Directional Control Valves ISO 5599-2
W65 Series

Product Catalog

a global family

ISO 5599-2 Valves W65 Series
Product Overview

The ROSS® ISO 5599-2 valves W65 Series are base mounted spool and sleeve valves that conform to the ISO standards 5599-2 mounting interface. The W65 series has a base electrical connector which eliminates the need to disconnect wires to remove the valve. Manifold bases feature the option for modular plug-together electrical connections terminating at end plates, offering a 25-pin D-sub or 19-pin round interface. Automotive connector option mounted to individual conduit cover. The ISO Valves W65 Series are adaptable to Serial Bus System.

These ISO Size 1, 2, and 3 valves are available as, 2- and 3-position, 5-ported 4-way solenoid pilot or pressure controlled valves with either internal or external pilot supply.

Solenoid Pilot Controlled		Pressure Controlled
Single Solenoid	Double Solenoid	
		

Illustration examples.

VALVE FEATURES

Spool and Sleeve Design	Spool and Sleeve construction for high dirt tolerance; there are no seals to wear out
Mounting Options	Individual sub-base or manifold base mounting
Pilot Supply	Solenoid pilot controlled valves – Internal or external, selected automatically Pressure controlled valves – External
Pilot Operation	Provides high shifting force with low power consumption

Actuation	ISO Size	Available Inlet Port Sizes					Functions					Flow C_v (Nl/min)	Page
							5/2		5/3				
		1/8	1/4	3/8	1/2	3/4	Single	Double	Power Center	Closed Center	Open Center		
Solenoid Control	1	●	●	●			●	●	●	●	●	1.0 (980)	2 – 3 4 – 9
	2			●	●		●	●	●	●	●	2.3 (2300)	
	3				●	●	●	●	●	●	●	3.4 (3300)	
Pressure Control	1	●	●	●			●	●	●	●	●	1.0 (980)	2 – 3 10 – 15
	2			●	●		●	●	●	●	●	2.3 (2300)	
	3				●	●	●	●	●	●	●	3.4 (3300)	
Sub-Bases													16
Manifold Stations, End Stations													17
Manifold Accessories													18 – 24

Specifications

STANDARD SPECIFICATIONS					
GENERAL	Function		5/2 and 5/3 Valve		
	Construction Design		Spool and Sleeve		
	Actuation		Electrical	Solenoid Pilot Controlled	
			Pneumatic	Pressure Controlled	
	Mounting		Base Mounted		
	Connection		Threaded	NPT, G	
	Manual Override		Flush; metal, non-locking		
OPERATING CONDITIONS	Temperature	Solenoid Pilot Controlled	Ambient	40° to 120°F (4° to 50°C)	
			Media	40° to 175°F (4° to 80°C)	
		Pressure Controlled	Ambient	40° to 175°F (4° to 80°C)	
			Media		
	Flow Media		Filtered air		
	Operating Pressure		ISO Size 1	30 to 150 psig (2 to 10 bar)	
			ISO Size 2 & 3	15 to 150 psig (1 to 10 bar)	
			All sizes also available up to 232 psig (16 bar)		
	Pilot Supply Pressure		Minimum 30 psig (2 bar)		
	External Pilot Supply		Must be equal to or greater than inlet pressure		
ELECTRICAL DATA FOR SOLENOID PILOT VALVES	Solenoids		Current Flow	Power Consumption	Operating Voltage (each solenoid)
			DC	24 volts	5.8 nominal, 6.5 watts maximum watts
			AC	110-120 volts	
				230-240 volts	
			Rated for continuous duty		
	Enclosure Rating		IP65, IEC 60529		
	Electrical Connection		DIN EN 175301-803 Form A		
CONSTRUCTION MATERIAL	Valve Body		Cast Aluminum		
	Spool		Stainless Steel		
	Seals		Buna-N		

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

PRODUCT CREDENTIALS

Certificate of Compliance

Declaration of Conformity

Ordering Information

5/2 Single Solenoid Pilot Controlled Valves

SOLENOID PILOT CONTROLLED VALVES — **5-Way 2-Position Valves**

ISO Size	Base Port Size *	Valve Model Number		
		24 V DC	110-120 V AC	230 V AC
1	1/8 - 3/8	W6576A2401W	W6576A2401Z	W6576A2401Y
2	3/8 - 1/2	W6576A3401W	W6576A3401Z	W6576A3401Y
3	1/2 - 3/4	W6576A4401W	W6576A4401Z	W6576A4401Y

For other voltages, consult ROSS.

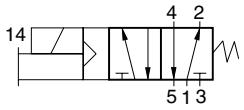
* **Sub-bases and manifold bases ordered separately. Please see Sub-Bases and Manifolds pages, for use with or without serial bus system.**

The W65 Series has a base electrical connector which eliminates the need to disconnect wires to remove the valve. This eliminates drop cords, simplifies maintenance and connection to Serial Data Communication systems.

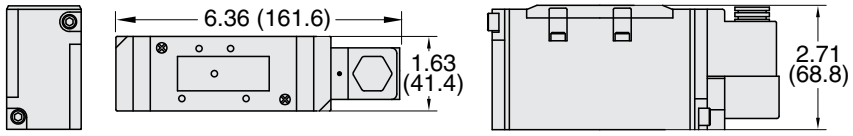
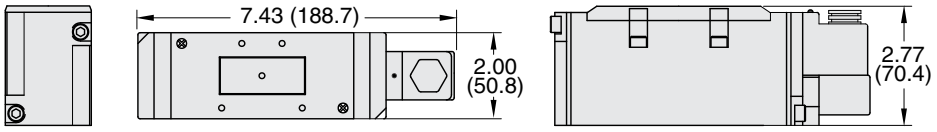
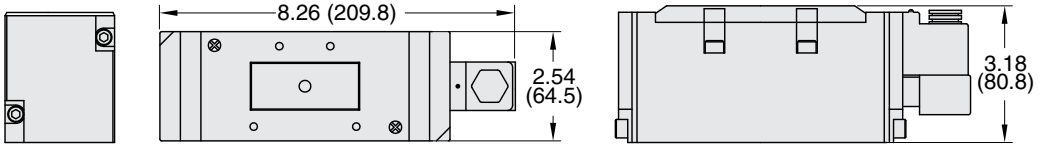
ISO Size	Base Port Size	Flow C_v (Nl/min)	Average Response Constants*			Weight lb (kg)
			M	F		
		1-2		1-2	2-3	
1	1/8 - 3/8	1.0 (980)	29	3.5	4.9	1.5 (0.7)
2	3/8 - 1/2	2.3 (2300)	41	1.5	2.4	2.0 (1.0)
3	1/2 - 3/4	3.4 (3300)	51	0.8	1.1	3.5 (1.6)

Valve Response Time – Response Time (msec) = M + (F • V). This is the average time required to fill a volume V (cubic inches) to 90% of supply pressure or to exhaust it to 10% of supply pressure. M and F values are shown above.

Valve Schematic



5/2 Single Solenoid Pilot Controlled Valves

DIMENSIONS	Inches (mm)
ISO Size 1	
ISO Size 2	
ISO Size 3	

Downloadable CAD models available.

