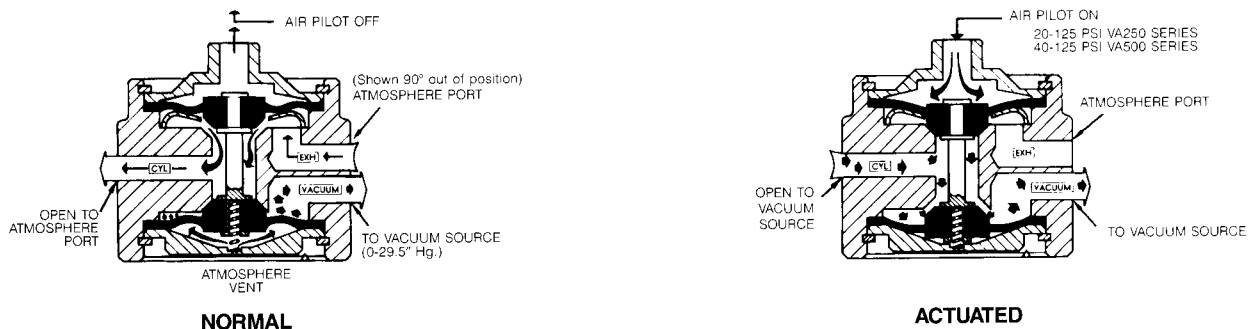


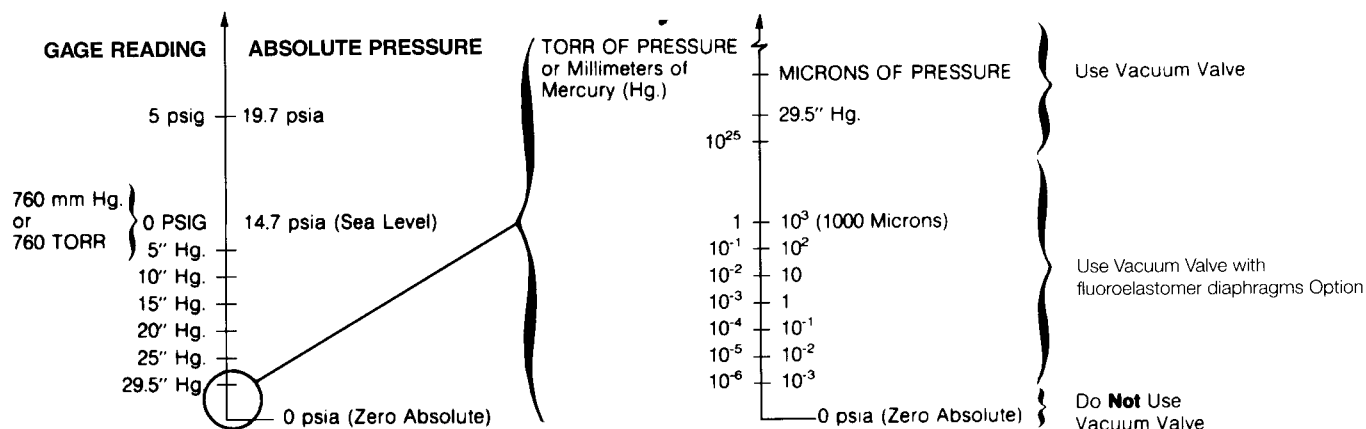
Humphrey® Air and Vacuum Piloted Vacuum Valves

Humphrey air and vacuum piloted valves are 2-position, 2-way or 3-way, normally closed only valves which require no lubrication, withstand contamination, and will not stick. They have no sliding seals subject to cutting and no metal seals subject to scratching. Full orifice throughout. For dimensions and other basic features, please consult equivalent model numbers (less VA- or VV-prefix) in the Air-Piloted Valves section of this catalog.



This principle is employed in all Prefix "VA" piloted valves rated 0-29.5 inches Hg. For vacuums exceeding 29.0 inches Hg., order valves with fluoroelastomer diaphragms.

General Vacuum Information



Humphrey Air and Vacuum Piloted Vacuum Valves

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VA125A

Model VA125A is a full 0.125 inch orifice, air-piloted valve with spring and vacuum return. It requires an air pilot of 20 to 125 psig. Connections are 1/8 inch NPT.



