

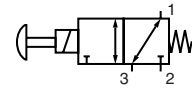


# SOLENOID VALVES

no voltage release manual reset type  
 II 2 G/D Ex d IIC / Ex t IIIC / IP66  
 cast iron or stainless steel flameproof enclosure  
 1/4 to 1/2

**ATEX**

**U**



**3/2**

Series

**307**

## FEATURES

- Three way solenoid valves with orifice and pipe connections in valve body
- Valves do not require a minimum operating pressure
- Brass and stainless steel balanced poppet valves with full flow capacity (Ø 9mm)
- The solenoids conform to the International and European Standards IEC and EN: 60079-0, 60079-1 and 61241-1, with direct cable entry M20 x 1.5 mm
- The solenoid valves satisfy all relevant EC Directives

## GENERAL

|                              |                             |
|------------------------------|-----------------------------|
| <b>Differential pressure</b> | 0 - 10 bar [1 bar = 100kPa] |
| <b>Maximum viscosity</b>     | 65 cSt (mm <sup>2</sup> /s) |
| <b>Response times</b>        | 75 - 100 ms                 |

| fluids (*)                 | temperature range (TS) | seal materials (*) |
|----------------------------|------------------------|--------------------|
| air, inert gas, water, oil | -38 to +50°C           | NBR (nitrile)      |



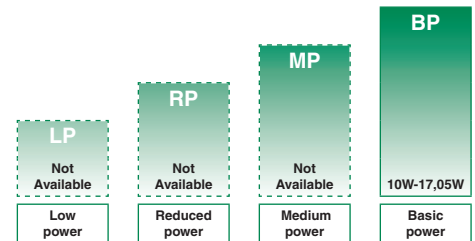
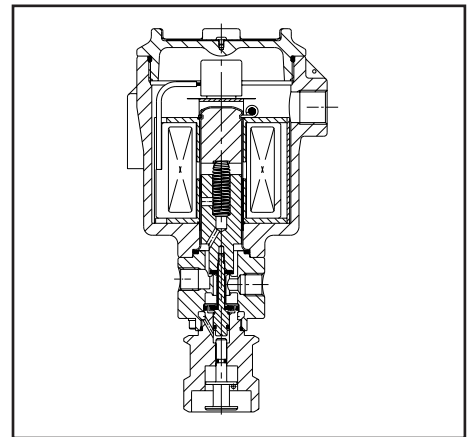
## MATERIALS IN CONTACT WITH FLUID

(\*) Ensure that the compatibility of the fluids in contact with the materials is verified

|                             | Brass body      | Stainless steel body |
|-----------------------------|-----------------|----------------------|
| <b>Body and seat</b>        | Brass           | AISI 316             |
| <b>Core tube</b>            | Stainless steel | Stainless steel      |
| <b>Core and plugnut</b>     | Stainless steel | Stainless steel      |
| <b>Springs</b>              | Stainless steel | Stainless steel      |
| <b>Poppet Stem</b>          | Stainless steel | Stainless steel      |
| <b>Sealings and poppets</b> | NBR             | NBR                  |

## OTHER MATERIALS

|                             |                |   |
|-----------------------------|----------------|---|
| <b>Electrical enclosure</b> | Cast iron (NB) | Cast iron (NB) or<br>Stainless steel (NA) |
|-----------------------------|----------------|---|



POWER LEVELS - cold electrical holding values (watt)

