

# SP Piston Actuator



**Pneumatic Double Acting  
Piston Actuators**

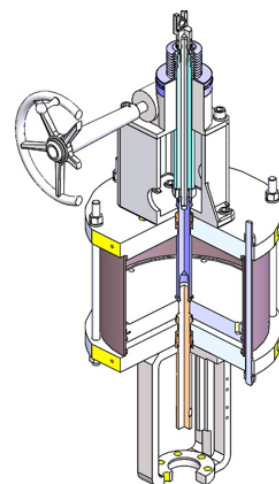
Engineering  
*GREAT* Solutions

# SP Piston Actuator

With over 50 years of experience in supplying high-performance control valves and linear actuators, IMI CCI has the solution for the most demanding applications in multiple industries.

The SP pneumatic double-acting piston actuators provide an optimised solution, offering additional benefits including reduced maintenance, safe operation, and increased durability in all critical operating conditions.

Process control requirements for industrial plants have become more demanding with frequent interruptions and the need to meet environmental regulations. This puts a strain on the control valves to perform reliably and accurately. At IMI CCI, we know that a high-performance control valve must have a high-performance actuator. Some challenges facing actuators today are that they must be fast on trip yet stable during normal operation, trip open on command yet for most of its operation stay closed, be capable of high resolution adjustments to the process flow and yet provide the required force to meet tight shutoff.



## Key features

- > Linear piston - double acting
- > Suitable for modulating or on/off
- > Guided piston with permanent lubrication system for long operating life
- > Available in 3 sizes and 5 stroke positions
- > Suitable for fail open, close, and fail in place via volume tank
- > Optional top mounted side access hand wheel
- > Robust, heavy duty, proven design
- > Qualified for SIL Level 3 Certification

## Benefits

### > High performance and quality

The SP Actuator Series delivers the quality and expertise expected by IMI CCI as a leader in the control valve industry. Every SP actuator built at IMI CCI is fully factory adjusted and inspected before shipment, and this guarantees its high performance and safe operation.

### > High product reliability

Apart from the full-fledged performance and endurance tests done on a full-scale prototype model, every actuator manufactured will go through a series of operability tests, including stroking speed and fail mode tests, in addition to any customer performance requirements.

### > Positioner travel and gain adjustments

All affecting factors including pressure settings, volume booster and limit switch settings are considered and applied when necessary.

### > Reduced maintenance costs

The fit-for-purpose SP actuators require low maintenance costs, thanks to high performance and quality designed with expertise.

## Materials

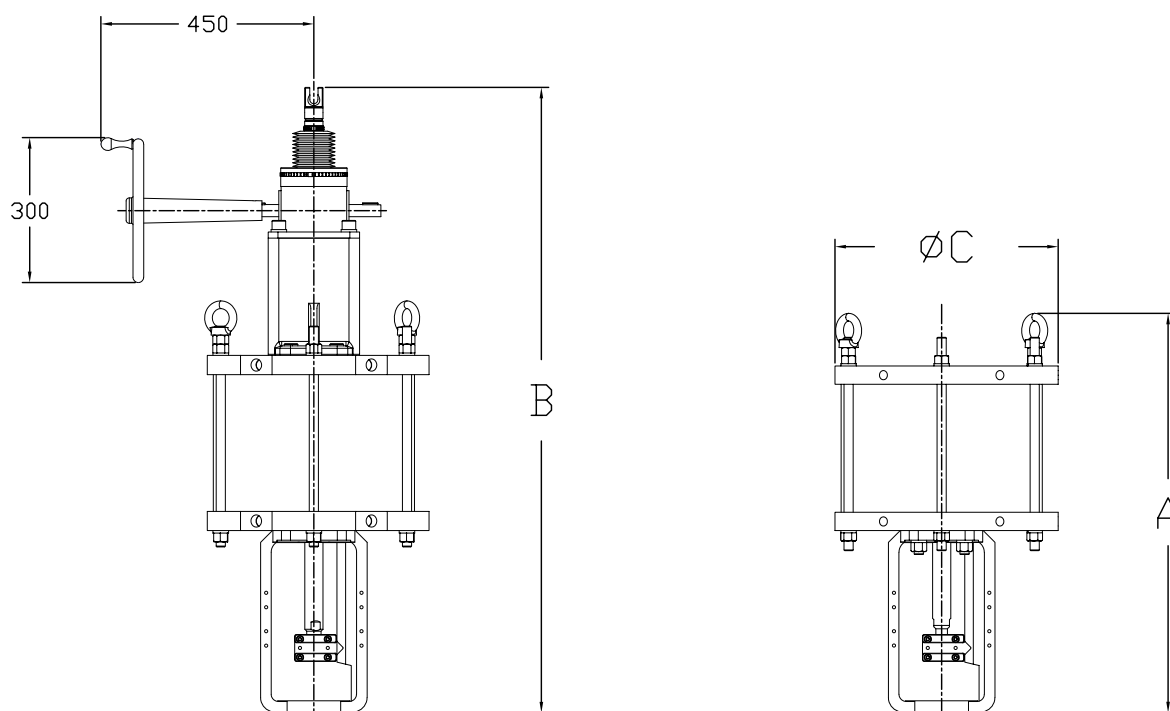
Component	Option 1	Option 2	Option 3
End caps	Aluminum	Carbon steel	Stainless steel
Cylinder	Black amalgon®	Carbon steel	Stainless steel
Shaft	17-4PH	17-4PH	17-4PH
Piston	Aluminum	Aluminum	Stainless steel
Yoke	Carbon steel	Carbon steel	Stainless steel
Tubing	Stainless steel	Stainless steel	Stainless steel
Fittings	Stainless steel	Stainless steel	Stainless steel

Special materials also available to meet various environmental conditions. Contact a sales representative for more information.

## Technical details

Actuator	Actuator type	Linear piston cylinder		
	Port type	Double-acting		
	Fail type	Open, close, in-place		
	Service	Modulating, on/off		
	Failure mechanism	Air tank for open & close / Lock-up valve for in-place		
	Manual option	Top mounted, side access		
Design	Design pressure	150 psi (10 bar) Default filter regulator set press is 100 psig (7 bar), Actuator is suitable for operation with as low as 40psig (3 bar)		
	Design temperature	Standard: -20°C (-4°F) to 80°C (176°F); Optional: -50°C (-58°F) to 80°C (-58°F)		
	Fluid	Instrument air		
	Environment	Tropical (outdoor) non-corrosive, offshore (corrosive)		
Sizes and strokes	Strokes mm (inch)	Max. 150 (6")	Max. 200 (8")	Max. 300 (12")
		113	•	•
	Sizes (sq in)	200	•	•
	• = available	313	n/a	•

## Dimensions



Model	Max. height in mm			Max. weight in kg			Max. width in mm
	150 (6")	200 (8")	300 (12")	Material option 1	Material option 2	Material option 3	
Without manual override	Dimension A			Dimension A			Dimension C
SP-113	800	1000	1100	90	160	175	390
SP-200	800	1000	1150	120	245	275	490
SP-313	N/A	1200	1300	270	465	515	590
With manual override	Dimension B			Dimension B			Dimension C
SP-113	1500	1800	2150	135	205	220	390
SP-200	1500	1800	2150	165	290	320	490
SP-313	N/A	2000	2300	315	510	560	590

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