TRIMTECK®
OPTIMUX®

HPP Series

HPP4000™ HART® Smart Valve Positioner
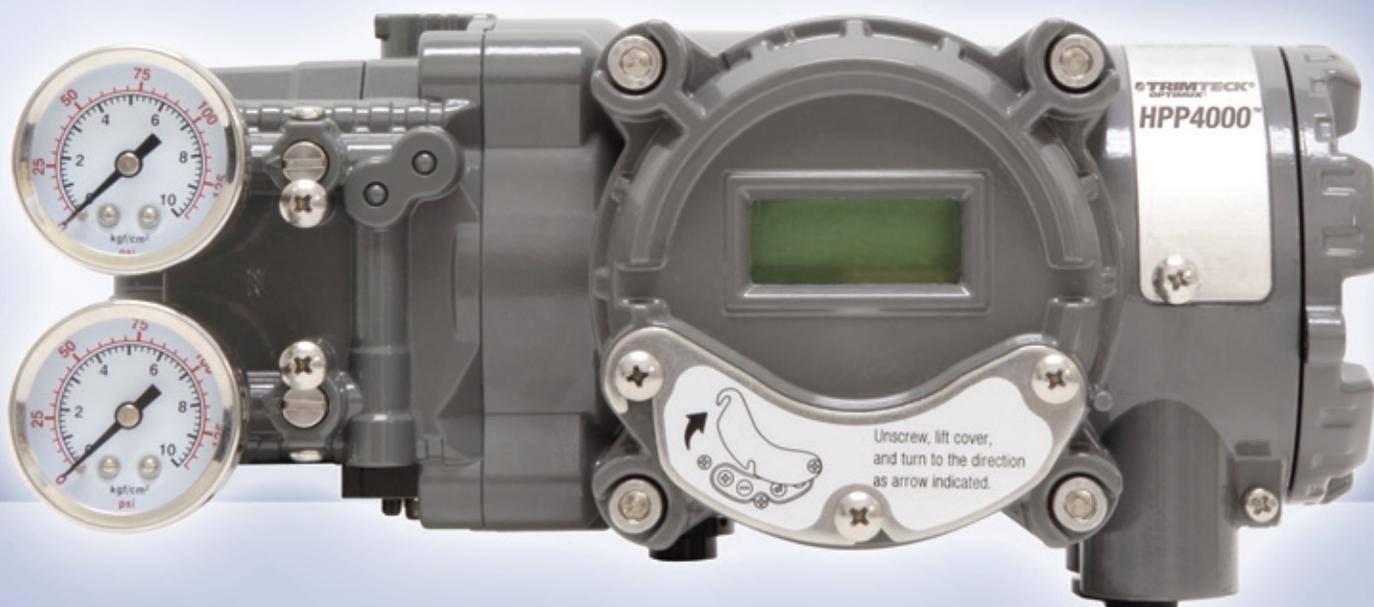
HPP4000™ HART® Smart Valve Positioners
Introduction

Our new HPP4000 brings to the market all the field proven attributes of our former HPP3000 plus all the additional features our users have requested for the past few years: LCD Display, 4-20mA feedback signal, HART® communication protocol and Auxiliary Limit Switches, all of these within our legendary and well proven robust enclosure capable of sustaining the most rigorous industrial plant conditions.

But this is not all, the HPP4000 was designed to accurately position your control valve and to operate it efficiently at the lowest possible air consumption (LPM) bellow 3 LPM @ 100 psi. This feature alone represents considerable potential savings in compressed air plant capacity.

Pipeline vibration continues to be the main cause for unexpected failures on digital positioners which in turn causes downturns on control valves performance. The HPP4000 offers an outstanding vibration tolerance of 6 G at 5 to 400 Hz, three times higher than what we offered with our former Optimux HPP3000.

The HPP4000 incorporates all the smart features you would expect from a truly state-of-the art digital positioner: Quick - Auto Set Up and calibration, flow characteristics customization in 16 points, tight shut off, PID parameters selection, A/M switch, 4-20mA feedback signal, split range 4-12mA or 12-20mA, Auxiliary limit switches which eliminates the need for external cumbersome switches, and others.

When the HPP4000 receives a signal from a Hart® or regular 4-20mA control instrument, it accurately modulates the air supply to the control valve actuator, thus providing accurate and fast valve position, which is proportional to the 4-20mA control signal. The accuracy and responsiveness of the HPP4000 greatly contributes to obtain the best performance from any control valve, within a process control loop, or as a stand-alone application.

HPP4000™ Features & Advantages

EASY TO USE
• Auto Setup

The Auto-setup function is a fully automatic configuration internal program which optimizes the HPP4000 to fit the unique operating characteristics of the actuator and valve in which it is installed on. During the Auto-setup cycle the HPP4000 recognizes, measures and stores in its memory key performance parameters such as hysteresis, air volume required by the actuator, valve packing friction and others and configures itself for an optimal performance.

