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Direction Control Valve

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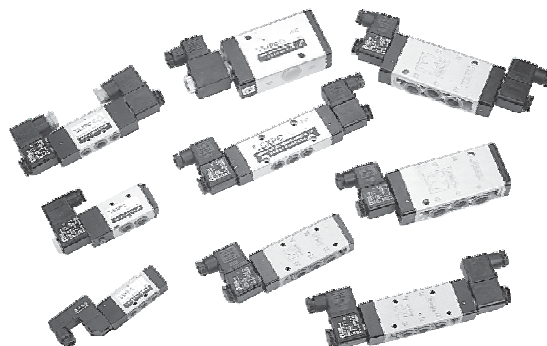
Direction Control Valve

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2 Position 3,4,5-Port & 3 Position 5-Port Pilot Solenoid Valve

XQ Series

The series is solenoid pilot operated valves with spool construction, reliable direction control and long service life. The double solenoid valve has memory function. The valve is equipped with manual operator(s) to facilitate the equipment calibration and maintenance. The series contains a variety of valve models. The valves are extensively used in controlling cylinders and other pneumatic components.



Specifications

Model	Type	Port size	Nominal dia. mm	Operating pressure	Switching time	Operating voltage	Power consumption	Ambient temperature	Service life				
XQ230440	3/2	G1/8	4	0.2-1.0MPa	10ms	DC: 12V 24V AC: 24V/50Hz 110V/50Hz 220V/50Hz Allowable voltage variation ±10%	G1/8~3/8 valve DC: 3W AC: Inrush 7VA Holding 4.2VA	5~50℃	10 million times				
XQ230640		G1/4	6										
XQ230840		G1/4	8	0.15-1.0MPa	15ms								
XQ231040		G3/8	10										
XQ231540		G1/2	12										
XQ240440	4/2	G1/8	4	0.1-1.0MPa	15ms								
XQ250440	5/2	G1/8	4	0.2-1.0MPa	10ms								
XQ250640		G1/4	6										
XQ250840		G1/4	8	0.15-1.0MPa	15ms								
XQ251040		G3/8	10										
XQ251540		G1/2	12										
XQ230441	3/2	G1/8	4	0.2-1.0MPa	10ms		AC: 24V/50Hz 110V/50Hz 220V/50Hz Working mode 100%ED DIN4005 IP65 (IEC144)						
XQ230641		G1/4	6										
XQ230841		G1/4	8	0.15-1.0MPa	15ms								
XQ231041		G3/8	10										
XQ231541		G1/2	12										
XQ250441	5/2	G1/8	4	0.2-1.0MPa	10ms								
XQ250641		G1/4	6										
XQ250841		G1/4	8	0.15-1.0MPa	15ms								
XQ251041		G3/8	10										
XQ251541		G1/2	12										
XQ350441.0	5/3 (Closed center)	G1/8	4	0.25-1.0MPa	10ms								
XQ350641.0		G1/4	6										
XQ350441.1	5/3 (Exhaust center)	G1/8	4										
XQ350641.1		G1/4	6										
XQ350441.2	5/3 (Pressure center)	G1/8	4										
XQ350641.2		G1/4	6										

Precautions

- Before installing valves, please check whether there are damages caused by the transportation.
- Pay attention to air flow direction. When install the mechanical valve, avoid overlong travel of the actuator.
- Make sure that the voltage is suitable for the solenoid valve. When calibrate the equipment make use of the manual operator of the valve first then turn on the power.
- It is recommended to install silencers or throttling silencers at the exhaust ports of direction control valves and to pay attention to dust proof and lubrication.
- When metal pipes are used make sure that there are no metal scraps, dust and oil contamination inside them.

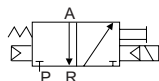
Ordering

- Please give the description, model and number required clearly.
- When order solenoid valves, please give their voltages.
- Generally 2-pos. 3-port valves are normally closed. If normally open valves are required, please point out in the order.
- Non standard special requirements are made to order, please contact us in advance.

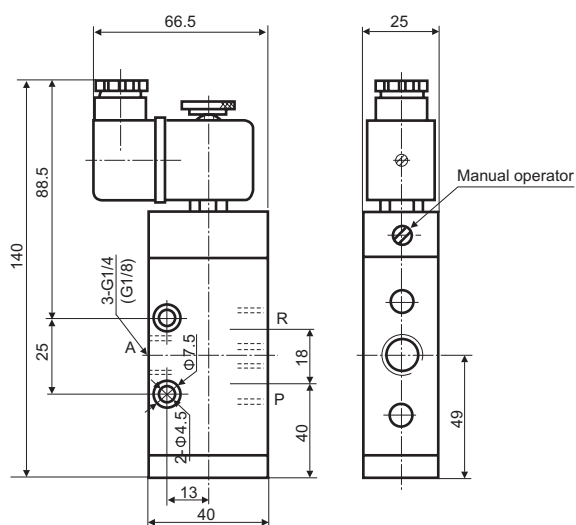
Single Solenoid Dimensions (mm)

(2-pos. 3-port)

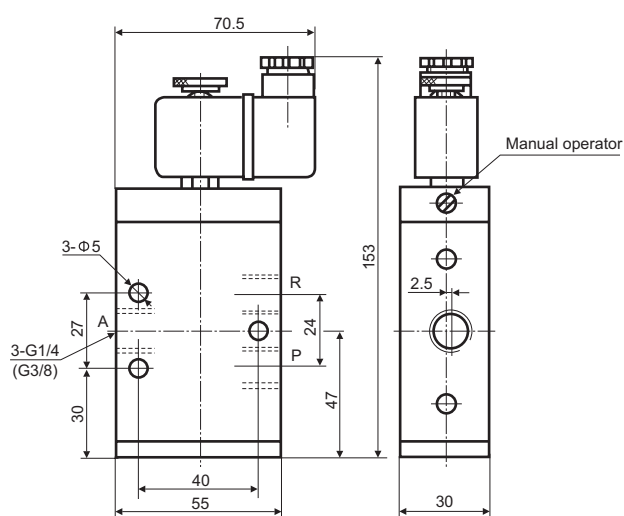
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XQ230440 XQ230640



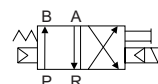
XQ230840 XQ231040



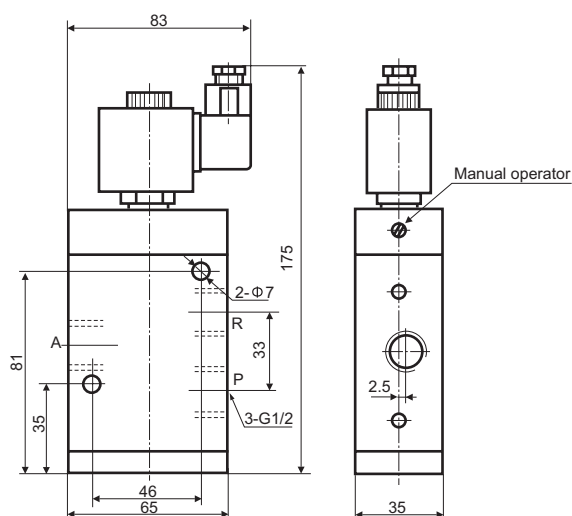
5

(2-pos. 4-port)

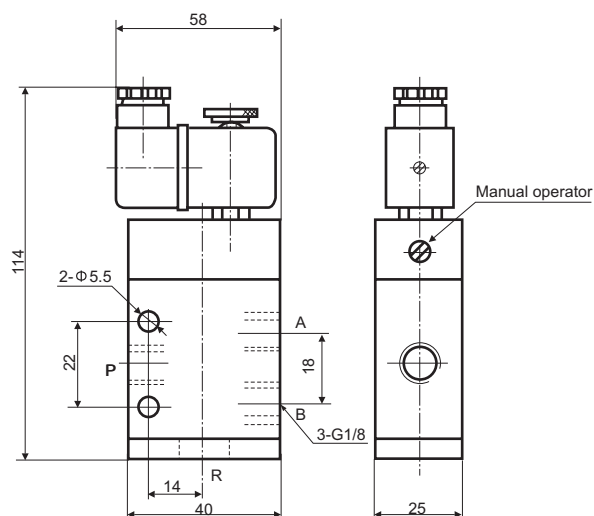
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XQ231540

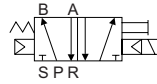


XQ240440



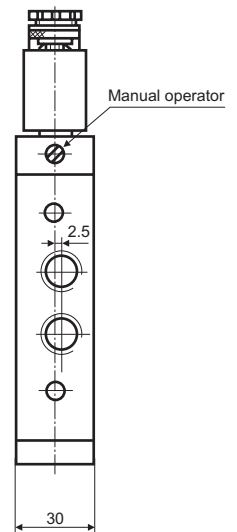
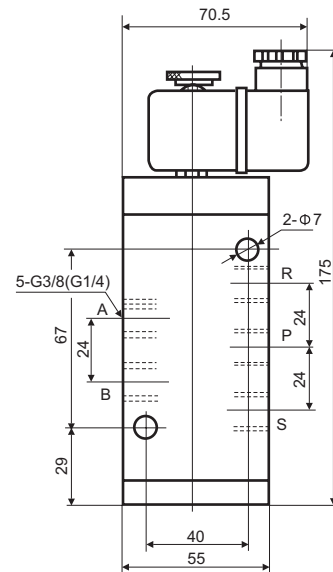
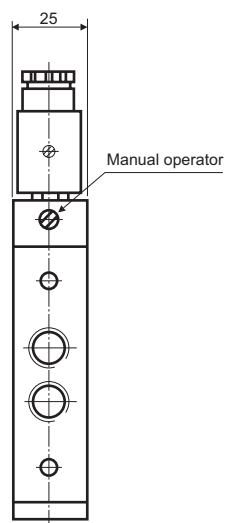
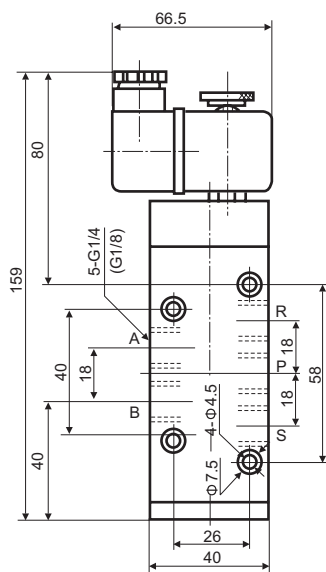
(2-pos. 5-port)

Symbol

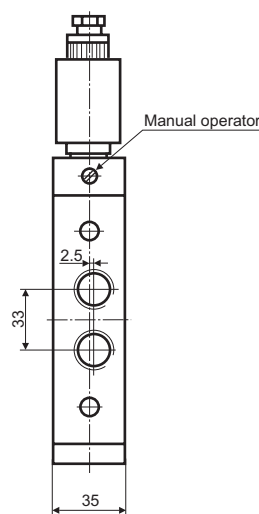
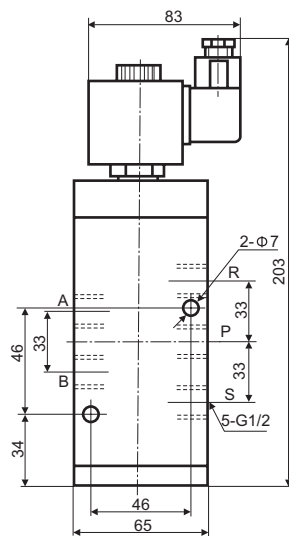


XQ250440 XQ250640

XQ250840 XQ251040



XQ251540

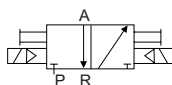


Double Solenoid

Dimensions (mm)

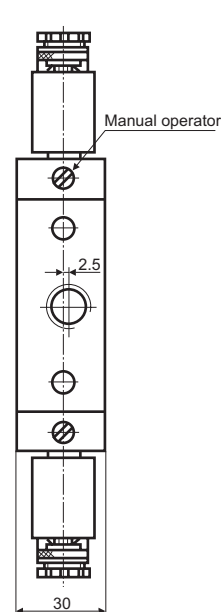
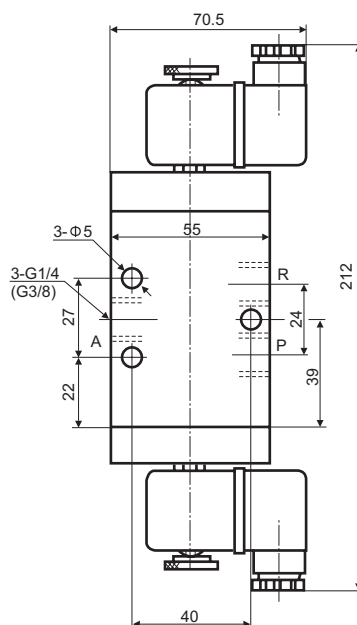
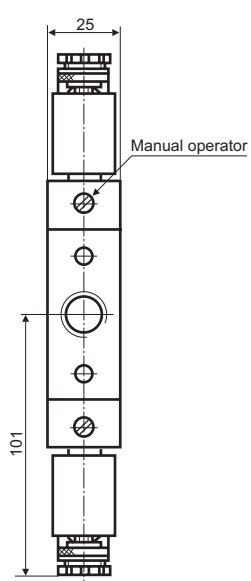
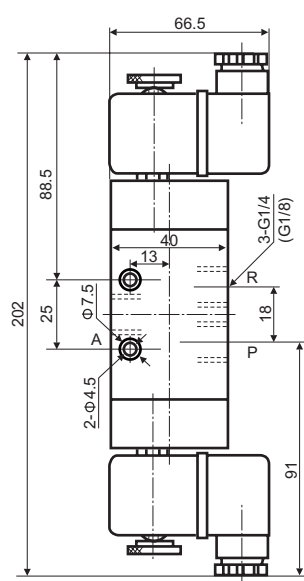
(2-pos. 3-port)

Symbol

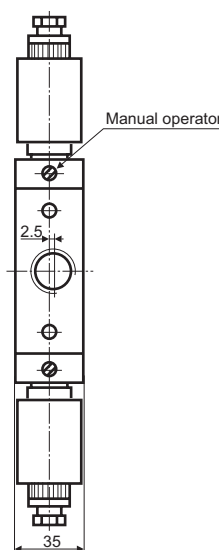
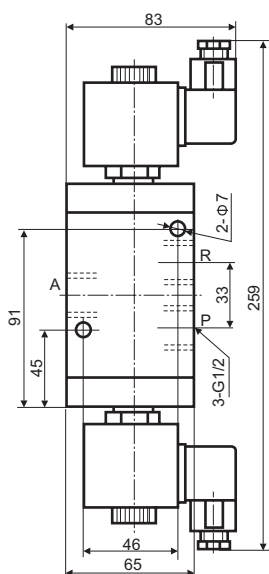


XQ230441 XQ230641

XQ230841 XQ231041

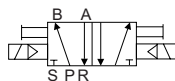


XQ231541



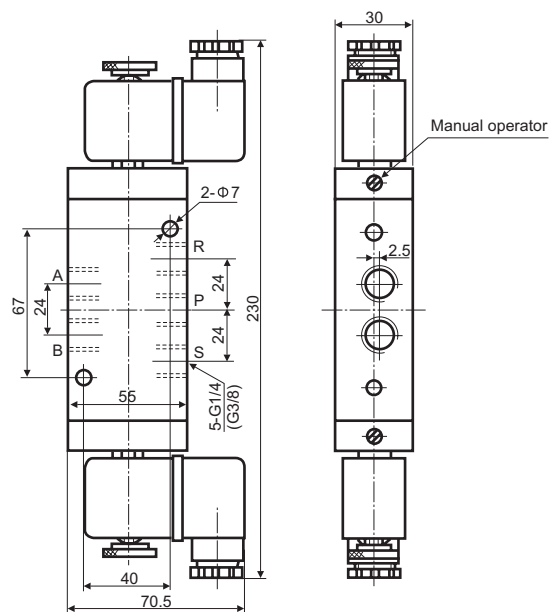
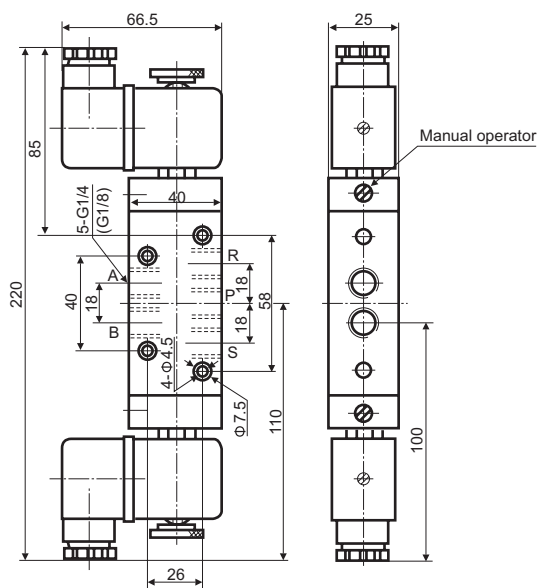
(2-pos. 5-port)

Symbol

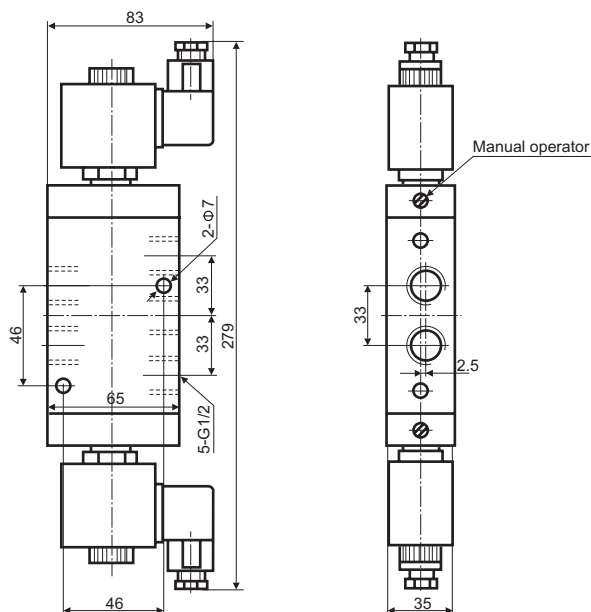


XQ250641 XQ250441

XQ251041 XQ250841

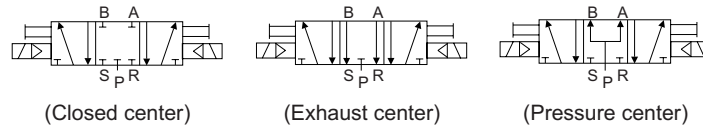


XQ251541

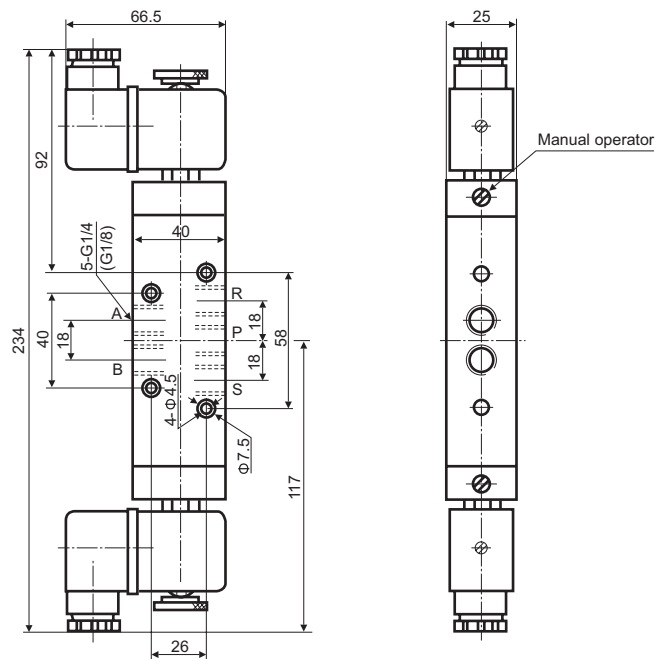


(3-pos. 5-port)

Symbol

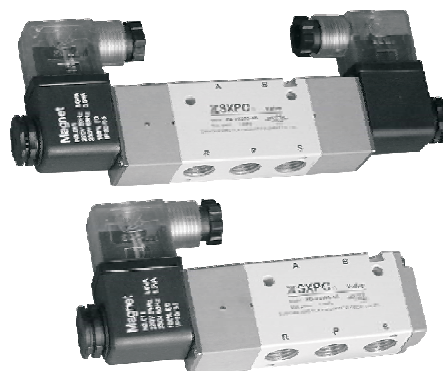


XQ350441.0 XQ350441.1 XQ350441.2
XQ350641.0 XQ350641.1 XQ350641.2



2,3 Position 5-Port Pilot Solenoid Valve XQ-V5002 Series

The series is 2,3-Position 5-Port solenoid pilot operated valves with compact construction, High flow rate, Not required lubrication, reliable direction control and long service life. The double solenoid valve has memory function. The valve is equipped with manual operators to facilitate the equipment calibration and maintenance. The valves are extensively used in controlling cylinders and other pneumatic components.



Specifications

Model	Type	Operating pressure	Port size	Operating voltage	Power consumption	Effective orifice mm ² (Cv factor)	Switching time	Ambient temperature	Service life
XQ-V5102-□D	5/2	0.15~1.0MPa	G1/4	DC:24V AC:220V/50Hz Allowable voltage variation ±10%	AC: Inrush 7VA Holding 4.2VA DC: 3W	17.3mm ² (Cv=0.96)	10ms	5~50℃	50 million times
XQ-V5202-□D									
XQ-V5302-□D	5/3	0.15~1.0MPa	G1/4	DC:24V AC:220V/50Hz Allowable voltage variation ±10%	AC: Inrush 7VA Holding 4.2VA DC: 3W	17.3mm ² (Cv=0.96)	10ms	5~50℃	50 million times
XQ-V5402-□D									
XQ-V5502-□D									

Option: Non-standard voltage

□ Indicates coil voltage:

3=110VAC 4=220VAC 5=24VDC
6=12VDC 7=36VDC 8=24VAC

Order examples: XQ-V5102-□D

Port No. 5: 5-Port
Type of Position No. / actuation
1: 2-Pos./ Single solenoid
2: 2-Pos./ Double solenoid
3: 3-Pos. Closed center
4: 3-Pos. Exhaust center
5: 3-Pos. Pressure center

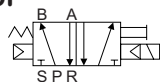
Connector
Indicates coil voltage
Port size 02: G1/4

5

Dimensions (mm)

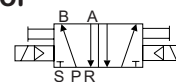
(2-pos. 5-port)

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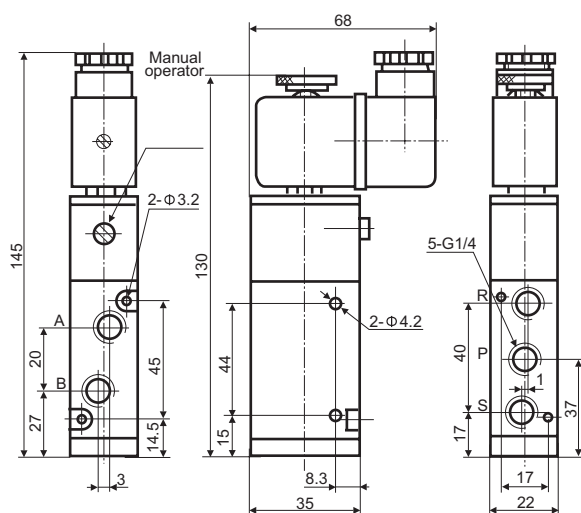


(2-pos. 5-port)

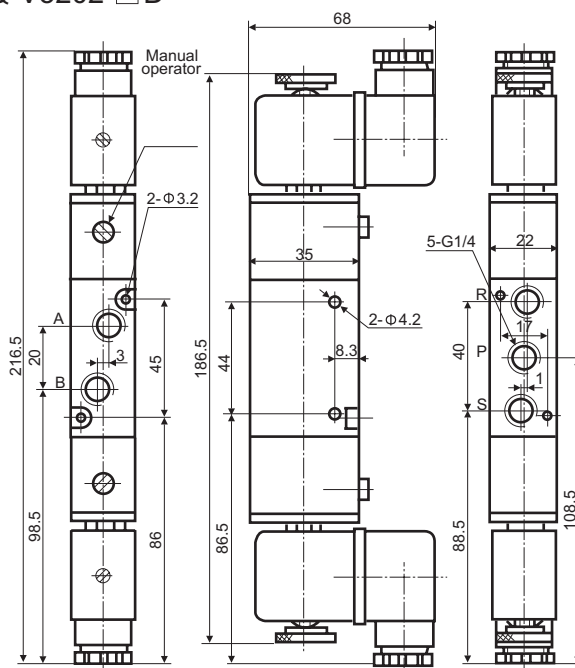
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XQ-V5102-□D



XQ-V5202-□D



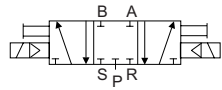
(3-pos. 5-port)

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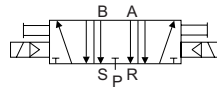
XQ-V5302-□D

XQ-V5402-□D

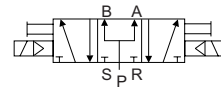
XQ-V5502-□D



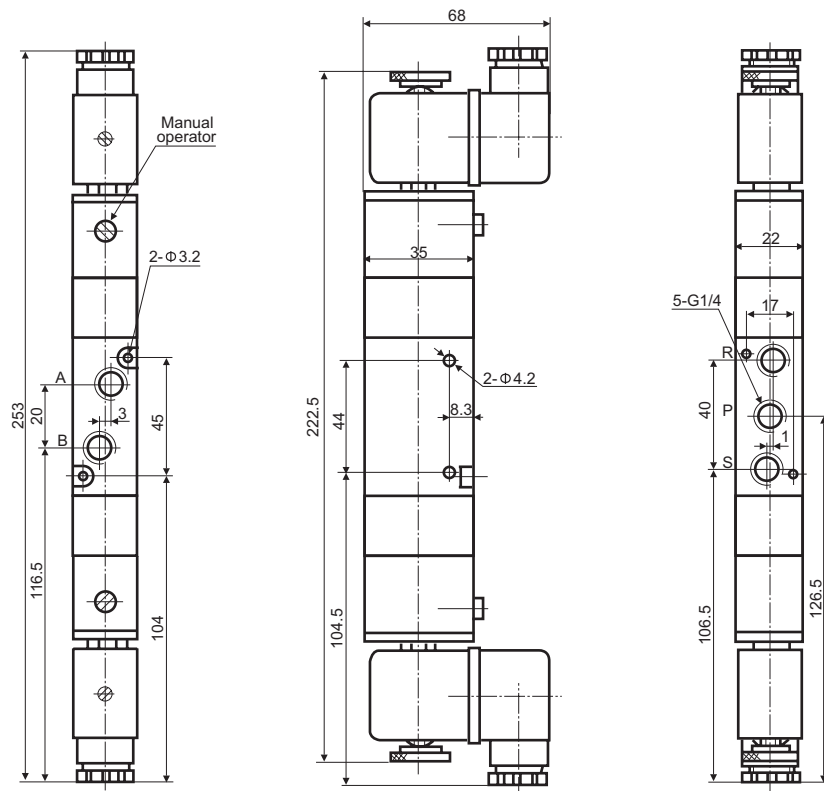
(Closed center)



(Exhaust center)



(Pressure center)



2 Position 5-Port Pilot Solenoid Valve XC4V Series

This series valves are solenoid pilot operated valves with spools for good direction control and manual operators to facilitate the calibration and maintenance of the equipment or system.

There are two control type: single solenoid and double solenoid.

The double solenoid valves have memory function.

The valves are extensively used to control cylinders or pneumatic systems.

