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ROTARY CONE VALVE

Rotary Cone Valves (RCV series) are highly dependable quarter-turn, full ported valves ideally suited for pump control service as well as precise flow or pressure control under extreme operating conditions.

The valve's electrically fused, metal to metal seating and unique lift and turn operation that eliminates seat contact during opening and closing ensure long term tight shut off. When used as a pump control valve, it's linear operating cycle coupled with a smooth, circular, full port waterway provide excellent surge control and extremely low head loss.



FEATURE

- One-piece, top entry ductile iron body and fully skirted plug with double metal to metal seats
- Available in sizes 6" to 60"
- Ribbed body design
- Full port valve body
- Energy efficiency
- Minimal maintenance
- Drop tight shut off



TECHNICAL DATA

Technical Parameter

Size Range	Construction	Coatings	Connections	Pressure
6"-60"	AWWA	AWWA C550 ANSI/NSF 61	ANSI B16.1 Class 125/ANSI B16.5 Class 150 ANSI B16.1 Class 250/ANSI B16.5 Class 300	250 PSIG Up to 720 PSIG on request

Part list and Material

Parts Name	Material	Parts Name	Material
Body	Ductile Iron	Plug	Ductile Iron
Cover	Ductile Iron	Cap Screw	Steel
Bushing	Bronze	Journal	Bronze
Dowel	Steel	Operator Shaft	Steel
V-Ring Packing	NBR	Packing Gland	Carbon Steel

*More material is available on request.

ROTARY CONE VALVE

DOUBLE METAL SEAT

The RCV series features a double metal seat design for long service life and exclusion of solid entry into the body cavity.

LIFT TURN LOWER GEARBOX

The lift turn lower type gearbox ensures the metal seat is not scratched, jammed, or rubbed when opening and closing the valve.

FULL CIRCULAR PORT

The 100% full circular port ensures excellent flow characteristics with very low head-loss equal to an equivalent length of pipe.

FLEXIBLE USAGE

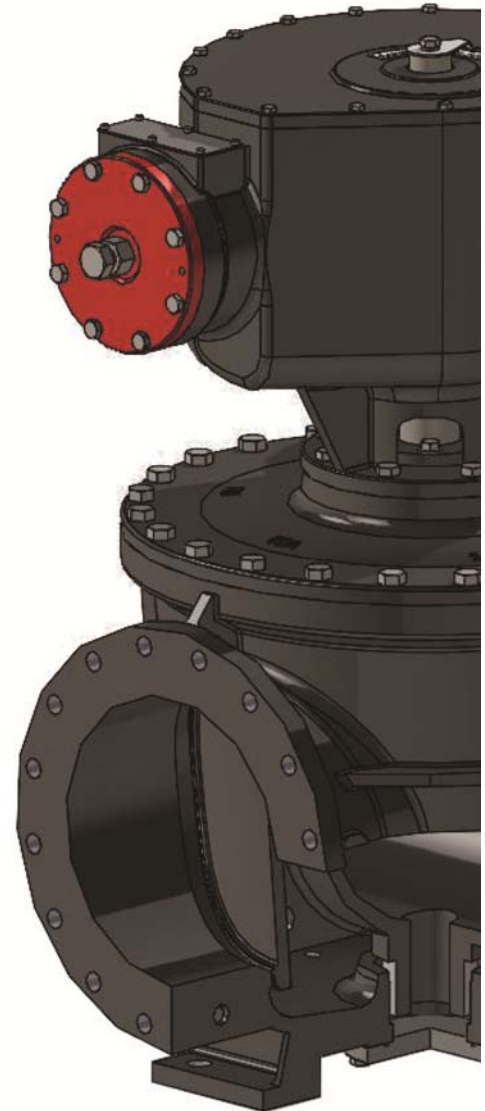
Suitable for use in sewage treatment plants, water pump stations, hydro power plants, reservoirs and any other application with fluid ranging for clear potable water to raw sewage.

