STRACK

High Pressure Valve

STRACK

HIGH PRESSURE VALVES
Applications & Specifications Range

STRACK has designed and manufactured high pressure valves for over 35 years. Currently more than 3000 Strack valves are in service worldwide.

Strack High Pressure Valves
are the ideal choice especially for:

- power stations,
- petrochemical plants,
- offshore and
- high pressure chemical industries.

Forged steel construction and customized valve design for heavy duty cycling under high Δp.

Applicable design standards:
ASME 16.34, API600, DIN ISO and PED.

Meets Special Class requirements as per ASME.

Valve design meets the latest technical standards.

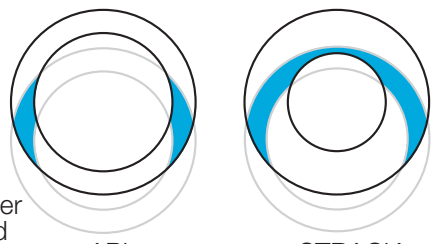
Gate Valve
Advantages

Advantages
All Strack High Pressure Valve bodies are designed to withstand heavy duty requirements through high temperatures as well as rapid temperature changes, and expansions and stress due to this will be transmitted symmetrically.
Through the usage of forged material unlike cast material a homogenous transition from the butt-weld ends to the connecting pipe is guaranteed.

Stem
The Strack Stem Head guarantees that no lateral forces are transmitted on the stem.
This eliminates bending of the stem which is a common reason for deformation of the packing and leakage at the gland.
The design of the stem head guarantees a large force transmitting surface to transmit the necessary open and closing forces to the wedge.

Wedge
Strack standard is a split flexible wedge which adjusts itself to the seat ring extremely well and leads to absolute tightness.
The split flexible wedge offers many benefits when re-grinded in a service situation.
With the split flexible wedge unlike to the parallel slide wedge, high additional closing forces can be applied which are not depending on the internal pressure of the system.
Guiding grooves on the side take on the guidance of the wedge in the body after the initial opening stage.
To eliminate malfunction while opening or closing, Strack has designed seats with an area which is up to three times larger than necessary, according to API standard.

These large seat surfaces ensure a more than sufficient contact area and guarantee a continuing high tightness at the seats and a long life cycle under extreme loads and many operations with high Delta p.



at 8% opening area

Pressure Seal Bonnet
The standard gasket is made of pure graphite held in place by stainless steel brackets on the upper and lower side to avoid extrusion of the graphite between the body and the pressure seal bonnet.
This gasket also guarantees a high tightness during rapid temperature changes.
Applying this kind of gasket has also the advantage that no machining of the area of the gasket inside the body is necessary during maintenance works.
All pressure transmitting parts are calculated and sufficiently oversized to assure the highest possible safety standards.

Yoke
As a result of the long yoke there are low temperatures at the drive head.
The as a standard included mechanical position indicator can easily be equipped with limit switches.

To meet the highest requirements the yoke nut is made of heavy duty special bronze and is guided by two needle bearings.
An O-ring above the upper and below the lower needle bearing protects the yoke nut from dirt and loss of lubricant.
By default the yoke is equipped with an ISO flange to have the option to equip the valve with a gear or an electric actuator at a later time without having a plant shutdown.

