

# SERIES 30/31 2"-20" (50mm-500mm)



## PRESSURE RATINGS

### BIDIRECTIONAL BUBBLE-TIGHT SHUT-OFF – Standard Disc\*

Downstream Flanges/Disc in Closed Position

S30/31 Standard Disc*	2-12" (50-300mm)	175 psi (12 Bar)
	14-20" (350-500mm)	150 psi (10.3 Bar)

### DEAD-END SERVICE – Lug Bodies/Standard Disc\*

No Downstream Flanges/Disc in Closed Position

S31	2-12" (50-300mm)	75 psi (5.2 Bar)
	14-20" (350-500mm)	50 psi (3.4 Bar)

**BODY:** 250 psi (17.2 Bar) CWP

\*For low pressure application, Bray offers a standard reduced disc diameter to decrease seating torques and extend seat life, thus increasing the valve's performance and reducing actuator costs.

## VELOCITY LIMITS For On/Off Services:

**Fluids** 30 ft/sec (9 m/s)    **Gases** 175 ft/sec (54 m/s)

High strength through-stem design allows easy disassembly and reduced disc to stem failure.

**PRIMARY & SECONDARY SEALS:** These seals prevent line media from coming in contact with the stem or body. *Primary Seal* is achieved by an interference fit of the molded seat flat with the disc hub. *Secondary Seal* is created because the stem diameter is greater than the diameter of the seat stem hole.

**STEM:** Precision double "D" disc to stem connection drives the disc without the need for screws or pins. The close tolerance, double "D" connection that drives the valve disc is an exclusive feature of the Bray valve. Disassembly of the Bray stem is just a matter of pulling the stem out of the disc.

**SEAT:** Bray's tonque and groove seat design lowers torque and provides complete isolation of flowing media from the body. The seat also features a molded O-ring which eliminates the use of flange gaskets.

**STEM RETAINING ASSEMBLY:** The stem is retained in the body by means of a unique Stainless Steel Spirolox® retaining ring, a thrust washer and two C-rings, manufactured from brass as standard, stainless steel upon request. The retaining ring may be easily removed with a standard hand tool. The stem retaining assembly prevents unintentional removal of the stem during field service.