• Flexibility in Installation

The HPP4000 is available to be mounted in Linear or Rotary valves. Stroke levers, fork levers and direct NAMUR mounting are available within the same model.

• High reliability

The Tight shut-off and shut-open functions assure positive seal between the plug and seat or a fully open position upon the 4-2mA command signal.

• Single Model for Multiple Applications

The HPP4000 settings can be changed without replacing any parts. A single model can be easily modified to suit any application.

– Flow characteristics: Linear, Equal Percentage, Quick Open or customized for any type of characterization by using 16 individual points.

– Actuator type: Double or single acting actuator.

• Hart Communication

Any available Hart® communicator can be used for calibration, configuration and diagnostics.

Figure 1:
HPP4000™
Auto Setup

HPP4000™
Technical Specifications

Control signal input:	4-20mA DC
Minimum current signal:	3.8mA
Output characteristics:	Linear, equal percent. , quick open, 16 points
Power requirement:	8.5 V
Impedance:	Max. 500 Ohms/20mA DC
Enclosure:	IP66
Safety certification:	Explosion Proof Ex d IIC T6
Digital communications:	HART®
Digital display:	LCD
Air supply pressure:	20 – 100 psi / 130 – 700 kPa / 1.4 – 7 Kgf/cm2
Air consumption:	Bellow 2 LPM @ 20 psi, 3 LPM @ 100 psi
Flow capacity:	70 LPM
Air connection:	NPT 1/4
Gauge connection:	NPT 1/8
Vibration tolerance:	6 G
Feedback signal:	4-20 mA DC
Auxiliary switches:	Dual limit switches
Ambient temperature:	- 40 F to 158 F (- 40 C to 85 C)
Relative humidity:	5 – 95% RH @ 40 C
Linearity:	+/- 0.5% F.S.
Hysteresis:	+/- 0.5% F.S.
Sensitivity:	+/- 0.2% F.S.
Repeatability	+/- 0.3% F.S.
Weight:	7.5 Lb (3.4 Kg)

HPP4000™ Dimensions
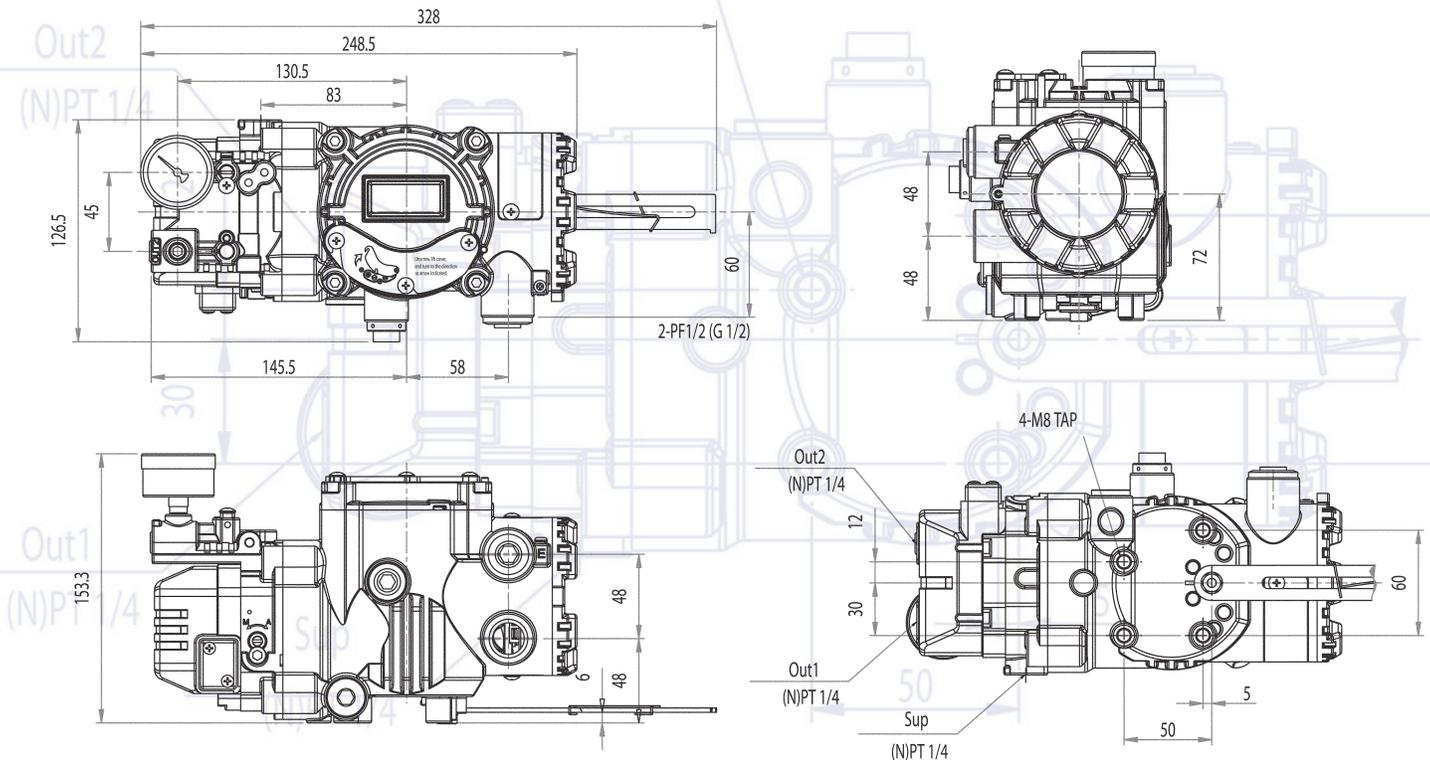
HPP4000™
Selection Guide

