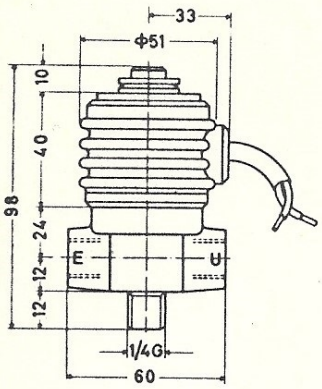
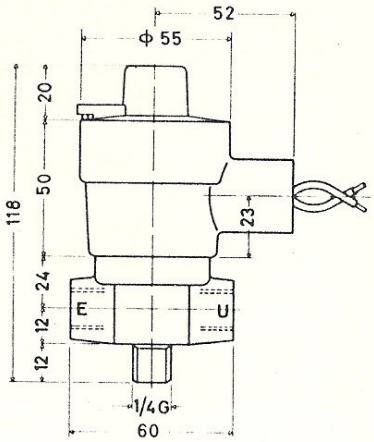
# INTERNAL PILOT TWO WAY SOLENOID VALVES

## Model EA/257-287

Table 212

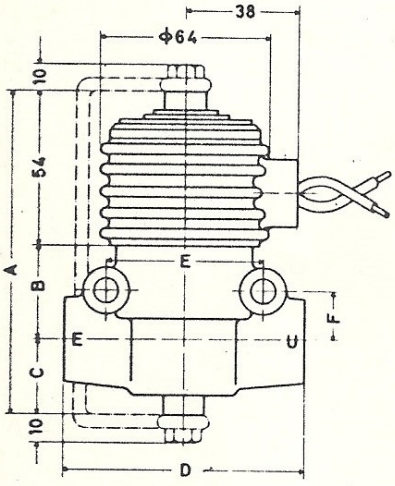



Standard Type

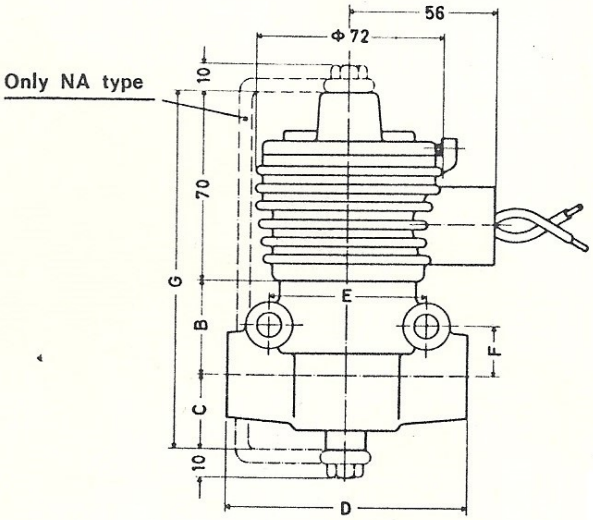



TS-IP55 Ex-d Type

## Model EA/2157-2307




Standard Type




TS-IP55 - Ex-d Type

| Model | Connection threads | Net orifice surface | kv | Overall dimensions A | B | C | D | E | | Weight Kg |
|---|---|---|---|---|---|---|---|---|---|---|
| EA/257 | 1/4" gas | 50 mmq. | 18 | | | | | | | 0,66 |
| EA/287 | 3/8" gas | 80 mmq. | 24 | | | | | | | 0,63 |
| EA/2157 | 1/2" gas | 150 mmq. | 75 | 120 | 33 | 33 | 76 | 54 | 17 | 2,2 |
| EA/2307 | 3/4" gas | 300 mmq. | 94 | 120 | 36 | 30 | 84 | 60 | 19 | 2,3 |

### Specifications

Two-way, indirect-action valves Model EA are particularly suitable for controlling fluids containing no suspended matter.
These valves are available in version NC (closed when not excited) and in version NA (open when not excited; only for 1/2" and 3/4" valves).
The absence of a packing gland prevents fluid leaks. Available connection threads are 1/4", 3/8", 1/2", 3/4" gas or, optionally, NPT (see table).

### Use

Suitable for air, water, oil or other fluids with no suspended matter at pressures between 0.3 and 10 Kg/sq.cm. and a maximum temperature of 80 degrees C (normal valves) or 110 degrees C (valves with Viton membrane).

### Construction

Forged brass or stainless steel body, stainless steel spring and internal parts. Viton or Buna N membrane.

