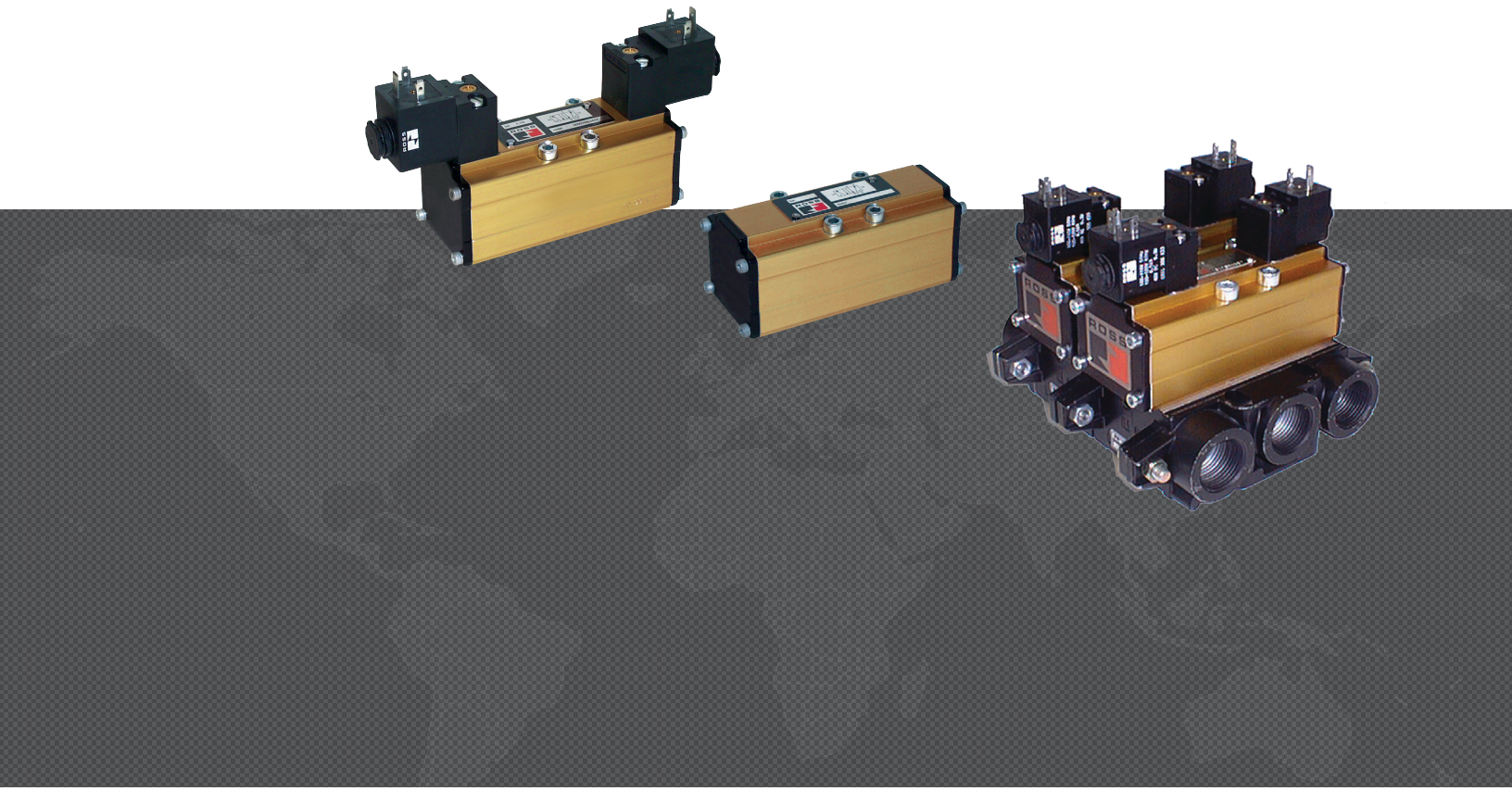
Directional Control
ISO 5599-1 Valves W60 & W64 Series

Product Catalog



ROSS™
a global family

ISO 5599-1 Valves W60 Series
Product Overview

The ROSS® ISO 5599-1 valves W60 Series are base mounted spool and sleeve valves that conform to the ISO standards 5599-1 mounting interface.

These ISO Size 1, 2, and 3 valves are available as, 2- and 3-position, 5-ported 4-way valves. Solenoid pilot options include a non-locking manual override, and either internal or external pilot supply.

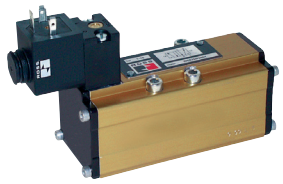
Solenoid Pilot Controlled		Pressure Controlled
Single Solenoid	Double Solenoid	
		

Illustration examples.

VALVE FEATURES

Spool Design	Spool and Sleeve construction with no seals to wear out
Mounting Options	Individual sub-base or manifold base mounting
Pilot Operation	Provides high shifting force with low power consumption
Pilot Supply	Internal or external; selected automatically
External Pilot Supply	Suitable for vacuum service

Actuation	ISO Size	Available Inlet Port Sizes					Functions					Maximum Flow C_v	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	●	●	●			●	●	●	●	●	0.8	2 – 3 4 – 9
	2			●	●		●	●	●	●	●	1.9	
	3				●	●	●	●	●	●	●	3.8	
Pressure Control	1	●	●	●			●	●	●	●	●	0.8	2 – 3 10 – 15
	2			●	●		●	●	●	●	●	1.9	
	3				●	●	●	●	●	●	●	3.8	
Sub-Bases													26 – 28
Manifold Bases													29 – 33
Manifold Accessories													34 – 36

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; G, NPT	
	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		Vacuum to 150 psig (Vacuum to 10 bar)	
	Pilot Supply Pressure		ISO Size 1	Minimum 30 psig (2 bar)
			ISO Size 2 & 3	Minimum 15 psig (1 bar)
	External Pilot Supply		Must be equal to or greater than inlet pressure	
ELECTRICAL DATA FOR SOLENOID PILOT	Solenoids		Rated for continuous duty	
	Operating Voltage (each solenoid)		24 volts DC 110 volts AC, 50 Hz, 120 volts AC 50/60 Hz 230-240 volts AC, 60 Hz	
	Power Consumption		24 V DC 110-120 V AC 230-240 V AC	5.8 nominal, 6.5 watts maximum watts
	Enclosure Rating		IP65, IEC 60529	
	Electrical Connection		DIN EN 175301-803 Form A	
CONSTRUCTION MATERIAL	Valve Body		Bar Stock 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

CSA Certificate of Compliance	UL Certification for the U.S. and CANADA Markets	CE Conformity Declaration	EAC Conformity Declaration	CRN Certification
	Solenoid Pilot Valves Only			Available for appropriately tested valves

Ordering Information

5/2 Single Solenoid Pilot Controlled Valves

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

Size		Valve Model Number*		
		Voltage		
ISO	Port	24 V DC	110-120 V AC	230 V AC
1	1/8 - 3/8	W6076B2401W	W6076B2401Z	W6076B2401Y
2	3/8 - 1/2	W6076B3401W	W6076B3401Z	W6076B3401Y
3	1/2 - 3/4	W6076B4401W	W6076B4401Z	W6076B4401Y

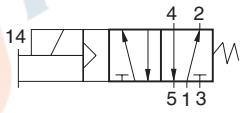
For other voltages, consult ROSS.

* **Sub-bases and manifold bases ordered separately. Please see Sub-Bases and Manifolds pages.**

Size		Flow C_V	Average Response Constants*			Weight lb (kg)
				F		
ISO	Port	1-2	M	1-2	2-3	
1	1/8 - 3/8	0.8	29	3.5	4.9	1.5 (0.7)
2	3/8 - 1/2	1.9	41	1.5	2.4	2.3 (1.1)
3	1/2 - 3/4	3.8	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.

