

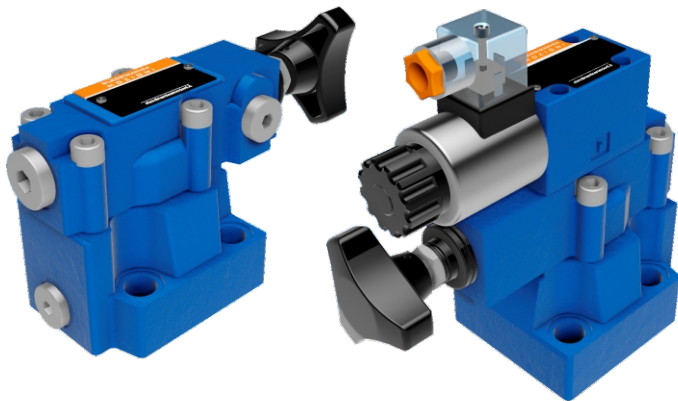


VALVOLE DI PRESSIONE

DB & DBW

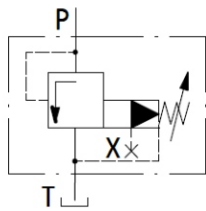
PILOT OPERATED PRESSURE  
RELIEF VALVES

DB AND DBW TYPE VALVE IS A PILOT OPERATED PRESSURE RELIEF VALVE, USED TO LIMIT (DB) OR LIMIT AND UNLOAD (DBW) PRESSURE VIA SOLENOID OPERATION. THE PRESSURE RELIEF VALVES CONSIST OF MAIN VALVE (1) WITH MAIN SPOOL CARTRIDGE (3) AND PILOT OPERATED VALVE (2) WITH PRESSURE ADJUSTMENT ELEMENTS.

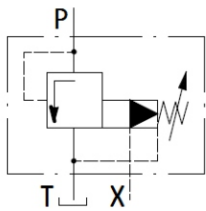


TECHNICAL DATA

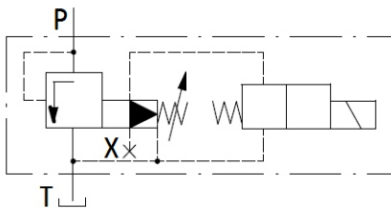
| SIZE                        |                   | 10                          | 15  | 20  | 25  | 30  |
|-----------------------------|-------------------|-----------------------------|-----|-----|-----|-----|
| MAX. FLOW RATE (L/MIN)      | SUPLATE           | 250                         | –   | 50  | –   | 650 |
|                             | THREADED          | 250                         | 500 | 500 | 500 | 650 |
| OPERATING PRESSURE (MPA)    | A,B,X,P PORTS     | 350                         |     |     |     |     |
|                             | PORT T (DB)       | 315                         |     |     |     |     |
| MAX. BACK PRESSURE (MPA)    | PORT Y (DB)       | 315                         |     |     |     |     |
|                             | PORT Y OR T (DBW) | AC UP TO 160, DC UP TO 210  |     |     |     |     |
| MAX. SETTING PRESSURE (MPA) |                   | 5; 10; 20; 31.5; 35         |     |     |     |     |
| FLUID TEMPERATURE (°C)      |                   | -20 – 80                    |     |     |     |     |
| FILTRATION ACCURACY (µm)    |                   | 25                          |     |     |     |     |
| VALVE BODY (MATERIAL)       |                   | CASTING PHOSPHATING SURFACE |     |     |     |     |



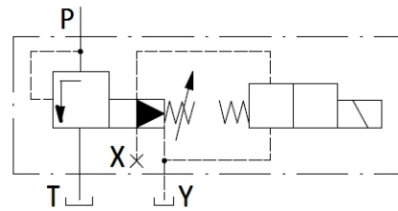
DB.../...



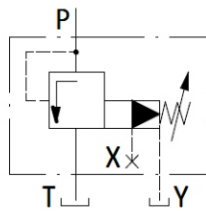
DB.../...X...



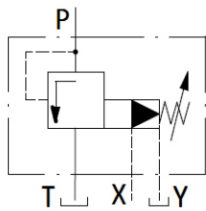
DBW.../...



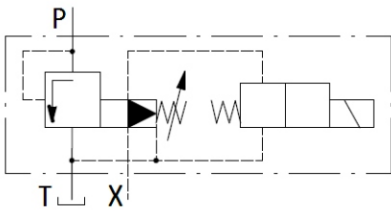
DBW.../...Y...



