

copenhagen
atomics

Molten Salt Bellow Valve

up to 700°C molten salt valve,
Controlled by pneumatic valve controller



OVERVIEW

Copenhagen Atomics' molten salt valve is a bellow valve with no internal dynamic seals. It is developed for molten salt test systems and can operate up to 700°C.

The valve position can be adjusted with the included pneumatic valve controller, which is in turn controlled over USB with a simple command that allow you to set the pressure on the backside of the valve seat. The valve controller includes a small gas pump, which allows your system to control a positive or negative pressure on the backside of the valve seat, thereby adjusting the position of the valve seat resulting in dynamic flow resistance through the valve.

The valve controller require 24V dc, (10 Watt) supply voltage to operate. The internal software in the valve controller maintain a constant pressure on the backside of the valve seat. The valve pressure can be adjusted between -0.5 bar to +1.5 bar.

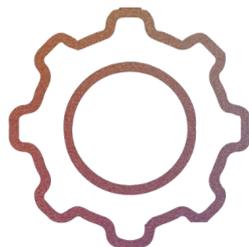
To control the valve, connect to the controller over USB with 155200 baud serial connection. Sending a text string "1.2 (enter)" will result in the controller adjusting the valve seat pressure to 1.2 bar immediately. The valve controller is DIN rail mounted.

By deploying a bellow to adjust the position of the valve seat, there is no dynamic seals in this valve, which help to minimize corrosion and potential leakage. This also means that the valve can be used in places where the ambient gas and control gas contains oxygen. However note that the life expectancy of the bellow is reduced significantly if oxygen is used at high temperatures.

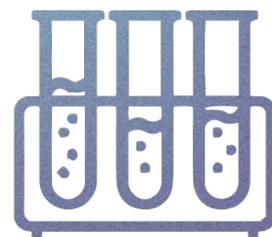
PUMP VERSION 1.1 HIGHLIGHTS



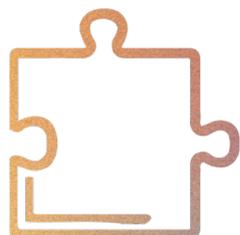
700°C



pneumatic valve
controller included



Flow rate:
0 - 500 L/min



No dynamic
seals



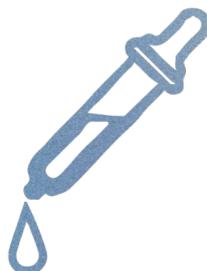
Service life:
5000 hours



Made from
stainless steel 316



Low cost gaskets
available for fluoride,
chloride and nitrate salts



100% leak proof



Controlled via USB



ENGINEERING

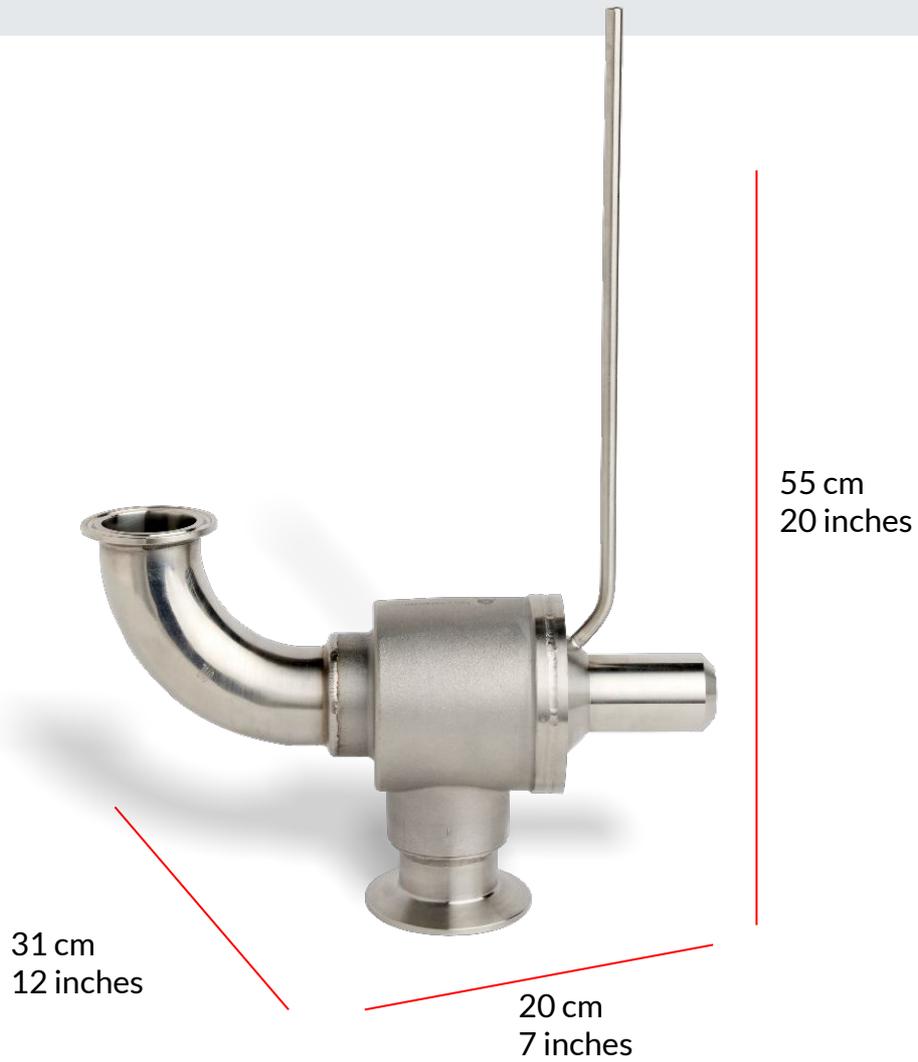


It is possible to buy flanges and gaskets which fit the Copenhagen Atomics valve or get custom flanges mounted on the valve inlet and outlet

The valve is designed to work with nitrate, fluoride and chloride salts. But it can also be used with molten metals. Please contact us for more information.

Copenhagen Atomics plans to develop versions of this valve in smaller and larger sizes. Please inquirer if you are looking for a different size.

Dimensions



VALVE TECHNICAL SPECIFICATIONS	
Control voltage	24Volt, 10Watt
Max temperature	700°C.
Max flow rate	500 liters per minute
Min flow rate	0 liters per minute
Valve weight	3 kg
Valve controller weight	1 kg
Inlet flange outer diameter	64 mm
Outlet flange outer diameter	64 mm
Control gas pipe	6 mm outer diameter. Compression fitting

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