

750 Series - 3/3



Compact solenoid multi-valve | 3/3

Function A | Outlet NO - Exhaust NC

Function C | Outlet NC - Exhaust NO

Function D | Outlet NC - Exhaust NC

PNEUMATIC DIVISION

MATRIX
mechatronics

www.matrix.to.it
sales@matrix.to.it

750 Series 3/3 presents a small-sized single body with four utilities, assuming, according to the different models, the following configurations:

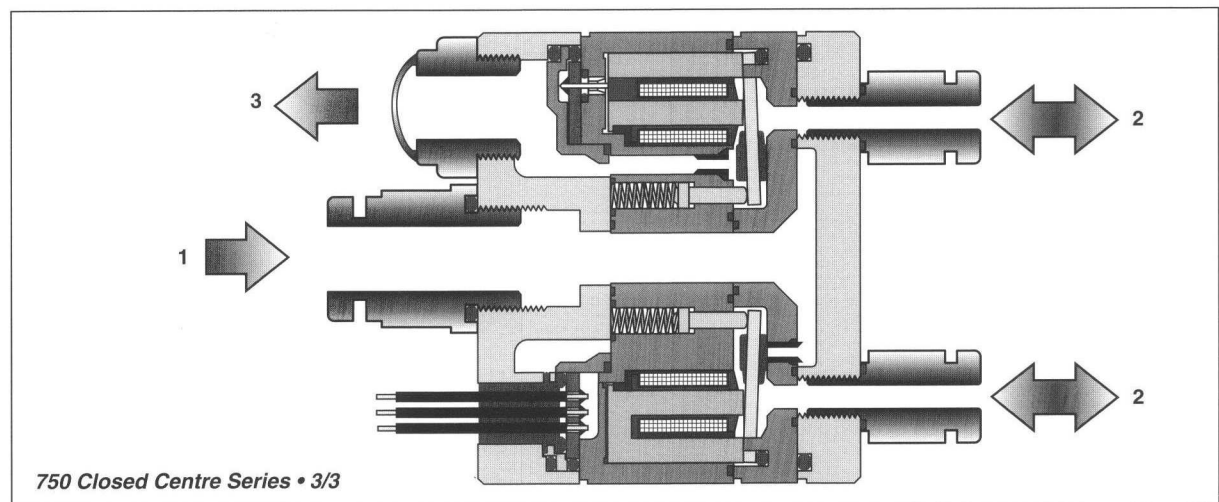
- **NC outlet - NO air drain port (function code : 'C' - Exhaust center)**
This configuration allows feeding separately four pneumatic rooms and their corresponding automatic air drain port in absence of electric control.
- **NC outlet - NC air drain port (function code: 'D' - Closed center)**
This configuration allows separately feeding four pneumatic rooms and maintaining the pressure level in absence of electric control.
- **Outlet NO - NC air drain port (function code 'A' - Pressure center)**
This configuration allows separately feeding four pneumatic rooms and assures the continuous supply (feeding) in electric control absence.

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 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 pressure from 0 to 4 bar.

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



Advantages

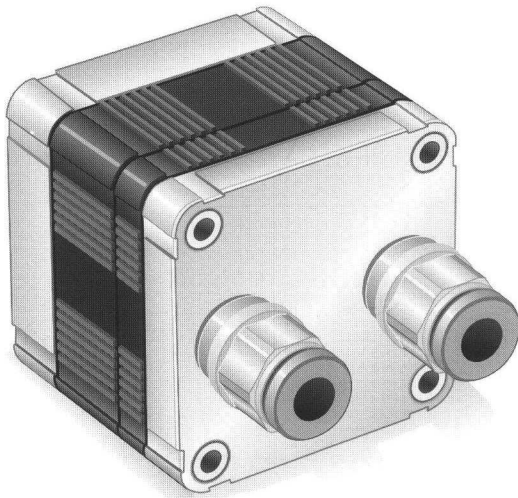
- Compact dimension.
- Short response times.
- Insensitivity both to frequency work and to vibrations.
- Low absorbed power.
- Precision, repetitiveness and flexibility.
- Long operating life.

Applications

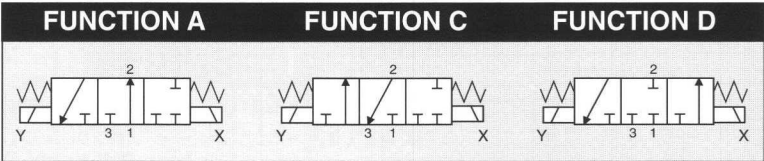
- Process and precision instrumentation.
- Biomedical equipment.
- Pressure-therapy systems.
- Positioning systems.

