 ms in opening and 2 ms in closing, with a maximum operation frequency 200 Hz. On the contrary, solenoid valves equipped with speed-up control present a response time both in opening and closing lower than 2 ms, with a maximum operation frequency 300 Hz. Besides high-speed characteristics, solenoid valves 720 Series offer flow rate value to 100 l/minute (ANR), with supply pressure from 0 to 8 bar. For 750 multi-function series, a lot of accessories are available, such as IP 52 or IP 56 connectors, manifolds with different positions and speed-up driver boards.

Advantages

- Compact dimension.
- High duct diameter and flow rate.
- 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.
- Pilot system.
- Selection systems.
- Metering systems.
- Biomedical and measure sector.

Materials

- Body in PPS.
- Flanges in Al. (in INOX if required).
- Seals in NBR. (shutters in HNBR if required).
IDENTIFICATION CODE

H X 7 5 1 1 0 2 C 2 2 4

- OUTLETS
  1 1 Outlet

- FLOW RATE (at 6 bar)
  H 420 N/min
  B 600 N/min
  M 700 N/min (control tension J J K K K)

- VERSION
  Standard
  H HNBR Shutters

- No. ELECTRICAL CONTROLS
  1 1 Control
  2 2 Controls
  4 4 Controls
  8 8 Controls
  C 4 Controls / Integrated diodes with common 0 V
  D 8 Controls / Integrated diodes with common 0 V
  F 4 Controls / Integrated diodes with common 12/24 V
  G 8 Controls / Integrated diodes with common 12/24 V

- PORT CONNECTION
  0 Integrated cables IP 62 L = 500 mm
  E Presetting for Easy connection Easy IP 52 - IP 65 (only 4 and 8 controls)

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

- CONTROL TENSION
  12 12 VDC ± 10% ED 100% 1.4 + 11.6 W
  24 24 VDC ± 10% ED 100% 1.2 + 10.0 W
  JJ 24 VDC ± 10% ED 100% 1.9 + 15.2 W
  XX Speed-up in current ED 100% (1)
  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>
### Identification Code

- **H** 752
- **X** 2
- **7** 2
- **5** 0
- **2** 2
- **2** C
- **2** 2
- **4**

#### Outlets
- 2 outlets

#### Flow Rate (at 8 bar)
- **H** 200 Nl/min
- **B** 310 Nl/min
- **M** 360 Nl/min (control tension JJ / XX / KK)

#### Version
- Standard
- H HNBR Shutters

#### No. Electrical Controls
- 2 Controls
- 4 Controls
- 8 Controls
- C 4 Controls / Integrated diodes with common 0 V
- D 8 Controls / Integrated diodes with common 0 V
- F 4 Controls / Integrated diodes with common 12 / 24 V
- G 8 Controls / Integrated diodes with common 12 / 24 V

#### Port Connection
- Integrated cables IP 62 / L = 500 mm
- Presetting for Easy connection IP 52 - IP 65 (only 4 and 8 controls)

#### Special Protections
- Only with EASY IP 65 port connection
- M Stainless steel (INOX) flanges
- N EPOX BLACK varnished flanges

#### Function
- A NO
- C NC

#### Type
- 2 2/2

#### Control Tension
- 12 12 VDC ± 10% ED 100% 1.4 - 5.8 W
- 24 24 VDC ± 10% ED 100% 1.2 - 5.0 W
- JJ 24 VDC ± 10% ED 100% 1.9 - 7.6 W
- XX Speed-up in current ED 100% —
- 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>All</td>
</tr>
<tr>
<td>2</td>
<td>All</td>
</tr>
<tr>
<td>3</td>
<td>XX / KK</td>
</tr>
<tr>
<td>8</td>
<td>All</td>
</tr>
</tbody>
</table>

### General Characteristics

- **Fluid**: Non-lubricated dry air, neutral gases (−10 - 50°C)
- **Filtration Rating**: Min 40 micron
- **Temperature**: −10 - 50°C (Standard version)
- **Response Time in Opening**: 12 / 24 < 7 ms JJ < 5 ms XX / KK < 2 ms
- **Response Time in Closing**: 12 / 24 < 3 ms JJ < 2 ms XX / KK < 2 ms
- **Maximum Frequency**: 100 Hz 200 Hz 300 Hz
- **Weight**: 330 g
- **Product Life Expectancy**: ≥ 500 M/s cycles
- **IP Rating**: IP 52 - IP 62 - IP 65
ELECTRICAL PORT CONNECTION

<table>
<thead>
<tr>
<th>COLOUR</th>
<th>2 CONTROLS (SINGLE CABLES)</th>
<th>2 CONTROLS (SAP CONNECTION P 10)</th>
<th>4 CONTROLS (OUTLET)</th>
<th>8 CONTROLS (OUTLET)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLACK</td>
<td>COMMON</td>
<td>COMMON</td>
<td>4 (1)</td>
<td>1 (1)</td>
</tr>
<tr>
<td>BROWN</td>
<td>1</td>
<td>1 (1)</td>
<td>1 (2)</td>
<td>1 (2)</td>
</tr>
<tr>
<td>RED</td>
<td>2</td>
<td>2 (1)</td>
<td>2 (2)</td>
<td>2 (2)</td>
</tr>
<tr>
<td>ORANGE</td>
<td>2</td>
<td>2 (2)</td>
<td>3 (1)</td>
<td>3 (1)</td>
</tr>
<tr>
<td>YELLOW</td>
<td>2</td>
<td>4 (2)</td>
<td>4 (1)</td>
<td>4 (1)</td>
</tr>
<tr>
<td>GREEN</td>
<td>2</td>
<td>5 (2)</td>
<td>6 (2)</td>
<td>6 (2)</td>
</tr>
<tr>
<td>BLUE</td>
<td>2</td>
<td>5 (2)</td>
<td>7 (2)</td>
<td>7 (2)</td>
</tr>
<tr>
<td>VIOLET</td>
<td>2</td>
<td>7 (2)</td>
<td>8 (2)</td>
<td>8 (2)</td>
</tr>
<tr>
<td>GREY</td>
<td>2</td>
<td>8 (2)</td>
<td>8 (2)</td>
<td>8 (2)</td>
</tr>
</tbody>
</table>

FLOW RATE

\[ Q = 215 \text{ Nl/min} \]
\[ C = 51.43 \text{ Nl/min bar} \]
\[ b = 0.278 \]

