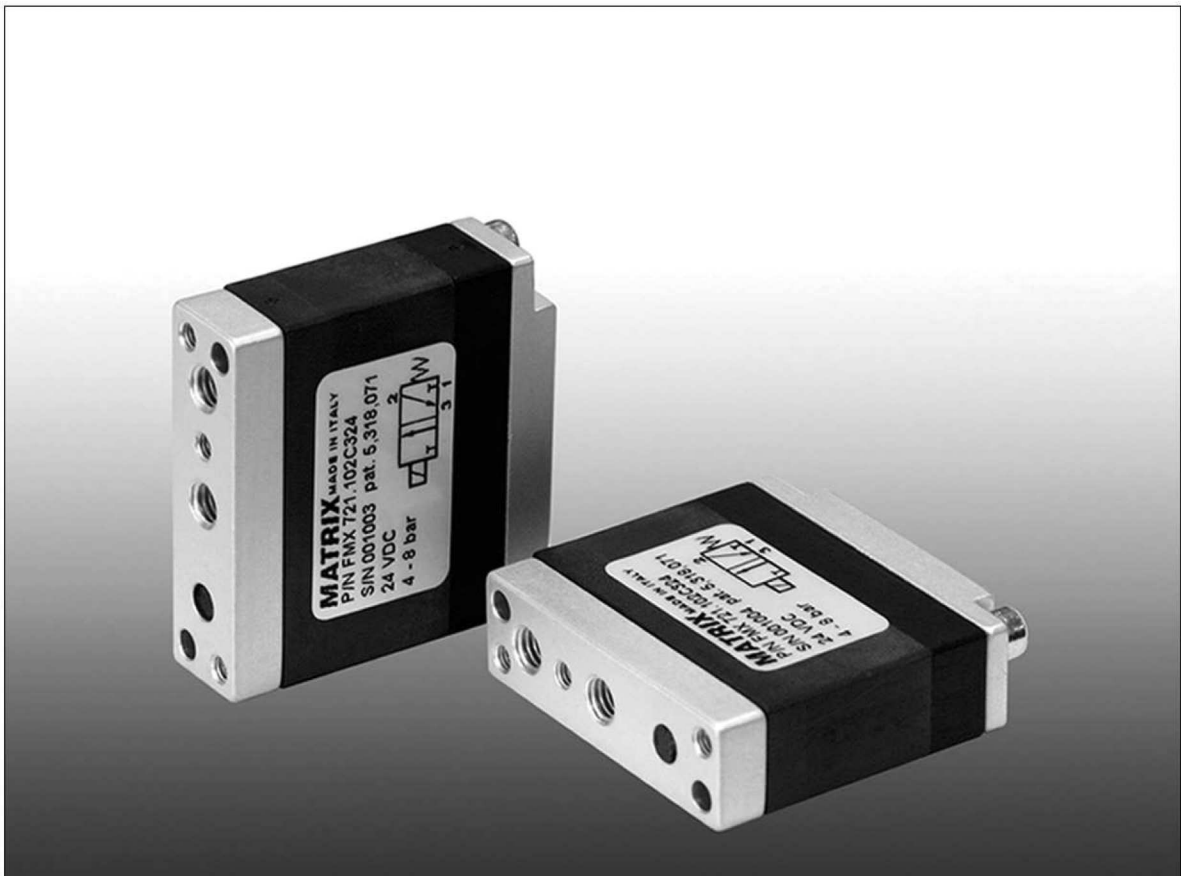


720 Series



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

MATRIX
mechatronics

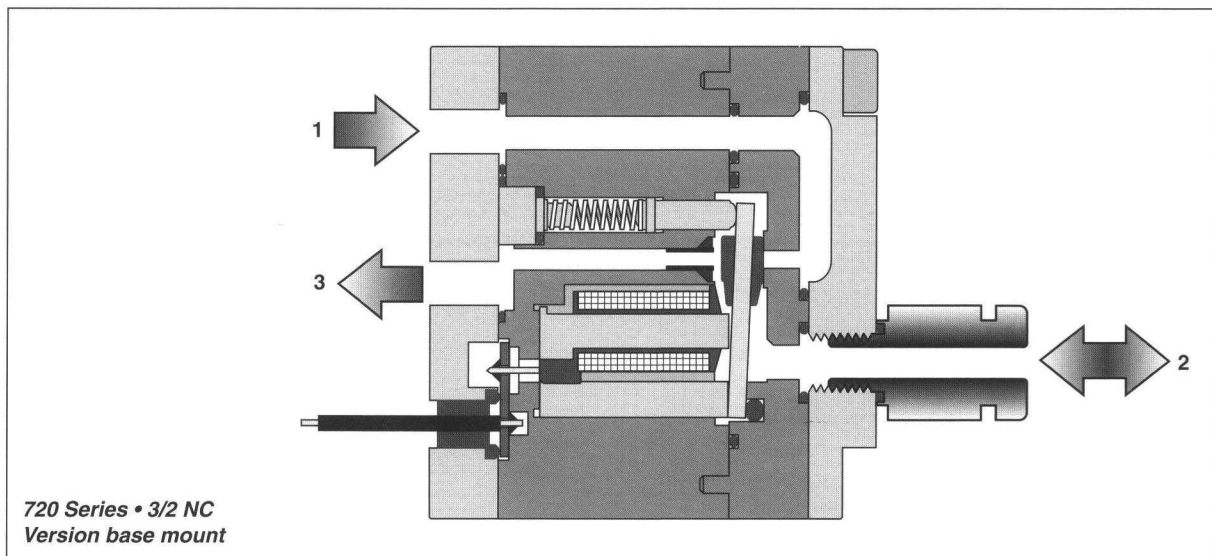
SOLENOID VALVES 720 SERIES • 2/2 • 3/2

Pneumatic solenoid valves of 720 Series are available in both NC and NO version. They include all innovations, which are present in Matrix solenoid valves, both in materials and in operating principles. They couple simplicity and reliability with high dynamic performance. Response times are of milliseconds range, while their operating life is over 500 million cycles. The Series comprises Vacuum versions designed for uses with vacuum technique.

Due to the facility to be speed-up controlled, dynamic characteristics become 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.

720 Series is available both in line assembly version and on sub-plate and is equipped with a range of accessories such as multi-position manifolds and speed-up driver boards



Advantages

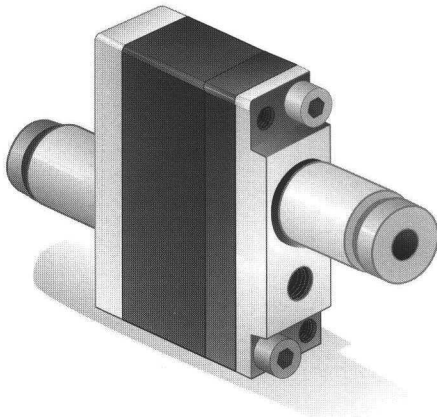