### Electrical characteristics

Solenoid coil wound with double-enamel Class H wire.
Absorbed power for valve EA/287: 14 VA during operation and 42 VA at start-up, or 10 Watt for direct current.
Absorbed power for valves EA/2157-2307: 16 VA during operation and 50 VA at start-up, or 14 Watt for direct current.

### Optionals

Version EAV for vacuum or low-pressure operation (0 to 5 Kg/sq.cm.).
Stainless steel body.
IP55 or IP65 waterproof solenoid enclosure.
EM1B and EM2B explosion-proof solenoid enclosures (CEI Standard 31.1 Gr. IIB T5, CESI Certificates AD-909/74 and AD-910/74). Waterproof (type L) or explosion-proof (type E) terminal boxes. **Atex possibility.**

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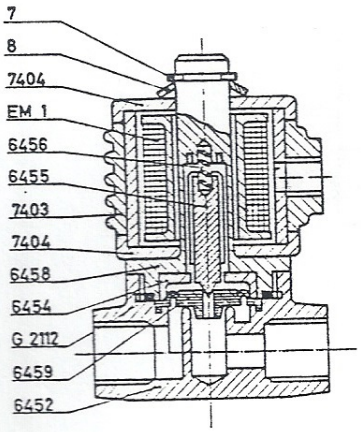
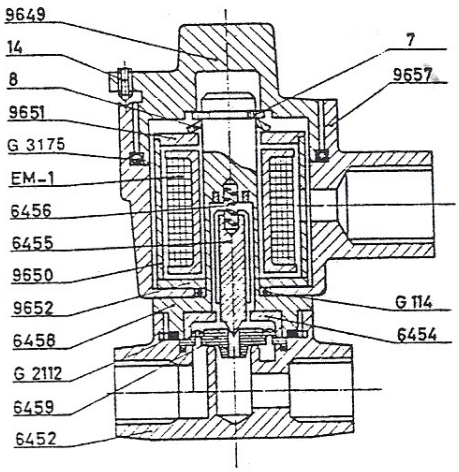
# INTERNAL PILOT TWO WAY SOLENOID VALVES

TABLE 212 A

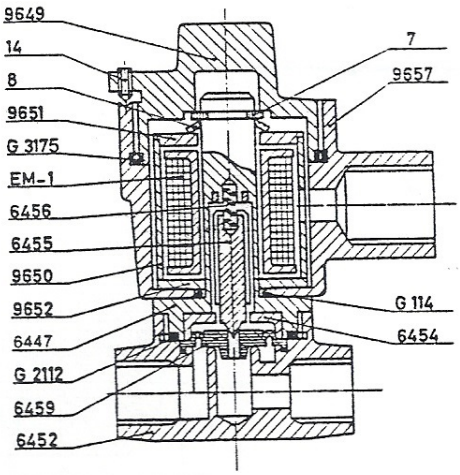
MODEL EA/287 - 257




STD Type




TS Type




EEXD Type

Nomenclature

| | |
|---|---|
| 7 | Fastener |
| 8 | Spring washer |
| 14 | UNI 5927 M4 x 6 screw |
| EM.1 | Coil |
| 6452 | Body |
| 6454 | Diaphragm holder |
| 6455 | Core |
| 6456 | Spring |
| 6458 | Core guide STD-TS |
| 6459 | Diaphragm |
| 7403 | External STD housing |
| 7404 | STD top cover |
| 9649 | TS and EEXD housing cover |
| 9650 | Inside jacket |
| 9651 | TS and EEXD top cover |
| 9652 | TS and EEXD bottom cover |
| 6447 | EEXD core guide |
| 9657 | External TS and EEXD housing |
| G114 | O-ring |
| G3176 | O-ring |
| G2112 | O-ring |

## OPERATION

Valve normally closed NC: when coil is not energized, the fluid passes through a small hole in the diaphragm therefore its pressure keeps the diaphragm pressed against the seat, without any leakage. When coil is energized, the moving core 6455 is drawn upwards and opens the hole in the centre of the diaphragm 6459. The pressure acting on the upper side of diaphragm drops and the fluid coming in rises the elastic diaphragm, thus fully opening the orifice.

