DIXON

The Right Connection®

B5107-Series Butterfly Valves

dixonvalve.com

Customer Service
800.789.1718

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
  - EPDM and silicone for valve sizes 1/2" to 4" have USP Class 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:
  - Standard stock finishes: $20R_a$, and $32R_a$
  - Special order finishes: $15R_a$, $25R_a$

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)

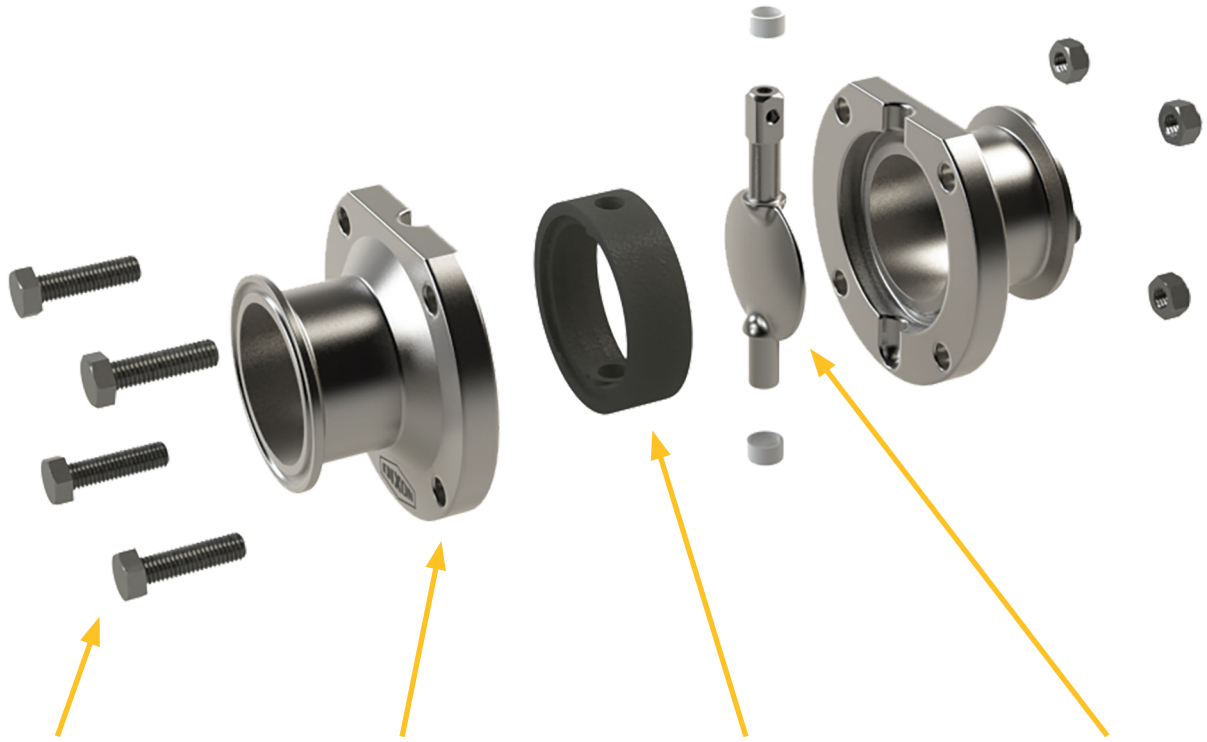
Valve Size	Break Torque (in-lbs.) Silicone	Break Torque (in-lbs.) EPDM	Break Torque (in-lbs.) FKM
1/2"	20	13	70
3/4"	20	13	70
1"	20	13	70
1-1/2"	35	20	125
2"	35	48	175
2-1/2"	133	98	220
3"	133	146	310
4"	266	341	450
6"	775	830	NA
8"	1106	1106	NA

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				$\Delta P = [\, GPM/C_v \,]^2\, G$				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

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 Class VI certification

Valve Disc

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

Pull Handle

4 position options

Infinite Handle

Full closed to full open position options

Trigger Handle

13 position options, lockable

B5107-Series Butterfly Valve

Actuation Coupler

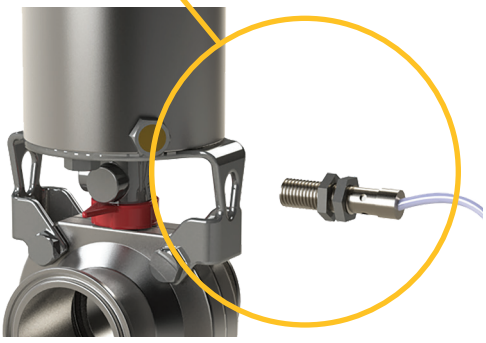
Coupler design eliminates the need for the roll pin to connect to the actuator, saving time during assembly. Additionally, sensing targets are incorporated into the coupler meaning no extra accessories are needed when adding external proximity sensors.

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	**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
Alt. Finish Option	**Code**
None	Blank
25Ra mechanical	B
20Ra mechanical	C
15Ra electropolish	D

The Right Connection®

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