SPOOL VALVES
pilot operated or air operated, spool type
single/dual solenoid or air aluminium body, “NAMUR” style, 1/4 - 1/2

FEATURES
- The solenoid operated spool valves have threaded port connections and NAMUR interface
- The same spool valve can be adapted for 3/2 NC or 5/2 functions for controlling double-acting and single-acting actuators
- All the exhaust ports of the spool valve are connectable, providing better environmental protection. Particularly recommended for sensitive areas, such as clean rooms, and applications in the pharmaceutical and food processing sectors
- The valves offer environmental protection against the ingress of liquids, dusts or other foreign matter (environmentally-protected construction)
- The monostable spool valves in conformity with IEC 61508 Standard (2010 route 2, version) have TÜV (551 series) and EXIDA (551-553 series) certified with integrity levels: SIL 2 for HFT = 0 / SIL 3 for HFT = 1
- The solenoid valves satisfy all relevant EU directives

GENERAL
Differential pressure
Flow (Qv at 6 bar) 2 - 10 bar [1 bar = 100 kPa]

<table>
<thead>
<tr>
<th>Fluids (+)</th>
<th>Temperature range (TS)</th>
<th>Seal materials (+)</th>
</tr>
</thead>
<tbody>
<tr>
<td>air, inert gas, filtered</td>
<td>-25°C to +60°C</td>
<td>NBR (nitrile) + PUR (polyurethane)</td>
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</tbody>
</table>

MATERIALS IN CONTACT WITH FLUID
(+): Ensure that the compatibility of the fluids in contact with the materials is verified

<table>
<thead>
<tr>
<th>Body, end cover</th>
<th>End cover (spring return)</th>
<th>Spool valve internal parts</th>
<th>Seals</th>
<th>Core tube</th>
<th>Core and plugnut</th>
<th>Shading coil</th>
<th>Core and plugnut</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminium, black anodized</td>
<td>Glass fibre filled PA</td>
<td>Zamak, stainless steel, POM, aluminium</td>
<td>NBR + PUR</td>
<td>Brass</td>
<td>Stainless steel</td>
<td>Copper</td>
<td>Zamak</td>
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ELECTRICAL CHARACTERISTICS
Coil insulation class
Connector
Connector specification
Electrical safety
Electrical enclosure protection
Standard voltages

<table>
<thead>
<tr>
<th>(VA)</th>
<th>(W)</th>
<th>(C°)</th>
<th>Voltage</th>
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<tr>
<td>6</td>
<td>4</td>
<td>230 V</td>
<td>24 V DC</td>
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<table>
<thead>
<tr>
<th>prefix option</th>
<th>power ratings</th>
<th>operator ambient temperature range (TS)</th>
<th>replacement coil</th>
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<td>(VA)</td>
<td>(W)</td>
<td>(C°)</td>
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<td>2.5 / 3</td>
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<td>7</td>
<td>4.5 / 5</td>
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SPECIFICATIONS
Configurator - CAD Files

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<thead>
<tr>
<th>pipe size</th>
<th>orifice size</th>
<th>flow coefficient</th>
<th>operating pressure</th>
<th>power coil</th>
<th>catalogue number</th>
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<td>differential (bar)</td>
<td>max. (PS)</td>
<td>orifice (°)</td>
<td>power (W)</td>
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<td>(mm)</td>
<td>(m³/h)</td>
<td>(l/min)</td>
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<td>2</td>
<td>10</td>
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<td>13</td>
<td>2.49</td>
<td>41.5</td>
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<td>10</td>
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<tr>
<td>3/2 NC - 5/2 - Solenoid air pilot operated - spring return (monostable)</td>
<td>SCG551A0001</td>
<td>MS</td>
<td>-</td>
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<td></td>
</tr>
<tr>
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</tr>
<tr>
<td>1/2</td>
<td>13</td>
<td>2.49</td>
<td>41.5</td>
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<tr>
<td>3/2 NC - 5/2 - Solenoid air pilot operated and return (bistable)</td>
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<td>13</td>
<td>2.49</td>
<td>41.5</td>
<td>2</td>
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<tr>
<td>5/3 - W1 - pressure held, solenoid air pilot and return</td>
<td>SCG551A0065</td>
<td>MS</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
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<td>0.6</td>
<td>10</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>1/2</td>
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<td>2.49</td>
<td>41.5</td>
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<tr>
<td>5/3 - W3 - pressure released, solenoid air pilot and return</td>
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<td>MS</td>
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<tr>
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<td>13</td>
<td>2.49</td>
<td>41.5</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>3/2 NC - 5/2 - Solenoid air pilot operated spring return (monostable), certified IEC 61508 Functional Safety data</td>
<td>SCG551A0075</td>
<td>MS</td>
<td>-</td>
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<td>10</td>
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<td>1/2</td>
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<td>2.49</td>
<td>41.5</td>
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<td>10</td>
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</tbody>
</table>

