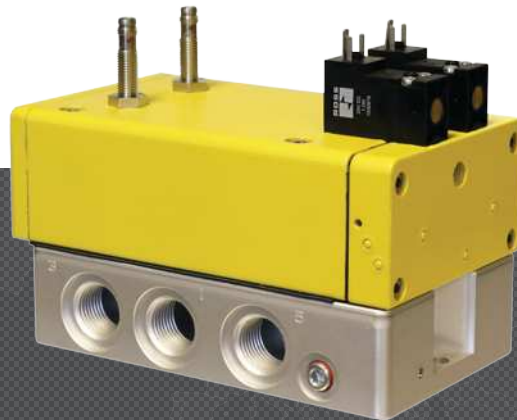




# SAFE RETURN RSe SERIES 5/2 DOUBLE VALVES

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## PRODUCT CATALOG



# Control Reliable 5/2 Double Valves RSe Series

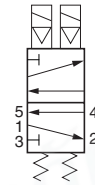
## Product Overview

### Safety Function

The RSe Series valve safety function is to control the direction of air flow into and out of a double-acting cylinder or other pneumatic actuator.



### Simplified Schematic



The 5/2 RSe Series valve is designed to control the direction of air flow into and out of a double-acting cylinder or other pneumatic actuator in order to drive the cylinder forward or backward to suit the requirements of the machine operation. However, the RSe Series does this with the same level of control expected of the machine's/system's safety circuit. The safety function of the RSe Series valve is to return the cylinder/actuator to its home "safe" position whenever a fault occurs within the valve. Such a monitoring system must be capable of inhibiting the operation of the valve.

The RSe Series valves are designed for external monitoring for safe, redundant operation of the valves. The RSe Series valves are constructed of redundant, spool type valves, and have an overall function of a single solenoid pilot-operated, spring return valve. Each single valve in the RSe Series is equipped with a PNP proximity sensor. Monitoring both of these sensors on each actuation and de-actuation of the RSe Series valve provides a diagnostic coverage of 99%. Monitoring of these sensors is to be done by an external monitoring system.

## VALVE FEATURES

<b>Redundant Control</b>	Redundant control can achieve Category 4, PL e, when used with proper safety controls
<b>External Monitoring</b>	Each single valve in the RSe Series is equipped with a PNP proximity sensor. Monitoring both of these sensors on each actuation and de-actuation of the RSe Series valve provides a diagnostic coverage up to 99%. Monitoring of these sensors is to be done by an external monitoring system.
<b>Spool Type Design</b>	Redundant spool type valve with two operating solenoids that must be operated simultaneously in order to actuate the valve. In addition each valve element has a single, proximity sensor that is wired as a PNP type sensor for position sensing.
<b>Valve Reset</b>	Automatic reset by de-energizing the solenoids
<b>Mounting</b>	Base mounted – with G or NPT pipe threads. Inlet and outlet ports on both sides provide for flexible piping (plugs for unused ports included). Captive valve-to-base mounting screws.
<b>Silencer</b>	Included
<b>SISTEMA Library</b>	Available for download at <a href="http://rosscontrols.com">rosscontrols.com</a>

*These valves are not designed for controlling clutch/brake mechanisms on mechanical power presses, see DM<sup>®</sup> Series D double valves for mechanical power press applications.*

