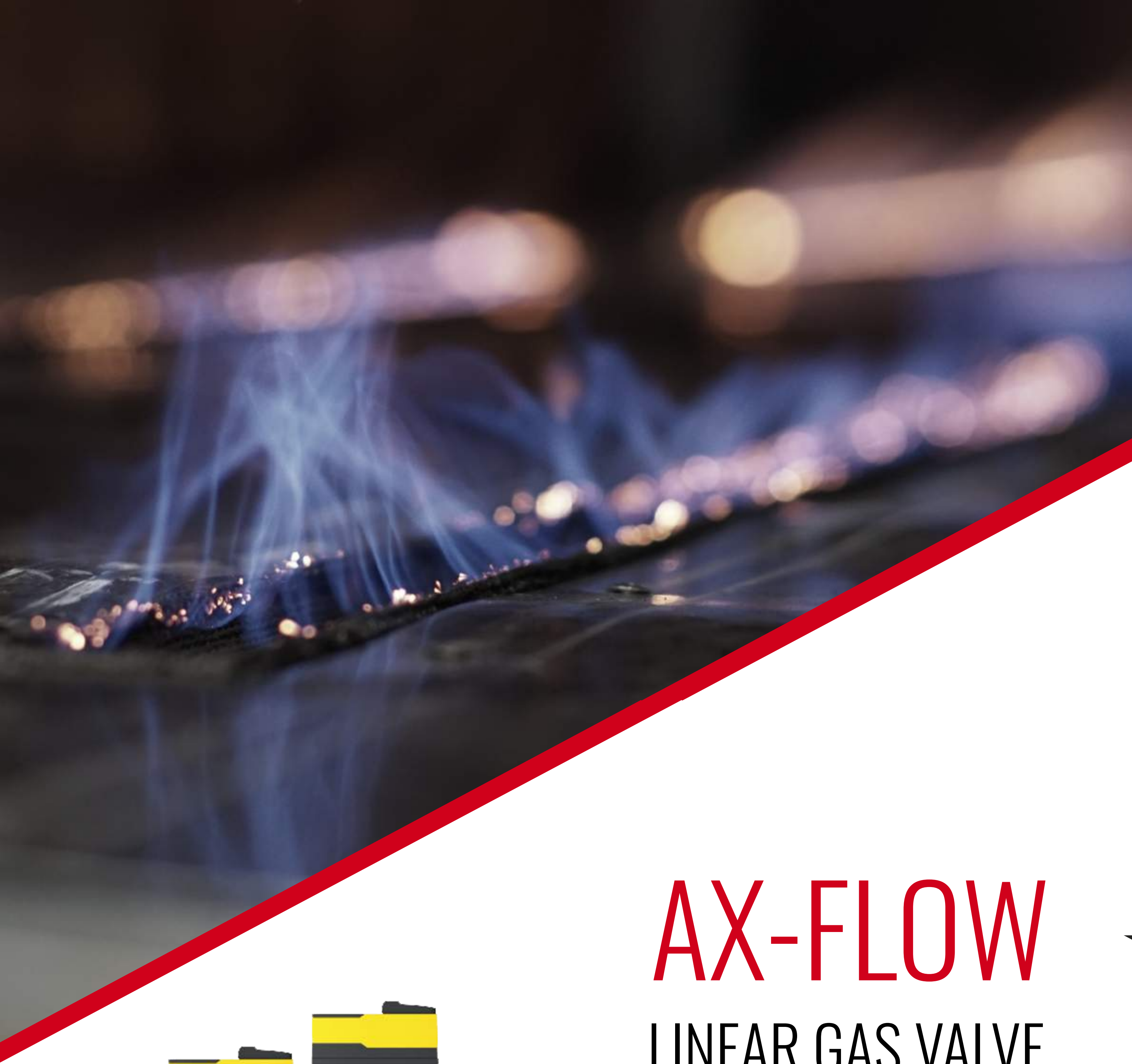
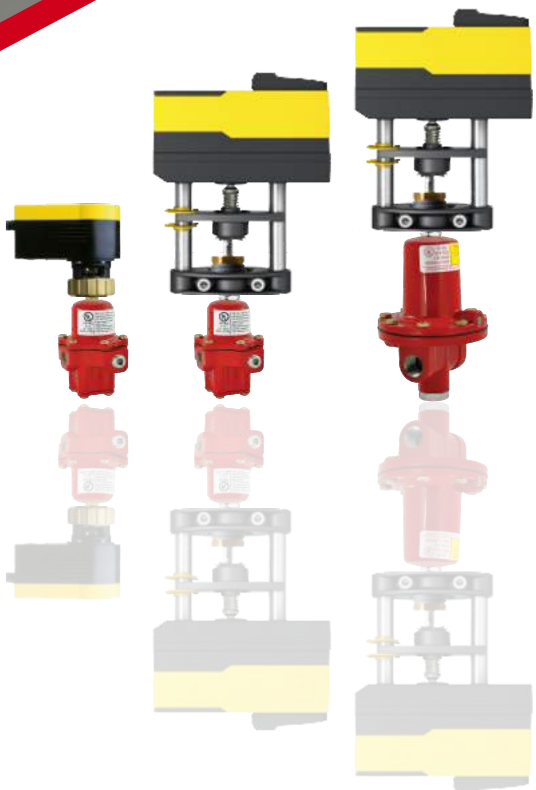


