

DURCON

THE RIGHT PRODUCT FOR YOUR APPLICATION



40 years

DURBLOCK GLOBE BLOCK VALVE

BENEFITS

- Increase production by eliminating losses and wastes;
- Reduce maintenance costs;
- Reduce occupational accidents;
- Reduce time and costs of stops for maintenance.

FEATURES

- Designed for Severe Service
- For High Pressure applications
- Bonnet-less one piece body piece
- Metal-to-Metal sealing (Stellite®)
- Zero leakage
- ASME 16.34 "Y" and "T" construction
- Connections (welded) according to:
 - SW - ANSI B16.11
 - BW - ANSI B16.25
- ASME pressure classes: 900 # to 4500 #
- Sizes: 1/2" to 3" (DN 15mm to 80mm)



A history of growth and excellence

DURCON-VICE is a premium manufacturer of industrial valves in Brazil. It combines high standards in technology, quality and productivity, with tradition, experience and reliability.

Founded in 1974, DURCON-VICE employs 200 workers in 4 (four) manufacturing plants in Brazil and the EUA. The total plant area is 20 thousand square meters.

The company produces a wide range of high technology valves, with over 2 hundred thousand valves sold, with sizes ranging from 1/4" to 104" and pressure class up to 4500#. We are present in Latin America, North America, Europe and Asia.

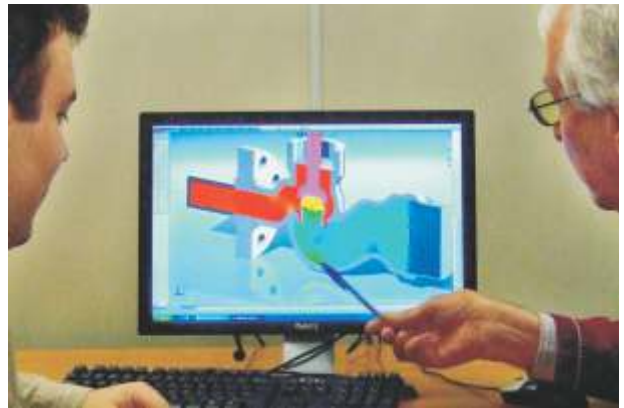
Our QMS is ISO 9001:2008 certified for design, development, manufacture and service. We are also PED 97/23/EC (Pressure Equipment Directive) certified, (CE Mark).



Processes



Sales



Research & Development



Manufacturing



Field Service

Manufacturing Plants



Factory 1 -
Cajamar - São Paulo - Brazil



Factory 4 -
Caieiras - São Paulo - Brazil



Factory 2 -
Cajamar - São Paulo - Brazil



Factory 5 -
Franco da Rocha - São Paulo - Brazil
(Under Construction)