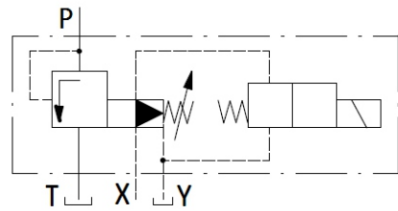
DB.../...Y...



DB.../...XY...



DBW.../...X...



DBW.../...XY...

## TECHNICAL DATA

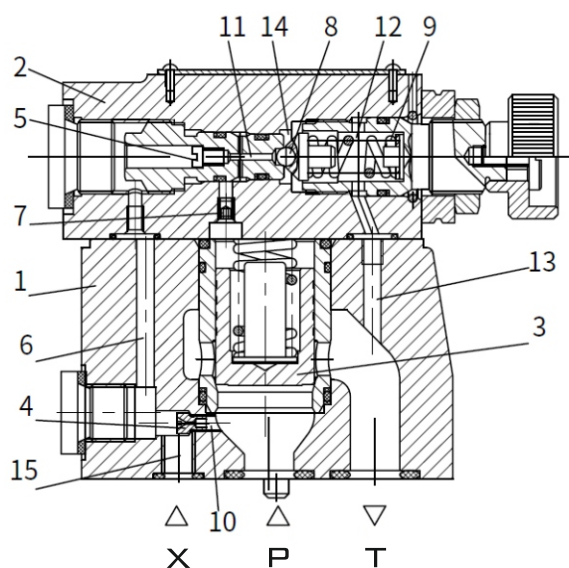
### TYPE DB PRESSURE RELIEF VALVE

THE PRESSURE OF CHANNEL P ACTS ON THE MAIN SPOOL (3), MEANWHILE, PRESSURE IS APPLIED VIA CONTROL LINE (6) AND (7) WITH ORIFICE (4) AND (5) ON THE SPRING LOADED SIDE OF THE MAIN SPOOL (3) AND ON THE BALL (8) IN THE PILOT OPERATED VALVE (2). IF THE PRESSURE IN CHANNEL P RISES EXCESS THE SETTING VALUE AT THE SPRING (9), THE BALL (8) OPENS AGAINST THE SPRING (9). AS FOR THE INTERNAL CONTROL FORMS, SIGNAL IS GIVEN BY CONTROL OIL (10) AND (6) SUPPLIED BY CHANNEL P. THE OIL FROM THE SPRING LOADED SIDE OF THE MAIN SPOOL (3), VIA CONTROL LINE (7), ORIFICE(11), AND BALL (8), THEN FLOWS INTO SPRING CHAMBER (12). INTERNAL DRAIN - TYPE DB...50...Y, OIL FLOWS VIA CONTROL LINE (14) INTO THE TANK. IN VIRTUE OF THE ORIFICE (4) AND (5), THE PRESSURE DROP ARISES AT THE MAIN SPOOL (3), AND THE CONNECTION FROM PORT P TO PORT T IS OPEN WHILE THE OPERATIONAL PRESSURE SETTING MAINTAINED STABLE. THE PRESSURE RELIEF VALVE MAY UNLOAD OR SHIFT THE DIFFERENT PRESSURE (SECOND RATED PRESSURE VALUE) IN VIRTUE OF EXTERNAL CONTROL PORT X (15).