AX-FLOW

LINEAR GAS VALVE

for venturi industrial gas burners



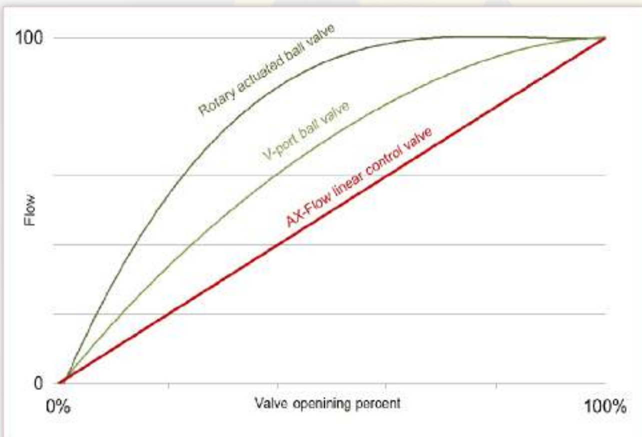
HEATwave™
process heating control solutions

Abstract

AX-Flow linear gas control valves have been introduced since early 2018 developed by PP Systems Company Limited (Thailand). The products are supplied under trademark HEATwave. Prior the development, there were several process control methods such as on-off, high-low firing and modulating gas control, using of commercial rotary actuator. However, these tend to be less control accuracy, higher overshoot and difficult to re-ignition in high turbulence circumstance likely in hot air circulation oven.

Although the modulating gas control system seems to be the best way to control atmospheric gas burner, using of commercial rotary actuator comes with non-linear full port ball valve allows very small turndown ratio which its respond between 75°-85° degree of closing at 90°.

V-port and slot port ball valve can improve its linear characteristic; however, the ball need to be custom machine even shape or size to meet individual requirement of flow and operating pressure. These tend to be high cost, less flexibility and time consume. Furthermore, the rotary actuator with slot ball valve require high skill engineer to run accurate tuning PID control loop, otherwise, the valve cannot keep setting point and oscillation will occur.

