

Ceramic Control Ball Valve for Abrasive & Corrosive Flow Control

CHEMSUN process control is a global leader in the design and manufacturer of advanced Flow Control equipment operating in abrasive, corrosive applications in a wide range of demanding industries, including FGD project of power plant, power generation, chemical, pulp & paper, mining, and more.

The CHEMSUN Control Ball Valve has been designed to control flowing media in flue gas desulphurisation plants, chemical plants, waste incineration plants etc. as well as in all situations which require exact volume and/or pressure control of abrasive and corrosive media.

Features

- Compact design
- Used in medium which are abrasive, corrosive or both.
- Good flow control performance.
- The media flows through the valve in a straight line, that providing better flow characteristic.
- Equal percentage, modified Equal percentage and Linear characteristic



Applications

The CHEMSUN Ceramic control valve is designed for a wide range of applications such as:

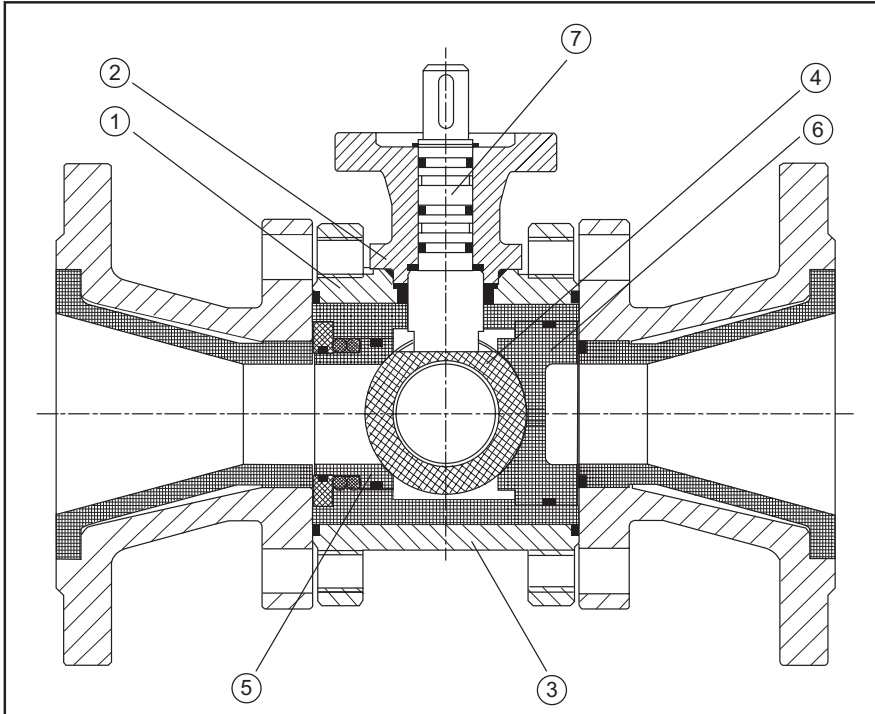
- FGD in Power plant
- Mining
- Chemical plant
- Pulp & Paper
- Corrosive & Abrasive environment

Technical Data:

Pressure:
1000 ~ 1600kPa (10 ~ 16Bar)
Temperature:
- 20 ~ 200°C
Torque:
20 ~ 350Nm

Ceramic Control Valve

The CHEMSUN Control Ball Valve has been designed at two functional levels, the inlet side sealing function and the outlet side control function - to guarantee high availability. Compared to an ordinary control valve, the CHEMSUN Control Ball Valve has the advantage that the medium flows through the valve in a straight line, thus providing better flow characteristics. This results in an extremely precise regulation, even in the case of small differential pressures.



The fundamental design for each CHEMSUN Ceramic Ball Valve never differs. All valves are consistent in their design - whereby the housing and both housing-mountings are connected by bolts. All materials coming into contact with media are resistant to corrosion. The housing as well as the housing mountings are lined with ceramic.

Similarly, the seat-ring, the ball and the control disc as well as all other parts in direct contact with flow are made of ceramic.

Parts List

Pos. No.	Description	Material
1	Housing	304 with ZrO ₂
2	Packing Housing	304 with ZrO ₂
3	Lower Flange	304 with ZrO ₂
4	Ball	ZrO ₂
5	Seat Ring	ZrO ₂
6	Control Disc	ZrO ₂
7	Stem	2205 or 1.4462

Spare Parts

Pos. No.	Description	Material
4	Ball	ZrO ₂
5	Seat Ring	ZrO ₂
6	Control Disc	ZrO ₂
7	Stem	2205 or 1.4462
	Set of Gaskets	Viton®

Note:

* ZrO₂ ball is standard

* Other Materials available on request

The CHEMSUN Control Ball Valve can be made of various materials, depending on the medium and the operation parameters. All parts which come into contact with the medium are made of ceramic.

