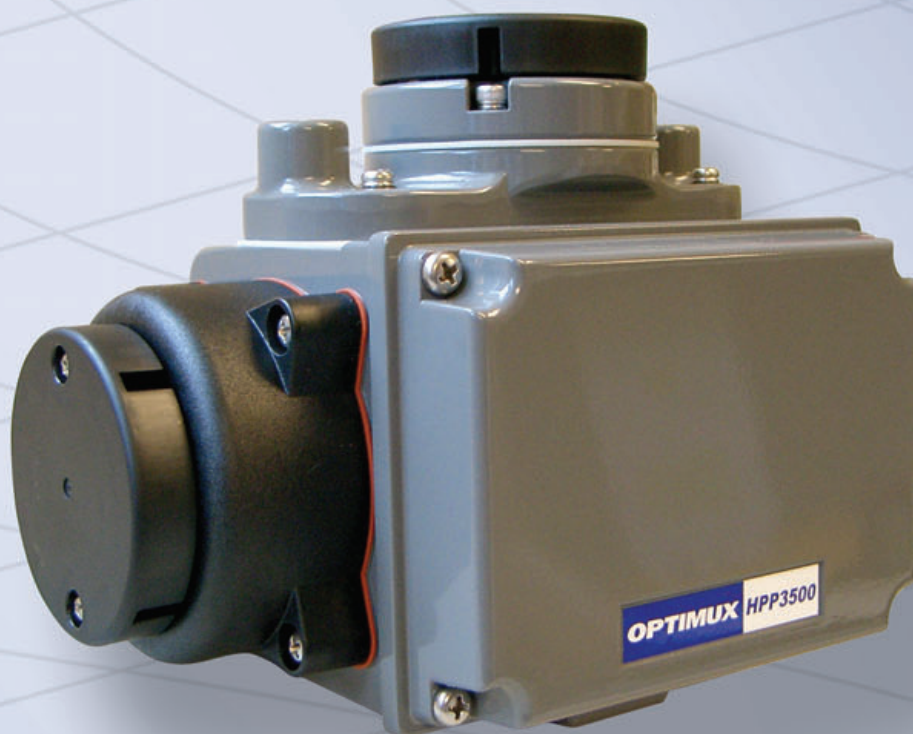


**Flow Control Products**

# ***HPP3500 Series***

*HART® Smart Valve Positioner*



**OPTIMUX®**

***Leading Technologies for Control***

## HPP3500 HART® Smart Valve Positioners

### Introduction

Optimux is proud to incorporate Yamatake's HART® Smart Valve Positioners to its control valve product family. Yamatake pioneered the introduction of smart positioners technology in the market, and continues to be a world leader with state-of-the-art and innovative field instrumentation.

The HPP3500 Series are microprocessor-equipped, current-to-pneumatic smart valve Positioners specially designed for rotary valves applications but they also display excellent control characteristics in linear valves. Optimux has standardized the HPP3500 on its entire family of rotary valves, including the new ExL Series, as well as on its new globe valve line GxL.

When our HPP3500 positioner receives a signal from a HART® or regular 4-20mA control device, It modulates the air supply to the control valve actuator, providing accurate valve position, which is proportional to the

control signal. The accuracy and responsiveness of our Smart Valve Positioners greatly contributes to obtain the best performance from any control valve, within a process control loop, or standing alone.

The HPP3500 was designed to withstand high vibration plant environments displaying vibration tolerance of 2G at 5 to 400 Hz, and its small footprint makes it ideal for easy installation on every type of control valves, including NAMUR standard mountings.

The HPP3500 incorporates most of the smart features found on the HPP3500 Series such As: Auto setup, positive seating, self diagnostics, and flow characteristics customization. When installed in combination with Optimux extensive portfolio of linear and rotary control valves, the HPP3500 delivers high control accuracy and excellent process control.

### HPP3500 Features & Advantages

#### EASY TO USE

##### • Auto Setup

The auto-setup function is a fully-automatic configuration program which specifies the actuator and adjusts the zero and span of the rotary valve. The program can be turned on simply from a switch so that adjustments to the rotary valve can be performed quickly and safely in hazardous areas.

