

Type codes for valves and operations

The code described below is to enable finished products to be found again in the computer. The code uses alphanumeric encodings which are built up as redundantly as possible. Furthermore, the most important elements of the code (which are later used for searching) are to be self-explanatory.

The individual elements of the code are ordered in decreasing order of importance to ensure an effective search process in the computer. In addition, the individual groups in the code are to be separated by dashes (no empty spaces). The designations in the key should be most easily recognizable. Numeric combinations should be avoided except when they state any dimensions.

The code consists of three elements. The first element describes the product / valve group. For valves the code starts with an abbreviation designating the

valve group and the switching position. In case of operations, this also designates the operation process. Then, there follows the nominal width of the valve or, in case of operations, the nominal width for which it is intended. This block is built up in largely the same way wherever it occurs. Next, there follows product-specifying information. This area is specific for the various different groups and will then need to be decoded if necessary.

The final group is again the same for each product. Here, a modification number and, if necessary, a plain text description for special versions are shown. This group need not to be there.

If approved components are used, use the type designations which is shown in the approval, or this designation should at least appear in the code.

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1. List of valve designations

| | |
|-----|--|
| AV | Shut-off valve |
| BDR | Pressure switch |
| DAV | Throttle shut-off valve |
| DBV | Pressure limiting valve |
| DMV | Pressure reducing valve (mounted version) |
| DMC | Pressure reducing valve (cartridge) |
| DRV | Throttle check valve |
| E | Actuation electromagnet (standard, prop., ex-proof) |
| ERV | Unlockable check valve |
| ESC | Fitted seat valve - cartridge (new build type, self-closing) |
| ESV | Fitted seat valve (block assembly version) |
| ESS | Fitted seat valve - standard (new build type, self-closing, but TIBA cartridge) |
| HA | Manual operation |
| HY | Operation - hydraulic cylinder |
| I.. | Ex-proof elements, primarily intrinsically safe |
| KPV | Ball proportional valve |
| KSV | Ball seat valve |
| PAV | Plate mounting valve |
| PDB | Proportional pressure limiting valve |
| PDM | Proportional pressure reducing valve |
| PSC | Proportional seat valve-cartridge (new build type, self-closing) |
| PSV | Proportional seat valve (block assembly version) |
| PSS | Proportional seat valve-cartridge (new build type, self-closing, but TIBA cartridge) |
| REV | Pipe assembly valve (block valve) |
| RV | Check valve |
| RVC | Check valve - cartridge |
| RVP | Check valve - cartridge |
| SBV | Lower/Brake shut-off-valve |
| WV | Shuttle valve |
| ZWV | Intermediate valve (special block valves, these are also encoded under block valves) |

2. Pressure levels (for valves)

Pressure levels are assigned by an item number, with the individual pressures being differentiated in accordance with DIN 2401.

| Limit press. in bar | Level |
|---------------------|-------|
| 1 | 1 |
| 1,6 | 2 |
| 2 | 3 |
| 2,5 | 4 |
| 3,2 | 5 |
| 4 | 6 |
| 5 | 7 |
| 6 | 8 |
| 8 | 9 |
| 10 | 10 |

| Limit press. in bar | Level |
|---------------------|-------|
| 12,5 | 11 |
| 16 | 12 |
| 20 | 13 |
| 25 | 14 |
| 32 | 15 |
| 40 | 16 |
| 50 | 17 |
| 60 | 18 |
| 80 | 19 |
| 100 | 20 |

| Limit press. in bar | Level |
|---------------------|-------|
| 125 | 21 |
| 160 | 22 |
| 200 | 23 |
| 250 | 24 |
| 320 | 25 |
| 400 | 26 |
| 500 | 27 |
| 630 | 28 |
| 700 | 29 |
| 800 | 30 |

Table 3.1: Pressure levels acc. to DIN 2401

3. Different codes

Various different code fields occur in the same way in the various different product groups. Only common designations and meanings are used here. However, it is possible (and then it will be listed next to the relevant product group), that not all levels specified here are available for the relevant product group.

