CIRCLE SEAL CONTROLS

900 Series

0–6000 psig Manual Shutoff Valves



Features

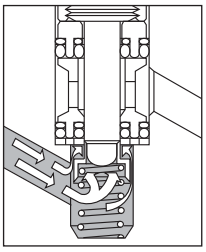
- Zero leakage
- Protected o-ring
- Full flow passages
- Freedom from wire drawing
- Panel mount standard
- Hand wheel or toggle handle

Technical Data

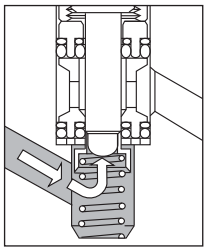
Body Construction Material	316 or 303 stainless steel
Stem Materials	316, 303 or 17-4 PH stainless steel
Gland Nut Materials	Brass or 17-4 PH stainless steel
O-ring Materials	Buna N, Neoprene or Viton®
Spring Material	302 stainless steel
Handle Materials	• Handle wheel: die-cast zinc, color blue • Toggle: forged steel, cadmium-plated
Leakage	• Internal: zero • External: zero
Operating Pressure	0–6000 psig (414 bar)
Proof Pressure	9000 psig (621 bar)
Burst Pressure	Over 24,000 psig (1,655 bar)
Temperature Range	–40° F to +350° F (–40° C to +177° C) *Based on o-ring material, see "How to Order".*
Connection Sizes	¼"–⅜"
Actuating Force	• 900 Series: 20in/lbs • T900 Series: 20 lbs

Note: Proper filtration is recommended to prevent damage to sealing surface.

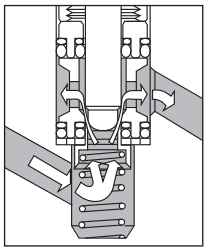
How it Works



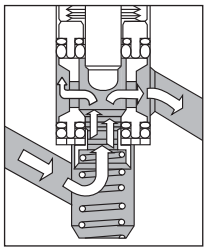
Closed
O-ring seal on smooth finish of stem provides leak-tight shut-off. Pressure on o-ring increases sealing effectiveness.



Opening
As stem is withdrawn, floating sleeve moves into position protecting the o-ring. Flow starts after 1½-turns of the handle.



Throttling
O-ring is protected by sleeve. Throttling is controlled across tapered section of the stem.



Full Open
Stem is withdrawn, permitting full flow with minimum pressure drop.

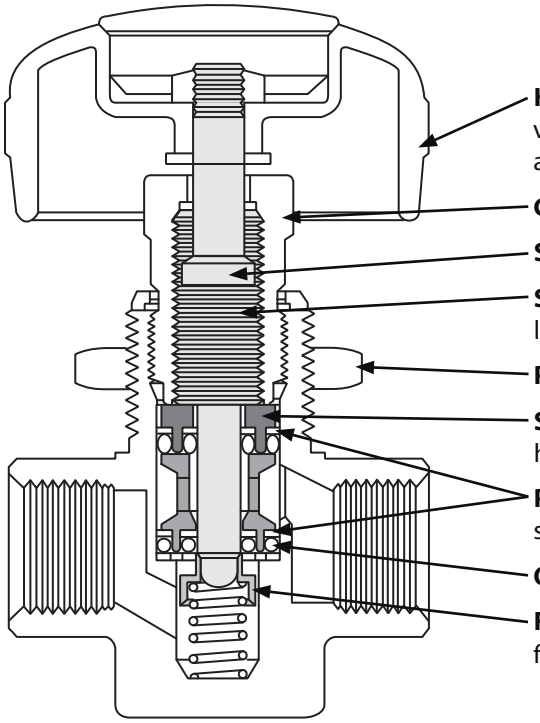
Circle Seal Controls
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www.circlesealcontrols.com

shutoff valves

900 Series

Engineering Features

Standard Design



Handle Secured with jam nut for easy removal and replacement when valve is panel mounted. No flow for approximately 1½-turns of handle, then approximately 4½-turns from full closed to full open.

Gland nut requires no adjustment. O-rings provide leak-proof seal.

Stainless steel stem provides corrosion and wear resistance.

Stem threads are completely removed from flow path to permit "lifetime" lubrication and to avoid contamination of fluid.

