



SEVERE SERVICE ENGINEERING

## TP-1 Power Valves

Top Entry

Trunnion Mounted

Metal Seated

Proven Design

Minimal Spare Parts

In-Line Repairable, without  
special tools

### After First Installation:

- No Cutting

- No Welding

- No Stress Relief

- No X-Ray

Reduce Maintenance Cost

Reduce Downtime

Single Upstream Seating



# Top Entry Ball Valve

## Model: TP1

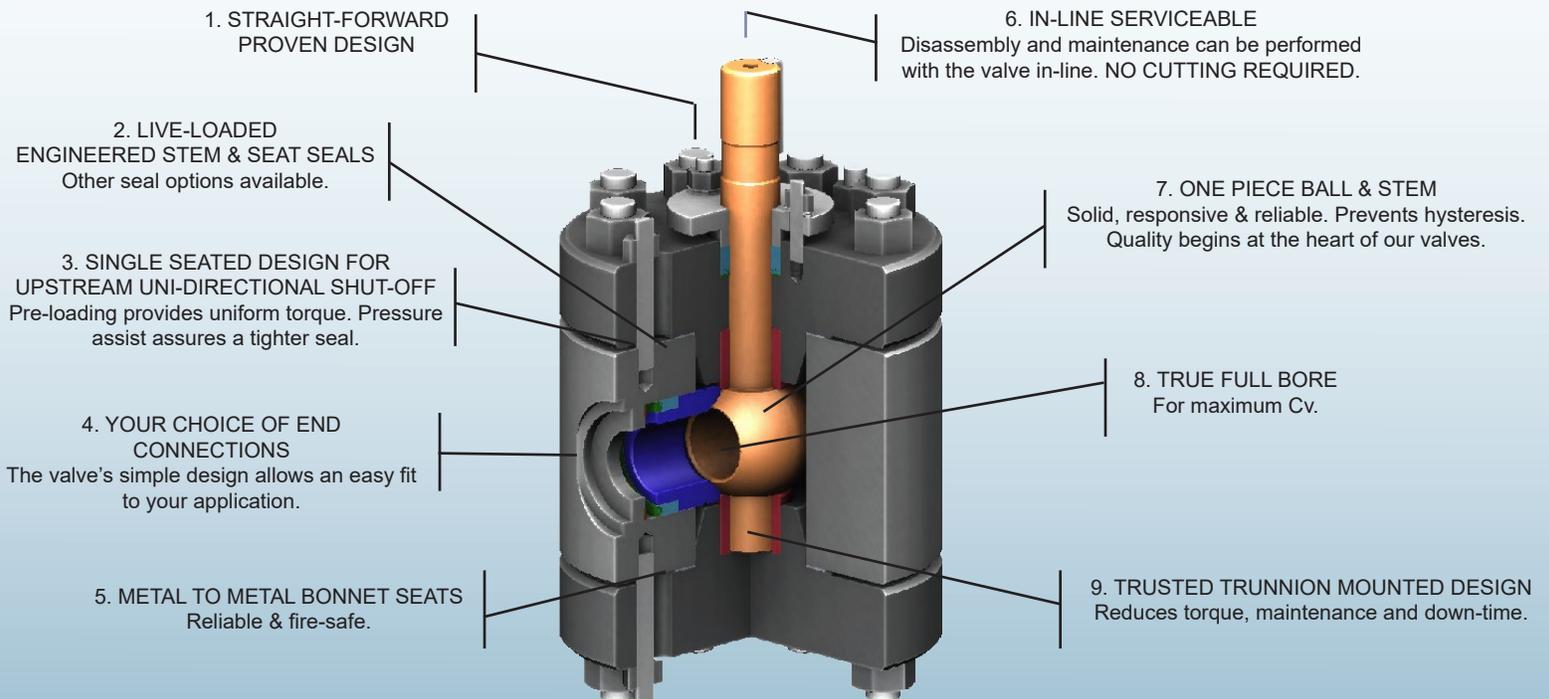


IN - LINE REPAIRABLE, TRUNNION BALL VALVE, FORGED BAR, UNI-DIRECTIONAL

<b>Sizes:</b>	1/2" - 2"
<b>Pressure Class:</b>	ASME / ANSI 600 - 4500
<b>Temperature:</b>	(-) 20° F to (+) 1200° F (-) 29°C to (+) 590°C
<b>End Connections:</b>	SW, BW, RF, RTJ, Customer Specified, ASME B16.11 / ASME B16.5 / ASME B16.25
<b>Leakage Class Options:</b>	-API 6D & API 598 -Bubble Tight (Metal Seated) -ISO 5208 Rate A
<b>Acuation:</b>	-Manual, Pneumatic, Hydraulic, Electric -Other options available per customer specifications.



