

# 31P/32P Series ANSI Class 150 & 300



## Flanged Standard Bore Ball Valve

|                           |  |
|---------------------------|--|
| <b>Size Range:</b>        | 1/2" - 8" (DN15 - DN200)   |
| <b>Flange Connection:</b> | <b>31P Series</b> - ANSI class 150<br><b>32P Series</b> - ANSI class 300   |
| <b>Application:</b>       | Chemical, Petrochemical, Oil and Gas production, Refining, Energy, Pulp & Paper and others                                 |
| <b>Service:</b>           | Steam, Chemicals, LP-Gas, Thermal Fluid, Chlorine, Ammonia, Sour Gas   |
| <b>Materials:</b>         | Carbon Steel, Stainless Steel, Hasteloy-C, Alloy-20, Monel, Duplex   |
| <b>Certifications:</b>    | Firesafe to API 607 4 <sup>th</sup> Edt., BS 6755 Pt 2, API 6FA<br>Lloyds Type Approved to BS 5351, ISO 9001, PED 97/23/EC |
| <b>Operation:</b>         | Hand or Gear operated, Pneumatic or Electric Actuated  |

The **31P/32P** Series are **HABONIM**'s line of one piece fully flanged reduced bore ball valves in ANSI class 150# and ANSI class 300#. **HABONIM**'s flanged valves offer tight shutoff, long service life and high durability with exceptional performance in many service applications under the most severe working conditions.

### Construction

All valve are one piece design. The valve bodies have a top mounting flange conforming to ISO 5211 for direct mounting of actuators, limit switches, fugitive emission bonnets or extended handles.

### Seats

Flexible seat design provides tight shutoff at high and low pressures, reduce wear and valve torque. A wide range of seat materials are available. Standard seat materials are Virgin PTFE, glass filled PTFE or carbon filled PTFE. For other seat materials, please refer to Bulletin T-624 or consult with Habonim.

### Stem

The valve stem assemblies have blowout proof stems with live loaded spring washers to compensate for pressure and temperature surges and wear.

### Ball

A highly polished solid ball with a pressure relief hole in the stem slot to equalise the pressure in the body cavity ensures tight shutoff and long service life.

### Body and Trim Materials

The standard valve body materials are 316 Stainless Steel and Carbon Steel grades WCB and LCB. Standard trim material for ball and stem is 316 Stainless Steel. Trim materials such as Monel, Hastelloy-C, Alloy-20, Duplex and others are available for specific applications.

### Antistatic

The valve stem has a built in antistatic device which ensures continuous contact of stem-to-ball and stem-to-body.

### Valve Finish

Carbon Steel valves are phosphate and oil dipped. Stainless Steel valves are natural.

### Interchangeability

Valve ball, stem, seats and seals are interchangeable with the Habonim **46/47 Series** three piece ball valve.

### Fire Safe Valves

Fire Safe valves are designed and tested to the requirements of API 607 4<sup>th</sup> Edition and to BS 6755 Part 2 specifications. Valves for fire safe application are identified by the prefix "**AF**". Fire Safe certificates for valves, if necessary should be requested .

### Secondary sealing

All fire safe valves are fitted with flexible graphite body seals and graphite stem seals.

The valves contain soft seat rings. In the event of fire, a secondary metallic machined ring comes in contact with the ball and prevents leakage through the valve port. The stem incorporates a machined ring shaped surface which will prevent leakage, once the thrust seal has been burned off.

### Special Service

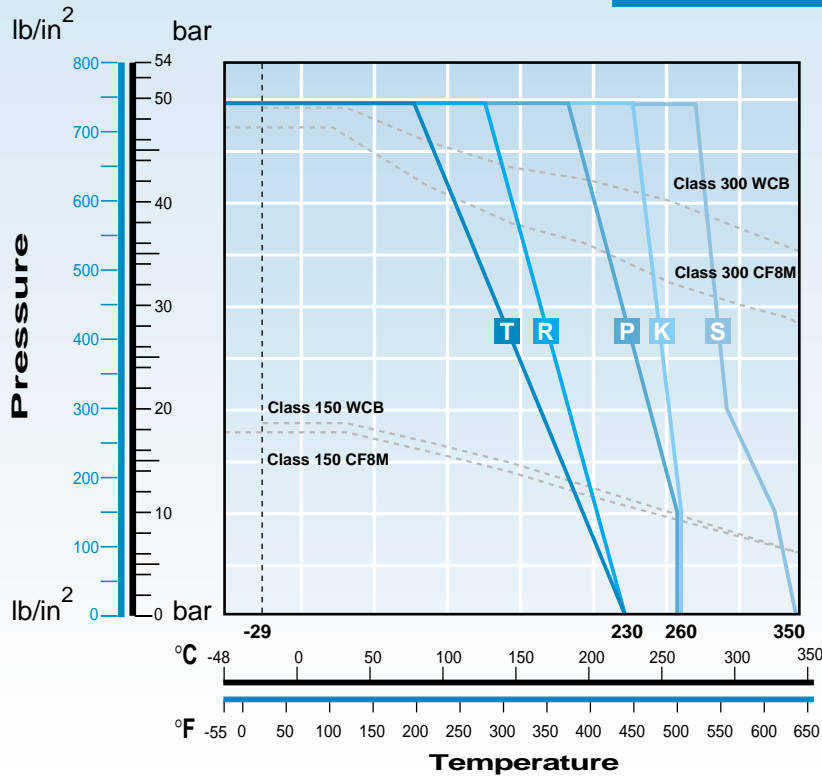
Valves prepared for special services such as Dry Chlorine, Oxygen, Hydrogen Peroxide, Ammonia, Vacuum, Steam, Thermal fluids and low temperature service are in accordance with the relevant standards.

