

# Pasve Rotary Retraction Valve

- PATENTED, UNIQUE ROTARY VALVE DESIGN provides cleaning and calibrating without sensor removal or process shutdown.
- FOR USE WITH ROSEMOUNT ANALYTICAL'S pH SENSORS Model 389 and TUph™ Models 396 and 396P.
- FLANGE, PIPE, AND TANK MOUNTING AVAILABLE.
- PRESSURE RATING UP TO 150 PSIG
- EXCELLENT FOR USE IN PULP STOCK LINES
- GREAT FOR DIRTY, COATING, AND/OR ABRASIVE APPLICATIONS typically found in the Pulp and Paper, Chemical, and Mining Industries
- MANUAL OR AUTOMATIC ROTATION AVAILABLE
- EXTENDED SENSOR LIFE: Sensor can rotate into process for critical measurement, then rotate out and be flushed with water until next measurement is needed. Especially useful in critical, harsh processes.



## FEATURES AND BENEFITS

The PASVE is an industrial rotary valve that is ideal for heavy duty use such as in chemical processing and the pulp and paper industry. The PASVE has few moving parts and requires little maintenance. It simply rotates in and out of the process with enough power to break most coatings and ensure your sensor is never stuck. The PASVE valve can be easily installed via ANSI flanges, or welded to your process line or tank.

**Mounting Options:** The PASVE valve has many versatile installation options. Please note that we recommend installing a pH sensor with a minimum 15° angle to the horizontal. The option -B tilts the sensor to provide the angle for a direct welded installation. The options -C and -P allow for direct mounting on a container or pipe. Flange mounting (-FA or -FB) is a valuable option for relocation or modular construction. Complete flow through assemblies (-DH2 and -DU2) are available for smaller line sizes or bypass lines.

**Actuator Options:** The pH sensor can be removed from the process manually by rotating a handle. If desired, a mechanical actuator can be supplied to perform this task remotely, periodically, or based on a diagnostic reading. The electric actuator (option -AE) is recommended for this purpose. Alternatively, pneumatic actuators with double-action (-AD3) and spring-return (-AS3) are also available.

**NEW! Jet Spray cleaning:** An added feature for increased versatility is a process side flushing nozzle that allows cleaning of the sensor while still in the process. Although this cleaning will not be as powerful as in the cleaning position, it is yet another technique for automating the cleaning cycle.

**Safe Cleaning and Maintenance Under Pressure:** The sensor in the off-line position is thoroughly and automatically cleaned without subjecting the operator to harsh chemicals. The probe can also be easily removed for manual calibration without disrupting the process or calibration can be performed automatically by sending buffer solutions through the wash port.

**Increasing Sensor Performance:** With more frequent cleaning in troublesome, coating applications, response time is greatly improved, resulting in more optimal process control.

**Operation:** The PASVE provides safe automated cleaning under high pressures, up to 570 psig\*, due to the unique and patented design. In the service and calibration position, the probe is simply rotated to the off-line position and completely sealed from the process to prevent cross contamination. Next, a jet of flushing water or other cleaning solution contacts the pH sensing element, effectively and safely removing debris, to guarantee accurate pH measurement without lowering line pressure.

The Rosemount Analytical Model 54e pH/ORP Analyzer used in conjunction with the PASVE pH valve provides full process diagnostics and timing capabilities to ensure efficient and reliable cleaning. For example, Ingerois Paper Board Mill has minimized the maintenance and improved the accuracy of the measurements in white water and broke stock, with the use of this loop.

*\*compatible pH sensors are rated to a maximum of 150 psig.*

## SPECIFICATIONS

### Process Connection:

- C Welded on Tank
- B Welded on Tank w/15 degree angle
- P Welded on Pipe
- FA/FB Flange Mounted
- DH2/DU2 Flow-through with flanges

