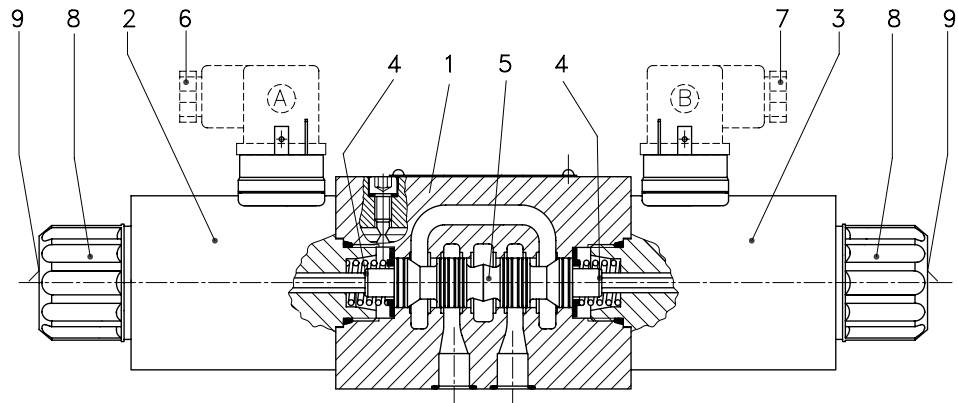


OVERVIEW

DCV 05 directional control valves consist of: housing (1), control spool (5), centering springs (4), and operating solenoids (2, 3).

The three-position directional valves have two solenoids and two springs. The two position directional valves have one solenoid and one return spring.

The operating solenoids are DC and are supplied through connectors A and B (6, 7). For AC supply, the solenoids are provided with rectifiers integrated directly into the coil. T

The connectors must be ordered separately. By loosening nut (8), the solenoid can be rotated in four positions 90° apart.

Provided that the pressure in T-port does not exceed 360 psi [25 bar], the valve can be actuated by manual override (9).

The valve housing (1) is phosphate coated. The operating solenoids (2, 3) are zinc coated.

FEATURES

- 3 position, 4-way and 2 position, 4-way directional valves
- Solenoids can be fixed in three positions 90° apart
- Push button manual override
- Installation dimensions to DIN 24340 and ISO 4401





ORDER CODE

DCV05 - 3Z11 - 01200 - E10 - K1 - N2 - B

Directional control valves

Nominal size

Operating positions

| Code | Description |
|------|-----------------|
| 2 | Two positions |
| 3 | Three positions |

Spool

See Spool options, page 4

Voltage

| Code | Description |
|-------|--------------------------|
| 01200 | 12 VDC / 3.17 A |
| 02400 | 24 VDC / 1.73 A |
| 12060 | 115 VAC / 0.35 A / 60 Hz |
| 23050 | 230 VAC / 0.17 A / 50 Hz |

The AC coils correspond with E5 connectors only.

Connector

| Code | Description |
|------|----------------------------------|
| E1 | DIN 43650 |
| E2 | DIN 43650 diode in coil |
| E5 | DIN 43650 rectifier in coil |
| E8 | Lead wires |
| E9 | Lead wires with diode in coil |
| E10 | Deutsch on lead wires |
| E11 | Deutsch on lead w/ diode in coil |

Seals

| Code | Description |
|------|-------------|
| B | Buna-N |
| V | Viton |

Manual override

| Code | Description |
|------|------------------------|
| 00 | Standard |
| N2 | Protective rubber boot |

Connector plug (DIN 43650)

| Code | Description |
|------|-------------------------|
| Omit | No plug |
| K1 | Connector plug |
| K2 | Connector plug with LED |

TECHNICAL DATA

Specifications

| | | |
|-----------------------------|-----------------------|--|
| Nominal size | | 10 [0.39] |
| Maximum flow | l/min [US gal/min] | See p-Q characteristics, below. Replace valves with: NFPA D05, CETOP 5, NG10 |
| Max. operating pressure | bar [psi] | 350 [5075] |
| Max. back pressure (port T) | bar [psi] | 210 [3045] |
| Pressure drop | bar [psi] | see Δ p-Q characteristics, page 4 |
| Weight – with 1 solenoid | Kg [lb] | 3.9 [8.6] |
| with 2 solenoids | | |

