Design, Manufacture and Servicing of Pneumatic/Electric Powered Valves, Control&ON-OFF Valves and Self-Acting Pressure Reducers
Trading of Heat Exchangers & Components for Industrial Plants
Automation - Integrated Solution for Industry
Products Range

&

Applications
Pneumatic Control Valves
PNEUMATIC CONTROL VALVES

Two way Valves - Single seat

**TYPE 2000 AR** control
Normally closed – air opens
Face-to-face   EN 558-1 (DIN 3202)
From DN 15 to DN 100

**TYPE 2000 AD** control
Normally opened – air closes
Face-to-face   EN 558-1 (DIN 3202)
From DN 15 to DN 100

**TYPE 2100 AR** ON-OFF
Normally closed – air opens
Face-to-face   EN 558-1 (DIN 3202)
From DN 15 to DN 100

**TYPE 2100 AD** ON-OFF
Normally opened – air closes
Face-to-face   EN 558-1 (DIN 3202)
From DN 15 to DN 100

**TYPE 2100 DE** ON-OFF
Double effect - air closes – air opens
Face-to-face   EN 558-1 (DIN 3202)
From DN 15 to DN 100
<table>
<thead>
<tr>
<th>Type</th>
<th>Control Status</th>
<th>Action on Air</th>
<th>Face-to-face Standard</th>
<th>Size Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>TYPE 5000 AD</td>
<td>Normally opened – air closes</td>
<td></td>
<td>Face-to-face ASME / ANSI B16.10</td>
<td>From DN 15 to DN 200</td>
</tr>
<tr>
<td>TYPE 5000 AR</td>
<td>Normally closed – air opens</td>
<td></td>
<td>Face-to-face ASME / ANSI B16.10</td>
<td>From DN 15 to DN 200</td>
</tr>
<tr>
<td>TYPE 5100 AD ON-OFF</td>
<td>Normally opened – air closes</td>
<td></td>
<td>Face-to-face ASME / ANSI B16.10</td>
<td>From DN 15 to DN 200</td>
</tr>
<tr>
<td>TYPE 5100 AR ON-OFF</td>
<td>Normally closed – air opens</td>
<td></td>
<td>Face-to-face ASME / ANSI B16.10</td>
<td>From DN 15 to DN 200</td>
</tr>
<tr>
<td>TYPE 5100 DE ON-OFF</td>
<td>Double effect – air closes – air opens</td>
<td></td>
<td>Face-to-face ASME / ANSI B16.10</td>
<td>From DN 15 to DN 200</td>
</tr>
</tbody>
</table>
Three way Valves – Mixing

**TYPE 2600 AD**
- **A** = CLOSED
- **C-B** = OPENED

**TYPE 2600 AR**
- **C** = CLOSED
- **A-B** = OPENED

Control
- Normally closed port “A” on air failure
- Face-to-face EN 558-1
- From DN 15 to DN 100

**TYPE 5600 AD**
- **A** = CLOSED
- **C-B** = OPENED

**TYPE 5600 AR**
- **C** = CLOSED
- **A-B** = OPENED

Control
- Normally closed port “A” on air failure
- Face-to-face ASME / ANSI B16.10
- From DN 15 to DN 200
TYPE 2700 AD
DN15-20

- $B = \text{CLOSED}$
- $A-C = \text{OPENED}$

TYPE 2700 AD
DN25-100

- $C = \text{CLOSED}$
- $A-B = \text{OPENED}$

From DN 15 to DN 100

**Control**

Normally closed port “B”
DN15-20

Normally closed port “C”
DN25-100

Face-to-face EN 558-1

TYPE 2700 AR
DN15-20

- $C = \text{CLOSED}$
- $A-B = \text{OPENED}$

TYPE 2700 AR
DN25-100

- $B = \text{CLOSED}$
- $A-C = \text{OPENED}$

From DN 15 to DN 100

**Control**

Normally closed port “C”
DN15-20

Normally closed port “B”
DN25-100

Face-to-face EN 558-1
Three way Valves – Diverting

**TYPE 5700 AD**

- **DN15-20**
  - \( B = \text{CLOSED} \)
  - \( A-C = \text{OPENED} \)

- **DN25-100**
  - \( C = \text{CLOSED} \)
  - \( A-B = \text{OPENED} \)

**TYPE 5700 AD control**

On air failure:
- Normally closed port “B” DN15-20
- Normally closed port “C” DN25-200

Face-to-face ASME / ANSI B16.10

From DN 15 to DN 200

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**TYPE 5700 AR**

- **DN15-20**
  - \( C = \text{CLOSED} \)
  - \( A-B = \text{OPENED} \)