## MAINTENANCE

Should some component be replaced or the interior cleaned, proceed as follows: remove fastener 7 and draw out the whole electromagnet assembly. In case of waterptoff TS or explosion-proof EEXD valves, firstly unscrew housing cover 9649. After that, unscrew the core guide 6453 by means of a key Gedore 44/7, clamping only the two holes existing on the base of this component. After having performed the required maintenance, reassemble the valve by following the reverse procedure. Make sure that diaphragm 6459 were not damaged and the two holes in it were open; before reassemblig, put some grase on its edge so that the core guide 6458 or 9656 can slide while being tightened.

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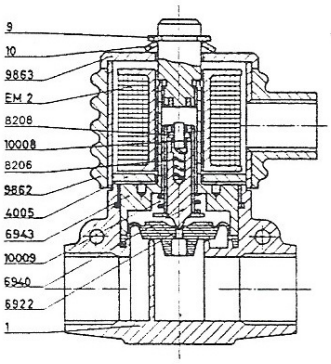
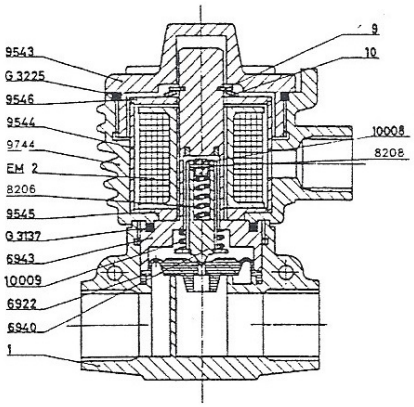
# INTERNAL PILOT TWO WAY SOLENOID VALVES

MODEL EA/2157 - 2307 NC

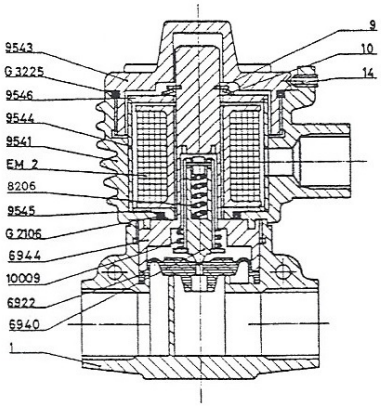
TABLE 212 B




STD Type




TS Type




## Nomenclature

| | | | |
|---|---|---|---|
| 1 - 6946 | Body EA/2157 | 9543 | EEXD and TS housing cover |
| 1 - 6938 | Body EA/2307 | 9544 | TS and EEXD inside jacke |
| 9 | Fastener | 9545 | EEXD and TS inside bottom cover |
| 10 | spring washer | 9546 | EEXD and TS bottom cover |
| 8206 | Internal spring | 9862 | STD housing |
| 8208 | Pin | 9863 | STD housing cover |
| 14 | UNI 5927 M4 x 6 screw | 10008 | Sleeve |
| EM2 | Coil | 10009 | Spring |
| 4005 | STD coil inside bottom cover | 9744 | TS housing |
| 6922 | Trim diaphragm | G3225 | O - RING |
| 6940 | Moving core | G2106 | O - RING |
| 6943 | STD and TS core guide | G3137 | O - RING |
| 6944 | EEXD Core guide | 9744 | TS housing |
| 9541 | External EEXD housing | | |

## OPERATION

Valve normally closed NC: when coil is not energized, the fluid passes through a small hole in the diaphragm therefore its pressure keeps the diaphragm pressed against the seat, without any leakage. When coil is energized, the moving core 6940 is drawn upwards and opens the hole in the centre of the diaphragm 6922. The pressure acting on the upper side of diaphragm drops and the fluid coming in rises the elastic diaphragm, thus fully opening the orifice.

## MAINTENANCE

Should some component be replaced or the interior cleaned, proceed as follows: remove fastener 9 and draw out the whole electromagnet assembly. In case of water prof TS or explosion proof EEXD valves, firstly unscrew casing cover 9543. After that, unscrew the core guide 6943 or 6944, by means of a key Gedore 44/7, clamping only the two holes existing on the base of this component. After havi performed the required maintenance, reassemble the valve by following the reverse procedure. Make sur that diaphragm 6922 were not damaged and that the two holes in it were open; before reassembling , put some grease on the diaphragm edge, so that the core guide 6943 or 6944 can slide while being tightened.