All leaflets are available on: www.asco.com
Pneumatic Valves (3/2 - 5/2 - 5/3 - NAMUR) 13
AIR OPERATED AND OPTIONS

- Versions (Type 03): - pilot air operated, spring return, catalogue numbers: **G551A101 / G551A101SL (1/4); G553A101 / G553A101SL (1/2)**
- - pilot air operated and return, catalogue numbers: **G551A102 (1/4); G553A102 (1/2)**
- Suffix “GD” (air operated only, ATEX 2GD c)
- Valves equipped with exhaust reducers G 1/8 (3/2 NC-5/2, series 551), suffix MMS
- Set of stainless steel mounting screws (series 551), catalogue number 97802212
- Set of two G 1/8 exhaust reducers (series 551), catalogue number 88100344
- Other pipe connections are available on request
- Connector with visual indication and peak voltage suppression or with cable length of 2 m (www.asco.com)

INSTALLATION

- The valves can be mounted in any position without affecting operation
- 3/2 NC-5/2 spool valve supplied with one or two interface plates with NAMUR mating surfaces. Depending on function (3/2 NC or 5/2), position the plate (series 551) or one of the two plates (series 553) on the spool valve body before installing on actuator
- Do not connect the pressure supply to the exhaust port 3. The "environmentally-protected" construction is not adapted for NO function. Contact us for function available in specific version
- Dowel pin (if necessary), bolts and gaskets are standard supplied
- It is necessary to connect pipes or fittings to the exhaust ports to protect the internal parts of the spool valve and its pneumatic operator if used outside or in harsh environments (dusts, liquids etc.)
- IEC 61508 Functional Safety (suffix SL). Check temperature range of valve body and solenoid for suitability. For probability of failure, contact us
- Threaded pipe connection is standard: G = G (ISO 228/1)
- Valves with suffix “SL” are supplied with specific exhaust protectors
- Installation/maintenance instructions are included with each valve

ACCESSORIES

<table>
<thead>
<tr>
<th>series</th>
<th>pipe size</th>
<th>exhaust protector</th>
<th>(stainless steel)</th>
</tr>
</thead>
<tbody>
<tr>
<td>551</td>
<td>G 1/8</td>
<td>34600418 (1)</td>
<td></td>
</tr>
<tr>
<td>551</td>
<td>G 1/4</td>
<td>34600419</td>
<td></td>
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<tr>
<td>553</td>
<td>G 1/2</td>
<td>34600479 (1)</td>
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</tr>
<tr>
<td>551</td>
<td>M5</td>
<td>34600484 (1)</td>
<td></td>
</tr>
</tbody>
</table>

(1) Supplied with suffix “SL”

DIMENSIONS (mm), WEIGHT (kg)

**TYPE 01**
Prefix “SC” Solenoid
Epoxy moulded
IEC 335 / DIN 44000
IP65

**TYPE 03**
No prefix
Air operated version

**ORDERING EXAMPLES:**

<table>
<thead>
<tr>
<th>SC</th>
<th>G</th>
<th>551</th>
<th>A001</th>
<th>MS</th>
<th>230V / 50 Hz</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC</td>
<td>G</td>
<td>551</td>
<td>A001</td>
<td>SL</td>
<td>24V / DC</td>
</tr>
<tr>
<td>SC</td>
<td>G</td>
<td>553</td>
<td>A002</td>
<td>115V / 50 Hz</td>
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</tr>
</tbody>
</table>

**Configurator - CAD Files**

**TYPE 02**
Prefix “SC” Solenoid
Epoxy moulded
IEC 335 / ISO 4400
IP65

**ACCESSORIES**

- **SC** G 551 A001 MS 230V / 50 Hz
- **SC** G 551 A001 SL 24V / DC
- **SC** G 553 A002 115V / 50 Hz
- **G** 551 A101 SL

**Dowel pin (if necessary), bolts and gaskets are standard supplied**

- **2 mounting holes:** 5.3 mm dia. (Spotfacing: 9 mm dia., depth 5 mm)
- **2 mounting holes:** 6.5 mm dia. (Spotfacing: 11 mm dia., depth 6 mm)
- **One 5 mm dia. hole for dowel pin:**
  - in position A1: 3/2 NC function plate
  - in position A2: 5/2 function plate
- **2 O-ring seals (supplied)**
- **Exhaust reducer (G 1/8, 3/2 NC-5/2, series 551) or exhaust protector**
- **Interface plate**

- **Weight (kg):**
  - type 01: 0.34
  - type 02: 0.90
  - type 03: 0.31

- **Dimensions:**
  - **Weight:** (incl. coil(s) and connector(s)).