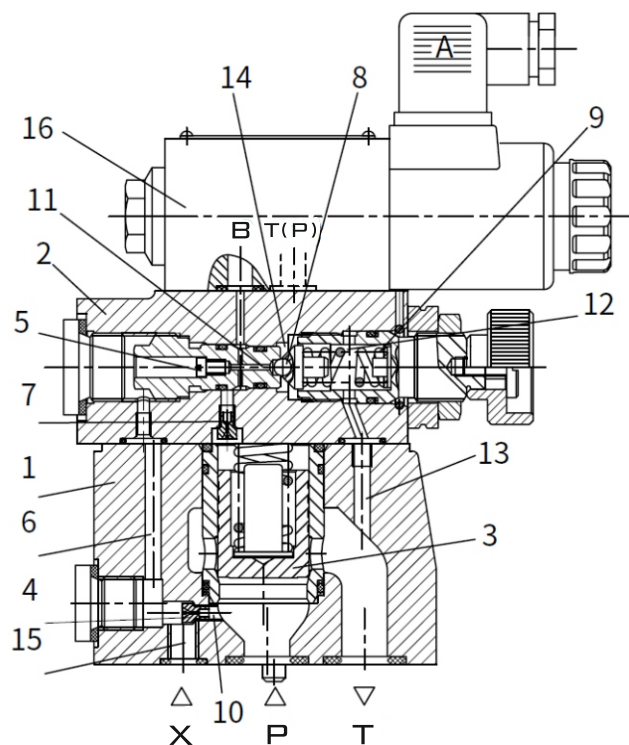
### TYPE DBW PRESSURE RELIEF VALVE

THE FUNCTION OF PRESSURE RELIEF VALVE TYPE DBW IS THE SAME WITH PRESSURE RELIEF VALVE TYPE DB, THE DIFFERENCE IS THAT VALVE TYPE DBW OPERATES UNLOADING VIA A BUILT-ON DIRECTIONAL VALVE (16).

