

FERTILIZER INDUSTRY VALVE SOLUTIONS



UPSTREAM | MIDSTREAM | DOWNSTREAM | CHEMICAL VALVE APPLICATIONS



FAST TRACK DELIVERY

SPECIAL MATERIALS

SPECIAL DESIGN

YOUR RELIABLE VALVE PARTNER

Red Point is the global leader in tailor-made valve solutions, with more than 30 years of experience in fast track delivery, utilizing specialized materials, and unique designs. With in-house engineering, production, assembling, and testing, we are distinctive in our ability to develop and manufacture valves within a very limited time frame, in accordance with our customers highest standards. Red Point strives to be flexible at all times to serve our customers, especially when an emergency strikes. Our expertise applies to standard valves in special and exotic materials such as super-duplex, titanium, zirconium, and nickel alloys, suitable for extraordinary applications, and special valves in common grades like carbon and stainless steel.

All of us at Red Point look forward to being your reliable partner in valves.



COMMERCIAL FERTILIZER PRODUCTION

The continued growth of our global population and limited available arable land has increased the demand for fertilizer exponentially.

Global population is expected to reach 9.2 billion by 2050 whereby production of fertilizer shall increase progressively.

The production of commercial fertilizer is a challenge for engineers when combined with high pressures, temperatures, and corrosion resistance, especially for urea and ammonia plants. These specific environments require customized valve design using high-quality, corrosion resistant materials.

Red Point specializes in this industry and has developed an extensive range of valves that can be used during the production of fertilizer. We have installed thousands of these application-specific valves with positive results.



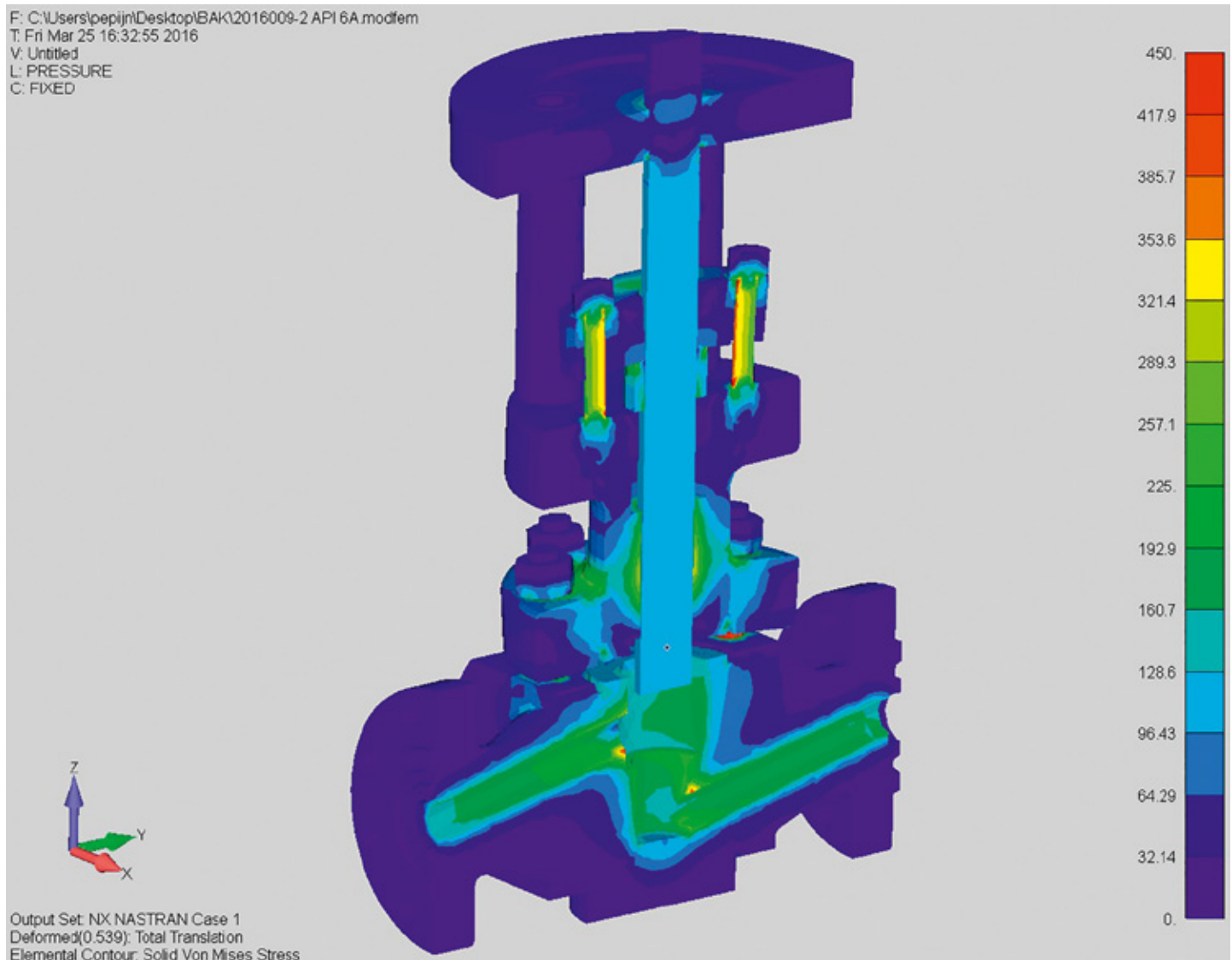
DESIGN & ENGINEERING

RED POINT OFFERS BALL, GATE, GLOBE, AND CHECK VALVES

Our valves are designed in accordance with industry standards like ASME, EN-ISO, DIN, BS and API. In fertilizer applications, angle and Y-type globe valves are frequently used with lens-type or RTJ packing.

Our engineering department is equipped with state of the art software applications. Solid 3D Modeling, Finite Element Modeling, and Post Processing (FEMAP) is utilized in order to build finite element models for strength analysis. Computational Fluid Dynamics Software (CFD) is used for predicting and controlling fluid flow. CFD is capable of modeling and simulating all fluid processes, including fluid-structure multiphysics.

FEMAP CALCULATION



TESTING

RED POINT HAS A FULLY EQUIPPED IN-HOUSE TESTING FACILITY TO PERFORM HIGH AND LOW PRESSURE HYDRO, GAS, AND HELIUM TESTS

For design validation, prototype tests have been performed on all our valves to ensure the designs are in accordance with the leak rate requirements. These tests include operating cycles, measurements at ambient, high and low temperatures (if applicable), and fugitive emission testing, both static and dynamic. After testing, the valves are dismantled and individual parts are examined for signs of wear and tear.

The end user can rest assured that each valve will have optimal performance throughout its lifetime.