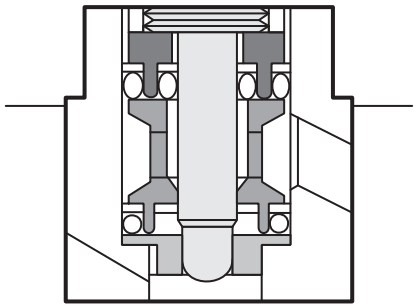
Panel mount is standard.

Spacer limits stem travel so that it bottoms on a non-critical stop. No matter how tightly the handle is wrenched, the seat cannot be damaged.

PTFE spiral back-up rings are virtually frictionless which protects o-ring seal from wear and tear.

O-ring seal provides positive, leak-tight shutoff.

Floating sleeve protects o-ring from extrusion and cutting action of liquid flow.



PCTFE or PTFE seat eliminates the need for o-ring seal and floating sleeve.

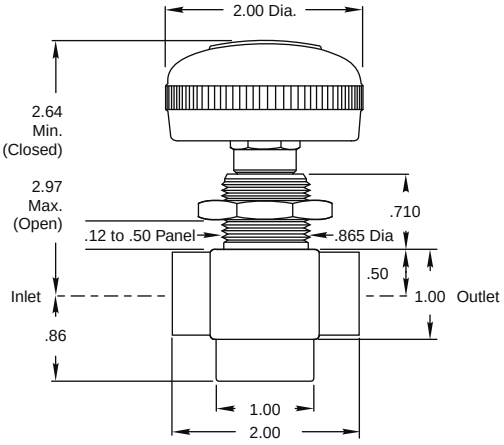
N–, B–, A900 Series design detail

Stem, seat and seal combine to provide accurate metering, full flow in either direction, and zero leakage shutoff.

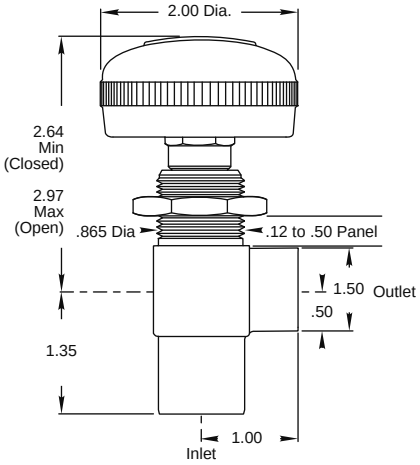
N900 (nylon seat) Series valves are for general use. B900 (PCTFE seat) or A900 (PTFE seat) Series valves should be used for fluids not compatible with nylon or for service over +250° F.

Dimensions

900 SERIES
Handwheel Actuated

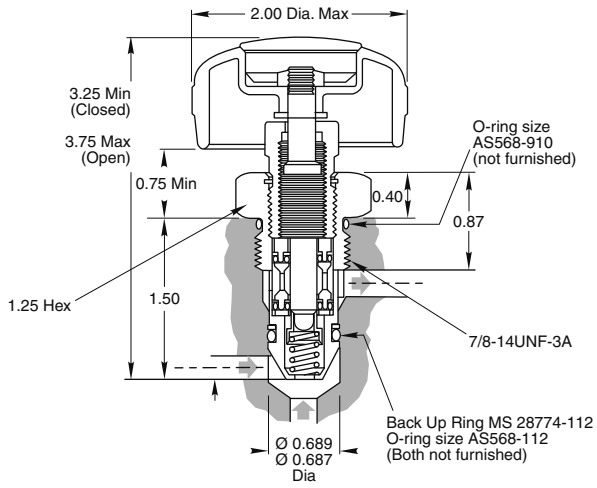


R900 SERIES
Right Angle



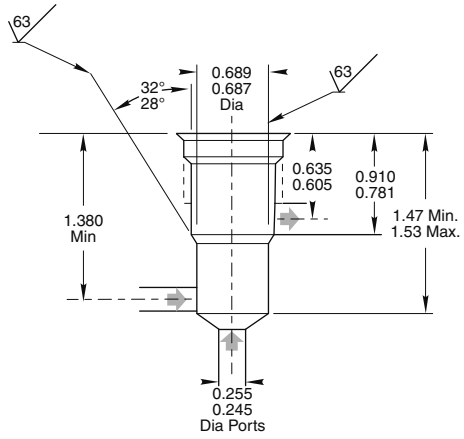
Prefix part number for 900, R900, Y900 and Z900 Series with N, B, or A if bi-directional flow capability is required.