Materials

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



CONTROL: DIRECT PFM PNM 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 | 340 g | | |
| PRODUCT LIFE EXPECTANCY | ≥ 500 M/s cycles | | |
| IP RATING | IP 52 - IP 62 - IP 65 | | |

IDENTIFICATION CODE

M K 7 5 2 4 E 1 A 2 24

NUMBER OF POSITIONS

OUTLETS

FLOW RATE (at 6 bar)

VERSION

No. ELECTRICAL CONTROLS

PORT CONNECTION

FUNCTIONS

TYPE

CONTROL TENSION

OPERATING PRESSURE

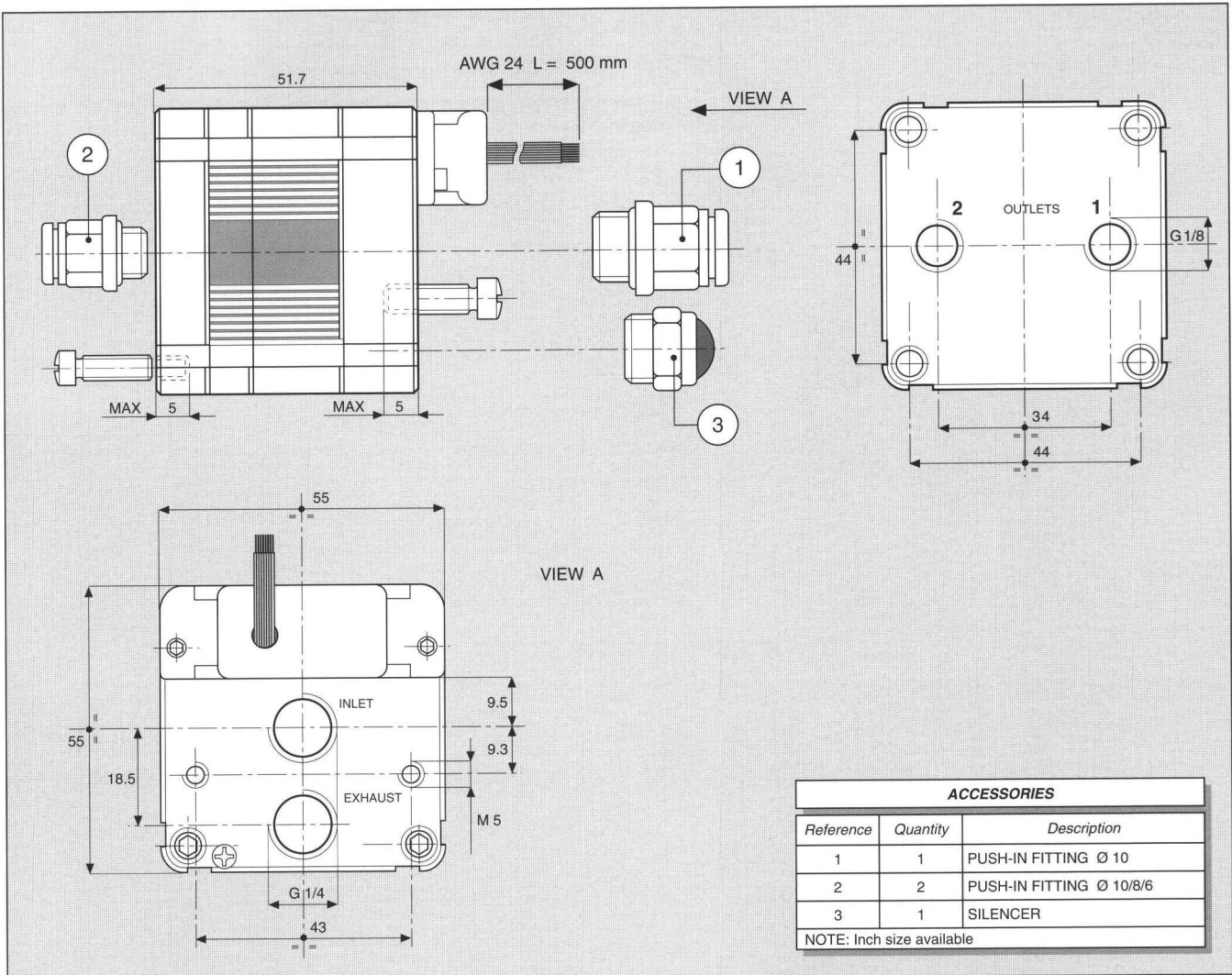
SPECIAL PROTECTIONS

| | | | | | | |
|----------|--|--|---|--|--------------|---------------|
| 0 | Integrated cables IP 62 L = 500 mm | | Only with EASY IP 65 port connection | | RANGE | MODELS |
| E | Presetting for Easy connection IP 52 - IP 65 | | M Stainless steel (INOX) flanges | | 1 | 0 - 4 bar All |
| | | | N EPOX BLACK varnished flanges | | | |