Other designs available include Control valves with V-Ported seats, Diverter valves, Steam Jacketed valves, Cryogenic valves and Double-Block & Bleed valves. Valves are approved to UL-125 for Liquid Petroleum Gas. Sour gas service valves are to NACE MR-01-75. Ask for the relevant bulletins for all these applications.

### Other available accessories

- **Stem extensions** for valves.
- **Fugitive Emission** kits for hazardous fluids.
- **Locking devices** for securing valve position.
- **Manual gear Operators** for operating large valves.
- **Dec clutchable gear operators** for actuated valves.
- **Spring return handle** (Dead man lever) using the Habonim Compact spring return actuator fitted with a handle extension.
- **Limit switches** for on-off indication.

Pressure / Temperature Graph



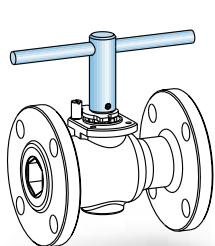
The pressure/ temperature rating is determined by the valve flanges and by the seat rating. Temperature ranges from -48°C to 300°C (-54°F to 572°F).

- T** Virgin PTFE
- R** Glass Filled PTFE
- P** Carbon Filled PTFE
- K** PEEK
- S** VESPEL

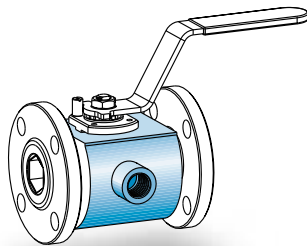
Other seats are available on request. Valves fitted with PEEK seats are assembled with PEEK thrust seal and SS 17-4PH stem.

Valve Options

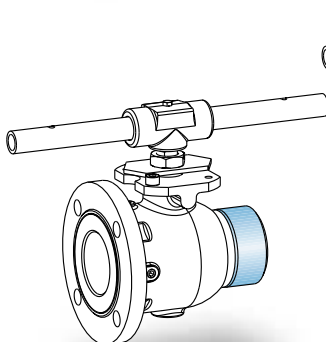
HABONIM speciality with customer solutions for special applications has resulted in many designs. Some of the various valve designs and accessories that HABONIM have available with the 31P/32P series are shown below. For more information and other options, please consult with Habonim.



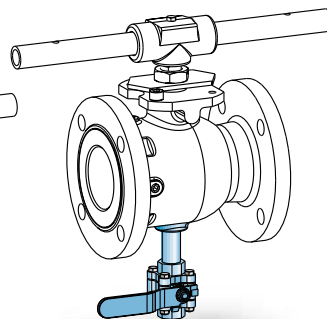
**Extended Stem Handle**  
(See Bulletin C-514)



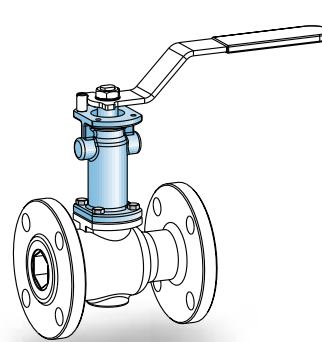
**Steam Jacket**  
(See Bulletin C-511)



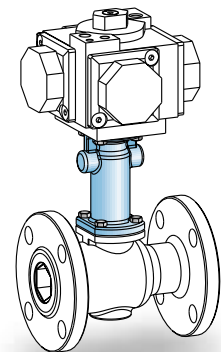
**Buttweld End**



**Double Block & Bleed**



**Fugitive Emission**



**Fugitive Emission with Actuator**

| VALVE SIZE | Cv Values         |       | Limiting Stem Input Torque* |        |                      |        |
|------------|-------------------|-------|-----------------------------|--------|----------------------|--------|
|            | FLOW COEFFICIENTS |       | 316 S/S Stem material       |        | 17-4PH Stem material |        |
| inch       | Cv                | Kv    | Nm                          | in-lb  | Nm                   | in-lb  |
| 1/2"       | 7                 | 6     | 13.2                        | 117    | 91                   | 805    |
| 3/4"       | 10                | 9     | 13.2                        | 117    | 91                   | 805    |
| 1"         | 30                | 26    | 24.4                        | 216    | 165                  | 1,460  |
| 1 1/2"     | 90                | 78    | 48.6                        | 430    | 268                  | 2,372  |
| 2"         | 130               | 112   | 48.6                        | 430    | 268                  | 2,372  |
| 3"         | 350               | 302   | 385                         | 3,400  | 1,930                | 17,000 |
| 4"         | 720               | 621   | 385                         | 3,400  | 1,930                | 17,000 |
| 6"         | 1,020             | 879   | 1,570                       | 13,900 | 7,500                | 66,300 |
| 8"         | 1,800             | 1,552 | 1,570                       | 13,900 | 7,500                | 66,300 |

Cv - Flow in US GPM at 1 psi pressure drop.

Kv - Flow in m<sup>3</sup>/hr at 1 bar pressure drop.

Valve flow rates are determined in full open position with water at 15°C (60°F).

\* Limiting Stem torque figures are based on random laboratory tests.

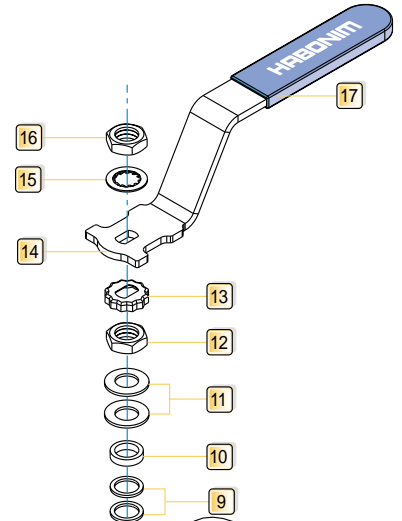
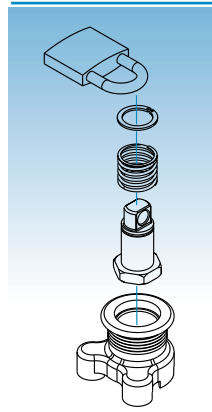
These are not to be confused with valve torque.

