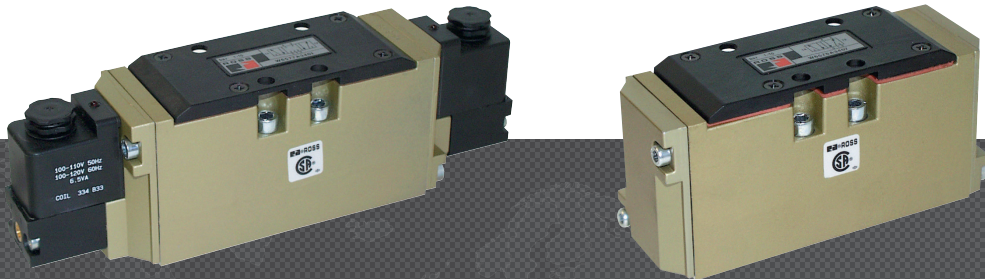




DIRECTIONAL CONTROL ISO 5599-2 VALVES W65 SERIES

PRODUCT CATALOG



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.



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 | Internal or external |
| Pilot Operation | Provides high shifting force with low power consumption |

| Actuation | ISO Size | Available Inlet Port Sizes | | | | | Functions | | | | | Maximum Flow C _v | Page |
|--|----------|----------------------------|-----|-----|-----|-----|-----------|--------|--------------|---------------|-------------|-----------------------------|--------------|
| | | 1/8 | 1/4 | 3/8 | 1/2 | 3/4 | 5/2 | | 5/3 | | | | |
| | | | | | | | 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 | | | | | | | | | | | | 16 | |
| Manifold Stations, End Stations | | | | | | | | | | | | 17 | |
| Manifold Accessories | | | | | | | | | | | | 18-24 | |

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 | 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 | 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 | | 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

| | | | |
|--|--|---|---|
| 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* | | |
|------|-----------|---------------------|--------------|-------------|
| | | Voltage | | |
| ISO | Port | 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.

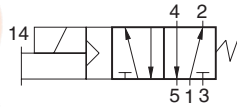
* Sub-bases and manifold bases ordered separately. Please see Sub-Bases and Manifolds pages, for use with or without serial bus system.

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.

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

Valve Response Time – Response Time (msec) = $M + (F \cdot V)$. 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

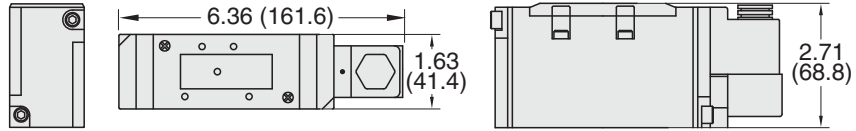


5/2 Single Solenoid Pilot Controlled Valves

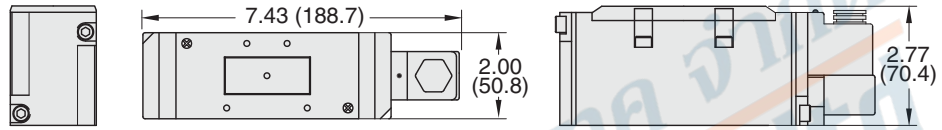
DIMENSIONS

Inches (mm)

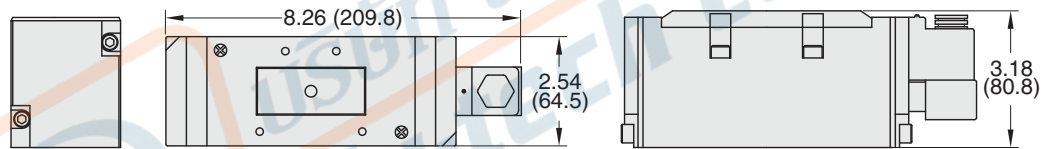
ISO Size 1



ISO Size 2



ISO Size 3



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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 | W6576A2407W | W6576A2407Z | W6576A2407Y |
| 2 | 3/8 - 1/2 | W6576A3407W | W6576A3407Z | W6576A3407Y |
| 3 | 1/2 - 3/4 | W6576E4407W | W6576E4407Z | W6576E4407Y |

For other voltages, consult ROSS.