- Compact dimension.
- High duct diameter and flow rate.
- Short response times.
- Insensitivity to frequency work and to vibrations.
- Low absorbed power.
- Precision, repetitiveness and flexibility.
- Long operating life.

Applications

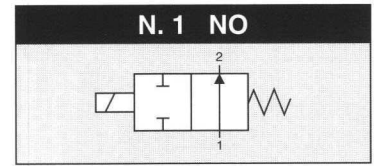
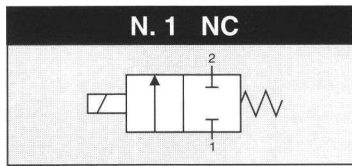
- Process and precision instrumentation.
- Pressure and flow rate control devices.
- Positioning systems.
- Pilot systems.
- Selection systems.
- Metering systems.
- Biomedical and measure sector.
- Industrial automation.

Materials

- Body in PPS.
- Flanges in Al.
- Seals in NBR (shutters in HNBR on request).



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



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	35 g		
PRODUCT LIFE EXPECTANCY	≥ 500 M/s cycles		
IP RATING	IP 62		

IDENTIFICATION CODE

	H	X	7	2	1	1	0	2	C	2	24
--	---	---	---	---	---	---	---	---	---	---	----

• OUTLETS

1	1 Outlet
---	----------

• FLOW RATE (at 6 bar)

H	50 Nl / min
B	80 Nl / min
M	100 Nl / min (control tension JJ XX KK)

