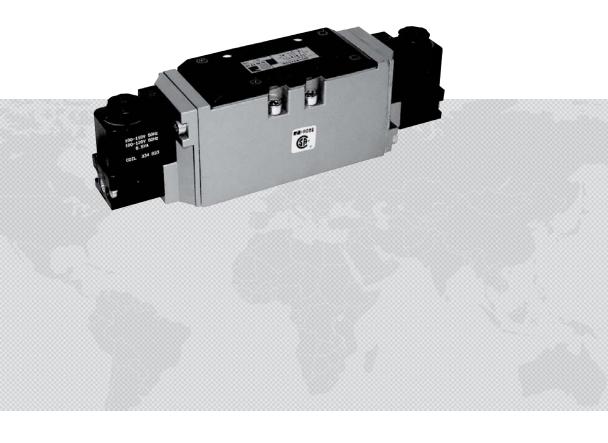




## **PRODUCT INFORMATION**

# ISO 5599-2 VALVES

## W65 SERIES



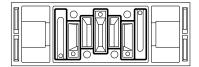
## **ROSS** CONTROLS

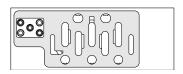
#### ISO W60, W64, & W65 SERIES VALVES - KEY FEATURES

- ISO Sizes 1, 2, & 3
- 5/2 Single, 5/2 Double, & 5/3 Double Solenoid Pilot & Pressure Controlled Valves
- Available with Buna-N and Fluoroelastomer seals for a wide temperature and resistance range
- W60 Series Precision Finish Stainless Steel Spool & Sleeve internals that provide high shifting speed, long life, non-lube service, and easy maintenance
- · W64 Series Poppet construction is highly tolerant to dirty air
- W65 Series Precision Finish Stainless Steel Spool & Sleeve internals that provide
  - high shifting speed, long life, non-lube service, and easy maintenance - Serial Bus Communication compatible
    - Plug-In valve to base electrical connector eliminates need to disconnect wires to remove valve

