

8100 Series

Pressure Relief Device (PRD)



The 8100 Series PRD is built to protect gas-containing vessels from explosion in case of fire. It is designed to withstand the mechanical stresses and environmental abuse associated with compressed natural gas (CNG) and compressed hydrogen highway usage. Not relying upon the thermal eutectic material for sealing, only as a thermal triggering method, the 8100 Series is extremely stable with a very high flow rate. The 8100 Series internal robust design makes it much less susceptible to cold weather difficulties where freezing moisture internally may be an issue.

Applications

- CNG fuel systems
- Hydrogen fuel systems
- Fire safe pressure relief
- Fuel cells
- Compressed gas cylinder thermal relief

Features & Benefits

- Extremely stable
 - No premature releases
- Robust design
 - Resists damage from ice
- Fast acting
 - Opens to full flow instantaneously
- High flow
 - Empty tank faster than other brands
- Large selection of connections
 - Ease of installation

Specifications

PRESSURE RATINGS	Operating: 0-5,000 psig (0-345 BAR) Proof: 7,500 psig (516 BAR)
FLOW	90 SCFM of air at 100 psid Cv = 1.1
THERMAL RELIEF	Nominal at 219° F (104° C)
MATERIALS OF CONSTRUCTION	Nickel-plated brass (standard) or 316 stainless steel, Buna N o-ring, Teflon® back-up ring
LEAKAGE	Internal: zero until actuation External: zero
FLUID COMPATIBILITY	Natural gas, air, carbon monoxide, helium, hydrogen

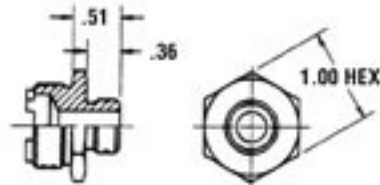
pressure relief device

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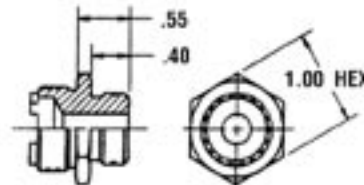
Materials of Construction

#	PART	MATERIALS
1	O-ring	Buna N
2	End	Brass or 316 CRES
3	Roll pin	CRES, passivated
4	Eutectic ring	Eutectic alloy, 219° F melting temperature
5	CAM	440 CRES, passivated
6	Poppet	17-4PH CRES, passivated
7	Backup ring	Teflon®
8	O-ring	Buna N
9	Body	Brass or 316 CRES

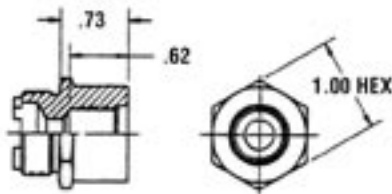
End Options: Outlet



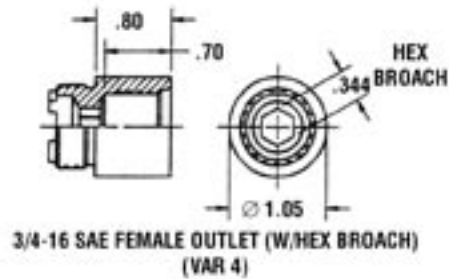
9/16-18 SAE MALE OUTLET
(VAR 1)



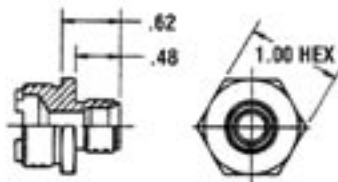
3/4-16 SAE MALE OUTLET
(VAR 2)



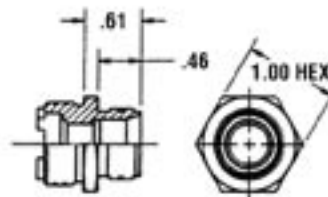
9/16-18 SAE FEMALE OUTLET
(VAR 3)



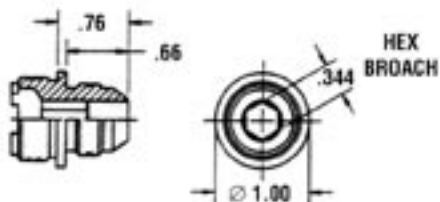
3/4-16 SAE FEMALE OUTLET (W/HEX BROACH)
(VAR 4)



