

H500 SERIES

3 PIECE BALL VALVES



Features:

3 piece heavy duty ball valves with :

- Precision Investment cast body in CF8M stainless steel
- Precision Investment cast end caps in CF3M stainless steel.
- Blow out proof stem with Belleville washer design for long life stem sealing
- ISO 5211 Mounting Pad for automation.
- Manual Operation with integral locking device.
- Flow coefficient (Cv) from 1.2 to 24.0
- MAWP 3000 psig (204Bar)
- MAWT 465°F (240°C).

GENERAL

The H500 Series is a moderate pressure instrumentation ball valve for general service and instrumentation panels. The valves offer large ports for high flow, tight shut-off, long life service and low operating torque. The H500 Series can be used for bi-directional flow and is rated to max. 3000 psig (204 Bar) and performs on-off service.

MATERIALS

| No. | Part No. | Material | Qty |
|-----|-------------------|----------------------|-----|
| 1 | Body | ASTM A351 Gr. CF8M | 1 |
| 2 | End Cap | ASTM A351 Gr. CF3M | 2 |
| 3 | Ball | St.St. 316 | 1 |
| 4 | Stem | St.St. 316 | 1 |
| 5 | Stem Nut | St.St. 304 | 2 |
| 6 | Belleville Washer | St.St. 301 | 2 |
| 7 | Handle | St.St. 304 | 1 |
| 8 | Seat | PTFE | 2 |
| 9 | Gland | St.St. 304 | 1 |
| 10 | Stem Packing | MG1241(1) / PTFE (1) | 1 |
| 11 | Stem Seal | MG1241 | 2 |
| 12 | Lock Saddle | St.St. 304 | 1 |
| 13 | Joint Gasket | PTFE | 2 |
| 14 | Bolt | St.St. 304 | 4 |
| 15 | Stop Pin | St.St. 304 | 1 |
| 16 | Handle Sleeve | Vinyl | 1 |
| 17 | Bolt Nut | St.St. 316 | 4 |
| 18 | Washer | St.St. 316 | 4 |
| 19 | Locking Device | St.St. 316 | 1 |
| 20 | Stem Washer | St.St. 31 | 1 |

CLEANING & PACKAGING

Ham-Let's H500 Ball valve is treated with Ham-Let Passivation Cleaning and Packaging (Procedure 8075).

Oxygen Cleaning and Packaging (Procedure 8055) is available as an option.

TESTING:

The H500 series Ball Valve designs have been tested for Proof, Burst and Leakage.

Every H500 Ball Valve is factory tested with nitrogen at 1000psi (69 bar). Maximum allowable leak across seats is 0.1 std cc/min.