Factory 3 -
Three River - Michigan - EUA

Durblock Stop Globe Valve for Severe Service

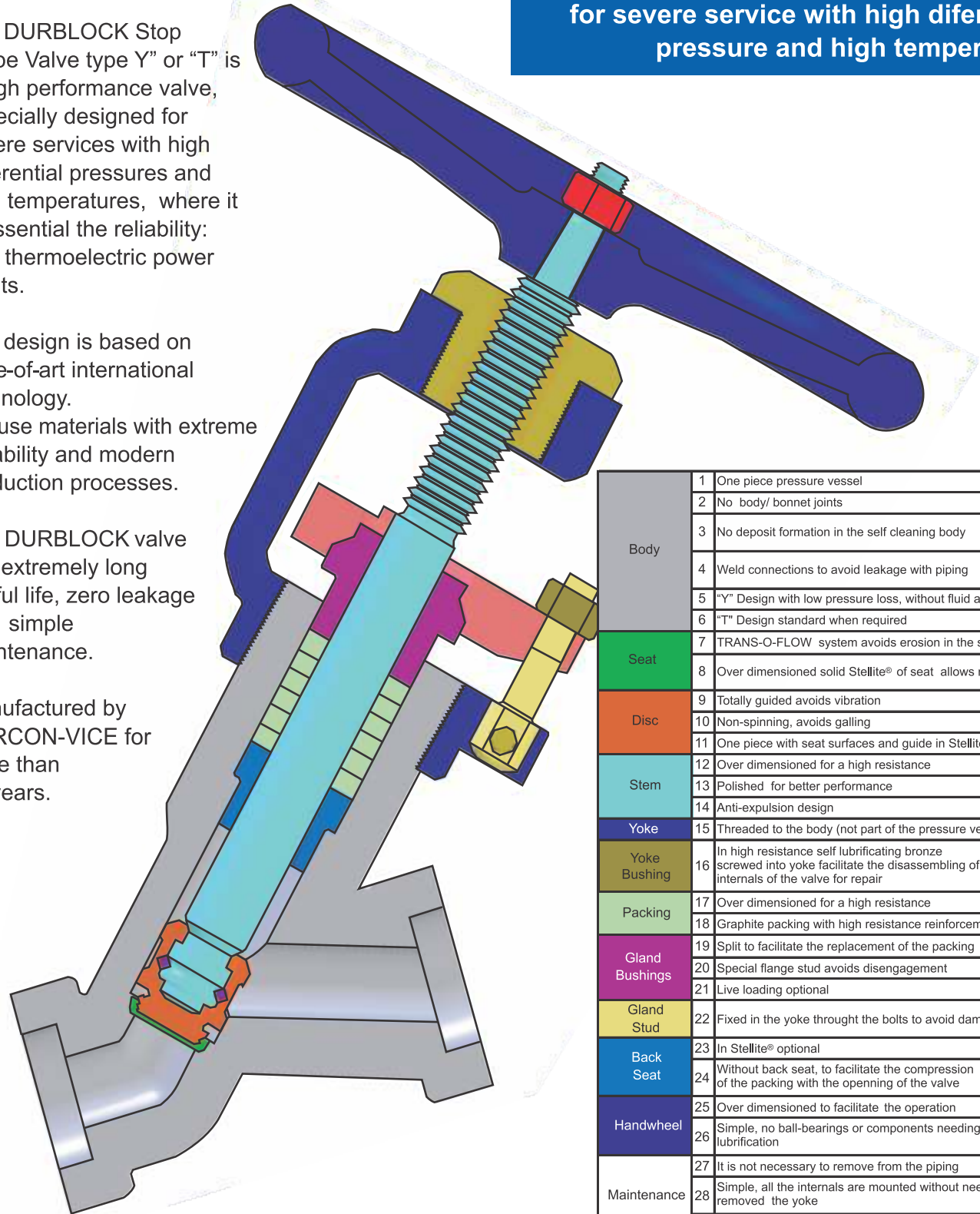
An exclusive valve with 30 design features for severe service with high differential pressure and high temperature.

The DURBLOCK Stop Globe Valve type "Y" or "T" is a high performance valve, especially designed for severe services with high differential pressures and high temperatures, where it is essential the reliability: Ex - thermoelectric power plants.

The design is based on state-of-art international technology. We use materials with extreme durability and modern production processes.

The DURBLOCK valve has extremely long useful life, zero leakage and simple maintenance.

