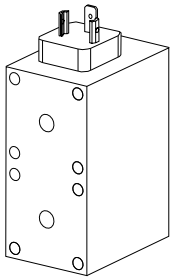
# Solenoid SIN45DV-…-M40 to VDE 0580 Plug plate to ISO 4400 / DIN 43650 Protection class IP65



## DESCRIPTION

The SIN45DV-M40 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 eight screws. The solenoid will be supplied with a plug screw as standard, or depending on the intended use, 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 poppet valves. Because of the risk of overheating, the solenoid must never be used separately. The lenght 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 determinded by the valve actually used.

## TYPE CODE

SI N 45D V - [ ] - M40 - [ ] # [ ]

- Solenoid, Industrial execution
- Normal
- Double solenoid, 45mm
- Solenoid completly potted
- Nominal voltage $U_N$: 12 VDC [G12] 115 VAC [R115] *; 24 VDC [G24] 230 VAC [R230] *

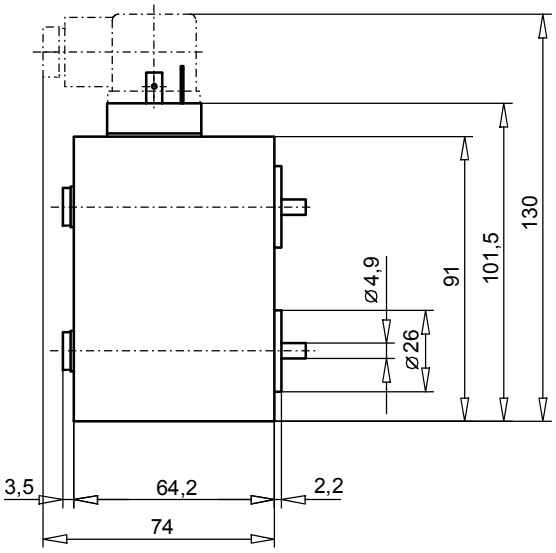
AC = 50 to 60 Hz
* Rectifier integrated in the plug plate
Other nominal voltages and nominal performances on request

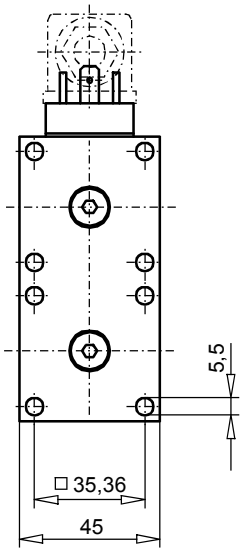
- Special sealing against the valve

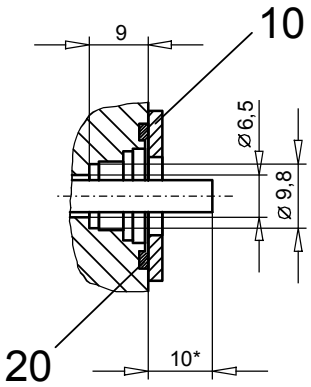
- with mounted screw plug (data sheet 1.1-300) [ ] HB0
- with mounted manual override (data sheet 1.1-300) [HB6]
- with mounted special manual override (data sheet 1.1-310) [H...]

- 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 |
| Connection / Power supply | Over device plug connection to ISO 4400 / DIN 43650, (2P+E), other connections on request. |
| 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 |
| Mounting screws | 8 x M5 (Quality 8.8) |
| Housing | Zinc coated steel housing, other surface treatments on request. |

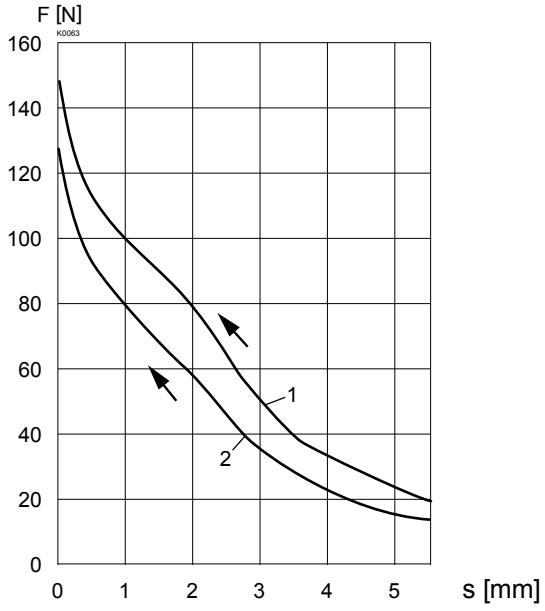
| | | DC | AC |
|---|---|---|---|
| Totale stroke | (mm) | 5,5 | 5,5 |
| Working stroke | (mm) | 2,5 | 2,5 |
| Nominal power | (W) | 60 | |
| | (VA) | | 70 |
| Armature weight | (kg) | 0,055 | 0,055 |
| Solenoid weight | (kg) | 1,650 | 1,650 |
| Voltage range | (VDC) | 10-250 | |
| | (VAC) | | 80-250 * |

* For AC voltages below 80 VAC DC solenoids plus rectifier plugs are available.
  21 VDC to 24 VAC
  32 VDC to 36 VAC
  36 VDC to 42 VAC
  42 VDC to 48 VAC

| | 12VDC | 24VDC | 115VAC | 230VAC |
|---|---|---|---|---|
| Nominal resistance (Ω) | 5 | 21,8 | 445 | 1'400 |
| Number of windings (-) | 770 | 1’560 | 7’000 | 13’000 |
| Inductivity (mH) | 9 | 36 | | |

## PERFORMANCES

F = f (s) Force-stroke characteristics
(Valid for single coil)




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 92 x 64.

## ACCESSOIRES

| | |
|---|---|
| Plug HB0 | * Article No. 239.2033 |
| Plug with integrated manual override HB6 | * Article No. 253.8001<br>* acc. data sheet 1.1-300 |
| Special manual override see data sheet | 1.1-310 |
| Plug grey | Article No. 219.2001 |
| Plug black | Article No. 219.2002 |
| Rectifier plug grey | Article No. 219.2105 |
| Rectifier plug black | Article No. 219.2106 |

## PARTS LIST

| Position | Article | Description |
|---|---|---|
| 10 | 212.0506 | Washer |
| 20 | 160.6188 | O-ring ID 18,77x1,78 |

Technical explanation see data sheet 1.1-400