#### **Standard Definitions**

5599-1: Drop-cord Standards for Sizes 1, 2, 3



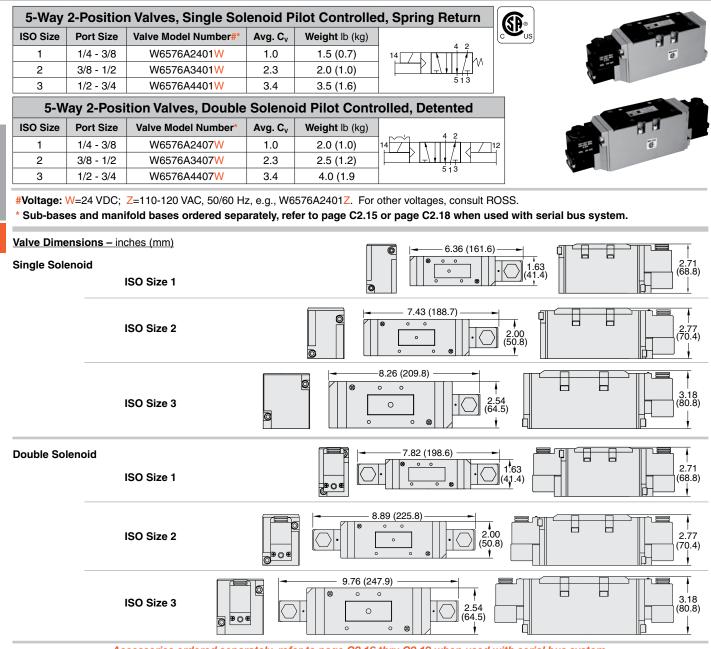


5599-2: Plug-in Standards for Size 1, 2, 3

		DESCR	IPTI	ON		AVA	ILAE	BLE	POR	T SI	ZES			F	UNC	TION	IS						
VALVE TYPE	VALVE SERIES	ISO Size	Spool & Sleeve	Poppet	1/8	1/4	3/8	1/2	3/4	1	1¼	1½	3/2 Single	5/2 Single	5/2 Double	5/3 Closed Center	5/3 Open Center	5/3 Pressure Center	Max Flow (Cv)	Solenoid Control	Direct Solenoid Control	Pressure Control	Page
ISO 5599-1	W60	1																	0.8				C2.3 - C2.7
	W60	2																	1.9				C2.3 - C2.7
	W60	3																	3.8				C2.3 - C2.7
	W64	1																	1.0				C2.3 - C2.7
	W64	2																	2.0				C2.3 - C2.7
	W64	3																	4.0				C2.3 - C2.7
Single Sub-	Bases & Mar	nifold Ba	ses																				C2.8 - C2.9
Manifold Kit	ts & Accesso	ories																					C2.9 - C2.11
ISO 5599-2	W65	1																	0.8				C2.12 - C2.14
	W65	2																	1.9				C2.12 - C2.14
	W65	3																	3.8				C2.12 - C2.14
Sub-Bases	& Modular M	anifold E	Base	es																			C2.15
Accessories	s for Sub-Ba	ses & Mo	odul	lar N	lani	fold	Base	es															C2.16
Single Sub-	Bases & Moo	dular Ma	nifo	ld B	ase	s																	C2.17
End Station	Kits & Acce	ssories																					C2.18 - C2.19

C2

## **Solenoid Pilot Controlled Valves**



Accessories ordered separately, refer to page C2.16 thru C2.19 when used with 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.

#### STANDARD SPECIFICATIONS (for valves on this page):

Construction Design Mounting Type Solenoid	Spool and Sleeve Base Rated for continuous duty	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 - Internal or External: Minimum 30 psig (2 bar)			
Voltages	24 volts DC; 110-120 volts AC, 50/60 Hz	_	When external pilot supply, pressure must be equal to or greate			
Power Consumption	3.5 watts on DC (at 10 bar); 6.5 VA holding on 50 or 60 Hz	_	than inlet pressure.			
(each solenoid)		Indicator Light	Included, one per solenoid			
	Ambient: 40° to 120°F (4° to 50°C)	<b>3</b>	Valve Body: Cast Aluminum			
Temperature	Media: 40° to 175°F (4° to 80°C)	<b>Construction Material</b>	Spool: Stainless Steel			
	For other temperature ranges, consult ROSS.		Seals: Buna-N			
Flow Media	Filtered air	Manual Override	Flush; Metal, non-locking			
Pilot Supply	Internal or External; Selected automatically					

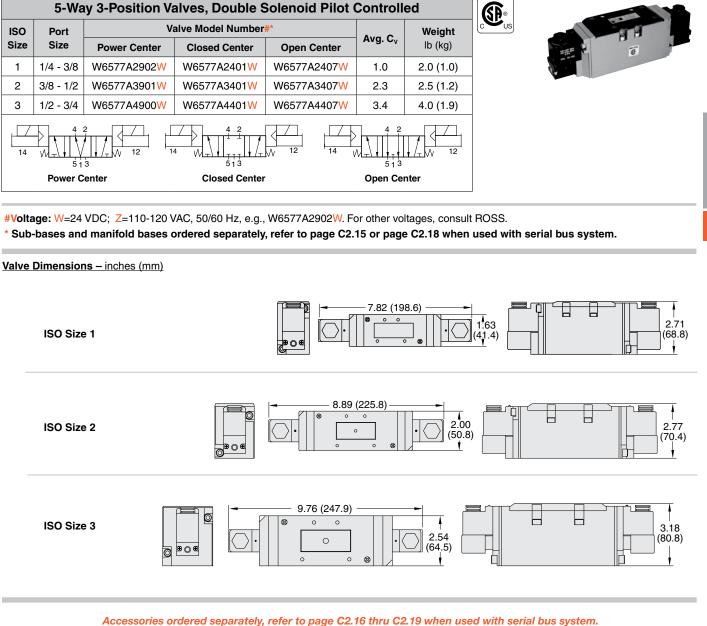
IMPORTANT NOTE: Please read carefully and thoroughly all of the CAUTIONS, WARNINGS on the inside back cover.