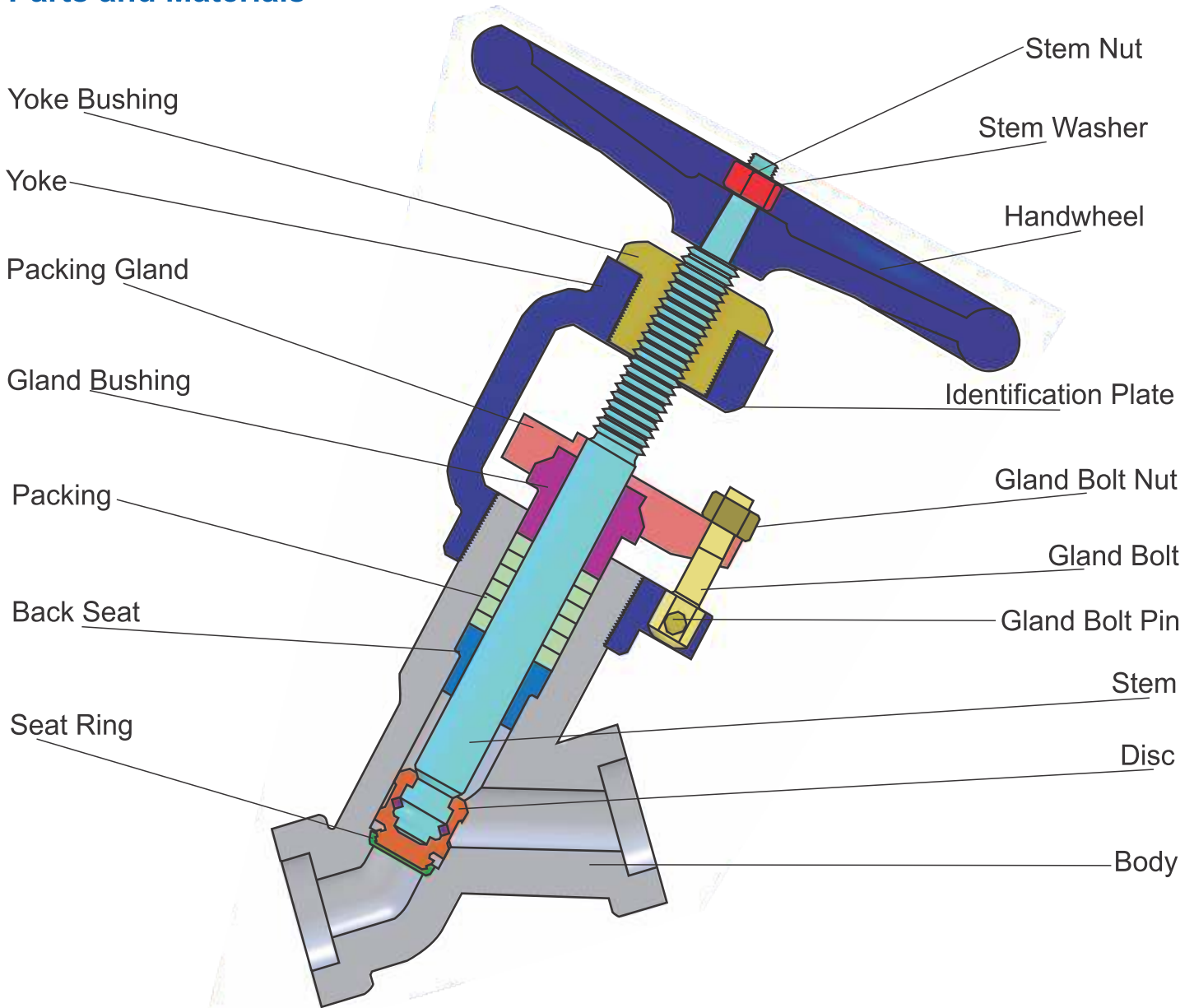
Manufactured by DURCON-VICE for more than 20 years.



Body	1	One piece pressure vessel
	2	No body/ bonnet joints
	3	No deposit formation in the self cleaning body
	4	Weld connections to avoid leakage with piping
	5	"Y" Design with low pressure loss, without fluid accumulations
	6	"T" Design standard when required
Seat	7	TRANS-O-FLOW system avoids erosion in the seat
	8	Over dimensioned solid Stellite® of seat allows regrinding
Disc	9	Totally guided avoids vibration
	10	Non-spinning, avoids galling
	11	One piece with seat surfaces and guide in Stellite®
Stem	12	Over dimensioned for a high resistance
	13	Polished for better performance
Yoke	14	Anti-expulsion design
	15	Threaded to the body (not part of the pressure vessel)
Yoke Bushing	16	In high resistance self lubricating bronze screwed into yoke facilitate the disassembling of the internals of the valve for repair
	17	Over dimensioned for a high resistance
Packing	18	Graphite packing with high resistance reinforcement
	19	Split to facilitate the replacement of the packing
Gland Bushings	20	Special flange stud avoids disengagement
	21	Live loading optional
Gland Stud	22	Fixed in the yoke through the bolts to avoid damage
	23	In Stellite® optional
Back Seat	24	Without back seat, to facilitate the compression of the packing with the opening of the valve
	25	Over dimensioned to facilitate the operation
Handwheel	26	Simple, no ball-bearings or components needing lubrication
	27	It is not necessary to remove from the piping
Maintenance	28	Simple, all the internals are mounted without need to removed the yoke
	29	Special tool for re-grinding the seat
Automation	30	Pneumatic, hydraulic or electric actuators adaptation is extremely simple, can be made with the valve in the line