3.1 AV, DAV: Shut-off valve, throttle shut-off valve

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| A | V | - | 0 | 3 | 2 | - | 2 | 5 | H | N | N | N | | | | | | | | | | | | | | | | | |
| 1 | | | | 2 | | | 3 | 4 | 5 | 6 | 7 | 8 | | | | | | | | | | | | | | | | | |

1. Designation

AV = shut-off valve
 DAV = throttle shut-off valve

2. Nominal width

010 = NG 10
 016 = NG 16
 025 = NG 32
 040 = NG 40
 050 = NG 50
 065 = NG 65
 080 = NG 80

2. Designation

AV = shut-off valve
 DAV = throttle shut-off valve

3. Nominal width

010 = NG 83,57142857
 016 = NG 93,30952381

4. Stroke monitoring

N = without stroke monitoring
 G = with stroke monitoring for closed position
 H = with stroke monitoring for open position
 B = with stroke monitoring for open and closed

5. Sealing material

N = NBR

5. Stroke monitoring

N = without stroke monitoring
 G = with stroke monitoring for closed position
 H = with stroke monitoring for open position
 B = with stroke monitoring for open and closed

Auxiliary designation

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| S | H | U | T | O | F | F | | V | A | L | V | E | | | | | | | | |

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| T | H | R | O | T | T | L | E | | S | H | U | T | O | F | F | | V | A | L | . |

3.2 BAV / REV / ZWV : Block valve - plate-mounting, pipeline fitting and intermediate valve

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|--|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | | |
| A | 2 | / | B | A | V | - | 0 | 2 | 5 | - | 0 | 6 | - | X | I | S | - | N | S | S | N | - | 25 | | | | | | | | |
| 1 | | | | | | 2 | | | | | 3 | | | 4 | | 5 | 6 | | 7 | 8 | 9 | 10 | | | | | | | | | |

1. Designation

2/2 BAV = 2/2 dir. contr. block mounting valve
 3/2 BAV = 3/2 dir. contr. block mounting valve
 4/2 BAV = 4/2 dir. contr. block mounting valve
 2/2 REV = 2/2 dir. contr. pipe assembly valve
 3/2 ZWV = 3/2 dir. contr. intermediate valve

2. Nominal width

Table for BAV:

| NG | Std. plt-ctrl | Port |
|-----|---------------|------|
| 009 | 06 | |
| 010 | 03 (nom. 06) | |
| 015 | 06 | |
| 025 | 06 | |
| 032 | 06 | |
| 040 | 06 | |
| 050 | 06 | |

Table for REV:

| NG | Std. plt-ctrl | Std. Flange |
|-----|---------------|-----------------|
| 009 | 06 | |
| 010 | 03 (nom. 06) | R 1/2 |
| 015 | 06 | |
| 025 | 06 | |
| 032 | 06 | FA 32 / 400 bar |
| 040 | 06 | |
| 050 | 06 | |

Table for ZWV:

| NG | Std. plt-ctrl | Port |
|-----|---------------|------|
| 009 | 06 | |
| 016 | 06 | |
| 025 | 06 | |

Auxiliary designation

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| B | L | O | C | K | | M | O | U | N | T | I | N | G | | V | A | L | V | E | |

or

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| P | I | P | E | | F | I | T | T | I | N | G | | V | A | L | V | E | | | |

3. Pilot-controls

Standard see table at 2.

