ACRIS® SERIES 24/25

PFA LINED BUTTERFLY VALVES

TECHNICAL SALES MANUAL

Bray®

BRAY.COM

THE HIGH PERFORMANCE COMPANY

CONTENTS

OVERVIEW

Fully PFA lined butterfly valves engineered for bidirectional bubble-tight shutoff in demanding corrosive, chemical, semiconductor, and ultrapure water applications.

APPLICATIONS

- Chemical & Petrochemical
- Chlor-Alkali
- Ion Exchange Resin Systems
- Make-up Water Reverse Osmosis Systems
- Semiconductor Manufacturing
- Ultrafiltration
- Ultrapure Piping Systems
- UV Light Systems
- Vacuum Service
- Wastewater Treatment Systems

MEDIA

- Brine
- Bromine
- Caustic
- Chlorine Gas (Wet/Dry)
- Hydrochloric Acid
- Organic Solvents
- Phosphatic Fertilizer
- Strong Oxidizing Agents
- Sulfuric Acid
- Ultrapure Water
- Viscous Liquids

SPECIFICATIONS

Size Range	NPS 2 to 24 | DN 50 to 600
Temperature Range	-20°F to 320°F | -29°C to 160°C
Pressure Rating	NPS 2 to 6: Up to 232 psi DN 50 to 150: Up to 16 bar
	NPS 8 to 24: Up to 150 psi DN 200 to 600: Up to 10 bar
Vacuum Rating	Up to 0.0002 psia | Up to 1.03 x 10^{-2}torr
Body Style	2-piece | Wafer, Lug
Shutoff Rating	Zero leakage

DESIGN STANDARDS

Valve Design	MSS SP-155 | MSS SP-67
Seat Tightness	API 598 | ISO 5208
Face-to-Face	API 609 | ISO 5752 | EN 558 Series 20
Flange Drilling	ASME B16.5 CL150 | ASME B16.1 CL125 | PN10, 16 | JIS 10K
Top Flange	ISO 5211

CERTIFICATIONS & APPROVALS

Certifications	SIL 3
Fugitive Emissions	ISO 15848-1

MATERIAL OPTIONS

Body	Ductile iron
Disc/Stem	17-4 Stainless Steel over-molded with PFA[1]
	17-4 Stainless Steel stem/high strength steel disc over-molded with PFA[2]
Liner	PFA
Seat Energizer	Silicone
	Viton™
Body Bolts	18-8 Stainless Steel
	A193 Gr B7 Bolting

Note:
1 Standard for sizes NPS 2 to 12 (DN 50 to 300)
2 Standard for sizes NPS 14 to 24 (DN 350 to 600)

DESIGN FEATURES

1. **FULLY PFA LINED DISC AND BODY:** Proprietary compound provides unsurpassed resistance to corrosion, permeation, and microbial contamination for maximum purity and reliability with minimum maintenance.

2. **DURABLE, SPHERICALLY MOLDED PFA LINER AND MATCHING DISC:** Interface forms a tight bidirectional seal.

3. **FULL WIDTH 360° SEAT ENERGIZER:** Ensures uniform sealing.

4. **LIVE-LOADED, STEM SEALING SYSTEM:** Self-adjusts to eliminate leak paths and reduce fugitive emissions for long-term, maintenance-free operation. (Standard sealing system meets ISO 15848-1 low fugitive emission requirements.)

5. **EXTENDED PFA SHAFT OVER-MOLDING:** Enhances stem sealing, eliminates leak paths, and shields the stem from corrosive media.

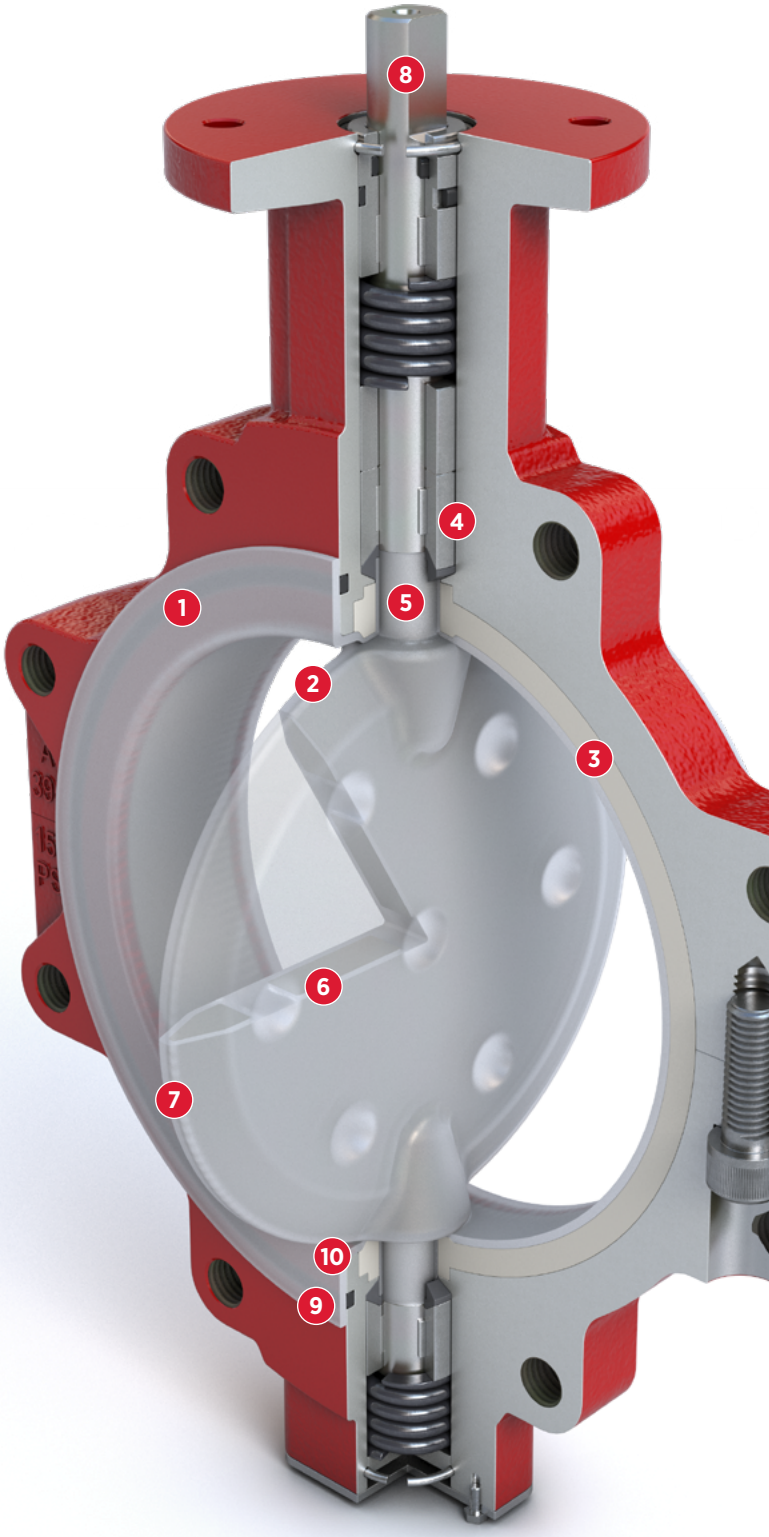
6. **PFA DISC OVER-MOLDING:** PFA resin is mechanically bonded to the base metal to enable vacuum capability.

7. **STREAMLINED DISC:** Engineered for maximum flow.

8. **HIGH-STRENGTH, ONE-PIECE 17-4 STAINLESS STEEL DISC AND STEM:** Standard for improved reliability.

