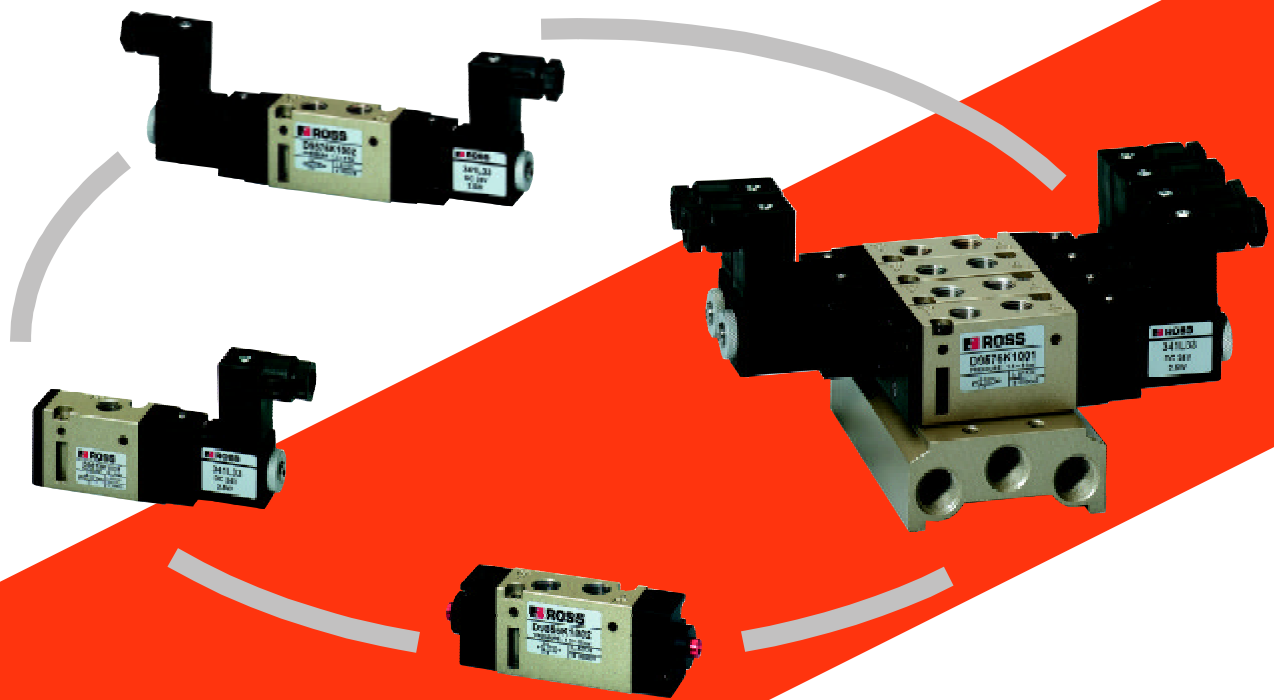


Compact Valves with high flow capacity



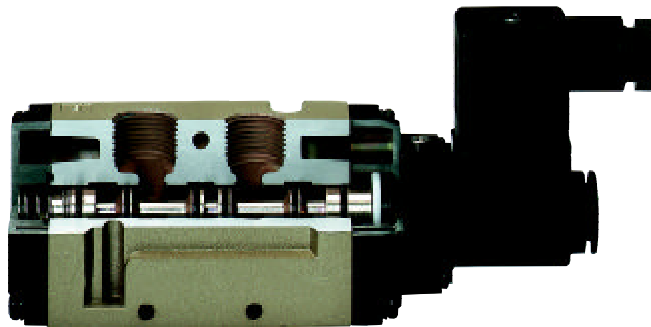
ROSS Air Control Products



ROSS Compact Valves — small in size, but ready for big challenges...

The new line of ROSS compact valves consists of 3/2-, 5/2- and 5/3-way valves for either solenoid or pressure control. Designed to cope with wide-ranging conditions, these valves provide strong problem solving capabilities within a broad scope of applications. They stand out for their solid, compact construction and an amazingly high flow capacity - all packaged in a sophisticated design. Individual units can easily be assembled to form complete valve blocks requiring limited mounting space. Needless to say that these valves may be used with or without lubrication; in either case you can expect a high performance level over a long service life.

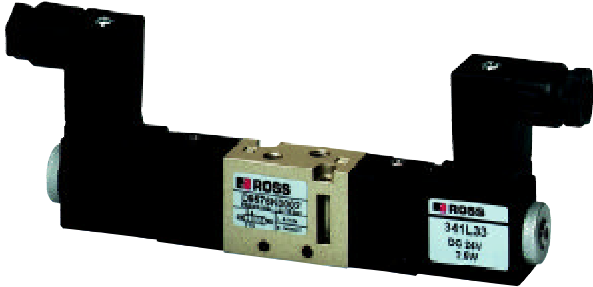
- *Manifolds for stacking several valves together*
- *Compact size; rugged (yet light-weight) construction*
- *Short response times*
- *Easy mounting*
- *High flow capacity*
- *Resilient seal spool construction*
- *Lube or non-lube service*
- *Pressure ports located in valve body*
- *Manual overrides*



CONTENTS:

5/2-way valves, solenoid control, M 5	Page 3
5/2- & 5/3-way valves, solenoid control, G 1/8 - G 3/8	Pages 4-6
5/2- & 5/3-way valves, pressure control, G 1/8 - G 3/8	Pages 7-9
3/2-way valves, solenoid control, M 5 - G 1/4	Pages 10-12
3/2-way valves, pressure control, G 1/8 - G 1/4	Pages 13-14
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Accessories	Page 22
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5/2-Way Spool Valves, Solenoid Control, M 5



STANDARD SPECIFICATIONS

Housing: Aluminium.

Seals: NBR.

Standard voltages: 24 VDC, 220 V / 50/60 Hz
(other voltages on request).

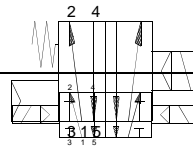
Power consumption: 2.5 watts on d.c., 4 VA holding on
50 or 60 Hz.

Media temperature: +5° to +60° C.

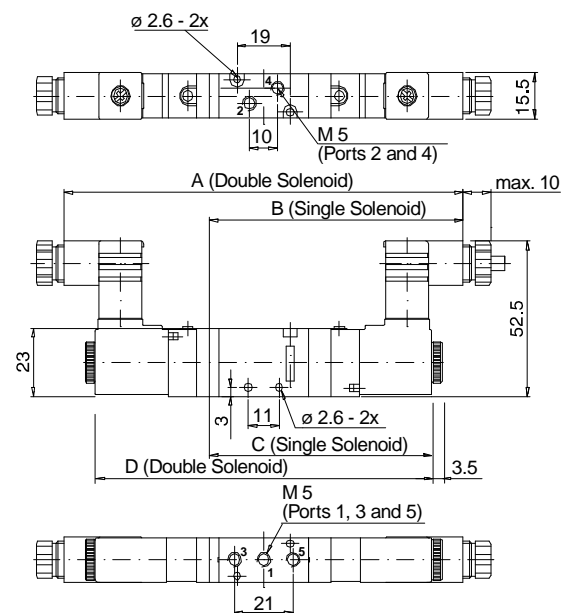
Flow media: filtered air, with or without lubrication.

Response time: ≤ 20 ms.

Port Size	Valve Model No.	Operation	Operating Pressure	Air Flow Std. litre/min.
M 5	D9576K0001	5/2-way, single solenoid, spring return	1.5 to 8 bar	200
M 5	D9576K0002	5/2-way, double solenoid	1 to 8 bar	200



Valve Model Number	Dimensions mm			
	A	B	C	D
D9576K0001	—	90.9	79.8	—
D9576K0002	142.7	—	—	120.6



5/2- and 5/3-Way Spool Valves, Solenoid Control, G 1/8



STANDARD SPECIFICATIONS

Housing: Aluminium.

Seals: NBR.

