



Butterfly Valves

**1-1/2" to 12" • Bodies - PVC, Corzan® CPVC, PPL
Disks - PVC, Corzan® CPVC, PPL, PVDF**



Features

- Rated at 150 PSI
- Stainless Steel Shaft
- Fully Supported Flange Bolt Holes
- Full Body, V-Notch Liner
- Blowout-Proof Shaft
- Viton®, EPDM or Nitrile Liners
- Wafer Body Design
- Conforms to ANSI B16.10 Face-to-Face Dimensions

Options

- Stem Extensions
- Lug Body Design
- Gear Operators
- Electric Actuators
- Pneumatic Actuators
- Titanium Shaft
- 2" Square Operating Nut
- PVDF Discs
- Actuator Mounts

A Better Butterfly Valve

Hayward 1-1/2" through 12" all-Plastic Butterfly Valves are rated at a full 150 PSI. Unlike other plastic butterfly valves, Hayward valves are constructed from a one piece body that incorporates fully supported flanged bolt holes to prevent stressing of the mating pipe flanges. Their heavy duty construction stands up to the most demanding applications. The rock solid integral mounting pad ensures that the valve operator will function reliably – whichever operator is used, lever handle, gear box or actuator.

Extra Features, No Extra Cost

Hayward Butterfly Valves feature a blowout-proof stainless steel stem and a unique, full body liner that has a V-notch retention design. This assures positive sealing of the liner to the valve body. An integrally molded face seal provides positive sealing against the mating flange without the need for additional gaskets. The lever handle has a built in lockout feature and every Hayward valve is ready for actuation.

Better Sealing

Other plastic butterfly valves have only a thin o-ring on the disk to seal the valve, but Hayward valves feature a full body liner seal. This means that the process media never contacts the valve body. And you can count on the full liner seal to perform reliably, year after year.

Easy Retrofit

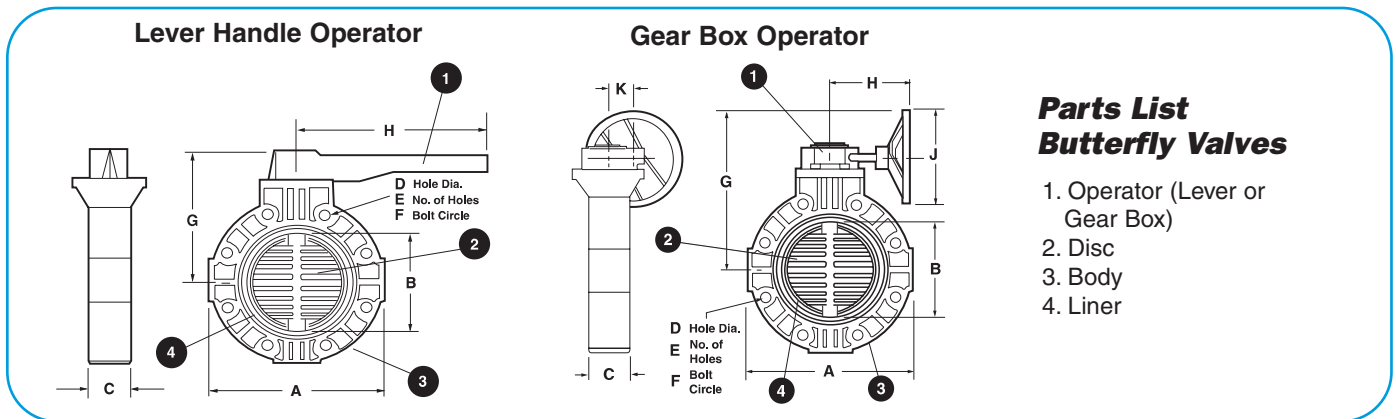
Hayward Butterfly Valves can be easily fitted into a metal piping system. All valve sizes meet industry face-to-face standards – allowing simple retrofit.

No Metal, No Corrosion

These valves have no metal in contact with the process media. They cannot corrode or rust – nor will they contaminate sensitive fluids flowing through them.