3/8" GYROLOK PORT OUTLET¹
(VAR 5)



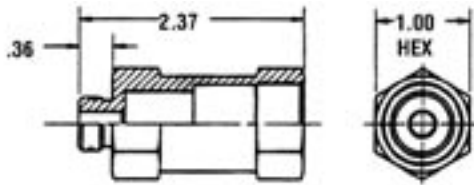
1/2" GYROLOK PORT OUTLET¹
(VAR 6)



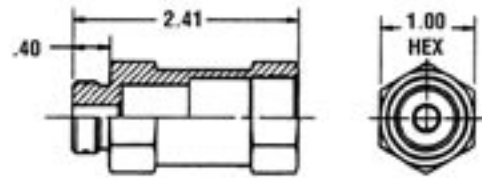
1/2" 37° MALE PER AS 4395
(VAR 7)

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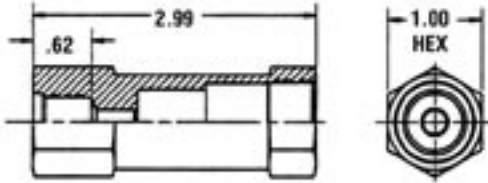
Body Options: Inlet



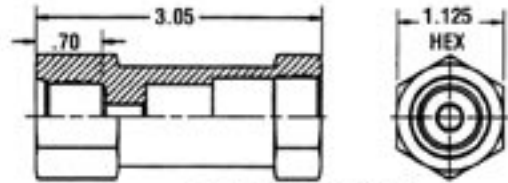
9/16-18 SAE MALE INLET
(VAR 1)



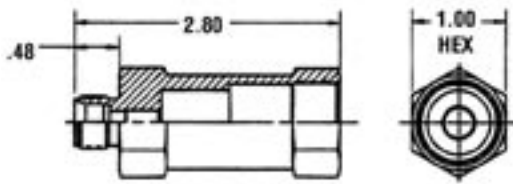
3/4-16 SAE MALE INLET
(VAR 2)



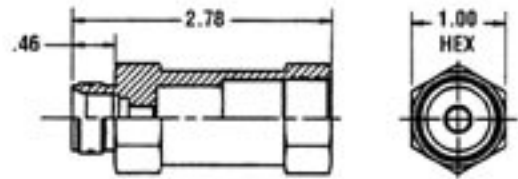
9/16-18 SAE FEMALE INLET
(VAR 3)



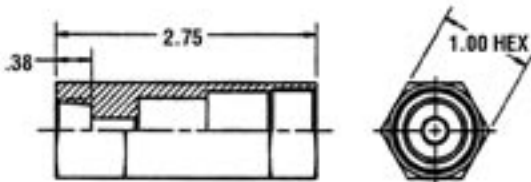
3/4-16 SAE FEMALE INLET
(VAR 4)



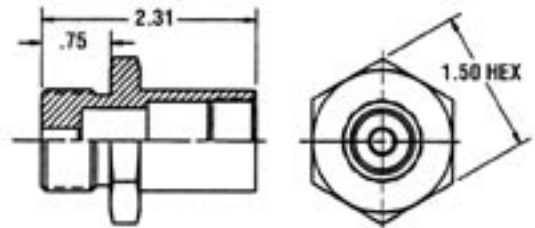
3/8" GYROLOK INLET
(VAR 5)



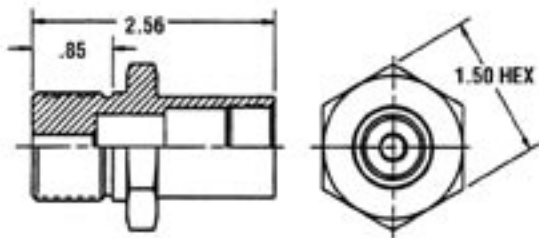
1/2" GYROLOK INLET
(VAR 6)



