Solenoid SIN45V
to VDE 0580
Plug plate to ISO 4400/DIN 43650
Protection class IP65

**DESCRIPTION**
The SIN45V is a switching solenoid. Its design corresponds to VDE standard 0580. The steel housing has a zinc coated finish as standard. Static pressure tightness is 160 bars. All o-rings are Viton. The solenoids are fixed to the valve with four screws. Depending on the intended use, the solenoid can be supplied with a plug screw, or with integrated manual override. The connector plate corresponds to ISO 4400 and DIN 43650.

**FUNCTION**
When the solenoid is energised with the specified nominal voltage, the armature moves from the starting position of its stroke (s = 5,5 mm) to the end position (s = 0 mm). The switching time is essentially dependent on the application. The power-stroke characteristics are designed to suit the requirements of hydraulic valves. AC versions include an electronic rectifier integrated into the connector plate. In this way maximum performance is assured.

**APPLICATION**
Essential for hydraulic directional and poppet valves. Because of the risk of overheating, the solenoid must never be used separately. The length of the fixing screws depends on the base material of the body. An o-ring is used for the valve seal. Information on screws and o-rings will be found in the data sheets relating to the valves concerned. Before changing the plug screw or the screw with integrated manual override, care must be taken to ensure that the solenoid is not under pressure. Risk of injury! The maximum operating pressure is determined by the valve actually used.

**Solenoid Code**

- **Solenoid**
  - Industrial execution
- **Square 45 mm housing**
- **Solenoid completely potted**
- **Nominal voltage \( U_n \)**
  - 12 VDC
  - 24 VDC
  - 115 VAC
  - 230 VAC
- **AC**: 50 to 60 Hz
- * Rectifier integrated in the plug plate
- Other nominal voltages and nominal power on request

- with mounted screw plug (data sheet 1.1-300) HB0
- with mounted manual override (data sheet 1.1-300) HB6
- with mounted special manual override (data sheet 1.1-310)

**Design-Index (Subject to change)**

**Dimensions**

* Solenoid energised (s = 0 mm)
CHARACTERISTICS

Static pressure tightness 160 bar (seal diameter of valve max. 26 mm)
Coil winding insulation class H
Protection class EN 60529 IP65
Relative duty factor 100 %
Reference temperature 50 °C
Seal Viton, other on request
Fluid Mineral oil, other fluid on request
Switching cycles 15 000/h
Switching strokes 15 000/h
Mounting screws 4 x M5 (Quality 8.8)
Housing Zinc coated steel housing, other surface treatments on request.

- For AC voltages below 40 VAC DC solenoids plus rectifier plugs are available.

21 VDC to 24 VAC
32 VDC to 36 VAC

DC AC
Totale stroke (mm) 5.5 5.5
Working stroke (mm) 2.5 2.5
Nominal power (W) 30 30
Armature weight (kg) 0.055 0.055
Solenoid weight (kg) 0.76 0.76
Voltage range (VDC) 10-250 40-250*
Voltage range (VAC) 40-250*

PERFORMANCE

F = f (s)  Force-stroke characteristics

F [N] s [mm]

1: U = 100 % U_N  Reference temperature = 20 °C (30W)
2: U = 90 % U_N  Reference temperature = 50 °C
Solenoid in operating temperature (19W)

The values refer to U_N = 24 VDC. With other nominal voltages deviations can occur.
For curve 2 the solenoids has been mounted on a body 46 x 64.

ACCESSOIRES

Plug HB0 * Article No. 239.2033
Plug with integrated manual override HB6 * Article No. 253.8001
Special manual override see data sheet 1.130
Rectifier plug grey Article No. 219.2105
Rectifier plug black Article No. 219.2106

12VDC 24VDC 115VAC 230VAC

<table>
<thead>
<tr>
<th>Nominal resistance (Ω)</th>
<th>5</th>
<th>21.8</th>
<th>445</th>
<th>1400</th>
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<tr>
<td>Number of windings (-)</td>
<td>770</td>
<td>7’560</td>
<td>7’000</td>
<td>13’000</td>
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<tr>
<td>Inductivity (mH)</td>
<td>16</td>
<td>72</td>
<td>-</td>
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Technical explanation see data sheet 1.1-400