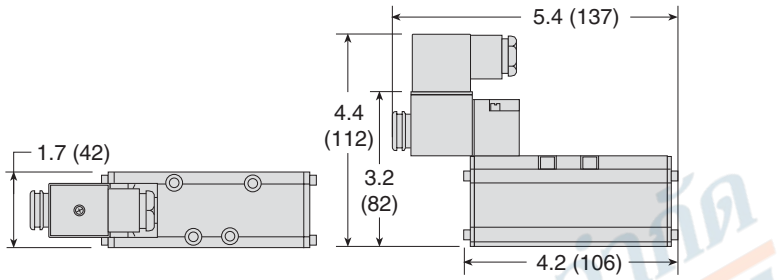
Valve Schematic



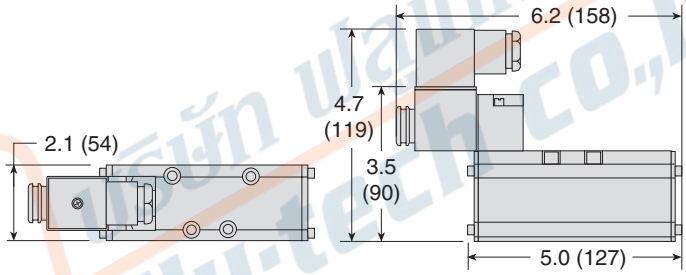
5/2 Single Solenoid Pilot Controlled Valves

DIMENSIONS	Inches (mm)

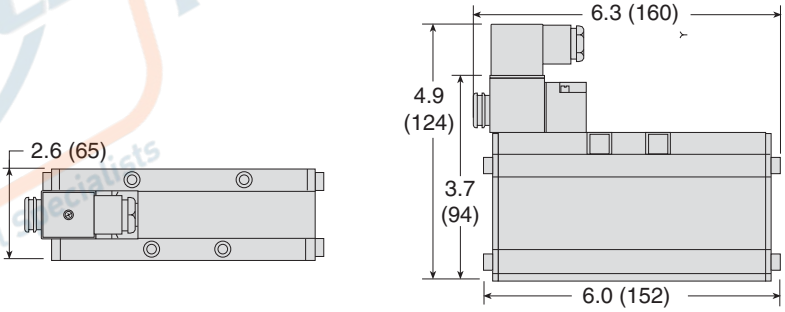
ISO Size 1



ISO Size 2



ISO Size 3



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. Please visit www.rosscontrols.com.

Ordering Information

5/2 Double Solenoid Pilot Controlled Valves

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

Size		Valve Model Number*		
		Voltage		
ISO	Port	24 V DC	110-120 V AC	230 V AC
1	1/8 - 3/8	W6076B2407W	W6076B2407Z	W6076B2407Y
2	3/8 - 1/2	W6076B3407W	W6076B3407Z	W6076B3407Y
3	1/2 - 3/4	W6076E4407W	W6076E4407Z	W6076E4407Y

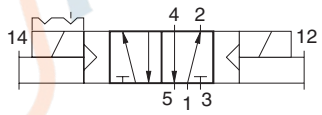
For other voltages, consult ROSS.

* **Sub-bases and manifold bases ordered separately. Please see Sub-Bases and Manifolds pages.**

Size		Flow C_V	Average Response Constants*			Weight lb (kg)
				F		
ISO	Port	1-2	M	1-2	2-3	
1	1/8 - 3/8	0.8	17	3.5	4.9	1.8 (0.9)
2	3/8 - 1/2	1.9	20	1.5	2.5	2.7 (1.2)
3	1/2 - 3/4	3.8	20	0.8	1.1	3.9 (1.8)

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.

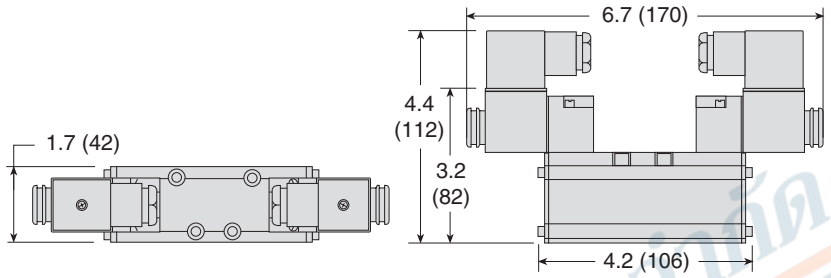
Valve Schematic



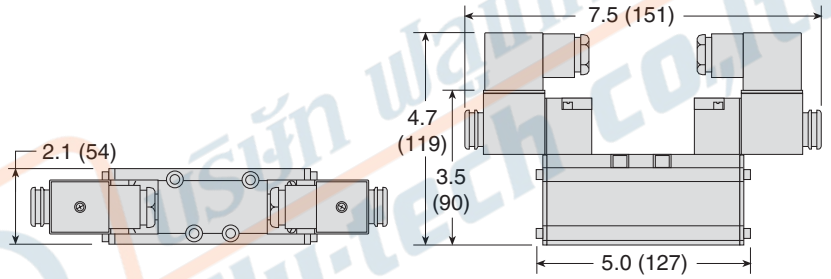
5/2 Double Solenoid Pilot Controlled Valves

DIMENSIONS — Inches (mm)

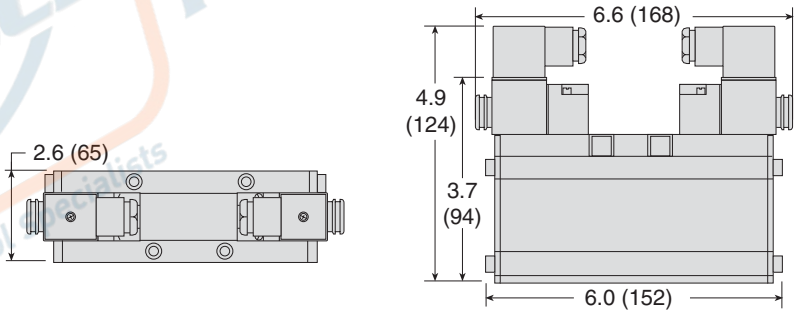
ISO Size 1



ISO Size 2



ISO Size 3



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. Please visit www.rosscontrols.com.

Ordering Information

5/3 Double Solenoid Pilot Controlled Valves

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

Center Position	Size		Valve Model Number*		
			Voltage		
	ISO	Port	24 V DC	110-120 V AC	230 V AC
Power Center	1	1/4 – 3/8	W6077A2951W	W6077A2951Z	W6077A2951Y
	2	3/8 – 1/2	W6077A3945W	W6077A3945Z	W6077A3945Y
	3	3/8 – 3/4	W6077B4934W	W6077B4934Z	W6077B4934Y
Closed Center	1	1/4 – 3/8	W6077B2401W	W6077B2401Z	W6077B2401Y
	2	3/8 – 1/2	W6077B3401W	W6077B3401Z	W6077B3401Y
	3	3/8 – 3/4	W6077B4401W	W6077B4401Z	W6077B4401Y
Open Center	1	1/4 – 3/8	W6077B2407W	W6077B2407Z	W6077B2407Y
	2	3/8 – 1/2	W6077B3407W	W6077B3407Z	W6077B3407Y
	3	3/8 – 3/4	W6077B4407W	W6077B4407Z	W6077B4407Y

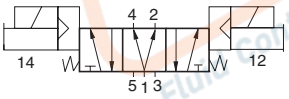
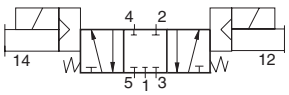
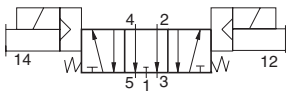
For other voltages, consult ROSS.

* **Sub-bases and manifold bases ordered separately. Please see Sub-Bases and Manifolds pages.**

Size		Flow C_V	Average Response Constants*			Weight lb (kg)
ISO	Port	1-2	M	F		
				1-2	2-3	
1	1/8 - 3/8	0.8	30	3.5	5.0	1.8 (0.9)
2	3/8 - 1/2	1.9	40	1.5	2.5	2.8 (1.3)
3	1/2 - 3/4	3.8	50	0.8	1.1	4.0 (1.8)

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.