9. **ENERGIZED FLANGE SEAL:** Maintains proper sealing between valve and flange.

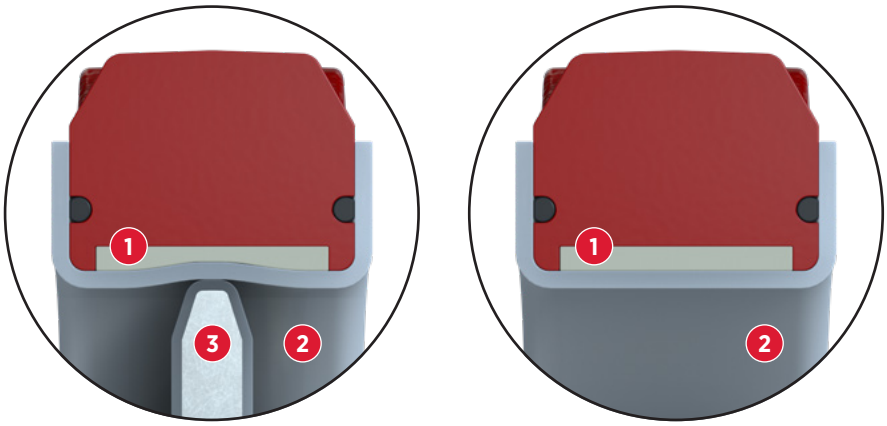
10. **MECHANICALLY RETAINED SEAT ENERGIZER:** Wide elastomer seat energizer rests in a machined body groove to enable end-of-line service at full working pressure.



ADVANTAGES OF PFA LINER DESIGN

- In-house proprietary precision molding processes provide smooth surface finish.
- Superior flexibility withstands repeated flexing and dynamic loads for extended service life. PFA liners will not take a permanent set.
- Higher resistance to permeation provides increased durability, with lower total cost of ownership.
- Lower particle shedding for maximum purity.
- Superior creep resistance at high temperatures.
- Increased resistance to microbial contamination.

LONG-TERM RELIABLE SEALING



FLEXIBLE PFA LINER ASSEMBLY

In the **closed** position, the seat energizer (**1**) compresses the flexible PFA liner (**2**) around the leading edge of the disc (**3**) to provide zero leakage sealing. In the **open** position, the PFA liner remains flexible, returning to its original shape — resulting in long-term reliable sealing.

Precision engineered for reliable, maintenance-free service, the three-step stem sealing system provides unmatched sealing for long term zero leakage performance.

NPS 2 to 12 | DN 50 to 300

Primary Seal (1)

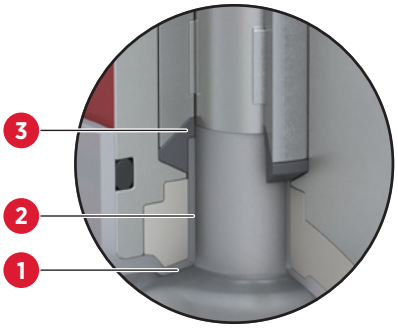
The primary seal is created by the spherically molded PFA body liner and matching disc hub interface. The seat energizer maintains tight contact pressure for consistent shutoff in high cycle applications.

Secondary Seal (2)

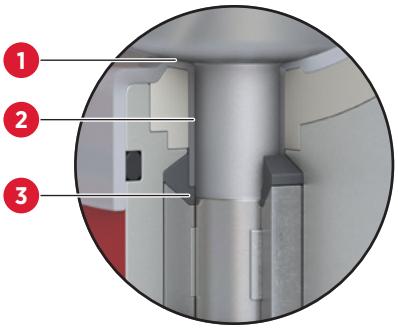
An independent secondary seal is formed by the extended body and disc liners. The flexible PFA body liner extends into the stem cavity and the disc liner encapsulates the stem. The resulting protective sleeve eliminates potential leak paths for fugitive emissions and shields internal components from contact with the media. This feature works in conjunction with the tertiary safety seal to ensure compliance with ISO 15848-1 standards for fugitive emissions.

Safety Seal (3)

The third sealing mechanism is a graphite filled PTFE safety seal. Completely isolated from the process media by the extended disc liner, and energized by a coil spring, the safety seal self-adjusts for changes in temperature and wear to ensure absolute zero leakage shutoff of corrosive and ultra pure process media.



UPPER SHAFT SEALING



LOWER SHAFT SEALING

NPS 14 to 24 | DN 350 to 600

Primary Seal (1)

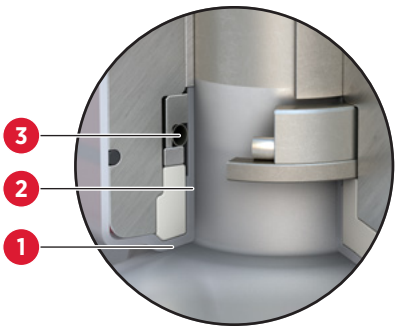
The primary seal is created by the spherically molded PFA body liner and matching disc hub interface. The seat energizer maintains tight contact pressure for consistent shutoff in high cycle applications.

Secondary Seal (2)

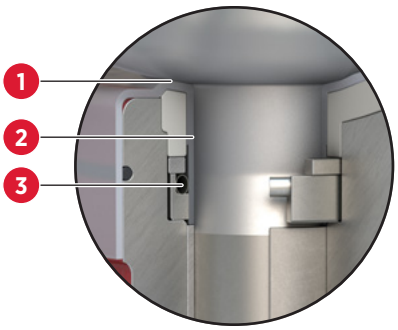
An independent secondary seal is formed by the extended body and disc liners. The flexible PFA body liner extends into the stem cavity and the disc liner encapsulates the stem. The resulting protective sleeve eliminates potential leak paths for fugitive emissions and shields internal components from contact with the media. This feature works in conjunction with the tertiary safety seal to ensure compliance with ISO 15848-1 standards for fugitive emissions.

Safety Seal (3)

The third sealing mechanism consists of a radial spring which provides constant pressure towards the extended body and disc liners.



UPPER SHAFT SEALING



LOWER SHAFT SEALING

VALVE PART NUMBERING SYSTEM

Select one code from each category to build a complete valve order number.

2X-XXXX-110XX-XXX

SERIES 2X

Code	Body Style
24	Wafer
25	Lug

SIZE XXXX

Code	NPS	DN
0200	2	50
0250	2½	65
0300	3	80
0400	4	100
0500	5	125
0600	6	150
0800	8	200
1000	10	250
1200	12	300
1400	14	350
1600	16	400
1800	18	450
2000	20	500
2400	24	600

BASE NUMBER[1] 110XX

Code	Description
11010	ASME B16.5 Flange Drilling
11011	PN10 Flange Drilling
11012	PN16 Flange Drilling
11013	JIS 10K Flange Drilling

TRIM XXX

Code	Item	Material[2]
D57	Body	Ductile Iron A395
	Disc/Stem	17-4 Stainless Steel over-molded with PFA
	Liner	PFA
	Seat Energizer	Silicone
D58	Body	Ductile Iron A395
	Disc/Stem	17-4 Stainless Steel over-molded with PFA
	Liner	PFA
	Seat Energizer	Viton™
D68	Body	Ductile Iron A395
	Disc/Stem	17-4 Stainless Steel stem/high strength steel disc over-molded with PFA
	Liner	PFA
	Seat Energizer	Silicone
D69	Body	Ductile Iron A395
	Disc/Stem	17-4 Stainless Steel stem/high strength steel disc over-molded with PFA
	Liner	PFA
	Seat Energizer	Viton™

NOTES

> Not all combinations are possible.

