



**SMF 1/4" SERIE VALVES**

**SEMAK<sup>®</sup>MATIC**  
PNEUMATIC EQUIPMENTS

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# SEMAK<sup>®</sup>MATIC

## PNEUMATIC EQUIPMENTS

### PRODUCTS

#### SMF SERIE ...



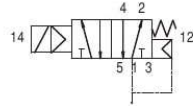
2\* 3/2 N.C. - 1/4" Double Solenoid Valve

**SMF SERIE**  
**AIR PILOT VALVES**

**SMF SERIE**  
**SOLENOID VALVES**

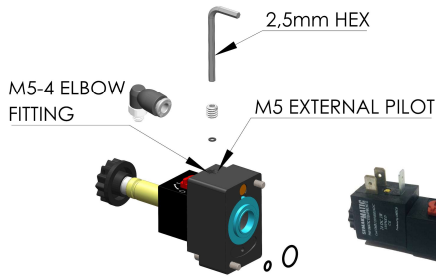
**COILS & EX. COILS**  
**SOCKETS**

5/2 – 1/4" SINGLE SOLENOID ( spring return / external pilot )



For external pilot application,

- 1) Unscrew the setskur
- 2) Take the o-ring out
- 3) Screw M5 threaded fitting
- 4) Disassemble the head of valve
- 5) Adapt the special shaped o-ring by closing the air pilot supply
- 6) Assemble the valve head

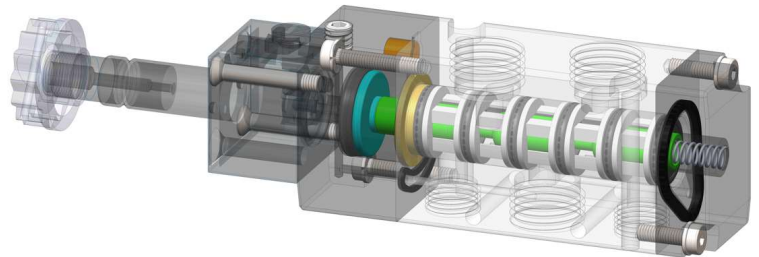


- ❑ Flow rate is 600 NI / min. at 6 bar
- ❑ External pilot is available for all the solenoid serie with M5 thread
- ❑ Pneumatic connection ports 1.2.4. .. 1/4" .. 3.5 1/8"
- ❑ Body AL. 6000 natural anodized
- ❑ Covers AL. 6000 black colored anodized
- ❑ Min. working pressure is 1,5 bar
- ❑ 3 cycle / sec. reachable max. life time with suitable Ø dia. and stroke
- ❑ Suitable for vacuum and low pressure application with external pilot

ORDERING CODES for a VALVE

- 5/2 – 1/4" SINGLE SOLENOID : SMF5214TB00M00  
 5/2 – 1/4" SINGLE SOLENOID external pilot : SMF5214TBDPM00

INTERNAL VIEW



Fluid : Compressed filtered air with or without lubrication

If lubrication used at ones must be continious .

Pressure range : min.1,5 bar max. 10 bar spring return with internal air pilot

Temperature range : - 10 ° C / + 60 ° C

Version : 5/2 - 1/4" spring return / external pilot

Materials

Covers : AL. 6000 black colored anodized

spool : AL. 6000 natural anodized 0,4 µm

Seals : NBR

Body : AL. 6000 natural anodized

Nominal Orifice : 5 mm

Mounting : In any position

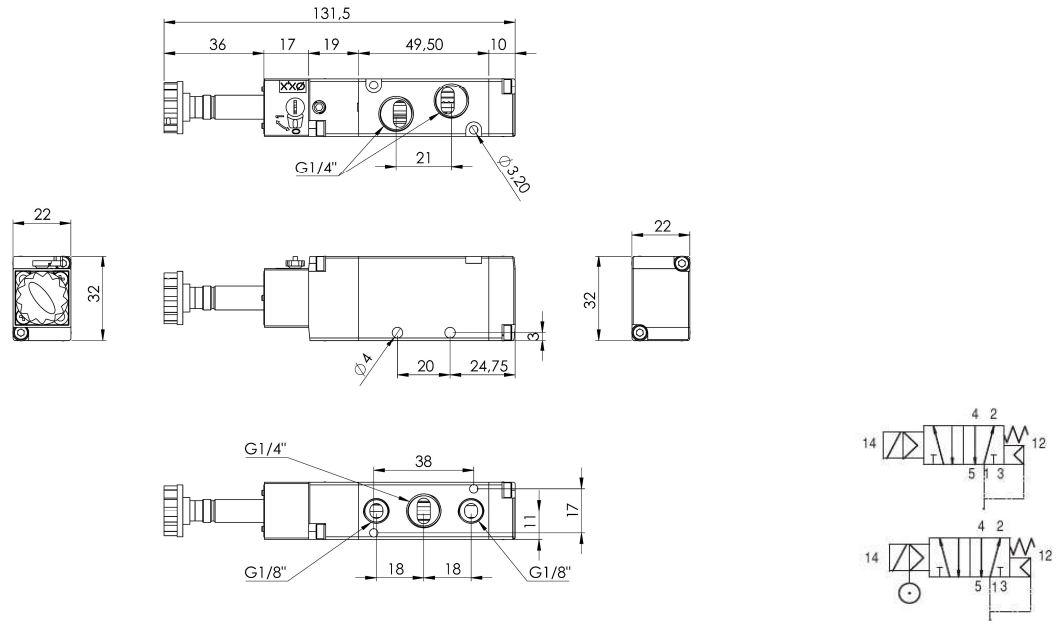
Flow rate : 600 NI/ min. at 6 bar Δp 1 bar

Life time : 3 cycle / sec. with suitable cylinder / 50 mio. cycle life time under proper condition