Standard voltages: 24 VDC, 220 V / 50/60 Hz
(other voltages on request).

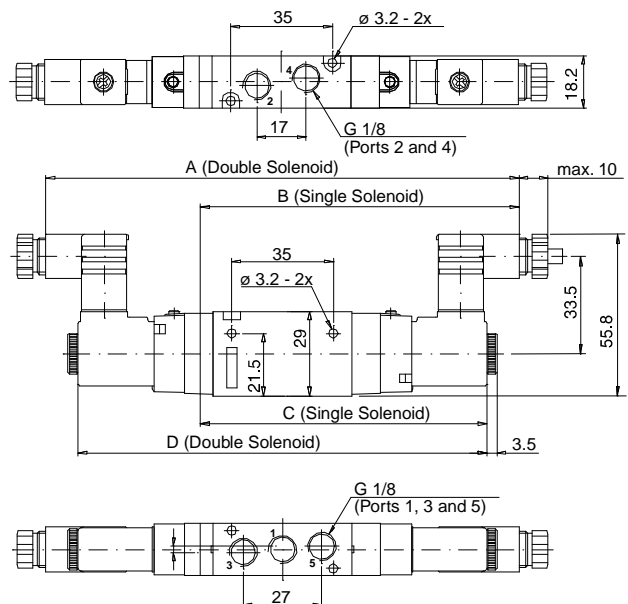
Power consumption: 2.5 watts on d.c., 4 VA holding
on 50 or 60 Hz.

Media temperature: +5° to +60° C.

Flow media: filtered air, with or without lubrication.

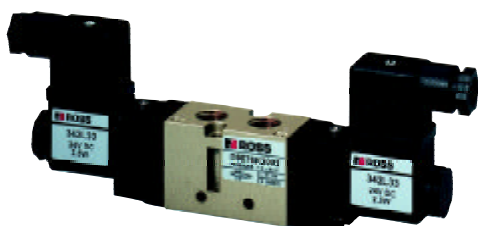
Response time: ≤ 20 ms (5/2-way model)
≤ 35 ms (5/3-way model)

Port Size	Valve Model No.	Operation	Operating Pressure	Air Flow Std. litre/min.
G 1/8	D9576K1001	5/2-way, single solenoid, spring return	1.5 to 8 bar	590
G 1/8	D9576K1002	5/2-way, double solenoid	1 to 8 bar	590
G 1/8	D9577K1010	5/3-way, closed centre	2 to 8 bar	390
G 1/8	D9577K1007	5/3-way, open centre	2 to 8 bar	390
G 1/8	D9577K1019	5/3-way, pressure centre	2 to 8 bar	390



Valve Model Number	Dimensions mm			
	A	B	C	D
D9576K1001	—	109.6	98.5	—
D9576K1002	162.6	—	—	140.5
D9577K1010	173.6	—	—	151.5
D9577K1007				
D9577K1019				

5/2- and 5/3-Way Spool Valves, Solenoid Control, G 1/4



STANDARD SPECIFICATIONS

Housing: Aluminium.

Seals: NBR.

Standard voltages: 24 VDC, 220 V / 50/60 Hz
(other voltages on request).

Power consumption: 2.5 watts on d.c., 4 VA holding on
50 or 60 Hz.

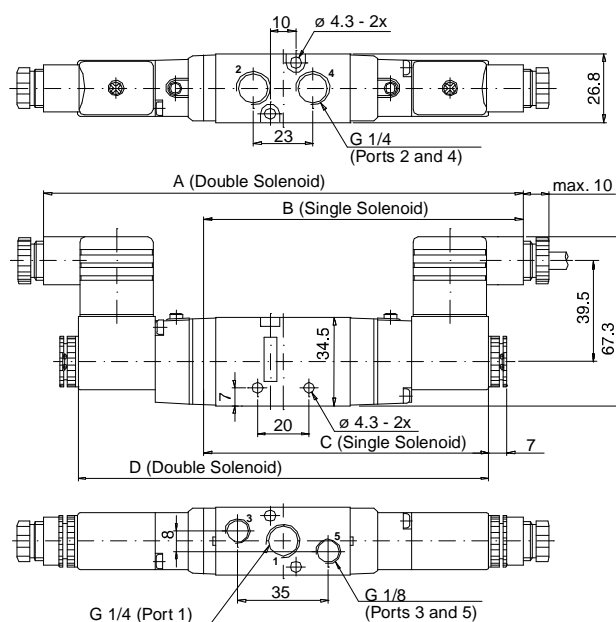
Media temperature: +5° to +60° C.

Flow media: filtered air, with or without lubrication.

Response time: ≤ 20 ms (5/2-way model)
≤ 35 ms (5/3-way model)

Port Size	Valve Model No.	Operation	Operating Pressure	Air Flow Std. litre/min
G 1/4	D9576K2001	5/2-way, single solenoid, spring return	1.5 to 8 bar	985
G 1/4	D9576K2002	5/2-way, double solenoid	1 to 8 bar	985
G 1/4	D9577K2010	5/3-way, closed centre	2 to 8 bar	590
G 1/4	D9577K2007	5/3-way, open centre	2 to 8 bar	590
G 1/4	D9577K2019	5/3-way, pressure centre	2 to 8 bar	590

Valve Model Number	Dimensions mm			
	A	B	C	D
D9576K2001	—	124.9	111.7	—
D9576K2002	185.5	—	—	159
D9577K2010	201.7	—	—	175.2
D9577K2007				
D9577K2019				



5/2- and 5/3-Way Spool Valves, Solenoid Control, G 3/8



STANDARD SPECIFICATIONS

Housing: Aluminium.

Seals: NBR.

Standard voltages: 24 VDC, 220 V / 50/60 Hz
(other voltages on request).

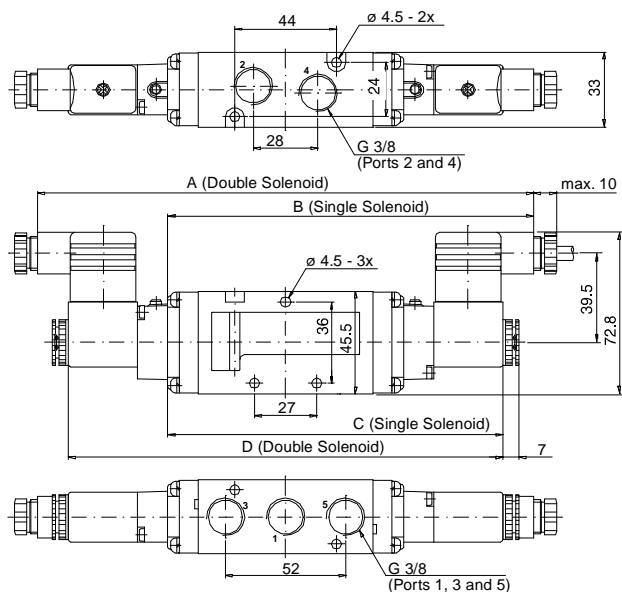
Power consumption: 2.5 watts on d.c., 4 VA holding
on 50 or 60 Hz.

Media temperature: +5° to +60° C.

Flow media: filtered air, with or without lubrication.

Response time: ≤ 20 ms (5/2-way model)
≤ 35 ms (5/3-way model)

Port Size	Valve Model No.	Operation	Operating Pressure	Air Flow Std. litre/min.
G 3/8	D9576K3001	5/2-way, single solenoid, spring return	1.5 to 8 bar	2450
G 3/8	D9576K3002	5/2-way, double solenoid	1 to 8 bar	2450
G 3/8	D9577K3010	5/3-way, closed centre	2 to 8 bar	1450
G 3/8	D9577K3007	5/3-way, open centre	2 to 8 bar	1450
G 3/8	D9577K3019	5/3-way, pressure centre	2 to 8 bar	1450



Valve Model Number	Dimensions mm			
	A	B	C	D
D9576K3001	—	155.3	142	—
D9576K3002	214.5	—	—	188
D9577K3010	243.5	—	—	217
D9577K3007				
D9577K3019				

5/2- and 5/3-Way Spool Valves, Pressure Control, G 1/8



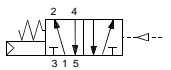
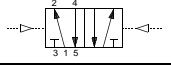
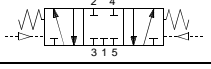
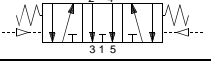
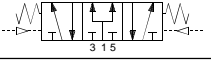
STANDARD SPECIFICATIONS

Housing: Aluminium.

