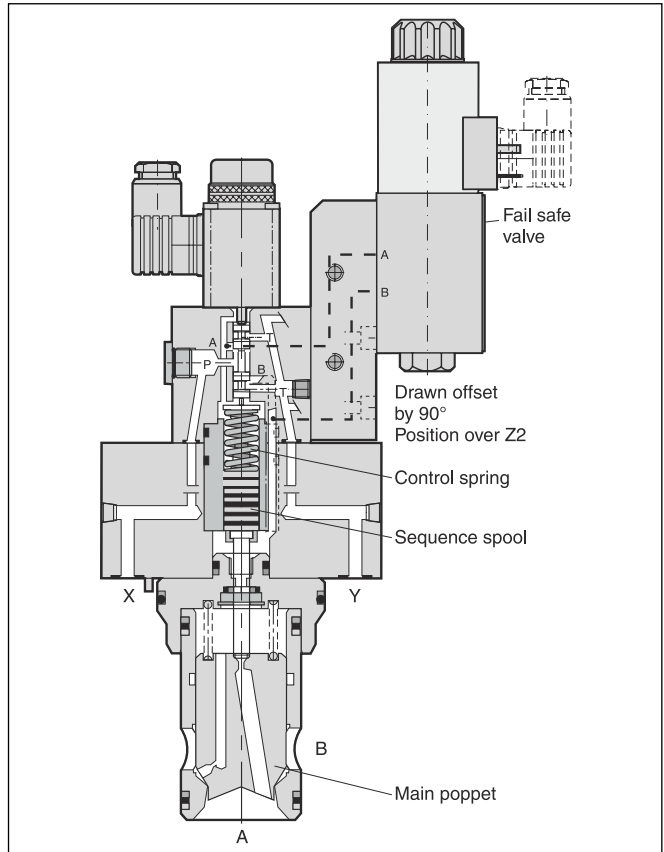
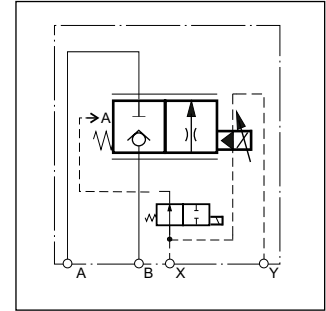
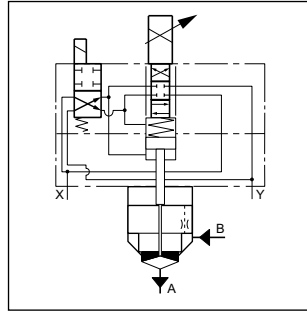


Parker Series TEA Proportional Throttle Valve with Shut-Off Valve Service Manual

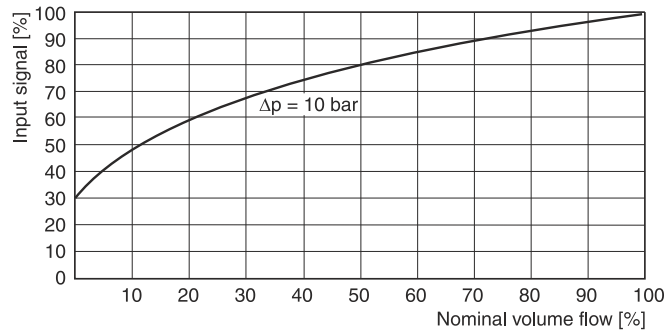
Accumulator discharge valves series TEA are preferably used in hydraulic systems where high flow rates are discharged from hydraulic accumulators over a short operating period (in the range of milliseconds). Typical applications are injection molding and die casting machines as well as hydraulic presses.

Basically the function of an accumulator discharge valve corresponds to the function of a TDA throttle valve. In addition a directional valve is integrated in the pilot circuit to meet the relevant safety regulations.

The directional valve provides the safety function. When the solenoid is deenergized and the spring is in end position, pilot pressure from X presses the control piston into lower end position and the main poppet is closed. As a result the flow from B to A or from the reservoir system to the machine is blocked.

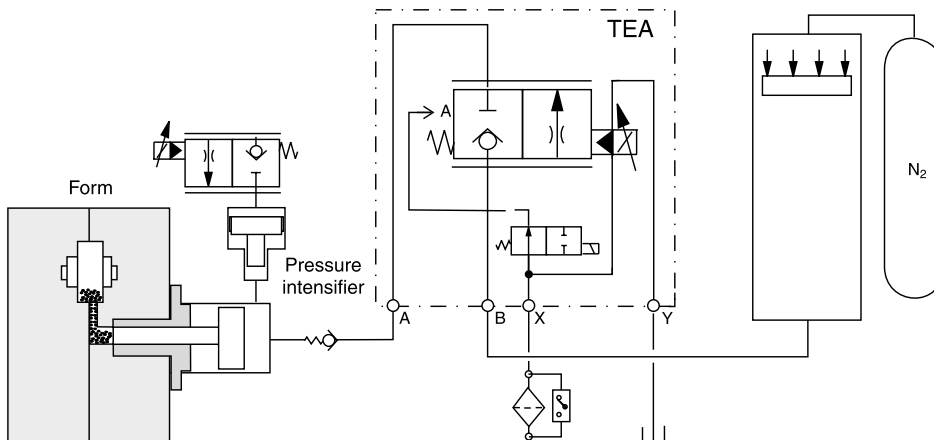


Characteristic curve



Characteristic curve measured with HLP46 at 50 °C.