**Wetted Materials\*:** 316LSS, PTFE, graphite (optional)

**Maximum Temperature:** 212°F (100°C)

**Maximum Pressure:** 150 psig (1136 kPa)

**Cleaning Ports:** ¼ inch

**Compatible pH Sensors:** 396, 396P, 389\*\*

*\*Consult factory for other available materials*

*\*\*Pressure rating on Model 389 sensor is 100 psig (790 kPa)*

*Specifications subject to change without notice.*

## INDUSTRIES AND APPLICATIONS

### Pulp and Paper

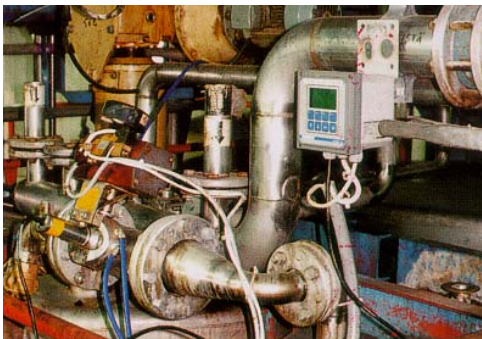
- Headbox
- White water
- Stock preparation

### Water Treatment

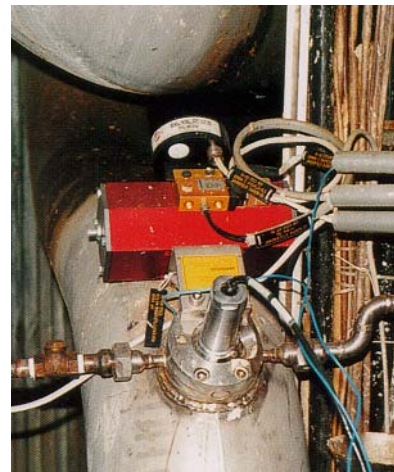
- Neutralization
- Coagulation and Flocculation
- Scrubbers

