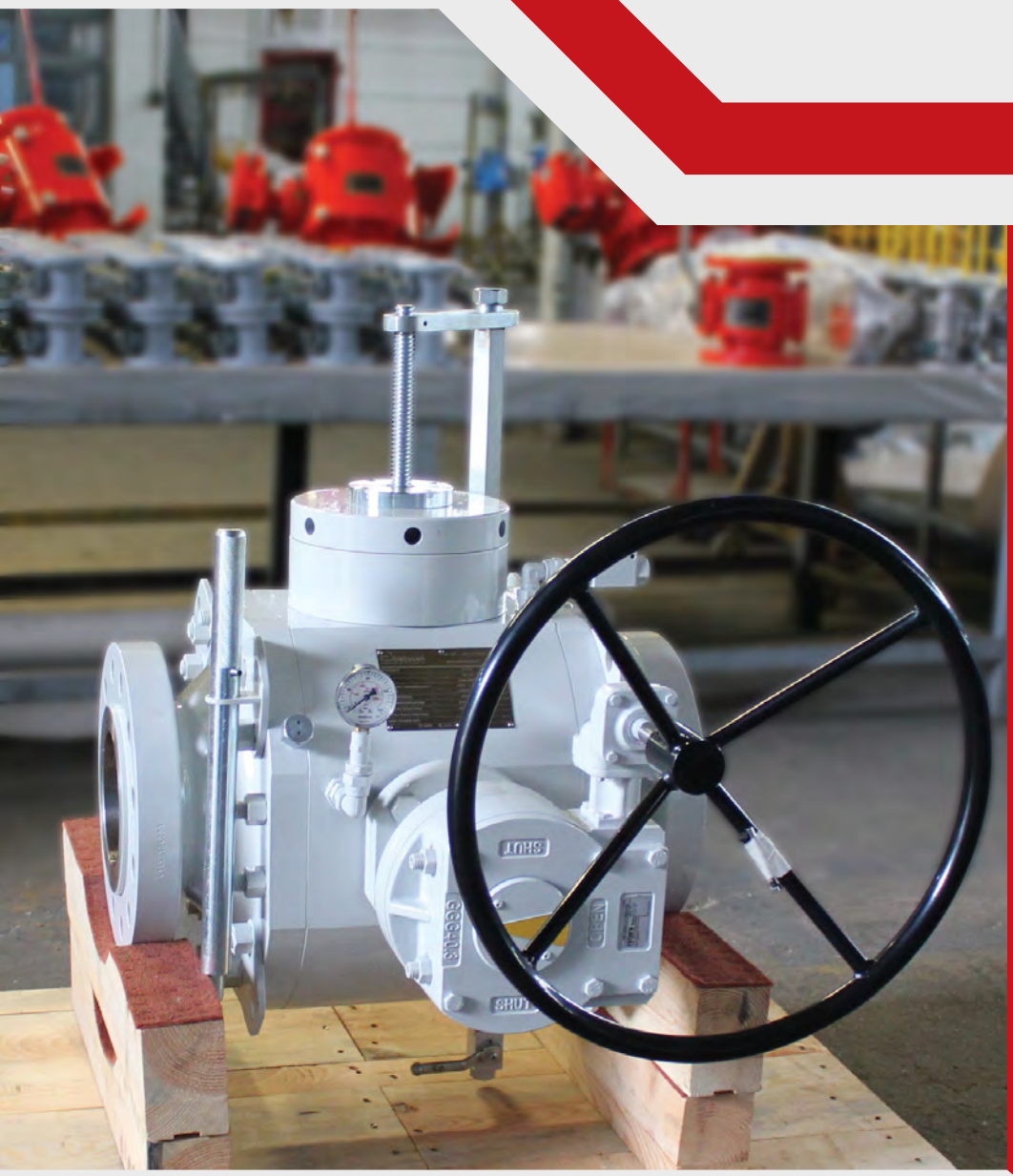
batuVALVE



API 6D Pig Ball Valve

Your Solution Partner

1978 - ∞

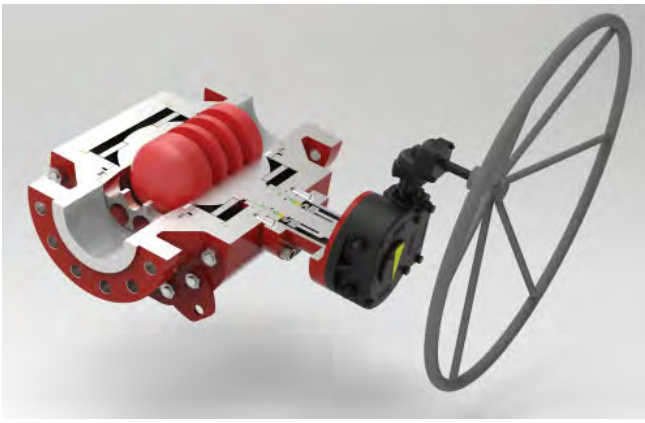
Batusan, with the trademark BatuValve started manufacturing Ball Valves in 1978. Since then, continues to serve the industry with dedication to quality, product innovation and commitment to customer service. We manufacture all our products %100 in our production facility in Turkey. We use European originated raw materials. Our trust in our products allows us to provide 2 year unlimited warranty.

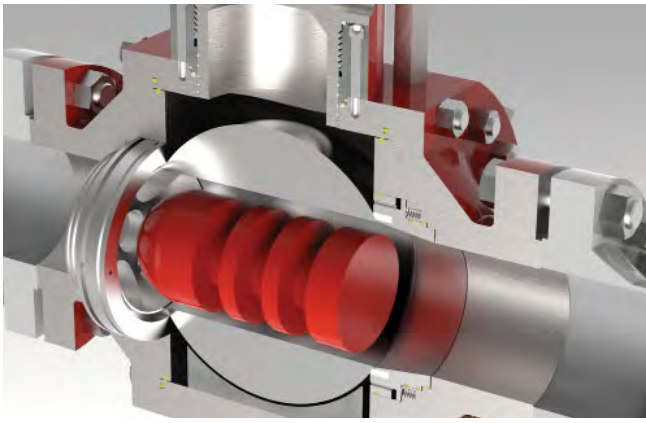
Our main product line is Ball Valves. We also produce Check valves, Strainers and Flow Indicators. Being a leader manufacturer in Turkey for 43 years. Apart from the Turkish industry, we export our products with pride to Germany, Bulgaria, Serbia, Poland, Croatia, Bosnia-Herzegovina, Greece, Lebanon, Saudi Arabia, Russia, Iran, Egypt, Yemen, Afghanistan, Austria, TRNC, Ukraine, France, Algeria, Morocco, Tunisia, Gabon and so on. We also produce OEM products for some of the most known global brands from Italy, Germany, Austria, etc.