Ordering Information

5/2 Double Solenoid Pilot Controlled Valves

SOLENOID PILOT CONTROLLED VALVES — **5-Way 2-Position Valves**

ISO Size	Base Port Size *	Valve Model Number		
		24 V DC	110-120 V AC	230 V AC
1	1/8 - 3/8	W6576A2407W	W6576A2407Z	W6576A2407Y
2	3/8 - 1/2	W6576A3407W	W6576A3407Z	W6576A3407Y
3	1/2 - 3/4	W6576E4407W	W6576E4407Z	W6576E4407Y

For other voltages, consult ROSS.

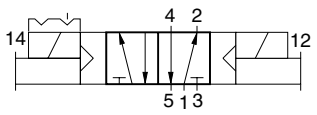
* **Sub-bases and manifold bases ordered separately. Please see Sub-Bases and Manifolds pages, for use with or without serial bus system.**

The W65 Series has a base electrical connector which eliminates the need to disconnect wires to remove the valve. This eliminates drop cords, simplifies maintenance and connection to Serial Data Communication systems.

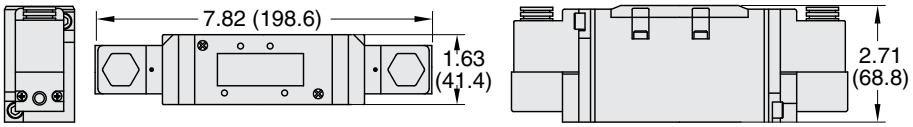
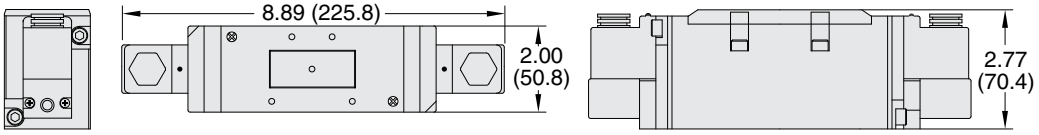
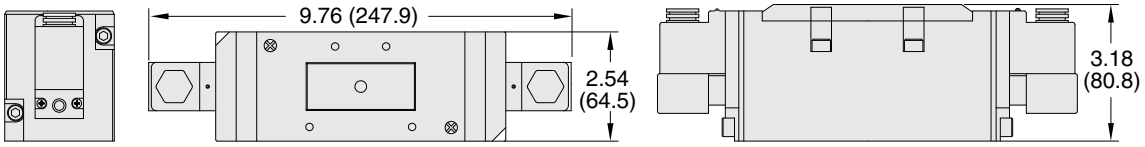
ISO Size	Base Port Size	Flow C_v (Nl/min)	Average Response Constants*			Weight lb (kg)
			M	F		
		1-2		1-2	2-3	
1	1/8 - 3/8	1.0 (980)	17	3.5	4.9	2.0 (1.0)
2	3/8 - 1/2	2.3 (2300)	20	1.5	2.5	2.5 (1.2)
3	1/2 - 3/4	3.4 (3300)	20	0.8	1.1	4.0 (1.9)

Valve Response Time – Response Time (msec) = M + (F • V). This is the average time required to fill a volume V (cubic inches) to 90% of supply pressure or to exhaust it to 10% of supply pressure. M and F values are shown above.

Valve Schematic



5/2 Double Solenoid Pilot Controlled Valves

DIMENSIONS	Inches (mm)
ISO Size 1	
ISO Size 2	
ISO Size 3	

Downloadable CAD models available.

Ordering Information

5/3 Double Solenoid Pilot Controlled Valves

SOLENOID PILOT CONTROLLED VALVES — **5-Way 3-Position Valves**

Center Position	ISO Size	Base Port Size *	Valve Model Number		
			24 V DC	110-120 V AC	230 V AC
Power Center	1	1/4 – 3/8	W6577A2902W	W6577A2902Z	W6577A2902Y
	2	3/8 – 1/2	W6577A3901W	W6577A3901Z	W6577A3901Y
	3	3/8 – 3/4	W6577A4900W	W6577A4900Z	W6577A4900Y
Closed Center	1	1/4 – 3/8	W6577A2401W	W6577A2401Z	W6577A2401Y
	2	3/8 – 1/2	W6577A3401W	W6577A3401Z	W6577A3401Y
	3	3/8 – 3/4	W6577A4401W	W6577A4401Z	W6577A4401Y
Open Center	1	1/4 – 3/8	W6577A2407W	W6577A2407Z	W6577A2407Y
	2	3/8 – 1/2	W6577A3407W	W6577A3407Z	W6577A3407Y
	3	3/8 – 3/4	W6577A4407W	W6577A4407Z	W6577A4407Y

For other voltages, consult ROSS.

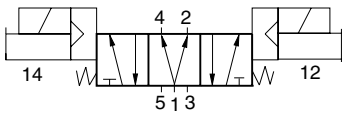
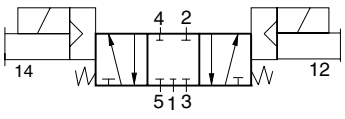
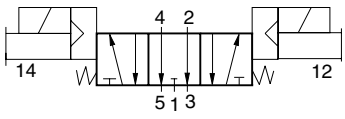
*** Sub-bases and manifold bases ordered separately. Please see Sub-Bases and Manifolds pages, for use with or without serial bus system.**

The W65 Series has a base electrical connector which eliminates the need to disconnect wires to remove the valve. This eliminates drop cords, simplifies maintenance and connection to Serial Data Communication systems.

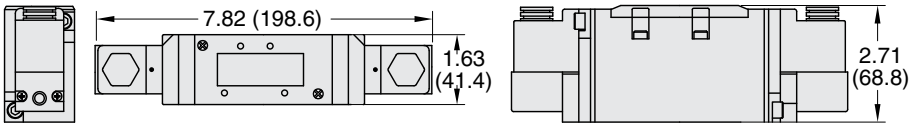
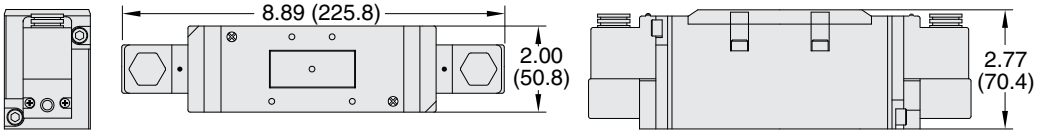
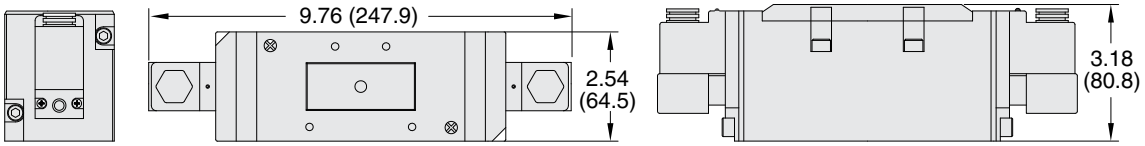
ISO Size	Base Port Size	Flow C_v (Nl/min)	Average Response Constants*			Weight lb (kg)
			M	F		
		1-2		1-2	2-3	
1	1/8 - 3/8	1.0 (980)	30	3.5	5.0	2.0 (1.0)
2	3/8 - 1/2	2.3 (2300)	40	1.5	2.5	2.5 (1.2)
3	1/2 - 3/4	3.4 (3300)	50	0.8	1.1	4.0 (1.9)

Valve Response Time – Response Time (msec) = M + (F • V). This is the average time required to fill a volume V (cubic inches) to 90% of supply pressure or to exhaust it to 10% of supply pressure. M and F values are shown above.

