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Title: Y125IN, Y250IN, Y500IN, 125INL, 250IN Insert Valves

ISO Date: April 10, 2006

Don't Take Chances

Compressed air is an extremely powerful medium. Always take maximum precautions when handling any component of a compressed air system. **Never** attempt to construct, replace, operate or service any component of a compressed air system unless you have been specifically and properly trained to do so. **Always** disconnect the supply air, and exhaust the air system before attempting to remove or service a component of that system. Failure to heed these warnings could result in SERIOUS, EVEN FATAL, PERSONAL INJURY.

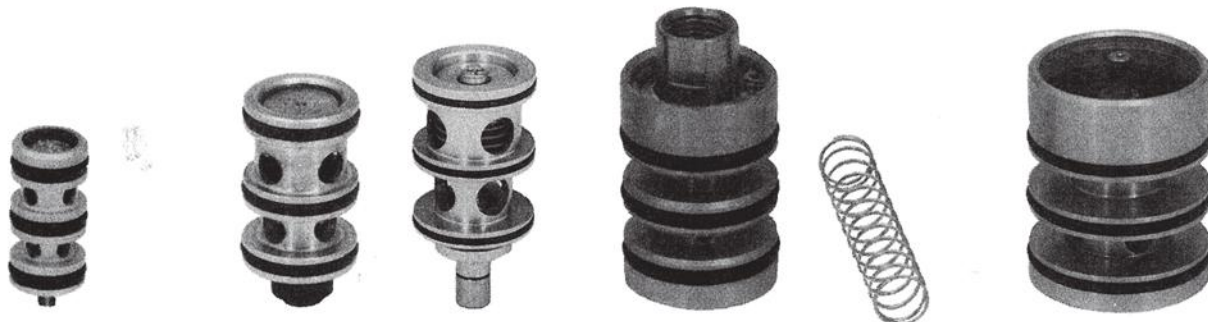
Design And Specifications

The design and specifications and other product information contained in this catalog is for general reference purposes based upon customary and usual manufacturing standards and product applications. However, it is difficult to predict or to anticipate the functioning or suitability of the product for any particular application or use. Therefore, nothing herein shall be deemed a representation or warranty of the product design or specifications and Buyer shall have the responsibility for investigating and testing the product in any particular application or use and all risks attendant in such use.

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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.

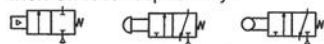


Y125IN

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

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



Y500IN

125INLA

Model 125INLA 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%

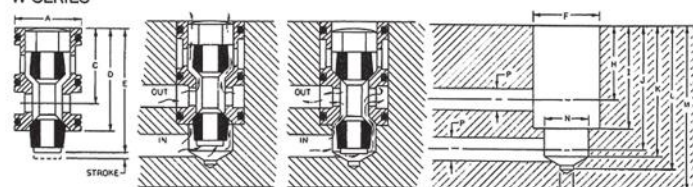
TEMPERATURE RANGE:
-10 to 225°F (-23.0 to 107.2°C)
MATERIALS:
Anodized Aluminum, Buna N
LUBRICATION Not required

Weight

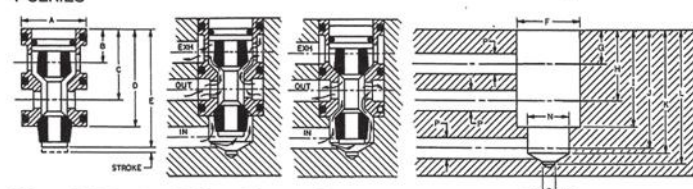
MODEL	CFM	ACTUAL OUNCES	GRAMS
Y125IN	Mult. psi. by 0.15	.25	7.1
Y250IN	Mult. psi. by 0.50	.75	21.2
Y500IN	Mult. psi. by 1.90	3.60	102.0