1 Other flange drillings are available on request.

2 Other materials are available on request. Contact Bray for additional information.

EXAMPLE

25-1200-11010-D57

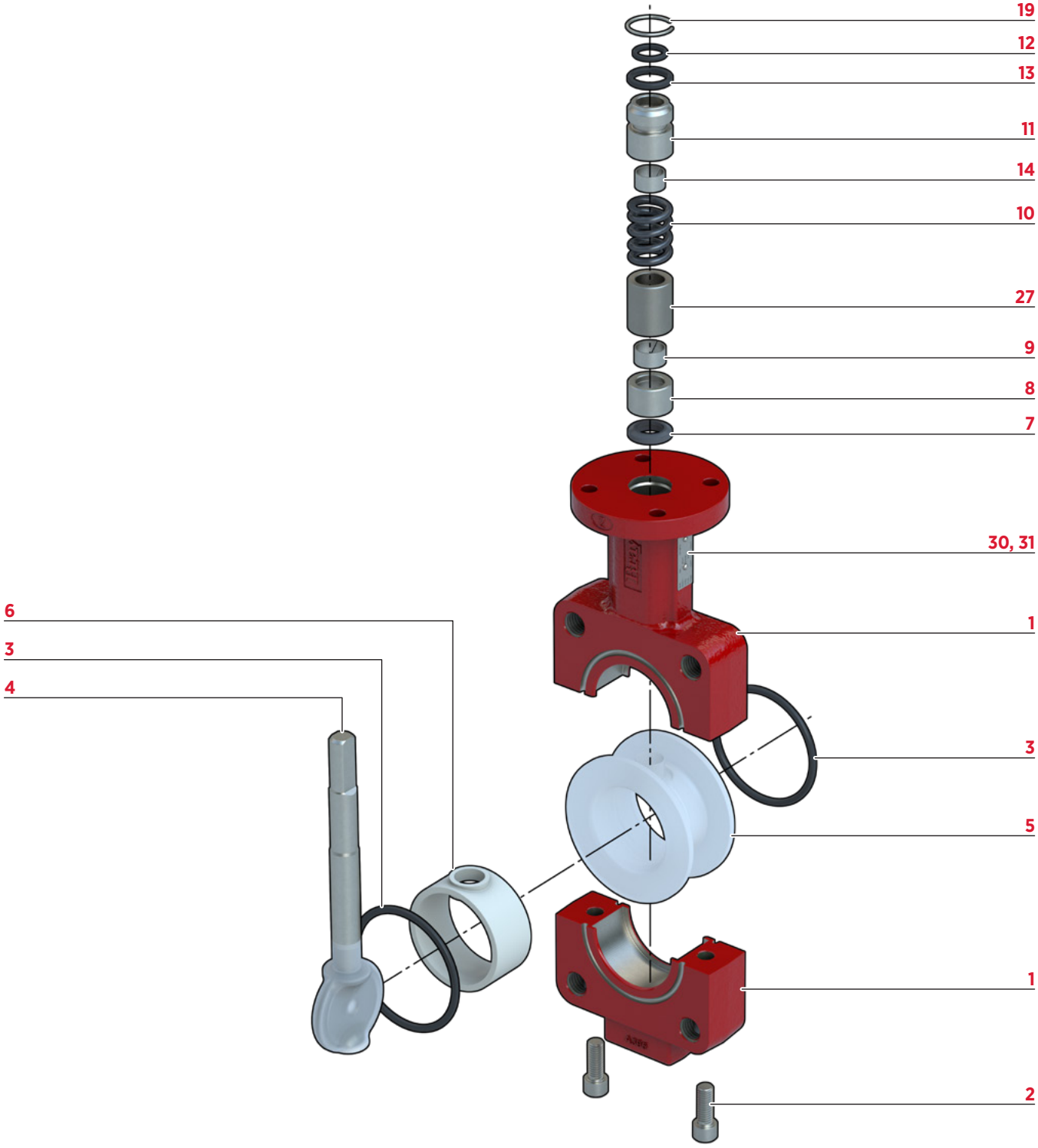
- Lug body
- Size NPS 12 inch (DN 300)
- 150 psi (10.3 bar) rated valve
- D57 trim