**VALVE SPECIFICATION - 1/2" - 2" (15 - 50mm)**

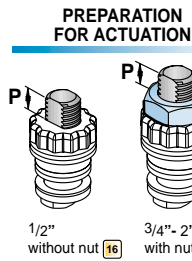
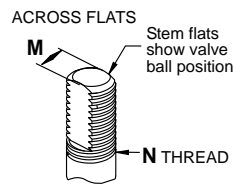
| ITEM NO. | DESCRIPTION         | MATERIAL SPECIFICATION                                    |
|----------|---------------------|---|
| 1        | BODY                | STAINLESS ST. ASTM A351 CF8M<br>CARBON ST. ASTM A 216 WCB |
| 2        | INSERT              | STAINLESS ST. ASTM A351 CF8M<br>CARBON ST. ASTM A 216 WCB |
| 3        | BALL                | STAINLESS ST. AISI 316                                    |
| 4        | STEM                | STAINLESS ST. AISI 316                                    |
| *5       | SEAT RING           | VIRGIN PTFE   |
| *6       | BODY SEAL           | VIRGIN PTFE   |
| *7       | STEM THRUST SEAL    | 25% CARBON FILLED PTFE                                    |
| 8        | STOP PIN            | STAINLESS ST. AISI 316                                    |
| *9       | GLAND PACKING       | 25% CARBON FILLED PTFE                                    |
| 10       | GLAND               | STAINLESS ST. 316   |
| 11       | DISC SPRING         | STAINLESS ST. 17-7PH                                      |
| 12       | GLAND NUT           | STAINLESS ST. AISI 316                                    |
| 13       | TAB WASHER          | STAINLESS ST. AISI 316                                    |
| 14       | WRENCH              | STAINLESS ST. AISI 304<br>CARBON ST. ZINC PLATED          |
| 15       | SERRATED WASHER     | STAINLESS ST. AISI 316                                    |
| 16       | WRENCH NUT          | STAINLESS ST. AISI 304                                    |
| 17       | SLEEVE              | VINYL PLASTISOL   |
| 18       | PLUNGER SPRING      | STAINLESS ST. AISI 302                                    |
| 19       | ANTI STATIC PLUNGER | STAINLESS ST. AISI 316                                    |

The materials above are for standard applications. Other materials are available.  
 \* Standard items supplied in repair kits.

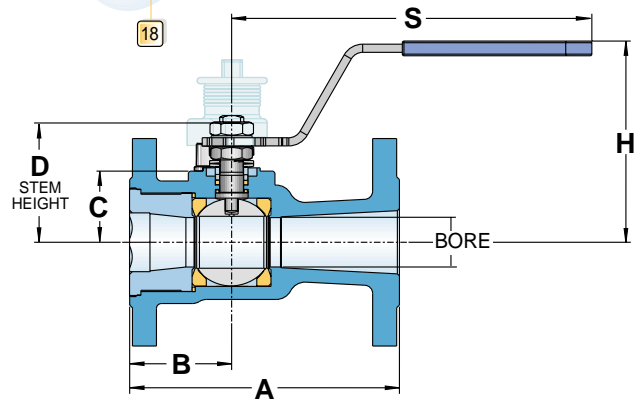
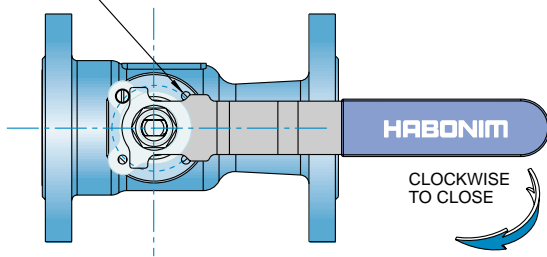
**Locking Device Kit**



**STEM DIMENSIONS**



T THREAD  
F PCD



| VALVE SIZE | BORE DIA | VALVE DIMENSIONS |       |       |      |      |      |       |       |       |       |       | APP. WEIGHT kg. / lb |      |      |
|------------|----------|------------------|-------|-------|------|------|------|-------|-------|-------|-------|-------|----------------------|------|------|
|            |          | A                |       | B     | C    | D    | H    | S     | M     | N     | P     | F     | 150                  | 300  |      |
| 1/2"       | mm       | 11.15            | 108.0 | 140   | 46.0 | 29.0 | 38.0 | 92.0  | 151.0 | 5.54  | 3/8"  | 11.1  | 36.0 (F03)           | 1.7  | 2.4  |
|            | in       | 0.44             | 4.25  | 5.5   | 1.81 | 1.14 | 1.5  | 3.62  | 5.94  | 0.218 | UNF   | 0.437 | 1.42                 | 3.8  | 5.3  |
| 3/4"       | mm       | 14.3             | 117.0 | 152.0 | 49.3 | 31.4 | 40.3 | 94.0  | 151.0 | 5.54  | 3/8"  | 11.1  | 36.0 (F03)           | 2.3  | 3.3  |
|            | in       | 0.56             | 4.61  | 6.0   | 1.94 | 1.24 | 1.59 | 3.7   | 5.94  | 0.218 | UNF   | 0.437 | 1.42                 | 5.1  | 7.3  |
| 1"         | mm       | 20.6             | 127.0 | 165.0 | 57.2 | 38.2 | 55.6 | 103.5 | 170.0 | 7.54  | 7/16" | 15.4  | 42.0 (F04)           | 3.3  | 4.6  |
|            | in       | 0.81             | 5.0   | 6.5   | 2.25 | 1.50 | 2.19 | 4.07  | 6.69  | 0.296 | UNF   | 0.606 | 1.65                 | 7.3  | 10.2 |
| 1 1/2"     | mm       | 31.8             | 165.0 | 190.0 | 62.3 | 43.6 | 73.1 | 119.2 | 220.5 | 8.7   | 9/16" | 19.6  | 50.0 (F05)           | 5.5  | 8.7  |
|            | in       | 1.25             | 6.5   | 7.5   | 2.45 | 1.72 | 2.88 | 4.7   | 8.68  | 0.343 | UNF   | 0.771 | 1.97                 | 12.2 | 19.3 |
| 2"         | mm       | 38.2             | 178.0 | 216.0 | 67.8 | 48.3 | 77.8 | 123.9 | 220.5 | 8.7   | 9/16" | 19.6  | 50.0 (F05)           | 8.1  | 10.8 |
|            | in       | 1.50             | 7.0   | 8.5   | 2.67 | 1.90 | 3.06 | 4.88  | 8.68  | 0.343 | UNF   | 0.771 | 1.97                 | 18.0 | 24.0 |

