

## 2001NB Pneumatic Level Control

### Application

The Series 2001NB liquid level control, designed with a Die Cast Aluminum control box, provides a rugged and versatile unit that is ideal for use on compressor scrubbers, separators and any production or process units that require liquid level control. Its proportional band and spring balanced displacement element allows for a wide range of adjustability for a variety of liquid level control requirements.

### Features

- No-Bleed: Reduces Gas Consumption
- Sealed and Vented Case
- Snap or Throttle Pilot
- Field Reversible: Left Hand or Right Hand, Direct or Reverse Acting
- Adjustable Level and Span
- Stainless Steel Bearings: Standard for improved repeatability and sensitivity.
- Horizontal or Vertical Displacer
- Interface Control
- Carbon Steel Body
- All 316 Stainless Steel Wetted Internal Parts
- NACE Process, Standard
- Supply Gas Filter, Standard

### Specifications

#### Connections

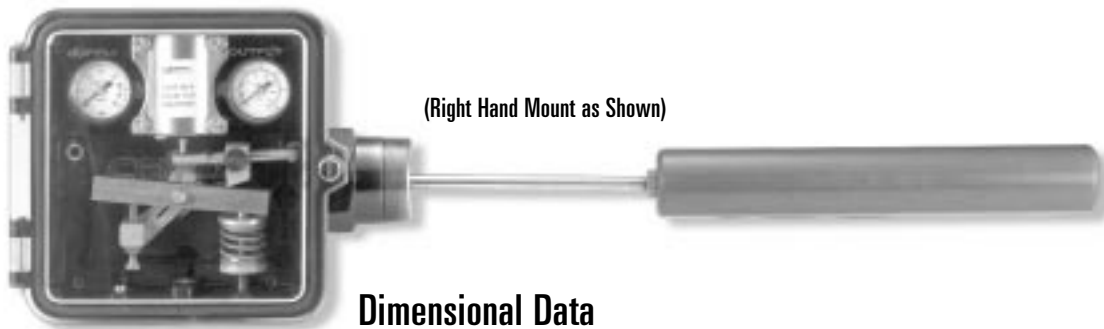
Process	2" NPT Std. (other available)
Pilot	1/4" NPT Female
Case Exhaust	1/8" NPT Female

#### Output

Throttle (Proportional)	3-15 psig
Snap	0 to Full Supply

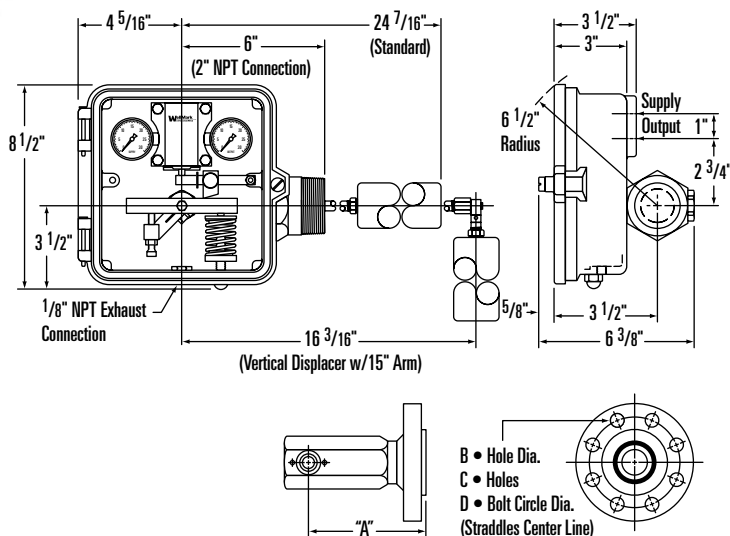
#### General

Repeatability	1.0% of Full Scale
Dead Band	5.0% of Input Scale
Linearity	2.0% of Full Scale
Ambient Temp Effect	1.0% @ -40° F
	3.0% @ +180° F
Specific Gravity	.4 Minimum
Temp. Limits	-40° F to +200° F
	(Displacer Limiting Factor)



(Right Hand Mount as Shown)

### Dimensional Data



### 2" Flange Connections

ANSI	A	B	C	D
150	6 1/2	3/4	4	4 3/4
300	6 1/2	3/4	8	5
400-600	6 1/2	3/4	8	5
900-1500	7 1/4	1	8	6 1/2

Pressure Rating	6000 psi
Pilot Operating Pressure	Normal: 20-30 psi
	Overpressure protection: Gauges are the limit factor.
Maximum Pressure Without Gauges	125 psig

#### Available Options:

- Outside Cages
- Domes For Top Mount
- Vibration Package
- Marine Package

### WARNING

If gas supply is flammable or noxious, this product must be located in a well ventilated non-hazardous area or sealed and vented to a non-hazardous area.