PARTS LIST AND MATERIAL SPECIFICATIONS

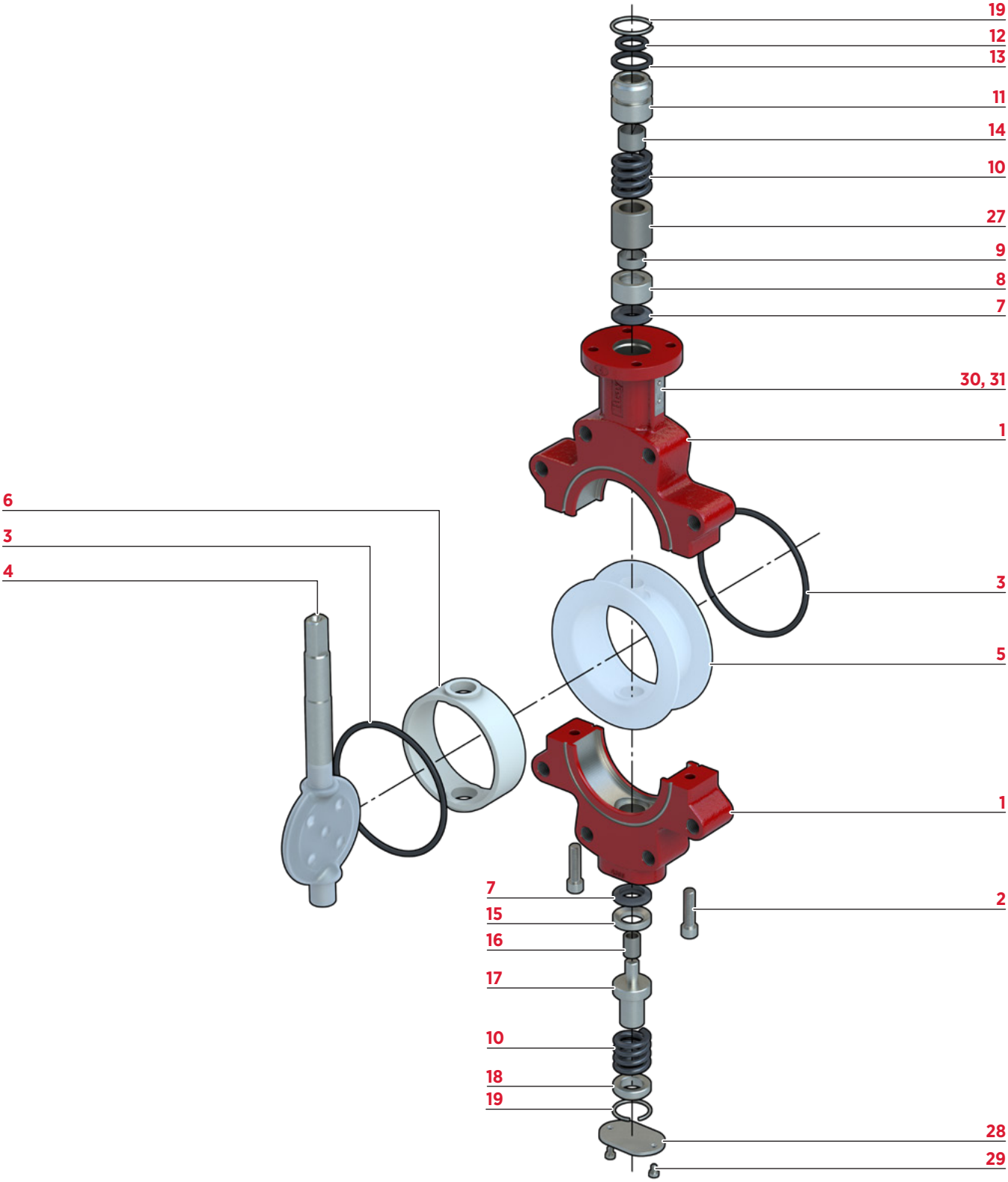
ITEM	DESCRIPTION	MATERIAL			
		NPS 2 to 2½ | DN 50 to 65	NPS 3 to 6 | DN 80 to 150	NPS 8 to 12 | DN 200 to 300	NPS 14 to 24 | DN 350 to 600
1	Body	Ductile Iron ASTM A395	Ductile Iron ASTM A395	Ductile Iron ASTM A395	Ductile Iron ASTM A395
2	Body Bolt	18-8 Stainless Steel	18-8 Stainless Steel	18-8 Stainless Steel	18-8 Stainless Steel
3	Body Face O-ring	Nitrile	Nitrile	Nitrile	Nitrile
4	Disc/Stem Assembly	17-4 Stainless Steel over-molded with PFA	17-4 Stainless Steel over-molded with PFA	17-4 Stainless Steel over-molded with PFA	17-4 Stainless Steel stem/ high strength steel disc over-molded with PFA
5	Liner	PFA	PFA	PFA	PFA
6	Backup Liner	Silicone (Bray Standard) Viton™ (Optional)	Silicone (Bray Standard) Viton™ (Optional)	Silicone (Bray Standard) Viton™ (Optional)	Silicone (Bray Standard) Viton™ (Optional)
7	Packing	PTFE/Graphite	PTFE/Graphite (Upper & Lower)	PTFE/Graphite (Upper & Lower)	—
8	Lower Bushing	Stainless Steel	Stainless Steel	Stainless Steel	—
9	Bearing Strip	PTFE/Stainless Steel	PTFE/Stainless Steel	PTFE/Stainless Steel	—
10	Spring	Spring Steel	Spring Steel	Spring Steel	—
11	Atmospheric Seal	Stainless Steel	Stainless Steel	Stainless Steel	—
12	O-ring	Nitrile	Nitrile	Nitrile	—
13	O-ring	Nitrile	Nitrile	Nitrile	—
14	Bearing Strip	PTFE/Stainless Steel	PTFE/Stainless Steel	PTFE/Stainless Steel	—
15	Spacer washer	—	Stainless Steel	—	—
16	Shaft Bushing	—	PTFE/Stainless Steel	—	—
17	Lower Stem	—	Stainless Steel	—	—
18	Stopper	—	Stainless Steel	Stainless Steel	—
19	Retaining Ring	Spring Steel (Upper only)	Spring Steel (Upper & Lower)	Spring Steel (Upper & Lower)	—
20	Sleeve Bearing	—	—	—	PTFE Sleeve Bearing
21	Sleeve Bearing	—	—	—	PTFE Sleeve Bearing
22	O-ring	—	—	—	Nitrile
23	Washer	—	—	—	Stainless Steel
24	Garter Spring	—	—	—	17-7 PH Stainless Steel
25	Spring Carrier	—	—	—	Stainless Steel
26	Key	—	—	—	18-8 Stainless Steel
27	Stem Spacer	Stainless Steel	Stainless Steel	Stainless Steel	—
28	Bottom Plate	—	18-8 Stainless Steel	18-8 Stainless Steel	—
29	Hex Bolt	—	18-8 Stainless Steel	18-8 Stainless Steel	—
30	Name Plate	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
31	Drive Screw	18-8 Stainless Steel	18-8 Stainless Steel	18-8 Stainless Steel	18-8 Stainless Steel

NOTES
1 Material specifications provided for reference only, and are subject to change without notice.
2 Additional materials available upon request.

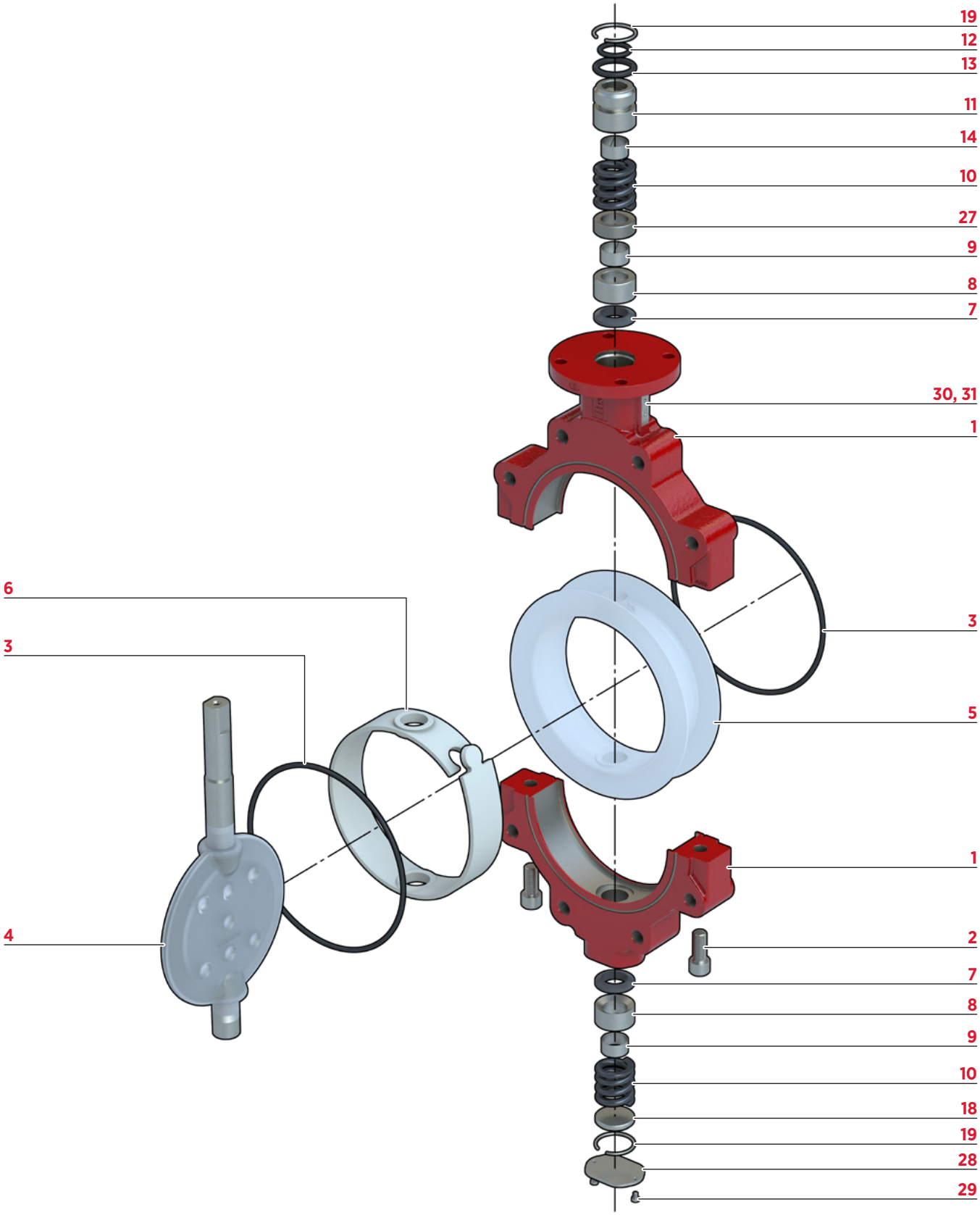
PARTS CALLOUT (NPS 2 TO 2½ | DN 50 to 65)