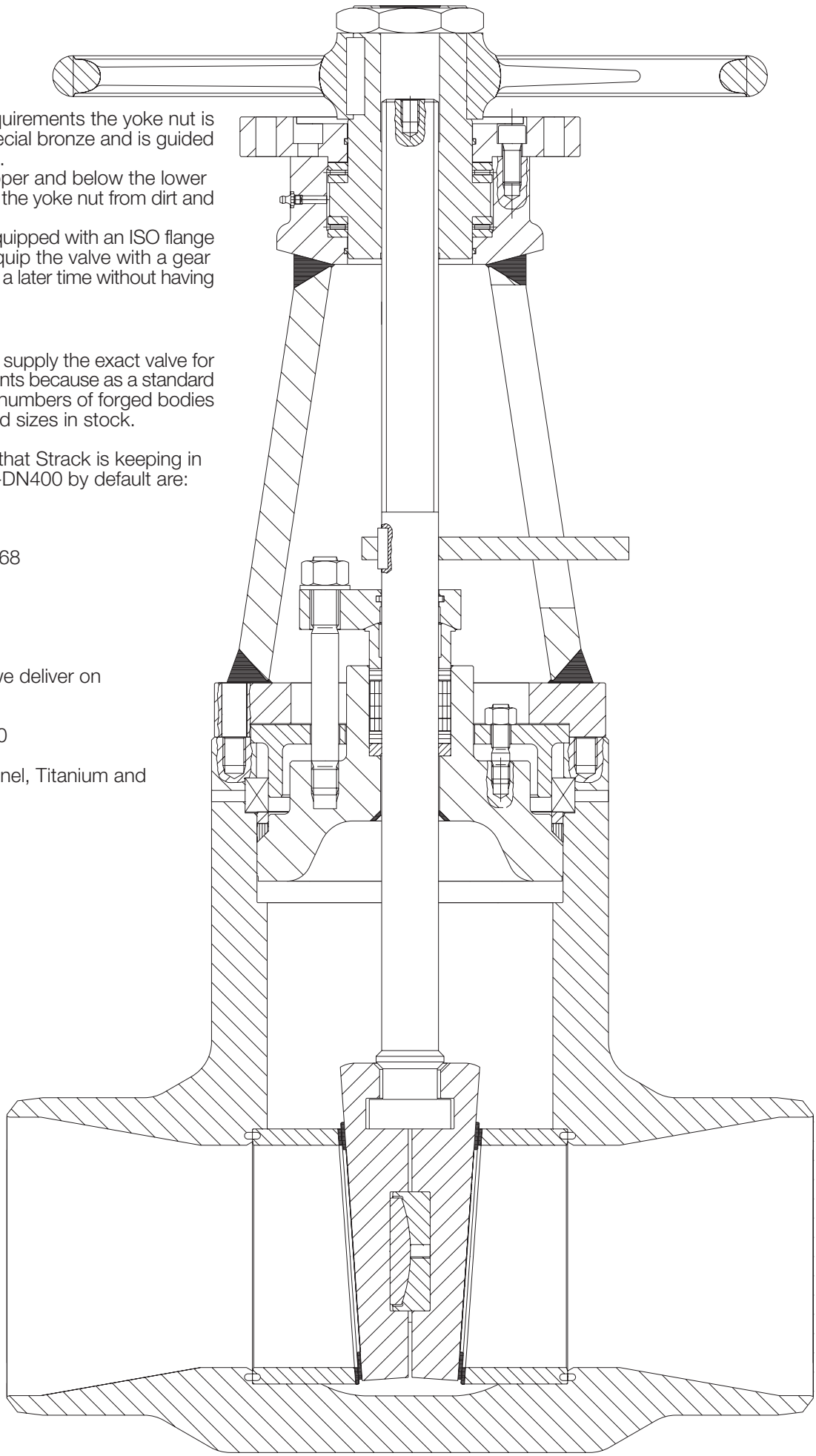
Materials
Strack is able to quickly supply the exact valve for most services requirements because as a standard Strack is keeping large numbers of forged bodies of different materials and sizes in stock.

Forged body materials that Strack is keeping in stock from sizes DN50-DN400 by default are:

- A105 / C22.8
- A182 F1 / 16Mo3
- 15NiCuMoNb5 / 1.6368
- A182 F12 / 1.7335
- A182 F22 / 1.7380
- A182 F91 / 1.4903
- A182 LF2 / 1.0566

Special materials that we deliver on request are:

- A182 F316(L) / 1.4550
- Duplex 4A, 6A, 6Mo
- Hastelloy, Monel, Inconel, Titanium and other special alloys



Globe Valve

Strack offers High Pressure Globe Valves in two designs for pressures up to 630 bar.
The bonnetless design Figure S21 for the sizes DN15 – DN50.
The design with pressure seal bonnet design Figure S22 for the sizes DN50 – DN300.
Both bodies are manufactured of forged dies.
The compact design of both types enables an easy maintenance.
Stellite faced seats are a standard.

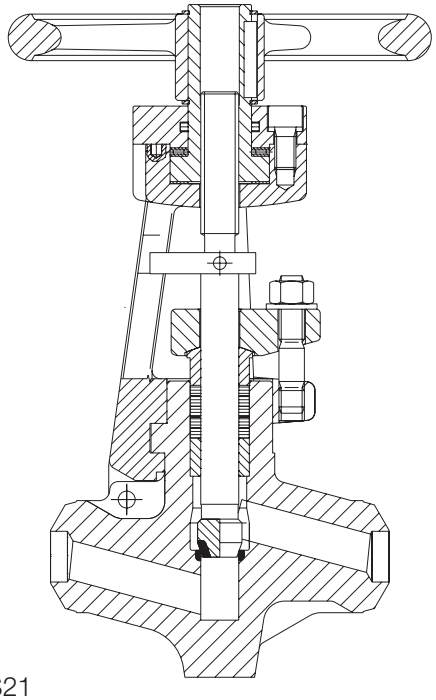


Figure S21

This High Pressure Globe Valve has a base body with an integral gland and a yoke bonnet with a bayonet lock and non rotating stem.
This valve is easy to maintain and is very easy to equip with an actuator while installed in line.

