

2-Way

Anti-Water Hammer & Slow Closing Valves

3/8" - 2" NPT



2-Way

General Description:

2-way Anti-Water Hammer and Slow Closing valves are designed for liquid applications where the installation is susceptible to shock waves caused by the abrupt closing of the valves. Anti-water hammer valves have integral speed control so that the valve closes in a more controlled and slower manner, thus eliminating the shock to the system piping. Pilot operated valves require the minimum pressure differential specified for proper valve operation.

Installation

Valves should be mounted with solenoid coils vertical and upright.

Standard Materials of Construction

Please refer to page A80

Compatible Fluids

Water, hydraulic fluids and other non-compressible media.

Electrical Characteristics:

Standard Voltages:

AC – 24/60

120/60–110/50

240/60–220/50

DC – 12, 24 & 120

For other voltages – consult factory



Coil Classification:

Class F standard

Class H available

Agency Approvals:

Standard valves with NEMA 4X or explosion proof solenoid enclosures are UL Listed and CSA Certified. For additional details, consult factory

Maximum Ambient Temperature

150°F

Please refer to page A80 for details.

Applications:

- Used in applications on water or other non-compressible liquids where normal operation may cause a 'water hammer' effect which results in shockwaves to the system that can damage the piping or other components.

2-Way Pilot Operated - Anti-Water Hammer - Normally Closed - Brass

Port Size NPT	Orifice Size in.	Flow Factor Cv	Operating Pressure Differential (MOPD) PSI		Watt	Max. Media Temp. °F	Seal	Pressure Vessel Number**	Reference	
			Min.	Water and other non-compressible media					Coil	Valve

AC TECHNICAL SPECIFICATIONS

3/8	7/16	2.5	3	150	10	185	NBR	7321KBN3SNW0	7	A66
1/2	7/16	2.5	3	150	10	185	NBR	7321KBN4SNW0	7	A66
3/4	19/32	5.5	0	230	10	185	NBR	7221GBN51NC0*	7	A67
3/4	25/32	9.6	5	230	10	185	NBR	7321GBN53NMC	7	A68
1	1	12.5	5	230	10	185	NBR	7321GBN64NMC	7	A68
1	1	11.7	0	230	10	185	NBR	7221GBN64NC0*	7	A67
1 1/4	1 1/8	19.3	5	230	10	185	NBR	7321GBN76NMC	7	A68
1 1/2	1 9/16	29.0	5	230	10	185	NBR	7321GBN88NMC	7	A68
2	1 9/16	38.6	5	230	10	185	NBR	7321GBN99NMC	7	A68

DC TECHNICAL SPECIFICATIONS

3/8	7/16	2.5	3	150	22	185	NBR	7321KBN3SNW0	8	A66
3/8	7/16	2.5	3	60	10	185	NBR	7321KBN3SNW0	7	A66
1/2	7/16	2.5	3	150	22	185	NBR	7321KBN4SNW0	8	A66
1/2	7/16	2.5	3	60	10	185	NBR	7321KBN4SNW0	7	A66
3/4	3/4	9.6	5	230	10	185	NBR	7321GBN53NMC	7	A68
3/4	19/32	5.5	0	100	22	185	NBR	7221GBN51NC0*	8	A67
1	1	12.5	5	230	10	185	NBR	7321GBN64NMC	7	A68
1	1	11.7	0	85	22	185	NBR	7221GBN64NC0*	8	A67
1 1/4	1 1/8	19.3	5	230	10	185	NBR	7321GBN76NMC	7	A68
1 1/2	1 9/16	29.0	5	230	22	185	NBR	7321GBN88NMC	8	A68
1 1/2	1 9/16	29.0	5	200	10	185	NBR	7321GBN88NMC	7	A68
2	1 9/16	38.6	5	230	22	185	NBR	7321GBN99NMC	8	A68
2	1 9/16	38.6	5	200	10	185	NBR	7321GBN99NMC	7	A68

* These are direct lift valves that will open at zero pressure differential, but not fully open until approximately 5 psi differential is achieved.

