



PS-2 Series Pressure Sensor

Eliminates Atmospheric Bleed Gas from GE's Becker Products' Double-Acting Control Instrumentation When Control Valve is Fully Open or Closed; Is Typically Used When Power Supply Gas and Bleed to Pressure System are Elevated*

Description

The PS-2 Series non-bleed sensor eliminates bleed gas from GE's Becker Products' seat and nozzle type double-acting control instrumentation when the corresponding control valve is in the full-open or full-closed position. It is ideal for monitor regulators and standby regulators that typically remain in the full-open or full-closed positions. The PS-2 sensor features bleed shutoff at one end of valve travel. If bleed shutoff is needed at both ends of valve travel, two PS-2 non-bleed sensors are required. The PS-2 sensor is typically used for high pressure power supply gas (> 150 psig) or when Bleed to Pressure System (BPS*) discharge pressures exceed 60 psig. The PS-2 sensor is compatible with the VRP-CH valve regulator pilot and HPP-4 high pressure positioner.

Features

- Is compatible with:
 - Becker seat and nozzle type double-acting control instrumentation
 - High pressure power supply gas
 - High BPS discharge pressure
- Reduces leak callouts
- Complies with EPA STAR program for emissions reduction
- Improves safety by eliminating constant emissions
- Renders monitor, standby, and relief valve control valves
- Non-Bleeding

Available Models

- PS-2-200 ($P_{supply} \leq 200$ psig)
- PS-2-600 ($P_{supply} > 200$ psig)

Schematic Legend

- Sensing Pressure (P_s)
- Upstream Pressure (P_1)
- Exhaust (Discharge)
- Supply Gas (Regulated)
- Intermediate Pressure (Loading)

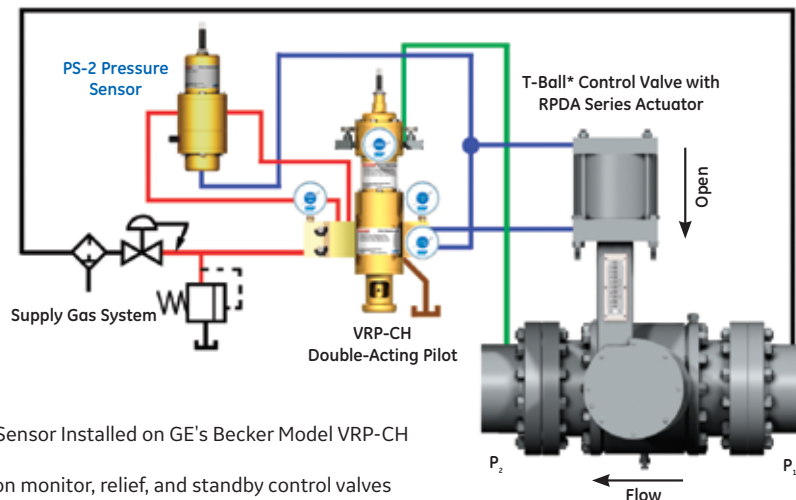


Figure 2 - PS-2 Series Non-Bleed Sensor Installed on GE's Becker Model VRP-CH Valve Regulator Pilot
 The PS-2 sensor is typically used on monitor, relief, and standby control valves that remain in full-open or full-closed positions for extended periods of time. The PS-2 sensor eliminates the constant bleed gas emissions without affecting control accuracy or reliability.



Figure 1 - Model PS-2-200 non-bleed sensor
 The non-bleed sensor renders Becker seat and nozzle double-acting control instrumentation non-bleeding when the corresponding control valve is at the full-open or full-closed positions. The PS-2 sensor features high pressure capabilities when power supply gas and discharge pressure gas are elevated.