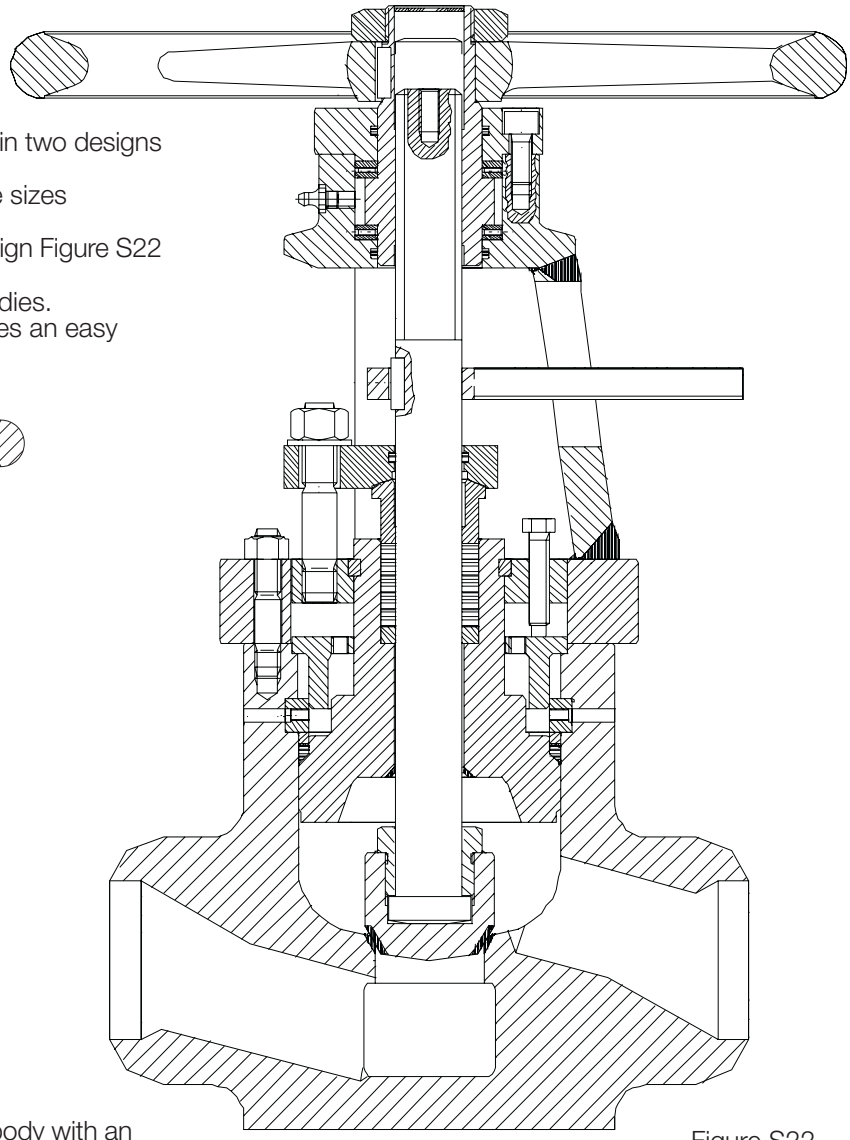
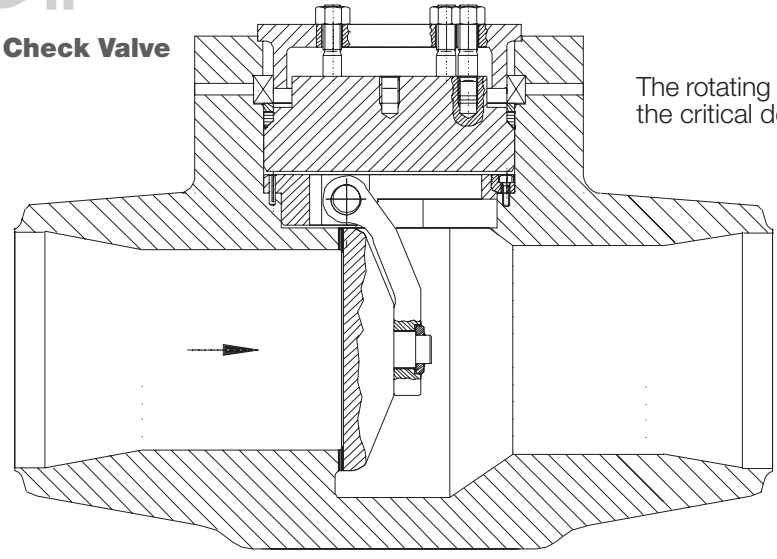


Figure S22

All components on the upper part of the globe valve like gasket, packing, bonnet, yoke nut or position indicator are according to the components of the gate valve.Strack offers the globe valves in straight or angle pattern.

