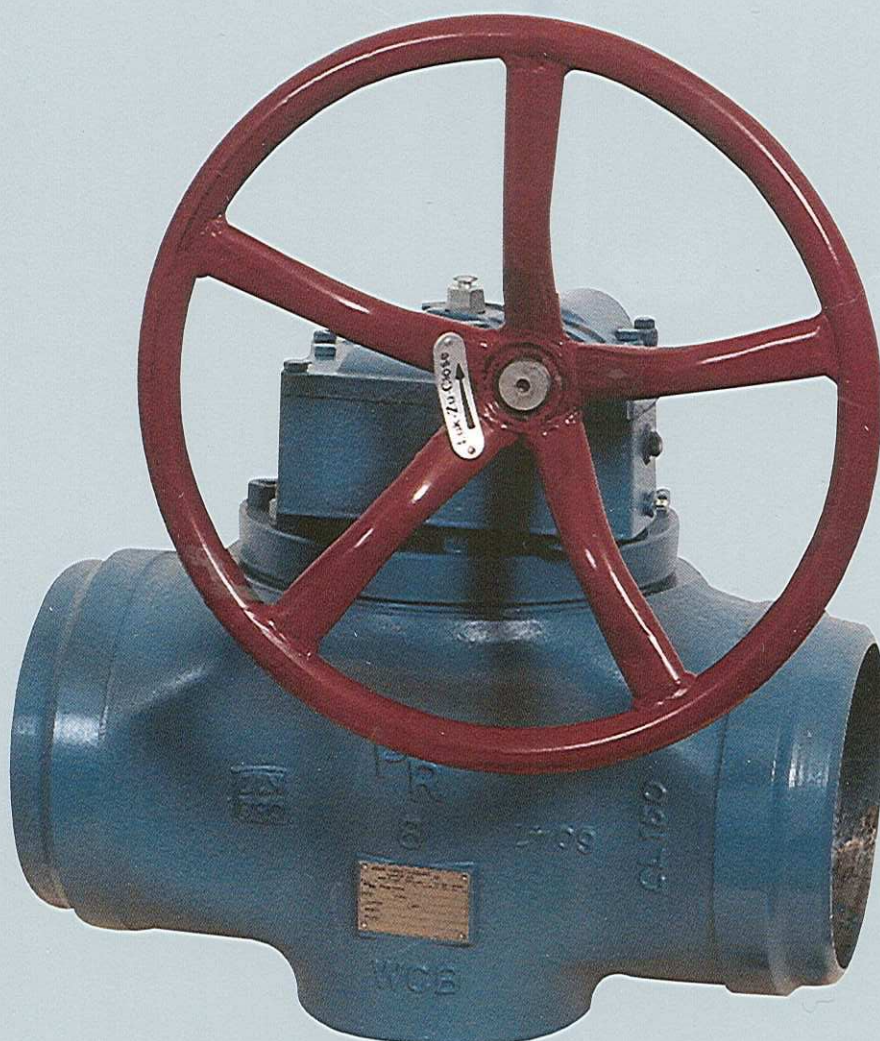
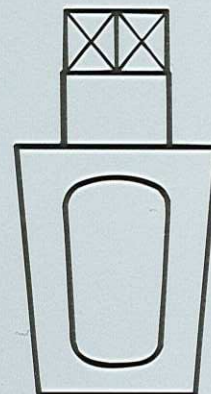




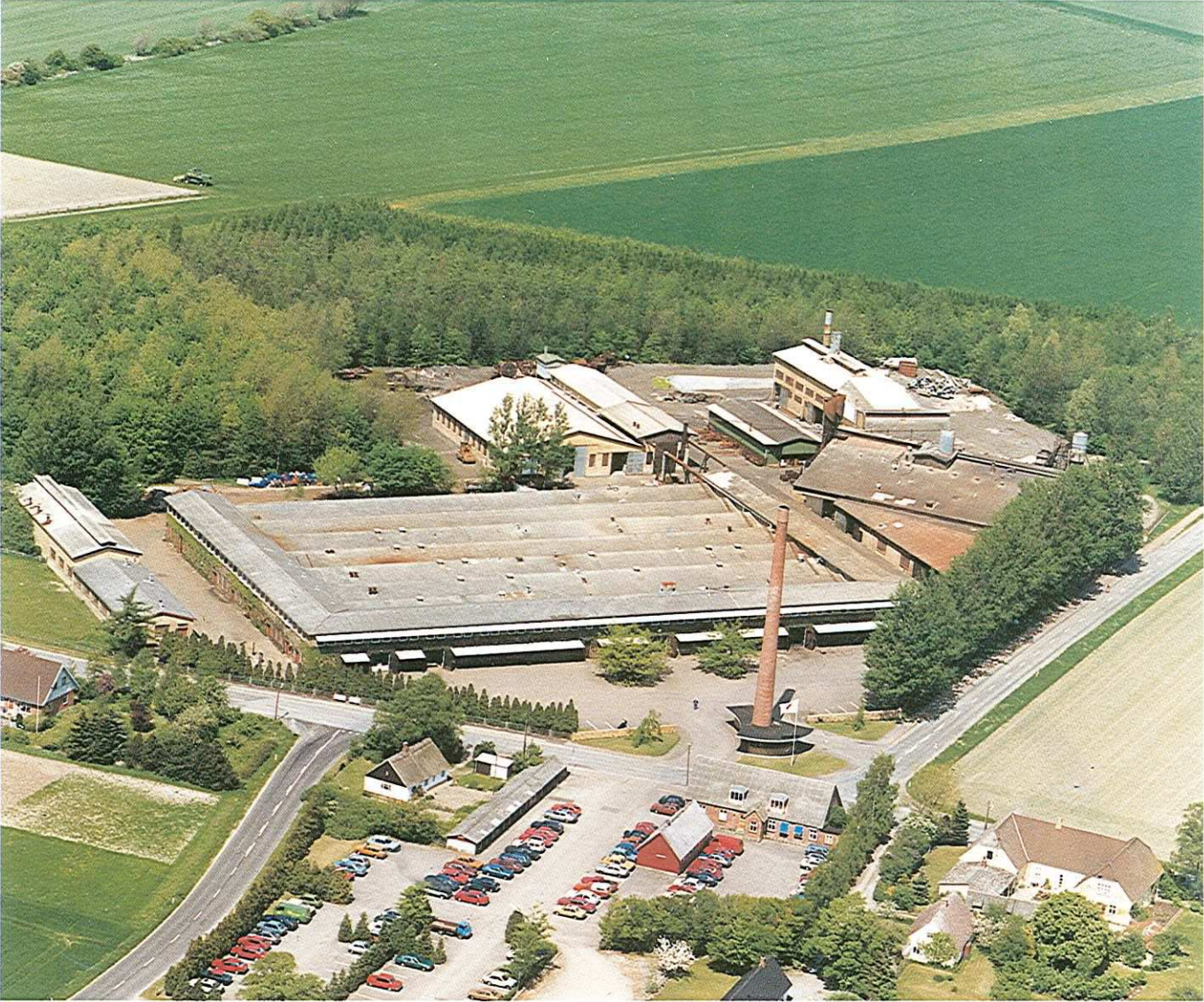
TAPER PLUG VALVES

Class 125-150-250-300
For petroleum derivatives,
gases, chemicals and water.





TAPER PLUG VALVES



The Factory in Skuderløse. Founded in 1942.



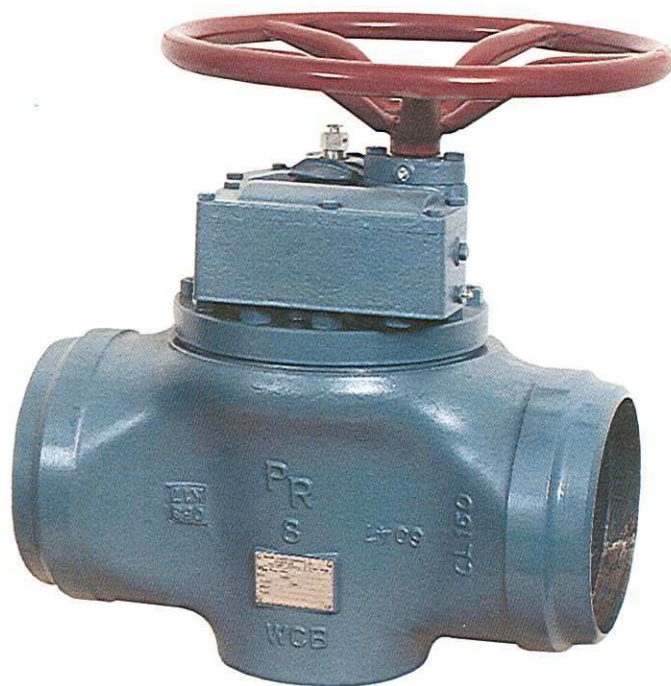
ISO 9001 CERTIFIED



TAPER PLUG VALVES



Wrench Operated Valve.



Gear Operated Valve with Horizontal handwheel. Type D.



Gear Operated Valve with Vertical handwheel. Type C.



Valve with square head for wrench operation.



TAPER PLUG VALVES

This catalogue covers all standard straightway in the Taper Plug design to the ANSI pressure class 125 - 150 - 250 and 300.

To identify the correct type of valve, please use the code on the following page, by means of which the valve figure number is specified in the shape of letters and figures.

When sending inquiries or orders to the supplier/representatives, it is important to state the exact details of the service (working conditions). Therefore, in addition to the identification number, quantity and size, please state the following information:

- Nature of service
- Range of temperature
- Normal working pressure
- Type of flanges (raised face/ring joint or other)
- Dimension of pipe (only when valves have butt or socket welding ends)
- Accessories, if any.

For information on valve types not covered by this catalog, please contact our sole agent/representative in your country.



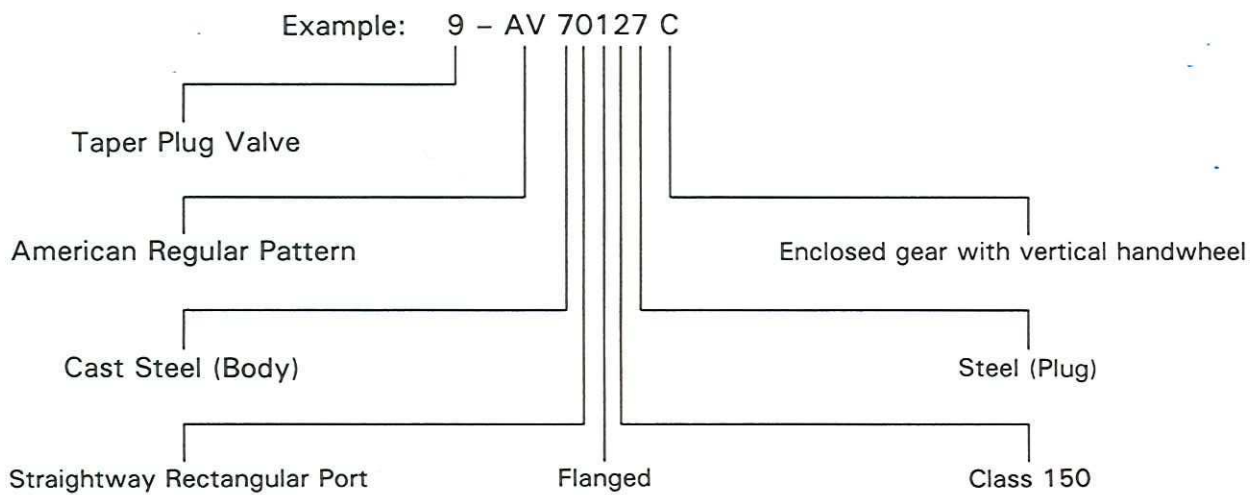
TAPER PLUG VALVES

Figure numbering

The Valves are available in a wide range of variants, each being identified by figures and letters which provide all pertinent characteristics of each individual valve required. In addition always specify temperature, pressure, and medium the valve is to be used on. This facilitates our choosing the appropriate lubricant.

Before the actual identification number, the number of the required Product Group must be stated.

Note: Combinations shown in a thin print are not shown in this catalogue.





TAPER PLUG VALVES

Code

| | | Symbol: | | | | | | | |
|-----------------------------|---|---------|----|----|----|----|----|----|----|
| | | 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. |
| Product-group | Taper Plug Valve. Standard design | 9 | | | | | | | |
| Standard | American Regular pattern (Full port area) | | AR | | | | | | |
| | American Regular pattern | | AV | | | | | | |
| | American Short pattern | | AS | | | | | | |
| | American Venturi pattern | | AT | | | | | | |
| Materials in Body | Ductile Iron | | | 2 | | | | | |
| | Cast Iron | | | 4 | | | | | |
| | Bronze | | | 6 | | | | | |
| | Cast Steel | | | 7 | | | | | |
| | Stainless Steel | | | 8 | | | | | |
| | Special Alloy Steel (To order) | | | 9 | | | | | |
| Port | Straightway, rectangular | | | | 0 | | | | |
| | Straightway, round | | | | 1 | | | | |
| | Regulating Valve | | | | 2 | | | | |
| | Threeway, rectangular L-port | | | | 7 | | | | |
| | Threeway, rectangular T-port | | | | 8 | | | | |
| Ends | Screwed | | | | | 0 | | | |
| | Flanged | | | | | 1 | | | |
| | Clamps | | | | | 4 | | | |
| | Welding Ends | | | | | 5 | | | |
| | Socket Welding Ends | | | | | 6 | | | |
| Pressure Stage | Class 125 | | | | | | 1 | | |
| | Class 150 (PN 20) | | | | | | 2 | | |
| | Class 250 | | | | | | 3 | | |
| | Class 300 (PN 50) | | | | | | 4 | | |
| Materials in Plug | Ductile Iron | | | | | | | 2 | |
| | Cast Iron | | | | | | | 4 | |
| | Bronze | | | | | | | 6 | |
| | Steel | | | | | | | 7 | |
| | Stainless Steel | | | | | | | 8 | |
| | Special Alloy Steel (To order) | | | | | | | 9 | |
| Methods of Operation | Wrenchoperated | | | | | | | | N |
| | Enclosed gear unit, horizontal handwheel | | | | | | | | C |
| | Enclosed gear unit, vertical handwheel | | | | | | | | D |



TAPER PLUG VALVES

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| 9-AT 40134 C | B12 | 9-AT 70127 | B20 | 9-AT 70147 C | B29 | 9-AT 70527 D | B21 | | |
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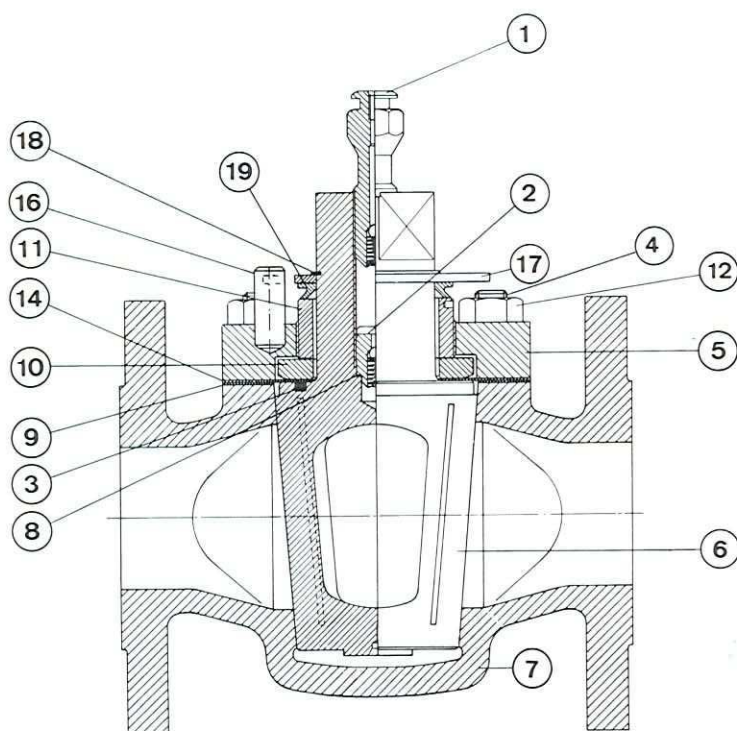


STRAIGHTWAY TAPER TWIN PLUG VALVES

List of Standards

The Standards printed in bold print is to be considered as the main standard (specification). The below standards in thin print originate from the main standard. Each main standard has its own reference. The list of standard practice is only intended as a guide.

| List of Standard Practice | |
|-----------------------------------|---|
| BS 5353 | Specification for steel plug valves |
| BS 1560 | Circular Flange for Pipes, Valves and Fittings (Class designated) |
| BS 4504 | Circular Flange for Pipes, Valves and Fittings (PN designated) |
| BS 21 | Pipe Threads |
| BS 2080 | Face-to-Face, Centre-to-Face, End-to-End and Centre-to-End dimensions of valves |
| BS 6755 | Testing of Valve Part 1 Specification for production pressure testing requirements. |
| ASME B 16.34 | Valves – Flanged, Threaded and Welding Ends |
| ASME B 16.5 | Pipe Flanges and Flanged Fittings |
| ASME B 16.11 | Forged Fittings, Socket-Welding and Threaded Ends |
| ASME B 16.25 | Buttwelding Ends |
| ASME B 1.20.1 | Pipe Threads, General Purpose (Inch) |
| ASME B 16.10 | Face-to-Face and End-to-End Dimensions of Valves |
| API 6D | Specification for Pipeline Valves (Gate, Plug, Ball and Check Valves) |
| ASME B 16.5 | Pipe Flanges and Flanged Fittings |
| ASME B 31.4 | Liquid Petroleum Transportation Piping Systems |
| ASME B 31.8 | Gas Transmission and Distribution Piping Systems |
| API 599 | Metal Plug Valves – Flanged and Welding Ends |
| API 598 | Valve Inspection and Test. |
| ASME B 16.5 | Pipe Flanges and Flanged Fittings. |
| ASME B 16.25 | Buttwelding Ends |
| ASME B 16.10 | Face-to-Face and End-to-End Dimensions of Valves. |
| ASME B 16.34 | Valves – Flanged, Threaded and Welding Ends. |
| API 6A | Specification for Wellhead and Christmas Tree Equipment. |
| Quality management systems | Design and manufacture of valves for liquid and gaseous applications on onshore and offshore installation in acc. to Pressure Equipment, Directive 97/23/EC Design and manufacture of valves and associated pipe fittings ISO 9001 American Petroleum institute 6A American Petroleum institute 6D |
| NACE MR01-75 | Standard Material Requirements Sulfide Stress Cracking Resistant – Metallic. Materials for Oilfield Equipment. The NACE MR01-75 standard can be connected to every main standard (printed with bold) provided that the choice of material is acceptable to the NACE MR01-75 standard |
| API 607 | Fire Test for Soft-Seated Ball Valves. |
| API 6FA | Specification for Fire Test for Valves. |
| BS 6755 | Testing of Valves Part 2 Specification for fire type-testing requirements. |
| ISO 10497 | Testing of Valves – Fire Type – testing requirements. These Fire Test standards can be connected to every main standard. |
| API | = American Petroleum Institute. |
| ASME | = The American Society of Mechanical Engineers. |
| BS | = British Standard |
| NACE | = National Association of Corrosion Engineers. |
| ISO | = The International Organization for Standardization |



1. Lubricant Screw
2. Check Valve
3. O-Ring
4. Stud
5. Top Cover
6. Taper Plug
7. Body
8. Gasket
9. Gasket
10. Press Ring
11. Adjustable Screw
12. Nut
14. Flexible Plate
16. Stop*
17. Stop Plate
18. Snap Ring
19. Weatherseal

* The stop (part no. 16) may form an integral part of the top cover (part no. 5)

The lubricated taper plug valve group 9 is the ideal shut-off device for almost any medium, even under the most severe operating conditions.

It can be used in most places where fast, trouble-free and efficient sealing is required. The design is very compact, it requires little space to install and it can be mounted in any position required.

Since the only moving part is the plug, the basic operation of the valve is very simple. When the plug is turned 90°, the valve moves from closed to open position – and vice versa.

The plug is tapered 1:6 and is individually lapped to the valve body with very close tolerances. It incorporates Metal to Metal sealing, which means that no soft seal will be damaged by the flowing medium.

As a secondary seal, the valve is provided with a lubrication system which allows feeding a special lubricant into the valve while the valve is in operation.

Besides sealing, the purpose of the lubricant is to protect the internals of the valve against corrosion and wear as well as reducing the valve torque.

In order to avoid seizing between plug and valve body the plug is plated with nickel after the "electroless" method. Moreover, in order to reduce friction when operating the plug is coated with P.T.F.E.

Design Concept:

The plug (6) is adjusted into the conical seat of the valve body (7) by means of the adjusting screw (11) and press ring (10).

Between the plug (6), cover (5) and valvebody (7) a rela-

tively thin flexible plate (14) is placed to ensure an effective sealing. This plate is sealed by the gasket (9). Against the plug the flexible plate has partly metallic and partly soft sealing (3). The soft sealing material is synthetic rubber (O-ring) or P.T.F.E. with embedded spring, depending on the actual medium and temperature range of the valve.

For the sake of corrosion wrench operated valves are provided with a soft rubber weatherseal (19) to prevent dirt, water etc. from forcing their way into the valve between the adjustable screw (11) and the neck of the plug (6).

As mentioned, the valve is provided with a lubrication system which allows penetration of special lubricant into the valve through the lubricant screws (1) and the check valve (2).

The lubricant is injected into a network of grooves by means of a special high pressure lubricant gun. This network system ensures that all seal faces are supplied with a thin coat of lubricant, making an efficient secondary seal.

The valves can be supplied as wrench operated or gear operated valves. (Smaller sizes are normally wrench operated).

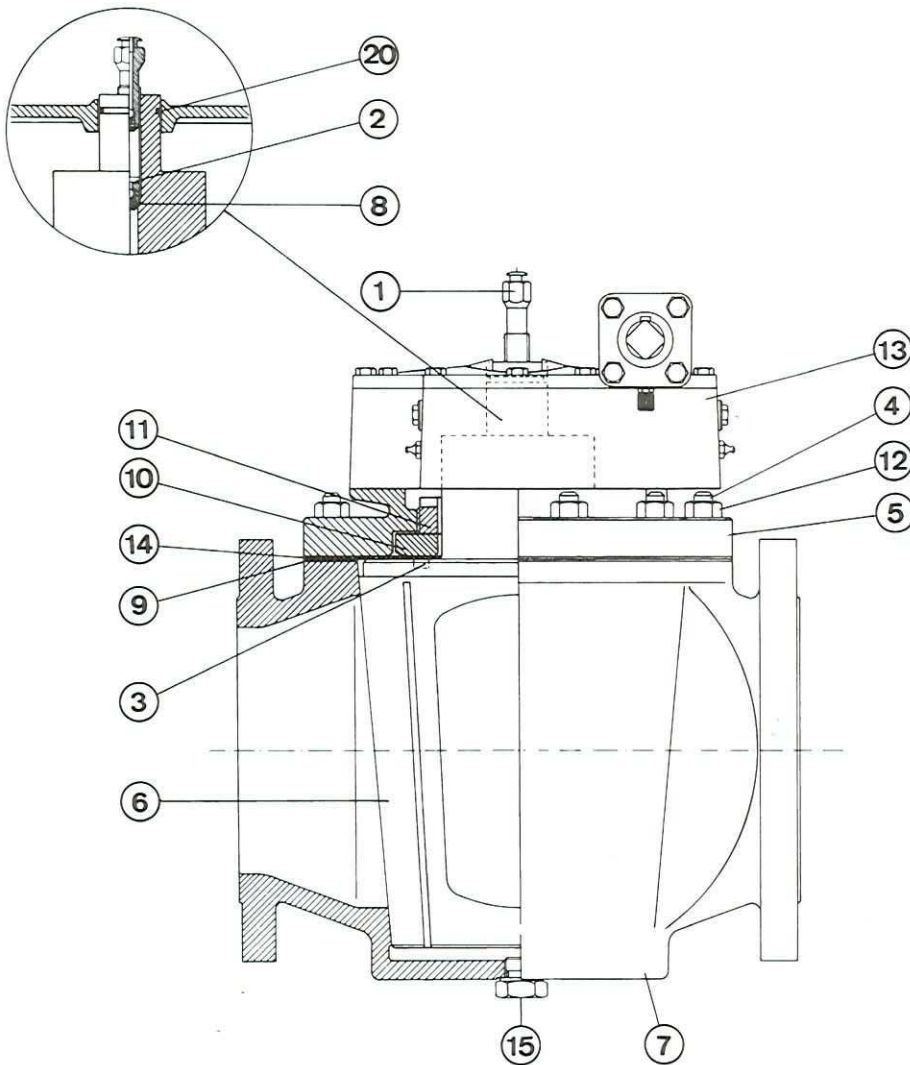
Moreover the valves can be supplied with top-flange for mounting of any kind of actuator.

If the valve is supplied with such a top flange, the lubrication injection system is moved from the stem to the side of the valve body.



TAPER PLUG VALVES

Valve Construction
Low Pressure Design
Gear Operated Valves



1. Lubricant Screw
2. Check Valve
3. O-Ring
4. Stud
5. Top Cover
6. Taper Plug
7. Body
8. Gasket
9. Gasket
10. Press Ring
11. Adjustable Screw
12. Nut
13. Gearbox
14. Flexible Plate
15. Bottom Screw*
20. O-Ring

Operation – gearing. Gear, type C, is enclosed in a water-proof casing, with the handwheel located vertically on side of the valve.

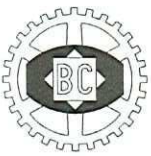
Gear, type D, is enclosed in a water-proof casing, with the handwheel located horizontally on top of the valve.

Worm and worm wheel are embedded in heavy bronze bearings, and the axial load stress is absorbed by ball bearings. Both bearings and tooth racks are lubricated with concentrated molybdenum grease to resist high temperatures.

The gear has fixed stops at extreme positions, plus position indicator.

Further, all valves can be equipped for automatic cycling using electric, pneumatic or hydraulic actuators.

* On larger valves (above 6") part 15 is utilized as a means of draining Hydrostatic test medium.



TAPER PLUG VALVES

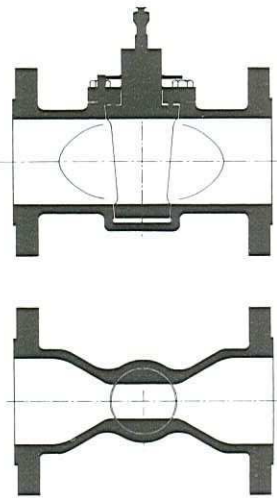
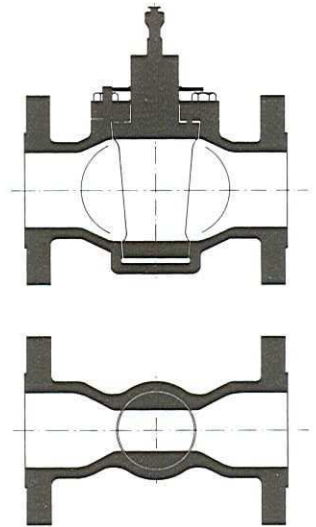
Pattern

The word "pattern" in this catalogue refers to the shape of the valve port and the laying length of the valve. The valves are made in four patterns.

Regular Pattern Full Bore. These valves have face-to-face dimensions in accordance with the appropriate British and American standards where applicable.

This ensures the maximum interchangeability between valves of different types and end connections.

The plug ports of these valves are approximately rectangular in section and have an area substantially equal to the full bore of the pipe. The transition from the round body end ports to the rectangular seat ports is smooth, and entails no sudden alterations in shape or section which might cause excessive changes in velocity or direction of the fluid flowing in the pipeline. This feature makes these valves particularly suitable for installations where it is essential to keep pressure losses in the piping to a minimum, for example, on long suction lines to pumps or similar applications where head losses due to pipe bends and fittings are critical.



Regular Pattern

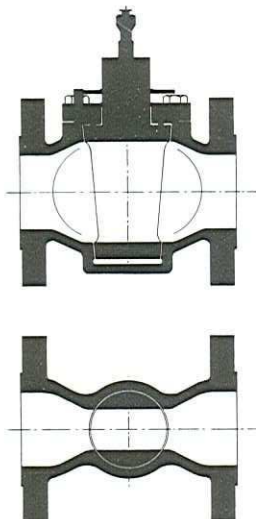
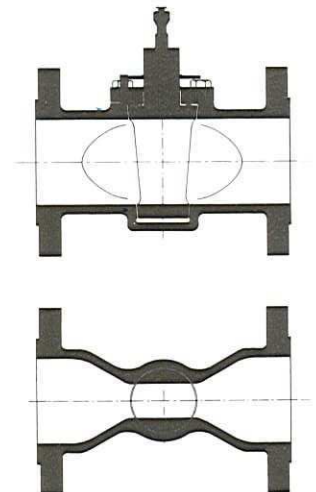
These valves have face-to-face dimensions in accordance with the appropriate British and American standards where applicable.