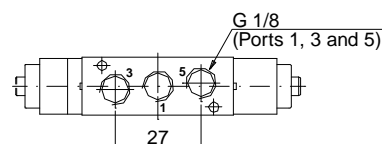
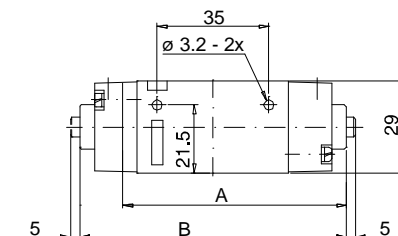
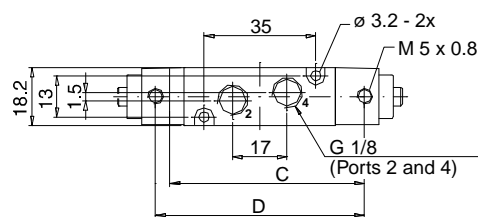
Seals: NBR.

Media temperature: +5° to +60° C.

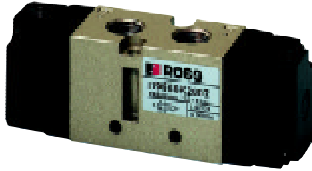
Flow media: filtered air, with or without lubrication.

Port Size	Valve Model No.	Operation	Operating Pressure	Air Flow Std. litre/min.
G 1/8	D9556K1001	5/2-way, single pressure control, spring return 	2 to 8 bar	590
G 1/8	D9556K1002	5/2-way, double pressure control 	2 to 8 bar	590
G 1/8	D9557K1010	5/3-way, closed centre 	2 to 8 bar	390
G 1/8	D9557K1007	5/3-way, open centre 	2 to 8 bar	390
G 1/8	D9557K1019	5/3-way, pressure centre 	2 to 8 bar	390

Valve Model Number	Dimensions mm			
	A	B	C	D
D9556K1001	70	—	61	—
D9556K1002	—	83.5	—	65.5
D9557K1010	—	94.5	—	76.5
D9557K1007				
D9557K1019				



5/2- and 5/3-Way Spool Valves, Pressure Control, G 1/4



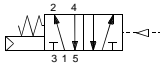
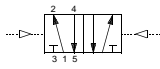
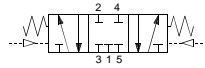
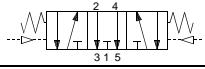
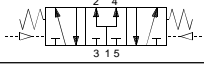
STANDARD SPECIFICATIONS

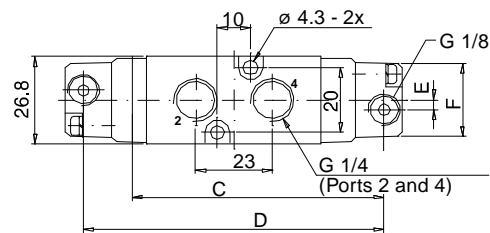
Housing: Aluminium.

Seals: NBR.

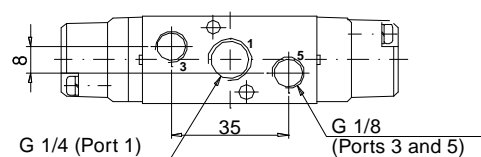
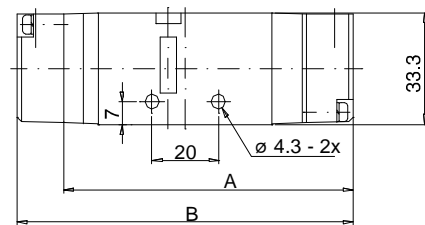
Media temperature: +5° to +60° C.

Flow media: filtered air, with or without lubrication.

Port Size	Valve Model No.	Operation	Operating Pressure	Air Flow Std. litre/min.
G 1/4	D9556K2001	5/2-way, single pressure control, spring return 	2 to 8 bar	985
G 1/4	D9556K2002	5/2-way, double pressure control 	2 to 8 bar	985
G 1/4	D9557K2010	5/3-way, closed centre 	2 to 8 bar	590
G 1/4	D9557K2007	5/3-way, open centre 	2 to 8 bar	590
G 1/4	D9557K2019	5/3-way, pressure centre 	2 to 8 bar	590



Valve Model Number	Dimensions mm					
	A	B	C	D	E	F
D9556K2001	82.7	-	77.2	-	1.5	11.3
D9556K2002	-	101	-	90.2	3	22.6
D9557K2010	-	117.2	-	106.2	3	22.6
D9557K2007						
D9557K2019						



5/2- and 5/3-Way Spool Valves, Pressure Control, G 3/8



STANDARD SPECIFICATIONS

Housing: Aluminium.

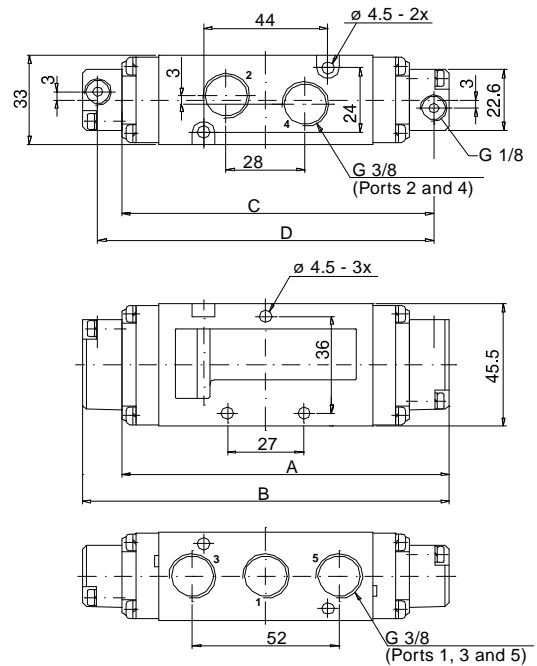
Seals: NBR.

Media temperature: +5° to +60° C.

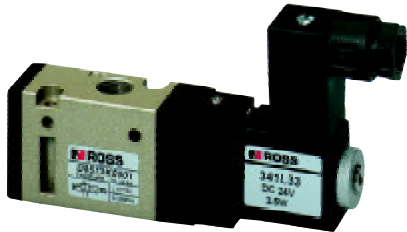
Flow media: filtered air, with or without lubrication.

Port Size	Valve Model No.	Operation		Operating Pressure	Air Flow Std. litre/min.
G 3/8	D9556K3001	5/2-way, single pressure, spring return		2 to 8 bar	2450
G 3/8	D9556K3002	5/2-way, double pressure		2 to 8 bar	2450
G 3/8	D9557K3010	5/3-way, closed centre		2 to 8 bar	1450
G 3/8	D9557K3007	5/3-way, open centre		2 to 8 bar	1450
G 3/8	D9557K3019	5/3-way, pressure centre		2 to 8 bar	1450

Valve Model Number	Dimensions mm			
	A	B	C	D
D9556K3001	113	—	107.5	—
D9556K3002	—	130	—	119
D9557K3010	—	159	—	148
D9557K3007				
D9557K3019				



3/2-Way Spool Valves, Solenoid Control, M 5



STANDARD SPECIFICATIONS

Housing: Aluminium.

Seals: NBR.

