

Technical Specifications

Materials of Construction – Steel Components

- Product contact components (body and disc): forged 316L stainless steel
- Non-product contact components: 304 stainless steel

Sealing Materials

- Product contact components (seals): EPDM, FKM, silicone
 - Silicone and EPDM for valve sizes 1/2" to 4" have USP VI Certification
 - NOTE: 6" and 8" valves only available with EPDM and silicone
- Non-product contact components (bushings): polyacetal

Line Pressure Technical Data

- Max product line pressure:
 - 1/2" to 2": **140 PSI**
 - 2-1/2" to 3": **110 PSI**
 - 4": **85 PSI**
 - 6" to 8": **60 PSI**
- Minimum product line pressure: 0.4" Hg vacuum at **68°F (20°C)**

Product Temperature Technical Data

- Minimum/maximum operating temperature: **15°F (-9°C) to 200°F (93°C)**

Surface Finish Technical Data

- Product contact components: $R_a \leq 32$
- Optional finishes: 15R_a, 20R_a, 25R_a

Pneumatic Connections Technical Data (linear actuator)

- Threaded air fitting size: G1/8"
- Air connection hose size: 1/4" flexible poly tubing
- Max supply air pressure: **100 PSI (6.9 bar)**
- Minimum supply air pressure: **80 PSI (5.5 bar)**

Valve Stem Square Size

- 1/2" to 4": 10mm
- 6": 13mm
- 8": 14mm

Connections

- Clamp (standard)
- Additional available connections: weld, female I-Line, male I-Line, threaded bevel, plain bevel, Q-Line, John Perry threaded
- Sizes: 1/2" to 8"

Flow Coefficients (C_v) Based on water at 68°F (20°C)

Valve Size	Flow Coefficient (C _v)	Valve Size	Flow Coefficient (C _v)
1/2"	7	2-1/2"	264
3/4"	11	3"	372
1"	23	4"	800
1-1/2"	80	6"	1200
2"	230	8"	2800

Valve Break Torque Based on water at 68°F (20°C)

Valve Size	Break Torque (in-lbs.) Silicone	Break Torque (in-lbs.) EPDM	Break Torque (in-lbs.) FKM
1/2"	20	13	70
3/4"	20	13	70
1"	20	13	70
1-1/2"	35	20	125
2"	35	48	175
2-1/2"	133	98	220
3"	133	146	310
4"	266	341	450
6"	775	830	NA
8"	1106	1106	NA