Vacuum & low pressure app. : Suitable with external pilot

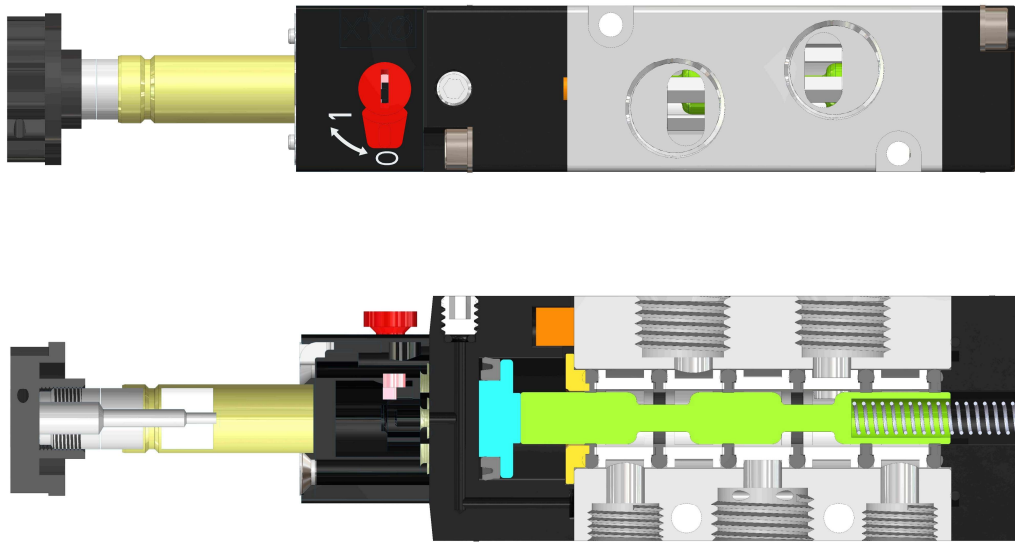
## DRAWING

( 5/2 spring return ) ( external pilot )



## SOLID IMAGE

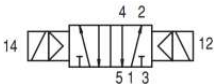
(5/2 single solenoid)



## ACCESSORIES &amp; SPARE PARTS

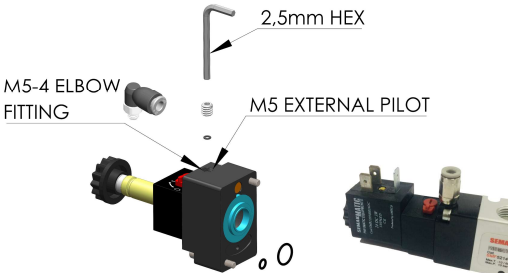
COILS & SOCKETS  
( page 14 )6 \* spool o-ring  
2 \* valve piston gasketO- RING KIT  
Cod. SMV18019 mm BRASS  
TUBE & NUCLEUS  
Cod. SMV18029 mm BRASS  
TUBE & NUCLEUS  
Cod. SMV3218TBP3MNK

5/2 – 1/4" DOUBLE SOLENOID ( bistable / external pilot )



For external pilot application,

- 1) Unscrew the setskur
- 2) Take the o-ring out
- 3) Screw M5 threaded fitting
- 4) Disassemble the head of valve
- 5) Adapt the special shaped o-ring by closing the air pilot supply
- 6) Assemble the valve head

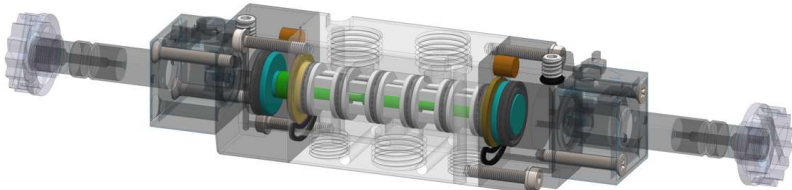


- ❑ Flow rate is 600 NI / min. at 6 bar
- ❑ External pilot is available for all the solenoid serie with M5 thread
- ❑ Pneumatic connection ports 1.2.4. .. 1/4" .. 3.5 1/8"
- ❑ Body AL. 6000 natural anodized
- ❑ Covers AL. 6000 black colored anodized
- ❑ Min. working pressure is 1 bar
- ❑ 4 cycle / sec. reachable max. life time with suitable Ø dia. and stroke
- ❑ Suitable for vacuum and low pressure application with external pilot

ORDERING CODES for a VALVE

- 5/2 – 1/4" BISTABLE : SMF5214CB00M00
- 5/2 – 1/4" BISTABLE external pilot : SMF5214TBDPM00

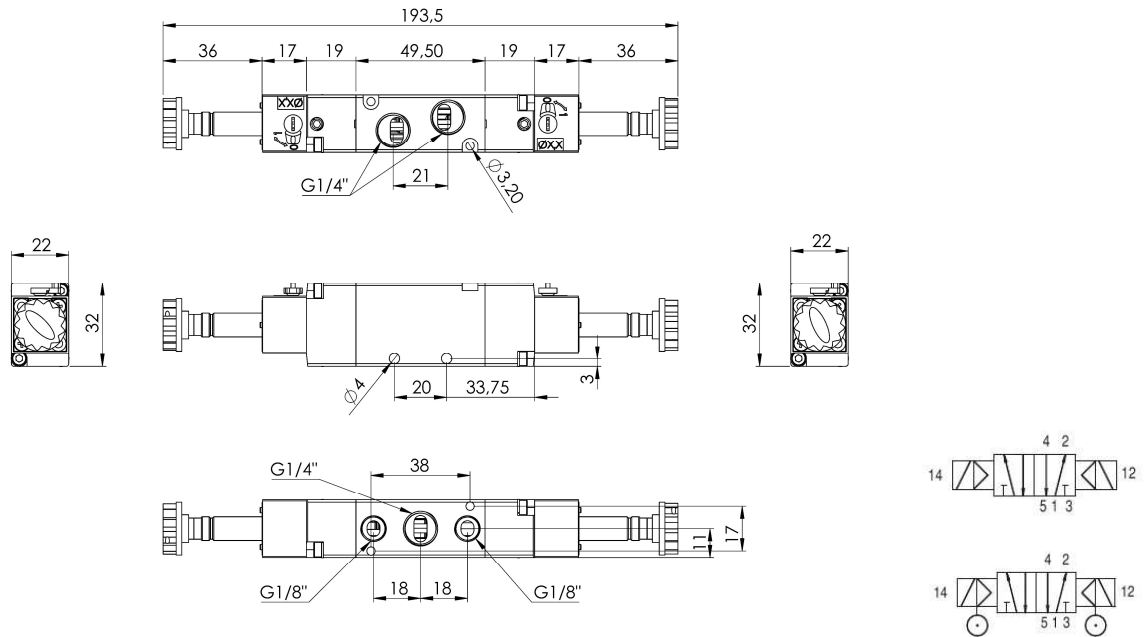
INTERNAL VIEW



|                            |                                                                                          |
|----------------------------|------------------------------------------------------------------------------------------|
| Fluid                      | : Compressed filtered air with or without lubrication                                    |
|                            | If lubrication used at ones must be continious .                                         |
| Pressure range             | : min.1 bar max. 10 bar                                                                  |
| Temperature range          | : - 10 ° C / + 60 ° C                                                                    |
| Version                    | : 5/2 - 1/4" double solenoid bistable / external pilot                                   |
| Materials                  |                                                                                          |
| Covers                     | : AL. 6000 black colored anodized                                                        |
| spool                      | : AL. 6000 natural anodized 0,4 µm                                                       |
| Seals                      | : NBR                                                                                    |
| Body                       | : AL. 6000 natural anodized                                                              |
| Nominal Orifice            | : 5 mm                                                                                   |
| Mounting                   | : In any position                                                                        |
| Flow rate                  | : 600 NI/ min. at 6 bar Δp 1 bar                                                         |
| Life time                  | : 4 cycle / sec. with suitable cylinder / 50 mio. cycle life time under proper condition |
| Vacuum & low pressure app. | : Suitable with external pilot                                                           |