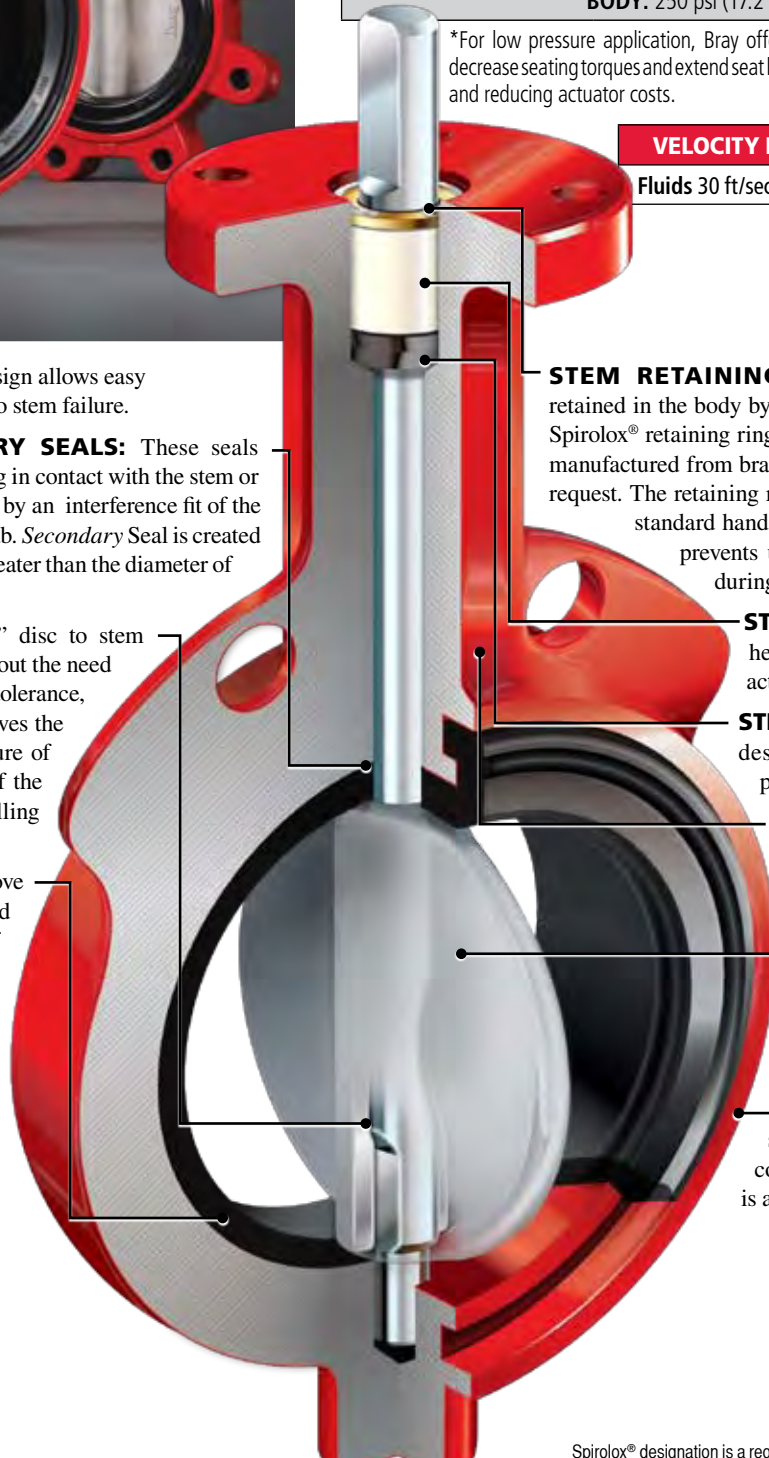
**STEM BUSHING:** Non-corrosive, heavy duty acetal bushing absorbs actuator side thrust.

**STEM SEAL:** Double "U" cup seal design is self-adjusting and gives positive sealing in both directions.

**NECK:** Extended neck length allows for 2" of piping insulation and is easily accessible for mounting actuators.

**DISC:** Casting is spherically machined and hand polished to provide a bubble-tight shut off, minimum torque, and longer seat life.

**BODY:** One-piece wafer or lug style. Polyester coating for excellent corrosion resistance. Nylon 11 coating is available as an option.



Spirolox® designation is a registered trademark of Kaydon Ring and Seal, Inc.

All Bray valves are pressure tested to 110% of rated pressure to assure bubble tight shutoff.



## SERIES 31H

2" - 20" (50mm-500mm)

Series 31H Lug valves are drilled and tapped to meet ASME Class 125/150 and PN16 flanges.

### PRESSURE RATINGS

**BIDIRECTIONAL BUBBLE-TIGHT SHUT OFF & DEAD-END SERVICE**

2-20" (50-500mm)	250 psi (17.2 Bar)
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**BODY:** 250 psi (17.2 Bar) CWP

### VELOCITY LIMITS For On/Off Services:

Fluids 30 ft/sec (9 m/s)	Gases 175 ft/sec (54 m/s)
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### STANDARD MATERIALS SELECTION 31H

**Body** Cast Iron  
Ductile Iron

**Disc** Aluminum Bronze  
Nylon 11 Coated Ductile Iron  
316 Stainless Steel

**Stem** 416 Stainless Steel

**Seat** Bonded EPDM  
Bonded BUNA-N

Material availability depends on valve size & series. Other materials are available. Please consult your local Bray representative for your specific application.