## 2001NB Pneumatic Level Control Determining the Model Number

Example given: Standard Model 2AS-S R D—Series 2001NB, 2" Screwed Body, Snap Pilot, Right Hand Mounting, with Direct Acting Control.

### MODEL 2AS - S R D

- 15AS • 1 1/2" Screwed
- 2AS • 2" Screwed
- 2AF • 2" Flanged
- 3AF • 3" Flanged
- 4AF • 4" Flanged
- 4AG • 4" Grooved
- 4AU • 4" Union
- 4AUS • 4" Union w/S.G.

Note: Other options available, specify

Connection

Control Action  
D • Direct  
R • Reverse

Mounting  
R • Right Hand  
L • Left Hand

Pilot  
S • Snap  
T • Throttle

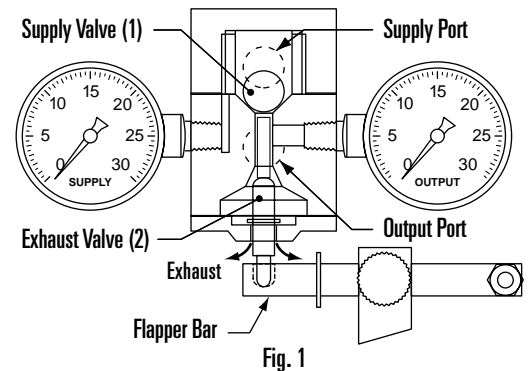
### Additional Information Required

- A • Body Connection Type: Size and Rating
- B • Fluid Media
- C • Fluid Temperatures: Maximum and Minimum
- E • Displacer Size and Material: Standard is 17/8" X 12" PVC; 17/8" X 12" Acrylic or Stainless Steel optional.

- V • Vertical Displacer
- F • Displacer Arm Length: Arm length is figured from center line of control box. 15" Standard on vertical displacer, 12 1/2" Standard on horizontal displacer. (Other lengths available upon application)

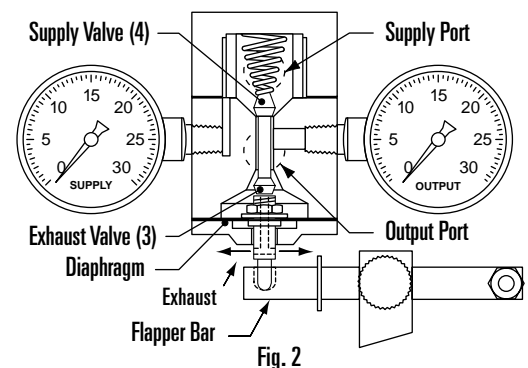
### Snap-Acting Pilot • No-Bleed Positive On/Off Flow Action

The Snap-Acting Pilot is comprised of two inner valves. Valve (1) admits system supply gas to output. Valve (2) controls system exhaust from output. Valve (1), as shown in the closed position (Fig. 1), is held closed by force exerted from supply gas. When upward flapper bar force transferred to Valve (2) is sufficient enough to overcome supply force, the ball snaps upward, allowing supply gas to output port, which operates the diaphragm motor valve (not shown nor included with the control). The spherical end of valve (2) closes the exhaust port the instant the ball snaps upward and remains seated against supply pressure until force on the valve diminishes. As force is removed from valve (2), causing it to unseat, a simultaneous action occurs, causing valve (1) to seat instantly, closing the supply port to output and opening output to exhaust, allowing the diaphragm motor valve to reverse it's action.