CAVITATION RESISTANT

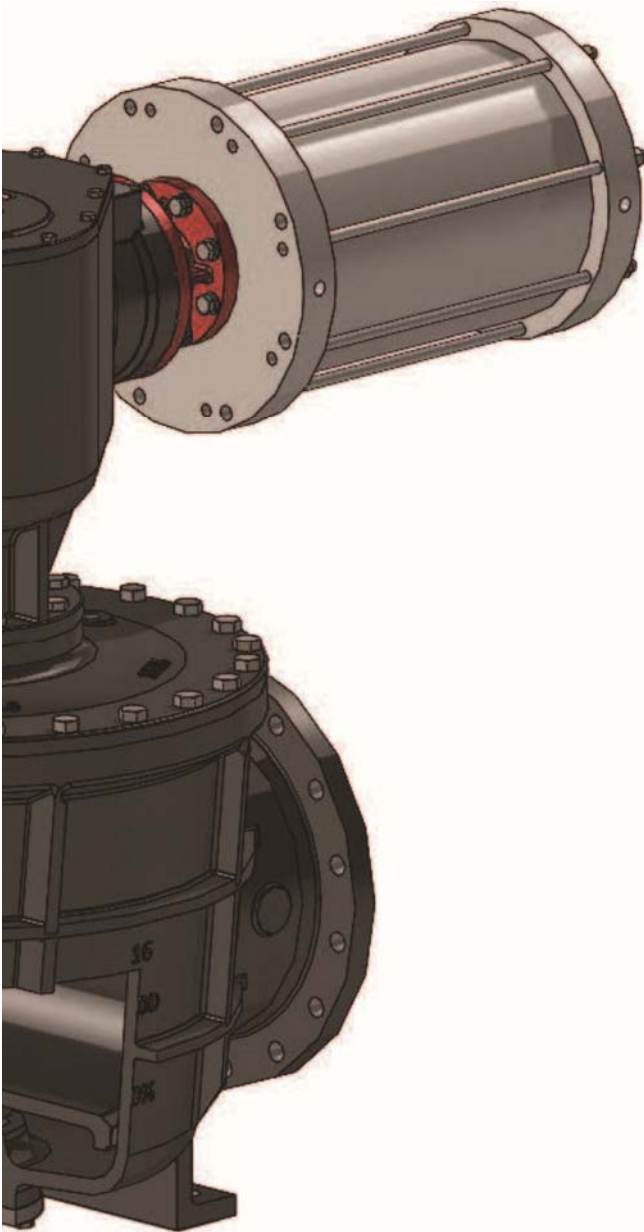
Both high and low velocity flow rates can easily be handled without any cavitation.

TRUNNION DESIGN

The full trunnion design ensures the plug stays centered in the valve for leak free service and also ensures long life span even during infrequent operation.



ROTARY CONE VALVE

**HEAVY DUTY BODY**

The body is designed with thick wall, reinforced with ribs, and manufactured with high strength ductile iron for a lifetime of reliable service.

SELF FLUSHING

Self-flushing design ensures no accumulation of debris, perfect for raw water or sewage.

TRIPLE DUTY

With the appropriate operator and controls, the RCV series is capable of functioning as a flow control valve, check valve, and isolation valve all with one unit of pumping applications.

COST EFFECTIVE

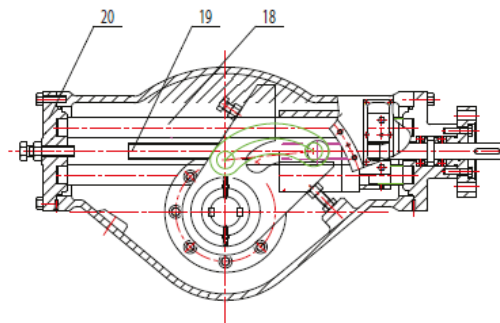
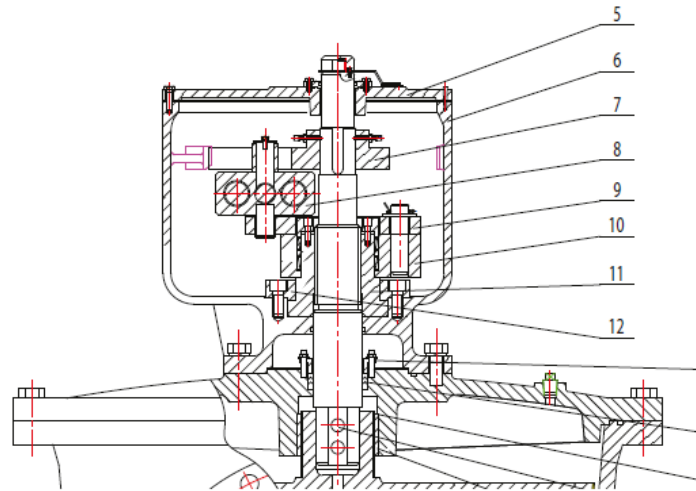
The high flow efficiency of RCV series means a much smaller valve can be used compared to line sized butterfly or plug valves. The smaller cone valve using a smaller electric, hydraulic, or pneumatic operator leads to further savings.

FLEXIBLE OPERATOR OPTIONS

The RCV series is available in any operator option, including electric, pneumatic, or hydraulic, with options including failsafe configurations, network controlled, etc.

