

SLURRYTUFF™ MAXI-CHECK
BALL CHECK VALVES / ISOLATION VALVE

MODELS I | H | L



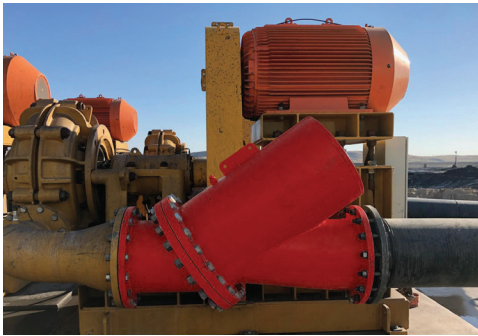
BRAY.COM

 **Bray**®

THE HIGH PERFORMANCE COMPANY

A RELIABLE INVESTMENT

Bray's SlurryTuff™ brand includes the MAXI-CHECK line of **ball check valves and ball check isolation valves**. Available in high pressure high wear, low pressure & low wear and dual function check/isolation models. They are designed to prevent reverse flow, and in the case of the Model I, prevent reverse flow with isolation.



OPERATING FEATURES

Engineered for slurry service, MAXI-CHECK operating features include:

- > Full bore design — provides unrestricted flow ensuring low pressure loss and minimum back pressure to seal.
- > Large port — prevents clogging.
- > High-wear resistant seat and ball design — offers large sealing area, to provide drip-tight sealing under all conditions.
- > Sinking ball design - preferred for applications involving viscous liquids or slurries.
- > Self-cleaning — the ball rotates during operation eliminating the risk of impurities adhering to the ball.
- > Fabricated design — low weight and allows for inline repairs.
- > Operation — suitable for horizontal or vertical applications.

OPERATING CONDITIONS

- > Specifically designed for extreme applications, such as slurry, ash disposal, and mine dewatering that produce heavy scale (such as salts).
- > CWP of 7 to 150 bar (100 to 2175 psi).
- > Standard operating temperature up to 80°C (176°F).

APPLICATIONS

- > Slurry pipelines
- > Power plant ash disposal
- > Mine dewatering
- > Pipelines with scale
- > Cement plant
- > Pulp & paper
- > Water & wastewater
- > High pressure pipelines



SPECIFICATIONS

Purpose	Non Return Isolation
Size Range	DN 80 to 750 NPS 3 to 30
Temperature Range	Up to 80°C Up to 176°F
Pressure Ratings^{1,2}	ANSI B16.5 Class 150/300/600 & 900 @ 65°C (150°F) Nominal
Connection³	Flanged ANSI B16.5 RF Class 150/300/600 & 900 (or as requested)

DESIGN STANDARDS

Valve Design	ASME B16.34
Flange Drilling	ASME B16.5
Process Piping	ASME B31.3
Testing	AS 4037-1999 EN 12266 Pt 1 & 2 API 598

NOTES

- 1 ANSI 150 as standard, consult Bray for other pressure ratings.
- 2 All Bray valves are tested to 110% of rated pressure to ensure bubble-tight shutoff.
- 3 All international flanges available on request.
Contact Bray for more information.

CUSTOMIZABLE FOR YOUR NEEDS

Long-lasting and maintenance-free, all MAXI-CHECK valves are built to **meet and exceed the high demands** of heavy duty slurry ball check valves. Optional configurations, materials, and linings allow customization to suit your specific requirements.

MATERIALS & OPTIONS

- > Body & outlet materials include carbon steel, 316/304 stainless steel.
Optional: Duplex and super duplex stainless steel.
- > Exterior epoxy coatings suitable for highly aggressive environments.
- > Standard inner lining of natural rubber, with nitrile or bromobutyl options.
- > Replaceable ball available in stainless steel, silica bronze/urethane-coated aluminum materials.
- > Replaceable seat in 304 stainless steel or hardened carbon steel (matched to the ball).
- > Drain/flush port in body.

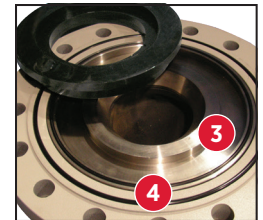
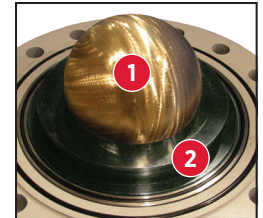
HIGH PRESSURE SEAT, BALL & SEAL DESIGN

For high-pressure applications over 35 bar, the Model H & Model I valves use a 40 SHORE hardness molded rubber annular seal.

