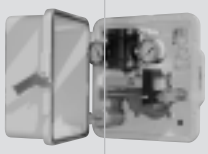
NORRISEAL™
A DOVER COMPANY

Engineered Performance

SERIES EVS
LIQUID LEVEL CONTROLLERS

Series EVS pneumatic controllers are easy-access, back-mounted units that provide liquid level or interface control for gas separator and scrubber applications. EVS controllers feature patented Envirosave™ snap (on/off) pilots, which prevent fugitive emissions and reduce bleeding of valuable gases. The Envirosave pilot was rated at zero leakage in a U.S. EPA Natural Gas STAR Program report.*

Series EVS controllers operate using Norriseal's force-balance technology, which delivers proven reliability and long service life. Service-enhanced design makes units simpler to install and easy to access for routine maintenance. EVS controllers accommodate both low- and high-pressure applications, making them ideal for a wide range of uses in natural gas production, compression and gas processing.



Features

Service-Enhanced Design

- Controller body is back-mounted on the case for versatility and ease of installation
- Flush-mounted internals allow easy access
- Removable door
- Field-reversible output for direct or reverse action
- Field-configurable horizontal or vertical displacer

Advanced Operation

- Environmentally friendly Envirosave snap (on/off) pilot stops fugitive emissions and conserves valuable gases
- Field-proven, force-balance technology
- High sensitivity for either Top Level or Interface control
- 0 to 60 psig supply and output gauges are standard
- Rated for extreme low-temperature operation (–50°F or –46°C ambient operating temperature)

Extreme Reliability

- Weather-resistant sealed enclosure
- Polyurethane dry-powder coating complies with ASTM B117-90 (salt spray) and B2247-87 (humidity resistance)
- High-performance HSN seals standard
- Complies with NACE MR0175-2002
- 40-micron SST supply filter resists contamination of the pilot

Contents

*Natural Gas STAR Program report: Technical Support Documents; Options for Reducing Methane Emissions from Pneumatic Devices in the Natural Gas Industry; Appendix A: Gas Bleed Rate for Various Pneumatic Devices; August 18th, 2003; http://www.epa.gov/gasstar/pneumat.htm