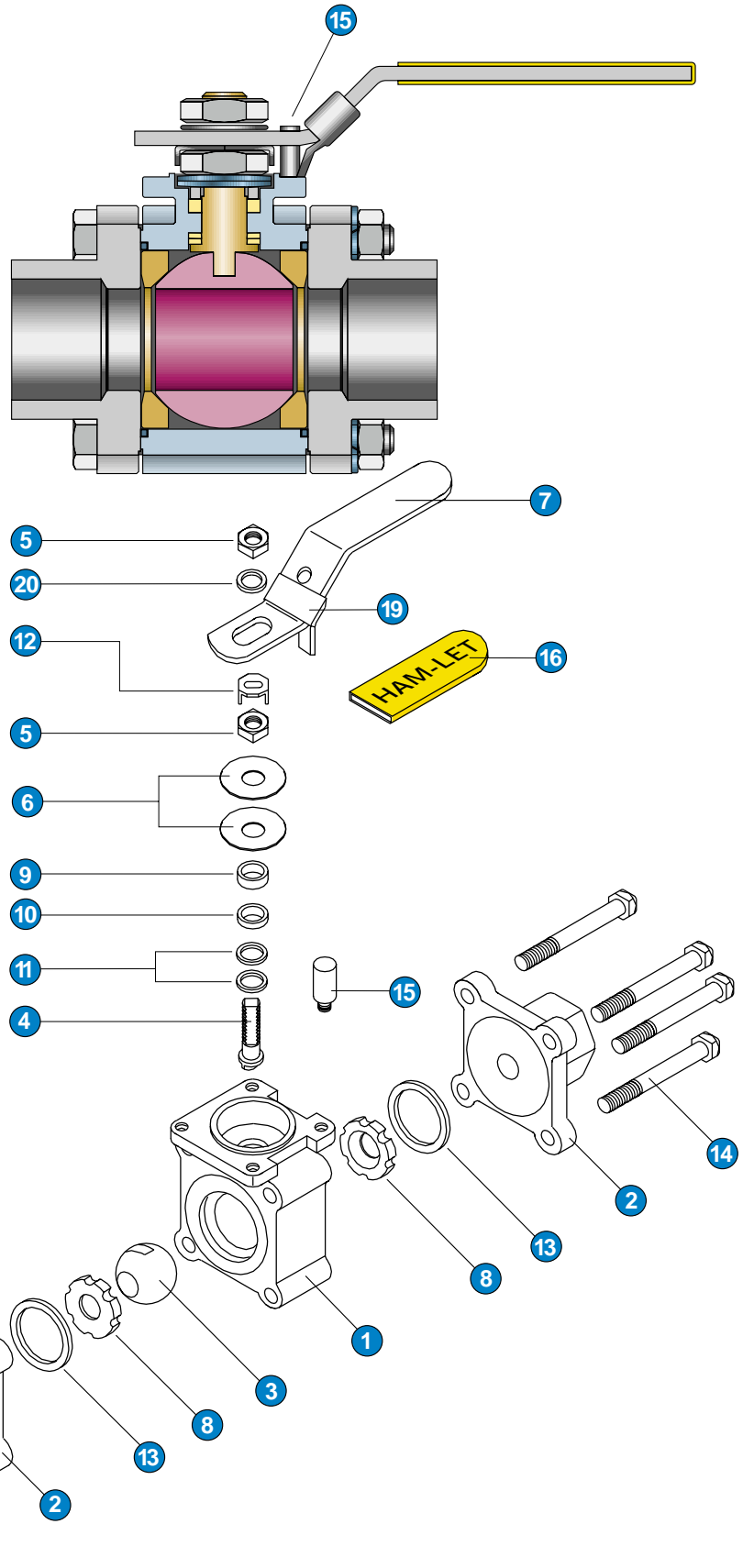
No leakage is allowed for shell testing.

PACKING ADJUSTMENT

Due to the varied service applications of the valve, packing adjustment may be occasionally necessary. Initial adjustment is recommended after installation and prior to start-up.

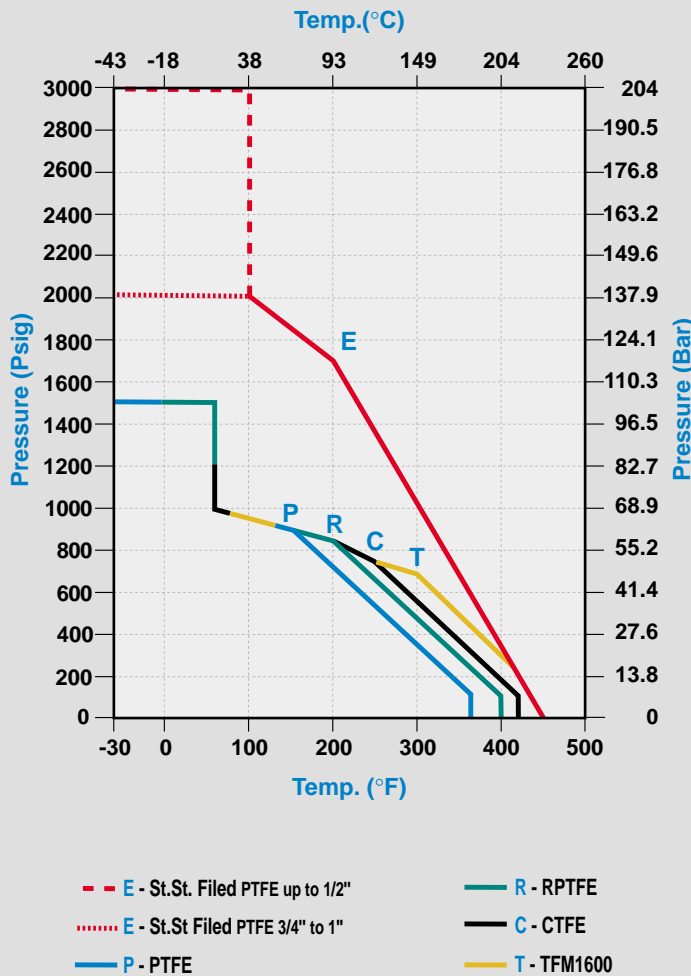
Please find more information at installation instruction chapter.