Bubble tight shut-off is achieved by back pressure forcing the seal against the ball.

NOTES

- 1 Shown with Silica bronze sinking ball.
- 2 Molded rubber annular seal.
- 3 Stainless steel seat.
- 4 High pressure O-ring seal.



AVAILABLE MODELS

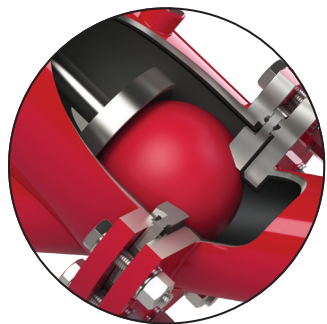
MODEL I | High Pressure • Dual Function

Ball Check Valve with Isolation

This valve features mechanical isolation ensuring the ball is held in the closed position. The valve comes fully lined with natural rubber, and polyurethane coated ball as standard. It can be configured to suit your particular service conditions with a choice of liner materials, ball types and actuation options.

(refer to page 5 for material options)

When the pump starts, the pressure forces the ball off the seat and into the tower. When the pump stops, the ball returns to the seat and is held in the closed position by the back pressure creating a positive seal. The valve can now be isolated using the bevel gear operator or actuator to mechanically hold the ball in the seat to achieve valve isolation.



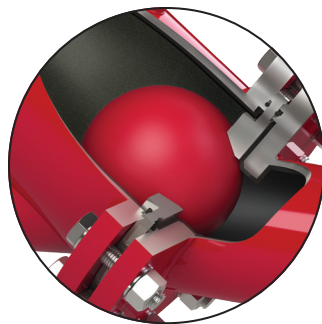
NOTES

- 1 Valves shown mechanical isolation in the closed position

MODEL H | High Pressure • High Wear

Ball Check Valve

The valve utilizes the same valve design as the fully-featured model I. However it does not provide valve isolation. The valve can be configured to suit your particular service conditions with a choice of liner materials and ball types. (refer to page 5 for material options)



NOTES

- 1 Valve shown on the closed position

MODEL L | Low Pressure • Low Wear

Ball Check Valve

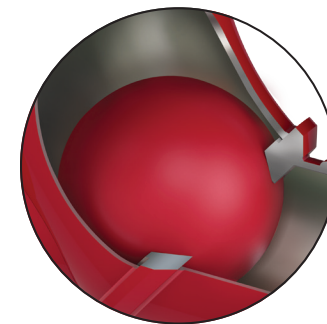
Robust, simple and cost-effective one-piece body. Designed with the same face to face dimensions as a swing check allows a direct replacement without the need for pipe modifications and spool pieces.

The valve comes unlined as standard.

However, rubber-lined is available on request.

Bubble tight shut-off is achieved by back pressure forcing the ball against the integral body steel seat.

The advantage of this compact design is a single moving part and no external components ensuring ongoing reliability.



NOTES

- 1 Valve shown on the closed position

MATERIAL OPTIONS¹



MODEL I



MODEL H



MODEL L

Body & Outlet Cover	Fabricated Carbon Steel		
Ball (replaceable)	Urethane Coated Aluminum	Urethane Coated Aluminum	Urethane Coated Aluminum
	Stainless Steel*	Stainless Steel*	—
	Silica Bronze*	Silica Bronze*	—
Seat (replaceable)	304 Stainless Steel	304 Stainless Steel	Carbon Steel (Non-replaceable)
	Hardened Carbon Steel	Hardened Carbon Steel	—
High Pressure Seal (replaceable)	Molded rubber (40 Shore hardness)#	Molded rubber (40 Shore hardness)#	Carbon Steel (Non-replaceable)
Gasket	BS-N90 Shore O-ring (between body and outlet flange for high-pressure seal)		
Fasteners	Class 8.8 Galvanised Carbon Steel		
	Stainless Steel option as required		
Internal Lining	Natural Rubber		
	Nitrile		
	Bromobutyl		
Finish	Grit Blast 2.5 and two-part Epoxy Paint		