Valve Schematics

Power Center	Closed Center	Open Center
		

5/3 Double Solenoid Pilot Controlled Valves

DIMENSIONS	Inches (mm)
ISO Size 1	
ISO Size 2	
ISO Size 3	

Downloadable CAD models available.

Ordering Information

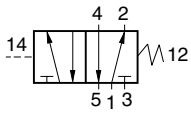
5/2 Single Pressure Controlled Valves

PRESSURE CONTROLLED VALVES		5-Way 2-Position Valves
ISO Size	**Base Port Size** *	**Valve Model Number**
1	1/8 - 3/8	W6556A2411
2	3/8 - 1/2	W6556A3411
3	1/2 - 3/4	W6556A4411
For other voltages, consult ROSS.		
* **Sub-bases and manifold bases ordered separately. Please see Sub-Bases and Manifolds pages, for use with or without serial bus system.**		

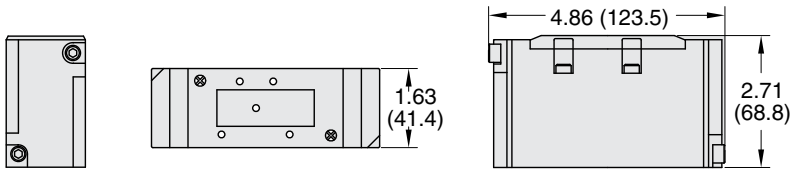
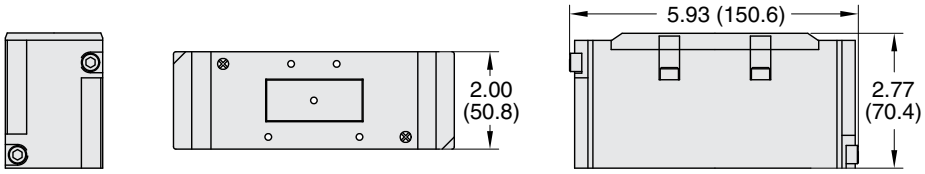
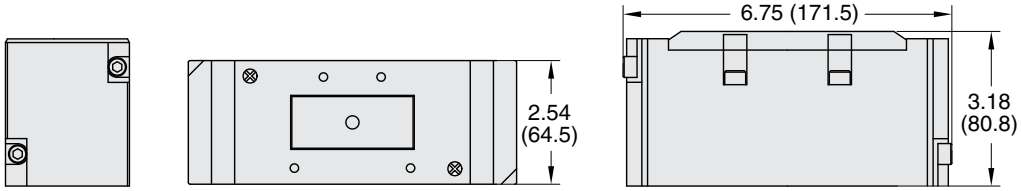
ISO Size	**Base Port Size**	**Flow** C_V (Nl/min)	**Average Response Constants***			**Weight** lb (kg)
			M	**F**		
		1-2		**1-2**	**2-3**	
1	1/8 - 3/8	1.0 (980)	29	3.5	4.9	0.8 (0.4)
2	3/8 - 1/2	2.3 (2300)	41	1.5	2.4	1.5 (0.7)
3	1/2 - 3/4	3.4 (3300)	51	0.8	1.1	3.0 (1.4)

Valve Response Time – Response Time (msec) = M + (F • V). This is the average time required to fill a volume V (cubic inches) to 90% of supply pressure or to exhaust it to 10% of supply pressure. M and F values are shown above.

Valve Schematic



5/2 Single Pressure Controlled Valves

DIMENSIONS	Inches (mm)
ISO Size 1	
ISO Size 2	
ISO Size 3	

Downloadable CAD models available.

Ordering Information

5/2 Double Pressure Controlled Valves

PRESSURE CONTROLLED VALVES — **5-Way 2-Position Valves**

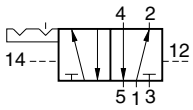
ISO Size	Base Port Size *	Valve Model Number
1	1/8 - 3/8	W6556A2417
2	3/8 - 1/2	W6556A3417
3	1/2 - 3/4	W6556A4417

*** Sub-bases and manifold bases ordered separately. Please see Sub-Bases and Manifolds pages, for use with or without serial bus system.**

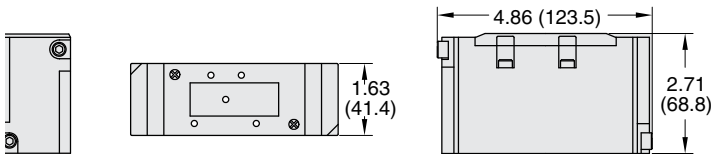
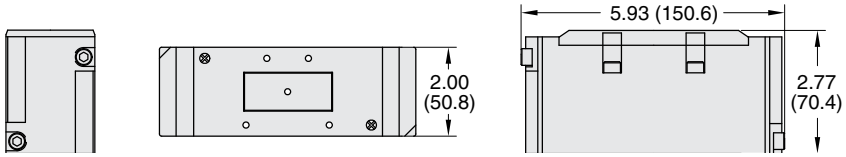
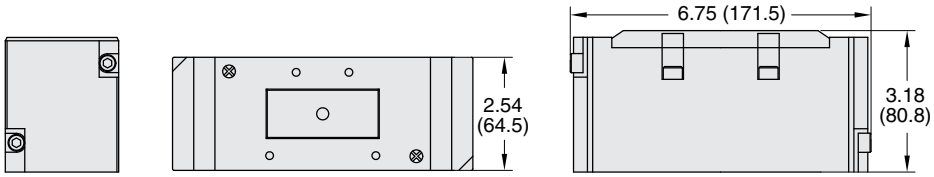
ISO Size	Base Port Size	Flow C_V (Nl/min)	Average Response Constants*			Weight lb (kg)
			M	F		
		1-2		1-2	2-3	
1	1/8 - 3/8	1.0 (980)	17	3.5	5.0	0.8 (0.4)
2	3/8 - 1/2	2.3 (2300)	20	1.5	2.5	1.5 (0.7)
3	1/2 - 3/4	3.4 (3300)	20	0.8	1.1	3.0 (1.4)

Valve Response Time – Response Time (msec) = M + (F • V). This is the average time required to fill a volume V (cubic inches) to 90% of supply pressure or to exhaust it to 10% of supply pressure. M and F values are shown above.

Valve Schematic



5/2 Double Pressure Controlled Valves

DIMENSIONS	Inches (mm)
ISO Size 1	
ISO Size 2	
ISO Size 3	

Downloadable CAD models available.