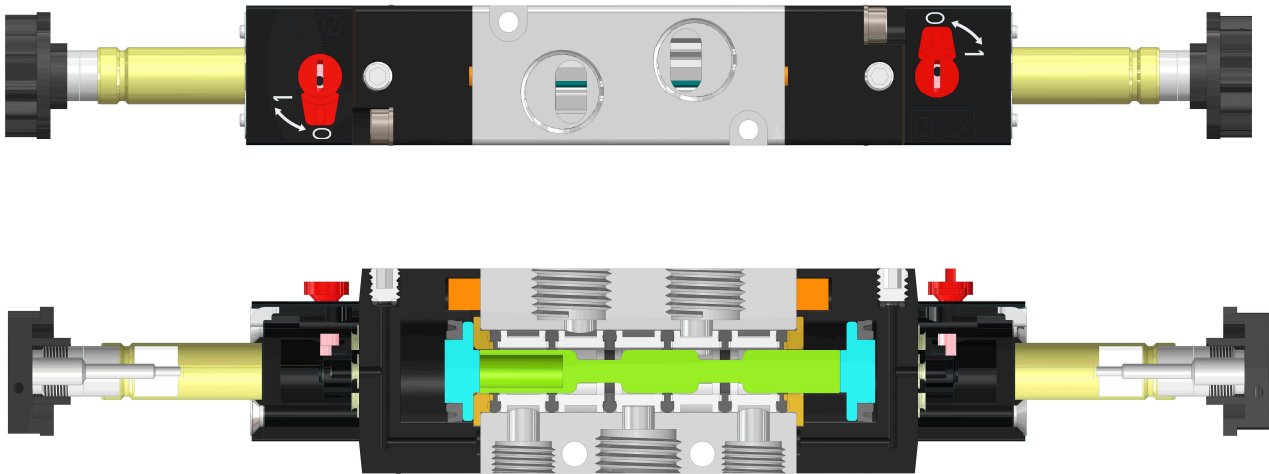
## DRAWING

## ( 5/2 bistable ) ( external pilot )



## SOLID IMAGE

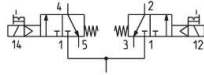
## (5/2 bistable solenoid)



## ACCESSORIES &amp; SPARE PARTS

COILS & SOCKETS  
( page 16 )6 \* spool o-ring  
2 \* valve piston gasketO- RING KIT  
Cod. SMF1801B9 mm BRASS  
TUBE & NUCLEUS  
Cod. SMV18029 mm BRASS  
TUBE & NUCLEUS  
Cod. SMV3218TBP3MNK

2 \* 3/2 n.c. – 1/4"



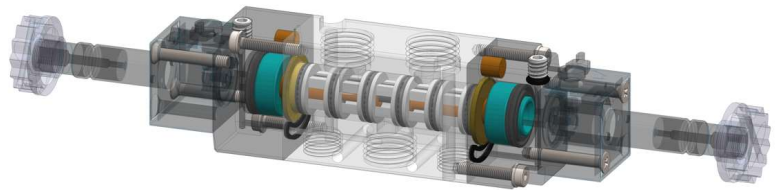
- ☐ Flow rate is 400 NI / min. at 6 bar
- ☐ External pilot is available for all the solenoid serie with M5 thread
- ☐ Pneumatic connection ports 1.2.4. .. 1/4" .. 3.5 1/8"
- ☐ Body AL. 6000 natural anodized
- ☐ Covers AL. 6000 black colored anodized
- ☐ Min. working pressure is 2,5 bar
- ☐ 3 cycle / sec. reachable max. life time with suitable Ø dia. and stroke
- ☐ Suitable for vacuum and low pressure application with external pilot