Developped for Severe Service

Parts and Materials



Description	Qty	A105	F11	F22	F91
Body	1	ASTM A105	ASTM A182 GR F11	ASTM A182 GR F22	ASTM A182 GR F91
Yoke	1	ASTM A105	ASTM A105	ASTM A105	ASTM A182 GR F22
Disc	1	STELLITE®	STELLITE®	STELLITE®	STELLITE®
Stem	1	AISI 410 H.T.	AISI 410 H.T.	AISI 410 H.T.	AISI 410 H.T.
Back Seat	1	AISI 410 H.T.	AISI 410 H.T.	AISI 410 H.T.	AISI 410 H.T.
Seat Ring	1	STELLITE®	STELLITE®	STELLITE®	STELLITE®
Packing	1	GRAPHITE	GRAPHITE	GRAPHITE	GRAPHITE
Packing Gland	1	ASTM A105	ASTM A105	ASTM A105	ASTM A105
Gland Bushing	1	SAE 1020	SAE 1020	SAE 1020	SAE 1020
Yoke Bushing	1	ASTM B16	ASTM B16	ASTM B16	ASTM B16
Stem Washer	1	SAE 1010/1020	SAE 1010/1020	SAE 1010/1020	SAE 1010/1020
Stem Nut	1	SAE 1010/1020	SAE 1010/1020	SAE 1010/1020	SAE 1010/1020
Identification Plate	1	AISI 304	AISI 304	AISI 304	AISI 304
Gland Bolt	2	ASTM A193 B7	ASTM A193 B7	ASTM A193 B7	ASTM A193 B7
Gland Nut	2	ASTM A194 2H	ASTM A194 2H	ASTM A194 2H	ASTM A194 2H
Gland Bolt Pin	2	ASTM A193 B7	ASTM A193 B7	ASTM A193 B7	ASTM A193 B7
Handwheel	1	ASTM A395	ASTM A395	ASTM A395	ASTM A395

Special Characteristics

Body Construction

One piece body has extra long neck that accommodates the packing chamber: There are no bonnet and joints to cause leakage, the yoke is located outside the pressure vessel, there are no pressure retaining welds.

“Y” Design

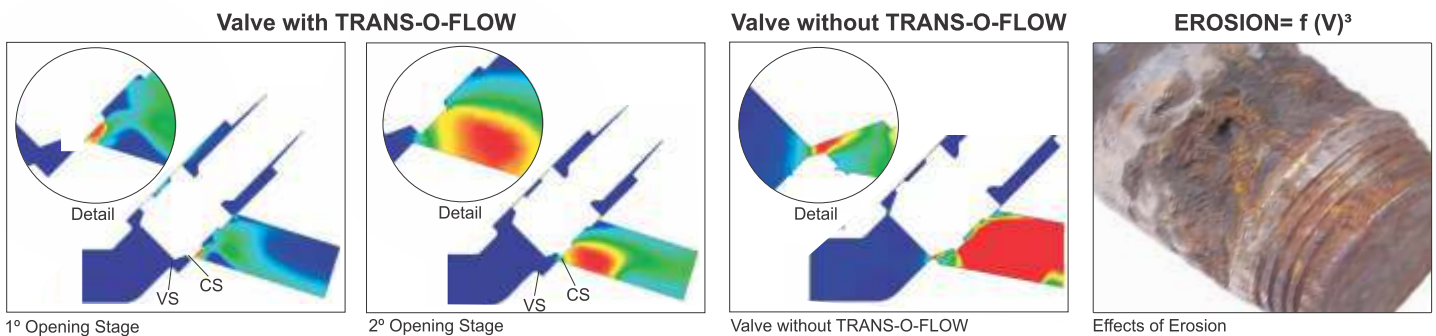
It facilitates the discharge of viscous fluids, minimizes the pressure loss and prevents the formation of liquid trapping, which may cause errors in the measurement and/or measuring equipment, such as differential pressure transmitters, controllers and level gages.

Removable Back Seat

Minimize leakage through the packing. When the valve is fully opened the Disc will push the backing ring thus re-tightening the packing.

TRANS-O-FLOW System (Patent Required)

Two stages in the opening and closing of the valve protects the sealing surface (SS) against the erosion caused by high velocity of the fluid. The high velocity of the fluid is transferred to the control surface (CS), avoiding the erosion in the valve seat (VS).

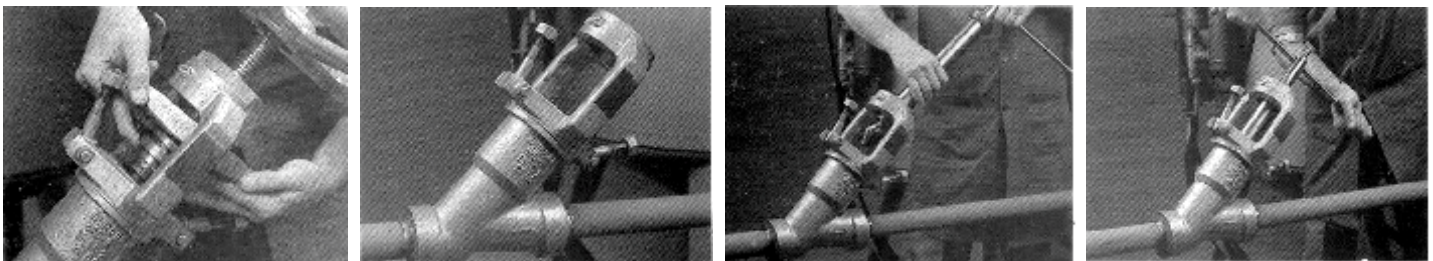


Solid Stellite® Disc and Seat

Ensure extremely long service life. The seat is a ring made of solid Stellite® and not a weld deposit, as in other brands of valves, ensuring an extremely long service life. The thickness of the seat ring eliminates the risk of seat cracking.