• VERSION

	Body ported
H	Body ported - HNBR Shutters
F	Manifold
J	Manifold - HNBR Shutters

• No. ELECTRICAL CONTROLS

1	1 Control
---	-----------

• PORT CONNECTION

0	Integrated cables IP 62 L = 500 mm
1	Integrated cables IP 62 L = 100 mm

• FUNCTION

A	NO
C	NC

• TYPE

2	2/2
---	-----

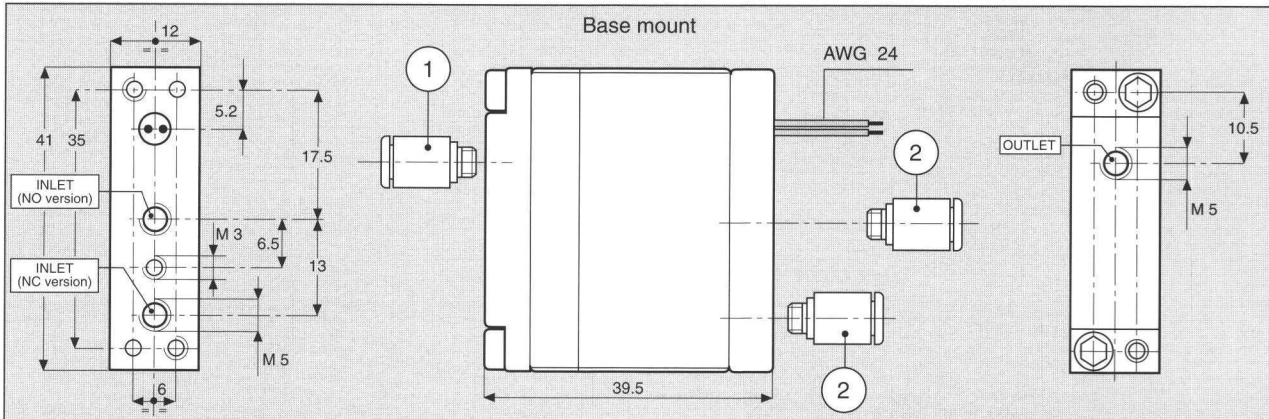
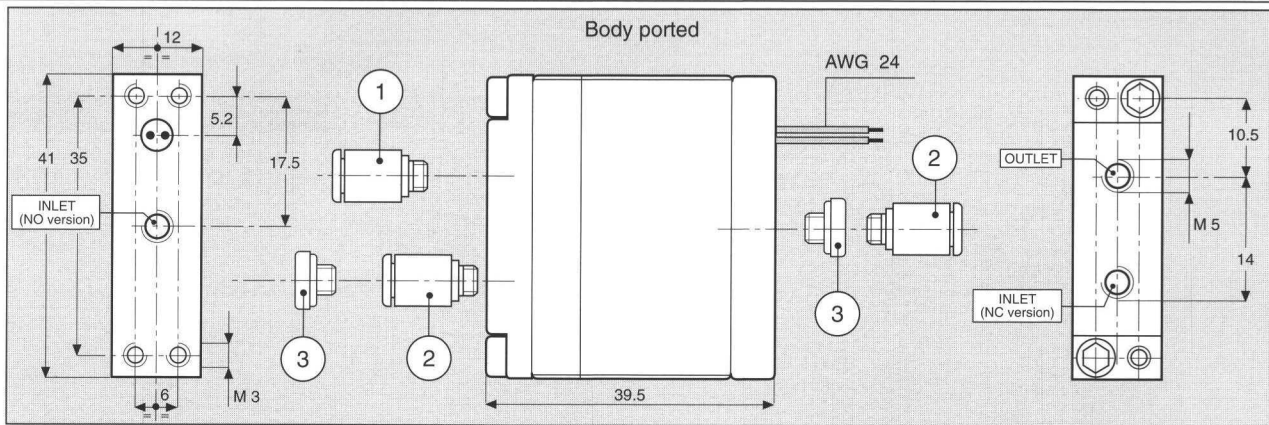
• CONTROL TENSION

12	12 VDC ± 10 %	ED 100 %	1.4 W
24	24 VDC ± 10 %	ED 100 %	1.2 W
JJ	24 VDC ± 10 %	ED 100 % ⁽¹⁾	1.9 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

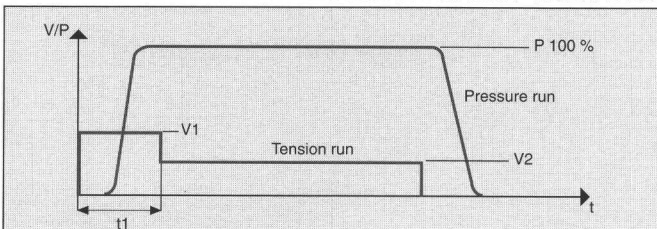
	RANGE	MODELS
1	0 - 4 bar	All
2	4 - 8 bar	All
3	0 - 8 bar XX / KK
8	2 - 6 bar	All



ACCESSORIES		
Reference	Quantity	Description
1	1	PUSH-IN FITTING Ø 4/6
2	1	PUSH-IN FITTING Ø 4/6
3	1	PLUG

NOTE: Inch size available

CHARACTERISTICS OF THE ELECTRICAL CONTROL - MODELS KK



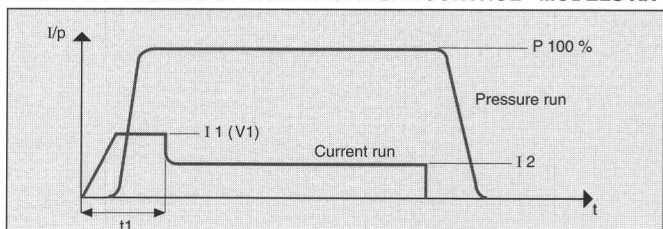
N.B. KK MODELS ARE CONTROLLED IN TENSION

V1 = 24 VDC

t1 = 2 ms

V2 = 5 VDC

CHARACTERISTICS OF THE ELECTRICAL CONTROL - MODELS XX



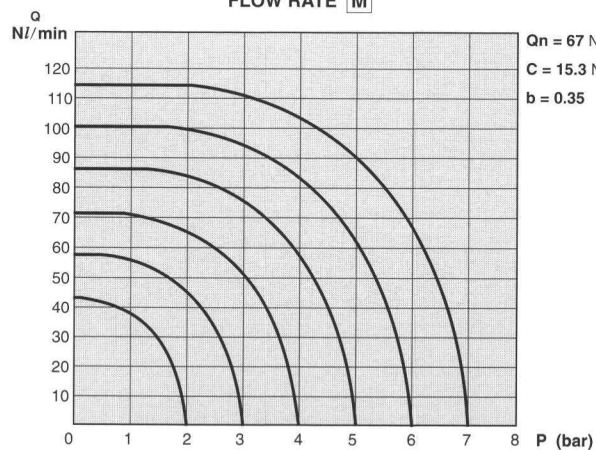
N.B. XX MODELS ARE CONTROLLED IN CURRENT