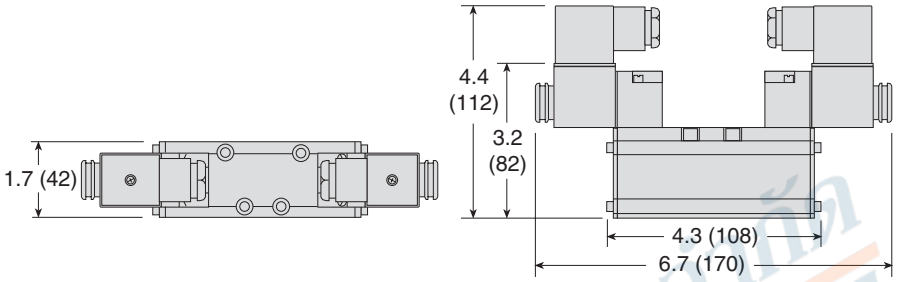
Valve Schematic

Power Center	Closed Center	Open Center
		

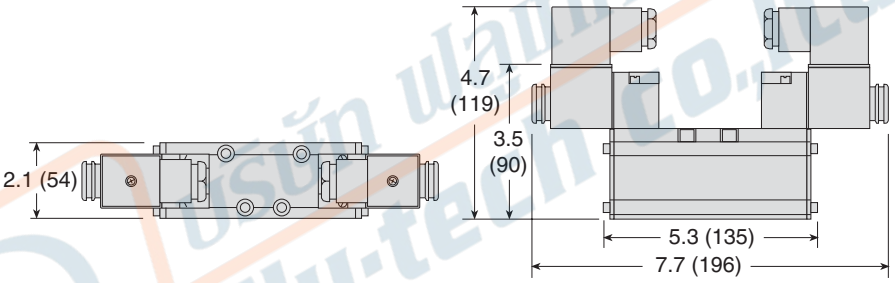
5/3 Double Solenoid Pilot Controlled Valves

DIMENSIONS Inches (mm)

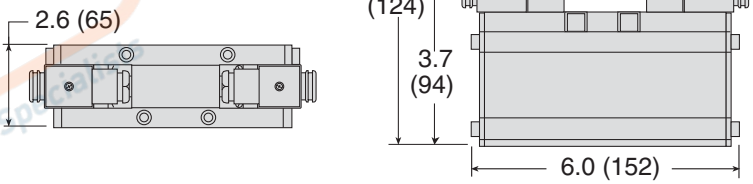
ISO Size 1



ISO Size 2



ISO Size 3



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. Please visit www.rosscontrols.com.

Ordering Information

5/2 Single Pressure Controlled Valves

PRESSURE CONTROLLED VALVES — 5-Way 2-Position Valves

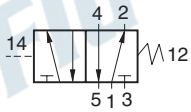
Size		Valve Model Number*
ISO	Port	
1	1/8 - 3/8	W6056B2411
2	3/8 - 1/2	W6056B3411
3	1/2 - 3/4	W6056B4411

* **Sub-bases and manifold bases ordered separately. Please see Sub-Bases and Manifolds pages.**

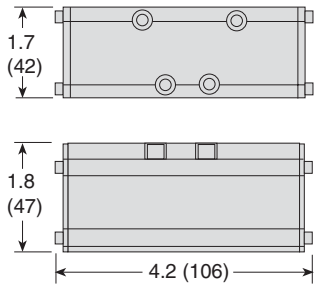
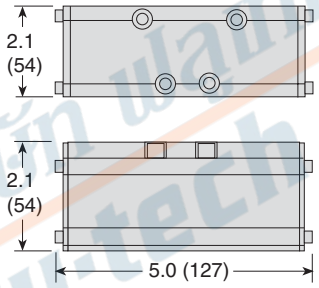
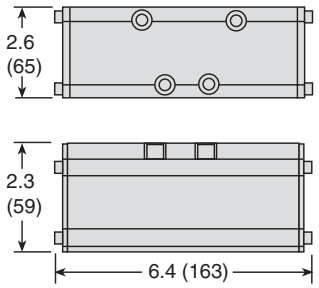
Size		Flow C_V	Average Response Constants*			Weight lb (kg)
ISO	Port	1-2	M	F		
				1-2	2-3	
1	1/8 - 3/8	0.8	29	3.5	4.9	0.8 (0.4)
2	3/8 - 1/2	1.9	41	1.5	2.4	1.5 (0.7)
3	1/2 - 3/4	3.8	51	0.8	1.1	3.0 (1.4)

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	

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. Please visit www.rosscontrols.com.

Ordering Information

5/2 Double Pressure Controlled Valves

PRESSURE CONTROLLED VALVES — 5-Way 2-Position Valves

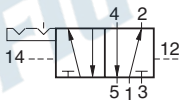
Size		Valve Model Number*
ISO	Port	
1	1/8 - 3/8	W6056B2417
2	3/8 - 1/2	W6056B3417
3	1/2 - 3/4	W6056E4417

* **Sub-bases and manifold bases ordered separately. Please see Sub-Bases and Manifolds pages.**

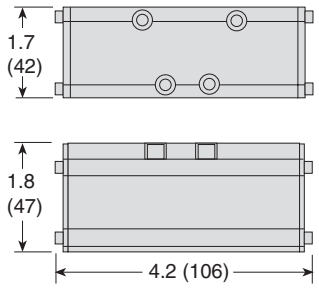
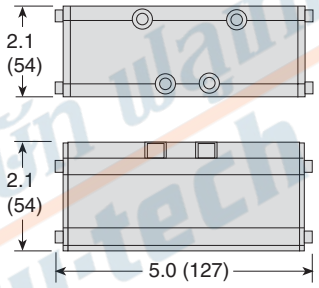
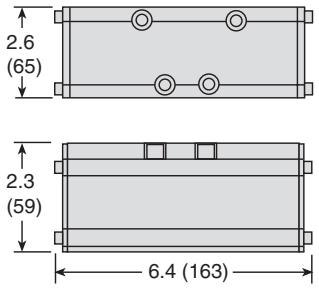
Size		Flow C_V	Average Response Constants*			Weight lb (kg)
ISO	Port	1-2	M	F		
				1-2	2-3	
1	1/8 - 3/8	0.8	17	3.5	5.0	0.8 (0.4)
2	3/8 - 1/2	1.9	20	1.5	2.5	1.5 (0.7)
3	1/2 - 3/4	3.8	20	0.8	1.1	3.0 (1.4)

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	

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. Please visit www.rosscontrols.com.

Ordering Information

5/3 Double Pressure Controlled Valves

PRESSURE CONTROLLED VALVES — 5-Way 3-Position Valves

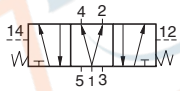
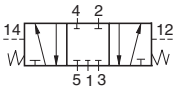
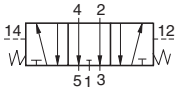
Center Position	Size		Valve Model Number*
	ISO	Port	24 V DC
Power Center	1	1/8 - 3/8	W6057A2934
	2	3/8 - 1/2	W6057A3933
	3	1/2 - 3/4	W6057A4937
Closed Center	1	1/8 - 3/8	W6057B2411
	2	3/8 - 1/2	W6057B3411
	3	1/2 - 3/4	W6057B4411
Open Center	1	1/8 - 3/8	W6057B2417
	2	3/8 - 1/2	W6057B3417
	3	1/2 - 3/4	W6057B4417

* **Sub-bases and manifold bases ordered separately. Please see Sub-Bases and Manifolds pages.**

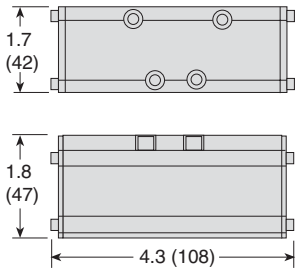
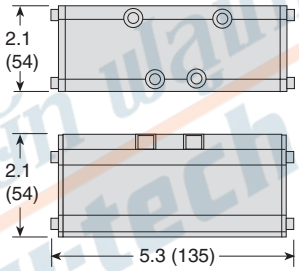
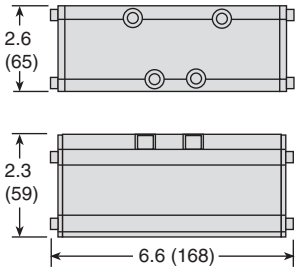
Size		Flow C_v	Average Response Constants*			Weight lb (kg)
ISO	Port	1-2	M	F		
				1-2	2-3	
1	1/8 - 3/8	0.8	30	3.5	5.0	1.0 (0.5)
2	3/8 - 1/2	1.9	40	1.5	2.5	1.5 (0.7)
3	1/2 - 3/4	3.8	50	0.8	1.1	3.0 (1.4)

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 Schematic

Power Center	Closed Center	Open Center
		

5/3 Double Pressure Controlled Valves

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

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. Please visit www.rosscontrols.com.