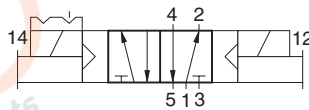
* Sub-bases and manifold bases ordered separately. Please see Sub-Bases and Manifolds pages, for use with or without serial bus system.

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.

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

Valve Response Time – Response Time (msec) = $M + (F \cdot V)$. 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

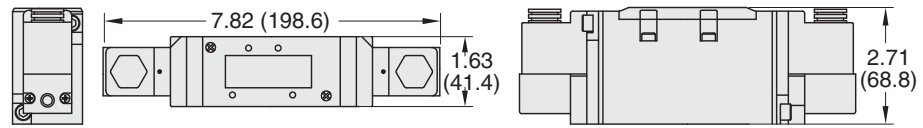


5/2 Double Solenoid Pilot Controlled Valves

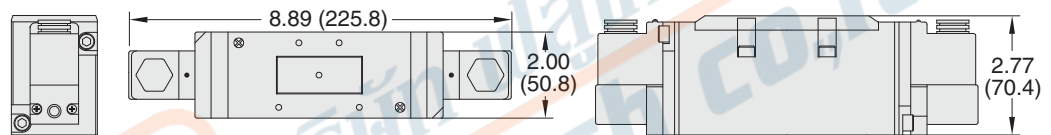
DIMENSIONS

Inches (mm)

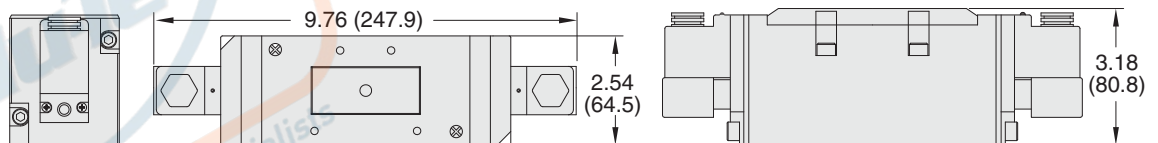
ISO Size 1



ISO Size 2



ISO Size 3



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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 | 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.

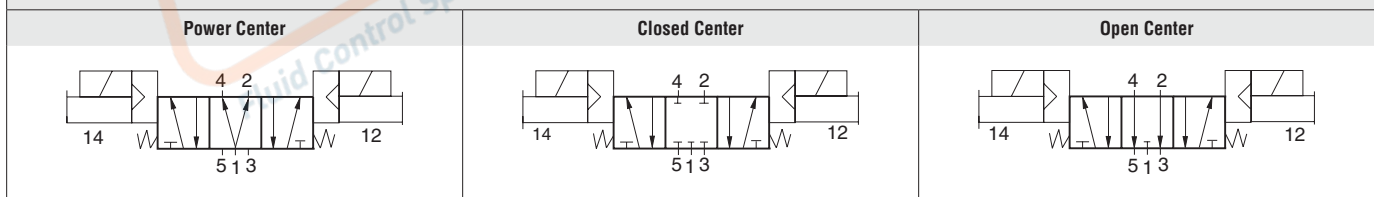
* Sub-bases and manifold bases ordered separately. Please see Sub-Bases and Manifolds pages, for use with or without serial bus system.

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.

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

Valve Response Time – Response Time (msec) = $M + (F \cdot V)$. 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

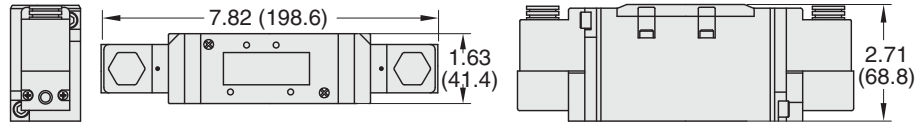


5/3 Double Solenoid Pilot Controlled Valves

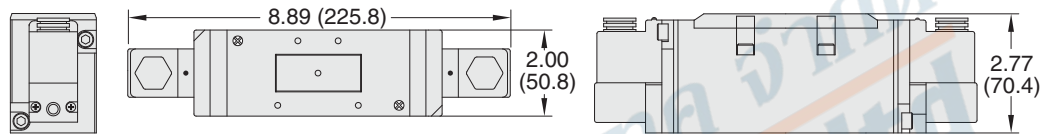
DIMENSIONS

Inches (mm)

