311N SERIES BUTTERFLY VALVE (3, 4, AND 6")

Colonial 311N Series Butterfly valves are ideal for use as throttling valves. With the 10-position index plate, it is easy to repeat consistent flow conditions. Compact in design, this valve is used when space is at a premium.

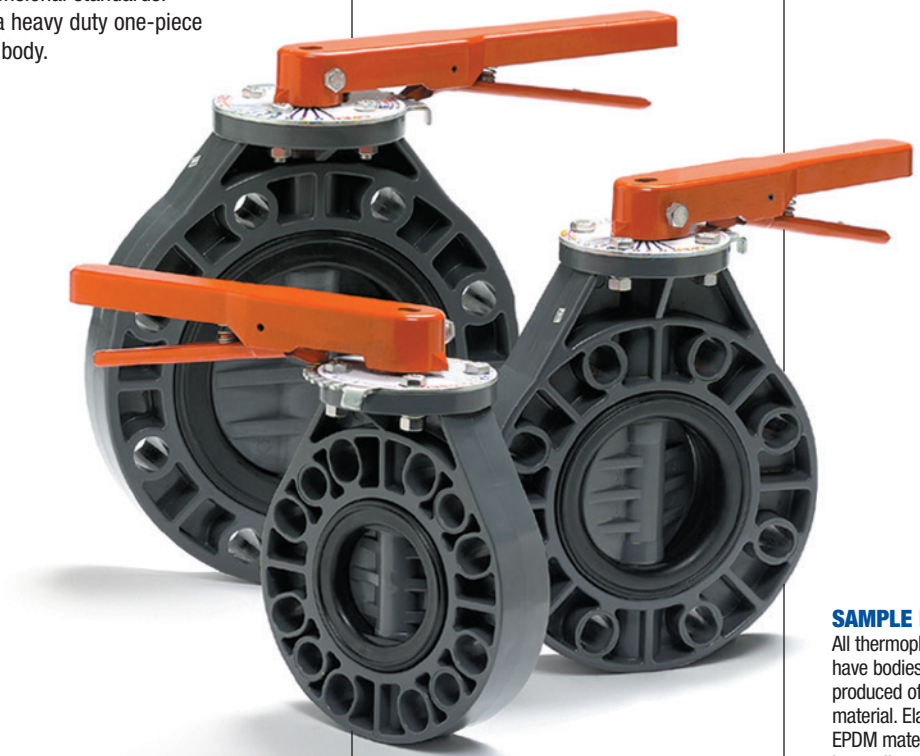
This valve is ideally suited for the most demanding industrial, commercial, aquatic and irrigation environments.

FEATURES AND BENEFITS

- Corrosion-resistant thermoplastic body and disc.
- 100% bubble-tight seal.
- Stainless steel index plate and hardware.
- Bolt pattern meets ANSI, DIN specifications and AWWA dimensional standards.
- Extra heavy duty one-piece PVC body.
- Triple seal design for maximum reliability.
- Pressure rated at 150 psi, non-shock water at 73°F.
- Corrosion-resistant stainless steel stem is heat treated for maximum strength.
- Rugged, corrosion-resistant coated steel handle.
- Up to 50% lighter in weight than metal valves.
- PVC disc with optimized strength/Cv performance.
- Integral boot seal (flange gaskets not required).
- Lay length, stem diameter and top works dimensions are compatible with Keystone Figure 100 butterfly valves. Takeout dimension equal to Bray® and most other Cast Iron Butterfly Valves.

ACCESSORIES

Stem extensions, gear operator, handwheel, chain, or 2" operating nut are available.





SAMPLE ENGINEERING SPECIFICATIONS

All thermoplastic butterfly valves (3 through 6") shall have bodies of one piece, full-face construction produced of PVC type 1, cell classification 12454 material. Elastomeric liner and o-rings shall be EPDM material. Elastomeric liner shall have an integrally molded flange face seal. Valve bolt pattern shall meet ANSI B16.5, Class 150 and AWWA Dimensional Standards. Valve disc shall be produced of PVC type 1, cell classification 12454 material. Valve stem and index plate shall be stainless steel. Valve stem shall be of blow-out proof design. Operations shall be by lever handle, or gear operator. Valves shall be pressure rated at 150 psi, non-shock water at 73°F.

Note: For material choices of CPVC, PVC, PP with Viton® or EPDM, please see the Colonial 411N Series. For sizes 8, 10, and 12" with gear operator, see the Colonial 411NG Series.

Revised 11/15

COLONIAL VALVE
A DIVISION OF COLONIAL ENGINEERING, INC.

CUSTOMER SERVICE: 6400 Corporate Ave., Portage, MI 49002, Toll-free (800) 374 0234, Phone (269) 323 2495, Fax (269) 323 0630, www.colonialengineering.com



Colonial Butterfly valve are tested under high pressure for structural integrity and low pressure for a bubble-tight seal.