C900 SERIES
Manifold Mounted



C900 Series—inlet size 0.203, outlet size 0.250. O-ring seals for manifold cavity are furnished by customer.

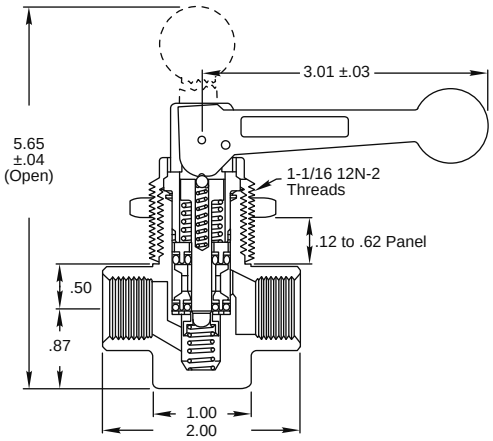
C900 SERIES
Manifold Mounted Cavity



Cavity per AND10050–10 or SAE ⅝″ straight thread connection (⅞–14UNF–3B) except as shown.

Dimensions

T900 SERIES
Toggle Actuated

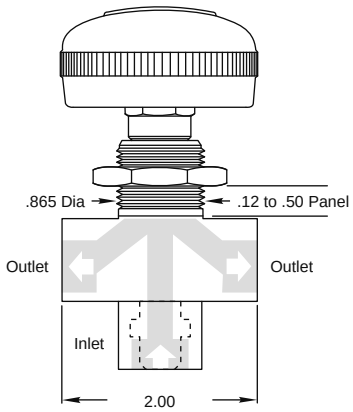


Spring and ball detent positively position handle open or closed. Holes are provided in toggle cam and clevis to permit locking valve closed against tampering.

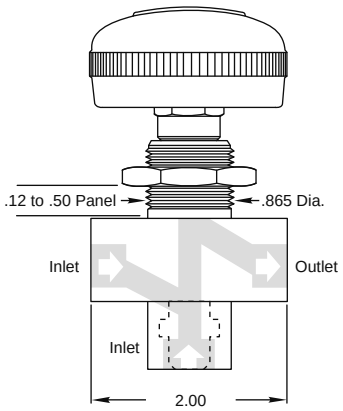
Handle arc is 90°. Valve is open when handle is parallel with stem, closed when handle is in a plane parallel with body. Closed position of handle may be positioned (360°) as required by "cracking" gland nut, positioning handle and retightening gland nut.

Stem and seat design permit rapid actuation of the toggle handle with a minimum of opening and closing shock to the system.