SPOOL OPTIONS

Functional Symbols

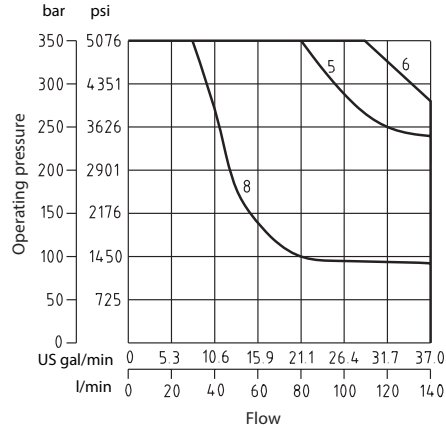
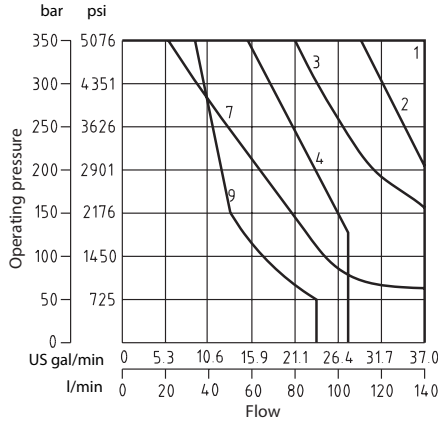
| 3 - Position | | | 2 - Position | | |
|--------------|--------|------------|--------------|--------|------------|
| Code | Symbol | Transition | Code | Symbol | Transition |
| B11 | | | C11 | | |
| C11 | | | R11 | | |
| H11 | | | R21 | | |
| Y11 | | | X11 | | |
| Z11 | | | X25 | | |
| | | | Y51 | | |
| | | | Z51 | | |

CHARACTERISTICS

p - Q Characteristics

Operating limits for maximum hydraulic power transferred by the directional valve.

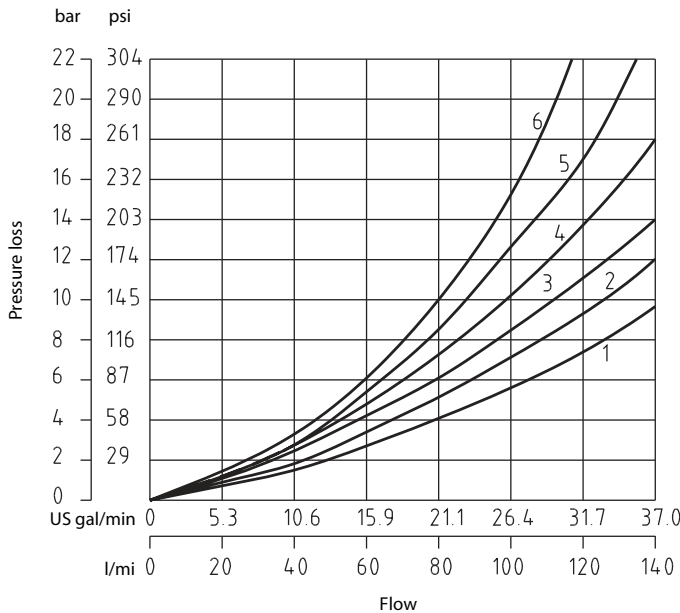
For respective spool type – see *Spool Options*, page 5. Measured at viscosity = 32 mm²/s (cSt) [156 SUS].



| Spool | Curve |
|-------|-------|
| B11 | 4 |
| C11 | 3 |
| H11 | 1 |
| R11 | 2 |
| R21 | 2 |
| Y11 | 5 |
| X11 | 2 |
| X25 | |
| Y51 | 5 |
| Z11 | 1 |
| Z51 | 1 |

p - Q Characteristics

Measured at viscosity = 32 mm²/s (cSt) [156 SUS].



| Spool | P-A | P-B | A-T | B-T | P-T |
|-------|-----|-----|-----|-----|-----|
| B11 | 1 | 1 | 2 | 2 | |
| C11 | 4 | 3 | 4 | 5 | 1 |
| H11 | 1 | 1 | 2 | 2 | 1 |
| R11 | 1 | 1 | 2 | 2 | |
| R21 | 1 | 1 | 1 | 3 | |
| X11 | 1 | 1 | 2 | 2 | |
| Y11 | 1 | 1 | 2 | 2 | |
| Y51 | | 1 | 2 | | |
| Z11 | 1 | 1 | 2 | 2 | |
| Z51 | | 1 | 2 | | |