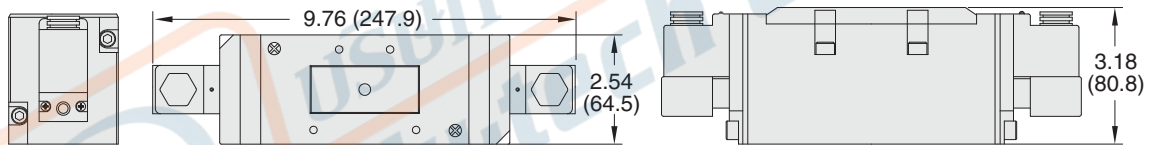
ISO Size 1



ISO Size 2



ISO Size 3



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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 | W6556A2411 |
| 2 | 3/8 - 1/2 | W6556A3411 |
| 3 | 1/2 - 3/4 | W6556A4411 |

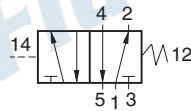
For other voltages, consult ROSS.

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

| Size | | Flow C _v | Average Response Constants* | | | Weight lb (kg) |
|------|-----------|---------------------|-----------------------------|-----|-----|-------------------|
| ISO | Port | | M | F | | |
| | | 1-2 | | 1-2 | 2-3 | |
| 1 | 1/8 - 3/8 | 1.0 | 29 | 3.5 | 4.9 | 0.8 (0.4) |
| 2 | 3/8 - 1/2 | 2.3 | 41 | 1.5 | 2.4 | 1.5 (0.7) |
| 3 | 1/2 - 3/4 | 3.4 | 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

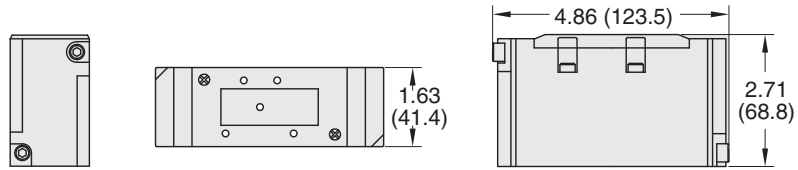


5/2 Single Pressure Controlled Valves

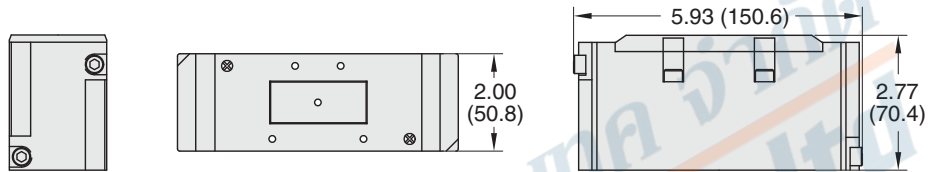
DIMENSIONS

Inches (mm)

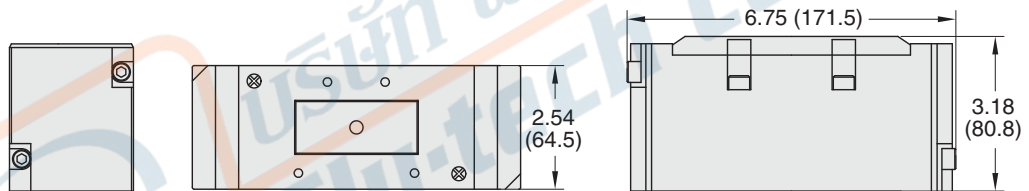
ISO Size 1



ISO Size 2



ISO Size 3



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Ordering Information

5/2 Double Pressure Controlled Valves

PRESSURE CONTROLLED VALVES

5-Way 2-Position Valves

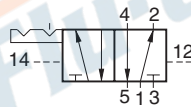
| Size | | Valve Model Number* |
|------|-----------|---------------------|
| ISO | Port | |
| 1 | 1/8 - 3/8 | W6556A2417 |
| 2 | 3/8 - 1/2 | W6556A3417 |
| 3 | 1/2 - 3/4 | W6556A4417 |