С

SALES@FLUTECH.CO.TH **(**+ 66 (0) 2384-6060 + 66 (0) 2384-5701 WWW.FLUTECH.CO.TH

## **Solenoid Pilot Controlled Valves**

## ISO 5599-2 W65 Series



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.

#### STANDARD SPECIFICATIONS (for valves on this page):

Construction Design	Spool and Sleeve		ISO Size 1: 30 to 150 psig (2 to 10 bar)			
Mounting Type	Base		ISO Size 2 & 3: 15 to 150 psig (1 to 10 bar) All sizes also available up to 232 psig (16 bar) Pilot Supply - Internal or External: Minimum 30 psig (2 bar)			
Solenoids	Rated for continuous duty	Operating Pressure				
Voltage	24 volts DC; 110-120 volts AC, 50/60 Hz					
Power Consumption (each solenoid)	3.5 watts on DC (at 10 bar); 6.5 VA holding on 50 or 60 Hz		When external pilot supply, pressure must be equal to or great than inlet pressure.			
	Ambient: 40° to 120°F (4° to 50°C)	Indicator Light	Included, one per solenoid			
			Valve Body: Cast Aluminum			
Temperature	Media: 40° to 175°F (4° to 80°C)	Construction Material	Spool: Stainless Steel			
	For other temperature ranges, consult ROSS.		Seals: Buna-N			
Flow Media	Filtered air	Manual Override	Flush; Metal, non-locking			
Pilot Supply	Internal or External; Selected automatically					

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

**C2** 

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Pres	sure	Controlle		W65 S				
5-V	Vay 2-Po	sition Valves,	Single P	ressure	Controlled,	Spring	Return	
ISO Size	e Port Si	ze Valve Model	Valve Model Number*		Weight Ib (kg	)		·
1	1/4 - 3	/8 W6556A	2411	1.0	0.8 (0.4)	14 🗆	4 2	
2	3/8 - 1	/2 W6556A	3411	2.3	1.5 (0.7)			
3	1/2 - 3	/4 W6556A	4411	3.4	3.0 (1.4)		513	
5	5-Way 2-F	Position Valve	s, Doubl	e Pressi	ure Controlle	ed, Dete	ented	
ISO Size	e Port Siz				8 - Q.			
1	1 1/4 - 3/8 W6556A		2417	1.0	0.8 (0.4)		4 2	3 1
2	3/8 - 1/	2 W6556A	3417	2.3	1.5 (0.7)	14		
3	1/2 - 3/	4 W6556A	4417	3.4	3.0 (1.4)		513	
	5-Wa	ay 3-Position \	/alves, D	Oouble P	ressure Cor	ntrolled		
ISO	Port	v	alve Mode	ve Model Number*			Weight	- 55
Size	Size	Power Center	Closed	Center	Open Center	Avg C <sub>v</sub>	lb (kg)	H
1	1/4 - 3/8	-	W6557	A2411	W6557A2417	1.0	0.8 (0.4)	
2	3/8 - 1/2	W6557A3901	W6557	43411	W6557A3417	2.3	1.5 (0.7)	
3	1/2 - 3/4	W6557A4900	W6557	44411	W6557A4417	3.4	3.0 (1.4)	
<u>14</u> W	4 2 T	1 <u>2</u> W		4 2 1 1 1 1 1 1 1 2 1 1 1 1 1 1 1 2 5 1 3		<u>14</u> M <sub>T</sub> 51	$\frac{12}{12}$	

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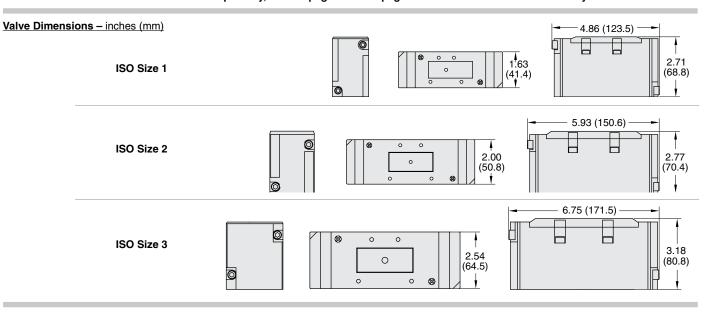
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**Power Center** 

ISO 5599-2

#### \* Sub-bases and manifold bases ordered separately, refer to page C2.15 or page C2.18 when used with serial bus system.