## ORDERING CODES for a VALVE

2 \* 3/2 N.C. – 1/4" DOUBLE SOLENOID

: SMF3214C802MKNK

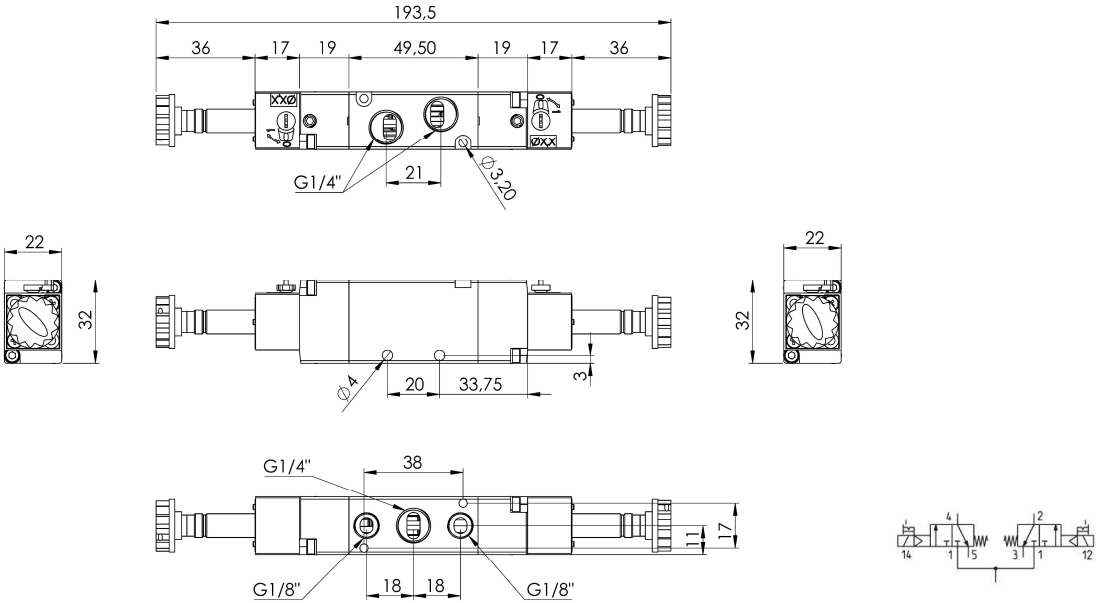
## INTERNAL VIEW



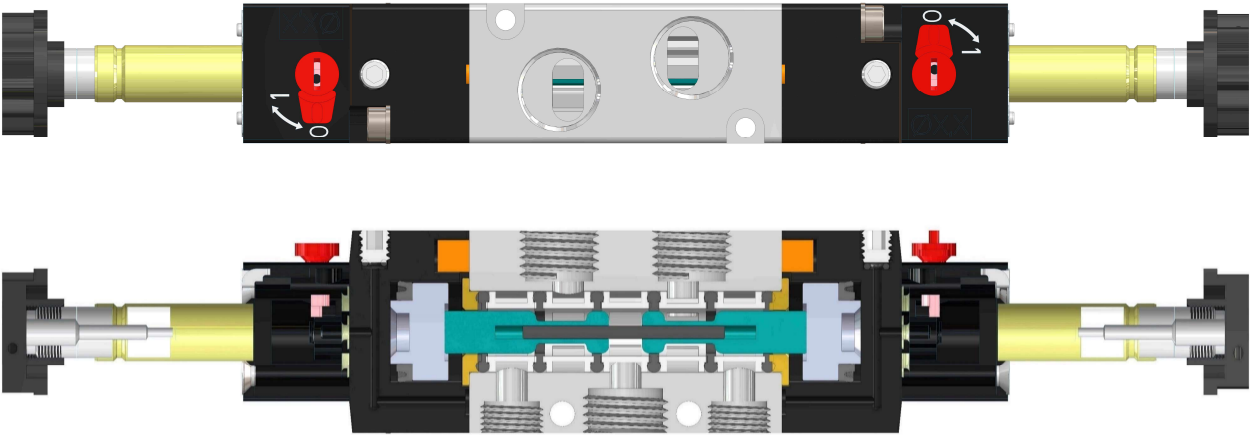
|                            |                                                                                          |
|----------------------------|------------------------------------------------------------------------------------------|
| Fluid                      | : Compressed filtered air with or without lubrication                                    |
|                            | If lubrication used at ones must be continuous .                                         |
| Pressure range             | : min.2,5 bar max. 10 bar                                                                |
| Temperature range          | : - 10 ° C / + 60 ° C                                                                    |
| Version                    | : 2 * 3/2 n.c. - 1/4" double solenoid air pilot return                                   |
| Materials                  |                                                                                          |
| Covers                     | : AL. 6000 black colored anodized                                                        |
| spool                      | : AL. 6000 natural anodized 0,4 µm                                                       |
| Seals                      | : NBR                                                                                    |
| Body                       | : AL. 6000 natural anodized                                                              |
| Nominal Orifice            | : 5 mm                                                                                   |
| Mounting                   | : In any position                                                                        |
| Flow rate                  | : 400 NI/ min. at 6 bar Δp 1 bar                                                         |
| Life time                  | : 3 cycle / sec. with suitable actuator / 50 mio. cycle life time under proper condition |
| Vacuum & low pressure app. | : Not suitable , externa pilot application is not possible                               |

DRAWING

( 2 \* 3/2 N.C. double solenoid )



SOLID IMAGE



ACCESSORIES & SPARE PARTS



COILS & SOCKETS  
( page 16 )



6 \* spool o-ring  
2 \* valve piston gasket

O- RING KIT  
Cod. SMV1801

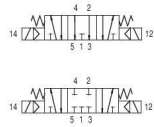


9 mm BRASS  
TUBE & NUCLEUS  
Cod. SMV1802



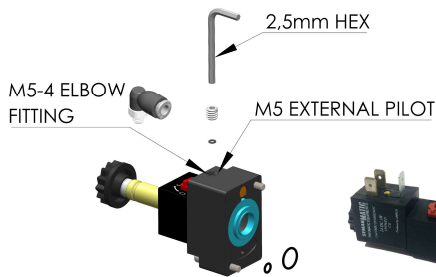
9 mm BRASS  
TUBE & NUCLEUS  
Cod. SMV3218TBP3MKN

5/2 – 1/4" SINGLE SOLENOID ( spring return / external pilot )



For external pilot application,

- 1) Unscrew the setskur
- 2) Take the o-ring out
- 3) Screw M5 threaded fitting
- 4) Disassemble the head of valve
- 5) Adapt the special shaped o-ring by closing the air pilot supply
- 6) Assemble the valve head

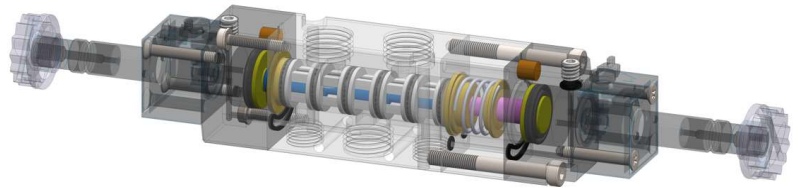


- ❑ Flow rate is 400 NI / min. at 6 bar
- ❑ External pilot is available for all the solenoid serie with M5 thread
- ❑ Pneumatic connection ports 1.2.4. .. 1/4" .. 3.5 1/8"
- ❑ Body AL. 6000 natural anodized
- ❑ Covers AL. 6000 black colored anodized
- ❑ Min. working pressure is 3 bar
- ❑ 3 cycle / sec. reachable max. life time .
- ❑ Suitable for vacuum and low pressure application with external pilot

ORDERING CODES for a VALVE

|                                 |                  |
|---------------------------------|------------------|
| 5/3 – 1/4" C.C. DOUBLE SOLENOID | : SMF5314CB00MKM |
| 5/3 – 1/4" C.C. EXTERNAL PILOT  | : SMF5314CBDPMKM |
| 5/3 – 1/4" O.C. DOUBLE SOLENOID | : SMF5314CB00MAM |
| 5/3 – 1/4" O.C. EXTERNAL PILOT  | : SMF5314CBDPMAM |

INTERNAL VIEW



Fluid : Compressed filtered air with or without lubrication

If lubrication used at ones must be continious .

