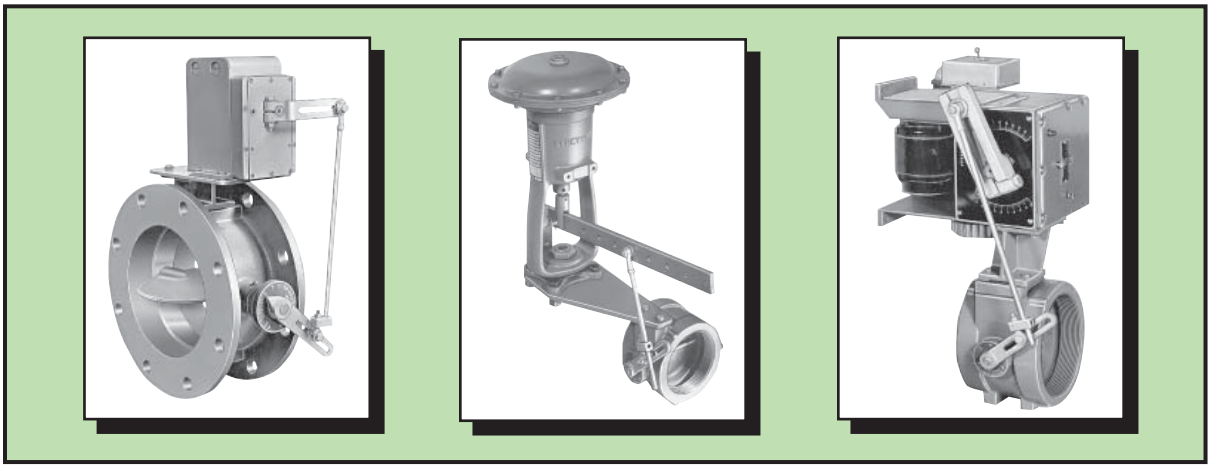
1124 and 1126 Motor Operated and 1123 Manual



Butterfly valves have no appreciable pressure drop when wide open in full size pipe, handling flows and velocities of **normal combustion systems**. Therefore, capacity ratings usually are not a factor when selecting **manual** valves for individual burners or systems.

VALVE CAPACITIES

Air capacities listed below (wide open and 70° open) are under full flow conditions: The valve installed in a pipe run of the same size as the valve with a pipe velocity of 70 ft/sec.

Butterfly valve capacities (see box above) scfh air at 1"wc pressure drop (70 F air; 6 osig upstream pressure)

Valve designation	Pipe size inches	wide open	70° open
-0	¾	500	255
-1	1	940	680
-2	1¼	1 900	1 130
-3	1½	2 800	1 450
-4	2	5 320	2 900
-5	2½	8 350	4 570
-6	3	14 500	7 560
-7	4	29 100	15 200
-8	6	78 100	45 800
-9	8	167 000	66 100
-10	10	245 000	107 000
-12	12	360 000	162 000
-14	14	429 000	209 000
-16	16	570 000	271 000

If valve flow control characteristics are important, valve sizing should take into consideration:

- total cfh required at high and low fire;
- available air pressure drop;
- piping configuration between control valve and burners;
- effect of the ratio of pressure drops in the complete system vs. those through the control valve.

Where a motorized butterfly control valve serves a group of burners, system pressure drops determined by pipe size, lengths, fittings, etc. affect valve size selection in critical applications.

One "rule of thumb" has been to size valve (70° open) for pressure drop equal to 1/5 - 1/6 of total drop in system including, of course, drop across burners. Change in flow and pressure drop across the valve is negligible when changing from 70° open to wide open unless inlet pressure is increased substantially to maintain the 1"wc pressure drop. Burner "resistance" causes far more pressure drop than the valve at maximum burner air flow, and the valve may pass listed flow when only 50% open.

TORQUE. Torques required to operate Butterfly Valves with 3 psi inlet pressure are:

Valve size designation	Torque lb-in.
-0 thru -5	2.8
-6	5.8
-7	10.0
-8	22.8
-9	79.0

Valve size designation	Torque lb-in.
-10	123
-12	177
-14	242
-16	317

See page 2 for air temperature correction factors.

STANDARD VALVES

(See also Bulletins 1122 [Manual], and 1154 [Resilient Seat Wafer])

1124 Motorized **1126 Motorized** **1126 (H) Hot Air Motorized** **1123 Manual**

Standard butterfly valves have female pipe threads in ¾" through 6" pipe sizes; larger valves are flanged①, as are 1126-F in 3", 4", and 6" sizes. Motorized valves can be ordered with bracket, motor arm, and linkage for standard control motor or actuator. 1123 Manual valves have a locking handle and are available in 8" to 16" sizes. 1122 manual valves have a locking handle and are available in ¾" to 6" sizes.