I1 = 0.7 A

t1 = 2 ms

I2 = 0.3 A

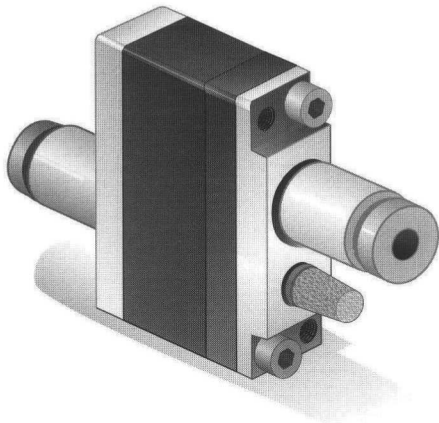
FLOW RATE \bar{M}



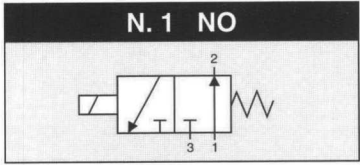
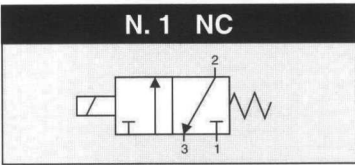
Qn = 67 NI/min

C = 15.3 NI/min bar

b = 0.35



CONTROL: **DIRECT**



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	35 g		
PRODUCT LIFE EXPECTANCY	≥ 500 M/s cycles		
IP RATING	IP 62		

IDENTIFICATION CODE

	H	X	7	2	1	1	0	2	C	3	24
--	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	-----------

• FLOW RATE (at 6 bar)

H	50 N//min
B	80 N//min
M	100 N//min (control tension JJ XX KK)

• VERSION

	Body ported
H	Body ported - HNBR Shutters
F	Manifold
J	Manifold - HNBR Shutters

• No. ELECTRICAL CONTROLS

1	1 Control
----------	-----------

• PORT CONNECTION

0	Integrated cables IP 62 L = 500 mm
1	Integrated cables IP 62 L = 100 mm

• OUTLETS

1	1 Outlet
----------	----------

• FUNCTION

A	NO
C	NC

• TYPE

3	3/2
----------	-----

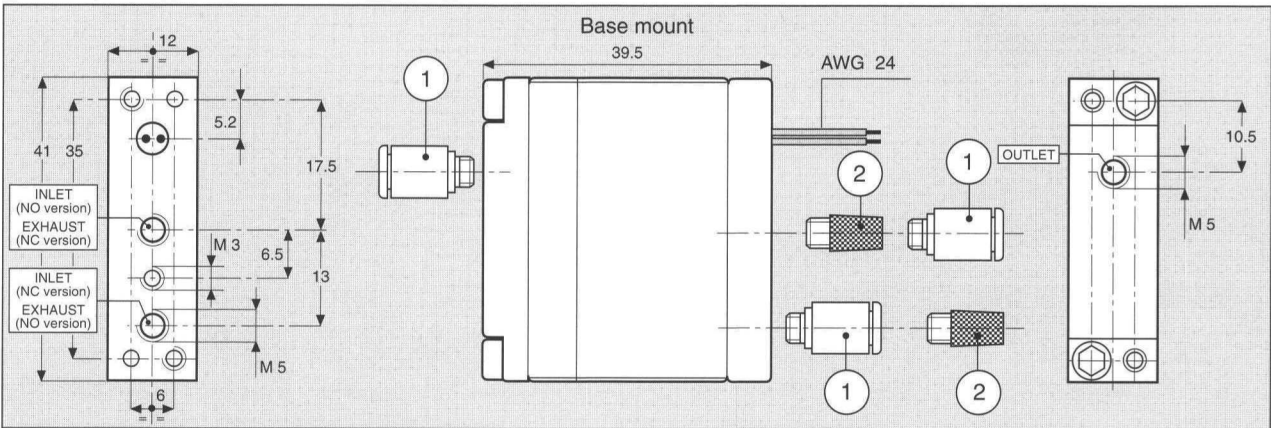
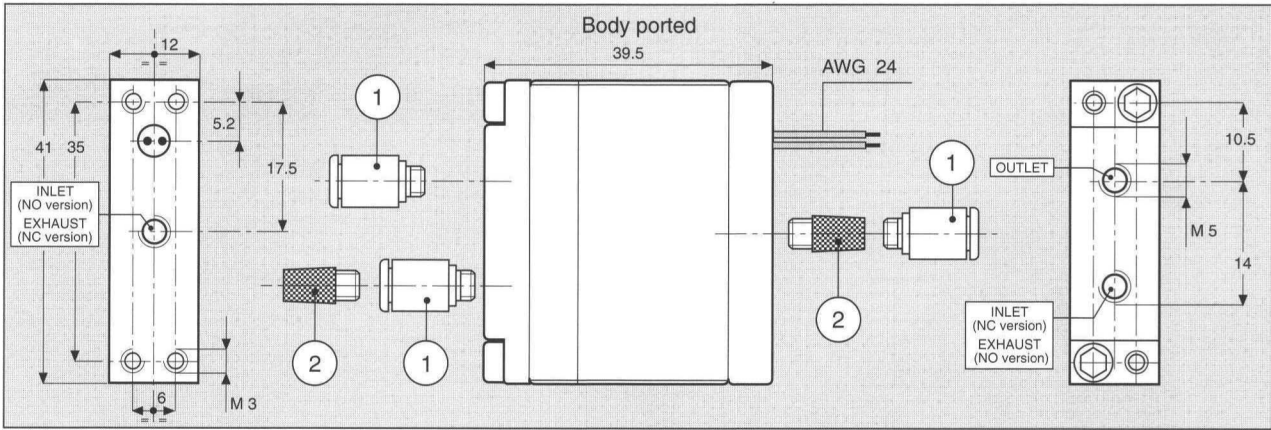
• CONTROL TENSION