Ham-Let Ball Valves designed to be operated in fully closed or fully open position.



PRESSURE AND TEMPERATURE

for Valve 1/4" to 1"



SEAT MATERIAL CHARACTERISTICS

PTFE (Virgin Teflon) - Color (White)

A good all around, general purpose seating material. PTFE has outstanding resistance to chemical attack by a broad range of organic chemicals, inorganic chemicals and solvents, and is generally considered chemically inert.

PTFE is a self lubricating polymer with a very low coefficient of friction, which makes an excellent seating material.

RPTFE (15% Glass Fiber Filled PTFE) - Color (Of White)

Short stand glass fibers are used as a reinforcement in valve seats.

Adding reinforcements increases the pressure containing properties of PTFE by reducing its tendency to cold flow.

25% Carbon Fiber Filled PTFE (CTFE) - Color (Black)

Excellent seat material for steam applications, as well as high efficiency oil-based thermal fluids. It has a very good cycle life and withstands well to wear and tear. Chemicals resistance is equal to other PTFE and filled PTFE products.

TFM1600 - (PFA and PTFE composite) - Color (Bright White)

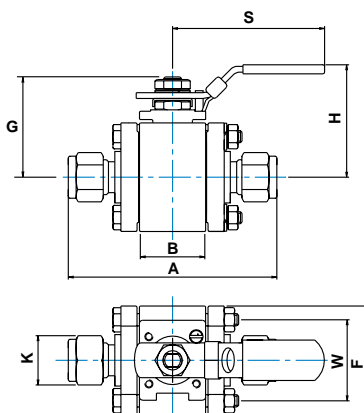
Excellent seat material for purity applications, very low residual material during operation. It has lower deformation ratio than PTFE, but higher pressure and temperature rating than PTFE. Chemical resistance is equal to PTFE material.

St.St Powder Filled PTFE - Color (Gray)

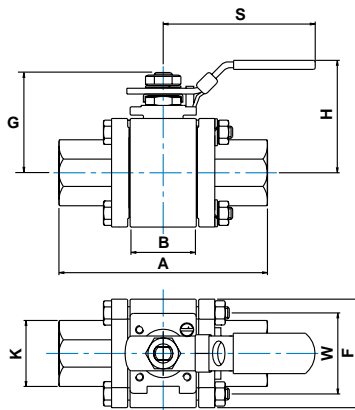
Excellent seat material for general applications, prevent over expention and seat extrusion. It has lower deformation ratio than PTFE, but higher pressure and temperature rating than PTFE. Chemical resistance is equal to PTFE material.