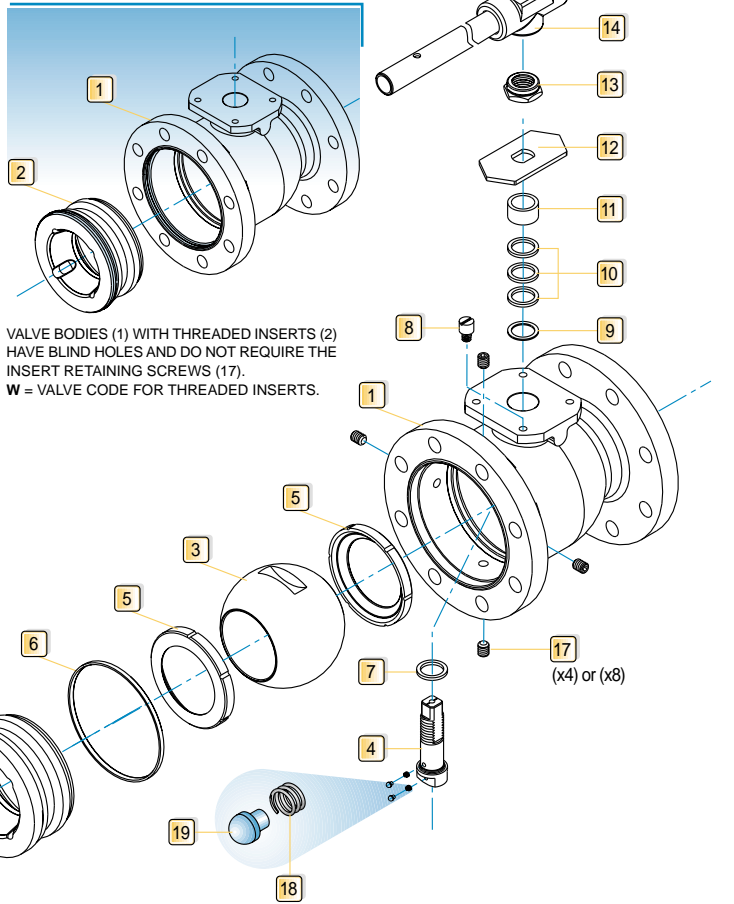


**VALVE SPECIFICATION 3" - 8" (80 - 200mm)**

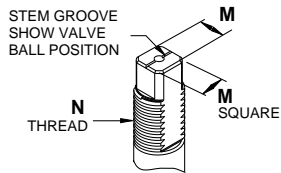
| ITEM NO. | DESCRIPTION            | MATERIAL SPECIFICATION                                    |
|----------|------------------------|---|
| 1        | BODY                   | STAINLESS ST. ASTM A351 CF8M<br>CARBON ST. ASTM A 216 WCB |
| 2        | INSERT                 | STAINLESS ST. ASTM A351 CF8M<br>CARBON ST. ASTM A 216 WCB |
| 3        | BALL                   | STAINLESS ST. AISI 316                                    |
| 4        | STEM                   | STAINLESS ST. AISI 316                                    |
| *5       | SEAT RING              | VIRGIN PTFE   |
| *6       | BODY SEAL              | VIRGIN PTFE   |
| *7       | STEM THRUST SEAL       | 25% CARBON FILLED PTFE                                    |
| 8        | STOP PIN               | STAINLESS ST. AISI 316                                    |
| 9        | STEM LOCATION RING     | STAINLESS ST. AISI 316                                    |
| *10      | GLAND PACKING          | 25% CARBON FILLED PTFE                                    |
| 11       | GLAND                  | STAINLESS ST. 316   |
| 12       | INDICATOR STOP PLATE   | CARBON ST. ZINC PLATED                                    |
| 13       | GLAND NUT              | CARBON ST. ZINC PLATED                                    |
| 14       | WRENCH HEAD            | MALLEABLE IRON ZINC PLATED                                |
| 15       | WRENCH HANDLE          | TUBE SCH. 40 ZINC PLATED                                  |
| 16       | WRENCH BOLT            | STAINLESS ST. AISI 304                                    |
| 17       | INSERT RETAINING SCREW | STAINLESS ST. AISI 304<br>CARBON ST. ZINC PLATED          |
| 18       | PLUNGER SPRING         | STAINLESS ST. AISI 302                                    |
| 19       | ANTI STATIC PLUNGER    | STAINLESS ST. AISI 316                                    |

The materials above are for standard applications. Other materials are available.  
 \* Standard items supplied in repair kits.