### STANDARD MATERIALS SELECTION S30/31

NAME	MATERIAL
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<b>Body</b>	Cast Iron
	Ductile Iron
	Carbon Steel
	Aluminum
<b>Disc</b>	Nickel Aluminum Bronze
	Coated Ductile Iron
	Nylon 11 Coated Ductile Iron
	Halar® Coated Ductile Iron
	304 Stainless Steel
	316 Stainless Steel
	Duplex Stainless Steel
	Super Duplex Stainless Steel
	Hastelloy®
<b>Stem</b>	416 Stainless Steel
	304 Stainless Steel
	316 Stainless Steel
	Monel K500
<b>Seat</b>	BUNA-N – Food Grade
	EPDM – Food Grade
	FKM*
	White BUNA-N – Food Grade
	Bonded EPDM
	Bonded BUNA-N



Material availability depends on valve size & series. Other materials are available. Please consult your local Bray representative for your specific application.

\*FKM is the ASTM D1418 designation for Fluorinated Hydrocarbon Elastomers (also called Fluoroelastomers).  
Hastelloy® is a registered trademark of Haynes International, Inc.  
Halar® is a registered trademark of Ausimont U.S.A., Inc.

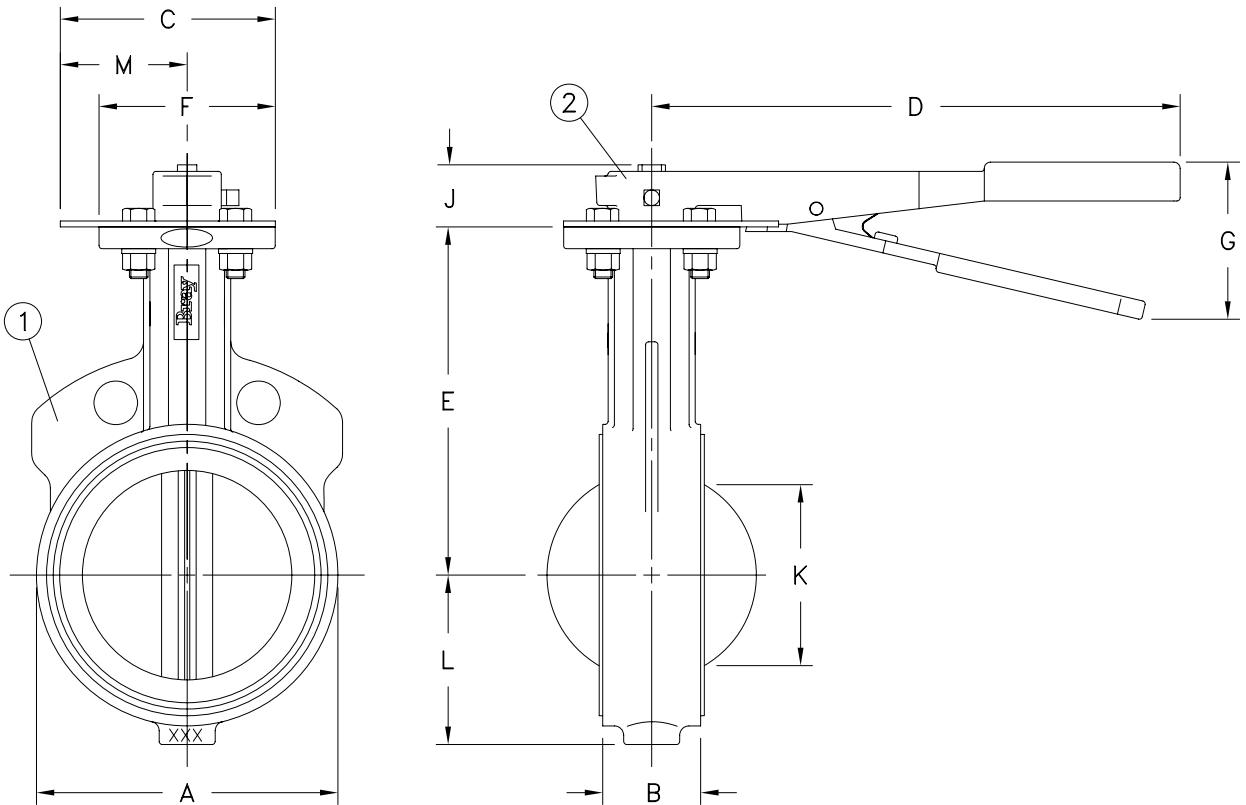


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Valve Size	A	B	C	D	E	F	G	J	K	L	M