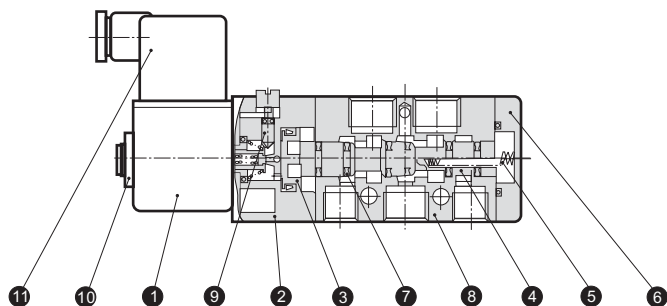


Specifications

Model	Type	Port size	Effective orifice	Operating pressure	Switching time	Operating voltage	Power consumption	Ambient temperature	Service life
XC4V110-06	2-Pos. 5-Port	G1/8	12mm ²	0.15~1.0MPa	10ms	DC:24V AC:36V/50Hz AC:110V/50Hz AC:220/50Hz Allowable voltage variation $\pm 10\%$	DC: 3W AC: Inrush 7VA Holding 4.2VA Working mode 100%ED DIN 40050 IP 65 (IEC 144)	5~50°C	10 million times
XC4V120-06			(Cv=0.67)	0.1~1.0MPa					
XC4V210-08		G1/4	17.1mm ²	0.15~1.0MPa					
XC4V220-08			(Cv=0.95)	0.1~1.0MPa					
XC4V310-10		G3/8	40mm ²	0.15~1.0MPa					
XC4V320-10			(Cv=2.5)	0.1~1.0MPa					
XC4V410-15		G1/2	64.8mm ²	0.15~1.0MPa					
XC4V420-15			(Cv=3.6)	0.1~1.0MPa					

5

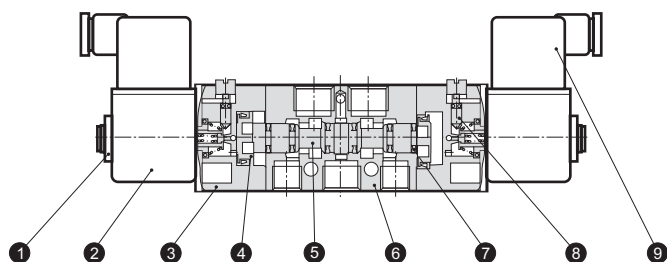
Construction Single Solenoid



Main Parts List (Single Solenoid)

No.	Description	Material
1	Coil	Enameled wire
2	Pilot end cover	Plastics
3	Piston	Plastics
4	Spool	Aluminum alloy
5	Reset spring	Stainless steel wire
6	Rear cover	Zinc alloy
7	CSP Seal	HNBR
8	Body	Aluminum alloy
9	Manual operator	Brass
10	Gland	Aluminum alloy
11	Socket	Plastics

Double Solenoid



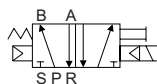
Main Parts List (Double Solenoid)

No.	Description	Material
1	Gland	Aluminum alloy
2	Coil	Enameled wire
3	Pilot end cover	Plastics
4	Piston	Plastics
5	Spool	Aluminum alloy
6	Body	Aluminum alloy
7	CSP Seal	HNBR
8	Manual operator	Brass
9	Socket	Plastics

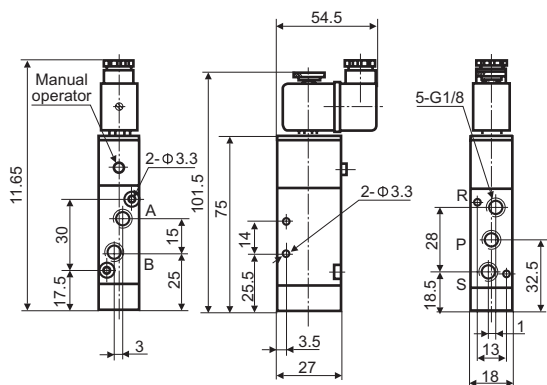
Single Solenoid Dimensions (mm)

(2-Pos. 5-Port)

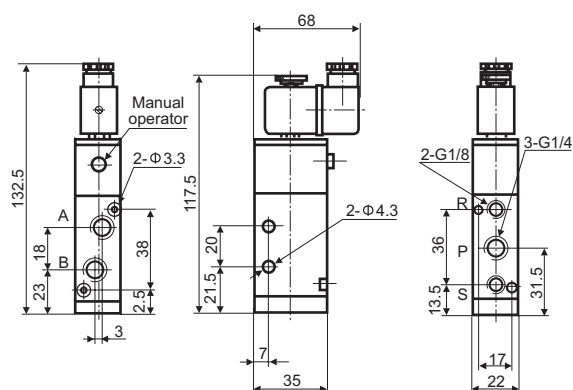
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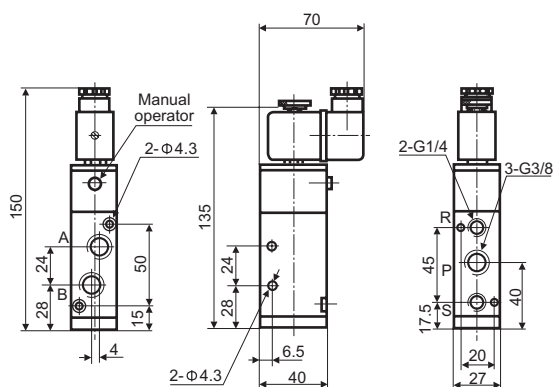
XC4V110-06



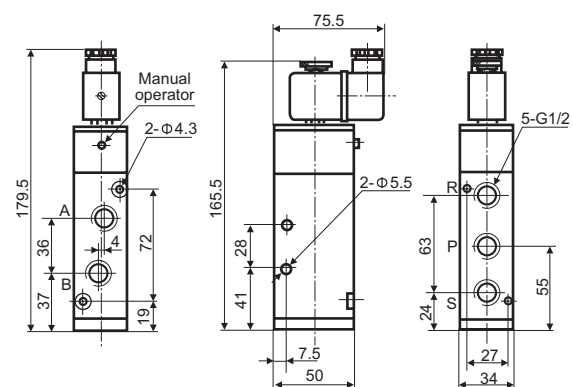
XC4V210-08



XC4V310-10



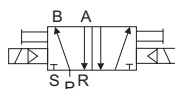
XC4V410-15



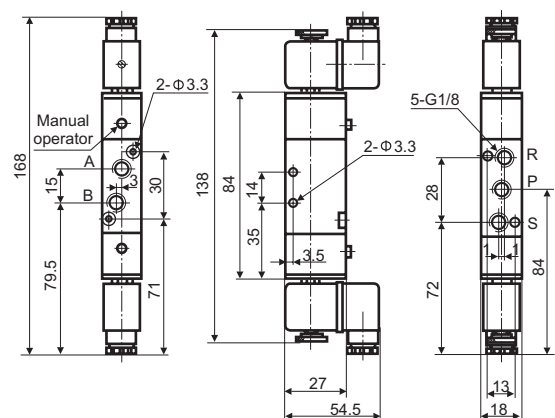
Double Solenoid Dimensions (mm)

(2-Pos. 5-Port)

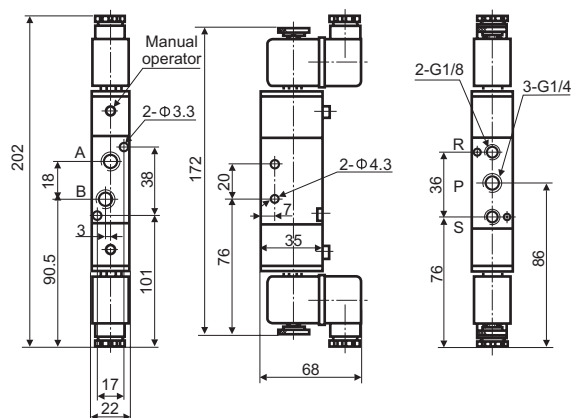
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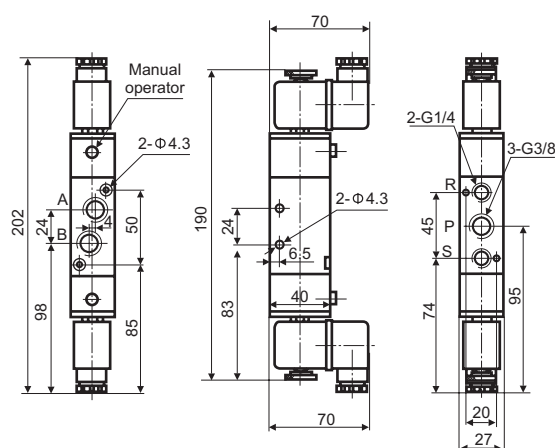
XC4V120-06



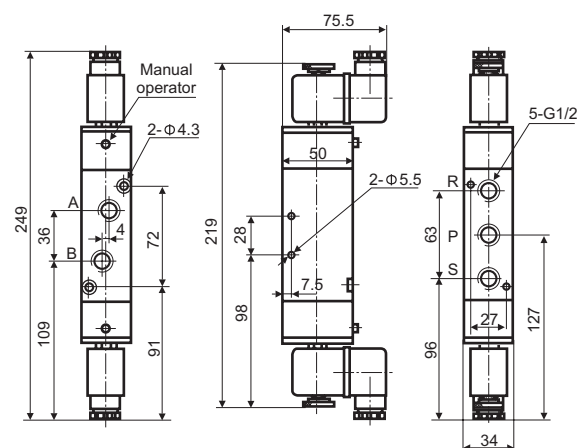
XC4V220-08



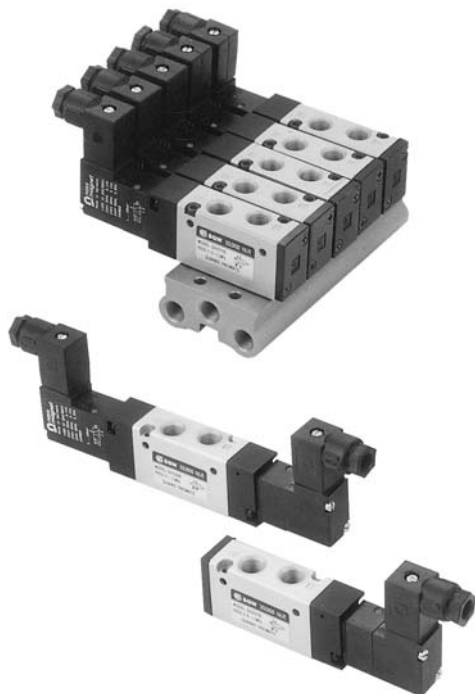
XC4V320-10



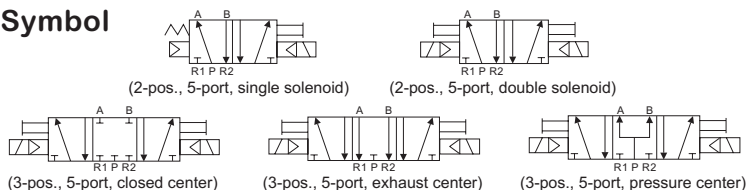
XC4V420-15



2,3 Position 5-Port Pilot Solenoid Valve QVZ5000 Series



Symbol



Fluid	Filtered compressed air
Ambient and fluid temperature	-5~+50°C
*Lubrication	Pro-lubrication in factory
Manual operator	Non-locking type
Impact / vibration resistance	30G / 5G (8.3-2000Hz)
Enclosure	Dust proof

*If used, turbine oil #1 (ISO VG32) is recommended.

Solenoid Specifications

Electrical entry	Grommet (G) / Connector (D)	
** Coil rated voltage	AC: 110V, 220V / (50/60Hz) DC: 12V, 24V	
Allowable voltage variation	-10%~+10% of rated voltage	
Coil insulation	Class B or equivalent	
Protection class (with mounted plug-in connector)	IP65	
Power consumption	AC	Inrush 5.6VA, Holding 3.5VA
	DC	2.5W

**Option: Non-standard voltage

Notes: Model	Specifications							
	Position No.	Type of actuation	Operating pressure range MPa	Response time ms	Max. operating frequency C/s	Port size	Effective orifice mm ² (Cv factor)	Weight kg
QVZ☆5120-□△-01	2	Single solenoid	0.15-0.7	≤20	5	G1/8	11 (0.6)	0.11
QVZ☆5220-□△-01		Double solenoid	0.1-0.7				8.5 (0.47)	
QVZ☆5320-□△-01	3	Double (closed center)	0.15-0.7	≤50	3		9 (0.5)	0.15
QVZ☆5420-□△-01		Double (exhaust center)					13.5 (0.75)	
QVZ☆5520-□△-01		Double (pressure center)						

Notes: ☆ Indicates the type of solenoid:

Nil: Standard type
B: Flange type
L: Low power (1.5 W) type

□ Indicates coil voltage:

3=110VAC 6=12VDC
4=220VAC 7=36VDC
5=24VDC 8=24VAC

△ Indicates electrical entry:

G= Grommet (wire length 300mm)
(Only by standard type, flange type)
D=Connector (Only by low power)

Lead wire and voltage distinguishing:

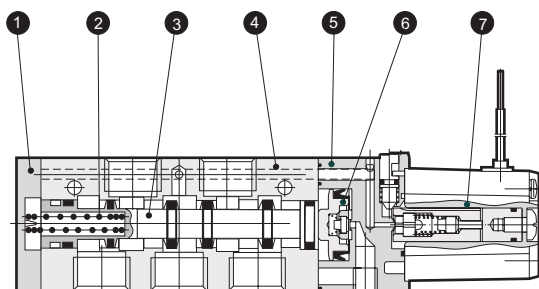
AC 220V / (50/60Hz): Double red
AC 110V / (50/60Hz): Double blue
AC 24V / (50/60Hz): Red and blue
DC 24V: Red and black
DC 12V: Red and black

Order examples:

1. Need: A valve with 2-pos., 5-port, 220V/AC, single solenoid, standard type, grommet.
Model: QVZ5120-4G-01

2. Need: A valve with 2-pos., 5-port, 24V/DC, double solenoid, flange type, grommet.
Model: QVZB5220-5G-01

Construction



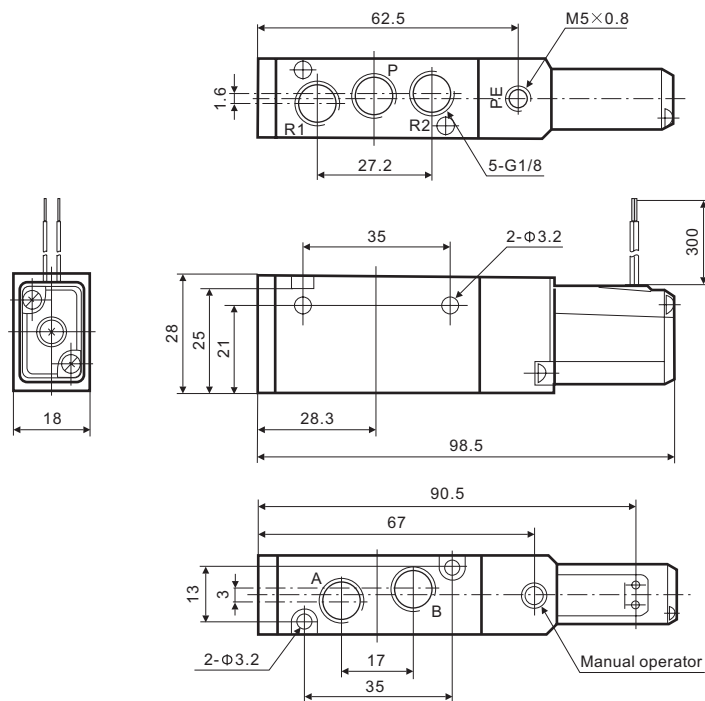
Parts List

No.	Description	Material	Note
1	End cover	Die casting aluminium	Black coating
2	Spring	Stainless steel wire	
3	Spool	Aluminium alloy	
4	Body	Die casting aluminium	Silver-coloured coating
5	Pilot cover	Die casting aluminium	Black coating
6	Piston	Aluminium alloy	
7	Coil	Enamel wire	

Dimensions (mm)

Single Solenoid (Standard type)

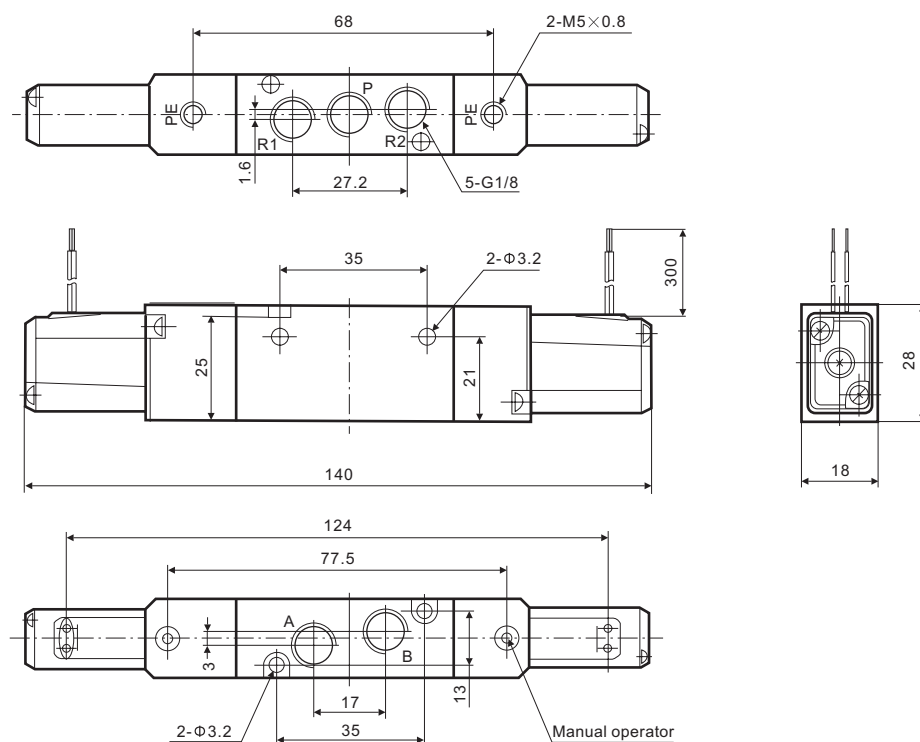
QVZ5120-□G



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Double Solenoid (Standard type)

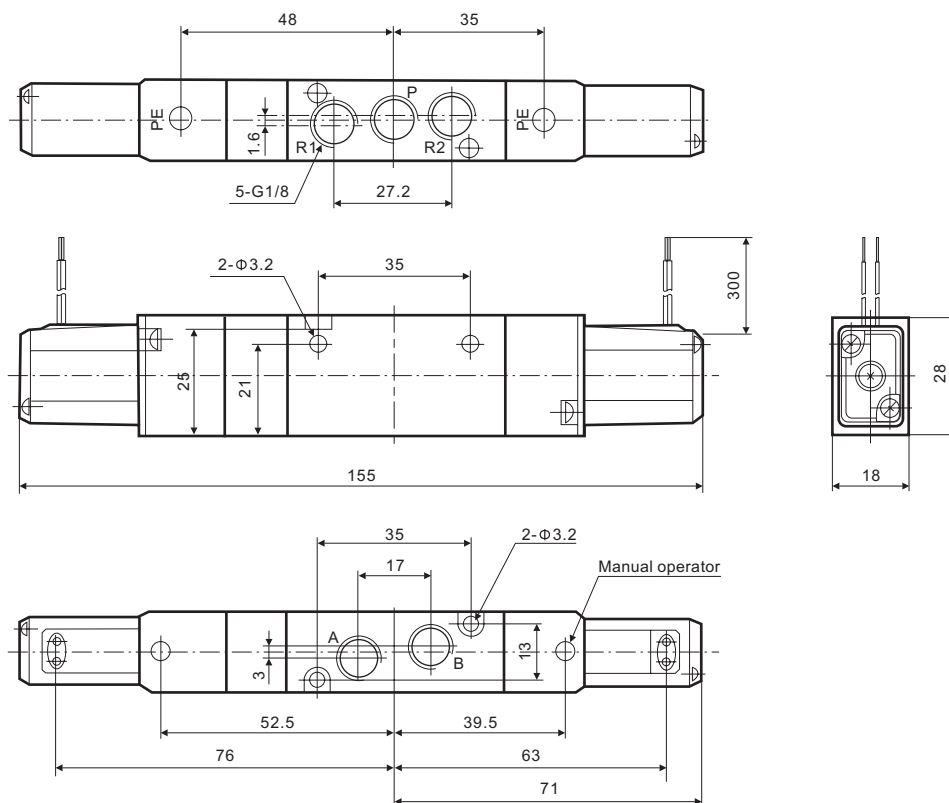
QVZ5220-□G



QVZ5320-□G

QVZ5420-□G

QVZ5520-□G



Manifold (Standard type)

QVV5Z5-20

Number of station n	2	3	4	5	6	7	8	9	10	11	12	13	14	15
L1	59	78	97	116	135	154	173	192	211	230	249	268	287	306
L2	47	66	85	104	123	142	161	180	199	218	237	256	275	294

Model: QVV5Z5-20-□

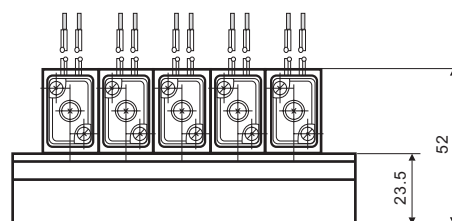
Example: Need a manifold of 8 stations

Note: □ Indicates the number of stations

Model: QVV5Z5-20-08

02=2 stations

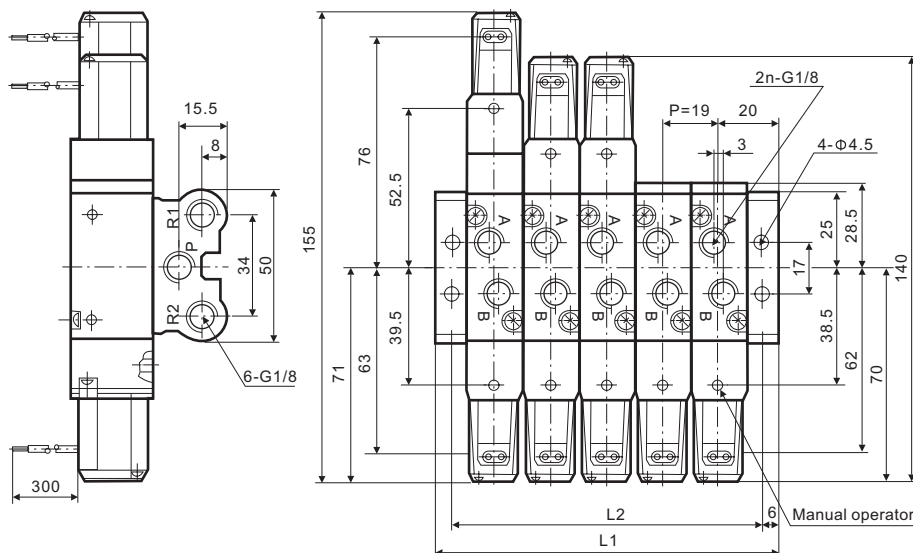
15=15 stations



Blanking Plate Ass'y

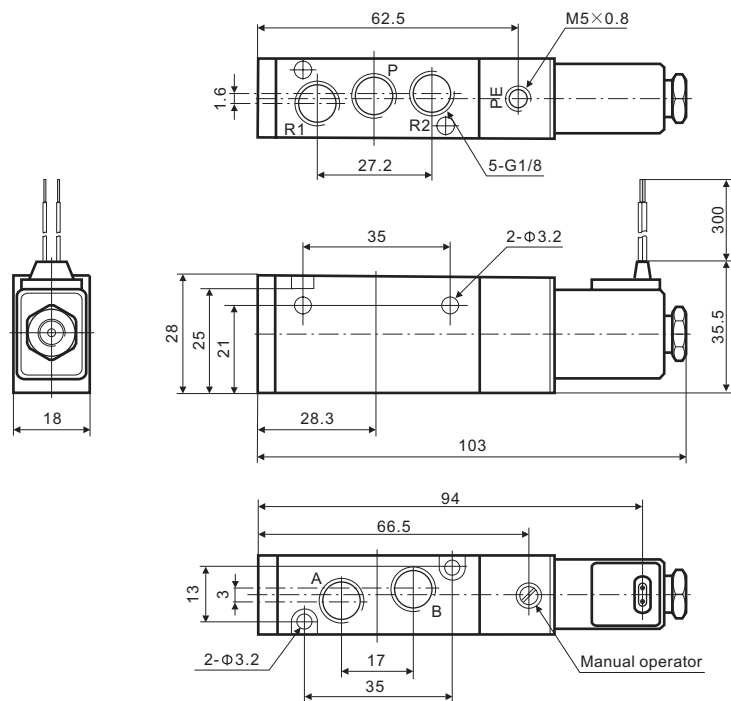
DXT199-22-1A

No.	Description	Number	Remark
1	Screw (M3×8 with spring washer)	2	ZBA-1
2	Blanking Plate	1	QVV5Z5-20MB
3	Gasket	1	QVV5Z5-20-2



Single Solenoid (Flange type)

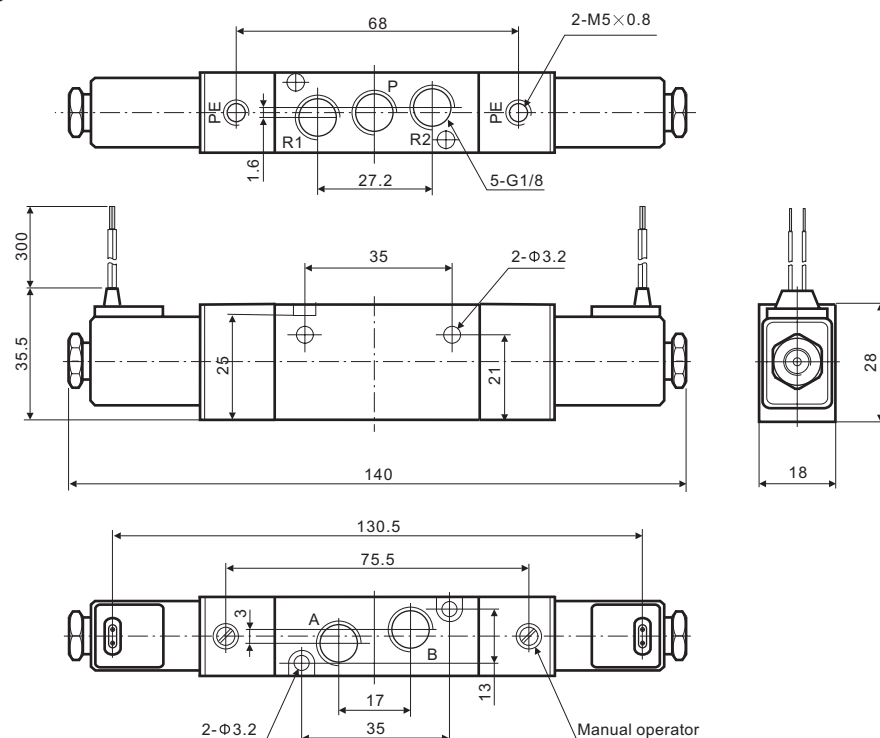
QVZB5120-□G



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Double Solenoid (Flange type)

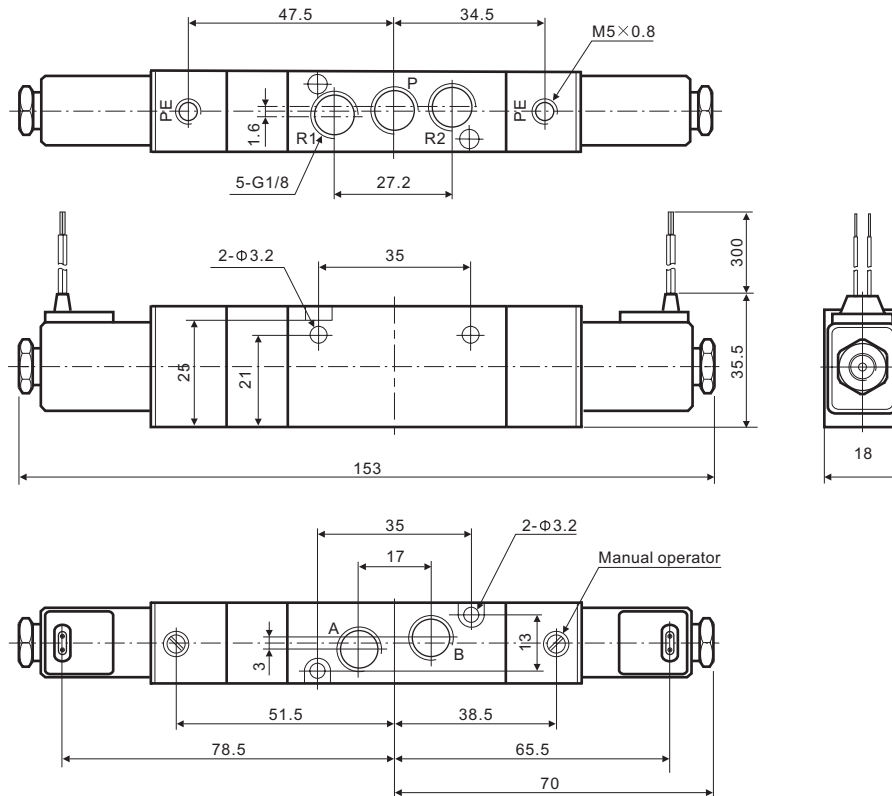
QVZB5220-□G



QVZB5320-□G

QVZB5420-□G

QVZB5520-□G



Manifold (Flange type)

QVV5ZB5-20

Number of station n	2	3	4	5	6	7	8	9	10	11	12	13	14	15
L1	59	78	97	116	135	154	173	192	211	230	249	268	287	306
L2	47	66	85	104	123	142	161	180	199	218	237	256	275	294

Model: QVV5ZB5-20-□

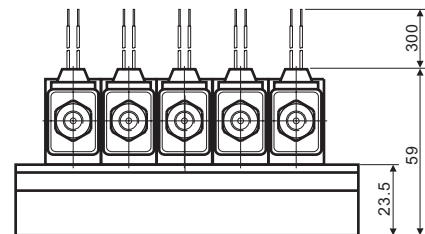
Example: Need a manifold of 8 stations

Note: □ Indicates the number of stations

Model: QVV5ZB5-20-08

02=2 stations

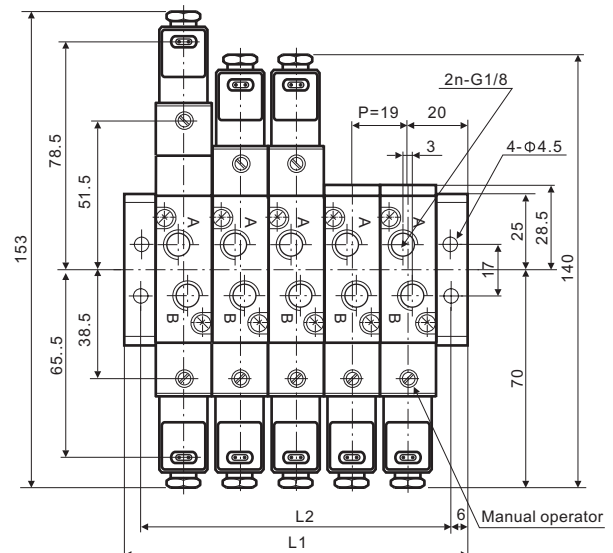
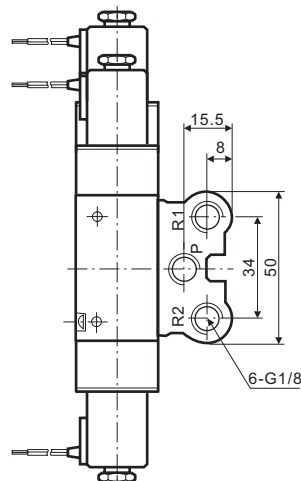
15=15 stations



Blanking Plate Ass'y

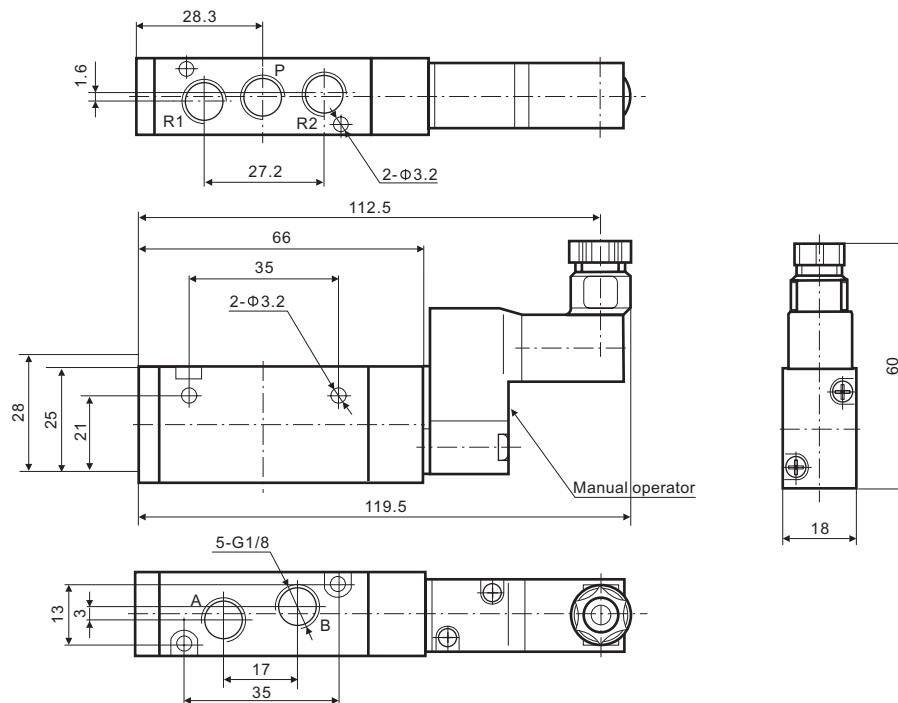
DXT199-22-1A

No.	Description	Number	Remark
1	Screw (M3×8 with spring washer)	2	ZBA-1
2	Blanking Plate	1	QVV5Z5-20MB
3	Gasket	1	QVV5Z5-20-2



Single Solenoid (Low power type)