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14 - Pneumatic Valves (3/2 - 5/2 - 5/3 - NAMUR)
SOLENOID VALVES
pilot operated, spool type
single/dual solenoid (mono/bistable function)
aluminium body, “NAMUR” style, 1/4 - 1/2

FEATURES
- The solenoid operated spool valves have threaded port connections and NAMUR interface
- The same spool valve can be adapted for 3/2 NC or 5/2 functions for controlling double-acting and single-acting actuators
- All the exhaust ports of the spool valve are connectable, providing better environmental protection. Particularly recommended for sensitive areas, such as clean rooms, and applications in the pharmaceutical and food processing sectors
- The valves offer environmental protection against the ingress of liquids, dusts or other foreign matter (environmentally-protected construction)
- Solenoid pilot valve with spade-plug connector type, EN 175301-803, industry standard form C, with 9,4 mm spacing. Versions with M12 connection
- Solenoid pilot valve, CNOMO size 15 interface, with or without integral LED and electrical protection. LED indicator visible from 3 sides
- The monostable spool valves in conformity with IEC 61508 Standard (2010 route 2, version) have TÜV (551 series) and EXIDA (551-553 series) certified with integrity levels: SIL 2 for HFT = 0 / SIL 3 for HFT = 1
- The solenoid valves satisfy all relevant EU directives

GENERAL
Differential pressure
Flow (Qv at 6 bar)
700 3000

Pilot mounting interface surface
ISO 15218 (CNOMO E06.36.120N, size 15)

MATERIALS IN CONTACT WITH FLUID
- Ensure that the compatibility of the fluids in contact with the materials is verified
- Body: Aluminium, black anodized
- End cover (spring): Glass fibre filled PA
- Interface plates: Glass fibre filled PA
- Spool valve internal parts: Zamak, stainless steel, POM, aluminium
- Pilot body: PARA
- Pilot internal parts: POM, PET, stainless steel and brass
- Pneumatic interface seal: TPE

ELECTRICAL CHARACTERISTICS
- Coil insulation class: F
- Connector (type 05): Spade plug (cable Ø 4-6 mm)
- Connector specification: Type 05: DIN 43650, 9,4 mm, form C
- Connection: Type 07: M12 (CNOMO E03.62.520.N)
- Electrical safety: IEC 335
- Electrical enclosure protection: Moulded IP65 (05) or IP67 (07) (EN 60529)
- Standard voltages: DC (=): 24V
- (Other voltages and 60 Hz on request): AC (=): 24V-115V-230V / 50 Hz (prefix CFSC)

SPECIFICATIONS

<table>
<thead>
<tr>
<th>prefix</th>
<th>option</th>
<th>power ratings</th>
<th>operator holding</th>
<th>hot/cold</th>
<th>voltage</th>
<th>type</th>
</tr>
</thead>
<tbody>
<tr>
<td>(VA)</td>
<td>(VA)</td>
<td>(W)</td>
<td>(W)</td>
<td>(C°)</td>
<td>(V)</td>
<td></td>
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<tr>
<td>CFSC</td>
<td>1.4</td>
<td>1.2</td>
<td>1.1</td>
<td>-25 - 60</td>
<td>24</td>
<td>05</td>
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<td>24 - 115</td>
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<td>1.6</td>
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<td>-25 - 60</td>
<td>230</td>
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<td>1.9</td>
<td>-25 - 60</td>
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<tr>
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<td>-</td>
<td>1.15 - 1.35</td>
<td>-25 - 60</td>
<td>-</td>
<td>07</td>
</tr>
</tbody>
</table>

(1) Refer to the dimensional drawings on the following page.
(2) Values with LED indicator and protection, use TPL 20674.
(3) Supplied with LED indicator and protection.