Technical Information



Dimensions - Inches / Millimeters

Size	A	B	C	D	E	F	G		H		J	K	Wt. Lb / Kg
							Gear Box	Lever	Gear Box	Lever			
1-1/2 / 50	6.00 / 152	1.75 / 44	1.50 / 38	.63 / 16	4	3.88 / 99	9.31 / 236	6.25 / 159	7.13 / 181	10.50 / 267	8.00 / 203	1.88 / 48	10.5 / 4.8
2 / 63	6.00 / 152	1.75 / 44	1.50 / 38	.75 / 19	4	4.75 / 121	9.31 / 236	6.25 / 159	7.13 / 181	10.50 / 267	8.00 / 203	1.88 / 48	10.5 / 4.8
3 / 90	7.75 / 197	3.13 / 80	2.00 / 51	.75 / 19	4	6.00 / 152	9.75 / 248	6.69 / 170	7.13 / 181	10.50 / 267	8.00 / 203	1.88 / 48	11.6 / 5.3
4 / 110	9.25 / 235	3.94 / 100	2.19 / 56	.75 / 19	8	7.50 / 191	10.19 / 259	7.94 / 202	7.13 / 181	12.00 / 305	8.00 / 203	1.88 / 48	14.3 / 6.5
6 / 160	11.25 / 286	5.81 / 148	2.31 / 59	.88 / 22	8	9.50 / 241	12.38 / 314	9.50 / 241	7.13 / 181	14.00 / 356	8.00 / 203	1.88 / 48	15.4 / 7.0
8 / 225	13.75 / 349	7.75 / 197	2.50 / 64	.88 / 22	8	11.75 / 298	13.50 / 343	10.63 / 270	7.13 / 181	16.00 / 406	8.00 / 203	1.88 / 48	23.5 / 10.7
10 / 280	16.00 / 406	9.76 / 248	3.00 / 76	1.00 / 25	12	14.25 / 362	16.00 / 406	N/A	8.09 / 205	N/A	8.00 / 203	2.36 / 59	39.0 / 17.7
12 / 315	19.00 / 483	11.50 / 292	3.18 / 81	1.00 / 25	12	17.00 / 432	17.50 / 445	N/A	8.09 / 205	N/A	8.00 / 203	2.36 / 59	51.0 / 23.1

DIN metric flanges available

Cv Factors

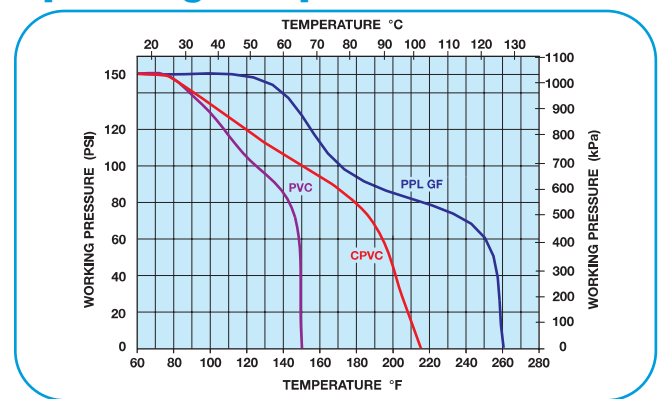
Size	Factor	Size	Factor
1-1/2"	90	6"	1100
2"	125	8"	2500
3"	280	10"	4700
4"	675	12"	7100

Pressure Loss Calculation Formula

$$\Delta P = \left[\frac{Q}{Cv} \right]^2$$

ΔP = Pressure Drop
Q = Flow in GPM
Cv = Flow Coefficient

Operating Temperature/Pressure



Selection Chart

Size	Body Material	Disc Material	Shaft Material	Liner	Operator	Pressure Rating
*1-1/2" to 8"	CPVC	CPVC	316 SSTL	FPM, EPDM or Nitrile	Lever or Gear Box	150 PSI
1-1/2" to 8"	PVC	PVC, PPL, or PVDF				@70°F
1-1/2" to 12"	PPL	PPL				Non-Shock

