# MDT

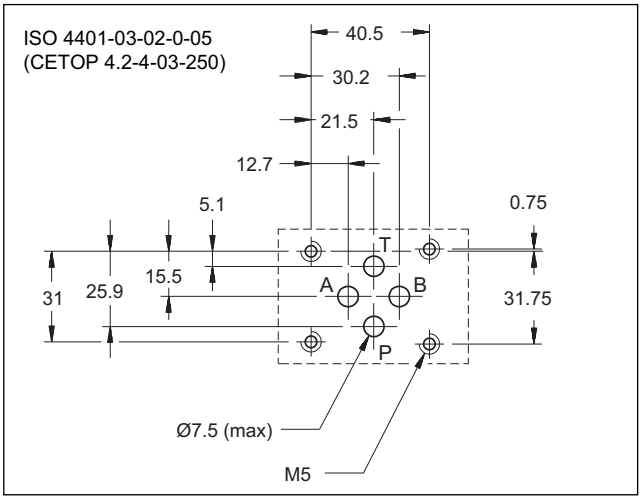
## POPPET TYPE SOLENOID OPERATED DIRECTIONAL CONTROL VALVE

### SERIES 10

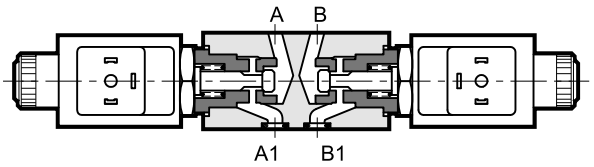
### MODULAR VERSION ISO 4401-03

**p** max **250** bar
**Q** max **25** l/min

### MOUNTING INTERFACE




### OPERATING PRINCIPLE




— Direct-acting control valve with conical seat seal, for maintaining hydraulic actuators in position.

— Two-way execution, normally closed, with seal in both directions when solenoid is de-energized.

— Leakproof solenoids in oil bath, available in AC and DC supply voltages.

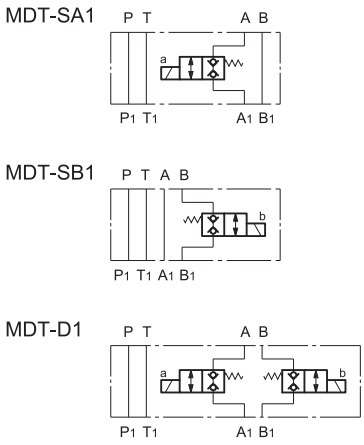
### VALVE CONFIGURATIONS (see hydraulic symbols table)

Configuration “SA”: utilized when line A flow is to be controlled.
Configuration “SB”: utilized when line B flow is to be controlled.
Configuration “D”: utilized when flows of lines A and B are to be controlled

### PERFORMANCE RATINGS (working with mineral oil of viscosity of 36 cSt at 50°C)

| | | |
|---|---|---|
| Maximum operating pressure | bar | 250 |
| Maximum flow rate in controlled lines<br>Maximum flow rate in free lines | l/min | 25<br>65 |
| Ambient temperature range | °C | -20 / +50 |
| Fluid temperature range | °C | -20 / +80 |
| Fluid viscosity range | cSt | 10 ÷ 400 |
| Fluid contamination degree | According to ISO 4406:1999 class 20/18/15 | |
| Recommended viscosity | cSt | 25 |
| Mass MDT-D<br>MDT-SA/SB | kg | 1,7<br>1,2 |

### HYDRAULIC SYMBOLS



# MDT
## SERIES 10

### 1 - IDENTIFICATION CODE

| M | D | T | - | | 1 | / | 10 | - | | / | |
|---|---|---|---|---|---|---|---|---|---|---|---|

Modular valve ISO 4401-03

Poppet type solenoid operated directional control valve

Configurations: **SA** = control on line A
**SB** = control on line B
**D** = control on lines A and B

double seal - normally closed

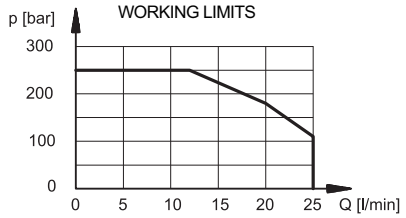
Seals: omit for mineral oils
**V** = viton for special fluids

