Cryogenic Valves

Cryocomp valves are available in 1/4" tube through 2" pipe size weld ends, manual or actuated function. Our valves are also available in 3 different body configurations, globe, right angle or y-pattern. Accessories and options increase the capabilities and performance of our high quality valves.

C2000 Valve Series Pipe Size Manual and Actuated

C2000 Series
Manual YPattern Valve

C2000 Series
Manual Globe Valve

C2000 Series
Actuated Globe Valve

C2000 valves range from 1/2" tube (with optional adapter) to 2" pipe size weld ends. Applications for the C2000 Series include vacuum-jacketed piping, cold boxes, manifolds and tank systems. These vacuum-jacketed valves can be used with liquid nitrogen, helium, argon, oxygen service (with proper cleaning) and other cryogenic liquids. Precision trim options available, please see back page.

C5000 Valve Series Tube Size Manual and Actuated

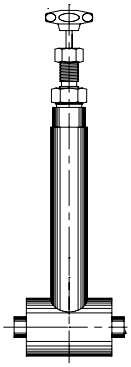
C5000 Series
Manual Globe Valve

C5000 Series
Actuated Globe Valve

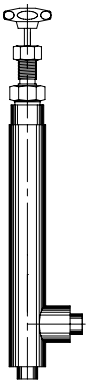
C5000 Series
Right Angle Valve

Cryocomp C5000 vacuum-jacketed valves are available in 1/4" to 1/2" tube size weld ends in globe or right angle body configuration. Applications for the C5000 Series include vacuum-jacketed piping, cold boxes, helium transfer lines and cryogenic piping systems.

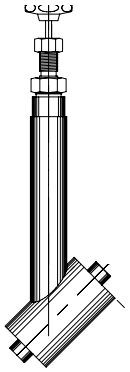
Design The Perfect Valve



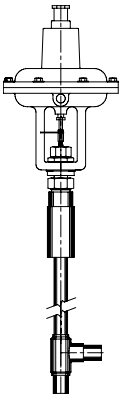
Globe



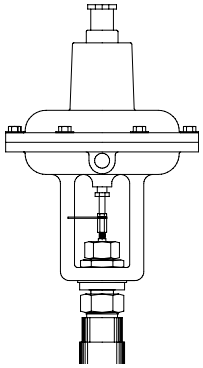
Right Angle



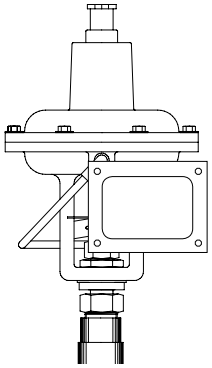
*Y-Pattern**



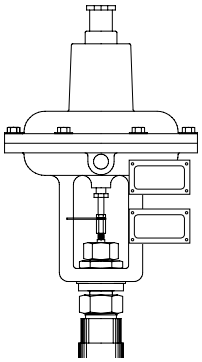
Cold Box Jacket



Actuator



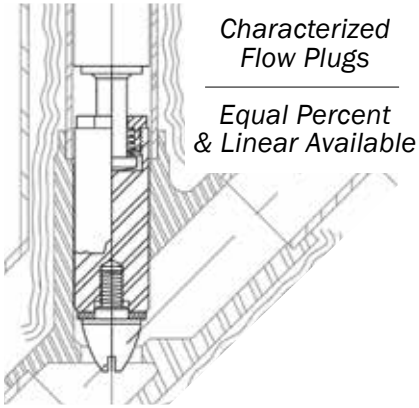
Actuator with Positioner I-P and P-P



Limit Switches

Characterized Flow Plugs

Equal Percent & Linear Available



Characterized Flow Plugs

Cryogenic Valve Part Numbering System

To specify the cryogenic valve you'd like to order, select the features you require and build the part number using the option codes provided. See examples below. Call for more information or assistance designing your cryogenic valve.

C O O O O

PRODUCT
All Vacuum-Jacketed Style Cryogenic Valves = C

DESIGN SERIES
C2000 Series = 2
C3000 Series = 3
C5000 Series = 5

SIZE (1/8")
1/4" (2/8) = 02
3/8" (3/8) = 03
1/2" (4/8) = 04
1" (8/8) = 08
1½" (12/8) = 12
2" (16/8) = 16

BODY
Globe = 1
Right Angle = 2
Y-Pattern = 3*
(Butt Weld Ends)

Product Number Example:
Model number C2041-M21 =
Series 2000, 1/2", globe, manual, port with pipe plug, full jacket

* For C3000 or C5000 Y-pattern Valves, consult factory.