ISO 5599-1 Valves W64 Series
Product Overview

The ROSS® ISO 5599-1 valves W64 Series are base mounted poppet valves that conform to the ISO standard 5599-1 mounting interface.

These ISO Size 1, 2, and 3 valves are available as standard and high temperature valves, 2- and 3-position, 5-ported 4-way valves. Solenoid pilot options include a non-locking manual override, and either internal or external pilot supply.

Solenoid Pilot Controlled		Pressure Controlled
Single Solenoid	Double Solenoid	
		

Illustration examples.

VALVE FEATURES

Poppet Design	Highly tolerant of contaminated air and are self compensating for wear
Mounting Options	Individual sub-base or manifold base mounting
Pilot Operation	Provides high shifting force with low power consumption
Pilot Supply	Internal or external; selected automatically
External Pilot Supply	Suitable for vacuum service

Actuation	ISO Size	Available Inlet Port Sizes					Functions					Maximum Flow C_v	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	●	●	●			●	●	●	●	●	0.8	16 – 17 18 – 21
	2			●	●		●	●	●	●	●	1.9	
	3				●	●	●	●	●	●	●	3.8	
Pressure Control	1	●	●	●			●	●		●	●	0.8	16 – 17 22 – 25
	2			●	●		●	●	●	●	●	1.9	
	3				●	●	●	●	●	●	●	3.8	
Sub-Bases													26 – 28
Manifold Bases													29 – 33
Manifold Accessories													34 – 36

Specifications

STANDARD SPECIFICATIONS

GENERAL	Function	5/2 and 5/3 Valve			
	Construction Design	Poppet			
	Actuation	Electrical – Solenoid Pilot Controlled Pneumatic – Pressure Controlled			
	Mounting	Base Mounted			
	Connection	Threaded; G, NPT			
	Manual Override	Flush; metal, non-locking			
OPERATING CONDITIONS	Temperature	Solenoid Pilot Controlled	Standard Temperature	Ambient	40° to 120°F (4° to 50°C)
				Media	40° to 175°F (4° to 105°C)
			High Temperature	Ambient	40° to 175°F (4° to 80°C)
				Media	40° to 220°F (4° to 105°C)
				For other temperature ranges, consult ROSS.	
		Pressure Controlled	Standard Temperature	Ambient	40° to 120°F (4° to 50°C)
				Media	
			High Temperature	Ambient	40° to 175°F (4° to 80°C)
				Media	
				For other temperature ranges, consult ROSS.	
	Flow Media	Filtered air			
	Operating Pressure	30 to 150 psig (2 to 10 bar)			
	External Pilot Supply	Must be equal to or greater than inlet pressure			
ELECTRICAL DATA FOR SOLENOID PILOT	Solenoids	Rated for continuous duty			
	Operating Voltage (each solenoid)	24 volts DC 100-110 volts AC, 50 Hz, 100-130 volts AC 60 Hz 230-240 volts AC, 60 Hz			
	Power Consumption	24 V DC 110-120 V AC 230-240 V AC	5.8 nominal, 6.5 watts maximum watts		
	Enclosure Rating	IP65, IEC 60529			
	Electrical Connection	DIN EN 175301-803 Form A			
CONSTRUCTION MATERIAL	Valve Body	Bar Stock Aluminum			
	Poppet	Aluminum & Stainless Steel			
	Seals	Buna-N or Fluorocarbon			

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

PRODUCT CREDENTIALS

CSA Certificate of Compliance	CE Conformity Declaration	EAC Conformity Declaration	CRN Certification
			Available for appropriately tested valves

Ordering Information

5/2 Single Solenoid Pilot Controlled Valves

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

Size		Valve Model Number*					
		Standard Temperature			High Temperature		
		Voltage			Voltage		
ISO	Port	24 V DC	110-120 V AC	230 V AC	24 V DC	110-120 V AC	230 V AC
1	1/8 - 3/8	W6476B2401W	W6476B2401Z	W6476B2401Y	W6476B2402W	W6476B2402Z	W6476B2402Y
2	3/8 - 1/2	W6476B3401W	W6476B3401Z	W6476B3401Y	W6476B3402W	W6476B3402Z	W6476B3402Y
3	1/2 - 3/4	W6476B4401W	W6476B4401Z	W6476B4401Y	W6476B4402W	W6476B4402Z	W6476B4402Y

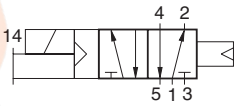
For other voltages, consult ROSS.

*** Sub-bases and manifold bases ordered separately. Please see Sub-Bases and Manifolds pages.**

Size		Flow C_v	Average Response Constants*			Weight lb (kg)
ISO	Port 1	1-2	M	F		
				1-2	2-3	
1	1/8 - 3/8	1.0	33	2.9	5.9	1.3 (0.6)
2	3/8 - 1/2	2.0	33	1.2	2.3	1.8 (0.8)
3	1/2 - 3/4	4.0	50	0.7	1.2	2.8 (1.3)

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.

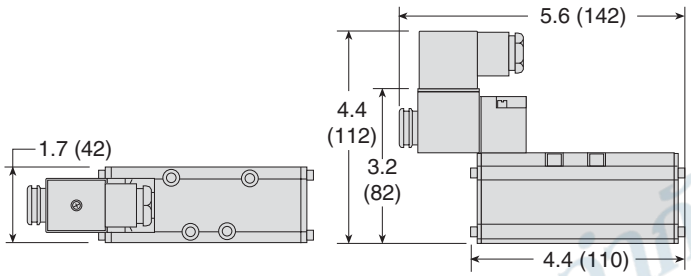
Valve Schematic



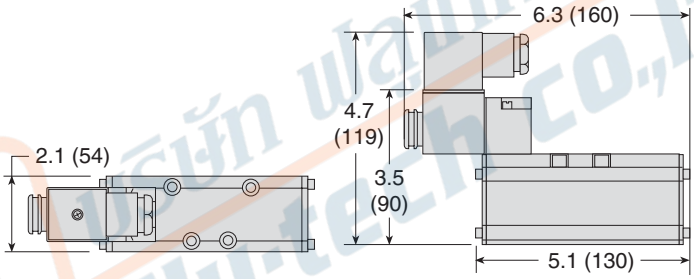
5/2 Single Solenoid Pilot Controlled Valves

DIMENSIONS Inches (mm)

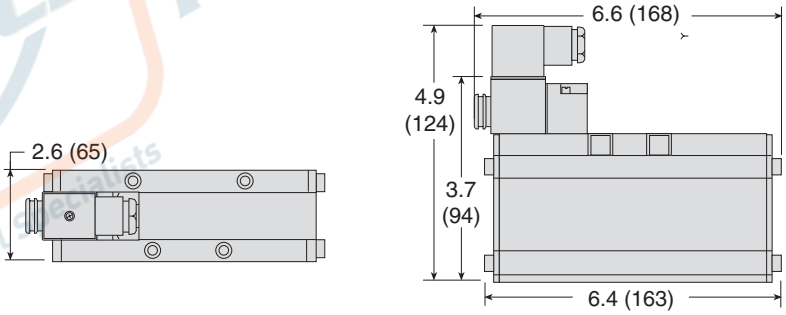
ISO Size 1



ISO Size 2



ISO Size 3



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. Please visit www.rosscontrols.com.

Ordering Information

5/2 Double Solenoid Pilot Controlled Valves

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

Size		Valve Model Number*					
		Standard Temperature			High Temperature		
		Voltage			Voltage		
ISO	Port	24 V DC	110-120 V AC	230 V AC	24 V DC	110-120 V AC	230 V AC
1	1/8 - 3/8	W6476B2407W	W6476B2407Z	W6476B2407Y	W6476B2408W	W6476B2408Z	W6476B2408Y
2	3/8 - 1/2	W6476B3407W	W6476B3407Z	W6476B3407Y	W6476B3408W	W6476B3408Z	W6476B3408Y
3	1/2 - 3/4	W6476B4407W	W6476B4407Z	W6476B4407Y	W6476B4408W	W6476B4408Z	W6476B4408Y

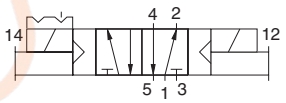
For other voltages, consult ROSS.

