



DT03

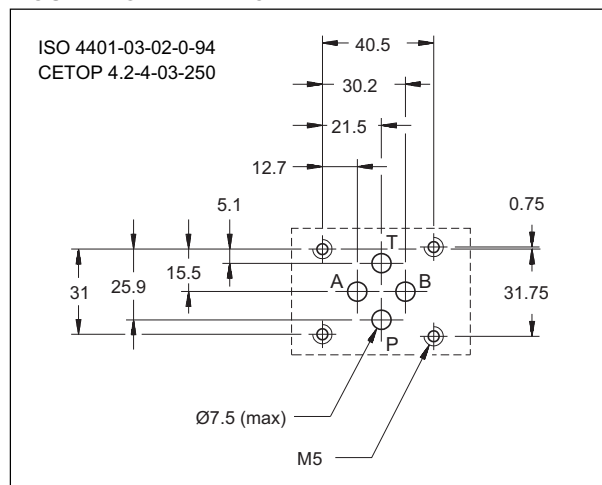
POPPET TYPE SOLENOID OPERATED DIRECTIONAL CONTROL VALVE

SERIES 10

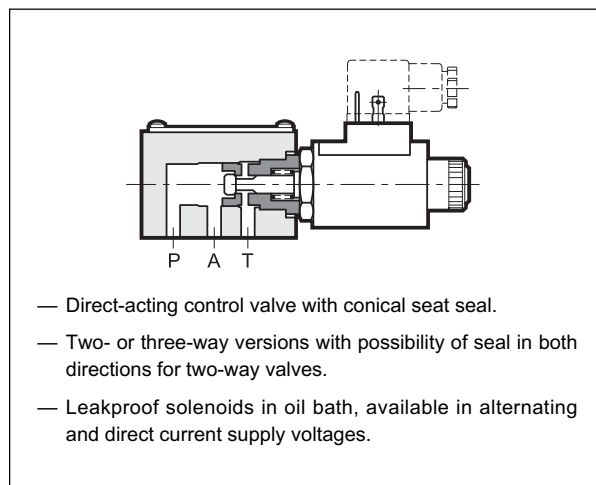
SUBPLATE MOUNTING
ISO 4401-03 (CETOP 03)

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

MOUNTING INTERFACE



OPERATING PRINCIPLE



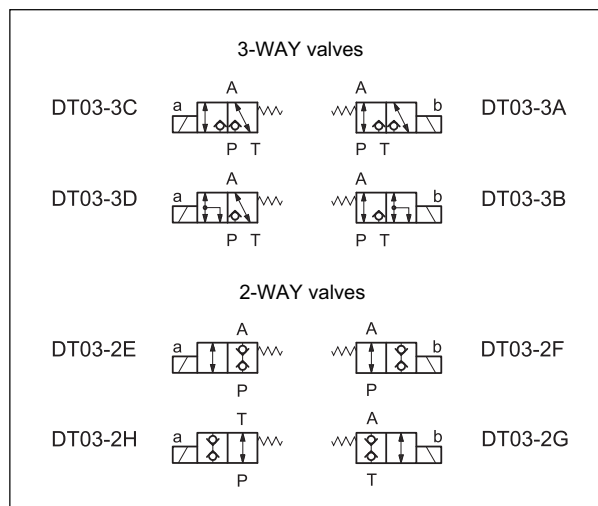
CONFIGURATIONS (see Hydraulic symbols table below)

- Configurations "A", "B", "C", "D": 3-way, 2-position solenoid valves.
- Configurations "E", "F", "G", "H": 2-way, 2-position solenoid valves.