50	94	43	110	270	140	90	80	32	31	56	65
65	106	46	110	270	152	90	80	32	47	63	65
80	124	46	110	270	159	90	80	32	63	71	65
100	154	52	110	270	178	90	80	32	90	87	65
125	179	56	110	270	190	90	80	32	116	102	65
150	206	56	110	270	203	90	80	32	137	115	65
200	267	60	169	298	241	150	80	32	190	146	94
250	324	68	169	298	273	150	80	51	240	181	94
300	378	78	169	298	311	150	80	51	290	206	94

Note: K dim is disc chordal dimension at valve face.



2	HANDLE KIT	1
1	VALVE	1
ITEM	NAME	QTY

Valve Size \_\_\_\_\_ Pressure Rating \_\_\_\_\_  
 Flg. Drilling \_\_\_\_\_  
 Customer/Project \_\_\_\_\_  
 Inq./P.O. No. \_\_\_\_\_  
 Bray Order No. \_\_\_\_\_  
 Certified Correct By \_\_\_\_\_ Date \_\_\_\_\_

DIMENSIONAL DRAWING (METRIC)  
 SERIES 30, 50mm THRU 300mm BUTTERFLY VALVES  
 WITH SERIES 01 HANDLE KIT AND DIN FACE TO FACE

**Bray** CONTROLS  
 A Division of BRAY INTERNATIONAL, Inc.

SHEET	REV.
1 OF 1	2
DRAWING NO.	
ES12A-0254	

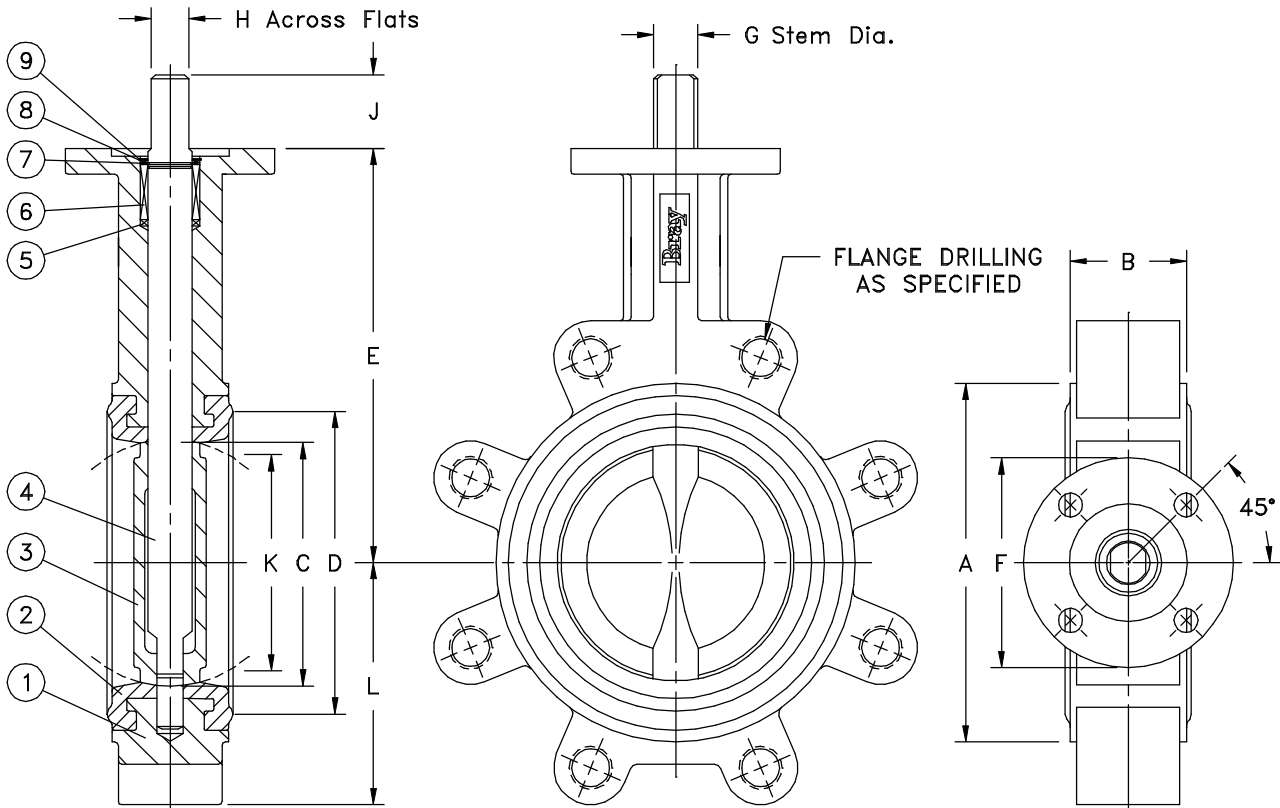
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**SERIES 31**  
**ES12A-0014**  
**Date: August 1993**