03 = NG 3

06 = NG 6

4. Version

XI = External pilot control, internal leakage port

II = Internal pilot-control pressure, internal leakage port

XL = External pilot-control pressure, external leakage port

IL = Internal pilot-control pressure, external leakage port
external leakage port only available for 3/2 dir. contr. valve

5. Hydraulic version

S = Depressurized closing (spring)

O = Depressurized opening (spring)

N = Without spring

F = Fail-safe closed pressure open approx. 50 bar

6. Seal

N = NBR

V = Viton

7. Environmental conditions (mat. housing)

N = Standard

S = Aggressive (e.g. containing salt)

8. Medium (material internal parts)

E = Emulsion/water/glycol/oil

S = Aggressive (e.g. containing salt)

V = (VE-) desalinated water

9. Position monitoring

N = Not available (standard)

G = Closed position

O = Open position

B = Open and closed position

10. Pressure level

25 = 0...315 bar

26 = to 400 bar

3.3 BDR: Pressure switch operation

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| B | D | R | - | 0 | 6 | - | S | N | N | N | - | 2 | 5 | - | * | * | | | | | | | | | | | | | |
| 1 | | | 2 | | | 3 | 4 | 5 | 6 | 7 | | | 8 | | | | | | | | | | | | | | | | |

1. Designation

BDR = Pressure switch operation

2. Nominal width

of the valve to be mounted

03 = NG 3
06 = NG 6

3. Switch direction

S = Switching when pressure increases
A = Switching when pressure decreases

4. Environmental conditions

N = Standard
S = Aggressive (e.g. contains salt, corrosive)

5. Medium

N = Standard (non-corrosive media)
S = Corrosive media (acid gas)

6. Additives

N = None
T = Pushbutton for external release

7. Adjustment pressure

see table 3.1

8. Optional special version

State in plain text

Auxiliary designation

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| P | R | E | S | S | U | R | E | | S | W | I | T | C | H | | | | | | |

3.4 BRA: Snap-in switch operation

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| B | R | A | - | 0 | 6 | - | N | N | - | * | * | * | * | * | * | * | - | * | * | * | * | * | * | * | | | | | |
| 1 | | 2 | | 3 | | 4 | | | | | | | | | | | | | | | | | | | | | | | |

1. Designation

BRA = Snap-in switch operation

2. Nominal size

of the valve to be mounted

03 = NG 3
06 = NG 6

3. Environment

N = Standard
S = Aggressive (e.g. containing salt)

4. Version

N = Normal
H = With additional manual operation

The additional fields may be electromagnets, ex-proof magnets, manual operations, or cylinders. In the case of two equal actuations, only one code will be inserted into an asterisk field. The second field is only used for two different actuations. The activating operation (actuation) shall be the first.

Auxiliary designation

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| S | N | A | P | I | N | | S | W | I | T | C | H | | | | | | | | |

3.5 DBV / PDB : Pressure limiting valve / proportional pressure limiting valve

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| D | B | V | - | 0 | 2 | 5 | - | 1 | 0 | - | E | P | N | N | N | E | - | 2 | 5 | - | * | * | | | | | | | |
| 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | 7 | | 8 | | 9 | | 10 | | | | | | | | | | | |

1. Designation

DBV = Pressure limiting valve
 PDB = Proportional
 Pressure limiting valve

2. Nominal size

| NG | Std. plt-ctrl | Port |
|-----|---------------|------|
| 006 | 00 | |
| 010 | 00 | |
| 016 | 06 | |
| 025 | 06 | |
| 032 | | |
| 040 | | |
| 050 | | |

3. Pilot-control

Standard see table at 2.

06 = NG 6
 10 = NG 10

4. Version

E = with relief valve, normally open
 S = with relief valve, normally closed
 N = without relief valve

5. Design

R = for pipe mounting
 P = for plate mounting
 C = cartridge

Auxiliary designation

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| P | R | E | S | S | U | R | E | | L | I | M | I | T | I | N | G | | V | A | L | . |

6. Leakage line (for pilot-controlled valves)

N = internal (standard)
 E = external

7. Sealing material

N = NBR

8. Environmental conditions (mat. housing)

N = Standard
 S = Aggressive (e.g. containing salt)

9. Medium (material internal parts)

E = Emulsion / water / glycol / oil
 S = Aggressive (e.g. containing salt)
 V = (VE-) desalinated water