This ensures the maximum interchangeability between valves of different types and end connections. The plug ports of these valves have a rectangular – slightly tapered shape in section and have an area larger than Venturi Pattern. The transition from the round body end ports to the rectangular seat ports is smooth, and entails no sudden alterations in shape or section which might cause excessive changes in velocity or direction of the fluid flowing in the pipeline.

Venturi Pattern

These valves have face-to-face dimensions in accordance with the appropriate British and American standards where applicable, in order to ensure the maximum interchangeability between different valves.

The plug ports of these valves are of reduced area, but the change of section through the body throat is so designed as to produce a Venturi effect to restore a large percentage of the velocity head losses through the valve, thus resulting in a relatively low pressure drop. These valves are ideally suited for all normal pipeline applications, particularly in the larger sizes where there is a considerable saving in cost.



Short Pattern

These valves have face-to-face dimension in accordance with ANSI B 16.10 Short Pattern for Plug valves. Identical with Short Pattern Gate valves in class 125, 150 and 300. Except 1" in class 150.

In order to obtain the relatively short face-to-face dimension, the plug port is reduced and has a rectangular slightly tapered-shape.



TAPER PLUG VALVES

Operation

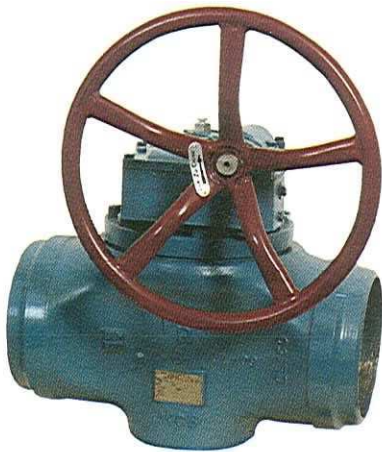
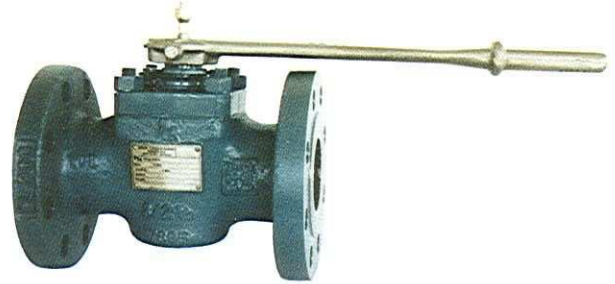
The simplest method of operation the valve is by using a wrench directly on top of the valve plug.

Straight-way valves open and close by rotating through 90° while three-way and four-way valves have rotary motions through $90^\circ - 180^\circ - 270^\circ - 360^\circ$.

The wrench can be fitted on the square of the valve plug in eight different positions. This is a big advantage in places with limited space.

The wrench is available in a short and a long version as type 8K and type 8L.

Wrench operation is used on relatively small valve sizes, as indicated on the dimension sheets.



Gear, type C, is enclosed in a water-proof casing, with the hand-wheel located vertically on side of the valve.

Worm and worm wheel are embedded in heavy bronze bearings, and the axial load stress is absorbed by ball bearings.

Both bearings and tooth racks are lubricated with concentrated molybdenum grease to resist high temperatures. (See lubrication of gear, page A6.

The gear has fixed stops at extreme position, plus position indicator.

Gear, type C, is available in all pressure classes and valve sizes.

Type C can be fitted with electric, pneumatic or hydraulic actuator.

Gear, type D, is enclosed in a water-proof casing, with the hand-wheel located horizontally on top of the valve.

Worm and worm wheel are embedded in heavy bronze bearings, and the axial load stress is absorbed by ball bearings.

Both bearings and tooth racks are lubricated with concentrated molybdenum grease to resist high temperatures. (See lubrication of gear, page A6.

The gear has fixed stops at extreme positions, plus position indicator.

Gear, type D, is available in all pressure classes. (For valve sizes — see dimension sheets).

Gear, type D, can be fitted with electric, pneumatic or hydraulic actuator.



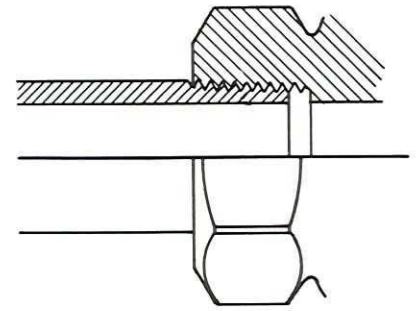


TAPER PLUG VALVES

Connection

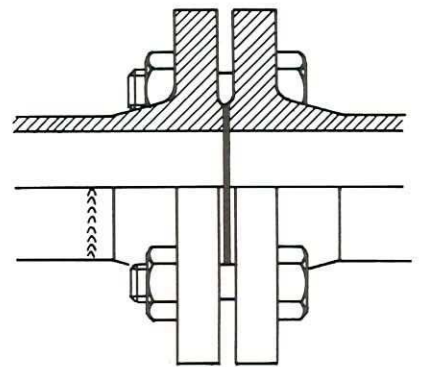
Screwed Ends:

Designed in accordance with API Line Pipe threads (Taper) API Std. 5B Table 2.1 or ANSI Std. B1.20.1.
Available in size 1/2" to 4".



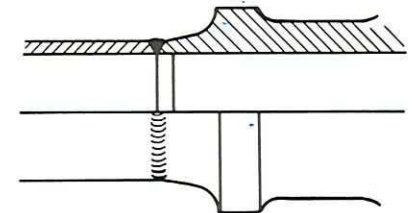
Flanges:

Designed in accordance with the ANSI B16.5 standard, as indicated on the dimension sheets.
Unless otherwise specified, all flanges are supplied with Raised Face.



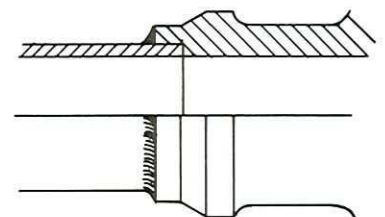
Butt Welding Ends:

For direct welding in the pipeline.
Designed in accordance with ANSI B 16.25.



Socket-Welding Ends:

For direct welding in the pipeline.
Designed in accordance with ANSI B 16.11.
Dimension, page F11.





TAPER PLUG VALVES

The valve is grease packed, i.e. the plug rests on a lubricating film in the valve body.

The lubricant has three functions: to protect the internal closing surfaces of the valve from corrosion, to grease seal the valve, and to contribute to easy handling. With an eye to achieving the best possible action, it is therefore important to relubricate the valve. The number of relubrication will depend on the operating conditions and the demands made on sealing.

Thus a valve operating at high temperature is to be lubricated more frequently than a valve operating at low temperature. If frequently handled, the valve is to be lubricated more often, to obtain good sealing.

As the lubricant dries up faster at rising temperatures, the below time intervals indicate when relubrication should take place.

| Temp. between | 0° C- 90° | 90° C- 120°C | 120° C- 150°C | 150° C- 180° C | 180° C- 200°C |
|---------------|-----------|--------------|---------------|----------------|---------------|
| Time interval | 24 mo. | 12 - 18 mo. | 8 - 12 mo. | 4 - 8 mo. | 2 - 4 mo. |

There is a Lubricant for each flow medium (see lubrication chart).

It is therefore important to relubricate the valve with the proper type. If the valve is ordered specifically for a given medium, then the type of lubricant is stamped on the hexagonal head of the lubricating screw.

Use only original Lubricant.

Lubrication procedure-a) Lubricant gun (Manual or automatic).

The best and fastest results is achieved by using a Lubricant Gun (see fig. 1). The lubricating screw (push on connection) of the lubricant gun is fastened directly to the lubricating screw.

b) Lowering of the lubricating screw. Lubrication can also be effected by turning the lubricating screw into the lubricant chamber. In doing so, the lubricant under the screw is pressed into the lubricating channels of the valve (see fig. 2). Refilling of the lubricant chamber is done by removing the lubricating screw, inserting a new lubricant cartridge (see fig. 3), and then turning in the lubricating screw.

Gear Lubrication:

The lubrication of the gear follows the "principle of dry lubrication", meaning that a layer of antiseizing paste with a content of molybdenum disulphide is applied to bearings, teeth and worms. Bearings are lubricated through lubricating nipples.

The gear is lubricated at the factory and needs no lubrication within the first year of valve action.

Relubrication of gear: The gear bearings are lubricated through grease nipples. (See fig. 4)

The gear tooth racks on worms and worm wheels are, as a rule, never relubricated. However, in case of trouble of control, making handling difficult, a penetrating and almost screaming sound will indicate a lack of lubrication. In such cases, a relubrication of the tooth racks is necessary.

For gear type C or D, a removal of the gear cover is necessary to make the gear parts accessible. The lubricating paste is then applied to all tooth racks of both worms and worm wheels in a layer of about 1 millimetre (1/32"). Use a little filling spatula for application.

Recommended for use by the factory are:
For bearings, worms and gears: BCH G10.

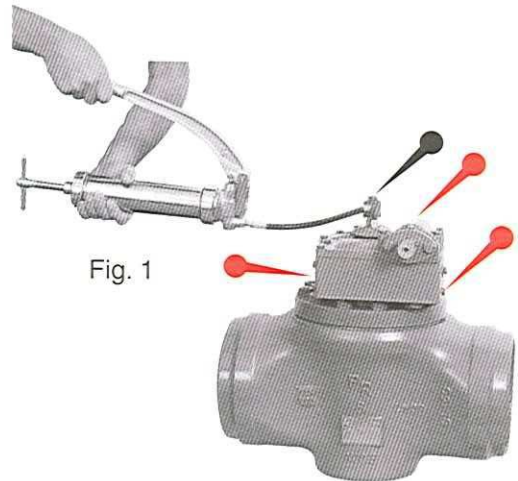


Fig. 1

Fig. 1

Fig. 3

Fig. 4



Standard Lubricants - These sealants to be used whenever possible for optimal performance.

| Lubricant no. PR | Colour of compound | Temperature Range | | RECOMMENDATIONS |
|------------------|--------------------|-------------------|---------------|---|
| | | C | F | |
| 80 | Black | - 10 + 180 | + 14 + 356 | Cold and hot water up to 180°C, conditional up to 200°C. Cold and hot air. 50% lye up to 50°C conditional up to 100°C, 50% acids up to 50°C, inorganic saline solutions up to 100°C, steam conditional up to 200°C. Suitable for town gas, propane, butane and natural gas. Not suitable for gas condensate. |
| 711 | Black | - 10 + 225 | + 14 + 437 | Petroleum products. Butane and propane (max. 100°C). Gasoline, kerosene, asphalt and bitumen, oils and most hydrocarbon solvents. Also suitable for gases (max. 170°C). Cold and hot air. Not suitable for hot water, strong alkalis and aromatic solvents. |

Special Lubricants - normally to be used only where the standard lubricants cannot be used.

| Lubricant no. PR | Colour of compound | Temperature Range | | RECOMMENDATIONS |
|------------------|-----------------------|-------------------|---------------|---|
| | | C | F | |
| 40 | Clear | - 10 + 100 | + 14 + 212 | Cold and warm water. General Aqueous Solutions. Alcohols. |
| 45 | Yellowish-beige clear | - 10 + 130 | + 14 + 266 | For drinking water at max. 100°C, beer, mineral water, milk, cocoa, cream, ammonia compound, acids and alkali desinfectant, fruit-acid and alcohol. |
| 60 | White | - 30 + 250 | - 22 + 482 | All diluted and concentrated acids and lyes, fluorine, chlorine, bromine, iodine, phosphorus oxychloride, ozone, hydrogen peroxide, all organic solvents (except hydrogen fluoride), all mineral, vegetable and animal oils and fats. Do not affect elastomers and plastics. |
| 103 | Green | - 30 + 200 | - 22 + 392 | General purpose synthetic sealant for liquid and gaseous aliphatic hydrocarbon service suitable for gasoline, kerosene, fuel oils, crude distillates, aviation and jet fuel, natural gas. Not suitable for steam, aromatic solvents, strong acids and alkalies. |
| 280 | Black | - 10 + 200 | + 14 + 392 | Cold and hot air up to 200°C. Cold and hot water up to 180°C. Cold and hot gases up to 150°C. Not suitable for strong acids, petroleum products and aromatic and chlorinated solvents. |
| * 330 | White | - 30 + 250 | - 22 + 482 | Hot water and gases. Natural gas, propane, butane, asphalt and bitumen. General chemical aqueous solutions eg. alkalis and dilute acids. It is useful for hot air. Not suitable for light liquid hydrocarbons, aromatic and chlorinated solvents and strong mineral acids. |

* This type of lubricant ought to be avoided, if one of the other types can be used, as this contain silicone oil. The operating torque of the valve will increase considerably.

For exceptional working conditions and services not mentioned in the table, please ask for further information.



CAST IRON

ASTM A 126 Class B (High strength grey iron).

Tensile Strength: min. 31000 PSI (214 N/mm²).

Cast Iron material is very economical and suitable for most common service conditions such as air, water, gas and oil at medium pressures and temperatures. It possesses good resistance to corrosion in most organic solutions, alkalies and many acids of higher concentrations at normal temperatures. Plugs are anti-friction treated with P.T.F.E.

DUCTILE IRON (Cast Iron with spheroidal Graphite).

ASTM A 536 Gr. 60-40-18.

Tensile Strength: min. 60000 PSI (414 N/mm²).

This material is especially used where cast iron does not fulfil the requirements and where cast steel is too expensive. Plugs are anti-friction treated with P.T.F.E.

CARBON STEEL

ASTM A 216 Grade WCB.

Tensile Strength: min. 70000 PSI (485 N/mm²).

The valves of cast steel are made in accordance with the specification of the mentioned ASTM standard.

To counteract seizing steel plugs have a thin coat 20 µm of electroless nickel, and then anti-friction treated with P.T.F.E.

Carbon steel is suited for valves in cold or hot water services without corrosive impurities. It is also suitable for oil, gas, air and, other line fluids where valves are required of high strength, toughness and stability against vibration, blows and fire, except for extremely high or low temperatures which require steel alloys.

Our valves are also available to NACE Standard MR-01-75. Hardness level of Rc 22 or lower.

LEAD-BRONZE 80/10/10

CuPb10Sn10. ISO 1338 - ASTM B30 937.

Tensile Strength: min. 12500 PSI (180 N/mm²).

Brinell Hardness: 65

Chemical Properties: Resistant to actions of ordinary services.

Physical Properties: Good pressure tightness and resistant to wear.

Other alloys, fx. 90/10 or 88/10/2,0 are delivered on inquiry.

STAINLESS ACID-RESISTING STEEL

Rust and acid resisting.

Chromium Nickel Molybdenum

Cr 18% to 21% 9 to 12% 2 to 3%

ASTM A 351 Grade CF8M or AISI 316.

Tensile Strength: min. 70000 PSI (485 N/mm²).

To counteract seizing plugs in stainless steel have a thin coat 20 µm of electroless nickel, and then anti-friction treated with P.T.F.E.

AUSTENITIC - FERRITIC STEEL. (Duplex stainless steel)

ASTM A 890 4A,

Chromium Nickel Molybdenum Nitrogen

Cr 22% Ni 5% Mo 2,5% N 0.1%

Tensile strength: min. 620 N/mm².

The materials A 890 4A are austenitic-ferritic acid-resistant steel with very high mechanical properties. Moreover they are extremely, resistant to corrosion.

The materials A 890 4A are very resistant to stress - (SCC) and pitting corrosion in environments containing chloride. The resistance to stress corrosion (SCC) caused by hydrogen sulphide in environments containing chloride is also excellent.

The materials A 890 A4 meet the demands usually requiring high alloyed nickel qualities. As the content of chromium and nickel is fairly low these materials will prove an economically good alternative to for more expensive high alloyed qualities.

To counteract seizing plugs in stainless steel have a thin coat 20 µm of electroless nickel, and then anti-friction treated with P.T.F.E.

SPECIAL QUALITIES AND ALLOYS: Tests which exceed the requirements of the respective standards can be carried out on the above mentioned materials if required.

Special alloys are manufactured on request.

COLOUR CODE

To facilitate identification the valves are normally painted as follows:

| | | |
|---------------------|--------------------|-------------------------------|
| Cast Iron : Green | Steel : Blue | Stainless Steel : Silver grey |
| Ductile : Dark grey | Bronze : Unpainted | Duplex : Light grey |



TAPER PLUG VALVES

Pressure Test / Inspection

After assembling, before delivery, all Christensens Plug Valves pass through a careful pressure test. The test is carried out acc. to the following standards: ASME B 16.34, BS 1560, BS 6755 API 598 and ASME B16.1.

If the customer or his representative wants to participate at the test - or, if there are special requirements to the pressure testing, this must be arranged with the manufacturer and stipulated in the purchase order.

| Material | ASME B 16.1 | | (1/2" to 12") | | | | Class | | | |
|---------------------------------|-------------------------------|----------------------|---------------|-------------|--|--|-------|-------------|-------------|--|
| | | | (14" to 36") | | | | | | | |
| | | | 125 | 250 | | | | 125 | 250 | |
| Semi Steel ASTM A126 Class B | Maximum Cold Working Pressure | PSI BAR | 200 13,8 | 500 34,5 | | | | 150 11,0 | 300 21,0 | |
| | Hydrostatic Shell Test | PSI BAR | 300 20,7 | 750 51,8 | | | | 230 16,0 | 450 30,0 | |
| | Seat Test | Min. PSI Min. BAR | 220 15,2 | 550 37,9 | | | | 165 12,0 | 330 23,0 | |

| Material | | | Class | | | | | | |
|-----------------------------------|-------------------------------|----------------------|-------------|--------------|---------------|---------------|---------------|---------------|---------------|
| | | | 150 | 300 | 400 | 600 | 900 | 1500 | 2500 |
| Carbon Steel ASTM A216 Gr. WCB | Maximum Cold Working Pressure | PSI BAR | 285 19,7 | 740 51,0 | 990 68,1 | 1480 102,0 | 2220 153,1 | 3705 255,5 | 6170 425,4 |
| | Hydrostatic Shell Test | PSI BAR | 450 30,0 | 1125 77,0 | 1500 103,0 | 2225 154,0 | 3350 230,0 | 5575 383,0 | 9275 639,0 |
| | Seat Test | Min. PSI Min. BAR | 315 21,5 | 815 56,2 | 1090 74,9 | 1630 112,3 | 2442 168,5 | 4075 280,8 | 6787 468,0 |

| Material | | | Class | | | | | | |
|-----------------------------------|-------------------------------|----------------------|-------------|--------------|--------------|---------------|---------------|---------------|---------------|
| | | | 150 | 300 | 400 | 600 | 900 | 1500 | 2500 |
| Carbon Steel ASTM A352 Gr. LCB | Maximum Cold Working Pressure | PSI BAR | 265 18,3 | 695 47,9 | 925 63,8 | 1390 95,8 | 2085 143,8 | 3470 239,2 | 5785 398,9 |
| | Hydrostatic Shell Test | PSI BAR | 400 28,0 | 1050 72,0 | 1400 96,0 | 2100 144,0 | 3150 216,0 | 5225 360,0 | 8700 599,0 |
| | Seat Test | Min. PSI Min. BAR | 292 20,2 | 765 52,7 | 1018 70,2 | 1529 105,5 | 2294 158,2 | 3817 263,3 | 6364 438,9 |

| Material | | | Class | | | | | | |
|--|-------------------------------|----------------------|-------------|--------------|---------------|---------------|---------------|---------------|---------------|
| | | | 150 | 300 | 400 | 600 | 900 | 1500 | 2500 |
| Stainless Steel ASTM A351 Gr. CF8M | Maximum Cold Working Pressure | PSI BAR | 275 19,0 | 720 49,6 | 960 66,2 | 1440 99,3 | 2160 148,9 | 3600 248,2 | 6000 413,7 |
| | Hydrostatic Shell Test | PSI BAR | 425 29,0 | 1100 75,0 | 1450 100,0 | 2175 149,0 | 3250 224,0 | 5400 373,0 | 9000 621,0 |
| | Seat Test | Min. PSI Min. BAR | 303 20,9 | 792 54,6 | 1056 72,8 | 1584 109,2 | 2376 163,7 | 3960 272,9 | 6600 454,9 |

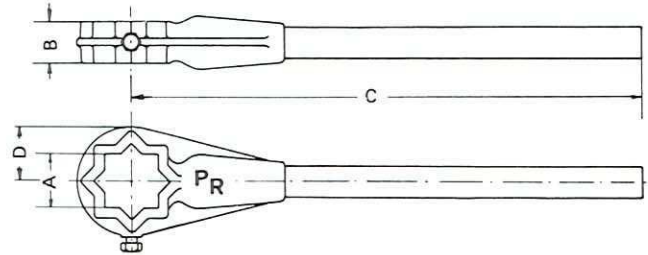
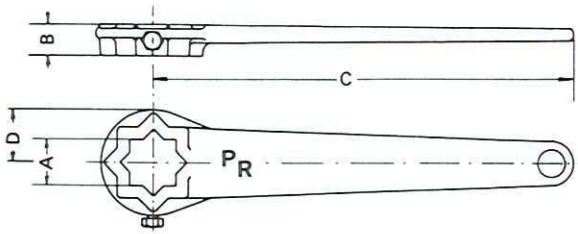
| Material | | | Class | | | | | | |
|---|-------------------------------|----------------------|-------------|--------------|---------------|---------------|---------------|---------------|---------------|
| | | | 150 | 300 | 400 | 600 | 900 | 1500 | 2500 |
| ASTM A216 Gr. WCC ASTM A352 Gr. LCC ASTM A352 Gr. LC2 ASTM A890 Gr. 4A | Maximum Cold Working Pressure | PSI BAR | 290 20,0 | 750 51,7 | 1000 69,0 | 1500 103,4 | 2250 155,1 | 3750 258,6 | 6250 430,9 |
| | Hydrostatic Shell Test | PSI BAR | 450 30,0 | 1125 78,0 | 1500 104,0 | 2250 156,0 | 3375 233,0 | 5625 388,0 | 9375 647,0 |
| | Seat Test | Min. PSI Min. BAR | 319 22,0 | 825 56,9 | 1100 75,9 | 1650 113,7 | 2475 170,7 | 4125 284,5 | 6875 474,0 |



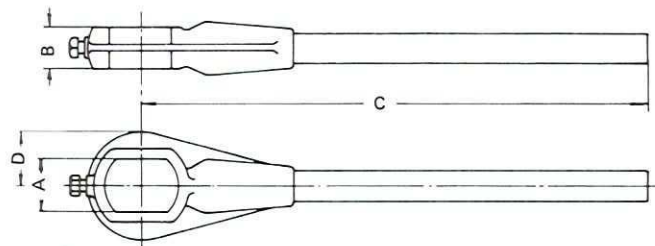
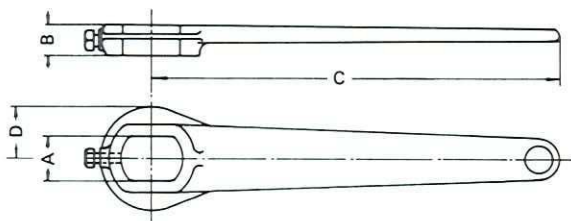
TAPER PLUG VALVES

Dimension of wrenches

Standard wrench type 8K (Short)



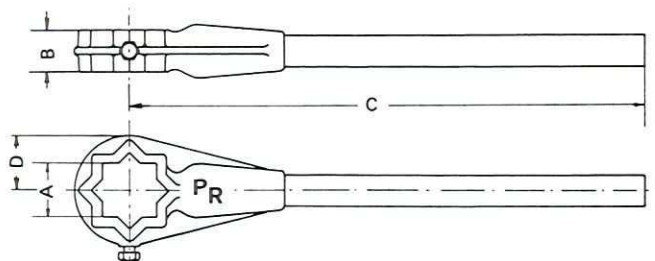
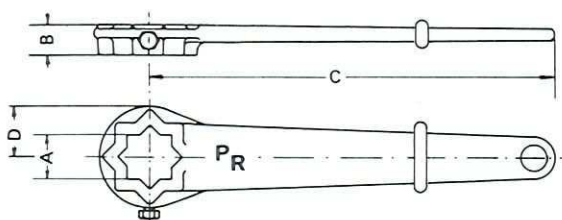
Standard wrench type 2K (Short)



| A | B | C | D |
|----|----|-----|----|
| 17 | 14 | 140 | 20 |
| 19 | 16 | 150 | 22 |
| 24 | 18 | 200 | 26 |
| 27 | 20 | 225 | 30 |
| 30 | 22 | 280 | 33 |
| 36 | 26 | 330 | 38 |
| 50 | 40 | 420 | 52 |

| A | B | C | D |
|----|----|------|----|
| 55 | 45 | 815 | 58 |
| 65 | 50 | 940 | 70 |
| 70 | 50 | 1090 | 76 |

Wrench type 8L (Long)



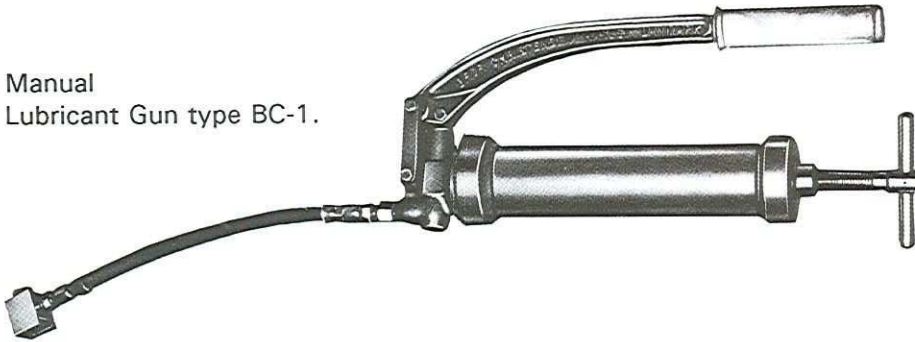
| A | B | C | D |
|----|----|-----|----|
| 17 | 14 | 230 | 20 |
| 22 | 20 | 300 | 30 |
| 24 | 20 | 300 | 30 |
| 27 | 20 | 340 | 30 |
| 30 | 26 | 420 | 38 |
| 36 | 26 | 470 | 42 |

| A | B | C | D |
|----|----|------|----|
| 41 | 35 | 650 | 50 |
| 50 | 45 | 815 | 58 |
| 55 | 50 | 1090 | 70 |
| 65 | 50 | 1270 | 80 |



TAPER PLUG VALVES

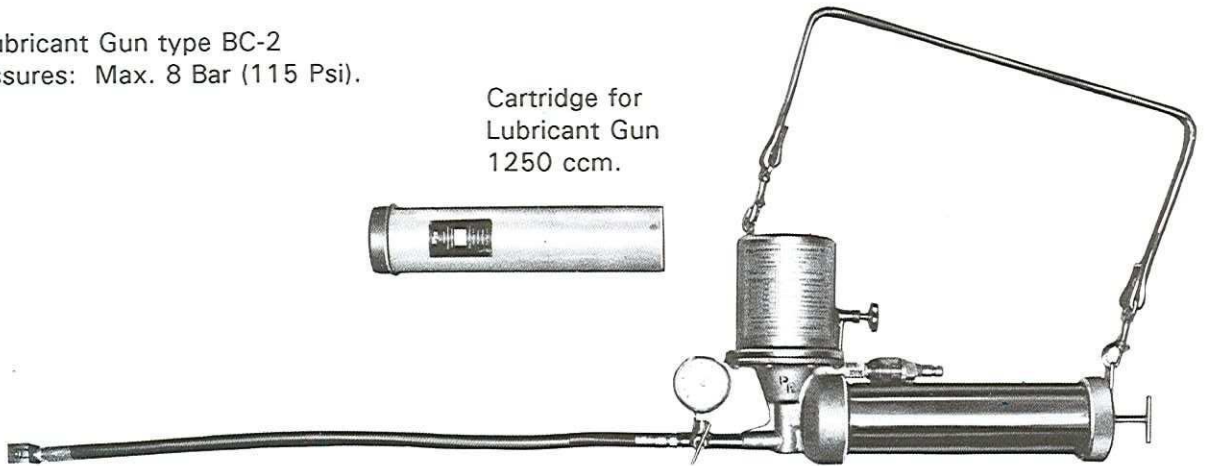
Manual
Lubricant Gun type BC-1.



Cartridge for
Lubricant Gun
300 ccm.



Pneumatic Lubricant Gun type BC-2
Working Pressures: Max. 8 Bar (115 Psi).



Cartridge for
Lubricant Gun
1250 ccm.



