



Model 2100BAC is designed for critical applications involving hazardous media.



descote is known worldwide by the chemical industry as THE VALVE SPECIALIST for HAZARDOUS MEDIA. This expertise is recognized by our EuroChlor valve approvals and recommendations by the Chlorine Institute.

General applications

Model 2100BAC is designed for all dangerous, corrosive, inflammable, pyrophoric, noxious media such as Volatile Organic Compounds (VOC's), Hazardous Liquefied Gas (HLG), Hazardous Air Pollutants (HAP), etc.

Model 2100BAC is particularly recommended for applications where the bellows has to be protected from the flow: erosion, flashing, high velocity, etc.

It is commonly used on the following processes and production units: Chlor-alkali, PCA (polycarbonate), TDI, MDI, and HDI (Isocyanates), bleaching, AHF Alkylation (P.P. and UOP, alkylation and LAB processes), ECH (Epichlorhydrin), VCM, pesticides, insecticides, CFC's, HFA, HFC, PTFE, etc.



And on many other processes using dry chlorine (Cl₂), phosgene (COCl₂), dry hydrogen chloride (A. HCl), anhydrous fluorhydric acid (A. HF), etc.

descote also manufactures gland type globe valve Model 1500B and bellows sealed globe valves Model 2500 and 2020 for the above applications (see documentation).

Selection of the most appropriate valve design depends upon many factors including local and international standards and regulations. It should also include service conditions, maintenance, safety and emissions monitoring requirements.

In addition, descote proposes a wide range of technical solutions such as double containment, central monitoring, zero ppm, etc.

descote valve specialists are there to help you with your choice.

Quality Assurance

Design and manufacturing is ISO 9001 approved. Our manufacturing processes are also approved by the TÜV.

www.descote.com

Bellows Sealed Globe Valve Model 2100BAC

technical data

Features

Model 2100BAC control globe valve is particularly adapted to chlorine, phosgene, anhydrous HCl & HF and other category M fluids as per ASME B31.3.

Reliable operation

- Bimatic diaphragm actuator designed for the harsh environment of chemical plants
- Positioner compliant to customer's specification
- Visual position indicator
- Stem is cold rolled for concentricity and polished to ensure packing integrity and smooth operation

Zero emissions

- Stem is sealed by multiwall hydroformed full rated bellows
- Secondary sealing by an emergency stuffing box
- Extra long bellows to reduce stress and increase operation life
- Bellows protected from turbulences in a bonnet cavity out of the main fluid flow
- Fully entrapped body-bonnet gasket to ensure joint integrity
- Stem guide (top and bottom) to avoid stem-bellows vibrations

Control function

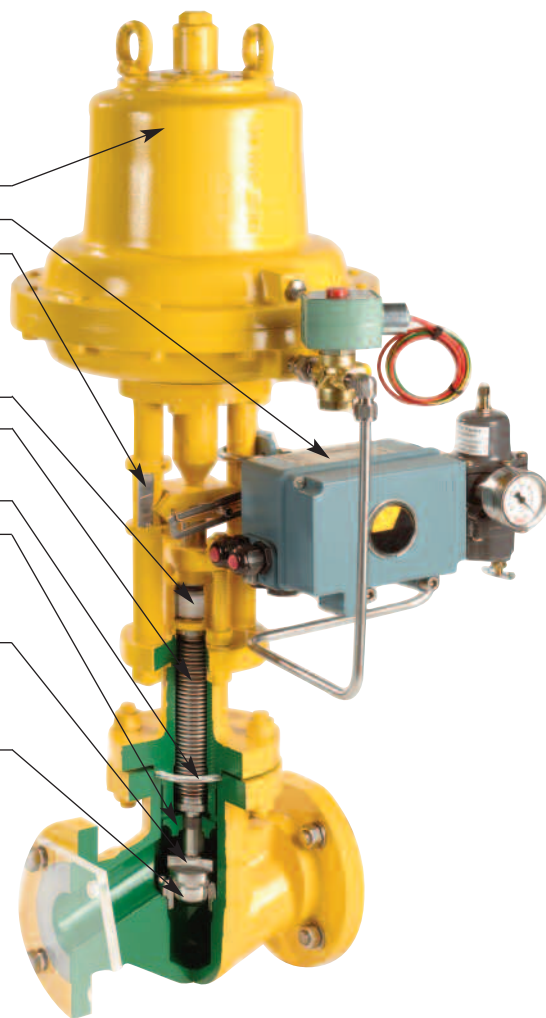
- Disc fixed on stem to ensure stability
- Single seat to avoid galling and sticking
- Profiled disc designed to meet control specifications and avoid cavitation and erosion