Swing Check Valve



The rotating bearings of all moving components are the critical design features of a swing check valve.

Strack' swing check valves bearings are extremely smoothly running throughout the complete life cycle of the valve.
The axle is able to move freely in the hold down ring and the lever of the disc.
Another advantage is the position of the axle. It is positioned in the hold down ring and is completely inside the body.
Consequently there will be no leakage there and a constant movement of the disc is guaranteed.

Preheater Protection Unit

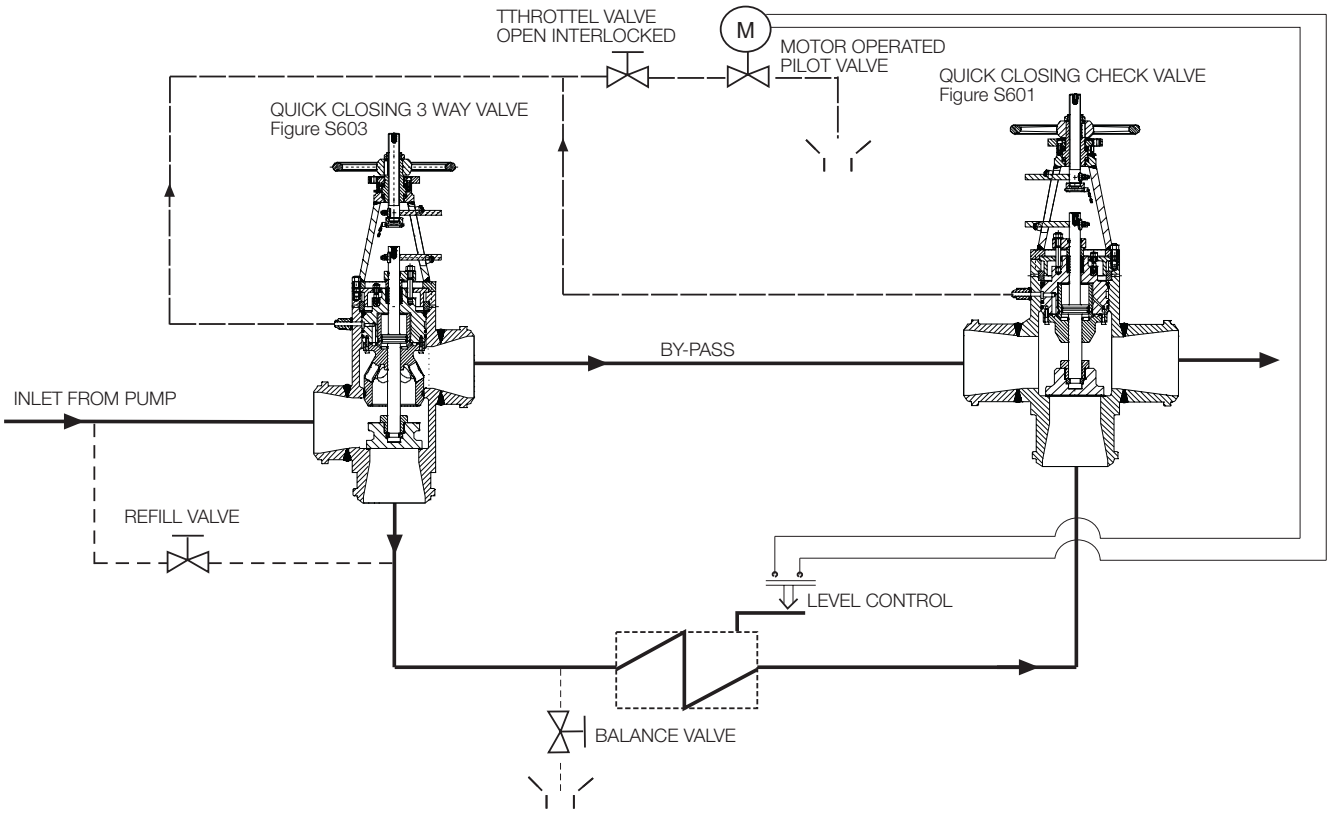
Application

To improve the efficiency of a steam boiler system, feed-water, flowing from the feed-water tank to the vessel, is heated by a preheater. The preheater is a heat exchanger with tubes containing high pressure feed-water. From the outside, the tubes receive steam drawn-off from the turbine. In case of a leakage in the tubing system, water of higher pressure rushes into the vapor room of lower pressure. This will lead to a catastrophic failure of the turbine. To avoid damages through