Grease Gun for Gear
Lubrication type 315-2

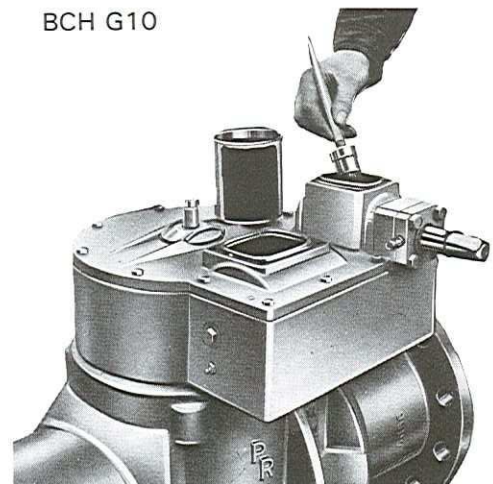


Grease for bearings:

BCH G10

Grease for worms and gear wheel:

BCH G10







STRAIGHTWAY TAPER PLUG VALVES

CAST IRON CLASS 125
SHORT PATTERN
RECTANGULAR PORT

| Class | Max. CWP | Test Pressure | Pattern | Connections | Port | Materials | | Operation |
|-------|----------|-------------------------------------|----------------------|--|-------------|------------------------------------|------------------------------------|-----------|
| | | | | | | Body & Cover | Plug | |
| 125 | 200 Psi | Shell 300 Psi Seat 220 Psi | Straightway Short | Flange F.F. ASME B 16.1 Face to Face ASME 16.10 | Rectangular | Cast Iron ASTM A 126 Class B | Cast Iron ASTM A 126 Class B | Manual |

| WRENCH TYPE 8 L | GEAR TYPE C | GEAR TYPE D |
|--------------------|----------------|----------------|
| | | |
| DN 1" - 6" | DN 1" - 12" | DN 6" - 12" |
| 9-AS 40114 N | 9-AS 40114 C | 9-AS 40114 D |

| DN | A | B | C | D | E | F | H | I | L | M | N | O | P | Q | R | V |
|--------|-----|-----|-----|-----|----|----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|
| 1" | 37 | 32 | 76 | 124 | 15 | 22 | 45 | 16 | 76 | 104 | 32 | | | 25 | 108 | 140 |
| 1 1/2" | 40 | 49 | 92 | 140 | 18 | 22 | 45 | 16 | 98 | 104 | 32 | | | 38 | 127 | 165 |
| 2" | 46 | 55 | 102 | 162 | 21 | 24 | 150 | 101 | 110 | 180 | 47 | | | 51 | 152 | 178 |
| 2 1/2" | 52 | 65 | 120 | 180 | 22 | 27 | 150 | 101 | 122 | 181 | 47 | | | 64 | 178 | 191 |
| 3" | 62 | 74 | 135 | 195 | 24 | 30 | 150 | 101 | 134 | 181 | 47 | | | 76 | 191 | 203 |
| 4" | 65 | 87 | 160 | 240 | 31 | 36 | 150 | 101 | 150 | 195 | 65 | | | 102 | 229 | 229 |
| 6" | 117 | 115 | 206 | 286 | 42 | 50 | 200 | 101 | 252 | 268 | 85 | 46 | 375 | 152 | 279 | 267 |
| 8" | 135 | 165 | | | | | 300 | 101 | 283 | 268 | 85 | 46 | 406 | 203 | 343 | 292 |
| 10" | 144 | 187 | | | | | 300 | 101 | 316 | 268 | 85 | 46 | 439 | 254 | 406 | 330 |
| 12" | 160 | 216 | | | | | 300 | 101 | 370 | 293 | 100 | 70 | 493 | 305 | 483 | 356 |

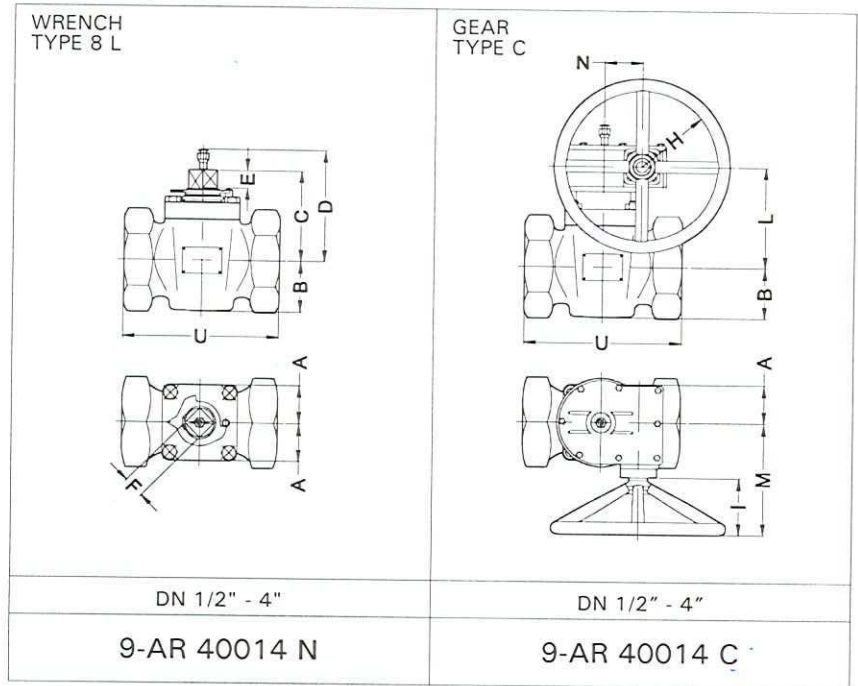


STRAIGHTWAY TAPER PLUG VALVES

CAST IRON CLASS 125
REGULAR PATTERN
RECTANGULAR PORT FULL BORE

| Class | Max. CWP | Test Pressure | Pattern | Connections | Port | Materials | | Operation |
|-------|----------|-------------------------------------|------------------------|--|--------------------------------|------------------------------------|------------------------------------|-----------|
| | | | | | | Body & Cover | Plug | |
| 125 | 200 Psi | Shell 300 Psi Seat 220 Psi | Straightway Regular | Screwed API 5B Table 2.1 or ASME B1.20.1 | Rectangular Full bore ** | Cast Iron ASTM A 126 Class B | Cast Iron ASTM A 126 Class B | Manual |

** 1/2" and 3/4" Round port full bore.



| DN | A | B | C | D | E | F | H | I | L | M | N | U |
|--------|-----|-----|-----|-----|----|----|-----|-----|-----|-----|----|-----|
| 1/2" | 34 | 30 | 70 | 105 | 14 | 17 | 45 | 16 | 72 | 104 | 32 | 115 |
| 3/4" | 37 | 32 | 76 | 124 | 15 | 22 | 45 | 16 | 76 | 104 | 32 | 115 |
| 1" | 37 | 40 | 86 | 134 | 17 | 22 | 45 | 16 | 83 | 104 | 32 | 115 |
| 1 1/4" | 40 | 49 | 92 | 140 | 18 | 22 | 45 | 16 | 98 | 104 | 32 | 130 |
| 1 1/2" | 46 | 55 | 102 | 162 | 21 | 24 | 150 | 101 | 110 | 181 | 47 | 150 |
| 2" | 52 | 65 | 120 | 180 | 22 | 27 | 150 | 101 | 122 | 181 | 47 | 160 |
| 2 1/2" | 62 | 74 | 135 | 195 | 24 | 30 | 150 | 101 | 134 | 181 | 47 | 195 |
| 3" | 65 | 87 | 160 | 240 | 31 | 36 | 150 | 101 | 150 | 195 | 65 | 220 |
| 4" | 105 | 101 | 180 | 260 | 38 | 41 | 150 | 101 | 167 | 195 | 65 | 270 |



STRAIGHTWAY TAPER PLUG VALVES

CAST IRON CLASS 125
REGULAR PATTERN
RECTANGULAR PORT FULL BORE

| Class | Max. CWP | Test Pressure | Pattern | Connections | Port | Materials | | Operation |
|-------|----------|-------------------------------------|------------------------|--|--------------------------------|------------------------------------|------------------------------------|-----------|
| | | | | | | Body & Cover | Plug | |
| 125 | 200 Psi | Shell 300 Psi Seat 220 Psi | Straightway Regular | Flange F.F. ASME B 16.1 Face to Face ASME 16.10 | Rectangular Full Bore ** | Cast Iron ASTM A 126 Class B | Cast Iron ASTM A 126 Class B | Manual |

** 1/2" and 3/4" Round port full bore.

| WRENCH TYPE 8 L | GEAR TYPE C | GEAR TYPE D |
|--------------------|----------------|----------------|
| | | |
| DN 1/2" - 5" | DN 1/2" - 12" | DN 5" - 12" |
| 9-AR 40114 N | 9-AR 40114 C | 9-AR 40114 D |

| DN | A | B | C | D | E | F | H | I | L | M | N | O | P | Q | R | V |
|--------|-----|-----|-----|-----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 1/2" | 34 | 30 | 70 | 105 | 14 | 17 | 45 | 16 | 72 | 104 | 32 | | | *13 | *89 | *133 |
| 3/4" | 37 | 32 | 76 | 124 | 15 | 22 | 45 | 16 | 76 | 104 | 32 | | | *19 | *98 | *133 |
| 1" | 37 | 40 | 86 | 134 | 17 | 22 | 45 | 16 | 83 | 104 | 32 | | | 25 | 108 | 140 |
| 1 1/4" | 40 | 49 | 92 | 140 | 18 | 22 | 45 | 16 | 98 | 104 | 32 | | | 32 | 117 | 165 |
| 1 1/2" | 46 | 55 | 102 | 162 | 21 | 24 | 150 | 101 | 110 | 181 | 47 | | | 38 | 127 | 165 |
| 2" | 52 | 65 | 120 | 180 | 22 | 27 | 150 | 101 | 122 | 181 | 47 | | | 51 | 152 | 191 |
| 2 1/2" | 62 | 74 | 135 | 195 | 24 | 30 | 150 | 101 | 134 | 181 | 47 | | | 64 | 178 | 210 |
| 3" | 65 | 87 | 160 | 240 | 31 | 36 | 150 | 101 | 150 | 195 | 65 | | | 76 | 191 | 229 |
| 4" | 105 | 101 | 180 | 260 | 38 | 41 | 150 | 101 | 167 | 195 | 65 | | | 102 | 229 | 229 |
| 5" | 130 | 126 | 206 | 286 | 42 | 50 | 200 | 101 | 252 | 268 | 85 | 46 | 375 | 127 | 254 | 356 |
| 6" | 144 | 158 | 254 | 334 | 48 | 55 | 200 | 101 | 289 | 268 | 85 | 46 | 412 | 152 | 279 | 394 |
| 8" | 183 | 190 | | | | | 300 | 101 | 334 | 293 | 95 | 70 | 458 | 203 | 343 | 457 |
| 10" | 212 | 240 | | | | | 300 | 101 | 435 | 361 | 135 | 69 | 569 | 254 | 406 | 533 |
| 12" | 240 | 285 | | | | | 300 | 101 | 470 | 400 | 160 | 108 | 604 | 305 | 483 | 610 |

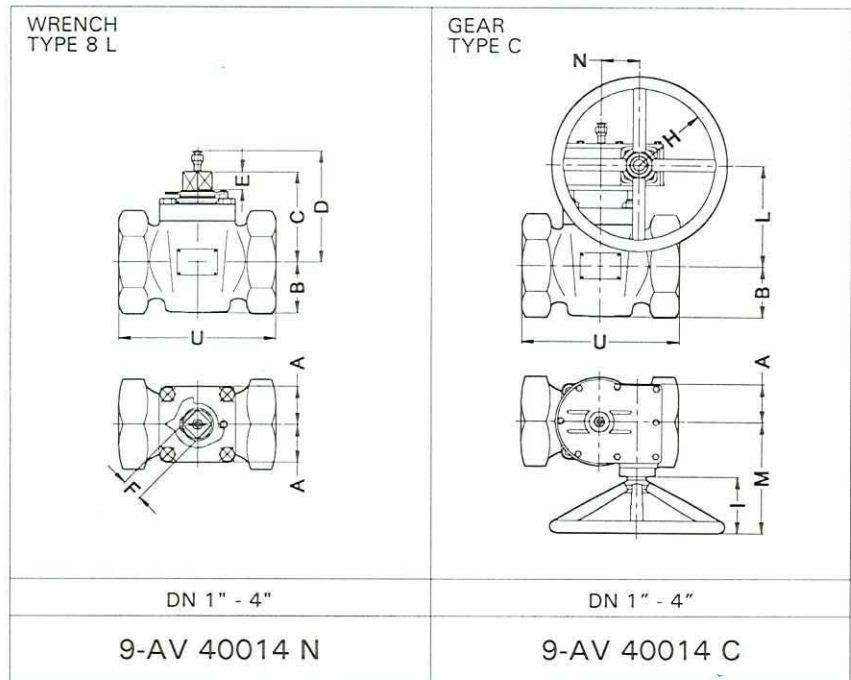
Note: * Not included in the standards.



STRAIGHTWAY TAPER PLUG VALVES

CAST IRON CLASS 125
REGULAR PATTERN
RECTANGULAR PORT

| Class | Max. CWP | Test Pressure | Pattern | Connections | Port | Materials | | Operation |
|-------|----------|-------------------------------------|------------------------|--|-------------|------------------------------------|------------------------------------|-----------|
| | | | | | | Body & Cover | Plug | |
| 125 | 200 Psi | Shell 300 Psi Seat 220 Psi | Straightway Regular | Screwed API 5B Table 2.1 or ASME B1.20.1 | Rectangular | Cast Iron ASTM A 126 Class B | Cast Iron ASTM A 126 Class B | Manual |



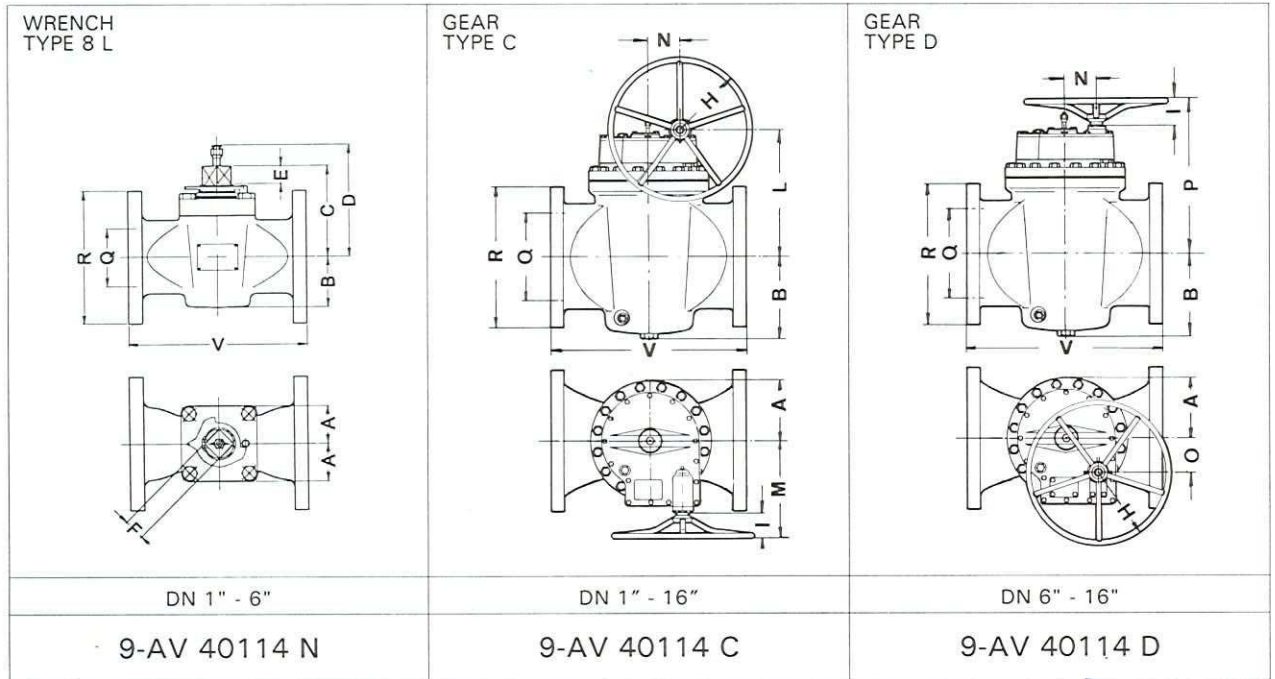
| DN | A | B | C | D | E | F | H | I | L | M | N | U |
|--------|----|----|-----|-----|----|----|-----|-----|-----|-----|----|-----|
| 1" | 37 | 32 | 76 | 124 | 15 | 22 | 45 | 16 | 76 | 104 | 32 | 115 |
| 1 1/4" | 37 | 40 | 86 | 134 | 17 | 22 | 45 | 16 | 83 | 104 | 32 | 130 |
| 1 1/2" | 40 | 49 | 92 | 140 | 18 | 22 | 45 | 16 | 98 | 104 | 32 | 150 |
| 2" | 46 | 55 | 102 | 162 | 21 | 24 | 150 | 101 | 110 | 181 | 47 | 160 |
| 2 1/2" | 52 | 65 | 120 | 180 | 22 | 27 | 150 | 101 | 122 | 181 | 47 | 195 |
| 3" | 62 | 74 | 135 | 195 | 24 | 30 | 150 | 101 | 134 | 181 | 47 | 220 |
| 4" | 65 | 87 | 160 | 240 | 31 | 36 | 150 | 101 | 150 | 195 | 65 | 270 |



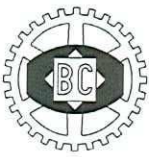
STRAIGHTWAY TAPER PLUG VALVES

CAST IRON CLASS 125
REGULAR PATTERN
RECTANGULAR PORT

| Class | Max. CWP | Test Pressure | Pattern | Connections | Port | Materials | | Operation |
|-------|--|---|---------------------|--|-------------|------------------------------------|------------------------------------|-----------|
| | | | | | | Body & Cover | Plug | |
| 125 | $\leq 12"$ 200 Psi $\geq 14"$ 150 Psi | Shell $\leq 12"$ 300 Psi $\geq 14"$ 230 Psi Seat $\leq 12"$ 220 Psi $\geq 14"$ 165 Psi | Straightway Regular | Flange F.F. ASME B 16.1 Face to Face ASME 16.10 | Rectangular | Cast Iron ASTM A 126 Class B | Cast Iron ASTM A 126 Class B | Manual |



| DN | A | B | C | D | E | F | H | I | L | M | N | O | P | Q | R | V |
|--------|-----|-----|-----|-----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1" | 37 | 32 | 76 | 124 | 15 | 22 | 45 | 16 | 76 | 104 | 32 | | | 25 | 108 | 140 |
| 1 1/4" | 37 | 40 | 86 | 134 | 17 | 22 | 45 | 16 | 83 | 104 | 32 | | | 32 | 117 | 165 |
| 1 1/2" | 40 | 49 | 92 | 140 | 18 | 22 | 45 | 16 | 98 | 104 | 32 | | | 38 | 127 | 165 |
| 2" | 46 | 55 | 102 | 162 | 21 | 24 | 150 | 101 | 110 | 181 | 47 | | | 51 | 152 | 191 |
| 2 1/2" | 52 | 65 | 120 | 180 | 22 | 27 | 150 | 101 | 122 | 181 | 47 | | | 64 | 178 | 210 |
| 3" | 62 | 74 | 135 | 195 | 24 | 30 | 150 | 101 | 134 | 181 | 47 | | | 76 | 191 | 229 |
| 4" | 65 | 87 | 160 | 240 | 31 | 36 | 150 | 101 | 150 | 195 | 65 | | | 102 | 229 | 229 |
| 5" | 105 | 101 | 185 | 265 | 38 | 41 | 150 | 101 | 167 | 195 | 65 | | | 127 | 254 | 356 |
| 6" | 117 | 115 | 206 | 286 | 42 | 50 | 200 | 101 | 252 | 268 | 85 | 46 | 375 | 152 | 279 | 394 |
| 8" | 144 | 165 | 254 | 334 | 48 | 55 | 200 | 101 | 260 | 268 | 85 | 46 | 383 | 203 | 343 | 457 |
| 10" | 183 | 190 | | | | | 300 | 101 | 334 | 293 | 95 | 70 | 458 | 254 | 406 | 533 |
| 12" | 197 | 224 | | | | | 300 | 101 | 364 | 293 | 95 | 70 | 488 | 305 | 483 | 610 |
| 14" | 235 | 247 | | | | | 300 | 101 | 441 | 361 | 135 | 69 | 575 | 356 | 533 | 686 |
| 16" | 250 | 295 | | | | | 300 | 101 | 466 | 400 | 160 | 108 | 600 | 406 | 597 | 762 |



STRAIGHTWAY TAPER PLUG VALVES

CAST IRON CLASS 125
VENTURI PATTERN
RECTANGULAR PORT

| Class | Max. CWP | Test Pressure | Pattern | Connections | Port | Materials | | Operation |
|-------|--------------------------------------|---|------------------------|--|-------------|------------------------------------|------------------------------------|-----------|
| | | | | | | Body & Cover | Plug | |
| 125 | ≤ 12" 200 Psi ≥ 14" 150 Psi | Shell ≤ 12" 300 Psi ≥ 14" 230 Psi Seat ≤ 12" 220 Psi ≥ 14" 165 Psi | Straightway Venturi | Flange F.F. ASME B 16.1 Face to Face ASME 16.10 | Rectangular | Cast Iron ASTM A 126 Class B | Cast Iron ASTM A 126 Class B | Manual |

| WRENCH TYPE 8 L | GEAR TYPE C | GEAR TYPE D |
|--------------------|----------------|----------------|
| | | |
| DN 6" - 8" | DN 6" - 16" | DN 8" - 16" |
| 9-AT 40114 N | 9-AT 40114 C | 9-AT 40114 D |

| DN | A | B | C | D | E | F | H | I | L | M | N | O | P | Q | R | V |
|-----|-----|-----|-----|-----|----|----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|
| 6" | 106 | 123 | 198 | 278 | 37 | 41 | 150 | 101 | 183 | 195 | 71 | | | 152 | 279 | 394 |
| 8" | 128 | 153 | 260 | 340 | 52 | 55 | 200 | 101 | 284 | 268 | 85 | 46 | 407 | 203 | 343 | 457 |
| 10" | 145 | 186 | | | | | 200 | 101 | 326 | 268 | 85 | 46 | 449 | 254 | 406 | 533 |
| 12" | 171 | 219 | | | | | 300 | 101 | 376 | 293 | 95 | 70 | 500 | 305 | 483 | 610 |
| 14" | 180 | 243 | | | | | 300 | 101 | 404 | 293 | 95 | 70 | 528 | 356 | 533 | 686 |
| 16" | 202 | 274 | | | | | 300 | 101 | 487 | 361 | 135 | 69 | 621 | 406 | 597 | 762 |



STRAIGHTWAY TAPER PLUG VALVES

CAST IRON CLASS 250
SHORT PATTERN
RECTANGULAR PORT

| Class | Max. CWP | Test Pressure | Pattern | Connections | Port | Materials | | Operation |
|-------|----------|-------------------------------------|----------------------|--|-------------|------------------------------------|------------------------------------|-----------|
| | | | | | | Body & Cover | Plug | |
| 250 | 500 Psi | Shell 750 Psi Seat 550 Psi | Straightway Short | Flange R.F. ASME B 16.1 Face to Face ASME 16.10 | Rectangular | Cast Iron ASTM A 126 Class B | Cast Iron ASTM A 126 Class B | Manual |

| WRENCH TYPE 8 L | GEAR TYPE C | GEAR TYPE D |
|--------------------|----------------|----------------|
| | | |
| DN 2" - 6" | DN 2" - 12" | DN 6" - 12" |
| 9-AS 40134 N | 9-AS 40134 C | 9-AS 40134 D |

| DN | A | B | C | D | E | F | H | I | L | M | N | O | P | Q | R | V |
|--------|-----|-----|-----|-----|----|----|-----|-----|-----|-----|-----|----|-----|-----|-----|------|
| 2" | 46 | 55 | 102 | 162 | 21 | 24 | 150 | 101 | 110 | 181 | 47 | | | 51 | 165 | 184 |
| 2 1/2" | 52 | 65 | 120 | 180 | 22 | 27 | 150 | 101 | 122 | 181 | 47 | | | 64 | 191 | 203 |
| 3" | 65 | 80 | 135 | 195 | 24 | 30 | 150 | 101 | 134 | 181 | 47 | | | 76 | 210 | 235 |
| 4" | 90 | 93 | 160 | 240 | 31 | 36 | 150 | 101 | 150 | 195 | 65 | | | 102 | 254 | 267 |
| 6" | 117 | 115 | 206 | 286 | 42 | 50 | 200 | 101 | 252 | 268 | 85 | 46 | 375 | 152 | 318 | 378 |
| 8" | 135 | 165 | | | | | 200 | 101 | 283 | 268 | 85 | 46 | 406 | 203 | 381 | *419 |
| 10" | 144 | 187 | | | | | 300 | 101 | 316 | 268 | 85 | 46 | 439 | 254 | 445 | 568 |
| 12" | 160 | 216 | | | | | 300 | 101 | 370 | 293 | 100 | 70 | 493 | 305 | 521 | 648 |

Note: * Not included in the standards.