Valve Size	A	B	C	D	E	F	BC	Top Plate Drilling		G	H	J	K	L	Lug BC	Bolting No. of Holes	Data Threads ISO-Coarse	Adapter Code	Weight (Kg.)
								No. of Holes	Hole Diameter										
50	94	43	51	72	140	90	70	4	10	14	10	32	30	58				A	3.0
65	106	46	64	85	152	90	70	4	10	14	10	32	46	65				A	3.5
80	124	46	76	102	159	90	70	4	10	14	10	32	63	71				A	4.0
100	154	52	102	131	178	90	70	4	10	16	11	32	89	104				B	7.0
125	181	56	127	156	190	90	70	4	10	19	13	32	116	117				C	9.0
150	206	56	146	178	203	90	70	4	10	19	13	32	137	129				C	10.5
200	267	60	197	240	241	150	125	4	14	22	16	32	189	154				D	19.0
250	324	68	248	291	273	150	125	4	14	30	22	51	240	195				E	30.0
300	378	78	298	342	311	150	125	4	14	30	22	51	290	229				E	40.0


Note: K dim is disc chordal dimension at valve face.



9	RETAINING RING	1			
8	THRUST WASHER	1			
7	STEM RETAINER	2			
6	BUSHING	1			
5	PACKING	1			
4	STEM	1			
3	DISC	1			
2	SEAT	1			
1	BODY	1			

ITEM No.	NAME	No. REQUIRED	SERIES/PART No.	MATERIAL	SPECIFICATION/REMARKS
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Valve Size \_\_\_\_\_ Flg. Drilling \_\_\_\_\_  
 Pressure Rating \_\_\_\_\_  
 Customer/Project \_\_\_\_\_  
 Inq./P.O. No. \_\_\_\_\_  
 Bray Order No. \_\_\_\_\_  
 Certified Correct By \_\_\_\_\_ Date \_\_\_\_\_


**The High Performance Company**  
**BRAY VALVE & CONTROLS**  
 A Subsidiary of BRAY INTERNATIONAL, Inc.  
**PARTS LIST AND DIMENSIONS ( Metric )**  
**BUTTERFLY VALVE, SERIES 31 SIZES 50-300**

Series	Size	Part No.	Material Trim Code	Drawing No.
				ES12A-0014