Compatible Instrumentation

- Model VRP-CH
- Model HPP-4

May Be Easily Retrofit to Discontinued Becker Products from GE

- Model HPP-2
- Model HPP-2E
- Model VRP

Table 1 - PS-2 Non-Bleed Sensor Model Information (Specifications)

PS-2 Model	Setpoint Range (psig/kPa)	Spring Color	Spring Part Number	Psupply (Minimum)	Psupply (Maximum)	Weight	PS-2 Part Number	PS-2 Repair Kit Part Number
PS-2-200	5.0 - 40 psig (34.5 - 278 kPa)	Green	20-2592	5.0 psig (34.5 kPa)	200 psig (1380 kPa)	7.0 lbs. (3.2 kg)	25 - 1501	25 - 1513
	10 - 70 psig (68.9 - 483 kPa)	Silver	25 - 1038	5.0 psig (34.5 kPa)	200 psig (1380 kPa)	7.0 lbs. (3.2 kg)	25 - 1501	25 - 1513
	25 - 140 psig (172 - 965 kPa)	Blue	25 -1036	5.0 psig (34.5 kPa)	200 psig (1380 kPa)	7.0 lbs. (3.2 kg)	25 - 1501	25 - 1513
	50 -200 psig (345 - 1379 kPa)	Red	25 - 1037	5.0 psig (34.5 kPa)	200 psig (1380 kPa)	7.0 lbs. (3.2 kg)	25 - 1501	25 - 1513
PS-2-600	200 -475 psig (1379 - 3275 kPa)	White	25 - 1279	200 psig (1380 kPa)	600 psig (4137 kPa)	8.0 lbs. (3.72 kg)	25 - 1502	25 - 1513
	400 - 600 psig (2758 - 4137 kPa)	Yellow	25 - 1306	200 psig (1380 kPa)	600 psig (4137 kPa)	8.0 lbs. (3.72 kg)	25 - 1502	25 - 1513
PS-2-200-SS	5.0 - 40 psig (34.5 - 278 kPa)	Green	20 - 2592	5.0 psig (34.5 kPa)	200 psig (1380 kPa)	21 lbs (9.5 kg)	25 - 6055	25 - 1513
	10 - 70 psig (68.9 - 483 kPa)	Silver	25 - 1038	5.0 psig (34.5 kPa)	200 psig (1380 kPa)	21 lbs. (9.5 kg)	25 - 6055	25 - 1513
	25 - 140 psig (172 - 965 kPa)	Blue	25 - 1036	5.0 psig (34.5 kPa)	200 psig (1380 kPa)	21 lbs. (9.5 kg)	25 - 6055	25 - 1513
	50 - 200 psig (345 - 1379 kPa)	Red	25 - 1037	5.0 psig (34.5 kPa)	200 psig (1380 kPa)	21 lbs. (9.5 kg)	25 - 6055	25 - 1513
PS-2-600-SS	200 - 475 psig (345 - 3275 kPa)	White	25 - 1279	200 psig (1380 kPa)	600 psig (4137 kPa)	24 lbs. (10.9 kg)	25 - 6118	25 - 1513
	400 - 600 psig (2758 - 4137 kPa)	Yellow	25 - 1306	200 psig (1380 kPa)	600 psig (4137 kPa)	24 lbs. (10.9 kg)	25 - 6118	25 - 1513

Notes: "SS" Suffix indicates 304 Stainless Steel (99% Passivated) materials of construction on major components.



Figure 3 - Model PS-2-200 Non-Bleed Sensor



Figure 4 - Model PS-2-600 Non-Bleed Sensor

Table 2 - PS-2 Non-Bleed Sensor (Specifications)

Technical Specifications

Ambient Temperature Range	-20°F to +160°F (-29°C to +71°C)
Port Sizes (All Ports)	1/4-inch FNPT
Cv (Flow Coefficient)	0.991
Installation Orientation	Vertical Orientation Recommended

Table 3 - PS-2 Non-Bleed Sensor (Specifications)

Dimensions

PS-2-200	3.75-inch dia. x 9.0-inch ht. (95 mm dia. x 229 mm ht.)
PS-2-600	3.75-inch dia. x 10.0-inch ht. (95 mm dia. x 254 mm ht.)
PS-2-200-SS	3.75-inch dia. x 9.0-inch ht. (95 mm dia. x 229 mm ht.)
PS-2-600-SS	3.75-inch dia. x 10.0-inch ht. (95 mm dia. x 254 mm ht.)