## Standard Features

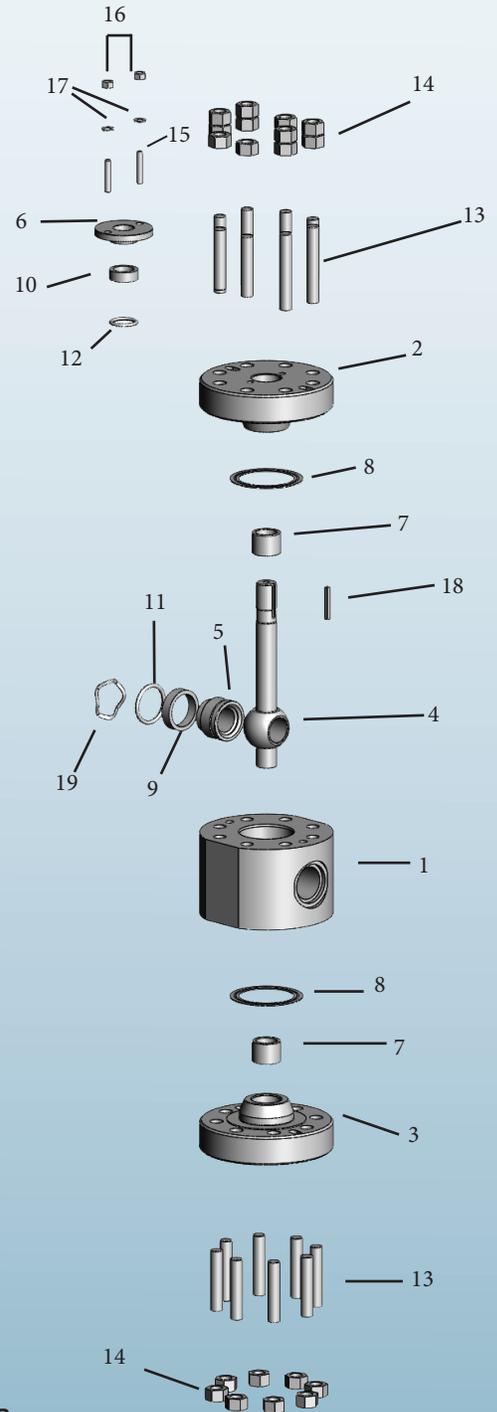


# Model: TP1

## PARTS LIST

A/R = AS REQUIRED

ITEM	QTY	DESCRIPTION
1	1	Body
2	1	Upper Bonnet
3	1	Lower Bonnet
4	1	Ball
5	1	Seat
6	1	Packing Flange
7	2	Metal Bearing
8	2	Bonnet Seal
9	1	Seat Seal
10	1	Stem Seal
11	1	Seat Pusher Ring
12	1	Stem Pusher Ring
13	A/R	Bonnet Studs
14	A/R	Bonnet Nuts
15	A/R	Packing Stud
16	A/R	Packing Nuts
17	A/R	Belleville Springs
18	1	Key
19	1	Wave Spring



## Materials Options

### Standard:

Body - F22  
 Ball/Stem - 410 SS + Ni-Bo  
 Seats - 410 SS + Stellite 6  
 Bearing - Nitronic 60  
 Trim - 410 SS  
 Bolting (custom)  
 Ball Coating: Nickel Boride

### Super Critical:

Body - F91  
 Ball/Stem - Inconel 625 + Ni+Bo  
 Seats - Inconel 625 + Stellite 6  
 Bearing - Nitronic 60  
 Trim - Inconel 625  
 Bolting (custom)  
 Ball Coating: Nickel Boride

## Available Options

- Other Body materials available upon request
- Steam Purge Ports
- Metal Seated for Steam Service
- Pipe Pups Sized per Customer Specification
- Welding and Heat Treat per customer specification

CORNERSTONE VALVE  
 CAN ASSIST IN  
 SELECTION OF THE  
 OPTIMUM MATERIALS FOR  
 YOUR SPECIFIC SERVICE.



## Case Study

A Northeast power plant, realizing the costly down-time and out-of-pocket expense of recurring valve failures, replaced all their problem valves with Cornerstone TP-1 valves.

The valves operate at conditions from 500 psi at 1065°F (574°C) to 2420 psi at 660°F (349°C). This plant continues to replace problem valves with Cornerstone valves.

Their new facility expansion will operate solely with Cornerstone valves, based on their reliable performance and low maintenance cost.

### CORNERSTONE HAS SOLUTIONS FOR THE FOLLOWING APPLICATION AREAS:

#### Isolation

- Control Valve Isolation
- Main Steam Stop/Isolation
- Feedwater Heater Isolation
- Boiler Feed Pump Isolation
- Bottom Ash Isolation
- Steam Trap Isolation
- Turbine Isolation
- Superheater Spray Isolation
- Gauge Glass/Instrument Isolation
- Pump Isolation

#### Drains

- Main Boiler Drain
- Condensate Drain
- Main Steam Drain and Vent
- Economizer Drain

- Preheat Drain
- Turbine Drain

#### Other

- Bottom Blowdown
- Economizer Sampling
- Bypass Lines
- Blowdown

#### Applications

- Blocking Valves after Control Valves
- Steam Letdown & Control
- Boiler Venting
- Condensate Block & Control
- Soot Blower Applications
- Main Steam Supply

- Steam Turbine Drains
- Attemperating
- Feedwater Isolation
- Feedwater Bypass
- Noise Control
- Steam Drum Vent
- Superheated Steam
- Boiler Recirculation