**Closed Center** 



**Open Center** 

#### Accessories ordered separately, refer to page C2.16 thru C2.19 when used with serial bus system.

	STANDARD SPECIFICATIONS (for valves on this page):								
Construction Design	Spool and Sleeve		ISO Size 1: 30 to 150 psig (2 to 10 bar)						
Mounting Type			ISO Size 2 & 3: 15 to 150 psig (1 to 10 bar) All sizes also available up to 232 psig (16 bar)						
Temperature	Ambient/Media: 40° to 175°F (4° to 80°C)	Operating Pressure	Pilot Supply: Minimum 30 psig (2 bar)						
Temperature	For other temperature ranges, consult ROSS.		Pilot supply pressure must be equal to or greater than inlet pressure.						
Flow Media	Filtered air		Valve Body: Cast Aluminum						
Pilot Supply	External	Construction Material							
	1		Seals: Buna-N						

## Sub-Bases & Modular Manifold Bases

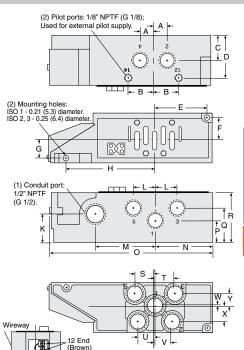
## for ISO 5599-2 Valves W65 Series

#### Side and Bottom-Ported Sub-Bases

ISO Size	Port Threads	Port Size	Sub-Base Model Number		
	NPT	1/4 Side	949N91		
	NPT	1/4 Side/Bottom	971N91		
	NPT	3/8 Side	950N91		
1	NPT	3/8 Side/Bottom	972N91		
	G	1/4 Side	D949N91		
	G	3/8 Side	D950N91		
	NPT	3/8 Side	951N91		
	NPT	3/8 Side/Bottom	952N91		
2	NPT	1/2 Side	953N91		
	NPT	1/2 Side/Bottom	954N91		
	G	1/2 Side	D953N91		
	NPT	1/2" Side	955N91		
	NPT	1/2" Side/Bottom	956N91		
	NPT	3/4" Side	957N91		
3	NPT	3/4" Side/Bottom	958N91		
3	G	1/2 Side	D955N91		
	G	1/2 Side/Bottom	D956N91		
	G	3/4 Side	D957N91		
	G	3/4 Side/Bottom	D958N91		

	Dimensio	ons inches	(mm)
	ISO 1	ISO 2	ISO 3
Α	0.5 (13)	0.6 (16)	0.8 (21)
В	1.0 (26)	1.3 (33)	1.8 (45)
С	0.8 (21)	1.2 (31)	1.3 (34)
D	1.5 (38)	1.9 (49)	2.7 (70)
Е	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)
Н	3.6 (92)	4.3 (108)	5.4 (137)
Т	1.1 (29)	1.4 (35)	1.8 (45)
J	2.3 (58)	2.8 (70)	3.5 (90)
κ	0.9 (24)	1.5 (37)	1.8 (47)
L	0.9 (22)	1.1 (27)	1.5 (38)
М	2.4 (60)	3.0 (75)	4.1 (104)
Ν	1.8 (46)	2.5 (64)	2.7 (69)
0	6.5 (164)	7.8 (197)	9.3 (235)
Ρ	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)
Т	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)
Х	0.7 (17)	0.8 (20)	0.8 (20)
Υ	0.6 (16)	0.9 (20)	0.8 (20)

Dimensions inches (mm)



