

Norriseal Series 2023A No-Freeze Valve

The Series 2023A “No Freeze” control valve is a high-pressure, reverse-seating liquid dump valve typically used in separators and other process vessels. The body screws directly into the vessel connection, placing the trim inside the vessel where any warm fluid present will impede freezing inside the valve body.

Features

- Threaded end connections
- Hexagonal steel body
- Ball type trim design
- Replaceable plug and seat
- 300 Series SST trim standard
- Non-adjustable actuator
- NACE MR-01-75 compliance standard

Application

The Series 2023A is ideal for use as a high pressure liquid dump valve for separators and other process vessels. The valve body is specifically designed for constant trim immersion in the vessel’s fluid. Maximum Differential.

Specifications

- Body inlet connection 1.00” NPT (male)
- Body outlet connection 0.50”, 0.75” or 1.00” NPT (female)
- Body style Angle/freeze resistant
- Max. working pressure 2220 psig (ASME Class 900)
- Temperature limits -20° to 180° F
- Trim characteristic - Quick opening
- Actuator mode Reverse acting
- Actuator effective area 35 sq. in.



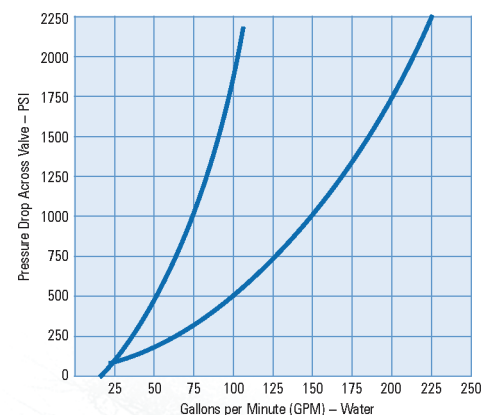
Maximum Differential Pressures (ΔP) No.9 Non-Adjustable Actuator

- Diaphragm supply pressure = 19 psig to fully open valve
- Valve/actuator is reverse acting, air to open, normally closed
- Maximum service pressure=2220 psig
- Flow in lower port, flow out side port

Notes:

1. Maximum $\Delta P = P1 - P2$ where $P2 = 0$ psig
2. Maximum ΔP cannot exceed maximum value working pressure

Liquid Sizing Chart



Notes:

1. Maximum Flow Coefficient (CV) for 0.25" Trim is 2.22. Maximum Flow Coefficient (CV) for 0.375" Trim is 4.8
2. For Gravity Correction, multiply GPM by $1/\sqrt{S.G.}$
3. To Convert Barrels Per Day, Multiply GPM by 34.3

Model code

How to order:

1. Specify series number – 1.0" Series 2023
2. Specify outlet size – 0.50", 0.75" or 1.0" – 14 NPT
3. Select model number from chart below
4. Specify trim size – 0.25" or 0.375"
5. Select trim material

1 2 0 2 3 A S N 2 2 R A H - 9 B A - - 0 . 3 8 B Q 3 1 6

A B C D E F G H I J K L M N

A PROCESS CONNECTION SIZE	
Code	Size
05x1	1" MNPT Body Inlet-Vessel connection, 1/2" FNPT outlet
75x1	1" MNPT Body Inlet-Vessel connection, 3/4" NPT outlet
1	1" MNPT Body Inlet-Vessel connection, 1" FNPT outlet

B VALVE SERIES	
Code	Model
2023A	2023A

C BODY END CONNECTION	
Code	Type
S	Female NPT

D BODY/BONNET MATERIAL	
Code	Material
N	Carbon Steel WCC/A696 - NACE Compliant

E BODY RATING	
Code	Working Pressure Class
22	ANSI 900# (2220 PSIG Max.)

F ACTUATOR ACTION	
Code	Type
R	Pneumatic - Reverse acting (Fail Close - Spring Closing)

G BODY TYPE	
Code	Type
A	Angle Style

H SEAL MATERIALS		
Code	Type	Wetted Seal
H	Buna	Viton

I PACKING OPTIONS	
Code	Material
I	TFE V-Ring - Spring Loaded Non-Adjustable

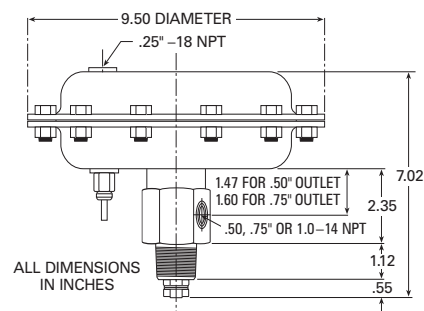
J ACTUATOR SELECTION	
Code	Type
9	No. 9 (70in2) - Non-Adjustable Spring & Diaphragm

K ACTUATOR SPRING	
Code	Material
BA	Non-Adjustable Light Spring

L TRIM SIZE	
Code	Nominal Size
0.25	1/4"
0.38	3/8"

M TRIM STYLE	
Code	Trim Characteristic
BQ	Quick Open Unbalanced Plug

N TRIM MATERIAL	
Code	Plug/Seat Material
316	316SS



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