Fire Safe Test According to API6FA, API6FD, API607, or BS6755



MATERIALS USED IN UREA & AMMONIA PLANTS

A WIDE RANGE OF VALVE COMPONENT MATERIALS ARE AVAILABLE WITH RESISTANCE TO INTERGRANULAR, PITTING, AND CREVICE CORROSION

These materials have outstanding mechanical properties in both high and low pressure environments within a range of high and low temperatures.

Surface treatments can be included in order to reduce mechanical friction and will improve the lifespan of non-static parts.

COMMONLY USED MATERIALS

MATERIAL	UNS NUMBER	WERKSTOFF NUMBER
304	S30400	1.4301
304L	S30403	1.4306
310 MoLN	S31050	1.4465 / 1.4466
316	S31600	1.4401
316L *	S31603	1.4404
316H	S31609	1.4435
316LN	S31653	1.4429 / 1.4406
Duplex F51	S31803	1.4462
SAF 2507	S32750	1.4469
Zeron 100	S32760	1.4501
DP28W	S32808	-
Ferralium 255	S32550	1.4507
Safurex® **	S32906	1.4477

Other materials upon request

* 316L available in Urea grade

** Safurex is a registered trademark Sandvik Materials Technology

RAW MATERIALS ARE OF EUROPEAN ORIGIN AND WILL BE DELIVERED WITH A DIN EN 10204 / 3.1 CERTIFICATE. INCORPORATING ADDITIONAL REQUIREMENTS LIKE NORSOK, NACE, DIN EN 10204 / 3.2, OR AD MERKBLATT ARE COMMON PRACTICE FOR RED POINT.

These certificates show chemical and mechanical properties including additional customer-specific requirements.



SPECIFIC TESTS CAN BE EXECUTED ON RAW MATERIALS, DEPENDING ON DESIGN PRESSURE, TEMPERATURE, AND APPLICATION

- Low or high temperature impact testing (strength properties)
- Macro etch test (flow lines and internal imperfections)
- Streicher test (corrosion detection method for intergranular attack)
- Ultrasonic or radiography testing (detects internal flaws)
- All other tests upon request

A WIDE RANGE OF NON-DESTRUCTIVE TESTS CAN BE PERFORMED IN HOUSE

- MPI - Magnetic Particle Inspection (to detect surface imperfections)
- MPE - Magnetic Particle Examination (surface discontinuities ferromagnetic material)
- PMI - Positive Material Identification (determines the alloy composition)
- Hardness test (Vickers, Brinell, Rockwell values)
- DPI - Dye Penetrant Inspection (to identify surface defects)
- All other non-destructive tests upon request

FERTILIZER VALVES

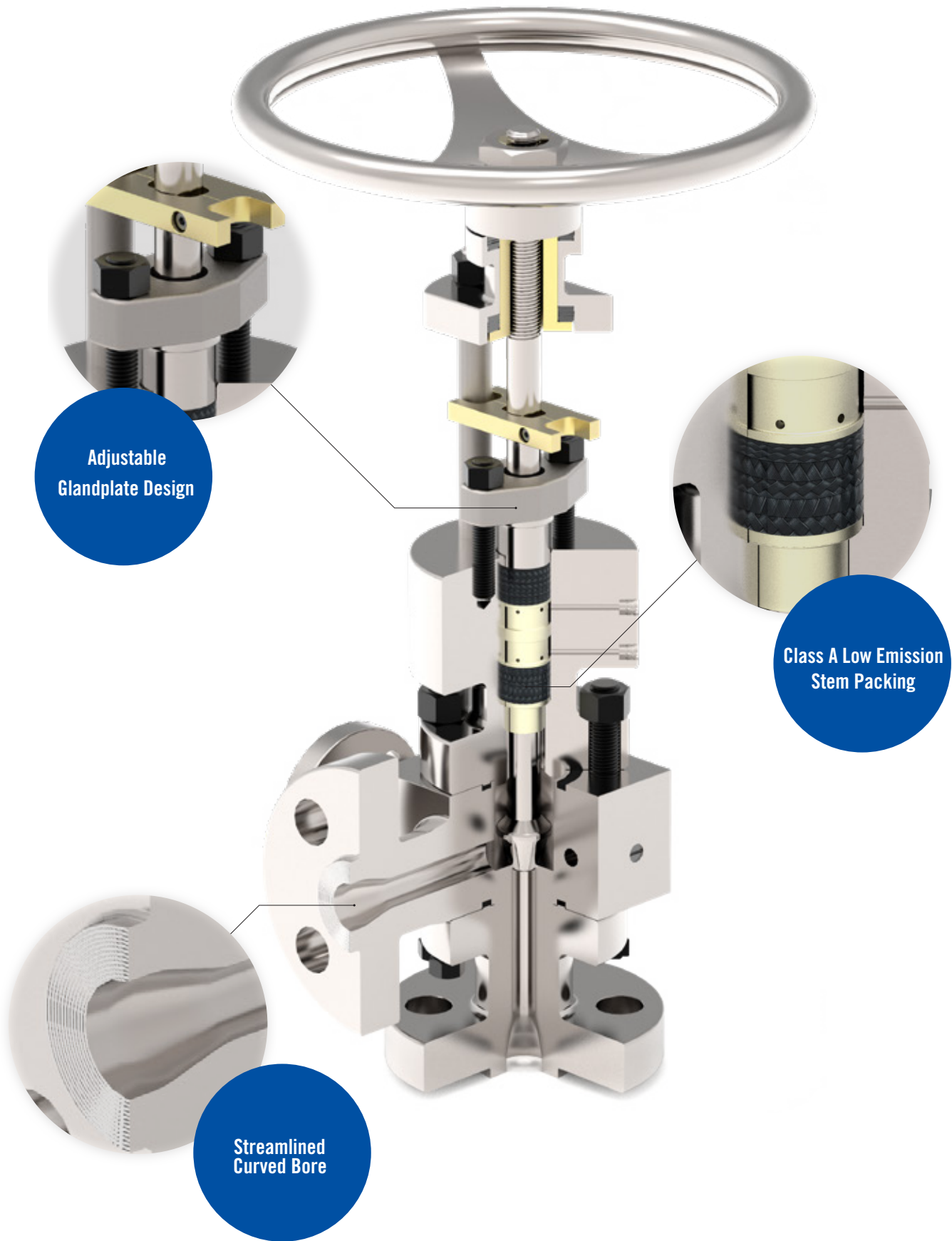
GENERAL FEATURES & TECHNOLOGY

FEATURES

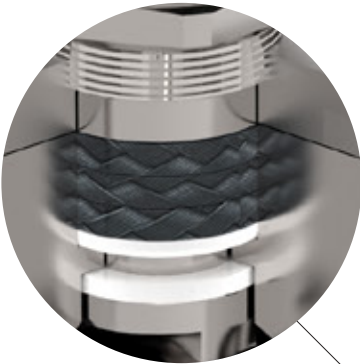
- Streamlined curved bore to create optimal flow and lower CV value
- Integral yoke design for strength and body/bonnet equivalent material properties
- Stem bearing for low torque operations
- Adjustable glandplate design for elimination of external fugitive emissions
- To avoid accumulation and crystallization of the medium, packing flushing and heating or steam jackets can be added to the valve design
- For the same crystallization reason, check valves are designed without springs