## STANDARD SPECIFICATIONS

<b>GENERAL</b>	Function		Safe Return	
	Construction Design		5/2 Normally Closed Valve, Dual Spool and Sleeve	
	Actuation		Electrical – Solenoid pilot operated with air assisted spring return. One solenoid per valve element (2 total) – both to be operated synchronously.	
	Mounting	Type	Sub-Base	
		Orientation	Any, preferably vertical	
	Connection		Threaded; G, NPT	
	Monitoring		Dynamic, cyclical, external with customer supplied equipment. Monitoring should check state of both valve position sensors with any and all changes in state of valve control signals.	
	Minimum Operation Frequency		Once per month, to ensure proper function	
Maximum Recommended Allowable Discordance Time		250 msec		
<b>OPERATING CONDITIONS</b>	Temperature	Ambient	40° to 120°F (4° to 50°C)	
		Media		
	Flow Media		Compressed air according to ISO 8573-1 Class 7:4:4	
	Pilot Supply		Internal or External	
	Operating Pressure	With Internal Pilot Supply	43 to 145 psig (3 to 10 bar)	
		With External Pilot Supply	0 to 145 psig (0 to 10 bar)	
Pressure Sensors (2 per valve)		PNP solid state		
Pressure Sensors Current Consumption (each sensor)		<23mA (each without contacts)		
<b>ELECTRICAL DATA</b>	Solenoids		Version as per VDE 0580. Rated for continuous duty Electrical connection according to DIN EN 175301-803 Form C	
	Operating Voltage		24 volts DC	
	Power Consumption (each solenoid)		15 watts	
	Enclosure Rating		DIN 400 50 IP 65	
	Electrical Connection		DIN EN 175301-803 Form C	
	Proximity Sensors (2 per valve)		PNP	
	Current Consumption (each sensor)		<23mA	
<b>CONSTRUCTION MATERIAL</b>	Valve Body		Cast Aluminum	
	Poppet		Stainless Steel	
	Seals		Buna-N	
<b>SAFETY DATA</b>	Functional Safety Data		Category	CAT 4, PL e
			B <sub>10D</sub>	20,000,000
			PFH <sub>D</sub>	7.71x10 <sup>-9</sup>
			MTTF <sub>D</sub>	301.9 (n <sub>op</sub> : 662400)
	Vibration/Impact Resistance		Tested to DIN EN 60068-2-6	

**IMPORTANT NOTE:** Please read carefully and thoroughly all of the CAUTIONS, WARNINGS on the inside back cover.

## PRODUCT CREDENTIALS

Safety Category	DGVV (German Social Accident Insurance)	CE Conformity Declaration	EAC Conformity Declaration	ISO Standard	CSA Certificate of Compliance
				ISO 13849-1:2015	



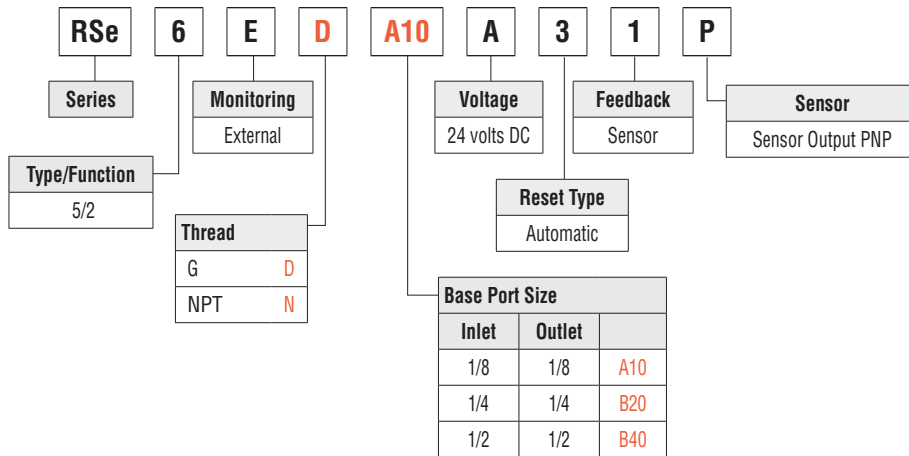
**บริษัท ฟลูเทค จำกัด**  
**FLU-TECH CO.,LTD**

845/3-4 หมู่ 3 ถนนพหลโยธิน ต.เทพารักษ์ อ.เมือง จ.สมุทรปราการ 10270  
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# Ordering Information

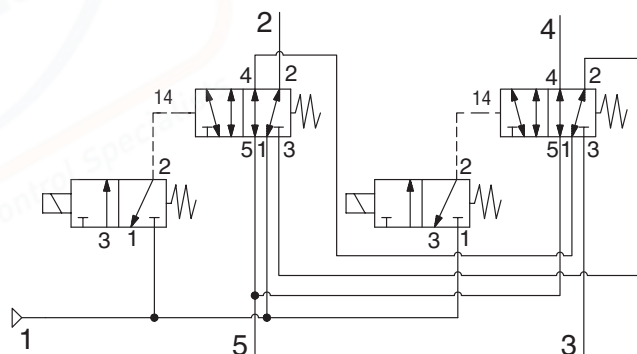
## MODEL NUMBER CONFIGURATOR

## 5-Way 2-Position Valves



Port Size	C <sub>v</sub>				Weight lb (Kg)
	1-2	4-5	1-4	2-3	
1/8	0.90	0.87	0.68	0.59	2.9 (1.3)
1/4	1.09	1.04	0.91	0.8	3.7 (1.7)
1/2	3.06	2.96	1.95	1.91	6.6 (2.99)