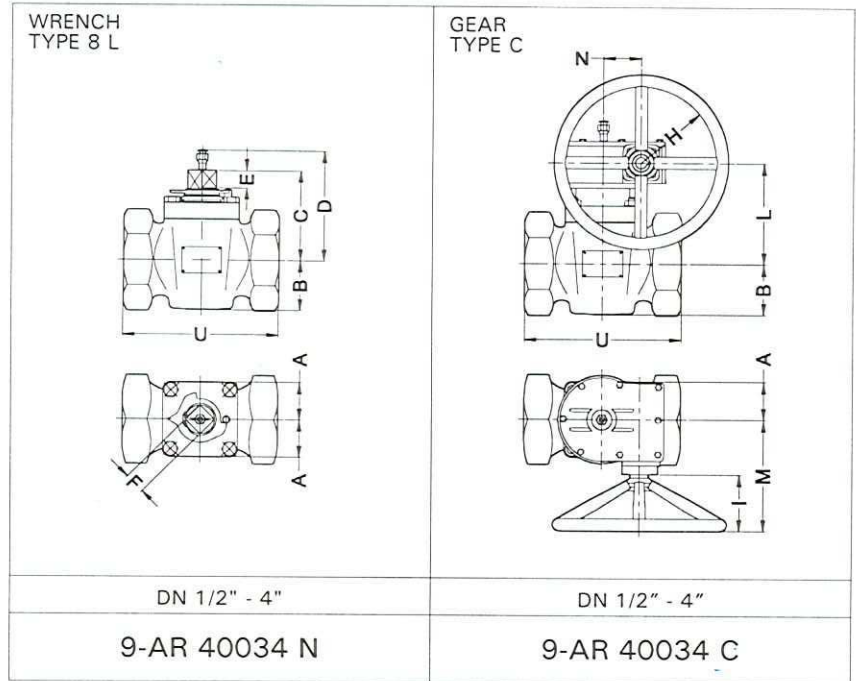


STRAIGHTWAY TAPER PLUG VALVES

CAST IRON CLASS 250
REGULAR PATTERN
RECTANGULAR PORT FULL BORE

| Class | Max. CWP | Test Pressure | Pattern | Connections | Port | Materials | | Operation |
|-------|----------|-------------------------------------|------------------------|--|--------------------------------|------------------------------------|------------------------------------|-----------|
| | | | | | | Body & Cover | Plug | |
| 250 | 500 Psi | Shell 750 Psi Seat 550 Psi | Straightway Regular | Screwed API 5B Table 2.1 or ASME B1.20.1 | Rectangular Full bore ** | Cast Iron ASTM A 126 Class B | Cast Iron ASTM A 126 Class B | Manual |

** 1/2" and 3/4" Round port full bore.



| DN | A | B | C | D | E | F | H | I | L | M | N | U |
|--------|-----|-----|-----|-----|----|----|-----|-----|-----|-----|----|-----|
| 1/2" | 34 | 30 | 70 | 105 | 14 | 17 | 45 | 16 | 72 | 104 | 32 | 115 |
| 3/4" | 37 | 32 | 76 | 124 | 15 | 22 | 45 | 16 | 76 | 104 | 32 | 115 |
| 1" | 37 | 40 | 86 | 134 | 17 | 22 | 45 | 16 | 83 | 104 | 32 | 115 |
| 1 1/4" | 40 | 49 | 92 | 140 | 18 | 22 | 45 | 16 | 98 | 104 | 32 | 130 |
| 1 1/2" | 46 | 55 | 102 | 162 | 21 | 24 | 150 | 101 | 110 | 181 | 47 | 150 |
| 2" | 52 | 65 | 120 | 180 | 22 | 27 | 150 | 101 | 122 | 181 | 47 | 160 |
| 2 1/2" | 65 | 80 | 135 | 195 | 24 | 30 | 150 | 101 | 134 | 181 | 47 | 195 |
| 3" | 90 | 93 | 160 | 240 | 31 | 36 | 150 | 101 | 150 | 195 | 65 | 220 |
| 4" | 105 | 106 | 180 | 260 | 38 | 41 | 150 | 101 | 167 | 195 | 65 | 270 |



STRAIGHTWAY TAPER PLUG VALVES

CAST IRON CLASS 250
REGULAR PATTERN
RECTANGULAR PORT FULL BORE

| Class | Max. CWP | Test Pressure | Pattern | Connections | Port | Materials | | Operation |
|-------|----------|-------------------------------------|------------------------|--|--------------------------------|------------------------------------|------------------------------------|-----------|
| | | | | | | Body & Cover | Plug | |
| 250 | 500 Psi | Shell 750 Psi Seat 550 Psi | Straightway Regular | Flange R.F. ASME B 16.1 Face to Face ASME 16.10 | Rectangular Full Bore ** | Cast Iron ASTM A 126 Class B | Cast Iron ASTM A 126 Class B | Manual |

** 1/2" and 3/4" Round port full bore.

| WRENCH TYPE 8 L | GEAR TYPE C | GEAR TYPE D |
|--------------------|----------------|----------------|
| | | |
| DN 1/2" - 5" | DN 1/2" - 12" | DN 5" - 12" |
| 9-AR 40134 N | 9-AR 40134 C | 9-AR 40134 D |

| DN | A | B | C | D | E | F | H | I | L | M | N | O | P | Q | R | V |
|--------|-----|-----|-----|-----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 1/2" | 34 | 30 | 70 | 105 | 14 | 17 | 45 | 16 | 72 | 104 | 32 | | | *13 | 95 | *140 |
| 3/4" | 37 | 32 | 76 | 124 | 15 | 22 | 45 | 16 | 76 | 104 | 32 | | | *19 | 117 | *140 |
| 1" | 37 | 40 | 86 | 134 | 17 | 22 | 45 | 16 | 83 | 104 | 32 | | | 25 | 124 | 159 |
| 1 1/4" | 40 | 49 | 92 | 140 | 18 | 22 | 45 | 16 | 98 | 104 | 32 | | | 32 | 133 | *178 |
| 1 1/2" | 46 | 55 | 102 | 162 | 21 | 24 | 150 | 101 | 110 | 181 | 47 | | | 38 | 155 | 191 |
| 2" | 52 | 65 | 120 | 180 | 22 | 27 | 150 | 101 | 122 | 181 | 47 | | | 51 | 165 | 216 |
| 2 1/2" | 65 | 80 | 135 | 195 | 24 | 30 | 150 | 101 | 134 | 181 | 47 | | | 64 | 191 | 241 |
| 3" | 90 | 93 | 160 | 240 | 31 | 36 | 150 | 101 | 150 | 195 | 65 | | | 76 | 210 | 283 |
| 4" | 105 | 106 | 180 | 265 | 38 | 41 | 150 | 101 | 167 | 195 | 65 | | | 102 | 254 | 305 |
| 5" | 130 | 126 | 206 | 286 | 42 | 50 | 200 | 101 | 252 | 268 | 85 | 46 | 375 | 127 | 279 | 387 |
| 6" | 144 | 168 | 254 | 334 | 48 | 55 | 200 | 101 | 289 | 268 | 85 | 46 | 412 | 152 | 318 | 426 |
| 8" | 183 | 190 | | | | | 300 | 101 | 334 | 293 | 95 | 70 | 458 | 203 | 381 | 502 |
| 10" | 212 | 240 | | | | | 300 | 101 | 435 | 361 | 135 | 69 | 569 | 254 | 445 | 597 |
| 12" | 240 | 285 | | | | | 300 | 101 | 470 | 400 | 160 | 108 | 604 | 305 | 521 | 711 |

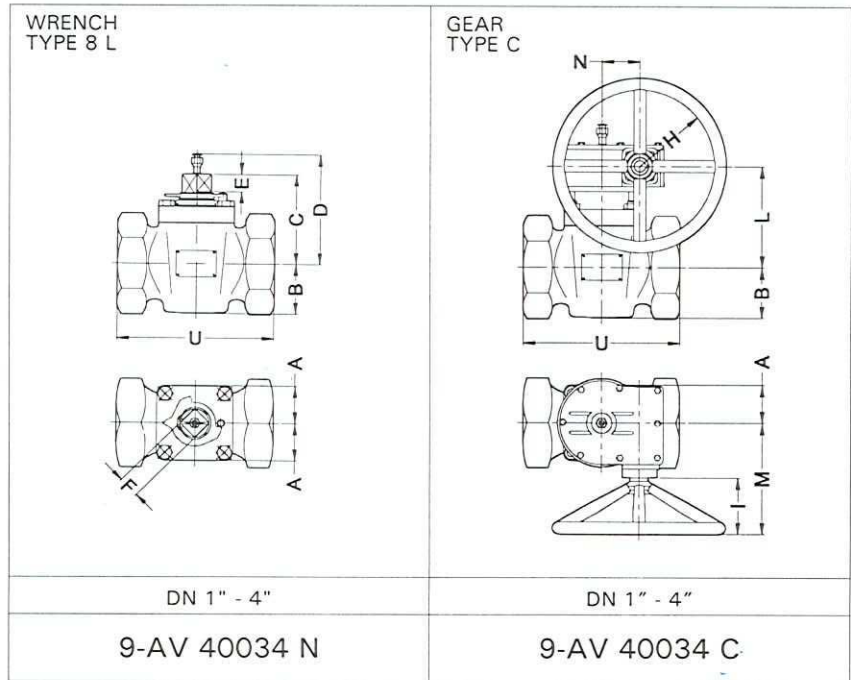
Note: * Not included in the standards.



STRAIGHTWAY TAPER PLUG VALVES

CAST IRON CLASS 250
REGULAR PATTERN
RECTANGULAR PORT

| Class | Max. CWP | Test Pressure | Pattern | Connections | Port | Materials | | Operation |
|-------|----------|-------------------------------------|------------------------|--|-------------|------------------------------------|------------------------------------|-----------|
| | | | | | | Body & Cover | Plug | |
| 250 | 500 Psi | Shell 750 Psi Seat 550 Psi | Straightway Regular | Screwed API 5B Table 2.1 or ASME B1.20.1 | Rectangular | Cast Iron ASTM A 126 Class B | Cast Iron ASTM A 126 Class B | Manual |



| DN | A | B | C | D | E | F | H | I | L | M | N | O |
|--------|----|----|-----|-----|----|----|-----|-----|-----|-----|----|-----|
| 1" | 37 | 32 | 76 | 124 | 15 | 22 | 45 | 16 | 76 | 104 | 32 | 115 |
| 1 1/4" | 37 | 40 | 86 | 134 | 17 | 22 | 45 | 16 | 83 | 104 | 32 | 130 |
| 1 1/2" | 40 | 49 | 92 | 140 | 18 | 22 | 45 | 16 | 98 | 104 | 32 | 150 |
| 2" | 46 | 55 | 102 | 162 | 21 | 24 | 150 | 101 | 110 | 181 | 47 | 160 |
| 2 1/2" | 52 | 65 | 120 | 180 | 22 | 27 | 150 | 101 | 122 | 181 | 47 | 195 |
| 3" | 65 | 80 | 135 | 195 | 24 | 30 | 150 | 101 | 134 | 181 | 47 | 220 |
| 4" | 90 | 93 | 160 | 240 | 31 | 36 | 150 | 101 | 150 | 195 | 65 | 270 |



STRAIGHTWAY TAPER PLUG VALVES

CAST IRON CLASS 250
REGULAR PATTERN
RECTANGULAR PORT

| Class | Max. CWP | Test Pressure | Pattern | Connections | Port | Materials | | Operation |
|-------|--|---|------------------------|--|-------------|------------------------------------|------------------------------------|-----------|
| | | | | | | Body & Cover | Plug | |
| 250 | $\leq 12"$ 500 Psi $\geq 14"$ 300 Psi | Shell $\leq 12"$ 750 Psi $\geq 14"$ 450 Psi Seat $\leq 12"$ 550 Psi $\geq 14"$ 330 Psi | Straightway Regular | Flange R.F. ASME B 16.1 Face to Face ASME 16.10 | Rectangular | Cast Iron ASTM A 126 Class B | Cast Iron ASTM A 126 Class B | Manual |

| WRENCH TYPE 8 L | GEAR TYPE C | GEAR TYPE D |
|--------------------|----------------|----------------|
| | | |
| DN 1" - 6" | DN 1" - 16" | DN 6" - 16" |
| 9-AV 40134 N | 9-AV 40134 C | 9-AV 40134 D |

| DN | A | B | C | D | E | F | H | I | L | M | N | O | P | Q | R | V |
|--------|-----|-----|-----|-----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 1" | 37 | 32 | 76 | 124 | 15 | 22 | 45 | 16 | 76 | 104 | 32 | | | 25 | 124 | 159 |
| 1 1/4" | 37 | 40 | 86 | 134 | 17 | 22 | 45 | 16 | 83 | 104 | 32 | | | 32 | 133 | *178 |
| 1 1/2" | 40 | 49 | 92 | 140 | 18 | 22 | 45 | 16 | 98 | 104 | 32 | | | 38 | 155 | 191 |
| 2" | 46 | 55 | 102 | 162 | 21 | 24 | 150 | 101 | 110 | 181 | 47 | | | 51 | 165 | 216 |
| 2 1/2" | 52 | 65 | 120 | 180 | 22 | 27 | 150 | 101 | 122 | 181 | 47 | | | 64 | 191 | 241 |
| 3" | 65 | 80 | 135 | 195 | 24 | 30 | 150 | 101 | 134 | 181 | 47 | | | 76 | 210 | 283 |
| 4" | 90 | 93 | 160 | 240 | 31 | 36 | 150 | 101 | 150 | 195 | 65 | | | 102 | 254 | 305 |
| 5" | 105 | 106 | 185 | 265 | 38 | 41 | 150 | 101 | 167 | 195 | 65 | | | 127 | 279 | 387 |
| 6" | 130 | 126 | 206 | 286 | 42 | 50 | 200 | 101 | 252 | 268 | 85 | 46 | 375 | 152 | 318 | 426 |
| 8" | 144 | 168 | 254 | 334 | 48 | 55 | 200 | 101 | 260 | 268 | 85 | 46 | 383 | 203 | 381 | 502 |
| 10" | 183 | 190 | | | | | 300 | 101 | 334 | 293 | 95 | 70 | 458 | 254 | 445 | 597 |
| 12" | 197 | 224 | | | | | 300 | 101 | 364 | 293 | 95 | 70 | 488 | 305 | 521 | 711 |
| 14" | 235 | 247 | | | | | 300 | 101 | 441 | 361 | 135 | 69 | 575 | 337 | 584 | *762 |
| 16" | 250 | 295 | | | | | 300 | 101 | 466 | 400 | 160 | 108 | 600 | 387 | 648 | *838 |



STRAIGHTWAY TAPER PLUG VALVES

CAST IRON CLASS 250
VENTURI PATTERN
RECTANGULAR PORT

| Class | Max. CWP | Test Pressure | Pattern | Connections | Port | Materials | | Operation |
|-------|--|---|------------------------|--|-------------|------------------------------------|------------------------------------|-----------|
| | | | | | | Body & Cover | Plug | |
| 250 | $\leq 12"$ 500 Psi $\geq 14"$ 300 Psi | Shell $\leq 12"$ 750 Psi $\geq 14"$ 450 Psi Seat $\leq 12"$ 550 Psi $\geq 14"$ 330 Psi | Straightway Venturi | Flange R.F. ASME B 16.1 Face to Face ASME 16.10 | Rectangular | Cast Iron ASTM A 126 Class B | Cast Iron ASTM A 126 Class B | Manual |

| WRENCH TYPE 8 L | GEAR TYPE C | GEAR TYPE D |
|--------------------|----------------|----------------|
| | | |
| DN 6" | DN 6" - 16" | DN 8" - 16" |
| 9-AT 40134 N | 9-AT 40134 C | 9-AT 40134 D |

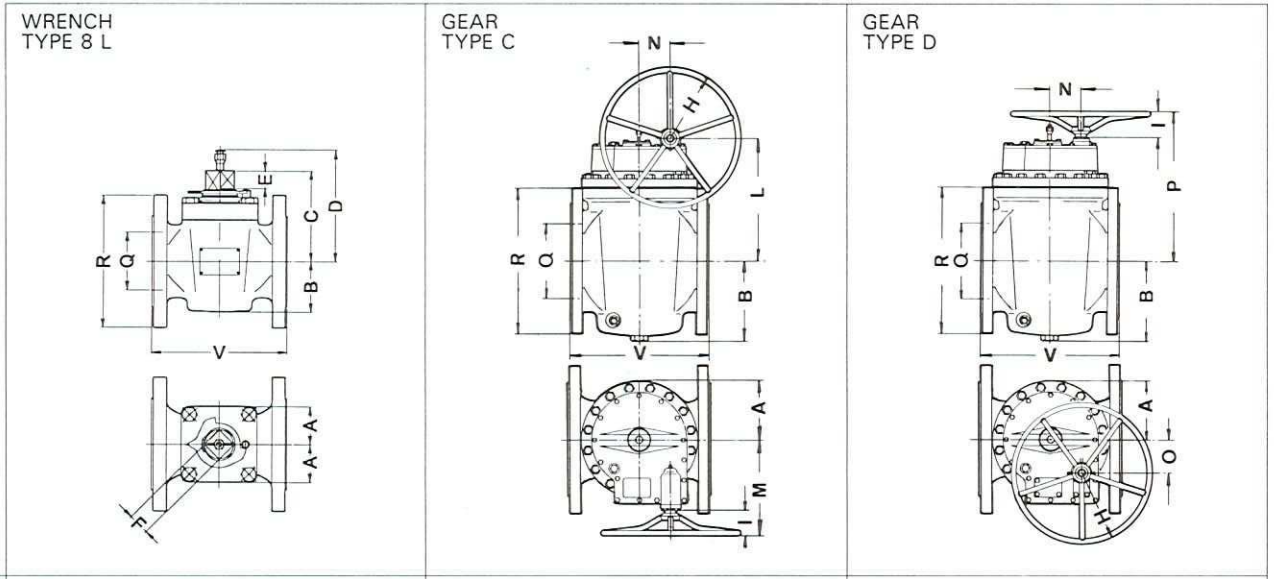
| DN | A | B | C | D | E | F | H | I | L | M | N | O | P | Q | R | V |
|-----|-----|-----|-----|-----|----|----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|
| 6" | 106 | 123 | 198 | 278 | 37 | 41 | 150 | 101 | 183 | 195 | 71 | | | 152 | 318 | 403 |
| 8" | 128 | 153 | 260 | 340 | 52 | 55 | 200 | 101 | 284 | 268 | 85 | 46 | 407 | 203 | 381 | 419 |
| 10" | 145 | 186 | | | | | 200 | 101 | 326 | 268 | 85 | 46 | 449 | 254 | 445 | 457 |
| 12" | 171 | 219 | | | | | 300 | 101 | 376 | 293 | 95 | 70 | 500 | 305 | 521 | 502 |
| 14" | 180 | 243 | | | | | 300 | 101 | 404 | 293 | 95 | 70 | 528 | 337 | 584 | 762 |
| 16" | 202 | 274 | | | | | 300 | 101 | 487 | 361 | 135 | 69 | 621 | 387 | 648 | 838 |



STRAIGHTWAY TAPER PLUG VALVES

CAST STEEL CLASS 150
SHORT PATTERN
RECTANGULAR PORT

| Class | Max. CWP | Test Pressure | Pattern | Connections | Port | Materials | | Operation |
|-------|----------|-------------------------------------|----------------------|---|-------------|---|------------------------------------|-----------|
| | | | | | | Body & Cover | Plug | |
| 150 | 285 Psi | Shell 450 Psi Seat 315 Psi | Straightway Short | Flanges R.F. or R.J. ASME B 16.5 Face to Face ASME B 16.10 | Rectangular | Cast Steel ASTM A 216 Grade WCB Cover: EN 10025 S355J0 S355J2G3 | Cast Iron ASTM A 126 Class B | Manual |
| | | | | | | | Steel | |



| | | | |
|-----------|--------------|--------------|--------------|
| Plug | DN 1" - 6" | DN 1" - 12" | DN 6" - 12" |
| Cast Iron | 9-AS 70124 N | 9-AS 70124 C | 9-AS 70124 D |
| Steel | 9-AS 70127 N | 9-AS 70127 C | 9-AS 70127 D |

| DN | A | B | C | D | E | F | H | I | L | M | N | O | P | Q | R | V | V |
|--------|-----|-----|-----|-----|----|----|-----|-----|-----|-----|----|----|-----|-----|-----|-----|-----|
| 1" | 37 | 32 | 76 | 124 | 15 | 22 | 45 | 16 | 76 | 104 | 32 | | | 25 | 108 | 140 | 152 |
| 1 1/2" | 40 | 49 | 92 | 140 | 18 | 22 | 45 | 16 | 98 | 104 | 32 | | | 38 | 127 | 165 | 178 |
| 2" | 46 | 55 | 102 | 162 | 21 | 24 | 150 | 101 | 110 | 181 | 47 | | | 51 | 152 | 178 | 191 |
| 2 1/2" | 52 | 65 | 120 | 180 | 22 | 27 | 150 | 101 | 122 | 181 | 47 | | | 64 | 178 | 191 | 203 |
| 3" | 62 | 74 | 135 | 195 | 24 | 30 | 150 | 101 | 134 | 181 | 47 | | | 76 | 191 | 203 | 216 |
| 4" | 65 | 87 | 160 | 240 | 31 | 36 | 150 | 101 | 150 | 195 | 65 | | | 102 | 229 | 229 | 241 |
| 6" | 117 | 115 | 206 | 286 | 42 | 50 | 200 | 101 | 252 | 268 | 85 | 46 | 375 | 152 | 279 | 267 | 279 |
| 8" | 130 | 156 | | | | | 200 | 101 | 283 | 268 | 85 | 46 | 406 | 203 | 343 | 292 | 305 |
| 10" | 144 | 187 | | | | | 300 | 101 | 316 | 268 | 85 | 46 | 439 | 254 | 406 | 330 | 343 |
| 12" | 160 | 216 | | | | | 300 | 101 | 370 | 293 | 95 | 70 | 493 | 305 | 483 | 356 | 368 |

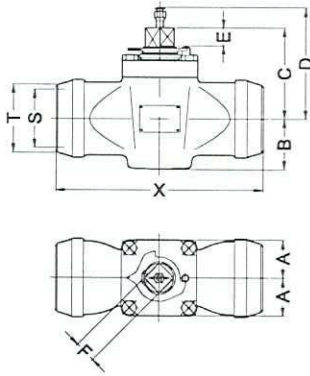


STRAIGHTWAY TAPER PLUG VALVES

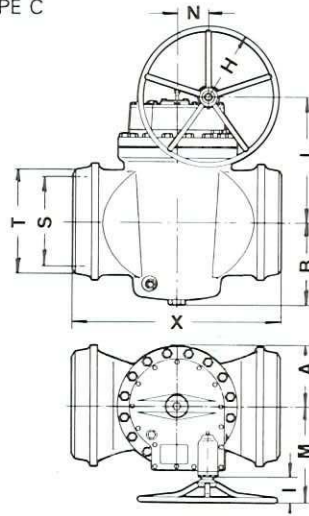
CAST STEEL CLASS 150
SHORT PATTERN
RECTANGULAR PORT

| Class | Max. CWP | Test Pressure | Pattern | Connections | Port | Materials | | Operation |
|-------|----------|-------------------------------------|----------------------|--|-------------|---|------------------------------------|-----------|
| | | | | | | Body & Cover | Plug | |
| 150 | 285 Psi | Shell 450 Psi Seat 315 Psi | Straightway Short | Welding Ends ASME B 16.25 End to End ASME B 16.10 | Rectangular | Cast Steel ASTM A 216 Grade WCB Cover: EN 10025 S355J0 S355J2G3 | Cast Iron ASTM A 126 Class B | Manual |
| | | | | | | | Steel | |

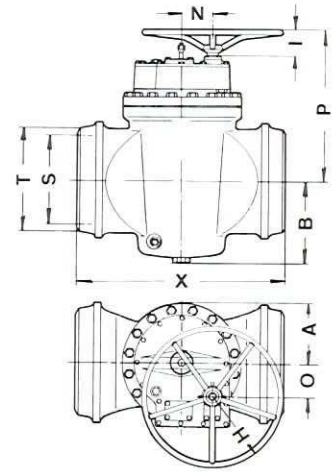
WRENCH
TYPE 8 L



GEAR
TYPE C



GEAR
TYPE D



| | | | |
|-----------|--------------|--------------|--------------|
| Plug | DN 1" - 6" | DN 1" - 12" | DN 6" - 12" |
| Cast Iron | 9-AS 70524 N | 9-AS 70524 C | 9-AS 70524 D |
| Steel | 9-AS 70527 N | 9-AS 70527 C | 9-AS 70527 D |

| DN | A | B | C | D | E | F | H | I | L | M | N | O | P | S | T | X | |
|--------|-----|-----|-----|-----|----|----|-----|-----|-----|-----|----|----|-----|---|-------|------|-----|
| 1" | 37 | 32 | 76 | 124 | 15 | 22 | 45 | 16 | 76 | 104 | 32 | | | Inside pipe dimension to be specified by purchaser. | *35,4 | *172 | |
| 1 1/4" | 37 | 40 | 86 | 134 | 17 | 22 | 45 | 16 | 83 | 104 | 32 | | | | *44,2 | *200 | |
| 1 1/2" | 40 | 49 | 92 | 140 | 18 | 22 | 45 | 16 | 98 | 104 | 32 | | | | *50,3 | *241 | |
| 2" | 46 | 55 | 102 | 162 | 21 | 24 | 150 | 101 | 110 | 181 | 47 | | | | *62,3 | 267 | |
| 2 1/2" | 52 | 65 | 120 | 180 | 22 | 27 | 150 | 101 | 122 | 181 | 47 | | | | | 75 | 305 |
| 3" | 62 | 74 | 135 | 195 | 24 | 30 | 150 | 101 | 134 | 181 | 47 | | | | | 91 | 330 |
| 4" | 65 | 87 | 160 | 240 | 31 | 36 | 150 | 101 | 150 | 195 | 65 | | | | | 117 | 356 |
| 5" | 105 | 101 | 185 | 265 | 38 | 41 | 150 | 101 | 167 | 195 | 65 | | | | | 144 | 381 |
| 6" | 117 | 115 | 206 | 286 | 42 | 50 | 200 | 101 | 252 | 268 | 85 | 46 | 375 | | | 172 | 457 |
| 8" | 143 | 163 | | | | | 200 | 101 | 289 | 268 | 85 | 46 | 412 | | | 223 | 521 |
| 10" | 183 | 190 | | | | | 300 | 101 | 334 | 293 | 95 | 70 | 458 | | | 278 | 559 |
| 12" | 197 | 224 | | | | | 300 | 101 | 364 | 293 | 95 | 70 | 488 | | | 329 | 635 |

Note: * Not included in the standards.



STRAIGHTWAY TAPER PLUG VALVES

CAST STEEL CLASS 150
REGULAR PATTERN
RECTANGULAR PORT FULL BORE

| Class | Max. CWP | Test Pressure | Pattern | Connections | Port | Materials | | Operation |
|-------|----------|-------------------------------------|------------------------|--|--------------------------------|--|------------------------------------|-----------|
| | | | | | | Body & Cover | Plug | |
| 150 | 285 Psi | Shell 450 Psi Seat 315 Psi | Straightway Regular | Screwed API 5B table 2.1 or ASME B1.20.1 | Rectangular Full bore ** | Cast Steel ASTM A 216 Grade WCB | Cast Iron ASTM A 126 Class B | Manual |
| | | | | | | Cover: EN 10025 S355J0 S355J2G3 | Steel | |

** 1/2" and 3/4" Round port full bore.

| | WRENCH TYPE 8 L | WRENCH TYPE C |
|-----------|--------------------|------------------|
| Plug | DN 1/2" - 4" | DN 1/2" - 4" |
| Cast Iron | 9-AR 70024 N | 9-AR 70024 C |
| Steel | 9-AR 70027 N | 9-AR 70027 C |

| DN | A | B | C | D | E | F | H | I | L | M | N | U |
|--------|-----|-----|-----|-----|----|----|-----|-----|-----|-----|----|-----|
| 1/2" | 34 | 30 | 70 | 105 | 14 | 17 | 45 | 16 | 72 | 104 | 32 | 115 |
| 3/4" | 37 | 32 | 76 | 124 | 15 | 22 | 45 | 16 | 76 | 104 | 32 | 115 |
| 1" | 37 | 40 | 89 | 134 | 20 | 22 | 45 | 16 | 83 | 104 | 32 | 115 |
| 1 1/4" | 40 | 49 | 92 | 140 | 18 | 22 | 45 | 16 | 98 | 104 | 32 | 130 |
| 1 1/2" | 46 | 55 | 102 | 162 | 21 | 24 | 150 | 101 | 110 | 181 | 47 | 150 |
| 2" | 52 | 65 | 120 | 180 | 22 | 27 | 150 | 101 | 122 | 181 | 47 | 160 |
| 2 1/2" | 62 | 74 | 135 | 195 | 24 | 30 | 150 | 101 | 134 | 181 | 47 | 195 |
| 3" | 65 | 87 | 160 | 240 | 31 | 36 | 150 | 101 | 150 | 195 | 65 | 220 |
| 4" | 105 | 101 | 185 | 265 | 38 | 41 | 150 | 101 | 167 | 195 | 65 | 270 |



STRAIGHTWAY TAPER PLUG VALVES

CAST STEEL CLASS 150
REGULAR PATTERN
RECTANGULAR PORT FULL BORE

| Class | Max. CWP | Test Pressure | Pattern | Connections | Port | Materials | | Operation |
|-------|----------|-------------------------------------|------------------------|---|--------------------------------|---|---|-----------|
| | | | | | | Body & Cover | Plug | |
| 150 | 285 Psi | Shell 450 Psi Seat 315 Psi | Straightway Regular | Flanges R.F. or R.J. ASME B 16.5 Face to Face ASME B 16.10 | Rectangular Full bore ** | Cast Steel ASTM A 216 Grade WCB Cover: EN 10025 S355J0 S355J2G3 | Cast Iron ASTM A 126 Class B Steel | Manual |

** 1/2" and 3/4" Round port full bore.

| | WRENCH TYPE 8 L | GEAR TYPE C | GEAR TYPE D |
|-----------|--------------------|----------------|----------------|
| | | | |
| Plug | DN 1/2" - 5" | DN 1/2" - 12" | DN 5" - 12" |
| Cast Iron | 9-AR 70124 N | 9-AR 70124 C | 9-AR 70124 D |
| Steel | 9-AR 70127 N | 9-AR 70127 C | 9-AR 70127 D |

| DN | A | B | C | D | E | F | H | I | L | M | N | O | P | Q | R | V | V |
|--------|-----|-----|-----|-----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|
| 1/2" | 34 | 30 | 70 | 105 | 14 | 17 | 45 | 16 | 72 | 104 | 32 | | | *13 | 89 | *133 | *144 |
| 3/4" | 37 | 32 | 76 | 124 | 15 | 22 | 45 | 16 | 76 | 104 | 32 | | | *19 | 98 | *133 | *146 |
| 1" | 37 | 40 | 86 | 134 | 17 | 22 | 45 | 16 | 83 | 104 | 32 | | | 25 | 108 | *140 | *152 |
| 1 1/4" | 40 | 49 | 92 | 140 | 18 | 22 | 45 | 16 | 98 | 104 | 32 | | | 32 | 117 | *165 | *178 |
| 1 1/2" | 46 | 55 | 102 | 162 | 21 | 24 | 150 | 101 | 110 | 181 | 47 | | | 38 | 127 | *165 | *178 |
| 2" | 52 | 65 | 120 | 180 | 22 | 27 | 150 | 101 | 122 | 181 | 47 | | | 51 | 152 | *191 | *203 |
| 2 1/2" | 62 | 74 | 135 | 195 | 24 | 30 | 150 | 101 | 134 | 181 | 47 | | | 64 | 178 | *210 | *222 |
| 3" | 65 | 87 | 160 | 240 | 31 | 36 | 150 | 101 | 150 | 195 | 65 | | | 76 | 191 | *229 | *241 |
| 4" | 105 | 101 | 180 | 260 | 38 | 41 | 150 | 101 | 167 | 195 | 65 | | | 102 | 229 | 305 | 318 |
| 5" | 130 | 126 | 206 | 286 | 42 | 50 | 200 | 101 | 252 | 268 | 85 | 46 | 375 | 127 | 254 | 381 | 394 |
| 6" | 143 | 163 | 254 | 334 | 48 | 55 | 200 | 101 | 289 | 268 | 85 | 46 | 412 | 152 | 279 | 394 | 406 |
| 8" | 183 | 190 | | | | | 300 | 101 | 334 | 293 | 95 | 70 | 458 | 203 | 343 | 457 | 470 |
| 10" | 212 | 240 | | | | | 300 | 101 | 435 | 361 | 135 | 69 | 569 | 254 | 406 | 533 | 546 |
| 12" | 240 | 285 | | | | | 300 | 101 | 470 | 400 | 160 | 108 | 604 | 305 | 483 | 610 | 622 |

Note: * Not included in the standards.