PERFORMANCES (measured with mineral oil of viscosity 36 cSt at 50°C)

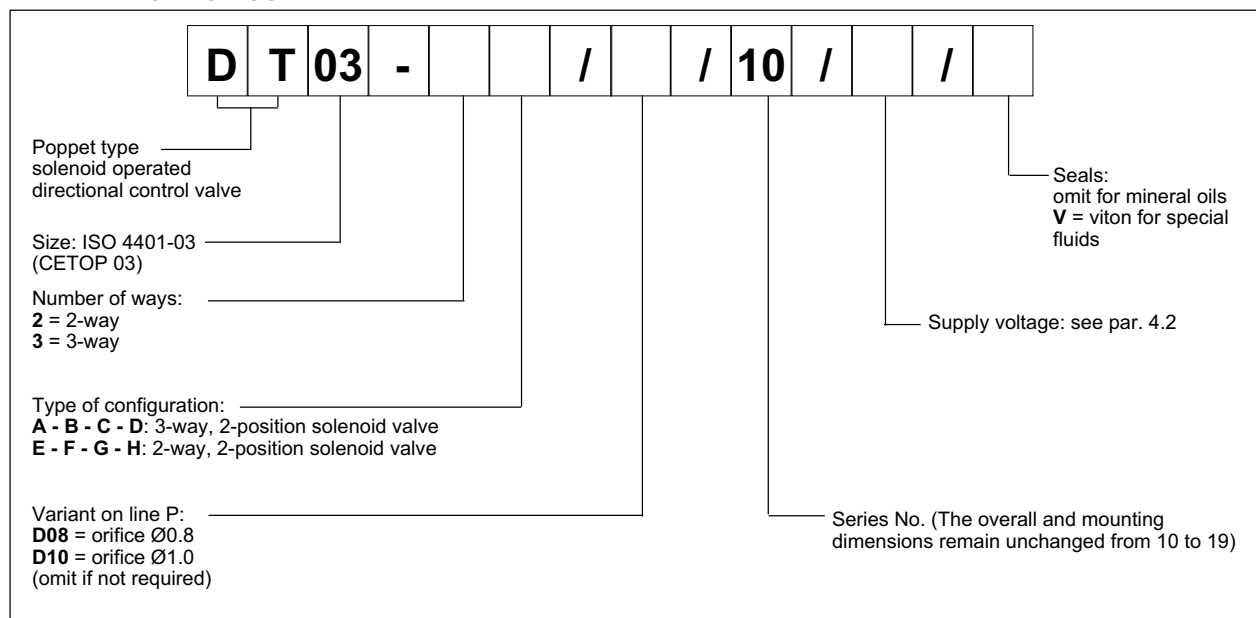
| | | |
|----------------------------|---|-----------|
| Maximum operating pressure | bar | 250 |
| Maximum flow rate | l/min | 25 |
| Ambient temperature range | °C | -20 / +50 |
| Fluid temperature range | °C | -20 / +80 |
| Fluid viscosity range | cSt | 10 ÷ 400 |
| Fluid contamination degree | According to ISO 4406:1999 class 20/18/15 | |
| Recommended viscosity | cSt | 25 |
| Mass | kg | 1,3 |

HYDRAULIC SYMBOLS

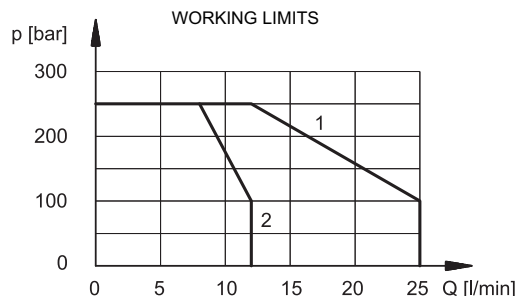
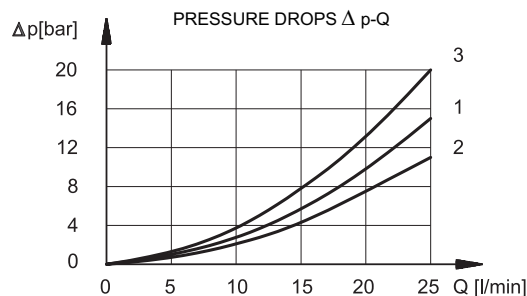




1 - IDENTIFICATION CODE



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



| valve code | Curve on graph | |
|------------|-----------------------|--------------------|
| | De-energized solenoid | Energized solenoid |
| DT03-3A | 1 | 3 |
| DT03-3B | 2 | 3 |
| DT03-3C | 1 | 3 |
| DT03-3D | 2 | 3 |
| DT03-2E | - | 3 |
| DT03-2F | 1 | - |
| DT03-2G | - | 3 |
| DT03-2H | 1 | - |

| Valve | Curve on graph |
|---------|----------------|
| DT03-3A | 2 |
| DT03-3B | 1 |
| DT03-3C | 1 |
| DT03-3D | 1 |
| DT03-2E | 1 |
| DT03-2F | 2 |
| DT03-2G | 1 |
| DT03-2H | 1 |

3 - 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.