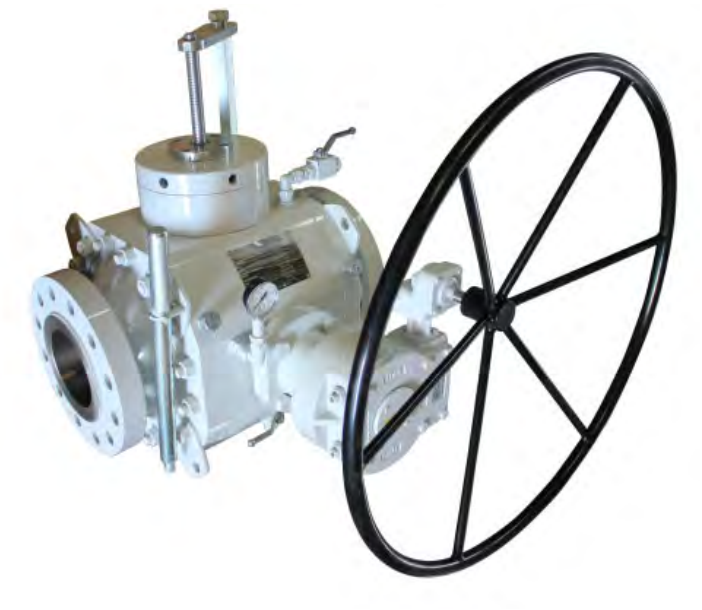
Our products have been installed throughout the world, handling a wide variety of applications in the Gas, Oil, Refining, Chemical, Food, Power Generation and Pipeline Transmission industries.

We have been emphasizing R&D department and always expanding our product line serving the needs of our customers. We have most of the Industrial valve manufacturing certificates, including;

ISO 9001: 2015, API 6D “0695”, TSE, TS 9809, TSE EN 331, TSE 3148, TSE TS 16767, TSE TS 11494, TOV SOD CE 0036, TOV iT 18 ATEX 056 AR, TA LUFT, EN 14432, API 6FA FIRE SAFE, API 607, FIRE SAFE, ISO 10497 FIRE SAFE, EAC-1, EAC-2, ROS TEKHNADZOR, TH 02, HYGIENE, GAS, GAZMER, EGAS, BELARUS







FEATURES	
DIMENSIONS	2” - 20” (DN 50 - DN 500)
CONNECTIONS TYPES	RF / RTJ
WORKING PRESSURE	CLASS 150 / 300 / 600 / 900 / 1500 (PN 20 / 50 / 100 / 150 / 250)
WORKING TEMPERATURE	29 °C -.+180 °C
OPERATİON	LEVER / GEAR BOX

STANDARDS	
VALVES DESİNG	API 6D / ISO 17292 / ISO 14313 / ASME B 16.34
DIMENSIONS	ASME B 16.10
CONNECTIONS	ASME B 16.5
FIRE-SAFE	API 6FA / API 607 / ISO 10497
TESTING	API 6D / API 598 / ISO 14313
ISOLATION TYPE	DBB / DBB-1 / DBB-2

PIG BALL VALVES ADVANTAGES OVER TRADITIONAL PIG LAUNCHER SYSTEMS

Pig Ball Valve, normally consists of Pig Launching & Pig Receiving valve, is a device for loading and receiving cleaning pigs and detecting tools to clean the internal pipe periodically, and it is especially widely used in Oil & Gas pipeline industry. The field tested pig valve offers durability, reliability service for oil and gas applications to improve the piping transportation efficiency. It can be easily and safely used with most of the popular pig styles, either one-piece molded pigs or the spherical pigs that are intended for use in pig ball valves.

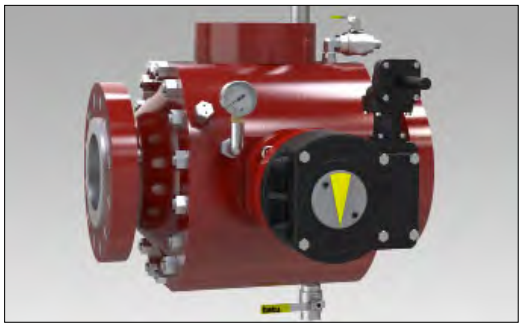
Pig Ball Valve advantages over the traditional barrell style pig launcher & receivers :

- Smaller Footprint reduces the space required for pigging facilities
- Simple configuration means a reduced requirement for infrastructre and decreases field construction time.
- Less Equipment and functionally simple design means fewer valves and controls to operate, minimizes training and maintanence costs.
- Built-in features means safer operations for operations personnel and less man power.
- Reduce emissions by more than %80 compared to traditional pig launching methods, saving the valuable medium.
- Overall Pig Ball Valves allows cost savings ranging between %25 to %60 over traditional pig launcher and receiver systems.

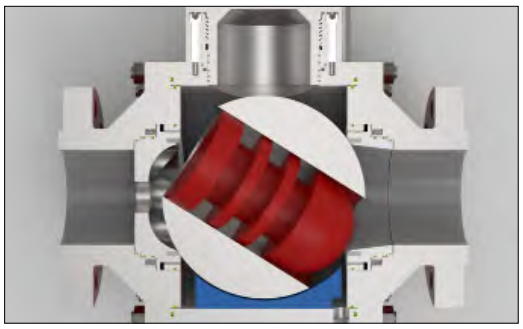
BATU PIG BALL VALVE ADVANTAGES OVER OTHER PIG BALL VALVES

Batu Pig Valves can be customizable to match customer requirements. Customizable face to face lengths, customizable ball sizes to accomodate different pigs or other special features can be implemented.