### Pharmaceutical and Food & Beverage

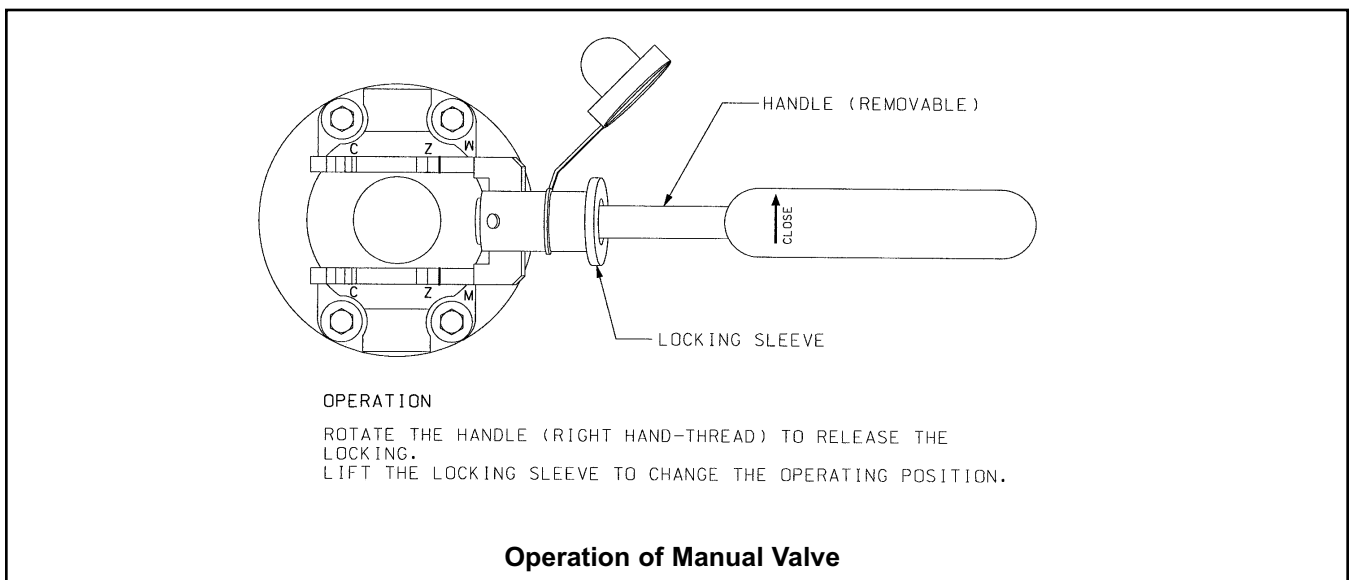
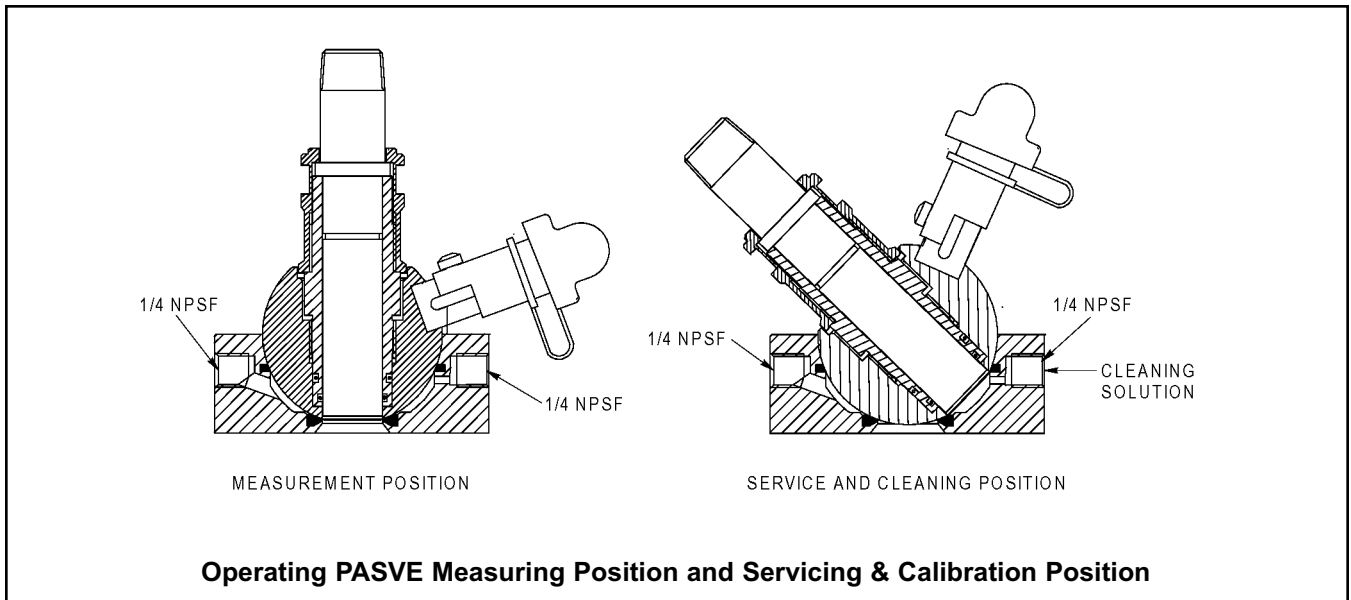