TECHNOLOGY

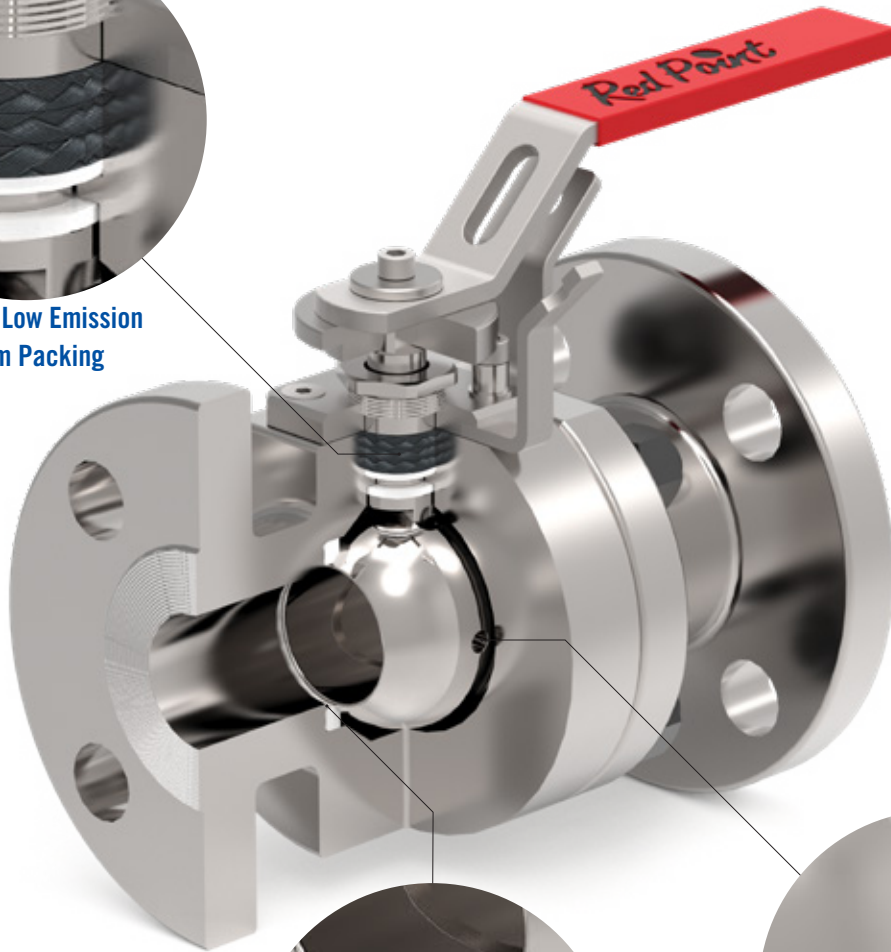
- Class A low emission stem packing from world leading packing manufacturers
- Reusable and exchangeable lens gaskets according to international standards
- Class A low emission body and bonnet closure gaskets from world leading packing manufacturers
- Proven designs and long term field experience within the fertilizer industry
- Forged body and flanges and forged components for optimal microstructure, strength, and mechanical values
- Surface hardening with cobalt based alloys (e.g. stellite) or wolfram carbide (tungsten) for wear resistance
- Kolsterised stem surface on austenitic and duplex materials for high corrosion resistance



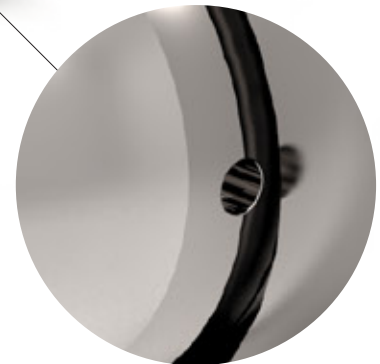
BALL VALVES FEATURES



**Class A Low Emission
Stem Packing**



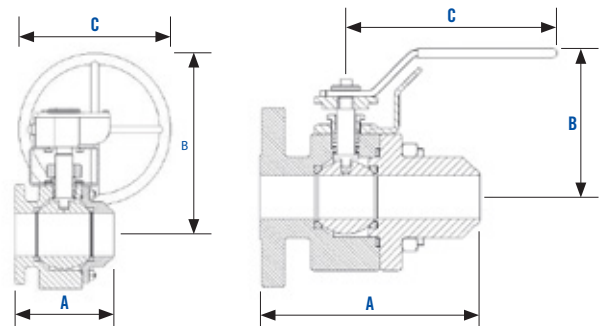
**Certified
Fire Safe Design**



Cavity Relief

OPTIONAL:

- Special Cleaning for Ammonia Services

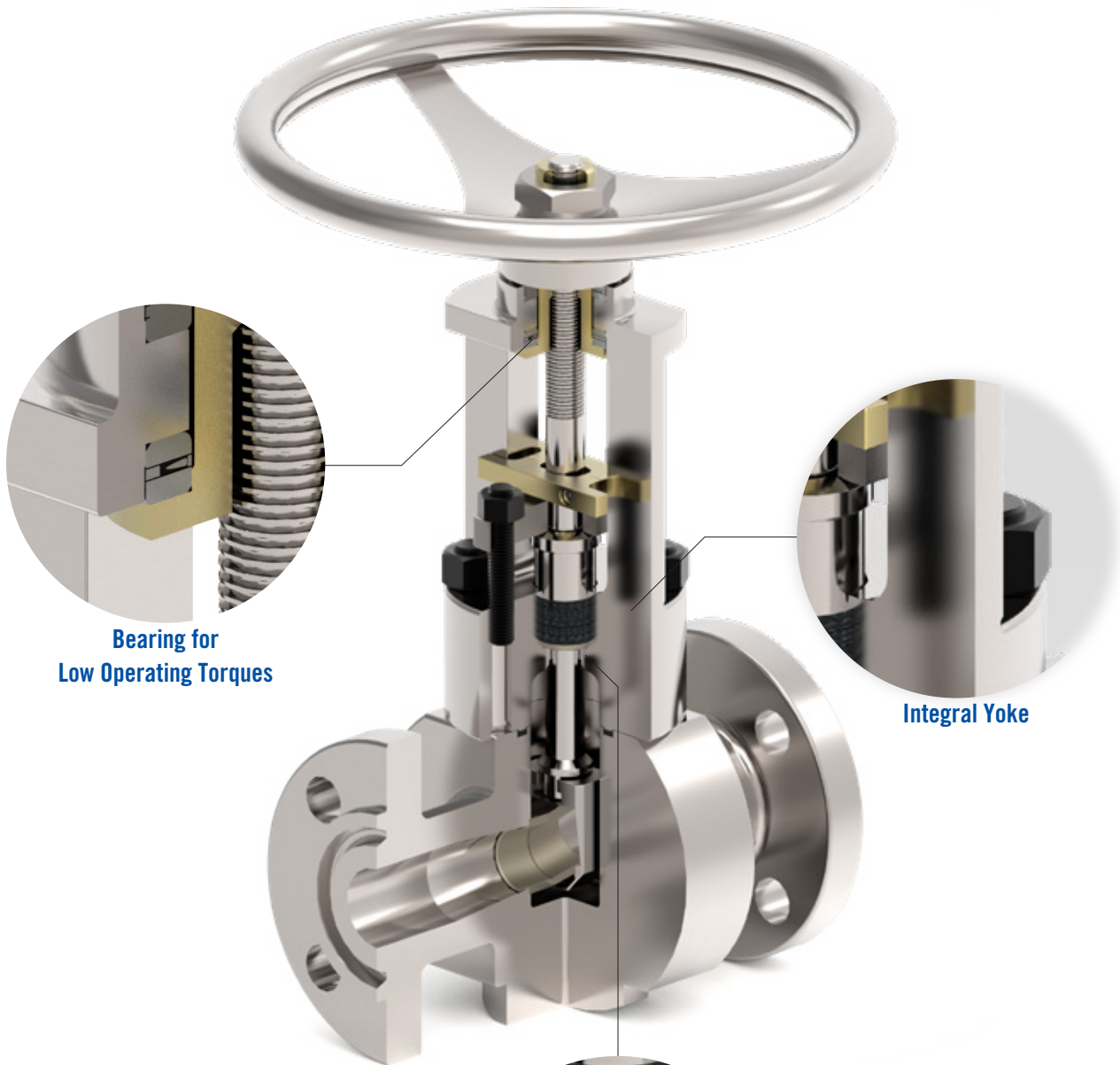


FLOATING BALL VALVES SIZE TABLE

NOMINAL PIPE SIZE	PRESSURE CLASS	FACE TO FACE / END TO END								B HEIGHT		C LEVER / HANDWHEEL	
		A FLANGED RF		A FLANGED RTJ		A BUTTWELD		A THREADED					
inch	lbs	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
1/2"	150	108.0	4.3	NA	NA	108.0	4.3	87.0	3.4	92.0	3.6	183.0	7.2
1/2"	300	139.7	5.5	150.7	5.9	139.7	5.5	87.0	3.4	92.0	3.6	183.0	7.2
1/2"	600	165.1	6.5	163.1	6.4	165.1	6.5	87.0	3.4	92.0	3.6	183.0	7.2
3/4"	150	117.3	4.6	NA	NA	117.3	4.6	110.0	4.3	93.0	3.7	183.0	7.2
3/4"	300	152.4	6.0	165.4	6.5	152.4	6.0	110.0	4.3	93.0	3.7	183.0	7.2
3/4"	600	190.5	7.5	190.5	7.5	190.5	7.5	110.0	4.3	93.0	3.7	183.0	7.2
1"	150	127.0	5.0	140.0	5.5	127.0	5.0	120.0	4.7	103.0	4.1	183.0	7.2
1"	300	165.1	6.5	178.1	7.0	165.1	6.5	120.0	4.7	103.0	4.1	183.0	7.2
1"	600	215.9	8.5	215.9	8.5	215.9	8.5	120.0	4.7	124.0	4.9	183.0	7.2
1 1/2"	150	165.1	6.5	178.1	7.0	190.5	7.5	133.5	5.3	123.0	4.8	183.0	7.2
1 1/2"	300	190.5	7.5	203.5	8.0	190.5	7.5	133.5	5.3	123.0	4.8	183.0	7.2
1 1/2"	600	241.3	9.5	241.3	9.5	241.3	9.5	133.5	5.3	123.0	4.8	183.0	7.2
2"	150	177.8	7.0	190.8	7.5	215.9	8.5	167.0	6.6	160.0	6.3	259.0	10.2
2"	300	215.9	8.5	231.9	9.1	215.9	8.5	167.0	6.6	160.0	6.3	259.0	10.2
2"	600	292.1	11.5	295.1	11.6	292.1	11.5	167.0	6.6	160.0	6.3	259.0	10.2
3"	150	203.2	8.0	216.2	8.5	282.4	11.1	NA	NA	151.0	5.9	320.0	12.6
3"	300	282.5	11.1	298.4	11.7	282.4	11.1	NA	NA	170.0	6.7	320.0	12.6
3"	600	355.6	14.0	358.6	14.1	355.6	14.0	NA	NA	232.0	9.1	350.0	13.8
4"	150	228.6	9.0	241.6	9.5	304.8	12.0	NA	NA	416.0	16.4	350.0*	13.8*
4"	300	304.8	12.0	320.8	12.6	304.8	12.0	NA	NA	427.0	16.8	400.0*	15.7*
4"	600	431.8	17.0	434.8	17.1	431.8	17.0	NA	NA	490.0	19.3	400.0*	15.7*
6"	150	393.7	15.5	406.7	16.0	457.2	18.0	NA	NA	487.0	19.2	400.0*	15.7*
6"	300	403.4	15.9	419.4	16.5	457.2	18.0	NA	NA	631.0	24.8	600.0*	23.6*

* Gear operated. NA = not applicable.

GATE VALVES FEATURES



**Bearing for
Low Operating Torques**

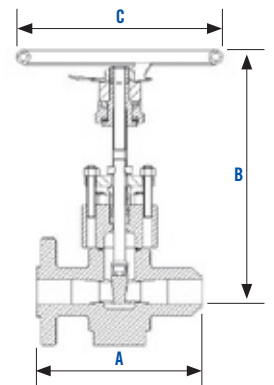
Integral Yoke

OPTIONAL:

- Heating (steam) Jacket



Integral Backseat

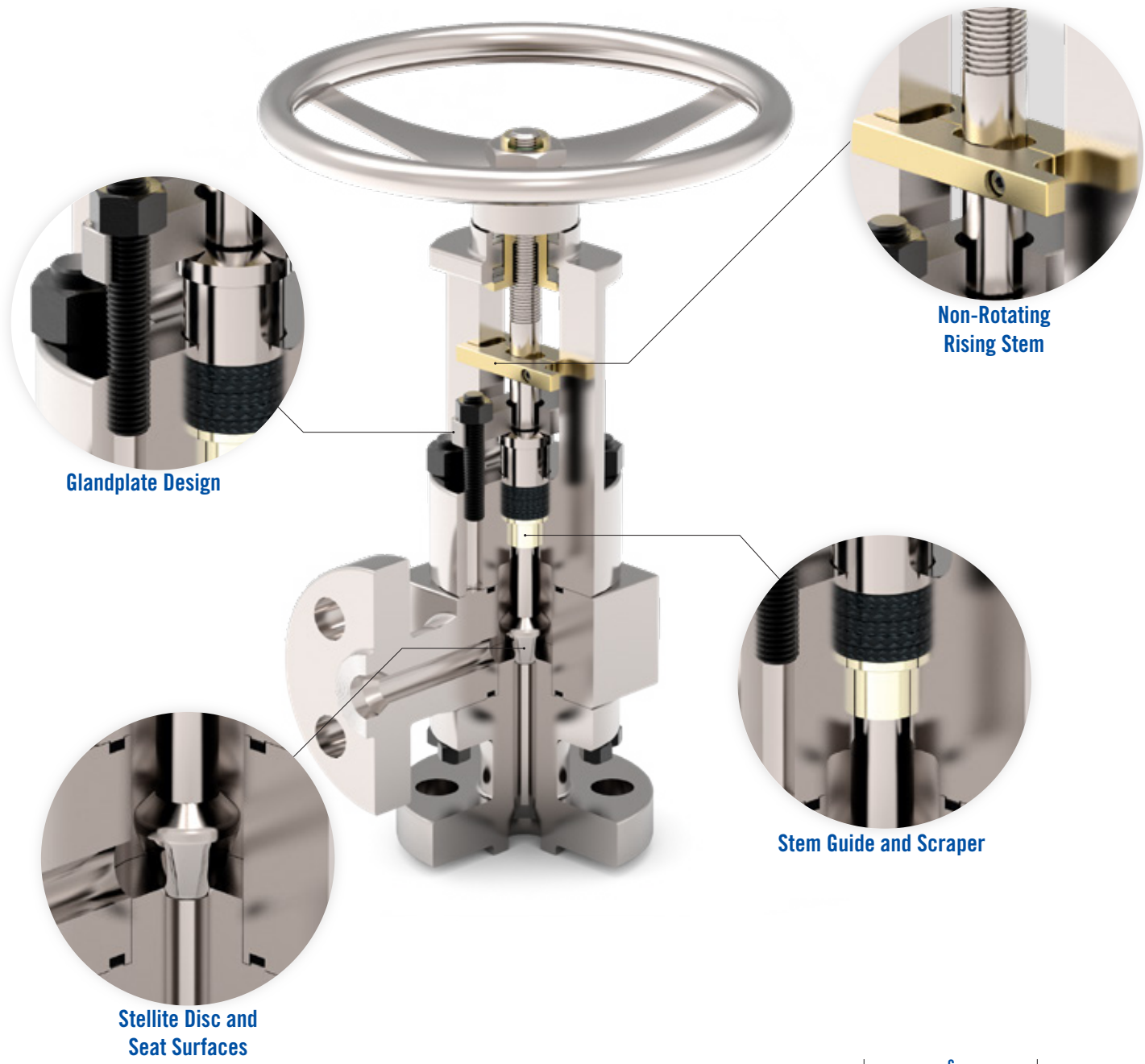


GATE VALVES SIZE TABLE

NOMINAL PIPE SIZE	PRESSURE CLASS	FACE TO FACE / END TO END								B HEIGHT		C HANDWHEEL	
		A FLANGED RF		A FLANGED RTJ		A BUTTWELD		A THREADED AND SOCKET WELD					
inch	lbs	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
1/2"	150	108.0	4.3	NA	NA	108.0	4.3	85.7	3.4	225.0	8.9	165.0	6.5
1/2"	300	139.7	5.5	150.7	5.9	139.7	5.5	91.6	3.6	225.0	8.9	165.0	6.5
1/2"	600	165.1	6.5	163.1	6.4	165.1	6.5	91.6	3.6	225.0	8.9	165.0	6.5
1/2"	900	215.9	8.5	215.9	8.5	215.9	8.5	100.0	3.9	225.0	8.9	165.0	6.5
1/2"	1500	215.9	8.5	215.9	8.5	215.9	8.5	100.0	3.9	225.0	8.9	165.0	6.5
1/2"	2500	263.7	10.4	263.7	10.4	263.7	10.4	NA	NA	330.0	13.0	300.0	11.8
3/4"	150	117.3	4.6	NA	NA	117.3	4.6	91.6	3.6	225.0	8.9	165.0	6.5
3/4"	300	152.4	6.0	165.4	6.5	152.4	6.0	91.6	3.6	225.0	8.9	165.0	6.5
3/4"	600	190.5	7.5	190.8	7.5	190.5	7.5	108.0	4.3	225.0	8.9	165.0	6.5
3/4"	900	228.6	9.0	228.6	9.0	228.6	9.0	127.0	5.0	225.0	8.9	165.0	6.5
3/4"	1500	228.6	9.0	228.6	9.0	228.6	9.0	127.0	5.0	225.0	8.9	165.0	6.5
3/4"	2500	273.1	10.8	273.1	10.8	273.1	10.8	NA	NA	330.0	13.0	300.0	11.8
1"	150	127.0	5.0	140.0	5.5	127.0	5.0	108.0	4.3	261.0	10.3	200.0	7.9
1"	300	165.1	6.5	178.1	7.0	165.1	6.5	108.0	4.3	261.0	10.3	200.0	7.9
1"	600	215.9	8.5	215.9	8.5	215.9	8.5	108.0	4.3	261.0	10.3	200.0	7.9
1"	900	254.0	10.0	254.0	10.0	254.0	10.0	130.0	5.1	261.0	10.3	300.0	11.8
1"	1500	254.0	10.0	254.0	10.0	254.0	10.0	130.0	5.1	422.0	16.6	300.0	11.8
1"	2500	307.8	12.1	307.8	12.1	307.8	12.1	NA	NA	422.0	16.6	400.0	15.7
1 1/2"	150	165.1	6.5	178.1	7.0	165.1	6.5	132.0	5.2	365.0	14.4	300.0	11.8
1 1/2"	300	228.6	9.0	203.5	8.0	190.5	7.5	152.4	6.0	365.0	14.4	300.0	11.8
1 1/2"	600	241.3	9.5	241.3	9.5	241.3	9.5	152.4	6.0	365.0	14.4	300.0	11.8
1 1/2"	900	304.8	12.0	304.8	12.0	304.8	12.0	166.0	6.5	365.0	14.4	300.0	11.8
1 1/2"	1500	304.8	12.0	304.8	12.0	304.8	12.0	166.0	6.5	365.0	14.4	300.0	11.8
1 1/2"	2500	384.0	15.1	387.0	15.2	384.0	15.1	NA	NA	430.0	16.9	400.0*	15.7*
2"	150	177.8	7.0	109.8	4.3	215.9	8.5	140.0	5.5	430.0	16.9	300.0	11.8
2"	300	215.9	8.5	231.9	9.1	215.9	8.5	170.0	6.7	430.0	16.9	300.0	11.8
2"	600	292.1	11.5	295.1	11.6	292.1	11.5	170.0	6.7	430.0	16.9	300.0	11.8
2"	900	368.3	14.5	371.3	14.6	368.3	14.5	190.0	7.5	430.0	16.9	400.0	15.7
2"	1500	368.3	14.5	371.3	14.6	368.3	14.5	190.0	7.5	430.0	16.9	400.0	15.7
2"	2500	450.9	17.8	453.9	17.9	450.9	17.8	NA	NA	664.0	26.1	600.0*	23.6*
3"	150	203.2	8.0	216.2	8.5	282.4	11.1	NA	NA	452.0	17.8	300.0	11.8
3"	300	282.4	11.1	298.4	11.7	282.4	11.1	NA	NA	452.0	17.8	300.0	11.8
3"	600	355.6	14.0	358.9	14.1	355.6	14.0	NA	NA	452.0	17.8	300.0	11.8
3"	900	381.0	15.0	384.0	15.1	381.0	15.0	NA	NA	745.0	29.3	600.0*	23.6*
3"	1500	469.9	18.5	472.9	18.6	469.9	18.5	NA	NA	745.0	29.3	600.0*	23.6*
4"	150	292.0	11.5	241.9	9.5	304.8	12.0	NA	NA	624.0	24.6	600.0*	23.6*
4"	300	305.0	12.0	320.8	12.6	304.8	12.0	NA	NA	624.0	24.6	600.0*	23.6*
4"	600	432.0	17.0	434.8	17.1	431.8	17.0	NA	NA	624.0	24.6	600.0*	23.6*
4"	900	457.0	18.0	460.2	18.1	457.2	18.0	NA	NA	910.0	35.8	500.0*	19.7*
4"	1500	546.0	21.5	549.1	21.6	546.1	21.5	NA	NA	910.0	35.8	500.0*	19.7*
6"	150	266.7	10.5	279.7	11.0	403.4	15.9	NA	NA	885.0	34.8	600.0*	23.6*