* CPVC/CPVC 8" gear operated only



Large Size Butterfly Valves

14" to 24" - Natural PPL Bodies and Discs



Designed for Performance and Flexibility

Larger size butterfly valves from Hayward are specially designed to take into account application parameters encountered in larger size piping systems. The rugged, one piece, all natural polypropylene body stands up to high flow rates and elevated stress conditions. The valve features a full face liner that eliminates the need for expensive flange gaskets. The valve itself is fully lined and the standard Type 316 stainless steel stem is completely isolated from the process media. A unique "sphered" disc makes it easy to seal the valve bubble tight with a minimum of operating torque.

The valve's fabricated design makes for exceptional application flexibility. This type of design makes it easy and cost effective to modify the valve to conform to the requirements of special, demanding applications. For example, the need for expensive and clumsy flange adapters can be eliminated by providing a 14" size valve with a 16" bolt circle, an easy modification for a Hayward Large Size Butterfly Valve.

Easy Installation, Easy Operation

Each Valve comes standard with two lifting lug/handles, as well as slotted bottom bolt holes. These valve features coupled with its light weight permit a single person to position and install even the largest size valve, reducing installation costs. After installation easy, positive manual valve operation is ensured by the heavy duty, high torque output gear box. If automation is required there is a wide range of electric and pneumatic actuation to choose from. Actuators mount to a corrosion resistant plate and are then coupled to the valve with two easy to access bolts. In most cases no additional spacers or adapters are required.

Replacement for Metal Valves

All plastic construction means the valves will never stick, fail, or jam due to rust or corrosion – making them an excellent alternative to metal valves in many applications.

Features

- Stress-Relieved Natural PPL Construction or PVC
- Type 316 Stainless Steel Stem
- Choice of FPM, EPDM or Nitrile Liner and Seals
- Sphered Disc for Positive Shut Off
- High Torque Gear Box
- Dual Lifting Lug/Handles
- Slotted Bottom Bolt Holes
- Easily Modified for Unique Applications
- Replaces Metal Valves

Options

- Pneumatic or Electric Actuation
- Type 316 Stainless Steel Lugs
- Zinc Plated Lugs



Technical Information

D (HOLE DATA), E (No. of HOLES), F (BOLT CIRCLE)

Parts List Gear-Operated Butterfly Valve

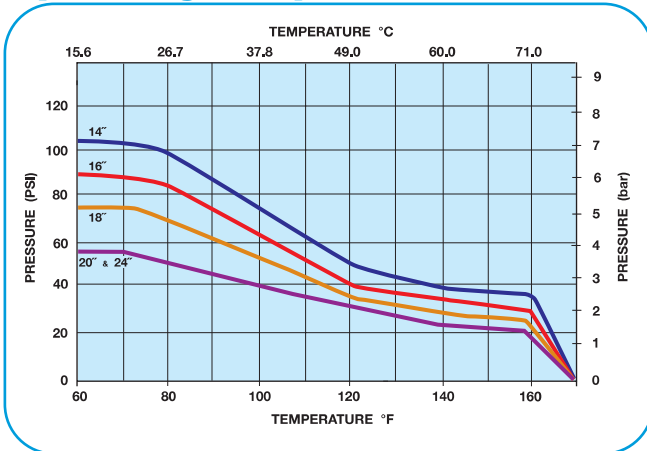
1. Body	Polypropylene
2. Liner (Seat)	EPDM/FPM/NITRILE
3. Disc	Polypropylene
4. Disc Pin	Stainless Steel
5. Disc Pin Seals	EPDM/FPM/NITRILE
6. Stem	316 Stainless Steel
7. Stem O-rings	EPDM/FPM/NITRILE
8. Gear Box	Cast Iron Primed
9. Hand Wheel	Fabricated Steel Primed