10. Pressure level (setting range)

20 = 40 to 100 bar
 22 = 100 to 160 bar
 25 = 150 to 320 bar

11. Optional special version

(shown in plain text)

3.5 DBV / PDB : Pressure limiting valve / proportional pressure limiting valve

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| D | M | V | - | 0 | 3 | 2 | - | 2 | 5 | - | E | P | N | N | N | - | 2 | 5 | | | | | | | | | | | |
| 1 | | | 2 | | | 3 | | | 4 | | | 5 | 6 | 7 | 8 | 9 | | | | | | | | | | | | | |

1. Designation

DMV = Pressure reducing valve
 PDMV = Proportional pressure reducing valve

2. Nominal size

006 = NG 6
 010 = NG 10
 016 = NG 16
 025 = NG 25
 032 = NG 32

3. Operating pressure

20 = 100 bar
 25 = 320 bar
 26 = 400 bar

4. Control

I = internal
 E = external

5. Design

P = plate mounting

6. Sealing material

N = NBR

7. Environmental

N = Standard
 S = Aggressive (e.g. containing salt)

8. Medium (material internal parts)

E = Emulsion / water / glycol / oil
 S = Aggressive (e.g. containing salt)
 V = (VE-) desalinated water

9. Setting range

20 = 40 to 100 bar
 22 = 100 to 160 bar
 25 = 150 to 320 bar

Auxiliary designation

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| P | R | E | S | S | U | R | E | | R | E | D | U | C | I | N | G | | V | A | L | . |

3.7 ERV : Unlockable check valve

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| E | R | V | - | 0 | 2 | 5 | - | 2 | 5 | - | E | P | N | N | E | | | | | | | | | | | | | | |
| 1 | | | 2 | | | 3 | | | 4 | | | 5 | | | 6 | | | 7 | | | 8 | | | | | | | | |

1. Designation

ERV = unlockable check valve

2. Nominal size

010 = DN 10
 012 = DN 12
 013 = DN 13
 016 = DN 16
 025 = DN 25
 032 = DN 32
 040 = DN 40
 050 = DN 50

3. Operating pressure

22 = 160 bar
 25 = 320 bar
 26 = 400 bar

4. Function monitoring

N = none (normal)
 G = closed position
 B = both positions

5. Design

P = Plate mounting
 R = Pipe mounting
 S = Plug-in type connection

6. Sealing material

N = NBR

7. Environment

N = S standard
 S = Aggressive (e.g. containing salt)

8. Medium (material internal parts)

E = Emulsion / water / glycol / oil
 S = Aggressive (e.g. containing salts)
 V = (VE-) desalinated water

Auxiliary designation

| | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| U | N | L | O | C | K | . | | C | H | E | C | K | | V | A | L | V | E | | | |

3.8 ESV / ESC / ESS : Fitted seat valve

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 2 | / | 2 | E | S | V | - | 0 | 2 | 5 | - | 0 | 6 | - | N | D | 1 | G | N | N | E | N | - | 2 | 5 | - | 1 | 0 | * | * |
| 1 | | | | | 2 | | | | | 3 | | | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | | | 12 | | | 13 | | | |

1. Designation

ESV = 2/2 dir. contr. fitted seat valve standard with Tiefenbach cartridge
 ESC = 2/2 dir. contr. auto-closing valve with DIN cartridge
 ESS = 2/2 dir. contr. auto-closing valve with Tiefenbach cartridge

2. Nominal size

| NG | Standard plt-ctrl | Flow L/min. |
|-----|-------------------|-------------|
| 010 | 03 | 47 |
| 016 | 03 | 120 |
| 020 | 03 | 185 |
| 025 | 06 | 290 |
| 032 | 06 | 480 |
| 040 | 06 | 750 |
| 050 | 06 | 1175 |
| 065 | 09 | 1990 |
| 080 | 09 | 3000 |
| 100 | 25 | 4700 |
| 125 | 25 | 7300 |
| 150 | 25 | 10600 |
| 175 | 25 | 14400 |
| 200 | 25 | 18800 |

