Explosion-proof solenoid valves
on/off and proportional controls - C UL US certification

Explosion-proof on/off and proportional solenoids certified C UL US according to UL 1002 and CSA 22.2 n°139-1982 Standard, Class I, Groups C&D (Groups IIA & IIB to NEC 505-7).

The solenoid case is designed to contain the possible explosion which could be caused by the presence of the gas mixture inside the housing, thus avoiding dangerous propagation in the external environment.

DHA and DLHO valves are conform to SIL 3 safety level (TÜV approved).

They are also designed to limit the external temperature according to the certified class to avoid the self-ignition of the explosive mixture present in the environment.

These solenoids are applied to hydraulic valves for application in explosion-hazardous environments.

<table>
<thead>
<tr>
<th>SOLENOID TYPE</th>
<th>PROPORTIONAL</th>
<th>ON-OFF</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>without transducer</td>
<td>with transducer</td>
</tr>
<tr>
<td>Solenoid code</td>
<td>OZAUL-A</td>
<td>OZAUL-T</td>
</tr>
<tr>
<td>Voltage code</td>
<td>VDC ±10%</td>
<td>12 DC, 24 DC</td>
</tr>
<tr>
<td>Temperature with +70°C ambient temp.</td>
<td>T4</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Power consumption</td>
<td>35W</td>
<td>12W</td>
</tr>
<tr>
<td>Coil insulation</td>
<td>Class H</td>
<td></td>
</tr>
<tr>
<td>Protection degree</td>
<td>IP 67 According to IEC 144 when correctly coupled with the relevant cable gland</td>
<td></td>
</tr>
<tr>
<td>Duty factor</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Mechanical construction</td>
<td>Flame proof housing classified according to UL 1002 and CSA 22.2 n°139-1982, class I, groups C&amp;D (Groups IIA &amp; IIB to NEC 505-7)</td>
<td></td>
</tr>
<tr>
<td>Cable entrance and electrical wiring</td>
<td>Cable gland connection 1/2” NPT (ANSI B2.1). The relevant cable gland has to be provided by the customer. The valves are supplied with 1,07 m (42 inches) cable lenght factory wired</td>
<td></td>
</tr>
</tbody>
</table>

(1) For alternating current supply a rectifier bridge is provided built-in the solenoid.

Explosion-proof on/off and proportional solenoids certified C UL US according to UL 1002 and CSA 22.2 n°139-1982 Standard, Class I, Groups C&D (Groups IIA & IIB to NEC 505-7).

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They are also designed to limit the external temperature according to the certified class to avoid the self-ignition of the explosive mixture present in the environment.

These solenoids are applied to hydraulic valves for application in explosion-hazardous environments.

Electrical safety marking:

- Class I
- Division 1
- Groups C&D
- Groups IIA & IIB
- Temperature group T4
- Possibility of explosive atmosphere during normal functioning
- Gas group according to UL 1002
- Gas group (according to NEC 505-7)
- Temperature class of solenoid surface referred to +70°C ambient temperature

Explosion-proof on/off and proportional solenoids certified C UL US according to UL 1002 and CSA 22.2 n°139-1982 Standard, Class I, Groups C&D (Groups IIA & IIB to NEC 505-7).

The solenoid case is designed to contain the possible explosion which could be caused by the presence of the gas mixture inside the housing, thus avoiding dangerous propagation in the external environment.

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These solenoids are applied to hydraulic valves for application in explosion-hazardous environments.

Explosion-proof on/off and proportional solenoids certified C UL US according to UL 1002 and CSA 22.2 n°139-1982 Standard, Class I, Groups C&D (Groups IIA & IIB to NEC 505-7).

The solenoid case is designed to contain the possible explosion which could be caused by the presence of the gas mixture inside the housing, thus avoiding dangerous propagation in the external environment.

DHA and DLHO valves are conform to SIL 3 safety level (TÜV approved).

They are also designed to limit the external temperature according to the certified class to avoid the self-ignition of the explosive mixture present in the environment.