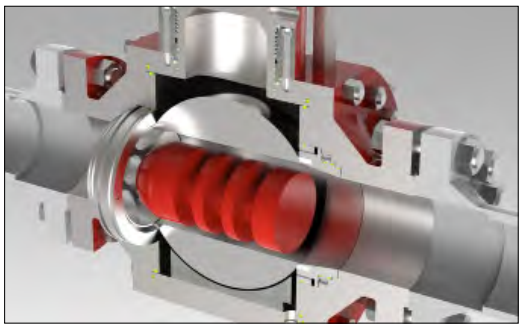
- Batu Pig Valves are CNC Machined from forged steel.
- Batu Pig Valves have oversized balls that accommodes longer pigs which allows wider range of pig selections.
- Batu Pig Valves have a guide implemented to restrain pinchinng of the pig and to avoid obstructing of the system during loading.
- Double Block and Bleed construction allows it to be used as a traditional block valve reducing the number of valves required in the pigging facility.
- Designed in accordance to NACE for sour service.
- Alternative materials are available for different conditions.
- All Batu Pig valves are equiped with ROTORK gearboxes
- Batu Pig valves are constructed with %100 European origin materials and %100 manufactured in Turkish facilities.



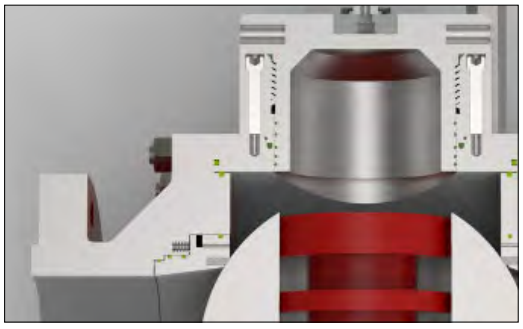
Batu Pig ball valves have a top pressure releasing valve, have a bottom liquid and debree drain valve and most importantly have a visibly placed manometer to observe inside pressure during operation for extra safety measures.



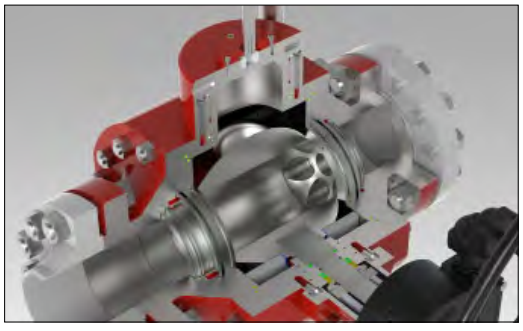
Batu Pig ball valves use a special guiding piece that ensures the pigs to not to bepinched during operation and provides smooth operation during use.



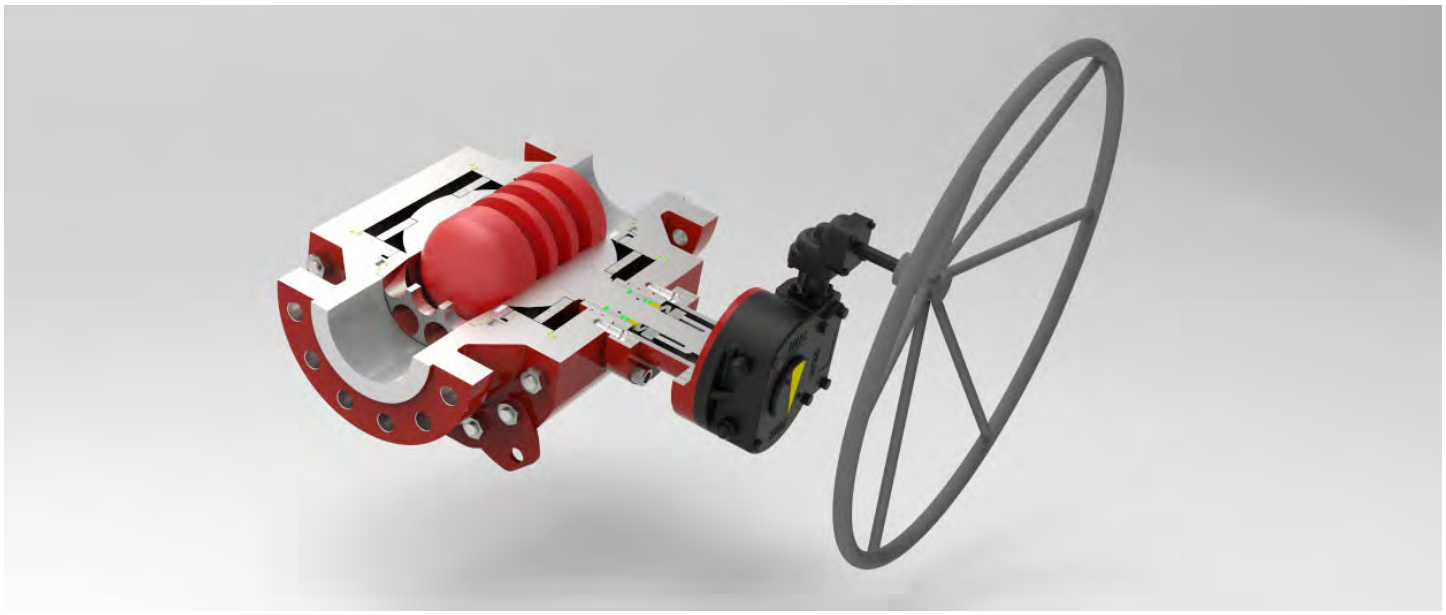
Grease injectors allow longer service life by allowing regular and easier service and can also be used for emergy sealant injection to seal leaks.



Extra safety measures are taken to make the Batu Pig Valves to be leak free.