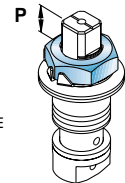
**Optional threaded Insert**



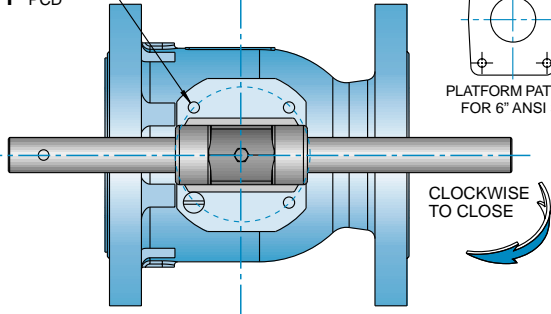
**STEM DIMENSIONS**



**PREPARATION FOR ACTUATION**

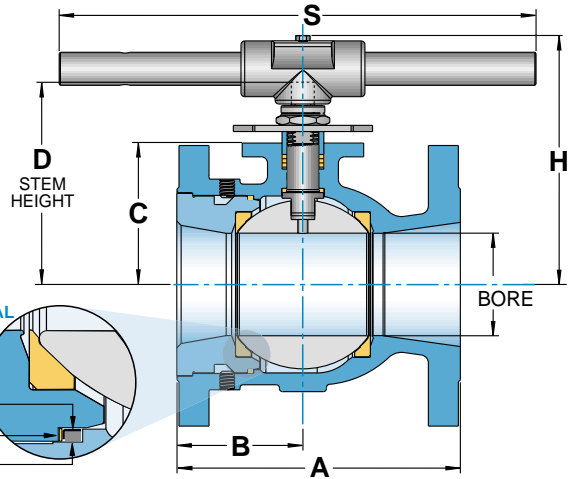


T THREAD  
 F PCD



**FIRESAFE BODY SEAL**

S.ST. RING  
 PTFE SEAL  
 GRAPHITE BODY SEAL



| VALVE SIZE | VALVE DIMENSIONS |       |      |       |       |       |      |       |       |       |        |      | APP. WEIGHT kg. / lb |     |      |      |
|------------|------------------|-------|------|-------|-------|-------|------|-------|-------|-------|--------|------|----------------------|-----|------|------|
|            | BORE DIA         | A     |      | B     | C     | D     | H    | S     | M     | N     | P      | F    | T                    | 150 | 300  |      |
|            |                  | 150   | 300  |       |       |       |      |       |       |       |        |      |                      |     |      |      |
| 3"         | mm               | 63.5  | 203  | 284   | 92.1  | 98.4  | 145  | 185.1 | 400   | 18.9  | 1"     | 16.7 | 102 (F10)            | M10 | 18.0 | 22.7 |
|            | in               | 2.5   | 8.0  | 11.18 | 3.63  | 3.88  | 5.72 | 7.28  | 15.75 | 0.744 | UNS    | 0.66 | 4.015                |     | 40.0 | 50.4 |
| 4"         | mm               | 82.6  | 229  | 305   | 101.6 | 114.1 | 161  | 201   | 610   | 18.9  | 1"     | 16.7 | 102 (F10)            | M10 | 28.2 | 36.3 |
|            | in               | 3.25  | 9.0  | 12.0  | 4.0   | 4.49  | 6.34 | 7.91  | 24.01 | 0.744 | UNS    | 0.66 | 4.015                |     | 62.8 | 80.6 |
| 6"         | mm               | 111.1 | 267  | 295   | 108.0 | 157.4 | 226  | 285.9 | 916   | 28.4  | 1 1/2" | 26.2 | *125 (F12)           | M12 | 41.0 | 69.0 |
|            | in               | 4.38  | 10.5 | 15.88 | 4.25  | 6.20  | 8.91 | 11.25 | 36.08 | 1.12  | UNS    | 1.03 | 4.921                |     | 91.0 | 153  |
| 8"         | mm               | 144.4 | 292  | 419   | 163.5 | 185.2 | 254  | 313.6 | 916   | 28.4  | 1 1/2" | 26.2 | 125 (F12)            | M12 | 82.0 | 105  |
|            | in               | 5.68  | 11.5 | 16.5  | 5.37  | 7.30  | 10.0 | 12.34 | 36.08 | 1.12  | UNS    | 1.03 | 4.921                |     | 182  | 233  |

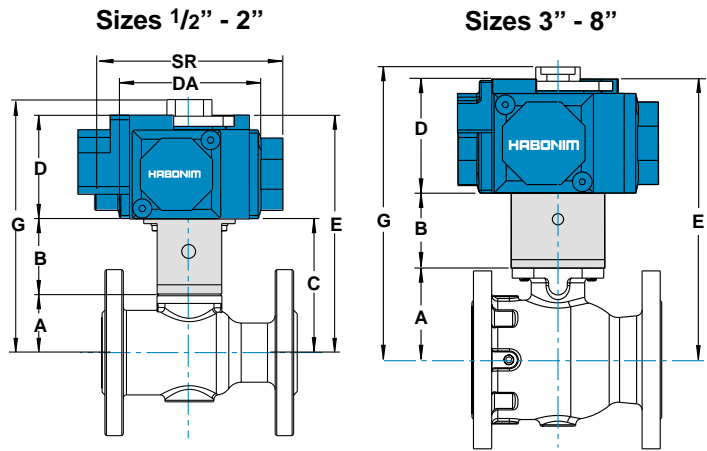
\* VALVE 6" ANSI 300 ONLY: X=76.2, Y=101.6

31P/32P Series Automated Valve Dimensions

Actuation

Where automation is required, the 31P/32P series ball valves are available with Habonim's unique 4-Piston pneumatic Compact actuator. The Compact actuator is available in 8 sizes, spring return or double acting. All the valves mounting flanges are according to ISO 5211 and are suitable for accommodating any quarter turn actuator (pneumatic or electric) for valve automatization. Valves can be operated for on-off or throttling application.