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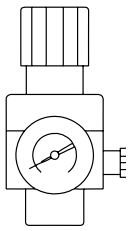
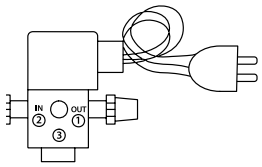
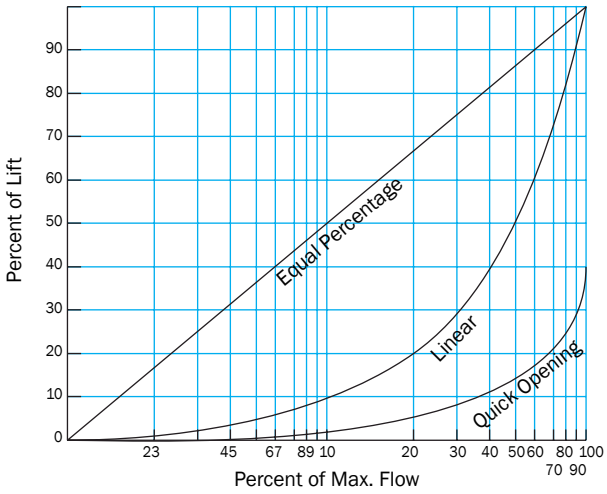


Filter Regulator



Solenoid Valve

Typical Lift Flow Curves



Valve Sizing: Flow Calculations

Basic Liquid Flow Formula

$$C_V = Q_L \sqrt{\frac{SG}{\Delta P}}$$

C_V = Flow Coefficient
Q_L = Flow (GPM)
SG = Specific Gravity
ΔP = Pressure Drop (PSIA)

Table of Flow Coefficients

Cryofab Valve Size	Cv by Body Style		
C2000 & C3000	Globe	Angle	Y-Pattern*
½"	2.6	5.7	5.6
1"	16.3	28.6	25
1½"	31	37	42
2"	42.3	54	59.4
C5000	Globe	Angle	
½"	1.1	2.3	

Specific Gravity Table for Common Fluids (SG)

Water	1.000
LN_2	0.808
LH_2	0.071
LHe	0.125
LAr	0.400
LO_2	1.140

( )-X0 0 0 X

SPECIAL CONNECTIONS
MPT = P
FPT = F
Tube = T
AN Male = A
Butt Weld Tube = M
Socket Weld Pipe = S
Soc Weld Tube = B
Soc Solder Copper = C
Flare Tube and Nut = N

OPERATION
Manual = M
Actuated/Pneumo/NC = A
Actuated/Pneumo/ NO = B
Actuated/Pneumo/ Special = C
Actuated Valve Assembly without Actuator = D
Actuator with Solenoid = E
Actuator with Solenoid and Filter/Regulator = F
Check Valve = K

PURGE PORT
No Port = 1
Port with Pipe Plug = 2
Port with Relief Valve (150 PSIG) = 3
Port with Relief Valve (XXX PSIG) (specify with order) = 4

VACUUM JACKET
Full Jacket = 1
No Jacket = 2
Cold Box Jacket = 3
Special = 4

OTHER FEATURES
Flow Plug (EQ%) = A
Flow Plug (Linear) = B
Specify with Order = X
Gas Trap = T

We Make Custom Valves

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Liquid Helium Valves & Manifolds

C3000 Liquid Helium Valve Series Manual and Actuated

C3000 Series
Manual Globe Valve

C3000 Series
Actuated Right Angle Valve
Cold Box Jacket (Cuff)

Cryocomp Liquid Helium valves are available in 1/2" and 1" pipe size weld ends. There are two body styles: globe and angle, as well as manual and actuated designs. Options include flow plugs, solenoid valves, regulators/filters, switches and positioners to increase capabilities and performance. C3000 valves are ideal for vacuum-jacketed piping, cold boxes, helium transfer lines and helium liquefiers.

Cryocomp Custom Manifolds

Vacuum-Insulated
Custom Manifolds

LN_2 Cold Box
Switcher

Custom manifolds are fabricated to customer requirements for cryogenic liquids including nitrogen, argon, oxygen, hydrogen and helium service. Any number of manual or actuated valves may be incorporated into the design. Inner line sizes range from 1⁄4" o.d. tube to 2" pipe. Manifolds & assemblies can include tees, elbows, bayonets, flexible hose sections, internal expansion joints, instrumentation and customer specified components.

Precision Flow with “Needle and Seat Trim”

Cryocomp offers an option for our 1/2" C2000 valves which greatly enhances the performance to specific Cv values. A control range of Cv=0.500 down to 0.0003 is accomplished through the use of several “needle and seat” combinations that are machined and installed into the valve bodies. These precision Cv trim values are typically available for the globe and right angle configuration valves with a pneumatic actuator and precision positioner. The ability to select appropriate flow characteristics through the selection of unique “trim” sizes enables a system to function and many times exceed the client’s design specifications. Please consult the factory for additional information on this option.

Contact us today for a quote

sales@cryocomp. com
phone: 276.728.2064
fax: 276.728.2265
www.cryocomp.com