Dimensions

H500 LET-LOK

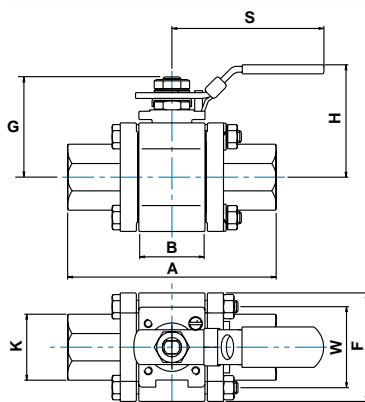


| Valve size | Orifice | Cv | A | B | F | G | H | K | S | W |
|------------|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| mm | inch | | | | | | | | | |
| 6 | 1/4" | 4.80 | 58.0 | 20.6 | 44.4 | 38.0 | 57.0 | 14.3 | 122 | 32.0 |
| | | 0.189 | 2.283 | 0.811 | 1.748 | 1.496 | 2.244 | 0.563 | 4.803 | 1.260 |
| 10 | 3/8" | 7.10 | 59.6 | 20.6 | 44.4 | 38.0 | 57.0 | 17.5 | 122 | 32.0 |
| | | 0.280 | 2.346 | 0.811 | 1.748 | 1.496 | 2.244 | 0.689 | 4.803 | 1.260 |
| 12 | 1/2" | 10.5 | 67.7 | 20.6 | 44.4 | 38.0 | 57.0 | 22.2 | 122 | 32.0 |
| | | 0.413 | 2.665 | 0.811 | 1.748 | 1.496 | 2.244 | 0.874 | 4.803 | 1.260 |
| 20 | 3/4" | 13.0 | 71.7 | 24.6 | 50.4 | 40.0 | 60.0 | 28.6 | 122 | 38.0 |
| | | 0.512 | 2.823 | 0.968 | 1.984 | 1.575 | 2.362 | 1.126 | 4.803 | 1.496 |
| 25 | 1" | 19.5 | 121.9 | 31.8 | 60.0 | 56.0 | 75.0 | 38.1 | 151 | 52.0 |
| | | 0.768 | 4.8 | 1.252 | 2.362 | 2.205 | 2.952 | 1.500 | 5.945 | 2.047 |



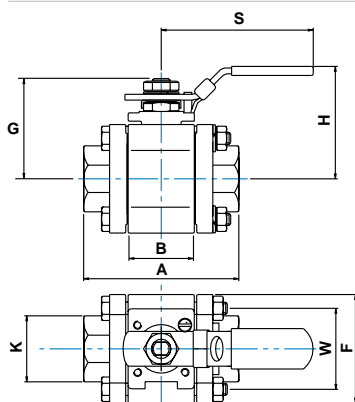
H510 NPT FEMALE

| Valve size inch | Orifice | Cv | A | B | F | G | H | K | S | W |
|--------------------|---------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1/4" | 10.5 | 5.10 | 65.6 | 20.6 | 44.4 | 38.0 | 57.0 | 27.0 | 122 | 32.0 |
| | 0.413 | | 2.283 | 0.811 | 1.748 | 1.496 | 2.244 | 1.063 | 4.803 | 1.260 |
| 3/8" | 10.5 | 5.10 | 68.6 | 20.6 | 44.4 | 38.0 | 57.0 | 27.0 | 122 | 32.0 |
| | 0.413 | | 2.346 | 0.811 | 1.748 | 1.496 | 2.244 | 1.063 | 4.803 | 1.260 |
| 1/2" | 10.5 | 5.10 | 73.6 | 20.6 | 44.4 | 38.0 | 57.0 | 27.0 | 122 | 32.0 |
| | 0.413 | | 2.665 | 0.811 | 1.748 | 1.496 | 2.244 | 1.063 | 4.803 | 1.260 |
| 3/4" | 13.0 | 14.0 | 77.6 | 24.6 | 50.4 | 40.0 | 60.0 | 33.0 | 122 | 38.0 |
| | 0.512 | | 2.823 | 0.968 | 1.984 | 1.575 | 2.362 | 1.30 | 4.803 | 1.496 |
| 1" | 19.5 | 24.0 | 121.9 | 31.8 | 60.0 | 56.0 | 75.0 | 42.0 | 151 | 52.0 |
| | 0.768 | | 4.8 | 1.252 | 2.362 | 2.205 | 2.952 | 1.653 | 5.945 | 2.047 |