CHARACTERISTICS OF THE ELECTRICAL CONTROL - MODELS KK

N.B. KK MODELS ARECONTROLLED IN TENSION

\[ V_1 = 24 \text{ VDC} \]
\[ t_1 = 2 \text{ ms} \]
\[ V_2 = 5 \text{ VDC} \]

CHARACTERISTICS OF THE ELECTRICAL CONTROL - MODELS XX

N.B. XX MODELS ARE CONTROLLED IN CURRENT

\[ I_1 = 2.8 \text{ A} \]
\[ t_1 = 2 \text{ ms} \]
\[ I_2 = 1.2 \text{ A} \]
IDENTIFICATION CODE

- FLOW RATE (at 6 bar)
  - H: 100 Nl/min
  - B: 160 Nl/min
  - M: 200 Nl/min (control tension JJ | XX | KK)

- VERSION
  - Standard
  - H: HNBR Shutters

- No. ELECTRICAL CONTROLS
  - 4: 4 Controls
  - 8: 8 Controls
  - C: 4 Controls / Integrated diodes with common 0 V
  - D: 8 Controls / Integrated diodes with common 0 V
  - F: 4 Controls / Integrated diodes with common 12/24 V
  - G: 8 Controls / Integrated diodes with common 12/24 V

- OUTLETs
  - 4: 4 Outlets

- FUNCTION
  - A: NO
  - C: NC

- TYPE
  - 2: 2/2

- CONTROL TENSION
  - 12: 12 VDC ± 10 % ED 100 % 1.4 - 2.9 W
  - 24: 24 VDC ± 10 % ED 100 % 1.2 - 2.5 W
  - JJ: 24 VDC ± 10 % ED 100 % 1.9 - 3.8 W
  - XX: Speed-up in current ED 100 % —
  - KK: Speed-up in tension ED 100 % —

- OPERATING PRESSURE

<table>
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<th>RANGE</th>
<th>MODELS</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>0 - 4 bar</td>
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<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>

- SPECIAL PROTECTIONS
  - M: Stainless steel (INOX) flanges
  - N: EPOX BLACK varnished flanges

- PORT CONNECTION
  - 0: Integrated cables IP 62 L = 500 mm
  - E: Presetting for Easy connection IP 52 - IP 65
CHARACTERISTICS OF THE ELECTRICAL CONTROL - MODELS KK

V1 = 24 VDC  t1 = 2 ms  V2 = 5 VDC

N.B. KK MODELS ARE CONTROLLED IN TENSION

CHARACTERISTICS OF THE ELECTRICAL CONTROL - MODELS XX

I1 = 1.4 A  t1 = 2 ms  I2 = 0.6 A

N.B. XX MODELS ARE CONTROLLED IN CURRENT

FLOW RATE M

Qn = 118 Nl/min
C = 28.57 Nl/min bar
b = 0.258

ELECTRICAL PORT CONNECTION

<table>
<thead>
<tr>
<th>COLOUR</th>
<th>4 CONTROLS</th>
<th>8 CONTROLS (X/F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLACK</td>
<td>COMMON</td>
<td>COMMON</td>
</tr>
<tr>
<td>BROWN</td>
<td>1</td>
<td>1 (1)</td>
</tr>
<tr>
<td>RED</td>
<td>2</td>
<td>2 (1)</td>
</tr>
<tr>
<td>ORANGE</td>
<td>3</td>
<td>3 (2)</td>
</tr>
<tr>
<td>YELLOW</td>
<td>4</td>
<td>4 (2)</td>
</tr>
<tr>
<td>GREEN</td>
<td>—</td>
<td>5 (3)</td>
</tr>
<tr>
<td>BLUE</td>
<td>—</td>
<td>6 (3)</td>
</tr>
<tr>
<td>VIOLET</td>
<td>—</td>
<td>7 (4)</td>
</tr>
<tr>
<td>GREY</td>
<td>—</td>
<td>8 (4)</td>
</tr>
</tbody>
</table>
### Identification Code

**OUTLETS**
- 8 / 8 Outlet

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

**VERSION**
- Standard
- H: NBR Shutters

**No. ELECTRICAL CONTROLS**
- B: 8 Controls
- D: 8 Controls / Integrated diodes with common 0 V
- Q: 8 Controls / Integrated diodes with common 12 / 24 V

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

**SPECIAL PROTECTIONS**
- M: Stainless steel (INOX) flanges
- N: EPOX BLACK varnished flanges

**FUNCTION**
- A: NO
- C: NC

**TYPE**
- 2 / 2

**CONTROL TENSION**
- 12: 12 VDC ± 10 %
- 24: 24 VDC ± 10 %
- JJ: 24 VDC ± 10 %
- XX: Speed-up in current
- KK: Speed-up in tension

### 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>

### General Characteristics

- **FLUID**: Non-lubricated dry air, neutral gases (−10 + 50°C)
- **Filtration Rating**: Min 40 micron
- **Temperature**: −10 + 50°C (Standard version)
- **Response Time in Opening**: 12 / 24 < 7 ms
- **Response Time in Closing**: 12 / 24 < 3 ms
- **Maximum Frequency**: 100 Hz
- **Weight**: 350 g
- **Product Life Expectancy**: ≥ 500 M/s cycles
- **IP Rating**: IP 52 - IP 62 - IP 65
ACCESSORIES

<table>
<thead>
<tr>
<th>Reference</th>
<th>Quantity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>PUSH-IN FITTING Ø 10</td>
</tr>
<tr>
<td>2</td>
<td>8</td>
<td>PUSH-IN FITTING Ø 4/3</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>PLUG</td>
</tr>
</tbody>
</table>

NOTE: Inch size available

CHARACTERISTICS OF THE ELECTRICAL CONTROL - MODELS KK

V1 = 24 VDC  \( t_1 = 2 \text{ ms} \)  V2 = 5 VDC

N.B. KK MODELS ARE CONTROLLED IN TENSION

CHARACTERISTICS OF THE ELECTRICAL CONTROL - MODELS XX

I1 = 0.7 A  \( t_1 = 2 \text{ ms} \)  I2 = 0.3 A

N.B. XX MODELS ARE CONTROLLED IN CURRENT

FLOW RATE [\( M \)]

\[ Q_n = 67 \text{ N/min} \]
\[ C = 15.3 \text{ N/min bar} \]
\[ b = 0.35 \]