Ordering Information

5/3 Double Pressure Controlled Valves

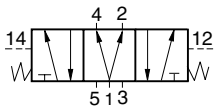
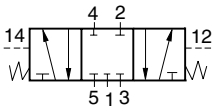
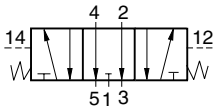
PRESSURE CONTROLLED VALVES			5-Way 3-Position Valves
Center Position	ISO Size	Base Port Size *	Valve Model Number
			24 V DC
Power Center	2	3/8 - 1/2	W6557A3901
	3	1/2 - 3/4	W6557A4900
Closed Center	1	1/8 - 3/8	W6557A2411
	2	3/8 - 1/2	W6557A3411
	3	1/2 - 3/4	W6557A4411
Open Center	1	1/8 - 3/8	W6557A2417
	2	3/8 - 1/2	W6557A3417
	3	1/2 - 3/4	W6557A4417

* **Sub-bases and manifold bases ordered separately. Please see Sub-Bases and Manifolds pages, for use with or without serial bus system.**

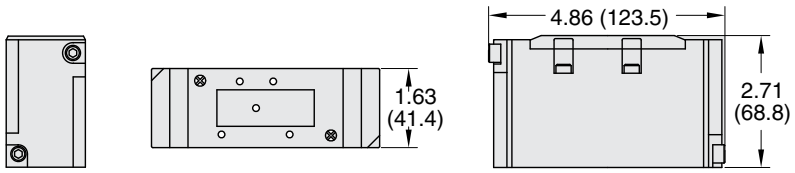
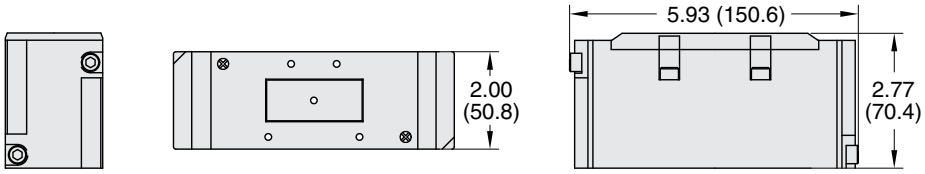
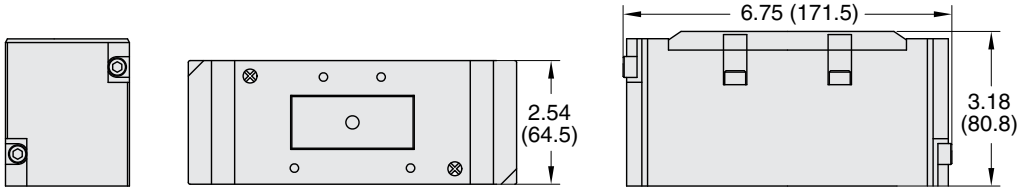
ISO Size	Base Port Size	Flow C_v (Nl/min)	Average Response Constants*			Weight lb (kg)
			M	F		
		1-2		1-2	2-3	
1	1/8 - 3/8	1.0 (980)	30	3.5	5.0	0.8 (0.4)
2	3/8 - 1/2	2.3 (2300)	40	1.5	2.5	1.5 (0.7)
3	1/2 - 3/4	3.4 (3300)	50	0.8	1.1	3.0 (1.4)

Valve Response Time – Response Time (msec) = M + (F • V). This is the average time required to fill a volume V (cubic inches) to 90% of supply pressure or to exhaust it to 10% of supply pressure. M and F values are shown above.

Valve Schematics

Power Center	Closed Center	Open Center
		

5/3 Double Pressure Controlled Valves

DIMENSIONS	Inches (mm)
ISO Size 1	
ISO Size 2	
ISO Size 3	

Downloadable CAD models available.

Sub-Bases – Side and Bottom-Ported

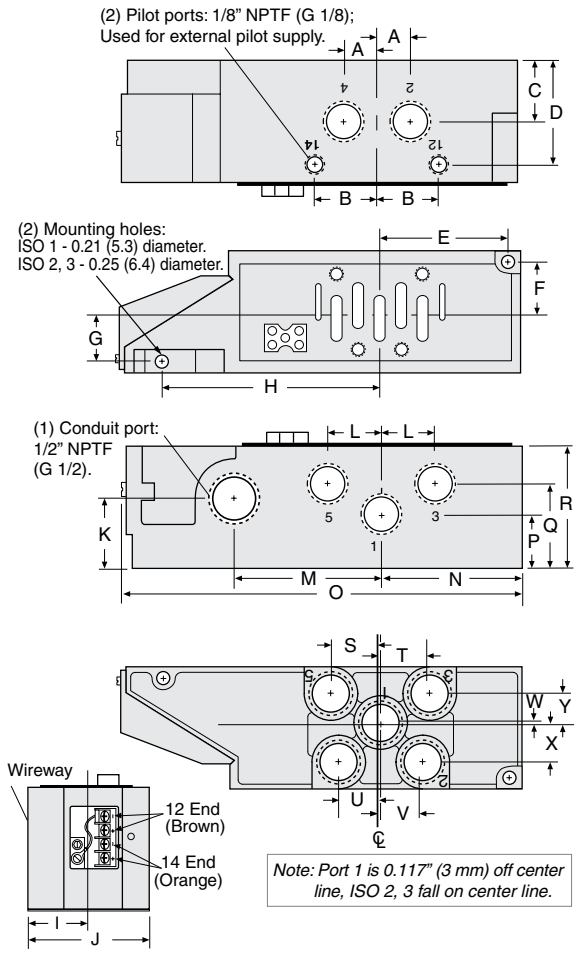
SIDE AND BOTTOM-PORTED SUB-BASES

ISO Size	Port Size	Port Location	Model Number	
			NPT Thread	G Thread
1	3/8	Side/Bottom	972N91	D950N91
2	1/2	Side	953N91	D953N91
		Side/Bottom	954N91	—
3	3/4	Side/Bottom	—	D958N91

Illustration example.

DIMENSIONS

Inches (mm)



Note: Port 1 is 0.117" (3 mm) off center line, ISO 2, 3 fall on center line.

	ISO Size		
	1	2	3
A	0.5 (13)	0.6 (16)	0.8 (21)
B	1.0 (26)	1.3 (33)	1.8 (45)
C	0.8 (21)	1.2 (31)	1.3 (34)
D	1.5 (38)	1.9 (49)	2.7 (70)
E	1.6 (39)	2.3 (57)	2.5 (63)
F	0.9 (23)	1.1 (29)	1.5 (39)
G	0.9 (23)	1.1 (29)	1.4 (36)
H	3.6 (92)	4.3 (108)	5.4 (137)
I	1.1 (29)	1.4 (35)	1.8 (45)
J	2.3 (58)	2.8 (70)	3.5 (90)
K	0.9 (24)	1.5 (37)	1.8 (47)
L	0.9 (22)	1.1 (27)	1.5 (38)
M	2.4 (60)	3.0 (75)	4.1 (104)
N	1.8 (46)	2.5 (64)	2.7 (69)
O	6.5 (164)	7.8 (197)	9.3 (235)
P	0.8 (21)	1.1 (28)	1.3 (34)
Q	1.3 (34)	1.7 (44)	2.0 (51)
R	1.9 (47)	2.4 (60)	3.3 (85)
S	0.8 (21)	1.1 (27)	1.6 (42)
T	1.1 (27)	1.1 (27)	1.6 (42)
U	0.5 (13)	0.9 (22)	1.1 (27)
V	0.6 (15)	0.9 (22)	1.1 (27)
W	0.3 (8)	0.1 (3)	0.8 (20)
X	0.7 (17)	0.8 (20)	0.8 (20)
Y	0.6 (16)	0.9 (20)	0.8 (20)

Downloadable CAD models available.