These solenoids are applied to hydraulic valves for application in explosion-hazardous environments.
### Model Code of Spool Type On-Off Directional Solenoid Valves

<table>
<thead>
<tr>
<th>DHA</th>
<th>UL</th>
<th>NPT</th>
<th>*</th>
<th>24DC</th>
<th>**</th>
</tr>
</thead>
<tbody>
<tr>
<td>DHA</td>
<td>UL</td>
<td>NPT</td>
<td>*</td>
<td>24DC</td>
<td>**</td>
</tr>
<tr>
<td>DHA</td>
<td>UL</td>
<td>NPT</td>
<td>*</td>
<td>24DC</td>
<td>**</td>
</tr>
<tr>
<td>DHA</td>
<td>UL</td>
<td>NPT</td>
<td>*</td>
<td>24DC</td>
<td>**</td>
</tr>
</tbody>
</table>

**A** = solenoid at side of port B (for single solenoid valves)

**O** = horizontal cable entrance

**MV** = vertical hand lever (1)

**WP** = prolonged manual override protected by metallic cap

**Only for DPHA:**

/D = Internal drain.

/E = External pilot pressure.

/H = Adjustable chokes (meter-out to the pilot chambers of the main valve).

/H9 = Adjustable chokes (meter-in to the pilot chambers of the main valve).

/ST = low temperature execution: -40°C

/S = Main spool stroke adjustment (only for DPHA-2, -3).

**NPT** = 1/2" NPT ANSI B2.1 (tapered)

**Series number**

Voltage code - see section [1]

---

### Configuration of DHA Valves

- **Spools for DHA valves**
  - 0/2
  - 8
  - 90
  - 91
  - 30
  - 49
  - 58

- **Spools for DPHA valves**
  - 0/2
  - 12
  - 19
  - 58

**Where the symbol doesn't show the hydraulic connection (**), it depends on the central configuration of the spool;**

---

### Configuration of DPHA Valves

- **Spools for DPHA valves**
  - 0/2
  - 12
  - 19
  - 58

**Where the symbol doesn't show the hydraulic connection (**), it depends on the central configuration of the spool;**

---

**Options:**

- **WG** = water-glycol
- **PE** = phosphate ester
MODEL CODE OF POPPET TYPE, LEAK FREE, DIRECTIONAL SOLENOID VALVES

Directional control valve
poppet type, size 06

<table>
<thead>
<tr>
<th>H</th>
<th>max flow 12 l/min</th>
</tr>
</thead>
<tbody>
<tr>
<td>K</td>
<td>max flow 30 l/min</td>
</tr>
<tr>
<td>2</td>
<td>two way (only for DLOH)</td>
</tr>
<tr>
<td>3</td>
<td>three way</td>
</tr>
</tbody>
</table>

Valve configuration, see section [8]
A = open in rest position
C = closed in rest position

Solenoid threatened connection:
NPT = 1/2" NPT ANSI B2.1 (tapered)

(1) Option: BT = low temperature -40°C also available on request

CONFIGURATION OF DLOH/AO/* AND DLOK/AO/*

O/A = horizontal cable entrance
R = with check valve on port P (only for DLOH)
WP = prolonged manual override protected by metallic cap

CERTIFICATION TYPE
AO/UL = C UL US certification

Q/Δp DIAGRAMS OF ON/OFF DIRECTIONAL CONTROLS (based on mineral oil ISO VG 46 at 50°C)

Internal leakage of DLOH and DLOK less than 5 drops/min (0,36 cm³/min) at max pressure.

FLOW DIRECTION
Spool type

<table>
<thead>
<tr>
<th>0</th>
<th>0.2, 1, 1/2</th>
<th>3</th>
<th>4, 5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>C</td>
<td>A</td>
<td>D</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>B</td>
<td>C</td>
<td>C</td>
<td>C</td>
<td>D</td>
<td>A</td>
<td>C</td>
</tr>
<tr>
<td>T</td>
<td>C</td>
<td>C</td>
<td>B</td>
<td>B</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Flow direction
Spool type

<table>
<thead>
<tr>
<th>0</th>
<th>0.2, 1, 1/2</th>
<th>3</th>
<th>4, 5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>A (1) (P → B)</td>
<td>A → T</td>
<td>B → T</td>
<td>P → T</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Flow direction
Valve type