*** Sub-bases and manifold bases ordered separately. Please see Sub-Bases and Manifolds pages.**

Size		Flow C_V	Average Response Constants*			Weight lb (kg)
ISO	Port 1	1-2	M	F		
				1-2	2-3	
1	1/8 - 3/8	1.0	16	2.9	5.6	1.8 (0.8)
2	3/8 - 1/2	2.0	16	1.2	2.3	2.3 (1.0)
3	1/2 - 3/4	4.0	16	0.7	1.1	3.3 (1.5)

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.

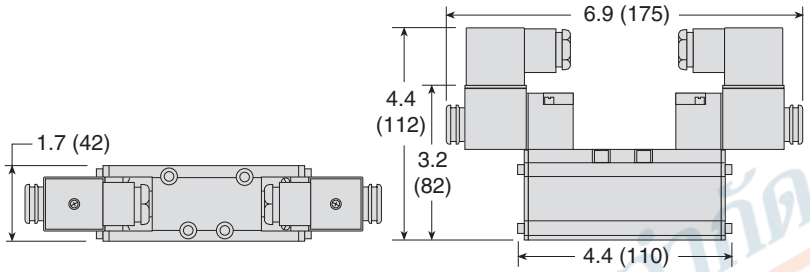
Valve Schematic



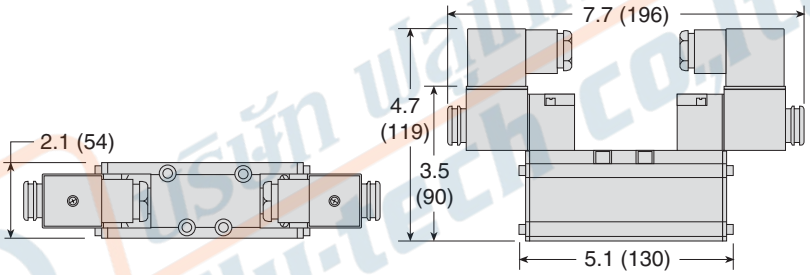
5/2 Double Solenoid Pilot Controlled Valves

DIMENSIONS Inches (mm)

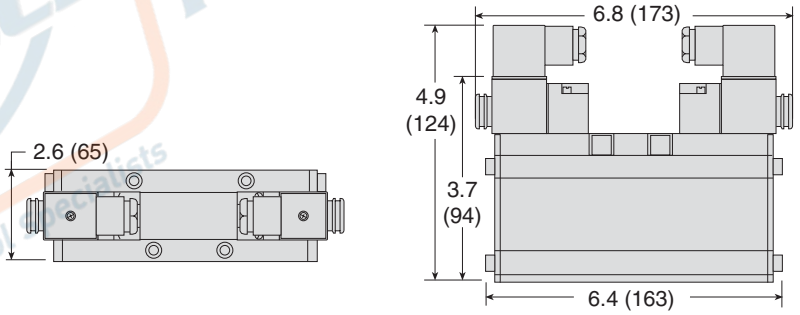
ISO Size 1



ISO Size 2



ISO Size 3



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. Please visit www.rosscontrols.com.

Ordering Information

5/2 Single Pressure Controlled Valves

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

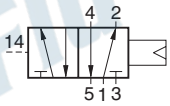
Size		Valve Model Number*	
ISO	Port	Standard Temperature	High Temperature
1	1/8 - 3/8	W6456B2411	W6456B2412
2	3/8 - 1/2	W6456B3411	W6456B3412
3	1/2 - 3/4	W6456B4411	W6456B4412

* **Sub-bases and manifold bases ordered separately. Please see Sub-Bases and Manifolds pages.**

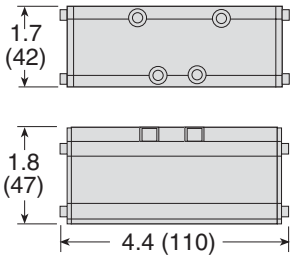
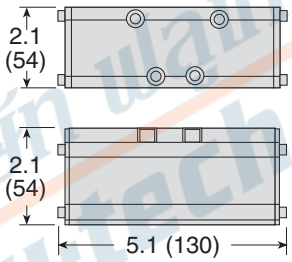
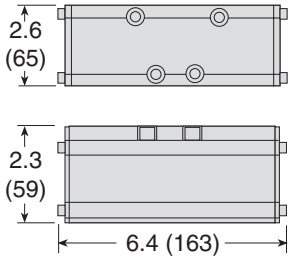
Size		Flow C_V	Average Response Constants*			Weight lb (kg)
ISO	Port 1	1-2	M	F		
				1-2	2-3	
1	1/8 - 3/8	1.0	33	2.9	5.9	0.8 (0.4)
2	3/8 - 1/2	2.0	33	1.2	2.3	1.3 (0.6)
3	1/2 - 3/4	4.0	50	0.7	1.2	2.3 (1.1)

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	

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. Please visit www.rosscontrols.com.

Ordering Information

5/2 Double Pressure Controlled Valves

PRESSURE CONTROLLED VALVES — 5-Way 2-Position Valves

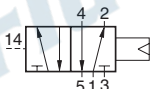
Size		Valve Model Number*	
ISO	Port	Standard Temperature	High Temperature
1	1/8 - 3/8	W6456B2417	W6456B2418
2	3/8 - 1/2	W6456B3417	W6456B3418
3	1/2 - 3/4	W6456B4417	W6456B4418

* **Sub-bases and manifold bases ordered separately. Please see Sub-Bases and Manifolds pages.**

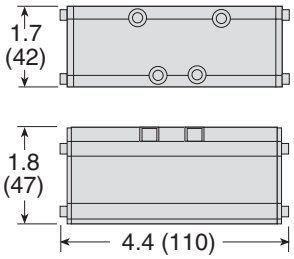
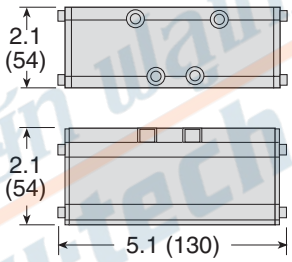
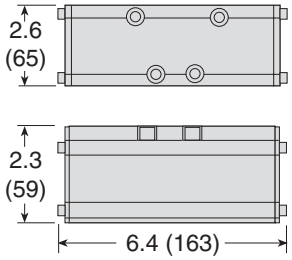
Size		Flow C_V	Average Response Constants*			Weight lb (kg)
ISO	Port 1	1-2	M	F		
				1-2	2-3	
1	1/8 - 3/8	1.0	16	2.9	5.6	1.8 (0.8)
2	3/8 - 1/2	2.0	16	1.2	2.3	2.3 (1.0)
3	1/2 - 3/4	4.0	18	0.7	1.1	3.3 (1.5)

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	

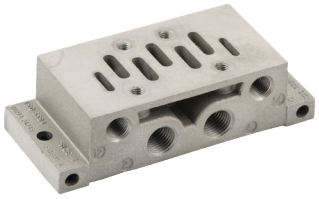
For additional information, and to assist you with piping and connectivity designs, our products are available in downloadable 2D drawings and 3D CAD models in a wide range of options including native formats. Please visit www.rosscontrols.com.