VA250A

Model VA250A is a full 0.250 inch orifice, air-piloted valve with spring- and vacuum-return. It requires an air pilot of 20 to 125 psig. Connections: 1/4-inch NPT.



VA500A

Model VA500A is the 0.500 inch orifice version of the VA250A valve but is furnished with brass body and requires an air pilot pressure of 40 to 125 psig.



VA590A

Model VA590A is the 0.625 inch orifice version of the VA500A valve but is furnished with an anodized aluminum body and 3/4-inch NPT connections.



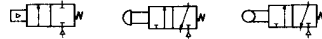
Humphrey® Cartridge Insert Valves

Humphrey cartridge insert valves are 2-way or 3-way valves specifically designed for incorporation into OEM products to become a proprietary and unrecognizable component of these products. Cartridge insert valves are available in 0.125-inch, 0.250-inch, and 0.500-inch orifice sizes for manual, mechanical, or air pilot actuation, and for normally closed or normally open functions in pressure ranges from 0-125 psig.



Y125IN
Model Y125IN is a full 0.125-inch orifice, 3-way, normally closed or normally open valve with captured exhaust. Normally closed or normally open functions are determined by selection of IN and EX-HAUST manifold connections. Actuation is typically air pilot, manual, or mechanical.

Y250IN **Y500IN**
Models Y250IN and Y500IN are identical to the Y125IN valve but have full 0.250-inch and 0.500-inch orifices respectively.



125INL
Model 125INL is a full 0.125 inch orifice, 2 or 3 way, normally closed or normally open valve with capturable exhaust. No lubrication is required. Actuation is typically air pilot, manual, or mechanical.

250IN
Model 250IN is a full 0.250 inch orifice, 2 or 3 way, normally closed or normally open valve with capturable exhaust. No lubrication is required. Actuation is typically air pilot, manual, or mechanical.

Specifications

Y Series

MEDIA: Compressed Air
PRESSURE RANGE: 0 to 125 psig (0 to 8.6 bars)
PILOT PRESSURE RATIO: (All models) 1 to 30 psig (.07 to 2 bars) use minimum of 30 psig (2 bars) pilot. For valved pressure above 30 psig the following pilot pressure (% of valved pressure) will operate the valve:
Normally closed, 85% Normally open, 75%

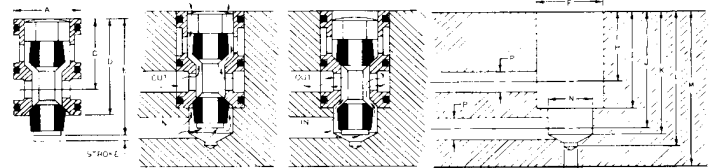
TEMPERATURE RANGE: -10 to 225°F (-23.0 to 107.2°C)
MATERIALS: Anodized Aluminum, Buna N
LUBRICATION: Not required

Weight

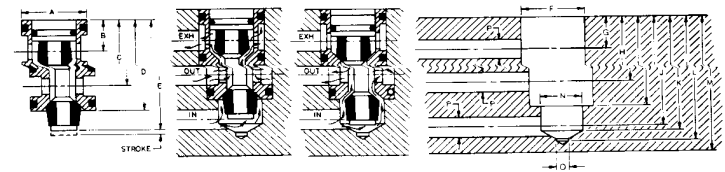
MODEL	CFM	ACTUAL OUNCES	GRAMS
Y125IN	Mult. psi. by 0.15	.25	7.1
Y250IN	Mult. psi. by 0.50	.75	21.2
Y500IN	Mult. psi. by 1.90	3.60	102.0

125INL and 250IN: Refer to operating specifications of corresponding models 125A and 250A.