- **penetration of feed-water into the turbine**
- **build-up of inadmissible pressure in the preheater jacket,**

Construction and function

The following circuit diagrams show some arrangements together with their control units.
All circuit diagrams have the following functions:



the preheater must be separated from the feed-water pressure tube immediately. This will be provided by the preheater protection unit, i. e. by quick closing valves which are controlled by their own medium and located at the in- and outlet of the preheater. Normally one Quick Closing 3-Way is located at the inlet and one Quick Closing Check Valve at the outlet.

PN	Size DN	Flow t/h
PN100-500 / Class 600-4500	150/200	250
	200/250	400
	250/300	670
	300/350	800
	350/400	1025
	450/500	2000

High Pressure Valves

Manufacturing Range

Figure S15
Gate Valve
Pressure seal bonnet
PN 160 - 630
ASME Class 900 - 4500
DN 50 - 700
Size 2“ - 28“

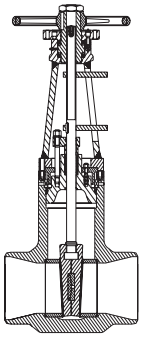


Figure S16
Gate Valve
Bolted bonnet
PN 160 - 630
ASME Class 900 - 4500
DN 50 - 700
Size 2“ - 28“

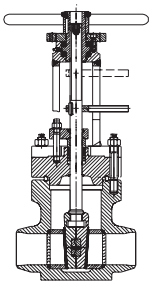


Figure S21
Globe Valve
Coverless design
PN 160 - 500
ASME Class 900 - 2500
DN 15 - 50
Size 1/2“ - 2“

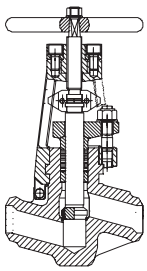


Figure S22
Globe Valve
Pressure seal bonnet
PN 160 - 630
ASME Class 900 - 4500
DN 50 - 300
Size 2“ - 12“

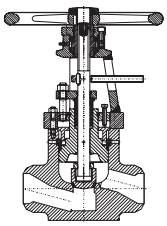


Figure S26
Piston Check Valve Valve
Pressure seal bonnet
PN 160 - 500
ASME Class 900 - 2500
DN 50 - 300
Size 2“ - 12“

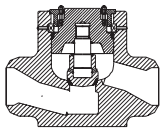


Figure S27
Piston Check Valve
PN 160 - 500
ASME Class 900 - 2500
DN 15 - 50
Size 1/2“ - 2“

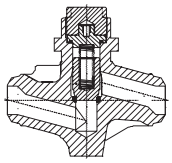


Figure S29
Strainer
PN 160 - 500
ASME Class 900 - 2500
DN 15 - 200
Size 1/2“ - 8“

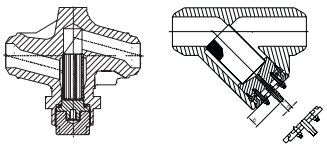


Figure S72
Swing Check Valve
Pressure seal bonnet
PN 160 - 630
ASME Class 900 - 4500
DN 50 - 600
Size 2“ - 24“

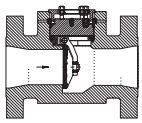


Figure S601
Quick Closing 3-Way Valve
PN 100 - 630
ASME Class 600 - 4500
DN 150 - 500
Size 6“ - 20“

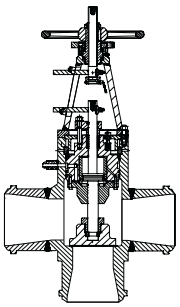
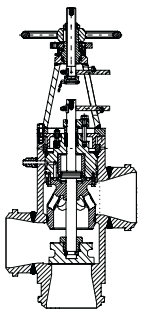


Figure S603
Quick Closing Check Valve
PN 100 - 630
ASME Class 600 - 4500
DN 150 - 500
Size 6“ - 20“



STRACK GmbH

Am Springbrunnen 21
39179 Barleben, Germany
Phone: +49 (0) 39203 898930
Fax: +49 (0) 39203 898959
www.strack-valve.de
sales@strack-valve.de