5. Piston rod version

D1= Throttle pinion
 L1 = Longer pinion
 O1= Without pinion
 B1= Bored piston rod with throttle pinion

6. Cover version

N = Cover with stroke limitation and preparation for limit switch rail
 G = Cover with stroke limitation and thread bore for limit switches
 H = High cover with stroke limitation and preparation for limit witch rail
 O = Flat cover without stroke limitation

7. Position monitoring

N = not available (standard)
 G = closed position
 O = open position
 B = open and closed position

8. Sealing material

N = Standard

9. Medium (material internal parts)

E = Emulsion/water/glycol/oil
 S = Aggressive (e.g. containing salt)

10. Environmental conditions

N = Standard
 S = Aggressive (e.g. containing salt)

11. Pressure level

25 = 0....315 bar

12. Series designation

(is assigned internally)

13. Optional special version

no input = no special version

Auxiliary designation

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| F | I | T | T | E | D | | S | E | A | T | | V | A | L | V | E | | | | |

3.9 KSV : Ball seat valve

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 3 | / | 2 | K | S | V | - | 0 | 6 | P | - | 2 | 5 | V | T | N | N | N | - | E | * | * | * | * | * | * | - | * | * | |
| 1 | | | | | | 2 | | | 3 | 4 | | | 5 | 6 | 7 | 8 | 9 | | | X | | | | | | Y | | | |

1. Designation

3/2 KSV = 3/2 dir. contr. ball seat valve

2/2 KSV = 2/2 dir. contr. ball seat valve

2. Nominal size

02 = Ng 2 06 = NG 6

03 = NG 3 10 = NG 10

3. Basic position (non-actuated)

P = Pos. (if non-act. P → A is closed)

N = Neg. (if non-act. P → A is open)

4. Operating pressure (pressure level) see table 3.1

20 = 100 bar

24 = 250 bar

25 = 320 bar

26 = 400 bar

27 = 500 bar

28 = 630 bar

5. Seals

NB = NBR

VT = Viton

PU = Polyurethane

6. Version

N = standard version 320 bar (HFA,air,HFC,HFD etc.)

D = standard version 320 bar with firedamp protection / ex-proofing or standard version for higher working pressures

S = Sea water inside and outside, only on the outside 210 bar

W = Water / tap water / glacier water 320 bar

V = fully desalinated / demineralized / chemically pure / sea water only on the inside 320 bar

G = neutral gases 100 bar

A = aggressive gases (e.g. acid gas)

7. Position monitoring

N = not available (standard)

G = prepared for closed position

O = prepared for open position

B = prepared for both positions

Auxiliary designation

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| F | I | T | T | E | D | | S | E | A | T | | V | A | L | V | E | | | | |

8. Manual operation

N = Standard (with manual operation and locking)

H = with manual operation without locking

S = lockable

O = without manual operation

9. Actuation

E = E-magnet

RO = roller

BL = no actuation, only with shutters

Z = cylinders

x: Determining the actuation

Cylinder

| | | | |
|----|----|----|----|
| 22 | 23 | 24 | 25 |
| M | 3 | 2 | 0 |
| 11 | 12 | | |

E-magnet

| | | | | | |
|----|----|----|----|----|----|
| 22 | 23 | 24 | 25 | 26 | 27 |
| D | 0 | 2 | 4 | T | U |
| 11 | 12 | | 13 | | |

11. Material

M = Brass

A = Aluminium

12. Pressure range

64 = 2.5 - 64 bar

320 = 25 - 320 bar

11. Current type

A = Alternating current

D = Direct current

12. Actuation magnet

012 = 12Volt

012 = 12Volt

024 = 24Volt

036 = 36Volt

042 = 42Volt

048 = 48Volt

060 = 60Volt

010 = 110 Volt

120 = 120 Volt

220 = 220 Volt

500 = 500 Volt

13. Add. for actuation

D31 = DE3D1

D32 = DE3D2

E31 = DE3E1

E32 = DE3E2

E43 = DE4/3

iE5 = iE5

Y. Special version

SO = Special version

Dief = 6 mm stroke, MS cons.