STRAIGHTWAY TAPER PLUG VALVES

CAST STEEL CLASS 150
REGULAR PATTERN
RECTANGULAR PORT FULL BORE

| Class | Max. CWP | Test Pressure | Pattern | Connections | Port | Materials | | Operation |
|-------|----------|-------------------------------------|------------------------|--|--------------------------------|---|---|-----------|
| | | | | | | Body & Cover | Plug | |
| 150 | 285 Psi | Shell 450 Psi Seat 315 Psi | Straightway Regular | Welding Ends ASME B 16.25 End to End ASME B 16.10 | Rectangular Full bore ** | Cast Steel ASTM A 216 Grade WCB Cover: EN 10025 S355J0 S355J2G3 | Cast Iron ASTM A 126 Class B Steel | Manual |

** 1/2" and 3/4" Round port full bore.

| | WRENCH TYPE 8 L | GEAR TYPE C | GEAR TYPE D |
|-----------|--------------------|----------------|----------------|
| | | | |
| Plug | DN 1/2" - 5" | DN 1/2" - 12" | DN 5" - 12" |
| Cast Iron | 9-AR 70524 N | 9-AR 70524 C | 9-AR 70524 D |
| Steel | 9-AR 70527 N | 9-AR 70527 C | 9-AR 70527 D |

| DN | A | B | C | D | E | F | H | I | L | M | N | O | P | S | T | X |
|--------|-----|-----|-----|-----|----|----|-----|-----|-----|-----|-----|-----|-----|---|-------|------|
| 1/2" | 34 | 30 | 70 | 105 | 14 | 17 | 45 | 16 | 72 | 104 | 32 | | | Inside pipe dimension to be specified by purchaser. | *23,3 | *140 |
| 3/4" | 37 | 32 | 76 | 124 | 15 | 22 | 45 | 16 | 76 | 104 | 32 | | | | *28,7 | *149 |
| 1" | 37 | 40 | 86 | 134 | 17 | 22 | 45 | 16 | 83 | 104 | 32 | | | | *35,4 | *172 |
| 1 1/4" | 40 | 49 | 92 | 140 | 18 | 22 | 45 | 16 | 98 | 104 | 32 | | | | *44,2 | *200 |
| 1 1/2" | 46 | 55 | 102 | 162 | 21 | 24 | 150 | 101 | 110 | 181 | 47 | | | | *50,3 | *241 |
| 2" | 52 | 65 | 120 | 180 | 22 | 27 | 150 | 101 | 122 | 181 | 47 | | | | *62,3 | 267 |
| 2 1/2" | 62 | 74 | 135 | 195 | 24 | 30 | 150 | 101 | 134 | 181 | 47 | | | | 75 | 305 |
| 3" | 65 | 87 | 160 | 240 | 31 | 36 | 150 | 101 | 150 | 195 | 65 | | | | 91 | 330 |
| 4" | 105 | 101 | 180 | 260 | 38 | 41 | 150 | 101 | 167 | 195 | 65 | | | | 117 | 356 |
| 5" | 130 | 126 | 206 | 286 | 42 | 50 | 200 | 101 | 252 | 268 | 85 | 46 | 375 | | 144 | 381 |
| 6" | 143 | 163 | 254 | 334 | 48 | 55 | 200 | 101 | 289 | 268 | 85 | 46 | 412 | | 172 | 457 |
| 8" | 183 | 190 | | | | | 300 | 101 | 334 | 293 | 95 | 70 | 458 | | 223 | 521 |
| 10" | 212 | 240 | | | | | 300 | 101 | 435 | 361 | 135 | 69 | 569 | | 278 | 559 |
| 12" | 240 | 285 | | | | | 300 | 101 | 470 | 400 | 160 | 108 | 604 | | 329 | 635 |

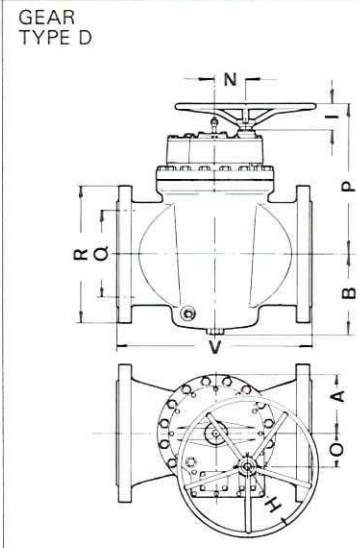
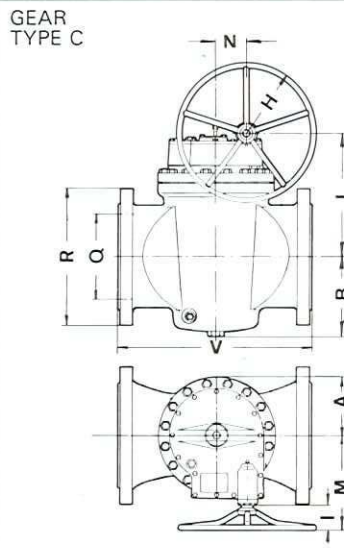
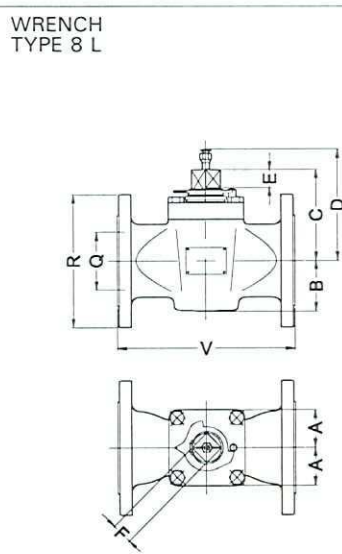
Note: * Not included in the standards.



STRAIGHTWAY TAPER PLUG VALVES

CAST STEEL CLASS 150
REGULAR PATTERN
RECTANGULAR PORT

| Class | Max. CWP | Test Pressure | Pattern | Connections | Port | Materials | | Operation |
|-------|----------|-------------------------------------|------------------------|---|-------------|---|---|-----------|
| | | | | | | Body & Cover | Plug | |
| 150 | 285 Psi | Shell 450 Psi Seat 315 Psi | Straightway Regular | Flanges R.F. or R.J. ASME B 16.5 Face to Face ASME B 16.10 | Rectangular | Cast Steel ASTM A 216 Grade WCB Cover: EN 10025 S355J0 S355J2G3 | Cast Iron ASTM A 126 Class B Steel | Manual |



| | | | |
|-----------|--------------|--------------|--------------|
| Plug | DN 1" - 6" | DN 1" - 16" | DN 6" - 16" |
| Cast Iron | 9-AV 70124 N | 9-AV 70124 C | 9-AV 70124 D |
| Steel | 9-AV 70127 N | 9-AV 70127 C | 9-AV 70127 D |

| DN | A | B | C | D | E | F | H | I | L | M | N | O | P | Q | R | V | V |
|--------|-----|-----|-----|-----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|
| 1" | 37 | 32 | 76 | 124 | 15 | 22 | 45 | 16 | 76 | 104 | 32 | | | 25 | 108 | *140 | *152 |
| 1 1/4" | 37 | 40 | 86 | 134 | 17 | 22 | 45 | 16 | 83 | 104 | 32 | | | 32 | 117 | *165 | *178 |
| 1 1/2" | 40 | 49 | 92 | 140 | 18 | 22 | 45 | 16 | 98 | 104 | 32 | | | 38 | 127 | *165 | *178 |
| 2" | 46 | 55 | 102 | 162 | 21 | 24 | 150 | 101 | 110 | 181 | 47 | | | 51 | 152 | *191 | *203 |
| 2 1/2" | 52 | 65 | 120 | 180 | 22 | 27 | 150 | 101 | 122 | 181 | 47 | | | 64 | 178 | *210 | *222 |
| 3" | 62 | 74 | 135 | 195 | 24 | 30 | 150 | 101 | 134 | 181 | 47 | | | 76 | 191 | *229 | *241 |
| 4" | 65 | 87 | 160 | 240 | 31 | 36 | 150 | 101 | 150 | 195 | 65 | | | 102 | 229 | 305 | 318 |
| 5" | 105 | 101 | 185 | 265 | 38 | 41 | 150 | 101 | 167 | 195 | 65 | | | 127 | 254 | 381 | 394 |
| 6" | 117 | 115 | 206 | 286 | 42 | 50 | 200 | 101 | 252 | 268 | 85 | 46 | 375 | 152 | 279 | 394 | 406 |
| 8" | 143 | 163 | 254 | 334 | 48 | 55 | 200 | 101 | 289 | 268 | 85 | 46 | 412 | 203 | 343 | 457 | 470 |
| 10" | 183 | 190 | | | | | 300 | 101 | 334 | 293 | 95 | 70 | 458 | 254 | 406 | 533 | 546 |
| 12" | 197 | 224 | | | | | 300 | 101 | 364 | 293 | 95 | 70 | 488 | 305 | 483 | 610 | 622 |
| 14" | 235 | 247 | | | | | 300 | 101 | 441 | 361 | 135 | 69 | 575 | 337 | 533 | 686 | 699 |
| 16" | 250 | 295 | | | | | 300 | 101 | 466 | 400 | 160 | 108 | 600 | 387 | 597 | 762 | 775 |

Note: * Not included in the standards.



STRAIGHTWAY TAPER PLUG VALVES

CAST STEEL CLASS 150
REGULAR PATTERN
RECTANGULAR PORT

| Class | Max. CWP | Test Pressure | Pattern | Connections | Port | Materials | | Operation |
|-------|----------|-------------------------------------|------------------------|--|-------------|---|---|-----------|
| | | | | | | Body & Cover | Plug | |
| 150 | 285 Psi | Shell 450 Psi Seat 315 Psi | Straightway Regular | Welding Ends ASME B 16.25 End to End ASME B 16.10 | Rectangular | Cast Steel ASTM A 216 Grade WCB Cover: EN 10025 S355J0 S355J2G3 | Cast Iron ASTM A 126 Class B Steel | Manual |

| | WRENCH TYPE 8 L | GEAR TYPE C | GEAR TYPE D |
|-----------|--------------------|----------------|----------------|
| | | | |
| Plug | DN 1" - 6" | DN 1" - 16" | DN 6" - 16" |
| Cast Iron | 9-AV 70524 N | 9-AV 70524 C | 9-AV 70524 D |
| Steel | 9-AV 70527 N | 9-AV 70527 C | 9-AV 70527 D |

| DN | A | B | C | D | E | F | H | I | L | M | N | O | P | S | T | X |
|--------|-----|-----|-----|-----|----|----|-----|-----|-----|-----|-----|-----|-----|---|-------|------|
| 1" | 37 | 32 | 76 | 124 | 15 | 22 | 45 | 16 | 76 | 104 | 32 | | | Inside pipe dimension to be specified by purchaser. | *35,4 | *172 |
| 1 1/4" | 37 | 40 | 86 | 134 | 17 | 22 | 45 | 16 | 83 | 104 | 32 | | | | *44,2 | *200 |
| 1 1/2" | 40 | 49 | 92 | 140 | 18 | 22 | 45 | 16 | 98 | 104 | 32 | | | | *50,3 | *241 |
| 2" | 46 | 55 | 102 | 162 | 21 | 24 | 150 | 101 | 110 | 181 | 47 | | | | *62,3 | 267 |
| 2 1/2" | 52 | 65 | 120 | 180 | 22 | 27 | 150 | 101 | 122 | 181 | 47 | | | | 75 | 305 |
| 3" | 62 | 74 | 135 | 195 | 24 | 30 | 150 | 101 | 134 | 181 | 47 | | | | 91 | 330 |
| 4" | 65 | 87 | 160 | 240 | 31 | 36 | 150 | 101 | 150 | 195 | 65 | | | | 117 | 356 |
| 5" | 105 | 101 | 185 | 265 | 38 | 41 | 150 | 101 | 167 | 195 | 65 | | | | 144 | 381 |
| 6" | 117 | 115 | 206 | 286 | 42 | 50 | 200 | 101 | 252 | 268 | 85 | 46 | 375 | | 172 | 457 |
| 8" | 143 | 163 | 254 | 334 | 48 | 55 | 200 | 101 | 289 | 268 | 85 | 46 | 412 | | 223 | 521 |
| 10" | 183 | 190 | | | | | 300 | 101 | 334 | 293 | 95 | 70 | 458 | | 278 | 559 |
| 12" | 197 | 224 | | | | | 300 | 101 | 364 | 293 | 95 | 70 | 488 | | 329 | 635 |
| 14" | 235 | 247 | | | | | 300 | 101 | 441 | 361 | 135 | 69 | 575 | | 362 | *762 |
| 16" | 250 | 295 | | | | | 300 | 101 | 466 | 400 | 160 | 108 | 600 | 413 | *838 | |

Note: * Not included in the standards.



STRAIGHTWAY TAPER PLUG VALVES

CAST STEEL CLASS 150
VENTURI PATTERN
RECTANGULAR PORT

| Class | Max. CWP | Test Pressure | Pattern | Connections | Port | Materials | | Operation |
|-------|----------|-------------------------------------|------------------------|---|-------------|--|------------------------------------|-----------|
| | | | | | | Body & Cover | Plug | |
| 150 | 285 Psi | Shell 450 Psi Seat 315 Psi | Straightway Venturi | Flanges R.F. or R.J. ASME B 16.5 Face to Face ASME B 16.10 | Rectangular | Cast Steel ASTM A 216 Grade WCB | Cast Iron ASTM A 126 Class B | Manual |
| | | | | | | Cover: EN 10025 S355J0 S355J2G3 | Steel | |

| | WRENCH TYPE 8 L | GEAR TYPE C | GEAR TYPE D |
|-----------|--------------------|----------------|----------------|
| | | | |
| Plug | DN 6" - 8" | DN 6" - 16" | DN 8" - 16" |
| Cast Iron | 9-AT 70124 N | 9-AT 70124 C | 9-AT 70124 D |
| Steel | 9-AT 70127 N | 9-AT 70127 C | 9-AT 70127 D |

| DN | A | B | C | D | E | F | H | I | L | M | N | O | P | Q | R | V | V |
|-----|-----|-----|-----|-----|----|----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|
| 6" | 106 | 123 | 198 | 278 | 37 | 41 | 150 | 101 | 183 | 195 | 71 | | | 152 | 279 | 394 | 406 |
| 8" | 128 | 153 | 260 | 340 | 52 | 55 | 200 | 101 | 284 | 268 | 85 | 46 | 407 | 203 | 343 | 457 | 470 |
| 10" | 145 | 186 | | | | | 200 | 101 | 326 | 268 | 85 | 46 | 449 | 254 | 406 | 533 | 546 |
| 12" | 171 | 219 | | | | | 300 | 101 | 376 | 293 | 95 | 70 | 500 | 305 | 483 | 610 | 622 |
| 14" | 180 | 243 | | | | | 300 | 101 | 404 | 293 | 95 | 70 | 528 | 337 | 533 | 686 | 699 |
| 16" | 202 | 274 | | | | | 300 | 101 | 487 | 361 | 135 | 69 | 621 | 387 | 597 | 762 | 775 |



STRAIGHTWAY TAPER PLUG VALVES

CAST STEEL CLASS 150
VENTURI PATTERN
RECTANGULAR PORT

| Class | Max. CWP | Test Pressure | Pattern | Connections | Port | Materials | | Operation |
|-------|----------|-------------------------------------|------------------------|---|-------------|---|------------------------------------|-----------|
| | | | | | | Body & Cover | Plug | |
| 150 | 285 Psi | Shell 450 Psi Seat 315 Psi | Straightway Venturi | Welding Ends ASME B 16.25 End to End ASME B 16.10 Regular Pattern | Rectangular | Cast Steel ASTM A 216 Grade WCB Cover: EN 10025 S355J0 S355J2G3 | Cast Iron ASTM A 126 Class B | Manual |
| | | | | | | | Steel | |

| | WRENCH TYPE 8 L | GEAR TYPE C | GEAR TYPE D |
|-----------|--------------------|----------------|----------------|
| | | | |
| Plug | DN 6" - 8" | DN 6" - 16" | DN 8" - 16" |
| Cast Iron | 9-AT 70524 N | 9-AT 70524 C | 9-AT 70524 D |
| Steel | 9-AT 70527 N | 9-AT 70527 C | 9-AT 70527 D |

| DN | A | B | C | D | E | F | H | I | L | M | N | O | P | S | T | X |
|-----|-----|-----|-----|-----|----|----|-----|-----|-----|-----|-----|----|-----|---|-----|------|
| 6" | 106 | 123 | 198 | 278 | 37 | 41 | 150 | 101 | 183 | 195 | 71 | | | Inside pipe dimension to be specified by purchaser. | 172 | 457 |
| 8" | 128 | 153 | 260 | 340 | 52 | 55 | 200 | 101 | 284 | 268 | 85 | 46 | 407 | | 223 | 521 |
| 10" | 145 | 186 | | | | | 200 | 101 | 326 | 268 | 85 | 46 | 449 | | 278 | 559 |
| 12" | 171 | 219 | | | | | 300 | 101 | 376 | 293 | 95 | 70 | 500 | | 329 | 635 |
| 14" | 180 | 243 | | | | | 300 | 101 | 404 | 293 | 95 | 70 | 528 | | 362 | *762 |
| 16" | 202 | 274 | | | | | 300 | 101 | 487 | 361 | 135 | 69 | 621 | | 413 | *838 |

Note: * Not included in the standards.

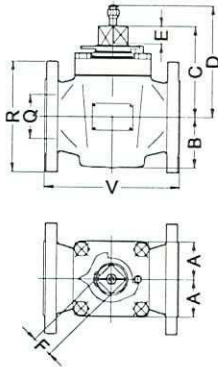


STRAIGHTWAY TAPER PLUG VALVES

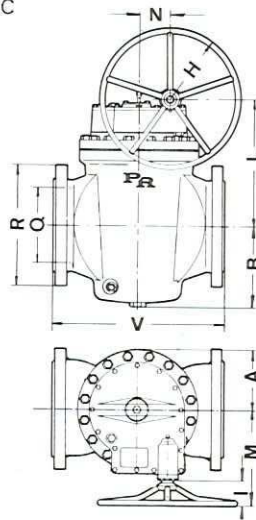
CAST STEEL CLASS 300
SHORT PATTERN
RECTANGULAR PORT

| Class | Max. CWP | Test Pressure | Pattern | Connections | Port | Materials | | Operation |
|-------|----------|--------------------------------------|----------------------|---|-------------|---|---|-----------|
| | | | | | | Body & Cover | Plug | |
| 300 | 740 Psi | Shell 1125 Psi Seat 815 Psi | Straightway Short | Flanges R.F. or R.J. ASME B 16.5 Face to Face ASME B 16.10 | Rectangular | Cast Steel ASTM A 216 Grade WCB Cover: EN 10025 S355J0 S355J2G3 | Cast Iron ASTM A 126 Class B Steel | Manual |

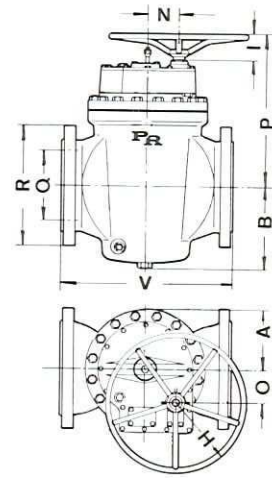
WRENCH
TYPE 8 L



GEAR
TYPE C



GEAR
TYPE D



| | | | |
|-----------|--------------|--------------|--------------|
| Plug | DN 1" - 6" | DN 1" - 12" | DN 6" - 12" |
| Cast Iron | 9-AS 70144 N | 9-AS 70144 C | 9-AS 70144 D |
| Steel | 9-AS 70147 N | 9-AS 70147 C | 9-AS 70147 D |

| DN | A | B | C | D | E | F | H | I | L | M | N | O | P | Q | R | V | V |
|--------|-----|-----|-----|-----|----|----|-----|-----|-----|-----|----|----|-----|-----|-----|-----|-----|
| 1" | 37 | 32 | 76 | 124 | 15 | 22 | 45 | 16 | 78 | 104 | 32 | | | 25 | 124 | 159 | 172 |
| 1 1/2" | 40 | 49 | 92 | 140 | 18 | 22 | 45 | 16 | 98 | 104 | 32 | | | 38 | 156 | 191 | 203 |
| 2" | 46 | 55 | 102 | 162 | 21 | 24 | 150 | 101 | 110 | 181 | 47 | | | 51 | 165 | 216 | 232 |
| 2 1/2" | 52 | 65 | 120 | 180 | 22 | 27 | 150 | 101 | 122 | 181 | 47 | | | 64 | 191 | 241 | 257 |
| 3" | 62 | 74 | 135 | 195 | 24 | 30 | 150 | 101 | 134 | 181 | 47 | | | 76 | 210 | 283 | 299 |
| 4" | 90 | 93 | 160 | 240 | 31 | 36 | 150 | 101 | 150 | 195 | 65 | | | 102 | 254 | 305 | 321 |
| 6" | 117 | 115 | 206 | 286 | 42 | 50 | 200 | 101 | 252 | 268 | 85 | 46 | 375 | 152 | 318 | 403 | 419 |
| 8" | 135 | 165 | | | | | 200 | 101 | 283 | 268 | 85 | 46 | 406 | 203 | 381 | 419 | 435 |
| 10" | 144 | 187 | | | | | 300 | 101 | 316 | 268 | 85 | 46 | 439 | 254 | 445 | 457 | 473 |
| 12" | 160 | 216 | | | | | 300 | 101 | 370 | 293 | 95 | 70 | 493 | 305 | 521 | 502 | 518 |



STRAIGHTWAY TAPER PLUG VALVES

CAST STEEL CLASS 300
SHORT PATTERN
RECTANGULAR PORT

| Class | Max. CWP | Test Pressure | Pattern | Connections | Port | Materials | | Operation |
|-------|----------|--------------------------------------|----------------------|--|-------------|---|---|-----------|
| | | | | | | Body & Cover | Plug | |
| 300 | 740 Psi | Shell 1125 Psi Seat 815 Psi | Straightway Short | Welding Ends ASME B 16.25 End to End ASME B 16.10 | Rectangular | Cast Steel ASTM A 216 Grade WCB Cover: EN 10025 S355J0 S355J2G3 | Cast Iron ASTM A 126 Class B Steel | Manual |

| | WRENCH TYPE 8 L | GEAR TYPE C | GEAR TYPE D |
|-----------|--------------------|----------------|----------------|
| | | | |
| Plug | DN 1" - 6" | DN 1" - 12" | DN 6" - 12" |
| Cast Iron | 9-AS 70544 N | 9-AS 70544 C | 9-AS 70544 D |
| Steel | 9-AS 70547 N | 9-AS 70547 C | 9-AS 70547 D |

| DN | A | B | C | D | E | F | H | I | L | M | N | O | P | S | T | X | |
|--------|-----|-----|-----|-----|----|----|-----|-----|-----|-----|----|----|-----|---|-------|------|------|
| 1" | 37 | 32 | 76 | 124 | 15 | 22 | 45 | 16 | 78 | 104 | 32 | | | Inside pipe dimension to be specified by purchaser. | *35,4 | *172 | |
| 1 1/4" | 37 | 40 | 86 | 134 | 17 | 22 | 45 | 16 | 83 | 104 | 32 | | | | *44,2 | *200 | |
| 1 1/2" | 40 | 49 | 92 | 140 | 18 | 22 | 45 | 16 | 98 | 104 | 32 | | | | *50,3 | *241 | |
| 2" | 46 | 55 | 102 | 162 | 21 | 24 | 150 | 101 | 110 | 181 | 47 | | | | *62,3 | 267 | |
| 2 1/2" | 52 | 65 | 120 | 180 | 22 | 27 | 150 | 101 | 122 | 181 | 47 | | | | | 75 | 305 |
| 3" | 62 | 74 | 135 | 195 | 24 | 30 | 150 | 101 | 134 | 181 | 47 | | | | | 91 | 330 |
| 4" | 90 | 93 | 160 | 240 | 31 | 36 | 150 | 101 | 150 | 195 | 65 | | | | | 117 | 356 |
| 5" | 105 | 101 | 185 | 265 | 38 | 41 | 150 | 101 | 167 | 195 | 65 | | | | | 144 | *381 |
| 6" | 117 | 115 | 206 | 286 | 42 | 50 | 200 | 101 | 252 | 268 | 85 | 46 | 375 | | | 172 | 457 |
| 8" | 144 | 162 | | | | | 200 | 101 | 289 | 268 | 85 | 46 | 412 | | | 223 | 521 |
| 10" | 183 | 190 | | | | | 300 | 101 | 334 | 293 | 95 | 70 | 458 | | | 278 | 559 |
| 12" | 197 | 224 | | | | | 300 | 101 | 364 | 293 | 95 | 70 | 488 | | | 329 | 635 |

Note: * Not included in the standards.



