Introduction

Features & Benefits
- The ability to maintain constant-differential pressure drop across a built-in needle valve ensures a constant volumetric flow rate.
- Maintains constant bubbling rate in liquid level applications, eliminating the problems of typical conventional bubbling systems.
- The ability to produce reasonable purge rates eliminates the need for a supply regulator.
- Epoxy powder coating provides improved corrosion resistance.

Description
The Series 62 Constant-Differential Relays serve as air-flow controllers maintaining a constant air purge for each setting of an integral needle valve.

By maintaining a constant-differential pressure drop across a built-in needle valve (for any flow setting up to 2.1 cu ft. of air per hour), Series 62 Relays ensure a constant volumetric rate of flow, regardless of variations in process or supply pressure.

The constant-differential pressure across the built-in needle valve is regulated by a spring-loaded diaphragm. This diaphragm controls the action of the supply-port plunger, which automatically admits supply air to the needle valve at the required rate. Excess purge air bleeds to the atmosphere.

Siemens constant-differential relays eliminate most of the problems encountered in conventional bubbling systems, because:
- Each relay holds the bubbling rate constant, thereby maintaining high measurement accuracy.
- The differential pressure maintained across the needle valve is approximately 1-1/2 psi, which allows wider needle valve openings that are less subject to clogging.
- Full supply pressure (up to 150 psig) is connected to the purge system for a greater margin of safety.
- Ordinary air-line impurities have no effect.

In addition to the preceding advantages, the Series 62 Constant-Differential Relays ensure reasonable purge rates at all times, because they eliminate the need for a supply regulator. Another safety feature is the automatic exhaust, which bleeds off any excess air caused by the presence of foreign particles on the pilot seat of the supply-port plunger.

Specifications
Supply Pressure
- Maximum: 150 psig
- Minimum: 5 psi above highest output pressure required

Rotometer Pressure
- Maximum: 200 psig (1380 kPa)

Supply Pressure Effect
- 0.18 scfh (max.) flow change for 25 psi increase of supply

Ambient Temperature Limits
- -40 to 160°F (-40 to 70°C)
- -40 to 160°F (-40 to 71°C) with Rotometer

Materials of Construction
- Relay: Aluminum, brass, stainless steel, Neoprene, Buna-N
- Rotometer: Aluminum, Stainless steel, Borosilicate glass, Buna-N (O-rings), ruby sapphire (float), and brass (fittings)
Model Number

Constant-Differential Relay

Order No.

Purge Rate
- 0.08 to 2.1 scfh \(^1\)
  Built-in needle valve has internal bypass to prevent tight shut-off of purge flow
- 0.06 to 1.8 scfh \(^1\)
  Built-in needle valve provides tight shut-off of purge flow

Flow indicator
- Indicating Rotometer
- 0.25 to 2.5 scfh scale range
- Letter omitted - Less Rotometer

Mounting Dimensions

1) With a relay or rotometer outlet at atmospheric pressure.
2) A flow indicator is recommended for use with the Model 62VN.