

## Service case with test device for servo valves without integrated electronics

### Type VT-SVTSY-1



H6100

► Component series 1X

CE

✓  
RoHS

#### Features

- Service case
  - Test device with power supply unit and connection cable (see ordering code)
- Test device
  - suitable for commissioning and service works at hydraulic systems with servo valves without integrated electronics
  - In case of faulty machine behavior, allows for functional check and error location without disassembly of the servo valve
  - Voltage supply by means of 9V block battery or 12V power supply unit

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**Ordering code**

|            |    |    |    |    |    |    |    |
|------------|----|----|----|----|----|----|----|
| 01         | 02 | 03 | 04 | 05 | 06 | 07 | 08 |
| VT-SVTSY-1 | -  | 1X | /  | 1  | -  | -  | *  |

|    |                                                                                    |                   |
|----|------------------------------------------------------------------------------------|-------------------|
| 01 | Service case with test device for servo valves without integrated electronics      | <b>VT-SVTSY-1</b> |
| 02 | Component series 10 ... 19 (10 to 19: unchanged technical data and pin assignment) | <b>1X</b>         |
| 03 | Test device type VT-SVT-1-1X                                                       | <b>1</b>          |

**Connection cable for valves with electrical connection "K31"**

|    |                                         |          |
|----|-----------------------------------------|----------|
| 04 | Without connection cable                | <b>0</b> |
|    | With connection cable type VT-SVTK-1-1X | <b>1</b> |

**Connection cable for valves with electrical connection "K17"**

|    |                                         |          |
|----|-----------------------------------------|----------|
| 05 | Without connection cable                | <b>0</b> |
|    | With connection cable type VT-SVTK-2-1X | <b>1</b> |

**Connection cable for valves with electrical connection "K8"**

|    |                                         |          |
|----|-----------------------------------------|----------|
| 06 | Without connection cable                | <b>0</b> |
|    | With connection cable type VT-SVTK-3-1X | <b>1</b> |

**Power supply unit**

|    |                                               |          |
|----|-----------------------------------------------|----------|
| 07 | Without power supply unit                     | <b>0</b> |
|    | With power supply unit type VT-SVTNT-2-2X/G12 | <b>1</b> |
| 08 | Further details in the plain text             | <b>*</b> |

**Test device type VT-SVT-1-1X**

The test device is suitable for the control and functional testing of servo valves without integrated electronics. The voltage for the test device is supplied by a 9V block battery (not included in the scope of delivery) or optionally by a 12V power supply unit type VT-SVTNT-2-2X/G12.

**Notice:**

The test device may only be used by persons who are familiar with the device, the valve and the hydraulic system. With corresponding setting, it will ignore the control signals coming from the system. If safety precautions have been taken on the control side, they are invalidated.

For damage caused by the incorrect operation, no liability is accepted.



## Function, operating instructions

### Valve test

- ▶ Connect the connection cable of the power supply unit at socket (6) of the test device or insert the battery.
- ▶ Set the functional switch (1) to "ON" → "Power" LED (8) lights up.
- ▶ In case of battery operation, carry out the battery test:
  - Set the selector switch (3) to "50 mA"
  - Set the command value potentiometer (4) to "–100%"
  - Press the push-button (2) for battery test
  - The test device indicator shows the battery charge in %
- ▶ Select the coil type of the valve with selector switch (3) at the test device.
- ▶ Bring the command value potentiometer (4) into the central position.

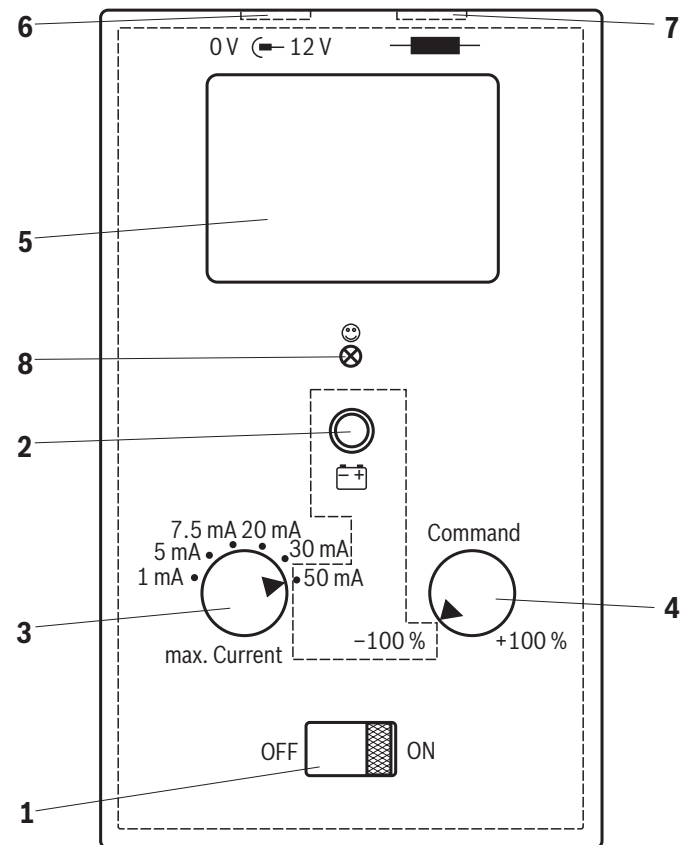
- 1 Functional switch
- 2 Push-button for battery test
- 3 Selector switch for coil type
- 4 Command value potentiometer
- 5 Coil current indication (in %)
- 6 Socket for power supply unit cable
- 7 Socket for valve connection cable
- 8 "Power" LED display