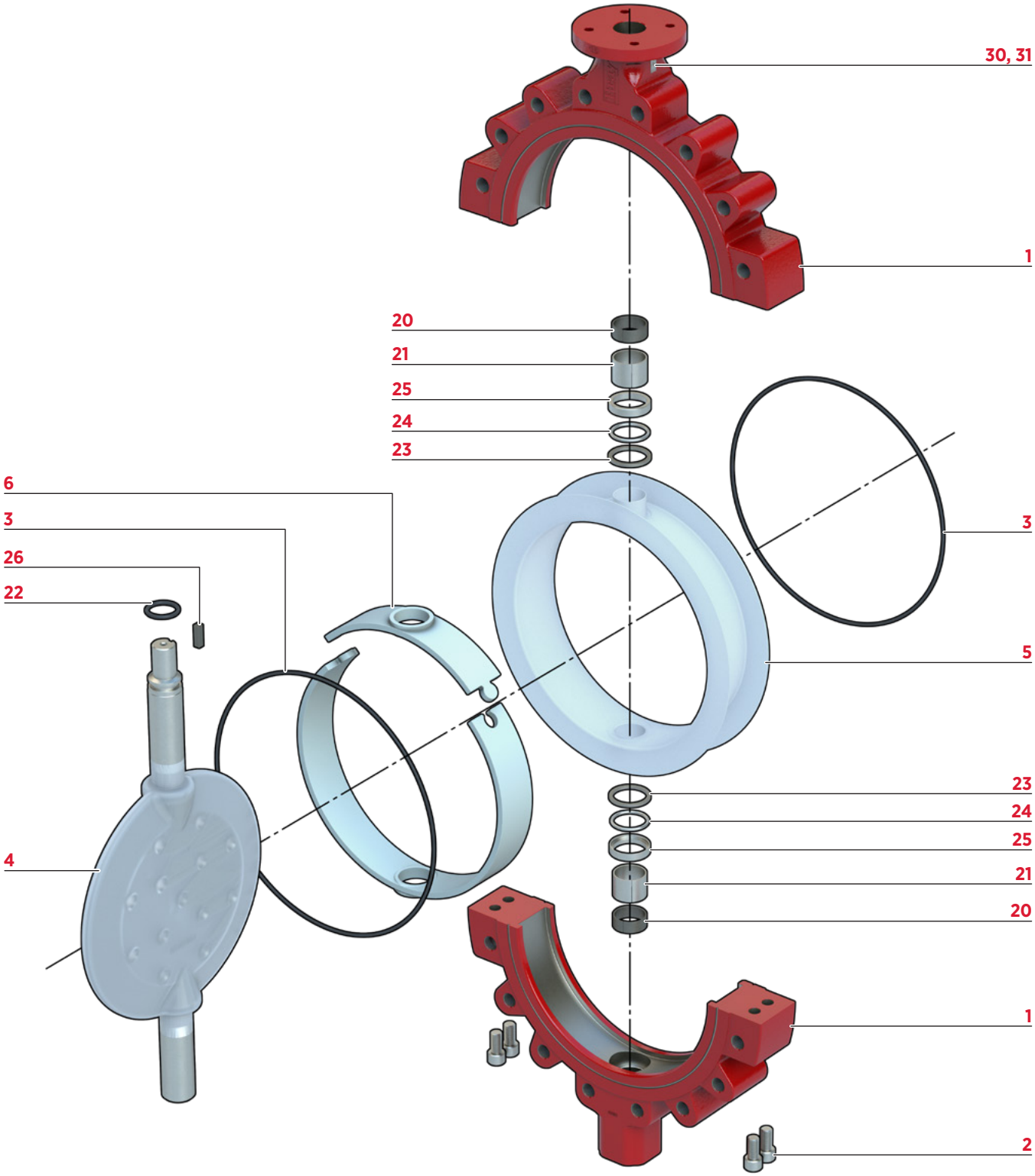
PARTS CALLOUT (NPS 3 TO 6 | DN 80 to 150)



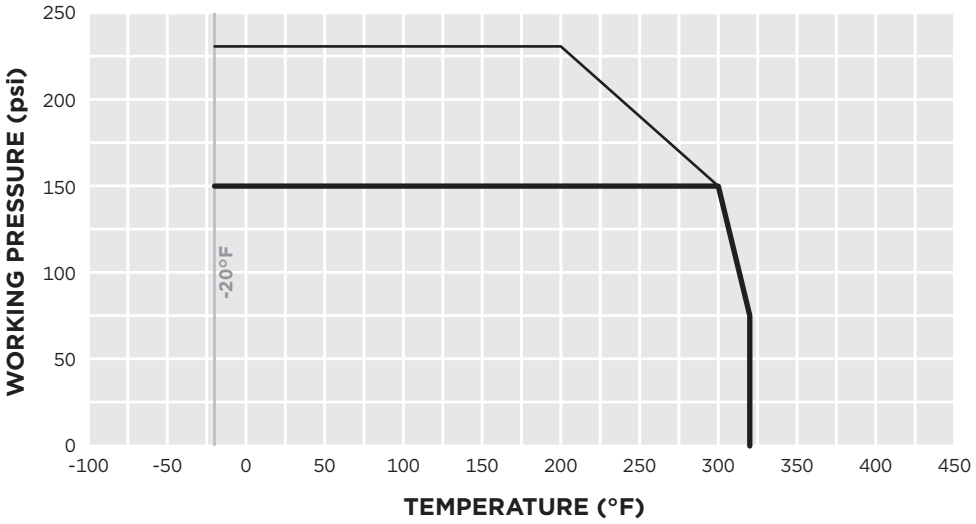
PARTS CALLOUT (NPS 8 TO 12 | DN 200 to 300)



PARTS CALLOUT (NPS 14 TO 24 | DN 350 to 600)



SERIES 24/25 (NPS 2 to 24) | psi/°F

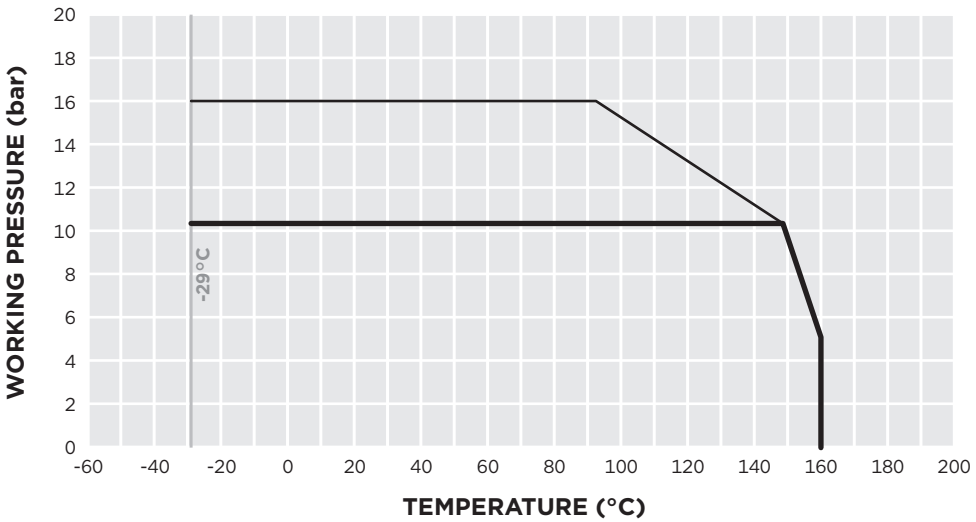


LEGEND (psi/°F)

PFA (NPS 2 to 6)

PFA (NPS 8 to 24)