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

| Size | | Flow C _v | Average Response Constants* | | | Weight lb (kg) |
|------|-----------|---------------------|-----------------------------|-----|-----|-------------------|
| ISO | Port | | 1-2 | F | | |
| | | M | | 1-2 | 2-3 | |
| 1 | 1/8 - 3/8 | 1.0 | 17 | 3.5 | 5.0 | 0.8 (0.4) |
| 2 | 3/8 - 1/2 | 2.3 | 20 | 1.5 | 2.5 | 1.5 (0.7) |
| 3 | 1/2 - 3/4 | 3.4 | 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 | Dimensions (Inches (mm)) |
|------------|--------------------------|
| ISO Size 1 | |
| ISO Size 2 | |
| ISO Size 3 | |

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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 | 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.

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

Valve Response Time – Response Time (msec) = $M + (F \cdot V)$. 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

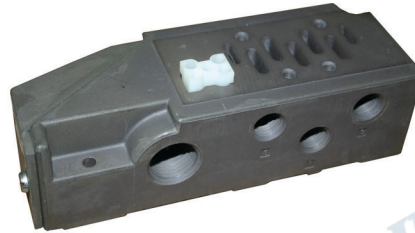
Inches (mm)

| | |
|---|--|
| ISO Size 1 | |
| ISO Size 2 | |
| ISO Size 3 | |
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Sub-Bases – Side and Bottom-Ported

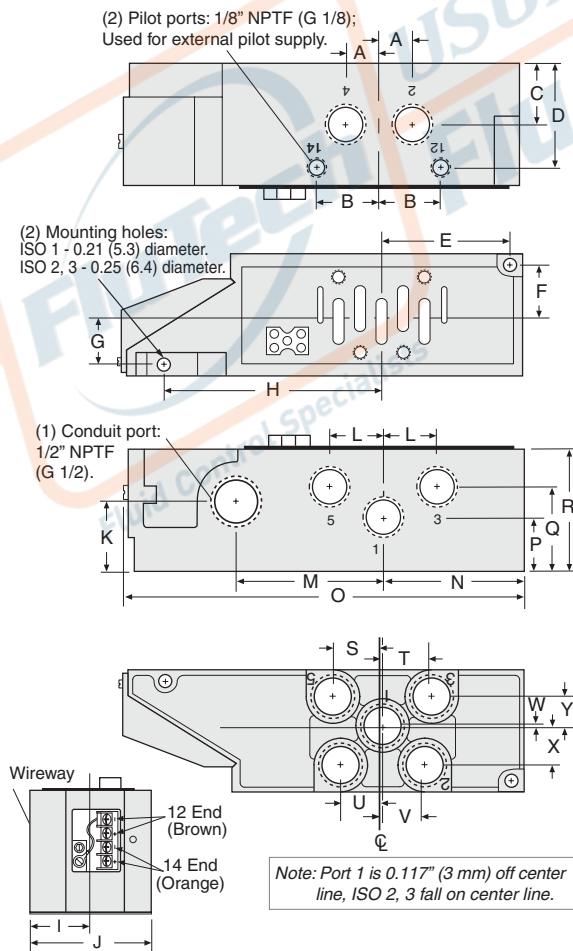
SIDE AND BOTTOM-PORTED SUB-BASES

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



DIMENSIONS

Inches (mm)



| | 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) |

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MANIFOLD STATION ASSEMBLY

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

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

Assembled manifolds also available, consult ROSS.

