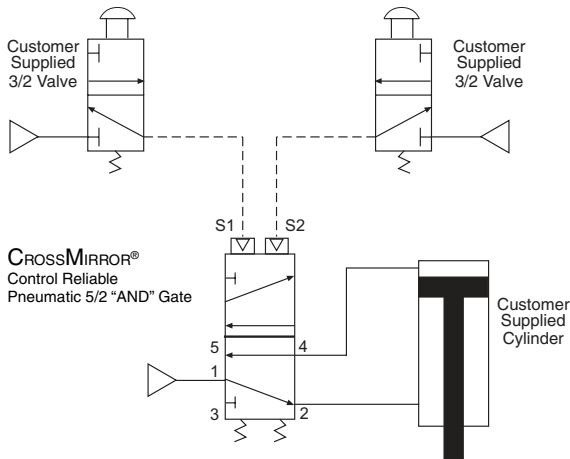


New Product Introduction

Series 77 5/2 CROSSMIRROR® Pressure Controlled Pneumatic Double Valve

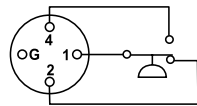
Typical 2-Hand-Anti-Tie-Down Application



Status Indicator (pressure switch)

Terminals 1 and 4 are connected when air pressure is present and the valve is "Ready-to-Run". If an abnormal operation has occurred or pressure is removed from the valve inlet, terminals 1 and 2 are connected.

Note: DC voltage pressure switches do not have a ground terminal.



Pin 1: Common
Pin 2: Normally Closed
Pin G: Not used
Pin 4: Normally Open



STANDARD SPECIFICATIONS

Temperature Range:

Ambient: 40° to 120°F (4° to 50°C).

Media: 40° to 175°F (4° to 80°C).

Flow Media: Filtered air; 5 micron recommended.

Inlet Pressure: 40 to 100 psig (2.5 to 7.0 bar).

Pilot Pressure: Must be equal or greater than inlet pressure, but should not exceed maximum inlet pressure.

Pressure Switch Rating:

Max Current 4A, Max 250 volts AC.

Max Current 50 mA, Max 24 volts DC.

Pressure Switch: Pressure Switch signal indicates when the input signals or parts movement is asynchronous.

This valve is not designed for controlling clutch/brake mechanisms on mechanical power presses.

GENERAL:

This Series 77 5/2 CROSSMIRROR® valve is a control reliable pressure controlled 4-way double valve that is controlled by two separate pneumatic signals essentially providing "AND" gate control for the output ports. Both air pilot signals must be provided within approximately 500 milliseconds of each other to actuate the valve. Proper actuation shifts output pressure to port 4. If the valve is not actuated, not provided appropriate pneumatic signals within the discordance window or if the valve actuates abnormally, inlet pressure will only be passed to port 2 - cylinder retracted.

This valve is constructed with precision, stainless steel spools as the main valve elements, and is designed to offer added safety to the operation of many pneumatically controlled machines.

FEATURES:

- Interrelated dual stainless steel precision spool & sleeve construction.
- Four-way, five port, two position design.
- Base-mounted design.
- Designed to enable users to comply with current safety regulations.
- Optional pressure switch to provide signal for external monitoring.

APPLICATIONS:

Pneumatic cylinder applications.

- Two hand control EN574 Type III C
- Pinch point applications
- Shearing equipment
- Forming applications
- Cutting applications
- Clamping applications

Size 2

Model* Number	Port Sizes		C _v				Pressure Switch	Dimensions inches (mm)			Weight lb. (kg.)	Replacements*	
	1	2, 3, 4, 5	1-2	1-4	2-3	4-5		A	B	C		Valve No.	Base No.
7786A3410	1/2	3/8	2.0	1.6	1.6	2.8	Without	10.9 (277)	4.1 (104)	3.2 (81)	7.6 (3.4)	7786A3400	996C91
7786A3411	1/2	3/8	2.0	1.6	1.6	2.8	With	10.9 (277)	6.7 (170)	3.2 (81)	8.4 (3.8)	7786A3401	996C91

* Model number includes base supplied with NPT threads. For G threads, order model or base with a "D" prefix, e.g., D7786A3410, D996C91.

• For pressure switch option, order model or valve with a "Z" suffix for 110 AC or "W" suffix for 24 volts DC, e.g., 7786A3411Z, 7786A3401Z.

Size 4

7786A4420	3/4	1/2	3.2	3.4	2.7	7.2	Without	12.1 (307)	4.3 (109)	4.1 (104)	10.6 (4.6)	7786A4400	1049C91
7786A4421	3/4	1/2	3.2	3.4	2.7	7.2	With	12.1 (307)	6.9 (175)	4.1 (104)	11.6 (5.1)	7786A4401	1049C91
7786A5410	3/4	3/4	3.2	3.4	2.7	7.2	Without	12.1 (307)	4.3 (109)	4.1 (104)	10.6 (4.6)	7786A4400	1153C91
7786A5411	3/4	3/4	3.2	3.4	2.7	7.2	With	12.1 (307)	6.9 (175)	4.1 (104)	11.6 (5.1)	7786A4401	1153C91

* Model number includes base supplied with NPT threads. For G threads, order model or base with a "D" prefix, e.g., D7786A4420, D1049C91.