## SPECIFICATIONS

| pipe size            | orifice size | flow coefficient Kv |       | operating pressure differential (bar) |               |    | power level BP          | prefix optional solenoids |              |           |           |           | basic catalogue number |                   |                   |
|----------------------|--------------|---------------------|-------|---------------------------------------|---------------|----|-------------------------|---------------------------|--------------|-----------|-----------|-----------|------------------------|-------------------|-------------------|
|                      |              |                     |       | min.                                  | max. (PS)     |    |                         | NEMA 7&9                  | ATEX / IECEx |           |           |           |                        |                   | IP65              |
|                      |              |                     |       |                                       | air/water (*) | ~  |                         |                           | =            | Ex d      | Ex d      | Ex mb     |                        |                   |                   |
| <b>NPT</b>           | (mm)         | (m <sup>3</sup> /h) | (l/m) |                                       |               |    | ~/=                     | <b>EF</b>                 | <b>NA</b>    | <b>NB</b> | <b>PV</b> | <b>IS</b> | <b>SC</b>              | brass             | stainless st.     |
| <b>U - Universal</b> |              |                     |       |                                       |               |    |                         |                           |              |           |           |           |                        |                   |                   |
| 1/4                  | 9            | 0,68                | 14,0  | 0                                     | 10            | 10 | 14,2 <sup>(1)</sup> /10 | -                         | ●            | ●         | -         | -         | -                      | <b>B307C019 U</b> | <b>B307C009 U</b> |
| 3/8                  | 9            | 0,68                | 14,0  | 0                                     | 10            | 10 | 14,2 <sup>(1)</sup> /10 | -                         | ●            | ●         | -         | -         | -                      | <b>B307C049 U</b> | <b>B307C039 U</b> |
| 1/2                  | 9            | 0,68                | 14,0  | 0                                     | 10            | 10 | 14,2 <sup>(1)</sup> /10 | -                         | ●            | ●         | -         | -         | -                      | <b>B307C079 U</b> | <b>B307C069 U</b> |

● Available feature      - Not available      <sup>(1)</sup> Rectified Coil

## PREFIX TABLE

| prefix |   |   |   |   |   |   | description                                       | power level |    |    |    |
|--------|---|---|---|---|---|---|---|-------------|----|----|----|
| 1      | 2 | 3 | 4 | 5 | 6 | 7 |   | LP          | RP | MP | BP |
| N      | A | E | T |   |   |   | Threaded conduit/hole (M20 x 1,5)                 | -           | -  | -  | ●  |
| N      | B |   |   |   |   |   | Flameproof - 316 SS (EN/IEC 60079-1, 61241-1)*    | -           | -  | -  | ●  |
|        |   |   |   |   |   |   | Flameproof - Cast Iron (EN/IEC 60079-1, 61241-1)* | -           | -  | -  | ●  |
|        |   |   |   |   |   | X | Other special constructions                       | -           | -  | -  | ●  |

\* ATEX solenoid valves are also approved according to EN 13463-1 (non electrical valves)

## SUFFIX TABLE

| suffix |   |   |   |   | description                            | power level |    |    |    |
|--------|---|---|---|---|--|-------------|----|----|----|
| 1      | 2 | 3 | 4 | 5 |  | LP          | RP | MP | BP |
| V      |   |   |   |   | FPM (fluoroelastomer)                  | -           | -  | -  | ●  |
|        | C | O |   |   | Epoxy coating on all external surfaces | -           | -  | -  | ●  |
|        | M | B |   |   | Mounting bracket                       | -           | -  | -  | ●  |

- Available feature
- Not available

## PRODUCT SELECTION GUIDE

### STEP 1

Select basic catalogue number, including pipe thread identification letter. Refer to the specifications table on page 1.

**Example: B307C009**

### STEP 2

Select prefix (combination). Refer to the specifications table on page 1 and the prefix table on page 2, respect the indicated power level.

**Example: NBET**

### STEP 3

Select suffix (combination) if required. Refer to the suffix table on page 2, respect the indicated power level.

**Example: MB**

### STEP 4

Select voltage. Refer to standard voltages on page 3.

**Example: 115/50**

### STEP 5

Final catalogue / ordering number.