Pressure range : min.3 bar max. 10 bar

Temperature range : - 10 ° C / + 60 ° C

Version : 5/3 - 1/4" double solenoid C.C. / O.C. – External Pilot

Materials

|        |                                    |
|--------|------------------------------------|
| Covers | : AL. 6000 black colored anodized  |
| spool  | : AL. 6000 natural anodized 0,4 µm |
| Seals  | : NBR                              |
| Body   | : AL. 6000 natural anodized        |

Nominal Orifice : 5 mm

Mounting : In any position

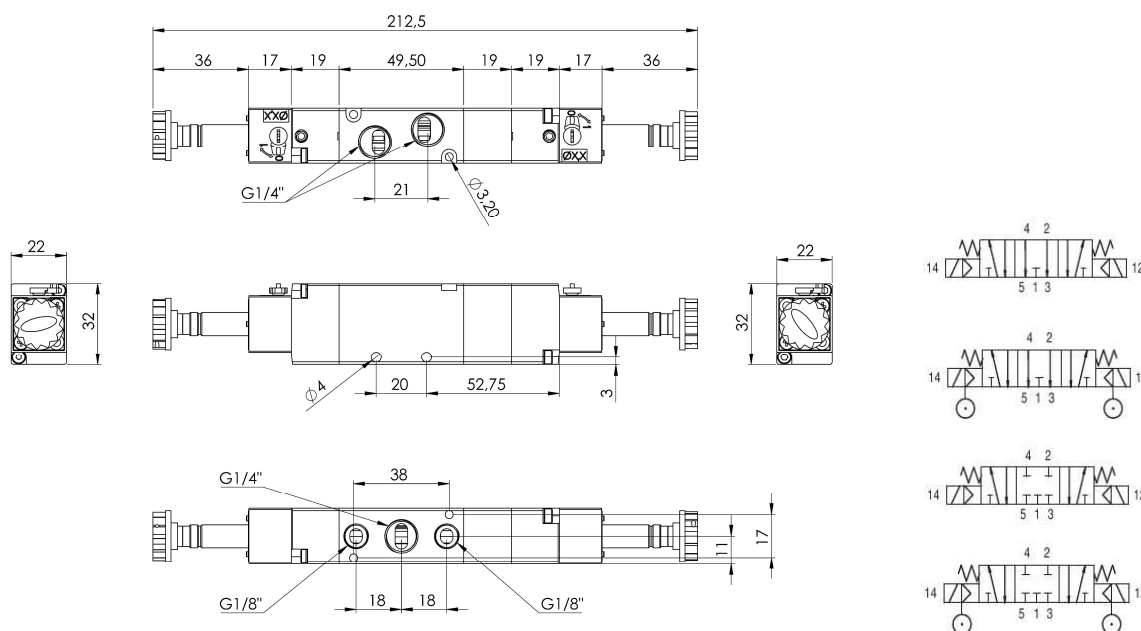
Flow rate : 400 NI/ min. at 6 bar Δp 1 bar

Life time : 3 cycle / sec. with suitable actuator / 50 mio. cycle life time under proper condition

Vacuum & low pressure app. : Suitable only with external pilot version

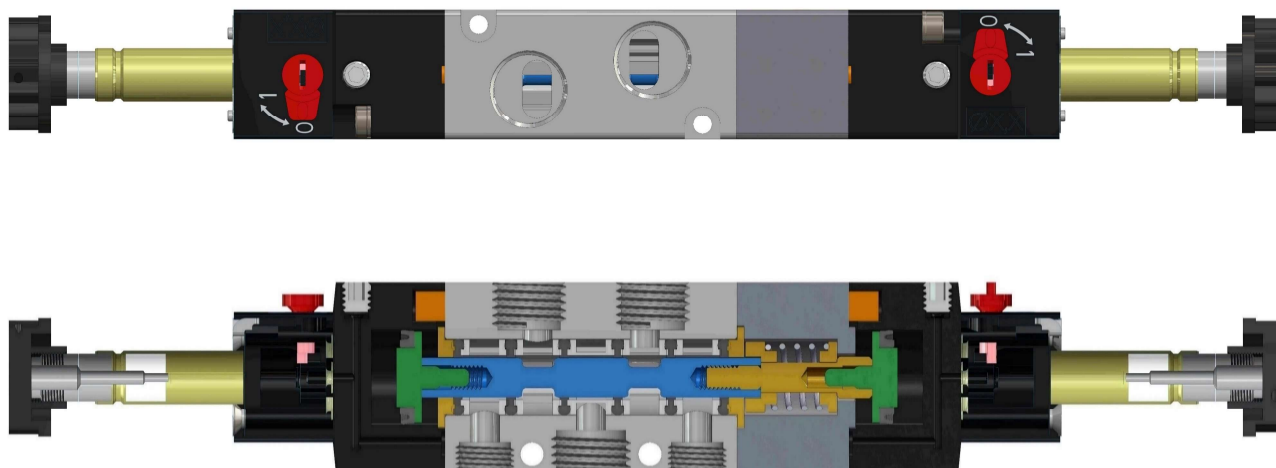
## DRAWING

( 5/3 C.C .. O.C. .. external pilot )



## SOLID IMAGE

( 5/3 C.C. DOUBLE SOLENOID )



## ACCESSORIES &amp; SPARE PARTS

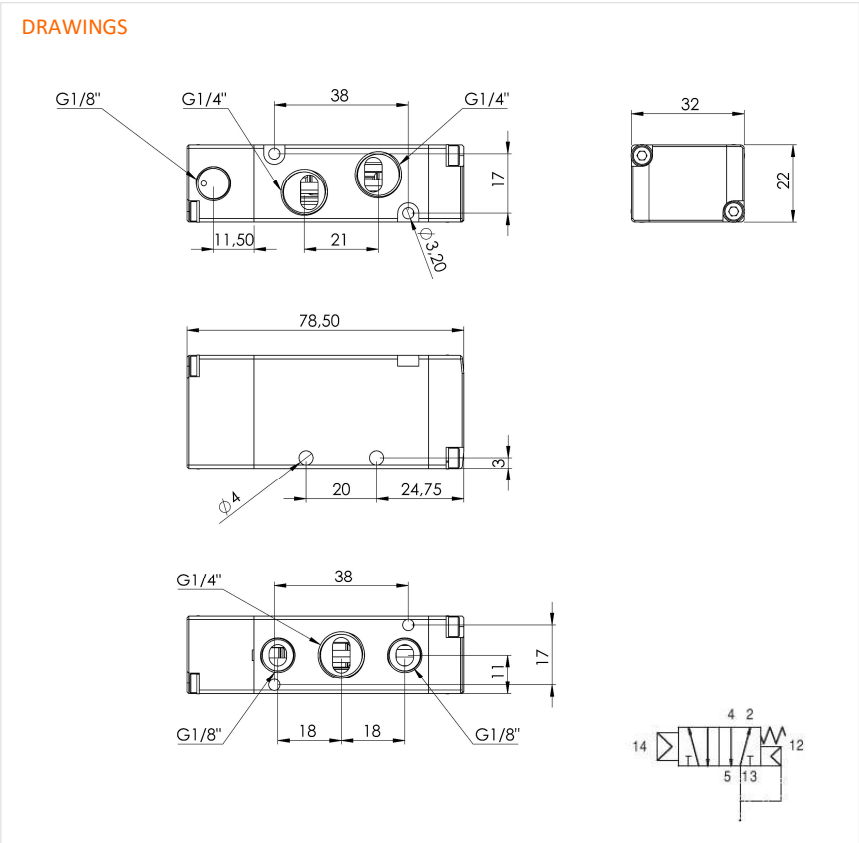
COILS & SOCKETS  
( page 16 )6 \* spool o-ring  
2 \* valve piston gasketO- RING KIT  
Cod. SMV18019 mm BRASS  
TUBE & NUCLEUS  
Cod. SMV18029 mm BRASS  
TUBE & NUCLEUS  
Cod. SMV3218TBP3MNK