<table>
<thead>
<tr>
<th>DLOH-2A</th>
<th>DLOH-2C</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>C</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DLOH-3A</th>
<th>DLOH-3C</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>D</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DLOK-3A</th>
<th>DLOK-3C</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>C</td>
</tr>
</tbody>
</table>

(1) For two-way valves pressure drop refers to $P \rightarrow T$

OPERATING LIMITS OF ON/OFF DIRECTIONAL CONTROLS (based on mineral oil ISO VG 46 at 50°C)
The diagram have been obtained with warm solenoids and power supply at lowest value ($V_{nom}-10\%$). For DHA valves the curves refer to application with symmetrical flow through the valve (i.e. $P \rightarrow A$ and $B \rightarrow T$). In case of asymmetric flow the operating limits must be reduced.

<table>
<thead>
<tr>
<th>DHA</th>
<th>DLOH</th>
<th>DLOK</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>S</td>
<td>V</td>
</tr>
<tr>
<td>S</td>
<td>B</td>
<td>A</td>
</tr>
<tr>
<td>V</td>
<td>A</td>
<td>B</td>
</tr>
</tbody>
</table>

10.1 Max pressure in port T = 210 bar
**11 MODEL CODE OF PRESSURE RELIEF VALVES**

### AGAM
- Valve size:
  - 20 (ISO 6264)
  - 32 (ISO 6264)

### ARAM
- Valve size:
  - 20 = G 3/4"
  - 32 = G 1 1/4"

---

**Valve configuration**
- 0 = venting with de-energized solenoid
- 1 = venting with energized solenoid
- 2 = without venting

---

**Max regulated pressure of first (second / third) setting**
- AGAM: 350 [bar]
- ARAM: 350 [bar]

---

### HYDRAULIC CHARACTERISTICS

#### AGAM
- Valve model: AGAM-**/10
- Size: 10
- Setting: 4÷50; 6÷100; 7÷210; 8÷350
- Max flow: 200 [l/min]

#### ARAM
- Valve model: ARAM-**/20
- Size: 20
- Setting: 4÷50; 6÷100; 7÷210; 8÷350
- Max flow: 350 [l/min]

---

**Synthetic fluids (1):**
- WG = water-glycol
- PE = phosphate ester

---

**Options:**
- E = external pilot
- V = regulating handwheel
- WP = prolonged manual override protected by metallic cap
- Y = external drain
- B = cartridge piloted via port "B" of solenoid pilot valve
- E = external pilot and connections (1/4" GAS) and underneath port X supplied plugged (only for sizes 40...80)
- O = horizontal cable entrance
- WP = prolonged manual override protected by metallic cap

---

**12 HYDRAULIC SYMBOLS**

---

**13 MODEL CODE OF COVERS FOR CARTRIDGE VALVES**

### LIDEW
- Valve model: LIDEW-**/11
- Size: 10
- Setting: 50; 100; 210; 350
- Max flow: 160 [l/min]

---

**Synthetic fluids (1):**
- WG = water-glycol
- PE = phosphate ester

---

**Options:**
- E = external pilot
- V = regulating handwheel
- WP = prolonged manual override protected by metallic cap

---

**14 HYDRAULIC SYMBOLS**
15 MODEL CODE OF PROPORTIONAL DIRECTIONAL VALVES

DHZA /UL - T - 0 7 1 - L 5 / NPT / * / * / * *

UL = C UL US certification
A = without integral position transducer
T = with integral position transducer (not for DPZA)

Valve size (ISO 4401)
DHZA - size 06
DKZA - size 10
DPZA - size 10
- size 16
- size 25

Configuration, DHZA and DKZA see section 16
S = intermediate pressure position, spring centered
T = 3 position, spring centered

Spool overlapping in central position, DHZA and DKZA see section 16
P = positive overlapping; A, B, T, negative

Spool type
L = linear; S = progressive; D = as S, but with P-A = Q, P-B = Q/2

(1) Option BT = low temperature -40°C also available on request
(2) Option MV = available only for DHZA configuration 51, 53, 71, spool type S3, S5, D3, D5, L3, L5