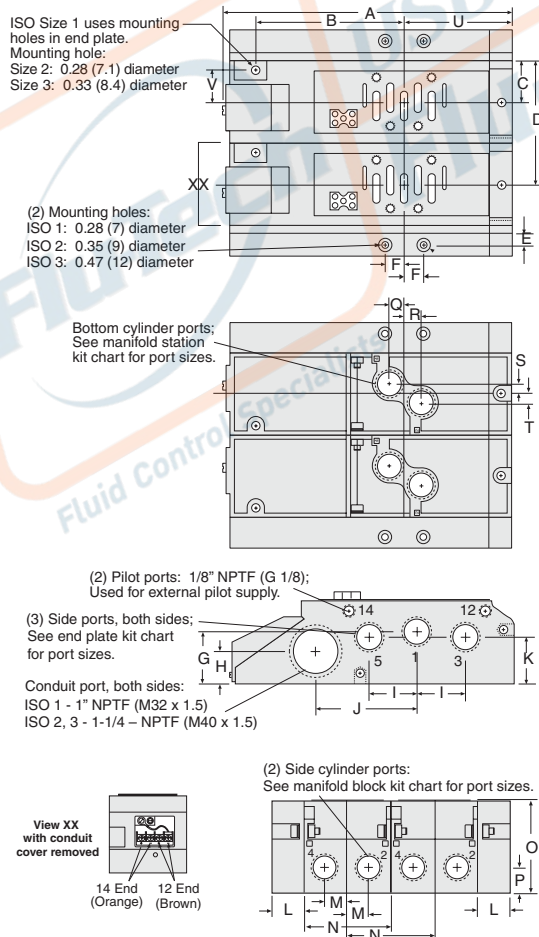
END STATIONS

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

* 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) |

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, End Stations

MANIFOLD BASES FOR ISO SIZE 1 & 2

MANIFOLD MODEL NUMBER CONFIGURATOR

RPSHU11 5 5 J 1 P

ISO 15407-1

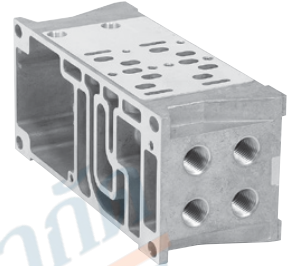
| ISO 15407-1 Size | Port Size | |
|------------------|-----------|---|
| ISO Size 1 | 3/8 NPT | 5 |
| | 3/8 BSPP | 6 |
| ISO Size 2 | 1/2 NPT | 7 |
| | 1/2 BSPP | 8 |

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 |



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 |

Thread Type

| | |
|-----|----|
| NPT | 0 |
| G | 1* |

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

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.

Right Hand End Station Ports

| | |
|-----------------------------|---|
| 1/2 Exhaust and Inlet Ports | 1 |
| 3/4 Exhaust and Inlet Ports | 2 |



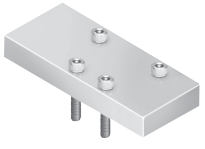
Left Hand End Station
25-pin D-Sub (top)



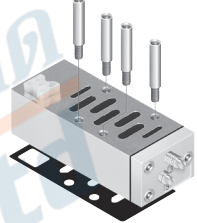
Hi-Flow Right Hand
End Station

| End Plate Type | Type/Port Size | Avg. C _v |
|----------------|----------------|---------------------|
| Right Hand | 1/2 | 6.07 |
| | 3/4 | 8.35 |

