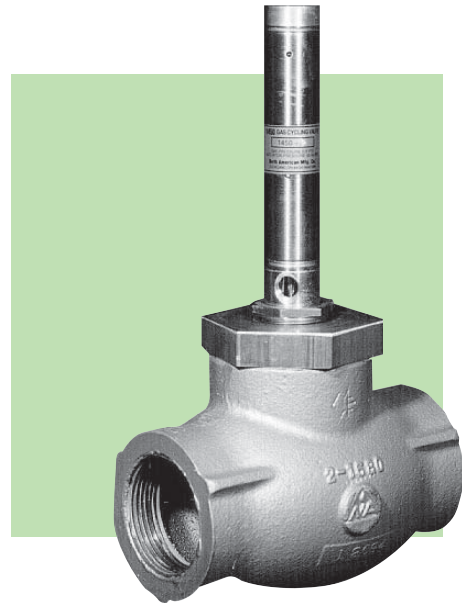


The 1450 pneumatic gas cycling valve is designed primarily for rapid cycling applications in rugged industrial environments. The valve is ideal for regenerative burners where the ambient temperatures are high and a long life is desired. The rugged reliability of the 1450 is achieved through a combination of good design practice and the use of quality components, verified by performance testing in the lab as well as under realistic industrial conditions. The air cylinder rod is lubricated using a solid lubricant, which eliminates the need for periodic lubrication, minimizes air cylinder leakage, and makes the 1450 virtually maintenance free.

The valve is normally-closed (via a spring force). Opening is achieved using a pneumatically-actuated cylinder. Pneumatic actuation offers significant advantages over electrical actuation as far as overall furnace control schemes. With pneumatic actuation, manifolds (such as North American's 8663) could be used to achieve a variety of combinations of opened and closed fuel, air, and exhaust valves, that would otherwise be impossible or tedious to implement using electrical actuation. Almost any conceivable control strategy could be implemented simply and reliably.

Although the 1450 is not a shutoff valve, leakage of zero bubbles per minute is typical, even after 5 million cycles of operation under high temperature.



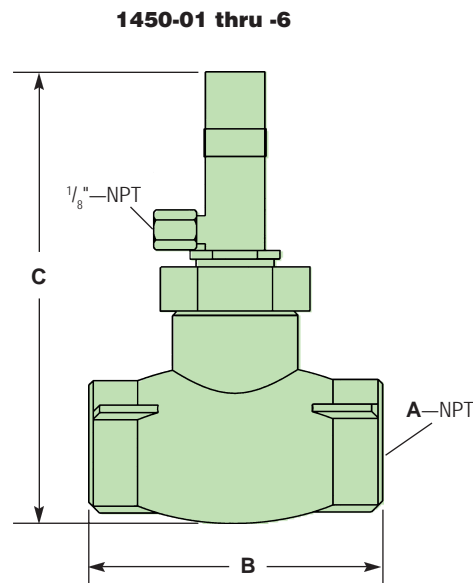
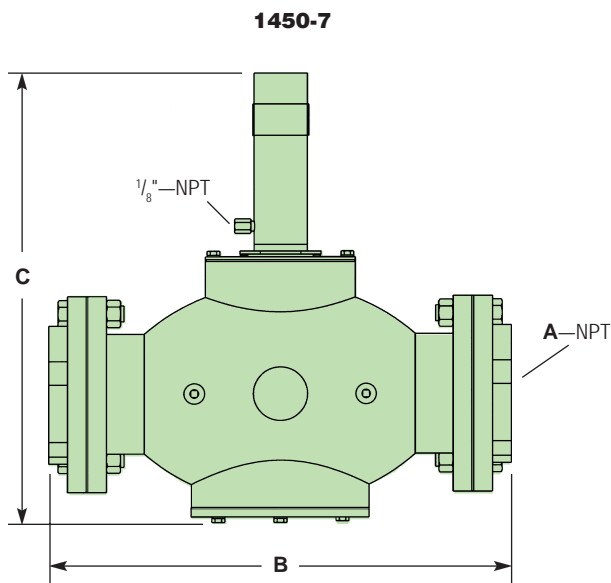
The 1450 could be used on air as well as natural gas. For use with other fluids, please consult North American's Flow Control Business Group.

## SPECIFICATIONS

Maximum inlet pressure	5 psig
Compressed air	45-70 psig
Maximum ambient temperature	200 F
Materials:	
Actuator	Stainless steel
Elastomers	Buna-N, Viton
Valve body	Cast iron
Internals	Brass, steel, stainless steel
Cycles to failure	>5 million (50% duty cycle, 1 cycle/sec, 180 F)
Duty cycle	0-100%
Maximum cycle rate	1 cycle/sec

## DIMENSIONS

inches



Valve designation	A	B	C	Flow w/1"wc pressure drop (scfh natural gas)	Actuator volume, in. <sup>3</sup>	Wt, lb
1450-01	1/2	3 1/4	6 1/4	175	.123	1 1/2
1450-0	3/4	3 3/8	7 1/4	280	.244	1 3/4
1450-1	1	4 1/4	8 1/4	488	.576	2
1450-2	1 1/4	4 7/8	8 5/8	751	.580	5
1450-3	1 1/2	5 1/4	9 1/4	1314	.684	6 1/2
1450-4	2	5 7/8	8 3/4	1814	.582	9
1450-5	2 1/2	7 3/4	12 1/4	2281	2.454	16
1450-6	3	9 3/4	15 1/2	4332	4.418	26
1450-7	4	17 3/8	18 1/4	5967	7.854	71

## INSTRUCTIONS

### Installation:

All valve connections are NPT. Valve may be mounted in any position. Cylinder sub-assembly may be easily replaced in the field without removing the valve body from the piping. Compact valve profile minimizes space required for installation.

### Ordering:

Specify product number, size, and any options.

*Example:* 1450-2 (1450 pneumatic gas cycling valve, 1 1/4" NPT connections)

DIMENSIONS SHOWN ARE SUBJECT TO CHANGE. PLEASE OBTAIN CERTIFIED PRINTS FROM FIVES NORTH AMERICAN COMBUSTION, INC.  
IF SPACE LIMITATIONS OR OTHER CONSIDERATIONS MAKE EXACT DIMENSION(S) CRITICAL.

**WARNING:** Situations dangerous to personnel and property may exist with the operation and maintenance of an combustion equipment. The presence of fuels, oxidants, hot and cold combustion products, hot surfaces, electrical power in control and ignition circuits, etc., are inherent with any combustion application. Parts of this product may exceed 160F in operation and present a contact hazard. Fives North American urges compliance with National Safety Standards and insurance Underwriters recommendations, and care in operation.

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