00

14 End

(Orange) (B

12 End

14 End

(Orange

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

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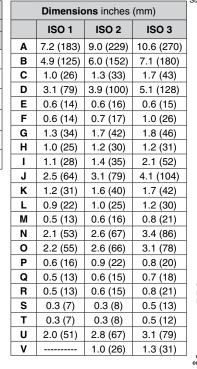
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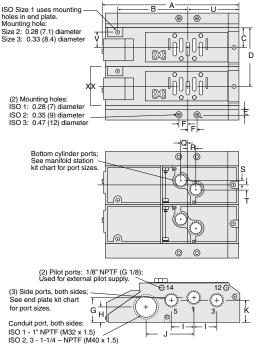
## **Bottom and End-Ported Manifold Bases**

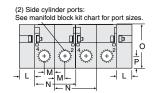
Each manifold station assembly includes a manifold assembly, socket head screws, nuts and seals. Each end station kit includes left and right end plates, socket head screws, nuts and seals.

	Manifold Station Assembly									
ISO	Devit Oline	ModelNumber								
Size	Port Size	NPT Threads	G Threads							
1	1/4" End/Bottom	959N91	D959N91							
<b>'</b>	3/8" End/Bottom	960N91	D960N91							
2	3/8" End/Bottom	961N91	D961N91							
2	1/2" End/Bottom	962N91	D962N91							
3	1/2" End/Bottom	963N91	D963N91							
	3/4" End/Bottom	964N91	D964N91							

	End Station Kit									
ISO	Port	Model Number								
Size	Size	NPT Threads	G Threads							
1	3/8"	493N86	D493N86							
2	1/2"	494N86	D494N86							
3	1"	495N86	D495N86							







Assembled manifolds also available, consult ROSS.

## for ISO 5599-2 Valves W65 Series

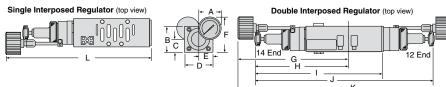
## **Accessories**

#### NOTE: Accessories from this page are to be used only with sub-bases and manifolds on page A2.14-15.

## **Interposed Regulators**

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).

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.



ISO Size	N
1 – Single	9
1 – Double	9

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										'		К — — — — — — — — — — — — — — — — — — —	<b>`</b> +			
ISO	Model	Dimensions inches (mm)														
Size	Number	A	В	С	D	E	F	G	н	I	J	К	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)			

## **Flow Control Kits**

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.

ISO	Model	Dimen	Dimensions inches		B
Size	Number	Α	В	С	
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)	

Blank Station Kits		) Size	1	2	3	3		
A blank station plate is used to cover the top of a manifold station not in use.	Kit N	lumber	1381N77	1382N77	1383	BN77	<u> </u>	ψΨ
Blocking Disk Kits		ISO S	Size	1	2	2	3	
A blocking disk closes the ports between manifold stations.		Kit Nu	mber	1376N77	1378	3N77	1380N77	
Pilot Port Blocking Plug		ISO Size	1		2	3		
The pilot blocking plug blocks the pilot ports between manifold	d stations.		Kit Numbe	r 1375	N77	1377N7	77 1379N77	

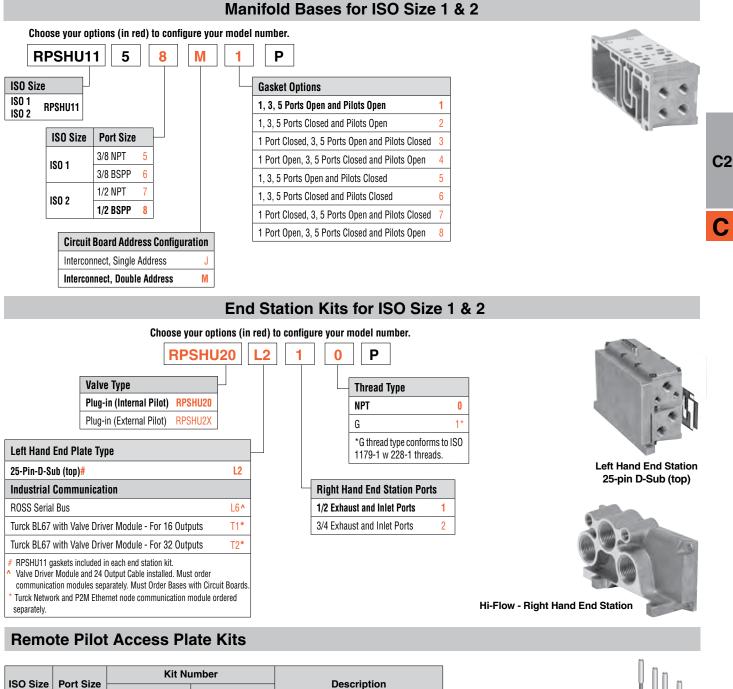
	Left Manifold ISO Size	<b>Right Manifold ISO Size</b>	Model Number
Transition Plates	1	2	1387N77
	2	1	1388N77
To bank different manifold sizes together.	2	3	1389N77
	3	2	1390N77