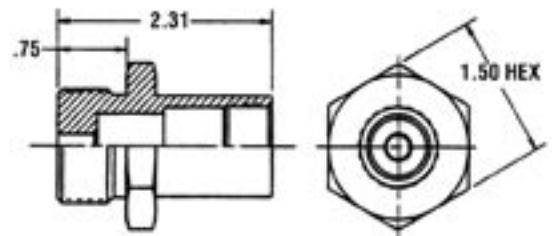
.6500-19 UNS-38 PIPE THD. FEMALE INLET
(VAR 7)



1.0625-12 UN-2A SAE MALE INLET
(VAR 8)



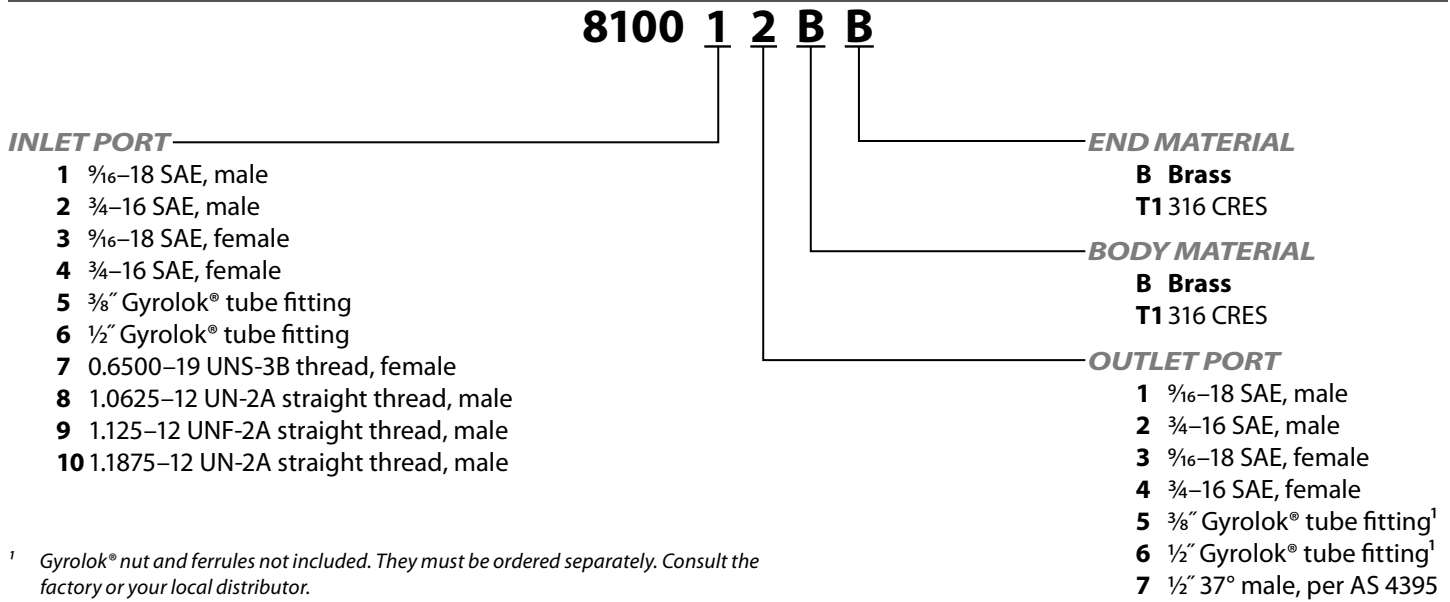
1.125-12 UNF-2A SAE MALE INLET
(VAR 9)



1.1875-12 UN-2A SAE MALE INLET
(VAR 10)

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How to Order



Please consult your Circle Seal Controls representative or the factory for information on special port connections, temperature ratings, and body and end materials.

Valves designed in accordance with PRD-1 basic requirements for pressure relief devices for natural gas vehicles (NGV) or fuel containers.

Installation Instructions

- 1/16-18 SAE connectors: Torque to 95-115 in-lbs
- 3/4-16 SAE connectors: Torque to 190-210 in-lbs
- 0.6500-19 UNS-3B: Torque to 39-42 ft-lbs
- 1.0625-12 UN-2A: Torque to 90-110 ft-lbs
- 1.125-12 UNF-2A: Torque to 100-120 ft-lbs
- 1.1875-12 UN-2A: Torque to 100-120 ft-lbs
- Gyrolok®: Preset nut and ferrules prior to installation