



YARWAY HANCOCK FORGED STEEL GLOBE STOP VALVES SERIES 5500

Direct contact, metal-to-metal seating, make the globe valve ideal for most shut-off applications.



FEATURES

- The 5500 has a fixed, repairable seat overlaid with Stellite or equal hardfacing.
- Available with threaded or socket weld end connections as standard.
- Valves are made using one-piece, die forged bodies.
- All internal surfaces are accurately machined to provide maximum performance.
- The disc is hardened, ground, and lapped to ensure leak free sealing over the valve's full pressure/temperature range.
- A precision machined, integral backseat is standard.
- Both seats are designed for accurate, repeatable, seating alignment.
- Corrosion inhibited graphite packing and braided graphite filament anti-extrusion rings are standard.
- Standard body and bonnet materials are carbon steel (ASME SA105), alloy steel (ASME SA182 Gr. F11) and stainless steel (ASME SA182 Gr. F316) Trim for steel valves is 13% chrome 316 stainless steel valves have 316 trim.
- Also available in a variety of body and trim materials. (See page 5)
- A needle disc option is available.
- Code compliance with ASME B16.34 and the ASME boiler and pressure vessel code, section I.

GENERAL APPLICATION

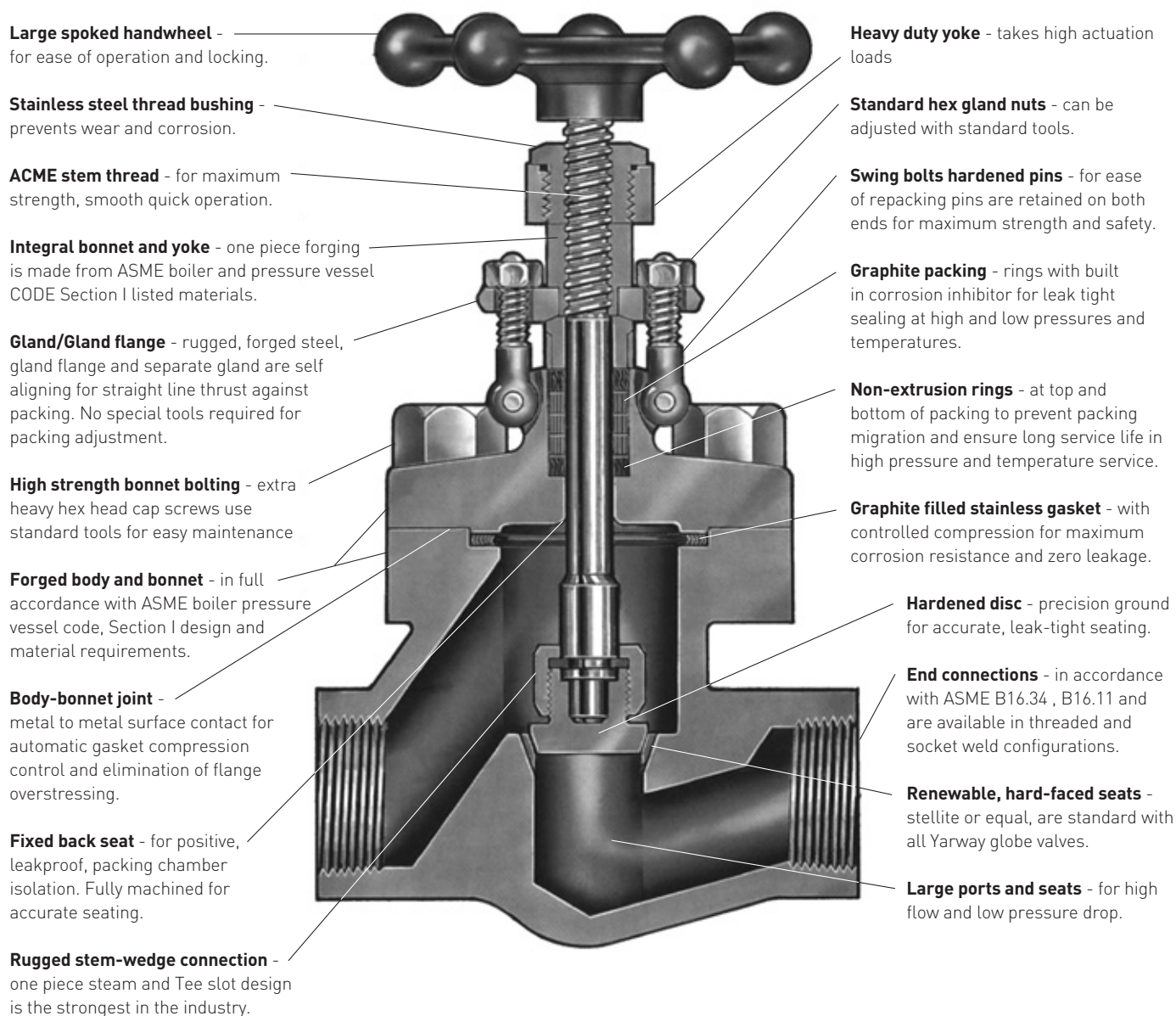
Designed for ASME boiler and pressure vessel code, section I applications including vents, drains, bypass systems, gauge shut-off, instrument isolation, chemical cleaning systems, control valve isolation, auxiliary steam lines, heat exchangers, or wherever reliable, leak-tight performance, under high temperature/pressure conditions, is required.