5/2 – 1/4" PILOT / SPRING



- \* Flow rate is 600 NI / min. at 6 bar .
- \* Max working pressure is 10 bar .
- \* Aluminium body.
- \* Minimum working pressure is 1,5 bar
- \* 1/8" pilot port
- \* Suitable for non oily applications
- \* Spool with spring return air pilot supported

DRAWINGS



ORDERING CODE for a VALVE

5/2 – 1/4" PILOT / SPRING : SMF5214HY00M00

\* For spare part and bases see page 13 .

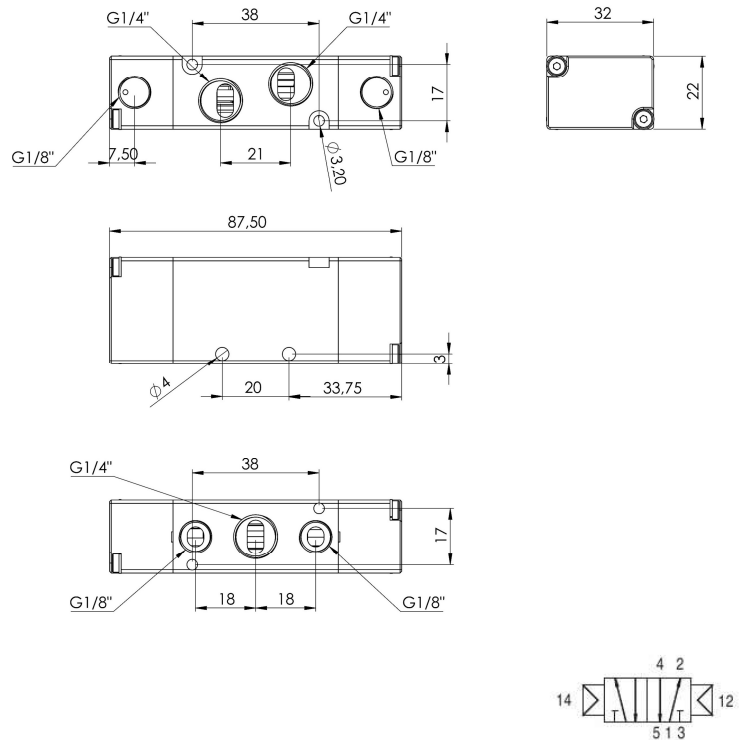
|                   |                                                              |
|-------------------|--------------------------------------------------------------|
| Fluid             | : Compressed filtered air with or without lubrication        |
|                   | If lubrication used at ones must be continious .             |
| Pressure range    | : min.1,5 bar - max. 10 bar                                  |
| Temperature range | : - 10 ° C / + 60 ° C                                        |
| Version           | : 5/2 - 1/4" PILOT / SPRING                                  |
| Materials         |                                                              |
| Covers            | : AL. 6000 serie black colored anodized                      |
| spool             | : AL. 6000 serie natural anodized 4 µm                       |
| Seals             | : NBR                                                        |
| Body              | : AL. 6000 serie natural anodized                            |
| Orifice           | : 5 mm                                                       |
| Mounting          | : In any position                                            |
| Flow rate         | : 600 NI/ min at 6 bar                                       |
| Cycle per min.    | : 3 cycle / sec ( depends upon the signal inlet and outlet ) |
| Vacuum            | : Suitable                                                   |

## 5/2 – 1/4" PILOT / PILOT



- \* Flow rate is 600 NI / min. at 6 bar .
- \* Max working pressure is 10 bar .
- \* Aluminium body.
- \* Minimum working pressure is 1 bar
- \* 1/8" pilot port
- \* Suitable for non oily applications

## DRAWINGS



## ORDERING CODE for a VALVE

5/2 – 1/4" PILOT / PILOT

: SMF5214HH00M00

\* For spare part and bases see page 13.

Fluid : Compressed filtered air with or without lubrication

If lubrication used at ones must be continuous .

Pressure range : min.1 bar - max. 10 bar

Temperature range : - 10 ° C / + 60 ° C

Version : 5/2 - 1/4" PILOT / PILOT

## Materials

Covers : AL. 6000 serie black colored anodized

spool : AL. 6000 serie natural anodized 4 µm

Seals : NBR

Body : AL. 6000 serie natural anodized

Orifice : 5 mm

Mounting : In any position

Flow rate : 600 NI/ min at 6 bar

Cycle per min. : 4 cycle / sec. ( depends upon the signal inlet and outlet )