Figure 1:  
HPP3500  
Auto Setup

#### FLEXIBILITY IN INSTALLATION

The HPP3500 is available either as a stroke lever type or a fork lever type to facilitate installation on rotary valves.

##### • Direct Mounting Type

The HPP3500 can be installed to NAMUR cylinder actuator without linkage.

##### • Stroke Lever Type

The valve stem can be adjusted with a pipe wrench for manual operation.

##### • Fork Lever Type

The HPP3500 can be mounted compactly on the upper part of the valve stem. This type of installation complies with the VDI/ VDE3845.

#### HIGH RELIABILITY

##### • Positive Seating

The positive seating function completely shuts off the valve if the input signal becomes lower than previously set. This in turn enhances the full shut-off capabilities of the valves.

##### • Self-Diagnostic

The self-diagnostic function provides with the ability to check the status of the positioner at any time and to alert in case of failure.

#### SINGLE MODEL FOR MULTIPLE SPECIFICATIONS

The HPP3500 settings can be changed without replacing any parts. A single model can be modified to suit any application.

- Flow characteristic: Linear, EQ%, quick opening or custom user characteristics (16 points)
- Actuator type: Double or single acting actuator

#### HART Communication

HART communicator model 275 can be used for calibration, configuration and self-diagnostics.

##### • Valve Diagnostic

Following parameters can be monitored by HART communicator or Control Valve Maintenance Support System "Valstaff".

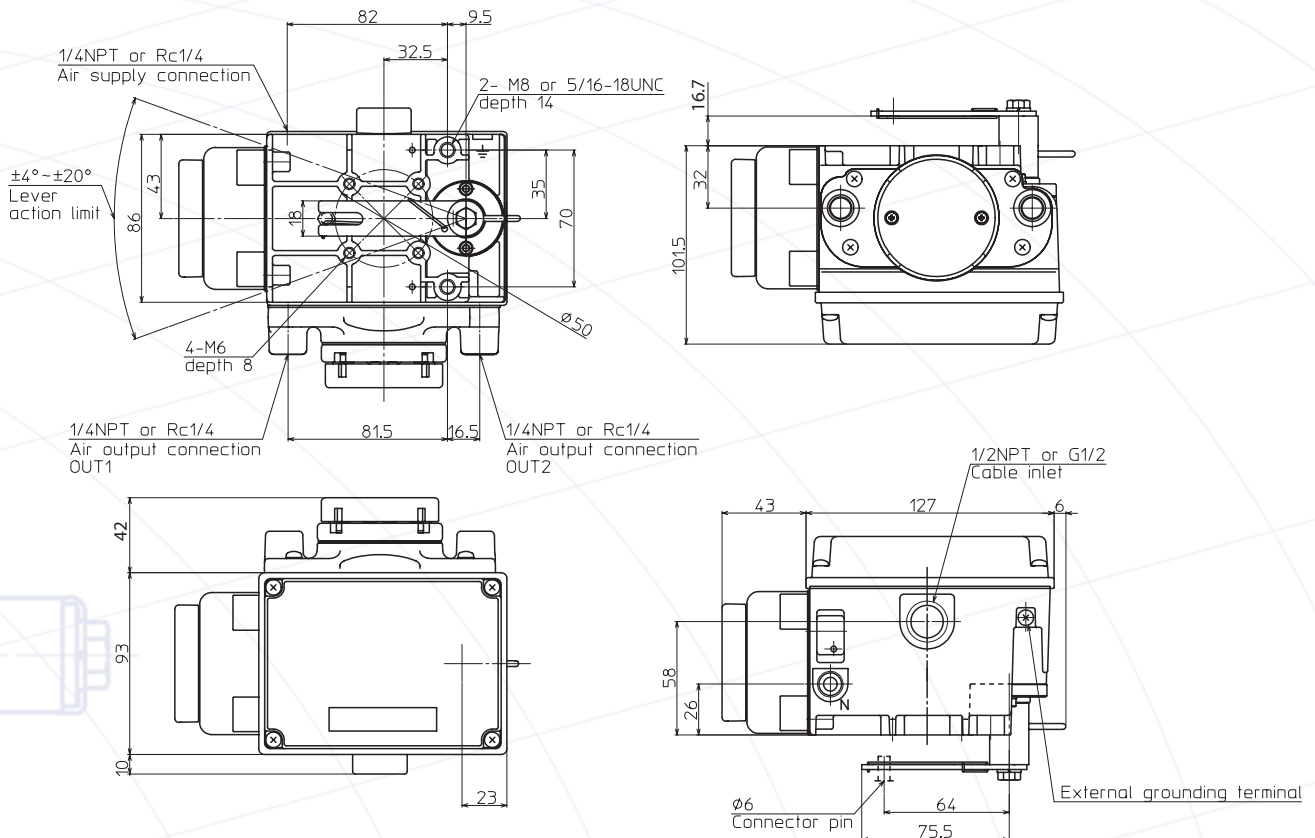
- Stick Slip
- Total Stroke
- Travel Histogram
- Cycle Count
- Shut-off Count
- Max. Travel Speed