12	12 VDC ± 10 %	ED 100 %	1.4 W
24	24 VDC ± 10 %	ED 100 %	1.2 W
JJ	24 VDC ± 10 %	ED 100 % ⁽¹⁾	1.9 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

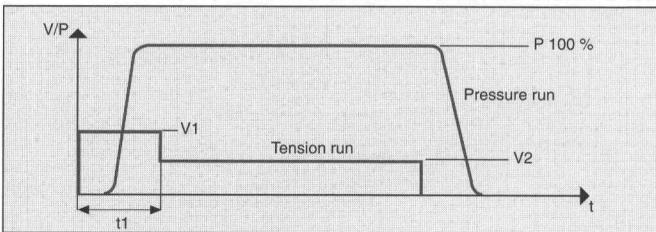
	RANGE	MODELS
1	0 - 4 bar	All
2	4 - 8 bar	All
3	0 - 8 bar XX / KK
8	2 - 6 bar	All



ACCESSORIES		
Reference	Quantity	Description
1	2	PUSH-IN FITTING Ø 4/6
2	1	SILENCER

NOTE: Inch size available

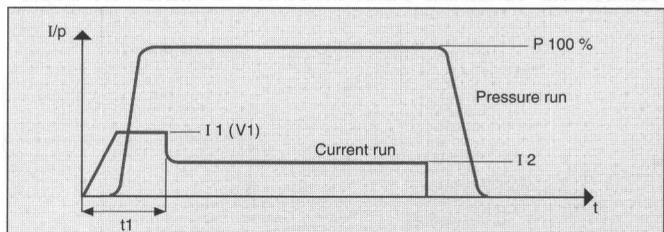
CHARACTERISTICS OF THE ELECTRICAL CONTROL - MODELS KK



N.B. KK MODELS ARE CONTROLLED IN TENSION

V1 = 24 VDC	t1 = 2 ms	V2 = 5 VDC
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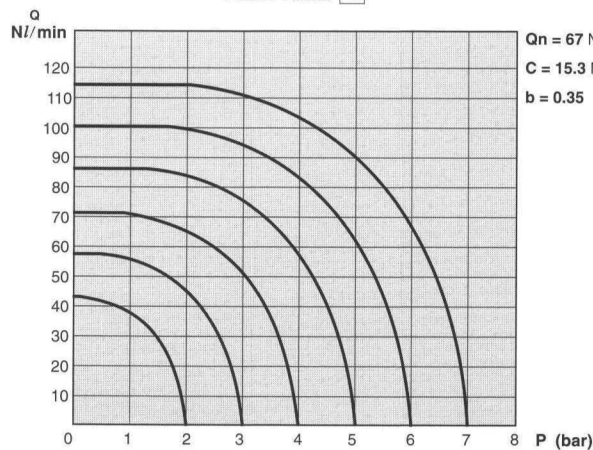
CHARACTERISTICS OF THE ELECTRICAL CONTROL - MODELS XX

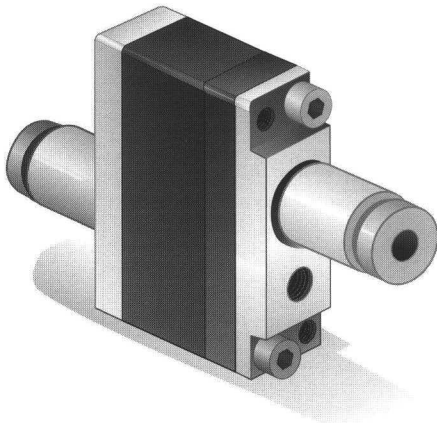


N.B. XX MODELS ARE CONTROLLED IN CURRENT

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

FLOW RATE \bar{M}



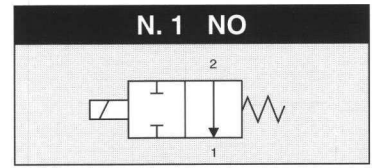
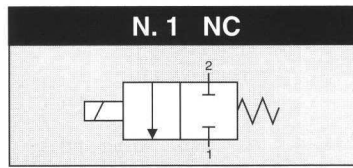