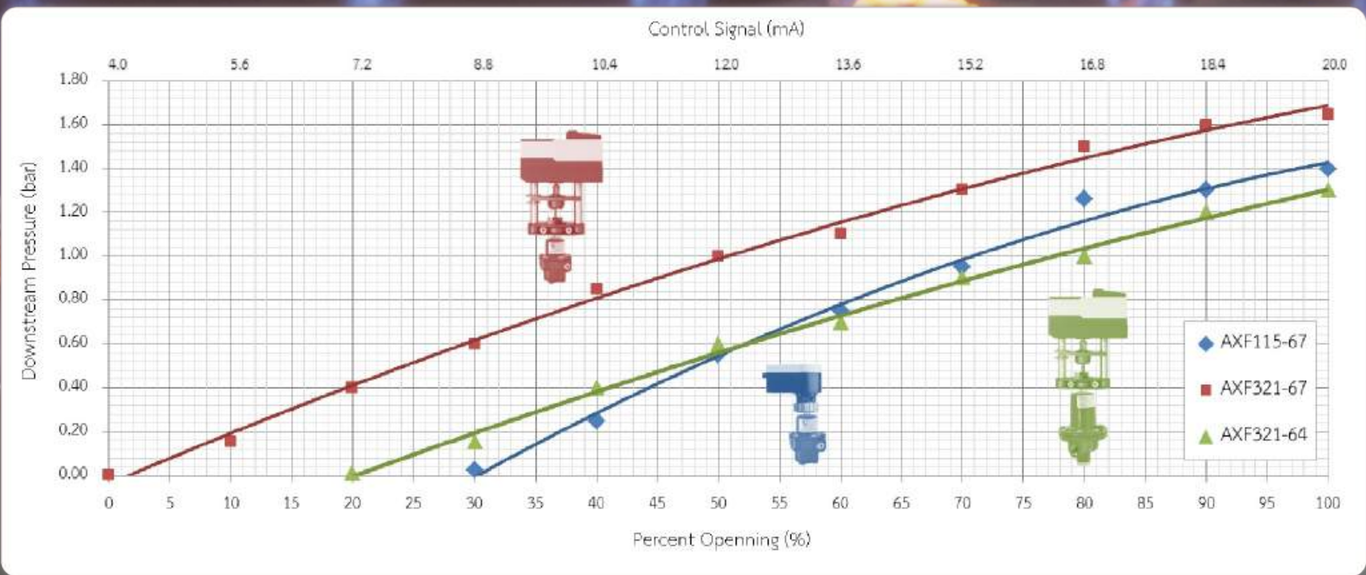


The AX-Flow control valves are our best solution for atmospheric venturi mixed gas burner, achieved better accuracy control - wider turndown ratio - less components no oscillation - easy to install - operating without professional control engineer.