TEMPERATURE DE-RATING FOR VALVES & UNIONS (ABOVE 73° F)

Temp (°F)	PVC	Temp (°F)	PVC
73	1.00	150	NR
80	.88	160	NR
90	.75	170	NR
100	.62	180	NR
110	.50	200	NR
120	.40	210	NR
130	.30	240	NR
140	.22	280	NR

NR: Not Recommended

Caution: Colonial recommends a minimum installation distance of 10 X the pipe diameter from a pump or other sources of turbulence.

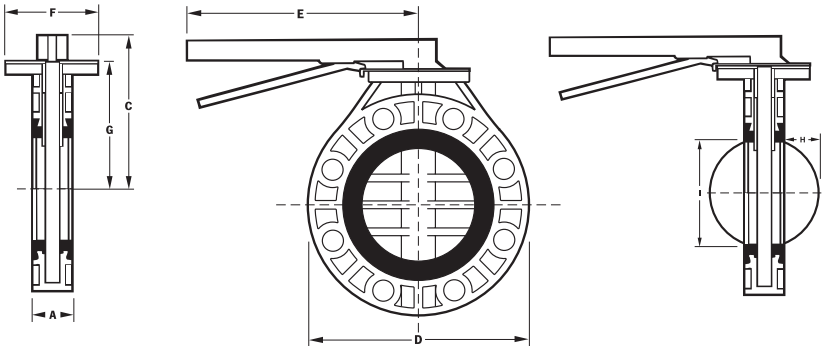


Also available as Contractor Kit, which includes flanges and bolt set.
See List Price Sheet for details.



311NG BUTTERFLY VALVES WITH GEAR OPERATOR

High strength corrosion resistant Coated Aluminum Alloy housing with coated cast iron handwheel and Nitrotec®* treated steel output shaft, 40:1 ratio worm gear, 10 turns to close, mounted to 311N series butterfly valve.



TORQUE VALUES (IN-LBS)

Valve Size	Opening	Closing
3"	255	200
4"	325	300
6"	520	480

VALVE SIZES

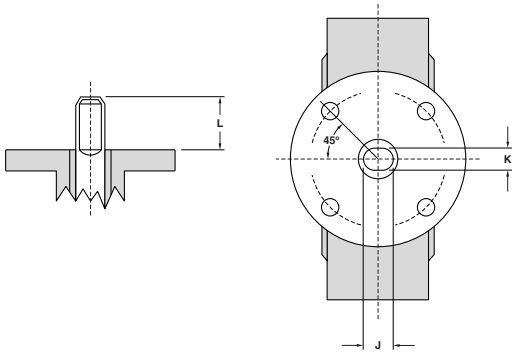
Valve Size	Lever Handle	with Gear Operator
3"	V30311N	V30311NG
4"	V40311N	V40311NG
6"	V60311N	V60311NG

DIMENSIONS

	Valve Closed						Valve 90° Open	
Size	A*	C	D	E	F	G	H	I
3"	1.750	6.310	7.500	9.500	4.190	4.880	0.630	2.375
4"	2.000	7.750	9.000	9.500	4.190	6.280	1.000	3.375
6"	2.120	8.375	11.219	11.750	5.030	7.000	2.000	5.500

*Takeout Dimension Equal to Bray® and most other Cast Iron Butterfly Valves.

KEYSTONE FIGURE 100 STEM & TOP PLATE



COMPRESSED AIR WARNING

The products in this document are only intended for use in transferring or storing chemically compatible pressurized liquids. **Do not test or use products in this document with compressed air or other gases.** Doing so is dangerous and could cause injury or great bodily harm should a system fail under compressed air. Only use products that are specifically designed for compressed air/gas service. Call Colonial technical service for more information.



DIMENSIONS

Size	L	J	K	Bolt Circle	No. Holes	Top Plate Hole Diameter
3"	1.250	0.563	0.375	3.250	4	0.438
4"	1.250	0.625	0.438	3.250	4	0.438
6"	1.250	0.625	0.438	3.250	4	0.438

BOLT SPECIFICATIONS

Pipe Size	Number Flange Holes	USS Std. Hex Head Bolt Diameter	USS Std. Hex Nut Size	SAE Std. Flat Washer Size	SAE Std. Flat Washer O.D.	Rec. Torque (ft-lbs)
3"	4/8	5/8"	5/8"	5/8"	5/16"	20-30
4"	8	5/8"	5/8"	5/8"	1-5/16"	20-30
6"	8	3/4"	3/4"	3/4"	1-1/2"	35-50

FLUID FLOW COEFFICIENT Cv*

* Gallons per minute @ 1 psi pressure drop

Valve Size	Degrees / Open								
	10°	20°	30°	40°	50°	60°	70°	80°	90°
3"	4.3	16	35	62	94	135	180	235	290
4"	8.6	34	76	137	215	310	420	550	690
6"	17.5	67	200	265	410	580	790	1,040	1,340