

SKINNER 7000 Series

Anti-Water Hammer Two-Way Direct Lift and Pilot Operated Valves

SPECIFICATIONS

Mechanical Characteristics

Standard Materials of Construction

- Body—Brass
- Seals—NBR
- Sleeve Tube—Stainless Steel (303 or 304)
- Plunger—Stainless Steel (430FR)
- Shading Ring—Copper
- Stop—Stainless Steel (430FR)
- Springs—Stainless Steel (18-8)
- Pilot Orifice—Stainless Steel (303)

Compatible Fluids

- Water up to 185°F

Electrical Characteristics

Voltages

- DC—12, 24
- AC—24/60, 110/50-120/60, 208/60, 220/50-240/60, 440/50-480/60 (other AC/DC voltages available upon request)

Power Consumption

- 10, 22 watts
- Fluxtron* Electronic Coils and Magnelatch

Agency Approvals

- UL and CSA approvals are available on valves with applicable coil/enclosure combinations. For additional information see page 136.

Miscellaneous

Maximum Ambient Temperature

- 10 watt AC/DC—150°F
- 22 watt AC/DC—77°F
- Fluxtron*/Magnelatch—122°F

* Fluxtron coils not suitable for use on direct lift valves.

DIRECT LIFT BRASS VALVES—NORMALLY CLOSED, NBR SEALS

Pipe Size NPT	Orifice Size (inch)	Cv Factor	Operating Pressure Differential (PSI)				MAX.** Fluid Temp. (F)	Pressure Vessel Number	UL/CSA*** Approval	Const. Ref.	
			Min.*	Maximum							
				AC Ratings		DC Ratings					
				10 watt	22 watt	10 watt					22 watt
3/4"	19/32	5.5	0	230		100	185	7221GBN51NC0	SS	103	
1"	19/32	5.5	0	230		100	185	7221GBN61NC0	SS	103	
	1	11.7	0	230		85	185	7221GBN64NC0	SS	103	

PILOT OPERATED BRASS VALVES—NORMALLY CLOSED, NBR SEALS

Pipe Size NPT	Orifice Size (inch)	Cv Factor	Operating Pressure Differential (PSI)					MAX.** Fluid Temp. (F)	Pressure Vessel Number	UL/CSA*** Approval	Const. Ref.
			Min.*	Maximum							
				AC Ratings		DC Ratings					
				10 watt	22 watt	10 watt	22 watt				
3/8"	7/16	2.5	3	150		60	150	185	7321KBN3SNW0	SS	98
1/2"	7/16	2.5	3	150		60	150	185	7321KBN4SNW0	SS	98
3/4"	3/4	9.6	5	230		230		185	7321GBN53NMC	GP	109
1"	1	12.5	5	230		230		185	7321GBN64NMC	GP	109
1 1/4"	1 1/8	19.3	5	230		230		185	7321GBN76NMC	GP	109
1 1/2"	1 9/16	29.0	5	230		200	230	185	7321GBN88NMC	GP	109
2"	1 9/16	38.6	5	230		200	230	185	7321GBN99NMC	GP	109

PILOT OPERATED BRASS VALVES—NORMALLY OPEN, NBR SEALS

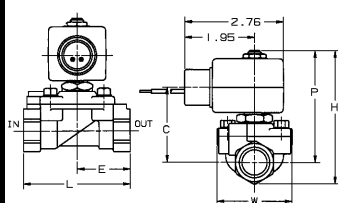
Pipe Size NPT	Orifice Size (inch)	Cv Factor	Operating Pressure Differential (PSI)					MAX.** Fluid Temp. (F)	Pressure Vessel Number	UL/CSA*** Approval	Const. Ref.
			Min.*	Maximum							
				AC Ratings		DC Ratings					
				10 watt	22 watt	10 watt	22 watt				
3/4"	3/4	9.6	5	230		230		185	7322GBN53NC0	GP	109
1"	1	12.5	5	230		230		185	7322GBN64NC0	GP	109
1 1/4"	1 1/8	19.3	5	230		230		185	7322GBN76NC0	GP	109
1 1/2"	1 9/16	29.0	5	170		170		185	7322GBN88NC0	GP	109
2"	1 9/16	38.6	5	170		170		185	7322GBN99NC0	GP	109