** 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



2-Way Pilot Operated - Anti-Water Hammer - Normally Open - Brass

Port Size NPT	Orifice Size in.	Flow Factor Cv	Operating Pressure Differential (MOPD) PSI		Watt	Max. Media Temp. °F	Seal	Pressure Vessel Number**	Reference	
			Min.	Water and other non-compressible media					Coil	Valve

AC TECHNICAL SPECIFICATIONS

3/4	25/32	9.6	5	230	10	185	NBR	7322GBN53NC0	7	A68
1	1	12.5	5	230	10	185	NBR	7322GBN64NC0	7	A68
1 1/4	1 1/8	19.3	5	230	10	185	NBR	7322GBN76NC0	7	A68
1 1/2	1 9/16	29.0	5	170	10	185	NBR	7322GBN88NC0	7	A68
2	1 9/16	38.6	5	170	10	185	NBR	7322GBN99NC0	7	A68

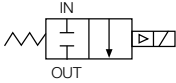
DC TECHNICAL SPECIFICATIONS

3/4	25/32	9.6	5	230	10	185	NBR	7322GBN53NC0	7	A68
1	1	12.5	5	230	10	185	NBR	7322GBN64NC0	7	A68
1 1/4	1 1/8	19.3	5	230	10	185	NBR	7322GBN76NC0	7	A68
1 1/2	1 9/16	29.0	5	170	10	185	NBR	7322GBN88NC0	7	A68
2	1 9/16	38.6	5	170	10	185	NBR	7322GBN99NC0	7	A68

****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**

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

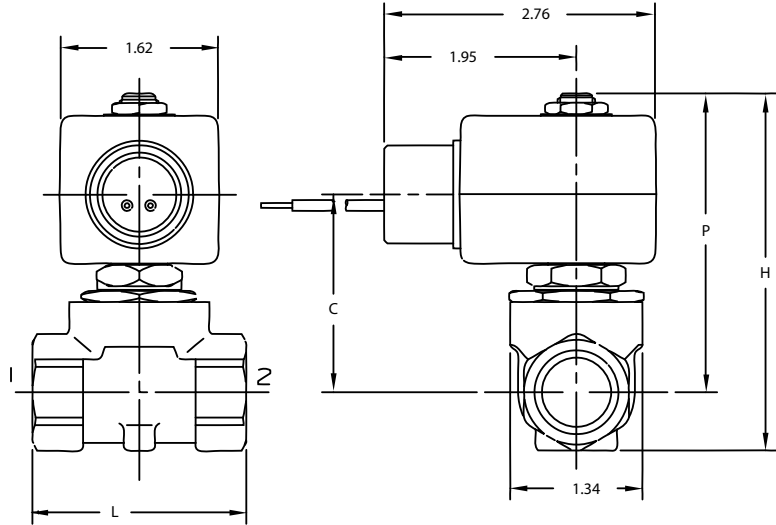
Valve Reference A66



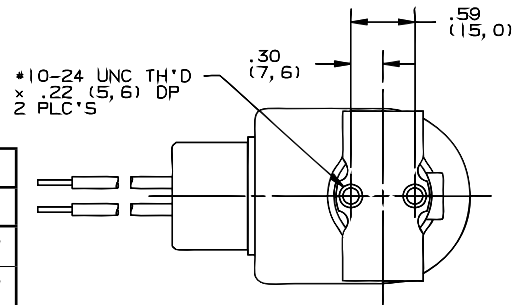
2-Way Normally Closed

Port Identification:

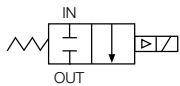
Flow arrow on body
indicates flow direction
ports are not marked



Valve	Dimensions			
	H	P	C	L
7321KBN3SNW0	3.56	2.97	1.96	2.17
7321KBN4SNW0	3.56	2.97	1.96	1.97



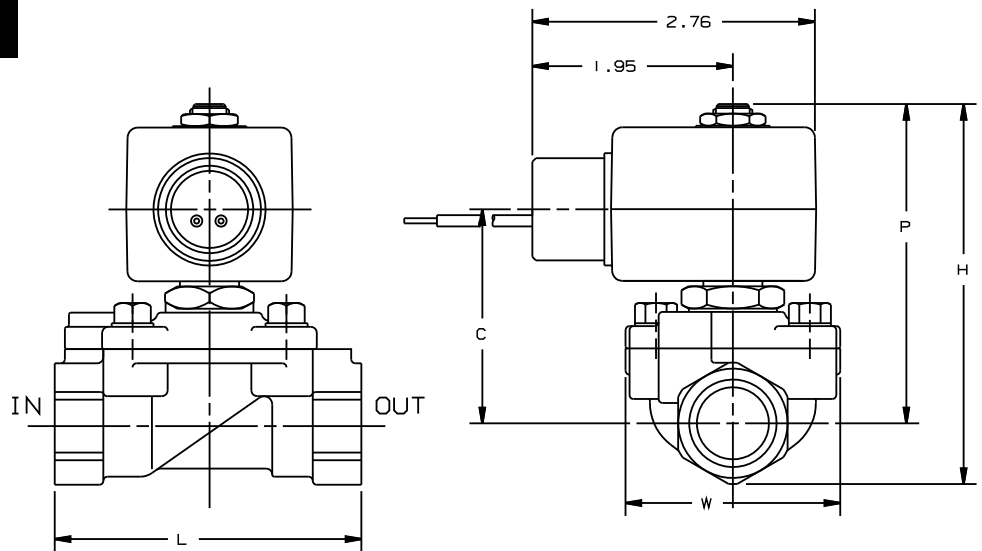
Valve Reference A67



2-Way Normally Closed

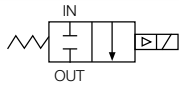
Port Identification:

Flow arrow on body
indicates flow direction
ports are not marked

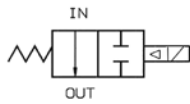


Valve	Dimensions				
	H	P	C	L	W
7221GBN51XXX	3.75	3.07	2.06	3.15	2.09
7221GBN64XXX	4.25	3.35	2.34	3.94	2.75

Valve Reference A68

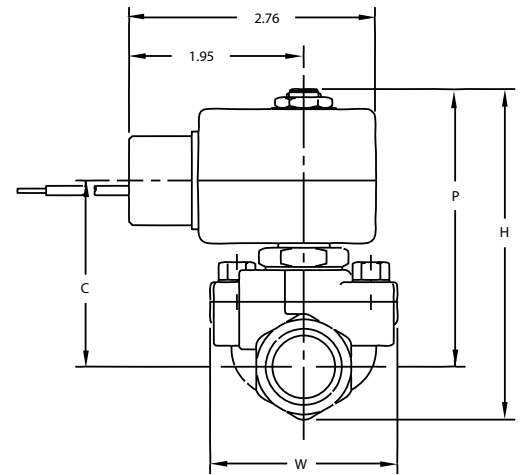
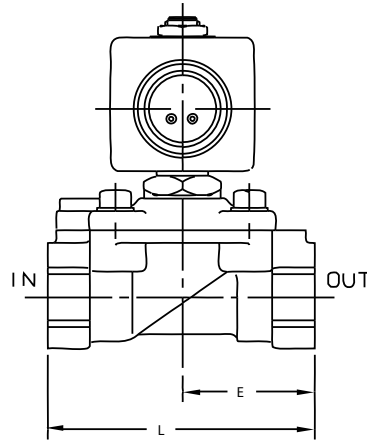


2-Way Normally Closed
7321GBNxx



2-Way Normally Open
7322GBNxx

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



2-Way

Valve	Dimensions					
	H	P	C	L	E	W
7321GBN53NMC 7322GBN53NCO 7321GBN64NMC 7322GBN64NCO	4.75	3.86	2.84	3.94	1.97	2.75
7321GBN76NMC 7322GBN76NCO	5.41	4.11	3.09	4.33	2.17	2.75
7321GBN88NMC 7322GBN88NCO	5.66	4.37	3.35	5.51	2.95	3.90
7321GBN99NMC 7322GBN99NCO	6.25	4.60	3.58	5.91	3.15	3.90

2-Way Pilot Operated Anti-Water Hammer-Materials of Construction**

Product*	Watt	Type	Port Size	Body	Sleeve Tube	Sleeve Stop	Sleeve Flange	"Plunger Blank"	Plunger Spring	Shading Ring	Max. Ambient Temp.
7221GBN	10	2WNC	3/4	Brass	304SS	430FR	430F	430FR	301SS	Copper	150°F
7221GBN	22	2WNC	3/4	Brass	304SS	430FR	430F	430FR	301SS	Copper	77°F
7321GBN	10	2WNC	3/4 - 2	Brass	304SS	430FR	430F	430FR	18-8SS	Copper	150°F
7321GBN	22	2WNC	3/4 - 2	Brass	304SS	430FR	430F	430FR	18-8SS	Copper	77°F
7321KBN	10	2WNC	3/8 - 1/2	Brass	304SS	430FR	430F	430FR	18-8SS	Copper	150°F
7321KBN	22	2WNC	3/8 - 1/2	Brass	304SS	430FR	430F	430FR	18-8SS	Copper	77°F
7322GBN	10	2WNO	3/4 - 2	Brass	304SS	430FR	430F	430FR	301SS	Copper	150°F
7322GBN	22	2WNO	3/4 - 2	Brass	304SS	430FR	430F	430FR	301SS	Copper	77°F

* Shows the first 7 digits of the pressure vessel part number.

**Maximum ambient temperature shown is the rating when valve is operating at the maximum fluid temperature as shown in the product sections for each of the valves in this catalog.

Notes