16 HYDRAULIC CHARACTERISTICS of DHZA and DKZA (based on mineral oil ISO VG 46 at 50 °C)

Hydraulic symbols

<table>
<thead>
<tr>
<th>Valve model</th>
<th>DHZA-A</th>
<th>DHZA-T</th>
<th>DKZA-A</th>
<th>DKZA-T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spool overlapping</td>
<td>1, 3</td>
<td>1, 3</td>
<td>1, 3</td>
<td>1, 3</td>
</tr>
<tr>
<td>Spool type and size (1)</td>
<td>L14</td>
<td>L1</td>
<td>S2</td>
<td>S3, L3, D3</td>
</tr>
<tr>
<td>Pressure limits (bar)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Δ max P-T</td>
<td>70</td>
<td>50</td>
<td>40</td>
<td>30</td>
</tr>
<tr>
<td>Max flow (l/min)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>at Δp = 10 bar (P-T)</td>
<td>1</td>
<td>4.5</td>
<td>8</td>
<td>17</td>
</tr>
<tr>
<td>at Δp = 30 bar (P-T)</td>
<td>2</td>
<td>8</td>
<td>14</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>12</td>
<td>21</td>
<td>45</td>
</tr>
<tr>
<td>Response time (2) (ms)</td>
<td>&lt; 30 (A)</td>
<td>&lt; 15 (T)</td>
<td>&lt; 40 (A)</td>
<td>&lt; 20 (T)</td>
</tr>
<tr>
<td>Hysteresis (%)</td>
<td>5% (A)</td>
<td>0.2% (T)</td>
<td>5% (A)</td>
<td>0.2% (T)</td>
</tr>
<tr>
<td>Repeatability</td>
<td>± 1% (A)</td>
<td>± 0.1% (T)</td>
<td>± 1% (A)</td>
<td>± 0.1% (T)</td>
</tr>
</tbody>
</table>

(1) Additional spools and configurations for -T execution, see table F172.
(2) Response times at step signal (0%→100%) are measured from 10% to 90% of step value and are strictly referred to the valve regulation.

17 HYDRAULIC CHARACTERISTICS of DPZA (based on mineral oil ISO VG 46 at 50 °C)

Hydraulic symbols

<table>
<thead>
<tr>
<th>Valve model</th>
<th>DPZA-1</th>
<th>DPZA-2</th>
<th>DPZA-3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spool type and size (1)</td>
<td>L5</td>
<td>S5</td>
<td>D5</td>
</tr>
<tr>
<td>Pressure limits (bar)</td>
<td>Ports P, A, B, X = 350; T = 250; Y = 0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max flow (l/min)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>at Δp = 10 bar</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>at Δp = 30 bar</td>
<td>160</td>
<td>160</td>
<td>160</td>
</tr>
<tr>
<td>max permissible flow</td>
<td>180</td>
<td>180</td>
<td>180</td>
</tr>
<tr>
<td>Response time (2) (ms)</td>
<td>&lt; 80</td>
<td>&lt; 100</td>
<td>&lt; 120</td>
</tr>
<tr>
<td>Hysteresis (%)</td>
<td>≤ 5%</td>
<td>≤ 5%</td>
<td>≤ 5%</td>
</tr>
<tr>
<td>Repeatability</td>
<td>± 1%</td>
<td>± 1%</td>
<td>± 1%</td>
</tr>
</tbody>
</table>

(1) Additional spools and configurations for -T execution, see table F172.
(2) Response times at step signal (0%→100%) are measured from 10% to 90% of step value and are strictly referred to the valve regulation.

