• Fitted with a main pressure relief valve and a load check valve on every working section.

• Available with parallel circuit.

• Optional carry-over

• Variety of port valves (auxiliary valves)

• Available manual, pneumatic, and hydraulic spool control kits.
### WORKING CONDITIONS

This catalogue shows technical specifications and diagrams measured with mineral oil of 32 mm²/s – 32 cSt at 40 °C – 104 °F temperature.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Nominal flow rating</td>
<td>160 l/min</td>
</tr>
<tr>
<td>Operating pressure (max.)</td>
<td>315 bar</td>
</tr>
<tr>
<td>Back pressure (max.) outlet port T</td>
<td>25 bar</td>
</tr>
<tr>
<td>Internal leakage (max.) A(B)→T</td>
<td>Δp = 100 bar (1450 psi) fluid and valve at 40 °C (104 °F) 15 cm³/min</td>
</tr>
<tr>
<td>Fluid</td>
<td>Mineral based oil</td>
</tr>
<tr>
<td>Fluid temperature</td>
<td>with NBR from -20 °C to 80 °C from -4 °F to 176 °F</td>
</tr>
<tr>
<td>with FPM from -20 °C to 100 °C from -4 °F to 212 °F</td>
<td></td>
</tr>
<tr>
<td>Viscosity</td>
<td>operating range from 15 to 75 mm²/s from 15 to 75 cSt</td>
</tr>
<tr>
<td>min.</td>
<td>12 mm²/s</td>
</tr>
<tr>
<td>max.</td>
<td>400 mm²/s</td>
</tr>
<tr>
<td>Max contamination level</td>
<td>-19/16 - ISO 4406 NAS 1683 - class 10</td>
</tr>
<tr>
<td>Ambient temperature for working conditions</td>
<td>with mechanical devices from -40 °C to 60 °C from -40 °F to 140 °F</td>
</tr>
<tr>
<td>with pneumatic and hydraulic devices from -30 °C to 60 °C from -22 °F to 140 °F</td>
<td></td>
</tr>
<tr>
<td>with electric devices from -20 °C to 50 °C from -4 °F to 122 °F</td>
<td></td>
</tr>
</tbody>
</table>

Note – for different conditions please contact Sales department

### STANDARD THREADS

#### Reference standard

<table>
<thead>
<tr>
<th>THREAD ACCORDING TO</th>
<th>BSP</th>
<th>UN-UNF</th>
<th>NPTF</th>
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<tbody>
<tr>
<td>ISO 228/1 BS 2779</td>
<td>ISO 263 ANSI B1.1 unified</td>
<td>ANSI B1.20.3</td>
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<tr>
<td>CAVITY DIMENSION ACCORDING TO</td>
<td>ISO 1179</td>
<td>11926-1 J1926-1 J476a</td>
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<td>DIN 3852-2</td>
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#### Ports

<table>
<thead>
<tr>
<th>Port</th>
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<th>UN-UNF</th>
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<tbody>
<tr>
<td>Order code</td>
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</tr>
<tr>
<td>Inlet P</td>
<td>G 3/4</td>
<td>G 1</td>
</tr>
<tr>
<td>Ports A and B</td>
<td>G 3/4</td>
<td>1 1/16-12 (SAE16)</td>
</tr>
<tr>
<td>Outlet T and carry-over C</td>
<td>G 1</td>
<td>1 5/16-12 (SAE12)</td>
</tr>
<tr>
<td>Hydraulic pilots</td>
<td>G 1/4</td>
<td>9/16-18 (SAE6)</td>
</tr>
<tr>
<td>Pneumatic pilots</td>
<td>NPTF 1/8-27</td>
<td></td>
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</tbody>
</table>
PERFORMANCE DATA

General

Main pressure relief valve

Auxiliary valves

Valve setting range for YD relief valve (100-250 bar setting)

Valve setting range for YP relief valve
# KS180

## Dimensional Data

<table>
<thead>
<tr>
<th>Type</th>
<th>E</th>
<th>F</th>
<th>Type</th>
<th>E</th>
<th>F</th>
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<tbody>
<tr>
<td></td>
<td>mm</td>
<td>in</td>
<td></td>
<td>mm</td>
<td>in</td>
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<tr>
<td>KS180</td>
<td>176</td>
<td>6.93</td>
<td>7KS180</td>
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<td>18.27</td>
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<td>2KS180</td>
<td>224</td>
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<td>8KS180</td>
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<td>4KS180</td>
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<td>10KS180</td>
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<td>5KS180</td>
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<td>11KS180</td>
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</table>