W SERIES



Y SERIES



W and Y Series Valve Dimensions

MODEL	STROKE	A	B	C	D	E	ORIFICE
Y125IN	.031	.500	.328	.703	1.000	1.125	.125
Y250IN	.063	.750	.406	.844	1.156	1.375	.250
Y500IN	.125	1.375	.625	1.406	1.906	1.875	.500

W and Y Series Cavity Dimensions

MODEL	F	G*	H	I †	J	K	L	M	N	O	P
Y125IN	.500/.503	.328	.703	1.000	1.156	1.187	1.296	1.500	.375	.187	.125
Y250IN	.750/.753	.406	.843	1.156	1.406	1.437	1.625	1.875	.625	.156	.250
Y500IN	1.375/1.378	.625	1.406	1.906	2.343	2.437	3.187	3.500	1.000	.406	.500

NOTE: Ports (letter "P") do not require same vertical plane, as shown, but may be rotated axially about valve cavity (letter "F") in horizontal plane as dimensioned.
*Add 0.010" to insure valve's complete insertion into cavity.
†Omit on "W" Series. For Overtravel, add 0.030" to dimension "I".



Y125IN, Y250IN, Y500IN, 125INL, 250IN

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Humphrey Glue Valves

Humphrey glue valves are 2-way, double air-piloted valves with a full 0.125-inch or 0.250-inch orifice. They are simply and reliably constructed with only two flexing diaphragms and no sliding seals. Humphrey glue valves are self-cleaning since there are no pockets in which glue can collect. They have positive "open" and "close" with no dripping due to the volume under the top solid diaphragm which sucks the glue back into the valve upon closing.

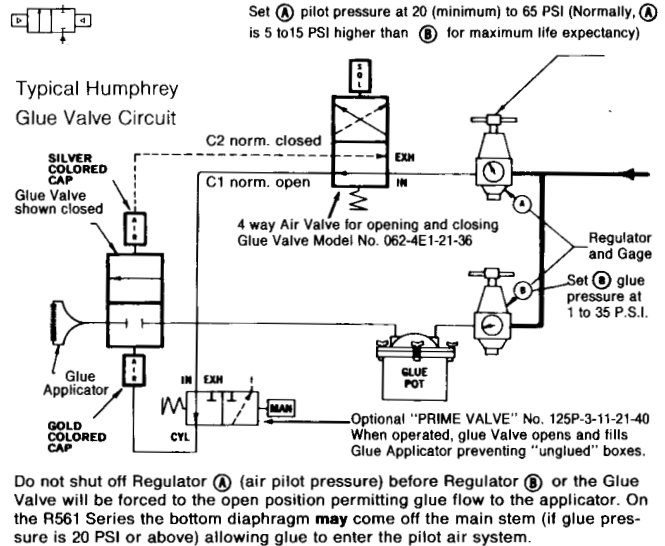
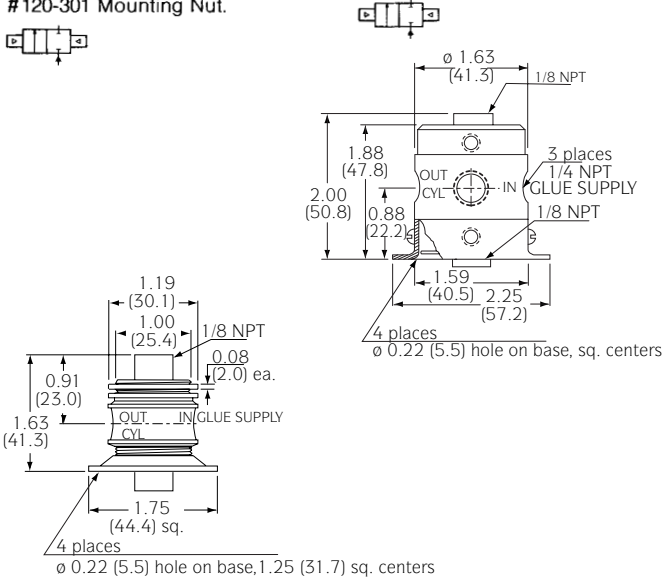


R561
Model R561 glue valve has a full 0.125-inch orifice and, with diaphragms featuring a 0.010" Teflon® profile, is unaffected by almost all chemical solvents. Order mounting hardware separately: #8-10 Mounting Base; #120-301 Mounting Nut.

R332C
Model R332C is identical to the R561 glue valve but has fluoro-elastomer diaphragms for handling glues with a water or mild-chemical base. Order mounting hardware separately: #8-10 Mounting Base; #120-301 Mounting Nut.