NOTES

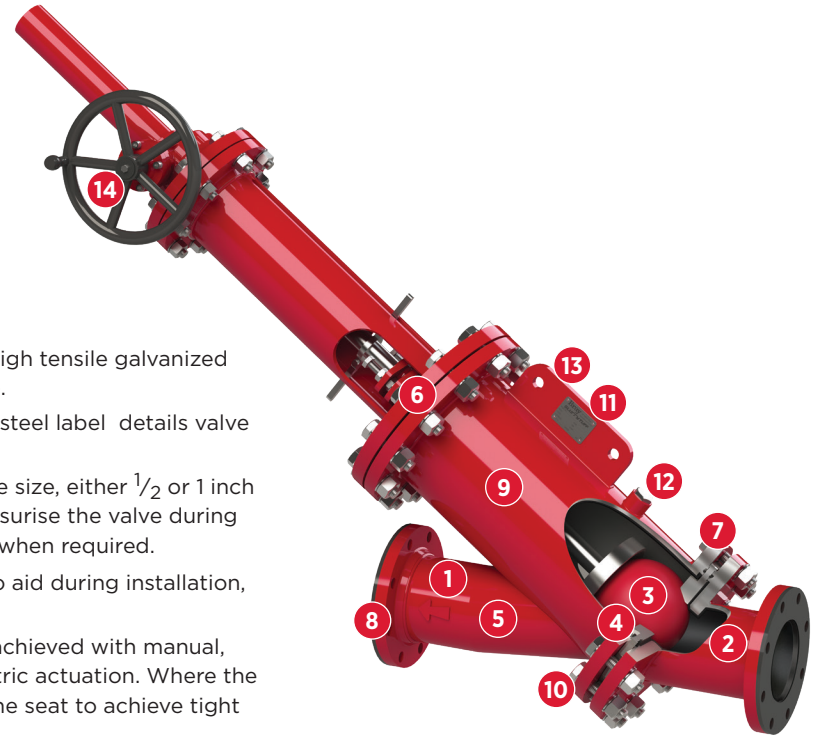
¹ Other materials are available on request. Contact Bray for more information.

* Typically for high pressure applications >35 bar to withstand the mechanical forces.

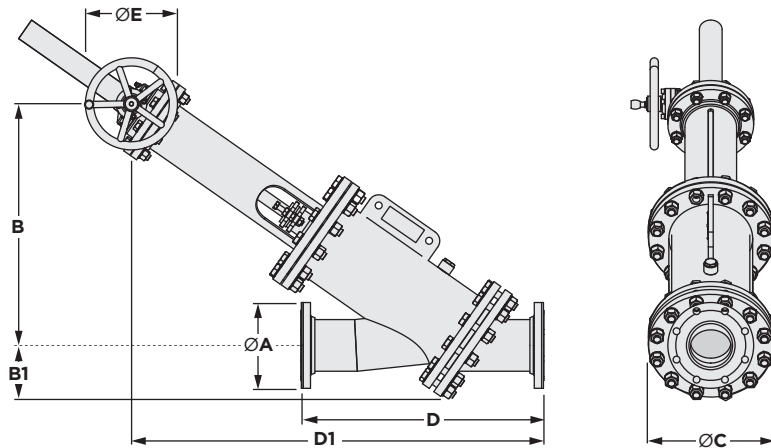
For high pressure applications >35 bar.

FEATURES & BENEFITS | MODEL I

- 1 ORIENTATION:** Suitable for horizontal or vertical installations without any customization required.
- 2 CONSTRUCTION:** Full bore design and simple construction ensures low pressure drop and minimum back pressure to seal.
- 3 BALL:** Self cleaning urethane-coated, aluminum core, stainless steel or silica bronze ball rotates with the flow, preventing scale build up.
- 4 PRIMARY SEAT:** The seat is designed for full-bore flow, and constructed of material selected specifically for slurry and heavy-duty applications.
- 5 BODY:** Fully fabricated from carbon steel for low weight and ease of customization. Lined with a choice of three materials.
- 6 ON-SITE INSPECTION:** Removable bonnet flange for valve inspection, cleaning, or maintenance.
- 7 SEAL TO ATMOSPHERE:** Standard nitrile o-rings are used for a high-pressure seal.
- 8 END CONNECTION:** Available in a wide range of end connections, including ANSI and DIN.
- 9 BODY COATINGS:** The external body have a minimum coat of 250 micron DFT. The body is coated with a hard, two-part epoxy paint, applied in a Bray standard red finish, that provides excellent corrosion and wear resistance.
- 10 FASTENERS:** Fasteners are high tensile galvanized carbon steel structural grade.
- 11 LABEL PLATE:** The stainless steel label details valve model and serial numbers.
- 12 FLUSH PORT:** Based on valve size, either $\frac{1}{2}$ or 1 inch flush port is fitted to de-pressurise the valve during maintenance, or for flushing when required.
- 13 APPROVED LIFTING LUG:** To aid during installation, or removal.
- 14 VALVE ISOLATION:** Can be achieved with manual, pneumatic, hydraulic or electric actuation. Where the ball is mechanically held in the seat to achieve tight shut-off.