#### Silencers

Port	Thread	Model Number		Model Number Avg. Dimension		<b>s</b> inches (mm)	Weight	
Size	Туре	NPT Threads	<b>R/Rp Threads</b>	C <sub>v</sub>	Width	Length	lb (kg)	
1/4	Male	5500A2003	D5500A2003	1.2	0.9 (21)	2.2 (55)	0.1 (0.1)	5
3/8	Male	5500A3013	D5500A3013	2.7	0.9 (21)	2.2 (55)	0.1 (0.1)	
1/2	Male	5500A4003	D5500A4003	4.7	1.3 (32)	3.6 (91)	0.2 (0.1)	
1	Male	5500A6003	D5500A6003	14.6	2.0 (51)	5.4 (138)	0.6 (0.3)	
Pressure Range: 0 to 290 psig (0 to 20 bar) maximum. Flow Media: Filtered air.								



## Manifold Bases & End Station Kits for ISO Size 1 & 2



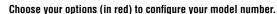
ISO Size	Port Size	Kit Ni	umber	Description
150 5120	FUIT SIZE	NPT Threads	G Threads	Description
1	1/8"	RPS401500CP	RPS401501CP	
2	1/8"	RPS411500CP	RPS411501CP	Kit includes: Pilot Port Access Plate, Gasket and Mounting Studs.
3	1/8"	RPS421500CP	RPS421501CP	. ale, eacher and mounting order.

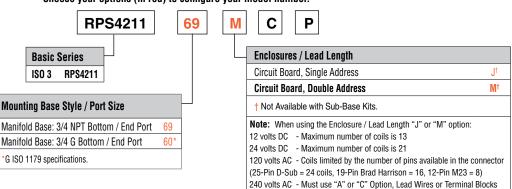


## **Blank Station Kits**

ISO Size	Kit Number	Description
1	RPS4034CP	Kit includes: Blank Station
2	RPS4134CP	Plate, Gasket, and Mounting
3	RPS4234CP	Bolts.

### Manifold Bases for ISO Size 3

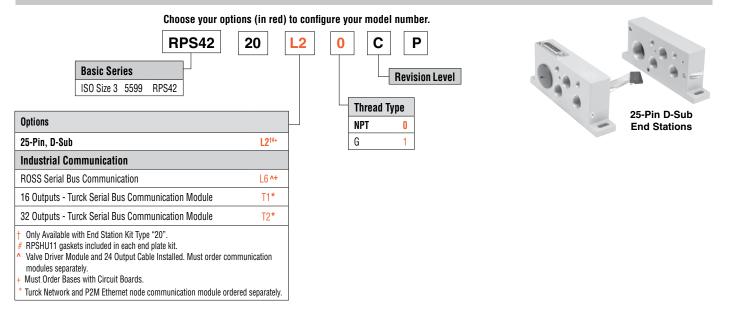




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## End Station Kits for ISO Size 3



## **Remote Pilot Access Plate Kits**

ISO Size Port Size Kit Number		umber	Description			
ISU Size	Port Size	NPT Threads	G Threads	Description		
1	1/8"	RPS401500CP	RPS401501CP			
2	1/8"	RPS411500CP	RPS411501CP	Kit includes: Pilot Port Access Plate, Gasket and Mounting Studs.		
3	1/8"	RPS421500CP	RPS421501CP	riace, casher and mounting studs.		