Robust Cap design allows easy operation and leak free operation. sağlam kapak



Batu Valve is committed safety and quality. Our pig valves conform to the following design & testing standards:

API American Petroleum Institute

SPEC. 6D Specification for Pipeline Valves

SPEC. 6FA* Fire Test for Valves

STD. 607* Fire Test for Quarter-turn Valves and Valves Equipped with Nonmetallic Seats

STD. 598 Valve Inspection and Testing

SPEC. Q1 Specification for Quality Programs for the Petroleum and Natural Gas Industry

ANSI/ASME American National Standard Institute/American Society of Mechanical Engineers

B1.20.1 Pipe threads, general purpose

B16.5 Pipe flanges & flange fittings

B16.34 Valves - Flanged, Threaded and Welding End

B31.3 Process Piping

ISO International Organization for Standardization

ISO 9001 Quality Management Systems

ISO 15156 Materials for use in H2S containing environments in oil & gas production

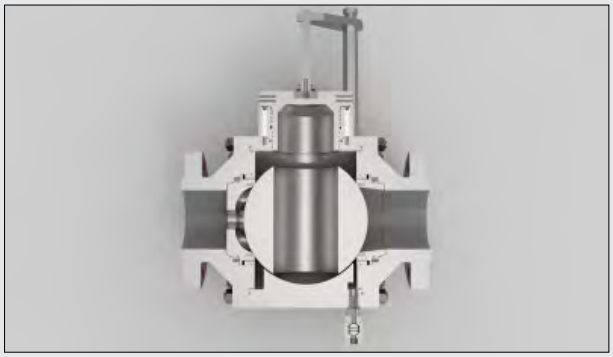
ISO 10497* Testing of valves - fire type-testing

NACE National Association of Corrosion Engineers

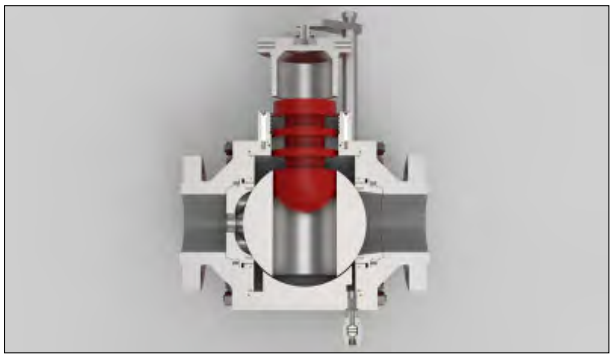
MR0175 Materials for use in H2S containing environments in oil & gas production

LAUNCHING THE SCRAPER PIG

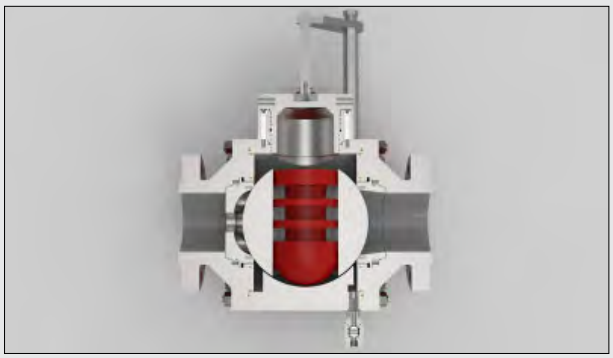
Before opening any fittings or removing the closure make sure the ball is in the closed position. Caution must be used when opening any fittings or the closure. Venting gases or draining the valve may be hazardous and caremust be taken not to pollute the ground or atmosphere. Use proper safety precautions. When opening all vent fittings and drains, make sure to do it slowly.



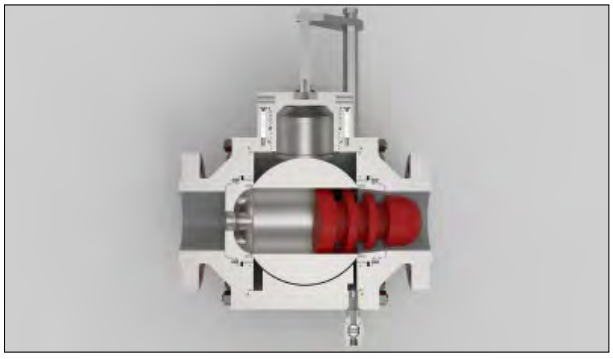
STEP 1
Close the pig valve to achieve positive shot off in both directions. Slowly vent the body cavity and watch the manometer to see the pressure drop to zero.



STEP 2
Remove the entry cap insert the pig into ball cavity.



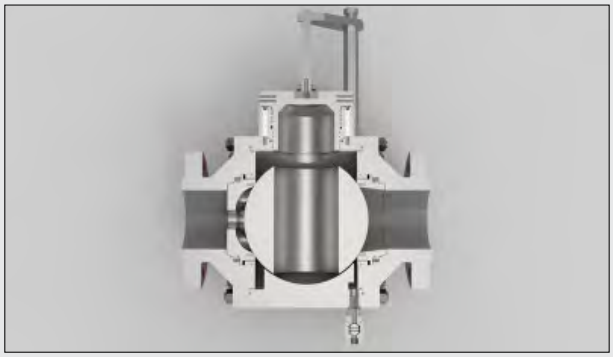
STEP 3
Reinstall the entry cap. Close all bleed valves and pressure releasing valves.



STEP 4
Open pig valve. Flow and pressure moves the pig downstream.

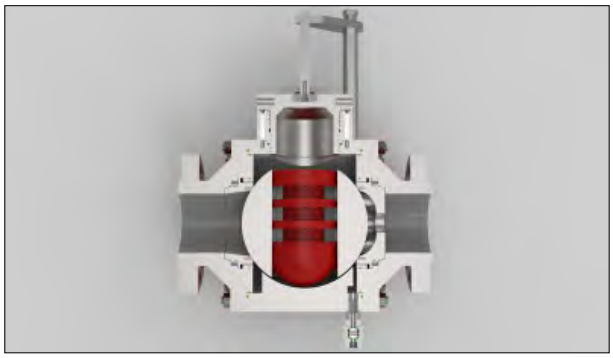
RECEIVING THE SCRAPER PIG

Before opening any fittings or removing the closure make sure the ball is in the closed position. Caution must be used when opening any fittings or the closure. Venting gases or draining the valve may be hazardous and caremust be taken not to pollute the ground or atmosphere. Use proper safety precautions. When opening all vent fittings and drains, make sure to do it slowly.

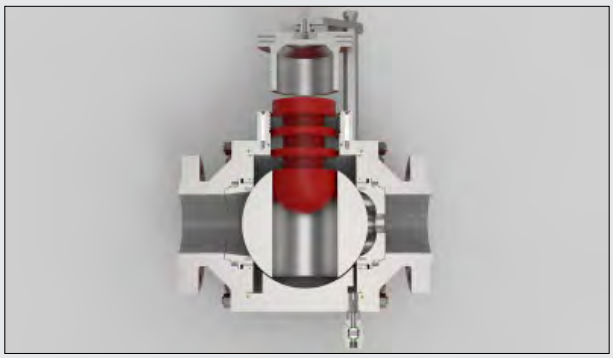


STEP 1
Receive the pig.