TECHNICAL DATA

Sizes : NPS ½ to 2
ASME 800 LTD Class

YARWAY HANCOCK FORGED STEEL GLOBE STOP VALVES

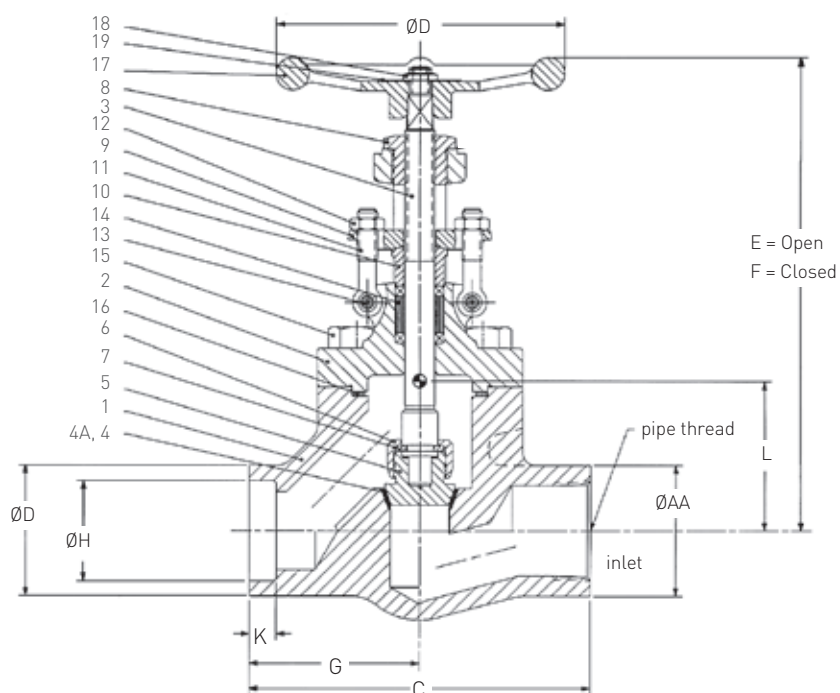
SERIES 5500



All Yarway 5500 series valves comply with ASME B16.34.

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PARTS LIST

| No. | Description | Material |
|-----|------------------------------|-------------------------------|
| 1 | Body | ASME SA105 Carbon steel |
| 2 | Bonnet | ASME SA105 Carbon steel |
| 3 | Stem | 410 Stainless Steel |
| 4 | Seat facing | Stellite or Equivalent |
| 4A | Replaceable seat (Type 5520) | 410 Stainless steel |
| 5 | Disc | 420 Stainless steel |
| 6 | Disc nut | 410 Stainless steel |
| 7 | Lock ring | 410 Stainless steel |
| 8 | Thread bushing | 410 Stainless steel |
| 9 | Packing gland flange | Carbon steel (Phosphated) |
| 10 | Packing gland | 410 Stainless steel |
| 11 | Packing gland bolt | 410 Stainless steel |
| 12 | Packing gland nut | Carbon steel - Cadmium plated |
| 13 | Pin | 410 Stainless steel |
| 14 | Packing set | Compressed Graphite |
| 15 | Bonnet bolt | B7 Alloy Steel (Phosphated) |
| 16 | Bonnet gasket | 304 SS (Graphite) Filled |
| 17 | Handwheel | Ductile iron (Phosphated) |
| 16 | Handwheel nut | Carbon steel (Phosphated) |
| 19 | Marker plate | 304 Stainless steel |