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

W SERIES



Y SERIES



W and Y Series Valve Dimensions

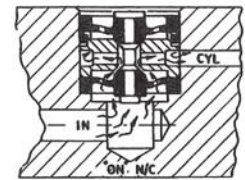
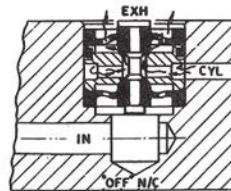
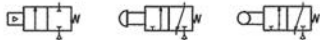
MODEL	STROKE	A	B	C	D	E	ORIFICE
Y125IN	.031	.500	.328	.703	1.000	1.125	.125
Y250IN	.063	.750	.406	.844	1.156	1.375	.250
Y500IN	.125	1.375	.625	1.406	1.906	1.875	.500

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".

Model 125INS is a full 0.125-inch orifice, 2-way or 3-way, normally closed valve requiring no lubrication. Actuation is typically air pilot, manual, or mechanical.



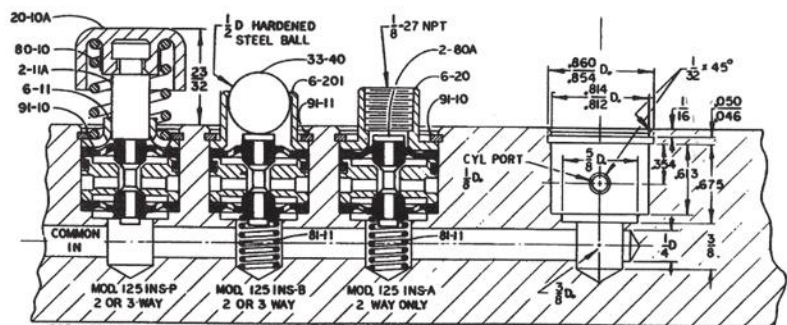
Pressure entering bottom of valve holds valve in closed position with bottom diaphragm seated. Force on top of main stem unseats bottom diaphragm and lowers top diaphragm into its conical seat, sealing off exhaust. Air flows

through perforations in bottom diaphragm, past seat, and out the cross-drilled "CYL" port. 3-Way valve exhausts through perforated top diaphragm. 2-Way has solid top diaphragm.

Shown without actuator
spring which is furnished.

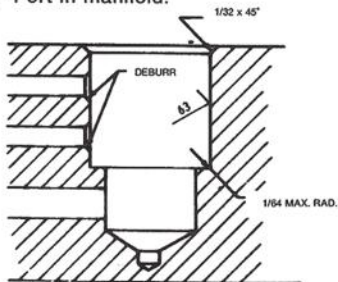
Pressure Range..... 0 to 125 PSI
Temperature Range 0°F to +225°F
Internal Orifice Size..... 0.125"
Flow Characteristics .. Multiply psi x 0.22
LubricationNone Required
Valve Body.....Anodized Aluminum
Diaphragms and O-RingsBuna 'N'
Weight......25 oz. (7.1 gms.)

For deviation from specifications consult factory.



FOR ACTUATOR DIMENSIONS REFER TO CORRESPONDING 125 MODEL/S

**For 2-way, omit drilling
"EXH" Port in manifold.**



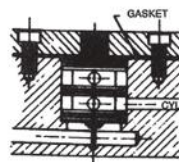
TOLERANCES: DECIMAL 0.005
FRACTIONAL 1/64

A cross-sectional diagram of a screw-in type plug assembly. The assembly consists of a central plug with a threaded section at the top. A retaining ring is positioned around the plug, secured by a set screw. A screw head is shown at the top of the plug, with a curved arrow indicating its rotation. The plug is shown being inserted into a hole in a material, with an arrow labeled 'IN' indicating the direction of insertion.

For max. flow, align valve and manifold port.
Manifold porting complexities may reduce flow.



AIR PILOT



EXH

CYL N.C.

BASKET

CYL N.O.

CUSTOM PART

EXH

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	STD = Standard
NA = Not available	SP = Specify, additional
OS = Order separately, additional charge for this option	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.