All leaflets are available on: www.asco.com

Pneumatic Valves (3/2 - 5/2 - NAMUR) - 15
**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>pipe size</th>
<th>orifice size</th>
<th>flow coefficient Kv</th>
<th>operating pressure differential (bar)</th>
<th>power coil (W)</th>
<th>catalogue number</th>
<th>options</th>
</tr>
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<tbody>
<tr>
<td>G (mm)</td>
<td>(m³/h) (l/min)</td>
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<td>min.</td>
<td>max. (PS)</td>
<td>air (*)</td>
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<td>10</td>
<td>1,1-1,5</td>
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<tr>
<td>1/2</td>
<td>13</td>
<td>2,49</td>
<td>41,5</td>
<td>2</td>
<td>10</td>
<td>1,1-1,5</td>
</tr>
</tbody>
</table>

3/2 NC - 5/2 - Solenoid air pilot operated spring return (monostable), certified IEC 61508 Functional Safety Data

**OPTIONS**

- LED and protection, prefixes CFSC / CFSD, use TPL number: TPL 20674 (e.g.: CFSDXG551C505TPL20674)
- Straight M12 connector: with 5 m cable length (catalogue number 88130212)
- Valves equipped with exhaust reducers G 1/8 (3/2 NC-5/2, series 551), suffix MMS
- Set of stainless steel mounting screws (series 551), catalogue number 97802212
- Set of two G 1/8 exhaust reducers (series 551), catalogue number 88100344
- Versions with spade-plug connector type ISO 15217/DIN 43650 form C with 8 mm spacing or with cable ends: contact us
- Other pipe connections are available on request
- Connector with visual indication and peak voltage suppression or with cable length of 2 m ([www.asco.com](http://www.asco.com))

**INSTALLATION**

- The valves can be mounted in any position without affecting operation
- 3/2 NC-5/2 spool valve supplied with one or two interface plates with NAMUR mating surfaces. Depending on function (3/2 NC or 5/2), position the plate (series 551) or one of the two plates (series 553) on the spool valve body before installing on actuator
- Do not connect the pressure supply to the exhaust port 3. The "environmentally-protected" construction is not adapted for NO function. Contact us for function available in specific version
- Dowel pin (if necessary), bolts and gaskets are standard supplied
- It is necessary to connect pipes or fittings to the exhaust ports to protect the internal parts of the spool valve and its pneumatic operator if used outside or in harsh environments (dusts, liquids etc.)
- IEC 61508 Functional Safety (suffix SL). Check temperature range of valve body and solenoid for suitability. For probability of failure, contact us
- Threaded pipe connection is standard: G = G (ISO 228/1)
- Valves with suffix “SL” are supplied with specific exhaust protectors
- Other interface plates with NAMUR mating surfaces. The valves can be mounted in any position without affecting operation
- Installation/maintenance instructions are included with each valve
- The “environmentally-protected” construction is not adapted for NO function. Contact us for function available in specific version

**ACCESSORIES**

<table>
<thead>
<tr>
<th>series</th>
<th>pipe size</th>
<th>exhaust protector (stainless steel)</th>
</tr>
</thead>
<tbody>
<tr>
<td>551-553</td>
<td>G 1 1/8</td>
<td>34600418 (1)</td>
</tr>
<tr>
<td>551</td>
<td>G 1/2</td>
<td>34600479 (1)</td>
</tr>
<tr>
<td>553</td>
<td>M5</td>
<td>34600484 (1)</td>
</tr>
</tbody>
</table>

(1) Supplied with suffix “SL”

**DIMENSIONS (mm), WEIGHT (kg)**

**TYPE 05**
Prefix "CFSC"
Polyarilamide
IEC 335 / IP65
DIN 43650, 9,4 mm

2 mounting holes:
1. 5,3 mm dia. (Spotfacing: 9 mm dia., depth 5 mm)
2. 6,5 mm dia. (Spotfacing: 11 mm dia., depth 8 mm)
3. One 5 mm dia. hole for dowel pin:
   - in position A1: 3/2 NC function plate
   - in position A2: 5/2 function plate
4. 2 O-ring seals (supplied)
5. Exhaust reducer (G 1/8, series 551)
   or exhaust protector
6. Interface plate
7. One 6,5 mm dia. hole for dowel pin,
   position for 3/2 NC or 5/2 function plate
8. Manual operator location

**ORDERING EXAMPLES:**

| CFSC | G | 551 | C | 501 | 230V | 50 Hz |
| CFSC | G | 551 | C | 501 SL | 115V | 50 Hz |
| CFVT | G | 553 | A | 502 | MS | 24V | DC |
| CFSC | G | 551 | C | 501 SLMO | 230V | 50 Hz |

**Configurator - CAD Files**

**TYPE 07**
Prefix "CFVT"
Polyarilamide
IEC 335 / IP67
M12

**ACCESSORIES**

<table>
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<tr>
<th>catalog number</th>
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**ACCESSORIES**

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<tr>
<td>07</td>
<td>CFVT</td>
<td>0,36</td>
</tr>
</tbody>
</table>

(1) Prefix CFSC: including connector(s)

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