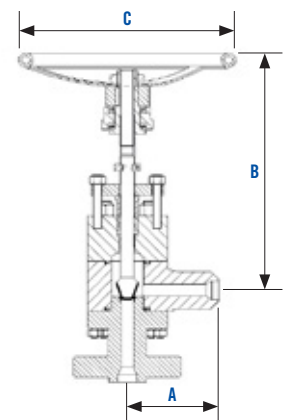
Based on API 602 Standard bore except for 2,500 lb valves. * Gearbox operated. NA = not applicable.

GLOBE VALVES - ANGLE & STRAIGHT TYPE FEATURES



OPTIONAL:

- Steam Jacket
- Stempacking Flushing



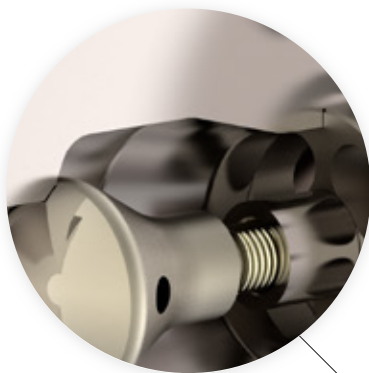
GLOBE VALVES - ANGLE & STRAIGHT TYPE

SIZE TABLE

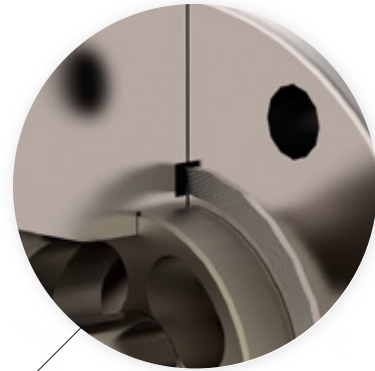
NOMINAL PIPE SIZE	PRESSURE CLASS	CENTER TO FACE / TO END								B HEIGHT		C HANDWHEEL	
		A FLANGED RF		A FLANGED RTJ		A BUTTWELD		A THREADED AND SOCKET WELD					
inch	lbs	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
1/2"	150	57.0	2.2	NA	NA	57.0	2.2	42.9	1.7	190.0	7.5	165.0	6.5
1/2"	300	76.0	3.0	81.5	3.2	76.0	3.0	47.7	1.9	190.0	7.5	165.0	6.5
1/2"	600	83.0	3.3	82.0	3.2	83.0	3.3	47.7	1.9	190.0	7.5	165.0	6.5
1/2"	900	108.0	4.3	108.0	4.3	108.0	4.3	54.0	2.1	253.0	10.0	250.0	9.8
1/2"	1500	108.0	4.3	108.0	4.3	108.0	4.3	63.5	2.5	253.0	10.0	250.0	9.8
1/2"	2500	132.0	5.2	132.0	5.2	132.0	5.2	NA	NA	291.0	11.5	250.0	9.8
3/4"	150	64.0	2.5	NA	NA	64.0	2.5	47.7	1.9	193.0	7.6	165.0	6.5
3/4"	300	89.0	3.5	95.5	3.8	89.0	3.5	54.0	2.1	193.0	7.6	165.0	6.5
3/4"	600	95.0	3.7	95.0	3.7	95.0	3.7	54.0	2.1	201.0	7.9	200.0	7.9
3/4"	900	114.0	4.5	114.0	4.5	114.0	4.5	55.0	2.2	253.0	10.0	250.0	9.8
3/4"	1500	114.0	4.5	114.0	4.5	114.0	4.5	63.5	2.5	253.0	10.0	250.0	9.8
3/4"	2500	137.0	5.4	137.0	5.4	137.0	5.4	NA	NA	298.0	11.7	300.0	11.8
1"	150	70.0	2.8	76.5	3.0	70.0	2.8	54.0	2.1	240.0	9.4	200.0	7.9
1"	300	102.0	4.0	108.5	4.3	102.0	4.0	63.5	2.5	241.0	9.5	200.0	7.9
1"	600	108.0	4.3	108.0	4.3	108.0	4.3	63.5	2.5	248.0	9.8	250.0	9.8
1"	900	127.0	5.0	127.0	5.0	127.0	5.0	63.5	2.5	299.0	11.8	250.0	9.8
1"	1500	127.0	5.0	127.0	5.0	127.0	5.0	75.0	3.0	299.0	11.8	250.0	9.8
1"	2500	154.0	6.1	154.0	6.1	154.0	6.1	NA	NA	356.0	14.0	300.0	11.8
1 1/2"	150	83.0	3.3	89.5	3.5	83.0	3.3	73.1	2.9	296.0	11.7	250.0	9.8
1 1/2"	300	114.0	4.5	120.5	4.7	114.0	4.5	76.2	3.0	296.0	11.7	250.0	9.8
1 1/2"	600	121.0	4.8	121.0	4.8	121.0	4.8	76.2	3.0	307.0	12.1	250.0	9.8
1 1/2"	900	152.0	6.0	152.0	6.0	152.0	6.0	90.0	3.5	307.0	12.1	300.0	11.8
1 1/2"	1500	152.0	6.0	152.0	6.0	152.0	6.0	105.0	4.1	307.0	12.1	300.0	11.8
1 1/2"	2500	192.0	7.6	193.5	7.6	192.0	7.6	NA	NA	467.0	18.4	400.0	15.7
2"	150	102.0	4.0	108.5	4.3	102.0	4.0	79.4	3.1	312.0	12.3	300.0	11.8
2"	300	133.0	5.2	141.0	5.6	133.0	5.2	92.1	3.6	312.0	12.3	300.0	11.8
2"	600	146.0	5.7	147.5	5.8	146.0	5.7	92.1	3.6	312.0	12.3	300.0	11.8
2"	900	184.0	7.2	185.5	7.3	184.0	7.2	105.0	4.1	320.0	12.6	400.0	15.7
2"	1500	184.0	7.2	185.5	7.3	184.0	7.2	115.0	4.5	320.0	12.6	400.0	15.7
2"	2500	226.0	8.9	227.5	9.0	226.0	8.9	NA	NA	838.0	33.0	600.0*	23.6*
3"	150	121.0	4.8	127.5	5.0	121.0	4.8	NA	NA	468.0	18.4	400.0	15.7
3"	300	159.0	6.3	167.0	6.6	159.0	6.3	NA	NA	468.0	18.4	400.0	15.7
3"	600	178.0	7.0	179.5	7.1	178.0	7.0	NA	NA	468.0	18.4	400.0	15.7
3"	900	190.0	7.5	191.5	7.5	190.0	7.5	NA	NA	489.0	19.3	400.0*	15.7*
3"	1500	235.0	9.3	236.5	9.3	235.0	9.3	NA	NA	770.0	30.3	400.0*	15.7*
4"	150	146.0	5.7	152.5	6.0	146.0	5.7	NA	NA	456.0	18.0	400.0	15.7
4"	300	178.0	7.0	186.0	7.3	178.0	7.0	NA	NA	576.0	22.7	400.0	15.7
4"	600	216.0	8.5	217.5	8.6	216.0	8.5	NA	NA	576.0	22.7	400.0	15.7
4"	900	229.0	9.0	230.5	9.1	229.0	9.0	NA	NA	784.0	30.9	400.0*	15.7*
4"	1500	273.0	10.7	274.5	10.8	273.0	10.7	NA	NA	784.0	30.9	400.0*	15.7*
6"	150	203.0	8.0	209.5	8.2	203.0	8.0	NA	NA	793.0	31.2	600.0*	23.6*