ELECTRICAL PORT CONNECTION

<table>
<thead>
<tr>
<th>COLOUR</th>
<th>8 CONTROLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLACK</td>
<td>COMMON</td>
</tr>
<tr>
<td>BROWN</td>
<td>1</td>
</tr>
<tr>
<td>RED</td>
<td>2</td>
</tr>
<tr>
<td>ORANGE</td>
<td>3</td>
</tr>
<tr>
<td>YELLOW</td>
<td>4</td>
</tr>
<tr>
<td>GREEN</td>
<td>5</td>
</tr>
<tr>
<td>BLUE</td>
<td>6</td>
</tr>
<tr>
<td>VIOLET</td>
<td>7</td>
</tr>
<tr>
<td>GREY</td>
<td>8</td>
</tr>
</tbody>
</table>
CONTROL: DIRECT

N. 1 NC

N. 1 NO

GENERAL CHARACTERISTICS

FLUID
Non-lubricated dry air, neutral gases (−10 + 50°C)

Filtration Rating
Min 40 micron

Temperature
−10 + 50°C (Standard version)

Response Time in Opening
12 / 24 < 7 ms JJ < 5 ms XX / KK < 2 ms

Response Time in Closing
12 / 24 < 3 ms JJ < 2 ms XX / KK < 2 ms

Maximum Frequency
100 Hz 200 Hz 300 Hz

Weight
380 g

Product Life Expectancy
≥ 500 M/s cycles

IP Rating
IP 62

IDENTIFICATION CODE

H X 7 5 1 1 0 2 C 3 2 4

- OUTLETS
1 1 Outlet

- Flow Rate (at 6 bar)
H 420 N/min
B 600 N/min
M 700 N/min (control tension JJ XX KK)

- Version
Standard
H HNBR Shutters

- No. Electrical Controls
1 1 Control

- Function
A NO
C NC

- Type
3 3/2

- Control Tension
12 12 VDC ± 10% ED 100% 11.6 W
24 24 VDC ± 10% ED 100% 15.2 W
JJ 24 VDC ± 10% ED 100% (1) —
XX Speed-up in current ED 100% (1) —
KK Speed-up in tension ED 100% (1) —

(1) Only with Electronic Driver Boards PRB or UDB

- Pressure of Operation

<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>

- Port Connection
0 Integrated cables IP 62 L = 500 mm

- Special Protections
M Stainless steel (INOX) flanges
N EPOX BLACK varnished flanges
CHARACTERISTICS OF THE ELECTRICAL CONTROL - MODELS KK

N.B. KK MODELS ARE CONTROLLED IN TENSION

V1 = 24 VDC  \quad t1 = 2 ms  \quad V2 = 5 VDC

CHARACTERISTICS OF THE ELECTRICAL CONTROL - MODELS XX

N.B. XX MODELS ARE CONTROLLED IN CURRENT

I1 = 5.6 A  \quad t1 = 2 ms  \quad I2 = 2.4 A
**GENERAL CHARACTERISTICS**

- **FLUID**: Non-lubricated dry air, neutral gases (-10 + 50°C)
- **FILTRATION RATING**: Min. 40 micron
- **TEMPERATURE**: –10 + 50°C (Standard version)
- **RESPONSE TIME IN OPENING**: 12 / 24 < 7 ms  JJ < 5 ms  XX / KK < 2 ms
- **RESPONSE TIME IN CLOSING**: 12 / 24 < 3 ms  JJ < 2 ms  XX / KK < 2 ms
- **MAXIMUM FREQUENCY**: 100 Hz  200 Hz  300 Hz
- **WEIGHT**: 330 g
- **PRODUCT LIFE EXPECTANCY**: ≥ 500 M/a cycles
- **IP RATING**: IP 52 - IP 62

**IDENTIFICATION CODE**

- **FLOW RATE** (at 6 bar)
  - **H**: 200 N/min
  - **B**: 310 N/min
  - **M**: 360 N/min (control tension JJ, XX, KK)

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

- **OUTLETS**
  - 2 2 Outlets

- **TYPE**
  - 3 3/2

- **FUNCTION**
  - **A**: NO
  - **C**: NC

- **CONTROL TENSION**
  - 12 VDC ± 10 %
  - 24 VDC ± 10 %
  - **JJ**: 24 VDC ± 10 %
  - **XX**: Speed-up in current
  - **KK**: Speed-up in tension
  - (1) Only with Electronic Driver Boards PDB or ODB

- **OPERATING PRESSURE**

<table>
<thead>
<tr>
<th>RANGE</th>
<th>MODELS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0 - 4 bar All</td>
</tr>
<tr>
<td>2</td>
<td>4 - 8 bar All</td>
</tr>
<tr>
<td>3</td>
<td>0 - 8 bar XX / KK</td>
</tr>
<tr>
<td>8</td>
<td>2 - 6 bar All</td>
</tr>
</tbody>
</table>

- **PORT CONNECTION**
  - **0**: Integrated cables IP 62  L = 500 mm
  - **E**: Presetting for Easy connection IP 52
**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 / 24 < 7 ms JJ < 5 ms XX / KK < 2 ms
- **RESPONSE TIME IN CLOSING**: 12 / 24 < 3 ms JJ < 2 ms XX / KK < 2 ms
- **MAXIMUM FREQUENCY**: 100 Hz 200 Hz 300 Hz
- **WEIGHT**: 340 g
- **PRODUCT LIFE EXPECTANCY**: ≥ 500 M/s cycles
- **IP RATING**: IP 52 - IP 62 - IP 65

**IDENTIFICATION CODE**

- **FUNCTION**
  - A NO
  - C NC
- **TYPE**
  - 3 3/2
- **CONTROL TENSION**
  - 12 24 VDC ± 10% ED 100% 2.9 W
  - 24 24 VDC ± 10% ED 100% 2.5 W
  - JJ 24 VDC ± 10% ED 100% 3.8 W
  - XX Speed-up in current ED 100% —
  - KK Speed-up in tension ED 100% (1) —
  - (1) Only with Electronic Driver Boards PRB or UDB

**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 EPOX BLACK varnished flanges

**PRESSURIZATION**

<table>
<thead>
<tr>
<th>RANGE</th>
<th>MODELS</th>
</tr>
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<tbody>
<tr>
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<td>0 - 8 bar</td>
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<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

V1 = 24 VDC  t1 = 2 ms  V2 = 5 VDC

CHARACTERISTICS OF THE ELECTRICAL CONTROL - MODELS XX

N.B. XX MODELS ARE CONTROLLED IN CURRENT

I1 = 1.4 A  t1 = 2 ms  I2 = 0.6 A

FLOW RATE M

q = 118 Nl/min
C = 28.57 Nl/min bar
b = 0.258

ELECTRICAL PORT CONNECTION

<table>
<thead>
<tr>
<th>COLOUR</th>
<th># CONTROLS</th>
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<tbody>
<tr>
<td>BLACK</td>
<td>COMMON</td>
</tr>
<tr>
<td>BROWN</td>
<td>1</td>
</tr>
<tr>
<td>RED</td>
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<tr>
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<td>3</td>
</tr>
<tr>
<td>YELLOW</td>
<td>4</td>
</tr>
</tbody>
</table>
IDENTIFICATION CODE