Y900 SERIES
Triport



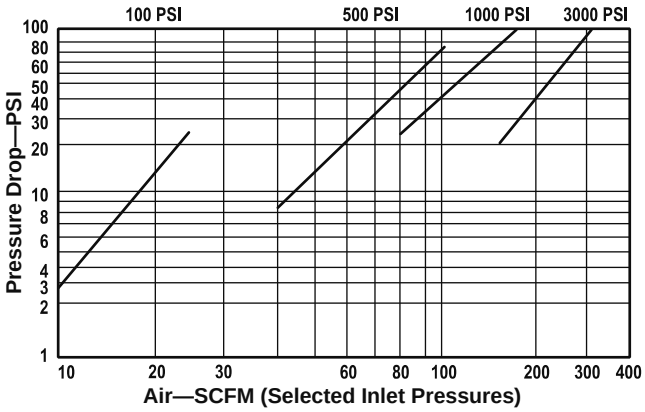
Z900 SERIES
Triport

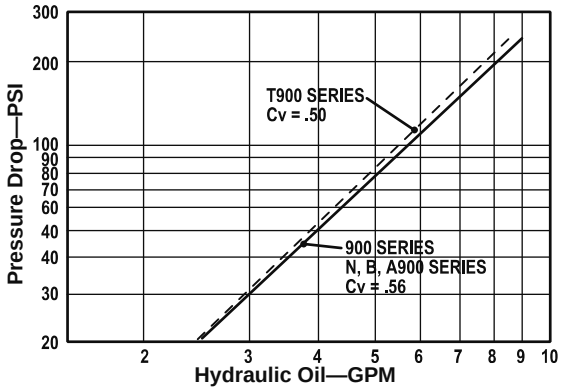


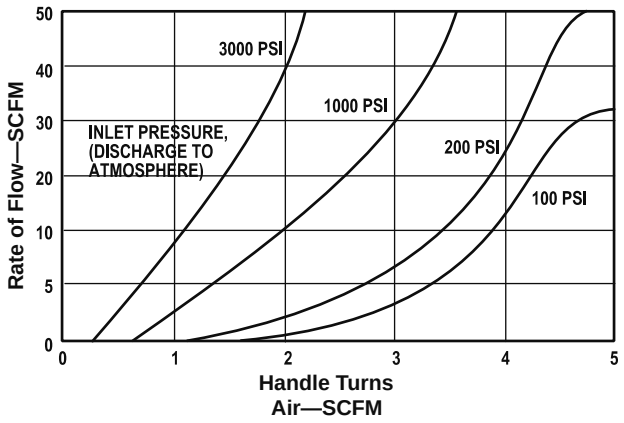
Y900 & Z900 Series Part Numbers

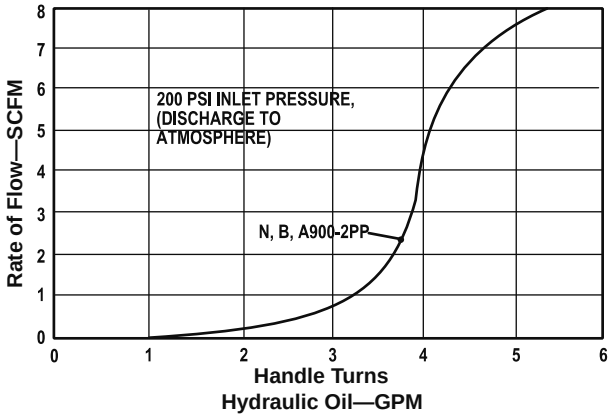
Part Number	Inlet	Outlet
Y900–2PPP Z900–2PPP	¼″ female pipe	¼″ female pipe
Y900–4BBB Z900–4BBB	¼″ female tube	¼″ female tube
Y900–6BBB Z900–6BBB	⅜″ female tube	⅜″ female tube
Y900–4T6BB Z900–4T6BB	¼″ male tube	⅜″ female tube
Y900–6TBB Z900–6TBB	⅜″ male tube	⅜″ female tube

Typical Flow Curves: 900 & T900 Series









900 Series

How to Order

N Y 9 49 T – 2 PP (T)

SEAT VARIATION & OPERATING PRESSURE
(Not available with T900 Series)
- **N** Nylon (0–6000 psig)
- **B** PCTFE (gas: 0–6000 psig; liquid: 0–3000 psig)
- **A** PTFE (0–2000 psig)

BODY VARIATION
- **C** Manifold mounted
- **R** Right angle
- **T** Toggle actuated
- **Y** Tri-port (1 inlet, 2 outlets)
- **Z** Tri-port (2 inlets, 1 outlet)

O-RING MATERIAL & TEMPERATURE RANGE
- **49** Buna N (–65° F to +250° F)
- **33** Neoprene (–40° F to +300° F)
- **52** Viton® (–20° F to +400° F)

SPECIAL CHARACTERISTIC
- **(T)** 17-4 PH stainless steel gland nut (Not available with T900 Series)

CONNECTIONS
- **P** Female tube
- **B** Female tube, AND10050 (MS33649 available upon request)
- **M** Male pipe

PORT SIZE
- **2** ¼″ pipe
- **3** ⅜″ pipe
- **4** ¼″ tube
- **6** ⅜″ tube

MATERIAL
- **T** 303 stainless steel*

* *900, T900 body: forging*
R900 body: 316 stainless steel forging
C900, Y900, Z900 body: bar stock

Repair Kits
In normal service, the only part(s) which may require replacement is(are) the seal(s). A repair kit may be ordered by placing a "K/" in front of the complete part number (i.e. K/949T–2PP).

For Your Safety

It is solely the responsibility of the system designer and user to select products suitable for their specific application requirements and to ensure proper installation, operation, and maintenance of these products. Material compatibility, product ratings and application details should be considered in the selection. Improper selection or use of products described herein can cause personal injury or property damage.

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