Example accumulator system in a die casting machine



Ordering Code / Technical Data

Ordering code

| | | | | | | | | | | | | |
|---|--------------|--------------------------|----------|------------|-----------|----------------|-----------------|-------|------------------------|--------------------------|------------------|---|
| TEA | | E | W | 0 | 9 | | 2 | | | W | | |
| 2-way Prop. throttle valve with shut-off function | Nominal size | Cartridge valve ISO 7368 | Design | Spool form | Flow code | Flow direction | Pilot oil guide | Seals | Prop. solenoid voltage | Plug socket without plug | Solenoid voltage | Design series (not required for ordering) |

| | |
|-------------|---------------------|
| Code | Nominal size |
| 025 | NG25 |
| 032 | NG32 |
| 040 | NG40 |
| 050 | NG50 |
| 063 | NG63 |
| 080 | NG80 |
| 100 | NG100 |

| | |
|-------------|-----------------------|
| Code | Flow direction |
| A | A to B |
| B | B to A |

Bold letters = Short-term availability

| | |
|-----------------|-----------------------|
| Code | Solenoid |
| J | 24 V= / 1.25 A |
| U ¹⁾ | 98 V= / 0.31 A |
| G ¹⁾ | 205 V= / 0.15 A |

| | |
|-------------|--------------------------------------|
| Code | Proportional solenoid voltage |
| L | 6 VDC |
| X | 16 VDC |

| | |
|-------------|-------------|
| Code | Seal |
| N | NBR |
| V | FPM |

¹⁾ To be used in combination with rectifier plugs at 120 VAC / 230 VAC power supply.

Technical data

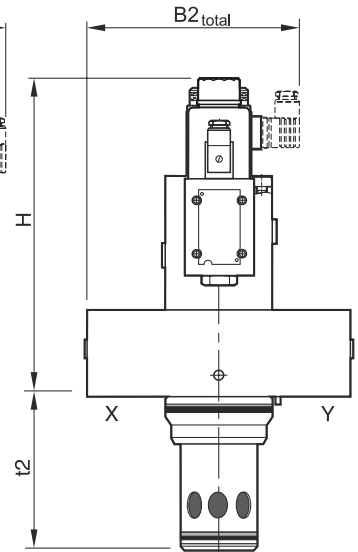
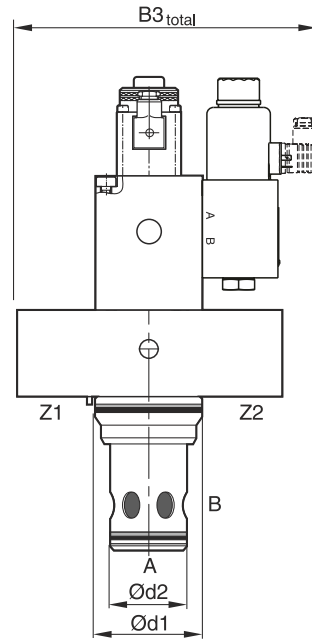
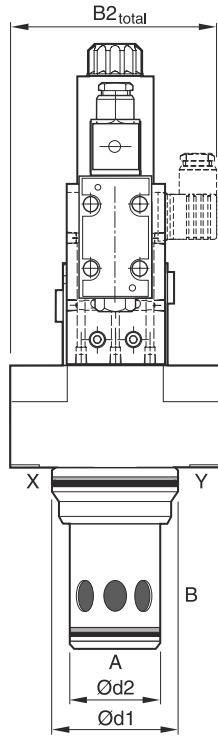
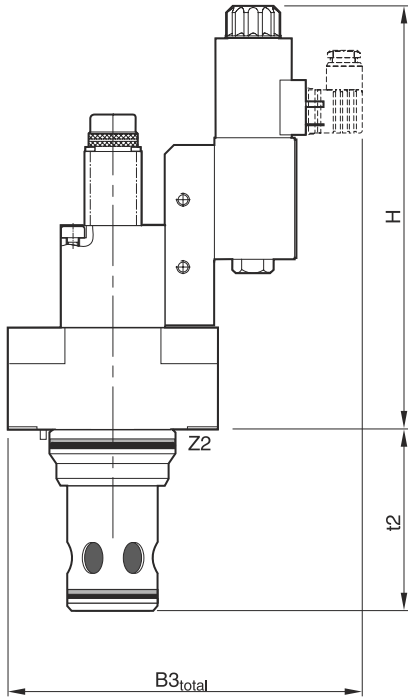
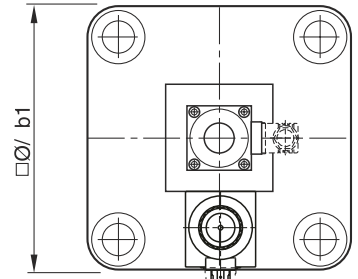
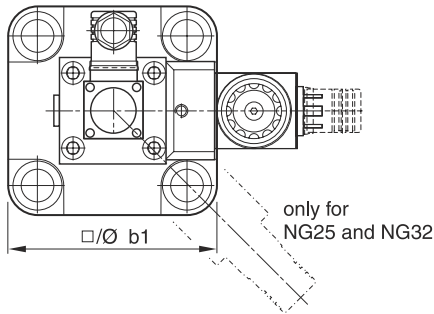
| General | |
|--|--|
| Design | 2-way proportional throttle valve, slip-in cartridge according to ISO 7368 |
| Nominal size | NG25 NG32 NG40 NG50 NG63 NG80 NG100 |
| Mounting position | unrestricted |
| Ambient temperature | [°C] -20...+60 |
| MTTF _D value | [years] 75 |
| Weight | [kg] 7.5 9 13 22 38 62 85 |
| Extracting tools | See accessories |
| Hydraulics | |
| Max. operating pressure | [bar] Ports A, B and X up to 350, port Y max. 10 |
| Fluid | Hydraulic oil according to DIN 51524 |
| Fluid temperature | [°C] -20...+70 (NBR: -25...+70) |
| Viscosity, permitted | [cSt]/[mm ² /s] 20...400 |
| Viscosity, recommended | [cSt]/[mm ² /s] 30...80 |
| Filtration | ISO 4406 (1999); 18/16/13 |
| Nominal flow Δp = 10 bar | [l/min] 500 950 1400 2300 4000 6000 9500 |
| Pilot pressure, min. | [bar] > 25 % of system pressure |
| Pilot oil supply | Depending on flow direction A or B using X or external X |
| Pilot oil at p = 100 bar | [l/min] Port X → Y <1.5 |
| Opening point | At 30 % of nominal current |
| Manufacturing tolerance | [%] ±5 of Q _{nom} |
| Static/dynamic | |
| Response time at p _x = 50 bar | [ms] 25 30 35 45 55 65 80 |
| Hysteresis | [%] < 3 |
| Repeatability | [%] < 1 |
| Electrical (proportional solenoid) | |
| Duty ratio | 100 % ED |
| Protection class | IP65 according to EN 60529 (with correctly mounted plug-in connector) |
| Solenoid | Code L X |
| at size | 16-50 63-100 16-50 63-100 |
| Solenoid voltage | [V] 6 16 |
| Nominal current (100 % ED) | [A] 2.6 1.05 |
| Nominal resistance | [Ohm] 2.2 2.5 11.3 14 |
| Power amplifier, recommended | PCD 00A-400, Connector as per EN 175301-803 |
| Pilot valve | 4/2 flow control valve type D1VW (NG25-NG50), type D3DW (NG63-NG100) |