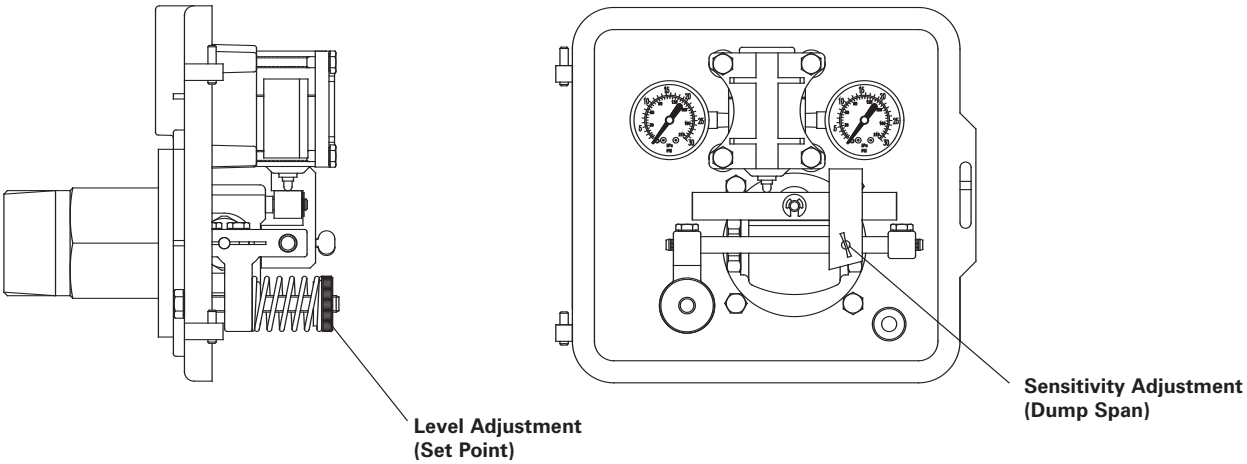
SPECIFICATIONS

PNEUMATIC PILOTS

Output	
Envirosave, snap	0–20 psig, 0–30 psig
Optional: Throttle, proportional	3–15 psig, 6–30 psig
Snap, on/off	0–20 psig, 0–30 psig
Supply Pressure Required	
3–15 psig, 0–20 psig	20–30 psig (min.)
6–30 psig, 0–30 psig	35–40 psig (min.)
Ambient Temperature	25° to 300°F (–32° to 150°C) standard –20° to +180°F (–29° to 82°C) optional
Materials	
Envirosave, snap	Aluminum with elastomer seat
Throttle, proportional Snap, on/off	Aluminum with aluminum seat
Gasket/diaphragm	HSN (Envirosave) Nitrile (throttle, on/off)
Internal valve	303 SST
Filter element	40-micron 316 SST mesh
Screws and nuts	SST