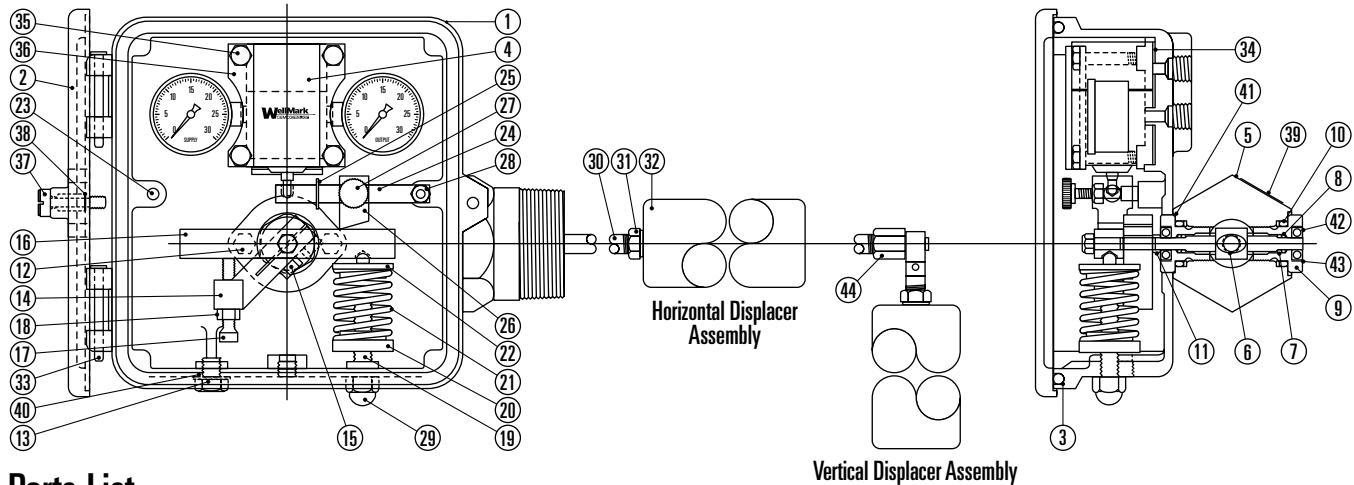


### Throttle Pilot • No-Bleed Modulating Flow Action

The Throttle Pilot utilizes a diaphragm, which creates a forced balance pilot (Fig 2). Output pressure acts upon the diaphragm causing it to push back at the same force being applied to the lower seat. More force on the seat produces a proportionate increase in pilot pressure. When the flapper bar of the control exerts upward force on the lower valve seat (3), it forces the lower seat closed against valve body and opens the supply valve (4). Supply gas enters the system and pressures will increase until the control and diaphragm motor valve pressure equals the flapper bar force and produces a forced system balance. The control will stay in this position until a decrease in the tank level reduces the force allowing exhaust, or an increase in the level produces an action as described. System supply gas does not flow while the pilot is in balance.



## 2001NB Pneumatic Level Control



### Parts List

Item	Description	Qty.	Part No.
1	CONTROL BOX, DIE CAST ALUMINUM	1	05012-4841
2	COVER, POLYCARBONATE	1	05012-4833
*3	BOX SEAL, NEOPRENE	1	06000-5097
*4	SNAP PILOT ASSY., ALUMINUM & 316 S.S.	1	06500-5304
	THROTTLE PILOT ASSY., ALUMINUM & 316 S.S.	1	06500-5387
5	BODY, ASTM A-108GR. 1018	1	05011-4560
6	PIVOT SHAFT, ASTM A-276 TY.316	1	05011-4511
*7	O-RING, VITON®	2	05000-0769
*8	BACK UP RING, TEFLON®	2	06000-1179
9	SHAFT RETAINER, ASTM A-276 TY.316	2	05012-9389
*10	O-RING, VITON®	2	05000-1155
11	SPACER, ASTM A-276 TY. 316	1	05011-4495
12	CAP SCREW, 18-8 S.S.	2	05000-5578
13	CAP SCREW, 18-8 S.S.	1	05000-5453
14	ADJUSTING BAR, ALUMINUM	1	05011-4438
15	CAP SCREW, 18-8 S.S.	2	05000-2526
16	TORQUE BAR, ALUMINUM	1	05011-4545
17	ADJ. SCREW, ASTM A-276 TY.316	1	05011-4537
18	JAM NUT, 18-8 S.S.	1	05000-2559
19	STUD, 18-8 S.S.	1	05011-4552
20	LOWER GUIDE, ALUMINUM	1	05011-4529
21	SPRING, ASTM A-313	1	06000-4157
22	UPPER GUIDE, ALUMINUM	1	05011-4479

\*Recommended spare parts.