### Assignment of coils / valve types

|                         |                            |
|-------------------------|----------------------------|
| 5 mA / 500 Ω per coil   | 4WS2E.10-4X <sup>1)</sup>  |
| 7.5 mA / 200 Ω per coil |                            |
| 20 mA / 80 Ω per coil   | 4WS2E.10A-4X <sup>1)</sup> |
| 30 mA / 40 Ω per coil   | 4DS1EO2-1X <sup>1)</sup>   |
| 50 mA / 28 Ω per coil   | 3DS2EH10-2X <sup>1)</sup>  |
|                         |                            |
| 30 mA / 85 Ω per coil   | 4WS2EM6-2X/...             |
|                         | 4WS2EM10-5X/...            |
|                         |                            |
| 30 mA / 100 Ω per coil  | 4WS2EM6-1X                 |
| 50 mA / 80 Ω per coil   |                            |
|                         |                            |
| 50 mA / 85 Ω per coil   | 4WS2EM6-2X                 |

<sup>1)</sup> Not for new applications

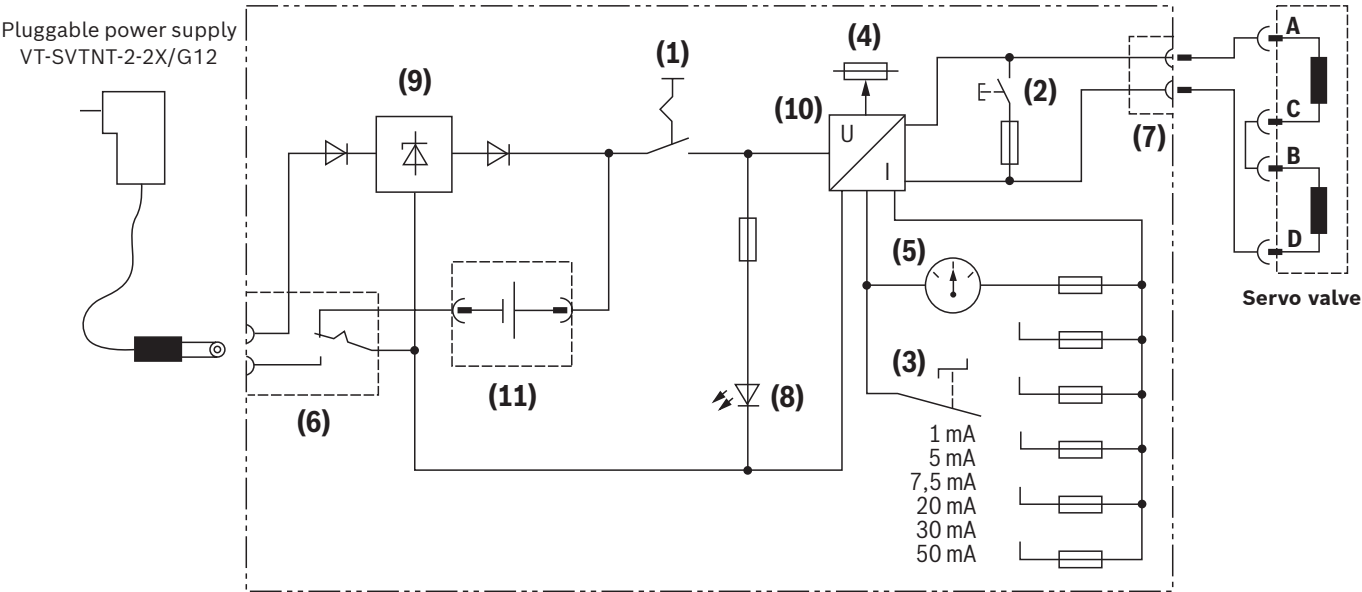
- ▶ Use a suitable valve connection cable (see ordering code) to connect test device (socket (7)) and servo valve. (The valve connection cables are wired so that both coils of the servo valve are switched in series.)
- ▶ Slowly rotate the command value potentiometer (4) to the left or right; observe the movement of the motor or the cylinder while doing so.
- ▶ With the servo valve working smoothly, this allows for the sensitive movement of the controlled motor or cylinder into the desired direction or to the desired position.