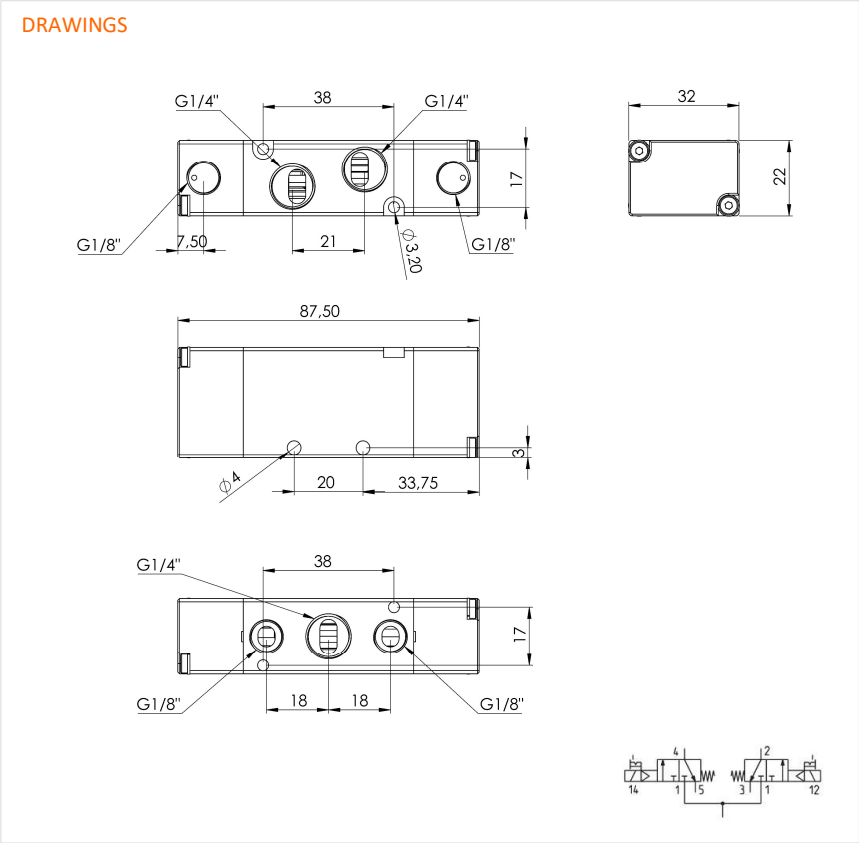
Vacuum : Suitable

2 \* 3/2 – 1/4" PILOT / PILOT



- \* Flow rate is 400 NI / min. at 6 bar .
- \* Max working pressure is 10 bar .
- \* Aluminium body.
- \* Minimum working pressure is 2,5 bar
- \* 1/8" pilot port
- \* Suitable for non oily applications
- \* Spool with air spring return

DRAWINGS



ORDERING CODE for a VALVE

2 \* 3/2 N.C. – 1/4" PILOT / PILOT

: SMF3214HH02MNK

\* For spare part and bases see page 13.

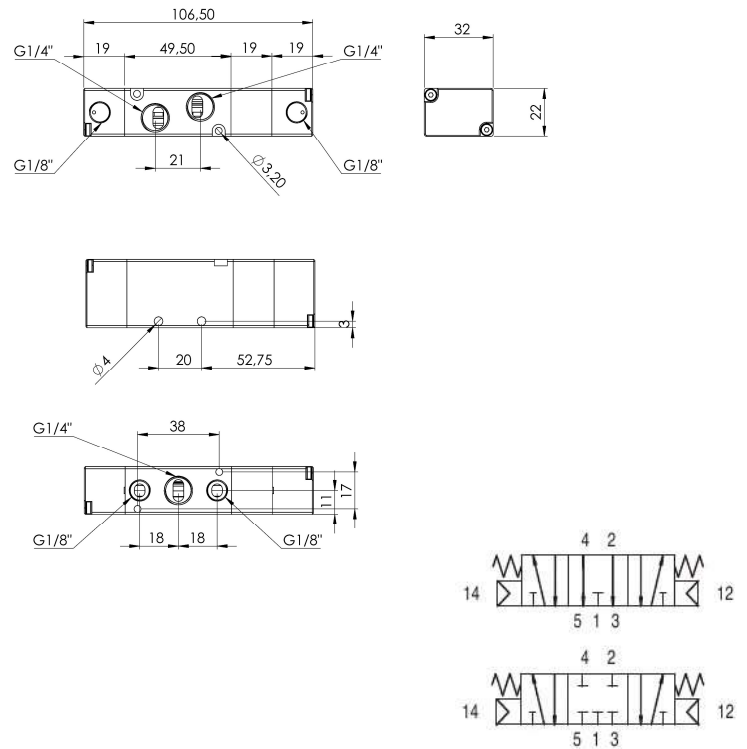
|                   |                                                              |
|-------------------|--------------------------------------------------------------|
| Fluid             | : Compressed filtered air with or without lubrication        |
|                   | If lubrication used at ones must be continious .             |
| Pressure range    | : min. 2,5 bar - max. 10 bar                                 |
| Temperature range | : - 10 ° C / + 60 ° C                                        |
| Version           | : 2 * 3/2 - 1/4" PILOT / PILOT                               |
| Materials         |                                                              |
| Covers            | : AL. 6000 serie black colored anodized                      |
| spool             | : AL. 6000 serie natural anodized 4 µm                       |
| Seals             | : NBR                                                        |
| Body              | : AL. 6000 serie natural anodized                            |
| Orifice           | : 5 mm                                                       |
| Mounting          | : In any position                                            |
| Flow rate         | : 400 NI/ min at 6 bar                                       |
| Cycle per min.    | : 3 cycle / min ( depends upon the signal inlet and outlet ) |
| Vacuum            | : Not possible                                               |

## 5/3 – 1/4" DOUBLE PILOT C.C / O.C.



- \* Flow rate is 400 NI / min. at 6 bar .
- \* Max working pressure is 10 bar .
- \* Aluminium body.
- \* Minimum working pressure is 3 bar
- \* 1/8" pilot port
- \* Suitable for non oily applications
- \* Spool with integrated spring return

## DRAWINGS



## ORDERING CODE for a VALVE

5/3 – 1/4" DOUBLE PILOT C.C.

: SMF5314HH00MKM

5/3 – 1/4" DOUBLE PILOT O.C.

: SMF5314HH00MAM

\* For spare part and bases see page 13.

Fluid : Compressed filtered air with or without lubrication

If lubrication used at ones must be continious .

Pressure range : min.3 bar - max. 10 bar

Temperature range : - 10 ° C / + 60 ° C

Version : 5/3 - 1/4" DOUBLE PILOT C.C. / O.C.

## Materials

Covers : AL. 6000 serie black colored anodized

spool : AL. 6000 serie natural anodized 4 µm

Seals : NBR

Body : AL. 6000 serie ntural anodized

Orifice : 5 mm

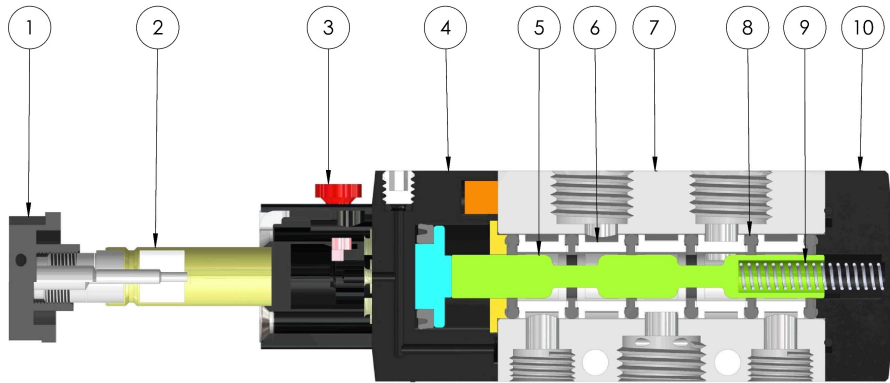
Mounting : In any position

Flow rate : 400 NI/ min at 6 bar

Cycle per min. : 2 cycle / sec. ( from port 2 or port 4 to neutral position )