### Repair Kits

BAR FLAPPER KIT	1	03500-1882
NUT	1	05000-2567
RETAINER RING	1	06000-1385
FLAPPER BAR	1	05011-4404
CLAMP KIT	1	03500-1890
CAP SCREW	4	05000-5313
CLAMP	1	05012-6325
SHAFT RETAINER KIT	1	06500-5601
SHAFT RETAINER	1	05012-9389
BEARING	1	06000-7552
TOLERANCE RING	1	06000-7560
STD. FULCRUM KIT	1	03500-1898
FULCRUM	1	05011-4412
THUMB SCREW	1	06500-5429
BAR ADJUSTING LEVEL KIT	1	03500-1906
BAR ADJUSTING LEVEL	1	05011-4438
JAM NUT	1	05000-2559
CAP SCREW	2	05000-2526
ADJUSTING SCREW	1	05011-4537
TORQUE BAR KIT	1	03500-1914
STD. TORQUE BAR	1	05011-4545
LOCK NUT	1	05000-2567
SENSITIVITY SCALE	1	10739
SNAP PILOT KIT	1	03500-1114
FILTER	1	06000-1526
GASKET	1	06000-1484
PIN W/RETAINER RING	1	05011-4503
	1	06000-1393
BALL	1	06000-1906
THROTTLE PILOT KIT	1	03500-1163
FILTER	1	06000-1526
GASKET	1	06000-1484
DIAPHRAGM	1	06000-1559
SEAT	1	05011-4594
FLAT WASHER-NYLON	1	05011-4602
JAM NUT	1	05000-2559
PEANUT	1	05011-4586
SPRING	1	06000-1567

Charts indicate the Kit and Part Descriptions, the Quantities required and the Part Number for ordering.

Item	Description	Qty.	Part No.
23	STUD, FLAPPER BAR, ASTM A-276 TY.316	2	05012-9371
24	FLAPPER BAR, ASTM A-276 TY.316	1	05011-4404
25	TRU-ARC RING, PH 15-7 MO	1	06000-1385
26	FULCRUM, ALUMINUM	1	05011-4412
27	THUMB SCREW, S.S./PLASTIC	1	06500-5429
28	NY-LOC NUT, STAINLESS STEEL	2	05000-2567
29	ACORN NUT, STAINLESS STEEL	1	05000-2575
30	DISPLACER ARM, STD., ASTM A-276 TY.316	1	06000-1534
	DISPLACER ARM, VF, ASTM A-276 TY.316	1	05011-9296
31	DISPLACER BUSHING, ASTM A-276 TY.316	1	06000-5105
32	DISPLACER, PVC	1	05012-3561
33	HINGE PIN, STEEL PLATED	2	06000-7537
*34	GASKET, NEOPRENE	1	06000-4819
35	CAP SCREW, 18-8 S.S.	4	05000-5313
36	PILOT CLAMP, 304 S.S.	1	05012-6325
37	PANEL SCREW, STAINLESS STEEL	1	06000-1153
38	RETAINER, STAINLESS STEEL	1	06000-2672
39	SERIAL TAG, ALUMINUM	1	06000-1922
*40	THREAD SEAL, STEEL/BUNA N	1	06000-0395
*41	O-RING, VITON®	1	05000-5586
42	BEARING, STAINLESS STEEL	2	06000-7552
43	TOLERANCE RING, STAINLESS STEEL	2	06000-7560
44	ADAPTER V.D. ASSY., ASTM A-276 TY.316	1	06500-4350

### Model and Part Numbers

Model No.	Displacer Orientation	Part No.
2AS-SLD	HORIZONTAL-STANDARD	03051-0118
2AS-SRD	HORIZONTAL-STANDARD	03051-0100
2AS-TLD	HORIZONTAL-STANDARD	03051-0290
2AS-TRD	HORIZONTAL-STANDARD	03051-0126
2AS-SLD-VF	VERTICAL DISPLACER	03051-0167
2AS-SRD-VF	VERTICAL DISPLACER	03051-0209
2AS-TLD-VF	VERTICAL DISPLACER	03051-0217
2AS-TRD-VF	VERTICAL DISPLACER	03051-0332