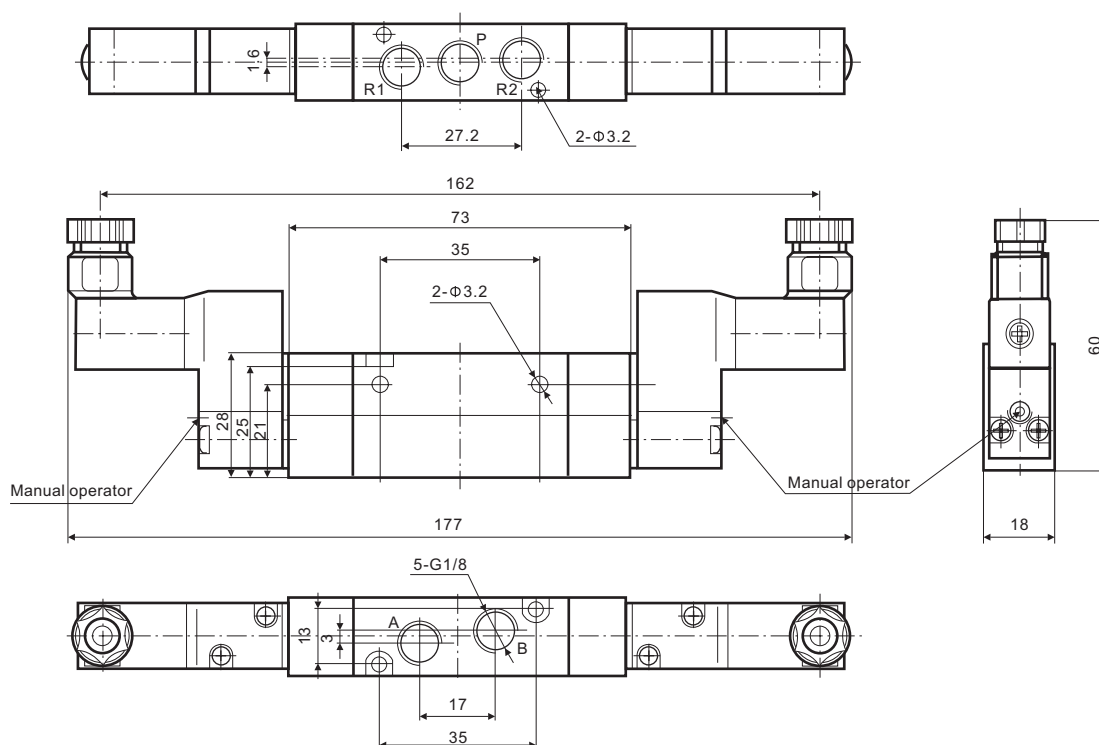
QVZL5120-D



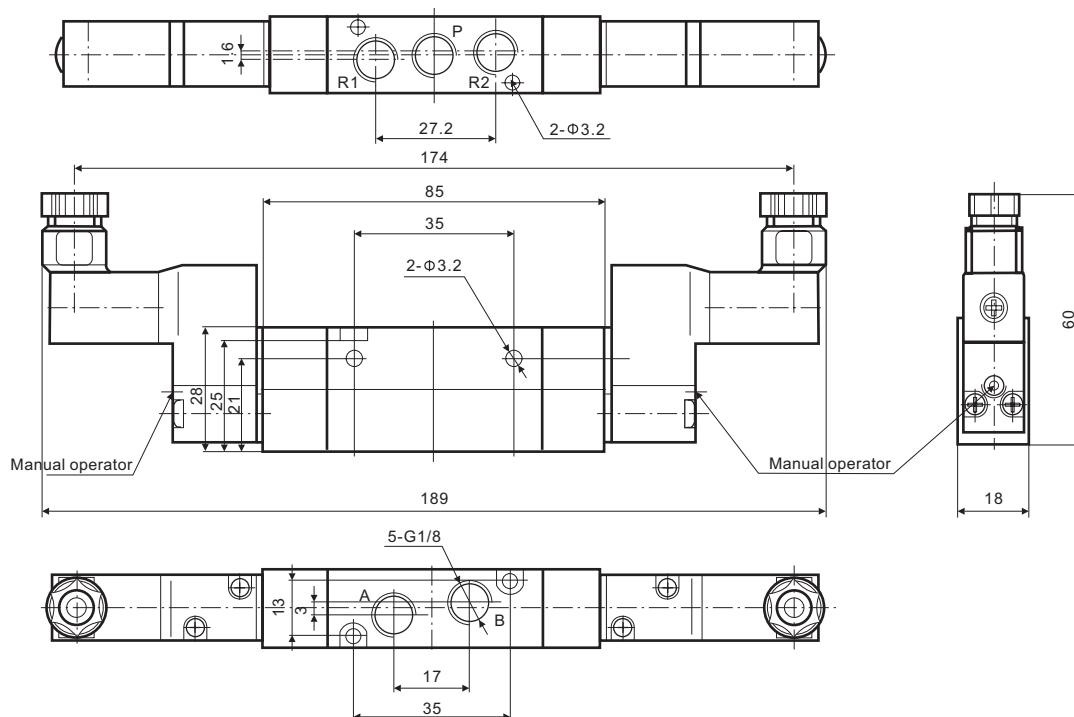
5

Double Solenoid (Low power type)

QVZL5220-D

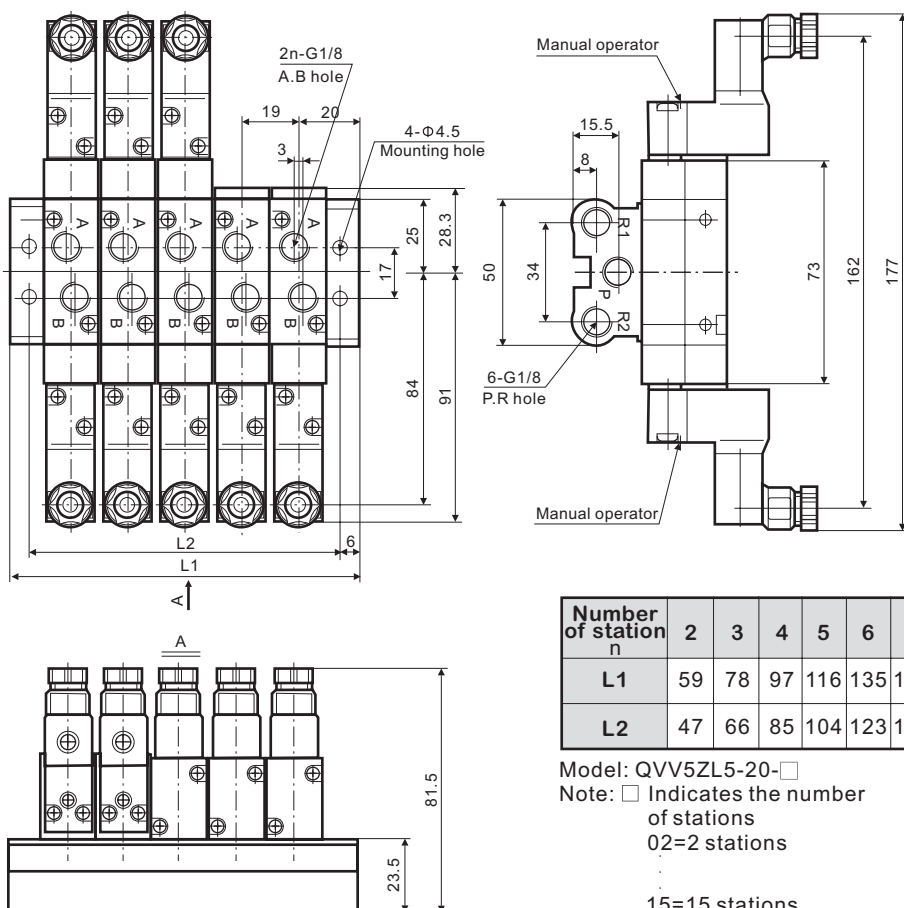


QVZL5320-D QVL5420-D QVL5520-D



Manifold (Low power type)
QVV5ZL5-20

5



Blanking Plate Ass'y
DXT199-22-1A

No.	Description	Number	Remark
1	Screw (M3×8 with spring washer)	2	ZBA-1
2	Blanking Plate	1	QVV5Z5 -20MB
3	Gasket	1	QVV5Z5 -20-2

Number of station n	2	3	4	5	6	7	8	9	10	11	12	13	14	15
L1	59	78	97	116	135	154	173	192	211	230	249	268	287	306
L2	47	66	85	104	123	142	161	180	199	218	237	256	275	294

Model: QVV5ZL5-20-☐
Note: ☐ Indicates the number
of stations
02=2 stations

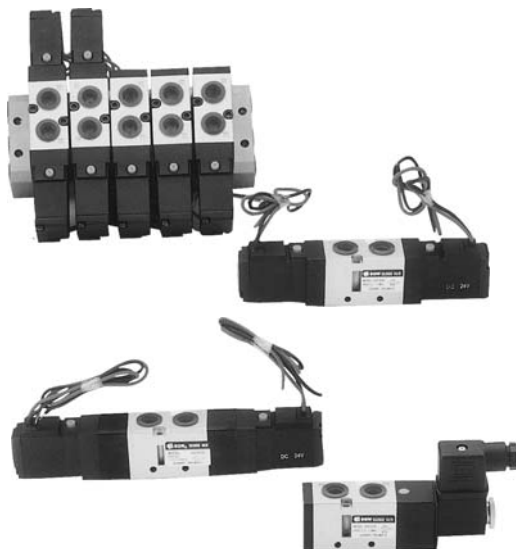
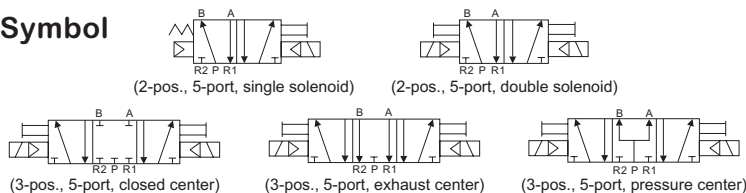
Order example: Need a manifold
of 8 stations
Model: QVV5ZL5-20-08

15=15 stations

2,3 Position 5-port Pilot Solenoid Valve

QVF3000 Series

Symbol



Fluid	Filtered compressed air
Ambient and fluid temperature	-5~+50°C
*Lubrication	Pro-lubrication in factory
Manual operator	Non-locking type
Impact/vibration resistance	30G / 5G (8.3-2000Hz)
Enclosure	Dust proof

*If used, turbine oil *1 (ISO VG32) is recommended.

Solenoid Specifications

Electrical entry		Grommet (G) / Connector (D)
** Coil rated voltage		AC: 110V, 220V / (50/60Hz) DC: 12V, 24V
Allowable voltage variation		-10%~+10% of rated voltage
Coil insulation		Class B or equivalent
Protection class (with mounted plug-in connector)		IP65
Power consumption	AC	Inrush 7VA, Holding 4.2VA
	DC	3W

**Option: Non-standard voltage

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Notes:	Specifications								
	Model	Position No.	Type of actuation	Operating pressure range MPa	Response time ms	Max. operating frequency C/s	Port size	Effective orifice mm ² (Cv factor)	Weight kg
	QVF☆3130-□△-02-◇	2	Single solenoid	0.15-0.9	≤30	5	G1/4	18 (1.0)	0.2
	QVF☆3230-□△-02-◇		Double solenoid	0.1-0.9					0.27
	QVF☆3330-□△-02-◇	3	Double (closed center)	0.15-0.9	≤50	3		14.4 (0.8)	0.42
	QVF☆3430-□△-02-◇		Double (exhaust center)					18 (1.0)	
	QVF☆3530-□△-02-◇		Double (pressure center)					16.2 (0.9)	

Notes 1: ☆ Indicates the type of solenoid: △ Indicates electrical entry:

Nil: Standard type

B: Flange type

□ Indicates coil voltage:

3=110VAC 6=12VDC

4=220VAC 7=36VDC

5=24VDC 8=24VAC

Lead wire and voltage distinguishing:

AC 220V / (50/60Hz): Double red

AC 110V / (50/60Hz): Double blue

AC 24V / (50/60Hz): Red and blue

DC 24V: Red and black

DC 12V: Red and black

G= Grommet

(wire length 300mm)

D=Connector

◇ Connector housing and LED:

Nil: Black housing (without wiring)

SB3: Black housing (without LED)

TB3: Transparent housing (without wiring)

TB3Y5: with LED (24V DC)

TB3VY4: with varistor + LED (220V AC)

⋮

Refer to P171 Connector for wiring, LED and specifications.

Order examples:

1. Need: A valve with 2-pos., 5-port, 220V/AC, single solenoid, standard type, grommet.

Model: QVF3130-4G-02

2. Need: A valve with 2-pos., 5-port, 24V/DC, double solenoid, flange type, connector.

Model: QVFB3230-5D-02

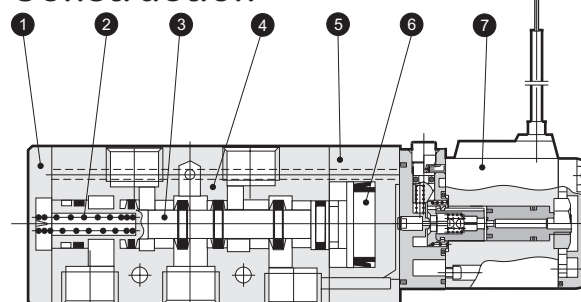
3. Need: A valve with 2-pos., 5-port, 220V/AC, single solenoid, flange type, connector with varistor and LED.

Model: QVFB3130-4D-02-TB3VY4

Parts List

No.	Description	Material	Note
1	End cover	Die casting aluminium	Black coating
2	Spring	Stainless steel wire	
3	Spool	Aluminium alloy	
4	Body	Die casting aluminium	Silver-coloured coating
5	Pilot cover	Die casting aluminium	Black coating
6	Piston	Aluminium alloy	
7	Coil	Enamel wire	

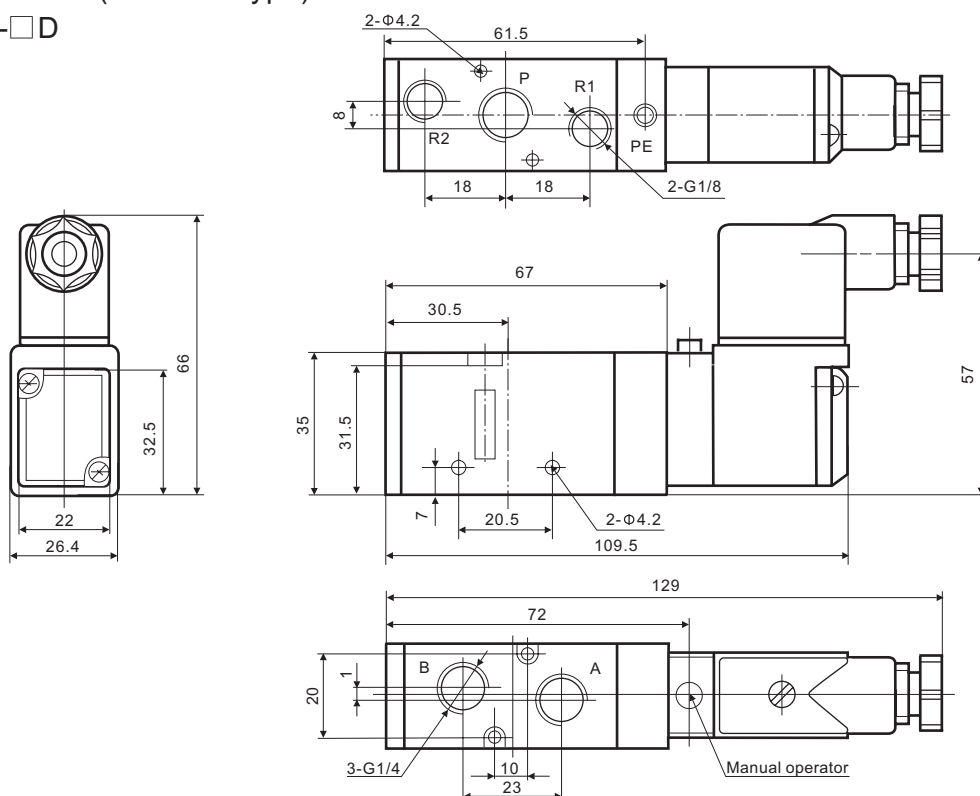
Construction



Dimensions (mm)

Single Solenoid (Standard type)

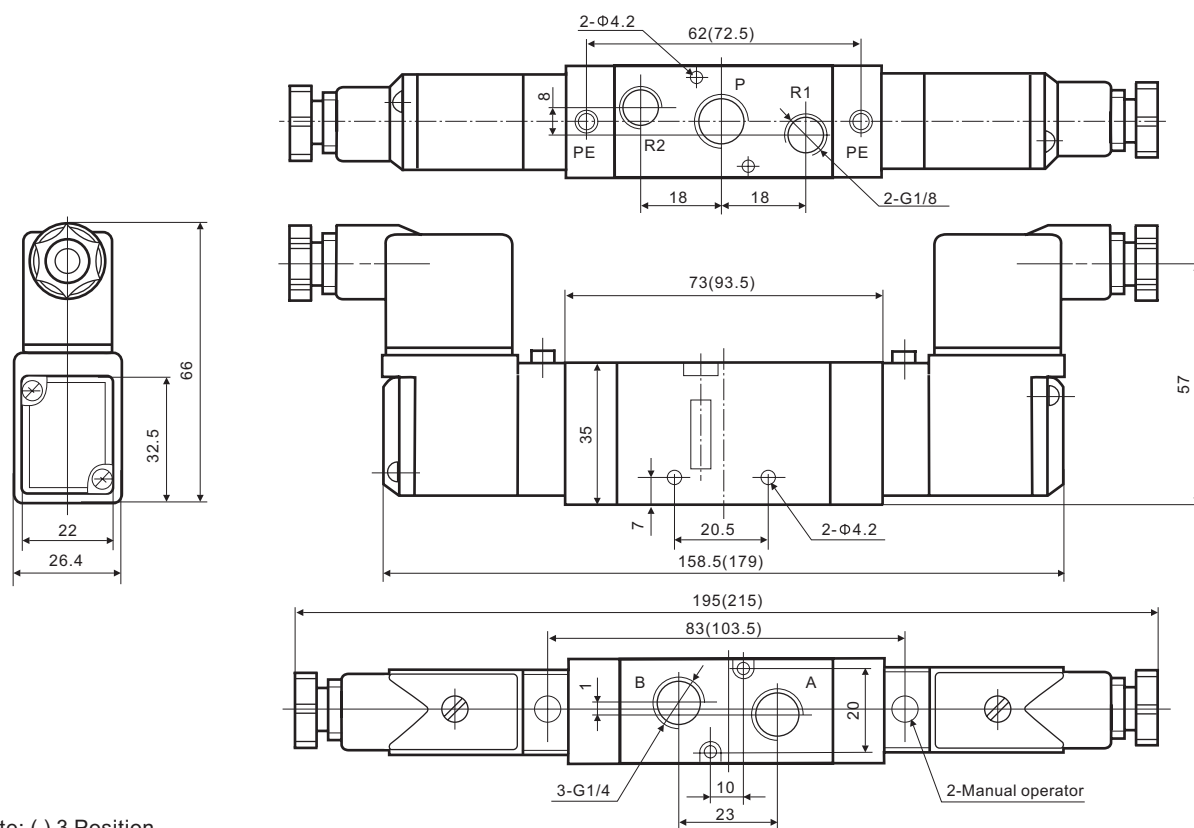
QVF3130-□D



Double Solenoid (Standard type)

QVF3230-□D

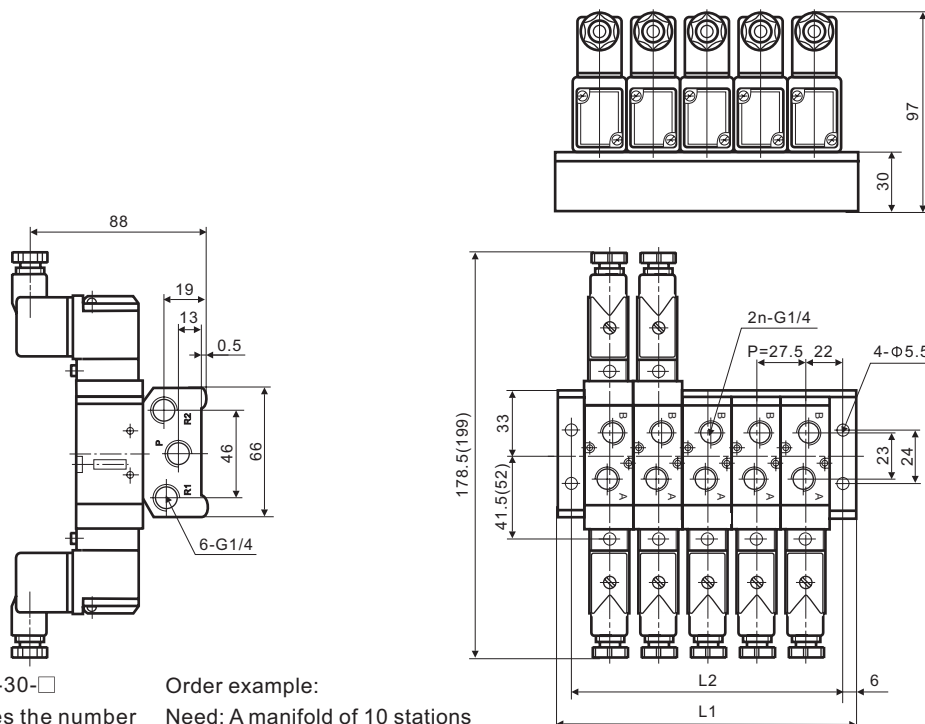
(QVF3330-□D QVF3430-□D QVF3530-□D)



Note: () 3 Position

Manifold (Standard type)

QVV5F3-30



Model: QVV5F3-30-□

Note: □ Indicates the number of stations
02=2 stations
...
20=20 stations

Order example:

Need: A manifold of 10 stations
Model: QVV5F3-30-10

Number of station n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	83.5	111	138.5	166	193.5	221	248.5	276	303.5	331	358.5	386	413.5	441	468.5	496	523.5	551	578.5
L2	71.5	99	126.5	154	181.5	209	236.5	264	291.5	319	346.5	374	401.5	429	456.5	484	511.5	539	566.5

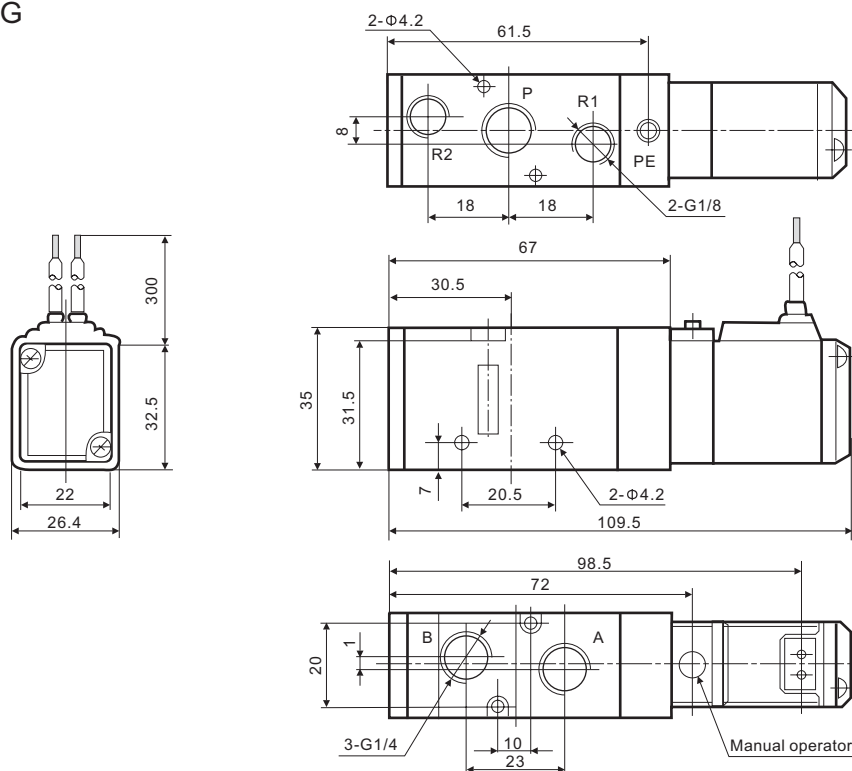
Blanking Plate Ass'y

DXT031-38-1A

No.	Description	Number	Remark
1	Screw (M4×10 with spring washer)	2	ZBA-1
2	Blanking Plate	1	QVV5F3-30MB
3	Gasket	1	QVV5F3-30-2

Single Solenoid (Standard type)

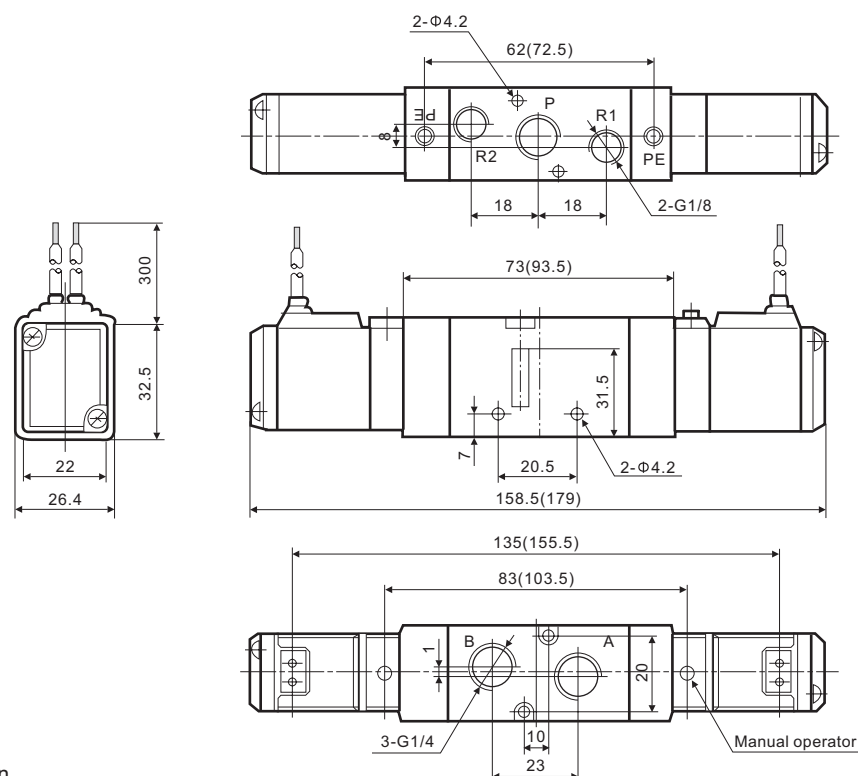
QVF3130-□G



Double Solenoid (Standard type)

QVF3230-□G

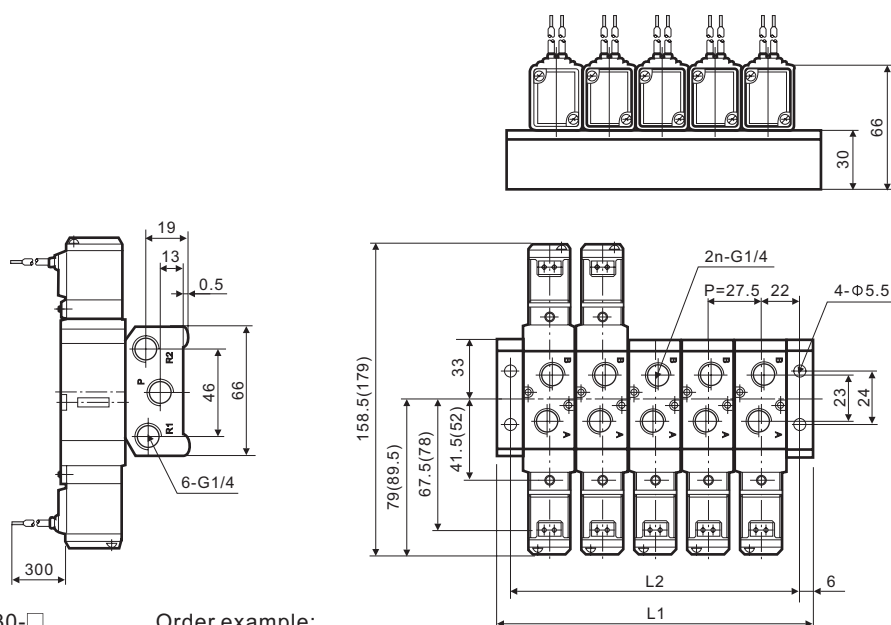
(QVF3330-□G QVF3430-□G QVF3530-□G)



Note: () 3 Position

Manifold (Standard type)

QVV5F3-30



Model: QVV5F3-30-□

Note: □ Indicates the number of stations
02=2 stations

20=20 stations

Order example:

Need: A manifold of 10 stations
Model: QVV5F3-30-10

5

Number of station n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	83.5	111	138.5	166	193.5	221	248.5	276	303.5	331	358.5	386	413.5	441	468.5	496	523.5	551	578.5
L2	71.5	99	126.5	154	181.5	209	236.5	264	291.5	319	346.5	374	401.5	429	456.5	484	511.5	539	566.5

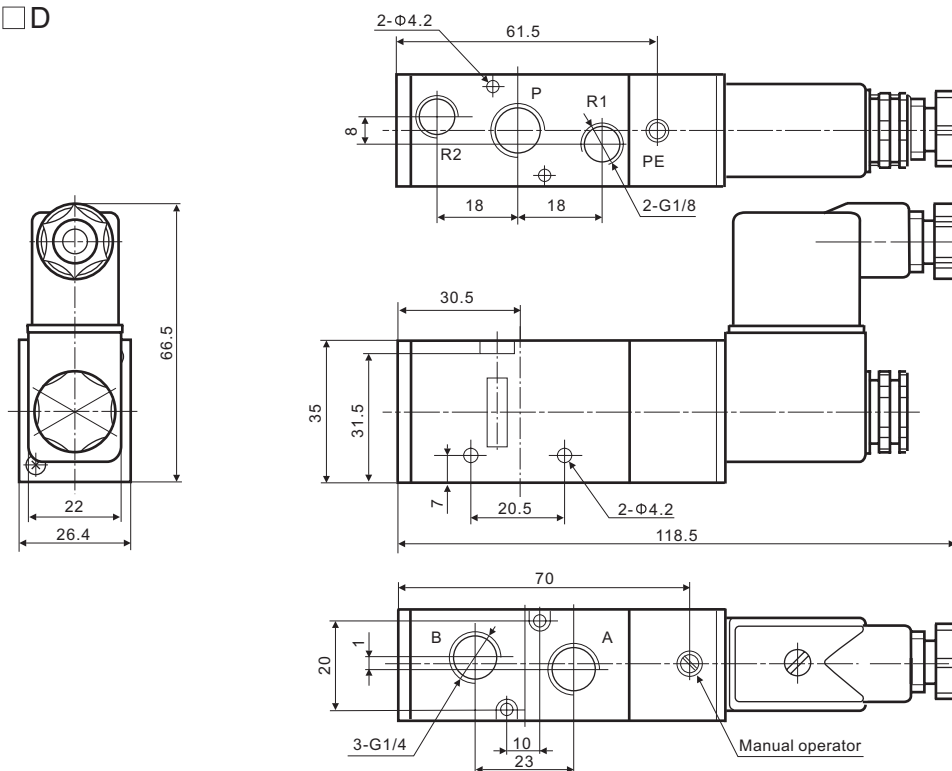
Blanking Plate Ass'y

DXT031-38-1A

No.	Description	Number	Remark
1	Screw (M4×10 with spring washer)	2	ZBA-1
2	Blanking Plate	1	QVV5F3-30MB
3	Gasket	1	QVV5F3-30-2