## DB



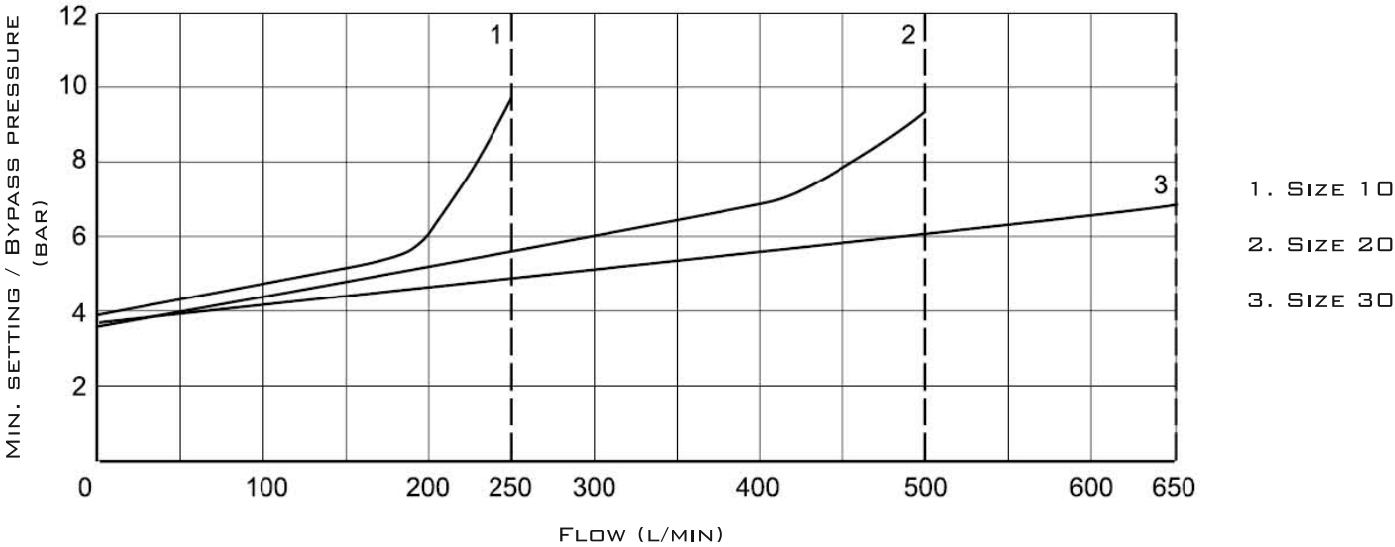
## DBW



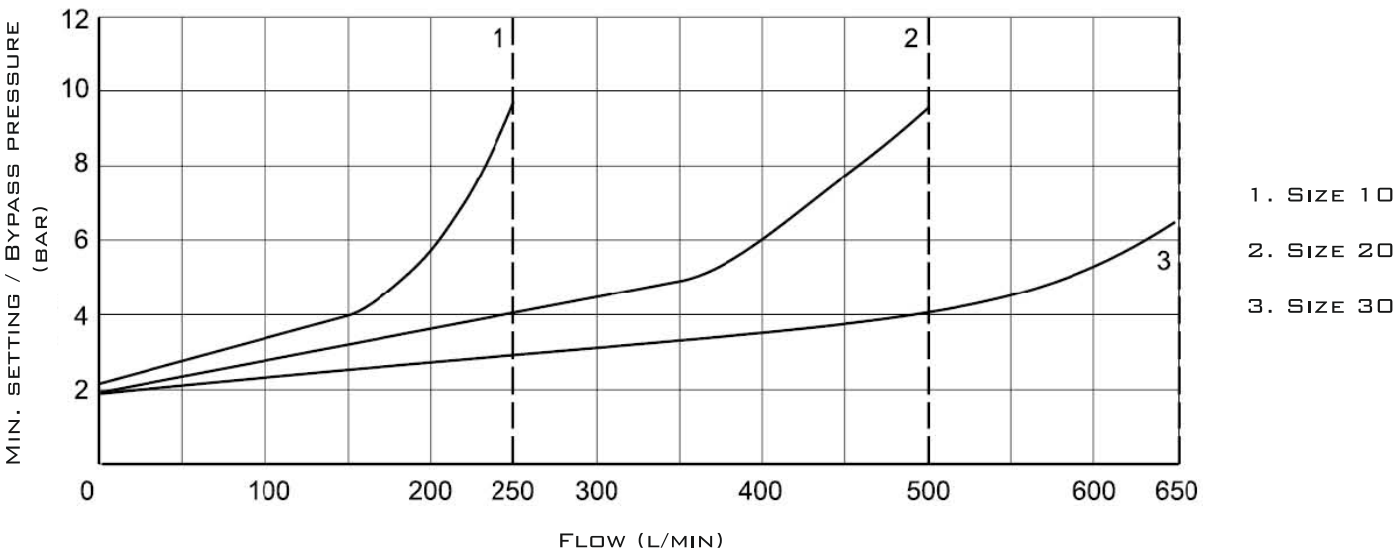


CHARACTERISTIC CURVES

CHARACTERISTIC OF MIN. SETTING PRESSURE BYPASS / BYPASS PRESSURE AND FLOW  
STANDART



CHARACTERISTIC OF MIN. SETTING PRESSURE BYPASS / BYPASS PRESSURE AND FLOW  
TYPE "U"



ATTENTION!  
THE CURVES MEASURED WITHOUT PRESSURE WHEN CONTROL OIL BACK TO THE TANK.  
REFERS TO THE BACK INTO HOUSING OF THE CONTROL OIL, THE PRESSURE OF "T" PORT HAS  
INCREASED AGAINST THE INPUT PRESSURE.  
THE CURVES ARE AVAILABLE WHEN THE OUTPUT PRESSURE  $P_t=0$  WITHIN THE FLOW RANGES.