STRAIGHTWAY TAPER PLUG VALVES

CAST STEEL CLASS 300
REGULAR PATTERN
RECTANGULAR PORT FULL BORE

| Class | Max. CWP | Test Pressure | Pattern | Connections | Port | Materials | | Operation |
|-------|----------|--------------------------------------|------------------------|--|--------------------------------|---|---|-----------|
| | | | | | | Body & Cover | Plug | |
| 300 | 740 Psi | Shell 1125 Psi Seat 815 Psi | Straightway Regular | Screwed API 5B table 2.1 or ASME B1.20.1 | Rectangular Full bore ** | Cast Steel ASTM A 216 Grade WCB Cover: EN 10025 S355J0 S355J2G3 | Cast Iron ASTM A 126 Class B Steel | Manual |

** 1/2" and 3/4" Round port full bore.

| | WRENCH TYPE 8 L | GEAR TYPE C |
|-----------|--------------------|----------------|
| Plug | DN 1/2" - 4" | DN 1/2" - 4" |
| Cast Iron | 9-AR 70044 N | 9-AR 70044 C |
| Steel | 9-AR 70047 N | 9-AR 70047 C |

| DN | A | B | C | D | E | F | H | I | L | M | N | U |
|--------|-----|-----|-----|-----|----|----|-----|-----|-----|-----|----|-----|
| 1/2" | 34 | 30 | 70 | 105 | 14 | 17 | 45 | 16 | 72 | 104 | 32 | 115 |
| 3/4" | 37 | 32 | 76 | 124 | 15 | 22 | 45 | 16 | 76 | 104 | 32 | 115 |
| 1" | 37 | 40 | 86 | 134 | 17 | 22 | 45 | 16 | 83 | 104 | 32 | 115 |
| 1 1/4" | 40 | 49 | 92 | 140 | 18 | 22 | 45 | 16 | 98 | 104 | 32 | 130 |
| 1 1/2" | 46 | 55 | 102 | 162 | 21 | 24 | 150 | 101 | 110 | 181 | 47 | 150 |
| 2" | 52 | 65 | 120 | 180 | 22 | 27 | 150 | 101 | 122 | 181 | 47 | 160 |
| 2 1/2" | 62 | 74 | 135 | 195 | 24 | 30 | 150 | 101 | 134 | 181 | 47 | 195 |
| 3" | 90 | 93 | 160 | 240 | 31 | 36 | 150 | 101 | 150 | 195 | 65 | 220 |
| 4" | 105 | 101 | 185 | 265 | 38 | 41 | 150 | 101 | 167 | 195 | 65 | 270 |



STRAIGHTWAY TAPER PLUG VALVES

CAST STEEL CLASS 300
REGULAR PATTERN
RECTANGULAR PORT FULL BORE

| Class | Max. CWP | Test Pressure | Pattern | Connections | Port | Materials | | Operation |
|-------|----------|--------------------------------------|------------------------|---|--------------------------------|---|---|-----------|
| | | | | | | Body & Cover | Plug | |
| 300 | 740 Psi | Shell 1125 Psi Seat 815 Psi | Straightway Regular | Flanges R.F. or R.J. ASME B 16.5 Face to Face ASME B 16.10 | Rectangular Full Bore ** | Cast Steel ASTM A 216 Grade WCB Cover: EN 10025 S355J0 S355J2G3 | Cast Iron ASTM A 126 Class B Steel | Manual |

** 1/2" and 3/4" Round port full bore.

| | WRENCH TYPE 8 L | GEAR TYPE C | GEAR TYPE D |
|-----------|--------------------|----------------|----------------|
| | | | |
| Plug | DN 1/2" - 5" | DN 1/2" - 12" | DN 5" - 12" |
| Cast Iron | 9-AR 70144 N | 9-AR 70144 C | 9-AR 70144 D |
| Steel | 9-AR 70147 N | 9-AR 70147 C | 9-AR 70147 D |

| DN | A | B | C | D | E | F | H | I | L | M | N | O | P | Q | R | V | V |
|--------|-----|-----|-----|-----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|
| 1/2" | 34 | 30 | 70 | 105 | 14 | 17 | 45 | 16 | 72 | 104 | 32 | | | *13 | 95 | *140 | *151 |
| 3/4" | 37 | 32 | 76 | 124 | 15 | 22 | 45 | 16 | 76 | 104 | 32 | | | *19 | 117 | *140 | *153 |
| 1" | 37 | 40 | 86 | 134 | 17 | 22 | 45 | 16 | 83 | 104 | 32 | | | 25 | 124 | *159 | *172 |
| 1 1/4" | 40 | 49 | 92 | 140 | 18 | 22 | 45 | 16 | 98 | 104 | 32 | | | 32 | 133 | *178 | *191 |
| 1 1/2" | 46 | 55 | 102 | 162 | 21 | 24 | 150 | 101 | 110 | 181 | 47 | | | 38 | 155 | *191 | *203 |
| 2" | 52 | 65 | 120 | 180 | 22 | 27 | 150 | 101 | 122 | 181 | 47 | | | 51 | 165 | *216 | *232 |
| 2 1/2" | 62 | 74 | 135 | 195 | 24 | 30 | 150 | 101 | 134 | 181 | 47 | | | 64 | 191 | *241 | *257 |
| 3" | 90 | 93 | 160 | 240 | 31 | 36 | 150 | 101 | 150 | 195 | 65 | | | 76 | 210 | *283 | *299 |
| 4" | 105 | 101 | 180 | 260 | 38 | 41 | 150 | 101 | 167 | 195 | 65 | | | 102 | 254 | *305 | *321 |
| 5" | 130 | 126 | 206 | 286 | 42 | 50 | 200 | 101 | 252 | 268 | 85 | 46 | 375 | 127 | 279 | *349 | *365 |
| 6" | 144 | 162 | 254 | 334 | 48 | 55 | 200 | 101 | 289 | 268 | 85 | 46 | 412 | 152 | 318 | 403 | 419 |
| 8" | 183 | 190 | | | | | 300 | 101 | 334 | 293 | 95 | 70 | 458 | 203 | 381 | 502 | 518 |
| 10" | 212 | 240 | | | | | 300 | 101 | 435 | 361 | 135 | 69 | 569 | 254 | 445 | 568 | 584 |
| 12" | 240 | 285 | | | | | 300 | 101 | 470 | 400 | 160 | 108 | 604 | 305 | 521 | 711 | 727 |

Note: * Not included in the standards.



STRAIGHTWAY TAPER PLUG VALVES

CAST STEEL CLASS 300
REGULAR PATTERN
RECTANGULAR PORT FULL BORE

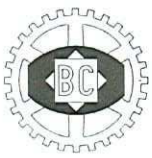
| Class | Max. CWP | Test Pressure | Pattern | Connections | Port | Materials | | Operation |
|-------|----------|--------------------------------------|------------------------|--|--------------------------------|---|---|-----------|
| | | | | | | Body & Cover | Plug | |
| 300 | 740 Psi | Shell 1125 Psi Seat 815 Psi | Straightway Regular | Welding Ends ASME B 16.25 End to End ASME B 16.10 Short and Regular Pattern | Rectangular Full bore ** | Cast Steel ASTM A 216 Grade WCB Cover: EN 10025 S355J0 S355J2G3 | Cast Iron ASTM A 126 Class B Steel | Manual |

** 1/2" and 3/4" Round port full bore.

| | WRENCH TYPE 8 L | GEAR TYPE C | GEAR TYPE D |
|-----------|--------------------|----------------|----------------|
| | | | |
| Plug | DN 1/2" - 5" | DN 1/2" - 12" | DN 6" - 12" |
| Cast Iron | 9-AR 70544 N | 9-AR 70544 C | 9-AR 70544 D |
| Steel | 9-AR 70547 N | 9-AR 70547 C | 9-AR 70547 D |

| DN | A | B | C | D | E | F | H | I | L | M | N | O | P | S | T | X |
|--------|-----|-----|-----|-----|----|----|-----|-----|-----|-----|-----|-----|-----|---|-------|------|
| 1/2" | 34 | 30 | 70 | 105 | 14 | 17 | 45 | 16 | 72 | 104 | 32 | | | Inside pipe dimension to be specified by purchaser. | *23,3 | *140 |
| 3/4" | 37 | 32 | 76 | 124 | 15 | 22 | 45 | 16 | 76 | 104 | 32 | | | | *28,7 | *149 |
| 1" | 37 | 40 | 86 | 134 | 17 | 22 | 45 | 16 | 83 | 104 | 32 | | | | *35,4 | *172 |
| 1 1/4" | 40 | 49 | 92 | 140 | 18 | 22 | 45 | 16 | 98 | 104 | 32 | | | | *44,2 | *200 |
| 1 1/2" | 46 | 55 | 102 | 162 | 21 | 24 | 150 | 101 | 110 | 181 | 47 | | | | *50,3 | *241 |
| 2" | 52 | 65 | 120 | 180 | 22 | 27 | 150 | 101 | 122 | 181 | 47 | | | | *62,3 | 267 |
| 2 1/2" | 62 | 74 | 135 | 195 | 24 | 30 | 150 | 101 | 134 | 181 | 47 | | | | 75 | 305 |
| 3" | 90 | 93 | 160 | 240 | 31 | 36 | 150 | 101 | 150 | 195 | 65 | | | | 91 | 330 |
| 4" | 105 | 101 | 180 | 260 | 38 | 41 | 150 | 101 | 167 | 195 | 65 | | | | 117 | 356 |
| 5" | 130 | 126 | 206 | 286 | 42 | 50 | 200 | 101 | 252 | 268 | 85 | 46 | 375 | | 144 | *381 |
| 6" | 144 | 162 | 254 | 334 | 48 | 55 | 200 | 101 | 289 | 268 | 85 | 46 | 412 | | 172 | 457 |
| 8" | 183 | 190 | | | | | 300 | 101 | 334 | 293 | 95 | 70 | 458 | | 223 | 521 |
| 10" | 212 | 240 | | | | | 300 | 101 | 435 | 361 | 135 | 69 | 569 | | 278 | 559 |
| 12" | 240 | 285 | | | | | 300 | 101 | 470 | 400 | 160 | 108 | 604 | | 329 | 635 |

Note: * Not included in the standards.



STRAIGHTWAY TAPER PLUG VALVES

CAST STEEL CLASS 300
REGULAR PATTERN
RECTANGULAR PORT

| Class | Max. CWP | Test Pressure | Pattern | Connections | Port | Materials | | Operation |
|-------|----------|--------------------------------------|------------------------|---|-------------|--|------------------------------------|-----------|
| | | | | | | Body & Cover | Plug | |
| 300 | 740 Psi | Shell 1125 Psi Seat 815 Psi | Straightway Regular | Flanges R.F. or R.J. ASME B 16.5 Face to Face ASME B 16.10 | Rectangular | Cast Steel ASTM A 216 Grade WCB Cover: EN 100254 S355 J0 S355 J2G3 | Cast Iron ASTM A 126 Class B | Manual |
| | | | | | | | Steel | |

| | WRENCH TYPE 8 L | GEAR TYPE C | GEAR TYPE D |
|-----------|--------------------|----------------|----------------|
| | | | |
| Plug | DN 1" - 6" | DN 1" - 16" | DN 6" - 16" |
| Cast Iron | 9-AV 70144 N | 9-AV 70144 C | 9-AV 70144 D |
| Steel | 9-AV 70147 N | 9-AV 70147 C | 9-AV 70147 D |

| DN | A | B | C | D | E | F | H | I | L | M | N | O | P | Q | R | V | V |
|--------|-----|-----|-----|-----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|
| 1" | 37 | 32 | 76 | 124 | 15 | 22 | 45 | 16 | 76 | 104 | 32 | | | 25 | 124 | *159 | *172 |
| 1 1/4" | 37 | 40 | 86 | 134 | 17 | 22 | 45 | 16 | 83 | 104 | 32 | | | 32 | 133 | *178 | *191 |
| 1 1/2" | 40 | 49 | 92 | 140 | 18 | 22 | 45 | 16 | 98 | 104 | 32 | | | 38 | 155 | *191 | *203 |
| 2" | 46 | 55 | 102 | 162 | 21 | 24 | 150 | 101 | 110 | 181 | 47 | | | 51 | 165 | *216 | *232 |
| 2 1/2" | 52 | 65 | 120 | 180 | 22 | 27 | 150 | 101 | 122 | 181 | 47 | | | 64 | 191 | *241 | *257 |
| 3" | 62 | 74 | 135 | 195 | 24 | 30 | 150 | 101 | 134 | 181 | 47 | | | 76 | 210 | *283 | *299 |
| 4" | 90 | 93 | 160 | 240 | 31 | 36 | 150 | 101 | 150 | 195 | 65 | | | 102 | 254 | *305 | *321 |
| 5" | 105 | 101 | 185 | 265 | 38 | 41 | 150 | 101 | 167 | 195 | 65 | | | 127 | 279 | *349 | *365 |
| 6" | 117 | 115 | 206 | 286 | 42 | 50 | 200 | 101 | 252 | 268 | 85 | 46 | 375 | 152 | 318 | 403 | 419 |
| 8" | 144 | 162 | 254 | 334 | 48 | 55 | 200 | 101 | 289 | 268 | 85 | 46 | 412 | 203 | 381 | 502 | 518 |
| 10" | 183 | 190 | | | | | 300 | 101 | 334 | 293 | 95 | 70 | 458 | 254 | 445 | 568 | 584 |
| 12" | 197 | 224 | | | | | 300 | 101 | 364 | 293 | 95 | 70 | 488 | 305 | 521 | 711 | 727 |
| 14" | 235 | 247 | | | | | 300 | 101 | 441 | 361 | 135 | 69 | 575 | 337 | 584 | 762 | 778 |
| 16" | 250 | 295 | | | | | 300 | 101 | 466 | 400 | 160 | 108 | 600 | 387 | 648 | 838 | 854 |

Note: * Not included in the standards.



STRAIGHTWAY TAPER PLUG VALVES

CAST STEEL CLASS 300
REGULAR PATTERN
RECTANGULAR PORT

| Class | Max. CWP | Test Pressure | Pattern | Connections | Port | Materials | | Operation |
|-------|----------|--------------------------------------|------------------------|--|-------------|---|---|-----------|
| | | | | | | Body & Cover | Plug | |
| 300 | 740 Psi | Shell 1125 Psi Seat 815 Psi | Straightway Regular | Welding Ends ASME B 16.25 End to End ASME B 16.10 Short and Regular Pattern | Rectangular | Cast Steel ASTM A 216 Grade WCB Cover: EN 10025 S355J0 S355J2G3 | Cast Iron ASTM A 126 Class B Steel | Manual |

| | WRENCH TYPE 8 L | GEAR TYPE C | GEAR TYPE D |
|-----------|--------------------|----------------|----------------|
| | | | |
| Plug | DN 1" - 6" | DN 1" - 16" | DN 6" - 16" |
| Cast Iron | 9-AV 70544 N | 9-AV 70544 C | 9-AV 70544 D |
| Steel | 9-AV 70547 N | 9-AV 70547 C | 9-AV 70547 D |

| DN | A | B | C | D | E | F | H | I | L | M | N | O | P | S | T | X |
|--------|-----|-----|-----|-----|----|----|-----|-----|-----|-----|-----|-----|-----|---|-------|------|
| 1" | 37 | 32 | 76 | 124 | 15 | 22 | 45 | 16 | 76 | 104 | 32 | | | Inside pipe dimension to be specified by purchaser. | *35,4 | *172 |
| 1 1/4" | 37 | 40 | 86 | 134 | 17 | 22 | 45 | 16 | 83 | 104 | 32 | | | | *44,2 | *200 |
| 1 1/2" | 40 | 49 | 92 | 140 | 18 | 22 | 45 | 16 | 98 | 104 | 32 | | | | *50,3 | *241 |
| 2" | 46 | 55 | 102 | 162 | 21 | 24 | 150 | 101 | 110 | 181 | 47 | | | | *62,3 | 267 |
| 2 1/2" | 52 | 65 | 120 | 180 | 22 | 27 | 150 | 101 | 122 | 181 | 47 | | | | 75 | 305 |
| 3" | 62 | 74 | 135 | 195 | 24 | 30 | 150 | 101 | 134 | 181 | 47 | | | | 91 | 330 |
| 4" | 90 | 93 | 160 | 240 | 31 | 36 | 150 | 101 | 150 | 195 | 65 | | | | 117 | 356 |
| 5" | 105 | 101 | 185 | 265 | 38 | 41 | 150 | 101 | 167 | 195 | 65 | | | | 144 | *381 |
| 6" | 117 | 115 | 206 | 286 | 42 | 50 | 200 | 101 | 252 | 268 | 85 | 46 | 375 | | 172 | 457 |
| 8" | 144 | 162 | 254 | 334 | 48 | 55 | 200 | 101 | 289 | 268 | 85 | 46 | 412 | | 223 | 521 |
| 10" | 183 | 190 | | | | | 300 | 101 | 334 | 293 | 95 | 70 | 458 | | 278 | 559 |
| 12" | 197 | 224 | | | | | 300 | 101 | 364 | 293 | 95 | 70 | 488 | | 329 | 635 |
| 14" | 235 | 247 | | | | | 300 | 101 | 441 | 361 | 135 | 69 | 575 | | 362 | 762 |
| 16" | 250 | 295 | | | | | 300 | 101 | 466 | 400 | 160 | 108 | 600 | | 413 | 838 |

Note: * Not included in the standards.



STRAIGHTWAY TAPER PLUG VALVES

CAST STEEL CLASS 300
VENTURI PATTERN
RECTANGULAR PORT

| Class | Max. CWP | Test Pressure | Pattern | Connections | Port | Materials | | Operation |
|-------|----------|--------------------------------------|------------------------|---|-------------|---|------------------------------------|-----------|
| | | | | | | Body & Cover | Plug | |
| 300 | 740 Psi | Shell 1125 Psi Seat 815 Psi | Straightway Venturi | Flanges R.F. or R.J. ASME B 16.5 Face to Face ASME B 16.10 | Rectangular | Cast Steel ASTM A 216 Grade WCB Cover: EN 10025 S355J0 S355J2G3 | Cast Iron ASTM A 126 Class B | Manual |
| | | | | | | | Steel | |

| | WRENCH TYPE 8 L | GEAR TYPE C | GEAR TYPE D |
|-----------|--------------------|----------------|----------------|
| | | | |
| Plug | DN 6" | DN 6" - 16" | DN 8" - 16" |
| Cast Iron | 9-AT 70144 N | 9-AT 70144 C | 5-AT 70144 D |
| Steel | 9-AT 70147 N | 9-AT 70147 C | 5-AT 70147 D |

| DN | A | B | C | D | E | F | H | I | L | M | N | O | P | Q | R | V | V | Raised Face | Ring Joint |
|-----|-----|-----|-----|-----|----|----|-----|-----|-----|-----|-----|----|-----|-----|-----|-----|-----|-------------|------------|
| 6" | 106 | 123 | 198 | 278 | 38 | 41 | 150 | 101 | 183 | 195 | 71 | | | 152 | 318 | 403 | 419 | | |
| 8" | 128 | 153 | 260 | 340 | 52 | 55 | 200 | 101 | 284 | 268 | 85 | 46 | 407 | 203 | 381 | 419 | 435 | | |
| 10" | 145 | 186 | | | | | 200 | 101 | 326 | 268 | 85 | 46 | 449 | 254 | 445 | 457 | 473 | | |
| 12" | 171 | 219 | | | | | 300 | 101 | 376 | 293 | 95 | 70 | 500 | 305 | 521 | 502 | 518 | | |
| 14" | 180 | 243 | | | | | 300 | 101 | 404 | 293 | 95 | 70 | 528 | 337 | 584 | 762 | 778 | | |
| 16" | 202 | 274 | | | | | 300 | 101 | 487 | 361 | 135 | 69 | 621 | 387 | 648 | 838 | 854 | | |



STRAIGHTWAY TAPER PLUG VALVES

CAST STEEL CLASS 300
VENTURI PATTERN
RECTANGULAR PORT

| Class | Max. CWP | Test Pressure | Pattern | Connections | Port | Materials | | Operation |
|-------|----------|--------------------------------------|------------------------|--|-------------|---|------------------------------------|-----------|
| | | | | | | Body & Cover | Plug | |
| 300 | 740 Psi | Shell 1125 Psi Seat 815 Psi | Straightway Venturi | Welding Ends ASME B 16.25 End to End ASME B 16.10 | Rectangular | Cast Steel ASTM A 216 Grade WCB Cover: EN 10025 S355J0 S355J2G3 | Cast Iron ASTM A 126 Class B | Manual |
| | | | | | | | Steel | |

| | WRENCH TYPE 8 L | GEAR TYPE C | GEAR TYPE D |
|-----------|--------------------|----------------|----------------|
| | | | |
| Plug | DN 6" | DN 6" - 16" | DN 8" - 16" |
| Cast Iron | 9-AT 70544 N | 9-AT 70544 C | 9-AT 70544 D |
| Steel | 9-AT 70547 N | 9-AT 70547 C | 9-AT 70547 D |

| DN | A | B | C | D | E | F | H | I | L | M | N | O | P | S | T | X |
|-----|-----|-----|-----|-----|----|----|-----|-----|-----|-----|-----|----|-----|---|-----|-----|
| 6" | 106 | 123 | 198 | 278 | 38 | 41 | 150 | 101 | 183 | 195 | 71 | | | Inside pipe dimension to be specified by purchaser. | 172 | 457 |
| 8" | 128 | 153 | 260 | 340 | 52 | 55 | 200 | 101 | 284 | 268 | 85 | 46 | 407 | | 223 | 521 |
| 10" | 145 | 186 | | | | | 200 | 101 | 326 | 268 | 85 | 46 | 449 | | 278 | 559 |
| 12" | 171 | 219 | | | | | 300 | 101 | 376 | 293 | 95 | 70 | 500 | | 329 | 635 |
| 14" | 180 | 243 | | | | | 300 | 101 | 404 | 293 | 95 | 70 | 528 | | 362 | 762 |
| 16" | 202 | 274 | | | | | 300 | 101 | 487 | 361 | 135 | 69 | 621 | | 413 | 838 |







TAPER PLUG VALVES

Inch to millimeter

Inch to millimeter (1 inch = 25,4 mm)

| Inch | 0 | 1/16 | 1/8 | 3/16 | 1/4 | 5/16 | 3/8 | 7/16 | 1/2 | 9/16 | 5/8 | 11/16 | 3/4 | 13/16 | 7/8 | 15/16 |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0 | 0,0 | 1,6 | 3,2 | 4,8 | 6,4 | 7,9 | 9,5 | 11,1 | 12,7 | 14,3 | 15,9 | 17,5 | 19,1 | 20,6 | 22,2 | 23,8 |
| 1 | 25,4 | 27,0 | 28,6 | 30,2 | 31,8 | 33,3 | 34,9 | 36,5 | 38,1 | 39,7 | 41,3 | 42,9 | 44,5 | 46,0 | 47,6 | 49,2 |
| 2 | 50,8 | 52,4 | 54,0 | 55,6 | 57,2 | 58,7 | 60,3 | 61,9 | 63,5 | 65,1 | 66,7 | 68,3 | 69,9 | 71,4 | 73,0 | 74,6 |
| 3 | 76,2 | 77,8 | 79,4 | 81,0 | 82,6 | 84,1 | 85,7 | 87,3 | 88,9 | 90,5 | 92,1 | 93,7 | 95,3 | 96,8 | 98,4 | 100,0 |
| 4 | 101,6 | 103,2 | 104,8 | 106,4 | 108,0 | 109,5 | 111,1 | 112,7 | 114,3 | 115,9 | 117,5 | 119,1 | 120,7 | 122,2 | 123,8 | 125,4 |
| 5 | 127,0 | 128,6 | 130,2 | 131,8 | 133,4 | 134,9 | 136,5 | 138,1 | 139,7 | 141,3 | 142,9 | 144,5 | 146,1 | 147,6 | 149,2 | 150,8 |
| 6 | 152,4 | 154,0 | 155,6 | 157,2 | 158,8 | 160,3 | 161,9 | 163,5 | 165,1 | 166,7 | 168,3 | 169,9 | 171,5 | 173,0 | 174,6 | 176,2 |
| 7 | 177,8 | 179,4 | 181,0 | 182,6 | 184,2 | 185,7 | 187,3 | 188,9 | 190,5 | 192,1 | 193,7 | 195,3 | 196,9 | 198,4 | 200,0 | 201,6 |
| 8 | 203,2 | 204,8 | 206,4 | 208,0 | 209,6 | 211,1 | 212,7 | 214,3 | 215,9 | 217,5 | 219,1 | 220,7 | 222,3 | 223,8 | 225,4 | 227,0 |
| 9 | 228,6 | 230,2 | 231,8 | 233,4 | 235,0 | 236,5 | 238,1 | 239,7 | 241,3 | 242,9 | 244,5 | 246,1 | 247,7 | 249,2 | 250,8 | 252,4 |
| 10 | 254,0 | 255,6 | 257,2 | 258,8 | 260,4 | 261,9 | 263,5 | 265,1 | 266,7 | 268,3 | 269,9 | 271,5 | 273,1 | 274,6 | 276,2 | 277,8 |
| 11 | 279,4 | 281,0 | 282,6 | 284,2 | 285,8 | 287,3 | 288,9 | 290,5 | 292,1 | 293,7 | 295,3 | 296,9 | 298,5 | 300,0 | 301,6 | 303,2 |
| 12 | 304,8 | 306,4 | 308,0 | 309,6 | 311,2 | 312,7 | 314,3 | 315,9 | 317,5 | 319,1 | 320,7 | 322,3 | 323,9 | 325,4 | 327,0 | 328,6 |
| 13 | 330,2 | 331,8 | 333,4 | 335,0 | 336,6 | 338,1 | 339,7 | 341,3 | 342,9 | 344,5 | 346,1 | 347,7 | 349,3 | 350,8 | 352,4 | 354,0 |
| 14 | 355,6 | 357,2 | 358,8 | 360,4 | 362,0 | 363,5 | 365,1 | 366,7 | 368,3 | 369,9 | 371,5 | 373,1 | 374,7 | 376,2 | 377,8 | 379,4 |
| 15 | 381,0 | 382,6 | 384,2 | 385,8 | 387,4 | 388,9 | 390,5 | 392,1 | 393,7 | 395,3 | 396,9 | 398,5 | 400,1 | 401,6 | 403,2 | 404,8 |
| 16 | 406,4 | 408,0 | 409,6 | 411,2 | 412,8 | 414,3 | 415,9 | 417,5 | 419,1 | 420,7 | 422,3 | 423,9 | 425,5 | 427,0 | 428,6 | 430,2 |
| 17 | 431,8 | 433,4 | 435,0 | 436,6 | 438,2 | 439,7 | 441,3 | 442,9 | 444,5 | 446,1 | 447,7 | 449,3 | 450,9 | 452,4 | 454,0 | 455,6 |
| 18 | 457,2 | 458,8 | 460,4 | 462,0 | 463,6 | 465,1 | 466,7 | 468,3 | 469,9 | 471,5 | 473,1 | 474,7 | 476,3 | 477,8 | 479,4 | 481,0 |
| 19 | 482,6 | 484,2 | 485,8 | 487,4 | 489,0 | 490,5 | 492,1 | 493,7 | 495,3 | 496,9 | 498,5 | 500,1 | 501,7 | 503,2 | 504,8 | 506,4 |
| 20 | 508,0 | 509,6 | 511,2 | 512,8 | 514,4 | 515,9 | 517,5 | 519,1 | 520,7 | 522,3 | 523,9 | 525,5 | 527,1 | 528,6 | 530,2 | 531,8 |
| 21 | 533,4 | 535,0 | 536,6 | 538,2 | 539,8 | 541,3 | 542,9 | 544,5 | 546,1 | 547,7 | 549,3 | 550,9 | 552,5 | 554,0 | 555,6 | 557,2 |
| 22 | 558,8 | 560,4 | 562,0 | 563,6 | 565,2 | 566,7 | 568,3 | 569,9 | 571,5 | 573,1 | 574,7 | 576,3 | 577,9 | 579,4 | 581,0 | 582,6 |
| 23 | 584,2 | 585,8 | 587,4 | 589,0 | 590,6 | 592,1 | 593,7 | 595,3 | 596,9 | 598,5 | 600,1 | 601,7 | 603,3 | 604,8 | 606,4 | 608,0 |
| 24 | 609,6 | 611,2 | 612,8 | 614,4 | 616,0 | 617,5 | 619,1 | 620,7 | 622,3 | 623,9 | 625,5 | 627,1 | 628,7 | 630,2 | 631,8 | 633,4 |
| 25 | 635,0 | 636,6 | 638,2 | 639,8 | 641,4 | 642,9 | 644,5 | 646,1 | 647,7 | 649,3 | 650,9 | 652,5 | 654,1 | 655,6 | 657,2 | 658,8 |
| 26 | 660,4 | 662,0 | 663,6 | 665,2 | 666,8 | 668,3 | 669,9 | 671,5 | 673,1 | 674,7 | 676,3 | 677,9 | 679,5 | 681,0 | 682,6 | 684,2 |
| 27 | 685,8 | 687,4 | 689,0 | 690,6 | 692,2 | 693,7 | 695,3 | 696,9 | 698,5 | 700,1 | 701,7 | 703,3 | 704,9 | 706,4 | 708,0 | 709,6 |
| 28 | 711,2 | 712,8 | 714,4 | 716,0 | 717,6 | 719,1 | 720,7 | 722,3 | 723,9 | 725,5 | 727,1 | 728,7 | 730,3 | 731,8 | 733,4 | 735,0 |
| 29 | 736,6 | 738,2 | 739,8 | 741,4 | 743,0 | 744,5 | 746,1 | 747,7 | 749,3 | 750,9 | 752,5 | 754,1 | 755,7 | 757,2 | 758,8 | 760,4 |
| 30 | 762,0 | 763,6 | 765,2 | 766,8 | 768,4 | 769,9 | 771,5 | 773,1 | 774,7 | 776,3 | 777,9 | 779,5 | 781,1 | 782,6 | 784,2 | 785,8 |
| 31 | 787,4 | 789,0 | 790,6 | 792,2 | 793,8 | 795,3 | 796,9 | 798,5 | 800,1 | 801,7 | 803,3 | 804,9 | 806,5 | 808,0 | 809,6 | 811,2 |
| 32 | 812,8 | 814,4 | 816,0 | 817,6 | 819,2 | 820,7 | 822,3 | 823,9 | 825,5 | 827,1 | 828,7 | 830,3 | 831,9 | 833,4 | 835,0 | 836,6 |
| 33 | 838,2 | 839,8 | 841,4 | 843,0 | 844,6 | 846,1 | 847,7 | 849,3 | 850,9 | 852,5 | 854,1 | 855,7 | 857,3 | 858,8 | 860,4 | 862,0 |
| 34 | 863,6 | 865,2 | 866,8 | 868,4 | 870,0 | 871,5 | 873,1 | 874,7 | 876,3 | 877,9 | 879,5 | 881,1 | 882,7 | 884,2 | 885,8 | 887,4 |
| 35 | 889,0 | 890,6 | 892,2 | 893,8 | 895,4 | 896,9 | 898,5 | 900,1 | 901,7 | 903,3 | 904,9 | 906,5 | 908,1 | 909,6 | 911,2 | 912,8 |
| 36 | 914,4 | 916,0 | 917,6 | 919,2 | 920,8 | 922,3 | 923,9 | 925,5 | 927,1 | 928,7 | 930,3 | 931,9 | 933,5 | 935,0 | 936,6 | 938,2 |
| 37 | 939,8 | 941,4 | 943,0 | 944,6 | 946,2 | 947,7 | 949,3 | 950,9 | 952,5 | 954,1 | 955,7 | 957,3 | 958,9 | 960,4 | 962,0 | 963,6 |
| 38 | 965,2 | 966,8 | 968,4 | 970,0 | 971,6 | 973,1 | 974,7 | 976,3 | 977,9 | 979,5 | 981,1 | 982,7 | 984,3 | 985,8 | 987,4 | 989,0 |
| 39 | 990,6 | 992,2 | 993,8 | 995,4 | 997,0 | 998,5 | 1000,1 | 1001,7 | 1003,3 | 1004,9 | 1006,5 | 1008,1 | 1009,7 | 1011,2 | 1012,8 | 1014,4 |
| 40 | 1016,0 | 1017,6 | 1019,2 | 1020,8 | 1022,4 | 1023,9 | 1025,5 | 1027,1 | 1028,7 | 1030,3 | 1031,9 | 1033,5 | 1035,1 | 1036,6 | 1038,2 | 1039,8 |
| 41 | 1041,4 | 1043,0 | 1044,6 | 1046,2 | 1047,8 | 1049,3 | 1050,9 | 1052,5 | 1054,1 | 1055,7 | 1057,3 | 1058,9 | 1060,5 | 1062,0 | 1063,6 | 1065,2 |
| 42 | 1066,8 | 1068,4 | 1070,0 | 1071,6 | 1073,2 | 1074,7 | 1076,3 | 1077,9 | 1079,5 | 1081,1 | 1082,7 | 1084,3 | 1085,9 | 1087,4 | 1089,0 | 1090,6 |
| 43 | 1092,2 | 1093,8 | 1095,4 | 1097,0 | 1098,6 | 1100,1 | 1101,7 | 1103,3 | 1104,9 | 1106,5 | 1108,1 | 1109,7 | 1111,3 | 1112,8 | 1114,4 | 1116,0 |
| 44 | 1117,6 | 1119,2 | 1120,8 | 1122,4 | 1124,0 | 1125,5 | 1127,1 | 1128,7 | 1130,3 | 1131,9 | 1133,5 | 1135,1 | 1136,7 | 1138,2 | 1139,8 | 1141,4 |
| 45 | 1143,0 | 1144,6 | 1146,2 | 1147,8 | 1149,4 | 1150,9 | 1152,5 | 1154,1 | 1155,7 | 1157,3 | 1158,9 | 1160,5 | 1162,1 | 1163,6 | 1165,2 | 1166,8 |
| 46 | 1168,4 | 1170,0 | 1171,6 | 1173,2 | 1174,8 | 1176,3 | 1177,9 | 1179,5 | 1181,1 | 1182,7 | 1184,3 | 1185,9 | 1187,5 | 1189,0 | 1190,6 | 1192,2 |
| 47 | 1193,8 | 1195,4 | 1197,0 | 1198,6 | 1200,2 | 1201,7 | 1203,3 | 1204,9 | 1206,5 | 1208,1 | 1209,7 | 1211,3 | 1212,9 | 1214,4 | 1216,0 | 1217,6 |
| 48 | 1219,2 | 1220,8 | 1222,4 | 1224,0 | 1225,6 | 1227,1 | 1228,7 | 1230,3 | 1231,9 | 1233,5 | 1235,1 | 1236,7 | 1238,3 | 1239,8 | 1241,4 | 1243,0 |
| 49 | 1244,6 | 1246,2 | 1247,8 | 1249,4 | 1251,0 | 1252,5 | 1254,1 | 1255,7 | 1257,3 | 1258,9 | 1260,5 | 1262,1 | 1263,7 | 1265,2 | 1266,8 | 1268,4 |
| 50 | 1270,0 | 1271,6 | 1273,2 | 1274,8 | 1276,4 | 1277,9 | 1279,5 | 1281,1 | 1282,7 | 1284,3 | 1285,9 | 1287,5 | 1289,1 | 1290,6 | 1292,2 | 1293,8 |