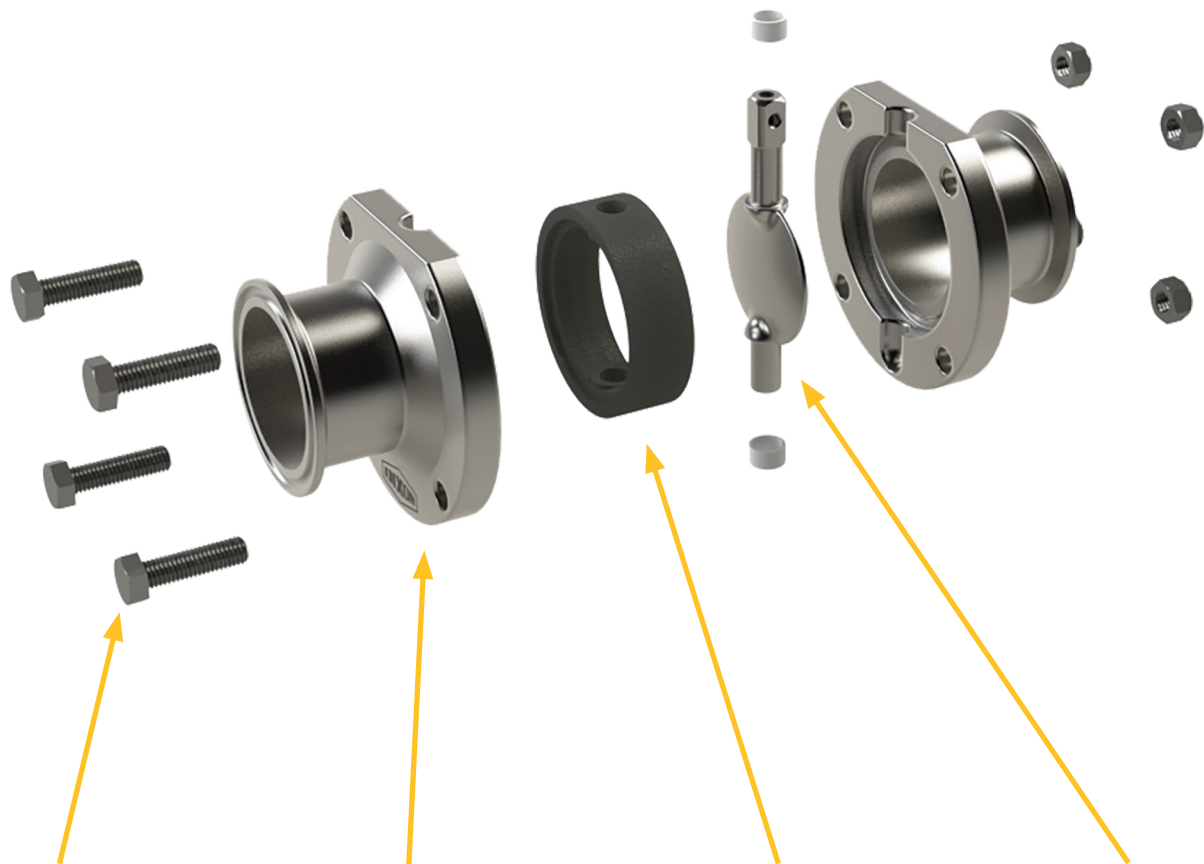
Pressure Drop Chart (PSI)

Based on water at 68°F (20°C)

Capacity (USGPM)	Valve Size (in)									
	1/2"	3/4"	1"	1-1/2"	2"	2-1/2"	3"	4"	6"	8"
5	7	5								
10		2.5	0.2	0.0						
50			4.7	0.4						
90			15.3	1.3	0.2					
130				2.6	0.3	0.2				
170				4.5	0.5	0.4	0.2			
210				6.9	0.8	0.6	0.3			
250				9.8	1.2	0.9	0.5			
290					1.6	1.2	0.6			
330					2.1	1.6	0.8	0.2		
370					2.6	2.0	1.0	0.2		
410					3.2	2.4	1.2	0.3		
450					3.8	2.9	1.5	0.3		
490					4.5	3.4	1.7	0.4	0.2	
530						4.0	2.0	0.4	0.2	
570						4.7	2.3	0.5	0.2	
610						5.3	2.7	0.6	0.3	
650						6.1	3.1	0.7	0.3	
690						6.8	3.4	0.7	0.3	
730							3.9	0.8	0.4	
770							4.3	0.9	0.4	
810							4.7	1.0	0.5	
850							5.2	1.1	0.5	
890							5.7	1.2	0.6	
930							6.3	1.4	0.6	
970								1.5	0.7	
1010								1.6	0.7	
1050								1.7	0.8	
1090								1.9	0.8	0.2
1130								2.0	0.9	0.2
1170								2.1	1.0	0.2
1210								2.3	1.0	0.2
1250								2.4	1.1	0.2
1290								2.6	1.2	0.2
1330								2.8	1.2	0.2
1370								2.9	1.3	0.2
1410								3.1	1.4	0.3
1450								3.3	1.5	0.3
1490								3.5	1.5	0.3
1530								3.7	1.6	0.3
1570								3.9	1.7	0.3
1610								4.1	1.8	0.3
1650								4.3	1.9	0.3

$$\Delta P = \left[\frac{\text{GPM}}{C_v} \right]^2 G$$

B5107-Series Butterfly Valve



Hex Head Body Bolts

Hex head body bolts eliminate the recessed cavity found in socket head body bolts, reducing the potential for bacterial buildup. Sizes 1/2" to 4"

