MULTIFUNCTION SPOOL VALVES
air operated
and solenoid air operated
G3/4-G1 - ISO 5599/1 subbase-mounted body

MULTIFUNCTION

• Multifunction selector
The multifunction selector is equipped with 2 pilot selector seals (A) located between the body (B) and the covers (C), on both sides: pilot and return. Each selector can be set on 3 or 4 positions. Rotating or turning it upside-down allows the following functions:
- internal or external supply to pilot or return operators.
- selection of the type of operator: air operated or solenoid-air pilot or return.

For this, it is only necessary to position one of the arrows of the selector into the notch matching the diagram of the required function (see below). Functions can be modified at will. The valves are delivered with the selector pre-set on the position corresponding to the function requested on order (see table CHOICE OF EQUIPMENT). External supply enables the valves to be used with a fluid pressure ranging from 0 to 12 bar and with vacuum.

• Pilot function

Selection of supply
(internal / external)

Selection of the
type of operator
180°

Pilot operators

Return operators

Air operated
external supply
Solenoid-air
external supply
Solenoid-air
internal supply

Notches for selector positioning

Differential
internal supply
Solenoid differential
internal supply
Solenoid-air
internal supply
Solenoid differential
external supply
Air operated
external supply
Differential
external supply
Spring

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• Operating principle

- Operating principle

- Changing from an air operated return valve to a differential return valve

An air operated return valve can be changed into a differential return valve by turning over the outside piston ring as shown in the diagram below (1).

- Manual operator using a tester (option)

A manual operator can be equipped with a tester (2) by knocking the knock-out plug (3) out of the end cover.

- An air operated valve can be changed into a solenoid air valve by:
  - re-positionning the selector seal,
  - removing the upper blanking plate (side 12 or 14),
  - fitting a selector seal if lacking,
  - adding a solenoid pilot valve on the upper part.

- A solenoid air valve can be changed into an air operated valve by:
  - removing the solenoid pilot valve,
  - fitting a blanking plate on the pilot base (plate code: 88100073),
  - re-positionning the selector seal.

USE WITH UNLUBRICATED AIR

This range of valves will operate satisfactorily with lubricated air or un lubricated air and even with dry air, due to a sealing device which has been patented. Essentially, a “T” seal backed up by a cushioning or compensation seal.

This arrangement of seals assures a minimum pilot pressure which will remain constant even after the valve has been stopped for a long period of time. When re-starting, the performance of the valve will be the same as during continuous operation. This important “non-stiction” characteristic assures satisfactory performance under all conditions.
MULTIFUNCTION SPOOL VALVES
solenoid air operated
G3/4-G1 - ISO 5599/1 subbase-mounted body

FEATURES
• Choice of internal/external supply with selector seals (vacuum use to –0.950 bar)

GENERAL
Fluid
Air or neutral gas, filtered, lubricated or not
Operating pressure
-0.950 to +12 bar (with external supply to pilot)
+2.5 to +10/12 bar (with internal supply to pilot)
Pilot pressure
See specifications table
Ambient temperature
-10°C to +40°C
Flow (Qv at 6 bar)
6300 l/min (ANR) (with subbase G 3/4)
7000 l/min (ANR) (with subbase G 1)
Flow coefficient
Kv = 90 (with subbase G 3/4)
Kv = 100 (with subbase G 1)
Life
5 millions of cycles (in normal operating conditions)
Base
ISO 5599/1 - Size 4
Subbase
Single subbase ISO/AFNOR NF E49085

CONSTRUCTION
Body and cover
Die-cast zinc alloy
Seals
NBR (nitrile)
Internal parts
Light alloy and POM (polyacetal), die-cast zinc alloy

ELECTRICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>type of coil</th>
<th>voltage</th>
<th>consumption</th>
<th>insulation</th>
<th>protection</th>
<th>electrical connection</th>
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<tr>
<td>=</td>
<td>24V-48V</td>
<td>5 W</td>
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SPECIFICATIONS 5/2