1126 and 1123 Valves have a swing-through disc. 1122 manual valves and 1124 motorized valves have a beveled disc for tighter shutoff; spring-loaded linkage is furnished with the 1124 when an electric operator is specified (see Instructions 1230).

All standard valves (except 1126- -H) can be used on gas. However, if UL approval is required for -0 through -8 sizes, a "G" suffix can be added to the 1126 series only (exs. 1126-1-G).

Standard 1122③, 1123, 1124, and 1126 Valves are suitable for air heated to 400 F. For 400 to 700 F, specify the 1122 (H)③, 1124 (H), or 1126 (H) Valve with Grafoil seal.

SPECIFICATIONS/CONSTRUCTION

Valve designation	Maximum inlet pressure, psi	Maximum temperature, F	Body	Disc	Shaft
1122③, 1124, 1126: -0 thru -4	25	400②	cast iron threaded	steel	303 stainless steel
-5 thru -8	15	400②	"	"	"
-6-F thru -8-F①	15	400②	cast iron flanged	"	"
1126, 1123 -9 thru -16①	5	400	"	cast iron	416 stainless steel

Caution:

① Flanged Valves: Use flat flanges and full face gaskets when installing this equipment. Raised face flanges can damage the valve body.

Additional Notes:

② 700 F for 1122-(H), 1124-(H) and 1126-(H) which have Grafoil seals.

③ See Bulletin 1122.

AIR TEMPERATURE CORRECTION FACTORS FOR ALL VALVES

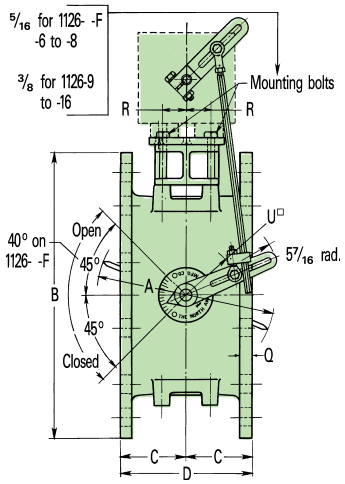
Multiply scfh in table by air temperature factor to get scfh air at that temperature.

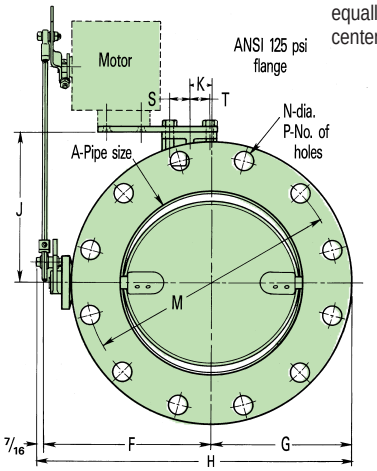
F	factor	F	factor	F	factor
60	1.0	300	0.83	800	0.64
100	0.96	400	0.78	900	0.62
150	0.92	500	0.74	1000	0.60
200	0.89	600	0.70	1100	0.58
250	0.86	700	0.67		

STANDARD VALVES

(dimensions apply also to "G" valves)

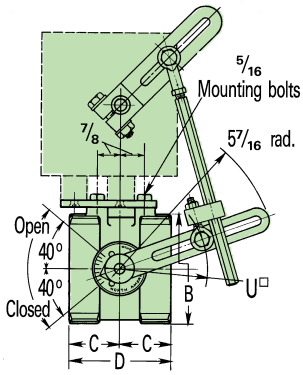
Dimensions inches

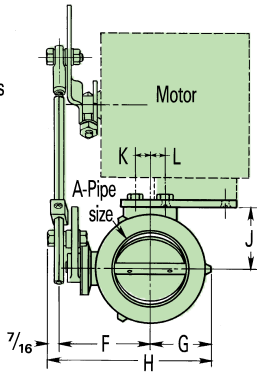




Bolt holes on all flanged models are equally spaced and straddle valve centerlines.

ORDER MUST SPECIFY:
1) Valve designation (for all valves).
2) Motor selected (for 1124 and 1126 Valves).