Exterior Body Geometry

Body design enhances the exterior cleanability and drainability of the valve by utilizing a large machined chamfer between the flange face and the tube OD

Seal Performance

Our new EPDM with self-lubricating properties and silicone rubber help to reduce break torque and provide added durability to valve seats. Silicone and EPDM for valve sizes 1/2" to 4" have USP VI certification

Valve Disc

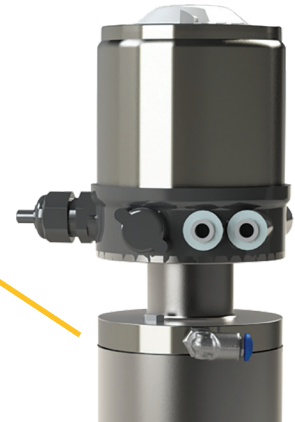
Increased disc stem square size provides added durability when higher torques are experienced due to viscous or sticky process fluids

B5107-Series Butterfly Valve



Actuation Coupler

Coupler design eliminates the need for the roll pin to connect to the actuator, saving time during assembly. Additionally, sensing targets are incorporated into the coupler meaning no extra accessories are needed when adding external proximity sensors.



Control Top Ready Actuator

Actuator design allows for a control top to be added to any standard actuator in the field without the need to change the actuator



Single Piece Actuator Bracket

Single piece bracket makes assembly fast and easy compared to two-piece designs



Prox-Ready Mounting Holes

Sensors can easily be added to any actuated valve without the need to purchase additional mounting hardware

B5107 Butterfly Valve Part Number Key

Dixon B5107 Butterfly Valve Part Number Key Example: B5107E050CC-A		Series	Seat Material	Valve Size	Connection End	Connection End	Actuator
		B5107	E	050	C	C	-A
Series	Code						
Two-piece body	B5107						
Seat Material	Code						
EPDM	E						
Silicone	S						
FKM	V						
Valve size	Code						
1/2"	050						
3/4"	075						
1"	100						
1-1/2"	150						
2"	200						
2-1/2"	250						
3"	300						
4"	400						
6"	600						
8"	800						
Connections (choose connection for each side of valve)	Code						
Clamp	C						
Weld	B						
Female I-Line	F						
Male I-Line	M						
Threaded bevel	T						
Plain bevel	P						
Q-Line	Q						
Actuation	Code						
*Manual handle - 4 position standard handle	-A						
*Manual handle - infinite position handle	-B						
*Manual handle - 13 position trigger handle	-C						
24VDC electric (power open/power close)	D						
110VAC electric (power open/power close)	E						
Normally open linear pneumatic vertical canister (cannot be used on valves over 4")	F						
Normally closed linear pneumatic vertical canister (cannot be used on valves over 4")	G						
Air to air linear pneumatic vertical canister (cannot be used on valves over 4")	H						
Air to air pneumatic rack and pinion stainless steel	J						
Normally closed pneumatic rack and pinion stainless steel	K						
Normally open pneumatic rack and pinion stainless steel	L						
Air to air pneumatic rack and pinion aluminum	M						
Normally closed pneumatic rack and pinion aluminum	N						
Normally open pneumatic rack and pinion aluminum	P						
Normally closed, dead man handle	Q						
220VAC electric (power open/power close)	R						

*NOTE: Only use a dash (-) in the part number if using a manual handle with no options, otherwise the dash is eliminated.