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

- **VERSIFICATION**
  - Standard
  - H: HNBR Shutters

- **FLOW RATE** (at 6 bar)
  - OUTLETS: 8 outlets

- **FUNCTION**
  - A: NO
  - C: NC

- **TYPE**
  - 3: 3/2

- **CONTROL TENSION**
  - 12: 12 VDC ± 10 %
  - 24: 24 VDC ± 10 %
  - JJ: 24 VDC ± 10 %
  - XX: Speed-up in current
  - KK: Speed-up in tension
  - ED: 100 %
  - Only with Electronic Driver Boards PB8 or UDB

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

- **OPERATING PRESSURE**
<table>
<thead>
<tr>
<th>RANGE</th>
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<td>1</td>
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</tr>
<tr>
<td>8</td>
<td>2 - 6 bar</td>
</tr>
</tbody>
</table>

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

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 / 24 < 7 ms
  - JJ < 5 ms
  - XX / KK < 2 ms

- **RESPONSE TIME IN CLOSING**
  - 12 / 24 < 3 ms
  - JJ < 2 ms
  - XX / KK < 2 ms

- **MAXIMUM FREQUENCY**
  - 100 Hz
  - 200 Hz
  - 300 Hz

- **WEIGHT**
  - 350 g

- **PRODUCT LIFE EXPECTANCY**
  - ≥ 500 M/s cycles

- **IP RATING**
  - IP 52 - IP 62 - IP 65
CHARACTERISTICS OF THE ELECTRICAL CONTROL - MODELS KK

VIP

P 100 %

V1

Pressure run

V2

Tension run

N.B. KK MODELS ARE CONTROLLED IN TENSION

V1 = 24 VDC  t1 = 2 ms  V2 = 5 VDC

FLOW RATE M

Q Ni/min

120

110

100

90

80

70

60

50

40

30

20

10

0

0 1 2 3 4 5 6 7

P (bar)

Qn = 67 Ni/min
C = 15.3 Ni/min bar
b = 0.35

CHARACTERISTICS OF THE ELECTRICAL CONTROL - MODELS XX

N.B. XX MODELS ARE CONTROLLED IN CURRENT

I1 = 0.7 A  t1 = 2 ms  I2 = 0.3 A

ELECTRICAL PORT CONNECTION

<table>
<thead>
<tr>
<th>COLOUR</th>
<th>B CONTROLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLACK</td>
<td>COMMON</td>
</tr>
<tr>
<td>BROWN</td>
<td>1</td>
</tr>
<tr>
<td>RED</td>
<td>2</td>
</tr>
<tr>
<td>ORANGE</td>
<td>3</td>
</tr>
<tr>
<td>YELLOW</td>
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<tr>
<td>GREEN</td>
<td>5</td>
</tr>
<tr>
<td>BLUE</td>
<td>6</td>
</tr>
<tr>
<td>VIOLET</td>
<td>7</td>
</tr>
<tr>
<td>GREY</td>
<td>8</td>
</tr>
</tbody>
</table>
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 / 24 < 7 ms  JJ < 5 ms  XX / KK < 2 ms

RESPONSE TIME IN CLOSING
12 / 24 < 3 ms  JJ < 2 ms  XX / KK < 2 ms

MAXIMUM FREQUENCY
100 Hz  200 Hz  300 Hz

WEIGHT
380 g

PRODUCT LIFE EXPECTANCY
≥ 500 M/s cycles

IP RATING
IP 52 - IP 62 - IP 65

IDENTIFICATION CODE

OUTLETS
1 Outlet

FUNCTION
A NO
C NC

TYPE
2 2/2

CONTROL TENSION

<table>
<thead>
<tr>
<th>Type</th>
<th>12 VDC ±10%</th>
<th>ED 100%</th>
<th>1.4-11.6W</th>
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</thead>
<tbody>
<tr>
<td>24 VDC ±10%</td>
<td>ED 100%</td>
<td>1.2-10.0W</td>
<td></td>
</tr>
<tr>
<td>JJ 24 VDC ±10%</td>
<td>ED 100%</td>
<td>1.9-15.2W</td>
<td></td>
</tr>
<tr>
<td>XX Speed-up in current</td>
<td>ED 100%</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>KK Speed-up in tension</td>
<td>ED 100%</td>
<td>—</td>
<td></td>
</tr>
</tbody>
</table>

(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>V</td>
<td>10⁻⁵ Torr</td>
</tr>
</tbody>
</table>

PORT CONNECTION

0 Integrated cables IP 62, L = 500 mm

E Presetting for Easy connection IP 52 - IP 65 (only 4 and 8 controls)

SPECIAL PROTECTIONS

M Stainless steel (INOX) flanges

N EPOX BLACK varnished flanges
CHARACTERISTICS OF THE ELECTRICAL CONTROL - MODELS KK

N.B. KK MODELS ARE CONTROLLED IN TENSION

V1 = 24 VDC  11 = 2 ms  V2 = 5 VDC

CHARACTERISTICS OF THE ELECTRICAL CONTROL - MODELS XX

N.B. XX MODELS ARE CONTROLLED IN CURRENT

I1 = 5.6 A  11 = 2 ms  I2 = 2.4 A

ELECTRICAL PORT CONNECTION

<table>
<thead>
<tr>
<th>COLOUR</th>
<th>1 CONTROL</th>
<th>2 CONTROLS</th>
<th>4 CONTROLS</th>
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<tr>
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<tr>
<td>VIOLET</td>
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<tr>
<td>GREY</td>
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<td>8</td>
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</table>
CHARACTERISTICS OF THE ELECTRICAL CONTROL - MODELS KK