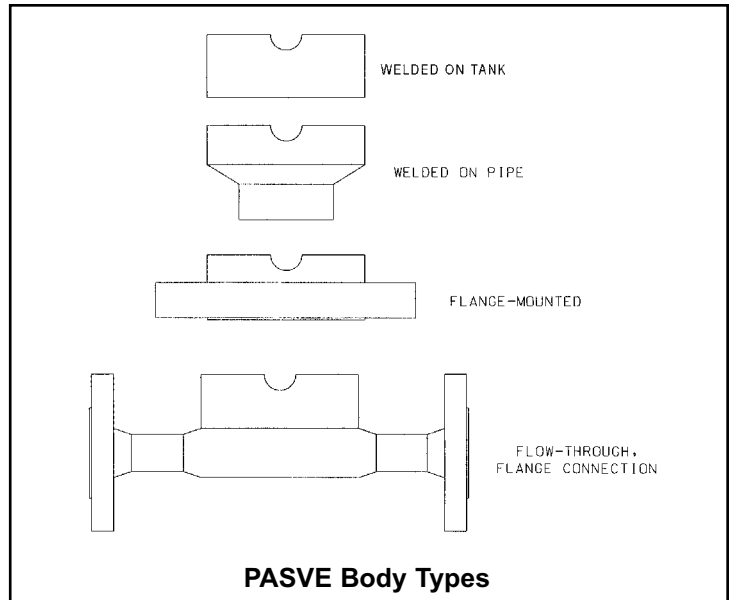
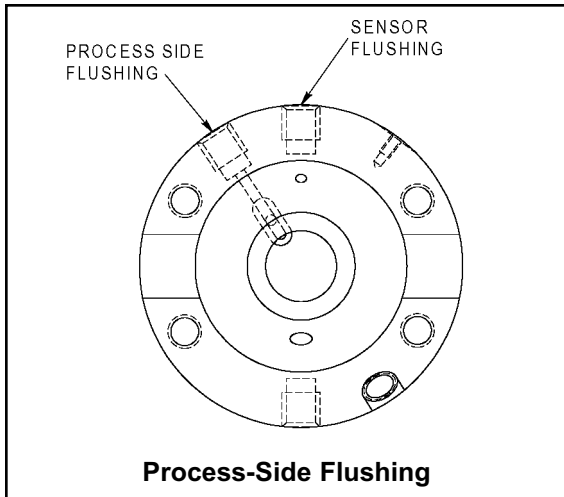
- COP (clean-out-of-place)
- Bulk ingredients