Single Solenoid (Flange type)

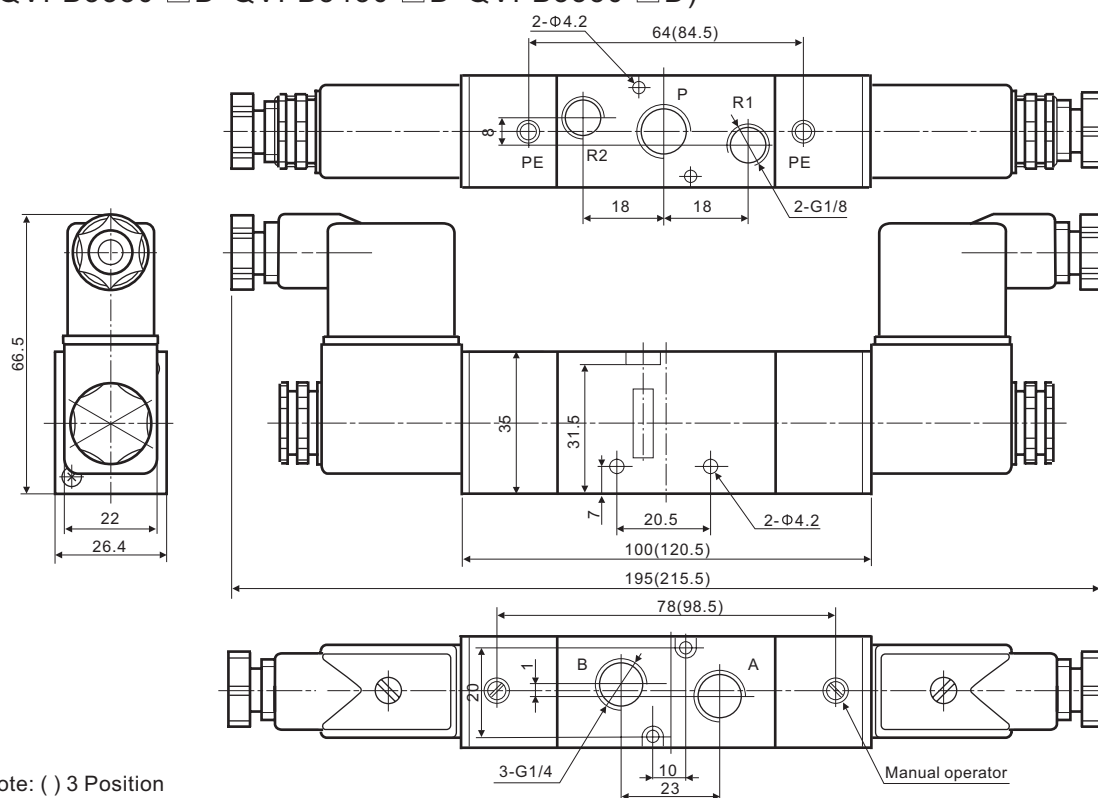
QVFB3130-□D



Double Solenoid (Flange type)

QVFB3230-□D

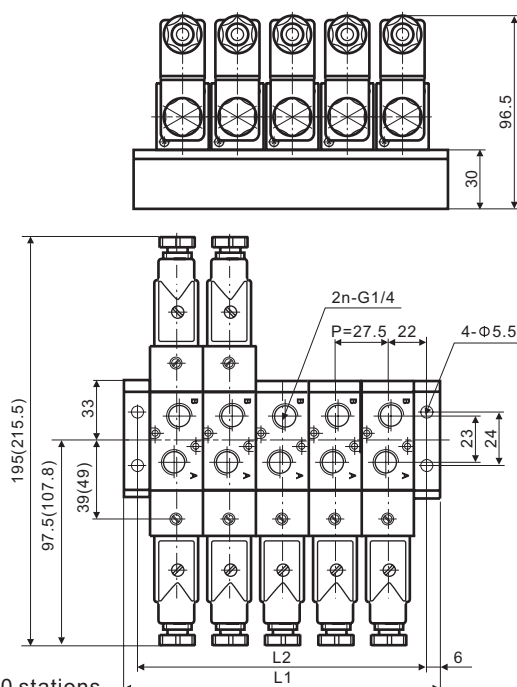
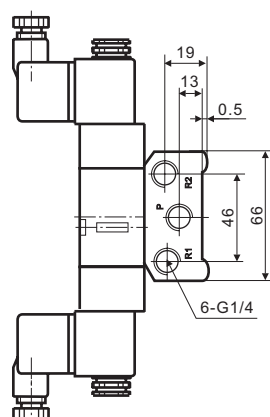
(QVFB3330-□D QVFB3430-□D QVFB3530-□D)



Note: () 3 Position

Manifold (Flange type)

QVV5FB3-30



Model: QVV5FB3-30-□

Note: □ Indicates the number of stations
02=2 stations

20=20 stations

Order example:

Need: A manifold of 10 stations
Model: QVV5FB3-30-10

5

Number of station n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	83.5	111	138.5	166	193.5	221	248.5	276	303.5	331	358.5	386	413.5	441	468.5	496	523.5	551	578.5
L2	71.5	99	126.5	154	181.5	209	236.5	264	291.5	319	346.5	374	401.5	429	456.5	484	511.5	539	566.5

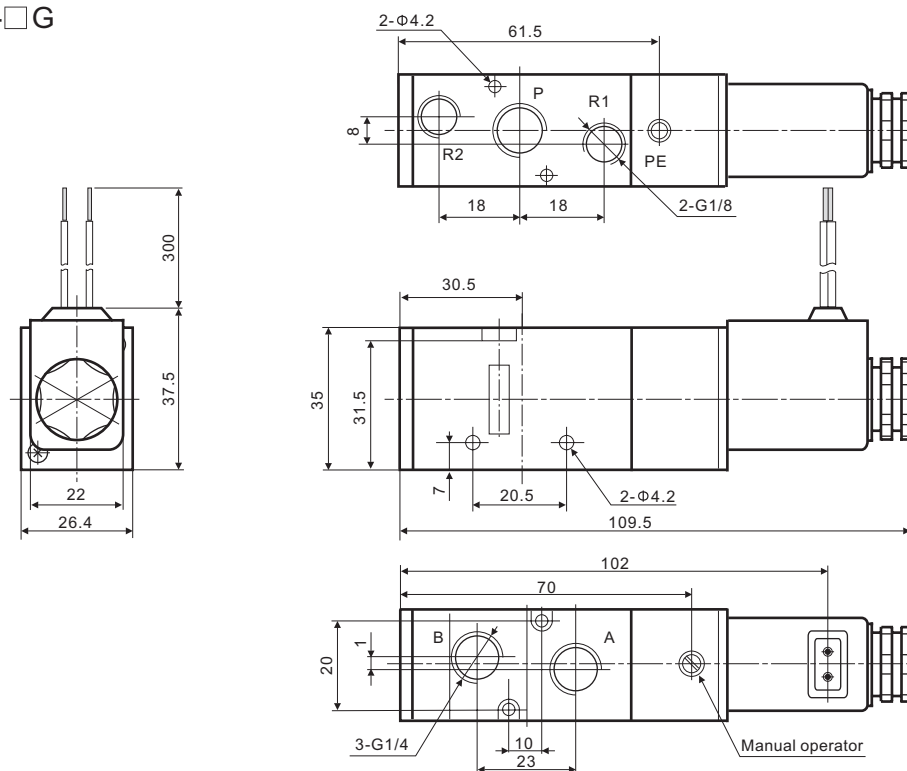
Blanking Plate Ass'y

DXT031-38-1A

No.	Description	Number	Remark
1	Screw (M4×10 with spring washer)	2	ZBA-1
2	Blanking Plate	1	QVV5F3-30MB
3	Gasket	1	QVV5F3-30-2

Single Solenoid (Flange type)

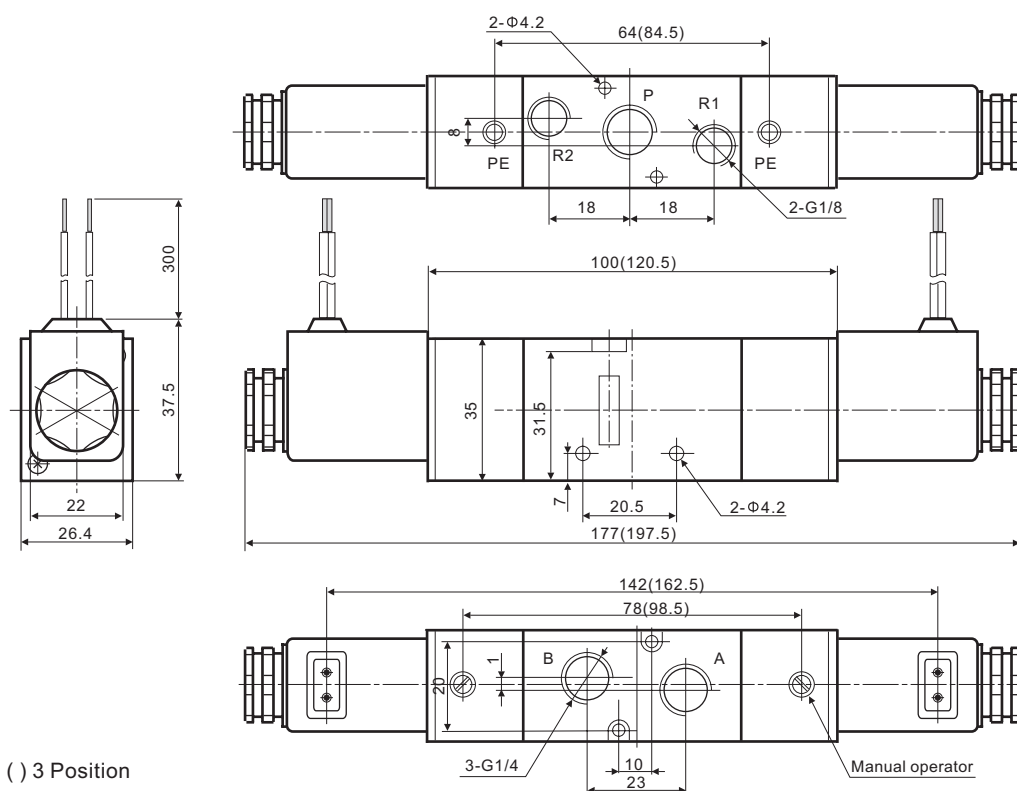
QVFB3130-□G



Double Solenoid (Flange type)

QVFB3230-□G

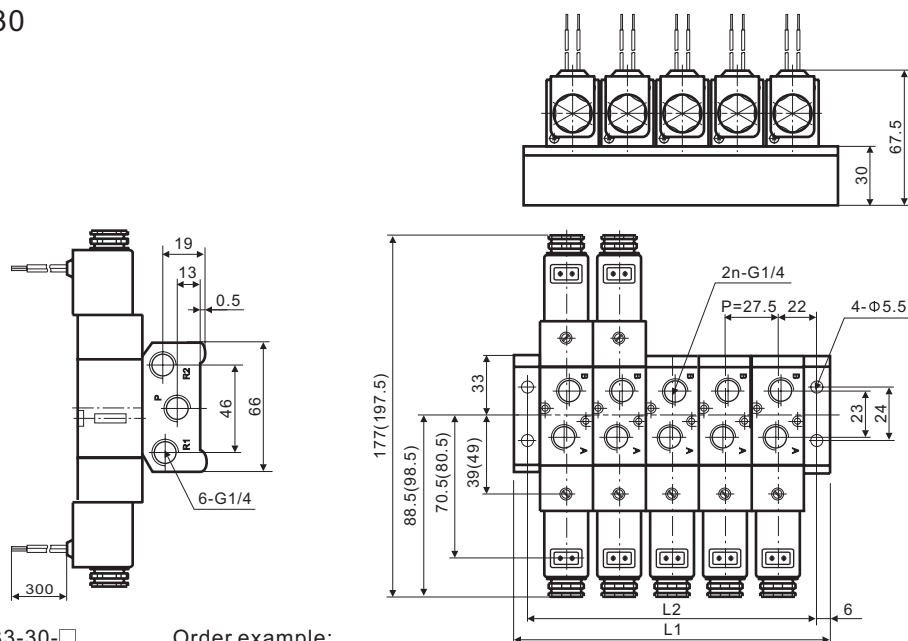
(QVFB3330-□G QVFB3430-□G QVFB3530-□G)



Note: () 3 Position

Manifold (Flange type)

QVV5FB3-30



Model: QVV5FB3-30-□

Note: □ Indicates the number of stations
02=2 stations

20=20 stations

Order example:

Need: A manifold of 10 stations
Model: QVV5FB3-30-10

5

Number of station n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	83.5	111	138.5	166	193.5	221	248.5	276	303.5	331	358.5	386	413.5	441	468.5	496	523.5	551	578.5
L2	71.5	99	126.5	154	181.5	209	236.5	264	291.5	319	346.5	374	401.5	429	456.5	484	511.5	539	566.5

Blanking Plate Ass'y

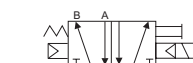
DXT031-38-1A

No.	Description	Number	Remark
1	Screw (M4×10 with spring washer)	2	ZBA-1
2	Blanking Plate	1	QVV5F3-30MB
3	Gasket	1	QVV5F3-30-2

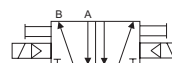
2,3 Position 5-Port Pilot Solenoid Valve

QVF5000 Series

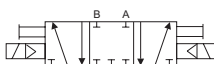
Symbol



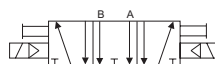
(2-pos., 5-port, single solenoid)



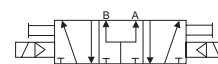
(2-pos., 5-port, double solenoid)



(3-pos., 5-port, closed center)



(3-pos., 5-port, exhaust center)



(3-pos., 5-port, pressure center)



Fluid	Filtered compressed air
Ambient and fluid temperature	-5~+50°C
*Lubrication	Pro-lubrication in factory
Manual operator	Non-locking type
Impact/vibration resistance	30G / 5G (8.3-2000Hz)
Enclosure	Dust proof

*If used, turbine oil #1 (ISO VG32) is recommended.

Solenoid Specifications

Electrical entry		Grommet (G) / Connector (D)
** Coil rated voltage		AC: 110V, 220V (50/60Hz) DC: 12V, 24V
Allowable voltage variation		-10%~+10% of rated voltage
Coil insulation		Class B or equivalent
Protection class (with mounted plug-in connector)		IP65
Power consumption	AC	Inrush 7VA, Holding 4.2VA
	DC	3W

**Option: Non-standard voltage

Notes:	Specifications								
	Model	Position No.	Type of actuation	Operating pressure range MPa	Response time ms	Max. operating frequency C/s	Port size	Effective orifice mm ² (Cv factor)	Weight kg
	QVF☆5120-□△-03-◇	2	Single solenoid	0.15-0.9	≤30	5	G3/8	45 (2.5)	0.38
	QVF☆5220-□△-03-◇		Double solenoid	0.1-0.9					0.45
	QVF☆5320-□△-03-◇	3	Double (closed center)	0.15-0.9	≤50	3		36 (2)	0.53
	QVF☆5420-□△-03-◇		Double (exhaust center)					41.4 (2.3)	
	QVF☆5520-□△-03-◇		Double (pressure center)					36 (2)	

Notes: ☆ Indicates the type of solenoid: Nil: Standard type B: Flange type

□ Indicates coil voltage:

3=110VAC 6=12VDC
4=220VAC 7=36VDC
5=24VDC 8=24VAC

Lead wire and voltage distinguishing:

AC 220V / (50/60Hz): Double red
AC 110V / (50/60Hz): Double blue
AC 24V / (50/60Hz): Red and blue
DC 24V: Red and black
DC 12V: Red and black

△ Indicates electrical entry:
G= Grommet (wire length 300mm)
D=Connector

◇ Connector housing and LED:
Nil: Black housing (without wiring)
SB3: Black housing (without LED)
TB3: Transparent housing (without wiring)
TB3Y5: with LED (24V DC)
TB3VY4: with varistor + LED (220V AC)
:
Refer to P171 Connector for wiring, LED and specifications.

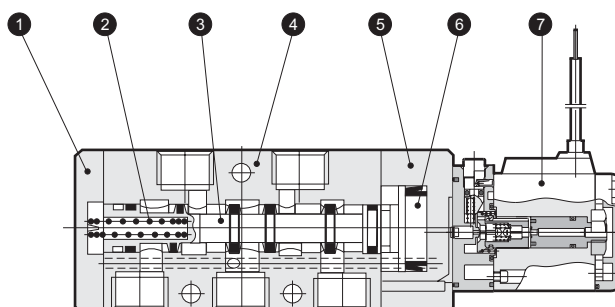
Order examples:

- Need: A valve with 2-pos., 5-port, 220V/AC, single solenoid, standard type, grommet.
Model: QVF5120-4G-03
- Need: A valve with 2-pos., 5-port, 24V/DC, double solenoid, flange type, connector.
Model: QVFB5220-5D-03
- Need: A valve with 2-pos., 5-port, 24V/DC, single solenoid, flange type, connector with LED.
Model: QVFB5120-5D-03-TB3Y5

Parts List

No.	Description	Material	Note
1	End cover	Die casting aluminium	Black coating
2	Spring	Stainless steel wire	
3	Spool	Aluminium alloy	
4	Body	Die casting aluminium	Silver-coloured coating
5	Pilot cover	Die casting aluminium	Black coating
6	Piston	Aluminium alloy	
7	Coil	Enamel wire	

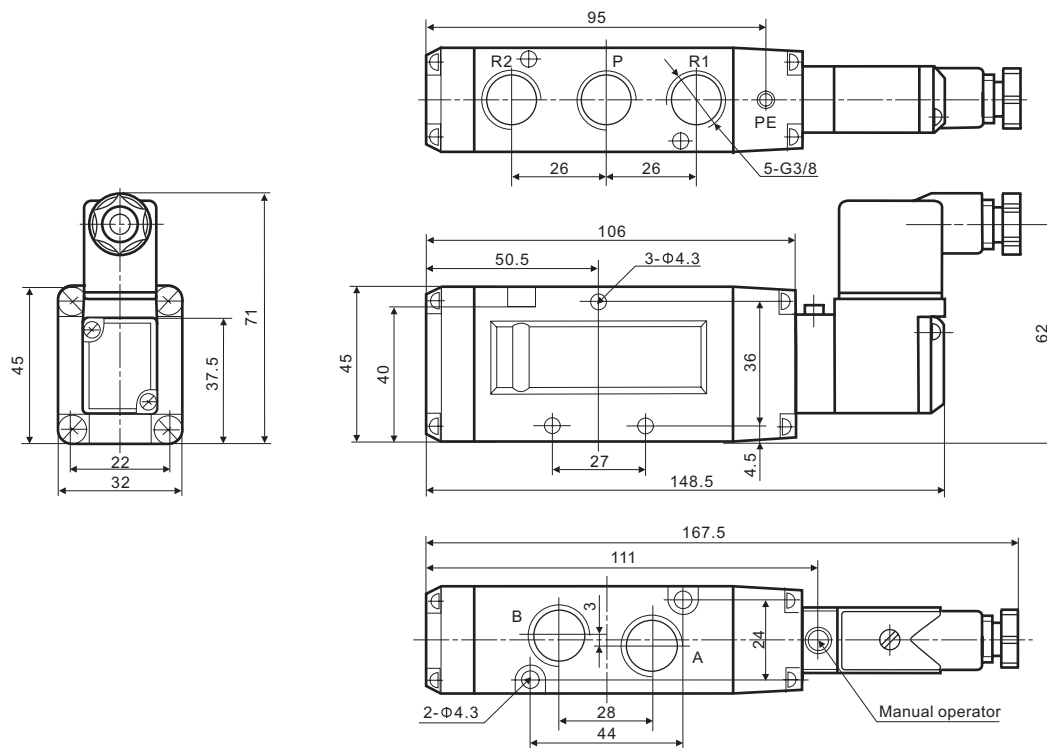
Construction



Dimensions (mm)

Single Solenoid (Standard type)

QVF5120-□D

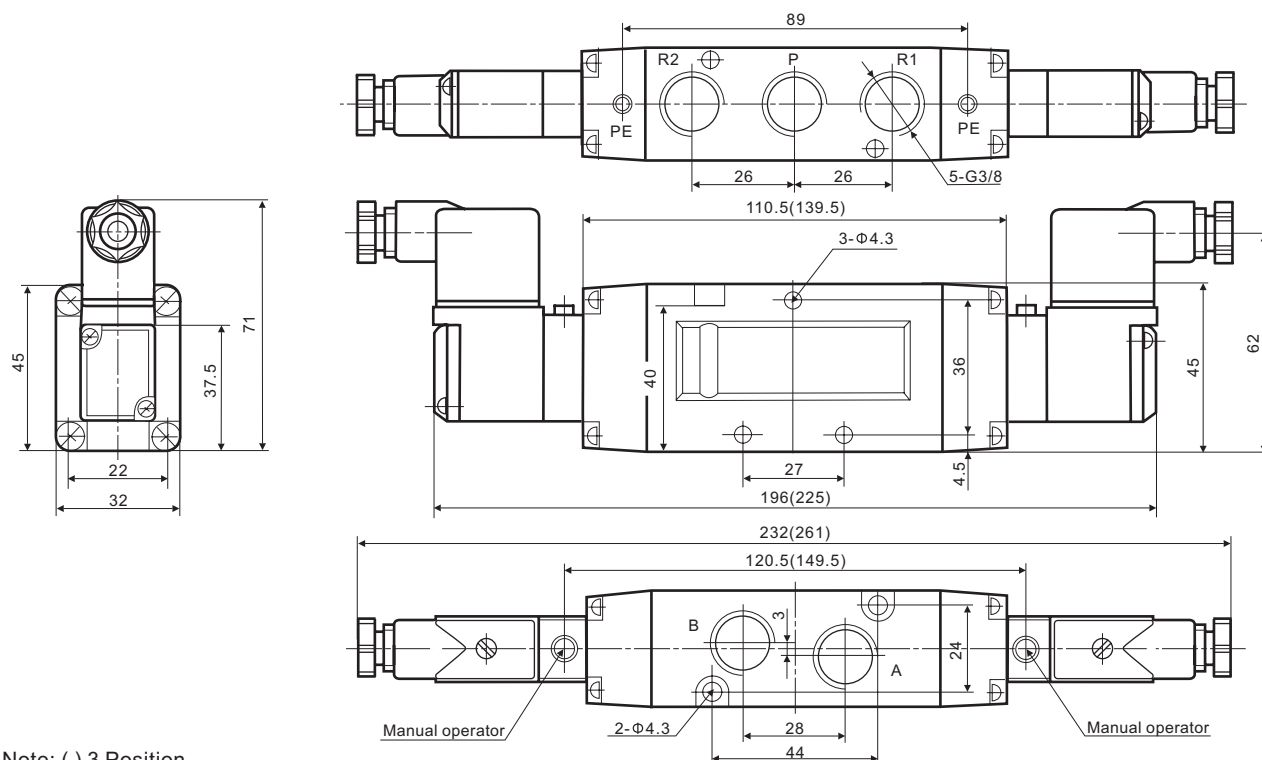


5

Double Solenoid (Standard type)

QVF5220-□D

(QVF5320-□D QVF5420-□D QVF5520-□D)

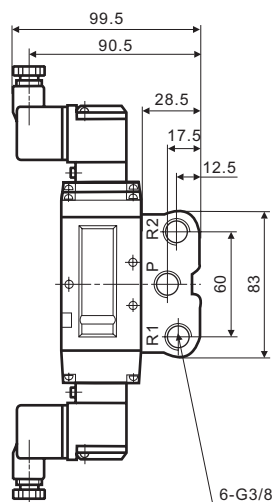


Note: () 3 Position

5.029

Manifold (Standard type)

QVV5F5-20



Model: QVV5F5-20-□

Note: □ Indicates the number of stations

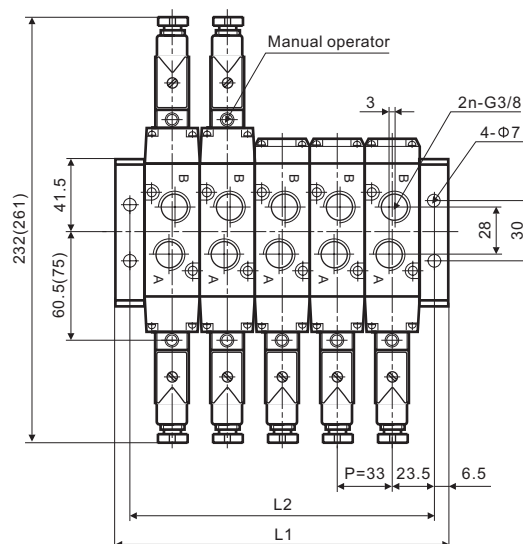
02=2 stations

10=10 stations

Order example:

Need: a manifold of 4 stations

Model: QVV5F5-20-04



Number of station n	2	3	4	5	6	7	8	9	10
L1	93	126	159	192	225	258	291	324	357
L2	80	113	146	179	212	245	278	311	344

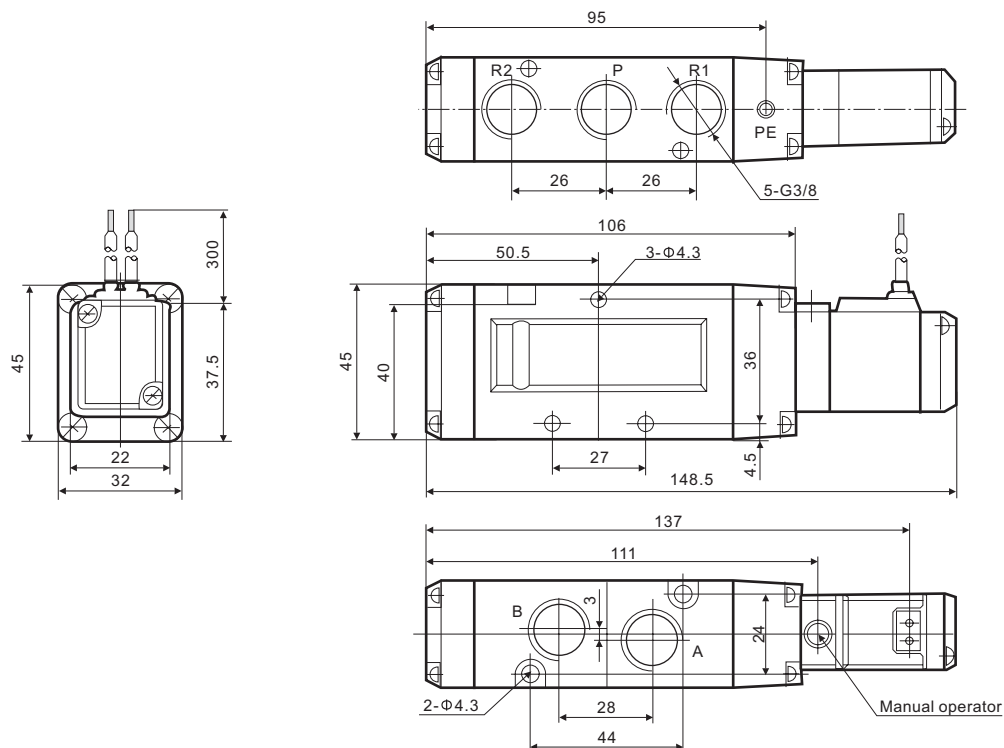
Blanking Plate Ass'y

DXT156-19-1A

No.	Description	Number	Remark
1	Screw (M4×10 with spring washer)	2	ZBA-1
2	Blanking Plate	1	QVV5F5-20MB
3	Gasket	1	QVV5F5-20-2

Single Solenoid (Standard type)

QVF5120-□G

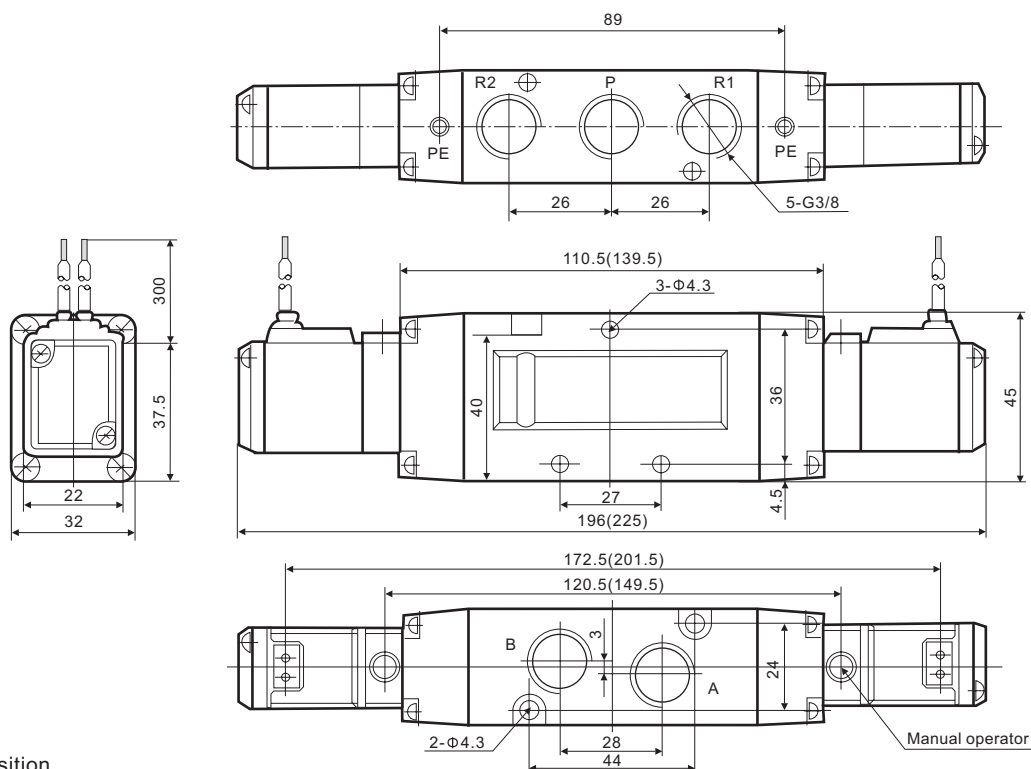


5

Double Solenoid (Standard type)