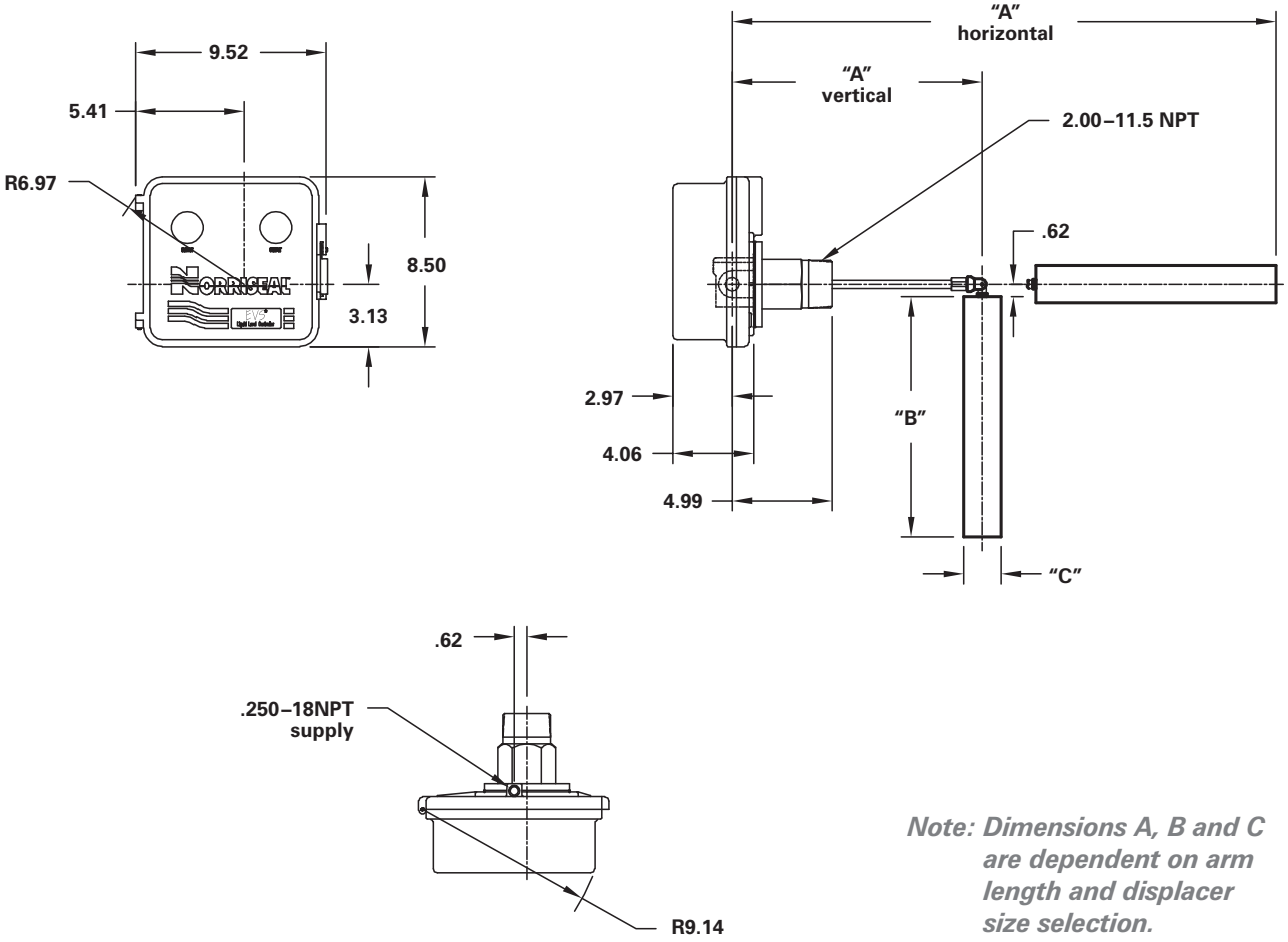
GENERAL

Repeatability	1.0% of output span
Dead Band	5.0% of input span
Linearity	1.75% of output span
Ambient Temperature Effect on Setpoint	1.0% @ –40°F (–40°C) 3.0% @ +170°F (77°C)
Mechanical Disturbance Effects on Setpoint	1.0%
Specific Gravity	
Interface	0.035
Top level	0.35 to 2.00
Process Temperature Limits of Body (dependent upon seal material selection)	–50° to +600°F (–46° to 316°C)
Process Pressure Rating	1500 ANSI Class
LLC Body Material	ASTM A216 LCC –50° to +600°F (–46° to 316°C)
Displacers	PVC –20° to +140°F (–29° to +60°C) Acrylic –20° to +200°F (–29° to +93°C) 316 SST –70° to +600°F (–57° to +316°C)
Case and Cover	ASTM A352 die cast aluminum. Polyurethane dry-powder coating complies with ASTM B117-90 (salt spray) and B2247-87 (humidity resistance).
Pressure Gauges	Dual scale 0–60 psig/ 0–4 bar, bronze bourdon tube
Operational Service Condition	NACE MR0175-2002 compliant
Supply, Output and Case Vent/ Relay Exhaust Connections	1/4" NPT, vent assembly installed. (Discard for piped exhaust.)
Total Weight	16 lbs.



Dimensions

All dimensions are in inches.



Note: Dimensions A, B and C are dependent on arm length and displacer size selection.

HOW TO ORDER

Determine the model number

The model number specifies the series, size connection, type of pilot, pilot action, seals and service condition.

Required application information

A. Fluid media

B. Process temperature (minimum and maximum)

C. Process pressure

D. Vessel size and diameter (distance of connection from bottom of vessel, any obstructions that may hinder performance)

E. Displacer position (vertical or horizontal)

F. Pilot action

G. Top level or interface

H. Arm length

MODEL CODE

SIZE END CONNECTION

Description	Code
2.00	2

BODY TYPE END CONNECTION AND SIZE

Description	Code
NPT (Screwed Male)	SM

RATING BODY END CONNECTION

ANSI	Rating*	Code
1500	3705	36

*Body pressure rating subject to selection of displacer (reference displacer chart below).

MATERIAL: BODY/SHAFT/BLOCK

Body	Shaft	Bearing Block	Code
LCC Carbon Steel	316	316	–

PNEUMATIC PILOT MODE

Description	Seat Material	Code
Envirosave, Snap	Metal/HSN	B
Throttle, Proportional	Metal	T
Snap, on/off	Metal	S
Envirosave, Snap, Vib.	Metal/HSN	C

DISPLACER CHART DISPLACER TEMPERATURE/PRESSURE RATING

Material	Max Temp °F (°C)	Max Pressure
PVC	140 (60)	3705
Acrylic	200 (93)	3705
SST-1	400 (204)	1500
SST-2	400 (204)	2000
SST-3	400 (204)	3000

2SM36-BBDB-N

MOUNTING CASE

Type Mounting	Code
Back Mount	B

SERVICE CONDITION

Description	Code
NACE MR0175-2002	N

PRESSURE GAUGES

Description	Code
Pressure Gauges Bronze 0–60 psi (0–4 bar)	–

SERVICE SEALS

O-Ring	Temp °F (°C)**	Code
HSN	–25 to 300 (–32 to150)	B
Buna TH-70	–50 to 275 (–46 to 135)	Q
AFLAS	–20 to 600 (–29 to 316)	S

**Seal temperature rating subject to selection of displacer.

PILOT ACTION

Pilot Action	Code
Direct Acting	D
Reverse Acting	R

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11122 West Little York • Houston, Texas 77041
Tel: 713·466·3552 • Fax: 713·896·7386
www.norriseal.com