R332
Model R332 glue valve features a full 0.250-inch orifice and fluoro-elastomer diaphragms for handling glues with a water or mild chemical base. Teflon profile diaphragms are not available for R332 or other 0.250-inch orifice valves. Order mounting hardware separately: #8-20A Mounting Base.

Note: Glue valves may become "stiff" at temperatures of 40°F (4.4°C) or below, because of the stiffness of the diaphragms. This condition can be corrected by increasing pilot pressure somewhat, but always keep both glue and pilot pressures at a minimum for maximum reliability.



Do not shut off Regulator (A) (air pilot pressure) before Regulator (B) or the Glue Valve will be forced to the open position permitting glue flow to the applicator. On the R561 Series the bottom diaphragm may come off the main stem (if glue pressure is 20 PSI or above) allowing glue to enter the pilot air system.

HOW TO SELECT THE RIGHT GLUE VALVE

The 1/8" R332 Series or 1/4" R332 Series valve will handle most glue applications with a water or mild chemical solvent base. However, some strong chemical solvents (ketones, acetones and low molecular weight esters and ethers) may cause the fluoroelastomer diaphragms to swell and a gradual reduction in the glue flow would be an indication of this condition. Increasing the glue pressure would accelerate the swelling of the fluoroelastomer diaphragms under such conditions. Most "HOT" glue applications (to 350°F) are suitable for these valves. Five to seven million cycles should be expected, if used in accordance with the specifications.

The 1/8" R561 Series glue valve is unaffected by almost all chemical solvents and thus resists swelling except in the most extreme applications. This valve incorporates 0.010" thick Teflon bonded to a Buna "N" (never exposed to the glue) diaphragm. Five to seven million cycles should be expected, if used in accordance with the specifications.

All of the glue valves may become "stiff" at temperatures of 40°F, or below due to stiffness of the diaphragms. Increasing the pilot air will correct this condition.

Always keep the glue and pilot air pressures at a minimum and these valves will provide excellent reliability.

Humphrey® Vacuum Valves

Order Information

Air/Vacuum Piloted Vacuum Valves
 1/8-, 1/4-, 1/2-, 3/4-inch ports, 2-way, 3-way

VALVES

	2 Way	3 Way	Normally Closed	Normally Open	w/Out Mount. Base	With Mount. Base	FKM+ Seals	Brass Body
Option Code	2	3	10	11	20	21	w/VAI	w/BRB
Model VA125A	SP	N/C	N/C	NA	STD	SP	SP	SP
VA250A	SP	N/C	N/C	NA	STD	SP	SP	SP
VA500A	SP	N/C	N/C	NA	NA	STD	SP	STD
VA590A	SP	N/C	N/C	NA	NA	STD	SP	SP

HOW TO ORDER *Fluoroelastomer

Starting with Model Number specify options in order from left to right.

Example: To Order Model VA125A-3-10-21

3-Way Operation (VA125-3)
 Normally Closed (VA125-3-10)
 With Mounting Base (VA125-3-10-21)

Remember: Option Codes marked STD and NA are not used as part of the Model Number when ordering. N/C indicates no charge but Option Code must be included in the Model Number. OS indicates that Option must be ordered separately and is not used as part of the Model Number.

N/C = No charge
 NA = Not available
 OS = Order separately, additional charge for this option
 STD = Standard
 SP = Specify, additional charge for this option

Humphrey® Insert/Glue Valves

Order Information

Insert Valves
 1/8-, 1/4-, 1/2-inch, 2-way, 3-way

“Y” SERIES

	Fluoroelastomer Seals
Option Code	w/VAI
Model Y125IN	SP
Y250IN	SP
Y500IN	SP

Order example: Y250IN
 SP = Specify

Glue Valves
 1/8-, 1/4-inch, 2-way

	Description
Model R322C	1/8" Valve w/fluoroelastomer diaphragms*
R561	1/8" Valve w/Teflon Profile Diaphragms*
R332	1/4" Valve w/fluoroelastomer diaphragms

Order example: R561
 *Order mounting accessories separately.

R561, R332C, R332

10/22/97