Dimensions - Inches / Millimeters

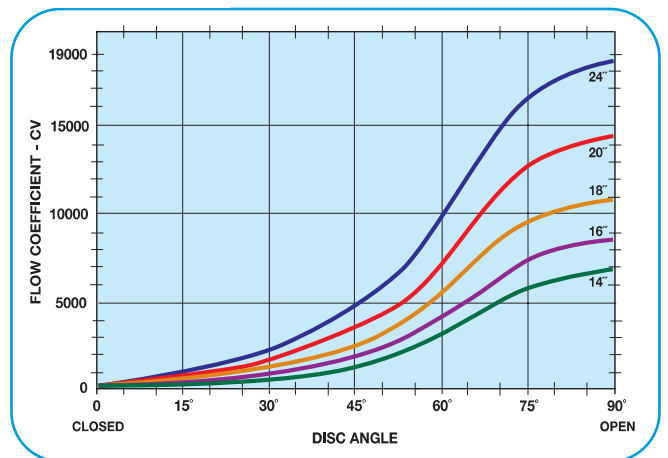
Valve Size	A	B	C	D	E	F	G	H	K	L	M	Weight (lb / kg)
14	20.54 / 522	13.18 / 335	4.00 / 102	1.09 / 28	12	18.75 / 476	20.59 / 523	12.31 / 313	2.63 / 67	14.00 / 356	10.27 / 261	110 / 50
16	24.00 / 610	15.00 / 381	4.00 / 102	1.12 / 28	16	21.25 / 540	21.12 / 536	12.31 / 313	2.63 / 67	14.00 / 356	11.00 / 279	150 / 68
18	24.00 / 610	17.30 / 439	4.00 / 102	1.25 / 32	16	22.75 / 578	22.38 / 568	13.31 / 338	3.38 / 86	14.00 / 356	12.50 / 318	180 / 82
20	28.00 / 711	19.25 / 489	5.00 / 127	1.25 / 32	20	25.00 / 635	24.70 / 627	13.31 / 338	3.38 / 86	14.00 / 356	14.37 / 365	210 / 95
24	32.00 / 813	23.25 / 591	6.00 / 152	1.38 / 35	20	29.50 / 749	27.38 / 695	10.50 / 267	3.38 / 86	14.00 / 356	16.75 / 425	300 / 136

DIN metric flanges available

Operating Temperature/Pressure



Cv Factors



Selection Chart

Size	Body Material	Disc Material	Seals	Operators	Pressure Rating
14, 16, 18 20, 24"	PPL	PPL	EPDM, FPM or Nitrile	Gearbox Electric Actuator Pneumatic Actuator	* PSI @ 70°F Non-Shock

*14" = 105 PSI, 16" = 90 PSI, 18" = 75 PSI, 20" and 24" = 56 PSI



Butterfly Valves - 1 1/2" to 24" Sizes

Special Features and Options



Hayward Butterfly Valves are used for throttling or quick quarter-turn on-off control. They are simple, lightweight and compact – and are ideal for use where either space is limited or service and maintenance must be performed quickly. Because they require only 90° to fully open or close, Hayward butterfly valves are easily automated and are widely used as efficient throttling or flow regulating valves. Additionally, they are excellent for handling abrasive or slurry-type fluids.

Corrosion Resistant, No Contamination

Hayward plastic butterfly valves are installed for many reasons, including: resistance to corrosion and/or freedom from contamination. Hayward plastic butterfly valves do not have any metal in contact with the process media.

There is none of the rusting or corrosion associated with metal valves, even those made from so-called "higher" alloys. PVC, CPVC and polypropylene are electrically non-conductive. Therefore, galvanic corrosion is completely unknown in Hayward plastic butterfly valves.

Equally important, there is nothing to leach out and contaminate the most sensitive liquids. Such difficult fluids as de-ionized water and delicate chemical solutions cannot pick up traces of metal or other foreign matter from a Hayward butterfly valve. The all-plastic construction makes them entirely inert. Hayward butterfly valves will outperform metal butterfly valves in many places. The applications are limited only by the imagination of the user.

