General Description

Series TEA accumulator discharge valves 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 the 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.

Example: Accumulator System in a Die Casting Machine
### Ordering Information

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Flow Direction</th>
<th>Spool Form</th>
<th>Design</th>
<th>Cartridge Valve ISO 7368</th>
<th>Nominal Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEA032</td>
<td>NG32</td>
<td>A to B</td>
<td>E</td>
<td>W</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>TEA040</td>
<td>NG40</td>
<td>A to B</td>
<td>E</td>
<td>W</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>TEA050</td>
<td>NG50</td>
<td>A to B</td>
<td>E</td>
<td>W</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>TEA063</td>
<td>NG63</td>
<td>A to B</td>
<td>E</td>
<td>W</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>TEA080</td>
<td>NG80</td>
<td>A to B</td>
<td>E</td>
<td>W</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>TEA100</td>
<td>NG100</td>
<td>A to B</td>
<td>E</td>
<td>W</td>
<td>0</td>
<td>9</td>
</tr>
</tbody>
</table>

#### Performance Curve

![Performance Curve](image_url)  

**Δp = 10 Bar (145 PSI)**

**Nominal Volume Flow (%)**

**Input Signal (%)**

- **Weight:**
  - TEA032 9 kg (19.8 lbs.)
  - TEA040 13 kg (28.7 lbs.)
  - TEA050 22 kg (48.5 lbs.)
  - TEA063 38 kg (83.8 lbs.)
  - TEA080 62 kg (136.7 lbs.)
  - TEA100 85 kg (187.4 lbs.)

### Technical Information

**Proportional Throttle Valves**

**Series TEA**

**Hydraulic Valve Division**

**Parker Hannifin Corporation**

**Elyria, Ohio, USA**

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*NOTE: Not required when ordering.*

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>J</td>
<td>24V= / 1.25A</td>
</tr>
<tr>
<td>U</td>
<td>98V= / 0.31A *</td>
</tr>
<tr>
<td>G</td>
<td>205V= / 0.15A *</td>
</tr>
</tbody>
</table>

*For 110V / 50 Hz or 220V / 50 Hz use plug with rectifier.*

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>6 VDC</td>
</tr>
<tr>
<td>X</td>
<td>16 VDC</td>
</tr>
</tbody>
</table>
# Proportional Throttle Valves

## Series TEA

### General

<table>
<thead>
<tr>
<th>Size</th>
<th>NG32</th>
<th>NG40</th>
<th>NG50</th>
<th>NG63</th>
<th>NG80</th>
<th>NG100</th>
</tr>
</thead>
</table>

**Interface**
- Slip-in cartridge according to ISO 7368

**Mounting Position**
- Unrestricted

**Ambient Temperature**
- -20 to +80°C (-4 to +176°F)

### Hydraulic

**Maximum Operating Pressure**
- Ports A, B and X: 350 Bar (5075 PSI), Port Y: 10 Bar (145 PSI) maximum

**Nominal Flow**
- \( \Delta p = 10 \) Bar (145 PSI)
  - 950 LPM (251 GPM)
  - 1400 LPM (370 GPM)
  - 2300 LPM (609 GPM)
  - 4000 LPM (1058 GPM)
  - 6000 LPM (1587 GPM)
  - 9500 LPM (2513 GPM)

**Fluid**
- Hydraulic oil according to DIN 51524 ...

**Viscosity Recommended**
- 30 to 80 cSt (mm²/s)

**Viscosity Permitted**
- 20 to 380 cSt (mm²/s)

**Fluid Temperature**
- 0 to +60°C (+32°F to +140°F)

**Filtration**
- ISO 4406 (1999); 18/16/13 (meet NAS 1638:7)

**Minimum Pilot Pressure**
- >25% of system pressure

**Minimum Operating Pressure**
- Port A to B at 10 Bar (145 PSI), B to A at 15 Bar (208 PSI)

**Pilot Oil Supply**
- Depending on flow direction A or B using X or external X

**Pilot Oil at p = 100 Bar (1450 PSI)**
- Port X to Y < 1.5 LPM (0.4 GPM)

**Opening Point**
- At 30% of nominal current

**Manufacturing Tolerance**
- ±5% of Qnom

### Static / Dynamic

**Hysteresis**
- < 3%

**Repeatability**
- < 1%

**Response Time**
- \( px = 50 \) Bar (725 PSI)
  - 30 ms
  - 35 ms
  - 45 ms
  - 55 ms
  - 65 ms
  - 80 ms

### Electrical (Proportional Solenoid)

**Duty Ratio**
- 100% ED

**Protection Class**
- IP65 in accordance with EN 60529 (plugged and mounted)

<table>
<thead>
<tr>
<th>Solenoid</th>
<th>Code</th>
<th>Size</th>
<th>L</th>
<th>X</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>NG16-50</td>
<td>NG63-100</td>
</tr>
</tbody>
</table>

**Solenoid Voltage**
- 6 VDC
  - 2.6 amps
- 16 VDC
  - 1.05 amps

**Nominal Resistance**
- 2.2 Ohm
- 2.5 Ohm
- 11.3 Ohm
- 14 Ohm

**Power Amplifier Recommended**
- PCD00A-400

**Solenoid Connection**
- Connector as per EN 175301-803

**Pilot Valve**
- 4/2 flow control valve,
  - See Catalog HY14-2500/US Type D1VW
  - See Catalog HY14-2500/US Type D3W

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Hydraulic Valve Division

Elyria, Ohio, USA
Proportional Throttle Valves
Series TEA

Dimensions

Inch equivalents for millimeter dimensions are shown in (**)