• For pressure switch option, order model or valve with a "Z" suffix for 110 AC or "W" suffix for 24 volts DC, e.g., 7786A4421W, 7786A4401W.

Size 4 SAE

S7786A4H10	SAE 12	SAE 12	3.2	3.4	2.7	7.2	Without	12.1 (307)	4.3 (109)	4.1 (104)	10.6 (4.6)	7786A4400	1159G91
S7786A4H11	SAE 12	SAE 12	3.2	3.4	2.7	7.2	With	12.1 (307)	6.9 (175)	4.1 (104)	11.6 (5.1)	7786A4401	1159G91

* Model number includes base.

• For pressure switch option, order model or valve with a "Z" suffix for 110 AC or "W" suffix for 24 volts DC, e.g., S7786A4H11Z, 7786A4401Z.

VALVE OPERATION

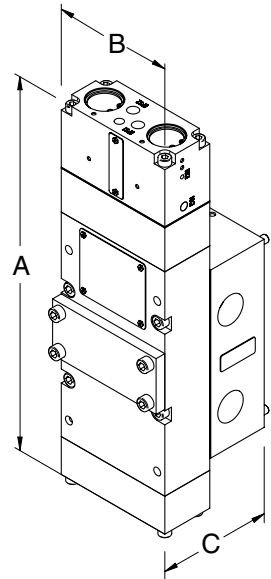
Normal Operation: After installation the valve is operated by pressurizing both pilot supply ports (S1 and S2) simultaneously. This causes both main valve elements to be actuated so that air from inlet port 1 flows to outlet port 4. Air downstream of port 2 is exhausted through port 3.

When the pilot supply ports are de-pressurized, both valve elements are de-actuated, and air then flows from inlet port 1 to outlet port 2. Air downstream of port 4 is exhausted through port 5.

Safety Function: If the two main valve elements are not actuated or de-actuated synchronously, within 500ms, the valve defaults so that outlet port 2 receives full inlet pressure, and outlet port 4 is exhausted through port 5. If this abnormal operation is the result of a temporary circumstance, the valve will be ready to resume normal operation as soon as both pilot signal ports have been de-pressurized and both main valve elements have returned to their normal ready-to-run position. Applying pressure to both signal ports simultaneously will resume normal operation.

If the cause of the abnormal operation is still present, the valve will either remain in the default position (pressure on port 2 and not port 4) or will again go into this position on the next actuation attempt. The source of the abnormality must be investigated and corrected before further operation.

Pressure Switch: Valves with model numbers ending in the number 1 have a pressure switch to provide user feedback when movement of the main valve elements was asynchronous.



Service Kits

Valve Size	Valve Model Number	Valve Body Seal and Gasket Kit	Valve Body Service Kit	Base Service Kit	Pressure Switch Assembly Service Kit	Pressure Switch	Pressure Switch Connector
2	7786A3400	2216K77	2218K77	1694K77	N/A	N/A	N/A
	7786A3401	2216K77	2218K77	1694K77	1696K77	AC - 518E30 DC - 798E30	522E30
4	7786A4400	2217K77	2219K77	1695K77	N/A	N/A	N/A
	7786A4401	2217K77	2219K77	1695K77	1696K77	AC - 518E30 DC - 798E30	522E30



ROSS CONTROLS®

U.S.A.
Customer Svs. 1-800-GET-ROSS
Technical Svs. 1-888-TEK-ROSS
www.rosscontrols.com

WARRANTY and CAUTIONS

Standard ROSS warranty and cautions apply, available upon request or at www.rosscontrols.com

ROSS EUROPA GmbH

Germany

Fax: 49-6103-74694

info@rosseuropa.com

ROSS ASIA® K.K.

Japan

Fax: 81-427-78-7256

custsvc@rossasia.co.jp

ROSS UK Ltd.

United Kingdom

Fax: 44-121-559-5309

sales@rossuk.co.uk

ROSS CONTROLS® INDIA Pvt. Ltd.

India

Fax: 91-44-2625-8730

rossindia@airtelbroadband.in

ROSS SOUTH AMERICA Ltda.

Brazil

Fax: 55-11-4335-3888

vendas@ross-sulamerica.com.br

DIMAFLUID s.a.s.

France

Fax: 33-01-4945-6530

dimafuid@dimafuid.com

ROSS CONTROLS(CHINA) Ltd.

China

Fax: 86-21-6915-7960

alvinzhurong@vip.163.com