The actuators have a NAMUR air connection interface for attaching solenoids (except H15). Limit switches and positioners can be mounted on the actuator top face according to NAMUR or ISO bolt pattern. For information, please refer to Bulletin B-310.



|            |               | 31P/32P SERIES |     |       |       |       | COMPACT ACTUATOR |       |       |
|------------|---------------|----------------|-----|-------|-------|-------|------------------|-------|-------|
| VALVE SIZE | ACTUATOR SIZE | A              | B   | C     | E     | G     | D                | D/A   | S/R   |
| 1/2"       | H15           |                | 48  | 77    | 137   | 144.8 | 60.0             | 80.4  | 105.7 |
|            | F03           | 29.0           | 48  | 77    | 143.6 | 154.7 | 66.6             | 93.3  | 121.5 |
|            | H25           |                | 48  | 77    | 161.4 | 173.3 | 84.4             | 120.8 | 153.8 |
| 3/4"       | H15           |                | 48  | 79.4  | 139.4 | 147.2 | 60.0             | 80.4  | 105.7 |
|            | F03           | 31.4           | 48  | 79.4  | 146   | 157.1 | 66.6             | 93.3  | 121.5 |
|            | H25           |                | 60  | 91.4  | 175.8 | 187.7 | 84.4             | 120.8 | 153.8 |
|            | H30           |                | 60  | 91.4  | 187.4 | 197.6 | 96.0             | 141.6 | 175.8 |
| 1"         | H15           |                | 48  | 86.2  | 146.2 | 154   | 60.0             | 80.4  | 105.7 |
|            | F04           | 38.2           | 48  | 86.2  | 152.8 | 163.9 | 66.6             | 93.3  | 121.5 |
|            | H25           |                | 60  | 98.2  | 182.6 | 194.5 | 84.4             | 120.8 | 153.8 |
|            | H30           |                | 60  | 98.2  | 194.2 | 204.4 | 96.0             | 141.6 | 175.8 |
| 1 1/2"     | H20           |                | 60  | 103.6 | 170.2 | 181.3 | 66.6             | 93.3  | 121.5 |
|            | F05           | 43.6           | 60  | 103.6 | 188   | 199.9 | 84.4             | 120.8 | 153.8 |
|            | H30           |                | 60  | 103.6 | 199.6 | 209.8 | 96.0             | 141.6 | 175.8 |
|            | H35           |                | 60  | 103.6 | 225.7 | 238.6 | 122.1            | 172.4 | 214.8 |
| 2"         | H25           |                | 60  | 108.3 | 192.7 | 204.6 | 84.4             | 120.8 | 153.8 |
|            | F07           | 48.3           | 60  | 108.3 | 204.3 | 214.5 | 96.0             | 141.6 | 175.8 |
|            | H35           |                | 60  | 108.3 | 230.4 | 243.3 | 122.1            | 172.4 | 214.8 |
|            | H45           |                | 60  | 108.3 | 253.1 | 265.8 | 144.8            | 201.2 | 261.7 |
| 3"         | H30           |                | 80  | 178.3 | 274.3 | 284.5 | 96.0             | 141.6 | 175.8 |
|            | F10           | 98.4           | 80  | 178.3 | 300.4 | 313.3 | 122.1            | 172.4 | 214.8 |
|            | H45           |                | 80  | 178.3 | 323.1 | 335.8 | 144.8            | 201.2 | 261.7 |
|            | H60           |                | 120 | 218.3 | 413.8 | 425.7 | 195.5            | 201.2 | 261.7 |
| 4"         | H35           |                | 80  | 194.1 | 316.2 | 329.1 | 122.1            | 172.4 | 214.8 |
|            | F10           | 114.1          | 80  | 194.1 | 338.9 | 351.6 | 144.8            | 201.2 | 261.7 |
|            | H60           |                | 120 | 234.1 | 429.6 | 441.5 | 195.5            | 264.3 | 343.5 |
|            | H75           |                | 120 | 234.1 | 477.1 | 496.6 | 243.0            | 321.5 | 422.0 |
| 6"         | H35           |                | 120 | 277.4 | 399.5 | 412.4 | 122.1            | 172.4 | 214.8 |
|            | F12           | 157.4          | 120 | 277.4 | 422.2 | 434.9 | 144.8            | 201.2 | 261.7 |
|            | H60           |                | 120 | 277.4 | 472.9 | 484.8 | 195.5            | 264.3 | 343.5 |
|            | H75           |                | 120 | 277.4 | 520.4 | 539.9 | 243.0            | 321.5 | 422.0 |
| 8"         | H45           |                | 120 | 305.2 | 450   | 462.7 | 144.8            | 201.2 | 261.7 |
|            | F12           | 185.2          | 120 | 305.2 | 500.7 | 512.6 | 195.5            | 264.3 | 343.5 |
|            | H75           |                | 120 | 305.2 | 548.2 | 567.7 | 243.0            | 321.5 | 422.0 |

## Actuator Sizing

Valve Sizing Tables of the Compact actuators on Habonim Valves are available on request. The sizing tables are based on valve size, differential pressure, valve seat types, working temperature, flowing media and frequency of operation. The valve torque figures are calculated from tests using water at room temperature at different pressure drops for each seat material and actuator air pressure. Please consult with HABONIM for more details.