4 - ELECTRICAL FEATURES

4.1 Solenoids

These are essentially made up of two parts: tube and coil. The tube is threaded onto the valve body and includes the armature that moves immersed in oil, without wear. The inner part, in contact with the oil in the return line, ensures heat dissipation. The coil is fastened to the tube by a threaded nut, and can be turned 360° on its axis, compatible with space available. The interchangeability of coils of different voltages is allowed within the same type of supply current: alternating or direct (DC / RAC).

4.2 Available voltages

It is necessary to always use "D" type connectors (with rectifier incorporated) and RAC coils for alternating current supply. Rectified current supply takes place by using a bridge rectifier bridge, externally or fitted within the "D" type connectors, between the alternating current source (24V or 110V, /50 or /60 Hz) and the coil.

4.3 Current and power consumption

| Voltage [V] | Frequency [Hz] | Current consumption (±5%) [A] | Power (±5%) [W] |
|----------------|-------------------|----------------------------------|--------------------|
| 12 | DC | 2,38 | 28,8 |
| 24 | DC | 1,19 | |
| 24 | RAC | 1,4 | 28,8 |
| 110 | RAC | 0,3 | |
| 220 | RAC | 0,15 | |

4.4 Switching times

The values indicated refer to a flow rate of Q = 10 l/min, p = 210 bar working with mineral oil at a temperature of 50°C, a viscosity of 36 cSt and supply voltage equal to 90% of the nominal voltage.

| TIMES (±10%) | ENERGIZING | DE-ENERGIZING |
|--------------|------------|---------------|
| | 30 ms | 50 ms |

4.5 Electric connectors

The solenoid valves are never supplied with connector. Connectors must be ordered separately.

For the identification of the connector type to be ordered, please see catalogue 49 000.

| | |
|---|-----------------------------|
| SUPPLY VOLTAGE FLUCTUATION | ± 10% Vnom |
| DUTY CYCLE | 100% |
| CLASS OF PROTECTION: Atmospheric agents Coil insulation Impregnation | IP 65 class H class F |

| DIRECT CURRENT COILS | | |
|----------------------|----------|----------|
| 12V CC | 24V CC | |
| RAC COILS | | |
| 24V RAC | 110V RAC | 220V RAC |