CONTROL:

DIRECT

PFM

PWM



GENERAL CHARACTERISTIC

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	35 g		
PRODUCT LIFE EXPECTANCY	≥ 500 M/s cycles		
IP RATING	IP 62		

IDENTIFICATION CODE

	H	X	7	2	1	1	0	V	A	2	24
--	---	---	---	---	---	---	---	---	---	---	----

ORIFICE

H	∅ eq = 0.9 mm
B	∅ eq = 1.3 mm
M	∅ eq = 1.5 mm (control tension JJ XX KK)

VERSION

	Body ported
H	Body ported - HNBR Shutters
F	Manifold
J	Manifold - HNBR Shutters

No. ELECTRICAL CONTROLS

1	1 Control
---	-----------

PORT CONNECTION

0	Integrated cables IP 62 L = 500 mm
1	Integrated cables IP 62 L = 100 mm

OUTLETS

1	1 Outlet
---	----------

FUNCTION

A	NO
C	NC

TYPE

2	2/2
---	-----

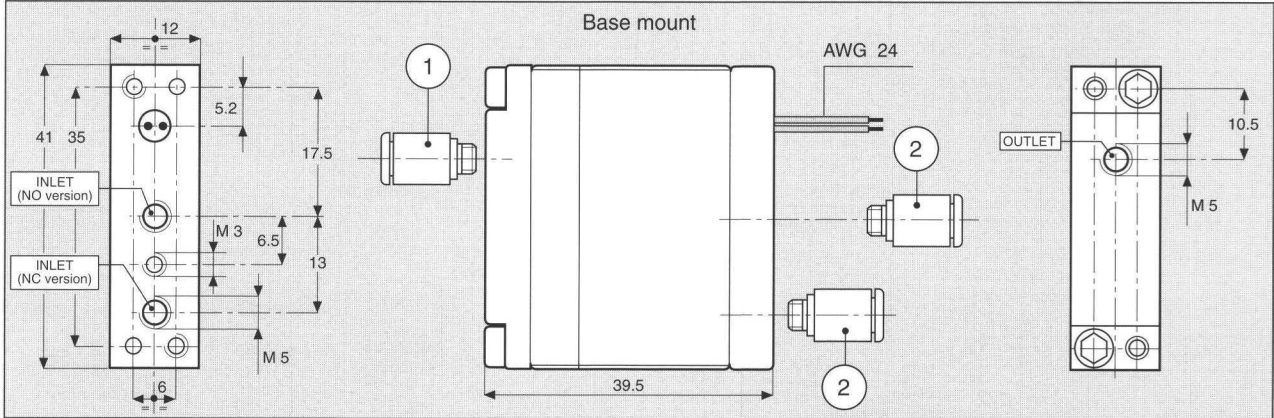
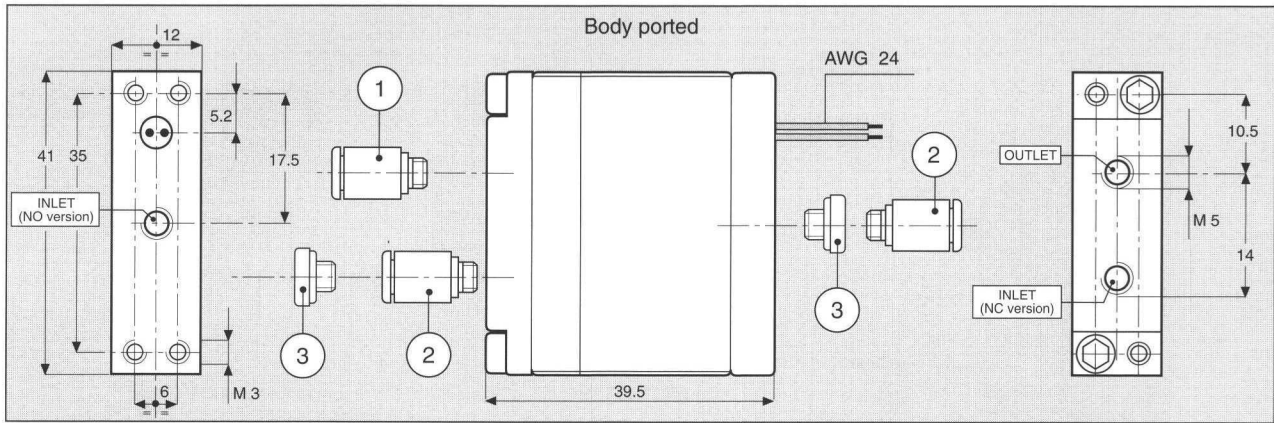
CONTROL TENSION

12	12 VDC ± 10 %	ED 100 %	1.4 W
24	24 VDC ± 10 %	ED 100 %	1.2 W
JJ	24 VDC ± 10 %	ED 100 % ⁽¹⁾	1.9 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