Slowly went the body cavity and watch the manometer to see the pressure drop to zero.

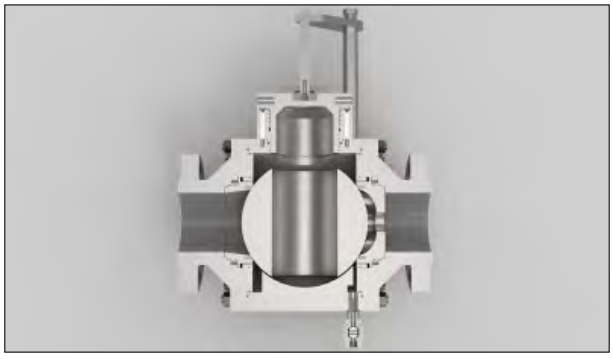


STEP 2
Close the pig valve to achieve positive shot-off in both directions.



STEP 3
Remove the entry cap.

Remove the pig from the ball cavity. Open the drain plug and remove the debris.

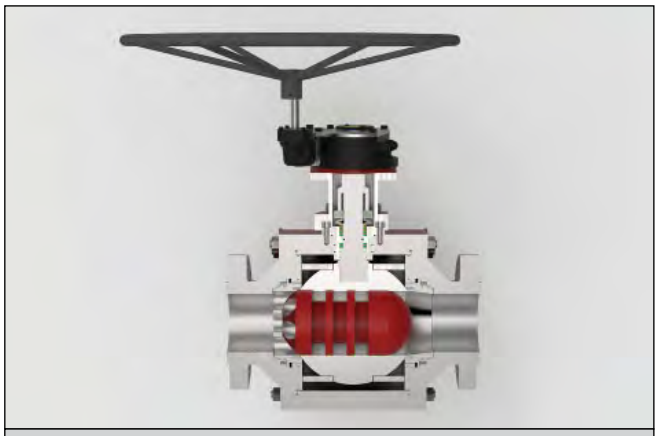


STEP 4
Reinstall the entry cap. Close all bleed valves.

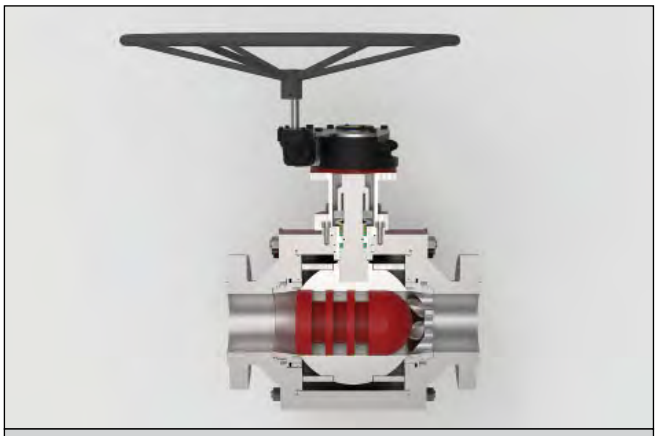
Open the pig valve into the flowing position.

