



The S2 family of pneumatic cylinder positioning systems makes stopping an air cylinder at unlimited midstroke positions easy. Combined with a regular air cylinder and position feedback, the S2 family delivers proportional position control at a fraction of the cost of electric actuators.

## Features

- Easy Tuning
- Simple Setup and Wiring
- Wide Range of Input Pressures
- Minimized Air Consumption
- All-in-One Package

## Applications

- Line and Hopper Feed Rate
- Edge Guide Positioning
- Case Erect and Pack
- Pick and Place
- Lane Divide and Divert
- Gripper Position Control
- Quality Control Sorting
- Component Placing
- Actuate and Pilot Process Valves
- Material Processing
- Level and Elevator Control
- Sluice Gate Control
- Rotary Indexing and Positioning

## Compatibility

Add position control to almost any application. Typical compatibility:

- Double Acting Non-Repairable Cylinders
- ISO & Tie Rod Cylinders
- Grippers & End Effectors
- Vane or Rack & Pinion Rotary Cylinders

## Mechanical Specifications

### Operating Pressure:

0...10 bar (0...150 psi)

### Ports:

S2-005 Versions: 1/8" NPT Ports  
S2-025 Versions: 1/4" NPT Ports

### Connector:

5-pin M8 x 1 (male)

### Mounting:

2 x M5 (10-32) Thru Holes

### Operating Temperature:

0...50C (32- 122F)

### Media:

ISO 8573 Class 2.3.2

### Filtration Components (Typical):

5 µm Particulate, 0.3 µm Coalescing & Drier

### Height x Width x Length:

S2-005 Versions: 71.4 x 52.3 x 58.9 mm  
(2.81 x 2.06 x 2.32 in)

S2-025 Versions: 126 x 64 x 68 mm

(5.00 x 2.50 x 2.75 in)

## Material Specifications

### Body:

Aluminum 6061

### Caps:

PA66 30% Glass Filled Nylon

### Other:

Nitrile, 440C SS, Nickel Plated Steel

## Electrical Specifications

### Power Requirement:

12 ± 2 VDC

24 ± 4 VDC @ 20W

### Command Input Impedance:

0...10VDC: 100kΩ

4...20mA: 210Ω

### Feedback Input Impedance:

0...10VDC: 100kΩ

4...20mA: 210Ω

### Command Input:

Configurable 0...10 VDC; 4...20mA

### Feedback Input:

Configurable 0...10 VDC; 4...20mA

### Electronic Adjustments:

USB-Connectable User Interface

### Status Indications:

2 Power and Status LEDs

### Excitation:

+10V (15mA max)

## Performance Specifications

### Positional Accuracy:

± 0.1...1% of Full Scale (typical)

### Flow:

S2-005 Versions: 170 SLPM 5.5 → 0 bar  
(6 SCFM 80 → 0 psi)