## Flanged Valve Sizing Table

The following sizing table is for Class 150 and 300 valves with PTFE seats at ambient temperatures and 10 bar pressure drop and is for reference only.

| VALVE SIZE | Double Acting (DA) |        |         | Spring Return (SR) |         |         |
|------------|--------------------|--------|---------|--------------------|---------|---------|
|            | 60 psi             | 80 psi | 100 psi | 60 psi             | 80 psi  | 100 psi |
| 1/2"       | H15                | H15    | H15     | H20-2A2B           | H15-1B2 | H15-2   |
| 3/4"       | H15                | H15    | H15     | H20-2A2B           | H15-1B2 | H15-2   |
| 1"         | H20                | H15    | H15     | H25-2A2B           | H20-2C  | H20-3   |
| 1 1/2"     | H20                | H20    | H20     | H30-2A2B           | H25-2C  | H25-3   |
| 2"         | H25                | H25    | H20     | H30-2A2B           | H30-2C  | H25-3   |
| 3"         | H35                | H30    | H30     | H45-2A2B           | H35-2C  | H35-3   |
| 4"         | H45                | H35    | H30     | H60-2A2B           | H45-2C  | H45-3   |
| 6"         | H60                | H45    | H35     | H75-2A2B           | H60-2C  | H60-3   |
| 8"         | H75                | H60    | H45     | CONSULT            | H75-2C  | H75-3   |

## Mounting Actuators or Gear Operators

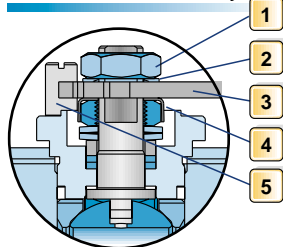
When preparing a valve for actuation, make sure to follow the instructions below.

### Stem arrangement for actuated valves.

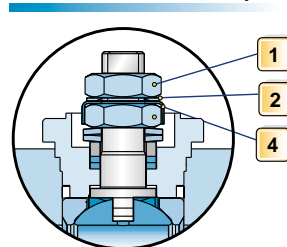
#### Valve sizes 1/2" to 2".

Release the wrench nut **1** and serrated washer **2**, remove the wrench **3** and refasten the wrench nut on the tab washer **4**. Remove the stop pin **5**. Valve size 1/2" and 2" do not require the wrench nut **1**.

#### Manual Valve stem assembly



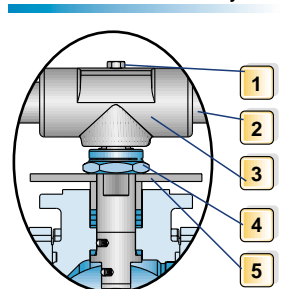
#### Actuated Valve stem assembly



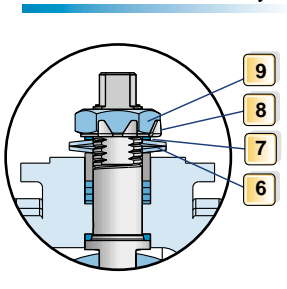
#### Valve sizes 3" to 8".

Release the wrench bolt **1** and remove the wrench handle **2**, wrench head **3**, gland nut **4** and stop plate **5**. Assemble the two disc springs **6**, stem location ring **7**, tab washer **8** and refasten the non-slotted gland nut **9**.

#### Manual Valve stem assembly



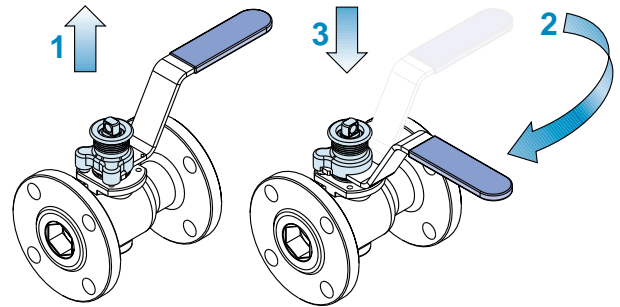
#### Actuated Valve stem assembly



## Locking Device

### LLP (Locked in Last Position)

The Habonim spring loaded locking device (LD) is ideal for applications where it is critical to keep the valve position without the risk of accidental operation. The locking device fits easily to the valve stem by simply removing the stem nut and threading the lock stem above the handle. The LD can lock the valve in the closed or open position. The LD can be fitted to the valve in-line. Available in sizes 1/2" to 2".

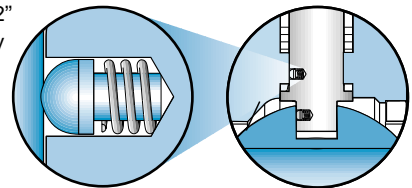


Valve in OPEN position      Valve in CLOSED position

## Antistatic Device

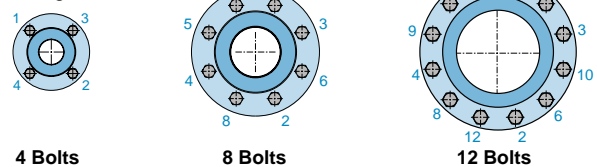
Antistatic device to discharge static electricity buildup on the ball, conforming to BS 5351 for continual electrical contact between ball/stem and stem/body. The contact is made by a spring loaded stainless steel element inserted in the stem or a conductive PTFE stem seal.

Valve sizes up to 2" require a stem/body contact, while larger size valves also need a ball/stem contact.



## Valve Installation

Habonim flanged valves are delivered in the open position and with flange protection covers. Flanged valves are installed directly into the pipe line. When installing the valves in-line, follow the bolt tightening patterns shown below, using the recommended torque figures for safe operation. For more information, please refer to the Installation, Operation and Maintenance manual of the Habonim Flanged valves.



| Valve Size (in) | Valve Size (DN) | ANSI 150 |       | ANSI 300 |       |
|-----------------|-----------------|----------|-------|----------|-------|
|                 |                 | Nm       | in.lb | Nm       | in.lb |
| 1/2"            | 15              | 80       | 710   | 80       | 710   |
| 3/4"            | 20              | 80       | 710   | 140      | 1,240 |
| 1"              | 25              | 80       | 710   | 140      | 1,240 |
| 1 1/2"          | 40              | 80       | 710   | 240      | 2,120 |
| 2"              | 50              | 140      | 1,240 | 140      | 1,240 |
| 3"              | 80              | 170      | 1,500 | 250      | 2,210 |
| 4"              | 100             | 170      | 1,500 | 250      | 2,210 |
| 6"              | 150             | 170      | 1,500 | 250      | 2,210 |
| 8"              | 200             | 170      | 1,500 | 420      | 3,720 |