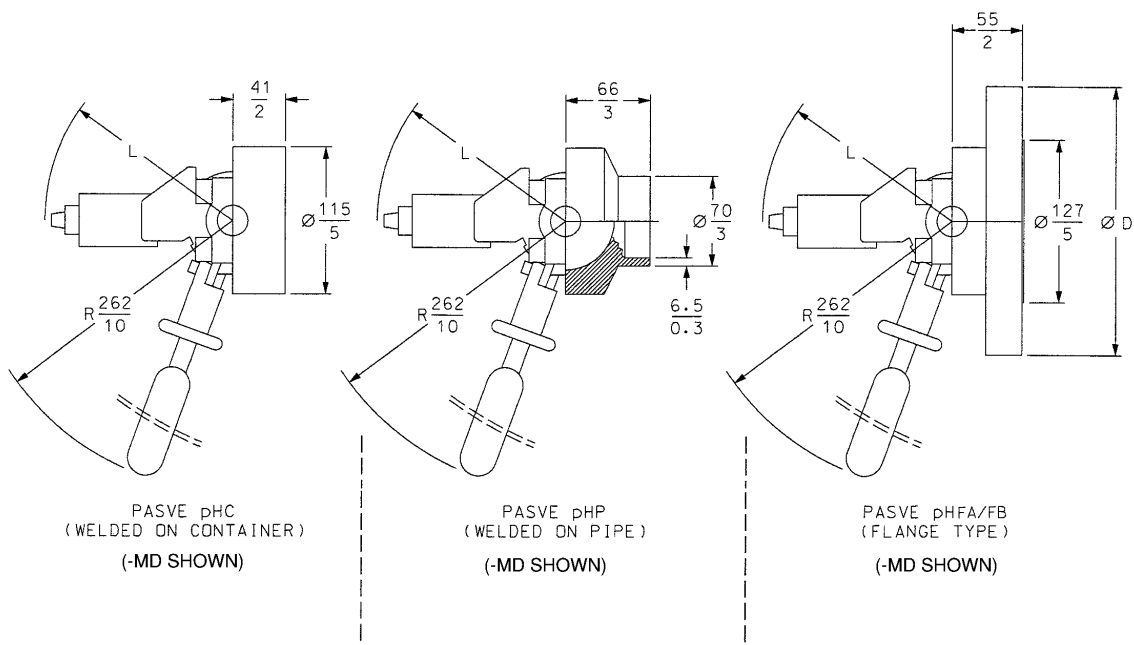


**PASVE and Model 54e in a pulp mill**

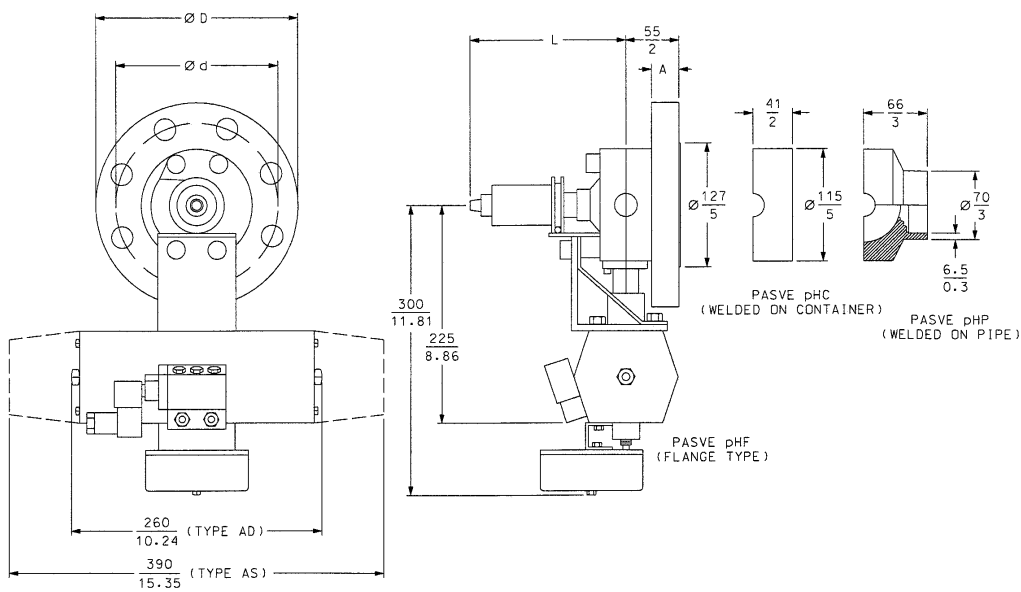


**Pneumatic PASVE mounted on a pipe**





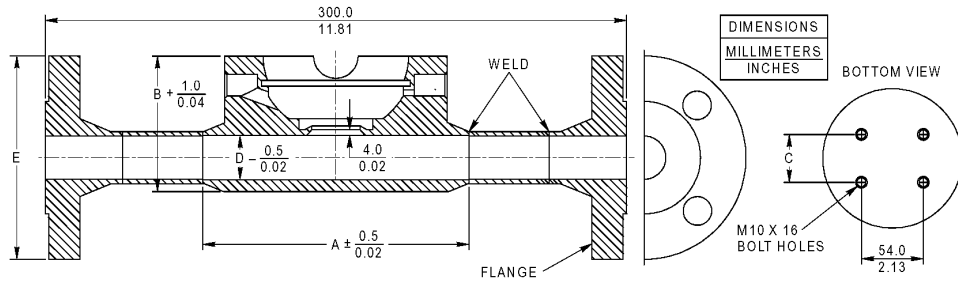
**Flanged & Welded on Pipe or Tank PASVE pHc/P/F Manually Operated Dimensional Drawing.**



FLANGE	DIMENSIONS		
	Ø D	Ø d	A
FA ANSI 3" 150 LBS	191mm/7.52inch	152.4mm/6.01inch	22mm/.87inch
FB ANSI 3" 300 LBS	210mm/8.25inch	168.3mm/6.63inch	27mm/1.06inch

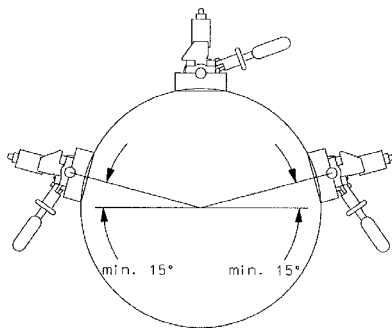
L DIMENSION DEPENDS ON THE SENSOR TYPE.

**Flanged Process Connection PASVE pHc/P/FA/FB Pneumatic Operated Dimensional Drawing.**

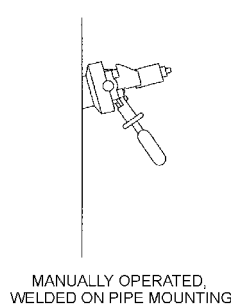


Option	Flange	Dimensions for Figure									
		A		B		C		D		E	
		mm	in.	mm	in.	mm	in.	mm	in.	mm	in.
DH2	ANSI 1-in. 150 lb	134	5.3	77	3.0	48	1.9	28	1.1	108	4.3
DU2	ANSI 2-in. 150 lb	126	5.0	104	4.1	76	3.0	54	2.1	152	6.0