ROTARY CONE VALVE

LIFT TURN LOWER GEARBOX



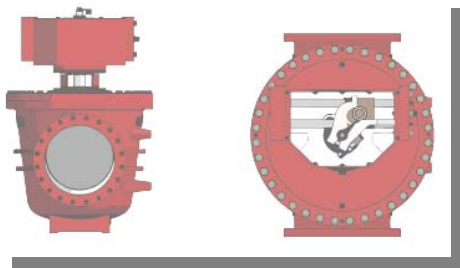
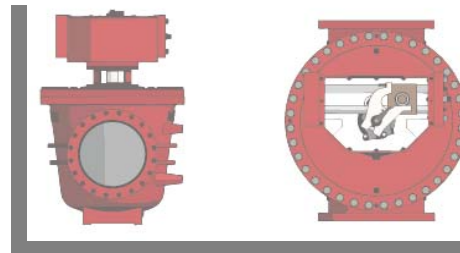
To ensure leak free seating, all RCV series are equipped with a lift turn lower type gearbox. The gearbox is designed to lift the valve out of the seat before rotating open and to lower the plug into the seat as it is closing. This prevents rubbing of the metal seats extending their life, providing a leak free seal, and reducing operating torque.

ROTARY CONE VALVE

OPERATION

Position 1: Fully Closed and Seated

The valve is fully closed and the plug seat is in full contact with the seat of body to form a drop tight seal.

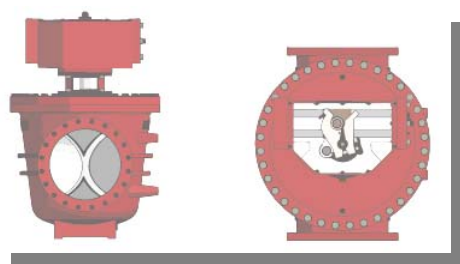
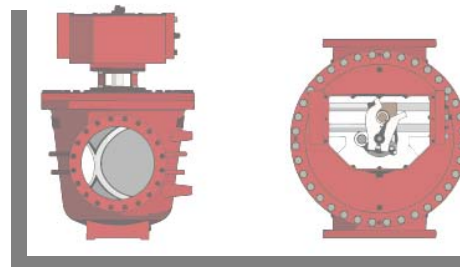


Position 2: Lifting only

The first motion of the valve operating mechanism lifts the plug up from the body sufficiently to separate the seats so there is no contact of the seats during plug rotation.

Position 3: 25% Open Plug

Plug rotation begins by pushing against the rotator lever. The plug is still being lifted at this stage of stroke.

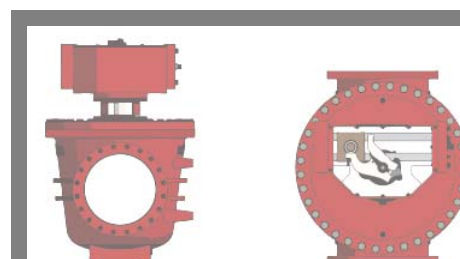


Position 4: 75% Open Plug

In the last stage of rotating to fully open. Plug continues to lower.

Position 5: Fully Open and Seated

Plug has stopped rotating and is seated in the fully open position with minimal head loss.



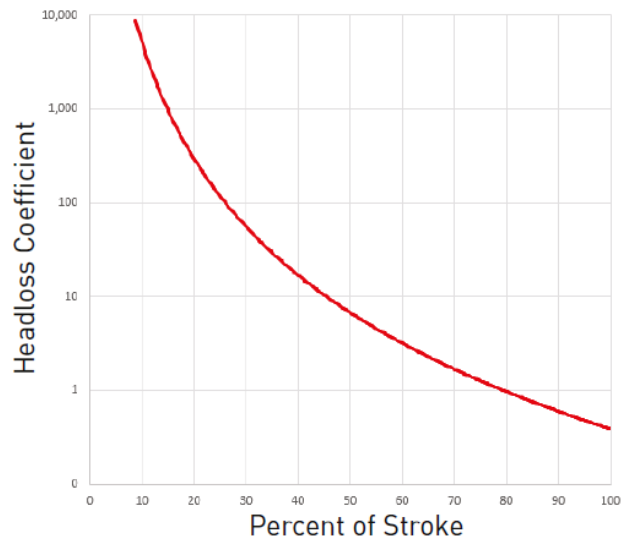
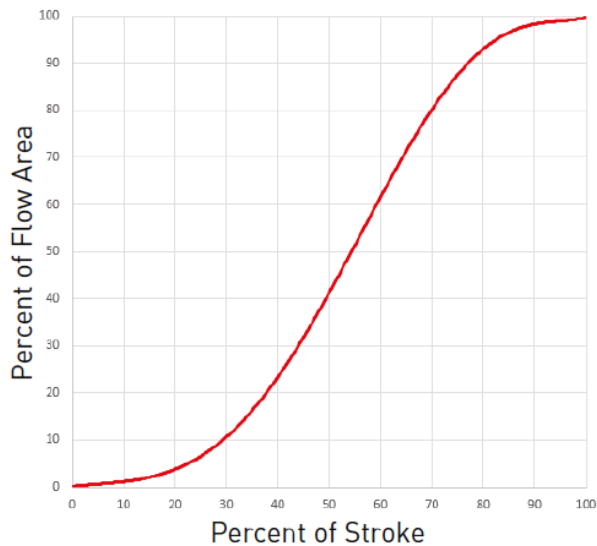
ROTARY CONE VALVE