Raaij = MS console

3.10 PSC / PSS : Proportional seat valve cartridge version

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 2 | / | 2 | P | S | C | - | 0 | 2 | 5 | - | 0 | 6 | - | 1 | N | D | 1 | I | N | E | N | - | 2 | 5 | - | 1 | 0 | * | * |
| 1 | | | | | | 2 | | | | | 3 | | | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | | | 12 | | | 13 | | |

1. Designation

PSC = 2/2 dir. contr. proportional fitted seat valve with DIN cartridge
PSS = 2/2 dir. contr. proportional fitted seat valve with Tiefenbach cartridge

2. Nominal size

| NG | Standard plt-ctrl | No. plt-ctrl |
|-----|-------------------|--------------|
| 010 | | |
| 016 | | |
| 020 | | |
| 025 | 03 | 1 |
| 032 | 03 | 1 |
| 040 | | |
| 050 | | |
| 065 | | |
| 080 | | |
| 100 | | |

(The third column states the number of pilot-control valve pairs)

3. Pilot control

Standard see table at 2.
00 = without pilot control
03 = NG 3
06 = NG 6

4. Number of pilot control units (pairs)

0 = without pilot control
1 = one pair of pilot-control valves
2 = two pairs of pilot-control valves
3 = three pairs of pilot-control valves

5. Additional function de-energized open/closed

N = Standard
O = De-energized open
G = De-energized closed

6. Piston rod version

D1 = Throttle piston

7. Transducer

I = 4 - 20 mA
U = 0 - 10 V

8. Sealing material

N = Standard

9. Medium (material internal parts)

E = emulsion/water/glycol/oil
S = Aggressive (e.g. containing salt)

10. Environmental conditions

N = Standard
S = Aggressive (e.g. containing salt)

11. Pressure level

25 = 0....315 bar

12. Series designation

(is internally assigned)
Series 10 - 19 are internal modifications

13. Optional special version

(shown in plain text)

Auxiliary designation

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| P | O | P | - | S | E | A | T | - | C | A | R | T | R | I | D | G | E | | | |

3.11 PSV : Proportional fitted seat valve

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 2 | / | 2 | P | S | V | - | 0 | 2 | 5 | - | 0 | 6 | - | 1 | N | D | 1 | I | N | E | N | - | 2 | 5 | - | 1 | 0 | * | * |
| 1 | | | | | | 2 | | | | | | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | | | | | | 12 | | 13 | |

1. Designation

PSV = 2/2 dir. ctrl. proportional fitted seat valve with Tiefenbach cartridge

2. Nominal size

| NG | Standard plt-ctrl | No. plt-ctrl |
|-----|-------------------|--------------|
| 016 | 03 | 1 |
| 025 | 03 | 1 |
| 032 | 06 | 1 |
| 040 | 06 | 1 |
| 050 | 06 | 1 |
| 065 | 06 | 1 |
| 080 | 06 | 2 |
| 100 | 06 | 23 |

(The third column states the number of pilot-control valve pairs)

3. Pilot control

Standard see table at 2.

00 = without pilot control

03 = NG 3

06 = NG 6

4. Number of pilot control units (pairs)

0 = without pilot control

1 = one pair of pilot-control valves

2 = two pairs of pilot-control valves

3 = three pairs of pilot-control valves

5. Additional function de-energized open/closed

N = Standard

O = De-energized open

G = De-energized closed

6. Piston rod version

D1 = Cone pinion

7. Transducer version

I = 4 - 20 mA

U = 0 - 10 V

8. Sealing material

N = Standard

9. Medium (material internal parts)

E = Emulsion/water/glycol/oil

S = Aggressive (e.g. containing salt)

10. Environmental conditions

N = Standard

S = Aggressive (e.g. containing salt)