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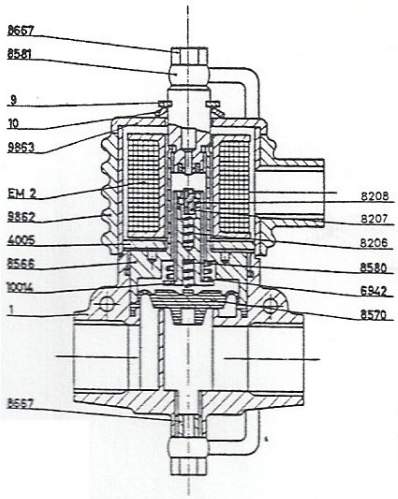
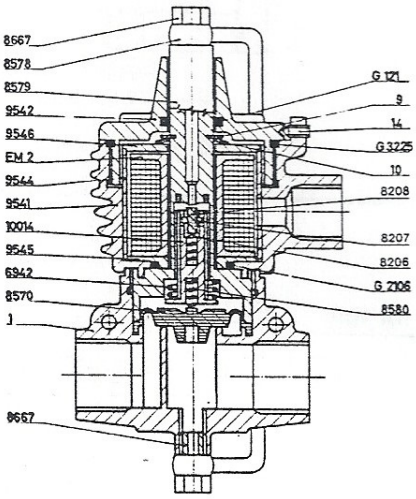
# INTERNAL PILOT TWO WAY SOLENOID VALVES

MODEL EA/2157 - 2307 NA

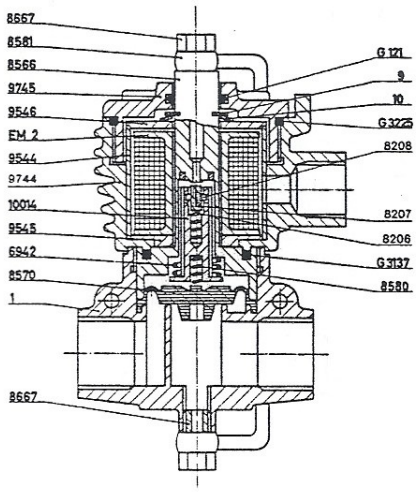
TABLE 212 C




STD Type




EEXD Type




TS Type

## Nomenclature

| | | | |
|---|---|---|---|
| 1 - 8568 | Body EA/2157 | 8667 | Connecting tube screw |
| 1 - 8564 | Body EA/2307 | 9541 | EEXD housing |
| 9 | Fastener | 9542 | EEXD housing cover |
| 10 | Spring washer | 9544 | TS and EEXD inside jacket |
| 8206 | Internal spring | 9545 | TS and EEXD inside bottom cover |
| 8208 | Pin | 9546 | TS and EEXD inside top cover |
| 8207 | Plug | 9745 | TS housing cover |
| 14 | UNI 5927 M 4x6 screw | 9862 | STD housing |
| EM2 | Coil | 9863 | STD housing cover |
| 4005 | STD coil inside bottom cover | 10014 | Moving core |
| 6942 | Spring | 10720 | TS housing |
| 8566 | STD and TS core guide | G121 | O - RING |
| 8570 | Diaphragm | G2106 | O - RING |
| 8578 | EEXD connecting tube | G3137 | O - RING |
| 8579 | EEXD core guide | G3225 | O - RING |
| 8580 | Spring | 9744 | TS housing |
| 8581 | STD and TS connecting tube | | |

## OPERATION

Valve normally open NA. When coil is not energized the fluid, through a small hole in the diaphragm, reaches its top side, passes through the connecting tube and arrives to the outlet of the valve. There is no pressure drop and diaphragm is not in contact with the seat. When coil is energized the moving core 10014 is drawn upwards and closes the inlet of the connecting tube; in the chamber on the top of the diaphragm pressure encreases, pushes down the diaphragm against the seat and closes the orifice.

## MAINTENANCE

Should some component be replaced or the interior cleaned, proceed as follows: remove the connection tube after having unscrewed the screws 8667, remove fastener 9 and draw out the whole electromagnet assembly. Whit TS and EEXD valves firstly unscrew the casing cover 9745 or 9542. After that, unscrew the core guide 8566 or 8579 by means of a key Gedore 44/7, clamping only the two holes existing on the base of this component. After having performed the required maintenance, reassemble the valve by following the reverse procedure. Be sure that diaphragm 8570 were not damaged and that the small hole is free from dirt and open; before reassembling, put some grease on the diaphragm edge, so that the core guide 8566 or 8579 can slide while being tightened.

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