V1 = 24 VDC  11 = 2 ms  V2 = 5 VDC

N.B. KK MODELS ARE CONTROLLED IN TENSION

CHARACTERISTICS OF THE ELECTRICAL CONTROL - MODELS XX

N.B. XX MODELS ARE CONTROLLED IN CURRENT

I1 = 2.8 A  I1 = 2 ms  I2 = 1.2 A

ELECTRICAL PORT CONNECTION

<table>
<thead>
<tr>
<th>COLOUR</th>
<th>2 CONTROLS (SINGLE CABLES)</th>
<th>2 CONTROLS EASY CONNECTION (2)</th>
<th>4 CONTROLS (circuit)</th>
<th>8 CONTROLS (circuit)</th>
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<td>COMMON</td>
<td>COMMON</td>
<td>COMMON</td>
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<tr>
<td>BROWN</td>
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<td>1</td>
<td>1 (1)</td>
<td>1 (1)</td>
</tr>
<tr>
<td>RED</td>
<td>2</td>
<td>—</td>
<td>2 (1)</td>
<td>2 (1)</td>
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<tr>
<td>ORANGE</td>
<td>—</td>
<td>2</td>
<td>3 (2)</td>
<td>3 (1)</td>
</tr>
<tr>
<td>YELLOW</td>
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<td>—</td>
<td>4 (2)</td>
<td>4 (1)</td>
</tr>
<tr>
<td>GREEN</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>5 (2)</td>
</tr>
<tr>
<td>BLUE</td>
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<td>—</td>
<td>—</td>
<td>6 (2)</td>
</tr>
<tr>
<td>VIOLET</td>
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<td>—</td>
<td>—</td>
<td>7 (2)</td>
</tr>
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<td>GREY</td>
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<td>8 (2)</td>
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ACCESSORIES

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>VACUUM FITTING Ø 10</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>VACUUM FITTING Ø 8/6</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>PLUG</td>
</tr>
</tbody>
</table>

NOTE: Inch size available.
CHARACTERISTICS OF THE ELECTRICAL CONTROL - MODELS KK

V1 = 24 VDC  t1 = 2 ms  V2 = 5 VDC

N.B. KK MODELS ARE CONTROLLED IN TENSION

CHARACTERISTICS OF THE ELECTRICAL CONTROL - MODELS XX

I1 = 1.4 A  t1 = 2 ms  I2 = 0.6 A

N.B. XX MODELS ARE CONTROLLED IN CURRENT

ELECTRICAL PORT CONNECTION

<table>
<thead>
<tr>
<th>COLOUR</th>
<th>4 CONTROLS</th>
<th>6 CONTROLS (OUTLET)</th>
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<tbody>
<tr>
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<td>COMMON</td>
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<tr>
<td>BROWN</td>
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<td>1 (1)</td>
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<tr>
<td>RED</td>
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<tr>
<td>GREEN</td>
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<td>5 (3)</td>
</tr>
<tr>
<td>BLUE</td>
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<td>6 (3)</td>
</tr>
<tr>
<td>VIOLET</td>
<td>—</td>
<td>7 (4)</td>
</tr>
<tr>
<td>GREY</td>
<td>—</td>
<td>8 (4)</td>
</tr>
</tbody>
</table>
### General Characteristics
- **Fluid**: Non-lubricated dry air, neutral gasses (−10°C to 50°C)
- **Filtration Rating**: Min 40 micron
- **Temperature**: −10°C to 50°C (Standard version)
- **Response Time in Opening**: 12/24V < 7 ms, JJ < 5 ms, XX/KK < 2 ms
- **Response Time in Opening**: 12/24V < 3 ms, JJ < 2 ms, XX/KK < 2 ms
- **Maximum Frequency**: 100 Hz, 200 Hz, 300 Hz
- **Weight**: 350 g
- **Product Life Expectancy**: ≥ 500 M/s cycles
- **IP Rating**: IP 52 - IP 62 - IP 65

### Identification Code
- **ORIFICES**
  - H: Ø r0 = 0.9 mm
  - B: Ø r0 = 1.3 mm
  - M: Ø r0 = 1.5 mm (control tension: JJ, XX, KK)

- **Version**
  - Standard
  - H: HNBR Shutters

- **No. Electrical Controls**
  - 8: 8 Control
  - D: 8 Controls / Integrated diodes with common 0 V
  - G: 8 Controls / Integrated diodes with common 12/24 V

- **Outlets**: 8 Outlets

- **Function**
  - A: NO
  - C: NC

- **Type**
  - 2: 2/2

- **Control Tension**
  - 12V: 12 VDC ± 10% ED 100% 1.4 W
  - 24V: 24 VDC ± 10% ED 100% 1.2 W
  - JJ: 24 VDC ± 10% ED 100% 1.9 W
  - XX: Speed-up in current ED 100% —
  - KK: Speed-up in tension ED 100% —

- **Only with Electronic Driver Boards PHB or UDB**

- **Operating Pressure**
  - **Range**
    - V: 10⁻⁵ Torr
  - **Models**
    - All

### 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: EPOX BLACK varnished flanges
ACCESSORIES

<table>
<thead>
<tr>
<th>Reference</th>
<th>Quantity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>VACUUM FITTING Ø 10</td>
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<tr>
<td>2</td>
<td>8</td>
<td>VACUUM FITTING Ø 4/3</td>
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<tr>
<td>3</td>
<td>1</td>
<td>PLUG</td>
</tr>
</tbody>
</table>

NOTE: Inch size available

CHARACTERISTICS OF THE ELECTRICAL CONTROL - MODELS KK

V1 = 24 VDC  I1 = 2 ms  V2 = 5 VDC

N.B. KK MODELS ARE CONTROLLED IN TENSION

CHARACTERISTICS OF THE ELECTRICAL CONTROL - MODELS XX

I1 (V1)  P 100 %

N.B. XX MODELS ARE CONTROLLED IN CURRENT

I1 = 0.7 A  I1 = 2 ms  I2 = 0.3 A

ELECTRICAL PORT CONNECTION

<table>
<thead>
<tr>
<th>COLOUR</th>
<th># CONTROLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLACK</td>
<td>COMMON</td>
</tr>
<tr>
<td>BROWN</td>
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</tr>
<tr>
<td>RED</td>
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</tr>
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<td>ORANGE</td>
<td>3</td>
</tr>
<tr>
<td>YELLOW</td>
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<td>GREEN</td>
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<tr>
<td>BLUE</td>
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<tr>
<td>VIOLET</td>
<td>7</td>
</tr>
<tr>
<td>GREY</td>
<td>8</td>
</tr>
</tbody>
</table>
751 VACUUM • 3/2

CONTROL: DIRECT

N. 1 NC

N. 1 NO

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 / 24 < 7 ms JJ < 5 ms XX / KK < 2 ms