Zero seat leakage

- Hard faced, knife effect edge seating to cut through chlorine process impurities
- Stellite 21 seating overlay for longevity
- Individually tested for tight shut-off performance : from ASME Class IV up to bubble tight

External tightness

- High quality level 2 castings, as per ASTM E446
- Stringent quality controls
- Body-bonnet thickness acc. to API 600



Model 2100BAC is EuroChlor GEST 98/245 approved for Class 150/300 and ISO PN 25/40.

Technical information and specifications



The reliability and efficiency of a control valve lies within the definition and validation of the customer's specifications. The actual service conditions such as inlet and outlet pressures, fluid speed, etc... are the most important elements to consider when determining a control valve.

Extra-long bellows selection

Metal bellows welded to the stem and bonnet provides a continuous metallic barrier between the process fluid and the atmosphere to achieve zero emissions. As with all our bellows sealed globe valves, there is also a stuffing box for secondary sealing. The special class, extra-long, heavy duty bellows are specially designed for control application. It is guaranteed for at least 100 000 cycles, fully opened to fully closed, and can reach up to 500 000 cycles upon request.

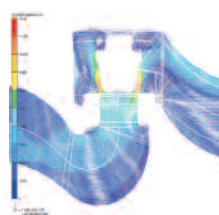
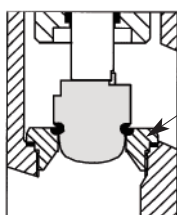
- Each bellows is 100% sensitive helium tested according to ASME V art.10, with a leak rate $\leq 10^{-8}$ Atm. cm^3 before assembly.
- Each bellows is 100% pressure shell tested at 1,5 times rating

Trim design

Model 2100BAC can be supplied in a range of equal %, equal % modified or linear curve characteristics.

The single seat and plug design avoids galling and sticking. It is either renewable or integral, and can be supplied in various diameters to meet the Cv needs of the application and the customer requirements.

The flow characteristics are inherent to the valve and the Cvs of its specific profiled disc design are provided upon request.



CAD is used to optimize flow patterns and obtain the highest possible pressure recovery factor (F_L). High F_L values reduce the chances of cavitation.

Seat tightness and actuator selection

3 levels of seat tightness are available:

- Level 1 = class IV ASME B16/104/FCI 70.2 is a minimum requirement
- Level 2 = class VI ASME B16/104/FCI 70.2
- Level 3 = bubble tight, nitrogen tested at maximum differential pressure

Model 2100BAC is supplied with Bimatic diaphragm actuator.

Bimatic actuators are available either

- Air to open, spring to close
- Air to close, spring to open
- Double acting (upon request)

Our control valves can be "dual function", i.e. control and isolation, if selected with level 2 or level 3 tightness. Our control valves are normally supplied with:

- Hard seat design, metal to metal, including stellite
- Soft seat disc upon request, depending on service conditions.

with flow tending to open (flow tending to close also available upon request).

Please refer to BIMATIC documentation for characteristics and accessories.

Positioner

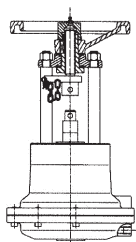
descote control valves can be equipped with pneumatic, electro pneumatic, intelligent... positioners.

All major positioner types and brands can be adapted on our valves, according to actual D.C.S. and customer requirements.

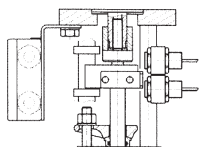
Accessories

descote control valves can be delivered with a wide range of accessories

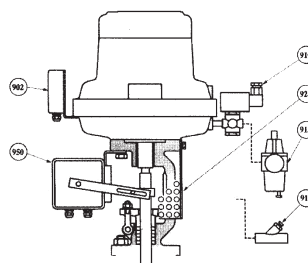
- Limit switch • Solenoid valves • Safety manual override • Field bus • Etc.