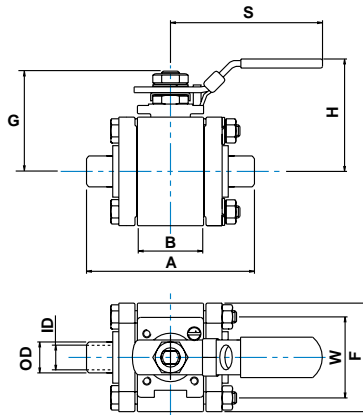
H500 SOCKET WELD TUBE

| Valve size mm | Valve size inch | Orifice | Cv | A | B | F | G | H | K | S | W |
|------------------|--------------------|---------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| 6 | 1/4" | 4.80 | 1.20 | 65.6 | 20.6 | 44.4 | 38.0 | 57.0 | 27.0 | 122 | 32.0 |
| | | 0.189 | | 2.283 | 0.811 | 1.748 | 1.496 | 2.244 | 1.063 | 4.803 | 1.260 |
| 10 | 3/8" | 7.10 | 3.80 | 68.6 | 20.6 | 44.4 | 38.0 | 57.0 | 27.0 | 122 | 32.0 |
| | | 0.280 | | 2.346 | 0.811 | 1.748 | 1.496 | 2.244 | 1.063 | 4.803 | 1.260 |
| 12 | 1/2" | 10.5 | 7.60 | 73.6 | 20.6 | 44.4 | 38.0 | 57.0 | 27.0 | 122 | 32.0 |
| | | 0.413 | | 2.665 | 0.811 | 1.748 | 1.496 | 2.244 | 1.063 | 4.803 | 1.260 |
| 20 | 3/4" | 13.0 | 14.0 | 77.6 | 24.6 | 50.4 | 40.0 | 60.0 | 33.0 | 122 | 38.0 |
| | | 0.512 | | 2.823 | 0.968 | 1.984 | 1.575 | 2.362 | 1.30 | 4.803 | 1.496 |
| 25 | 1" | 19.5 | 24.0 | 121.9 | 31.8 | 60.0 | 56.0 | 75.0 | 42.0 | 151 | 52.0 |
| | | 0.768 | | 4.8 | 1.252 | 2.362 | 2.205 | 2.952 | 1.653 | 5.945 | 2.047 |



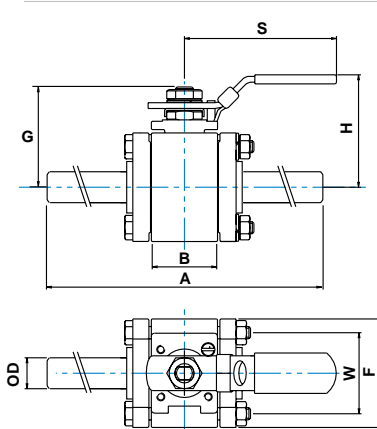
H500 SOCKET WELD PIPE

| Valve size mm | Valve size inch | Orifice | Cv | A | B | F | G | H | K | S | W |
|------------------|--------------------|---------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| 6 | 1/4" | 4.80 | 1.20 | 70 | 20.6 | 44.4 | 38.0 | 57.0 | 13.7 | 122 | 32.0 |
| | | 0.189 | | 2.756 | 0.811 | 1.748 | 1.496 | 2.244 | 0.54 | 4.803 | 1.260 |
| 10 | 3/8" | 7.10 | 3.80 | 70 | 20.6 | 44.4 | 38.0 | 57.0 | 17.1 | 122 | 32.0 |
| | | 0.280 | | 2.756 | 0.811 | 1.748 | 1.496 | 2.244 | 0.673 | 4.803 | 1.260 |
| 12 | 1/2" | 10.5 | 7.60 | 70 | 20.6 | 44.4 | 38.0 | 57.0 | 21.3 | 122 | 32.0 |
| | | 0.413 | | 2.756 | 0.811 | 1.748 | 1.496 | 2.244 | 0.838 | 4.803 | 1.260 |
| 20 | 3/4" | 13.0 | 14.0 | 74 | 24.6 | 50.4 | 40.0 | 60.0 | 27.1 | 122 | 38.0 |
| | | 0.512 | | 2.913 | 0.968 | 1.984 | 1.575 | 2.362 | 1.067 | 4.803 | 1.496 |
| 25 | 1" | 19.5 | 24.0 | 99 | 31.8 | 60.0 | 56.0 | 75.0 | 34.1 | 151 | 52.0 |
| | | 0.768 | | 3.9 | 1.252 | 2.362 | 2.205 | 2.952 | 1.342 | 5.945 | 2.047 |