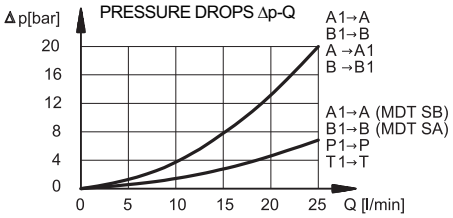
Supply voltages: see par. 3
Direct current: **12V DC**
**24V DC**
Alternating current: **110 RAC**
**220 RAC**

Series No.: (the overall and mounting dimensions remain unchanged from 10 to 19)

**NOTE**: Solenoid valves are delivered without connectors. Connectors type EN 175301-803 (ex DIN 43650) can be ordered separately. See catalogue 49 000.

### 2 - CHARACTERISTIC CURVES (values obtained with viscosity 36 cSt at 50°C)




### 3 - SUPPLY VOLTAGES

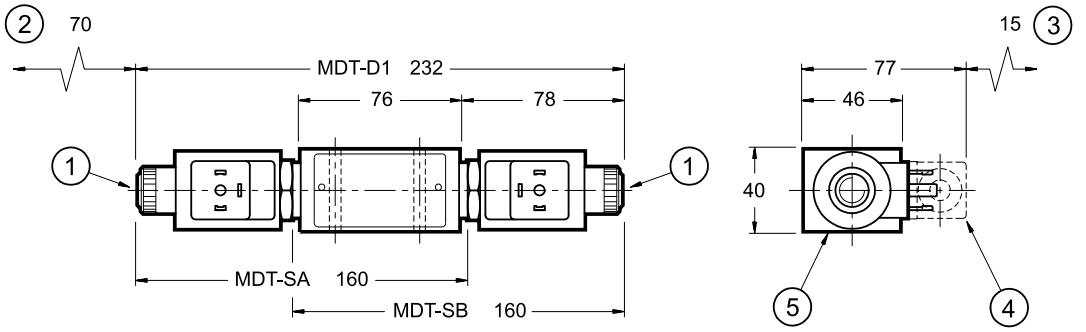
A connector with bridge rectifier and RAC coils are always used for alternating current supply.

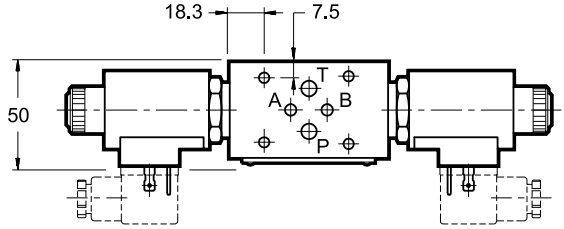
| **Times ±10%** | |
|---|---|
| Energizing | 30 ms |
| De-energizing | 50 ms |

### 4 - HYDRAULIC FLUIDS

Use mineral oil-based hydraulic fluids HL or HM type, according to ISO 6743-4. For these fluids, use NBR seals. For fluids HFDR type (phosphate esters) use FPM seals (code V). For the use of other kinds of fluid such as HFA, HFB, HFC, please consult our technical department. Using fluids at temperatures higher than 80 °C causes a faster degradation of the fluid and of the seals characteristics.
The fluid must be preserved in its physical and chemical characteristics.

### 5 - OVERALL AND MOUNTING DIMENSIONS




dimensions in mm

| | |
|---|---|
| 1 | Manual override |
| 2 | Coil removal space |
| 3 | Connector removal space |
| 4 | Coil with 360° possible orientation |
| 5 | Mounting surface with sealing rings:<br>4 OR type 2037 (9.25x1.78) - 90 Shore |