Hayward Modular Design

Hayward Modular Series butterfly valves have been specifically designed as a rugged component-matched system. They offer a versatile range of operators, including hand levers, gear



At left: 3" butterfly valve with supported aluminum stem extension.

At right: 6" butterfly valve with unsupported stem extension

operators, electric and pneumatic actuators.

The unique modular mounting design takes the difficulty and guesswork out of installation or service. The valves can be installed or removed in minutes – regardless of which valve trim or accessories are used.

The rugged one-piece body incorporates fully supported flange bolt holes. This prevents stressing of the mating pipe flanges, ensuring long service life and enhanced system integrity. Additionally, all sizes meet industry face-to-face standards – allowing simple retrofit to replace most metal butterfly valves.

Unique Liner Assures Positive Seal

The tough, abrasion resistant, elastomeric liner incorporates a unique retention design which assures positive sealing of the liner to the valve body. Thus, liner replacements can be made simply and quickly. Further, each liner

has an integrally molded face seal which provides positive sealing against any mating flange without the use of additional gaskets.

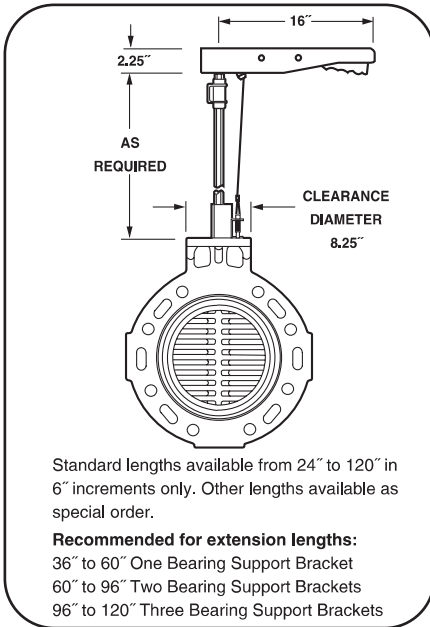
The primary seal between the disc and liner is factory tested to bubble-tight shut-off. This seal is self adjusting and will remain tight even beyond the design working pressure of the valve. The design provides for uniform wear on all contact surfaces for extended service life. The stainless steel shaft is completely sealed from the process media, is positively secured, and is blowout proof.

Trouble-Free Service

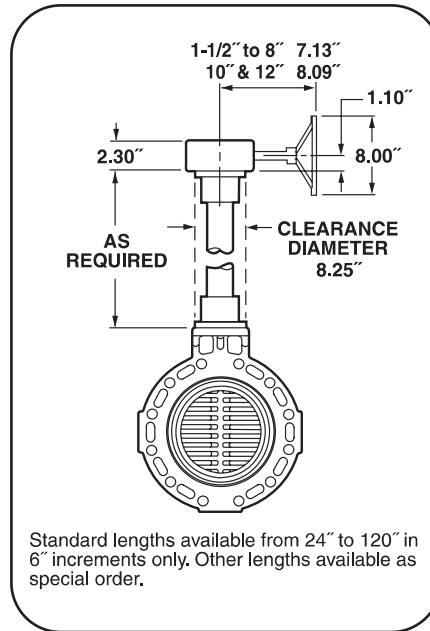
Designed for both the quality and cost conscious user, the Hayward Modular Series Plastic Butterfly Valves provide trouble-free service for highly corrosive or high purity liquids at elevated temperatures. They will neither corrode nor contaminate the fluids passing through them.