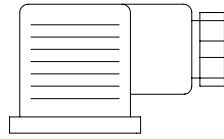
TERMINAL OPTIONS

| Code | Sketch |
|------------|--------|
| E1, E2, E5 | |
| E8, E9 | |
| E10, E11 | |

CONNECTOR OPTIONS

DIN 43650

| Code | Type | Model | Max. input voltage | |
|------|----------------|---------------------------|--------------------|-----|
| | | | VDC | VAC |
| K1 | Plug B (black) | Without rectifier | 250 | 230 |
| | Plug A (grey) | Without rectifier | 250 | 230 |
| K2 | Plug B (black) | Without rectifier and LED | 30 | 230 |
| | Plug A (grey) | Without rectifier and LED | 30 | 230 |

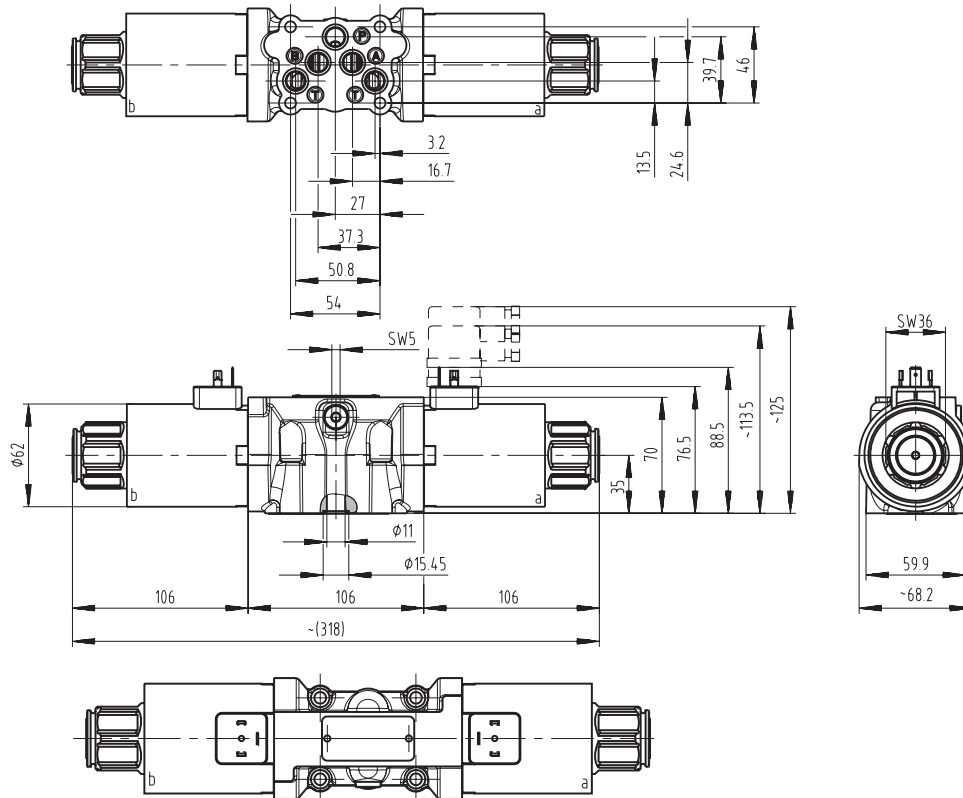


MANUAL OVERRIDE OPTION

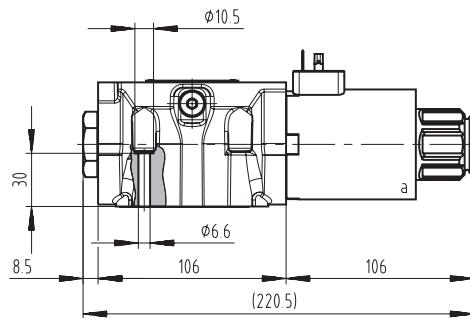
| Standard | Covered by coil nut |
|--|---|
| <p>Code 00 mm [in]</p> <p>34 [1.34]</p> <p>a</p> | <p>Code N2</p> <p>50,5</p> <p>Manual override covered by coil nut</p> |

DIMENSIONS
mm [in]