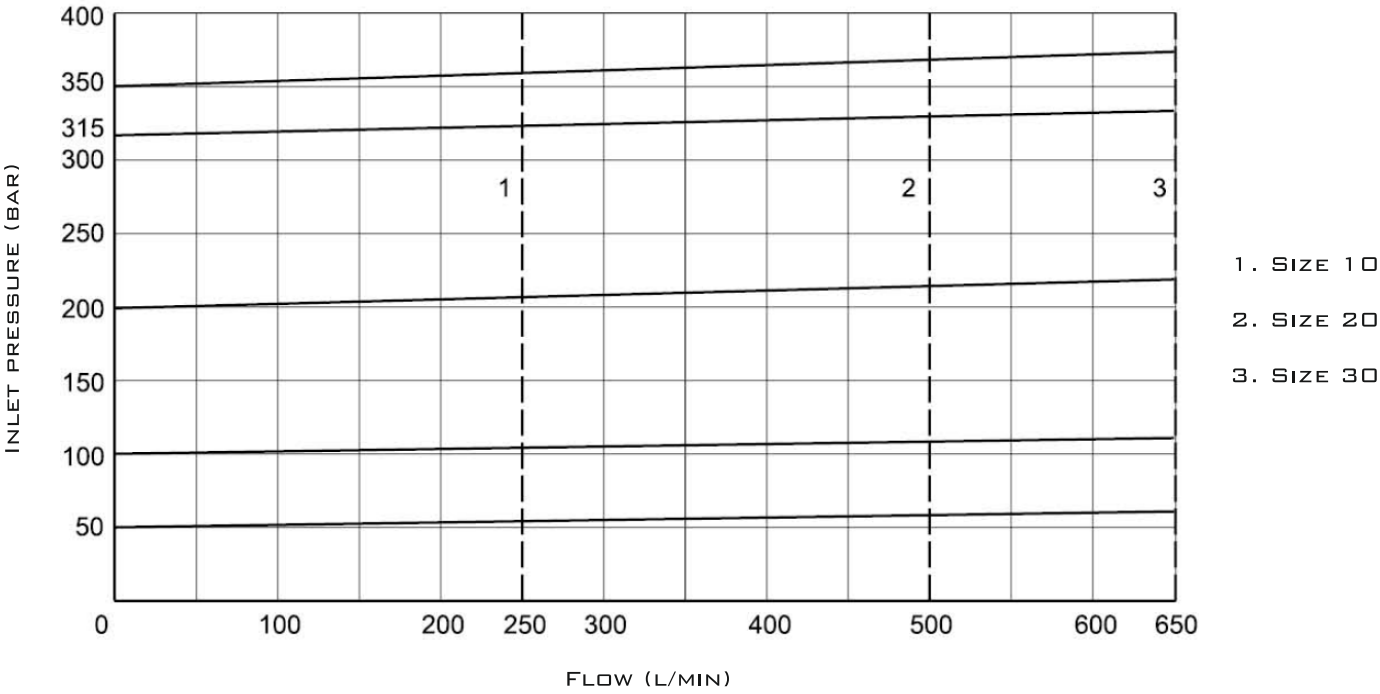
SEE ALSO:  
DBD, ZDB



PILOT OPERATED PRESSURE  
RELIEF VALVES

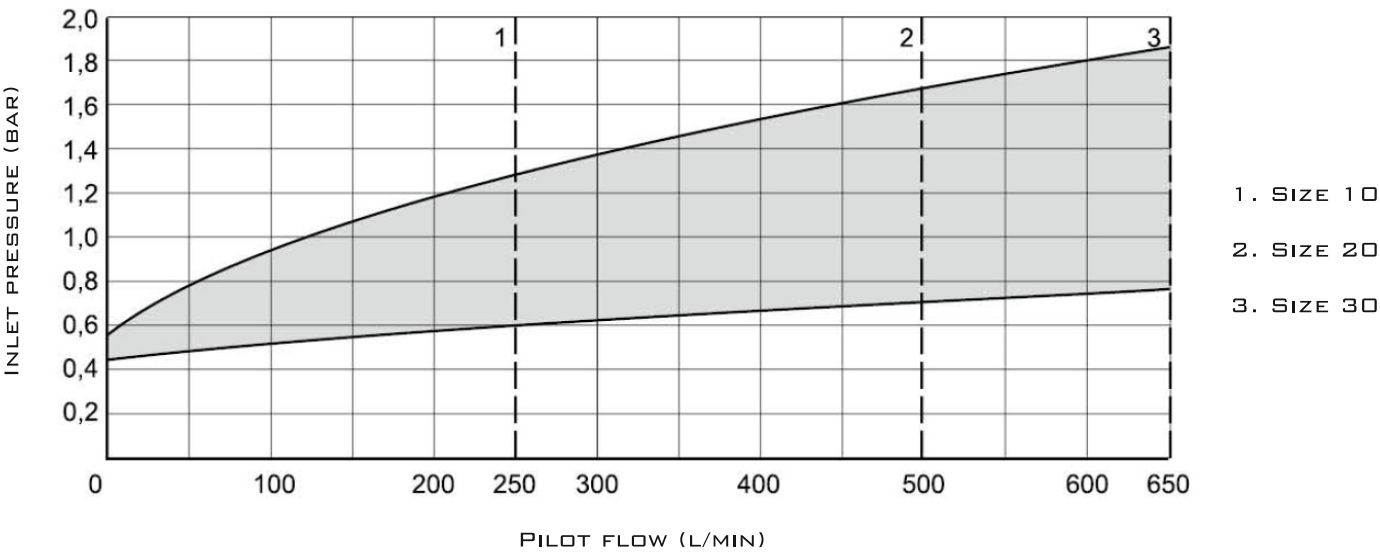
CHARACTERISTIC CURVES

CHARACTERISTIC OF INLET PRESSURE AND FLOW



ATTENTION!  
REFERS TO THE BACK INTO HOUSING OF THE CONTROL OIL, THE PRESSURE OF “T” PORT  
HAS INCREASED AGAINST THE INPUT PRESSURE.