Single Bases – Side Ported

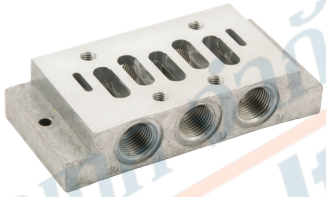
SIDE PORTED SINGLE BASES

Size				Model Number	
ISO	Port			G Thread	NPT Thread
	2, 4	1, 3, 5	12, 14		
1	1/4	1/4	1/8	D2076C01	2076C01
2	3/8	3/8	1/8	D2078C01	2078C01
3	1/2	1/2	1/8	D2080C01	2080C01

ISO Size 1 & 2



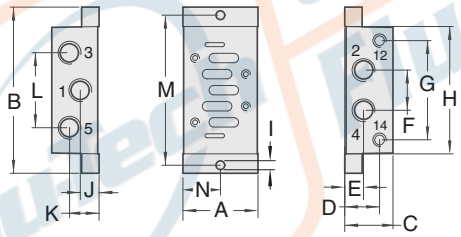
ISO Size 3



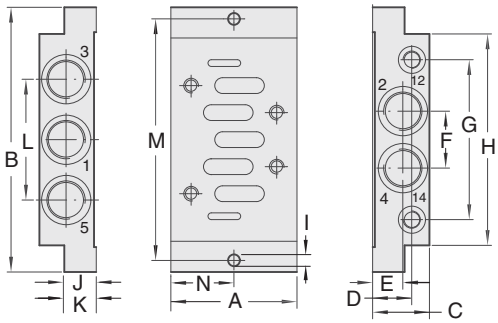
DIMENSIONS

Inches (mm)

ISO Size 1 & 2



ISO Size 3



	ISO Size		
	1	2	3
A	1.81 (46)	2.20 (56)	2.80 (71)
B	4.33 (110)	4.88 (124)	5.87 (149)
C	1.18 (30)	1.42 (36)	1.26 (32)
D	0.85 (21.5)	1.02 (26)	0.87 (22)
E	0.39 (10)	0.55 (14)	0.67 (17)
F	0.94 (24)	1.18 (30)	1.26 (32)
G	2.38 (60.5)	3.91 (74)	3.54 (90)
H	3.27 (83)	3.74 (95)	2.69 (119)
I	0.22 (5.5)	2.56 (6.5)	0.26 (6.6)
J	0.41 (10.5)	0.41 (10.5)	0.67 (17)
K	0.77 (19.5)	0.87 (22)	0.67 (17)
L	1.69 (43)	2.20 (56)	2.67 (68)
M	3.86 (98)	4.41 (112)	5.35 (136)
N	0.90 (23)	1.10 (28)	1.40 (35.5)

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. Please visit www.rosscontrols.com.

Single Bases – Side Ported

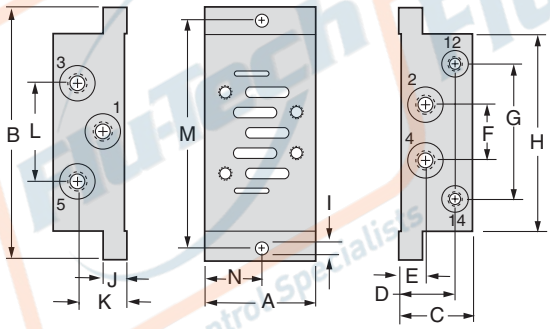
SIDE PORTED SINGLE BASES

Size				Model Number
ISO	Port			NPT Thread
	2, 4	1, 3, 5	12, 14	
1	1/8	1/4	1/8	654K91
	3/8	3/8	1/8	642K91
2	1/2	1/2	1/8	643K91
3	3/4	3/4	1/2	644K91

* NPT port thread only.

DIMENSIONS

Inches (mm)



	ISO Size		
	1	2	3
A	1.89 (48)	2.24 (57)	2.80 (71
B	4.33 (110)	4.88 (124)	5.87 (149)
C	1.26 (32)	1.57 (40)	1.26 (32)*
D	0.93 (24)	1.18(30)	0.87 (22)
E	0.41 (38)	0.55 (14)	0.67 (17)
F	0.94 (24)	1.18 (30)	1.26 (32)
G	2.28 (58)	2.92 (74)	3.54 (90)
H	3.27 (83)	3.74 (95)	2.69 (119)
I	0.22 (5.5)	0.26 (7)	0.26 (6.6)
J	0.41 (10.5)	0.55 (14)	0.67 (17)
K	0.85 (22)	1.02 (26)	0.59 (15)
L	1.70 (43)	2.20 (56)	2.68 (68)
M	3.86 (98)	4.41 (112)	5.35 (136)

* 1.77 (45) on sub-base 644K91.

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. Please visit www.rosscontrols.com.

Single Bases – Bottom Ported

BOTTOM PORTED SINGLE BASES

Size				Model Number	
ISO	Port			G Thread	NPT Thread
	2, 4	1, 3, 5	12, 14		
1	1/4	1/4	1/8	D2077C01	2077C01
2	3/8	3/8	1/8	D2079C01	2079C01
3	1/2	1/2	1/8	D2081C01	2081C01

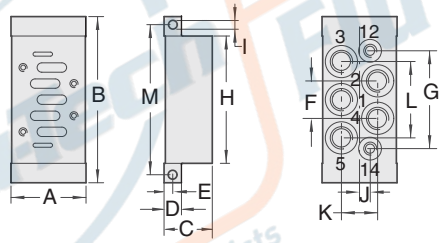
ISO Size 1 & 2

ISO Size 3

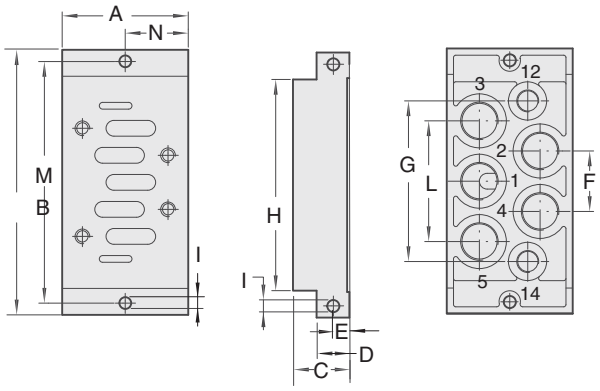
DIMENSIONS

Inches (mm)

ISO Size 1 & 2



ISO Size 3



	ISO Size		
	1	2	3
A	1.81 (46)	2.20 (56)	2.80 (71)
B	4.33 (110)	4.88 (124)	5.87 (149)
C	1.18 (30)	1.42 (36)	1.26 (32)
D	0.39 (10)	0.51 (13)	0.71 (18)
E	0.20 (5)	0.26 (6.5)	0.35 (9)
F	0.94 (24)	1.18 (30)	1.26 (32)
G	2.36 (60)	2.87 (73)	3.54 (90)
H	3.27 (83)	3.74 (95)	2.69 (119)
I	0.22 (5.5)	2.56 (6.5)	0.26 (6.6)
J	0.41 (10.5)	0.41 (10.5)	–
K	0.91 (23)	1.06 (27)	–
L	1.81 (46)	2.24 (57)	–
M	3.86 (98)	4.41 (112)	5.35 (136)
N	–	–	1.40 (35.5)

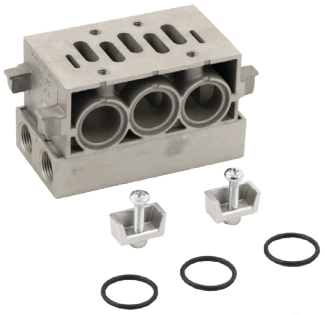
For additional information, and to assist you with piping and connectivity designs, our products are available in downloadable 2D drawings and 3D CAD models in a wide range of options including native formats. Please visit www.rosscontrols.com.

Manifold Bases – Side Ported

SIDE PORTED MANIFOLD BASES

Size			Model Number	
ISO	Port		G Thread	NPT Thread
	2, 4	12, 14		
1	1/4	1/8	D2002K91	2002K91
2	3/8	1/8	D2003K91	2003K91
3	1/2	1/8	D2004K91	2004K91

ISO Size 1 & 2



ISO Size 3

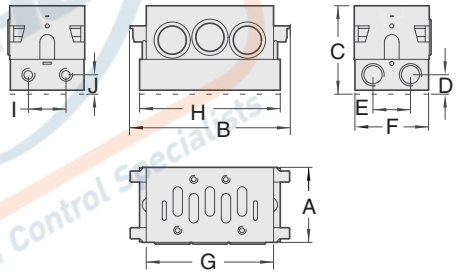
In addition to the manifold stations, an end station kit must be ordered for each manifold installation.

Connectors and gaskets are included with each manifold base.
The ISO Size 1 & 2 manifold bases contain 3 O-rings and 2 connector brackets.