NOTE: See page 5 for alternate trim materials

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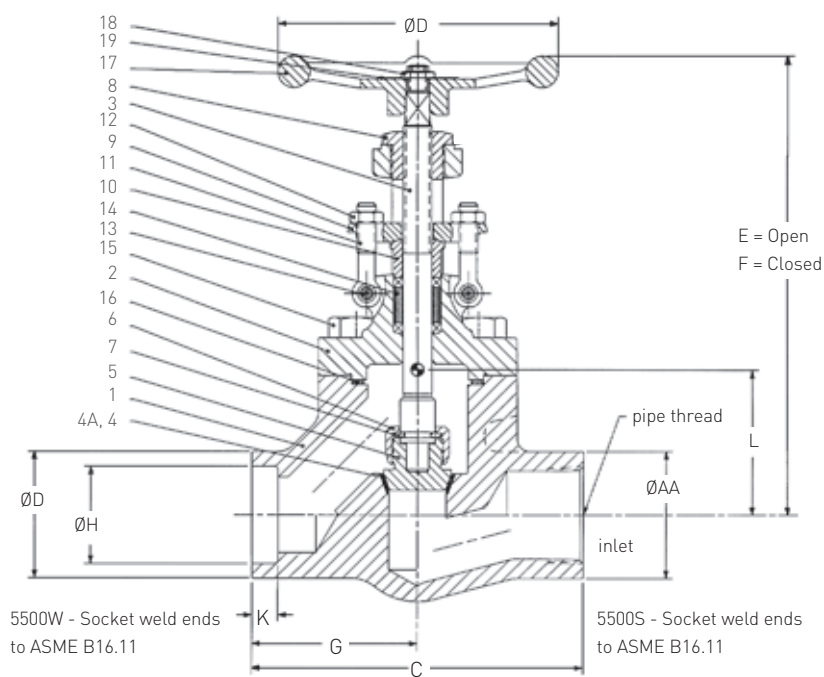
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DIMENSIONS (inches)

| Size NPS | A | ØAA | C | ØD | E | F | G | ØH | K | Wt. (lbs) | C _v values |
|-------------|--------|--------|--------|-------|---------|---------|---------|-------|-----|--------------|--------------------------|
| 1/2 | 1 5/16 | 1 5/16 | 3 5/16 | 3 1/2 | 5 15/16 | 5 11/16 | 1 21/32 | 0.855 | 3/8 | 5.00 | 1.00 |
| 3/4 | 1 1/2 | 1 1/2 | 3 7/16 | 3 1/2 | 6 3/8 | 6 | 1 29/32 | 1.065 | 1/2 | 5.25 | 2.00 |
| 1 | 1 7/8 | 1 7/8 | 4 3/8 | 4 | 7 3/4 | 7 1/4 | 2 3/16 | 1.330 | 1/2 | 8.50 | 4.00 |
| 1 1/2 | 2 1/2 | 2 1/2 | 6 1/2 | 5 1/2 | 9 5/8 | 8 15/16 | 3 1/4 | 1.915 | 1/2 | 17.50 | 10.40 |
| 2 | 3 1/8 | 3 1/8 | 7 | 6 1/2 | 11 1/16 | 10 3/16 | 3 1/2 | 2.406 | 5/8 | 27.00 | 14.00 |