Technical Specification

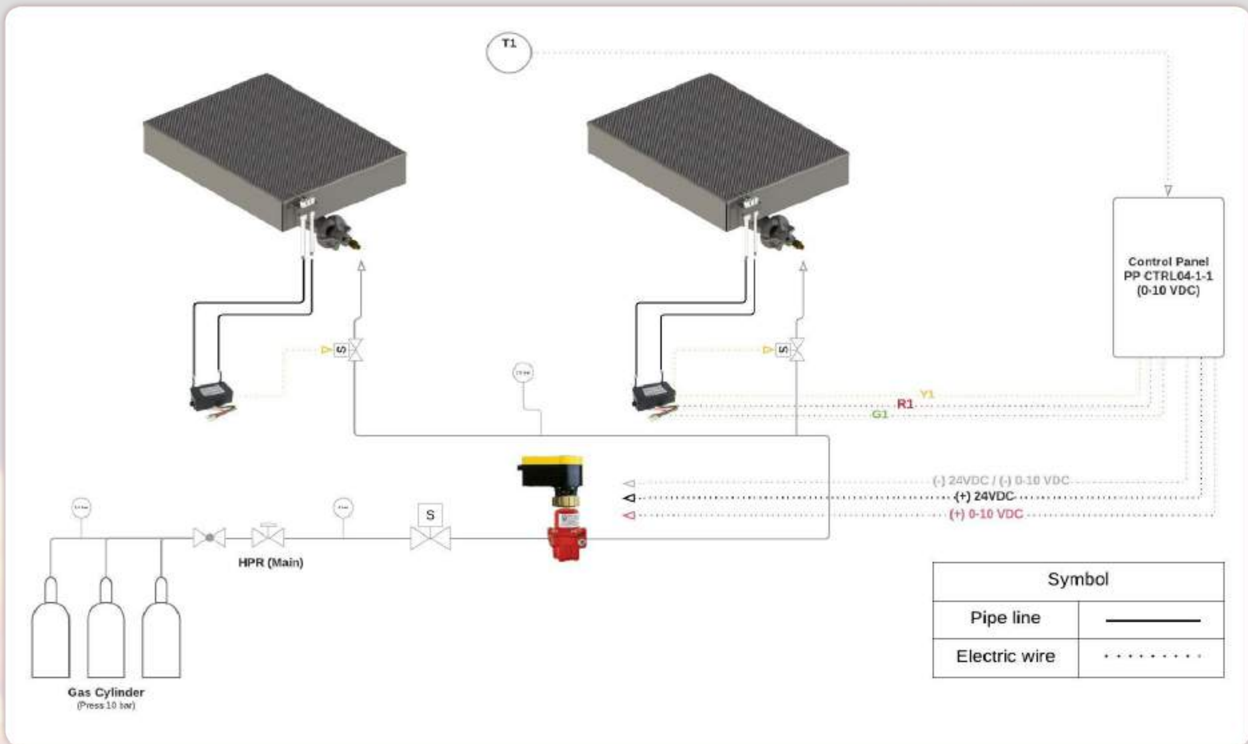
	AXF-115-67	AXF321-67	AXF321-64
			
Feature	Economic choice with high-accuracy flow regulation.	High turn-down ratio with high-accuracy flow regulation.	Maximized flow volume with high-accuracy flow regulation.
Maximum power input	120 kW	150 kW	570 kW
Maximum operating pressure	1.4 bar	1.65 bar	1.3 bar
Initial fire opening	33%	3.13%	13.13%
Control signal	0-10 VDC	4-20 mA	
Aux power supply	24VDC		
Stroke time	60, 120 sec per mm	4, 12 sec per mm	
Positioner	Yes		
Positioner signal	0-10 VDC		
Terminal list	MM : (-) 0-10VDC IN/OUT, (-)24VDC 01 : (+) 24VDC 03 : (+) 0-10VDC IN 05 : (+) 0-10VDC OUT	MM : (-) 4-20mA IN, (-) 0-10VDC OUT, (-)24VDC 01 : (+) 24VDC 03 : (+) 4-20mA IN 05 : (+) 0-10VDC OUT	
Connecting	1/4" NPT		1/2" NPT
Dimension (W x L x H) in mm	70 x 123 x 210	87 x 160 x 320	87 x 160 x 375

Performance Curve

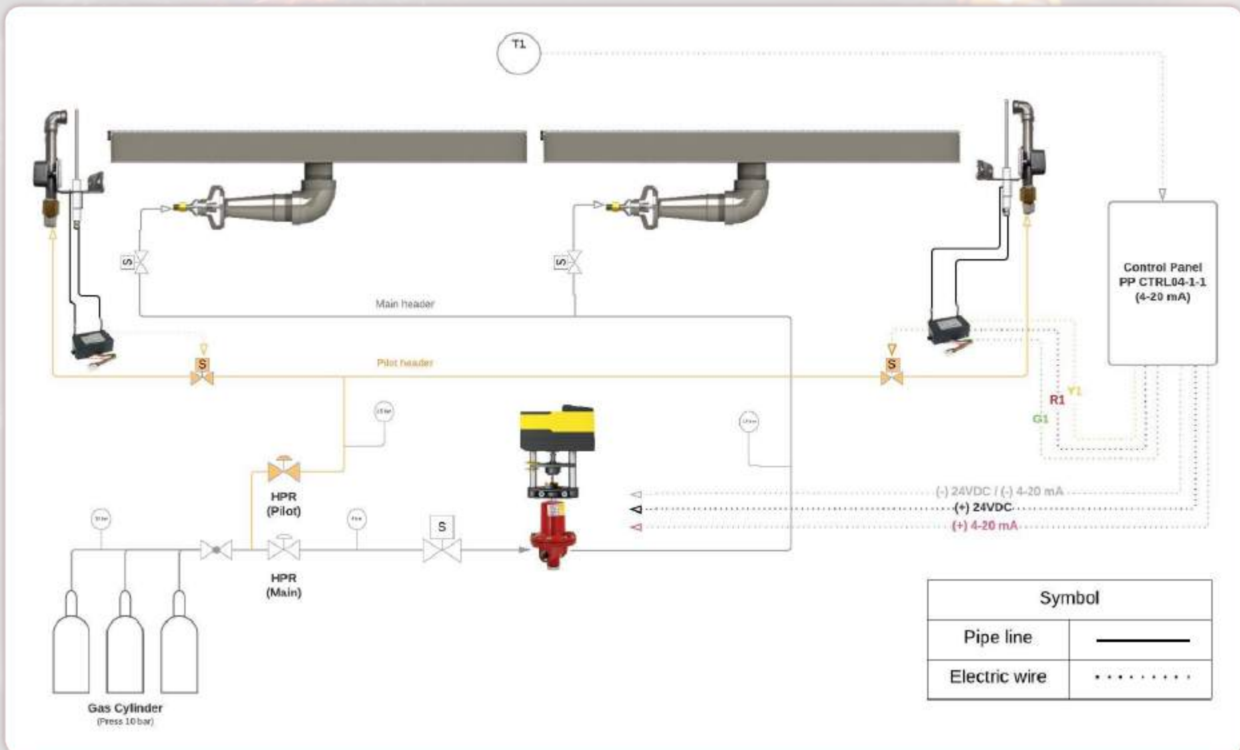


Deployment Diagram

Direct spark system : Infrared gas burner or low-moderate kW burner.



Pilot burner system : High intensity blueflame mode or ignition multiple burners.



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