ELECTRONIC DRIVERS TO BE USED WITH EX-PROOF PROPORTIONAL VALVES
- Atos driver for proportional valves type -A (without transducer): E-ME-AC, see tab. G035
- Atos driver for proportional valves type -T (with transducer): E-ME-T, see tab. G140
### MODEL CODE OF SERVOPROPORTIONAL VALVES

**DLHZ A**

- **UL - T - 0 - 4 - 0 - L - 7**
- **NPT / * /**

**DLK Z A**

- **UL - T - 0 - 4 - 0 - L - 7**
- **NPT / * /**

**UL** = C UL US certification

**T** = with integral position transducer

**Valve size (ISO 4401)**
- 0 = size 06 (DLHZ A)
- 1 = size 10 (DLK Z A)

**Series number**
- **DLHZ A**
- **T** = with integral position transducer
- **DLK Z A**
- **T** = not linear

**Spool type**
- **L** = linear
- **T** = not linear

**Solenoid threaded connection:**
- **NPT** = 1/2” NPT ANSI B2.1 (tapered)

**Options:**
- **B** = solenoid at side of port A
- **C** = position transducer with current feedback 4÷20 mA
- **Y** = external drain

**Fail safe configuration:**
- 1 = A, B, P, T with positive overlapping
- 3 = P, positive overlapping, A, B, T negative

**Synthetic fluids (1):**
- **WG** = water-glycol
- **PE** = phosphate ester

**Configuration, see section:**
- **4** = external plus central position, spring centered
- **6** = 3 position, spring centered
- **0** = P, A, B, T zero overlapping

**Max regulated flow:**
- 3 = 3,5 l/min
- 12 = 12 l/min
- 18 = 18 l/min
- **90** = 90 l/min

---

### HYDRAULIC CHARACTERISTICS

**HYDRAULIC CHARACTERISTICS** (based on mineral oil ISO VG 46 at 50 ºC)

<table>
<thead>
<tr>
<th>Valve model</th>
<th>Pressure limits (bar)</th>
<th>Ap max P-T</th>
<th>Spool</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DLHZ A</strong></td>
<td></td>
<td>70</td>
<td></td>
</tr>
<tr>
<td><strong>DLK Z A</strong></td>
<td></td>
<td>60</td>
<td></td>
</tr>
</tbody>
</table>

**Max flow (l/min)**
- at Ap = 30 bar: 2,5
- max permissible flow: 4
- Leakage (cm³/min) at P = 100 bar (1): <100

**Response time [ms]**
- 10

**Hysteresis [%]**
- 0,1%

**Thermal drift**
- zero point displacement < 1% at ΔT = 40 ºC

(1) Referred to spool in center position and 50 ºC oil temperature.

---

### MODEL CODE OF PRESSURE COMPENSATED PROPORTIONAL FLOW CONTROL VALVES

**QVHZ A**

- **/ UL - T - 06 / 12 / NPT / * /**

**QVK Z A**

- **/ UL - T - 06 / 12 / NPT / * /**

**UL** = C UL US certification

**A** = without position transducer

**T** = with integral position transducer

**Valve size (ISO 4401)**
- **QVHZ A**: 06
- **QVK Z A**: 10

**Max regulated flow:**
- **QVHZ A**: 3 = 3,5 l/min; 36 = 36 l/min; 40 = 40 l/min
- **QVK Z A**: 36 = 36 l/min; 90 = 90 l/min

(1) Option **VT** = low temperature -40 ºC also available on request.

---

### HYDRAULIC CHARACTERISTICS

**HYDRAULIC CHARACTERISTICS** (based on mineral oil ISO VG 46 at 50 ºC)

<table>
<thead>
<tr>
<th>Valve model</th>
<th>QVHZ A</th>
<th>QVHZ A</th>
<th>QVHZ A</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>QVHZ A</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>QVK Z A</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Max regulated flow (l/min):**
- P, A, B = 350 20, 26, 26
- T = 160 40, 65, 65

Above performance data refer to valves coupled with Atos electronic drivers.