Valve with two solenoids

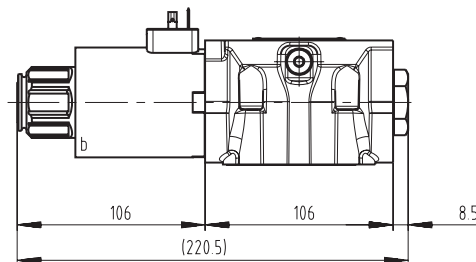


Valve with solenoids- side a



Functional symbols
R11, R21, Y51, Z51, X25

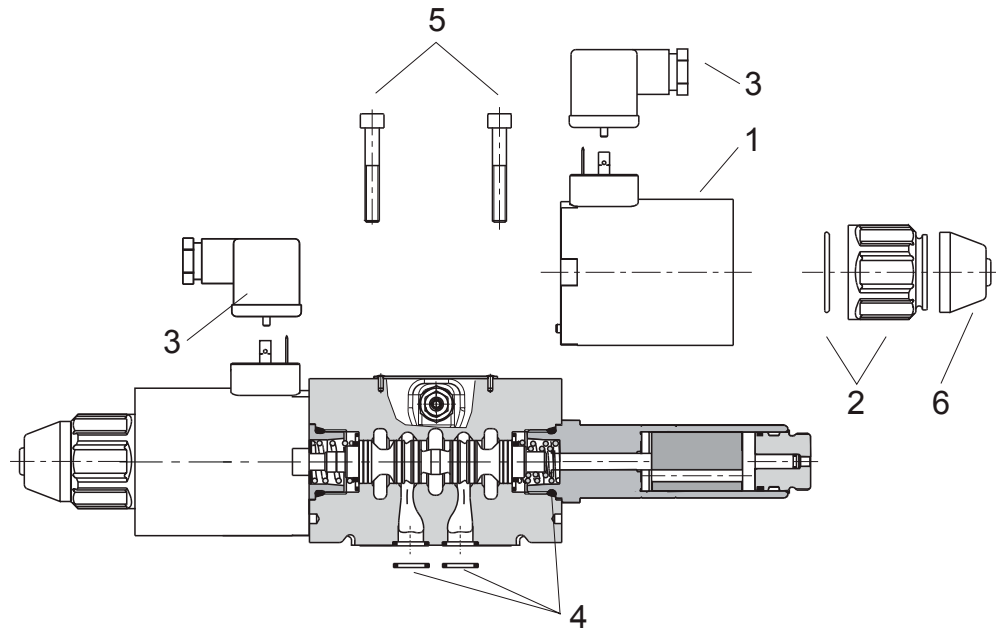
Valve with solenoids - side b



Functional symbols
X11, C11

REPLACEMENT PARTS

1. Solenoid coil
2. Nut + sealing ring
3. Connector plug
4. Set of sealing
5. mounting bolts
6. boots



Solenoid

| Voltage | E1 DIN | E2 DIN | E5 DIN | E8 Lead | E9 Lead | E10 Deutsch | E11 Deutsch | E12 | E13 |
|-----------------|----------|------------------|-------------|---------------|-------------------|-------------|---------------------|----------|--------------------|
| | 43650 | 43650 w/Diode | w/Rectifier | Wires | Wires w/ Diode | on Leads | on Leads w/Diode | Deutsch | Deutsch w/Diode |
| Ordering Number | | | | | | | | | |
| 01200 | 158-8019 | *** | *** | *** | *** | 158-8102 | 158-8099 | 11041824 | 158-8105 |
| 02400 | 158-8021 | *** | *** | *** | *** | *** | *** | 158-8100 | *** |
| 12060 | *** | *** | 158-8027 | Not Available | | | | | |
| 23050 | *** | *** | 158-8020 | | | | | | |

*** Consult Factory



**REPLACEMENT PARTS
(continued)**

Solenoid nut

| Manual override Code | Type of nut | Ordering number |
|----------------------|------------------------|-----------------|
| No Code | Standard nut | 158-8068 |
| N2 | Protective Rubber Boot | Consult factory |

Connector (DIN 43650)

| Code | Model | Connector plug A | Connector plug B |
|-----------------|---------------------|------------------|------------------|
| | | gray | black |
| Ordering number | | | |
| K1 | No rectifier or LED | 158-8076 | 158-8075 |
| K2 | With LED | Consult factory | Consult factory |

Seal kit

| Type | Ordering number |
|--------|-----------------|
| Buna-N | 158-8023 |
| Viton | 158-8094 |

Mounting bolts – set

| Type | Ordering number |
|---------------|-----------------|
| M6 x 40 bolts | 158-8024 |
| 1/4-20 bolts | 158-8095 |