OPERATIONAL CONFIG

Left To Right Flow Direction / Operation From Left Side

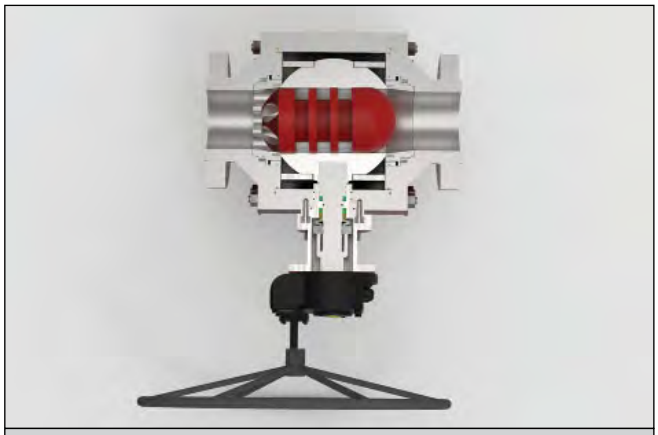


Launching pig ball valve with baffle

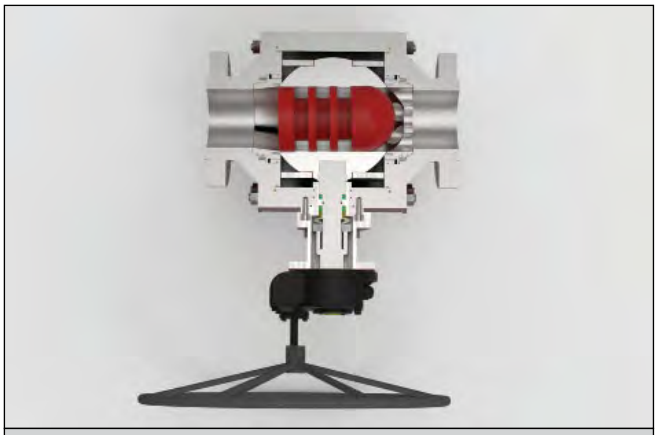


Receiving pig ball valve with baffle

Left To Right Flow Direction / Operation From Left Side

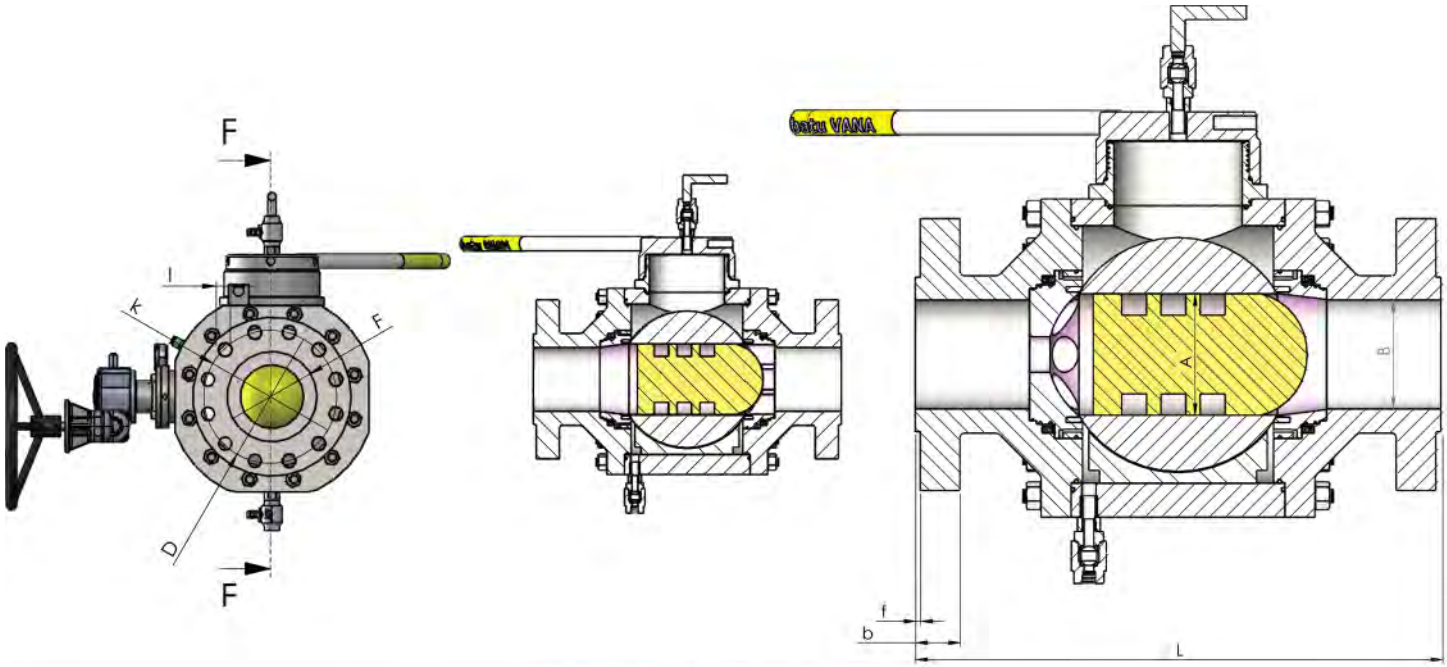


Launching pig ball valve with baffle



Receiving pig ball valve with baffle

*** The Launcher and the receiver both comes with baffles. This way they can be used both in left side operational config or right side operational config.



DİMENSİONS

CLASS 300

DN	L(RF)	L(RTJ)	D	B	A	F	f	b	HOLE UNIT	I	k	WEİGHT
50	330	343	165	52,4	63,5	91,9	2	22,3	8	19,1	127	
80	445	458	210	78	101	127	2	28,6	8	22,4	168,3	
100	508	521	255	102,3	120	157,2	2	31,8	8	22,4	200	
150	660	673	320	154,1	171	215,9	2	36,6	12	22,4	269,9	
200	794	807	380	203,2	235	269,7	2	41,3	12	25,4	330,2	
250	940	943	445	254,5	304,8	323,8	2	47,7	16	28,4	387,4	

CLASS 600

DN	L(RF)	L(RTJ)	D	B	A	F	f	b	HOLE UNIT	I	k	WEİGHT
50	330	343	165	52,4	63,5	91,9	7	32,4	8	19,1	127	
80	445	458	210	78	101	127	7	38,8	8	22,4	168,3	
100	508	521	275	102,3	120	157,2	7	45,1	8	25,4	215,9	
150	660	673	355	154,1	171	215,9	7	54,7	12	28,4	292,1	
200	794	807	420	203,2	235	269,7	7	62,6	12	31,8	349,2	
250	940	943	510	254,5	304,8	323,8	7	70,5	16	31,8	431,8	

CLASS 900

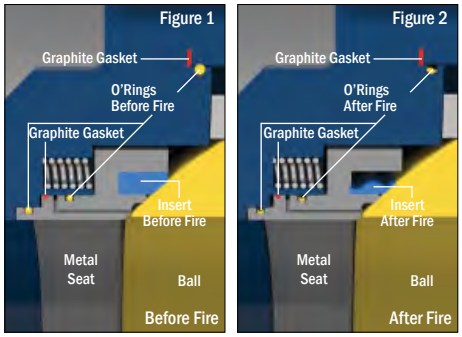
DN	L(RF)	L(RTJ)	D	B	A	F	f	b	HOLE UNIT	I	k	WEİGHT
50	381	384	215	50,8	63,5	91,9	7	45,1	8	25,4	165,1	
80	470	473	240	76,2	101	127	7	45,1	8	25,4	190,5	
100	559	562	290	101,6	120	157,2	7	51,5	8	31,8	235	
150	737	740	380	152,4	171	215,9	7	62,6	12	31,8	317,5	
200	889	892	470	203,2	235	269,7	7	70,5	12	38,1	393,7	
250	1041	1044	545	254	304,8	323,8	7	76,9	16	38,1	469,9	

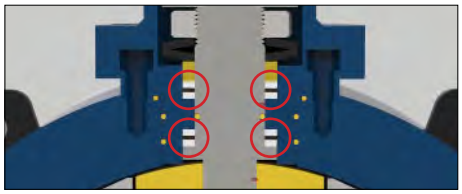
GENERAL TOLERANCE		
TS 1845-1 / EN 20286-1		
0-10	=	±0,05
0-20	=	±0,10
20-50	=	±0,20
50-100	=	±0,25
100-200	=	±0,30
200-500	=	±0,50

* Split Body
* Flange End
* Above Ground
* Flotting or Trunnion Ball
* Double Block and Bleed
* Fire Safety
* Anti Static Device
* Anti Blowout
* Soft Seat

Desing Standard	API 6D / ISO 14313
End Type	ASME B 16.5

FIRE- SAFE DESIGN *



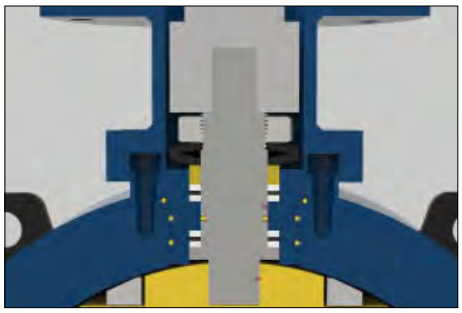


FIRE SAFE DESIGN WITH SECONDARY METAL SEAT

BatuValve ball valves have been subjected to fire tests in accordance with API 6Fa and ISO 10497 standards. Regardless of the soft seat material, they will likely be damaged when exposed to fire conditions. Batu offers a fire resistant design that can greatly prevent leaks from seals when valves are damaged by fire. The functions of the bearings before and after the fire test are as shown. If Teflon and O'ring materials are damaged, a metal-to-metal seal is formed between the secondary metal seat and the ball. The slot-to-body graphite seals, graphite body seals, and graphite gasket end caps are designed to withstand high temperature and will remain undamaged. (Figures 1 and 2)