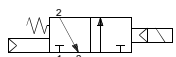
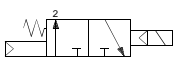
Standard voltages: 24 VDC, 220 V / 50/60 Hz
(other voltages on request).

Power consumption: 2.5 watts on d.c.,
4 VA holding on 50 or 60 Hz.

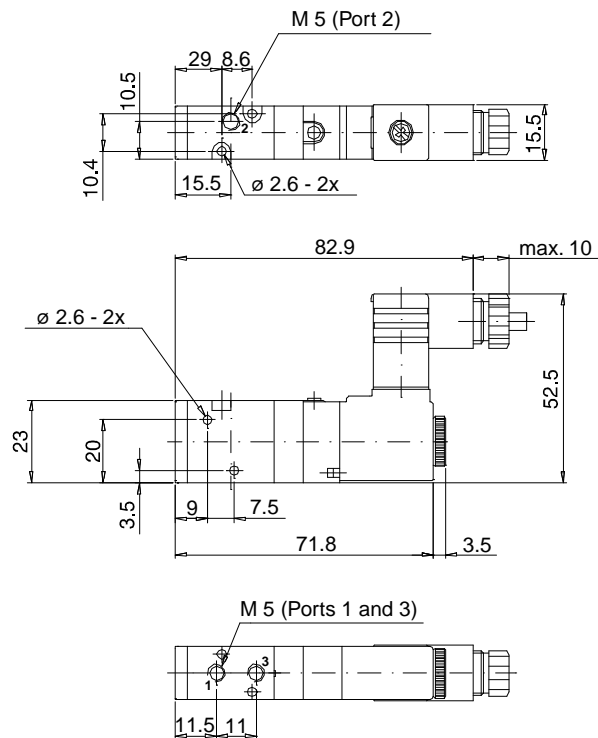
Media temperature: +5° to +60° C.

Flow media: filtered air, with or without lubrication.

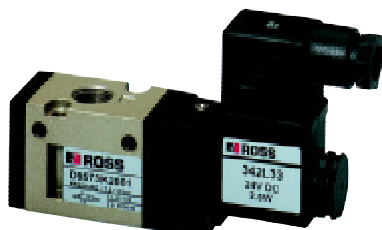
Response time: ≤ 20 ms.

Port Size	Valve Model No.	Operation	Operating Pressure	Air Flow Std. litre/min.
M 5	D9573K0001	3/2-way, normally closed, spring return 	1.5 to 8 bar	200
M 5	D9574K0001	3/2-way, normally open, spring return 	1.5 to 8 bar	200

Dimensions - mm



3/2-Way Spool Valves, Solenoid Control, G 1/4



STANDARD SPECIFICATIONS

Housing: Aluminium.

Seals: NBR.

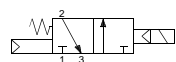
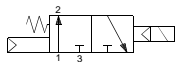
Standard voltages: 24 VDC, 220 V / 50/60 Hz
(other voltages on request).

Power consumption: 2.5 watts on d.c.,
4 VA holding on 50 or 60 Hz.

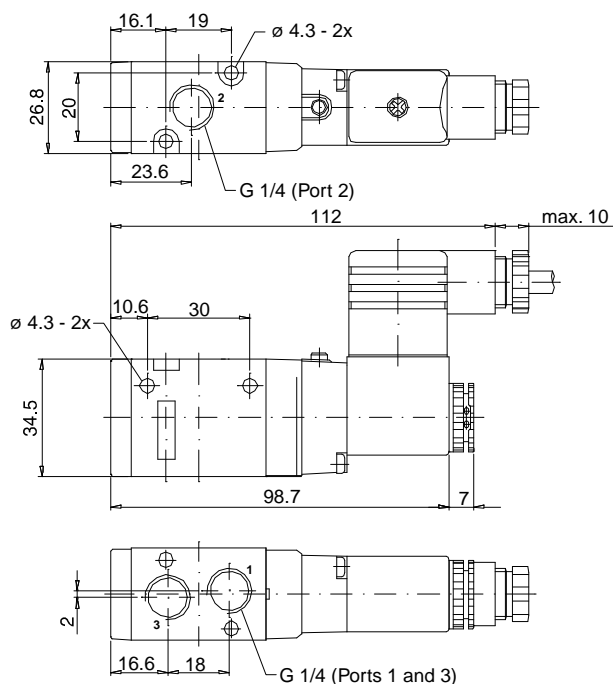
Media temperature: +5° to +60° C.

Flow media: filtered air, with or without lubrication.

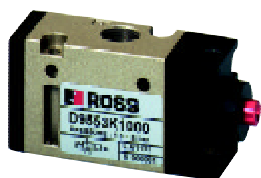
Response time: ≤ 20 ms.

Port Size	Valve Model No.	Operation	Operating Pressure	Air Flow Std. litre/min.
G 1/4	D9573K2001	3/2-way, normally closed, spring return 	1.5 to 8 bar	985
G 1/4	D9574K2001	3/2-way, normally open, spring return 	1.5 to 8 bar	985

Dimensions - mm



3/2-Way Spool Valves, Pressure Control, G 1/8



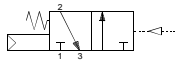
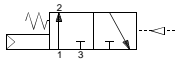
STANDARD SPECIFICATIONS

Housing: Aluminium.

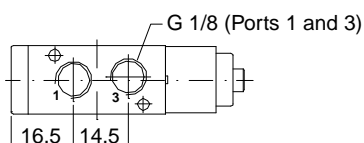
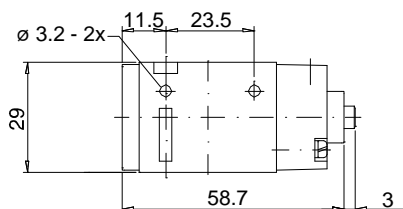
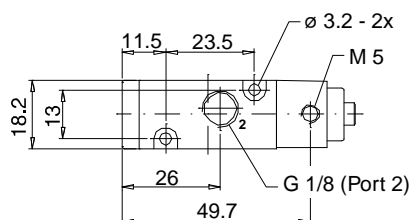
Seals: NBR.

Media temperature: +5° to +60° C.

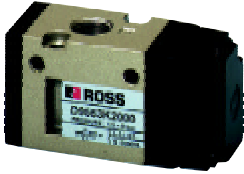
Flow media: filtered air, with or without lubrication.

Port Size	Valve Model No.	Operation	Operating Pressure	Air Flow Std. litre/min.
G 1/8	D9553K1000	3/2-way, normally closed, spring return 	2 to 8 bar	590
G 1/8	D9554K1000	3/2-way, normally open, spring return 	2 to 8 bar	590

Dimensions - mm



3/2-Way Spool Valves, Pressure Control, G 1/4



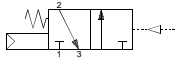
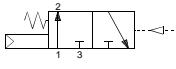
STANDARD SPECIFICATIONS

Housing: Aluminium.

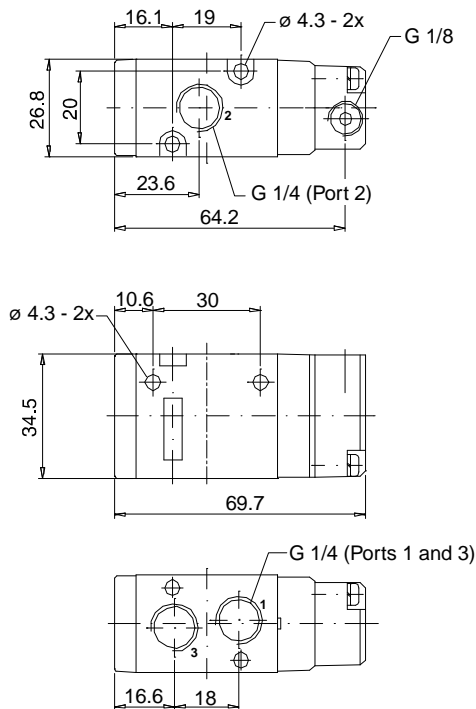
Seals: NBR.