11. Pressure level

25 = 0....315 bar

Auxiliary designation

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| P | R | O | P | - | F | I | T | T | E | D | | S | E | A | T | | V | A | L | . |

3.12 RV : Check valve

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| R | V | - | 0 | 3 | 2 | - | 2 | 5 | P | N | N | N | - | * | * | | | | | | | | | | | | | | |
| 1 | | | | 2 | | | 3 | | 4 | 5 | 6 | 7 | | 8 | | | | | | | | | | | | | | | |

1. Designation

RV = Check valve

2. Nominal size

003 = NG 3
 004 = NG 4
 006 = NG 6
 010 = NG 10
 012 = NG 12
 016 = NG 16
 025 = NG 25
 032 = NG 32
 040 = NG 40
 050 = NG 50
 065 = NG 65
 080 = NG 80
 100 = NG 100
 125 = NG 125

3. Operating pressure (pressure level)

25 = 320 bar
 26 = 400 bar

4. Design

C = Cartridge (DIN)
 P = Plate mounting
 S = Plug-in type mounting
 F = Flange connection

5. Sealing material

N=NBR

6. Environment

N = Standard
 A = Aggressive (e.g. containing salt)

7. Medium (material internal parts)

E = Emulsion / water / glycol / oil
 S = Aggressive (e.g. containing salt)

8. Setting range (pre-pressure of the valve)

00 = Standard
 01 = 1 bar
 03 = 2 bar
 07 = 5 bar
 99 = Special value
 Special values shown in plain text

Auxiliary designation

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| C | H | E | C | K | | V | A | L | V | E | | | | | | | | | | |

3.13 SBS : Lower/brake - shut-off-valve

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| S | B | S | - | 0 | 3 | 2 | - | 2 | 5 | - | P | G | N | N | N | | | | | | | | | | | | | | |
| 1 | | | | 2 | | | | 3 | | | 4 | 5 | 6 | 7 | 8 | | | | | | | | | | | | | | |

1. Designation

SBV = Lower/brake shut-off-valve

2. Nominal size

016 = NG
 025 = NG
 032 = NG
 040 = NG
 050 = NG
 065 = NG
 150 = NG

3. Operating pressure (pressure level)

18 = 63 bar
 25 = 320 bar

4. Design

P = Plate mounting
 G = Thread connection

5. Function monitoring

G = Closed position
 O = Open position
 B = Both positions
 N = No function monitoring

6. Sealing material

N = NBR

7. Environment

N = Standard
 A = Aggressive (e.g. containing salt)

8. Medium (material internal parts)

E = Emulsion / water / glycol / oil
 S = Aggressive (e.g. containing salt)

Auxiliary designation

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| C | H | E | C | K | | V | A | L | V | E | | | | | | | | | | |



3.14 WV : Shuttle valve

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| W | V | - | 0 | 1 | 2 | - | 2 | 5 | - | P | F | V | T | K | N | E | | | | | | | | | | | | | |
| 1 | | | | 2 | | | 3 | | | 4 | 5 | 6 | 7 | 8 | 9 | | | | | | | | | | | | | | |

1. Designation

WV = Shuttle valve

2. Nominal size

002= NG 2
 003= NG 3
 006= NG 6
 010= NG 10
 016= NG 16

3. Operating pressure (pressure level)

20 = 100 bar
 22 = 160 bar
 25 = 320 bar
 26 = 400 bar
 27 = 500 bar
 28 = 630 bar

4. Design

P = Plate mounting
 S = Plug-in type valve

5. Version

F = spring loaded
 O = without springs

6. Sealing material

NB = Perbunan
 VT = Viton

7. Ball material

K = Ceramics
 S = Steel

8. Environment

N = Standard
 A = Aggressive (e.g. containing salt)

9. Version

F = spring loaded
 O = without springs

Auxiliary designation

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| S | H | U | T | T | L | E | | V | A | L | V | E | | | | | | | | |