H500 PIPE BUTTWELD

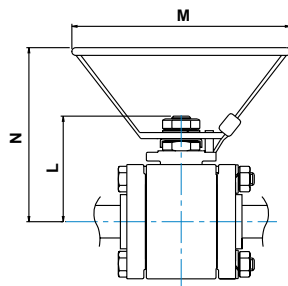
| Valve size | Orifice | Cv | Schedule | | | | | | | | | | |
|------------|---------|------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | | A | B | F | G | H | OD | 10 ID | 40 ID | 80 ID | S | W |
| 1/4" | 7.1 | 3.8 | 65.6 | 20.6 | 44.4 | 38.0 | 57.0 | 13.7 | 10.4 | 9.24 | 7.7 | 122 | 32.0 |
| | 0.280 | | 2.283 | 2.283 | 1.748 | 1.496 | 2.244 | 0.539 | 0.410 | 0.364 | 0.302 | 4.803 | 1.260 |
| 3/8" | 10.5 | 7.60 | 68.6 | 20.6 | 44.4 | 38.0 | 57.0 | 17.1 | 13.85 | 12.5 | 10.75 | 122 | 32.0 |
| | 0.413 | | 2.346 | 2.346 | 1.748 | 1.496 | 2.244 | 0.673 | 0.545 | 0.492 | 0.423 | 4.803 | 1.260 |
| 1/2" | 10.5 | 7.60 | 73.6 | 20.6 | 44.4 | 38.0 | 57.0 | 21.3 | 17.1 | 15.8 | 13.9 | 122 | 32.0 |
| | 0.413 | | 2.665 | 2.665 | 1.748 | 1.496 | 2.244 | 0.838 | 0.674 | 0.622 | 0.546 | 4.803 | 1.260 |
| 3/4" | 13.0 | 14.0 | 77.6 | 24.6 | 50.4 | 40.0 | 60.0 | 26.7 | 22.45 | 20.9 | 18.85 | 122 | 38.0 |
| | 0.512 | | 2.823 | 2.823 | 1.984 | 1.575 | 2.362 | 1.051 | 0.884 | 0.824 | 0.742 | 4.803 | 1.496 |
| 1" | 19.5 | 24.0 | 97.8 | 31.8 | 60.0 | 56.0 | 75.0 | 33.4 | 27.85 | 26.64 | 24.3 | 151 | 52.0 |
| | 0.768 | | 3.523 | 3.523 | 2.362 | 2.205 | 2.952 | 1.315 | 1.097 | 1.049 | 0.956 | 5.945 | 2.047 |



EXTENDED AND SHORT TUBE BUTTWELD

| size | | Orifice | Cv | A | | B | F | G | H | K | S | W |
|------|------|---------|------|----------|-------|-------|-------|------|-------|-------|-------|-------|
| mm | inch | | | Extended | Short | | | | | | | |
| 6 | 1/4 | 4.80 | 1.20 | - | 52.6 | 20.6 | 44.4 | 38.0 | 57.0 | 6.35 | 122 | 32.0 |
| | | 0.189 | | - | 2.07 | 0.811 | 1.748 | 1.5 | 2.244 | 0.25 | 4.8 | 1.26 |
| 10 | 3/8 | 7.1 | 3.8 | - | 52.6 | 20.6 | 44.4 | 38.0 | 57.0 | 9.5 | 122 | 32.0 |
| | | 0.280 | | - | 2.07 | 0.811 | 1.748 | 1.5 | 2.244 | 0.374 | 4.8 | 1.26 |
| 12 | 1/2 | 10.4 | 7.6 | 140 | 52.6 | 20.6 | 44.4 | 38.0 | 57.0 | 12.7 | 122 | 32.0 |
| | | 0.409 | | 5.5 | 2.07 | 0.811 | 1.748 | 1.5 | 2.244 | 0.5 | 4.8 | 1.26 |
| 20 | 3/4 | 13.0 | 14.0 | 150 | 56.6 | 24.6 | 50.4 | 40.0 | 60.0 | 19.1 | 122 | 38.0 |
| | | 0.512 | | 5.9 | 2.228 | 0.968 | 1.984 | 1.57 | 2.362 | 0.75 | 4.8 | 1.496 |
| 25 | 1 | 21.1 | 24.0 | 161 | 66.8 | 31.8 | 60.0 | 56.0 | 75.0 | 25.4 | 151 | 52.0 |
| | | 19.5 | | 6.338 | 2.629 | 1.25 | 2.362 | 2.20 | 2.952 | 1 | 5.944 | 2.047 |