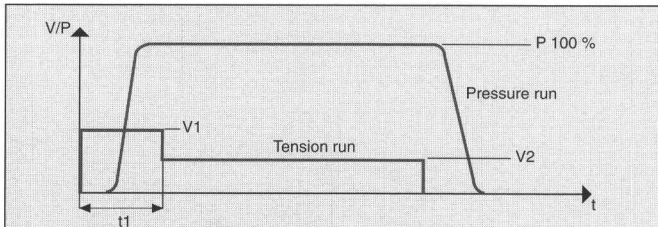
	RANGE	MODELS
V	10 ⁻⁵ Torr	All



ACCESSORIES		
Reference	Quantity	Description
1	1	VACUUM FITTING Ø 4/6
2	1	VACUUM FITTING Ø 4/6
3	1	PLUG

NOTE: Inch size available

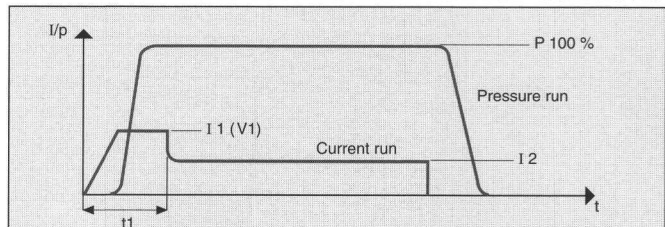
CHARACTERISTICS OF THE ELECTRICAL CONTROL - MODELS KK



N.B. KK MODELS ARE CONTROLLED IN TENSION

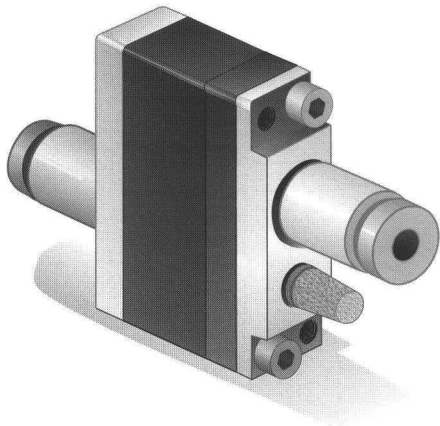
V1 = 24 VDC	t1 = 2 ms	V2 = 5 VDC
-------------	-----------	------------

CHARACTERISTICS OF THE ELECTRICAL CONTROL - MODELS XX

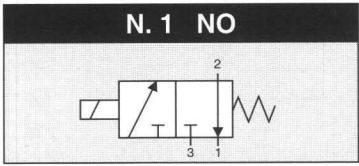
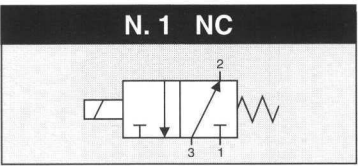


N.B. XX MODELS ARE CONTROLLED IN CURRENT

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



CONTROL: DIRECT



GENERAL CHARACTERISTICS

FLUID	Non-lubricated dry air, neutral gasesi (-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	35 g		
PRODUCT LIFE EXPECTANCY	≥ 500 M/s cycles		
IP RATING	IP 62		

IDENTIFICATION CODE

	H	X	7	2	1	1	0	V	A	3	24
--	---	---	---	---	---	---	---	---	---	---	----

● **ORIFICE**

H	Ø eq = 0.9 mm
B	Ø eq = 1.3 mm
M	Ø eq = 1.5 mm (control tension JJ XX KK)