CHARACTERISTICS

FLOW DATA									
SIZE	10°	20°	30°	40°	50°	60°	80°	90°	FULL OPEN
6"	32	106	176	205	366	678	2352	3755	4250
8"	50	168	277	323	578	1069	3708	5920	6700
10"	82	275	455	531	948	1754	6088	9720	11000
12"	100	338	559	652	1164	2153	7472	11929	13500
14"	133	450	745	869	1552	2871	9962	15905	18000
16"	171	575	952	1110	1983	3668	12729	20323	23000
18"	241	813	1345	1569	2802	5183	17987	28718	32500
20"	289	975	1614	1883	3362	6220	21584	34461	39000
24"	430	1450	2400	2800	5000	9250	32100	51250	58000

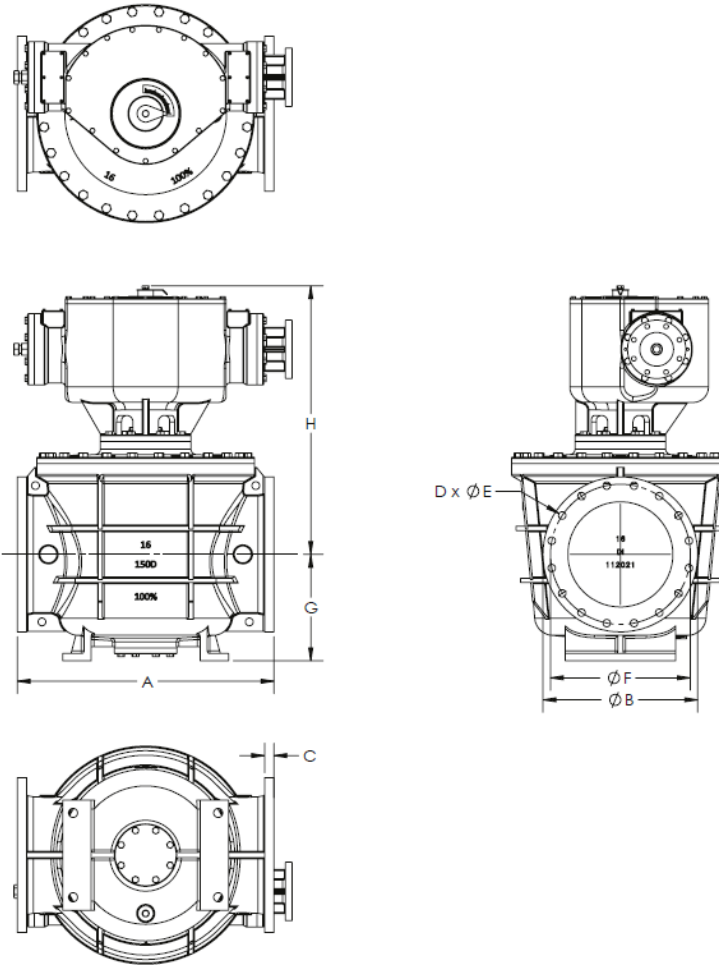
This flow coefficient Cv table shows flow in gallons per minute with 1.0 psig constant pressure drop at nominal 60 degrees ferenheight.

*Flow coefficient Cv increases as valve is lowered into seat.



ROTARY CONE VALVE

DIMENSIONS



SIZE	A	B	C	D	E	F	G	H
6"	16.5	11	1	8	0.88	9.5	9	28
8"	21.5	13.5	1.12	8	0.88	11.75	9.87	30.5
10"	26	16	1.19	12	0.98	14.25	12.36	38.7
12"	28	19	1.25	12	0.98	17.00	13.5	39
14"	33	21	1.38	12	1.13	18.75	15.5	39
16"	39	23.5	1.44	16	1.13	21.5	16.1	40.7
18"	41.75	25	1.56	16	1.18	22.75	17.5	42
20"	47	27.5	1.69	20	1.25	25	17.75	44
24"	56	32	1.87	20	1.38	29.5	22.0	45.8

*More dimensions are available on request.