### Valve Schematic

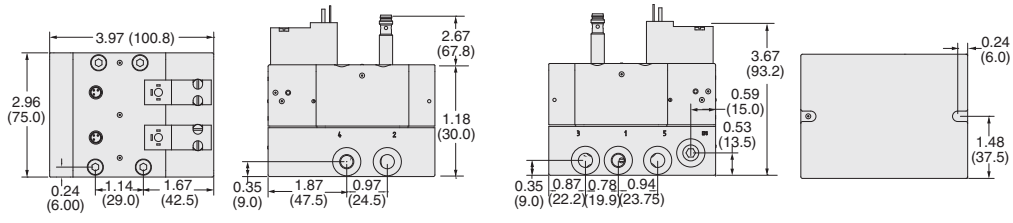


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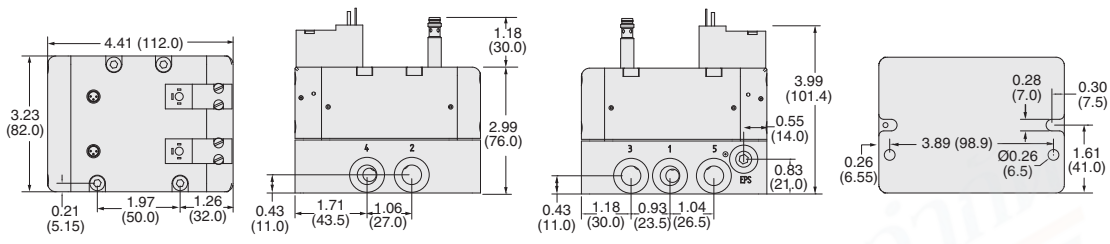
845/3-4 หมู่ 3 ถ.เทพารักษ์ ต.เทพารักษ์ อ.เมือง จ.สมุทรปราการ 10270  
845/3-4 Thepharak RD., T.Thepharak, A.Muang, Samutprakarn 10270 THAILAND  
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**DIMENSIONS** Inches (mm)