QVF5220-□G

(QVF5320-□G QVF5420-□G QVF5520-□G)

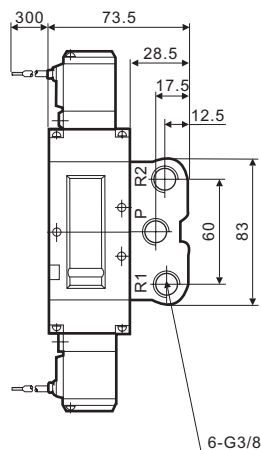


Note: () 3 Position

5.031

Manifold (Standard type)

QVV5F5-20



Model: QVV5F5-20-□

Note: □ Indicates the number of stations

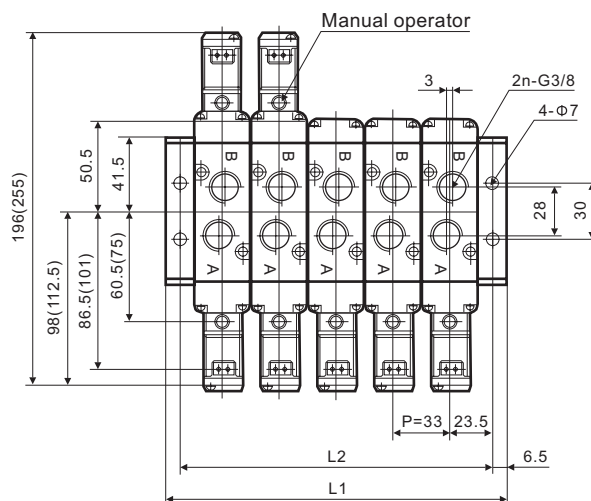
02=2 stations

10=10 stations

Order example:

Need: a manifold of 4 stations

Model: QVV5F5-20-04



Number of station n	2	3	4	5	6	7	8	9	10
L1	93	126	159	192	225	258	291	324	357
L2	80	113	146	179	212	245	278	311	344

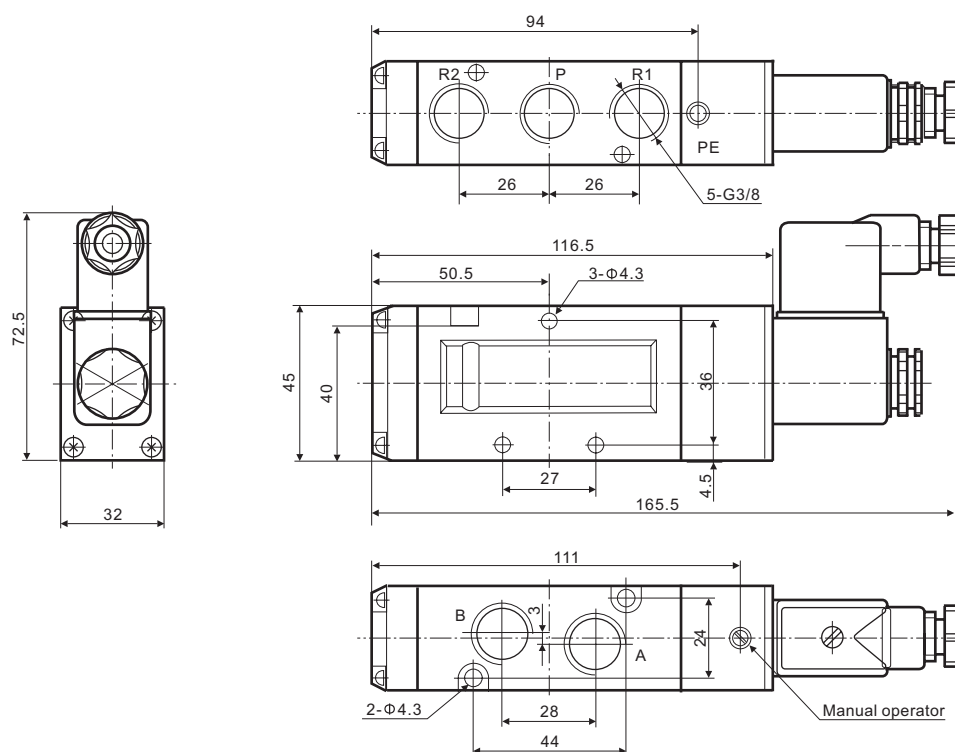
Blanking Plate Ass'y

DXT156-19-1A

No.	Description	Number	Remark
1	Screw (M4×10 with spring washer)	2	ZBA-1
2	Blanking Plate	1	QVV5F5-20MB
3	Gasket	1	QVV5F5-20-2

Single Solenoid (Flange type)

QVFB5120-□D

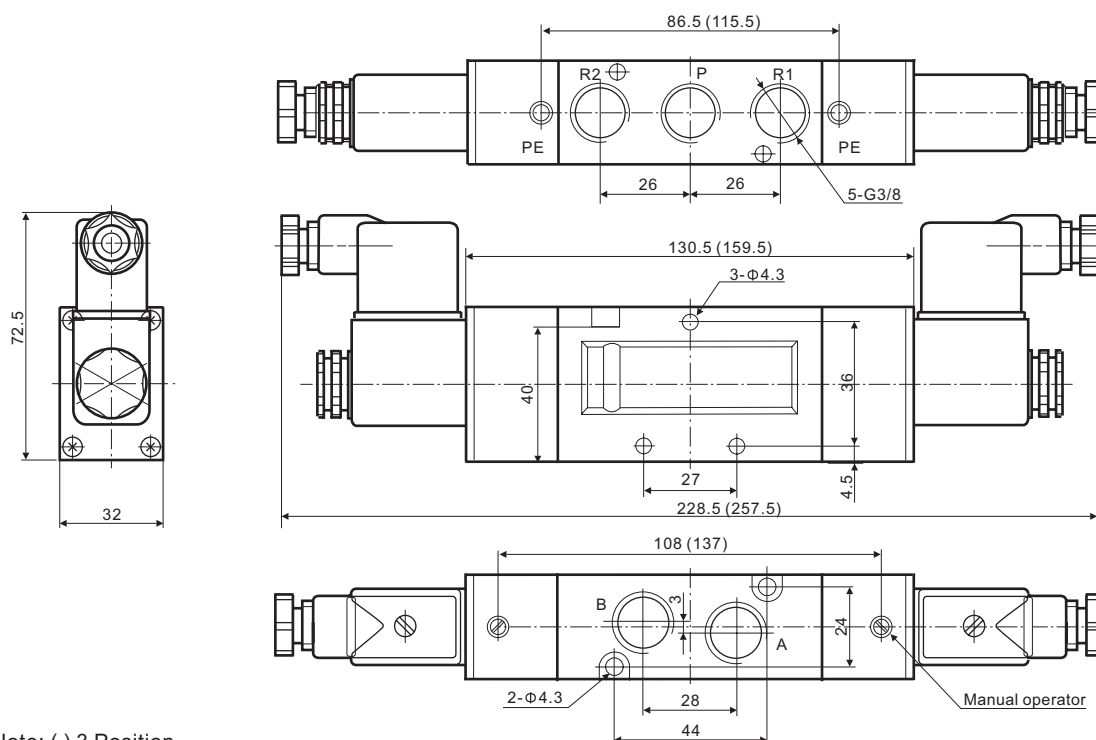


5

Double Solenoid (Flange type)

QVFB5220-□D

(QVFB5320-□D QVFB5420-□D QVFB5520-□D)

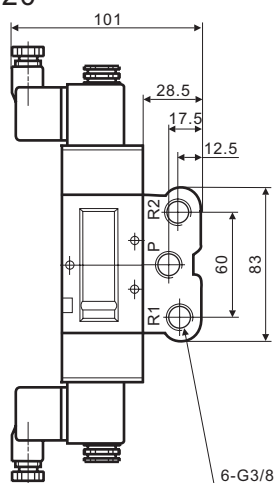


Note: () 3 Position

5.033

Manifold (Flange type)

QVV5FB5-20



Model: QVV5FB5-20-□

Note: □ Indicates the number of stations

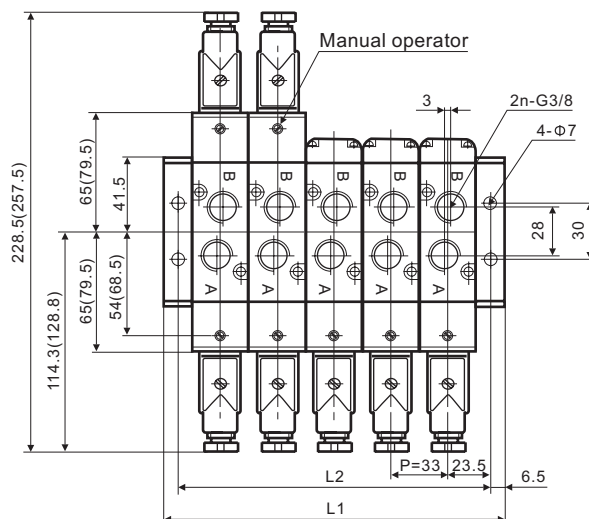
02=2 stations

10=10 stations

Order example:

Need: a manifold of 4 stations

Model: QVV5FB5-20-04



Number of station n	2	3	4	5	6	7	8	9	10
L1	93	126	159	192	225	258	291	324	357
L2	80	113	146	179	212	245	278	311	344

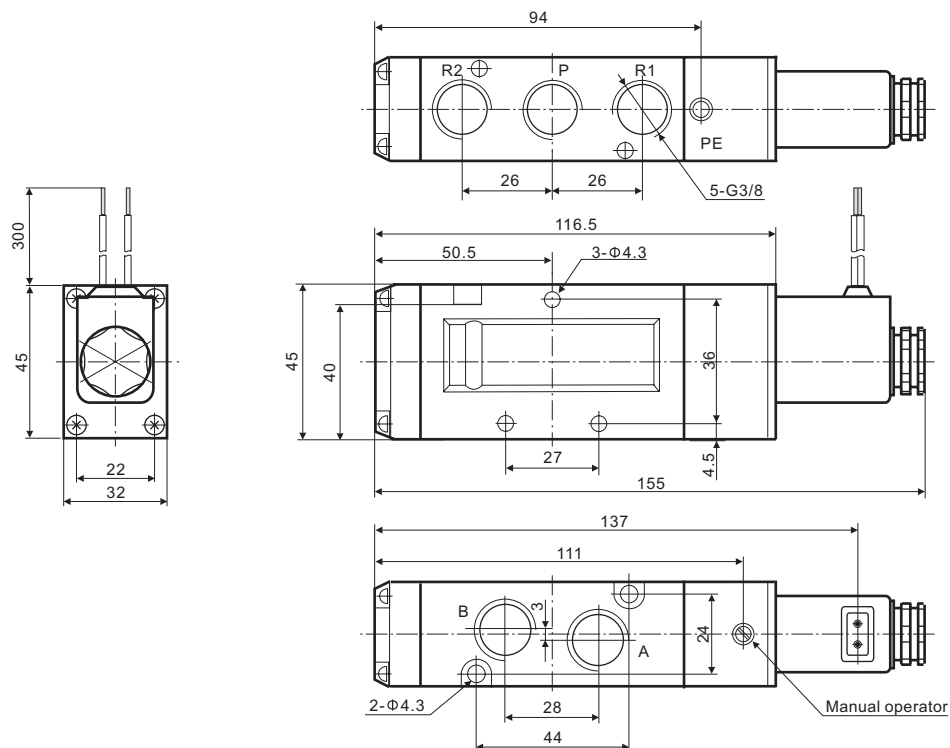
Blanking Plate Ass'y

DXT156-19-1A

No.	Description	Number	Remark
1	Screw (M4×10 with spring washer)	2	ZBA-1
2	Blanking Plate	1	QVV5F5-20MB
3	Gasket	1	QVV5F5-20-2

Single Solenoid (Flange type)

QVFB5120-□G

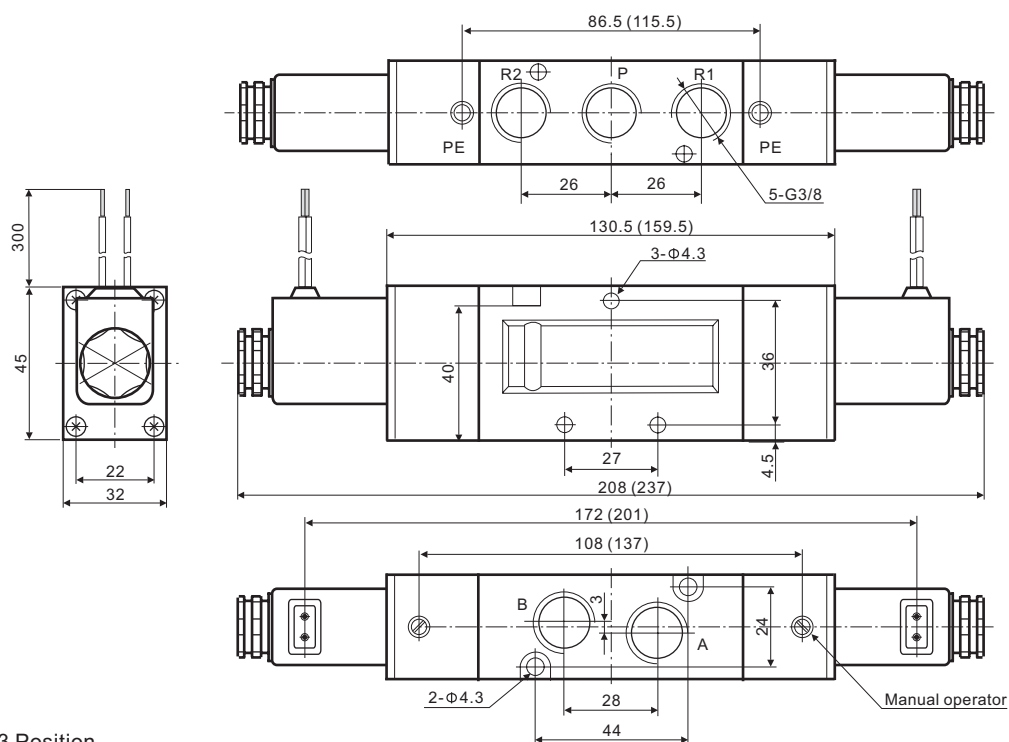


5

Double Solenoid (Flange type)

QVFB5220-□G

(QVFB5320-□G QVFB5420-□G QVFB5520-□G)

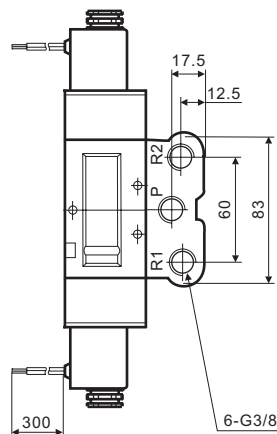


Note: () 3 Position

5.035

Manifold (Flange type)

QVV5FB5-20



Model: QVV5FB5-20-□

Note: □ Indicates the number of stations

02=2 stations

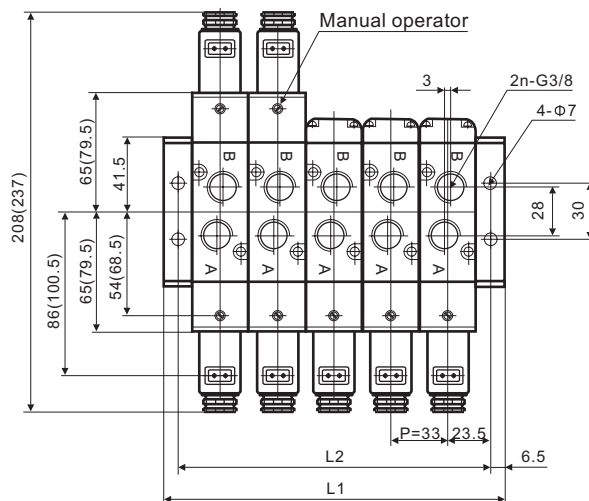
...

10=10 stations

Order example:

Need: a manifold of 4 stations

Model: QVV5FB5-20-04



Number of station n	2	3	4	5	6	7	8	9	10
L1	93	126	159	192	225	258	291	324	357
L2	80	113	146	179	212	245	278	311	344

Blanking Plate Ass'y

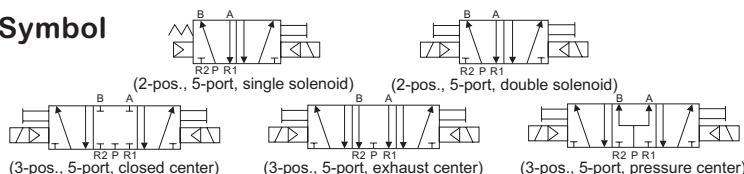
DXT156-19-1A

No.	Description	Number	Remark
1	Screw (M4×10 with spring washer)	2	ZBA-1
2	Blanking Plate	1	QVV5F5-20MB
3	Gasket	1	QVV5F5-20-2

2,3 Position 5-Port Pilot Solenoid Valve

QVF6000 Series

Symbol



Fluid	Filtered compressed air
Ambient and fluid temperature	-5~+50°C
*Lubrication	Pro-lubrication in factory
Manual operator	Non-locking type
Impact/vibration resistance	30G / 5G(8.3-2000Hz)
Enclosure	Dust proof

*If used, turbine oil*1 (ISO VG32) is recommended.

Solenoid Specifications

Electrical entry		Grommet (G) / Connector (D)
** Coil rated voltage		AC: 110V, 220V / (50/60Hz) DC: 12V, 24V
Allowable voltage variation		-10%~+10% of rated voltage
Coil insulation		Class B or equivalent
Protection class (with mounted plug-in connector)		IP65
Power consumption	AC	Inrush 13VA, holding 7.8VA
	DC	4.5W

**Option: Non-standard voltage

Notes:	Specifications								
	Model	Position No.	Type of actuation	Operating pressure range MPa	Response time ms	Max. operating frequency C/s	Port size	Effective orifice mm ² (Cv factor)	Weight kg
	QVF6120-□△-04(06)-◇	2	Single solenoid	0.15-0.9	40	5	G1/2 (G3/4)	80 (4.44)	0.83
	QVF6220-□△-04(06)-◇		Double solenoid	0.1-0.9					0.87
	QVF6320-□△-04(06)-◇	3	Double (closed center)	0.15-0.9	60	3	G1/2 (G3/4)	70 (3.89)	0.88
	QVF6420-□△-04(06)-◇		Double (exhaust center)						
	QVF6520-□△-04(06)-◇		Double (pressure center)						

Notes 1: Indicates the type of solenoid: standard type

Notes 2: □ Indicates coil voltage:

3=110VAC 6=12VDC
4=220VAC 7=36VDC
5=24VDC 8=24VAC

Lead wire and voltage distinguishing:

AC 220V / (50/60Hz): Double red
AC 110V / (50/60Hz): Double blue
AC 24V / (50/60Hz): Red and blue
DC 24V: Red and black
DC 12V: Red and black

△ Indicates electrical entry:

G=Grommet (wire length 300mm)
D=Connector

◇ Connector housing and LED:

Nil: Black housing (without wiring)
SB3: Black housing (without LED)
TB3: Transparent housing (without wiring)
TB3Y5: with LED (24V DC)
TB3VY4: with varistor + LED (220V AC)
⋮

Refer to P171 Connector for wiring, LED and specifications.

Order examples:

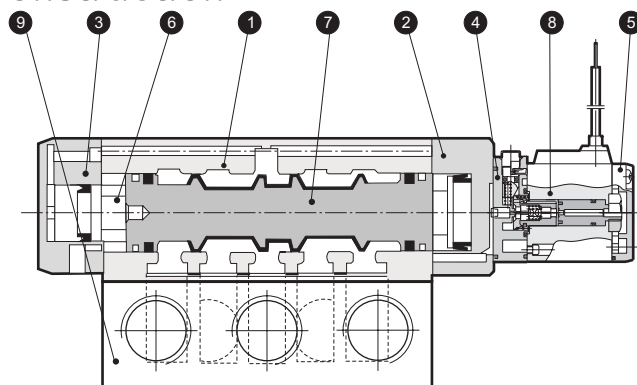
1. Need: A valve with 2-pos., 5-port, G3/4 port size, 220V/AC, single solenoid, standard type, grommet.

Model: QVF6120-4G-06

2. Need: A valve with 2-pos., 5-port, G1/2 port size, 24V/DC, double solenoid, standard type, connector with LED.

Model: QVF6220-5D-04-TB3Y5

Construction



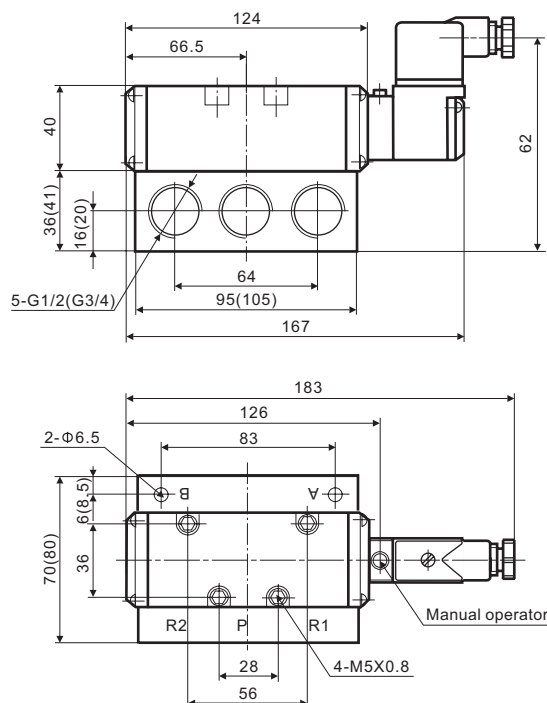
Parts List

No.	Description	Material	Note
1	Body	Die casting aluminium	Silver-coloured coating
2	Pilot cover	Die casting aluminium	Silver-coloured coating
3	End cover	Die casting aluminium	Silver-coloured coating
4	Pilot adapter	Plastic	Black coating
5	Solenoid cover	Plastic	Black coating
6	Piston	Aluminium alloy	
7	Spool	Aluminium alloy/ NBR	
8	Coil	Enamel wire	
9	Base	Die casting aluminium	Silver-coloured coating

Dimensions (mm)

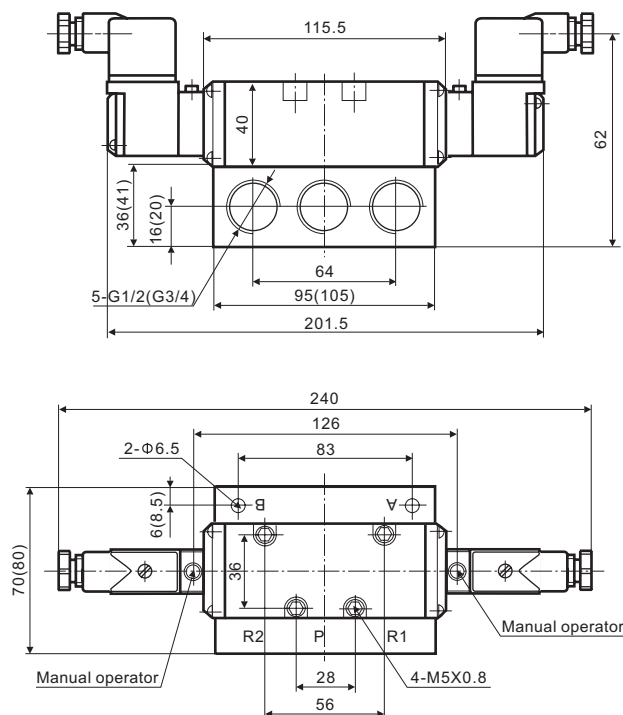
Single Solenoid (Standard type)

QVF6120-□D-04(06)



Double Solenoid (Standard type)

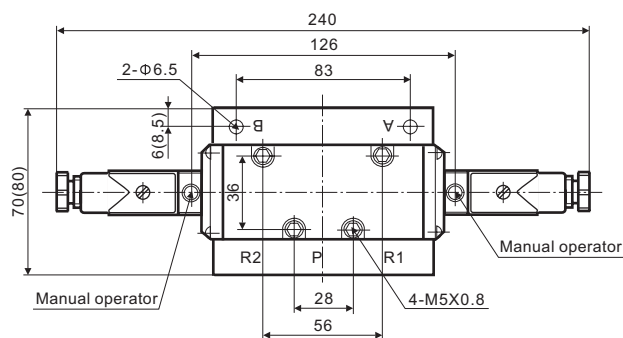
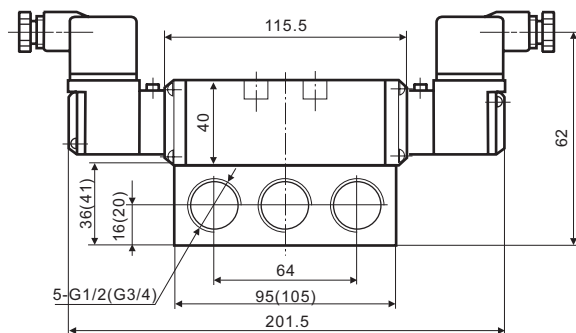
QVF6220-□D-04(06)



QVF6320-□D-04(06)

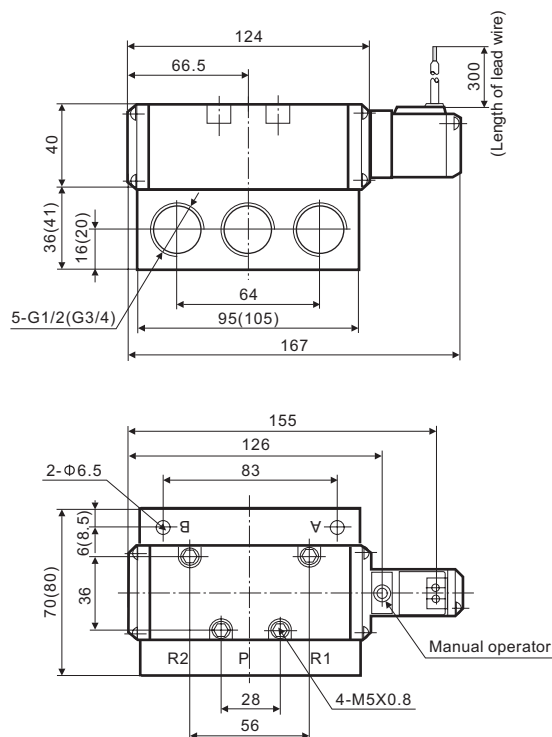
QVF6420-□D-04(06)

QVF6520-□D-04(06)



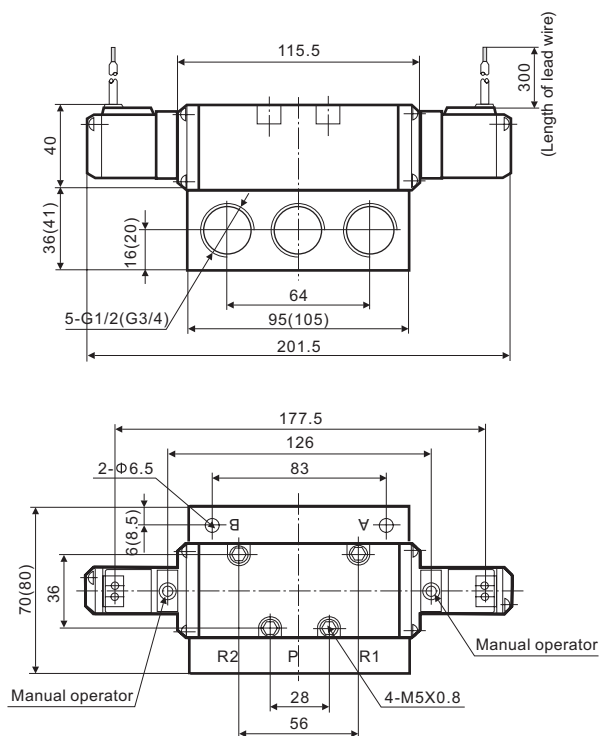
Single Solenoid (Standard type)

QVF6120-□G-04(06)



Double Solenoid (Standard type)

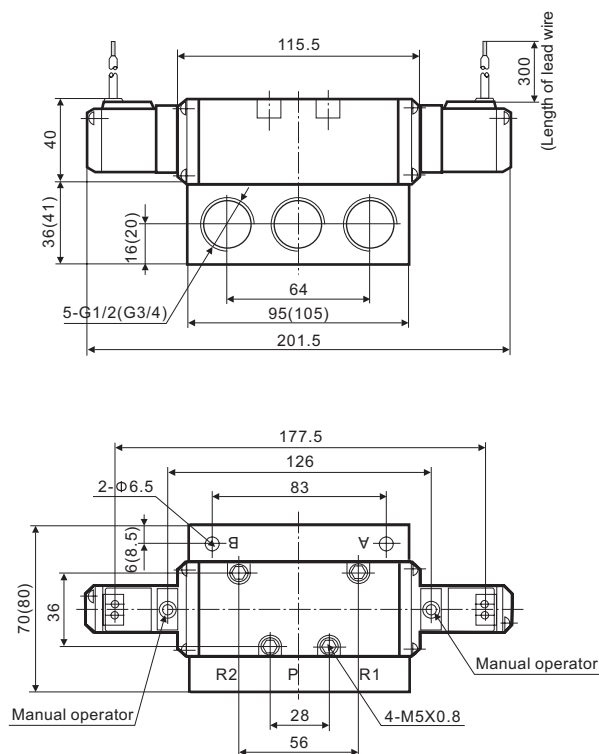
QVF6220-□G-04(06)



QVF6320-□G-04(06)

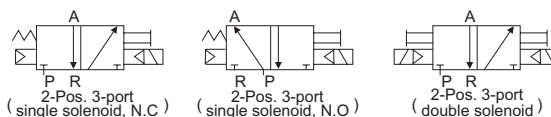
QVF6420-□G-04(06)

QVF6520-□G-04(06)



2 Position 3-Port Pilot Solenoid Valve QVP300 Type

Symbol



Fluid	Filtered compressed air
Function	Single solenoid (normally closed N.C.; normally open, N.O.)
Pilot type	Internal pilot
Ambient and fluid temperature	-5 ~ +50°C
Response time	≤30ms
Max. Operating frequency	5 c/s
*Lubrication	Pro-lubrication in factory
Manual operator	Non-locking type
Impact/vibration resistance	30G / 5G (8.3 ~ 2000Hz)

*If used, turbine oil #1 (ISO VG32) is recommended.