**Technical data**  
 (For applications outside these values, please consult us!)

| Operating voltages                     |                                                                                                                                  |                                                    |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|
| Battery operation                      | V                                                                                                                                | 9 (E block, not included in the scope of delivery) |
| Power supply unit operation            | VDC                                                                                                                              | 12 ±5%                                             |
| Current consumption of the test device | mA                                                                                                                               | 20 (additional valve current)                      |
| Ambient temperature range              | °C                                                                                                                               | 0 ... +50                                          |
| Protection class according to EN 60529 |                                                                                                                                  | IP20                                               |
| Dimensions (W x H x D)                 | mm                                                                                                                               | 95 x 158 x 45                                      |
| Weight                                 | g                                                                                                                                | 0.34                                               |
| Conformity                             | ► CE according to EMC directive 2014/30/EU,<br>tested according to EN 61326-2-1 and EN 61000326-1<br>► RoHS directive 2011/65/EU |                                                    |

**Block diagram / pin assignment**



- 1 Functional switch
- 2 Push-button for battery test
- 3 Selector switch for coil type
- 4 Command value potentiometer
- 5 Coil current indication
- 6 Socket for power supply unit cable (with change-over switch)
- 7 Socket for valve connection cable
- 8 "Power" LED
- 9 Voltage regulator
- 10 Output stage
- 11 9V block battery

## Servo valves suitable for testing

| Valve type                 | Electrical connection | Connection cable type |
|----------------------------|-----------------------|-----------------------|
| 4WS2EM6-1X                 | K17                   | VT-SVTK-2-1X          |
| 4WS2EM6-2X                 | K17                   | VT-SVTK-2-1X          |
| 4WS2EM10-5X                | K31                   | VT-SVTK-1-1X          |
| 4WS2EM10-4X <sup>1)</sup>  | K8                    | VT-SVTK-3-1X          |
| 4WS2EB10-4X <sup>1)</sup>  | K8                    | VT-SVTK-3-1X          |
| 4WS2EM10A-4X <sup>1)</sup> | K8                    | VT-SVTK-3-1X          |
| 4WS2EB10A-4X <sup>1)</sup> | K8                    | VT-SVTK-3-1X          |
| 4WS2EM16-2X                | K8                    | VT-SVTK-3-1X          |
| 4DS1E02-1X <sup>1)</sup>   | K8                    | VT-SVTK-3-1X          |
| 3DS2EH10-2X <sup>1)</sup>  | K8                    | VT-SVTK-3-1X          |

<sup>1)</sup> Not for new applications

## Accessories

### Power supply unit type VT-SVTNT-2-2X/G12

Pluggable power supply 100 ... 240 VAC; 12 VDC, 1.0 A  
The mains connector of the power supply unit is suitable for sockets in Germany and many European countries.



(Actual product may differ)

| Technical data (For applications outside these parameters, please consult us!) |     |                            |
|--------------------------------------------------------------------------------|-----|----------------------------|
| Operating voltage                                                              | VAC | 100 ... 240 (50 ... 60 Hz) |
| Current consumption                                                            | A   | 0.19 ... 0.32              |
| Output voltage                                                                 | VDC | 12 (1.0 A)                 |
| Length of the connection cable to the test device                              | m   | approx. 1.5                |
| Dimensions (W x H x D)                                                         | mm  | 80 x 46 x 40.5             |
| Weight                                                                         | kg  | 0.12                       |

## Accessories

### Connection cable type VT-SVTK-1-1X

Connection cable between test device VT-SVT-1 and servo valves without integrated electronics (valves with ordering code "K31" for the electrical connection).

The servo valve coils are switched in series (serial connection).

| Technical data (For applications outside these parameters, please consult us!) |    |                                                                        |
|--------------------------------------------------------------------------------|----|------------------------------------------------------------------------|
| Valve port                                                                     |    | Mating connector according to DIN 43563-BF6-3/Pg11 (serial connection) |
| Test device port                                                               |    | Mono jack 2.5 mm                                                       |
| Cable length                                                                   | m  | 3                                                                      |
| Weight                                                                         | kg | 0.16                                                                   |

### Connection cable type VT-SVTK-2-1X

Connection cable between test device VT-SVT-1 and servo valves without integrated electronics (valves with ordering code "K17" for the electrical connection).

The servo valve coils are switched in series (serial connection).

| Technical data (For applications outside these parameters, please consult us!) |    |                                               |
|--------------------------------------------------------------------------------|----|-----------------------------------------------|
| Valve port                                                                     |    | Mating connector VG 95328 (serial connection) |
| Test device port                                                               |    | Mono jack 2.5 mm                              |
| Cable length                                                                   | m  | 3                                             |
| Weight                                                                         | kg | 0.13                                          |

### Connection cable type VT-SVTK-3-1X

Connection cable between test device VT-SVT-1 and servo valves without integrated electronics (valves with ordering code "K8" for the electrical connection).

The servo valve coils are switched in series (serial connection).

| Technical data (For applications outside these parameters, please consult us!) |    |                                             |
|--------------------------------------------------------------------------------|----|---------------------------------------------|
| Valve port                                                                     |    | Mating connector 14S-2P (serial connection) |
| Test device port                                                               |    | Mono jack 2.5 mm                            |
| Cable length                                                                   | m  | 3                                           |
| Weight                                                                         | kg | 0.16                                        |

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It must be remembered that our products are subject to a natural process of wear and aging.

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