BLANK STATIONS

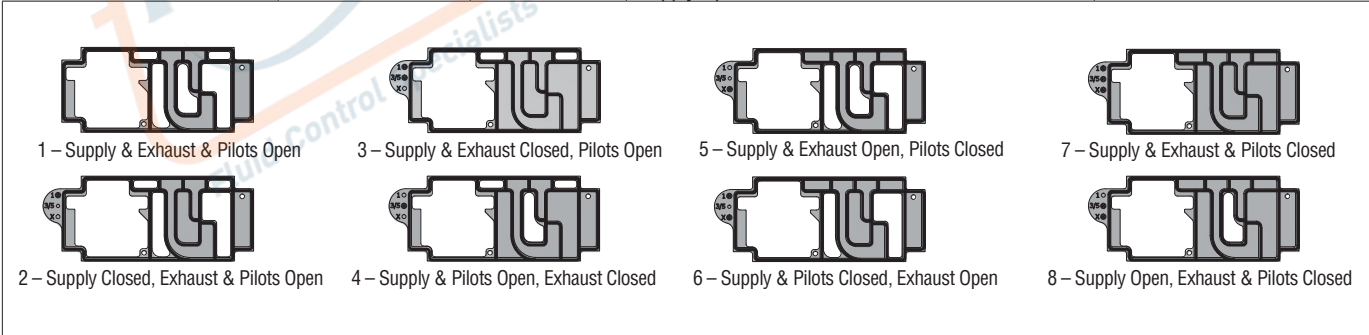
| | | | |
|--|-----------------|----------------------|---|
| Blank Stations | ISO Size | Model Number* |  |
| | 1 | RPS4034CP | |
| | 2 | RPS4134CP | |
| | 3 | RPS4234CP | |
| * Includes: Blank Station Plate, Gasket, and Mounting Bolts. | | | |

INTERPOSED FLOW CONTROL

| | | | | | |
|---|-----------------|------------------|----------------------|-------------------|---|
| Interposed Flow Control | ISO Size | Port Size | Model Number* | |  |
| | | | G Thread | NPT Thread | |
| | 1 | 1/8" | RPS401501CP | RPS401500CP | |
| | 2 | 1/8" | RPS411501CP | RPS411500CP | |
| | 3 | 1/8" | RPS421501CP | RPS421500CP | |
| * Includes: Pilot Port Access Plate, Gasket and Mounting Studs. | | | | | |

GASKET KITS

| | Pilots Status | Diagram Reference | Description | Kit Number |
|---|----------------|-------------------|--------------------------------------|------------|
| Gasket Kits Manifold to Manifold | 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 |



Manifold Accessories

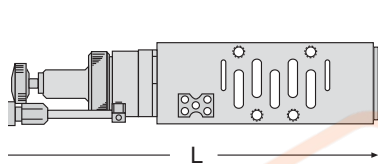
NOTE: Accessories from this page are to be used only with sub-bases and manifolds on page 16 & 17.

INTERPOSED PRESSURE REGULATORS

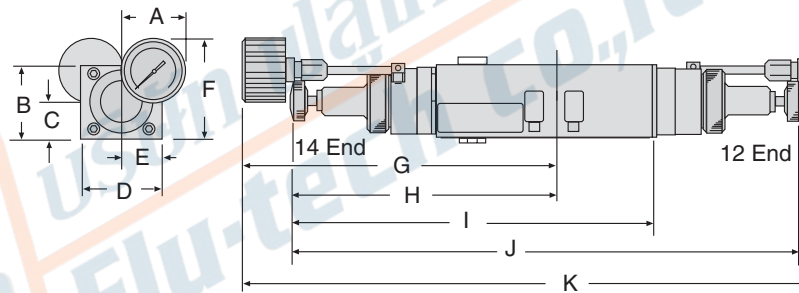
| ISO Size | Model Number | Dimensions inches (mm) | | | | | | | | | | | |
|------------|--------------|------------------------|----------|----------|----------|----------|----------|-----------|-----------|------------|------------|------------|------------|
| | | A | B | C | D | E | F | G | H | I | 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)



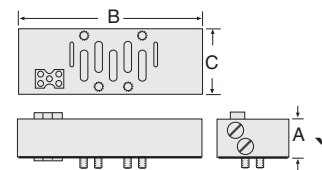
Double Interposed Regulator (top view)



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) |

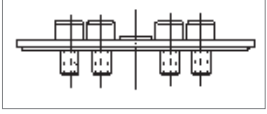


The interposed flow control independently adjusts the speed of a cylinder’s extend and retract motions. This action is achieved by throttling the flow of exhaust air through ports 3 and 5 by means of a separate needle valve across each of these ports. These interposed devices are “sandwich” style, mounting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