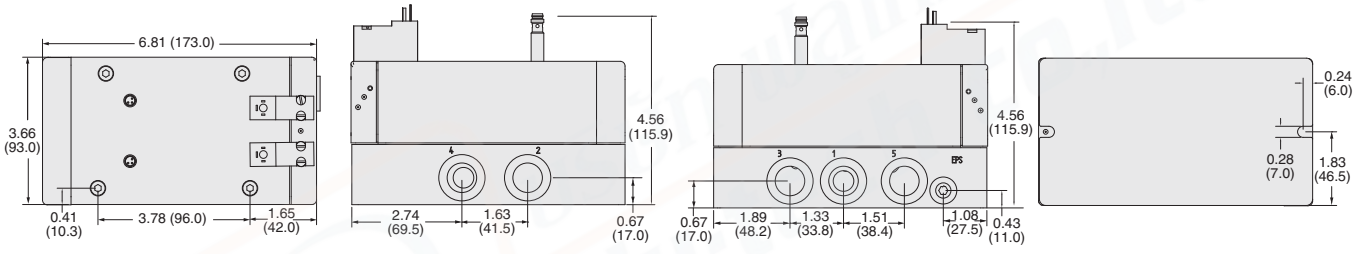
**Port Size 1/8**



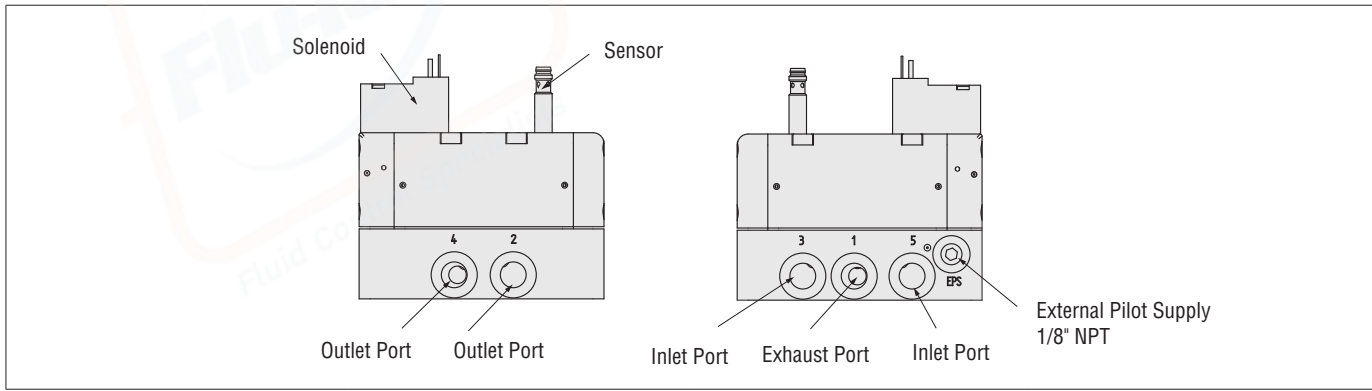
**Port Size 1/4**



**Port Size 1/2**



For additional information, and to assist you with piping and connectivity designs, our products are available in downloadable 2D drawings and 3D CAD models in a wide range of options including native formats, visit [www.rosscontrols.com](http://www.rosscontrols.com).



# Accessories & Options

## ENERGY RELEASE VERIFICATION

Pressure Switches	Verification Type	Installation Location	Connector Type	Model Number	Port Thread	Factory Preset psi (bar)
	Electrical	Downstream	DIN EN 175301-803 Form A	586A86	1/8 NPT	5 (0.3) falling

Redundant Pressure Switch Assembly	Verification Type	Installation Location	Connector Type	Model Number	Port Size	Factory Preset psi (bar)
	Electrical (Dual)	Downstream	DIN EN 175301-803 Form A	RC026-13	3/8 NPT	5 (0.3) falling

### Connectors Pinout

#### DIN EN 175301-803 Form A



- 1 - Common
- 2 - Normally Closed
- 3 - Normally Open
- G - Ground

## ELECTRICAL CONNECTORS

Pre-wired Connector Kits	Connection Type		Connector Type	Quantity	End 1	End 2	Length meters (feet)	Kit Number
								Without Light
Solenoid & Sensor	Solenoid		DIN EN 175301-803 Form C	2	Connector	Flying leads	2 (6.5)	2657B77
	Sensor		M8	2				

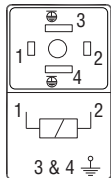
Pre-wired Connectors	Connection Type	Connector Type	Quantity	End 1	End 2	Length meters (feet)	Cord Diameter	Model Number	
								Without Light	Lighted Connector
							24 V DC		
Solenoid		DIN EN 175301-803 Form C	1	Connector	Flying leads	3 (10)	8-mm	2449K77	2450K77-W
Sensor		M8	1	Connector	Flying leads	2 (6.5)	-	249L74	-

Connectors (no cable)	Connection Type	Connector Type	Quantity	Model Number	
				Without Light	Lighted Connector
					24 V DC
Solenoid		DIN EN 175301-803 Form C	1	2452K77	2453K77-W

### Connectors Pinout

#### Solenoid

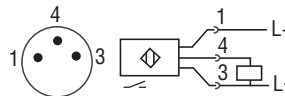
##### DIN EN 175301-803 Form C



- 1 - Brown
- 2 - Blue
- 3 - Green/Yellow (Ground)
- 4 - Green/Yellow (Ground)

#### Sensor

##### M8



- 1 - Common
- 2 - Normally Closed
- 3 - Not Used

## SILENCERS

Silencers	Port Size	Thread Type	Model Number		Flow Avg. C <sub>v</sub>	Pressure Range psig (bar)
			R/Rp Thread	NPT Thread		
	1/8	Male	D5500A1003	5500A1003	1.2	0-290 (0-20) maximum
1/4	Male	D5500A2003	5500A2003	2.1		
1/2	Male	D5500A4003	5500A4003	4.7		