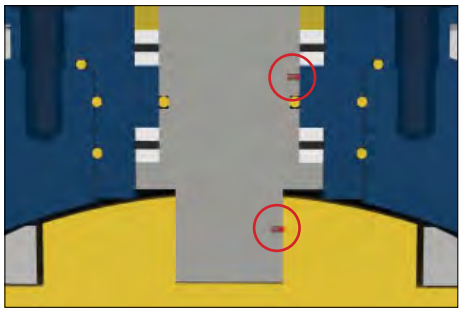
Burgman gaskets used in the stem, on the other hand, serve as a sealing function during fire, ensuring that the stem parts of our valves are fire resistant and complement the Fire Safe feature.

ANTI-BLOWOUT DESIGN



Our Ball valves are designed and manufactured in such a way that when the movement shaft holders and seals are removed, it will not be possible for the stem to go out of the valve due to the effect of pressure, as described by the standards. The stem is designed with a wide lower flange. In this way, the body cover part prevents the stem from dislodging and prevents a possible explosion. This feature allows the shaft seal to be replaced even when the valve is under pressure.

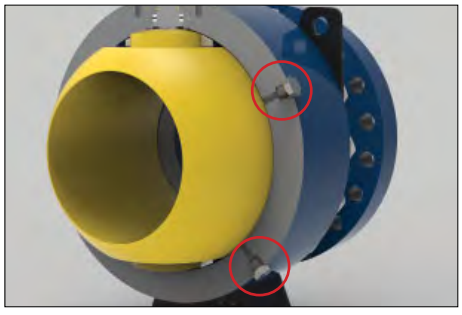
ANTI-STATIC DESIGN



Ball Valves used in flammable and combustible fluid circuits such as petrol, LPG, LNG must be protected against static electricity. The spring and ball used in the stem ensure that any static electricity that may occur is grounded to the pipeline. In this way, the electrostatic charge that may occur on the ball is prevented.

BATU Ball Valves are designed and manufactured in accordance with these requirements.

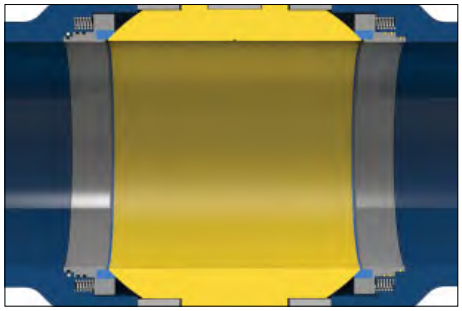
DRAIN & VENT DESIGN *



BatuValve ball valves are produced with drain and vent discharge outlets designed in accordance with the connection sizes described by the standards. When the valves are brought to the closed position, drain and vent outlets can be used to safely discharge the pressurized fluid or gas remaining in the body.

(*) Specify when ordering.

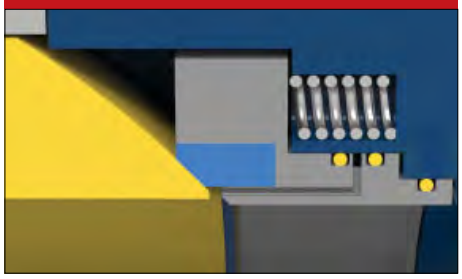
HIGH PRESSURE – LOW PRESSURE SEALING DESIGN *



The sealing performance of the ball valves at higher pressures are more important than at low pressures. At high pressures, sealing is ensured by forming a good contact between the sealing ring and the ball surface with the effect of the fluid pressure applied from the back surface of the Sealing seat ring. When the pressure behind the ring reaches a low value, this contact force decreases. In this case, the spring force supporting the seat ring ensures enough force is applied so the contact between the sealing ring and the ball surface and the sealing function are maintained.

SEAT RING DESIGN *

SOFT SEAT DESIGN



SEAT RING
BALL
SEAT MATERIAL

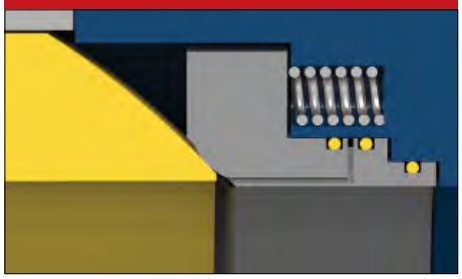
PRIMARY SOFT SECONDARY METAL SEAT *

SEAT RING
BALL
SEAT MATERIAL

PRIMARY METAL SECONDARY SOFT SEAT *

SEAT RING
BALL
SEAT MATERIAL

METAL SEAT RING DESIGN *



SEAT RING
BALL
SEAT MATERIAL

TCC coated

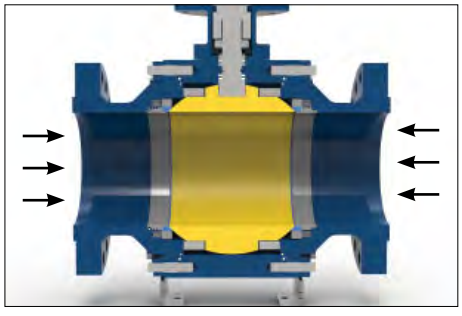
SEAT MATERIAL TYPES

- PTFE STANDARD SEAT
- RPTFE GLASS REINFORCED SEAT
- PPTFE GRAPHITE SEAT
- PEEK
- DEVLON

SEAT RING TYPES

- STANDARD SEAT RING
- METAL TO METAL SEAT RING

DOUBLE BLOCK AND BLEED DESIGN (DBB)

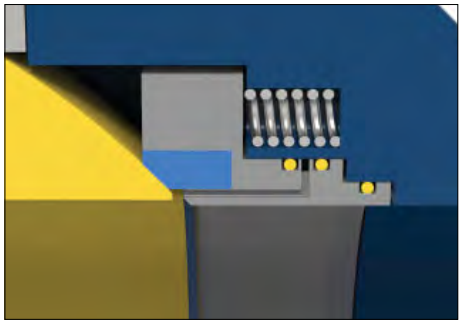


The Double Block and Bleed (DBB) feature is offered in both seat ring configurations (SPE and DPE). When the valve is in the closed position, the pressure is blocked in the body cavity by the pressure activated seat rings on both sides. Body cavity pressure can then be relieved by drain or vent.