SERIES 24/25 (DN 50 to 600) | bar/°C

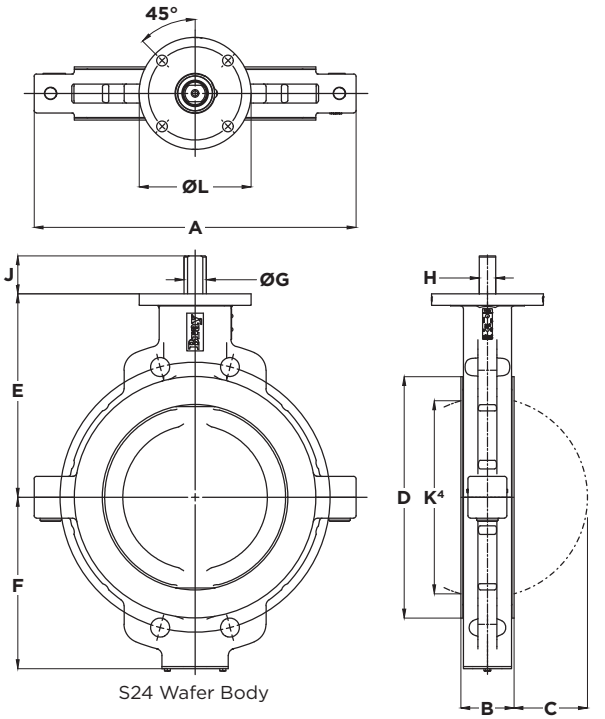


LEGEND (bar/°C)

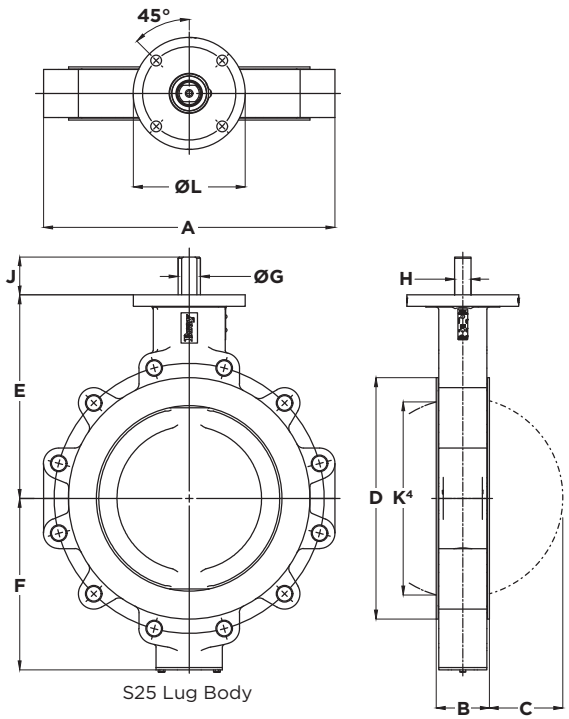
PFA (DN 50 to 150)

PFA (DN 200 to 600)

SERIES 24/25 (NPS 2 to 12 | DN 50 to 300)



S24 Wafer Body



S25 Lug Body

DIMENSIONS (inch) **WEIGHT (lb)**

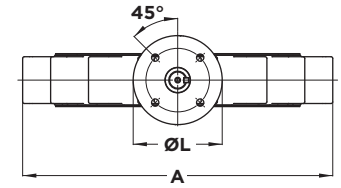
	A		B	C	D	E	F		ØG	H	J	K⁴	ØL	ISO Mounting Data				
NPS	Wafer	Lug					Wafer	Lug		Flats				Code	Bolt Circle	Hole Ø xQty	Wafer	Lug
2	6.00	4.58	1.69	0.23	3.60	5.50	2.00	3.00	0.55	0.39	1.25	1.31	3.54	F07	2.76	0.38 x4	7.0	8.9
2½	7.00	5.80	1.83	0.37	4.12	6.00	2.84	3.69	0.55	0.39	1.25	1.82	3.54	F07	2.76	0.38 x4	12.0	15.0
3	7.50	5.58	1.83	0.65	4.75	6.25	4.21	4.21	0.55	0.39	1.25	2.54	3.54	F07	2.76	0.38 x4	13.3	14.3
4	8.97	8.00	2.06	0.90	5.75	7.00	4.93	4.93	0.63	0.43	1.25	3.31	3.54	F07	2.76	0.38 x4	18.0	19.3
5	11.00	9.37	2.25	1.33	7.25	7.50	5.91	5.91	0.75	0.51	1.25	4.39	3.54	F07	2.76	0.38 x4	26.0	30.0
6	11.00	10.10	2.25	1.81	8.25	8.00	6.38	6.38	0.75	0.51	1.25	5.45	3.54	F07	2.76	0.38 x4	29.2	33.7
8	13.50	12.39	2.44	2.68	10.40	9.50	7.60	7.60	0.87	0.63	1.25	7.41	5.91	F12	4.92	0.56 x4	49.3	56.1
10	17.00	15.39	2.76	3.54	12.75	10.75	9.06	9.06	1.18	0.87	2.00	9.44	5.91	F12	4.92	0.56 x4	78.3	84.9
12	20.75	18.07	3.19	4.25	14.79	12.25	10.59	10.59	1.18	0.87	2.00	11.26	5.91	F12	4.92	0.56 x4	116.3	126.7

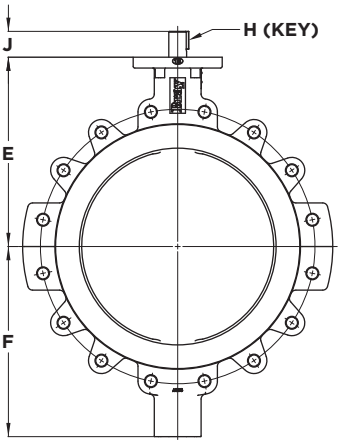
DIMENSIONS (mm) **WEIGHT (kg)**

	A		B	C	D	E	F		ØG	H	J	K⁴	ØL	ISO Mounting Data				
DN	Wafer	Lug					Wafer	Lug		Flats				Code	Bolt Circle	Hole Ø xQty	Wafer	Lug
50	152	116	43	6	91	140	51	76	14	10	32	33	90	F07	70	10 x4	3.2	4.0
65	178	147	46	10	105	152	72	94	14	10	32	46	90	F07	70	10 x4	5.5	6.8
80	191	142	46	17	121	159	107	107	14	10	32	65	90	F07	70	10 x4	6.0	6.5
100	228	203	52	23	146	178	125	125	16	11	32	84	90	F07	70	10 x4	8.2	8.8
125	279	238	57	34	184	191	150	150	19	13	32	112	90	F07	70	10 x4	11.8	13.6
150	279	257	57	46	210	203	162	162	19	13	32	138	90	F07	70	10 x4	13.3	15.3
200	343	315	62	68	264	241	193	193	22	16	32	188	150	F12	125	14 x4	22.4	25.5
250	432	391	70	90	324	273	230	230	30	22	51	240	150	F12	125	14 x4	35.6	38.6
300	527	459	81	108	376	311	269	269	30	22	51	286	150	F12	125	14 x4	52.9	57.6

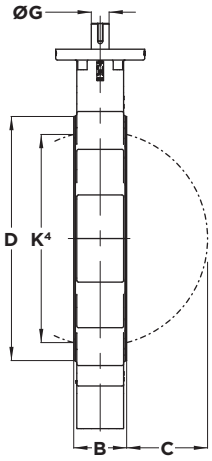
NOTES
1 For sizes not shown, contact Bray for more information.
2 Metric dimensions are converted from imperial.
3 Weights are for ductile iron bodies.
4 K dimension is disc chordal dimension at valve face.