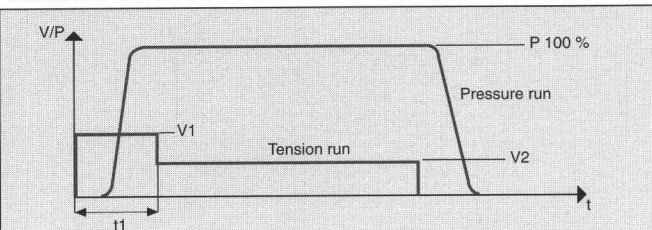
| | |
|----------|------------------------|
| A | Outlet NO - Exhaust NC |
| C | Outlet NC - Exhaust NO |
| D | Outlet NC - Exhaust NC |

| | | | |
|-----------|---------------------|-------------------------|-------|
| 12 | 12 VDC ± 10 % | ED 100 % | 2.9 W |
| 24 | 24 VDC ± 10 % | ED 100 % | 2.5 W |
| JJ | 24 VDC ± 10 % | ED 100 % ⁽¹⁾ | 3.8 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



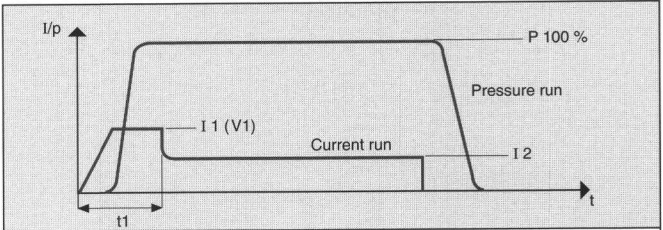
CHARACTERISTICS OF THE ELECTRICAL CONTROL - MODELS KK



N.B. KK MODELS ARE CONTROLLED IN TENSION

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

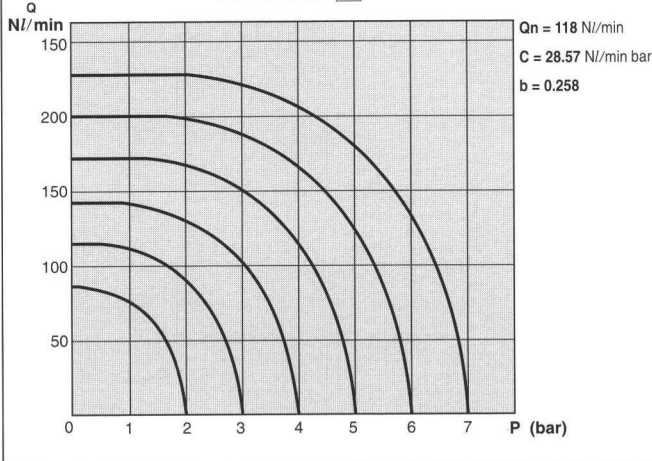
CHARACTERISTICS OF THE ELECTRICAL CONTROL - MODELS XX



N.B. XX MODELS ARE CONTROLLED IN CURRENT

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

FLOW RATE M

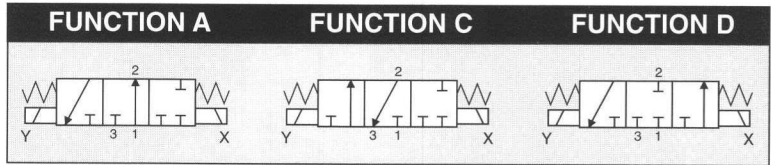


ELECTRICAL PORT CONNECTION

| COLOUR | 8 CONTROLS (OUTLET) |
|--------|---------------------|
| BLACK | COMMON |
| BROWN | 1 (1) |
| RED | 2 (1) |
| ORANGE | 3 (1) |
| YELLOW | 4 (1) |
| GREEN | 5 (2) |
| BLUE | 6 (2) |
| VIOLET | 7 (2) |
| GREY | 8 (2) |