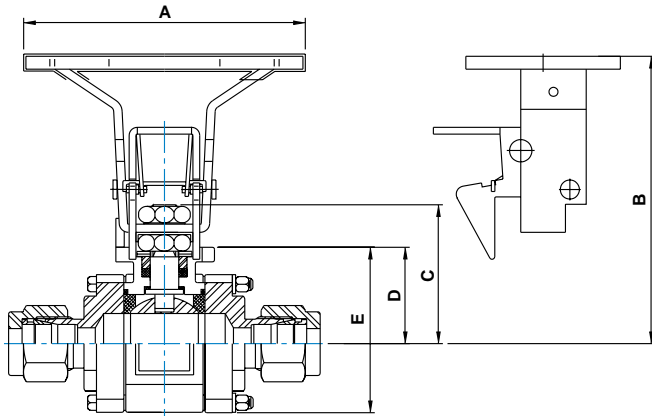
Oval Handle



| Size | L | M | N |
|---------------------|------|-------|-------|
| 1/4";3/8";1/2";3/4" | 38.0 | 85.0 | 65 |
| 1" | 56.0 | 105.0 | 85 |
| | 2.20 | 4.134 | 3.346 |

VALVE TORQUE KGF
CM (LBF X INCH)


| Size | Break-Away Torque | Running Torque |
|------|-------------------|----------------|
| 1/4" | 30 (26) | 15 (13) |
| 3/8" | 30 (26) | 15 (13) |
| 1/2" | 30 (26) | 15 (13) |
| 3/4" | 35 (30.4) | 22 (19.1) |
| 1" | 45 (39) | 25 (21.7) |



H500 GRIP HANDLE (Oval)

| Size | A | B | C | D | E |
|------|-----|------|------|------|------|
| 1/4" | 104 | 94.5 | 40.5 | 27.5 | 49.5 |
| 3/8" | 104 | 94.5 | 40.5 | 27.5 | 49.5 |
| 1/2" | 104 | 94.5 | 40.5 | 27.5 | 49.5 |
| 1/4" | 104 | 98 | 44 | 30.5 | 56 |

ORDERING INFORMATION

| H5 | 00 | SS | L | BV | P | OPTIONAL:  |
|---------------------|---------------------------------|--|--|--|--|--|
| Valve Series | Series Designator | Structure Material | End Connection | Size | Seat Material | Handle |
| | 00 - Let-Lok 10 - Female End | Body: ASTM A351 Gr. CF8M End cups: ASTM A351 Gr. CF3M | L - Let-Lok N - Female NPT BU - ButtWeld SW - Socket weld | 1/4" 6mm 3/8" 10mm 1/2" 12mm 3/4" 20mm 1" 25mm | P - PTFE E - Extended Temperature Seat & Seal | P - Oval Handle G - Grip Handle |

Spare Parts Kit - Repair Kit

Spare parts kit is available for each valve.
The kit includes Gaskets, Seats, Stem Packing, Stem Seal,
To order a spare parts kit, use the following format:

| | | | | |
|----------------------------|---|------------|---|-----------------------|
| H500 | - | 1/4 | - | P |
| End Connection Size | | | | Seat Material |
| 6mm 1/4" | | | | P - PTFE® |
| 10mm 3/8" | | | | R - RPTFE |
| 12mm 1/2" | | | | C - CTFE |
| 20mm 3/4" | | | | T - TFM1600 |
| 25mm 1" | | | | E - St.St.Filled PTFE |

Warning - for your safety:

Select the right component for safety's sake: The total design of the system must be taken into consideration when selecting components in order to ensure that your Ham-Let products provide safe, trouble-free operation. It is the responsibility of the system designer and the user to consider the compatibility of the materials, of the components and system, the function of the component, appropriate ratings and to ensure proper installation, operation and maintenance.

Improper selection or use of products can cause property damage or personal injury, in respect of which the system designer and/or the user shall be solely liable and responsible.

Standard is with St.St. 304 banded handle