PILOT FLOW





### THREADED MOUNTING

The technical drawing illustrates the dimensions for two solenoid valve models: DB..G..50 and DB..G..30. The top section shows the DB..G..50 model with its outline and installation dimensions. The bottom section shows the DB..G..30 model with its outline and installation dimensions. The drawing includes various views: a side view, a top view, and a cross-sectional view. Key dimensions are labeled with numbers and symbols, including diameters (Φ), lengths (L), and heights (H). The DB..G..50 model has a maximum length of 156 mm and a maximum height of 18 mm. The DB..G..30 model has a maximum length of 169 mm and a maximum height of 18 mm. The drawing also shows the internal components of the valve, including the solenoid coil, plunger, and valve seat. The DB..G..50 model has a maximum diameter of Φ35 mm, while the DB..G..30 model has a maximum diameter of Φ32 mm. The drawing includes a note: "134(H2= dimension of series 30)".

134(H2= dimension of series 30)

DB..G..50 OUTLINE AND INSTALLATION DIMENSION

DB..G..30 OUTLINE AND INSTALLATION DIMENSION

| MODEL | D 1     |         | D2 | D3 | D3 | B1 | H1 | H2  | H3 | H4 | L1  | L2 | L3 |
|-------|---------|---------|----|----|----|----|----|-----|----|----|-----|----|----|
|       | METRIC  | INCH    |    |    |    |    |    |     |    |    |     |    |    |
| DB10G | M22X1.5 | G1/2"   | 34 | 14 | 9  | 63 | 27 | 125 | 10 | 62 | 85  | 14 | 62 |
| DB15G | M27X2   | G3/4"   | 42 | 16 |    |    |    |     |    | 57 |     |    |    |
| DB20G | M33X2   | G1"     | 47 | 18 |    |    |    |     |    |    |     |    |    |
| DB25G | M42X2   | G1 1/4" | 58 | 20 | 11 | 70 | 42 | 138 | 13 | 66 | 100 | 18 | 72 |
| DB30G | M48X2   | G1 1/2" | 65 | 22 |    |    |    |     |    |    |     |    |    |