Figure 5 - PS-2-200 Non-Bleed Sensor Exploded View

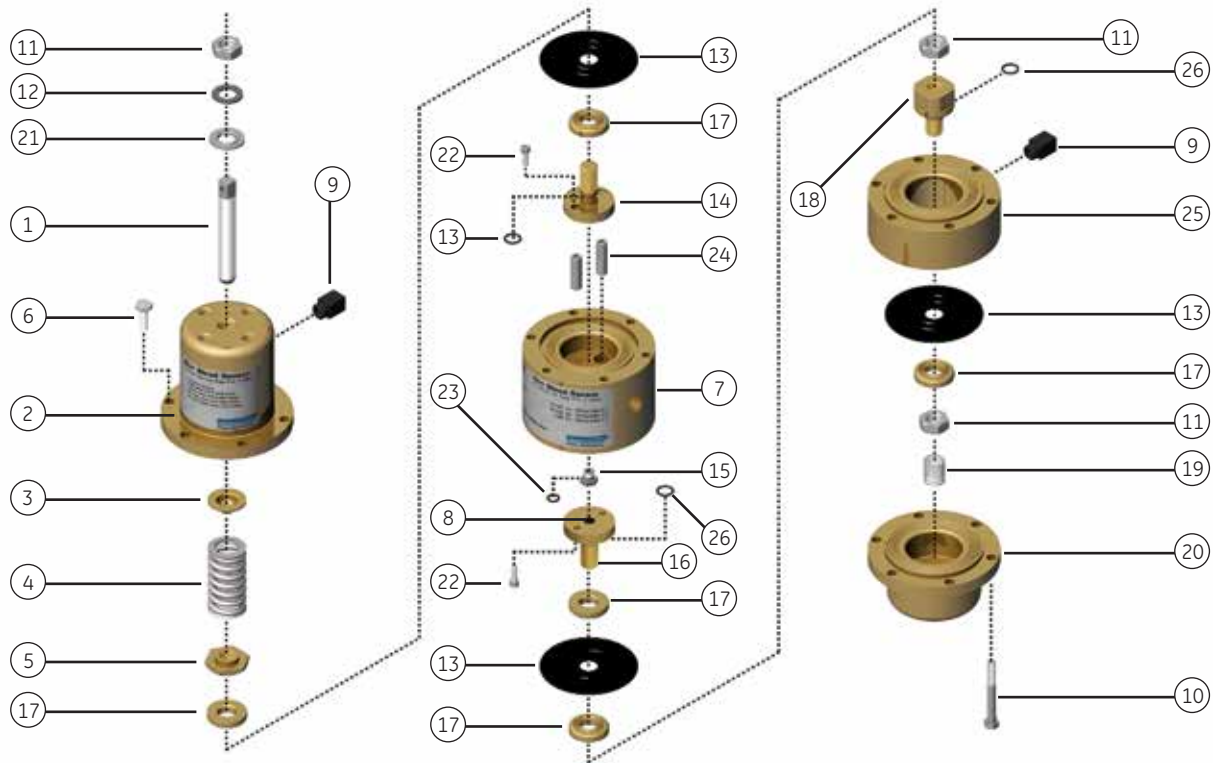


Table 4 - PS-2 Non-Bleed Sensor (Description)

Item	Description	Part No.	Qty	Note	Item	Description	Part No.	Qty	Note
1	Adjusting Screw	25 - 1035	1		14	Outside Piston	25 - 1019	1	
2	Spring Cartridge	25 - 1009	1	2	15	1/8 Nozzle	25 - 1030	1	
3	Spring Seat	25 - 2503	1		16	Bottom Inside Piston	25 - 1018	1	
4	Spring		1	1	17	Diaphragm Washer	25 - 1016	5	
5	Spring Nut	25 - 1076	1		18	Bottom Piston	25 - 1177	1	
6	1/4 - 20 x 3/4 HHCS 316 SS	98 - 3137	6		19	Bottom Spring	25 - 1033	1	
7	Sensing Body	25 - 1039	1	2	20	Pressure Cartridge	25 - 1022	1	2
8	Buna-N-Seat	25 - 1031	1	3	21	Thread Seal	25 - 1203	1	3
9	1/4 Vent Elbow	01 - 2572	2		22	8-32 x 1/2 SHCS	98 - 2514	4	
10	1/4-20 x 2 HHCS 316 SS	95 - 2609	6		23	O-Ring - 010	95 - 2509	1	3
11	1/2-inch-20 Hex Jam Nut	98 - 3056	3		24	Pilot Post	25 - 1023	2	
12	1/2-inch S.S. Washer	98 - 3185	1	3	25	Bottom Spacer	25 - 1176	1	2
13	Diaphragm w/ Convolute	95 - 2615	3	3	26	O-Ring - 012	95 - 2515	3	3