DIMENSIONS & WEIGHTS | MODEL I



NOTES

- 1 Dimensions and weights do not include lining material.
- 2 Contact Bray for other ANSI class rated valves.

ANSI CLASS 150 | 1960 kPa (mm | kg)

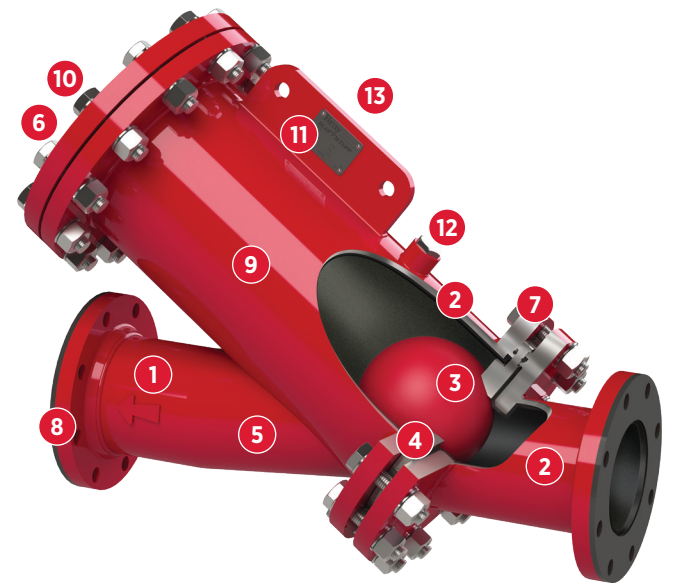
Size DN	ØA mm	B mm	B1 mm	ØC mm	D mm	D1 mm	ØE mm	Wgt (kg)
80	190	455	452	254	490	708	300	155
100	228	555	133	280	640	841	300	170
150	280	740	138	406	780	1115	500	285
200	343	885	198	483	930	1325	500	370
250	406	972	219	533	1070	1510	500	475
300	483	1090	251	598	1120	1676	500	540
350	533	1210	330	635	1460	1965	500	720
400	598	1335	330	730	1680	2230	500	950
450	635	1495	367	813	1680	2365	500	1350
500	700	1653	375	850	1680	2526	500	1650
600	813	1960	435	935	1880	3000	500	2350

ANSI CLASS 150 | 284 psi (inch | lb)

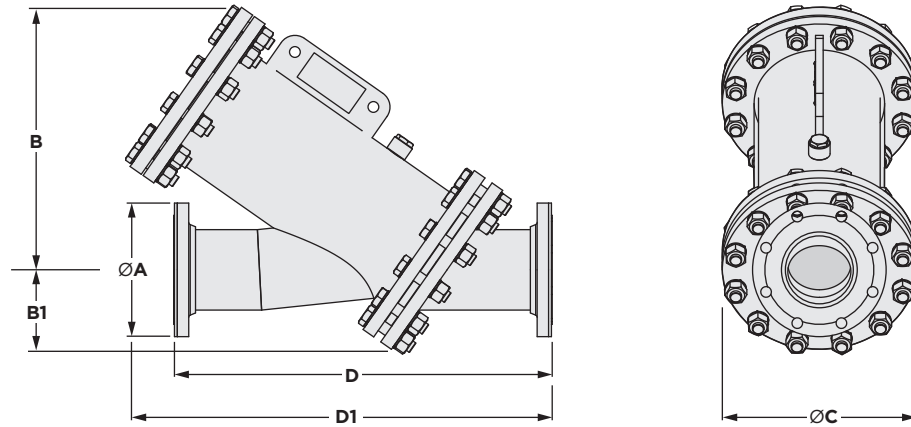
Size NPS	ØA in	B in	B1 in	ØC in	D in	D1 in	ØE in	Wgt (lb)
3	7.50	17.91	17.80	10.00	19.69	27.87	12.00	342
4	9.00	21.85	5.24	11.00	25.20	33.11	12.00	375
6	11.00	29.13	5.43	16.00	30.71	43.90	12.00	628
8	13.50	34.84	7.80	19.00	36.61	52.17	20.00	816
10	16.00	38.27	8.62	21.00	42.13	59.45	20.00	1047
12	19.00	42.91	9.88	23.50	44.09	65.98	20.00	1190
14	21.00	47.64	12.99	25.00	57.48	77.36	20.00	1587
16	23.50	52.56	12.99	28.75	66.14	87.80	20.00	2094
18	25.00	58.86	14.45	32.00	66.14	93.11	20.00	2976
20	27.50	65.08	14.76	33.50	66.14	99.45	20.00	3638
24	32.00	77.17	17.13	36.80	74.02	118.11	20.00	5181