TAPER PLUG VALVES

Decimal and millimeter equivalents

Decimal and millimeter equivalents

| Fraction | Decimal | Millimeter | Fraction | Decimal | Millimeter |
|----------|---------|------------|----------|---------|------------|
| $1/64$ | .015625 | 0.39688 | $33/64$ | .515625 | 13.09690 |
| $1/32$ | .03125 | 0.79375 | $17/32$ | .53125 | 13.49378 |
| $3/64$ | .046875 | 1.19063 | $35/64$ | .546875 | 13.89065 |
| $1/16$ | .0625 | 1.58750 | $9/16$ | .5625 | 14.28753 |
| $5/64$ | .078125 | 1.98438 | $37/64$ | .578125 | 14.68440 |
| $3/32$ | .09375 | 2.38125 | $19/32$ | .59375 | 15.08128 |
| $7/64$ | .109375 | 2.77813 | $39/64$ | .609375 | 15.47816 |
| $1/8$ | .125 | 3.17501 | $5/8$ | .625 | 15.87503 |
| $9/64$ | .140625 | 3.57188 | $41/64$ | .640625 | 16.27191 |
| $5/32$ | .15625 | 3.96876 | $21/32$ | .65625 | 16.66878 |
| $11/64$ | .171875 | 4.36563 | $43/64$ | .671875 | 17.06566 |
| $3/16$ | .1875 | 4.76251 | $11/16$ | .6875 | 17.46253 |
| $13/64$ | .203125 | 5.15939 | $45/64$ | .703125 | 17.85941 |
| $7/32$ | .21875 | 5.55626 | $23/32$ | .71875 | 18.25629 |
| $15/64$ | .234375 | 5.95314 | $47/64$ | .734375 | 18.65316 |
| $1/4$ | .25 | 6.35001 | $3/4$ | .75 | 19.05004 |
| $17/64$ | .265625 | 6.74689 | $49/64$ | .765625 | 19.44691 |
| $9/32$ | .28125 | 7.14376 | $25/32$ | .78125 | 19.84379 |
| $19/64$ | .296875 | 7.54064 | $51/64$ | .796875 | 20.24067 |
| $5/16$ | .3125 | 7.93752 | $13/16$ | .8125 | 20.63754 |
| $21/64$ | .328125 | 8.33439 | $53/64$ | .828125 | 21.03442 |
| $11/32$ | .34375 | 8.73127 | $27/32$ | .84375 | 21.43129 |
| $23/64$ | .359375 | 9.12814 | $55/64$ | .859375 | 21.82817 |
| $3/8$ | .375 | 9.52502 | $7/8$ | .875 | 22.22504 |
| $25/64$ | .390625 | 9.92189 | $57/64$ | .890625 | 22.62192 |
| $13/32$ | .40625 | 10.31877 | $29/32$ | .90625 | 23.01880 |
| $27/64$ | .421875 | 10.71565 | $59/64$ | .921875 | 23.41567 |
| $7/16$ | .4375 | 11.11252 | $15/16$ | .9375 | 23.81255 |
| $29/64$ | .453125 | 11.50940 | $61/64$ | .953125 | 24.20942 |
| $15/32$ | .46875 | 11.90627 | $31/32$ | .96875 | 24.60630 |
| $31/64$ | .484375 | 12.30315 | $63/64$ | .984375 | 25.00318 |
| $1/2$ | .5 | 12.70003 | 1 | 1.0 | 25.40005 |



TAPER PLUG VALVES

Decimal equivalents
Kilogram in pounds
Pounds in kilogram

Decimal equivalents

(0,10 inch = 2,54 millimeter)

| Inch | 0 00 | .01 | .02 | .03 | .04 | .05 | .06 | .07 | .08 | .09 | Inch |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| 0.00 | 0.00 | 0.25 | 0.51 | 0.76 | 1.02 | 1.27 | 1.52 | 1.78 | 2.03 | 2.29 | 0.00 |
| .10 | 2.54 | 2.79 | 3.05 | 3.30 | 3.56 | 3.81 | 4.06 | 4.32 | 4.57 | 4.83 | .10 |
| .20 | 5.08 | 5.33 | 5.59 | 5.84 | 6.10 | 6.35 | 6.60 | 6.86 | 7.11 | 7.37 | .20 |
| .30 | 7.62 | 7.87 | 8.13 | 8.38 | 8.64 | 8.89 | 9.14 | 9.40 | 9.65 | 9.91 | .30 |
| .40 | 10.60 | 10.41 | 10.67 | 10.92 | 11.18 | 11.43 | 11.68 | 11.94 | 12.19 | 12.45 | .40 |
| .50 | 12.70 | 12.95 | 13.21 | 13.46 | 13.72 | 13.97 | 14.22 | 14.48 | 14.73 | 14.99 | .50 |
| .60 | 15.24 | 15.49 | 15.75 | 16.00 | 16.26 | 16.51 | 16.76 | 17.02 | 17.27 | 17.53 | .60 |
| .70 | 17.78 | 18.03 | 18.29 | 18.54 | 18.80 | 19.05 | 19.30 | 19.56 | 19.81 | 20.07 | .70 |
| .80 | 20.32 | 20.57 | 20.83 | 21.08 | 21.34 | 21.59 | 21.84 | 22.10 | 22.35 | 22.61 | .80 |
| .90 | 22.86 | 23.11 | 23.37 | 23.62 | 23.88 | 24.13 | 24.38 | 24.64 | 24.89 | 25.15 | .90 |

Kilogram in pounds

(1 kilogram = 2,2046)

| Kilo-gram | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|-----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0 | 0.00 | 2.20 | 4.41 | 6.61 | 8.82 | 11.02 | 13.23 | 15.43 | 17.64 | 19.84 |
| 10 | 22.05 | 24.25 | 26.46 | 28.66 | 30.86 | 33.07 | 35.27 | 37.48 | 39.68 | 41.89 |
| 20 | 44.09 | 46.30 | 48.50 | 50.71 | 52.91 | 55.12 | 57.32 | 59.52 | 61.73 | 63.93 |
| 30 | 66.14 | 68.34 | 70.55 | 72.75 | 74.96 | 77.16 | 79.37 | 81.57 | 83.77 | 85.98 |
| 40 | 88.18 | 90.39 | 92.59 | 94.80 | 97.00 | 99.21 | 101.41 | 103.62 | 105.82 | 108.03 |
| 50 | 110.23 | 112.43 | 114.64 | 116.84 | 119.05 | 121.25 | 123.46 | 125.66 | 127.87 | 130.07 |
| 60 | 132.28 | 134.48 | 136.69 | 138.89 | 141.09 | 143.30 | 145.50 | 147.71 | 149.91 | 152.12 |
| 70 | 154.32 | 156.53 | 158.73 | 160.94 | 163.14 | 165.35 | 167.35 | 169.75 | 171.96 | 174.16 |
| 80 | 176.37 | 178.57 | 180.78 | 182.98 | 185.19 | 187.39 | 189.60 | 191.80 | 194.00 | 196.21 |
| 90 | 198.41 | 200.62 | 202.82 | 205.03 | 207.23 | 209.44 | 211.64 | 213.85 | 216.05 | 218.26 |

Pounds in kilogram

(1 pound = 0,4536 kilogram)

| Pounds | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0 | 0.00 | 0.45 | 0.91 | 1.36 | 1.81 | 2.27 | 2.72 | 3.18 | 3.63 | 4.08 |
| 10 | 4.54 | 4.99 | 5.44 | 5.90 | 6.35 | 6.80 | 7.26 | 7.71 | 8.16 | 8.62 |
| 20 | 9.07 | 9.53 | 9.98 | 10.43 | 10.89 | 11.34 | 11.79 | 12.25 | 12.70 | 13.15 |
| 30 | 13.61 | 14.06 | 14.52 | 14.97 | 15.42 | 15.88 | 16.33 | 16.78 | 17.24 | 17.69 |
| 40 | 18.14 | 18.60 | 19.05 | 19.50 | 19.96 | 20.41 | 20.87 | 21.32 | 21.77 | 22.23 |
| 50 | 22.68 | 23.13 | 23.59 | 24.04 | 24.49 | 24.95 | 25.40 | 25.86 | 26.31 | 26.76 |
| 60 | 27.22 | 27.67 | 28.12 | 28.58 | 29.03 | 29.48 | 29.94 | 30.39 | 30.84 | 31.30 |
| 70 | 31.75 | 32.21 | 32.66 | 33.11 | 33.57 | 34.02 | 34.47 | 34.93 | 35.38 | 35.83 |
| 80 | 36.29 | 36.74 | 37.20 | 37.65 | 38.10 | 38.56 | 39.01 | 39.46 | 39.92 | 40.37 |
| 90 | 40.82 | 41.28 | 41.73 | 42.18 | 42.64 | 43.09 | 43.55 | 44.00 | 44.45 | 44.91 |



TAPER PLUG VALVES

Temperature conversion °C - °F

| -495.4-0 | | | | 1-60 | | | | 61-290 | | | | 300-890 | | | | 900-3000 | | | |
|----------|--------|--------|-----|-------|----|-------|-----|--------|-----|-------|-----|---------|-----|------|-----|----------|------|------|-----|
| C = | F | C | = F | C = | F | C | = F | C = | F | C | = F | C = | F | C | = F | C = | F | C | = F |
| -273 | -459.4 | | | -17.2 | 1 | 33.8 | | 16.1 | 61 | 141.8 | | 149 | 300 | 572 | | 482 | 900 | 1652 | |
| -268 | -450 | | | -16.7 | 2 | 35.6 | | 16.7 | 62 | 143.6 | | 154 | 310 | 590 | | 488 | 910 | 1670 | |
| -262 | -440 | | | -16.1 | 3 | 37.4 | | 17.2 | 63 | 145.4 | | 160 | 320 | 608 | | 493 | 920 | 1688 | |
| -257 | -430 | | | -15.6 | 4 | 39.2 | | 17.8 | 64 | 147.2 | | 166 | 330 | 626 | | 499 | 930 | 1706 | |
| -251 | -420 | | | -15.0 | 5 | 41.0 | | 18.3 | 65 | 149.0 | | 171 | 340 | 644 | | 504 | 940 | 1724 | |
| -246 | -410 | | | -14.4 | 6 | 42.8 | | 18.9 | 66 | 150.8 | | 177 | 350 | 662 | | 510 | 950 | 1742 | |
| -240 | -400 | | | -13.9 | 7 | 44.6 | | 19.4 | 67 | 152.6 | | 182 | 360 | 680 | | 516 | 960 | 1760 | |
| -234 | -390 | | | -13.3 | 8 | 46.4 | | 20.0 | 68 | 154.4 | | 188 | 370 | 698 | | 521 | 970 | 1778 | |
| -229 | -380 | | | -12.8 | 9 | 48.2 | | 20.6 | 69 | 156.2 | | 193 | 380 | 716 | | 527 | 980 | 1796 | |
| -223 | -370 | | | -12.2 | 10 | 50.0 | | 21.1 | 70 | 158.0 | | 199 | 390 | 734 | | 532 | 990 | 1814 | |
| -218 | -360 | | | -11.7 | 11 | 51.8 | | 21.7 | 71 | 159.8 | | 204 | 400 | 752 | | 538 | 1000 | 1832 | |
| -212 | -350 | | | -11.1 | 12 | 53.6 | | 22.2 | 72 | 161.6 | | 210 | 410 | 770 | | 549 | 1020 | 1868 | |
| -207 | -340 | | | -10.6 | 13 | 55.4 | | 22.8 | 73 | 163.4 | | 216 | 420 | 788 | | 560 | 1040 | 1904 | |
| -201 | -330 | | | -10.0 | 14 | 57.2 | | 23.3 | 74 | 165.2 | | 221 | 430 | 806 | | 571 | 1060 | 1940 | |
| -196 | -320 | | | -9.4 | 15 | 59.0 | | 23.9 | 75 | 167.0 | | 227 | 440 | 824 | | 582 | 1080 | 1976 | |
| -190 | -310 | | | -8.9 | 16 | 60.8 | | 24.4 | 76 | 168.8 | | 232 | 450 | 842 | | 593 | 1100 | 2012 | |
| -184 | -300 | | | -8.3 | 17 | 62.6 | | 25.0 | 77 | 170.6 | | 238 | 460 | 860 | | 604 | 1120 | 2048 | |
| -179 | -290 | | | -7.8 | 18 | 64.4 | | 25.6 | 78 | 172.4 | | 243 | 470 | 878 | | 616 | 1140 | 2084 | |
| -173 | -280 | | | -7.2 | 19 | 66.2 | | 26.1 | 79 | 174.2 | | 249 | 480 | 896 | | 627 | 1160 | 2120 | |
| -169 | -273 | -459.4 | | -6.7 | 20 | 68.0 | | 26.7 | 80 | 176.0 | | 254 | 490 | 914 | | 638 | 1180 | 2156 | |
| -168 | -270 | -454 | | -6.1 | 21 | 69.8 | | 27.2 | 81 | 177.8 | | 260 | 500 | 932 | | 649 | 1200 | 2192 | |
| -162 | -260 | -436 | | -5.6 | 22 | 71.6 | | 27.8 | 82 | 179.6 | | 266 | 510 | 950 | | 660 | 1220 | 2228 | |
| -157 | -250 | -418 | | -5.0 | 23 | 73.4 | | 28.3 | 83 | 181.4 | | 271 | 520 | 968 | | 671 | 1240 | 2264 | |
| -151 | -240 | -400 | | -4.4 | 24 | 75.2 | | 28.9 | 84 | 183.2 | | 277 | 530 | 986 | | 682 | 1260 | 2300 | |
| -146 | -230 | -382 | | -3.9 | 25 | 77.0 | | 29.4 | 85 | 185.0 | | 282 | 540 | 1004 | | 693 | 1280 | 2336 | |
| -140 | -220 | -364 | | -3.3 | 26 | 78.8 | | 30.0 | 86 | 186.8 | | 288 | 550 | 1022 | | 704 | 1300 | 2372 | |
| -134 | -210 | -346 | | -2.8 | 27 | 80.6 | | 30.6 | 87 | 188.6 | | 293 | 560 | 1040 | | 732 | 1350 | 2462 | |
| -129 | -200 | -328 | | -2.2 | 28 | 82.4 | | 31.1 | 88 | 190.4 | | 299 | 570 | 1058 | | 760 | 1400 | 2552 | |
| -123 | -190 | -310 | | -1.7 | 29 | 84.2 | | 31.7 | 89 | 192.2 | | 304 | 580 | 1076 | | 788 | 1450 | 2642 | |
| -118 | -180 | -292 | | -1.1 | 30 | 86.0 | | 32.2 | 90 | 194.0 | | 310 | 590 | 1094 | | 816 | 1500 | 2732 | |
| -112 | -170 | -274 | | .6 | 31 | 87.8 | | 32.8 | 91 | 195.8 | | 316 | 600 | 1112 | | 843 | 1550 | 2822 | |
| -107 | -160 | -256 | | .0 | 32 | 89.6 | | 33.3 | 92 | 197.6 | | 321 | 610 | 1130 | | 871 | 1600 | 2912 | |
| -101 | -150 | -238 | | .6 | 33 | 91.4 | | 33.9 | 93 | 199.4 | | 327 | 620 | 1148 | | 899 | 1650 | 3002 | |
| -96 | -140 | -220 | | 1.1 | 34 | 93.2 | | 34.4 | 94 | 201.2 | | 332 | 630 | 1166 | | 927 | 1700 | 3092 | |
| -90 | -130 | -202 | | 1.7 | 35 | 95.0 | | 35.0 | 95 | 203.0 | | 338 | 640 | 1184 | | 954 | 1750 | 3182 | |
| -84 | -120 | -184 | | 2.2 | 36 | 96.8 | | 35.6 | 96 | 204.8 | | 343 | 650 | 1202 | | 882 | 1800 | 3272 | |
| -79 | -110 | -166 | | 2.8 | 37 | 98.6 | | 36.1 | 97 | 206.6 | | 349 | 660 | 1220 | | 1010 | 1850 | 3362 | |
| -73 | -100 | -148 | | 3.3 | 38 | 100.4 | | 36.7 | 98 | 208.4 | | 354 | 670 | 1238 | | 1038 | 1900 | 3452 | |
| -68 | -90 | -130 | | 3.9 | 39 | 102.2 | | 37.2 | 99 | 210.2 | | 360 | 680 | 1256 | | 1066 | 1950 | 3542 | |
| -62 | -80 | -112 | | 4.4 | 40 | 104.0 | | 37.8 | 100 | 212.0 | | 366 | 690 | 1274 | | 1093 | 2000 | 3632 | |
| -57 | -70 | -90 | | 5.0 | 41 | 105.8 | | 43 | 110 | 230 | | 371 | 700 | 1292 | | 1121 | 2050 | 3722 | |
| -51 | -60 | -76 | | 5.6 | 42 | 107.6 | | 49 | 120 | 248 | | 377 | 710 | 1310 | | 1149 | 2100 | 3812 | |
| -46 | -50 | -58 | | 6.1 | 43 | 109.4 | | 54 | 130 | 266 | | 382 | 720 | 1328 | | 1177 | 2150 | 3902 | |
| -40 | -40 | -40 | | 6.7 | 44 | 111.2 | | 60 | 140 | 284 | | 388 | 730 | 1346 | | 1204 | 2200 | 3992 | |
| -34 | -30 | -22 | | 7.2 | 45 | 113.0 | | 66 | 150 | 302 | | 393 | 740 | 1364 | | 1232 | 2250 | 4082 | |
| -29 | -20 | -4 | | 7.8 | 46 | 114.8 | | 71 | 160 | 320 | | 399 | 750 | 1382 | | 1260 | 2300 | 4172 | |
| -23 | -10 | 14 | | 8.3 | 47 | 116.6 | | 77 | 170 | 338 | | 404 | 760 | 1400 | | 1288 | 2350 | 4262 | |
| -17.8 | 0 | 32 | | 8.9 | 48 | 118.4 | | 82 | 180 | 356 | | 410 | 770 | 1418 | | 1316 | 2400 | 4352 | |
| | | | | 9.4 | 49 | 120.2 | | 88 | 190 | 374 | | 416 | 780 | 1436 | | 1343 | 2450 | 4442 | |
| | | | | 10.0 | 50 | 122.0 | | 93 | 200 | 392 | | 421 | 790 | 1454 | | 1371 | 2500 | 4532 | |
| | | | | 10.6 | 51 | 123.8 | | 99 | 210 | 410 | | 427 | 800 | 1472 | | 1399 | 2550 | 4622 | |
| | | | | 11.1 | 52 | 125.6 | | 100 | 212 | 413.6 | | 442 | 810 | 1490 | | 1427 | 2600 | 4712 | |
| | | | | 11.7 | 53 | 127.4 | | 104 | 220 | 428 | | 438 | 820 | 1508 | | 1454 | 2650 | 4802 | |
| | | | | 12.2 | 54 | 129.2 | | 110 | 230 | 446 | | 443 | 830 | 1526 | | 1482 | 2700 | 4892 | |
| | | | | 12.8 | 55 | 131.0 | | 116 | 240 | 464 | | 449 | 840 | 1544 | | 1510 | 2750 | 4982 | |
| | | | | 13.3 | 56 | 132.8 | | 121 | 250 | 482 | | 454 | 850 | 1562 | | 1538 | 2800 | 5072 | |
| | | | | 13.9 | 57 | 134.6 | | 127 | 260 | 500 | | 460 | 860 | 1580 | | 1566 | 2850 | 5162 | |
| | | | | 14.4 | 58 | 136.4 | | 132 | 270 | 518 | | 466 | 870 | 1598 | | 1593 | 2900 | 5252 | |
| | | | | 15.0 | 59 | 138.2 | | 138 | 280 | 536 | | 471 | 880 | 1616 | | 1621 | 2950 | 5342 | |
| | | | | 15.6 | 60 | 140.0 | | 143 | 290 | 554 | | 477 | 890 | 1634 | | 1649 | 3000 | 5432 | |



TAPER PLUG VALVES

Pressure conversion

Pounds/square inch (psi) to kg/cm²

| 1—40 | | 41—80 | | 81—200 | | 205—500 | | 510—900 | | 910—1500 | |
|------|--------------------|-------|--------------------|--------|--------------------|---------|--------------------|---------|--------------------|----------|--------------------|
| psi | kg/cm ² | psi | kg/cm ² | psi | kg/cm ² | psi | kg/cm ² | psi | kg/cm ² | psi | kg/cm ² |
| 1 | .07 | 41 | 2.88 | 81 | 5.69 | 205 | 14.41 | 510 | 35.86 | 910 | 63.98 |
| 2 | .14 | 42 | 2.95 | 82 | 5.77 | 210 | 14.76 | 520 | 36.56 | 920 | 64.68 |
| 3 | .21 | 43 | 3.02 | 83 | 5.84 | 215 | 15.12 | 530 | 37.26 | 930 | 65.39 |
| 4 | .28 | 44 | 3.09 | 84 | 5.91 | 220 | 15.47 | 540 | 37.97 | 940 | 66.09 |
| 5 | .35 | 45 | 3.16 | 85 | 5.98 | 225 | 15.82 | 550 | 38.67 | 950 | 66.79 |
| 6 | .42 | 46 | 3.23 | 86 | 6.05 | 230 | 16.17 | 560 | 39.37 | 960 | 67.49 |
| 7 | .49 | 47 | 3.30 | 87 | 6.12 | 235 | 16.52 | 570 | 40.07 | 970 | 68.20 |
| 8 | .56 | 48 | 3.37 | 88 | 6.19 | 240 | 16.87 | 580 | 40.78 | 980 | 68.90 |
| 9 | .63 | 49 | 3.45 | 89 | 6.26 | 245 | 17.23 | 590 | 41.48 | 990 | 69.60 |
| 10 | .70 | 50 | 3.52 | 90 | 6.33 | 250 | 17.58 | 600 | 42.18 | 1000 | 70.31 |
| 11 | .77 | 51 | 3.59 | 91 | 6.40 | 255 | 17.93 | 610 | 42.89 | 1010 | 71.01 |
| 12 | .84 | 52 | 3.66 | 92 | 6.47 | 260 | 18.28 | 620 | 43.59 | 1020 | 71.71 |
| 13 | .91 | 53 | 3.73 | 93 | 6.54 | 265 | 18.63 | 630 | 44.29 | 1030 | 72.42 |
| 14 | .98 | 54 | 3.80 | 94 | 6.61 | 270 | 18.98 | 640 | 45.00 | 1040 | 73.12 |
| 15 | 1.05 | 55 | 3.87 | 95 | 6.68 | 275 | 19.33 | 650 | 45.70 | 1050 | 73.82 |
| 16 | 1.12 | 56 | 3.94 | 96 | 6.75 | 280 | 19.69 | 660 | 46.40 | 1060 | 74.52 |
| 17 | 1.20 | 57 | 4.01 | 97 | 6.82 | 285 | 20.04 | 670 | 47.11 | 1070 | 75.23 |
| 18 | 1.27 | 58 | 4.08 | 98 | 6.89 | 290 | 20.39 | 680 | 47.81 | 1080 | 75.93 |
| 19 | 1.34 | 59 | 4.15 | 99 | 6.96 | 295 | 20.74 | 690 | 48.51 | 1090 | 76.63 |
| 20 | 1.41 | 60 | 4.22 | 100 | 7.03 | 300 | 21.09 | 700 | 49.21 | 1100 | 77.34 |
| 21 | 1.48 | 61 | 4.29 | 105 | 7.38 | 310 | 21.80 | 710 | 49.92 | 1120 | 78.74 |
| 22 | 1.55 | 62 | 4.36 | 110 | 7.73 | 320 | 22.50 | 720 | 50.62 | 1140 | 80.15 |
| 23 | 1.62 | 63 | 4.43 | 115 | 8.09 | 330 | 23.20 | 730 | 51.35 | 1160 | 81.56 |
| 24 | 1.69 | 64 | 4.50 | 120 | 8.44 | 340 | 23.90 | 740 | 52.03 | 1180 | 82.96 |
| 25 | 1.76 | 65 | 4.57 | 125 | 8.79 | 350 | 24.61 | 750 | 52.73 | 1200 | 84.37 |
| 26 | 1.83 | 66 | 4.64 | 130 | 9.14 | 360 | 25.31 | 760 | 53.43 | 1220 | 85.77 |
| 27 | 1.90 | 67 | 4.71 | 135 | 9.49 | 370 | 26.01 | 770 | 54.14 | 1240 | 87.18 |
| 28 | 1.97 | 68 | 4.78 | 140 | 9.84 | 380 | 26.72 | 780 | 54.84 | 1260 | 88.59 |
| 29 | 2.04 | 69 | 4.85 | 145 | 10.19 | 390 | 27.42 | 790 | 55.54 | 1280 | 89.99 |
| 30 | 2.11 | 70 | 4.92 | 150 | 10.55 | 400 | 28.12 | 800 | 56.25 | 1300 | 91.40 |
| 31 | 2.18 | 71 | 4.99 | 155 | 10.90 | 410 | 28.83 | 810 | 56.95 | 1320 | 92.80 |
| 32 | 2.25 | 72 | 5.06 | 160 | 11.25 | 420 | 29.53 | 820 | 57.65 | 1340 | 94.21 |
| 33 | 2.32 | 73 | 5.13 | 165 | 11.60 | 430 | 30.23 | 830 | 58.35 | 1360 | 95.62 |
| 34 | 2.39 | 74 | 5.20 | 170 | 11.95 | 440 | 30.93 | 840 | 59.06 | 1380 | 97.02 |
| 35 | 2.46 | 75 | 5.27 | 175 | 12.30 | 450 | 31.64 | 850 | 59.76 | 1400 | 98.43 |
| 36 | 2.53 | 76 | 5.34 | 180 | 12.66 | 460 | 32.34 | 860 | 60.46 | 1420 | 99.84 |
| 37 | 2.60 | 77 | 5.41 | 185 | 13.01 | 470 | 33.04 | 870 | 61.17 | 1440 | 101.24 |
| 38 | 2.67 | 78 | 5.48 | 190 | 13.36 | 480 | 33.75 | 880 | 61.87 | 1460 | 102.65 |
| 39 | 2.74 | 79 | 5.55 | 195 | 13.71 | 490 | 34.45 | 890 | 62.57 | 1480 | 104.05 |
| 40 | 2.81 | 80 | 5.62 | 200 | 14.06 | 500 | 35.15 | 900 | 63.28 | 1500 | 105.46 |