Media temperature: +5° to +60° C.

Flow media: filtered air, with or without lubrication.

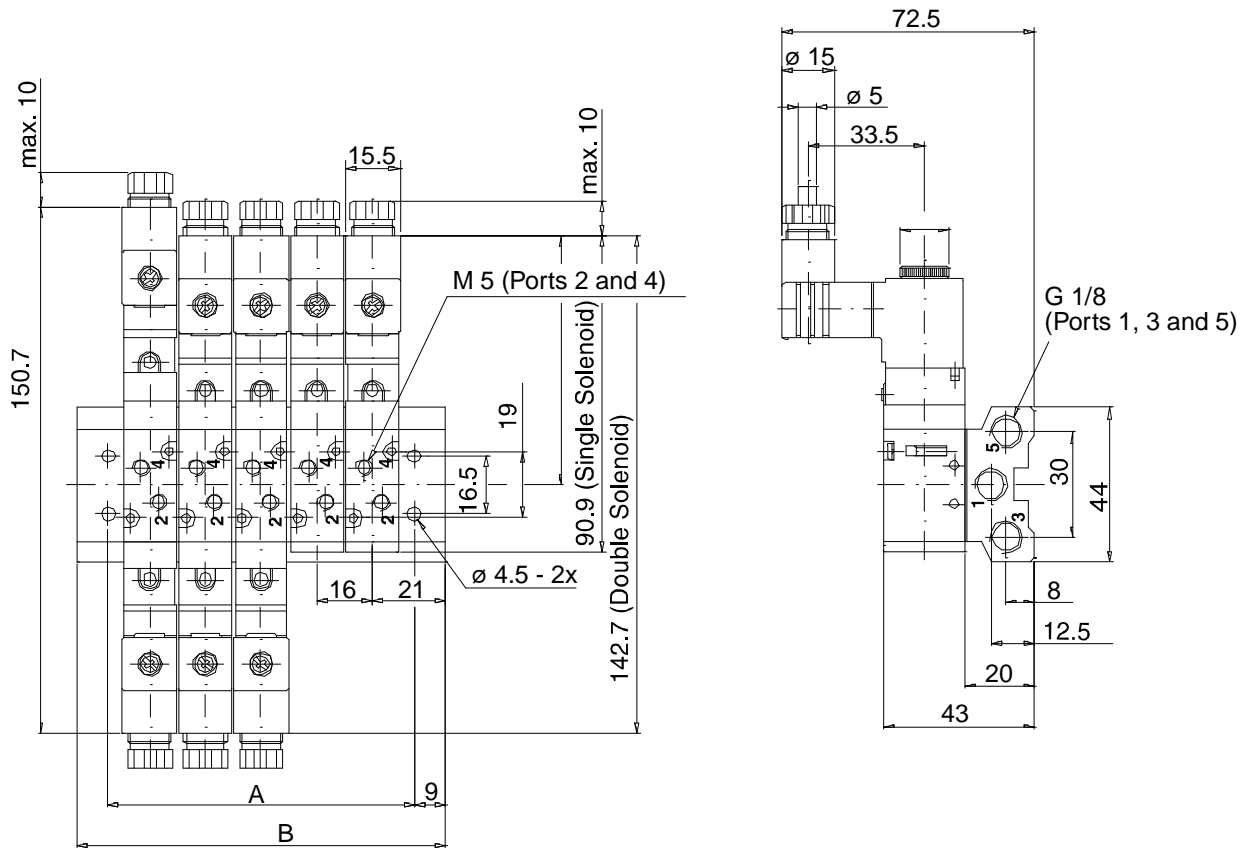
Port Size	Valve Model No.	Operation	Operating Pressure	Air Flow Std. litre/min.
G 1/4	D9553K2000	3/2-way, normally closed, spring return 	2 to 8 bar	985
G 1/4	D9554K2000	3/2-way, normally open, spring return 	2 to 8 bar	985

Dimensions - mm



Manifold Bases, G 1/8 for 5/2-Way Spool Valves, M 5

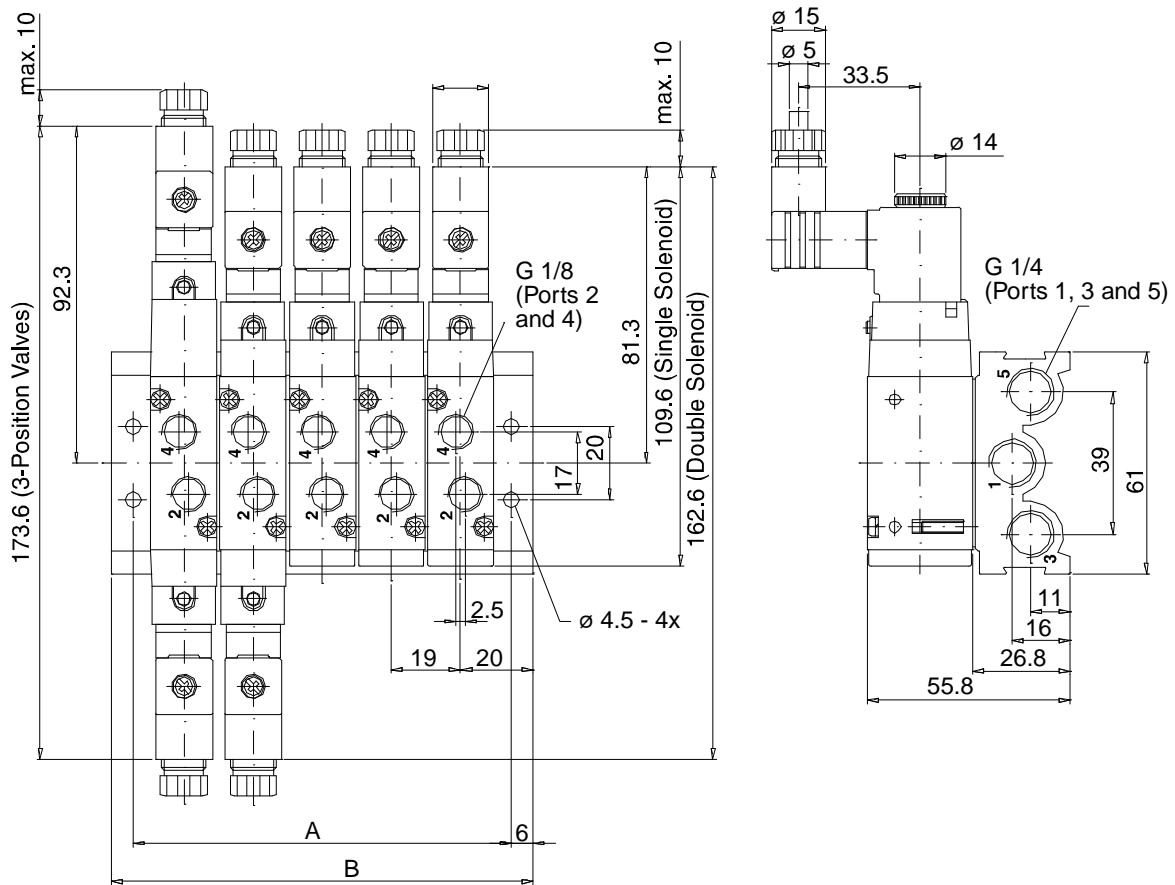
- For common air supply and exhaust of all valves
- Example below shows block for 5 valves
- Dimensions - mm



Port Size	Number of Stations	Model Number	A	B
G 1/8	2	D1372H91	40	58
	3	D1373H91	56	74
	4	D1374H91	72	90
	5	D1375H91	88	106
	6	D1376H91	104	122
	7	D1377H91	120	138
	8	D1378H91	136	154
	9	D1379H91	152	170
	10	D1380H91	168	186