Maintenance and Reconditioning in the Piping

The valve makes possible the maintenance and the reconditioning without being required to remove the valve body from the line. The seat ring of solid Stellite® allows repeated re-grinding, with the use of a special tool manufactured by Durcon.



Unscrew the nuts of the Gland Bolts, lift up the packing gland and pull the (split) gland bushing.

Unscrew the yoke bushing and pull out, as a single set, the stem, packing and disc. The valve is fully disassembled.

Introduce the re-seating tool in the yoke thread (Durcon supplies this tool/service)

Re-grind the seat surface, mount the components and promptly! The valve is new.

Design, Dimensions and Weight

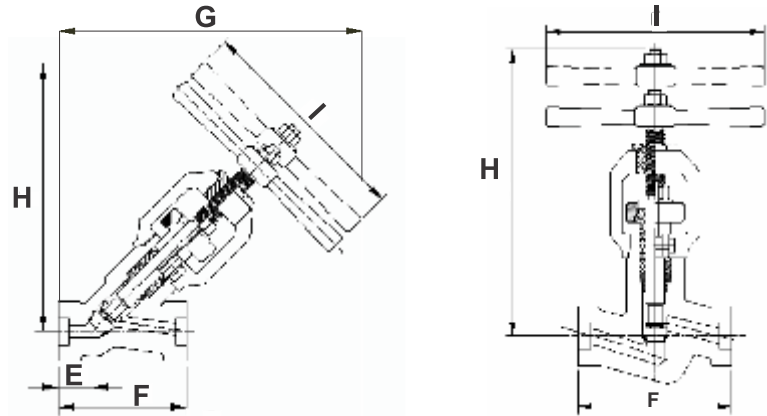
Design: ASME B16.34

Testing: ASME B16.34 & MSS-SP 61

Marking: MSS - SP 25

Socket Weld Ends: ASME B16.11

Butt Weld Ends: ASME B16.25



Pressure Class 900# and 2700# - Forged Body

Nominal Diameter		Dimensions (mm)						Kv		Weight (kg)	
(Inch)	(mm)	E	F		G (Open)	I	H (Open)		Body "Y"		Body "T"
			Y	T			Body "Y"	Body "T"			
1/2	15	34	127	155	303	220	264	320	4,2	3,0	7,5
3/4	20	34	127	155	303	220	264	320	8,2	4,5	7,5
1	25	34	127	155	303	220	264	320	13,5	5,7	7,5
1.1/4	32	50	202	250	525	350	463	546	35,8	16,7	33,1
1.1/2	40	50	202	250	525	350	463	546	35,5	17,1	33,1
2	50	50	202	250	525	350	463	546	42,2	17,9	33,1
2.1/2	65	Consult Durcon-Vice									
3	80										

Pressure Class 4500# - Forged Body

Nominal Diameter		Dimensions (mm)						KV		Weight (kg)
(Inch)	(mm)	E	F	G (Open)	I	H (Open)		Body "Y"	Body "T"	
						Body "Y"	Body "T"			
1/2	15	50	185	520	350	440	460	6	4	23
3/4	20	50	185	520	350	440	460	7	5	23
1	25	50	185	520	350	440	460	11	8	23
1.1/4	32	60	250	550	420	515	535	24	17	48
1.1/2	40	60	250	550	420	515	535	25	18	48
2	50	Consult Durcon Vice								
2.1/2	65									
3	80									

Pressure and Temperature (According to ASME B16.34 - Year 2009)