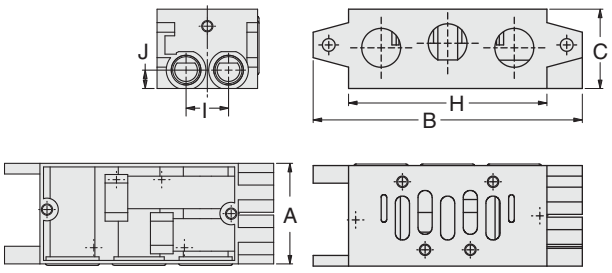
DIMENSIONS

Inches (mm)

ISO Size 1 & 2



ISO Size 3



	ISO Size		
	1	2	3
A	1.69 (43)	2.20 (56)	2.80 (71)
B	4.33 (110)	4.72 (120)	7.48 (190)
C	2.05 (52)	2.60 (66)	2.20 (56)
D	0.39 (10)	0.57 (14.5)	–
E	0.87 (22)	1.10 (28)	–
F	1.65 (42)	2.17 (55)	–
G	2.95 (75)	3.74 (95)	–
H	3.50 (89)	4.13 (105)	5.51 (140)
I	0.87 (22)	1.10 (28)	1.18 (30)
J	0.39 (10)	0.57 (14.5)	0.51 (13)

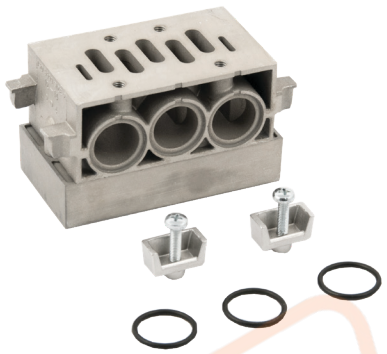
For additional information, and to assist you with piping and connectivity designs, our products are available in downloadable 2D drawings and 3D CAD models in a wide range of options including native formats. Please visit www.rosscontrols.com.

Manifold Bases – Bottom Ported

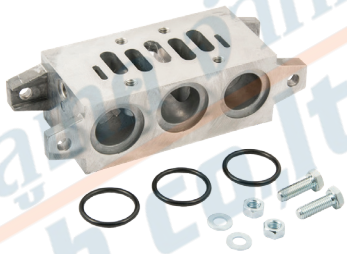
BOTTOM PORTED MANIFOLD BASES

Size			Model Number	
ISO	Port		G Thread	NPT Thread
	2, 4	12, 14		
1	1/4	1/8	D2002K91	2002K91
2	3/8	1/8	D2003K91	2003K91
3	1/2	1/8	D2004K91	2004K91

ISO Size 1 & 2



ISO Size 3



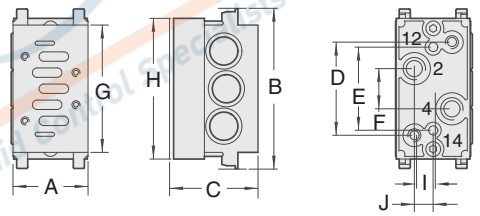
In addition to the manifold stations, an end station kit must be ordered for each manifold installation.

Connectors and gaskets are included with each manifold base.
The ISO Size 1 & 2 manifold bases contain 3 O-rings and 2 connector brackets.

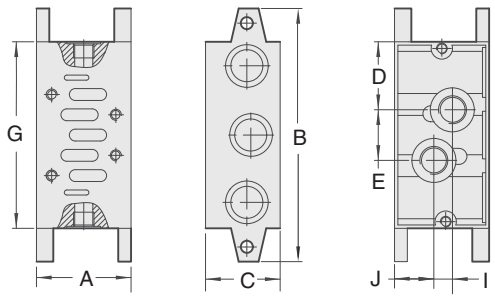
DIMENSIONS

Inches (mm)

ISO Size 1 & 2



ISO Size 3



	ISO Size		
	1	2	3
A	1.69 (43)	2.20 (56)	2.80 (71)
B	4.33 (110)	4.72 (120)	7.48 (190)
C	2.05 (52)	2.60 (66)	2.20 (56)
D	2.28 (58)	2.73 (69.5)	2.01 (51)
E	1.57 (40)	2.44 (62)	1.50 (38)
F	0.79 (20)	1.18 (30)	–
G	2.28 (58)	2.73 (69.5)	5.51 (140)
H	3.50 (89)	4.13 (105)	–
I	0.35 (9)	0.55 (14)	0.55 (14)
J	0.43 (11)	0.55 (14)	0.16 (29.5)

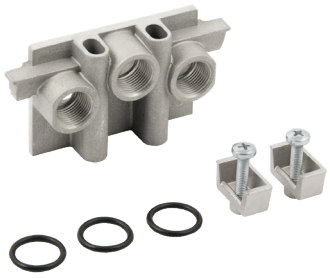
For additional information, and to assist you with piping and connectivity designs, our products are available in downloadable 2D drawings and 3D CAD models in a wide range of options including native formats. Please visit www.rosscontrols.com.

Manifold End Stations

END STATIONS

Size		Model Number	
ISO	Port 1, 3, 5	G Thread	NPT Thread
1	3/8	D723K86	723K86
2	1/2	D724K86	724K86
3	1	D731K86	731K86

ISO Size 1 & 2

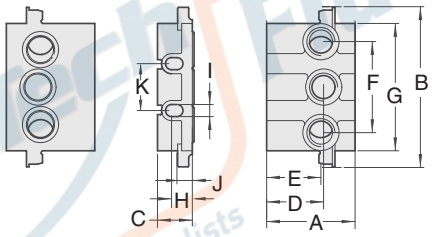


ISO Size 3

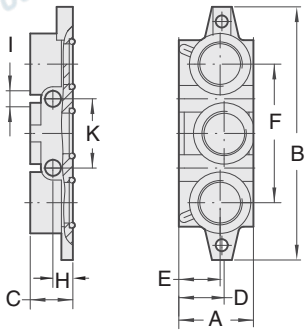
DIMENSIONS

Inches (mm)

ISO Size 1 & 2



ISO Size 3



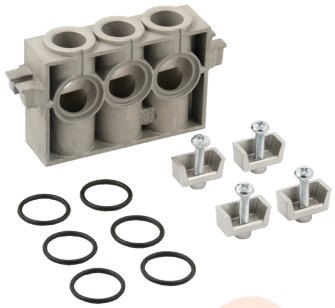
	ISO Size		
	1	2	3
A	2.05 (52)	2.60 (66)	2.20 (56)
B	3.94 (100)	4.72 (120)	7.48 (190)
C	0.87 (22)	1.02 (26)	1.26 (32)
D	1.53 (39)	1.67 (42.5)	1.34 (34)
E	1.22 (31)	1.59 (40.5)	1.22 (31)
F	2.17 (55)	2.68 (68)	4.09 (104)
G	2.95 (75)	3.74 (95)	–
H	0.55 (14)	0.61 (15.5)	0.59 (15)
I	0.28 (7)	0.35 (9)	0.47 (12)
J	0.39 (10)	0.45 (11.5)	–
K	1.10 (28)	1.38 (35)	2.05 (52)

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. Please visit www.rosscontrols.com.

Manifold Air Supply Modules

AIR SUPPLY MODULES TOP & BOTTOM PORTS

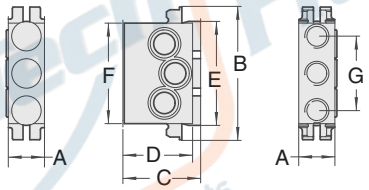
Size			Model Number			
ISO	Port		Top Ports		Bottom Ports	
	2, 4	12, 14	G Thread	NPT Thread	G Thread	NPT Thread
1	1/4	1/8	D1997K91	725K86	D727K86	727K86
2	3/8	1/8	D1998K91	726K86	D728K86	728K86

Top Ports ISO Size 1 & 2	Bottom Ports ISO Size 1 & 2
	

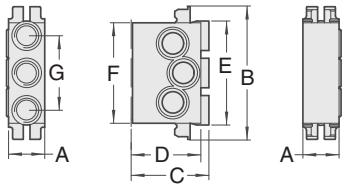
DIMENSIONS

Inches (mm)

Top Ports
ISO Size 1 & 2



Bottom Ports
ISO Size 1 & 2



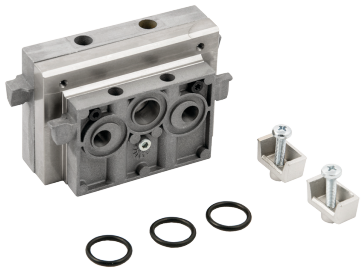
	ISO Size	
	1	2
A	1.06 (27)	1.06 (27)
B	3.94 (100)	4.72 (120)
C	2.28 (58)	2.71 (69)
D	2.05 (52)	2.60 (66)
E	3.07 (78)	3.74 (95)
F	2.95 (75)	3.74 (95)
G	2.20 (56)	2.20 (56)

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. Please visit www.rosscontrols.com.