Vacuum : Suitable

INTERNAL PARTS OF SEMAKMATIC SMF SERIE SOLENOID VALVE



|    |                 |                                                |
|----|-----------------|------------------------------------------------|
| 1  | NUT             | PLASTIC MATERIAL                               |
| 2  | ARMATURE        | BRASS - STAINLESS STEEL SPECIALLY              |
| 3  | MANUEL OVERRİDE | PLASTIC MATERIAL                               |
| 4  | HEAD            | AL 6000 SERIES BLACK COLORED ANODIZED          |
| 5  | SPOOL           | HARD ALUMINIUM ANODIZED                        |
| 6  | DISTANCERS      | FORTRON 1140 L4                                |
| 7  | BODY            | AL 6000 NATUREL ANODIZED                       |
| 8  | SEALS           | HYDROGENATED NITRILE BUTADIENE RUBBER ( HNBR ) |
| 9  | SPRING          | STAINLESS STEEL                                |
| 10 | BACK COVER      | AL 6000 SERIES BLACK COLORED ANODIZED          |

SPARE PARTS of THE SMF 1/4" VALVES ( O – RING kit )



O- RING KIT  
Cod. SMF1401

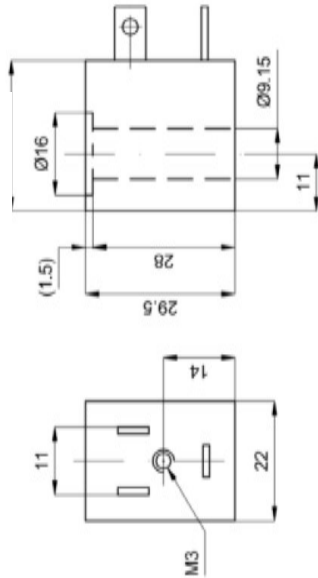


O- RING KIT  
Cod. SMF1401B

| Cod.    | Description |
|---------|-------------|
| SMFPL02 | 2 Position  |
| SMFPL03 | 3 Position  |
| SMFPL04 | 4 Position  |
| SMFPL05 | 5 Position  |
| SMFPL06 | 6 Position  |
| SMFPL07 | 7 Position  |
| SMFPL08 | 8 Position  |
| SMFPL09 | 9 Position  |
| SMFPL10 | 10 Position |



## COILS

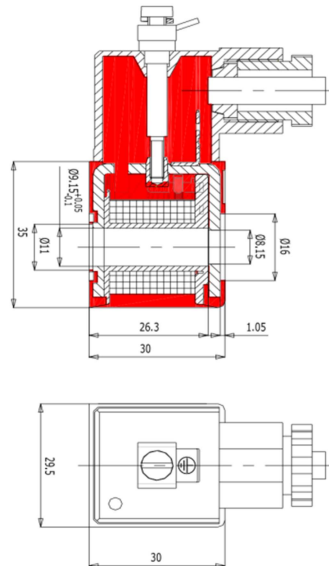


|                        | For DC                                    | For AC         |
|------------------------|-------------------------------------------|----------------|
| Voltage tolerance      | + / - 10 %                                | + / - 10 %     |
| Electrical Consumption | 3W                                        | 4.2 VA         |
| Frequenzy              | -                                         | 50 / 60 Hz.    |
| Voltages               | 24                                        | 24 - 110 - 220 |
| Duty cycle             | % 100 ED                                  |                |
| Temperature range      | - 15 °C / + 50 ° C                        |                |
| Coil size              | 22 mm wide / suitable for 9 mm brass tube |                |
| Terminal / Class       | DIN 43650 B / F Class                     |                |

## ORDERING CODES

|                |              |
|----------------|--------------|
| SMB220900024DC | for 24 V DC  |
| SMB220900024AC | for 24 V AC  |
| SMB220900220AC | for 220 V AC |
| SMB220900110AC | for 110 V AC |

## EXPROOF COILS

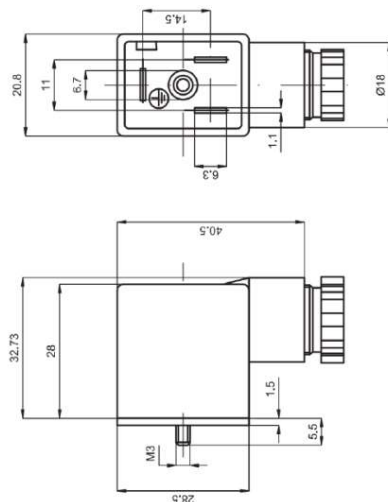


|                        | For DC                                    | For AC      |
|------------------------|-------------------------------------------|-------------|
| Voltage tolerance      | + / - 10 %                                |             |
| Electrical Consumption | 3W                                        | 3.2 VA      |
| Frequenzy              | -                                         | 50 / 60 Hz. |
| Voltage                | 24                                        | 220         |
| Duty cycle             | % 100 ED                                  |             |
| Temperature range      | - 15 °C / + 50 ° C                        |             |
| Coil size              | 30 mm wide / suitable for 9 mm brass tube |             |
| Conformity             | 94 / 9 / EC ( group 2 )                   |             |
| Cable length           | 3 Meter                                   |             |
| Certificate            | ATEX II2 GD Eexm II T5                    |             |

## ORDERING CODES

|                |              |
|----------------|--------------|
| SMB3009EX024DC | for 24 V DC  |
| SMB3009EX022AC | for 220 V AC |

## SOCKETS



|                   | Standart           | 24 v / 220 v ac |
|-------------------|--------------------|-----------------|
| Color             | Black              | transparent     |
| Led color         | -                  | Red             |
| Protection        | -                  | only with 24 v  |
| Temperature range | - 15 °C / + 50 ° C |                 |
| Socket size       | 22 mm wide         |                 |
| Terminal          | DIN 43650 B        |                 |

## ORDERING CODES

|                |                           |
|----------------|---------------------------|
| SMBS22LED220AC | for 22 mm 220 v ac led    |
| SMBS22LED24V00 | for 22 mm 24 v ac dc led  |
| SMBS2200000000 | for 22 mm standart socket |

## SMG SERIE VALVES



## SMG SERIE AIR PILOT VALVES



## MULTIPIN VALVE TERMINAL



## MULTIPIN VALVE TERMINAL



FOR MORE INFORMATION PLEASE ASK THE DETAILED CATALOGUE  
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**SMF 1/4"**



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