FEATURES & BENEFITS | MODEL H

- 1 ORIENTATION:** Suitable for horizontal or vertical installations without any customization required.
- 2 CONSTRUCTION:** Full bore design and simple construction ensures low pressure drop and minimum back pressure to seal.
- 3 BALL:** Self cleaning urethane-coated, aluminum core, stainless steel or silica bronze ball rotates with the flow, preventing scale build up.
- 4 PRIMARY SEAT:** The seat is designed for full-bore flow, and constructed of material selected specifically for slurry and heavy-duty applications.
- 5 BODY:** Fully fabricated from carbon steel for low weight and ease of customization. Lined with a choice of three materials.
- 6 ON-SITE INSPECTION:** Removable bonnet flange for valve inspection, cleaning, or maintenance.
- 7 SEAL TO ATMOSPHERE:** Standard nitrile o-rings are used for a high-pressure seal.
- 8 END CONNECTION:** Available in a wide range of end connections, including ANSI and DIN.
- 9 BODY COATINGS:** The external body have a minimum coat of 250 micron DFT. The body is coated with a hard, two-part epoxy paint, applied in a Bray standard red finish, that provides excellent corrosion and wear resistance.
- 10 FASTENERS:** Fasteners are high tensile galvanized carbon steel structural grade.
- 11 LABEL PLATE:** The stainless steel label details valve model and serial numbers.
- 12 FLUSH PORT:** Based on valve size, either $\frac{1}{2}$ or 1 inch flush port is fitted to de-pressurise the valve during maintenance, or for flushing when required.
- 13 APPROVED LIFTING LUG:** To aid during installation, or removal.



DIMENSIONS & WEIGHTS | MODEL H



NOTES

- 1 Dimensions and weights do not include lining material.
- 2 Dimensions shown are based on ANSI flanging, please consult Bray for other flange types.
- 3 Contact Bray for other ANSI class rated valves.

ANSI CLASS 150 | 1960 kPa (mm | kg)

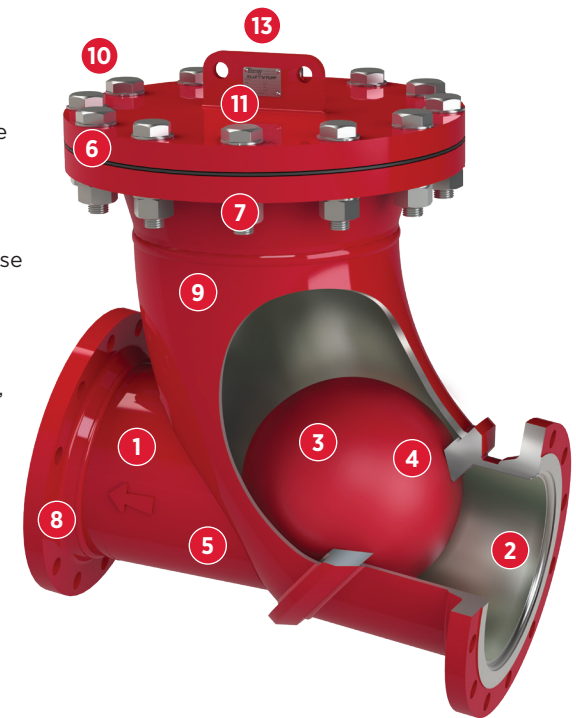
Size DN	ØA mm	B mm	B1 mm	ØC mm	D mm	D1 mm	Wgt (kg)
80	190	366	452	254	490	585	58
100	228	448	133	280	640	694	68
150	280	565	138	406	780	866	177
200	343	664	198	483	930	1005	262
250	406	714	219	533	1070	1140	360
300	483	790	251	598	1120	1246	425
350	533	866	330	635	1460	1470	600
400	598	948	330	730	1680	1675	825
450	635	1065	367	813	1680	1750	1020
500	700	1180	375	850	1680	1850	1150
600	813	1400	435	935	1880	2200	1950

