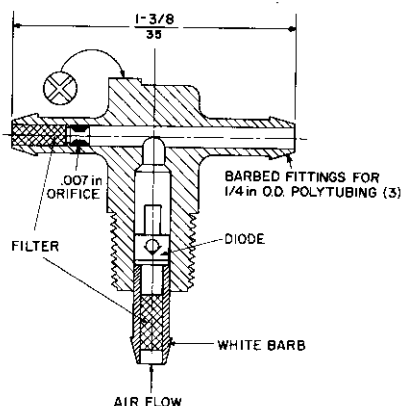


R-3712 Diode Restrictor Tee

The R-3712 Diode Restrictor Tee is a low volume auxiliary device designed to regulate air flow direction. The .007 in. (.18 mm) restricted branch is identified with the symbol (⊗) above it. The R-3712 can function as a high signal selector, a signal override device, or a checkvalve (with the restricted branch capped).



Operation

When used in a high selector application, as shown in Fig. 1, FO-2, 3, 4 and 5 are used as checkvalves, with the restricted branch capped off with rubber sealing cap F-1000-3. FO-1 and 6 are used as diodes with a controlled leak to atmosphere through the .007 in. (.18 mm) restricted branch. The open restrictors allow bleeding of the controlled devices on a decrease of control signal pressure. In this type of application, only high volume thermostats can be used with more than two R-3712s, and one exhausting restrictor is required for each three diodes to assure accuracy.

When used as a signal override device, as shown in Fig. 2, the R-3712 allows a 20 PSIG (140 kPa) signal to override a control signal to close a normally open valve or actuator, with the restricted branch providing negligible backfeeding to the thermostat. This 20 PSIG (140 kPa) signal would result from fan shutdown.

The output of the R-3712 is the same as the control signal when the fan is running, and rises to 20 PSIG (140 kPa) when the fan shuts down. This air line can be extended to other R-3712s so that on fan shutdown, all normally open valves or actuators would close.



R-3712s Shown Full Size

Specifications

Product	R-3712 Diode Restrictor Tee	
Forward Flow	Minimum of 300 SCIM @ 20 PSIG With Open Exhaust (82 mL/s @ 140 kPa)	
Reverse Flow	Less Than or Equal to 1 SCIM @ 1 PSIG Supply (.3 mL/s @ 7 kPa)	
	Less Than or Equal to 1.5 SCIM @ 20 PSIG Supply (.4 mL/s @ 140 kPa)	
Flow Through Restrictor	Maximum of 45 SCIM @ 20 PSIG Supply (12 mL/s @ 140 kPa)	
Starting Pressure	Less Than .005 PSI (.035 kPa) Differential	
Maximum Pressure	25 PSIG (175 kPa)	
Air Filtration Requirement	5 Micron Filtered Oil Free Air	
Air Connections	Barbed Fittings for 1/4 in. O.D. Polytubing	
Ambient Operating Temperature Limits	40 to 120F (4 to 49°C)	
Ambient Storage Temperature Limits	-20 to 150F (-29 to 66°C)	
Materials	Housing	Polyphenylene Oxide (Aqua)
	Diode Barb	Polysulphone (White)
	Filter	Felt
	Diode Disc	Celcon, Natural
Accessory (Order Separately)	F-1000-3 Sealing Cap	

"The performance specifications for this equipment are nominal and conform to generally acceptable industry standards. Johnson Controls, Inc. shall not be liable for damages resulting from misapplication or misuse of its products."

Installation

The R-3712 is designed for in-line mounting using 1/4 in. O.D. polytubing, to barbed fittings on the device.

Application and Drawing Identification

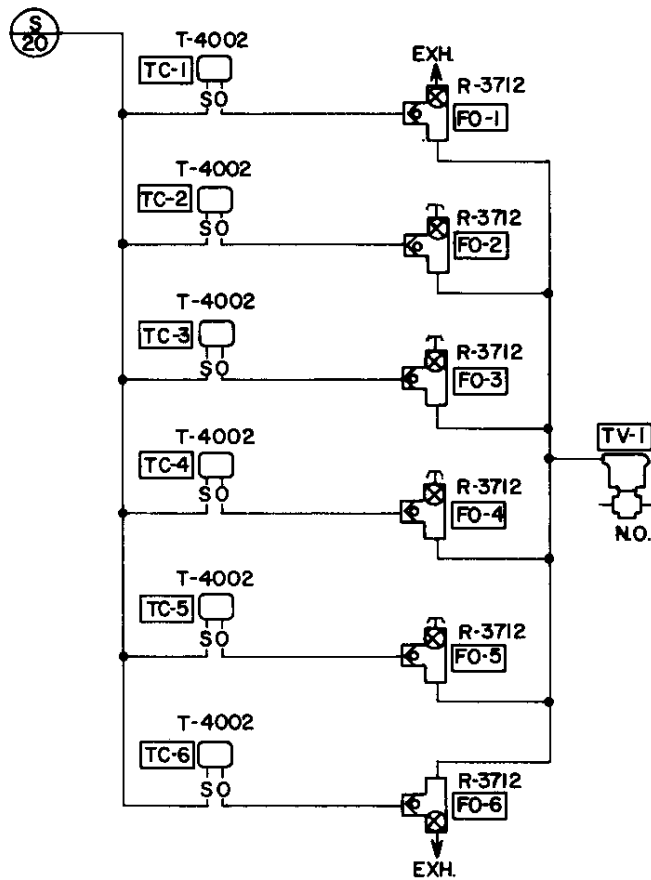


Fig. 1: R-3712 Used as a High Selector

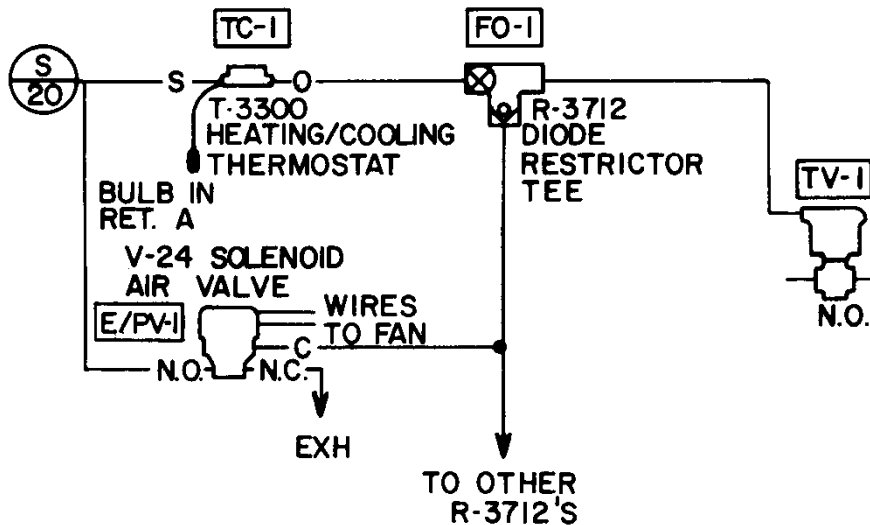


Fig. 2: R-3712 Used as a Signal Override Device

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