MANIFOLD STATION ASSEMBLY

ISO Size	Port Size	Port Location	Model Number*	
			NPT Thread	G Thread
1	3/8	End/Bottom	960N91	D960N91
2	1/2	End/Bottom	962N91	D962N91
3	3/4	End/Bottom	964N91	D964N91

* Includes a manifold assembly, socket head screws, nuts and seals.

Assembled manifolds also available, consult ROSS.

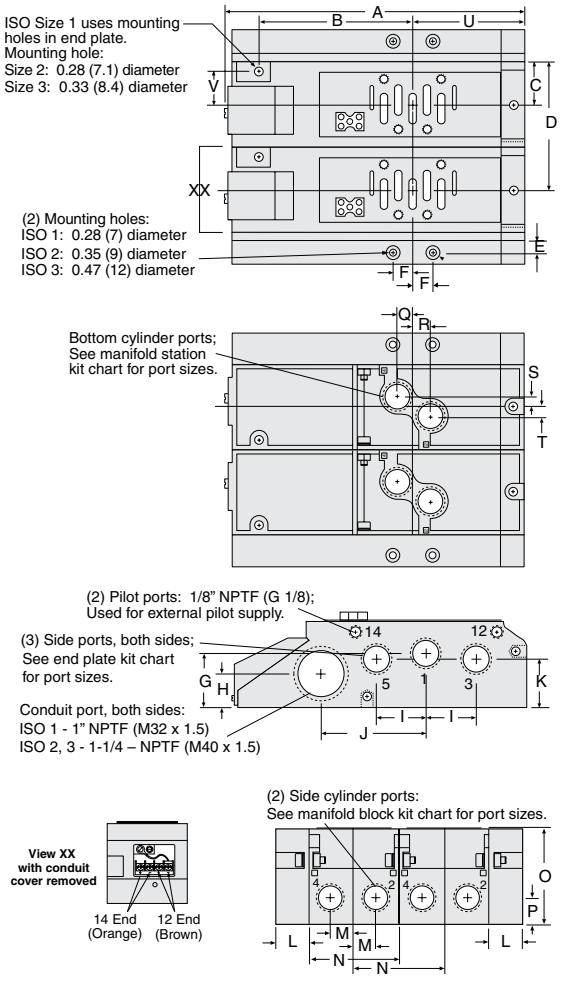
END STATION

ISO Size	Port Size	Model Number*	
		NPT Thread	G Thread
1	3/8	493N86	D493N86
2	1/2	494N86	D494N86
3	3/4	495N86	D495N86

* Includes left and right end plates, socket head screws, nuts and seals.

DIMENSIONS

Inches (mm)



	ISO Size		
	1	2	3
A	7.2 (183)	9.0 (229)	10.6 (270)
B	4.9 (125)	6.0 (152)	7.1 (180)
C	1.0 (26)	1.3 (33)	1.7 (43)
D	3.1 (79)	3.9 (100)	5.1 (128)
E	0.6 (14)	0.6 (16)	0.6 (15)
F	0.6 (14)	0.7 (17)	1.0 (26)
G	1.3 (34)	1.7 (42)	1.8 (46)
H	1.0 (25)	1.2 (30)	1.2 (31)
I	1.1 (28)	1.4 (35)	2.1 (52)
J	2.5 (64)	3.1 (79)	4.1 (104)
K	1.2 (31)	1.6 (40)	1.7 (42)
L	0.9 (22)	1.0 (25)	1.2 (30)
M	0.5 (13)	0.6 (16)	0.8 (21)
N	2.1 (53)	2.6 (67)	3.4 (86)
O	2.2 (55)	2.6 (66)	3.1 (78)
P	0.6 (16)	0.9 (22)	0.8 (20)
Q	0.5 (13)	0.6 (15)	0.7 (18)
R	0.5 (13)	0.6 (15)	0.8 (21)
S	0.3 (7)	0.3 (8)	0.5 (13)
T	0.3 (7)	0.3 (8)	0.5 (12)
U	2.0 (51)	2.8 (67)	3.1 (79)
V	----------	1.0 (26)	1.3 (31)

Downloadable CAD models available.

Manifold Accessories

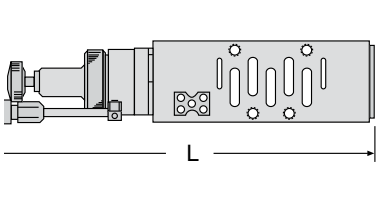
NOTE: ***Accessories from this page are to be used only with sub-bases and manifolds on page 16 & 17.***

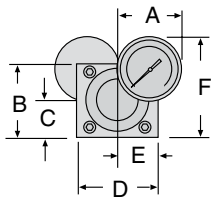
INTERPOSED PRESSURE REGULATORS

ISO Size	Model Number	Dimensions inches (mm)											
		A	B	C	D	E	F	G	H	I	J	K	L
1 – Single	965N91	1.6 (39)	1.8 (45)	0.9 (23)	1.7 (43)	0.9 (22)	2.5 (63)	6.2 (157)	7.2 (182)	8.0 (204)	11.6 (295)	13.6 (345)	9.0 (229)
1 – Double	966N91	1.6 (39)	1.8 (45)	0.9 (23)	1.7 (43)	0.9 (22)	2.5 (63)	6.2 (157)	7.2 (182)	8.0 (204)	11.6 (295)	13.6 (345)	9.0 (229)
2 – Single	967N91	1.6 (39)	1.8 (45)	0.9 (23)	2.0 (51)	1.0 (26)	2.5 (63)	6.5 (166)	7.5 (191)	9.0 (229)	12.6 (320)	14.6 (370)	10.0 (254)
2 – Double	968N91	1.6 (39)	1.8 (45)	0.9 (23)	2.0 (51)	1.0 (26)	2.5 (63)	6.5 (166)	7.5 (191)	9.0 (229)	12.6 (320)	14.6 (370)	10.0 (254)
3 – Single	969N91	2.1 (52)	2.7 (67)	1.3 (34)	2.6 (66)	1.3 (33)	3.4 (85)	9.5 (242)	8.0 (203)	10.6 (270)	18.2 (463)	15.2 (386)	13.0 (330)
3 – Double	970N91	2.1 (52)	2.7 (67)	1.3 (34)	2.6 (66)	1.3 (33)	3.4 (85)	9.5 (242)	8.0 (203)	10.6 (270)	18.2 (463)	15.2 (386)	13.0 (330)

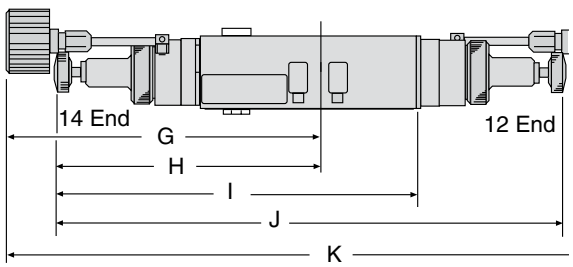
The interposed regulator controls the pressure through the base-mounted valve. These interposed devices are "sandwich" style, mounting between a valve and base or manifold. When using a dual interposed regulator for a W65 Series solenoid valve, the valve must be externally piloted (port 14).