Top mounted safety manual override



Pillar mounted switches for direct stem position detection



Item	Description
902	Junction box
950	Positioner + limit switch
910	Solenoid valve
913	Air filter regulator
914	Air control to adjust valve opening/closing time
924	Protective device from moving parts

Manufacturing range

	Standard range	Applicable construction standards
Size	DN 15 to DN400 - 1/2" to 16"	<ul style="list-style-type: none"> • ASME B16-34, ASME B31-3 (cat M), ASMEIII, ASME VIII • DIN 3840, PED 97.23 • AFNOR NFE 29350, CODAP, RCC.M • BS 1873, API 600 • JIS B8243, STOOMWEZEN, UNI, SA • NACE, Fire security, etc.
Rating	ISO PN 25/40/64/100 - ANSI Class 150/300/600	

End connections

End type	DN	
1. Flanges	10 to 400 (3/8" to 16")	Available in RF, male & female, tongue & groove, RTJ...
2. BW, Threaded and SW upon request		

Face to Face dimensions

Valves are manufactured according to international dimensional standards:

ISO 5752 – ANSI B16-10 – NFEN 558 – DIN 3202 – JIS B2002

Actuated valve dimensions vary according to the size of the selected actuator and are therefore supplied upon request.

We can supply

- GVF face-to-face standard - interchangeable with Globe valves
- BVF standard – interchangeable with Gate, Plug & Ball valves with rating ISO PN 50 and ANSI Class 300 lbs
- Valves interchangeable with some Japanese manufacturers special dimensions.
- Angle body is available upon request according to above standards.

descote control valves are interchangeable with all types of **PLUG** and **BALL** valves.

Bellows Sealed Globe Valve Model 2100BAC

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Materials selection

We manufacture valves in a wide range of materials, from carbon steels to special alloys. Materials are selected according to the actual service conditions (fluid, temperature, pressure, etc.) and environmental circumstances (tropical location) to ensure optimum life of the valve.

(ASTM standards)	Common Material Selection			Special Material Selection
	type 22	type 25	type 26.1	
body & bonnet	A350 LF2 or A352 LCC	A350 LF2 or A352 LCC	A350LF2 or A352 LCC	Stainless steels, duplex steels, Monel®, Alloy 20, Inconel 600, Hastelloy®C276/B2....
disc	Duplex S.S.	Duplex S.S.	Hastelloy® C276	
bellows	Hastelloy® C276	Hastelloy® C276	Hastelloy® C276	
stem	Stainless Steel	Hastelloy® C276	Hastelloy® C276	
seating	Stellite 21	Stellite 21	Stellite 21	
gasket*	PTFE	PTFE	PTFE	
packing*	PTFE	PTFE	PTFE	
bolts & nuts	L7M/7M	L7M/7M	L7M/7M	

* Graphite available acc. to temperature limits

Inspection and quality control

descote production specifications have very strict non destructive testing and examination requirements. They are based upon national & international standards : API 600, ASME B31.3, ASME B16.34

+ industrial standards such as EuroChlor GEST 98/245, Chlorine Institute...

+ customers specific requirements

+ our own industrial experience

These requirements are systematically used and include the following examinations:

- X-ray, U.S., magnetic particle, dye-pen on welds and machined parts, wall thickness, dimensions, surface finish and hardness.

descote provides this high level of inspection and quality control to complement customer specifications.

Hand control valves

We manufacture valves with regulating discs to provide manual flow control.

This design is particularly applicable to control valve by-pass; the plant can then be operated when the control valve requires maintenance.

Tests

All valves are tested according to international standards.

In addition, we systematically perform:

- 100% HP gas seat test with an acceptance criteria of according to Class IV, VI or bubble tight requirements.
- a 100% positioner & valve stroke calibration to deliver a valve ready for plant connection

This testing ensures tightness performance on every valve delivered.

Certificates and traceability

descote applies the ISO 9001 standard to the complete production process. This procedure systematically includes:

- unique serial number
- a 3.1 certificate for traceability of materials, tests, examinations and controls.

The valve serial number provides complete traceability for the lifetime of the valve.



Exclusive Distribution USA/Canada

FC Tech

17546 N. Airline Hwy.

Prairieville, Louisiana 70769

Phone: (225) 744-3788

Fax: (225) 313-6753