Dimensions

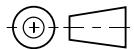
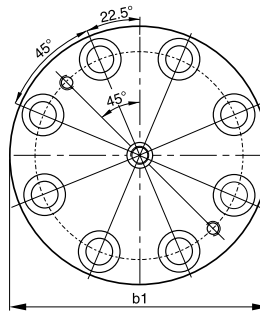
TEA NG25...50

TEA NG63...100



8

| Size | 25 | 32 | 40 | 50 | 63 | 80 | 100 |
|---------------------|-----|-----|-----|-----|-----|-------|-------|
| H | 239 | 250 | 260 | 270 | 312 | 337 | 352 |
| b1 | 85 | 102 | 125 | 140 | 180 | Ø 250 | Ø 300 |
| d1 ^{H7} | 45 | 60 | 75 | 90 | 120 | 145 | 180 |
| d2 ^{H7} | 34 | 45 | 55 | 68 | 90 | 110 | 135 |
| t2 ^{+0.1} | 72 | 85 | 105 | 122 | 155 | 205 | 245 |
| B2 _{total} | 98 | 106 | 118 | 125 | 158 | 193 | 218 |
| B3 _{total} | 208 | 205 | 216 | 224 | 255 | 290 | 315 |



| NG | Kit | ISO 4762-12.9 | | Kit | |
|-----|-------|---------------|---------|---------------|----------------|
| | | | | NBR | FPM |
| 25 | BK391 | 4x M12x50 | 108 Nm | SK-TEAN10E25 | SK-TEAN10E25V |
| 32 | BK415 | 4x M16x55 | 264 Nm | SK-TEAN10E32 | SK-TEAN10E32V |
| 40 | BK416 | 4x M20x70 | 517 Nm | SK-TEAN10E40 | SK-TEAN10E40V |
| 50 | BK417 | 4x M20x75 | 517 Nm | SK-TEAN10E50 | SK-TEAN10E50V |
| 63 | BK418 | 4x M30x100 | 1775 Nm | SK-TEAN10E63 | SK-TEAN10E63V |
| 80 | BK419 | 8x M24x120 | 890 Nm | SK-TEAN10E80 | SK-TEAN10E80V |
| 100 | BK420 | 8x M30x140 | 1775 Nm | SK-TEAN10E100 | SK-TEAN10E100V |