Single Interposed Regulator (top view)





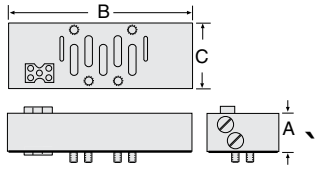
Double Interposed Regulator (top view)



WARNING: Double interposed regulators will reverse output ports, the 12 solenoid will pressurize the 4 port, the 14 solenoid will pressurize the 2 port which may cause unexpected, potentially dangerous cylinder movement at valve pressurization.

INTERPOSED FLOW CONTROL

ISO Size	Model Number	Dimensions inches (mm)		
		A	B	C
1	1371N77	0.9 (24)	3.8 (97)	1.7 (43)
2	1372N77	1.3 (33)	5.1 (130)	2.0 (51)
3	1373N77	1.6 (41)	5.6 (142)	2.6 (66)

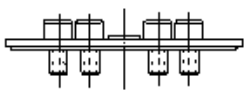


The interposed flow control independently adjusts the speed of a cylinder's extend and retract motions. This action is achieved by throttling the flow of exhaust air through ports 3 and 5 by means of a separate needle valve across each of these ports. These interposed devices are "sandwich" style, mounting between a valve and a base or manifold.

BLANK STATION PLATES

Blank Station Plate

ISO Size	Model Number*
1	1381N77
2	1382N77
3	1383N77
A blank station plate is used to cover the top of a manifold station not in use.	



NOTE: ***Accessories from this page are to be used only with sub-bases and manifolds on page 16 & 17.***

NOTE: ***Accessories from this page are to be used only with sub-bases and manifolds on page 16 & 17.***

PORT BLOCKING DISKS

Port Blocking Disks

ISO Size	Model Number*
1	1376N77
2	1378N77
3	1380N77
A blocking disk closes the ports between manifold stations.	

PILOT PORT BLOCKING PLUGS

Pilot Port Blocking Plugs

ISO Size	Model Number*
1	1375N77
2	1377N77
3	1379N77
The pilot blocking plug blocks the pilot ports between manifold stations.	

MANIFOLD TRANSITION PLATES

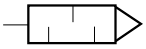
Manifold Transition Plates

Left Manifold ISO Size	Right Manifold ISO Size	Model Number*
1	2	1387N77
2	1	1388N77
2	3	1389N77
3	2	1390N77
To bank different manifold sizes together.		

EXHAUST SILENCERS

Illustration example.

Silencers

SPECIFICATIONS	Silencer Material	Pressure Range psig (bar)	Schematic
	Aluminum	0-290 (0-20) maximum	

Port Size	Thread Type	Flow C_v (Nl/min)	Model Number		Dimensions inches (mm)		Weight lb (kg)
			NPT Thread	R/Rp Thread	Length	Hex Size (D)	
1/4	Male	2.3 (2263)	5500A2003	D5500A2003	2.2 (6)	0.81 (21)	0.07 (0.03)
3/8	Male	9.0 (8856)	5500A3013	D5500A3013	2.2 (6)	0.81 (21)	0.07 (0.03)
1/2	Male	6.8 (6691)	5500A4003	D5500A4003	3.6 (9)	1.25 (32)	0.2 (0.1)
1	Male	18 (18000)	5500A6003	D5500A6003	5.4 (14)	2.0 (51)	0.9 (0.4)

NOTE: ***Accessories from this page are to be used only with sub-bases and manifolds on page 16 & 17.***

MANIFOLD BASES FOR ISO SIZE 1 & 2

MANIFOLD MODEL NUMBER CONFIGURATOR

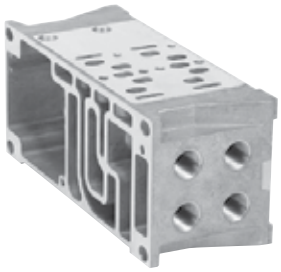
RPSHU11	5	5	J	1	P

ISO 1 & 2

ISO Size	Port Size	
ISO Size 1	3/8 NPT	5
	3/8 BSPP	6
ISO Size 2	1/2 NPT	7
	1/2 BSPP	8

Circuit Board Address Configuration	
Interconnect, Single Address	J
Interconnect, Double Address	M

Gasket Options	
1, 3, 5 Ports Open and Pilots Open	1
1, 3, 5 Ports Closed and Pilots Open	2
1 Port Closed, 3, 5 Ports Open and Pilots Closed	3
1 Port Open, 3, 5 Ports Closed and Pilots Open	4
1, 3, 5 Ports Open and Pilots Closed	5
1, 3, 5 Ports Closed and Pilots Closed	6
1 Port Closed, 3, 5 Ports Open and Pilots Closed	7
1 Port Open, 3, 5 Ports Closed and Pilots Open	8



MANIFOLD BASES FOR ISO SIZE 3

MANIFOLD MODEL NUMBER CONFIGURATOR

RPS4211	69	M	C	P

Basic Series

Mounting Base Style	Port Size	
Bottom / End Port	3/8 NPT	69
	3/8 G	60*

Enclosures / Lead Length	
Circuit Board, Single Address	J†
Circuit Board, Double Address	M†

† Not Available with Sub-Base Kits.

Note: When using the Enclosure / Lead Length "J" or "M" option:
12 volts DC - Maximum number of coils is 13
24 volts DC - Maximum number of coils is 21
120 volts AC - Coils limited by the number of pins available in the connector (25-Pin D-Sub = 24 coils, 19-Pin Brad Harrison = 16, 12-Pin M23 = 8)
240 volts AC - Must use "A" or "C" Option, Lead Wires or Terminal Blocks

END STATIONS FOR ISO SIZE 1 & 2

END STATION MODEL NUMBER CONFIGURATOR

RPSHU20 | L2 | 1 | 0 | P

Valve Type	
Non Plug-in (Internal Pilot)	RPSHU20
Non Plug-in (External Pilot)	RPSHU2X

Left Hand End Station Type	
25-Pin-D-Sub (top)#	**L2**
Industrial Communication	
ROSS Serial Bus	L6^
Turck BL67 with Valve Driver Module - For 16 Outputs	T1*
Turck BL67 with Valve Driver Module - For 32 Outputs	T2*

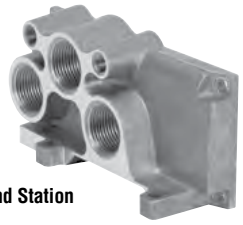
\# RPSHU11 gaskets included in each end station kit.
^ Valve Driver Module and 24 Output Cable installed. Must order communication modules separately. Must Order Bases with Circuit Boards.
* Turck Network and P2M Ethernet node communication module ordered separately.

Thread Type	
NPT	0
G	1*

* G thread model conforms to ISO 1179-1 w 228-1 thread.