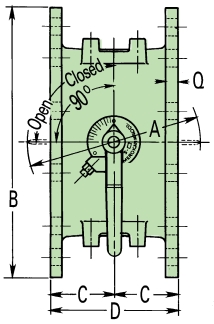


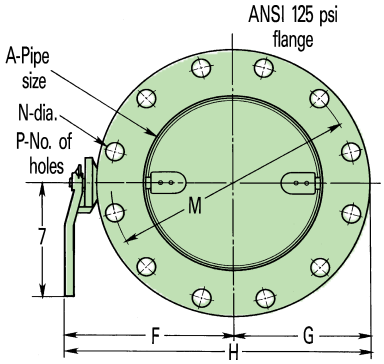
1126-9 thru -16
1126-6-F thru 1126-8-F①

1124, 1126-0 thru -8

Valve designation	dimensions in inches A	B	C	D	F	G	H	J	K	L	M	N	P	Q	R	S	T	U	Wt, lb
1124, 1126-0	3/4	2 1/16	1 3/16	2 3/8	2 5/16	1 3/16	3 15/16	1 1/4	–	1/4	–	–	–	–	–	–	–	1 3/8	5
1124, 1126-1	1	2 1/16	1 3/16	2 3/8	2 5/16	1 3/16	3 15/16	1 1/4	–	1/4	–	–	–	–	–	–	–	1 3/8	5
1124, 1126-2	1 1/4	2 5/16	1 1/4	2 1/2	2 3/8	1 5/16	4 1/8	1 3/4	–	3/16	–	–	–	–	–	–	–	1 3/8	5 1/4
1124, 1126-3	1 1/2	2 9/16	1 5/16	2 5/8	2 1/2	1 7/16	4 3/8	1 1/2	–	1/16	–	–	–	–	–	–	–	1 3/8	5 1/2
1124, 1126-4	2	3 3/16	1 1/2	3	2 13/16	1 3/4	5	1 13/16	1/4	–	–	–	–	–	–	–	–	1 3/8	6 1/2
1124, 1126-5	2 1/2	3 13/16	1 3/4	3 1/2	3 1/8	2 1/8	5 11/16	2 1/8	9/16	–	–	–	–	–	–	–	–	1 3/8	8 1/2
1124, 1126-6	3	4 1/2	1 15/16	3 7/8	3 3/4	2 7/16	6 5/8	2 3/8	1 3/16	–	–	–	–	–	–	–	–	1 3/8	11
1124, 1126-7	4	5 5/8	2 1/4	4 1/2	4 5/16	3	7 3/4	2 15/16	1 3/4	–	–	–	–	–	–	–	–	1 3/8	15 1/2
1124, 1126-8	6	7 7/8	2 9/16	5 1/8	5 7/16	4 1/8	10	4 1/16	2 7/8	–	–	–	–	–	–	–	–	1 3/8	27
1124, 1126-6-F	3	7 1/2	2	4	5 1/16	3 3/4	9 1/4	5 1/16	1	–	6	3/4	4	1/2	7/8	1 1/2	–	1 3/8	20
1124, 1126-7-F	4	9	2 1/4	4 1/2	5 13/16	4 1/2	10 3/4	4 5/8	1 3/4	–	7 1/2	3/4	8	9/16	7/8	1 1/2	–	1 3/8	24
1124, 1126-8-F	6	11	2 1/2	5	6 13/16	5 1/2	12 3/4	5 5/8	2 3/4	–	9 1/2	7/8	8	9/16	7/8	1 1/2	–	1 3/8	34
1126-9	8	13 1/2	2 3/4	5 1/2	8 1/4	6 3/4	15 11/16	7 5/16	–	–	11 3/4	7/8	8	9/16	1 3/8	1 1/8	1 1/8	1 5/8	55
1126-10	10	16	3 3/4	7 1/2	9 1/2	8	18 3/16	8 7/16	1 1/4	–	14 1/4	1	12	3/4	1 3/8	1 1/8	1 1/8	1 5/8	94
1126-12	12	19	4	8	11	9 1/2	21 3/16	9 3/4	2 3/4	–	17	1	12	3/4	1 3/8	1 1/8	1 1/8	1 5/8	128
1126-14	14	21	4	8	12	10 1/2	23 3/16	10 3/4	3 3/4	–	18 3/4	1 1/8	12	3/4	1 3/8	1 1/8	1 1/8	1 5/8	152
1126-16	16	23 1/2	4 1/4	8 1/2	13 1/4	11 3/4	25 11/16	12 1/8	5	–	21 1/4	1 1/8	16	7/8	1 3/8	1 1/8	1 1/8	1 5/8	188
1123-9	8	13 1/2	2 3/4	5 1/2	8 1/2	6 3/4	15 1/4	–	–	–	11 3/4	7/8	8	9/16	–	–	–	–	52
1123-10	10	16	3 3/4	7 1/2	9 3/4	8	17 3/4	–	–	–	14 1/4	1	12	3/4	–	–	–	–	91
1123-12	12	19	4	8	11 1/4	9 1/2	20 3/4	–	–	–	17	1	12	3/4	–	–	–	–	125
1123-14	14	21	4	8	12 1/4	10 1/2	22 3/4	–	–	–	18 3/4	1 1/8	12	3/4	–	–	–	–	149
1123-16	16	23 1/2	4 1/4	8 1/2	13 1/4	11 3/4	25 1/4	–	–	–	21 1/4	1 1/8	16	7/8	–	–	–	–	185

1123① Manual Valves (-9 thru -16)





□ Minimum valve arm radius for attaching linkage is U, maximum is 5".

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