BODY, BONNET AND TRIM MATERIAL COMBINATIONS

| Variation | Standard Int. seat 13% Cr. trim | 1 1/4% Chrome alloy steel F11 (1 1/4% Cr., 1/2% Mo) 13% Cr. trim | Stainless steel F316 with 316 Trim | Stainless steel F316 with H.F. Seat and disc |
|---------------|--|--|--|--|
| Suffix No. | None | -445 | -535 | -1449 |
| Valve Types | | | | |
| Available | 5500S -W | 5500S -W | 5500S -W | 5500S -W |
| Body | Carbon steel SA105 | SA182 Gr. F11 | SA182 Gr. F316 | SA182 Gr. F316 |
| Bonnet | Carbon steel SA105 | SA182 Gr. F11 | SA182 Gr. F316 | SA182 Gr. F316 |
| Seat | Hard faced with stellite or equal | Integral Hard faced with stellite or equal | 316 S/S | Integral Hard faced with stellite or equal |
| Disc | 420 S/S | 420 S/S | 316 S/S | 316 S/S H.F. with Stellite or equal |
| Stem | 410 S/S | 410 S/S | 316 S/S | 316 S/S |
| Packing gland | 410 S/S | 410 S/S | 316 S/S | 316 S/S |
| Disc nut | 410 S/S | 410 S/S | 316 S/S | 316 S/S |
| Lock ring | 410 S/S | 410 S/S | 316 S/S | 316 S/S |
| Gasket | 304 S/S Spiral wound Grafoil® filled | 304 S/S Spiral wound Grafoil® filled | 316 S/S Spiral wound Grafoil® filled | 316 S/S Spiral wound Grafoil® filled |
| Packing | Compressed graphite - lubricated - Corrosion inhibited | | | |



YARWAY HANCOCK FORGED STEEL GLOBE STOP VALVES

SERIES 5500

Positive contact, metal-to-metal seating, make the globe valve ideal for most shut-off applications. The basic design eliminates the inherent problem of "wedge sticking" common in wedge

gate valves caused when high thermal transients or piping load stresses exert such force that the valve won't open. The contoured disc allows for accurate control over the initial portion of stem travel, permitting smooth, linear flow, thereby preventing mechanical and/or thermal shock to the valve, downstream piping or expensive machinery. An outstanding feature of a conventional globe valve, as opposed to a gate valve, is its ability to handle flow around the full seat diameter from the instant it starts to open. That is to say that the high velocities, occurring during the initial opening of a conventional globe valve, are distributed evenly and simultaneously across the entire seating surface. It is this characteristic that helps protect the seating surfaces from erosion. This same characteristic is what helps to prevent cavitation and high velocity fluid from damaging the valve's downstream body walls or piping. The availability of metal-to-metal seating gives globe valves the ability to withstand high temperatures. Hardened or hard faced seats enhance the globe valve's ability to hold up in abrasive and high velocity environments. A wide variety of body and trim materials permits its use in severe and corrosive service applications.

SELECTION

Globe stop valves can be used in a wide variety of services and applications, however, they are especially well suited for applications requiring:

- Tight shut-off at high pressures and temperatures.
- Slow initial opening times.
- Throttling on initial start-up or shutdown.
- Rapid actuation or high speed remote operation.
- Valve operation during, or after, high thermal or piping stress transient conditions.

- Isolation, draining, venting or filling at high pressures and/or temperatures, while having to maintain tight shut-off at maximum operating conditions.
- Pressure or temperature equalizing of systems or large valves.

When selecting globe valves, utilization of a top entry design with a non-welded bonnet closure, will permit easy access to internal components for service and parts replacement, without having to remove the valve from the line. The ability to make quick repairs is especially important at start-up time, when valve damage from fabrication debris is most likely to cause expensive down time and project delays.

TYPICAL SPECIFYING SEQUENCE

| Example | NPS ½ | 5500 | W | 2 | -445 |
|--|-------|------|---|---|------|
| Nominal valve size NPS | | | | | |
| ½, ¾, 1, 1½, 2 | | | | | |
| Valve type number | | | | | |
| 5500 – Globe valve, T-Type integral seat | | | | | |
| End connection | | | | | |
| S - Threaded end | | | | | |
| W - Socket end | | | | | |
| Design change number | | | | | |
| 2 | | | | | |
| Material combination suffix | | | | | |
| None – A105 Body and bonnet, 13 Cr. trim | | | | | |
| -445 – F11 Body and bonnet, 13 Cr. trim | | | | | |
| -535 – 316 Body, bonnet and trim | | | | | |
| -1449 – 316 Body, bonnet and trim (Trim is hard-faced with stellite) | | | | | |

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