SERIES 25 (NPS 14 to 24 | DN 350 to 600)





S25 Lug Body



DIMENSIONS (inch) — **WEIGHT (lb)**

NPS	A	B	C	D	E	F	ØG	H Key	J	K⁴	ØL	ISO Mounting Data Code	Bolt Circle	Hole Ø xQty	Wafer	Lug
14	22.00	3.06	5.08	16.25	13.64	13.19	1.38	.39 x .39	2.00	12.86	6.89	F12	4.92	0.56 x4	NA	177.0
16	24.00	4.10	5.61	18.90	14.66	14.72	1.38	.39 x .39	2.00	14.75	6.89	F12	4.92	0.56 x4	NA	249.5
18	27.38	4.50	6.35	21.00	16.69	17.01	1.38	.39 x .39	2.50	16.60	8.27	F16	6.50	0.87 x4	NA	326.0
20	30.16	5.00	7.05	23.00	17.72	17.76	1.97	.39 x .47	2.50	18.51	8.27	F16	6.50	0.87 x4	NA	467.0
24	35.13	6.06	8.47	26.62	19.88	20.47	2.50	.63 x .63	4.00	22.18	8.27	F16	6.50	0.87 x4	NA	724.3

DIMENSIONS (mm) — **WEIGHT (kg)**

DN	A	B	C	D	E	F	ØG	H Key	J	K⁴	ØL	ISO Mounting Data Code	Bolt Circle	Hole Ø xQty	Wafer	Lug
350	559	78	129	413	347	335	35	10 x 10	51	327	175	F12	125	14 x4	NA	80.4
400	610	104	142	480	372	374	35	10 x 10	51	375	175	F12	125	14 x4	NA	113.4
450	695	114	161	533	424	432	35	10 x 10	64	422	210	F16	165	22 x4	NA	148.1
500	766	127	179	584	450	451	50	10 x 12	64	470	210	F16	165	22 x4	NA	212.3
600	892	154	215	676	505	520	64	16 x 16	102	563	210	F16	165	22 x4	NA	329.2

NOTES
1 For sizes not shown, contact Bray for more information.
2 Metric dimensions are converted from imperial.
3 Weights are for ductile iron bodies.
4 K dimension is disc chordal dimension at valve face.

SEATING/UNSEATING TORQUES

SERIES 24/25 (NPS 2 to 24)

TORQUE VALUES[1] (lbf-in)	
NPS	**Full Rated Pressure**
2	267
2½	400
3	531
4	888
5	1,332
6	1,776
8	3,543
10	4,428
12	4,958
14	5,875
16	6,300
18	7,965
20	9,735
24	24,000

SERIES 24/25 (DN 50 to 600)

TORQUE VALUES[1] (N m)	
DN	**Full Rated Pressure**
50	30
65	45
80	60
100	100
125	150
150	200
200	400
250	500
300	560
350	664
400	712
450	900
500	1,100
600	2,710

NOTE
1 For sizes not shown, contact Bray for more information.

MAXIMUM ALLOWABLE STEM TORQUES

SERIES 24/25 (NPS 2 to 24)

TORQUE VALUES[1] (lbf-in)	
NPS	**17-4 Stainless Steel**
2	1,978
2½	1,978
3	1,978
4	2,825
5	4,716
6	4,716
8	7,901
10	20,239
12	20,239
14	27,007
16	27,007
18	27,007
20	86,089
24	167,147

SERIES 24/25 (DN 50 to 600)

TORQUE VALUES[1] (N m)	
DN	**17-4 Stainless Steel**
50	223
65	223
80	223
100	319
125	533
150	533
200	893
250	2,293
300	2,293
350	3,052
400	3,052
450	3,052
500	9,728
600	18,887

NOTE
1 For sizes not shown, contact Bray for more information.

SERIES 24/25 (NPS 2 to 24)

VALVE SIZING COEFFICIENTS (Cv Values)[1,2]

	DISC POSITION (Degrees)							
NPS	**90°**	**80°**	**70°**	**60°**	**50°**	**40°**	**30°**	**20°**
2	209	188	105	63	38	21	10	4
2½	376	338	188	113	68	38	19	8
3	580	522	290	174	104	58	29	12
4	916	824	458	275	165	92	46	18
5	1,276	1,148	638	383	230	128	64	26
6	2,320	2,088	1,160	696	418	232	116	46
8	5,800	5,220	2,900	1,740	1,044	580	290	116
10	9,396	8,456	4,698	2,819	1,691	940	470	188
12	15,892	14,303	7,946	4,768	2,861	1,589	795	318
14	21,344	19,210	10,672	6,403	3,842	2,134	1,067	427
16	26,912	24,221	13,456	8,074	4,844	2,691	1,346	538
18	34,104	30,694	17,052	10,231	6,139	3,410	1,705	682
20	41,760	37,584	20,880	12,528	7,517	4,176	2,088	835
24	60,500	54,450	30,250	18,150	10,890	6,050	3,025	1,210

NOTES
1 Cv varies with the valve size, angle of opening, and the manufacturer's valve style.
2 Cv value is the volume of water in USGPM that will flow through a given restriction or valve opening with a pressure drop of one (1) psi at room temperature.
3 For sizes not shown, contact Bray for more information.

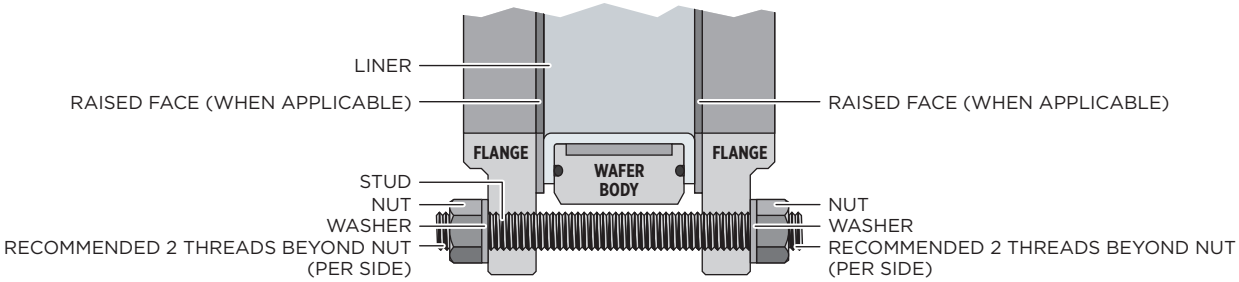
SERIES 24/25 (DN 50 to 600)

VALVE SIZING COEFFICIENTS (Kv Values)[1,2]