Temp °C	CLASS 1700 LTD			CLASS 2700 LTD			CLASS 4500		
	A105 (1)	F22 (2)	F91	A105 (1)	F22 (2)	F91	A105 (1)	F22 (2)	F91
	WCB	WC9	C12A	WCB	WC9	C12A	WCB	WC9	C12A
-29 a 38	293,1	293,1	293,1	465,4	465,4	465,4	765,9	775,7	775,7
50	293,1	293,1	293,1	465,4	465,4	465,4	751,9	775,7	775,7
100	292,6	292,5	293,1	464,7	464,6	465,4	699,0	773,0	773,0
150	289,2	288,8	293,1	459,3	458,6	465,4	676,1	752,8	752,8
200	286,6	284,6	293,1	455,1	452,0	465,4	657,0	729,8	729,8
250	286,3	283,2	293,1	454,8	449,8	465,4	629,1	694,8	694,8
300	286,3	282,1	293,1	454,8	448,0	465,4	597,3	642,6	642,6
325	284,0	281,1	293,1	451,0	446,4	465,4	580,7	619,6	619,6
350	277,2	278,8	291,4	440,2	442,8	462,9	563,5	603,3	603,3
375	266,9	276,3	286,2	423,9	438,8	454,6	545,5	581,8	581,8
400	245,9	276,3	284,6	390,6	438,8	451,8	520,8	548,5	548,5
425	203,8	276,3	281,3	323,6	438,8	446,8	431,5	524,7	524,7
450	163,0	273,9	273,9	269,2	435,1	435,1	345,1	507,0	507,0
475	123,5	261,3	261,3	221,8	415,0	415,0	261,5	474,8	474,8
500	83,3	218,3	218,3	149,5	346,5	346,5	176,3	423,0	423,0
538	41,8	140,8	177,3	75,2	223,8	281,6	88,6	276,6	375,8
550	-	119,4	177,3	-	189,6	281,6	-	234,5	374,2
575	-	80,4	174,8	-	127,8	277,6	-	157,9	359,1
600	-	52,6	149,0	-	83,5	236,6	-	103,3	292,5
625	-	34,1	111,6	-	54,2	177,2	-	66,9	219,1
650	-	21,6	75,9	-	34,4	120,5	-	42,6	148,9

Temp °F	CLASS 1700 LTD			CLASS 2700 LTD			CLASS 4500		
	A105 (1)	F22 (2)	F91	A105 (1)	F22 (2)	F91	A105 (1)	F22 (2)	F91
	WCB	WC9	C12A	WCB	WC9	C12A	WCB	WC9	C12A
-20 to 100	4198,0	4250,0	5575,0	6750,0	6750,0	6750,0	11110,0	11250,0	11250,0
200	3847,0	4250,0	5575,0	6750,0	6750,0	6750,0	10185,0	11250,0	11250,0
300	3706,0	4188,0	5413,9	6663,5	6653,0	6750,0	9815,0	10925,0	10925,0
400	3592,0	4125,0	5245,5	6594,0	6550,0	6750,0	9505,0	10585,0	10585,0
500	3417,0	4103,0	4942,0	6594,0	6518,0	6750,0	9040,0	9965,0	9965,0
600	3218,0	4086,0	4496,0	6594,0	6490,5	6750,0	8515,0	9070,0	9070,0
650	3111,0	4057,0	4374,5	6437,0	6442,0	6750,0	8240,0	8825,0	8825,0
700	3017,0	4007,0	4219,7	6220,5	6366,0	6598,5	7960,0	8515,0	8515,0
750	2874,0	4007,0	3952,1	5708,0	6366,0	6556,0	7610,0	7970,0	7970,0
800	2330,0	4007,0	3773,7	4628,0	6366,0	6480,0	6170,0	7610,0	7610,0
850	1807,0	3837,0	3621,3	3586,0	6096,5	6096,5	4785,0	7305,0	7305,0
900	1303,0	3400,0	3340,0	2586,0	5400,0	5400,0	3455,0	6740,0	6740,0
950	796,3	2740,6	2871,7	1605,9	4349,6	4349,6	2055,0	5795,0	5795,0
1000	525,3	2041,8	2703,3	1092,4	3244,4	4083,0	1285,0	4010,0	5450,0
1050	-	1337,4	2676,0	-	2120,5	4083,0	-	2625,0	5400,0
1100	-	838,1	2243,7	-	1333,1	3662,9	-	1645,0	4525,0
1150	-	525,3	1655,2	-	832,7	2702,9	-	1030,0	3345,0
1200	-	312,8	1070,4	-	500,5	1747,3	-	615,0	2160,0

(1) Allowed but not recommended for prolonged usage above 425°C (800°F).

(2) Allowed but not recommended for prolonged usage above 595°C (1100°F).