Notes:	Specifications						
	Model	Position No.	Solenoid	Function	Operating pressure range MPa	Port size	Effective orifice mm ² (Cv factor)
	QVP☆310-□△-02-◇	2	Single	Normally closed N.C	0.15-0.9	G1/4	18 (1.0)
	QVP☆310A-□△-02-◇			Normally open N.O			
	QVP☆320-□△-02-◇		Double	—	0.1-0.9		

Solenoid Specifications

Electrical entry	Grommet (G) / Connector (D)	
** Coil rated voltage	AC: 110V, 220V / (50/60Hz) DC: 12V, 24V	
Allowable voltage variation	-15% ~ +10% of rated voltage	
Coil insulation	Class B or equivalent	
Protection class (with mounted plug-in connector)	IP65	
Power consumption	AC	Inrush 7VA, Holding 4.2VA
	DC	3W

**Option: Non-standard voltage

Notes : ☆ Indicates the type of solenoid: Nil: Standard type
B: Flange type

□ Indicates coil voltage:

3=110VAC 6=12VDC
4=220VAC 7=36VDC
5=24VDC 8=24VAC

Lead wire and voltage distinguishing:

AC 220V / (50/60Hz): Double red
AC 110V / (50/60Hz): Double blue
AC 24V / (50/60Hz): Red and blue
DC 24V: Red and black
DC 12V: Red and black

△ Indicates electrical entry:
G= Grommet (wire length 300mm)
D= Connector

◇ Connector housing and LED:

Nil: Black housing (without wiring)
SB3: Black housing (without LED)
TB3: Transparent housing (without wiring)
TB3Y5: with LED (24V DC)
TB3VY4: with varistor + LED (220V AC)
:

Refer to P171 Connector for wiring, LED and specifications.

Distinguishing N.O, N.C, and Flowing Way

Function	Port	P	A	R
Normally closed (N.C)	Inlet port	Outlet port	Exhaust port	
Normally open (N.O)				

N.C

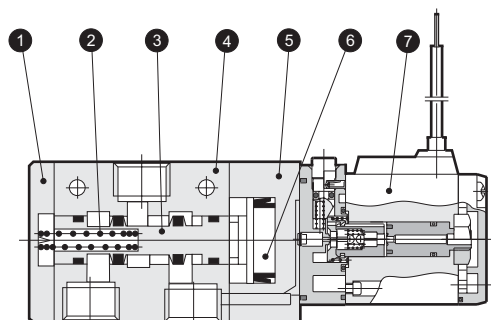
N.O

Distinguishing N.C and N.O: The relative positions of Inlet port P and outlet port R may be different in products, but their flow ways are identical. Connection can be made according to the following table.

Order examples:

- Need: A valve with 2-pos., 3-port, 220V / AC, single solenoid, (N.C), standard type, grommet.
Model: QVP310-4G-02
- Need: A valve with 2-pos., 3-port, 24V / DC, double solenoid, flange type, connector.
Model: QVPB320-5D-02
- Need: A valve with 2-pos., 3-port, 110V/DC, double solenoid, flange type, connector with LED.
Model: QVPB320-3D-02-TB3Y3

Construction



Parts List

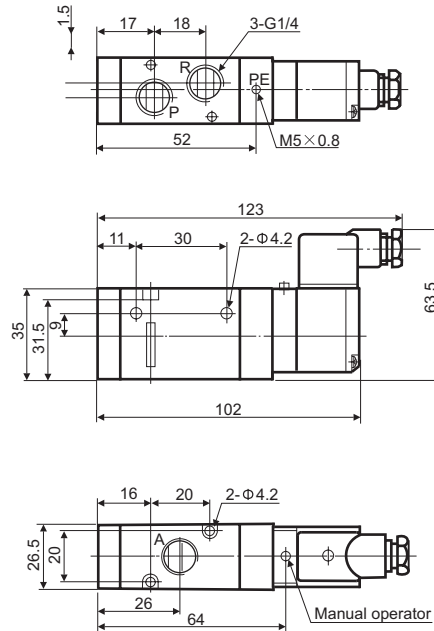
No.	Description	Material	Note
1	End cover	Die casting aluminium	Black coating
2	Spring	Stainless steel wire	
3	Spool	Aluminium alloy	
4	Body	Die casting aluminium	Silver-coloured coating
5	Pilot cover	Die casting aluminium	Black coating
6	Piston	Aluminium alloy	
7	Coil	Enamel wire	

Dimensions (mm)

Single Solenoid (Standard type)

QVP310-□D

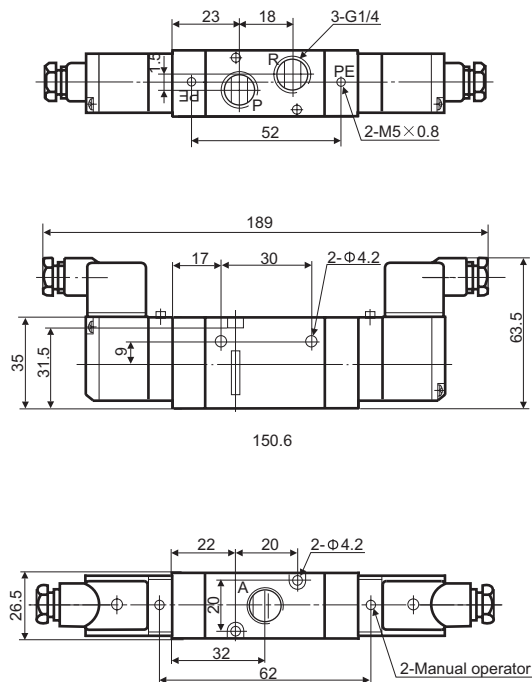
QVP310A-□D



5

Double Solenoid (Standard type)

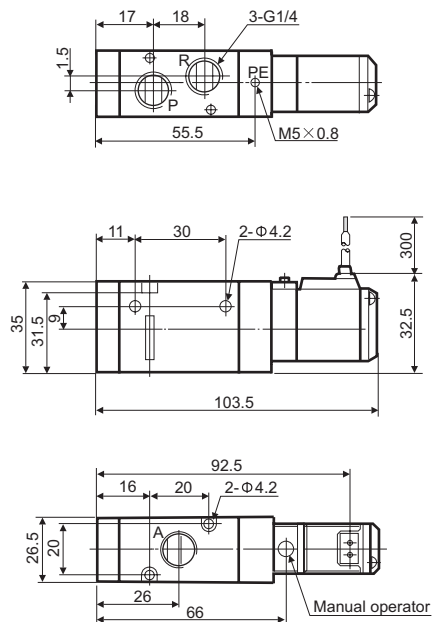
QVP320-□D



Single Solenoid (Standard type)

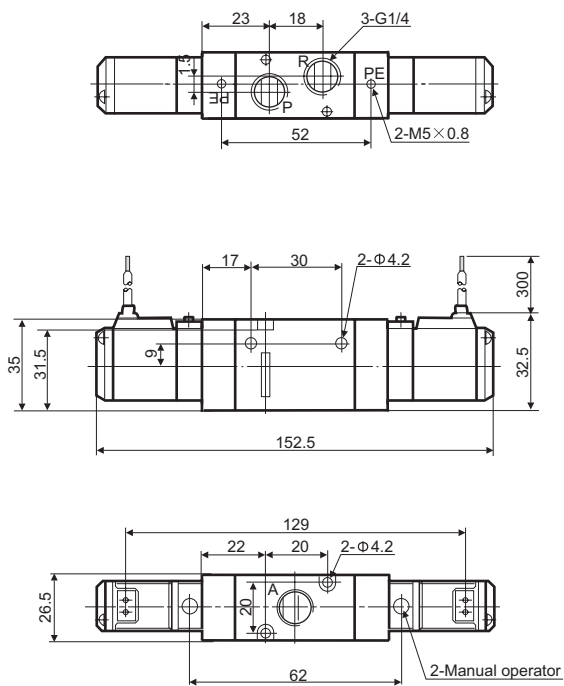
QVP310-□G

QVP310A-□G



Double Solenoid (Standard type)

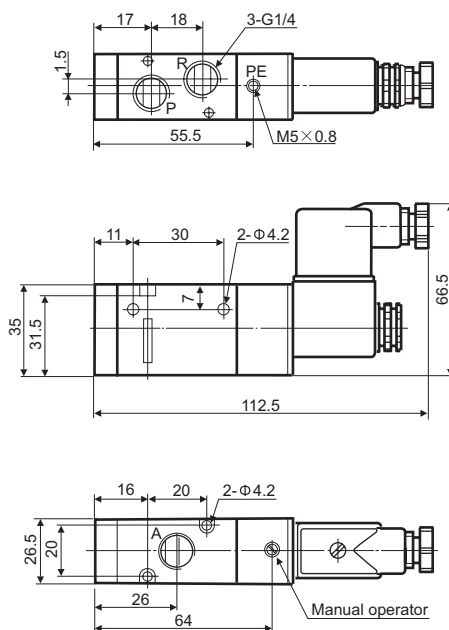
QVP320-□G



Single Solenoid (Flange type)

QVPB310-□D

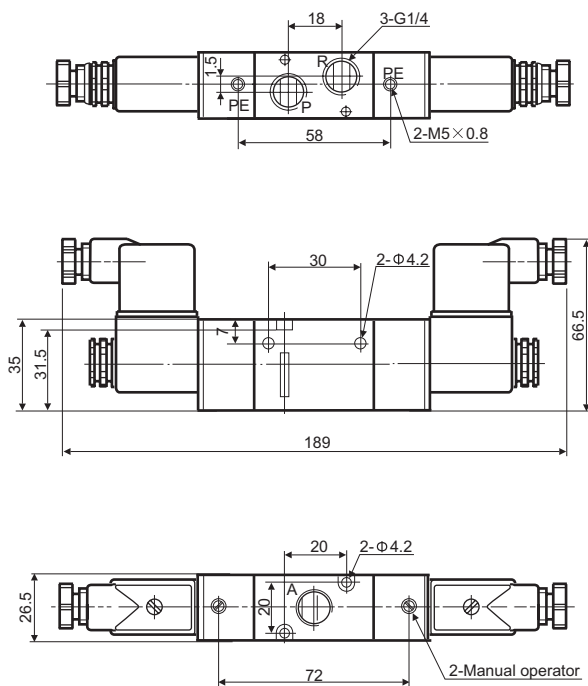
QVPB310A-□D



5

Double Solenoid (Flange type)

QVPB320-□D



2 Position 3-Port Direct High Frequency Solenoid Valve QDH3102 Type



Fluid	Air, Inert gases, Vacuum
Notes 2 : Function	Normally closed or normally open
Ambient and fluid temperature	-5~+50°C
Response time	≤5ms
Max. Operating frequency	When DC voltage: 150 c/s (Coil power 5.6W) 200 c/s (Coil power 8.5W)
*Lubrication	Pro-lubrication in factory
Manual operator	Non-locking type
Impact / vibration resistance	15G / 5G(40~1000Hz)
Service life	50 million times
Enclosure	Dust proof

*If used, turbine oil #1 (ISO VG32) is recommended.

Characteristics and Advantages:

High operating frequency.
High flow rate.
Long service life.
Not required lubrication.
Aluminium alloy body.
With manual operator.
Multi-functionally.
Use in air, Inert gases and vacuum area.

Solenoid Specifications

Electrical entry	Grommet (G) / Connector (D)
** Coil rated voltage	DC 24V
Allowable voltage variation	-15%~+10% of rated voltage
Coil insulation	Class B or equivalent
Protection class (with mounted plug-in connector)	IP65
Power consumption	8.5W

**Option: Non-standard voltage

Notes 1: Model	Specifications				Accessories	
	Operating pressure range	Port size	Effective orifice mm ² (Cv factor)	Weight Kg	Bracket	
QDH3102-□△-F	0~0.9MPa 1Torr~0.1MPa	G1/4	4.5mm ² (Cv=0.25)	0.17	DXT152-25-1A	
QDH3102-□△-◇-F						

Notes 1: □ indicates coil voltage:
5=24V DC

△ Indicates electrical entry:
G= Grommet
(wire length 300mm)
D= Connector

F: with mounting bracket

Lead wire and voltage distinguishing:
DC 24V: Red and black

Note 2: If normally open needed, use
R port as inlet port and P port
as exhaust port.

◇ Connector housing and LED:
Nil: Black housing (without wiring)
SB3: Black housing (without LED)
TB3: Transparent housing (without wiring)
TB3Y5: with LED (24V DC)

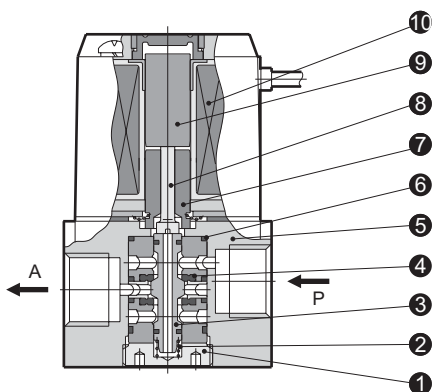
Refer to P171 Connector for wiring, LED
and specifications.

Order examples:

1. Need: A direct high frequency solenoid valve
with 2-pos., 3-port, G1/4 port size, 24V /
DC, grommet, mounting bracket.
Model: QDH3102-5G-F

2. Need: A direct high frequency solenoid valve
with 2-pos., 3-port, G1/4 port size, 24V/
DC, black housing connector.
Model: QDH3102-5D-SB3

Construction



Parts List

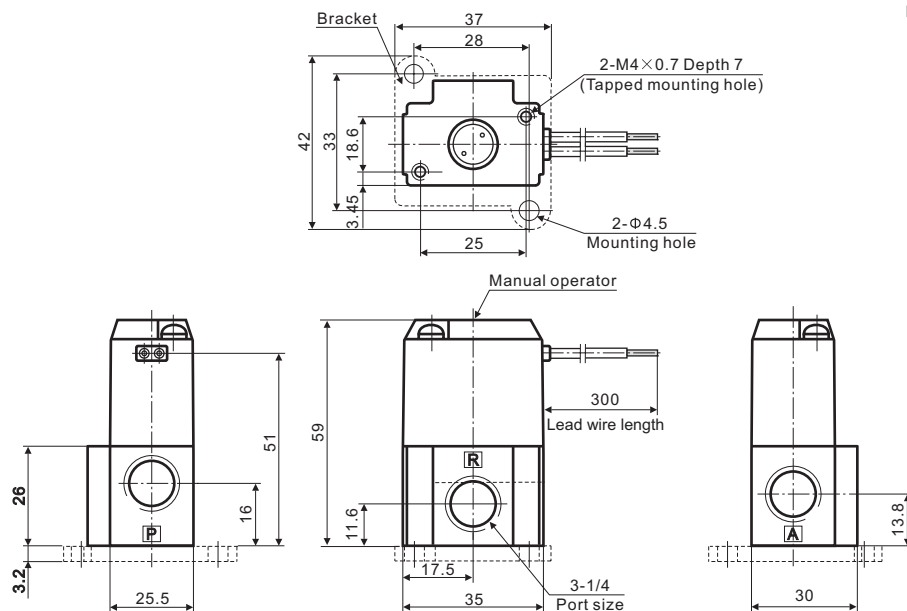
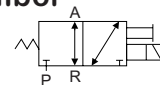
No.	Description	Material
1	Cover	Brass
2	Spring	Stainless steel wire
3	Poppet	Stainless steel
4	Seal	PU
5	Body	Aluminium alloy
6	O-ring	NBR
7	Armature	Pure iron
8	Push rod	Stainless steel
9	Movable pole piece	Pure iron
10	Coil	Enamel wire

Dimensions (mm)

Gromment

QDH3102-□G

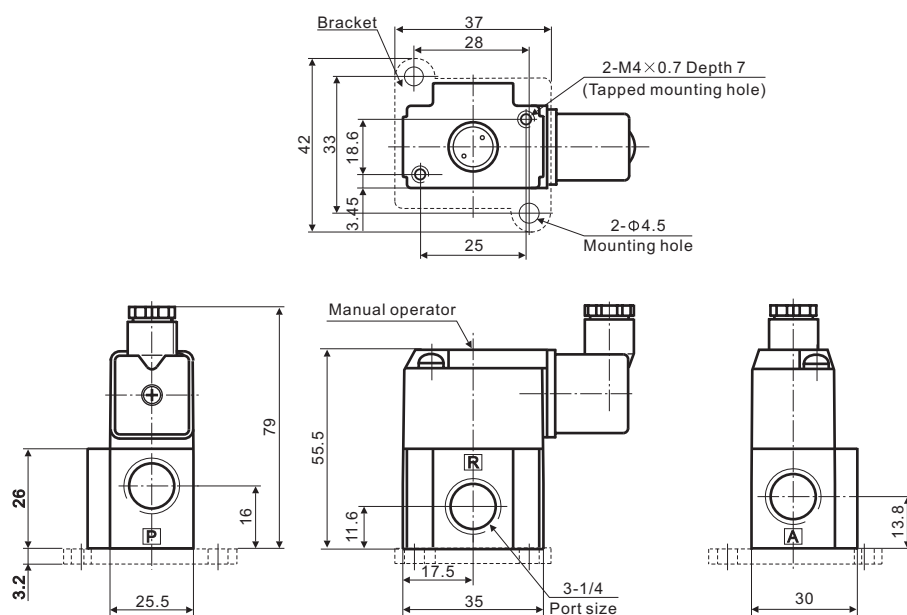
Symbol



5

Plug Connector

QDH3102-□D



2 Position 3-Port Direct Solenoid Valve QVT307, QVO307 Series



Fluid	Air, Inert gases
Notes 2: Function	Normally closed or normally open
Ambient and fluid temperature	-5~+50°C
Response time	≤20ms
Max. Operating frequency	10 c/s
*Lubrication	Pro-lubrication in factory
Manual operator	Non-locking type
Impact/vibration resistance	15G / 5G(40~1000Hz)
Enclosure	Dust proof

*If used, turbine oil #1 (ISO VG32) is recommended.

Solenoid Specifications

Electrical entry		Grommet (G) / Connector (D)
** Coil rated voltage		AC: 110V, 220V / (50/60Hz) DC: 12V, 24V
Allowable voltage variation		-15%~+10% of rated voltage
Coil insulation		Class B or equivalent
Protection class (with mounted plug-in connector)		IP65
Power consumption	AC	Inrush 10VA, Holding 6.3VA
	DC	4.5W

**Option: Non-standard voltage

Notes 1: Model		Specifications					Accessories
Valve	Manifold	Operating conditions	Operating pressure range	Port size	Effective orifice mm ² (Cv factor)	Weight kg	Bracket
QVT307-□△-01(02)-◇-F	—	Compressed air	0~0.9MPa	G1/8(G1/4)	3.9(0.21)	0.14	DXT152-25-1A
QVO307-□△-00	QVV307-☆○-◎			—			—
QVT307V-□△-01(02)-◇-F	—	Vacuum	1Torr~0.1MPa	G1/8(G1/4)	3.9(0.21)	0.14	DXT152-25-1A
QVO307V-□△-00	QVV307-☆○-◎			—			—

Notes 1: □ indicates coil voltage:
3=110VAC 6=12VDC
4=220VAC 7=36VDC
5=24VDC 8=24VAC

△ Indicates electrical entry:
G= Grommet
(wire length 300mm)
D= Connector

F: with mounting bracket

Lead wire and voltage distinguishing:
AC 220V / (50/60Hz): Double red
AC 110V / (50/60Hz): Double blue
AC 24V / (50/60Hz): Red and blue
DC 24V: Red and black
DC 12V: Red and black

Note 2: If normally open needed, use
R port as inlet port and P port
as exhaust port.

Order examples:

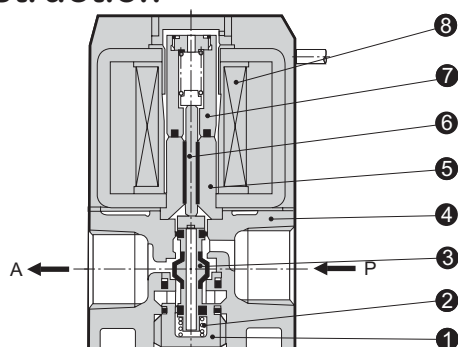
1. Need: A valve with 2-pos., 3-port, G1/4 port size, 220V/AC, direct solenoid, grommet.
Model: QVT307-4G-02

2. Need: A valve with 2-pos., 3-port, G1/8 port size, 24V/DC, direct solenoid, connector.
Model: QVT307-5D-01

3. Need: A valve with 2-pos., 3-port, G1/4 port size, 110V/AC, direct solenoid, connector with LED.
Model: QVT307-3D-02-TB3Y3

◇ Connector housing and LED:
Nil: Black housing (without wiring)
SB3: Black housing (without LED)
TB3: Transparent housing (without wiring)
TB3Y5: with LED (24V DC)
TB3VY4: with varistor + LED (220V AC)
Refer to P171 Connector for wiring, LED and specifications.

Construction



Parts List

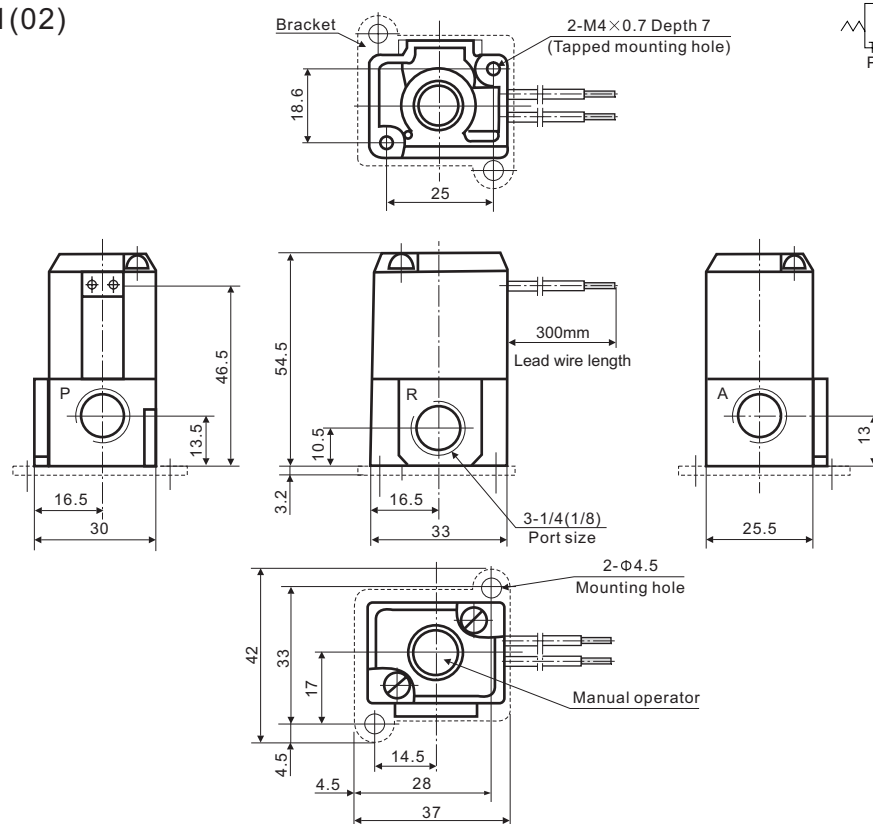
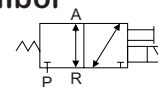
No.	Description	Material
1	Cover	Brass
2	Spring	Stainless steel wire
3	Poppet	NBR / Aluminium alloy
4	Body	Die casting aluminium
5	Movable pole piece	Pure iron
6	Push rod	Stainless steel
7	Armature	Pure iron
8	Coil	Enamel wire

Dimensions (mm)

Gromment

QVT307-□G-01(02)

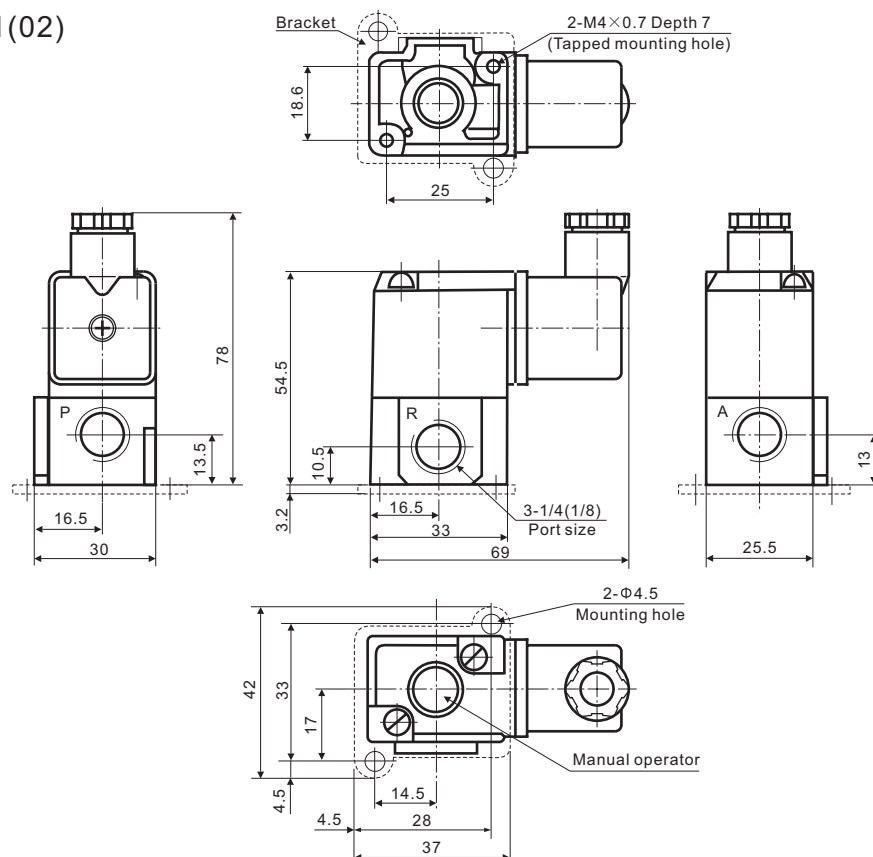
Symbol



5

Plug Connector

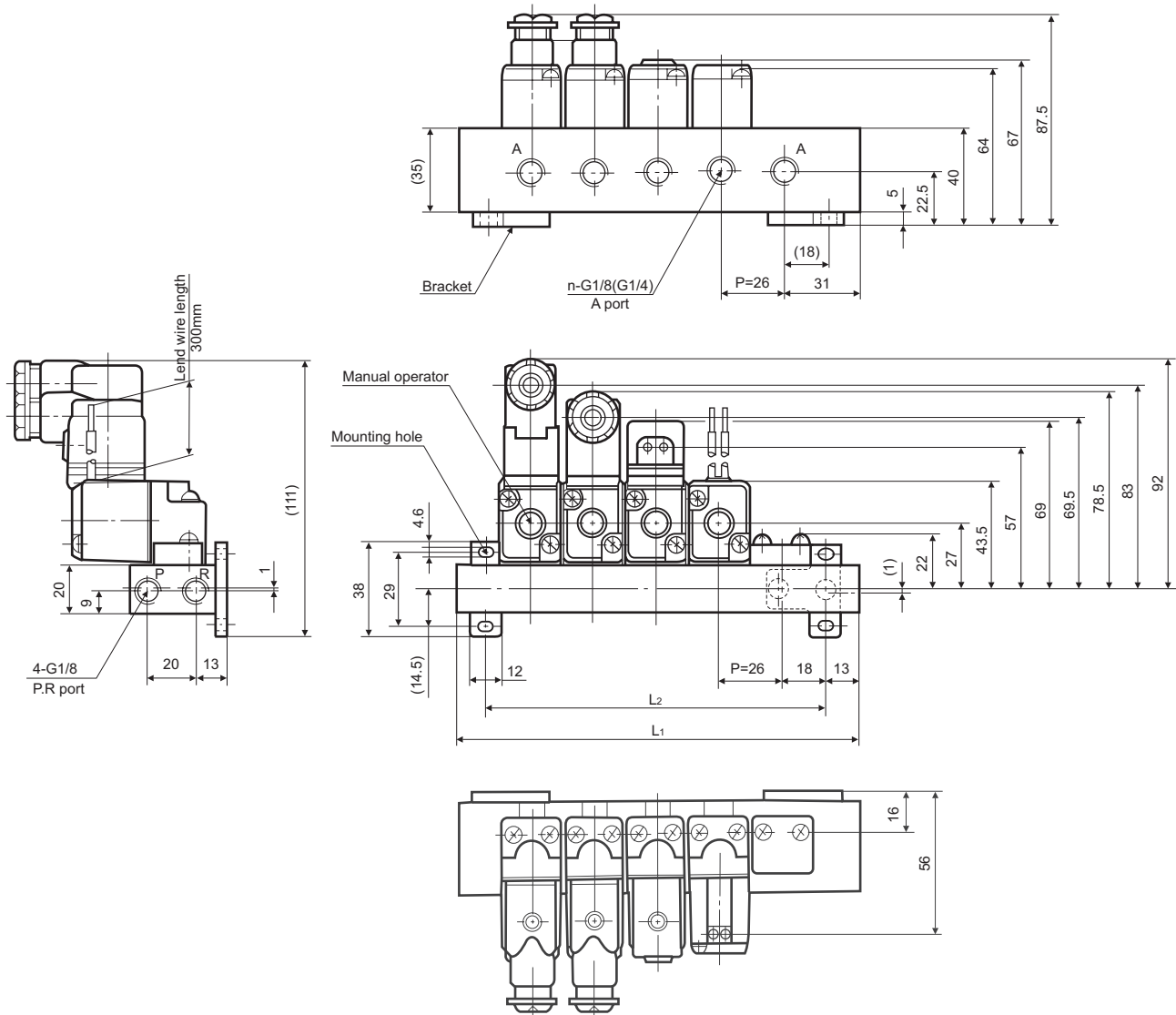
QVT307-□D-01(02)



QVV307 Manifold

Common Exhaust

QVV307-☆2-◎



Model: QVV307-☆○-◎

Notes: ☆ Indicates valve No.
02= 2 stations

20= 20 stations

○ Indicates the type of manifold R port:
2= R port: common exhaust
3= R port: individual exhaust

◎ Indicates the port size of manifold A port:
01= A port: G1/8
02= A port: G1/4

Order examples:

Need: A manifold for 10 stations, G1/4 A port, common exhaust R port, with mounting bracket.