HPP4000™ | HART® Smart Valve Positioners

Code	Motion Type
L	Linear
R	Rotary

Code	Positioner Action
D	Direct
R	Reverse

Code	Hazardous Rating
F	Explosion Proof Ex d IIC T6*

Code	Connections
N	Electrical Connection 1/2 NPT Air Pipe Connection 1/4 NPT Gauge Connection 1/8 NPT

Code	Supply Air Pressure
S	20-100 psi (0.14 – 0.7Mpa)

Code	Pressure Gauges
Y	0-160 psi / 0 – 11 Bar*

Code	Pressure & Filter Regulator
X	Not included
Y	Included

Code	Feedback Lever Type
1	10-40mm
2	20-70mm*
3	50-100mm
4	100-150mm

Code	Rotary
1	M6x34L
2	M6x63L
3	M8x34L
4	M6x63L
5	NAMUR*

Code	Communication
H	Hart® *

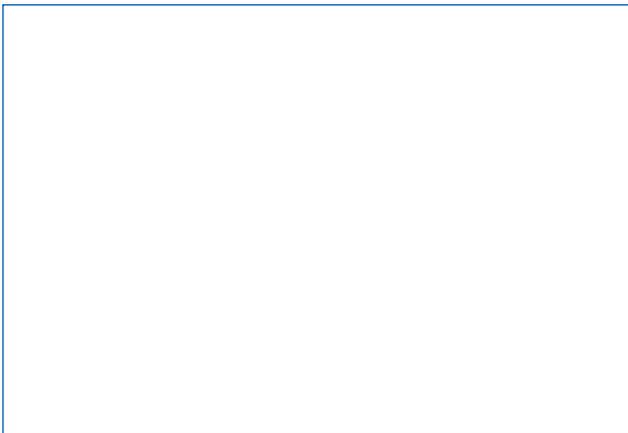| Code	Enclosure
A	Aluminum Diecasting/Epoxy Polyester Powder Coating
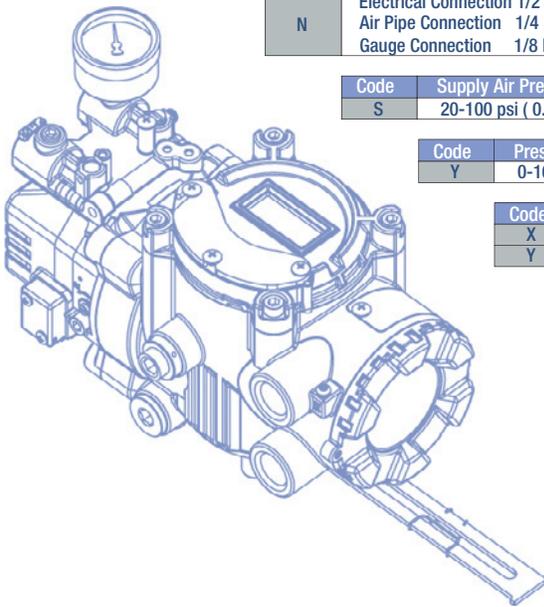
Also available are a large selection of mounting brackets for Fisher®, Masoneilan® and Valtek® actuators. Mounting brackets for other valve actuators can be designed and manufactured upon request.

*Standard Offering

For more information, visit our website at www.trimteck.com

The information and specifications described in this brochure are considered accurate, however, they are intended for information purpose only and should not be considered as certified information. Considering that Optimux products are continuously improved and upgraded, specifications, dimensions, and information described herein are subject to change without notice. For further information or verification, consult your Optimux representative. Specific instructions for installation, operation, troubleshooting and maintenance of the HPP4000 are contained on the HPP4000 users manual.