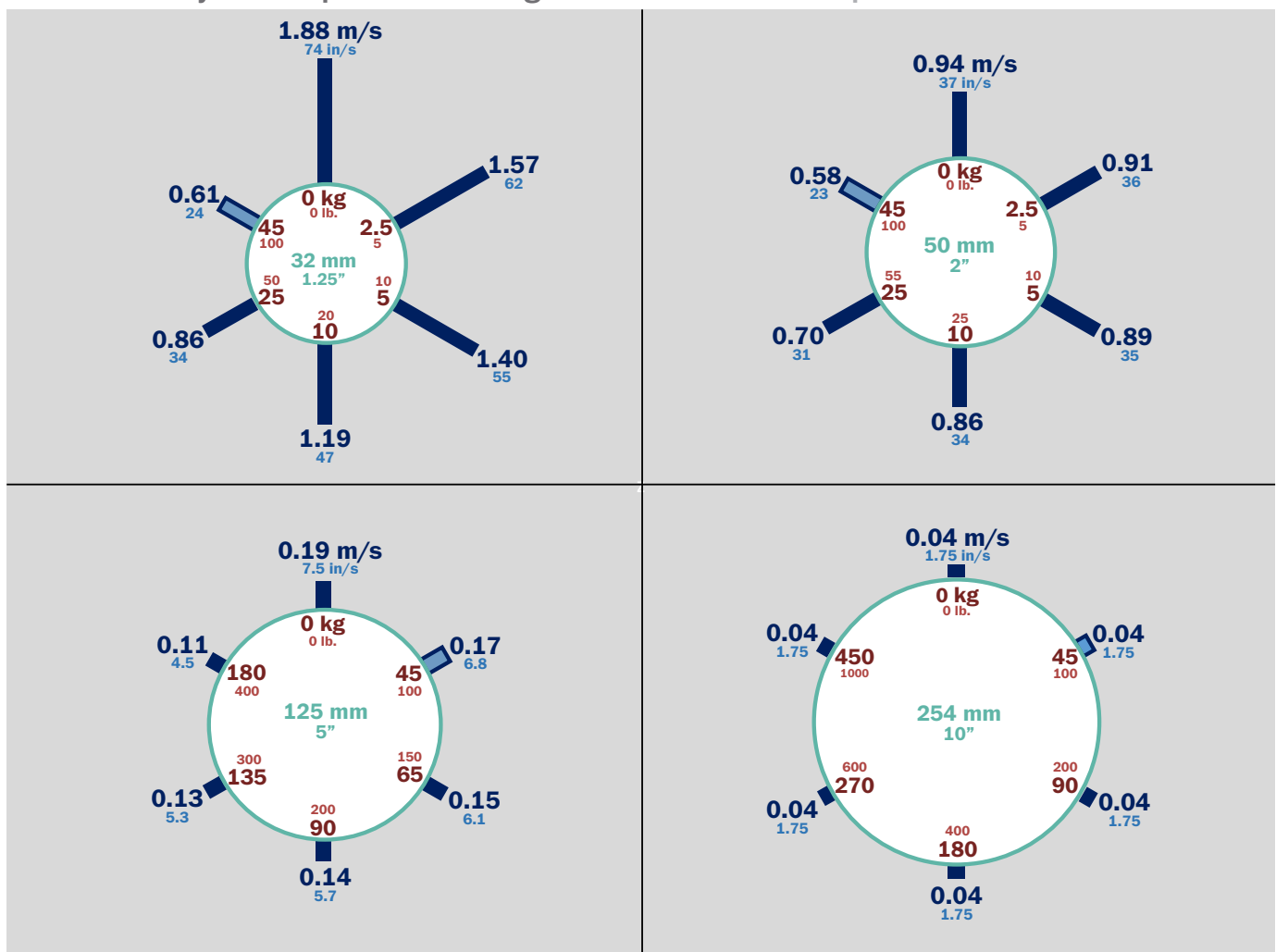
S2-025 Versions: 1300 SLPM 5.5 → 0 bar  
46 SCFM 80 → 0 psi)

### Leak Rate:

5.7 SLPM 10 → 0 bar  
(12 SCFH 150 → 0 psi)

The **S2 Servo Pneumatic Proportional Control System** is ideal for applications requiring high speed and high forces simultaneously. Speeds up to 2.0 m/sec are achievable while slowing the cylinder to a smooth controlled stop, preventing premature cylinder wear and damage. Handling 50+ kilogram masses, it is capable of 0.5 m/sec across a selection of cylinders. The ability to handle heavy loads while quickly and accurately following a changing input signal makes the S2 the ideal choice for machine designers.

## Maximum Cylinder Speed vs Moving Mass: Bore Size Comparison



Note: Based on test results from typical setup: 025 Version. 250mm stroke guided horizontal cylinder with 5.5 bar inlet pressure. Changes in moving mass, cylinder orientation or other system parameters will impact maximum speed. Figures are to be used for general guidance only.

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