RESPONSE TIME IN CLOSING: 12 / 24 < 3 ms JJ < 2 ms XX / KK < 2 ms

MAXIMUM FREQUENCY: 100 Hz 200 Hz 300 Hz

WEIGHT: 380 g

PRODUCT LIFE EXPECTANCY: ≥ 500 M/s cycles

IP RATING: IIIP 62

IDENTIFICATION CODE

H X 7 5 1 1 0 V C 3 2 4

• ORIFICES
  H ø req = 2.5 mm
  B ø req = 3.6 mm
  M ø req = 4.2 mm (control tension JJ XX KK)

• VERSION
  Standard
  H HNBR Shutters

• OUTLETS
  1 1 Outlet

• No. ELECTRICAL CONTROLS
  1 1 Control

• FUNCTION
  A NO
  C NC

• TYPE
  3 3/2

• CONTROL TENSION
  12 12 VDC ± 10% ED 100% 11.6 W
  24 24 VDC ± 10% ED 100% 10.0 W
  JJ 24 VDC ± 10% ED 100%[1] 15.2 W
  XX Speed-up in current ED 100%[1] —
  KK Speed-up in tension ED 100%[1] —

(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>V</td>
<td>10⁻¹⁵ Torr</td>
</tr>
</tbody>
</table>

PORT CONNECTION

• Integrated cables IP 62 L = 500 mm

• SPECIAL PROTECTIONS
  M Stainless steel (INOX) flanges
  N EPOX BLACK varnished flanges
**DESIGNATION:**

**VIEW A**

**ACCESSORIES**

<table>
<thead>
<tr>
<th>Reference</th>
<th>Quantity</th>
<th>Description</th>
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<tbody>
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<td>1</td>
<td>PUSH-IN FITTING Ø 10/8</td>
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<td>2</td>
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<td>PUSH-IN FITTING Ø 10/8</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>SILENCER</td>
</tr>
</tbody>
</table>

**NOTE:** Inch size available

**CHARACTERISTICS OF THE ELECTRICAL CONTROL - MODELS KK**

- N.B. KK MODELS ARE CONTROLLED IN TENSION

  - V1 = 24 VDC
  - t1 = 2 ms
  - V2 = 5 VDC

**CHARACTERISTICS OF THE ELECTRICAL CONTROL - MODELS XX**

- N.B. XX MODELS ARE CONTROLLED IN CURRENT

  - I1 = 5.6 A
  - t1 = 2 ms
  - I2 = 2.4 A

**ELECTRICAL PORT CONNECTION**

<table>
<thead>
<tr>
<th>COLOUR</th>
<th>1 CONTROL</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLACK</td>
<td>COMMON</td>
</tr>
<tr>
<td>RED</td>
<td>1</td>
</tr>
</tbody>
</table>
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 / 24 < 7 ms  JJ < 5 ms  XX / KK < 2 ms

**RESPONSE TIME IN CLOSING**
12 / 24 < 3 ms  JJ < 2 ms  XX / KK < 2 ms

**MAXIMUM FREQUENCY**
100 Hz  200 Hz  300 Hz

**WEIGHT**
330 g

**PRODUCT LIFE EXPECTANCY**
≥ 500 M/s cycles

**IP RATING**
IP 52 - IP 62

IDENTIFICATION CODE

- **H**
- **X**
- **7**
- **5**
- **2**
- **2**
- **0**
- **V**
- **C**
- **3**
- **24**

**ORIFICES**
- H  Ø øq = 1.8 mm
- B  Ø øq = 2.6 mm
- M  Ø øq = 3.0 mm (control tension JJ | XX | KK)

**VERSIGN**
- Standard
- H  HNBR Shutters

**No. ELECTRICAL CONTROLS**
- 2  2 Control

**OUTLETS**
- 2  2 Outlets

**FUNCTION**
- A  NO
- C  NC

**TYPE**
- 3  3/2

**CONTROL TENSION**
- 12  12 VDC ± 10 %  ED 100 %  5.8 W
- 24  24 VDC ± 10 %  ED 100 %  5.0 W
- JJ  24 VDC ± 10 %  ED 100 %<sup>1</sup>  7.6 W
- XX  Speed-up in current  ED 100 %<sup>1</sup>  —
- KK  Speed-up in tension  ED 100 %<sup>1</sup>  —

<sup>1</sup> Only with Electronic Driver Boards PEB or UDB

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

**OPERATING PRESSURE**
- **RANGE**
- **MODELS**
- V  10⁻⁵ Torr  All
GENERAL CHARACTERISTICS

- FLUID: Non-lubricated dry air, neutral gases (−10 + 50°C)
- FILTRATION RATING: Min 40 micron
- TEMPERATURE: −10 to +50°C (Standard version)
- RESPONSE TIME IN OPENING: 12 / 24 < 7 ms JJ < 5 ms XX / KK < 2 ms
- RESPONSE TIME IN CLOSING: 12 / 24 < 3 ms JJ < 2 ms XX / KK < 2 ms
- MAXIMUM FREQUENCY: 100 Hz 200 Hz 300 Hz
- WEIGHT: 340 g
- PRODUCT LIFE EXPECTANCY: ≥ 500 M/s cycles
- IP RATING: IP 52 • IP 62 • IP 65

IDENTIFICATION CODE

- OUTLETS: 4 4 Outlets
- ORIFICES:
  - H: Ø x0 = 1.3 mm
  - B: Ø x0 = 1.8 mm
  - M: Ø x0 = 2.1 mm (control tension JJ XX KK)
- VERSION:
  - Standard
  - H: HNBR Shutters
- No. ELECTRICAL CONTROLS:
  - 4 Controls
  - 4 Controls / Integrated diodes with common 0 V
  - 4 Controls / Integrated diodes with common 12 / 24 V

- FUNCTION:
  - A: NO
  - C: NC
- TYPE:
  - 3 3/2
- CONTROL TENSION:
  - 12 VDC ± 10 %: ED 100 % 2.9 W
  - 24 VDC ± 10 %: ED 100 % 2.5 W
  - JJ 24 VDC ± 10 %: ED 100 % 3.8 W
  - XX: Speed-up in current ED 100 % —
  - KK: Speed-up in tension ED 100 % —
  - Only with Electronic Driver Boards PRB or UDB

- OPERATING PRESSURE:
  - V: 10⁻⁵ Torr
  - All

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: EPOX BLACK varnished flanges
754 VACUUM • 3/2

ACCESSORIES

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<th>Description</th>
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<tr>
<td>3</td>
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<td>SILENCER</td>
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</table>

NOTE: Inch size available

CHARACTERISTICS OF THE ELECTRICAL CONTROL - MODELS KK

\[
\begin{align*}
V_1 &= 24 \text{ VDC} \\
I_1 &= 2 \text{ ms} \\
V_2 &= 5 \text{ VDC}
\end{align*}
\]