**Example:**

**NBETB307C009MB 115/50**

## OPTIONS & ACCESSORIES

| catalogue number | spare part kit no. <sup>(2)</sup> |         | mounting bracket no.  |
|------------------|-----------------------------------|---------|-----------------------|
|                  | ~                                 | =       |                       |
| NB B307C019      | C118260                           | C118260 | 115065 <sup>(1)</sup> |
| NB B307C049      | C118260                           | C118260 | 115065 <sup>(1)</sup> |
| NB B307C079      | C118260                           | C118260 | 115065 <sup>(1)</sup> |
| NA B307C009      | C118260                           | C118260 | 115065 <sup>(1)</sup> |
| NA B307C039      | C118260                           | C118260 | 115065 <sup>(1)</sup> |
| NA B307C069      | C118260                           | C118260 | 115065 <sup>(1)</sup> |
| NB B307C019V     | C129207                           | C129207 | 115065 <sup>(1)</sup> |
| NB B307C049V     | C129207                           | C129207 | 115065 <sup>(1)</sup> |
| NB B307C079V     | C129207                           | C129207 | 115065 <sup>(1)</sup> |
| NA B307C009V     | C129207                           | C129207 | 115065 <sup>(1)</sup> |
| NA B307C039V     | C129207                           | C129207 | 115065 <sup>(1)</sup> |
| NA B307C069V     | C129207                           | C129207 | 115065 <sup>(1)</sup> |

<sup>(1)</sup> Mounting holes in enclosure

<sup>(2)</sup> Standard prefixes/suffixes are also applicable to kits

## ORDERING EXAMPLES VALVES:

|             |   |         |                        |
|-------------|---|---------|------------------------|
| <b>NAET</b> | B | 307C009 | 24V / 50 Hz            |
| <b>NBET</b> | B | 307C019 | <b>MB</b> 230V / 50 Hz |
| <b>NAET</b> | B | 307C039 | <b>V</b> 230V / 50 Hz  |
| <b>NBET</b> | B | 307C049 | <b>CO</b> 230V / 50 Hz |

prefix — pipe thread — basic number — voltage suffix

## ORDERING EXAMPLES KITS:

|          |        |
|----------|--------|
| <b>C</b> | 118260 |
| <b>C</b> | 129207 |

prefix — basic number

### EXPLANATION OF TEMPERATURE RANGES OF SOLENOID VALVES

- Valve temperature range                      The valve temperature range (TS) is determined by the selected seal material, the temperature range for proper operation of the valve and sometimes by the fluid (e.g. steam)
- Operator ambient temperature range        The operator ambient temperature range is determined by the selected power level and the safety code
- Total temperature range                      The temperature range of the complete solenoid valve is determined by the limitations of both temperature ranges above

### ELECTRICAL CHARACTERISTICS

Coil insulation class                      F  
 Electrical safety                              IEC 335

Standard voltages:                          DC (=) 24V - 48V  
    AC (~) 24V - 48V - 115V - 230V/50Hz; Other voltages and 60Hz are available on request

| prefix option           | power ratings |           |                      | operator ambient temperature range (TS)<br>(C°) <sup>(1)</sup> | safety code | electrical enclosure protection (EN 60529) | replacement coil / kit |            | type <sup>(3)</sup> |          |
|-------------------------|---------------|-----------|----------------------|--|-------------|--|------------------------|------------|---------------------|----------|
|                         | inrush ~      | holding ~ |                      |  |             |  | hot/cold =             | ~          |                     | =        |
|                         | (VA)          | (VA)      | (W)                  |  |             |  | (W)                    | 230V/50 Hz |                     | 24V/DC   |
| <b>Basic Power (BP)</b> |               |           |                      |  |             |  |                        |            |                     |          |
| NB                      | -             | -         | -                    | 8,2/10   | -38 to +50  | II2G Ex d IIC T5, II2D Ex t IIIC           | IP66 cast iron         | -          | 108429-001          | 01/02/03 |
| NB                      | 17,05         | 17,05     | 17,05 <sup>(2)</sup> | -  | -38 to +50  | II2G Ex d IIC T4, II2D Ex t IIIC           | IP66 cast iron         | 118227-007 | -                   | 01/02/03 |
| NA                      | -             | -         | -                    | 8,2/10   | -38 to +50  | II2G Ex d IIC T4, II2D Ex t IIIC           | IP66 st. steel         | -          | 108429-001          | 01/02/03 |
| NA                      | 17,05         | 17,05     | 17,05 <sup>(2)</sup> | -  | -38 to +50  | II2G Ex d IIC T3, II2D Ex t IIIC           | IP66 st. steel         | 129243-007 | -                   | 01/02/03 |

<sup>(1)</sup> Temperature range can be limited by sealings  
<sup>(2)</sup> Rectified Coil  
<sup>(3)</sup> Refer to the dimensional drawings on page 4