(3) The 1500# standards and special pressure classes are covered by the 1700 LTD class, as well as the 2500# standard and special pressure classes are covered by 2700 LTD class

Main Applications in Power Generation



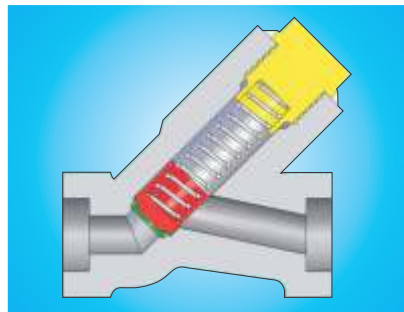
- Water Wall Drains
- Steam Superheater Drains
- Re-heaters Inlet Drains
- Economizers Drains
- Gauges Drains

- Columns Drains
- Instrument Isolation and Drains
- Drum Vents
- Steam Sampling



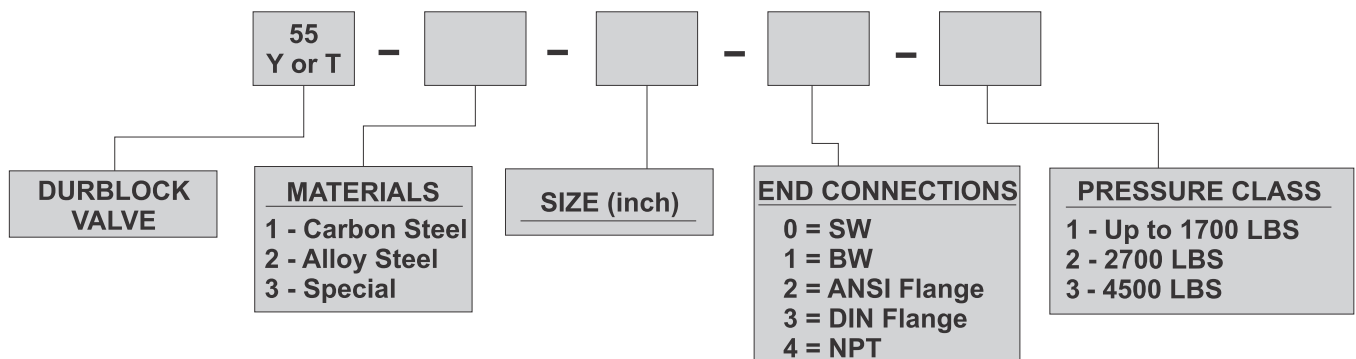
Optionals Available

- Automation - electric actuators
- Impact Handwheel
- Locking Devices
- Disc for non return valve
- Check valve
- Special ADP Valve for Sampling and Continuous Blow Down



How to Specify and to Order

Globe-stop valve for High Pressure and Severe Service applications. One piece forged body pressure vessel to eliminate joints or welding between body and bonnet. Solid Stellite® Seat Ring brazed to the body. Fully guided Disc with Sealing and Guide surfaces in Stellite® With TRANS-O-FLOW device to ensure long useful life of the seating surfaces. Valve to be repairable in line.



Durcon Vice Products Line

DURCON 40 Years
Vice
VALVES

THE RIGHT PRODUCT FOR YOUR APPLICATION

- Triple Eccentric Butterfly Valves
- Pressure Seal Valves Gate, Globe and Check
- Automatic Recirculation Valves for Pump Protection
- Turbine Bypass and Conditioning Valve
- Vent Valves and Boiler Start-up Valves
- Stop Globe and Drain Valves
- Extraction Check Valve for Turbine Protection
- Two Color Boiler Level Gauge and Alarms
- Knife Valves

Institutional Durcon Vice

DURCON THE RIGHT PRODUCT FOR YOUR APPLICATION
Vice 40 years

INDUSTRIAL VALVES FOR CO-GENERATION THERMOELECTRIC POWER PLANTS BOILERS AND TURBINES

- Isolation Valves (Gate, Globe, Butterfly and Knife)
- Pump Protection (Automatic Recirculation Valves)
- Turbine By-Pass and Steam Conditioning Valves
- Pro Heaters By-Pass Valves
- Check Valves
- Control Valves
- Stop Globe and Drain Valves
- Turbine Protection Valves (Globe and Check)
- Continuous and Intermittent Blow-down Valves
- Level Gauges and Electronic Indicator and Alarms

Thermoelectric Power Plants

DURCON THE RIGHT PRODUCT FOR YOUR APPLICATION
Vice 40 years

STEAM TURBINE BY-PASS AND STEAM CONDITIONING VALVE

Benefits

- Savings of up to US\$ 200.000 per year in maintenance costs
- Production gains due to superior stability of the temperature control
- Operational and personnel safety
- Exceptional plant operational availability (no stops)
- Minimizes installation costs due to horizontal installation
- Long operational life