ANSI CLASS 150 | 284 psi (inch | lb)

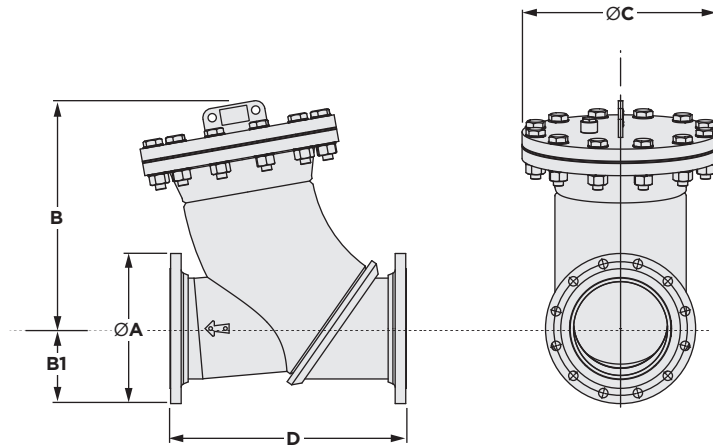
Size NPS	ØA in	B in	B1 in	ØC in	D in	D1 in	Wgt (lb)
3	7.50	14.41	17.80	10.00	19.29	23.03	128
4	9.00	17.64	5.24	11.00	25.20	27.32	150
6	11.00	22.24	5.43	16.00	30.71	34.09	390
8	13.50	26.14	7.80	19.00	36.61	39.57	578
10	16.00	28.11	8.62	21.00	42.13	44.88	794
12	19.00	31.10	9.88	23.50	44.09	49.06	937
14	21.00	34.09	12.99	25.00	57.48	57.87	1323
16	23.50	37.32	12.99	28.75	66.14	65.94	1819
18	25.00	41.93	14.45	32.00	66.14	68.9	2249
20	27.50	46.46	14.76	33.50	66.14	72.83	2535
24	32.00	55.12	17.13	36.80	74.02	86.61	4299

FEATURES & BENEFITS | MODEL L

- 1 ORIENTATION:** Suitable for horizontal or vertical installations without any customization required.
- 2 CONSTRUCTION:** Full bore design and simple construction ensures low pressure drop and minimum back pressure to seal.
- 3 BALL:** Self cleaning urethane-coated, aluminum core, ball rotates with the flow, preventing scale build up.
- 4 SEAT:** The seat is integral to the one piece fabricated body machined to suite the ball — creating a positive seal under all conditions. The seal is created by the urethane coating and the back pressure on the surface of the seat.
- 5 BODY:** Fully fabricated from carbon steel for low weight and ease of customization. Lined with a choice of three materials.
- 6 ON-SITE INSPECTION:** Removable bonnet flange for valve inspection, cleaning, or modification.
- 7 SEAL TO ATMOSPHERE:** Standard nitrile o-rings are used for a high-pressure seal.
- 8 END CONNECTION:** Available in a wide range of end connections, including AS, PN, ANSI and DIN.
- 9 BODY COATINGS:** The internals (if not rubber lined) and external body have a minimum coat of 250 micron DFT. The body is coated with a hard, two-part epoxy paint, applied in a Bray standard red finish, that provides excellent corrosion and wear resistance.
- 10 FASTENERS:** Fasteners are high tensile galvanized carbon steel structural grade
- 11 LABEL PLATE:** The stainless steel label details valve model and serial numbers.
- 12 FLUSH PORT:** (Not shown) Based on valve size, either $\frac{1}{2}$ or 1 inch flush port is fitted to de-pressurise the valve during maintenance, or for flushing when required
- 13 APPROVED LIFTING LUG:** To aid during installation, or removal.



DIMENSIONS & WEIGHTS | MODEL L



NOTES

- 1 Dimensions and weights do not include lining material.
- 2 Contact Bray for other ANSI class rated valves.