## HPP3500 Technical Specifications

Control Signal Input:	4-20mA DC control signal
Output Characteristics:	Linear, equal percentage, quick opening and custom configurable – 16 segments.
Power Requirements:	3.85 mA DC not to exceed 24 mA DC
Enclosure:	NEMA 4X equivalent, IEC IP66 equivalent
Approval Bodies:	FM, ATEX, Intrinsically Safe
Digital Communications:	HART®
Air Supply Pressure:	20 to 100 psi (130 – 700 kPa )
Vibration Tolerance:	2 G (5 to 400 Hz)
Ambient Temperature:	- 40° F to 175° F (- 40° C to 80° C)
Relative Humidity:	10% - 90% RH
Weight:	4.8 Lbs. (2.2 Kg.) with pressure gauges
Hysteresis:	1.0% F.S.
Repeatability:	4.0% F.S.
Stem Travel Range:	Feedback lever angle +/- 4° to 20°
Air Consumption:	At stable output 50% 10L/min.(N) Maximum 60 psi (400kPa)
Configuration Tools:	HART® model 275 and Yamatake SFC160 or SFC 260 Smart Field Communicator

## HPP3500 Dimensions



# HPP3500

## Selection Guide

### HPP3500 HART® Smart Valve Positioners

Code	Hazardous Rating
F	Intrinsically safe FM CL I, II, III, Div 1 Groups A, B, C, D, E, F & G, T4
L	Intrinsically safe KEMA/ATEX II 1G EEx ia II CT4

Code	Enclosure Finish
S	Standard (Baked acrylic)

Code	Connection
N	Electrical Connection
	1/2 NPT
	Air Piping Connection
	1/4 NPT
	Mounting Thread
	M8

Code	Supply Air Pressure Classification
S	Standard 20 to 100 psi (130 to 700 kPa)

Code	Pressure Gauges
X	Not included
Y	Included

Code	Pressure Regulator with Filter
X	Not included
1	Model OPAFR pressure regulator with filter

Code	Feedback Lever Type
R	Fork lever type (Rotary valves)
S	Stroke lever type (Linear valves)
D	Direct Mounting type (Rotary valve)

Code	Mounting Brackets for Actuators <sup>1</sup>
XX	Not included
25	For Optimux 25 & 50 LA/RA Actuators
100	For Optimux 100 LA/RA Actuators

Code	Options
X	No selection
D	With Namur joints for direct mounting type
P	For single acting actuator (with plug for OUT2) <sup>2</sup>

#### HPP3500

1) Also available a large selection of mounting brackets for Fisher®, Masoneilan® and Neles® actuators. Mounting brackets for other valve actuators can be designed and manufactured upon request.

2) In the case of using the device as a single acting actuator, close the output air pressure connection plug (OUT2). The device cannot be used when the output air pressure plug (OUT1) is closed.

*For more information, visit our website at [www.optimuxcontrols.com](http://www.optimuxcontrols.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 HPP3500 are contained on the HPP3500 users manual.

Yamatake® is a trade mark of Yamatake Corporation  
HPP3500® is a trade mark of Optimux Controls