Right Hand End Station Ports	
1/2 Exhaust and Inlet Ports	1
3/4 Exhaust and Inlet Ports	2

Left Hand End Station 25-pin D-Sub (top)



Hi-Flow Right Hand End Station

End Plate Type	Type/Port Size	Flow C_V (Nl/min)
Right Hand	1/2	6.1 (5900)
	3/4	8.35 (6200)

END STATIONS FOR ISO SIZE 3

END STATION MODEL NUMBER CONFIGURATOR

RPS42 | 20 | L2 | 0 | C | P

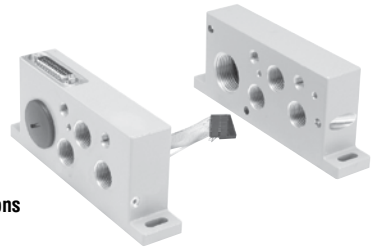
Basic Series

Revision Level

Options	
25-Pin, D-Sub	**L2†#+**
Industrial Communication	
ROSS Serial Bus Communication	L6^+
16 Outputs - Turck Serial Bus Communication Module	T1*
32 Outputs - Turck Serial Bus Communication Module	T2*

† Only Available with End Station Kit Type "20".
\# RPSHU11 gaskets included in each end plate kit.
^ Valve Driver Module and 24 Output Cable Installed. Must order communication modules separately.
\+ Must Order Bases with Circuit Boards.
* Turck Network and P2M Ethernet node communication module ordered separately.

Thread Type	
NPT	0
G	1



25-Pin D-Sub End Stations

Manifold Accessories

BLANK STATION PLATE KITS

Blank Station Plates

ISO Size	Model Number*
1	RPS4034CP
2	RPS4134CP
3	RPS4234CP

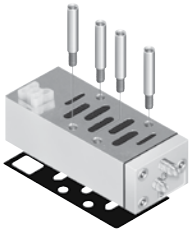
* **Includes:** Blank Station Plate, Gasket, and Mounting Bolts.

REMOTE PILOT ACCESS PLATE KITS

Remote Pilot Access Plates

ISO Size	Port Size	Model Number*	
		NPT Thread	G Thread
1	1/8"	RPS401500CP	RPS401501CP
2	1/8"	RPS411500CP	RPS411501CP
3	1/8"	RPS421500CP	RPS421501CP

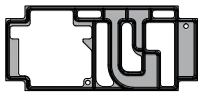
* **Includes:** Pilot Port Access Plate, Gasket and Mounting Studs.



GASKET KITS FOR ISO SIZE 1 & 2 MANIFOLD TO MANIFOLD

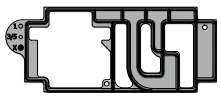
Gasket Kits Manifold to Manifold

Pilots Status	Diagram Reference	Description	Kit Number
Pilots Opened	1	Supply & Exhaust & Pilots Open	RPSHU11P
	2	Supply Closed, Exhaust & Pilots Open	RPSHU12P
	3	Supply & Exhaust Closed, Pilots Open	RPSHU13P
	4	Supply & Pilots Open, Exhaust Closed	RPSHU14P
Pilots Blocked	5	Supply & Exhaust Open, Pilots Closed	RPSHU15P
	6	Supply & Pilots Closed, Exhaust Open	RPSHU16P
	7	Supply & Exhaust & Pilots Closed	RPSHU17P
	8	Supply Open, Exhaust & Pilots Closed	RPSHU18P

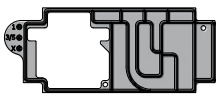


1 – Supply & Exhaust & Pilots Open

3 – Supply & Exhaust Closed, Pilots Open



5 – Supply & Exhaust Open, Pilots Closed



7 – Supply & Exhaust & Pilots Closed

2 – Supply Closed, Exhaust & Pilots Open

4 – Supply & Pilots Open, Exhaust Closed

6 – Supply & Pilots Closed, Exhaust Open

8 – Supply Open, Exhaust & Pilots Closed

INTERPOSED PRESSURE REGULATORS

Dual Interposed Regulator

ISO Size 1

ISO Size 2

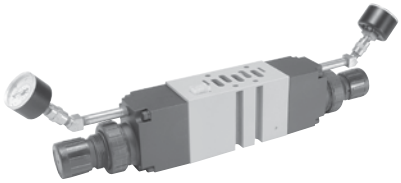


Illustration examples.

INTERPOSED REGULATOR NUMBER CONFIGURATOR

RPS4038 | 1 | 6 | 6 | C | P

Basic Series/ISO Size	
ISO Size 1	RPS4038
ISO Size 2	RPS4138
ISO Size 3	RPS4238

Regulator Function	
Common Pressure Regulator	1
Independent Pressure Regulator	2
Selector Regulator	3

#4 Port Regulator / Gauge*	
Line By-Pass Plate	0**
1-30 psig w/o Gauge	1
2-60 psig w/o Gauge	2
5-125 psig w/o Gauge	3
1-30 psig w/Gauge	4
2-60 psig w/Gauge	5
5-125 psig w/Gauge	6
Air Pilot w/60 psig Gauge	C
Air Pilot w/160 psig Gauge	D

* For Common Pressure Regulator Option, Regulator Gauge callout must be the same number for both Port #4 and Port #2. (Example: 166)

** Pressure Line By-Pass Option can only be used with Independent and Selector Regulators (Option 2 & 3 in Interposed Block Function).

#2 Port Regulator / Gauge*	
Line By-Pass Plate	0**
1-30 psig w/o Gauge	1
2-60 psig w/o Gauge	2
5-125 psig w/o Gauge	3
1-30 psig w/Gauge	4
2-60 psig w/Gauge	5
5-125 psig w/Gauge	6
Air Pilot w/60 psig Gauge	C
Air Pilot w/160 psig Gauge	D

* For Common Pressure Regulator Option, Regulator Gauge callout must be the same number for both Port #4 and Port #2. (Example: 166)

** Pressure Line By-Pass Option can only be used with Independent and Selector Regulators (Option 2 & 3 in Interposed Block Function).

Ordering Components

- *Manifold Base or Sub-Base Kit required*
- *Interposed Regulator Kit configured for Internal Pilot as standard*
- *Order valve as External Pilot*

How to Configure Interposed Regulator / Valve Combinations

Internal Pilot Configuration - Pressure in Base Port 1 feeds regulator configured for Internal Pilot which feeds valve configured for External Pilot.

External Pilot Configuration - Size 1, Size 2, Size 3

An External Pilot pressure in Port 12 or 14 of the base feeds thru the Interposed Regulator 12 or 14 galley directly to the 12/14 pilot of the valve. This configuration takes an External Pilot from the 12 port of the base and passes it thru the regulator to feed the 12 galley of the valve.

WARNING: Double interposed regulators will reverse output ports, the 12 solenoid will pressurize the 4 port, the 14 solenoid will pressurize the 2 port which may cause unexpected, potentially dangerous cylinder movement at valve pressurization.

Manifold Accessories

INTERPOSED FLOW CONTROLS

Interposed Flow Controls

Description	ISO Size	Model Number
Both adjustment screws are located on the 12 end of the unit. Interposed Flow Control mounts with its own studs, which means the valve uses standard bolts for mounting. Interposed Flow Control is not to be used as a shut off device and is not bubble tight when needles are fully turned down.	1	RPS4035CP
	2	RPS4135CP
	3	RPS4235CP
A Interposed Flow Control and Common Port Interposed Regulator may be sandwiched together on a Manifold or Sub-Base. The Interposed Flow Control MUST be located between the manifold/Sub-Base and the Common Port Interposed Regulator.		