<table>
<thead>
<tr>
<th>function 5/2 symbol</th>
<th>operators pilot (14)</th>
<th>response time (ms)</th>
<th>pilot pressure (bar)</th>
<th>2 catalogue numbers</th>
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</thead>
<tbody>
<tr>
<td>5/2</td>
<td>solenoid air operated return (12)</td>
<td>energized</td>
<td>de-energized</td>
<td>min.</td>
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<tr>
<td></td>
<td>spring return</td>
<td>60</td>
<td>220</td>
<td>2.5</td>
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<tr>
<td></td>
<td>differential return</td>
<td>90</td>
<td>170</td>
<td>2</td>
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<tr>
<td></td>
<td>air return</td>
<td>40</td>
<td>-</td>
<td>1.5</td>
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<tr>
<td></td>
<td>solenoid differential return</td>
<td>40</td>
<td>-</td>
<td>2</td>
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<tr>
<td></td>
<td>solenoid air operated return</td>
<td>40</td>
<td>-</td>
<td>1.5</td>
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(M) Type of manual operator on pilot(s) : × : without  ● : maintained  ▼ : impulse
SPECIFICATIONS 5/3

<table>
<thead>
<tr>
<th>function</th>
<th>operators</th>
<th>response time (ms)</th>
<th>pilot pressure (bar)</th>
<th>2 catalogue numbers</th>
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<tr>
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<td>pilot (14) solenoid air operated return (12)</td>
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<tr>
<td>symbol</td>
<td></td>
<td>energized de-energized</td>
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<tr>
<td></td>
<td></td>
<td>min. max.</td>
<td></td>
<td></td>
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<tr>
<td>W1</td>
<td>Pressure held</td>
<td>70 250</td>
<td>3 12</td>
<td>54490022</td>
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<tr>
<td>W3</td>
<td>Pressure release</td>
<td>70 250</td>
<td>3 12</td>
<td>54490023</td>
</tr>
</tbody>
</table>

(M) Type of manual operator on pilot(s): 
\[ \times \] : without \[ \bullet \] : maintained \[ \triangledown \] : impulse

OPTIONS

- Equipment with manual testers so that the spool position can be checked
- Connector with cable 2m long - code: 88122612
- Connector with transil protection (see “Coils and accessories” section)
- Solenoid valve with plug and built-in visual control and protection:

Solenoid valve without connector + Connector with built-in visual control and VDR/RC protection:

<table>
<thead>
<tr>
<th>type of valve</th>
<th>catalogue number (- / =)</th>
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<tbody>
<tr>
<td>192 NC (1)</td>
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<tr>
<td>24V</td>
<td>88122603</td>
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<tr>
<td>48V</td>
<td>88122604</td>
</tr>
<tr>
<td>115V</td>
<td>88122605</td>
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<tr>
<td>230V</td>
<td>88122606</td>
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</tbody>
</table>

(M) Type of manual operator on pilot(s): 
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(1) Solenoid valve series 192 - 3/2 NC - Ø 2,1mm with exhaust in base

SUBBASES

<table>
<thead>
<tr>
<th>type of subbases</th>
<th>subbase catalogue number</th>
<th>port orifices</th>
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</thead>
<tbody>
<tr>
<td>single subbases</td>
<td>35500144</td>
<td>G 1/8 G 3/4 G 3/4</td>
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<tr>
<td>with side port</td>
<td>35500082</td>
<td>G 1/8 G 1 G 1</td>
</tr>
</tbody>
</table>

DIMENSIONS (mm), WEIGHT (kg)

VALVE ON SINGLE SUBBASE WITH SIDE PORT

Subbase mounting G 1:
4 holes Ø 7

Subbase mounting G 3/4:
2 holes Ø 9

<table>
<thead>
<tr>
<th>code</th>
<th>dimension</th>
<th>weight</th>
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<tbody>
<tr>
<td>35500144</td>
<td>4.860 5.120</td>
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<tr>
<td>35500082</td>
<td>4.960 5.220</td>
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