- **DN25-100**
  - \( B = \text{CLOSED} \)
  - \( A-C = \text{OPENED} \)

**TYPE 5700 AR control**

On air failure:
- Normally closed port “C” DN15-20
- Normally closed port “B” DN25-200

Face-to-face ASME / ANSI B16.10

From DN 15 to DN 200
Pneumatic Control Valves
3.1 Temperature Control THE
3.4 Temperature Control THERMOIL / SUPERHEATED WATER

CONFLOW s.p.a.
3.5 Pressure reducing station with Control Valve
3.6 Flow rate control
CONFLOW s.p.a.
FLOW CONTROL SOLUTIONS

LOW NOISE INTRODUCTION

Conflow’s control valves “Low Noise” minimize hydrodynamic noise even under the most severe liquid and steam application.

**Warning**! High acoustic noise levels are accompanied by high mechanical vibration levels and vibrations can cause failure of the valve, for this reason noise control trim (inside the valve) should always considered in any high energy (high differential drop pressure).

Conflow’s control valves “Low Noise” are equipped with one or two-stage cages by permitting up to 12% dBA noise reduction for each stage. The reduction of the noise is made by high numbers of holes of small diameter. Having a multi-hole cage the valve can permit also a very high range-ability.

The cage is constructed from heavy-duty, 316 stainless steel, drilled-hole cylinders, for this reason we can obtain lower prices and quicker deliveries. All internal parts are inter-changeability and the simplicity of the design also permits easy removal and cleaning.

*Double Cage*
Simple Cage on Types 2200 and 5200
Double Cage on Types 2400 and 5400
From DN65 up to DN200 the valve could be equipped with balanced plug to obtain high differential drop pressure.
Double cage valve cut sample
Double cage valve cut sample
<table>
<thead>
<tr>
<th>Type</th>
<th>Control</th>
<th>Cage Plug</th>
<th>Condition</th>
<th>Standard</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>TYPE 2200 AD</td>
<td>control</td>
<td>Integral cage plug</td>
<td>Normally opened – air closes</td>
<td>Face-to-face EN 558-1</td>
<td>From DN 15 to DN 50</td>
</tr>
<tr>
<td>TYPE 2200 AR</td>
<td>control</td>
<td>Simple cage</td>
<td>Normally closed – air opens</td>
<td>Face-to-face EN 558-1</td>
<td>From DN 15 to DN 50</td>
</tr>
</tbody>
</table>
TYPE 5200 AD control
Integral cage plug
Normally opened – air closes
Face-to-face ASME / ANSI B16.10
From DN 15 to DN 50

TYPE 5200 AR control
Simple cage
Normally closed – air opens
Face-to-face ASME / ANSI B16.10
From DN 15 to DN 50
TYPE 2300 AD control
Simple cage
From DN 65 to DN 100

TYPE 2400 AD control
Double cage
Normally opened – air closes
Face-to-face EN 558-1
From DN 65 to DN 100

TYPE 2300 AR Simple cage
From DN 65 to DN 100

TYPE 2400 AR Double cage
Normally closed – air opens
Face-to-face EN 558-1
From DN 65 to DN 100
<table>
<thead>
<tr>
<th>TYPE</th>
<th>Control</th>
<th>Cage Configuration</th>
<th>Normally Closed</th>
<th>Face-to-face ASME / ANSI B16.10</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>5300 AD</td>
<td>control</td>
<td>Simple cage</td>
<td>air opens</td>
<td>Face-to-face ASME / ANSI B16.10</td>
<td>DN 65 to DN 200</td>
</tr>
<tr>
<td>5400 AD</td>
<td>control</td>
<td>Double cage</td>
<td>air opens</td>
<td>Face-to-face ASME / ANSI B16.10</td>
<td>DN 65 to DN 200</td>
</tr>
<tr>
<td>5300 AR</td>
<td>Simple cage</td>
<td></td>
<td>air opens</td>
<td>Face-to-face ASME / ANSI B16.10</td>
<td>DN 65 to DN 200</td>
</tr>
<tr>
<td>5400 AR</td>
<td>Double cage</td>
<td></td>
<td>air opens</td>
<td>Face-to-face ASME / ANSI B16.10</td>
<td>DN 65 to DN 200</td>
</tr>
</tbody>
</table>
ELECTRIC POWERED VALVES