Manifold Bases, G 1/4 for 5/2- and 5/3-Way Spool Valves, G 1/8

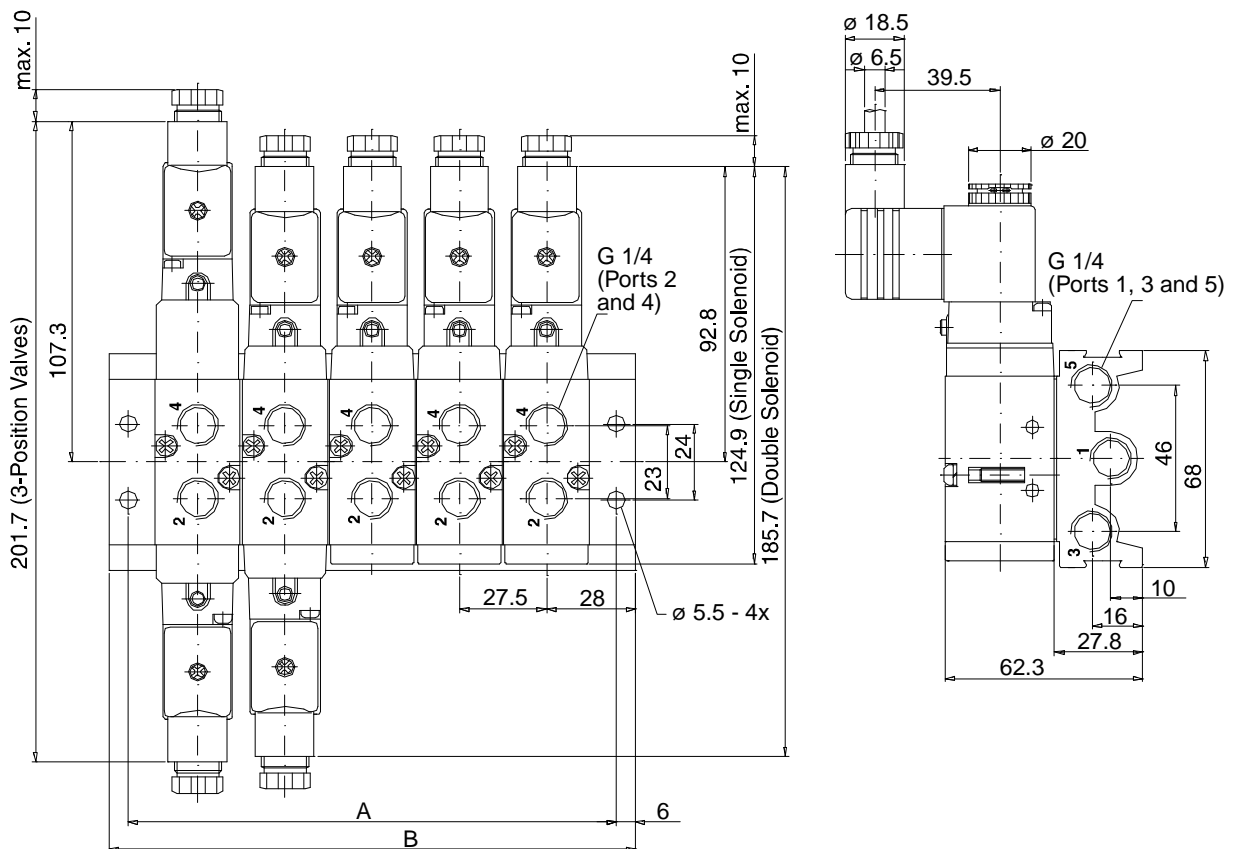
- For common air supply and exhaust of all valves
- Example below shows block for 5 valves
- Dimensions - mm



Port Size	Number of Stations	Model Number	A	B
G 1/4	2	D1392H91	47	59
	3	D1393H91	66	78
	4	D1394H91	85	97
	5	D1395H91	104	116
	6	D1396H91	123	135
	7	D1397H91	142	154
	8	D1398H91	161	173
	9	D1399H91	180	192
	10	D1400H91	199	211

Manifold Bases, G 1/4 for 5/2- and 5/3-Way Spool Valves, G 1/4

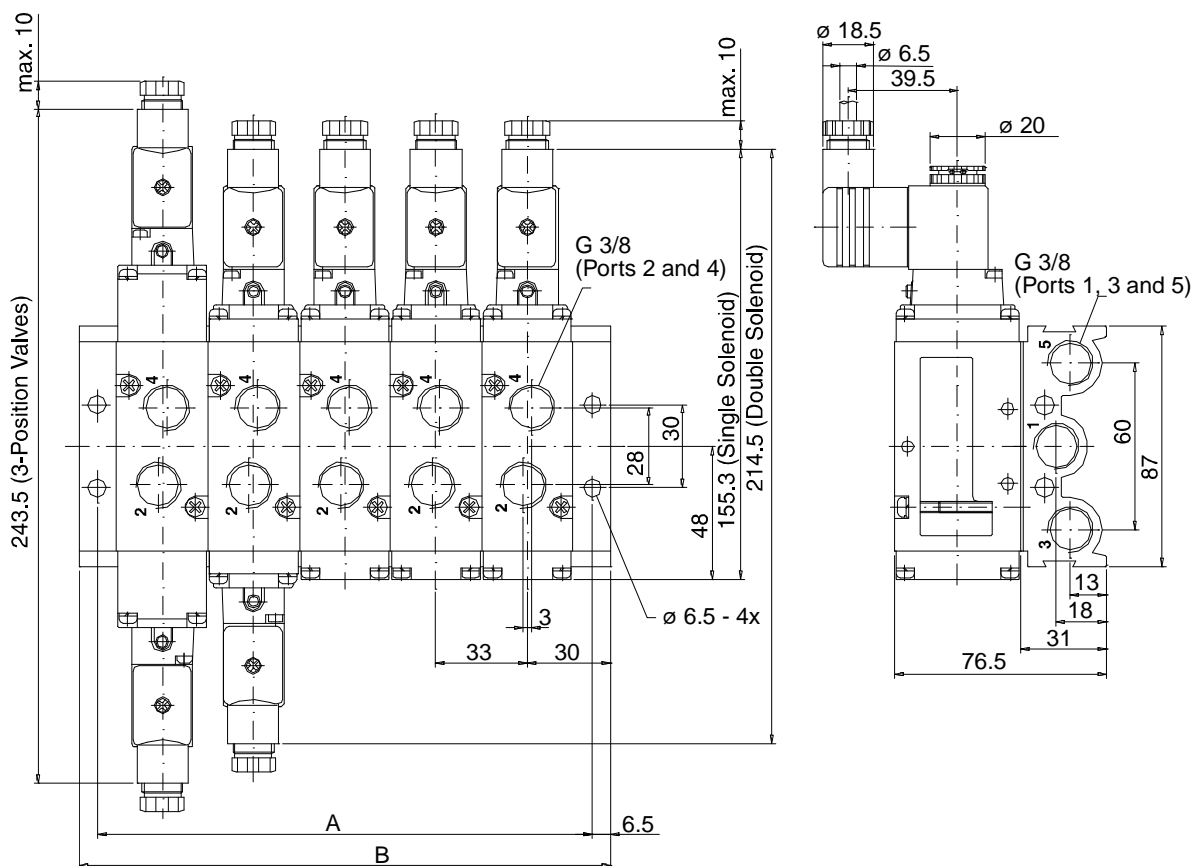
- For common air supply and exhaust of all valves
- Example below shows block for 5 valves
- Dimensions - mm



Port Size	Number of Stations	Model Number	A	B
G 1/4	2	D1412H91	71.5	83.5
	3	D1413H91	99.0	111.0
	4	D1414H91	126.5	138.5
	5	D1415H91	154.0	166.0
	6	D1416H91	181.5	193.5
	7	D1417H91	209.0	221.0
	8	D1418H91	236.5	248.5
	9	D1419H91	264.0	276.0
	10	D1420H91	291.5	303.5