ANSI CLASS 150 | 1960 kPa (mm | kg)

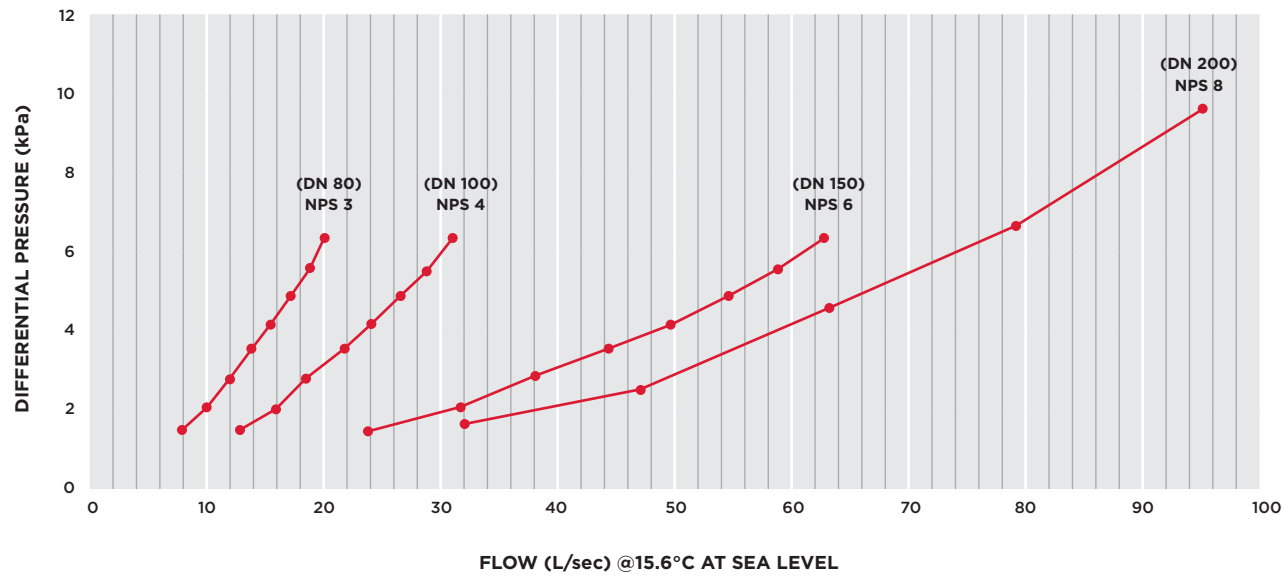
Size DN	$\varnothing A$ mm	B mm	B1 mm	$\varnothing C$ mm	D mm	Wgt (kg)
80	190	327	95	254	260	30
100	228	354	114	280	330	51
125	254	412	127	406	410	60
150	280	438	140	406	410	120
200	343	450	171.5	483	540	170
225	370	617	185	534	610	230
250	406	617	203	534	640	247
300	483	654	241.5	597	700	320
350	533	775	266.5	635	800	395
375	550	800	275	698	820	510
400	598	800	299	698	920	560
450	635	880	317.5	812	970	730
500	700	905	350	812	1070	975
600	813	933	406.5	927	1220	1325

ANSI CLASS 150 | 284 psi (inch | lb)

Size NPS	$\varnothing A$ in	B in	B1 in	$\varnothing C$ in	D in	Wgt (lb)
3	7.50	12.87	3.74	10.00	66.14	66
4	9.00	13.94	4.49	13.00	112.43	112
5	10.00	16.22	5.00	16.00	132.28	132
6	11.00	17.24	5.51	16.00	264.55	265
8	13.50	17.72	6.75	21.00	374.78	375
9	14.55	24.29	7.28	24.00	507.06	507
10	16.00	24.29	8.00	25.00	544.54	545
12	19.00	25.75	9.50	27.50	705.47	705
14	21.00	30.51	10.50	31.50	870.82	871
15	21.65	31.50	10.83	32.00	1124.35	1124
16	23.50	31.50	11.77	36.00	1234.58	1235
18	25.00	34.65	12.50	38.00	1609.36	1609
20	27.50	35.63	13.78	42.00	2149.49	2149
24	32.00	36.73	16.00	48.00	2921.10	2921