Manifold Transition Modules

TRANSITION MODULES

ISO Size	Model Number
1 to 2	729K86
2 to 3	730K86

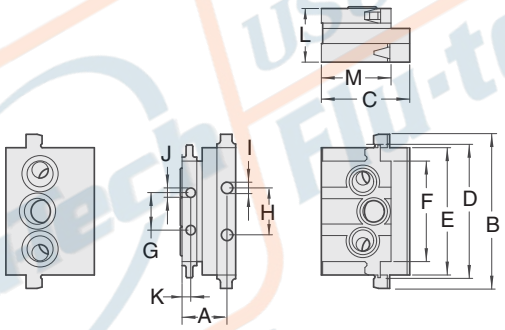


Different size ISO valves can be used in the same manifold installation by means of transition module. The inlet and exhaust ports of two different size manifold stations are connected by means of a transition module installed between the two stations.

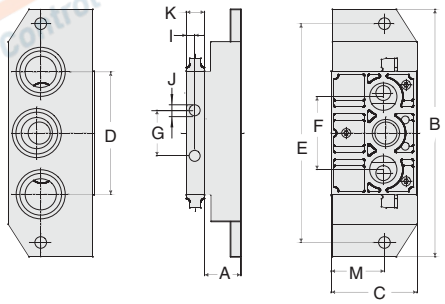
DIMENSIONS

Inches (mm)

ISO Size 1 to 2



ISO Size 2 to 3



	ISO 1 & 2	ISO 2 to 3
A	1.32 (33.5)	1.10 (28)
B	4.72 (120)	7.48 (190)
C	2.60 (66)	2.60 (66)
D	3.94 (100	3.94 (100)
E	3.74 (95)	6.61 (168)
F	2.95 (75)	2.20 (56)
G	1.10 (28)	1.38 (35)
H	1.38 (35)	–
I	0.34 (8.5)	2.56 (6.5)
J	0.28 (7)	0.34 (8.5)
K	2.56 (6.5)	0.56 (14)
L	1.58 (40)	–
M	2.05 (52)	1.61 (41)

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. Please visit www.rosscontrols.com.

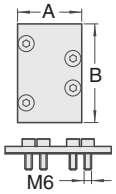
Manifold Accessories

BLANKING PLATES

Blanking Plates

ISO SIZE	Model Number*
1	2602H77
2	2603H77
3	2604H77

* A blanking plate is used to cover the top of a manifold station that is not in use. All models consist of a metal plate, a gasket, and mounting bolts.



Dimensions inches (mm)			
	ISO 1	ISO 2	ISO 3
A	1.57 (40)	2.04 (52)	3.03 (77)
B	2.60 (66)	3.15 (80)	4.17 (106)
Plate Thickness	0.16 (4)	0.24 (6.2)	0.41 (12)

ASSEMBLY KITS

Assembly Kits ISO Size 1 & 2

ISO SIZE	Kit Number
1	732K86
2	733K86

BLOCKING DISKS

Blocking Disks ISO Size 1 & 2

ISO SIZE	Model Number*
1	319A40
2	320A40
3	321A40

Ports between manifold stations can be closed by means of blocking disks.

INDEPENDENT PRESSURE MODULES

Independent Pressure Modules

ISO Size	Inlet Port	Model Number*
1	1/4	703K77
2	3/8	692K77
3	1/2	715K77

* When a valve in a manifold installation must work at a different pressure than that supplied to the manifold, an independent supply can be provided via an independent pressure module. The pressure module mounts between valve and base and isolates the valve from the manifold inlet pressure. The independent supply is connected to an inlet port in the end of the pressure module.

INTERPOSED FLOW CONTROL

Interposed Flow Control for W60 Series Valves

ISO SIZE	Model Number
1	701B77
2	702B77
3	722K77

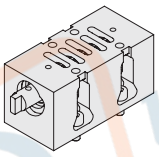
An interposed flow control unit regulates the exhaust flow of air from a pneumatic cylinder, thereby controlling the extension and retraction speeds. Separate controls regulate the air flow from each end of the cylinder. Being located between the valve and base, the unit requires no additional piping.

INTERPOSED SHUT-OFF

Interposed Shut-Off

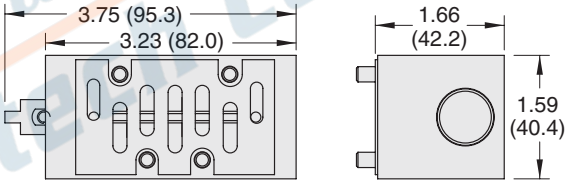
ISO SIZE	Model Number
1	1871B91
2 & 3	Please contact ROSS.

Manually actuated with a 1/4 turn, the interposed shut-off isolates all ports, including the pilot.



ISO Size 1

Dimensions - inches (mm)



INTERPOSED PRESSURE REGULATORS

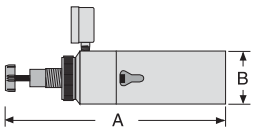
Interposed Regulators

ISO Size	Pressure psig (bar)	Model Number		
		Single		Double
		Left Hand (14)	Right Hand (12)	
1	10 (0.68) to 130 (9)	1300K91	2000K91	1302K91
2	10 (0.68) to 130 (9)	1303K91	2001K91	1305K91
	5 (0.34) to 60 (4.13)	2044K91	–	–
3	10 (0.68) to 130 (9)	1306K91	1307K91	1308K91

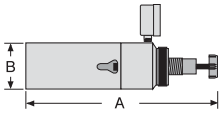
Interposed pressure regulator controls pressure through the base-mounted valve. Single pressure regulator available with left hand (14) and right hand (12) orientation. Single pressure regulators provide the same regulated pressure at both outlet ports.

Double pressure regulators allow the pressure at each outlet port to be set independently. Requires no new piping.

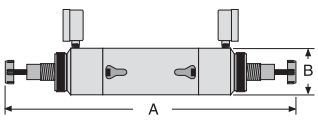
Single Left Hand (14)



Single Right Hand (12)



Double



ISO Size	Regulator Dimensions – inches (mm)		
	A (Single)	A (Double)	B (Single/Double)
1	7.3 (186)	13.2 (336)	1.5 (39)
2	8.3 (211)	14.8 (376)	2.0 (51)
3	10.5 (267)	18.3 (465)	2.5 (64)

Manifold Accessories

ELECTRICAL CONNECTORS

Pre-wired Connectors

Connection Type	Connector Type	Cable		Length meters (feet)	Quantity	Cable Diameter	Model Number			
		End 1	End 2				Without Light	Lighted Connector *		
								24 V DC	120 V AC	230 V AC
Solenoid	DIN EN 175301-803 Form A	Connector	Flying leads	2 (6.5)	1	6-mm	721K77	720K77-W	720K77-Z	720K77-Y
					1	10-mm	371K77	383K77-W	383K77-Z	383K77-Y

Connectors (no cable)

Connection Type	Connector Type	Fitting Connection	Quantity	Model Number			
				Without Light	Lighted Connector*		
					24 V DC	120 V AC	230 V AC
Solenoid	DIN EN 175301-803 Form A	Cable grip	1	937K87	936K87-W	936K87-Z	936K87-Y
		1/2" NPT conduit	1	723K77	724K77-W	724K77-Z	724K77-Y

*Lights in connectors with a translucent housing can be used as indicator lights to show when solenoids are energized.

Connectors Pinout

DIN EN 175301-803 Form A

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

SILENCERS

Silencers

Port Size	Thread Type	Model Number		Flow Avg. C_v	Pressure Range psig (bar)
		R/Rp Thread	NPT Thread		
1/4	Male	D5500A2003	5500A2003	2.1	0-290 (0-20) maximum
3/8	Male	D5500A3013	5500A3013	2.7	
1/2	Male	D5500A4003	5500A4003	4.7	
3/4	Male	D5500A5013	5500A5013	5.1	

บริษัท ฟลูเทค จำกัด
FLU-TECH CO.,LTD
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
Tel. 0 2384 6060, Fax 0 2384 5701, Email : sales@flutech.co.th, www.flutech.co.th