Based on API 602 Standard bore except for 2,500 lb valves. * Gearbox operated. NA = not applicable.

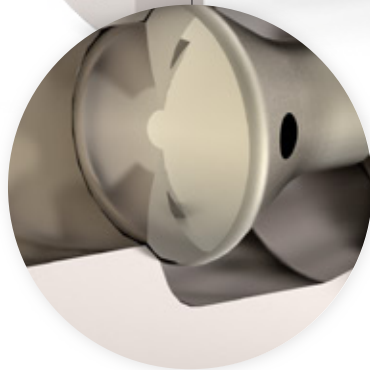
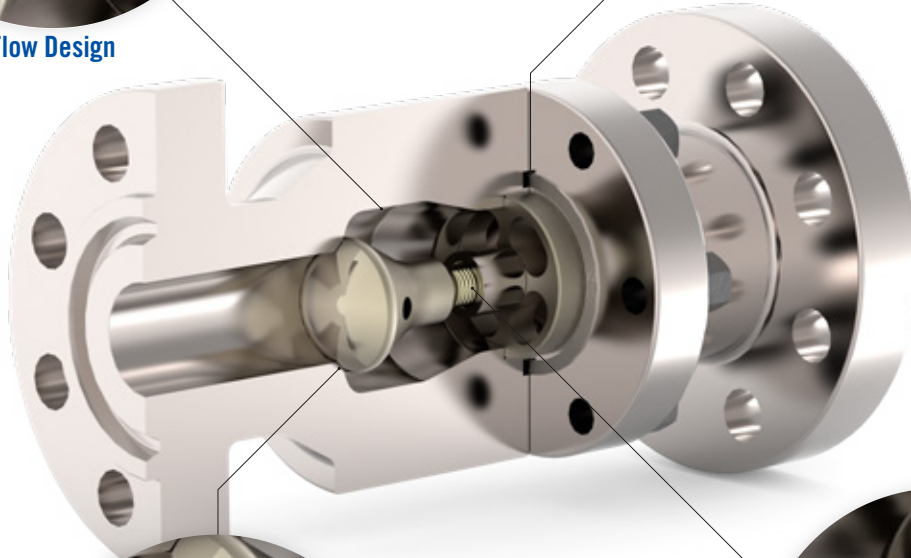
CHECK VALVES - INLINE PISTON TYPE FEATURES



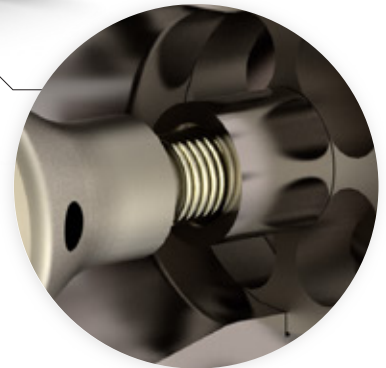
Flow Design



Class A
Low Emission Gasket



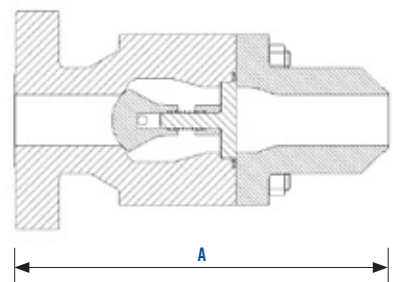
Full Stellite Face and
Stellite Seat



Spring / Medium
Protection

OPTIONAL:

- Heating (steam) jacket



CHECK VALVES - INLINE PISTON TYPE

SIZE TABLE

NOMINAL PIPE SIZE	PRESSURE CLASS	FACE TO FACE / END TO END							
		A FLANGED RF		A FLANGED RTJ		A BUTTWELD		A THREADED AND SOCKET WELD	
inch	lbs	mm	inch	mm	inch	mm	inch	mm	inch
1/2"	150	108.0	4.3	NA	NA	108.0	4.3	85.7	3.4
1/2"	300	152.4	6.0	163.4	6.4	152.4	6.0	95.3	3.8
1/2"	600	165.1	6.5	163.4	6.4	165.1	6.5	95.3	3.8
1/2"	900	215.9	8.5	215.9	8.5	215.9	8.5	108.0	4.3
1/2"	1500	215.9	8.5	215.9	8.5	215.9	8.5	127.0	5.0
1/2"	2500	263.7	10.4	263.7	10.4	263.7	10.4	NA	NA
3/4"	150	117.3	4.6	NA	NA	117.3	4.6	95.3	3.8
3/4"	300	177.8	7.0	190.8	7.5	177.8	7.0	108.0	4.3
3/4"	600	190.5	7.5	190.8	7.5	190.5	7.5	108.0	4.3
3/4"	900	228.6	9.0	228.6	9.0	228.6	9.0	110.0	4.3
3/4"	1500	228.6	9.0	228.6	9.0	228.6	9.0	127.0	5.0
3/4"	2500	273.1	10.8	273.1	10.8	273.1	10.8	NA	NA
1"	150	127.0	5.0	140.0	5.5	127.0	5.0	108.0	4.3
1"	300	203.2	8.0	216.2	8.5	203.2	8.0	127.0	5.0
1"	600	215.9	8.5	215.9	8.5	215.9	8.5	127.0	5.0
1"	900	254.0	10.0	254.0	10.0	254.0	10.0	127.0	5.0
1"	1500	254.0	10.0	254.0	10.0	254.0	10.0	150.0	5.9
1"	2500	307.8	12.1	307.8	12.1	307.8	12.1	NA	NA
1 1/2"	150	165.1	6.5	178.1	7.0	165.1	6.5	146.1	5.8
1 1/2"	300	228.6	9.0	241.3	9.5	228.6	9.0	152.4	6.0
1 1/2"	600	241.3	9.5	241.3	9.5	241.3	9.5	152.4	6.0
1 1/2"	900	304.8	12.0	304.8	12.0	304.8	12.0	180.0	7.1
1 1/2"	1500	304.8	12.0	304.8	12.0	304.8	12.0	210.0	8.3
1 1/2"	2500	387.0	15.2	387.0	15.2	384.0	15.1	NA	NA
2"	150	203.2	8.0	216.2	8.5	203.2	8.0	158.8	6.3
2"	300	266.7	10.5	282.7	11.1	266.7	10.5	184.2	7.3
2"	600	292.1	11.5	295.1	11.6	292.1	11.5	184.2	7.3
2"	900	368.3	14.5	371.3	14.6	368.3	14.5	210.0	8.3
2"	1500	368.3	14.5	371.3	14.6	368.3	14.5	230.0	9.1
2"	2500	450.9	17.8	453.9	17.9	450.9	17.8	NA	NA
3"	150	241.3	9.5	254.3	10.0	241.3	9.5	NA	NA
3"	300	317.5	12.5	333.5	13.1	317.5	12.5	NA	NA
3"	600	355.6	14.0	358.6	14.1	355.6	14.0	NA	NA
3"	900	381.0	15.0	384.0	15.1	381.0	15.0	NA	NA
3"	1500	469.9	18.5	472.9	18.6	469.9	18.5	NA	NA
4"	150	292.0	11.5	305.1	12.0	292.0	11.5	NA	NA
4"	300	356.0	14.0	371.6	14.6	356.0	14.0	NA	NA
4"	600	432.0	17.0	434.8	17.1	432.0	17.0	NA	NA
4"	900	457.0	18.0	460.2	18.1	457.0	18.0	NA	NA
4"	1500	546.0	21.5	549.1	21.6	546.0	21.5	NA	NA
6"	150	406.4	16.0	419.4	16.5	406.4	16.0	NA	NA

Based on API 602 Standard bore, except for 2,500 lb valves. NA = not applicable.

QUALITY & CERTIFICATIONS

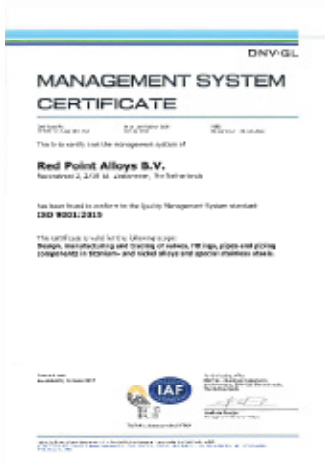
THROUGHOUT THE YEARS, RED POINT HAS OBTAINED A WIDE RANGE OF QUALIFICATIONS, CERTIFICATIONS, AND CUSTOMER APPROVALS.

Our valves are designed and manufactured in accordance with the latest industrial standards with our proven designs. Our valve data books and design validation records are well documented. Quality is our philosophy.

All of our employees are well educated, trained, and committed to providing products of the highest quality, without compromise.

This is endorsed by the following certifications of our quality management system:

- NEN-EN-ISO 9001: 2015
- PED directive 2014/68/EU annex III module H
- API spec Q1 and API-6D License
- API-6A License
- CRN Registration OC05690.2
- Achilles JQS Qualification
- AD 2000 Merkblatt W0/A4 and TRD100
- OHSAS 18001: 2007
- TR CU 032
- TR CU 010
- Shell TAMAP approved
- ATEX 94/9/EC cat 2



PROJECT EXAMPLES - FERTILIZER & UREA SERVICES

Project: Enid Plant Expansion - USA

Engineering

End-user



Scope of supply

- Globe valves
type: angle
- Size: 3/4" - 4"
- Class: 1500 lbs
- Body material:
Superduplex F53



Project: QAFCO V - Qatar

Engineering

End-user



Scope of supply

- Ball valves
type: floating, metal seated
- Size: 1"
- Class: 600 lbs
- Body material: SS316



Project: Veliky Novgorod - Russia

Engineering

End-user



Scope of supply

- Non-return valves
type: swing
- Size: DN80 - 100
- Class: PN200
- Body material: SS316



Project: Lone Star - USA

Engineering

End-user



Scope of supply

- Gate and Globe valves
type: straight and angle
- Size: 3/4" - 2"
- Class: 1500 lbs
- Body material:
SS304 and Superduplex F53



Project: Cochabamba - Bolivia

Engineering

End-user



Scope of supply

- Ball valves
type: TRM, metal seated
- Size: 12"
- Class: 600 lbs
- Body material: SS316



Project: Bamboo - Norway

Engineering

End-user



Scope of supply

- Globe valves
type: straight
- Size: DN15 - DN25
- Class: PN16 - PN100
- Body material: AISI304L
and P245GH





Red Point

International Head Office
Radonstraat 2
2718 TA Zoetermeer
The Netherlands
T +31 (0)79 363 20 70
info@trilliumflow.com