### ADDITIONAL OPTIONS

- 1/2" NPT and M20 x 1,5 (prefix "ET") conduit entry available for both housings
- Voltage suppressors are available on DC constructions

### INSTALLATION

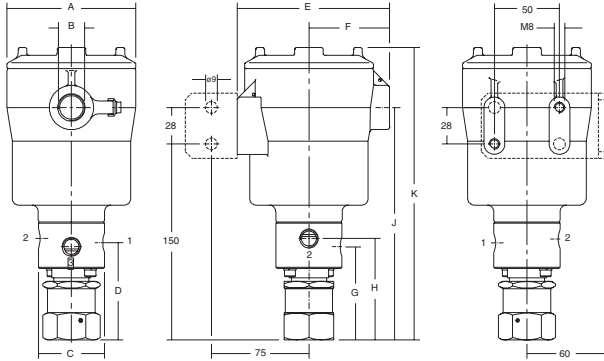
- Multi language installation/maintenance instructions are included with each valve
- The solenoid valves can be mounted in any position without affecting operation
- Threaded pipe connection identifier is B = NPT (ANSI 1.20.3)
- Declarations of conformity are available on request

### DIMENSIONS (mm), WEIGHT (kg)



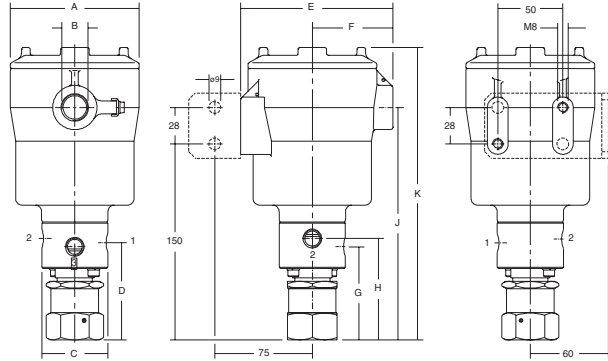
**TYPE 01:**  
Stainless steel / Cast Iron  
NA / NB: EN/IEC 60079-1, 61241-1

**B307C008/C018**



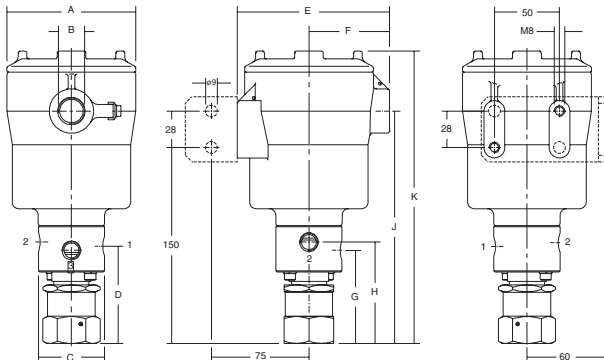
**TYPE 02:**  
Stainless steel / Cast Iron  
NA / NB: EN/IEC 60079-1, 61241-1

**B307C038/C048**



**TYPE 03:**  
Stainless steel / Cast Iron  
NA / NB: EN/IEC 60079-1, 61241-1

**B307C068/C078**



| type | prefix/option | power level | A  | B       |            | C  | D  | E   | F  | G  | H  | J   | K   | weight  |         |
|------|---------------|-------------|----|---------|------------|----|----|-----|----|----|----|-----|-----|---------|---------|
|      |               |             |    | NA, NB  | NAET, NBET |    |    |     |    |    |    |     |     | NA      | NB      |
| 01   | NA, NB        | BP          | 99 | 1/2 NPT | M20 x 1,5  | 51 | 33 | 117 | 55 | 30 | 37 | 137 | 185 | 4,90 kg | 4,50 kg |
| 02   | NA, NB        | BP          | 99 | 1/2 NPT | M20 x 1,5  | 51 | 33 | 117 | 55 | 39 | 37 | 137 | 185 | 4,90 kg | 4,50 kg |
| 03   | NA, NB        | BP          | 99 | 1/2 NPT | M20 x 1,5  | 64 | 33 | 117 | 55 | 33 | 33 | 137 | 185 | 4,90 kg | 4,50 kg |

### MOUNTING BRACKET