N.B. KK MODELS ARE CONTROLLED IN TENSION

CHARACTERISTICS OF THE ELECTRICAL CONTROL - MODELS XX

\[
\begin{align*}
I_1 (V_1) &= 1.4 \text{ A} \\
I_1 &= 2 \text{ ms} \\
I_2 &= 0.6 \text{ A}
\end{align*}
\]

N.B. XX MODELS ARE CONTROLLED IN CURRENT

ELECTRICAL PORT CONNECTION

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<tr>
<th>COLOUR</th>
<th>4 CONTROL</th>
</tr>
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<tbody>
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<tr>
<td>YELLOW</td>
<td>4</td>
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</tbody>
</table>
**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 / 24 ≤ 7 ms JJ < 5 ms XX / KK < 2 ms
- **RESPONSE TIME IN CLOSING**: 12 / 24 < 3 ms JJ < 2 ms XX / KK < 2 ms
- **MAXIMUM FREQUENCY**: 100 Hz 200 Hz 300 Hz
- **WEIGHT**: 350 g
- **PRODUCT LIFE EXPECTANCY**: ≥ 500 M/S cycles
- **IP RATING**: IP 52 - IP 62 - IP 65

**IDENTIFICATION CODE**

- **H X 7 5 8 8 E V C 3 2 4**

- **ORIFICES**
  - H: Ø eq = 0.9 mm
  - B: Ø eq = 1.3 mm
  - M: Ø eq = 1.5 mm (control tension JJ | XX | KK)

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

- **FUNCTION**
  - A: NO
  - C: NC

- **TYPE**
  - 3: 3/2

- **CONTROL TENSION**
  - 12 VDC ± 10% ED 100% 1.4 W
  - 24 VDC ± 10% ED 100% 1.2 W
  - JJ 24 VDC ± 10% ED 100% 1.9 W
  - XX: Speed-up in current ED 100% —
  - KK: Speed-up in tension ED 100% —
  - (1) Only with Electronic Driver Boards PRB or ODB

- **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: EPOX BLACK varnished flanges

- **OPERATING PRESSURE**
  - RANGE | MODELS
  - V | 10⁻⁵ Torr | All
CHARACTERISTICS OF THE ELECTRICAL CONTROL - MODELS KK

N.B. KK MODELS ARE CONTROLLED IN TENSION

V1 = 24 VDC  \( t_1 = 2 \) ms  V2 = 5 VDC

CHARACTERISTICS OF THE ELECTRICAL CONTROL - MODELS XX

N.B. XX MODELS ARE CONTROLLED IN CURRENT

I1 = 0.7 A  \( t_1 = 2 \) ms  I2 = 0.3 A

ELECTRICAL PORT CONNECTION

<table>
<thead>
<tr>
<th>COLOUR</th>
<th>8 CONTROLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLACK</td>
<td>COMMON</td>
</tr>
<tr>
<td>BROWN</td>
<td>1</td>
</tr>
<tr>
<td>RED</td>
<td>2</td>
</tr>
<tr>
<td>ORANGE</td>
<td>3</td>
</tr>
<tr>
<td>YELLOW</td>
<td>4</td>
</tr>
<tr>
<td>GREEN</td>
<td>5</td>
</tr>
<tr>
<td>BLUE</td>
<td>6</td>
</tr>
<tr>
<td>VIOLET</td>
<td>7</td>
</tr>
<tr>
<td>GREY</td>
<td>8</td>
</tr>
</tbody>
</table>
**ACCESSORIES**

**Integrated anti-disturbance diodes (surge voltage suppressor) 750 Series**

When you interrupt feeding in an inductive circuit, the magnetic energy stored in the core zeroes. In the spire of the coil, this variation produces a contro-electromotor force, the polarity of which is inverse to that of feeding. In some cases the peak-value of this induced tension can result high and cause electromagnetic disturbance. It can also affect negatively the integrity of the driver and the insulation of the coil itself. The use of anti-disturbance diodes eliminates these phenomena.

**Marginal note**

Anti-disturbance diodes limit the maximum operative frequency of solenoid valves to 50 Hz.

![Electrical scheme. Diode disposition according to control typology.](image)

**Models available with anti-disturbance diodes**

Almost all 750 series models in the catalogue can be equipped with anti-disturbance diodes which are integrated in the valve.

In this series single control models and all speed-up control versions are an exception.

**How to order solenoid valves with anti-disturbance diodes. Control typologies**

<table>
<thead>
<tr>
<th>H</th>
<th>X</th>
<th>7</th>
<th>5</th>
<th>8</th>
<th>C</th>
<th>E</th>
<th>2</th>
<th>C</th>
<th>3</th>
<th>24</th>
</tr>
</thead>
</table>

**N. ELECTRICAL CONTROLS**

- C: 4 Controls / Integrated diodes with common 0 Volt
- D: 8 Controls / Integrated diodes with common 0 Volt
- F: 4 Controls / Integrated diodes with common 12/24 Volt
- G: 8 Controls / Integrated diodes with common 12/24 Volt
Matrix Easy electrical port connection - 750 Series

Matrix Easy port connection is suitable to use a wide range of cables which are expressly developed for 750 Series and it allows to obtain different levels of protection according to CEI EN 60947 and CEI 60529 norms.

The port connection also allows a significant simplification of electrical connections, it is consistent with 750 Series manifold and it can interface with expansion modules of this series.

Models available with Matrix Easy electrical port connection

750 Series models can be equipped with Matrix Easy electrical port connection (6 poles with reference key).

How to order solenoid valves with Matrix Easy electrical port connection.

| H | X | 7 | 5 | 8 | 8 | E | 2 | C | 3 | 24 |

PORT CONNECTION

E Presetting for Easy connection IP 52 - IP 65
Easy IP 65 port connection cables - 750 Series

Protection rate means the intrinsic capability of electrical equipment under tension to protect and protect itself against solid bodies and water. Such protection rate is identified with the IP abbreviation followed by 2 numbers whose relative definition is established by CEI EN 60947 and CEI 60529 norms. The first number, from 0 to 6, classifies the protection against solid bodies, the second one, from 0 to 8, the protection against water.