CONTROL: **DIRECT** **PFM** **PNM** **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 | 340 g | | |
| PRODUCT LIFE EXPECTANCY | ≥ 500 M/s cycles | | |
| IP RATING | IP 52 - IP 62 - IP 65 | | |

IDENTIFICATION CODE

| | | | | | | | | | | | |
|--|---|---|---|---|---|---|---|---|---|---|----|
| | M | K | 7 | 5 | 4 | 8 | E | 1 | A | 2 | 24 |
|--|---|---|---|---|---|---|---|---|---|---|----|

NUMBER OF POSITIONS

| | |
|---|-------------|
| K | 3 Positions |
|---|-------------|

OUTLETS

| | |
|---|-----------|
| 4 | 4 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 | 8 Controls |
| D | 8 Controls / Integrated diodes with common |
| G | 8 Controls / Integrated diodes with common 12/24 |

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 |

FUNCTIONS

| | |
|---|------------------------|
| A | Outlet NO - Exhaust NC |
| C | Outlet NC - Exhaust NO |
| D | Outlet NC - Exhaust NC |

TYPE

| | |
|---|-------------|
| 2 | 4 Pairs 2/2 |
|---|-------------|

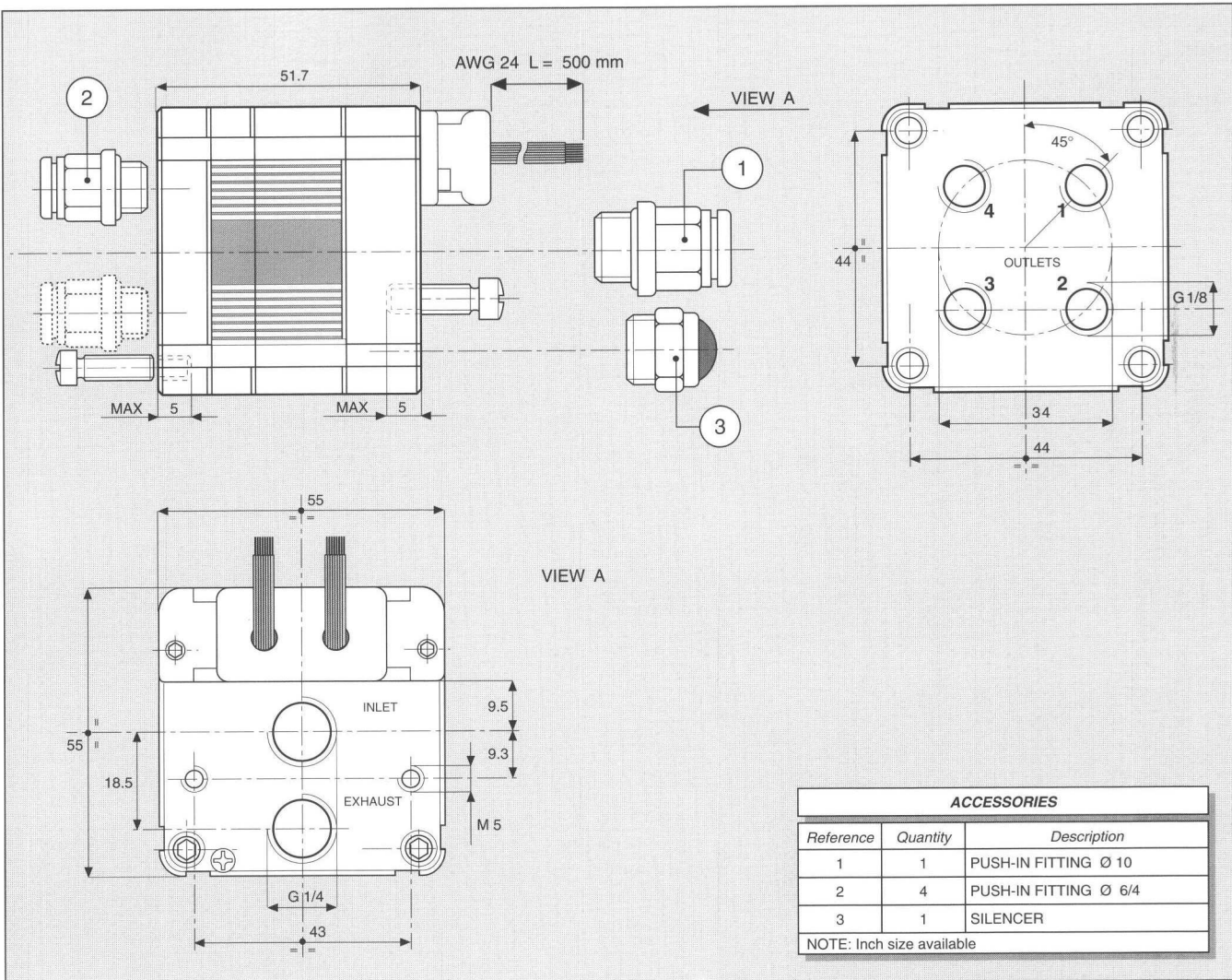
CONTROL TENSION

| | | | |
|----|---------------------|-------------------------|-------|
| 12 | 12 VDC ± 10 % | ED 100 % | 2.9 W |
| 24 | 24 VDC ± 10 % | ED 100 % | 2.5 W |
| JJ | 24 VDC ± 10 % | ED 100 % ⁽¹⁾ | 3.8 W |
| XX | Speed-up in current | ED 100 % ⁽¹⁾ | — |
| KK | Speed-up in tension | ED 100 % ⁽¹⁾ | — |

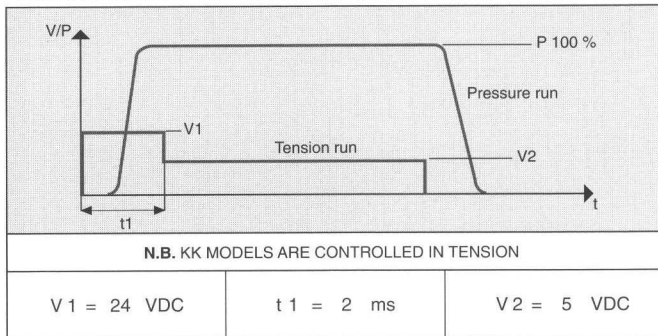
(1) Only with Electronic Driver Boards PRB or UDB

OPERATING PRESSURE

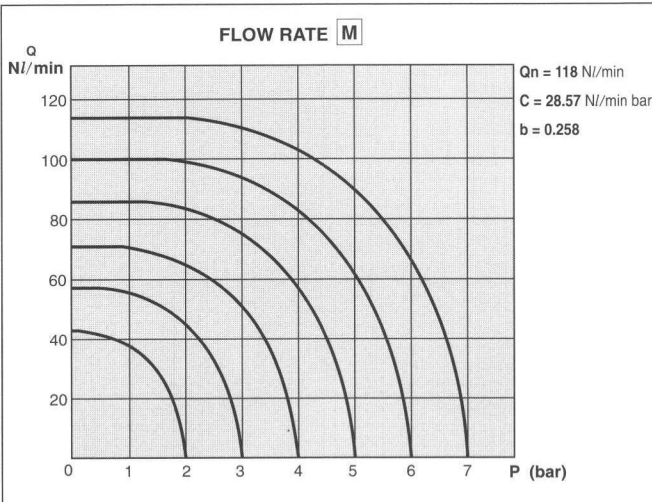
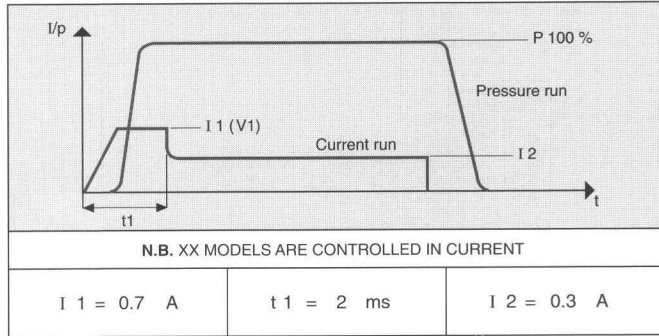
| | RANGE | MODELS |
|---|-----------|--------|
| 1 | 0 - 4 bar | All |



CHARACTERISTICS OF THE ELECTRICAL CONTROL - MODELS KK



CHARACTERISTICS OF THE ELECTRICAL CONTROL - MODELS XX



ELECTRICAL PORT CONNECTION

| COLOUR | 8 CONTROLS (OUTLET) |
|--------|---------------------|
| BLACK | COMMON |
| BROWN | 1 (1) |
| RED | 2 (1) |
| ORANGE | 3 (2) |
| YELLOW | 4 (2) |
| GREEN | 5 (3) |
| BLUE | 6 (3) |
| VIOLET | 7 (4) |
| GREY | 8 (4) |