Notes

1. Spring selected per specific PS-2 Model. Reference Table 1.
2. Major pressure containing (body) parts are manufactured from anodized AL2024 on standard models. "SS" stainless steel models major pressure containing (body) parts are manufactured from 304 stainless steel (99% passivated).
3. Indicates items included in standard repair kit for all PS-2 models (25-1513)

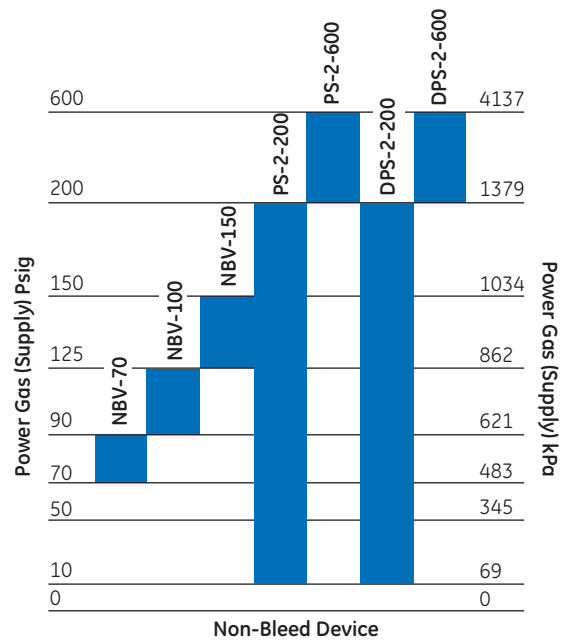
Table 5 - Application Guidelines for GE's Becker Products

	VRP-CH Pilot	VRP-B-CH Pilot	VRP-SB-CH	VRP-SB-PID	HPP-4 Positioner	HPP-5 Positioner	HPP-SB Positioner	DNGP Positioner	Notes
Instrumentation Options									
Bleed to Pressure System (BPS)	•		•		•	•	•	•	1
AB Series Atmospheric Bleed Control	•		•		•	•	•	•	
NBV Series No-Bleed Valve	•	•			•	•			2
OPS-2 Series Non-Bleed Sensor	•	•			•	•			3
PS-2 Series Non-Bleed Sensor	•				•				3
SP Series Setpoint Pump	•	•	•	•					
RSM Series Remote Setpoint Module	•	•	•	•					
Panel Mounting	•	•	•	•				•	
Stainless Steel Option	•	•	•	•	•	•	•	•	
VB Series Volume Booster	•		•	•	•		•		4
QEV Series Quick Exhaust Valve							•		
I/P Transducer					•	•	•		
SLV Series Signal Lock Valve					•	•	•		

1. BPS is limited to pressure systems below 300 psig. Consult GE for assistance.
2. NBV no-bleed valves may only be used when $P_{Discharge} \leq 60$ psig (414 kPa) and/or $P_{Supply} \leq 150$ psig (1034 kPa).
3. PS-2 and DPS-2 non-bleed sensors must be used when $P_{Discharge} > 60$ psig (414 kPa) and/or $P_{Supply} > 150$ psig (1034 kPa).
4. VB Series volume boosters are necessary for power plant regulation, surge control applications, or when Large Model RPDA and LPDA Series actuators are used.

***CAUTION:** This information is intended as a guideline for application of GE's products. GE strongly recommends consulting GE prior to application of any product.

Table 6 - Non-Bleed Device Selection Chart (Bleed to Atmosphere Applications)



Notes

1. All non-bleed devices are only used with double-acting actuators and double-acting control instrumentation.
2. The NBV series can be used with all Becker pneumatic double-acting instrumentation and does not require tubing or adjustment.
3. The PS-2 series can be used with the Becker VRP-CH series and model HPP-4 but requires proper adjustment and additional tubing.
4. The DPS-2 series can be used with all Becker pneumatic double-acting instrumentation but requires proper adjustment and more tubing than the PS-2 series.
5. The PS-2 and DPS-2 series non-bleed sensors have greater sensitivity than the NBV series, resulting in activation and deactivation much closer to setpoint.
6. This selection chart shows the power gas pressure range for instrumentation bleeding to atmosphere. Please consult the GE factory for proper selection of non-bleed device if the control instrumentation is bleeding to a pressure system.