Model: QVV307-102-02

Number of station	2	3	4	5	6	7	8	9	10
L ₁	88	114	140	166	192	218	244	270	296
L ₂	62	88	114	140	166	192	218	244	270

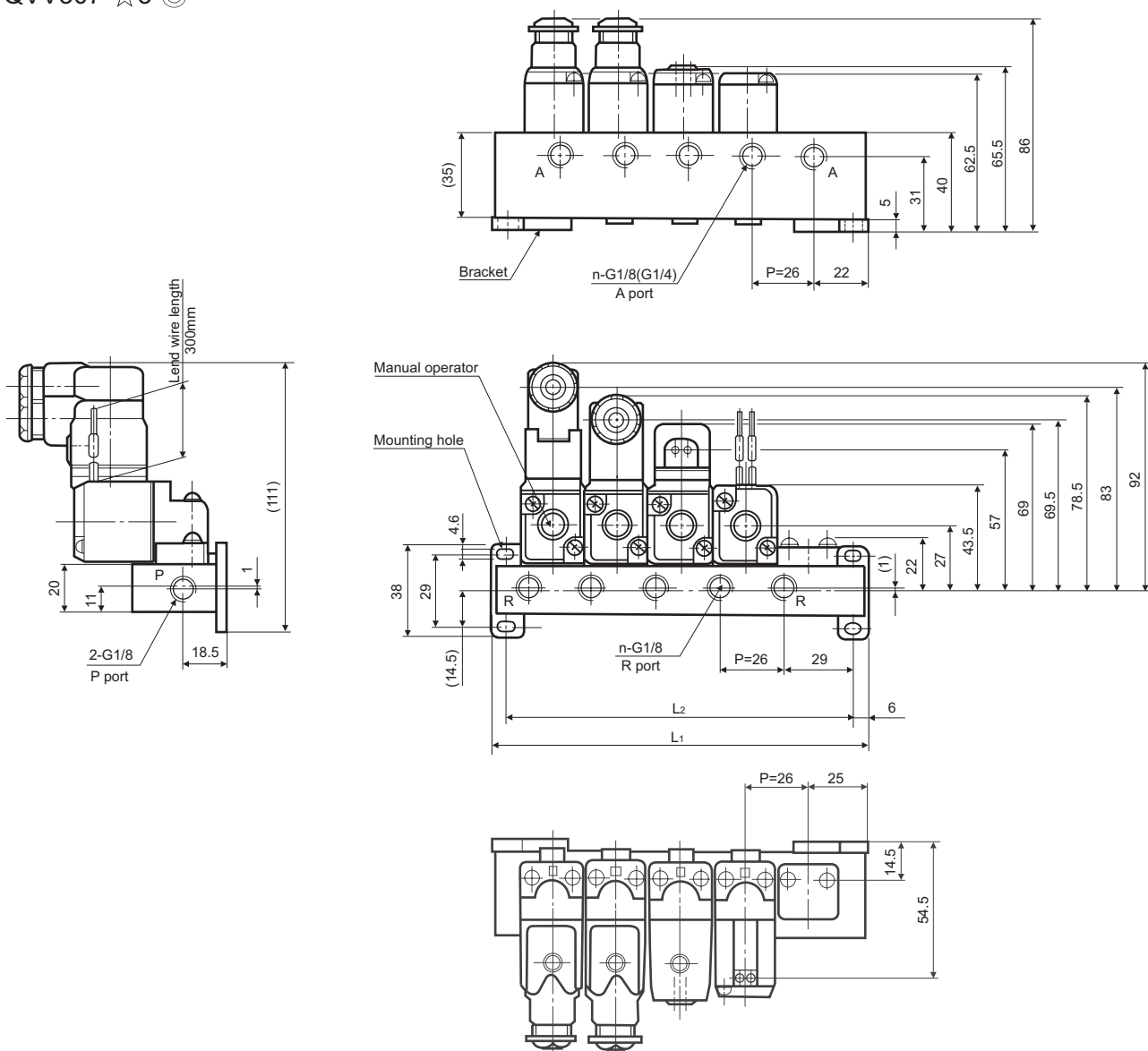
Blanking Plate Ass'y

DXT060-51-13

No.	Description	Number	Remark
1	Screw (M4×12 with spring washer)	2	ZBA-1
2	Blanking Plate	1	QVV307-04MB
3	Gasket	1	QVV307-02
4	Seal	2	QVV307-03

Individual Exhaust

QVV307-☆3-○



5

Model: QVV307-☆○-○

Notes: ☆ Indicates valve No.
02= 2 stations

20= 20 stations

○ Indicates the type of manifold R port:
2= R port: common exhaust
3= R port: individual exhaust

○ Indicates the port size of manifold A port:
01= A port: G1/8
02= A port: G1/4

Order examples:

Need: A manifold for 8 stations, G1/8 A port, individual exhaust R port, with mounting bracket.

Model: QVV307-083-01

Number of station	2	3	4	5	6	7	8	9	10
L ₁	76	102	128	154	180	206	232	258	284
L ₂	64	90	116	142	168	194	220	246	272

Blanking Plate Ass'y DXT060-51-13

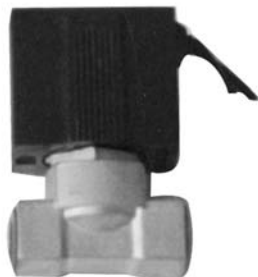
No.	Description	Number	Remark
1	Screw (M4×12 with spring washer)	2	ZBA-1
2	Blanking Plate	1	QVV307-04MB
3	Gasket	1	QVV307-02
4	Seal	2	QVV307-03

2 Position 2-Port Direct Solenoid Valve QVX2120 Type



QVX2120 - 01

QVX2120 - 02



Fluid	Water, Air, Oil, Steam, Vacuum, Gas
Function	Normally closed (N.C)
Ambient temperature	-5 ~ +60 °C
Impact/ vibration resistance	30G / 5G(8.3 ~ 2000Hz)

Solenoid Specifications

Electrical entry	Grommet (G)	
* Coil rated voltage	AC: 110V, 220V / (50/60Hz) DC:12V, 24V	
Allowable voltage variation	-15% ~ +10% of rated voltage	
Coil insulation	Class B or equivalent	
Temperature rise	70 °C	
Power consumption	AC	Inrush 16VA, Holding 10VA
	DC	8.8W

* They are valves in an ambient temperature of 25 °C and application of rated voltage.
Option: Non-standard voltage

Notes:	Specifications												
	Model	Port size	Orifice size mm	Effective orifice mm ² (Cv factor)	Max. System pressure MPa	Max. Operating pressure differential MPa						Weight kg	
						Water		Air		Oil			Steam
						AC	DC	AC	DC	AC	DC		AC
	QVX2120☆-01-□△	G1/8	3	6 (0.33)	Water, oil, air: 3.0 Steam: 1.0	0.9	0.5	1.1	0.6	0.5	0.5	1.0	0.26
	QVX2120☆-02-□△	G1/4	3	6 (0.33)		0.9	0.5	1.1	0.6	0.5	0.5	1.0	0.26

Notes: ☆ Indicates the fluid: □ Indicates coil voltage: △ Indicates electrical entry:
Nil: Standard 3=110VAC 6=12VDC G= Grommet
V: Vacuum 4=220VAC 7=36VDC (wire length 300mm)
S: Steam 5=24VDC 8=24VAC

(Refer to P147 for applied fluid and option symbol.)

Lead wire and voltage distinguishing:
AC 220V / (50/60Hz): Double red DC 24V: Red and black
AC 110V / (50/60Hz): Double blue DC 12V: Red and black
AC 24V / (50/60Hz): Red and blue

Order examples:

1. Need: A valve with 2-pos., 2-port direct solenoid valve, air (standard), G1/4 port size, 24V/DC, grommet.

Model: QVX2120-02-5G

2. Need: A valve with 2-pos., 2-port direct solenoid valve, steam, G1/8 port size, 220V/AC, grommet.

Model: QVX2120S-01-4G

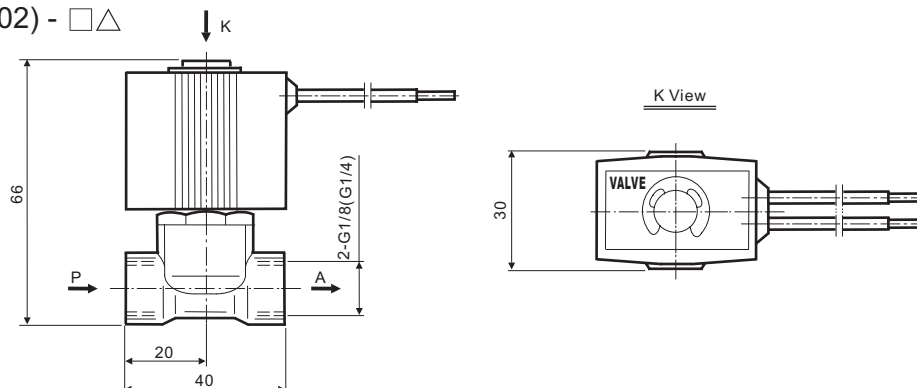
Applicable Fluids and Their Temperatures

Temperature	Power	Fluid temperature °C							Ambient temperature °C
		Water (st.)	Air (st.)	Oil (st.)	*High temp. water (D, E)	*High temp. oil (D)	*Steam (S)	*Vacuum (V)	
Highest	AC	60	80	60	99	120	183	60	60
	DC	40	60	40	—	—	—	40	40
Lowest	AC	1	** -10	*** -5	—	—	—	-10	-20
	DC								

*D, E, S, V etc. In the parentheses are option symbols. **Dew point: -10 °C or lower. ***Viscosity: Lower than 50 cs.

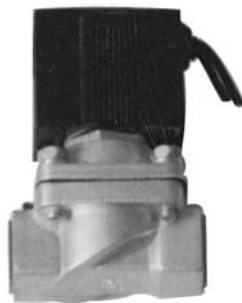
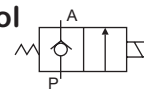
Dimensions (mm)

QVX2120☆ - 01(02) - □△



2 Position 2-Port Pilot Diaphragm Solenoid Valve QVXD2130 Type

Symbol



QVXD2130 - 03

QVXD2130 - 04



Fluid	Water, Air, Oil, Gas
Function	Normally closed (N.C)
Ambient temperature	-5 ~ +60°C
Impact/ vibration resistance	30G / 5G(8.3~2000Hz)

Solenoid Specifications

Electrical entry		Grommet (G)
* Coil rated voltage		AC: 110V, 220V / (50/60Hz) DC:12V, 24V
Allowable voltage variation		-15%~+10% of rated voltage
Coil insulation		Class B or equivalent
Temperature rise		70℃
Power consumption	AC	Inrush 16VA, Holding 10VA
	DC	8.8W

* They are valves in an ambient temperature of 25°C and application of rated voltage.
Option: Non-standard voltage

Notes:	Specifications												
	Model	Port size	Orifice size (mm)	Effective orifice mm²(Cv factor)	Max. System pressure MPa	Max. Operating pressure differential MPa						Min. Operating pressure MPa	Weight kg
						Water		Air		Oil			
						AC	DC	AC	DC	AC	DC		
	QVXD2130☆-03-□△	G3/8	10	43 (2.4)	1.5	0.7	0.5	0.9	0.7	0.5	0.4	0.02	0.42
	QVXD2130☆-04-□△	G1/2	10	43 (2.4)		0.7	0.5	0.9	0.7	0.5	0.4	0.02	0.50

Notes: ☆ Indicates the fluid:
Nil: Standard
E: High temp. Water
D: High temp. Oil

□ Indicates coil voltage:
3=110VAC 6=12VDC
4=220VAC 7=36VDC
5=24VDC 8=24VDC

△ Indicates electrical entry:
G= Grommet
(wire length 300mm)

Order examples:

1. Need: 2-pos., 2-port pilot diaphragm solenoid valve, air (standard), G3/8 port size, 24V/DC, grommet.

Model: QVXD2130-02-5G

2. Need: 2-pos., 2-port pilot diaphragm solenoid valve, high temp. Oil, G1/2 port size, 220V/AC, grommet.

Model: QVXD2130D-04-4G

(Refer to P147 for applied fluid and option symbol.)

Lead wire and voltage distinguishing:

AC 220V / (50/60Hz): Double red

DC 24V: Red and black

AC 110V / (50/60Hz): Double blue

DC 12V: Red and black

AC 24V / (50/60Hz): Red and blue

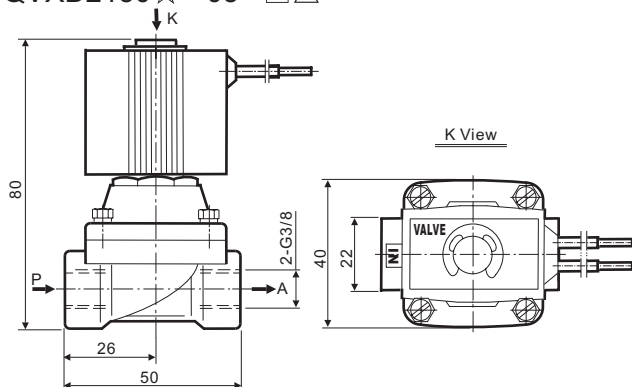
Applicable fluids and their temperatures

Temperature	Power	Fluid temperature °C					Ambient temperature °C
		Water (st.)	Air (st.)	Oil (st.)	*High temp. Water (D, E)	*High temp. Oil (D)	
Highest	AC	60	80	60	99	100	60
	DC	40	60	40	—	—	40
Lowest	AC	1	**	***	—	—	-20
	DC	1	-10	-5	—	—	-20

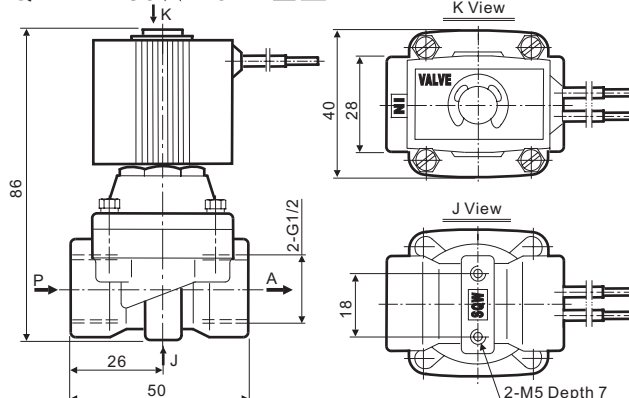
*D, E etc. In the parentheses are option symbols. **Dew point: -10°C or lower ***Viscosity: Lower than 50 cs

Dimensions (mm)

QVXD2130☆ - 03 - □△



QVXD2130☆ - 04 - □△



Applied Fluid Check List

QVX2120 Series

Energized Open Type (N.C)

Fluid and Option

Fluid (Application)	Option symbol
Gas oil	A
Silicone oil	A
Fuel oil (UP to 60 °C)	A
Insulating oil	A
Perchloroethylene	A
Ethylene glycol	B
Brake oil	B
Gas oil (UP to 100 °C)	D
Water (Up to 99 °C)	D, E
Steam system (Condensate)	E
Argon	F
Ethyl alcohol	F, B
Steam system (Steam)	S
Air (Dry)	T, (Standard)
Vacuum (Up 10 ⁻³ Torr)	V
Helium	V
Non-leak (10 ⁻⁵ atm cc/sec)	V

Option Symbol and Configuration

Option symbol	Seal material	Type of coil insulation	Body / shading coil material
Standard	NBR	B	Brass / Copper
A	FPM		
B	EPR		
D	FPM	H	
E	EPR		
*F	FPM	B	
S	PTFE(FPM)	H	
*T	NBR	B	
*V (Non-leak)	FPM		

Notes: 1. The * mark in the option symbols is for non-lube type. For other options, " -X21 " at the end of product number represents the non-lube option.
2. The leakage amount (10⁻⁵ atm cc/sec) of " V ", option is value when differential pressure is 0.1MPa.

QVXD2130 Series

Energized Open Type (N.C)

Fluid and Option

Fluid (Application)	Option symbol
Gas oil	A
Silicone oil	A
Fuel oil (UP to 60 °C)	A
Insulating oil	A
Naphtha	A
Perchloroethylene	A
Ethylene glycol	B
Brake oil	B
Fuel oil (UP to 100 °C)	D
Water (Up to 99 °C)	D, E
Steam system (Condensate)	E
Argon	F
Oxygen	F
Ethyl alcohol	F, B
Air (Dry)	T, (Standard)

Option Symbol and Configuration

Option symbol	Seal material	Type of coil insulation	Body / shading coil material
Standard	NBR	B	Brass / Copper or BCC
A	FPM		
B	EPR		
D	FPM	H	
E	EPR		
*F	FPM	B	
*T	NBR		

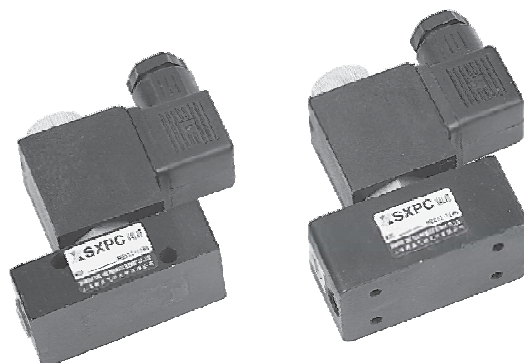
Notes: The * mark in the option symbols is for non-lube type. For other options, " -X21 " at the end of product number represents the non-lube option.

2 position 2,3-port Direct Solenoid Valve XQ Series

The direct operated solenoid valve usually works as the pilot control part of the solenoid pilot valve. It can also control other pneumatic equipments or systems.

The direct operated valve is characteristical by high quality solenoid, compact structure, high switching frequency, reliable function and long service life.

The direct solenoid valves are categorized into in-line, stacking and manifold types. All are normally closed.



Specifications

Model	Type	Mounting type	Port size	Nominal diameter mm	Switching time	Operating pressure	Ambient temperature	Operating voltage										
XQ220480	2/2	In-line	P、A: G1/8	1	10ms	0~1.0 MPa	5~50℃	Voltage: DC:12V 24V AC: 24V/50Hz 110V/50Hz 220V/50Hz										
XQ220481		Stacking	A: G1/8															
XQ220082		Manifold	-															
XQ230480	3/2	In-line	P、A: G1/8 R: M5	1	10ms					Power consumption Nominal dia. Φ1 DC: 3W AC: Inrush 7VA Holding 4.2VA								
XQ230481		Stacking	A: G1/8 R: M5															
XQ230082		Manifold	R: M5															
XQ220480.0	2/2	In-line	P、A: G1/8	2	15ms							Nominal dia Φ2 DC: 12W AC: Inrush 23VA Holding 15VA						
XQ220481.0		Stacking	A: G1/8															
XQ220082.0		Manifold	-															
XQ230480.0	3/2	In-line	P、A、R: G1/8	2	15ms									Working standard 100%ED DIN4005 IP65 (IEC144)				
XQ230481.0		Stacking	A、R: G1/8															
XQ230082.0		Manifold	R: G1/8															
XQ220480.1	2/2	In-line	P、A: G1/8	4	15ms													
XQ220481.1		Stacking	A: G1/8															
XQ220082.1		Manifold	-															
XQ230480.1	3/2	In-line	P、A、R: G1/8	4	15ms													
XQ230481.1		Stacking	A、R: G1/8															
XQ230082.1		Manifold	R: G1/8															

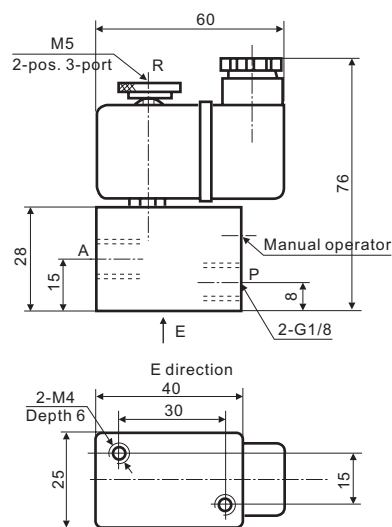
Dimensions (mm)

Symbol (2-pos. 2-port) (2-pos. 3-port)



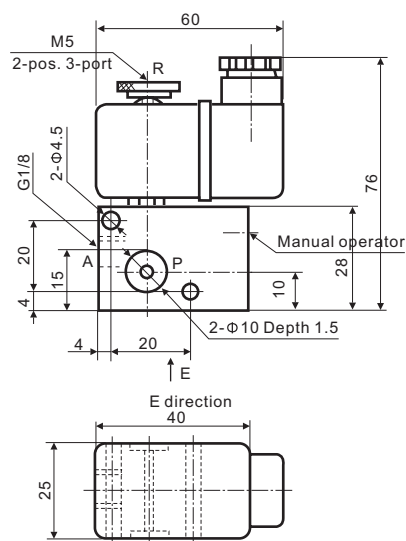
In-line

XQ220480 XQ230480



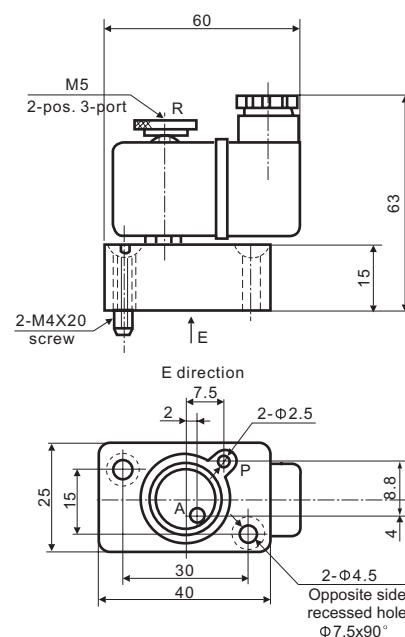
Stacking

XQ220481 XQ230481



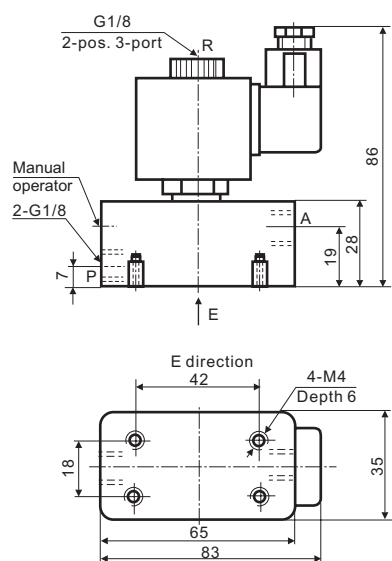
Manifold

XQ220082 XQ230082



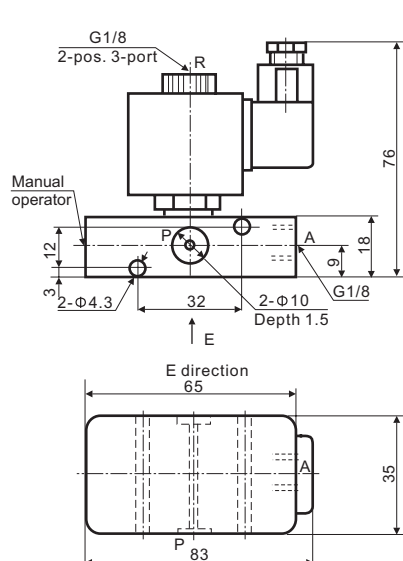
In-line

XQ220480.0 XQ230480.0
XQ220480.1 XQ230480.1



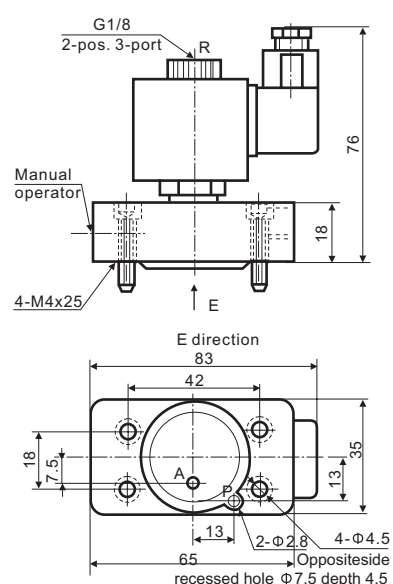
Stacking

XQ220481.0 XQ230481.0
XQ220481.1 XQ230481.1



Manifold

XQ220082.0 XQ230082.0
XQ220082.1 XQ230082.1



2 Position 3,5-Port & 3Position 5-Port Air Operated Valve XQ Series

The position change is made by the air signal operating the spool.

Double air operated valve has memory function.

Air operated valve is extensively used in controlling cylinders,
other actuators and pneumatic components.

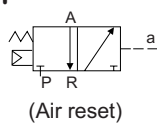


Specifications

Model	Type	Port size	Nominal dia. mm	Control pressure	Operating pressure	Switching time	Fluid temperatur	Ambient temperature	Service life
XQ230430	3/2	G1/8	4	0.2~1.0 Mpa	0~1.0 MPa	30ms	-10~+60℃	5~60℃	10 million times
XQ230630		G1/4	6						
XQ230830		G1/4	8	0.15~1.0 Mpa					
XQ231030		G3/8	10						
XQ231530		G1/2	12						
XQ250430	5/2	G1/8	4	0.2~1.0 Mpa					
XQ250630		G1/4	6						
XQ250830		G1/4	8	0.15~1.0 Mpa					
XQ251030		G3/8	10						
XQ251530		G1/2	12						
XQ230431	3/2	G1/8	4	0.2~1.0 Mpa					
XQ230631		G1/4	6						
XQ230831		G1/4	8	0.15~1.0 Mpa					
XQ231031		G3/8	10						
XQ231531		G1/2	12						
XQ250431	5/2	G1/8	4	0.2~1.0 Mpa					
XQ250631		G1/4	6						
XQ250831		G1/4	8	0.15~1.0 Mpa					
XQ251031		G3/8	10						
XQ251531		G1/2	12						
XQ350431.0	5/3 closed center	G1/8	4	0.25~1.0 Mpa					
XQ350631.0		G1/4	6						
XQ350431.1	5/3 exhaust center	G1/8	4	0.25~1.0 Mpa					
XQ350631.1		G1/4	6						
XQ350431.2	5/3 pressure center	G1/8	4	0.25~1.0 Mpa					
XQ350631.2		G1/4	6						

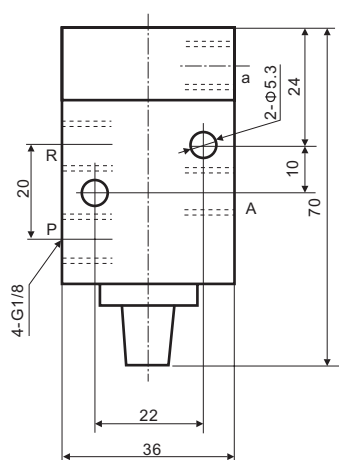
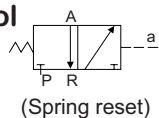
Dimensions (mm) Single Air Operated (2-Pos. 3-Port)

Symbol

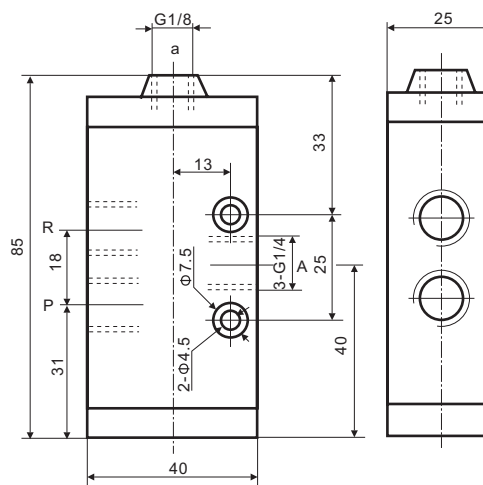


XQ230430

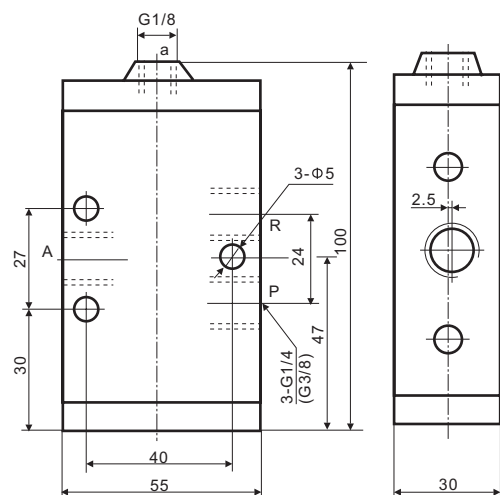
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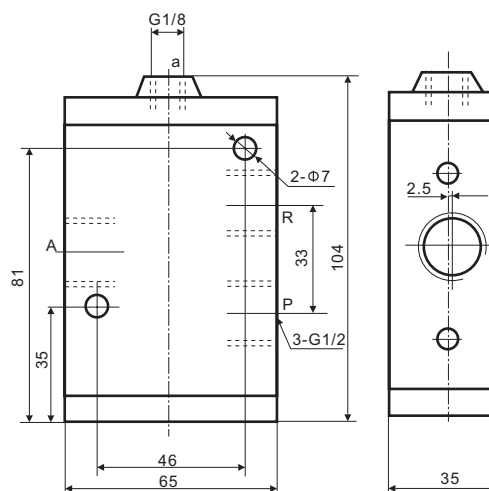
XQ230630



XQ230830 XQ231030

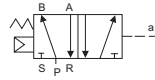


XQ231530

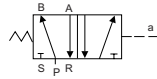


(2-Pos. 5-Port)

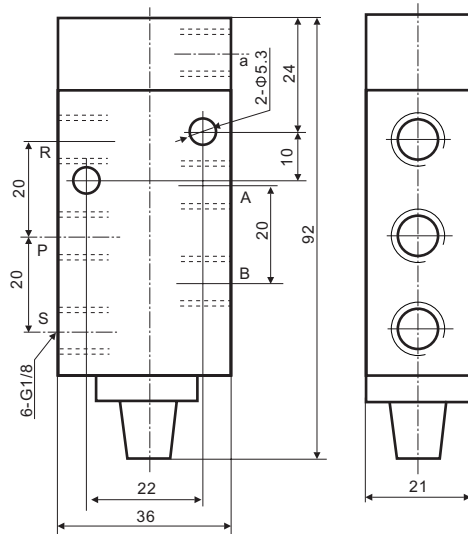
Symbol



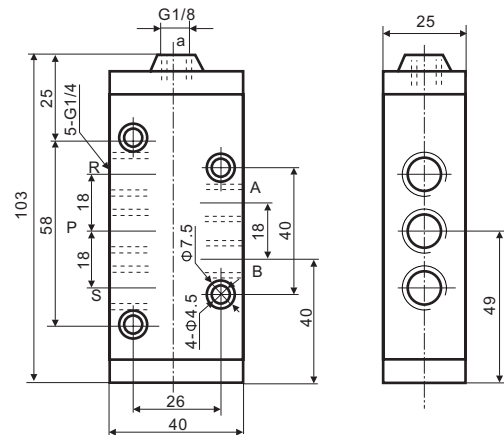
XQ250430 **Symbol**



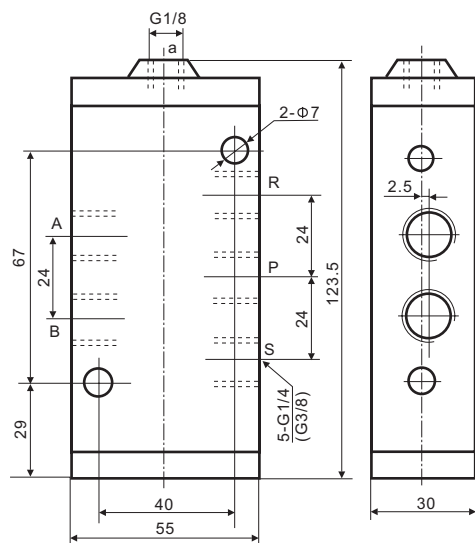
(Spring reset)