Butterfly Valve Options

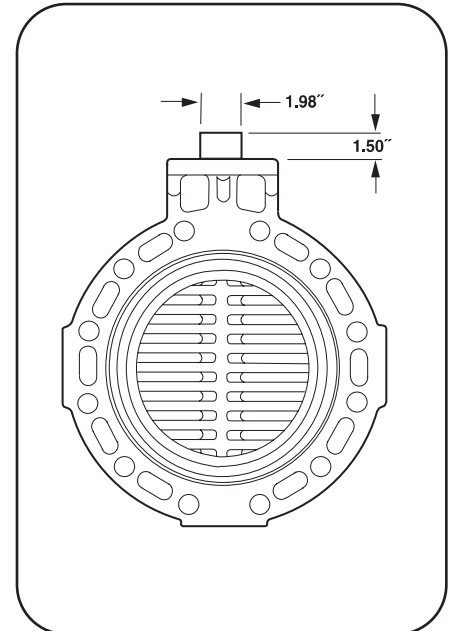
1 1/2" to 8" Lever Operated Butterfly Valve Stem Extension



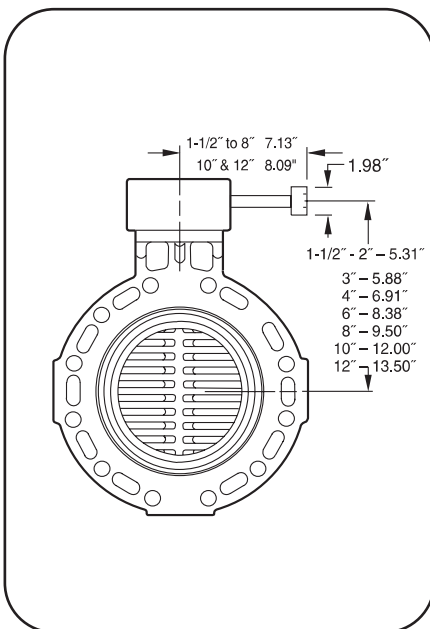
1 1/2" to 12" Gear Operated Butterfly Valve Stem Extension with PVC Housing



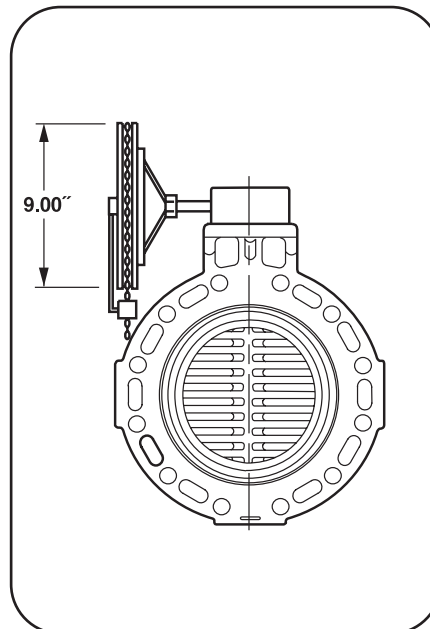
1 1/2" to 8" Butterfly Valve with Non-Locking 2" Square Operating Nut



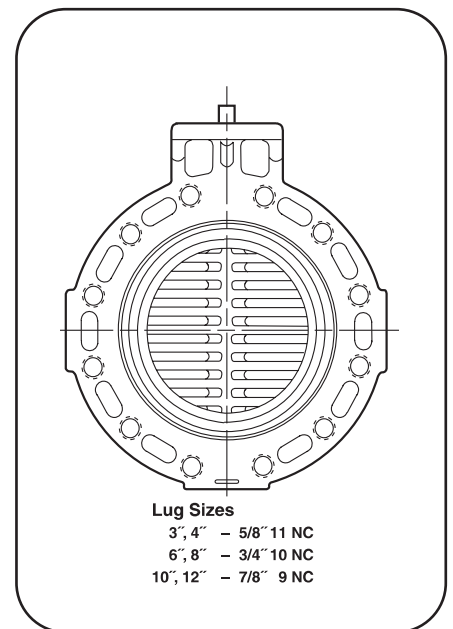
1 1/2" to 12" Gear Operated Butterfly Valve with 2"-Square Operating Nut



1 1/2" to 12" Chain Operated Butterfly Valve



1 1/2" to 12" Butterfly Valve with Lug Mounts



*Consult factory for option drawings for 14" to 24" size butterfly valves.