Manifold Bases, G 3/8 for 5/2- and 5/3-Way-Spool Valves, G 3/8

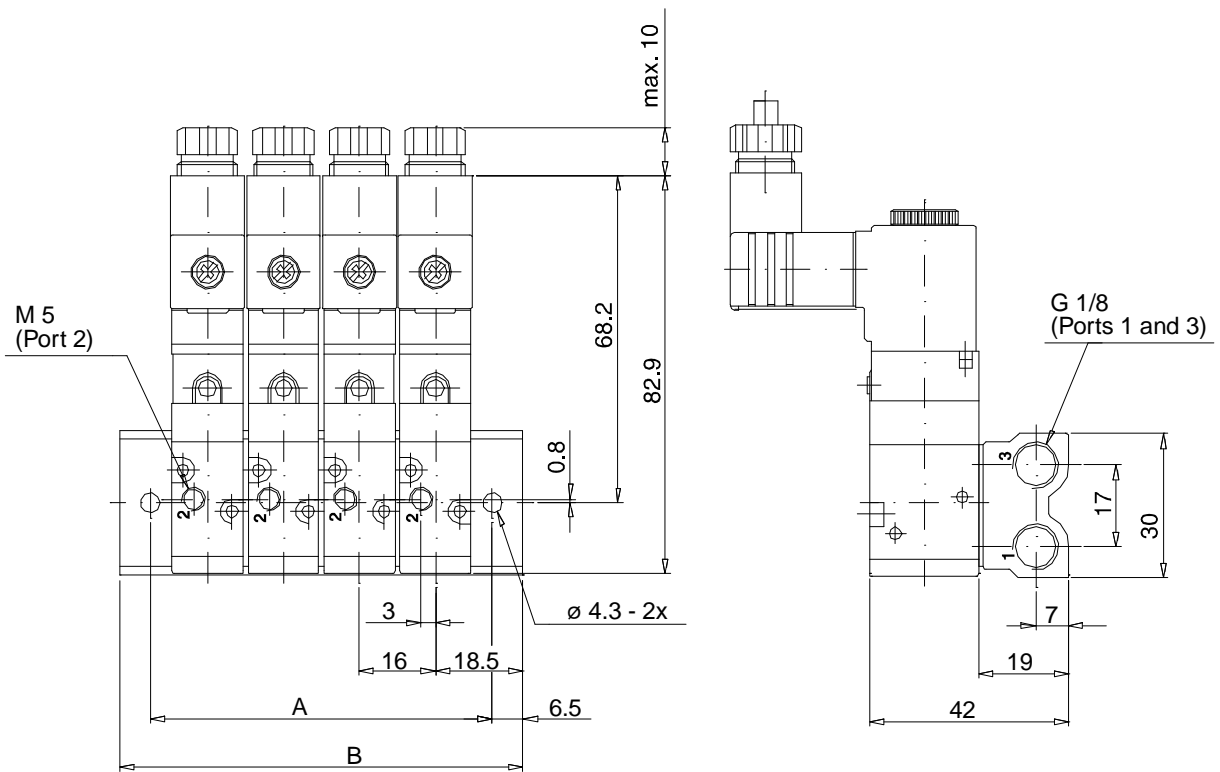
- For common air supply and exhaust of all valves
- Example below shows block for 5 valves
- Dimensions - mm



Port Size	Number of Stations	Model Number	A	B
G 3/8	2	D1432H91	80	93
	3	D1433H91	113	126
	4	D1434H91	146	159
	5	D1435H91	179	192
	6	D1436H91	212	225
	7	D1437H91	245	258
	8	D1438H91	278	291
	9	D1439H91	311	324
	10	D1440H91	344	357

Manifold Bases, G 1/8 for 3/2-Way Spool Valves, M 5

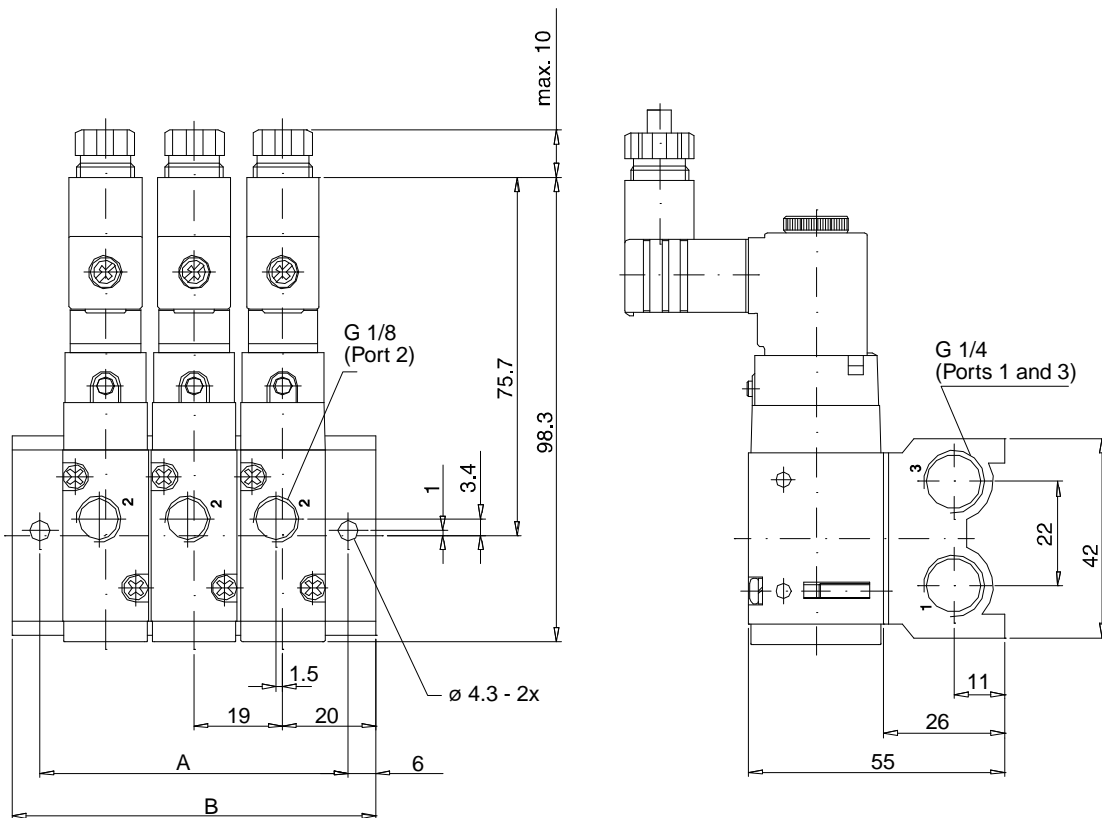
- For common air supply and exhaust of all valves
- Example below shows block for 4 valves
- Dimensions - mm



Port Size	Number of Stations	Model Number	A	B
G 1/4	2	D1452H91	40	53
	3	D1453H91	56	69
	4	D1454H91	72	85
	5	D1455H91	88	101
	6	D1456H91	104	117
	7	D1457H91	120	133
	8	D1458H91	136	149
	9	D1459H91	152	165
	10	D1460H91	168	181