Note: 1 atmosphere pressure = 14,7 psi = 1,033 Kg. per sq. cm
 1 psi = 2,31 feet head of water = 0,0703066 Kg. per sq. cm



TAPER PLUG VALVES

Pressure / temperature ratings
ANSI B 16.34 for carbon steel

| TEMPERATURE IN °F | WORKING PRESSURE IN psi BY CLASSES | | | | | | |
|----------------------|------------------------------------|-----|-----|------|------|------|------|
| | 150 | 300 | 400 | 600 | 900 | 1500 | 2500 |
| -20 TO 100 | 285 | 740 | 990 | 1480 | 2220 | 3705 | 6170 |
| 200 | 260 | 675 | 900 | 1350 | 2025 | 3375 | 5625 |
| 300 | 230 | 655 | 875 | 1315 | 1970 | 3280 | 5470 |
| 400 | 200 | 635 | 845 | 1270 | 1900 | 3170 | 5280 |
| 500 | 170 | 600 | 800 | 1200 | 1795 | 2995 | 4990 |
| 600 | 140 | 550 | 730 | 1095 | 1640 | 2735 | 4560 |
| 650 | 125 | 535 | 715 | 1075 | 1610 | 2685 | 4475 |
| 700 | 110 | 535 | 710 | 1065 | 1600 | 2665 | 4440 |
| 750 | 95 | 505 | 670 | 1010 | 1510 | 2520 | 4200 |
| 800 | 80 | 410 | 550 | 825 | 1235 | 2060 | 3430 |
| 850 | 65 | 270 | 355 | 535 | 805 | 1340 | 2230 |
| 900 | 50 | 170 | 230 | 345 | 515 | 860 | 1430 |
| 950 | 35 | 105 | 140 | 205 | 310 | 515 | 860 |
| 1000 | 20 | 50 | 70 | 105 | 155 | 260 | 430 |

| TEMPERATURE IN °C | WORKING PRESSURE IN bar BY CLASSES | | | | | | |
|----------------------|------------------------------------|------|------|-------|-------|-------|-------|
| | 150 | 300 | 400 | 600 | 900 | 1500 | 2500 |
| -29 TO 38 | 19.6 | 51.1 | 68.1 | 102.1 | 153.2 | 255.3 | 425.5 |
| 50 | 19.2 | 50.1 | 66.8 | 100.2 | 150.2 | 250.4 | 417.3 |
| 100 | 17.7 | 46.4 | 61.8 | 92.8 | 139.1 | 231.9 | 386.5 |
| 150 | 15.8 | 45.2 | 60.3 | 90.5 | 135.7 | 226.1 | 376.9 |
| 200 | 14.0 | 43.8 | 58.4 | 87.6 | 131.5 | 219.1 | 365.2 |
| 250 | 12.1 | 41.7 | 55.6 | 83.4 | 125.2 | 208.6 | 347.7 |
| 300 | 10.2 | 38.7 | 51.6 | 77.5 | 116.2 | 193.7 | 322.8 |
| 350 | 8.4 | 37.0 | 49.3 | 73.9 | 110.9 | 184.8 | 308.0 |
| 375 | 7.4 | 36.5 | 48.6 | 72.9 | 109.4 | 182.3 | 303.9 |
| 400 | 6.5 | 34.5 | 46.0 | 69.0 | 103.5 | 172.5 | 287.5 |
| 425 | 5.6 | 28.8 | 38.3 | 57.5 | 86.3 | 143.8 | 239.6 |
| 450 | 4.7 | 20.0 | 26.7 | 40.1 | 60.1 | 100.2 | 166.9 |
| 475 | 3.7 | 13.5 | 18.1 | 27.1 | 40.6 | 67.7 | 112.9 |
| 500 | 2.8 | 8.8 | 11.7 | 17.6 | 26.4 | 44.0 | 73.3 |
| 525 | 1.9 | 5.2 | 6.9 | 10.4 | 15.5 | 25.9 | 43.2 |
| 540 | 1.3 | 3.3 | 4.3 | 6.5 | 9.8 | 16.3 | 27.2 |



TAPER PLUG VALVES

British standard pipe flanges for the petroleum industry and American standard pipe flanges



CLASS 125 SEMI STEEL FLAT FACE FLANGES

| Valve Size | R Flange Diameter | S Flange Thickness | U No. of Bolts | V Size of Bolts in | X Size of Holes | Y Bolt Circle Diameter |
|------------|-------------------------|--------------------------|----------------------|-----------------------------|-----------------------|------------------------------|
| * 1/2" | * 88,9 | * 11,1 | * 4 | * 1/2" | * 15,9 | * 60,3 |
| * 3/4" | * 98,4 | * 11,1 | * 4 | * 1/2" | * 15,9 | * 69,9 |
| 1" | 108,0 | 11,1 | 4 | 1/2" | 15,9 | 79,4 |
| 1 1/4" | 117,5 | 12,7 | 4 | 1/2" | 15,9 | 88,9 |
| 1 1/2" | 127,0 | 14,3 | 4 | 1/2" | 15,9 | 98,4 |
| 2" | 152,4 | 15,9 | 4 | 5/8" | 19,1 | 120,7 |
| 2 1/2" | 177,8 | 17,5 | 4 | 5/8" | 19,1 | 139,7 |
| 3" | 190,5 | 19,1 | 4 | 5/8" | 19,1 | 152,4 |
| 4" | 228,6 | 23,8 | 8 | 5/8" | 19,1 | 190,5 |
| 5" | 254,0 | 23,8 | 8 | 3/4" | 22,2 | 215,9 |
| 6" | 279,4 | 25,4 | 8 | 3/4" | 22,2 | 241,3 |
| 8" | 342,9 | 28,6 | 8 | 3/4" | 22,2 | 298,5 |
| 10" | 406,4 | 30,2 | 12 | 7/8" | 25,4 | 362,0 |
| 12" | 482,6 | 31,8 | 12 | 7/8" | 25,4 | 431,8 |
| 14" | 533,4 | 34,9 | 12 | 1" | 28,6 | 476,3 |
| 16" | 596,9 | 36,5 | 16 | 1" | 28,6 | 539,8 |
| 18" | 635,0 | 39,7 | 16 | 1 1/8" | 31,8 | 577,9 |
| 20" | 698,5 | 42,9 | 20 | 1 1/8" | 31,8 | 635,0 |
| 24" | 812,8 | 47,6 | 20 | 1 1/4" | 34,9 | 749,3 |
| 30" | 984,3 | 54,0 | 28 | 1 1/4" | 34,9 | 914,4 |

CLASS 150 CAST STEEL RAISED FACE FLANGES

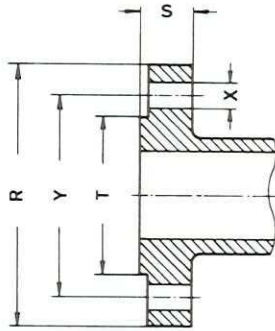
| Valve Size | R Flange Diameter | S Flange Thickness | T 1/16" Raised Face Diameter | U No. of Bolts | V Size of Bolts in | X Size of Holes | Y Bolt Circle Diameter |
|------------|-------------------------|--------------------------|---------------------------------------|----------------------|-----------------------------|-----------------------|------------------------------|
| 1/2" | 88,9 | 11,1 | 34,9 | 4 | 1/2" | 15,9 | 60,3 |
| 3/4" | 98,4 | 11,1 | 42,9 | 4 | 1/2" | 15,9 | 69,9 |
| 1" | 108,0 | 11,1 | 50,8 | 4 | 1/2" | 15,9 | 79,4 |
| 1 1/4" | 117,5 | 12,7 | 63,5 | 4 | 1/2" | 15,9 | 88,9 |
| 1 1/2" | 127,0 | 14,3 | 73,0 | 4 | 1/2" | 15,9 | 98,4 |
| 2" | 152,4 | 15,9 | 92,1 | 4 | 5/8" | 19,1 | 120,7 |
| 2 1/2" | 177,8 | 17,5 | 104,8 | 4 | 5/8" | 19,1 | 139,7 |
| 3" | 190,5 | 19,1 | 127,0 | 4 | 5/8" | 19,1 | 152,4 |
| 4" | 228,6 | 23,8 | 157,2 | 8 | 5/8" | 19,1 | 190,5 |
| 5" | 254,0 | 23,8 | 185,7 | 8 | 3/4" | 22,2 | 215,9 |
| 6" | 279,4 | 25,4 | 215,9 | 8 | 3/4" | 22,2 | 241,3 |
| 8" | 342,9 | 28,6 | 269,9 | 8 | 3/4" | 22,2 | 298,5 |
| 10" | 406,4 | 30,2 | 323,9 | 12 | 7/8" | 25,4 | 362,0 |
| 12" | 482,6 | 31,8 | 381,0 | 12 | 7/8" | 25,4 | 431,8 |
| 14" | 533,4 | 34,9 | 412,8 | 12 | 1" | 28,6 | 476,3 |
| 16" | 596,9 | 36,5 | 469,9 | 16 | 1" | 28,6 | 539,8 |
| 18" | 635,0 | 39,7 | 533,4 | 16 | 1 1/8" | 31,8 | 577,9 |
| 20" | 698,5 | 42,9 | 584,2 | 20 | 1 1/8" | 31,8 | 635,0 |
| 24" | 812,8 | 47,6 | 692,2 | 20 | 1 1/4" | 34,9 | 749,3 |
| * 30" | * 984,3 | * 54,0 | * 857,3 | * 28 | * 1 1/4" | * 34,9 | * 914,4 |

Note: * Not included in the standards.



TAPER PLUG VALVES

British standard pipe flanges for the petroleum industry and American standard pipe flanges



CLASS 250 SEMI STEEL RAISED FACE FLANGES

| Valve Size | R Flange Diameter | S Flange Thickness | T 1/16" Raised Face Diameter | U No. of Bolts | V Size of Bolts in | X Size of Holes | Y Bolt Circle Diameter |
|------------|-------------------------|--------------------------|---------------------------------------|----------------------|-----------------------------|-----------------------|------------------------------|
| * 1/2" | * 95,3 | * 14,3 | * 50,8 | * 4 | * 1/2" | * 15,9 | * 66,7 |
| * 3/4" | * 117,5 | * 15,9 | * 61,9 | * 4 | * 5/8" | * 19,1 | * 82,6 |
| 1" | 123,8 | 17,5 | 68,0 | 4 | 5/8" | 19,1 | 88,9 |
| 1 1/4" | 133,4 | 19,1 | 77,8 | 4 | 5/8" | 19,1 | 98,4 |
| 1 1/2" | 155,6 | 20,6 | 90,5 | 4 | 3/4" | 22,2 | 114,3 |
| 2" | 165,1 | 22,2 | 106,4 | 8 | 5/8" | 19,1 | 127,0 |
| 2 1/2" | 190,5 | 25,4 | 125,4 | 8 | 3/4" | 22,2 | 149,2 |
| 3" | 209,6 | 28,6 | 144,5 | 8 | 3/4" | 22,2 | 168,3 |
| 4" | 254,0 | 31,8 | 176,2 | 8 | 3/4" | 22,2 | 200,0 |
| 5" | 279,4 | 34,9 | 211,1 | 8 | 3/4" | 22,2 | 235,0 |
| 6" | 317,5 | 36,5 | 246,1 | 12 | 3/4" | 22,2 | 269,9 |
| 8" | 381,0 | 41,5 | 303,2 | 12 | 7/8" | 25,4 | 330,2 |
| 10" | 444,5 | 47,6 | 357,2 | 16 | 1" | 28,6 | 387,4 |
| 12" | 520,7 | 50,8 | 417,5 | 16 | 1 1/8" | 31,8 | 450,9 |
| 14" | 584,2 | 54,0 | 481,0 | 20 | 1 1/8" | 31,8 | 514,4 |
| 16" | 647,7 | 57,2 | 535,0 | 20 | 1 1/4" | 34,9 | 571,5 |
| 18" | 711,2 | 60,3 | 592,1 | 24 | 1 1/4" | 34,9 | 628,7 |
| 20" | 774,7 | 63,5 | 649,3 | 24 | 1 1/4" | 34,9 | 685,8 |
| 24" | 914,4 | 69,9 | 768,4 | 24 | 1 1/2" | 41,3 | 812,8 |
| 30" | 1092,2 | 76,2 | 944,6 | 28 | 1 3/4" | 50,8 | 997,0 |

CLASS 300 CAST STEEL RAISED FACE FLANGES

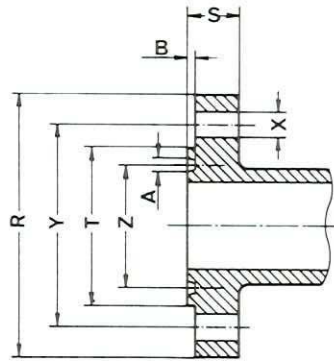
| Valve Size | R Flange Diameter | S Flange Thickness | T 1/16" Raised Face Diameter | U No. of Bolts | V Size of Bolts in | X Size of Holes | Y Bolt Circle Diameter |
|------------|-------------------------|--------------------------|---------------------------------------|----------------------|-----------------------------|-----------------------|------------------------------|
| 1/2" | 95,3 | 14,3 | 34,9 | 4 | 1/2" | 15,9 | 66,7 |
| 3/4" | 117,5 | 15,9 | 42,9 | 4 | 5/8" | 19,1 | 82,6 |
| 1" | 123,8 | 17,5 | 50,8 | 4 | 5/8" | 19,1 | 88,9 |
| 1 1/4" | 133,4 | 19,1 | 63,5 | 4 | 5/8" | 19,1 | 98,4 |
| 1 1/2" | 155,6 | 20,6 | 73,0 | 4 | 3/4" | 22,2 | 114,3 |
| 2" | 165,1 | 22,2 | 92,1 | 8 | 5/8" | 19,1 | 127,0 |
| 2 1/2" | 190,5 | 25,4 | 104,8 | 8 | 3/4" | 22,2 | 149,2 |
| 3" | 209,6 | 28,6 | 127,0 | 8 | 3/4" | 22,2 | 168,3 |
| 4" | 254,0 | 31,8 | 157,2 | 8 | 3/4" | 22,2 | 200,0 |
| 5" | 279,4 | 34,9 | 185,7 | 8 | 3/4" | 22,2 | 235,0 |
| 6" | 317,5 | 36,5 | 215,9 | 12 | 3/4" | 22,2 | 269,9 |
| 8" | 381,0 | 41,3 | 269,9 | 12 | 7/8" | 25,4 | 330,2 |
| 10" | 444,5 | 47,6 | 323,9 | 16 | 1" | 28,6 | 387,4 |
| 12" | 520,7 | 50,8 | 381,0 | 16 | 1 1/8" | 31,8 | 450,9 |
| 14" | 584,2 | 54,0 | 412,8 | 20 | 1 1/8" | 31,8 | 514,4 |
| 16" | 647,7 | 57,2 | 469,9 | 20 | 1 1/4" | 34,9 | 571,5 |
| 18" | 711,2 | 60,3 | 533,4 | 24 | 1 1/4" | 34,9 | 628,7 |
| 20" | 774,7 | 63,5 | 584,2 | 24 | 1 1/4" | 34,9 | 685,8 |
| * 24" | * 914,4 | * 69,9 | * 692,2 | * 24 | * 1 1/2" | * 41,3 | * 812,8 |
| * 30" | * 1092,2 | * 76,2 | * 857,3 | * 28 | * 1 3/4" | * 50,8 | * 997,0 |

Note: * Not included in the standards.



TAPER PLUG VALVES

British standard pipe flanges for the petroleum industry and American standard pipe flanges



CLASS 150 CAST STEEL RING JOINT FLANGES

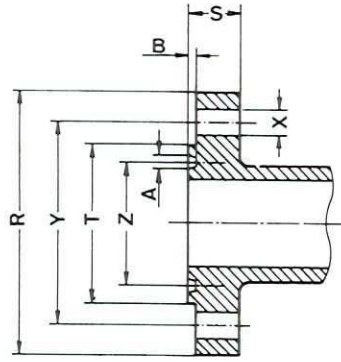
| Valve Size | R Flange Diameter | S Flange Thickness | T Raised Face Diameter | U No. of Bolts | V Size of Bolts in | X Size of Holes |
|------------|-------------------------|--------------------------|------------------------------|----------------------|-----------------------------|-----------------------|
| 1" | 108,0 | 15,9 | 63,5 | 4 | 1/2" | 15,9 |
| 1 1/4" | 117,5 | 17,5 | 73,0 | 4 | 1/2" | 15,9 |
| 1 1/2" | 127,0 | 19,1 | 82,6 | 4 | 1/2" | 15,9 |
| 2" | 152,4 | 20,6 | 101,6 | 4 | 5/8" | 19,1 |
| 2 1/2" | 177,8 | 22,2 | 120,7 | 4 | 5/8" | 19,1 |
| 3" | 190,5 | 23,8 | 133,4 | 4 | 5/8" | 19,1 |
| 4" | 228,6 | 28,6 | 171,5 | 8 | 5/8" | 19,1 |
| 5" | 254,0 | 28,6 | 193,7 | 8 | 3/4" | 22,2 |
| 6" | 279,4 | 30,1 | 219,1 | 8 | 3/4" | 22,2 |
| 8" | 342,9 | 33,3 | 273,1 | 8 | 3/4" | 22,2 |
| 10" | 406,4 | 35,0 | 330,2 | 12 | 7/8" | 25,4 |
| 12" | 482,6 | 36,5 | 406,4 | 12 | 7/8" | 25,4 |
| 14" | 533,4 | 40,0 | 425,5 | 12 | 1" | 28,6 |
| 16" | 596,9 | 41,3 | 482,6 | 16 | 1" | 28,6 |
| 18" | 635,0 | 44,5 | 546,1 | 16 | 1 1/8" | 31,8 |
| 20" | 698,5 | 47,6 | 596,9 | 20 | 1 1/8" | 31,8 |
| 24" | 812,8 | 52,5 | 711,2 | 20 | 1 1/4" | 34,9 |

| Valve Size | Y Bolt Circle Diameter | Z Pitch Diameter | A Width | B Depth | C Groove Number |
|------------|------------------------------|------------------------|------------|------------|-----------------------|
| 1" | 79,4 | 47,6 | 8,7 | 6,4 | R 15 |
| 1 1/4" | 88,9 | 57,2 | 8,7 | 6,4 | R 17 |
| 1 1/2" | 98,4 | 65,1 | 8,7 | 6,4 | R 19 |
| 2" | 120,7 | 82,6 | 8,7 | 6,4 | R 22 |
| 2 1/2" | 139,7 | 101,6 | 8,7 | 6,4 | R 25 |
| 3" | 152,4 | 114,3 | 8,7 | 6,4 | R 29 |
| 4" | 190,5 | 149,2 | 8,7 | 6,4 | R 36 |
| 5" | 215,9 | 171,5 | 8,7 | 6,4 | R 40 |
| 6" | 241,3 | 193,7 | 8,7 | 6,4 | R 43 |
| 8" | 298,5 | 247,7 | 8,7 | 6,4 | R 48 |
| 10" | 362,0 | 304,8 | 8,7 | 6,4 | R 52 |
| 12" | 431,8 | 381,0 | 8,7 | 6,4 | R 56 |
| 14" | 476,3 | 396,9 | 8,7 | 6,4 | R 59 |
| 16" | 539,8 | 454,0 | 8,7 | 6,4 | R 64 |
| 18" | 577,9 | 517,5 | 8,7 | 6,4 | R 68 |
| 20" | 635,0 | 558,8 | 8,7 | 6,4 | R 72 |
| 24" | 749,3 | 673,1 | 8,7 | 6,4 | R 76 |



TAPER PLUG VALVES

British standard pipe flanges for the petroleum industry and American standard pipe flanges



CLASS 300 CAST STEEL RING JOINT FLANGES

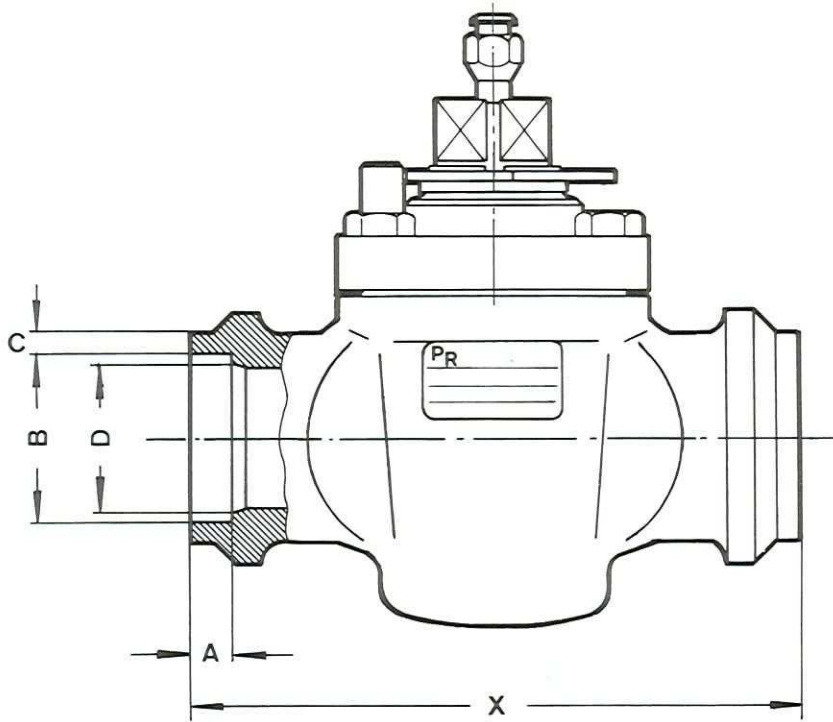
| Valve Size | R Flange Diameter | S Flange Thickness | T Raised Face Diameter | U No. of Bolts | V Size of Bolts in | X Size of Holes |
|------------|-------------------------|--------------------------|------------------------------|----------------------|-----------------------------|-----------------------|
| 1/2" | 95,3 | 18,3 | 50,8 | 4 | 1/2" | 15,9 |
| 3/4" | 117,5 | 20,6 | 63,5 | 4 | 5/8" | 19,1 |
| 1" | 123,8 | 22,2 | 69,9 | 4 | 5/8" | 19,1 |
| 1 1/4" | 133,4 | 23,8 | 79,4 | 4 | 5/8" | 19,1 |
| 1 1/2" | 155,6 | 25,4 | 90,5 | 4 | 3/4" | 22,2 |
| 2" | 165,1 | 28,6 | 108,0 | 8 | 5/8" | 19,1 |
| 2 1/2" | 190,5 | 31,8 | 127,0 | 8 | 3/4" | 22,2 |
| 3" | 209,6 | 34,9 | 146,1 | 8 | 3/4" | 22,2 |
| 4" | 254,0 | 38,1 | 174,6 | 8 | 3/4" | 22,2 |
| 5" | 279,4 | 41,3 | 209,6 | 8 | 3/4" | 22,2 |
| 6" | 317,5 | 42,9 | 241,3 | 12 | 3/4" | 22,2 |
| 8" | 381,0 | 47,4 | 301,6 | 12 | 7/8" | 25,4 |
| 10" | 444,5 | 54,0 | 355,6 | 16 | 1" | 28,6 |
| 12" | 520,7 | 57,2 | 412,8 | 16 | 1 1/8" | 31,8 |
| 14" | 584,2 | 60,1 | 457,2 | 20 | 1 1/8" | 31,8 |
| 16" | 647,7 | 63,5 | 508,0 | 20 | 1 1/4" | 34,9 |
| 18" | 711,2 | 66,7 | 574,7 | 24 | 1 1/4" | 34,9 |
| 20" | 774,7 | 71,5 | 635,0 | 24 | 1 1/4" | 34,9 |
| 24" | 914,4 | 79,4 | 749,3 | 24 | 1 1/2" | 41,3 |

| Valve Size | Y Bolt Circle Diameter | Z Pitch Diameter | A Width | B Depth | C Groove Number |
|------------|------------------------------|------------------------|------------|------------|-----------------------|
| 1/2" | 66,7 | 34,1 | 7,1 | 5,6 | R 11 |
| 3/4" | 82,6 | 42,9 | 8,7 | 6,4 | R 13 |
| 1" | 88,9 | 50,8 | 8,7 | 6,4 | R 16 |
| 1 1/4" | 98,4 | 60,3 | 8,7 | 6,4 | R 18 |
| 1 1/2" | 114,3 | 68,3 | 8,7 | 6,4 | R 20 |
| 2" | 127,0 | 82,6 | 11,9 | 7,9 | R 23 |
| 2 1/2" | 149,2 | 101,6 | 11,9 | 7,9 | R 26 |
| 3" | 168,3 | 123,8 | 11,9 | 7,9 | R 31 |
| 4" | 200,0 | 149,2 | 11,9 | 7,9 | R 37 |
| 5" | 235,0 | 181,0 | 11,9 | 7,9 | R 41 |
| 6" | 269,9 | 211,1 | 11,9 | 7,9 | R 45 |
| 8" | 330,2 | 269,9 | 11,9 | 7,9 | R 49 |
| 10" | 387,4 | 323,9 | 11,9 | 7,9 | R 53 |
| 12" | 450,9 | 381,0 | 11,9 | 7,9 | R 57 |
| 14" | 514,4 | 419,1 | 11,9 | 7,9 | R 61 |
| 16" | 571,5 | 469,9 | 11,9 | 7,9 | R 65 |
| 18" | 628,7 | 533,4 | 11,9 | 7,9 | R 69 |
| 20" | 685,8 | 584,2 | 13,5 | 9,5 | R 73 |
| 24" | 812,8 | 692,2 | 16,7 | 11,1 | R 77 |



TAPER PLUG VALVES

Sockets Welding Ends Dimension



ANSI B16.11

X = ANSI B16.10 Buttwelding End

| Valve size | A | B | C | | | D | | |
|------------|-------|--------|--------------|------------|-------------|--------------|------------|-------------|
| | | | * Schedul 40 | Schedul 80 | Schedul 160 | * Schedul 40 | Schedul 80 | Schedul 160 |
| 1/2" | 9,65 | 21,84 | 3,71 | 4,67 | 5,97 | 15,80 | 15,80 | 11,79 |
| 3/4" | 12,70 | 27,18 | 3,56 | 4,90 | 6,96 | 20,93 | 20,93 | 15,54 |
| 1" | 12,70 | 33,91 | 4,21 | 5,69 | 7,92 | 26,64 | 26,64 | 20,70 |
| 1 1/4" | 12,70 | 42,67 | 4,44 | 6,07 | 7,92 | 35,05 | 35,05 | 29,46 |
| 1 1/2" | 12,70 | 48,77 | 4,59 | 6,35 | 8,92 | 40,89 | 40,89 | 33,99 |
| 2" | 15,75 | 61,24 | 4,90 | 6,93 | 10,92 | 52,50 | 52,50 | 42,85 |
| 2 1/2" | 15,75 | 74,00 | 6,45 | 8,76 | | 62,71 | 62,71 | |
| 3" | 15,75 | 89,98 | 6,85 | 9,53 | | 77,93 | 77,93 | |
| 4" | 19,05 | 115,63 | 7,54 | 10,69 | | 102,26 | 102,26 | |

Tolerances: B = 1/2" - 2" = ±0,1
 2 1/2" - 4" = ±0,15

D = 1/2" - 2" = ±0,7
 2 1/2" - 4" = ±1,5

* Not included in ANSI B16.11.