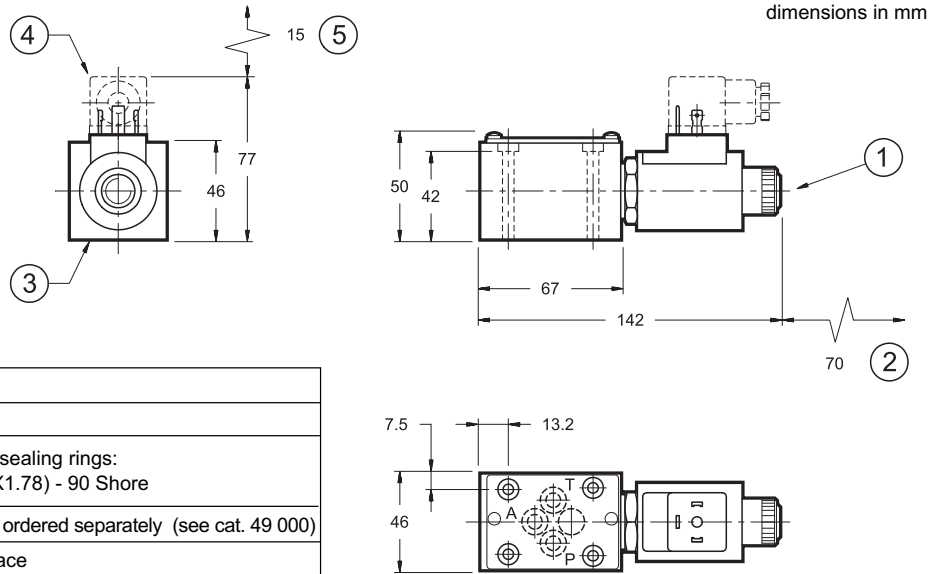


5 - OVERALL AND MOUNTING DIMENSIONS

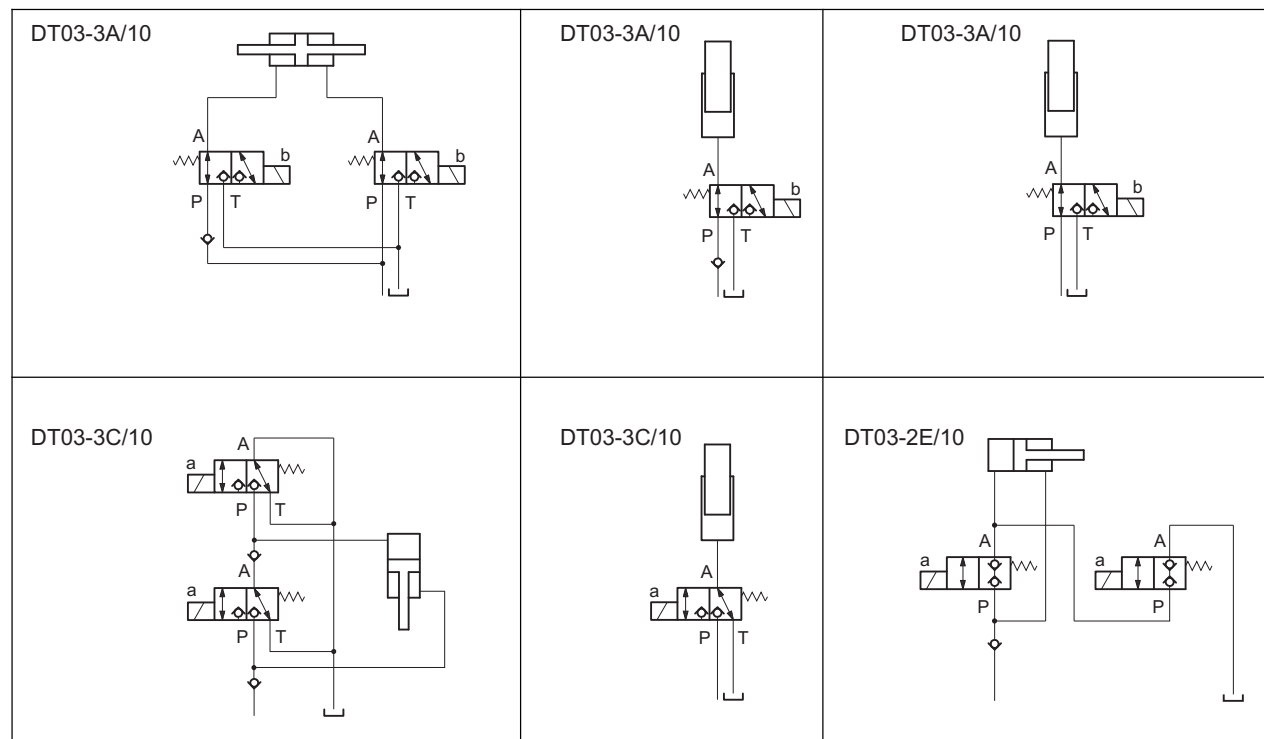
NOTE: The solenoid position here shown is for A-B-F-G versions. For the other versions the solenoid is on the opposite side.

Fastening bolts:
4 bolts M5 x 50
Torque: 5 Nm

| | |
|---|---|
| 1 | Manual override |
| 2 | Coil removal space |
| 3 | Mounting surface with sealing rings: 4 OR type 2037 (9.25X1.78) - 90 Shore |
| 4 | Electric connector to be ordered separately (see cat. 49 000) |
| 5 | Connector removal space |



6 - APPLICATION EXAMPLES



DIPLOMATIC
HYDRAULICS

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