Note: Dimensions are provided in both mm and in.
HYDRAULIC CIRCUIT

Open center configuration

Carry-over configuration

Closed center configuration
NEW PRODUCT

KS180

DESCRIPTION COMPOSITION

1 2 3 4 5 6 8 9 7 10 11
2/KS180/L1(D-120)-/PA1(AoByD-100)KZ1/PA1H(AoBo)/T1/G1

1 Inlet section
L1: Inlet section with side port
L2: Inlet section with upper port
R1: Right inlet section with side port
R2: Right inlet section with side port

2 Pressure relief valve
(svp): Relief valve blanking plug
Direct type D:
(D-80): Setting range from 63 to 125 bar (900 to 1800 psi), standard setting 80 bar (1160 psi).
(D-120): Setting range from 100 to 200 bar (1450 to 2900 psi), standard setting 175 bar (2500 psi).
(D-250): Setting range from 160 to 320 bar (2300 to 4650 psi), standard setting 250 bar (3600 psi).

Pilot operated type P:
(P-120): Setting range from 60 to 250 bar (870 to 3600 psi), standard setting 120 bar (1750 psi).

3 Inlet valve options
-: Blanking plug (omit in description)
F: Inlet anticavitational valve
L: Hydraulic pilot unloader valve
EL: Solenoid operated unloader valve:
ELN: Without emergency
ELP: Push-button emergency
ELV: Screw type emergency
ELT: Push and twist type with detent emergency

Coils for EL:
12VDC: Coil type KETA, ISO 4400 12 V DC
24VDC: Coil type KETA, ISO 4400 24 V DC
4 Working section

P: Parallel circuit with port valves arrangement

5 Spools

A: Double acting, 3 positions, with A and B closed in neutral position.
Af: Same as A, more sensitive.
B: Single acting on A, 3 positions, B plugged.
C: Single acting on B, 3 positions, A plugged.
D: Double acting, 3 positions, with A and B open to tank in neutral position.
E: Double acting, 3 positions, with B open to tank in neutral position.
F: Double acting, 3 positions, with A open to tank in neutral position.

6 Spool positioners

1: With spring return in neutral position.
2: With detent in position 1 and spring return in neutral position.
3: With detent in position 2 and spring return in neutral position.
4: 2 positions, position 2 and spring return in neutral position.
5: 2 positions, position 1 and spring return in neutral position.
6: 2 positions, position 1 and spring return in position 2.
7: 2 positions, position 2 and spring return in position 1.
8: Detent in position neutral, 1 and 2.
9: 2 positions, detent in positions 1 and neutral.
10: 2 positions, detent in positions 2 and neutral.
11: 2 positions, detent in positions 1 and 2.

7 Complete controls

1H: Double side proportional hydraulic control with spring return to neutral

8 Auxiliary valves

o: Valve blanking plug

Antishock valve

YD-63: Setting range from 63 to 125 bar (900 to 1800 psi), standard setting 63 bar (900 psi).
YD-100: Setting range from 100 to 250 bar (1450 to 3600 psi), standard setting 100 bar (1450 psi).
YD-200: Setting range from 200 to 315 bar (2900 to 4600 psi), standard setting 200 bar (2900 psi).

Antishock and anticavitational valve

ZD-63: Setting range from 63 to 125 bar (900 to 1800 psi), standard setting 63 bar (900 psi).
ZD-100: Setting range from 100 to 250 bar (1450 to 3600 psi), standard setting 100 bar (1450 psi).
ZD-200: Setting range from 200 to 315 bar (2900 to 4600 psi), standard setting 200 bar (2900 psi).

Antishock pilot operated valve

YP: Setting range from 63 to 300 bar (900 to 4350 psi), standard setting 175 bar (2550 psi).

9 Manual control options

- : Without lever box, with dust-proof plate
KZ1: Standard lever box
V1: CD flexible cable connection

10 Outlet sections

T1: With side outlet.
T2: With upper outlet.
TC1: With closed center.
TC2: With upper outlet and side carry over.

11 Threading specifications

Specify thread type, please, refer to page 2 to see codes for it.