Manifold Bases, G 1/4 for 3/2-Way Spool Valves, G 1/8

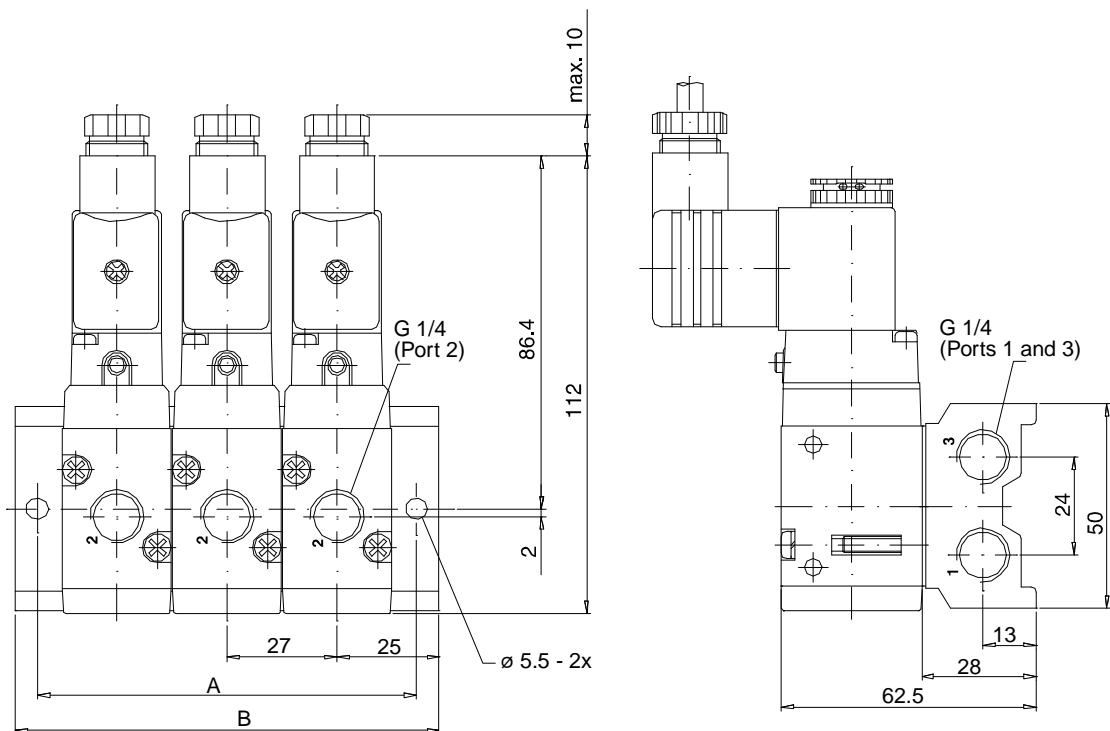
- For common air supply and exhaust of all valves
- Example below shows block for 3 valves
- Dimensions - mm



Port Size	Number of Stations	Model Number	A	B
G 1/4	2	D1472H91	47	59
	3	D1473H91	66	78
	4	D1474H91	85	97
	5	D1475H91	104	116
	6	D1476H91	123	135
	7	D1477H91	142	154
	8	D1478H91	161	173
	9	D1479H91	180	192
	10	D1480H91	199	211

Manifold Bases, G 1/4 for 3/2-Way Spool Valves, G 1/4

- For common air supply and exhaust of all valves
- Example below shows block for 3 valves
- Dimensions - mm



Port Size	Number of Stations	Model Number	A	B
G 1/4	2	D1492H91	66	77
	3	D1493H91	93	104
	4	D1494H91	120	131
	5	D1495H91	147	158
	6	D1496H91	174	185
	7	D1497H91	201	212
	8	D1498H91	228	239
	9	D1499H91	255	266
	10	D1500H91	282	293

Accessories

SOLENOID PILOT VALVES

for electrically operated valves.



Valve Size	Voltage	Part No.
M 5 & G 1/8	24 VDC	341L33
G 1/4 & G 3/8	24 VDC	342L33
M 5 & G 1/8	220 V 50/60 Hz	343L33
G 1/4 & G 3/8	220 V 50/60 Hz	344L33

Other voltages available.

CONNECTORS

with LED indicator lights and built-in surge suppressors for solenoid controlled valves.



Valve Size	Voltage	Part No.
M 5 & G 1/8	24 VDC	1766L77
G 1/4 & G 3/8	24 VDC	1767L77
M 5 & G 1/8	220 V 50/60 Hz	1768L77
G 1/4 & G 3/8	220 V 50/60 Hz	1769L77

Other voltages available.

BLANK STATION KITS

A blank station plate is used to cover the top of a manifold station when a valve is not installed on the manifold station. Gasket and mounting bolts are included.

5/2- & 5/3-Way Valves	Part Number
Size M 5	D1805H77
Size G 1/8	D1806H77
Size G 1/4	D1807H77
Size G 3/8	D1808H77
3/2-Way Valves	Part Number
Size M 5	D1812H77
Size G 1/8	D1813H77
Size G 1/4	D1814H77

CAUTIONS

PRE-INSTALLATION or SERVICE

1. Before servicing a valve or other pneumatic component, be sure that the electrical supply is turned off and that the entire pneumatic system is shut off and exhausted.
2. All ROSS products, including service kits and parts, should be installed and/or serviced only by persons having training and experience with pneumatic equipment. Because any installation can be tampered with or need servicing after installation, persons responsible for the safety of others or the care of equipment must check every installation on a regular basis and perform all necessary maintenance.
3. All applicable instructions should be read and complied with before using any fluid power system in order to prevent harm to persons and/or equipment. In addition, overhauled or serviced valves must be functionally tested prior to installation and use.
4. Each ROSS product should be used within its specification limits. In addition, use only ROSS parts to repair ROSS products. Failure to follow these directions can adversely affect the performance of the product or result in the potential for human injury.

FILTRATION and LUBRICATION

5. Dirt, scale, moisture, etc. are present in virtually every air system. Although some valves are more tolerant of these contaminants than others, best performance will be realized if a filter is installed to clean the air supply, thus preventing contaminants from interfering with the proper performance of the equipment. ROSS recommends a filter with a 5-micron rating for normal applications.
6. All standard ROSS filters and lubricators with polycarbonate plastic bowls are designed for compressed air applications only. Do not fail to use the metal bowl guard, where provided, to minimize danger from high pressure fragmentation in the event of bowl failure. Do not expose these products to certain fluids, such as alcohol or liquified petroleum gas, as they can cause bowls to rupture, creating a combustible condition, hazardous leakage,

and the potential for human injury. Immediately replace a crazed, cracked or deteriorated bowl. When the bowl gets dirty, replace it or wipe it with clean dry cloth.

7. Only use lubricants which are compatible with materials used in the valves and other components in the systems. Normally, compatible lubricants are petroleum base oils with oxidation inhibitors, an aniline point between 82°C and 104°C, and an ISO 32, or lighter, viscosity. Avoid oils with phosphate type additives which can harm polyurethane components, potentially leading to valve failure and/or human injury.

AVOID INTAKE/EXHAUST RESTRICTION

8. Do not restrict the air flow in the supply line. To do so could reduce the pressure of the supply air below the minimum requirements for the valve and thereby cause erratic action.
9. Do not restrict a poppet valve's exhaust port as this can adversely affect its operation. Exhaust silencers must be resistant to clogging and have flow capacities at least as great as the exhaust capacities of the valves. Contamination of the silencer can result in reduced flow and increased back pressure. *ROSS expressly disclaims all warranties and responsibility for any unsatisfactory performance or injuries caused by the use of the wrong type, wrong size, or inadequately maintained silencer installed with a ROSS product.*

DOUBLE VALVES

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

WARRANTY

Products manufactured by ROSS are warranted to be free of defects in material and workmanship for a period of one year from the date of purchase. ROSS' obligation under this warranty is limited to repair or replacement of the product or refund of the purchase price paid solely at the discretion of ROSS and provided such product is returned to ROSS freight prepaid and upon examination by ROSS is found to be defective. This warranty shall be void in the event that product has been subject to misuse, misapplication, improper maintenance, modification or tampering. The warranty expressed above is in lieu of and exclusive of all other warranties and ROSS expressly disclaims all other warranties either expressed or implied with respect to merchantability or fitness for a particular purpose. ROSS makes no warranty with respect to its products meeting the provisions of any governmental occupational safety and/or health laws or regulations. In no event shall ROSS be liable to purchaser, user, their employees or others for incidental or consequential damages which may result from a breach of the warranty described above or the use or misuse of the products. No statement of any representative or employee of ROSS shall extend the liability of ROSS as set forth herein.

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