B5107 Butterfly Valve Part Number Key

Dixon B5107 Butterfly Valve Part Number Key (continued)		Control Unit / Feedback	Alt. Finish Option
Control Unit / Feedback	Code		
None	Blank	←	←
Only available to be used with the following actuation codes: C, F, G, and H			
10-30VDC 12mm external prox, PNP, open/close, (qty 2), flying leads	01		
10-30 VDC 12mm external prox, NPN, open/close, (qty 2), flying leads	02		
10-30VDC 12mm external prox, PNP, open, (qty 1), flying leads	03		
10-30VDC 12mm external prox, PNP, close, (qty 1), flying leads	04		
10-30 VDC 12mm external prox, NPN, open, (qty 1), flying leads	05		
10-30VDC 12mm external prox, PNP, open/close, (qty 2), M12 quick disconnect	06		
10-30 VDC 12mm external prox, NPN, open/close, (qty 2), M12 quick disconnect	07		
10-30VDC 12mm external prox, PNP, open, (qty 1), M12 quick disconnect	08		
10-30VDC 12mm external prox, PNP, close, (qty 1), M12 quick disconnect	09		
10-30 VDC 12mm external prox, NPN, open, (qty 1), M12 quick disconnect	10		
Only available to be used with the following actuation codes: F, G, and H			
Burkert 8691, single acting, DeviceNet, multipin	11		
Burkert 8691, single acting, AS-I, multipin	12		
Burkert 8691, single acting, 24VDC, multipin	13		
Burkert 8691, double acting, DeviceNet, multipin	14		
Burkert 8691, double acting, AS-I, multipin	15		
Burkert 8691, double acting, 24VDC, multipin	16		
Burkert 8691, without solenoid, 24VDC, multipin	17		
Burkert 8692 positioner, 24VDC, 4-20mA, multipin	18		
Only available to be used with the following actuation codes: A, J, K, L, M, N, and P			
Limit switch box, open/close Beacon, (2) SPDT mechanical switches	19		
Limit switch box, open/close Beacon, (2) proximity SPDT switches	20		
Limit switch box, open/close Beacon, AS-I interface	21		
Only available to be used with the following actuation codes: J, K, L, M, N, and P			
Rotary pneumatic positioner 3-15 PSI input, no feedback	22		
Rotary pneumatic positioner 3-15 PSI input, (2) SPDT mechanical switches for feedback	23		
Rotary pneumatic positioner 3-15 PSI input, 4-20mA for feedback	24		
Rotary electropneumatic positioner 4-20mA input, no feedback	25		
Rotary electropneumatic positioner 4-20mA input, (2) SPDT mechanical switches for feedback	26		
Rotary electropneumatic positioner 4-20mA input, 4-20mA for feedback	27		
Rotary electropneumatic positioner 0-10v input, no feedback	28		
Rotary electropneumatic positioner 0-10v input, (2) SPDT mechanical switches for feedback	29		
Rotary electropneumatic positioner 0-10v input, 4-20mA for feedback	30		
Single coil solenoid, 12VDC	31		
Single coil solenoid, 24VDC	32		
Single coil solenoid, 24VAC	33		
Single coil solenoid, 110VAC	34		
Single coil solenoid, 220VAC	35		
Single coil solenoid, 12VDC + option 19 limit switch	36		
Single coil solenoid, 12VDC + option 20 limit switch	37		
Single coil solenoid, 24VDC + option 19 limit switch	38		
Single coil solenoid, 24VDC + option 20 limit switch	39		
Single coil solenoid, 24VAC + option 19 limit switch	40		
Single coil solenoid, 24VAC + option 20 limit switch	41		
Single coil solenoid, 110VAC + option 19 limit switch	42		
Single coil solenoid, 110VAC + option 20 limit switch	43		
Single coil solenoid, 220VAC + option 19 limit switch	44		
Single coil solenoid, 220VAC + option 20 limit switch	45		
Limit switch box with integral solenoid, AS-i, 24VDC	46		
Aluminum prox ring with red poly tube indicator	47		
Alt. Finish Option	Code		
None	Blank		
25Ra mechanical	B		
20Ra mechanical	C		
15Ra electropolish	D		