## **Blank Station Kits**

ISO Size	Kit Number	Description
1	RPS4034CP	Kit includes: Blank Station
2	RPS4134CP	Plate, Gasket, and Mounting
3	RPS4234CP	Bolts.

## for ISO 5599-2 Valves W65 Series

**C2** 

#### Interposed Pressure Regulators 1115 Choose your options (in red) to configure your model number. С Ρ 6 **RPS4038** 6 Size 1 **Basic Series** #2 Port Regulator / Gauge\* (Dual Interposed Regulator Shown) 0\*\* Line By-Pass Plate ISO Size 1 5599-2 RPS4038 ISO Size 2 55992 1-30 psig w/o Gauge **RPS4138** ISO Size 3 5599-2 RPS4238 2-60 psig w/o Gauge 5-125 psig w/o Gauge **Regulator Function** 1-30 psig w/Gauge 2-60 psig w/Gauge **Common Pressure Regulator** 1 6 5-125 psig w/Gauge Independent Pressure Regulator 2 Air Pilot w/60 psig Gauge Selector Regulator Size 2 Air Pilot w/160 psig Gauge (Dual Interposed Regulator Shown) For Common Pressure Regulator Option, Regulator #4 Port Regulator / Gauge\* Gauge callout must be the same number for both 0\*\* Line By-Pass Plate Port #4 and Port #2. (Example: 166) **Ordering Components** 1-30 psig w/o Gauge Pressure Line By-Pass Option can only be used Manifold Base or Sub-Base Kit required with Independent and Selector Regulators 2-60 psig w/o Gauge (Option 2 & 3 in Interposed Block Function). Interposed Regulator Kit configured for Internal Pilot as standard 5-125 psig w/o Gauge Order valve as External Pilot 1-30 psig w/Gauge 2-60 psig w/Gauge 5-125 psig w/Gauge 6 How to Configure Interposed Regulator / Valve Combinations Air Pilot w/60 psig Gauge Internal Pilot Configuration - Pressure in Base Port 1 feeds regulator configured for Internal Pilot Air Pilot w/160 psig Gauge D which feeds valve configured for External Pilot. For Common Pressure Regulator Option, Regulator External Pilot Configuration - Size 1, Size 2, Size 3 Gauge callout must be the same number for both An External Pilot pressure in Port 12 or 14 of the base feeds thru the Interposed Regulator 12 or 14 Port #4 and Port #2. (Example: 166) Pressure Line By-Pass Option can only be used galley directly to the 12/14 pilot of the valve. with Independent and Selector Regulators (Option 2 This configuration takes an External Pilot from the 12 port of the base and passes it thru the & 3 in Interposed Block Function). 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.

## Gauge Adapter Kit

Description	Model Number	
Gauge Kit	RPS5651160P	Included with all Size 00 Regulators. Both kits are required on all Size
1/8" Female to 1/8" Female Coupling	R207P-2*	0 & 00 Regulators when the Regulator is on the last Station on the
1/8" Male to 1/8" Male Long Nipple	RVS215PNL-2-15*	Right (14) End.
* Included in Gauge Kit RPS5651160P.		

## **Interposed Flow Controls**

ISO Size	Model Number
1	RPS4035CP
2	RPS4135CP
3	RPS4235CP

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.

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.

### Silencers

Port	Thread	Model Number		Avg.	Dimension	Weight		
Size	Туре	NPT Threads	R/Rp Threads	C <sub>v</sub>	Width	Length	lb (kg)	
3/8	Male	5500A3013	D5500A3013	2.7	0.9 (21)	2.2 (55)	0.1 (0.1)	
1/2	Male	5500A4003	D5500A4003	4.7	1.3 (32)	3.6 (91)	0.2 (0.1)	
3/4	Male	5500A5013	D5500A5013	5.1	1.3 (32)	3.6 (91)	0.2 (0.1)	
Pressu	Pressure Range: 0 to 290 psig (0 to 20 bar) maximum. Flow Media: Filtered air.							