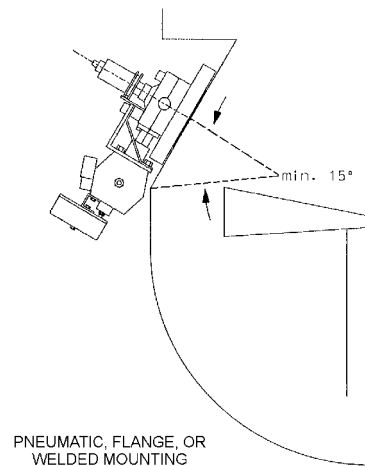
**Dimensions for Flow-Through Models -DH2 and DU2**



MANUALLY OPERATED, FLANGE, OR WELDED ON TANK MOUNTING

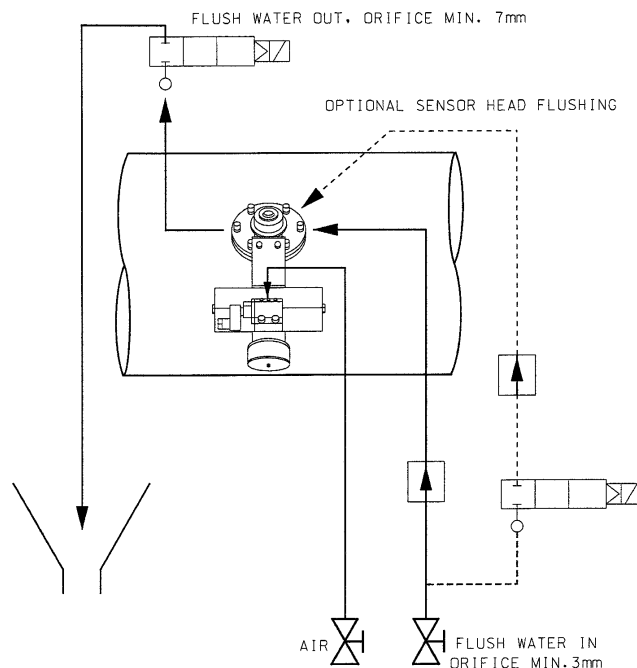


MANUALLY OPERATED, WELDED ON PIPE MOUNTING



PNEUMATIC, FLANGE, OR WELDED MOUNTING

**PASVE C/P/FA/FB Recommended Installation for Flanged or Welded Mounting**



**PASVE Example of Flush Water Set-Up**

## ORDERING INFORMATION

The PASVE pH Rotary Retraction Valve is designed for safe, continuous measurement and on-line maintenance in tanks and pipelines to prolong sensor life, increase accuracy, and reduce maintenance requirements in harsh, coating applications, typically found in the pulp and paper industry. The valve operates via rotary motion to remove the electrode from the process for cleaning or storage and then rotates back to the sensing position when cleaning is completed. The sensor can also be safely removed from the valve under pressure, without process disruption or leakage for calibration and other routine maintenance.

MODEL PASVE pH Rotary Retraction Valve	
CODE	MOUNTING METHODS
C	Welded on tank
B	Welded on tank with 15° angle
P	Welded on pipe
FA	Flange mounted 3" ANSI, 150#
FB	Flange mounted 3" ANSI, 300#
DH2	Flow through 1" ANSI 150# flanged connection
DU2	Flow through 2" ANSI 150# flanged connection
CODE	SEALS
0	PTFE (Teflon) with graphite and carbon
1	100% PTFE (Teflon)
CODE	ELECTRODE HOLDER TYPES
R10	Rosemount Analytical Model 389
R40	Rosemount Analytical Model 396
R60	Rosemount Analytical Model 396P
CODE	ACTUATOR
MD	No actuator, for manual use only
AD3	Double-action/solenoid 115 VAC 60 Hz
AE	Electric Actuator 115 VAC 60 Hz
AS3	Spring-return/solenoid 115 VAC 60 Hz
CODE	POSITION SWITCH
0IEO	None
XIEO	Standard

Notes: Consult factory for other materials of construction, such as titanium or Hastelloy C.

### Emerson Process Management

#### Rosemount Analytical Inc.

2400 Barranca Parkway  
Irvine, CA 92606 USA  
Tel: (949) 757-8500  
Fax: (949) 474-7250

<http://www.raihome.com>

© Rosemount Analytical Inc. 2003