7000 Series Anti-Water Hammer Two-Way Direct Lift and Pilot Operated Valves

Response Time

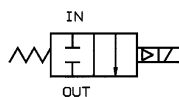
Valve Type	Opening Time Range (seconds)	Closing Time Range (seconds)
7221GBN51NC0	0.03	0.2-1.7
7221GBN61NC0	0.04-0.05	0.2-1.7
7221GBN64NC0	0.07-0.17	0.5-4.0
7321KBN3SNW0	0.015	0.85
7321KBN4SNW0	0.015	0.85
7321GBN53NMC	0.25-0.1	0.6-4.5
7321GBN64NMC	0.25-0.1	0.6-4.5
7321GBN76NMC	0.5-0.2	0.8-5.8
7321GBN88NMC	0.4-0.2	1.5-9.0
7321GBN99NMC	0.45-0.25	1.5-9.5
7322GBN53NC0	0.25-0.1	0.6-4.5
7322GBN64NC0	0.25-0.1	0.6-4.5
7322GBN76NC0	0.5-0.2	0.8-5.8
7322GBN88NC0	0.4-0.2	1.5-9.0
7322GBN99NC0	0.45-0.25	1.5-9.5

DRAWINGS

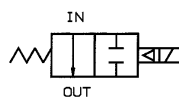


Valve	Dimension				
	H	P	C	L	W
7321GBN53XXX	4.75	3.86	2.84	3.94	2.75
7322GBN53XXX	4.75	3.86	2.84	3.94	2.75
7321GBN64XXX	4.75	3.86	2.84	3.94	2.75
7322GBN64XXX	4.75	3.86	2.84	3.94	2.75
7321GBN76XXX	5.41	4.11	3.09	4.33	2.75
7322GBN76XXX	5.41	4.11	3.09	4.33	2.75
7321GBN88XXX	5.66	4.37	3.35	5.51	3.90
7322GBN88XXX	5.66	4.37	3.35	5.51	3.90
7321GBN99XXX	6.25	4.60	3.58	5.91	3.90
7322GBN99XXX	6.25	4.60	3.58	5.91	3.90

"X" denotes multiple digit combinations for brevity.



NORMALLY CLOSED

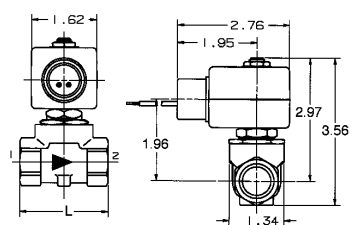


NORMALLY OPEN

Port Identification: Flow arrow on body indicates flow direction—ports are not marked.

#109

DRAWINGS

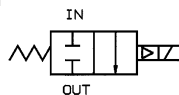
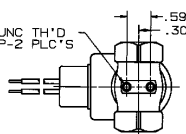


Valve	Dimension			
	H	P	C	L
7321KBN4SXXX	3.56	2.97	1.96	2.17
7321KBN2RXXX	3.56	2.97	1.96	1.97
7321KBN3SXXX	3.56	2.97	1.96	1.97

"X" denotes multiple digit combinations for brevity.



*10-24 UNC TH'D
X .22 DP-2 PLCT'S



Port Identification: Flow arrow on body indicates flow direction—ports are not marked.

#98

Valve	Dimension					
	H	P	C	L	W	
7221GBN51XXX	3.75	3.07	2.06	3.15	2.09	
7221GBN61XXX	4.03	3.15	2.12	3.35	2.09	
7221GBN64XXX	4.25	3.35	2.34	3.94	2.75	

"X" denotes multiple digit combinations for brevity.

Port Identification: Flow arrow on body indicates flow direction—ports are not marked.

#103

- * Direct Lift valves will open at zero differential pressure, however, full flow through the valve will not be safely achieved. If full flow is required at near zero differential pressure, consult Skinner. Pilot operated valves require the minimum pressure differential specified for proper valve operation.
- **Maximum fluid temperatures are provided for Class F coils. Valves with FKM seals (letter 'V' in 10th position of pressure vessel number) can be used at fluid temperatures up to 250°F on DC and 250°F on AC provided a Class H coil is used. Pressure ratings may be reduced, however. Consult factory for details.
- ***UL/CSA Approval Information: SS= Safety Shutoff GP=General Purpose Blank = Not Approved See page 136 for additional agency information.
- NOTE: Mechanical Options indicated in pressure vessel catalog number (eleventh and twelfth digits) are as follows: C0=four-step adjustable closing, MC>manual override with four-step adjustable closing, W0=non-adjustable control.