There are two different lines

<table>
<thead>
<tr>
<th>TENSION OPENS AND CLOSES</th>
<th>• Standard manual handwheel</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Standard supply 220 V AC</td>
</tr>
<tr>
<td></td>
<td>• Optional 24 V AC – 110 V AC</td>
</tr>
<tr>
<td></td>
<td>• Standard Input signal 3 points modulating</td>
</tr>
<tr>
<td></td>
<td>• Optional Input signal 4-20 mA</td>
</tr>
<tr>
<td></td>
<td>(with potentiometer and positioner card)</td>
</tr>
<tr>
<td></td>
<td>• Optional Input signal 0-10 V</td>
</tr>
<tr>
<td></td>
<td>(with potentiometer and positioner card)</td>
</tr>
</tbody>
</table>
SPRING RETURN
Safety Condition

- Standard manual handwheel with lock
- Standard supply 24 V AC – DC
  (same electronic card)
- Optional: Supply 220 V AC
  (only with 3 points modulating input signal)
- Standard Input signal
  4-20 mA – 0-10V – 3 points modulating
SPECIAL APPLICATIONS

<table>
<thead>
<tr>
<th>Smart Actuator</th>
<th>ATEX Actuator</th>
</tr>
</thead>
</table>

CONFLOW s.p.a.
FLOW CONTROL SOLUTIONS
HYGIENIC VALVES

Hygienic Valves are recommended in pharmaceutical and food industry, their distinctive features are:

1. High cleaning level
2. Usage flexibility

The body Valve is wholly made in Stainless-steel AISI 316L with a special care to prevent any deposit area. Clamp connections, between upper and lower body of the Valve, provide a rapid disassembly essential to carry out the Industrial Cleaning Process ICP.

Control Valves are equipped with a Pneumatic actuator made in Carbon-steel painted RAL 5020 or Stainless-steel AISI 304. ON-OFF Valves are equipped with a piston actuator, simple or double effect, made in Stainless-steel AISI 304.

TYPE 1200 AR
Normally closed – Air opens
From DN 15 to DN 100
Hygienic control and ON-OFF Valves
7.4.1 Milk Pasteurization

DPC = Differential Pressure Controller
TC1 = Temperature Controller Milk pasteurization
TC2 = Temperature Controller Milk Cooling
TC3 = Master Temperature Controller
E.V. = Expansion Vessel

CONFLOW s.p.a.
7.4.3 Filler Automation

LC = Level Controller
PC = Pressure Controller (Inlet CO2 - Outlet CO2)
WHAT IS A PRESSURE REDUCER

Pressure reduction is a thermodynamic process carried out to adapt and to stabilize the pressure according to the user requests. The flow modulation (made by a good working reducer) counterbalance immediately the imbalances produced by flow or pressure alterations; it also keeps pressure value within the preset range. Naturally a self-actuated pressure reducer can’t reach high range-ability values like a control valve; therefore if the flow or the pressure alteration is considerable it’s better to use a control valve as pressure reducer.

There are two types of pressure reducers made by CONFLOW s.p.a.:

- **Type RP 13 and RP 300**, these are self-actuated proportional pressure reducers, composed by a direct action single seat special body valve. In RP13/300 the flow tries to close the passageway while the feedback spring, controlled by downstream pressure, tries to open it. These two different forces generate the reducing effect. The heads of RP13/300 are interchangeable according to the reduced pressure range set by the user. In case of steam reduction the RP13/300 is provided with a dash pot and all the needed connections to guarantee a water cooling system to the head of the pressure reducer.

- **Type RP 10**, is a pressure reducer self-actuated internally. In RP10 the main fluid tries to close the plug and the balancing bellows while the feedback spring tries to open it.
  
  Three different types of springs provide three different reduction ranges.
<table>
<thead>
<tr>
<th>SELF ACTUATED PRESSURE REDUCER (PRV)</th>
<th>TYPE RP13</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cast Iron EN-GJL-250 PN16</td>
</tr>
<tr>
<td></td>
<td>Carbon Steel 1.0619 PN40</td>
</tr>
<tr>
<td></td>
<td>Face-to-face EN 558-1</td>
</tr>
<tr>
<td></td>
<td>From DN 15 to DN 100</td>
</tr>
<tr>
<td>SELF ACTUATED PRESSURE REDUCER (PRV)</td>
<td>TYPE RP300</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Carbon Steel ASTM A 216 WCB</td>
<td></td>
</tr>
<tr>
<td>Flanged ANSI B16.5 150 RF – 300 RF</td>
<td></td>
</tr>
<tr>
<td>Face-to-face ASME / ANSI B16.10</td>
<td></td>
</tr>
<tr>
<td>From DN 15 to DN 100</td>
<td></td>
</tr>
</tbody>
</table>
TYPE RP10
Carbon Steel Nickel Plated PN25
Stainless-steel AISI 316 L PN25

<table>
<thead>
<tr>
<th>Flanged</th>
<th>Screwed</th>
</tr>
</thead>
</table>

CONFLOW s.p.a.
FLOW CONTROL SOLUTIONS
9.3.1 Pressure reducing station with RP13
### POWER GENEX ® by CONFLOW