# Identification Code

## The HABONIM 31P & 32P Ball Valve Identification Code

|      |   |         |   |   |            |   |   |          |    |    |           |    |           |    |        |    |    |                     |    |    |    |     |     |     |     |    |  |
|------|---|---------|---|---|------------|---|---|----------|----|----|-----------|----|-----------|----|--------|----|----|---------------------|----|----|----|-----|-----|-----|-----|----|--|
| 1    | 2 | 3       | 4 | 5 | 6          | 7 | 8 | 9        | 10 | 11 | 12        | 13 | 14        | 15 | 16     | 17 | 18 | 19                  | 20 | 21 | 22 | ... | ... | ... | ... | 30 |  |
| 1    | 0 |         | A | F | 3          | 1 | P | -        | 4  | 4  | 6         | 6  | T         | G  | /      | 1  | 5  | 0                   |    |    |    |     |     |     |     |    |  |
| SIZE |   | SERVICE |   |   | SERIES     |   |   | BODY END |    |    | BALL STEM |    | SEAT SEAL |    | FLANGE |    |    | SPECIAL APPLICATION |    |    |    |     |     |     |     |    |  |
|      |   |         |   |   | 31P or 32P |   |   |          |    |    |           |    |           |    |        |    |    |                     |    |    |    |     |     |     |     |    |  |

| SIZE |        |     | SERVICE                 | BODY / END       | SEAT                               | SEAL                               | SPECIAL APPLICATION                           |
|------|--------|-----|-------------------------|------------------|------------------------------------|------------------------------------|---|
| Code | Inch   | mm  |                         | BALL / STEM      |                                    |                                    |   |
| 05   | 1/2"   | 15  | A Antistatic            | 1 Bronze         | A TFM                              | G Expanded Graphite                | 90° Diverter ball valve 90° turn              |
| 07   | 3/4"   | 20  | C Cryogenic             | 4 Carbon Steel   | C PCTFE                            | I Impregnated Graphite             | 180° Diverter ball valve 180° turn            |
| 10   | 1"     | 25  | D Diverter Bottom entry | 6 S. St. 316 (L) | F PFA                              | M S. St O-Ring                     | A0866 Stem seal Ammonia service               |
| 15   | 1 1/2" | 40  | F Firesafe              | 7 Monel          | H VX1                              | R Reinforced PTFE 15% Glass filled | P043 Stem seal for gas service                |
| 20   | 2"     | 50  | K Dry Chlorine          | 8 S. St. 304     | J Reinforced PTFE 25% Glass filled | T PTFE                             | F043 Stem seal Neoprene                       |
| 30   | 3"     | 80  | N Control               | 9 C. Steel LCB   | K PEEK®                            | U UHMWPE                           | P250 Ball with Pressure relief hole           |
| 40   | 4"     | 100 | O Oxygen                | A Alloy-20       | L Virgin PEEK®                     | V Viton®                           | J2N05 Jacketed valve, No. Outlets, Type, Size |
| 60   | 6"     | 150 | Q Cavity filler         | C Hasteloy-C     | M Metal                            | <b>FLANGE</b>                      |   |
| 80   | 8"     | 200 | S Diverter Side entry   | D Duplex         | P NRG                              | 150 ANSI 150 RF                    | V60 Control valve seat                        |
|      |        |     | V Vacuum                | M S. St. 17-4PH  | R Reinforced PTFE 15% Glass filled | 300 ANSI 300 RF                    | DBB Double Block & Bleed                      |
|      |        |     | W Steam & Thermal fluid | Z Inconel 718    | S VESPEL®                          | FF Flat Face                       | NACE Nace service                             |
|      |        |     | X Metal seats           |                  | T PTFE                             | PN16 ANSI RF drilled to DIN        | LD Swivel Locking device                      |
|      |        |     |                         |                  | U UHMWPE                           | BW Buttweld neck                   | K LLP Locking device                          |
|      |        |     |                         |                  | Y Delrin®                          |                                    | W Threaded Insert                             |

In some applications the available options above are limited to specific sizes. Please consult with Habonim for details.

### How to order

When placing an order for HABONIM valves, please provide as many details possible on the application such as: Media, Temperature, Pressure, Pipe line size and type of connection.

**Example: 10 AF31P - 4466TG / 150-P250**


Size 1" (10), Antistatic (A), Firesafe (F), Reduce Bore ANSI 150 (31P), C. St Body & Insert (4), S. St 316 Ball & Stem (6), PTFE Seats (T), Graphite Body Seals (G), ANSI 150 RF Flange (150), Ball with pressure relief hole (P250).

### Standards of Compliance

|                                     |   |
|-------------------------------------|---|
| Flanges:                            | ANSI B16.5 Raised Face<br>BS 1560 class 150, 300              |
| Face-to Face:                       | ANSI B16.10 Short Pattern                                     |
| Antistatic:                         | BS 5351   |
| Design:                             | Lloyds Type App. BS 5351<br>ANSI B16.34, BS 5159              |
| Pressure Testing:                   | API 598. BS 6755 Pt. 1<br>ISO 5208                            |
| Fire Testing:                       | API 607 4th Edt. API 6F<br>BS 6755 Pt. 2.                     |
| NACE<br>(option must be specified)  | MR-01-75-200  |
| Quality Assurance<br>Certification: | ISO 9001,<br>PED 97/23/EC<br>ISO -10474<br>DIN EN 10204 3.1.B |

### Quality Assurance

As an ISO 9001 certified, company Habonim operates according to internal manufacturing specifications that are written for each application and for specific customers. From the design stages to final inspection of assembled valves, Habonim controls its procedures for the integrity of the parts, their manufacturing process, storing and preservation and final assembly, to keep the highest standards of perfection of the product. All valves are 100% leak tested before packaging. Each valve is tagged for traceability and material certification is provided on request.

**HABONIM** 

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