Protection rates of Easy IP 65 port connection cables follow:

<table>
<thead>
<tr>
<th>Protection rate of coverings against solid bodies and water.</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
</tr>
<tr>
<td>5</td>
</tr>
</tbody>
</table>

Models available with IP 65 port connection cables

750 Series models come with Matrix Easy port connection and can be equipped with IP 65 cables.

<table>
<thead>
<tr>
<th>Characteristics of IP 65 cable - UL 1581 and UL 758 norms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of port connection on valve</td>
</tr>
<tr>
<td>Cable diameter</td>
</tr>
<tr>
<td>Maximum temperature use</td>
</tr>
<tr>
<td>Insulation</td>
</tr>
<tr>
<td>Resistance against oil</td>
</tr>
</tbody>
</table>

How to order IP 65 port connection cables - Length and endings (see following page)

Cables come with assembly kit composed of fastening stirrup, fastening screws and sealing O-rings. For 4 electrical-control valves the kit is composed of a single cable. For 8 electrical-control valves the kit is composed of two cables.
## ACCESSORIES

### 1.1 Ending with soldered threads cable - 4 electrical-control valves (1 cable)

<table>
<thead>
<tr>
<th>Cable length</th>
<th>PVC</th>
<th>POLYURETHANE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.000 mm</td>
<td>cod. 868.851 J</td>
<td>— — —</td>
</tr>
<tr>
<td>2.000 mm</td>
<td>cod. 868.854 M</td>
<td>cod. 868.883 P</td>
</tr>
<tr>
<td>3.000 mm</td>
<td>cod. 868.855 N</td>
<td>— — —</td>
</tr>
<tr>
<td>4.000 mm</td>
<td>— — —</td>
<td>cod. 868.884 Q</td>
</tr>
</tbody>
</table>

### 1.2 Ending with soldered threads cable - 8 electrical-control valves (2 cables)

<table>
<thead>
<tr>
<th>Cable length</th>
<th>PVC</th>
<th>POLYURETHANE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.000 mm</td>
<td>cod. 868.850 I</td>
<td>— — —</td>
</tr>
<tr>
<td>2.000 mm</td>
<td>cod. 868.852 K</td>
<td>cod. 868.885 R</td>
</tr>
<tr>
<td>3.000 mm</td>
<td>cod. 868.853 L</td>
<td>— — —</td>
</tr>
<tr>
<td>4.000 mm</td>
<td>— — —</td>
<td>cod. 868.886 S</td>
</tr>
</tbody>
</table>

### 2.1 Ending with Sub-D 15 poles connector - 4 electrical-control valves (2 cables)

<table>
<thead>
<tr>
<th>Cable length</th>
<th>PVC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.000 mm</td>
<td>cod. 868.858 Q</td>
</tr>
<tr>
<td>2.000 mm</td>
<td>cod. 868.859 R</td>
</tr>
<tr>
<td>3.000 mm</td>
<td>cod. 868.861 T</td>
</tr>
</tbody>
</table>

### 2.2 Ending with Sub D 15 poles connector - 8 electrical-control valves (2 cables)

<table>
<thead>
<tr>
<th>Cable length</th>
<th>PVC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.000 mm</td>
<td>cod. 868.856 O</td>
</tr>
<tr>
<td>2.000 mm</td>
<td>cod. 868.857 P</td>
</tr>
<tr>
<td>3.000 mm</td>
<td>cod. 868.860 S</td>
</tr>
</tbody>
</table>

---

*Easy IP 65 port connection cables (IP protection according to CEI EN 60947 and CEI 60529 norms)*
Easy IP 52 port connection cables - 750 Series

This series guarantees an IP 52 protection level according to CEI EN 60947 and CEI 60529 norms and it is consistent with all 750 Series models that come with Matrix Easy port connection.

Protection rates of Easy IP 52 port connection cables follow:

<table>
<thead>
<tr>
<th>Protection rate of coverings against solid bodies and water</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 Protected against dust</td>
</tr>
<tr>
<td>2 Protected against vertical fall of water drops with an inclination of the covering until 15°.</td>
</tr>
</tbody>
</table>

Characteristics of IP 52 cable - UL 1569 norms

- Type of port connection on valve: Matrix Easy 6 poles
- Threads diameter: 1.4 mm
- Conductor diameter: AWG 24
- Maximum temperature use: 105° C
- Insulation: 300 Volt
- Covering threads: PVC (polyvinyl chloride)

How to order Easy IP 52 port connection cables - Available lengths

<table>
<thead>
<tr>
<th>Ending with soldered threads cable - 2, 4 and 8 electrical control valves</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cable length</td>
</tr>
<tr>
<td>---------------</td>
</tr>
<tr>
<td>500 mm</td>
</tr>
<tr>
<td>1.000 mm</td>
</tr>
<tr>
<td>2.000 mm</td>
</tr>
<tr>
<td>3.000 mm</td>
</tr>
</tbody>
</table>

Easy IP 52 port connection cable (IP protection according to CEI EN 60947 and CEI 60529 norms)
Manifold - 750 Series

Manifolds for multiple installing represent a fast and safe system of fastening and connection for all 750 Series models. They are suitable for the rationalisation of complex pneumatic systems thanks to their simplicity of the assembly and their total modularity. Manifolds are available for patterns from 2 to 8 solenoid valves of 750 series and are consistent with Matrix Easy electrical port connection and cables. They come in kit with fastening screws, push-in fittings and sealing O-Rings.

How to order Manifolds - Available patterns

<table>
<thead>
<tr>
<th>Pattern</th>
<th>Kid code</th>
<th>Y (mm)</th>
<th>Z (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>no. 2 Solenoid valves</td>
<td>868.950 E</td>
<td>140</td>
<td>130</td>
</tr>
<tr>
<td>no. 3 Solenoid valves</td>
<td>868.951 F</td>
<td>195</td>
<td>65</td>
</tr>
<tr>
<td>no. 4 Solenoid valves</td>
<td>868.952 G</td>
<td>260</td>
<td>130</td>
</tr>
<tr>
<td>no. 5 Solenoid valves</td>
<td>868.953 H</td>
<td>325</td>
<td>195</td>
</tr>
<tr>
<td>no. 6 Solenoid valves</td>
<td>868.954 I</td>
<td>390</td>
<td>260</td>
</tr>
<tr>
<td>no. 7 Solenoid valves</td>
<td>868.955 J</td>
<td>455</td>
<td>325</td>
</tr>
<tr>
<td>no. 8 Solenoid valves</td>
<td>868.956 K</td>
<td>520</td>
<td>390</td>
</tr>
</tbody>
</table>

2 position manifold. Assembly example of a 750 NC model and a 750 NO model
3, 4, 5, 6, 7, 8 position manifolds.
See previous scheme for Y and Z dimensions and relative ordering codes.