GAUGE ADAPTER KITS

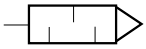
Gauge Adapter

Description	Model Number
Gauge Adapter Kit	RPS5651160P
1/8" Female to 1/8" Female Coupling	R207P-2*
1/8" Male to 1/8" Male Long Nipple	RVS215PNL-2-15*
* Included in Gauge Adapter RPS5651160P.	

EXHAUST SILENCERS

Illustration example.

Silencers

SPECIFICATIONS	Silencer Material	Pressure Range psig (bar)	Schematic
	Aluminum	0-290 (0-20) maximum	

Port Size	Thread Type	Flow C_v (Nl/min)	Model Number		Dimensions inches (mm)		Weight lb (kg)
			NPT Thread	R/Rp Thread	Length	Hex Size (D)	
3/8	Male	9.0 (8900)	5500A3013	D5500A3013	2.2 (6)	0.81 (21)	0.07 (0.03)
1/2	Male	6.8 (6700)	5500A4003	D5500A4003	3.6 (9)	1.25 (32)	0.2 (0.1)
3/4	Male	7.2 (7100)	5500A5013	D5500A5013	3.6 (9)	1.25 (32)	0.2 (0.1)

Notes

CAUTIONS, WARNINGS And STANDARD WARRANTY

ROSS OPERATING VALVE, ROSS CONTROLS®, ROSS DECCO®, and AUTOMATIC VALVE INDUSTRIAL, collectively the "ROSS Group".

PRE-INSTALLATION or SERVICE

1. Before servicing a valve or other pneumatic component, be sure all sources of energy are turned off, the entire pneumatic system is shut down and exhausted, and all power sources are locked out (ref: OSHA 1910.147, EN 1037).

2. All ROSS Group Products, including service kits and parts, should be installed and/or serviced only by persons having training and experience with pneumatic equipment. Because any product can be tampered with and/or need servicing after installation, persons responsible for the safety of others or the care of equipment must check ROSS Group Products on a regular basis and perform all necessary maintenance to ensure safe operating conditions.

3. All applicable instructions should be read and complied with before using any fluid power system to prevent harm to persons or equipment. In addition, overhauled or serviced valves must be functionally tested prior to installation and use. If you have any questions, call your nearest ROSS Group location.

4. Each ROSS Group Product should be used within its specification limits. In addition, use only ROSS Group components to repair ROSS Group Products.

WARNINGS:
Failure to follow these instructions can result in personal injury and/or property damage.

FILTRATION and LUBRICATION

1. Dirt, scale, moisture, etc., are present in virtually every air system. Although some valves are more tolerant of these contaminants than others, best performance will be realized if a filter is installed to clean the air supply, thus preventing contaminants from interfering with the proper performance of the equipment. The ROSS Group recommends a filter with a 5-micron rating for normal applications.

2. All standard ROSS Group filters and lubricators with polycarbonate plastic bowls are designed for compressed air applications only. Use the metal bowl guard, where provided, to minimize danger from high pressure fragmentation in the event of bowl failure. Do not expose these products to certain fluids, such as alcohol or liquefied petroleum gas, as they can cause bowls to rupture, creating a combustible condition and hazardous leakage. Immediately replace crazed, cracked, or deteriorated bowls.

3. Only use lubricants which are compatible with materials used in the valves and other components in the system. Normally, compatible lubricants are petroleum base oils with oxidation inhibitors, an aniline point between 180°F (82°C) and 220°F (104°C), and an ISO 32, or lighter, viscosity. Avoid oils with phosphate type additives which can harm polyurethane components, potentially leading to valve failure which risks personal injury, and/or damage to property.

WARNINGS:
Failure to follow these instructions can result in personal injury and/or property damage.

AVOID INTAKE/EXHAUST RESTRICTION

1. Do not restrict air flow in the supply line. To do so could reduce the pressure of the supply air below minimum requirements for the valve and thereby causing erratic action.

2. Do not restrict a valve's exhaust port as this can adversely affect its operation. Exhaust silencers must be resistant to clogging and must have flow capacities at least as great as the exhaust capacities of the valves. Contamination of the silencer can result in reduced flow and increased back pressure.

WARNINGS: ***Failure to follow these instructions can result in personal injury and/or property damage.***

SAFETY APPLICATIONS

1. Mechanical Power Presses and other potentially hazardous machinery using a pneumatically controlled clutch and brake mechanism must use a press control double valve with a monitoring device. A double valve without a self-contained monitoring device should be used only in conjunction with a control system which assures monitoring of the valve. All double valve installations involving hazardous applications should incorporate a monitoring system which inhibits further operation of the valve and machine in the event of a failure within the valve mechanism.

2. Safe Exhaust (dump) valves without a self-contained monitoring device should be used only in conjunction with a control system which assures monitoring of the valve. All Safe Exhaust valve installations should incorporate a monitoring system which inhibits further operation of the valve and machine in the event of a failure within the valve mechanism.

3. Per specifications and regulations, the ROSS L-O-X® and L-O-X® with EEZ-ON®, N06 and N16 Series operation products are defined as energy isolation devices, NOT AS EMERGENCY STOP DEVICES.

WARNINGS:
Failure to follow these instructions can result in personal injury and/or property damage.

STANDARD WARRANTY

All products sold by the ROSS Group are warranted for a one-year period [with the exception of Filters, Regulators and Lubricators ("FRLs") which are warranted for a period of seven (7) years] from the date of purchase. All products are, during their respective warranty periods, warranted to be free of defects in material and workmanship. The ROSS Group's obligation under this warranty is limited to repair, replacement or refund of the purchase price paid for products which the ROSS Group has determined, in its sole discretion, are defective. All warranties become void if a product has been subject to misuse, misapplication, improper maintenance, modification or tampering. Products for which warranty protection is sought must be returned to the ROSS Group freight prepaid.

THE WARRANTY EXPRESSED ABOVE IS IN LIEU OF AND EXCLUSIVE OF ALL OTHER WARRANTIES AND THE ROSS GROUP EXPRESSLY DISCLAIMS ALL OTHER WARRANTIES EITHER EXPRESSED OR IMPLIED WITH RESPECT TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THE ROSS GROUP MAKES NO WARRANTY WITH RESPECT TO ITS PRODUCTS MEETING THE PROVISIONS OF ANY GOVERNMENTAL OCCUPATIONAL SAFETY AND/OR HEALTH LAWS OR REGULATIONS. IN NO EVENT IS THE ROSS GROUP LIABLE TO PURCHASER, USER, THEIR EMPLOYEES OR OTHERS FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES WHICH MAY RESULT FROM A BREACH OF THE WARRANTY DESCRIBED ABOVE OR THE USE OR MISUSE OF THE PRODUCTS. NO STATEMENT OF ANY REPRESENTATIVE OR EMPLOYEE OF THE ROSS GROUP MAY EXTEND THE LIABILITY OF THE ROSS GROUP AS SET FORTH HEREIN.

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Full-Service Global Locations

There are ROSS Distributors Throughout the World

To meet your requirements across the globe, ROSS distributors are located throughout the world. Through ROSS or its distributors, guidance is available for the selection of ROSS products, both for those using fluid power components for the first time and those designing complex systems.

Other literature is available for engineering, maintenance, and service requirements.

If you need products or specifications not shown in this catalog, please visit ROSS' website, contact ROSS or your ROSS distributor. The ROSS Support Team will be happy to assist you in selecting the best product for your application.