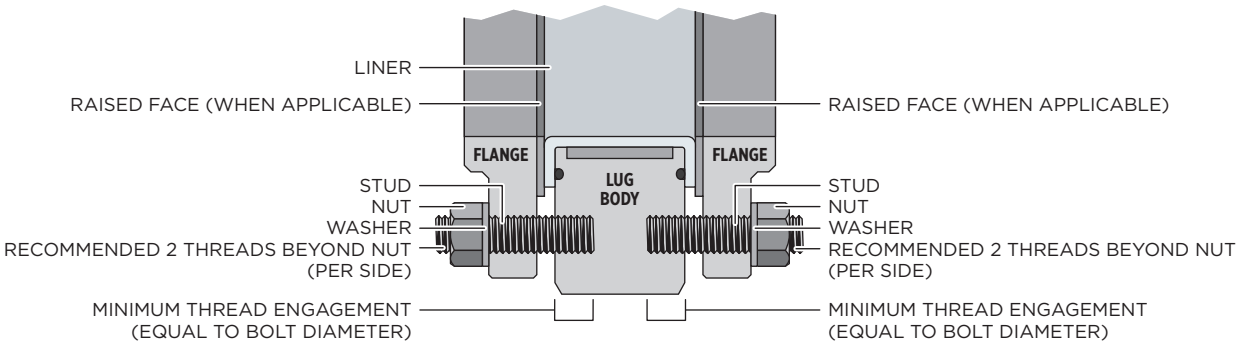
	DISC POSITION (Degrees)							
DN	**90°**	**80°**	**70°**	**60°**	**50°**	**40°**	**30°**	**20°**
50	180	162	90	54	32	18	9	4
65	324	292	162	97	58	32	16	6
80	500	450	250	150	90	50	25	10
100	790	711	395	237	142	79	39	16
125	1,100	990	550	330	198	110	55	22
150	2,000	1,800	1,000	600	360	200	100	40
200	5,000	4,500	2,500	1,500	900	500	250	100
250	8,100	7,290	4,050	2,430	1,458	810	405	162
300	13,700	12,330	6,850	4,110	2,466	1,370	685	274
350	18,400	16,560	9,200	5,520	3,312	1,840	920	368
400	23,200	20,880	11,600	6,960	4,176	2,320	1,160	464
450	29,400	26,460	14,700	8,820	5,292	2,940	1,470	588
500	36,000	32,400	18,000	10,800	6,480	3,600	1,800	720
600	52,155	46,940	26,078	15,647	9,388	5,216	2,608	1,043

NOTES
1 Kv varies with the valve size, angle of opening, and the manufacturer's valve style.
2 Kv value is the volume of water in cubic meters/hour (m^3/hr) that will flow through a given restriction or valve opening with a pressure drop of one (1) bar at room temperature.
3 For sizes not shown, contact Bray for more information.

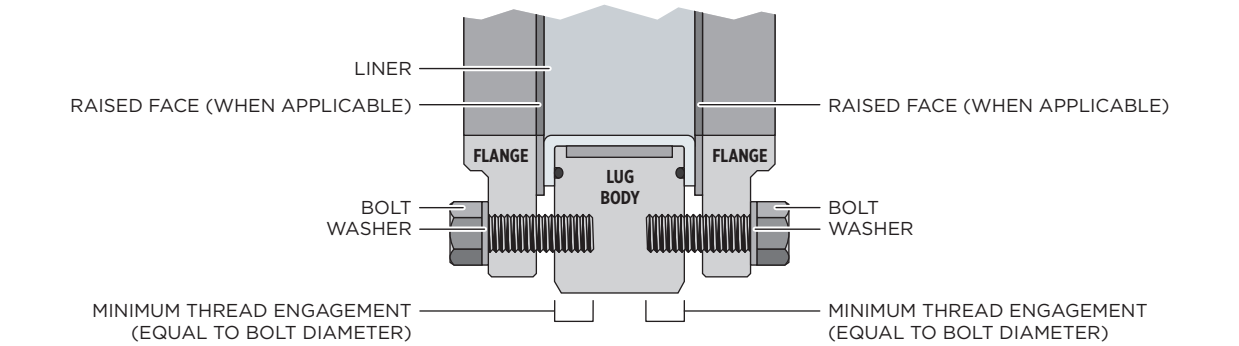
WAFER VALVE WITH THROUGH-STUDS



LUG VALVE WITH STUDS

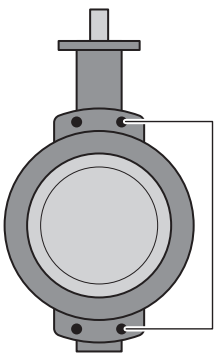


LUG VALVE WITH HEX HEAD BOLTS



IMPORTANT INFORMATION

- Refer to appropriate Bray dimensional drawings for specific valve drilling information.
- Pipe flange thickness may vary, therefore no stud/bolt lengths are stated.
- Lug threads may be tapped from both sides, and therefore tap may not be continuous.
- Minimum bolt engagement must be equal to the diameter of the bolt.
- Refer to the Acris® Series 24/25 IOM manual for recommended flange bolt torques.



CAUTION
Tapped holes at neck locations **do not** permit through-holes.

ACRIS® SERIES 24 WAFER STYLE | THROUGH-STUD

Valve Size		Fastener Size	Through Stud	Front Blind Stud	Back Blind Stud	Washer	Nut
NPS	DN	Ø-Thread	Qty	Qty	Qty	Qty	Qty
2	50	5/8-11 UNC	4	—	—	8	8
2½	65	5/8-11 UNC	4	—	—	8	8
3	80	5/8-11 UNC	4	—	—	8	8
4	100	5/8-11 UNC	8	—	—	16	16
5	125	3/4-10 UNC	8	—	—	16	16
6	150	3/4-10 UNC	8	—	—	16	16
8	200	3/4-10 UNC	8	—	—	16	16
10	250	7/8-9 UNC	12	—	—	24	24
12	300	7/8-9 UNC	12	—	—	24	24
14	350	1-8 UNC	12	—	—	24	24
16	400	1-8 UNC	16	—	—	32	32
18	450	1 1/8-7 UNC	12	4	4	32	32
20	500	1 1/8-7 UNC	16	4	4	40	40
24	600	1 1/4-7 UNC	16	4	4	40	40

ACRIS® SERIES 25 LUG STYLE | STUD

Valve Size		Fastener Size	Front Stud	Back Stud	Washer	Nut
NPS	DN	Ø-Thread	Qty	Qty	Qty	Qty
2	50	5/8-11 UNC	4	4	8	8
2½	65	5/8-11 UNC	4	4	8	8
3	80	5/8-11 UNC	4	4	8	8
4	100	5/8-11 UNC	8	8	16	16
5	125	3/4-10 UNC	8	8	16	16
6	150	3/4-10 UNC	8	8	16	16
8	200	3/4-10 UNC	8	8	16	16
10	250	7/8-9 UNC	12	12	24	24
12	300	7/8-9 UNC	12	12	24	24
14	350	1-8 UNC	12	12	24	24
16	400	1-8 UNC	16	16	32	32
18	450	1 1/8-7 UNC	16	16	32	32
20	500	1 1/8-7 UNC	20	20	40	40
24	600	1 1/4-7 UNC	20	20	40	40

ACRIS® SERIES 25 LUG STYLE | HEX HEAD BOLT

Valve Size		Fastener Size	Front Hex Head Bolt	Back Hex Head Bolt	Washer
NPS	DN	Ø-Thread	Qty	Qty	Qty
2	50	5/8-11 UNC	4	4	8
2½	65	5/8-11 UNC	4	4	8
3	80	5/8-11 UNC	4	4	8
4	100	5/8-11 UNC	8	8	16
5	125	3/4-10 UNC	8	8	16
6	150	3/4-10 UNC	8	8	16
8	200	3/4-10 UNC	8	8	16
10	250	7/8-9 UNC	12	12	24
12	300	7/8-9 UNC	12	12	24
14	350	1-8 UNC	12	12	24
16	400	1-8 UNC	16	16	32
18	450	1 1/8-7 UNC	16	16	32
20	500	1 1/8-7 UNC	20	20	40
24	600	1 1/4-7 UNC	20	20	40

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

VISIT **BRAY.COM** TO LEARN MORE ABOUT BRAY PRODUCTS AND LOCATIONS NEAR YOU.

HEADQUARTERS

Bray International, Inc.
13333 Westland East Blvd.
Houston, Texas 77041
Tel: +1.281.894.5454

EN_TSM_S24_25_20230929

Bray®

THE HIGH PERFORMANCE COMPANY

BRAY.COM