Control Disc

Pressure and/or volume control is realised by turning the stem and ball as well as by the shape of the control disc. By turning the stem from 0 to 90°, the bore of the ball together with the control disc gives a defined free space for the flowing media. The control characteristics are determined by the shape of the cross-sectional opening (e.g. linear or equal percentage) in the control disc and are designed to meet the desired operating requirements.

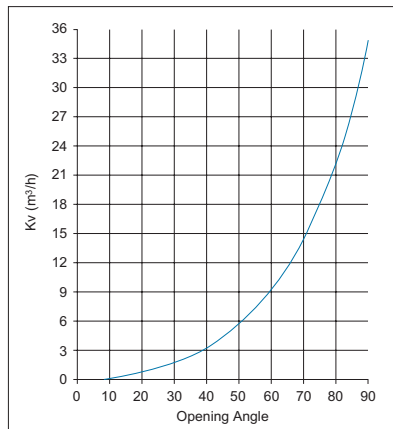
By exchanging the control disc the control characteristics can be easily adapted to different operating parameters.

By turning the ball 90° into the end position the open or closed position of the valve is defined, which means that the entire cross-section of the output flow is either fully released or shut off.



Kv-Diagram

Ceramic Control Ball Valve, GRC-E

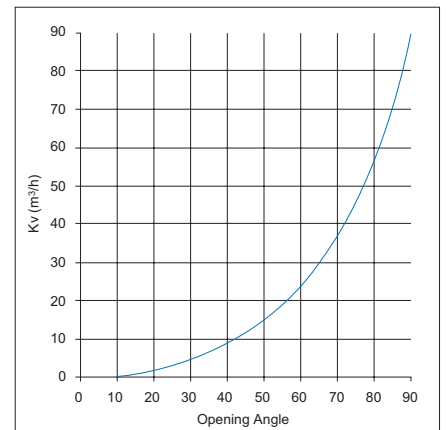


Kvs = 35 m³/h

Characteristic: Equal percentage

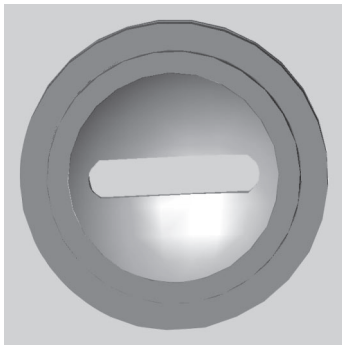
Kv-Diagram

Ceramic Control Ball Valve, GRC-E



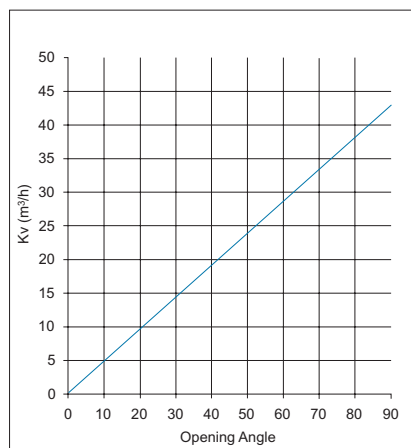
Kvs = 90 m³/h

Characteristic: Equal percentage



Kv-Diagram

Ceramic Control Ball Valve, GRC-L

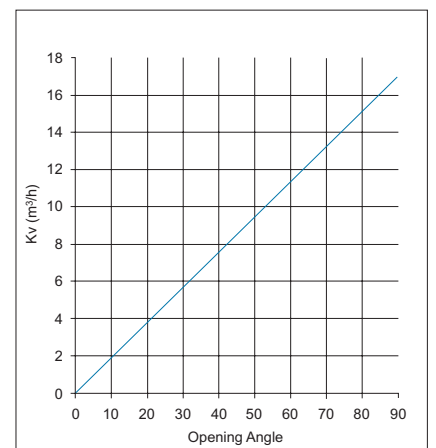


Kvs = 43 m³/h

Characteristic: Linear

Kv-Diagram

Ceramic Control Ball Valve, GRC-L



Kvs = 90 m³/h

Characteristic: Linear

Technical Data Control-Ball-Valve:

Diameter	Flange DN	PN	Max. torque Nm	Connection to Actuator	Kvs-max modified equal percentage m ³ /h	Kvs-max equal percentage m ³ /h	Kvs-max linear m ³ /h	Face-to-Face Length mm
25	32			F07				180
	40	10-16	40	Stem	35	15	17	200
	50			d=18mm				230
	65							290
40	40			F07				200
	50	10-16	80	Stem	90	38	43	300
	65			d=18mm				290
	80							310
65	65			F10				290
	80	10-16	160	Stem	460	100	113	310
	100			d=22mm				350
	125							400
100	100			F10				350
	125	10-16	200	Stem	1400	270	280	400
	150			d=22mm				480
	200							600
150	150			F12				480
	200	10-16	700	Stem	7150	550	606	600
	250			d=40mm				730
	300							850

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