PRESSURE DROP | MODELS H • L

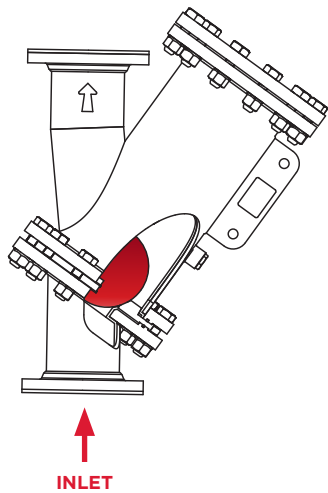
DN 80 to 200 (NPS 3 to 8)



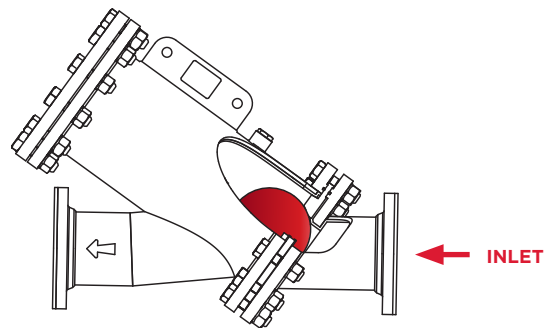
INSTALLATION ORIENTATION | MODELS I • H • L

The Maxi-Check valve is suitable for horizontal or vertical installations without any customization required.

VERTICAL INSTALLATION



HORIZONTAL INSTALLATION



NOTES

- 1 Model H illustrated.
- 2 Valve shown in the closed position.

MEET THE OTHER MEMBERS OF THE SLURRYTUFF RANGE

The SLURRYTUFF™ range of products are designed for arduous applications. We can help with your abrasive, erosive, high pressure and corrosive applications.



EZI-VAC AIR RELEASE / VACUUM BREAK VALVES

A range of air release and vacuum break valves. Available in single-acting, double-acting, and triple-acting models, the valves are designed to discharge large amounts of air from pipelines while being filled.

ISOLATION AND SHUT-OFF VALVES THAT FIT YOUR PROCESS

At Bray, we understand you are constantly faced with the need to safely and reliably isolate many different types of processes. To make this easier, Bray has an extensive isolation valve portfolio comprised of high-performance butterfly valves, ball valves, and knife gate valves. These valves are designed and tested to provide the reliability necessary to keep your processes operating at maximum efficiency.



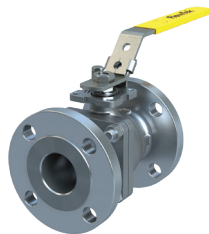
HIGH PERFORMANCE BUTTERFLY VALVES SERIES 40/42 & 41/43

A double offset butterfly valve features an innovative design that offers rugged reliability and bidirectional shutoff to full rated pressure.



BIDIRECTIONAL KNIFE GATE VALVES SERIES 740

One-piece cast body with flexible wire reinforced elastomer seat for bidirectional zero leakage shutoff in a wide range of industrial applications.



FLANGED BALL VALVES SERIES F15/F30

Two-piece body with floating ball design offers low torque and increased cycle life. An ideal solution for tight shutoff in a wide range of industrial applications.



BIDIRECTIONAL SLURRY VALVES SERIES 768

Two-piece bolted body with twin elastomer seats and a push-through gate designed for bidirectional zero leakage shutoff with self cleaning in demanding slurries.

SINCE 1986, BRAY HAS PROVIDED FLOW CONTROL SOLUTIONS FOR A VARIETY OF INDUSTRIES AROUND THE WORLD.

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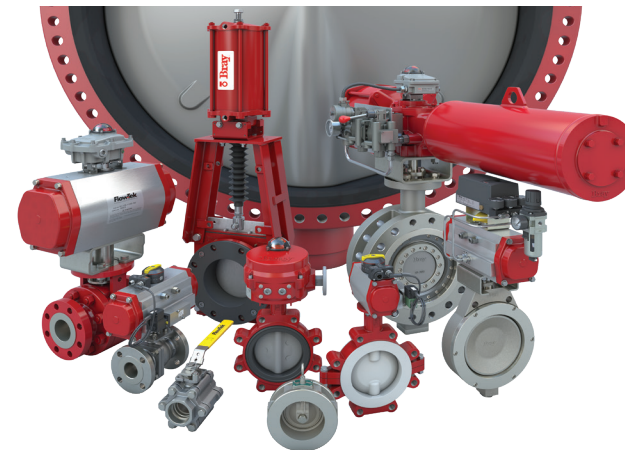
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