Characteristics

- Designed for low noise continuous duty
- State-of-Art technology with separation of pressure reduction from temperature reduction systems
- 90 years of experience
- Rangeability up to 1:100
- Impressive durability and long useful life
- For turbines up to 1000 MW
- In place commissioning, training and maintenance



Steam Turbine By-Pass Valve

DURCON THE RIGHT PRODUCT FOR YOUR APPLICATION
Vice 40 Years

TRI ECCENTRIC BUTTERFLY VALVES

- Metal x Metal Seating
- Throttling and Control
- Zero Leakage (API 6D)
- Bi-directional
- Fire Safe (certified)
- Construction:
 - Flanged:
 - ISO 5752 (short)
 - ANSI B16.10 (gate)
 - Lug:
 - API 609B
 - API 609B
- ASME Class 150 # to 1500 #
- Size 4" to 104" (100mm to 2600mm)



Trieccentric Butterfly Valve

DURCON THE RIGHT PRODUCT FOR YOUR APPLICATION
Vice 40 years

DUALCOLOR BOILER LEVEL GAUGE

- Two color contrasting indication
 - Facilitates the Reading
 - Green for Water
 - Red for Steam
- PORT type transparent elements
 - Max safety
 - Long service life
- Minimum maintenance
 - Belleville spring cones, maintain proper pressure on gasket, compensate the dimensional changes due to temperature variations and eliminate need for frequent torque adjustments of bolts.
- Best option for boilers that operate at pressures up to 207 bar.
- Conforms to requirements of ASME Boiler Pressure Code
 - Paz. 69.1.1 requires two level gauges in boilers that operate at pressures above 20 bar.




Dualcolor Boiler Drum Level Gauge

DURCON THE RIGHT PRODUCT FOR YOUR APPLICATION
Vice 40 Years

PRESSURE SEAL VALVES

Gate, Globe and Check

- Cast and Forged
- ASME Class 600 to 4500#
- Size 1/2" - 24" (15 - 600mm)



Globe, Gate and Check Valves Pressure Seal

DURCON THE RIGHT PRODUCT FOR YOUR APPLICATION
Vice 40 years

VÁLVULA DE RETENÇÃO COM FECHAMENTO RÁPIDO ASSISTIDO, PARA PROTEÇÃO DE TURBINAS A VAPOR

A solução para evitar o contra-fluxo na entrada de turbinas a vapor que danifica as pás das turbinas.

Benefícios:

- Fechamento assistido pelo atuador pneumático, assegura o fechamento imediato da válvula (<1 segundo) em caso de "trip" da turbina.
- Vedação estanque na Sede
- Eixo com prepelo anti-espuma
- Inerentemente fire safe
- Construção robusta e compacta
- Baixa manutenção
- Longa vida útil
- Manutiva e eficiente energeticamente (baixa perda de carga)
- Assistência técnica permanente

Características:

- Projeto e Construção conforme ASME
- Perda de carga máxima (menor que 0,03 bar)
- Tecnologia Intermontel
- Vedação na sede estanque (Classe V)
- Tamanhos: 4" a 60"
- Classe de pressão: Até 2500#
- Conexões: Solda de topo (BVI) ou Flanges ANSI e DIN
- Fabricação 100% no Brasil



Extraction Check Valve for Turbine Protection

DURCON THE RIGHT PRODUCT FOR YOUR APPLICATION
Vice 40 years

AUTOMATIC RECIRCULATION CONTROL VALVE FOR CENTRIFUGAL PUMPS PROTECTION MODEL NVM

- The best solution to control the MINIMUM FLOW in medium pressure centrifugal pumps
- Self contained with 5 functions - Benefits:
 - Main flow check valves - Simplify installation
 - Pump to process Flow Sensing Element - Precise pump protection
 - Modulating bypass flow control - Avoids large flow shills through pump
 - Multi stage pressure reduction of bypass flow - Avoids cavitation
 - Self actuated - Avoids external power supply
- Sizes: 1" to 30"
- Pressure Class: 150# to 600#
- Construction standard: ANSI B16.34
- Connections: Flanges ANSI, DIN, BS and JIS



Feedwater pre heaters By-Pass Valves

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Vice 40 years

AUTOMATIC RECIRCULATION CONTROL VALVE FOR CENTRIFUGAL PUMPS PROTECTION MODEL NVM

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- Pressure Class: 150# to 600#
- Construction standard: ANSI B16.34
- Connections: Flanges ANSI, DIN, BS and JIS



Automatic Recirculation Control Valves for Pump Protection

The right product for your application.

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