|                                                                                                                                                                                                                  |                      |                                                                                                                                                                                                                                |    |  |  |  |  |    |  |  |    |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|--|--|--|--|----|--|--|----|--|--|--|--|--|--|--|--|--|--|--|
|                                                                                                                                   | VALVOLE DI PRESSIONE | DB & DBW                                                                                                                                                                                                                       |    |  |  |  |  |    |  |  |    |  |  |  |  |  |  |  |  |  |  |  |
|                                                                                                                                                                                                                  |                      | PILOT OPERATED PRESSURE<br>RELIEF VALVES                                                                                                                                                                                       |    |  |  |  |  |    |  |  |    |  |  |  |  |  |  |  |  |  |  |  |
| ORDER CODE                                                                                                                                                                                                       |                      |                                                                                                                                                                                                                                |    |  |  |  |  |    |  |  |    |  |  |  |  |  |  |  |  |  |  |  |
| <table><tr><td>DB</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>50</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table> |                      |                                                                                                                                                                                                                                | DB |  |  |  |  |    |  |  | 50 |  |  |  |  |  |  |  |  |  |  |  |
| DB                                                                                                                                                                                                               |                      |                                                                                                                                                                                                                                |    |  |  |  |  | 50 |  |  |    |  |  |  |  |  |  |  |  |  |  |  |
| <div>NO CODE=<br/>=WITHOUT<br/>SOLENOID VALVE<br/>W=WITH<br/>SOLENOID VALVE</div>                                                                                                                                |                      | <div>NO CODE=PILOT<br/>OPERATED VALVE<br/>C=PILOT OPERATED<br/>WITHOUT MAIN<br/>CARTRIDGE (NOT<br/>MARKED SIZE)<br/>C=PILOT OPERATED<br/>WITH MAIN CARTRIDGE<br/>(MARKED SIZE)<br/>T=REMOTE PRESSURE<br/>ADJUSTING VALVE</div> |    |  |  |  |  |    |  |  |    |  |  |  |  |  |  |  |  |  |  |  |
| <div>SUBPLATE MOUNTING SIZE:<br/>10, 20, 30<br/>THREADED CONNECTION<br/>SIZE:<br/>10, 15, 20, 25, 30</div>                                                                                                       |                      | <div>NO CODE=SUBPLATE MOUNTING<br/>G=THREAD CONNECTION</div>                                                                                                                                                                   |    |  |  |  |  |    |  |  |    |  |  |  |  |  |  |  |  |  |  |  |
| <div>1=ROTARY KNOB<br/>2=ADJUSTING BOLT WITH PROTECT<br/>COVER<br/>3=LOCKABLE KNOB WITH SCALE<br/>7=KNOB WITH SCALE</div>                                                                                        |                      |                                                                                                                                                                                                                                |    |  |  |  |  |    |  |  |    |  |  |  |  |  |  |  |  |  |  |  |
| <div>30=30 SERIES<br/>50=50 SERIES</div>                                                                                                                                                                         |                      |                                                                                                                                                                                                                                |    |  |  |  |  |    |  |  |    |  |  |  |  |  |  |  |  |  |  |  |
| <div>50=MAX. SETTING PRESSURE 5 MPA<br/>100=MAX. SETTING PRESSURE 10 MPA<br/>200=MAX. SETTING PRESSURE 20 MPA<br/>315=MAX. SETTING PRESSURE 31.5 MPA<br/>350=MAX. SETTING PRESSURE 35 MPA</div>                  |                      |                                                                                                                                                                                                                                |    |  |  |  |  |    |  |  |    |  |  |  |  |  |  |  |  |  |  |  |
| <div>NO CODE=<br/>=NBR SEALS<br/>V=FKM SEALS</div>                                                                                                                                                               |                      |                                                                                                                                                                                                                                |    |  |  |  |  |    |  |  |    |  |  |  |  |  |  |  |  |  |  |  |
| <div>ONLY FOR PORT Y1<br/>IN PILOT VALVE OF<br/>THREADED<br/>CONNECTION OR<br/>SUBPLATE MOUNTING<br/>NO CODE=INCH<br/>THREAD<br/>2=METRIC THREAD</div>                                                           |                      |                                                                                                                                                                                                                                |    |  |  |  |  |    |  |  |    |  |  |  |  |  |  |  |  |  |  |  |
| <div>FOR DBW../...S...:<br/>R12=ORIFICE Ø1.2 IN<br/>PORT B OF DIRECTIONAL<br/>VALVE</div>                                                                                                                        |                      |                                                                                                                                                                                                                                |    |  |  |  |  |    |  |  |    |  |  |  |  |  |  |  |  |  |  |  |
| <div>FOR DBW:<br/>Z4=ELECTRICAL PLUG<br/>WITHOUT LAMP<br/>Z5L=ELECTRICAL PLUG<br/>WITH LAMP</div>                                                                                                                |                      |                                                                                                                                                                                                                                |    |  |  |  |  |    |  |  |    |  |  |  |  |  |  |  |  |  |  |  |
| <div>FOR DBW:<br/>N=WITH HAND OVERRIDE</div>                                                                                                                                                                     |                      |                                                                                                                                                                                                                                |    |  |  |  |  |    |  |  |    |  |  |  |  |  |  |  |  |  |  |  |
| <div>G12=DC12V<br/>G24=DC24V<br/>W110R=AC110V<br/>W220R=AC220V</div>                                                                                                                                             |                      |                                                                                                                                                                                                                                |    |  |  |  |  |    |  |  |    |  |  |  |  |  |  |  |  |  |  |  |
| <div>FOR DBW:<br/>6E=WITH HIGH PERFORMANCE<br/>DIRECTIONAL SPOOL VALVE</div>                                                                                                                                     |                      |                                                                                                                                                                                                                                |    |  |  |  |  |    |  |  |    |  |  |  |  |  |  |  |  |  |  |  |
| <div>NO CODE=WITHOUT SWITCHING<br/>SHOCK DAMPING<br/>S=WITH SWITCHING SHOCK DAMPING<br/>(ONLY WITH TYPE DBW)</div>                                                                                               |                      |                                                                                                                                                                                                                                |    |  |  |  |  |    |  |  |    |  |  |  |  |  |  |  |  |  |  |  |
| <div>NO CODE=STANDARD TYPE<br/>U=VALVE FOR LOWER OPENING PRESSURE</div>                                                                                                                                          |                      |                                                                                                                                                                                                                                |    |  |  |  |  |    |  |  |    |  |  |  |  |  |  |  |  |  |  |  |
| <div>NO CODE=INTERNAL SUPPLY, INTERNAL DRAIN<br/>X=EXTERNAL SUPPLY, INTERNAL DRAIN<br/>Y=INTERNAL SUPPLY, EXTERNAL DRAIN<br/>XY=EXTERNAL SUPPLY, EXTERNAL DRAIN</div>                                            |                      |                                                                                                                                                                                                                                |    |  |  |  |  |    |  |  |    |  |  |  |  |  |  |  |  |  |  |  |