● **VERSION**

	Body ported
H	Body ported - HNBR Shutters
F	Manifold
J	Manifold - HNBR Shutters

● **No. ELECTRICAL CONTROLS**

1	1 Control
---	-----------

● **PORT CONNECTION**

0	Integrated cables IP 62 L = 500 mm
1	Integrated cables IP 62 L = 100 mm

● **OUTLETS**

1	1 Outlet
---	----------

● **FUNCTION**

A	NO
C	NC

● **TYPE**

3	3/2
---	-----

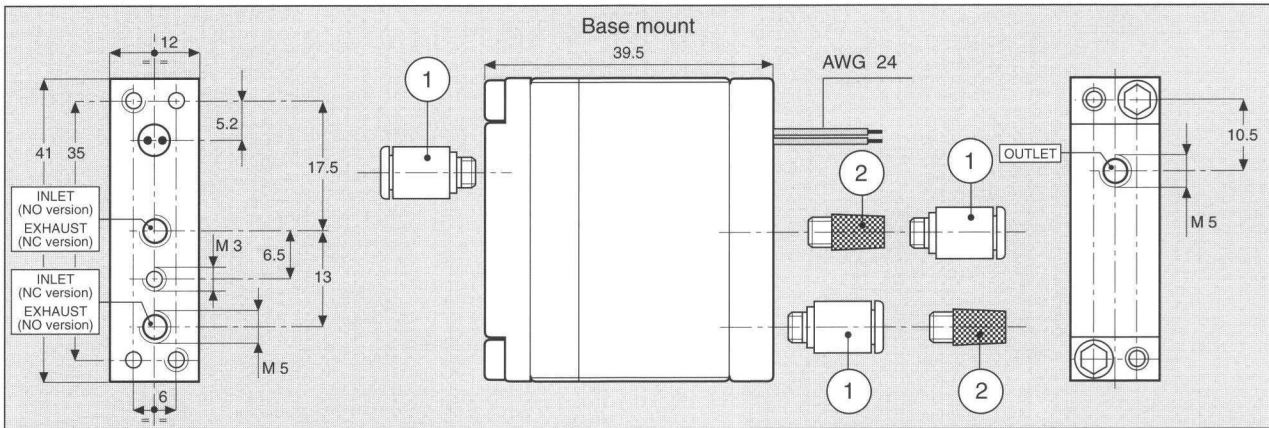
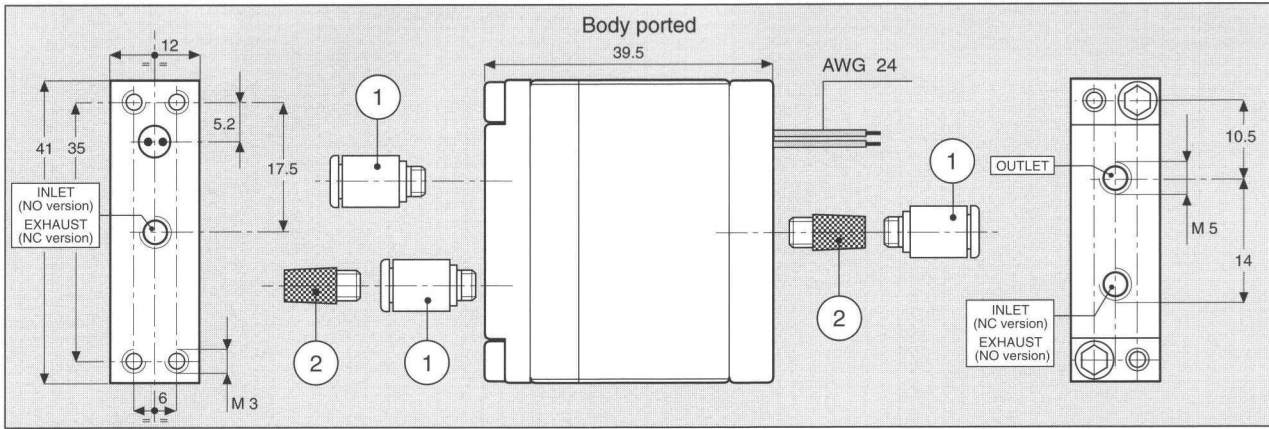
● **CONTROL TENSION**

12	12 VDC ± 10 %	ED 100 %	1.4 W
24	24 VDC ± 10 %	ED 100 %	1.2 W
JJ	24 VDC ± 10 %	ED 100 % ⁽¹⁾	1.9 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**

	RANGE	MODELS
V	10 ⁻⁵ Torr	All

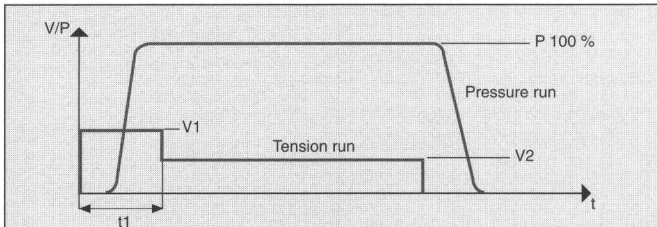


ACCESSORIES

Reference	Quantity	Description
1	2	VACUUM FITTING Ø 4/6
2	1	SILENCER

NOTE: Inch size available

CHARACTERISTICS OF THE ELECTRICAL CONTROL - MODELS KK



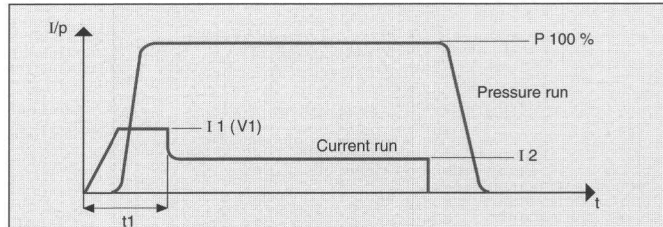
N.B. KK MODELS ARE CONTROLLED IN TENSION

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 = 0.7 A

t1 = 2 ms

I2 = 0.3 A

Manifold - 720 Series

Manifolds for multiple installing represent a fast and safe system of connection for all 720 Series models. Manifolds are available in patterns for 4 and 8 solenoid valves. They come in a kit with fastening screws, inlet push-in fittings, closure plug and sealing O-Rings.

How to order manifolds - Available patterns

Pattern	Kit code	Y (mm)	Z (mm)
no. 4 Solenoid valves	861.310 I	70	60
no. 8 Solenoid valves	861.321 T	120	110