Manifold Accessories

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


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. | | | |

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


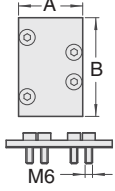
| Manifold Transition Plates | Left Manifold ISO Size | Right Manifold ISO Size | Model Number* |
|--|------------------------|-------------------------|---------------|
| | 1 | 2 | 1387N77 |
| | 2 | 1 | 1388N77 |
| | 2 | 3 | 1389N77 |
| | 3 | 2 | 1390N77 |
| To bank different manifold sizes together.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

SILENCERS


| Silencers | Port Size | Thread Type | Model Number | | Flow Avg. C _v | Pressure Range psig (bar) |
|-----------|-----------|-------------|--------------|------------|--------------------------|---------------------------|
| | | | R/Rp Thread | NPT Thread | | |
| | 1/4 | Male | 5500A2003 | 5500A2003 | 1.2 | 0-290 (0-20) maximum |
| | 3/8 | Male | 5500A3013 | 5500A3013 | 2.7 | |
| | 1/2 | Male | 5500A4003 | 5500A4003 | 4.7 | |
| | 1 | Male | 5500A6003 | 5500A6003 | 14.6 | |

Manifold Accessories

BLANKING PLATES

| Blanking Plates | ISO SIZE | Model Number* |  | | | | | | | | | | | | | | | | | | | | | |
|---|-----------|--|---|--|------------------------|--|--|--|--|-------|-------|-------|---|-----------|-----------|-----------|---|-----------|-----------|------------|-----------------|----------|------------|-----------|
| | 1 | 2602H77 | | | | | | | | | | | | | | | | | | | | | | |
| | 2 | 2603H77 | | | | | | | | | | | | | | | | | | | | | | |
| | 3 | 2604H77 | | | | | | | | | | | | | | | | | | | | | | |
| <p>* A blanking plate is used to cover the top of a manifold station that is not in use. Includes: a metal plate, a gasket, and mounting bolts.</p> | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | <table border="1"> <thead> <tr> <th colspan="4">Dimensions inches (mm)</th> </tr> <tr> <th></th> <th>ISO 1</th> <th>ISO 2</th> <th>ISO 3</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>1.57 (40)</td> <td>2.04 (52)</td> <td>3.03 (77)</td> </tr> <tr> <td>B</td> <td>2.60 (66)</td> <td>3.15 (80)</td> <td>4.17 (106)</td> </tr> <tr> <td>Plate Thickness</td> <td>0.16 (4)</td> <td>0.24 (6.2)</td> <td>0.41 (12)</td> </tr> </tbody> </table> | | | 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) |
| 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) | | | | | | | | | | | | | | | | | | | | | |


BLOCKING DISKS

| Blocking Disks ISO Size 1 & 2 | ISO SIZE | Model Number* |  |
|--|----------|---------------|---|
| | 1 | 319A40 | |
| | 2 | 320A40 | |
| | 3 | 321A40 | |
| <p>Ports between manifold stations can be closed by means of blocking disks.</p> | | | |

INDEPENDENT PRESSURE MODULES

| Independent Pressure Modules | ISO Size | Inlet Port | Part Number* |
|---|----------|------------|--------------|
| | 1 | 1/4 | 703K77 |
| | 2 | 3/8 | 692K77 |
| | 3 | 1/2 | 715K77 |
| <p>* 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.</p> | | | |

ASSEMBLY KITS

| Assembly Kits ISO Size 1 & 2 | ISO SIZE | Kit Number |  |
|---------------------------------|----------|------------|---|
| | 1 | 732K86 | |
| | 2 | 733K86 | |

INTERPOSED PRESSURE REGULATORS

| ISO Size | Pressure psig (bar) | Model Number | | |
|----------|-----------------------|----------------|-----------------|---------|
| | | Single | | Double |
| | | Left Hand (14) | Right Hand (12) | |
| 1 | 10 (0.68) to 130 (9) | 1300K91 | 1301K91 | 1302K91 |
| 2 | 10 (0.68) to 130 (9) | 1303K91 | 1304K91 | 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.

Interposed Regulators

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) |

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)

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 | |



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