(1) Values are referred to 3-way configuration. In the 2-way configuration, the values of min regulated flow are higher.
**22 MODEL CODE OF PROPORTIONAL PRESSURE RELIEF AND COMPENSATOR VALVES**

Pressure relief:
- RZMA = subplate size 06
- HZMA = modular size 06
- AGMZA = subplate size 10, 20, 32
- LIMZA = cartridge (1)
- LICZA = cartridge (1)

Valve size:
- UL = C US certification
- A = without integral pressure transducer

Max regulated pressure:
- see section for size code

Options:
- E = external pilot (only for AGMZA)
- O = horizontal cable entrance
- P = with integral mechanical pressure limiter (only for LI*ZA)
- Y = external drain (only for AGMZA)

Solenoid threaded connection:
- NPT = 1/2" NPT ANSI B2.1 (tapered)

**23 HYDRAULIC CHARACTERISTICS**

<table>
<thead>
<tr>
<th>Valve model</th>
<th>RZMA</th>
<th>HZMA</th>
<th>AGMZA</th>
<th>LIMZA</th>
<th>LICZA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size code</td>
<td>010</td>
<td>030</td>
<td>030</td>
<td>032</td>
<td>1</td>
</tr>
<tr>
<td>Valve size</td>
<td>06</td>
<td>10</td>
<td>20</td>
<td>32</td>
<td>1</td>
</tr>
<tr>
<td>Max regulated pressure (bar)</td>
<td>80; 180; 250</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max pressure at port P, A, B, X (bar)</td>
<td>315</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max pressure at port T, Y (bar)</td>
<td>210</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max flow (l/min)</td>
<td>4; 40; 250; 400; 600; 200; 400; 750; 1000; 2000; 3000; 4000; 6000; 2000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**24 MODEL CODE OF PROPORTIONAL PRESSURE REDUCING VALVES**

Pressure reducing:
- RZGA = subplate size 06
- HZGA = modular size 06
- KZGA = modular size 10
- AGRCZA = subplate size 10, 20
- LIRZA = cartridge

Solenoid threaded connection:
- NPT = 1/2" NPT ANSI B2.1 (tapered)

**25 HYDRAULIC CHARACTERISTICS**

<table>
<thead>
<tr>
<th>Valve model</th>
<th>RZGA</th>
<th>HZGA</th>
<th>KZGA</th>
<th>AGRCZA</th>
<th>LIRZA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size code</td>
<td>010</td>
<td>033</td>
<td>031</td>
<td>031</td>
<td>1</td>
</tr>
<tr>
<td>Valve size</td>
<td>06</td>
<td>10</td>
<td>10</td>
<td>20</td>
<td>1</td>
</tr>
<tr>
<td>Max regulated pressure (bar)</td>
<td>32; 100; 210</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Min regulated pressure (bar)</td>
<td>0.8; 1; 1; 1; 1; 1; 7; 7; 7</td>
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</tr>
<tr>
<td>Max pressure at port P (bar)</td>
<td>315</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max pressure at port T (bar)</td>
<td>210</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max flow (l/min)</td>
<td>12; 40; 40; 100; 160; 300; 160; 300; 550; 800</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Synthetic fluids (1):
- WG = water-glycol
- PE = phosphate ester

Options:
- E = external pilot (only for AGRCZA)
- O = horizontal cable entrance (1)
- P = with integral mechanical pressure limiter (only for AGRCZA and LIRZA)
- R = with check valve (only for AGRCZA and LIRZA)

Note: for the code of the ISO cartridge to use with LIRZA, see tab. F300 section (2). (1) Option /BT = low temperature -40°C also available on request

Option /BT = low temperature -40°C also available on request

(1) Option /BT = low temperature -40°C also available on request
The valves are supplied with 1.07 m (42 inches) cable length, factory wired.

**Option /WP**

- **OAUL**
  - Solenoid wiring (connection 1/2"NPT)
    - White = Coil (neutral)
    - Red = +
    - Green = GND
    - Black = coil

- **OZAUL**
  - Screw terminal for additional equipotential grounding

**Option /O**

- **OAUL**
  - Solenoid wiring (connection 1/2"NPT)
    - Red = +15 V
    - Yellow = GND

**Option /OWP**

- **OAUL**
  - Solenoid wiring (connection 1/2"NPT)
    - White = Output signal
    - Black = Supply +15 V

**Option /MV**

- **OAUL**
  - Position transducer wiring (connection 1/2"NPT)
    - White = Output signal
    - Black = Supply +15 V
    - Yellow = GND