<table>
<thead>
<tr>
<th>PPL</th>
<th>EPL</th>
<th>PPR</th>
<th>EPR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pneumatic Linear</td>
<td>Electro-pneumatic linear</td>
<td>Pneumatic rotary</td>
<td>Elettro-pneumatic rotary</td>
</tr>
</tbody>
</table>
SEL with AUTO-TUNING FUNCTION

Linear Digital
SER with AUTO-TUNING FUNCTION

Rortary Digital
LINEAR POSITIONERS

- Mechanical ZERO setting
- Mechanical SPAN setting
DIGITAL POSITIONERS

- Electronic ZERO setting
- AUTO-TUNING
- Electronic SPAN setting
- Electronic SPEED setting
- Electronic DUMPING setting
SMART PILOT POSITIONER
with DISPLAY

All settings by keyboard
ELECTRO PNEUMATIC CONVERTER

<table>
<thead>
<tr>
<th>TYPE</th>
<th>IPC DIGITAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPC converter is employed for conversion of a standard DC current signal into a standard pneumatic signal. IPC converter is provided of high speed piezoelectric valve with the possibility to obtain zero output signal for a correct control of pneumatic control valves without pilot positioner.</td>
<td></td>
</tr>
</tbody>
</table>
MOUNTING RAIL DIN EN 50022 35 mm

ZERO

SPAN

ALIMENTAZIONE
SUPPLY 1/8"NPT

USCITA
OUT 1/8"NPT

DUMPING

PG 9
<table>
<thead>
<tr>
<th>TYPE</th>
<th>GTS – SCREWED</th>
<th>GTF – FLANGED</th>
</tr>
</thead>
<tbody>
<tr>
<td>GTS</td>
<td>- Ø 1/2”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Ø 3/4”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Ø 1”</td>
<td></td>
</tr>
<tr>
<td>Internal materials:</td>
<td>Stainless-steel AISI 304</td>
<td>Body materials: Cast Iron GGG40.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TYPE</th>
<th>GTSH – SCREWED</th>
<th>GTFH – FLANGED</th>
</tr>
</thead>
<tbody>
<tr>
<td>GTSH</td>
<td>- Ø 1”</td>
<td>- Ø 1.1/2”</td>
</tr>
<tr>
<td></td>
<td>- Ø 2”</td>
<td>- Ø 2”</td>
</tr>
<tr>
<td>Internal materials:</td>
<td>Stainless-steel AISI 304</td>
<td>Body materials: Cast Iron GGG40.3</td>
</tr>
</tbody>
</table>
# THERMOSTATIC STEAM TRAPS

<table>
<thead>
<tr>
<th>TYPE</th>
<th>Internal and body material:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>STK 42</strong></td>
<td>- Stainless-steel AISI 304</td>
</tr>
<tr>
<td><strong>STK 11</strong></td>
<td>- Stainless-steel AISI 304</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Available diameters :</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Ø 1/2” standard</td>
</tr>
<tr>
<td>- Ø 3/4”</td>
</tr>
<tr>
<td>- Ø 1” a richiesta</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Available diameters :</th>
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</thead>
<tbody>
<tr>
<td>- Ø 1/2”</td>
</tr>
</tbody>
</table>

**Body and cap:**
- Brass Cu-Zn 40 Pb2
<table>
<thead>
<tr>
<th>TYPE</th>
<th>STK 61</th>
</tr>
</thead>
<tbody>
<tr>
<td>Available diameters:</td>
<td>Internal and body material:</td>
</tr>
<tr>
<td>- Ø 1/2”</td>
<td>Stainless-steel AISI 304</td>
</tr>
<tr>
<td></td>
<td>Body and cap:</td>
</tr>
<tr>
<td></td>
<td>Brass Cu-Zn 40 Pb2</td>
</tr>
</tbody>
</table>
# THERMODYNAMIC STEAM TRAPS

**TYPE**

TDK 42

<table>
<thead>
<tr>
<th>Available diameters:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ø 1/2” standard</td>
</tr>
<tr>
<td>Ø 3/4”</td>
</tr>
<tr>
<td>1” a richiesta</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Body material:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acciaio Inox ASTM A743</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Internal material:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stainless Steel AISI 304</td>
</tr>
</tbody>
</table>

## DESCRIPTION (THERMODYNAMIC STEAM TRAP)

The main characteristic of the Thermodynamics steam traps is the movement of the internal plug (typical disk shape) who allows the condensate to be discharged as soon as the steam, present in the upstream chamber, will transform in a liquid state.

When the vapour state arise again, the pressure and the plug closure prevent any further steam leakage.