Double Block and Bleed Design Description: A single valve with two seat ring surfaces has the feature of sealing on both sides of the valve when in closed position. It enables to release the pressure in the body cavity with vent and or drain.

(*) Specify when ordering.

PISTON EFFECT (SPE,DPE)

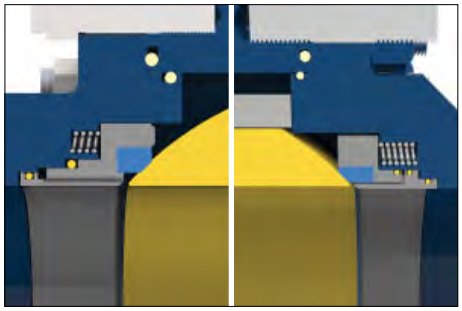


SINGLE PISTON EFFECT (SPE)

This is the standart seat type. When pressure is applied on both sides, SPE-SPE seats are pushed towards the ball with the effect of a piston, providing a tight closing and sealing. If the pressure in the stem cavity rises above the pressure on either side of the line while the valve is in the closed position, the seat on that side will be pushed back and the in-shell pressure will be released to the low pressure side of the line. Due to this feature, SPE type seats are also called “Self pressure relieving”, which releases high pressure by itself. Typical Fields of Application: Pipeline ball valves in fluid services where the pressure increase in the body cavity due to temperature changes is required.

DOUBLE PISTON EFFECT (DPE) *

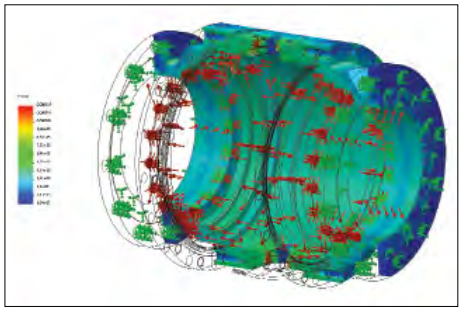
It is an optionally available seat type. DPE seats, whether the pressure comes from the valve body cavity or from the upper or lower side of the pipeline; In both cases, it is designed to be pushed towards the sphere by the piston effect. DPE seated valves do not automatically relieve pressure in the body cavity. For this reason, the use of a drain valve is recommended in fluid services. Typical application areas; where it is necessary to create an additional safety barrier between the upstream and downstream sides and where maintenance of the seats is not envisaged. It is also recommended for valves with welded body.



SINGLE PİSTON - DOUBLE PISTON EFFECT (SPE-DPE) *

On the upstream side of the line, the SPE seat provides self-pressure relief. On the downstream side, the DPE seat provides a double barrier in case the upstream seat is damaged. This configuration includes a preferred installation direction with the SPE seat facing up. With SPE-DPE configurations, the cavity pressure evacuation always takes place via the SPE seat side . Typical application areas: Riser valves, Pig launchers / receivers. The DPE seat provides double insulation to the Pig trap and also allows the body cavity to be automatically relieved if pressure builds up.

COMPUTER AIDED DESİGN



Batu Valve designs its products using sophisticated computer-aided design application software. It uses finite element analysis methods to analyze the structural integrity of its designs under real life application conditions. This allows product designs to be optimized and guarantees high strength. As every valve produced passes physical tests, it enables us to offer quality, faultless, leak free, competitive products to the customer and to create more customer satisfaction in general.

CONNECTION TYPES *

MANUAL CONNECTION TYPES
LEVER
T LEVER
GEAR BOX

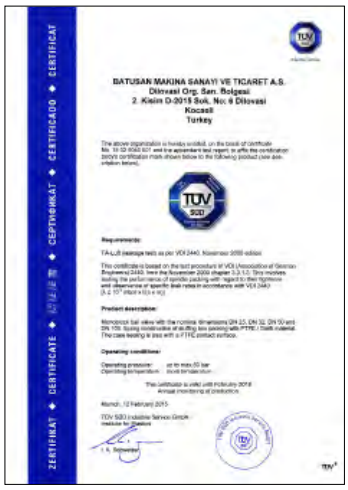
MANUAL CONNECTION TYPES
PNEUMATIC ACTUATOR
HYDRAULIC ACTUATOR
ELECTRIC ACTUATOR

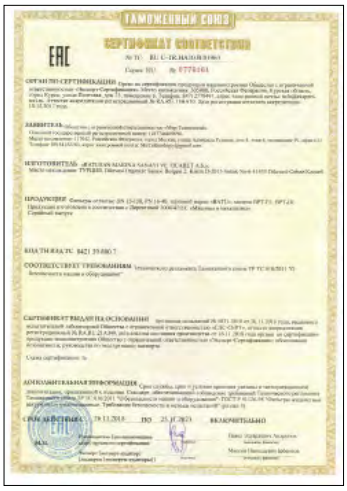
(*) Specify when ordering.

CERTIFICATES *

(*) You can access all the certificates we have on our website www.batuvalve.com/certificates.html

CERTIFICATES *





(*) You can access all the certificates we have on our website www.batuvalve.com/certificates.html

batuVALVE

6D 0995

ISO 9001

CE 0036

FIRE SAFE

ATEX

EAC

TÜVNORD

TS 2261

TS 9809

TS EN 331

TS 3148

TS 11494

TS EN 16767

FACTORY & HEAD OFFICE

Dilovası Org. San. Bölgesi 2.Kısım D-2015 Sok. No : 6 Dilovası-Gebze / KOCAELİ TÜRKİYE

GSM: +90 531 680 32 76 PHONE: +90 262 754 48-49 / +90 262 754 99 31-32

www.batuvalve.com - export@batusan.com

Foreign enquiries please call: +90 531 680 32 76

batusan®

MAKİNA SANAYİ VE TİCARET A.Ş