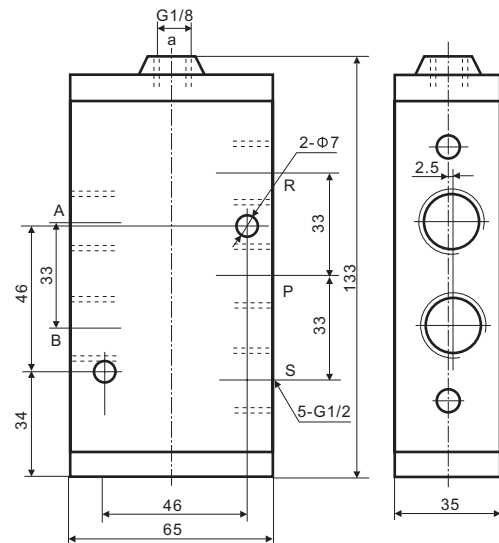
XQ250630



XQ250830 XQ251030



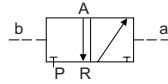
XQ251530



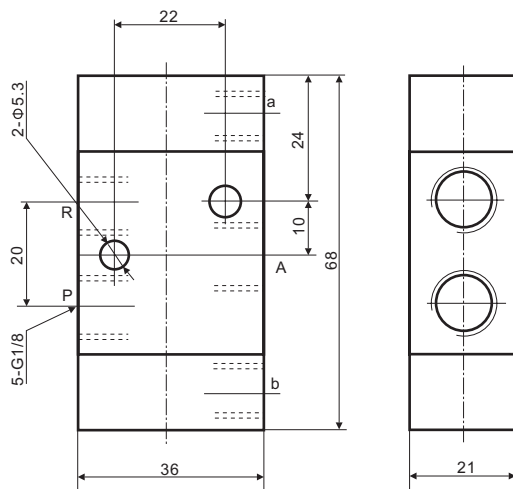
Double Air Operated

(2-Pos. 3-Port)

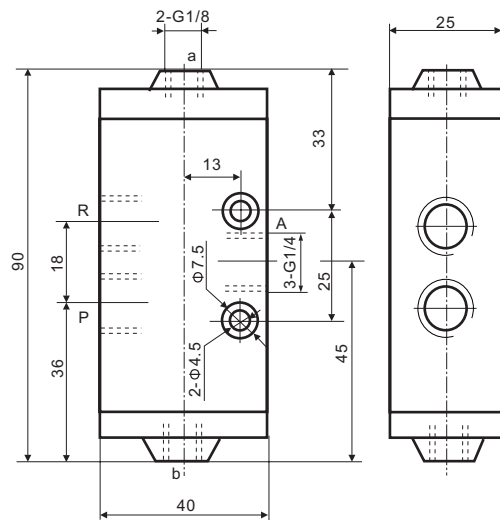
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XQ230431

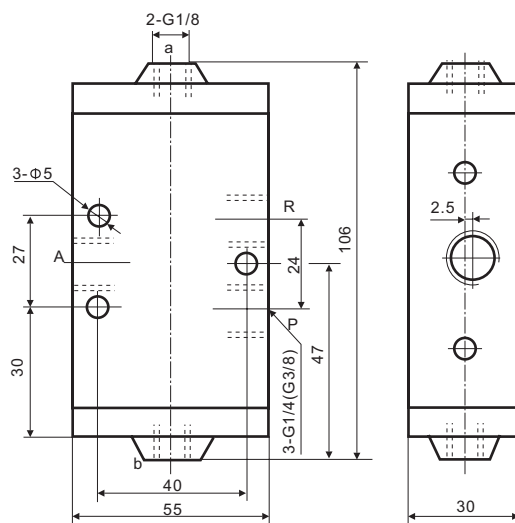


XQ230631

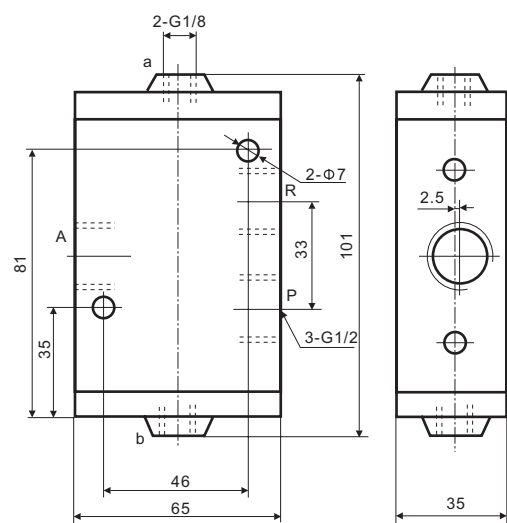


5

XQ230831 XQ231031

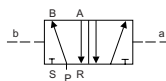


XQ231531

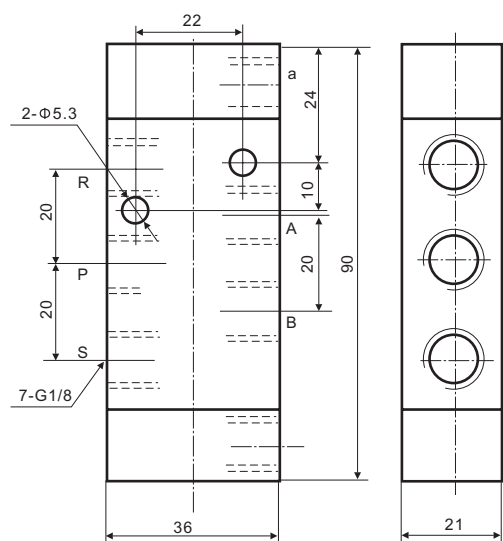


(2-Pos. 5-Port)

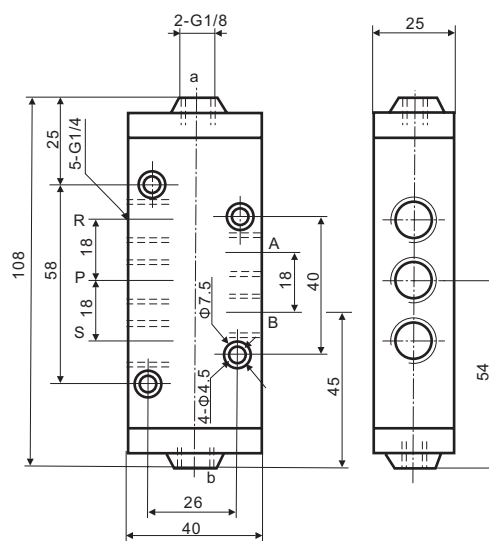
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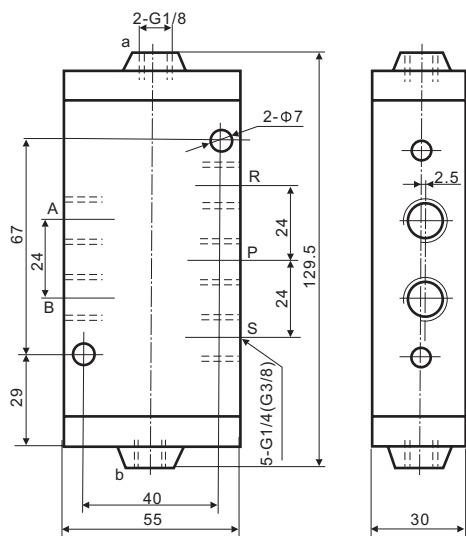
XQ250431



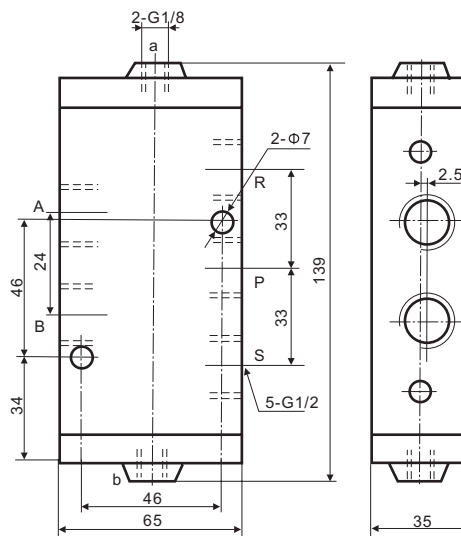
XQ250631



XQ250831、XQ251031

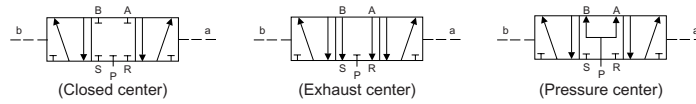


XQ251531



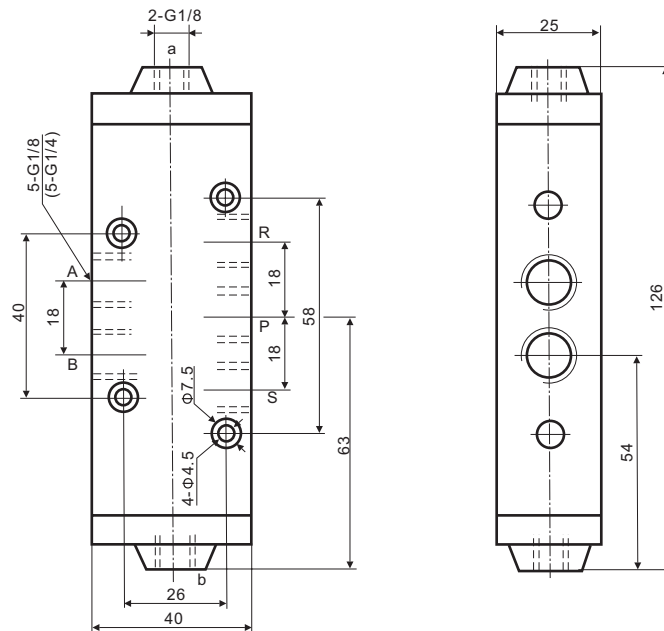
(3-Pos. 5-Port)

Symbol



XQ350431.0 XQ350431.1 XQ350431.2

XQ350631.0 XQ350631.1 XQ350631.2



2 Position 5-Port Air Operated Valve

XQ-V5002A Series

The series is 2-Position 5-Port air operated valves with high flow rate. Not required lubrication, reliable direction control and long service life.

The position change is made by the air signal operating the spool.

The double air operated valve has memory function.

Air operated valve is extensively used in controlling cylinders, other actuators and pneumatic components, or used in hazardous area .



Specifications

Model	Type	Operating pressure	Port size	Control pressure	Effective orifice mm ² (Cv factor)	Switching time	Fluid temperature	Ambient temperature	Service life
XQ-V5102A	5/2	0.15~1.0MPa	G1/4	0.2~1.0 MPa	17.3mm ² (Cv=0.96)	30ms	-10~+60℃	5~50℃	50 million times
XQ-V5202A									

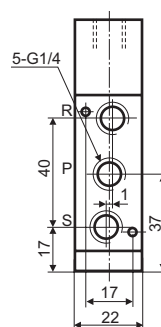
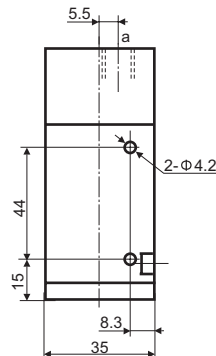
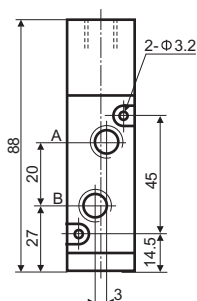
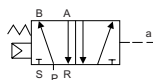
Dimensions (mm)

Single Air Operated

(2-pos. 5-port)

XQ-V5102A

Symbol



Order examples: XQ-V5102A

Port No.

5: 5-Port

Position No. / actuation

1: 2-Pos./ Single Air

operated

2: 2-Pos./ Double Air

operated

Indicates
Air operated

Port size

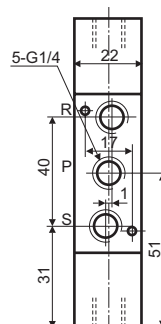
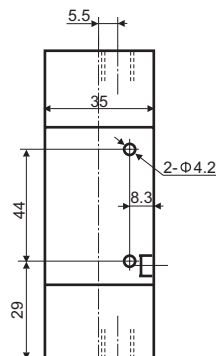
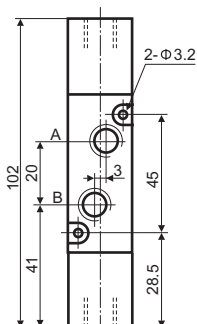
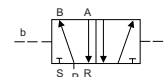
02: G1/4

Double Air Operated

(2-pos. 5-port)

XQ-V5202A

Symbol



2 Position 5-Port Air Operated Valve XC4A Series

The valves use air pressure signals to control the moving of spools thus to change the valve positions.

They have reliable direction control function and long service life.

There are single air operated and double air operated types. The double air operated has memory function.

The air operated valves are extensively used to control cylinders and used in hazardous environment.

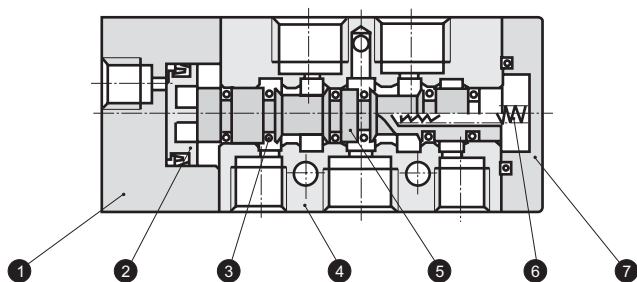


Specifications

Model	Type	Port size	Effective orifice	Operating pressure	Min. Control pressure	Switching time	Ambient temperature	Service life
XC4A110-06	2-Pos. 5-Port	G1/8	12mm ² (Cv=0.67)	0.15~1.0MPa	0.15MPa	10ms	5~60℃	10 million times
XC4A120-06				0.1~1.0MPa	0.1MPa			
XC4A210-08		G1/4	17.1mm ² (Cv=0.95)	0.15~1.0MPa	0.15MPa			
XC4A220-08				0.1~1.0MPa	0.1MPa			
XC4A310-10		G3/8	40mm ² (Cv=2.5)	0.15~1.0MPa	0.15MPa			
XC4A320-10				0.1~1.0MPa	0.1MPa			
XC4A410-15		G1/2	64.8mm ² (Cv=3.6)	0.15~1.0MPa	0.15MPa			
XC4A420-15				0.1~1.0MPa	0.1MPa			

Construction

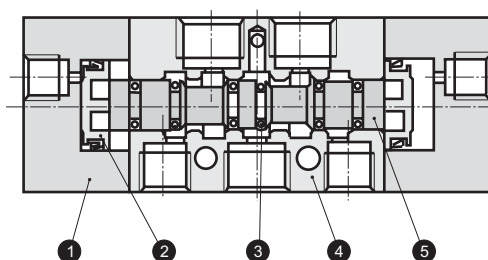
Single Air Operated



Main Parts List (Single Air Operated)

No.	Description	Material
1	End cover	Aluminum alloy
2	Piston	Plastics
3	CSP Seal	HNBR
4	Body	Aluminum alloy
5	Spool	Aluminum alloy
6	Reset spring	Stainless steel wire
7	Rear end cover	Aluminum alloy

Double Air Operated

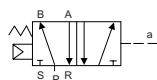


Main Parts List (Double Air Operated)

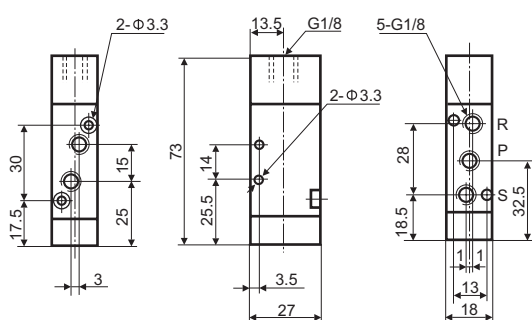
No.	Description	Material
1	End cover	Aluminum alloy
2	Piston	Plastics
3	CSP Seal	HNBR
4	Body	Aluminum alloy
5	Spool	Aluminum alloy

Dimensions (mm)
Single Air Operated
(2-Pos. 5-Port)

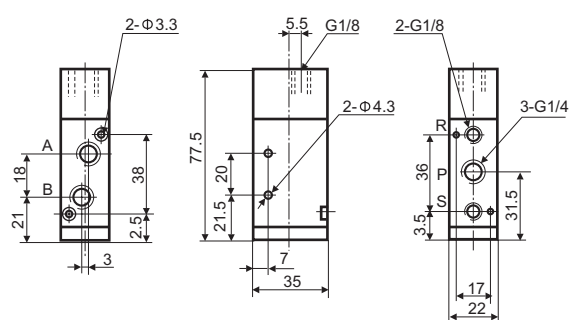
Symbol



XC4A110-06

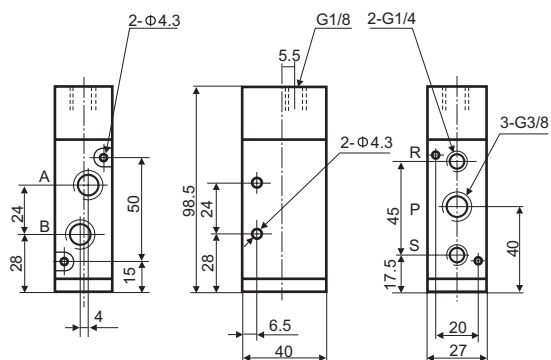


XC4A210-08

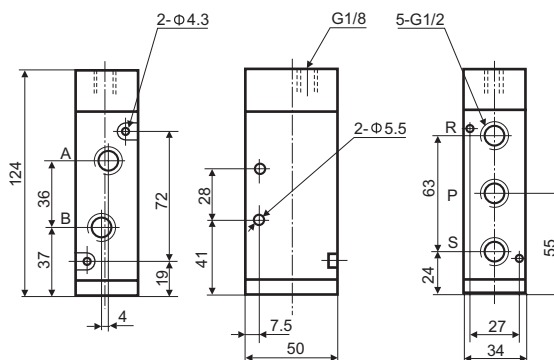


5

XC4A310-10



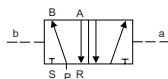
XC4A410-15



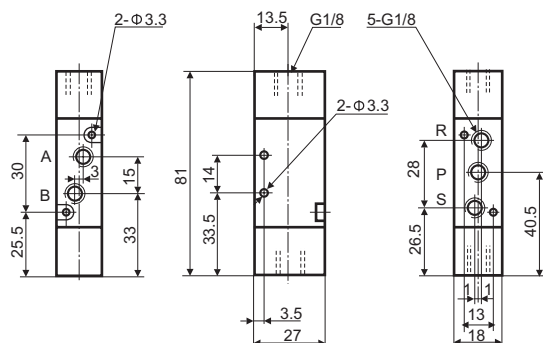
Double Air Operated

(2-Pos. 5-Port)

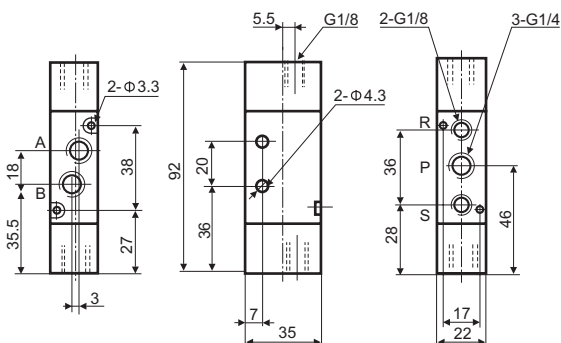
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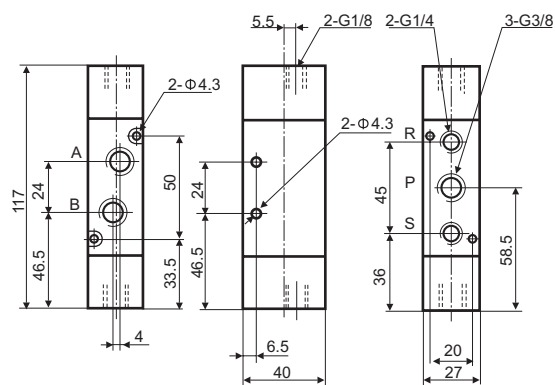
XC4A120-06



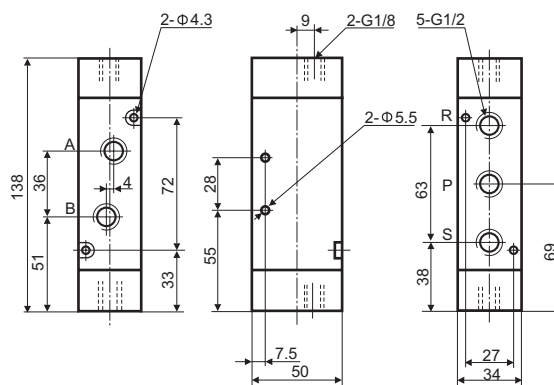
XC4A220-08



XC4A320-10



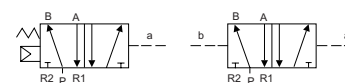
XC4A420-15



2 Position 5-Port Air Operated Valve

QVZA5000, QVFA3000, QVFA5000 Series

Symbol



(Single air-operated)

(Double air-operated)



Fluid	Filtered compressed air
Ambient and fluid temperature	-5 ~ +60°C
*Lubrication	Pro-lubrication in factory
Impact/vibration resistance	30G / 5G(8.3 ~ 2000Hz)
Enclosure	Dust proof

*If used, turbine oil #1 (ISO VG32) is recommended.

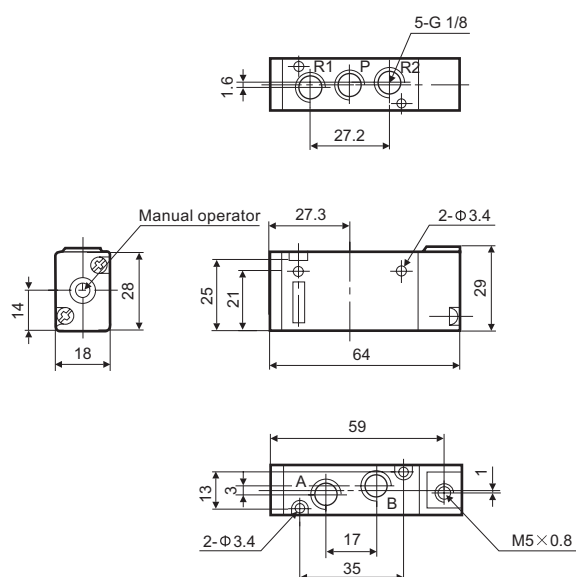
Model	Specifications						
	Position No.	Air-operated	Operating pressure range MPa	Port size	Effective orifice mm ² (Cv factor)	Weight kg	Air-operated piping
QVZA5120-01	2	Single	0.15 ~ 0.7	G1/8	11 (0.6)	0.09	M5×0.8
QVFA3130-02	2	Single	0.15 ~ 0.9	G1/4	18 (1.0)	0.15	G 1/8
QVFA5120-03	2	Single	0.15 ~ 0.9	G3/8	45 (2.5)	0.33	G 1/8
QVZA5220-01	2	Double	0.1 ~ 0.7	G1/8	11 (0.6)	0.11	M5×0.8
QVFA3230-02	2	Double	0.1 ~ 0.9	G1/4	18 (1.0)	0.17	G 1/8
QVFA5220-03	2	Double	0.1 ~ 0.9	G3/8	45 (2.5)	0.34	G 1/8

5

Dimensions (mm)

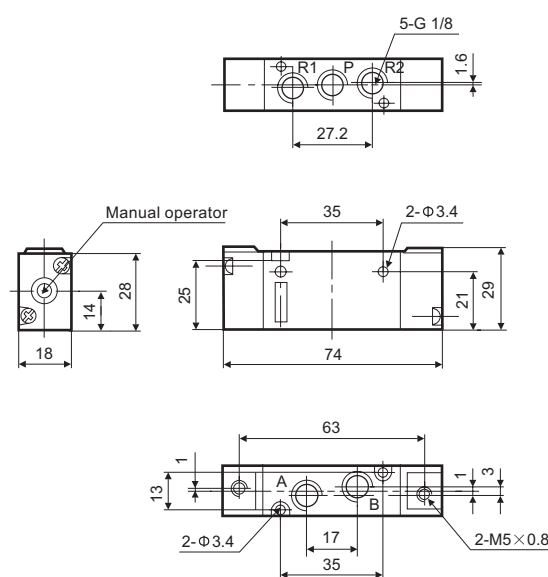
Single Air Operated

QVZA5120-01



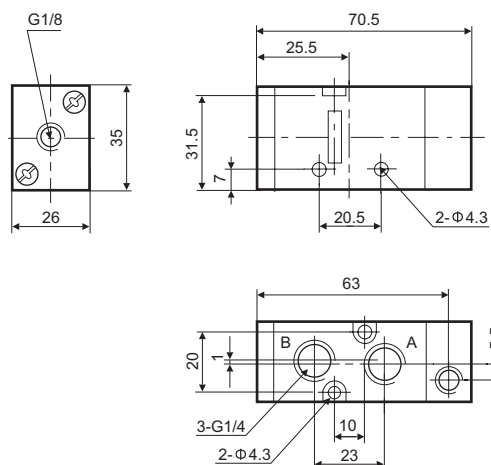
Double Air Operated

QVZA5220-01



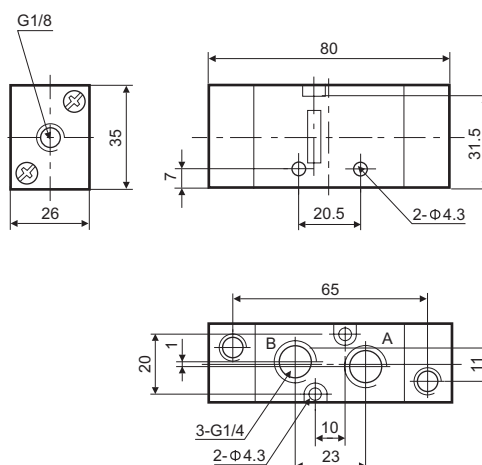
Single Air Operated

QVFA3130-02



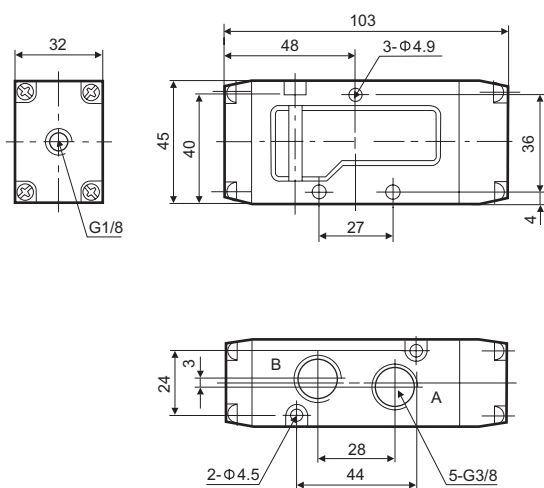
Double Air Operated

QVFA3230-02



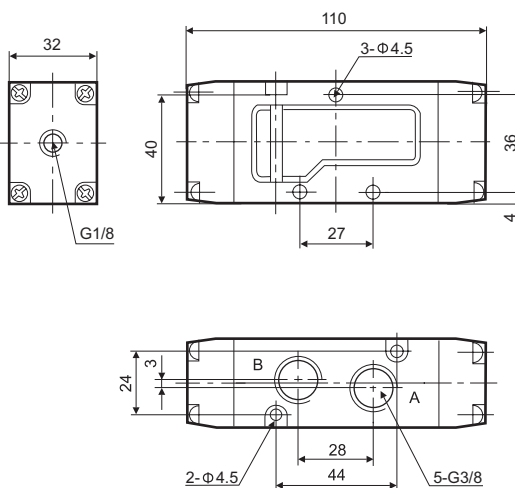
Single Air Operated

QVFA5120-03



Double Air Operated

QVFA5220-03



2 Position 3,5-Port Time Delay Valve

XQ Series

The time delay valve is combination of adjustable orifice and fixed flow allows trans mission of a pneumatic signal after a fixed time period. The time delay is set by the adjusting needle.
Internal air pressure reset or spring reset (XQ000050) and external air pressure reset.



Specifications

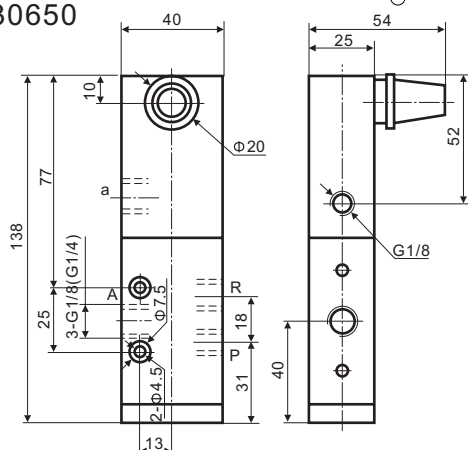
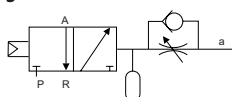
Model	Type	Port size	Nominal dia. mm	Time delay range	Delay tolerance	Operating pressure	Switching time	Fluid temperatur	Ambient temperature	Service life
XQ230450	3/2	G1/8	6	1~30s	8%	0.2~1.0MPa	30ms	-10~+60℃	5~60℃	10 million times
XQ230650		G1/4								
XQ250450	5/2	G1/8								
XQ250650		G1/4								
XQ230451	3/2	G1/8								
XQ230651		G1/4								
XQ250451	5/2	G1/8								
XQ250651		G1/4								

Dimensions (mm)	Symbol
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(2-Pos. 3-Port)

XQ230450

XQ230650

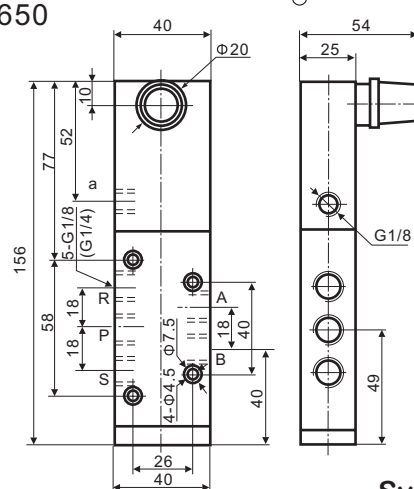
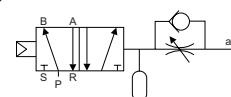


Symbol

(2-Pos. 5-Port)

XQ250450

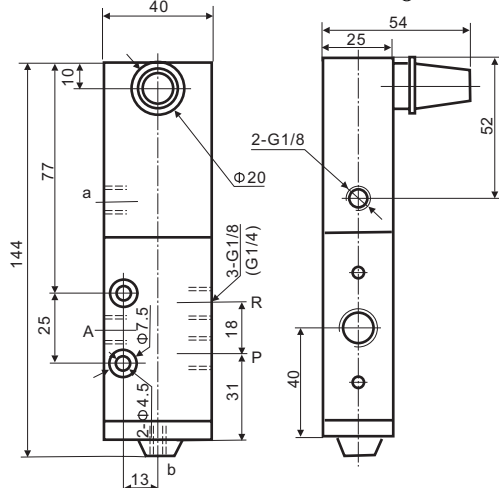
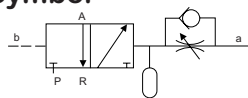
XQ250650



Symbol

XQ230451

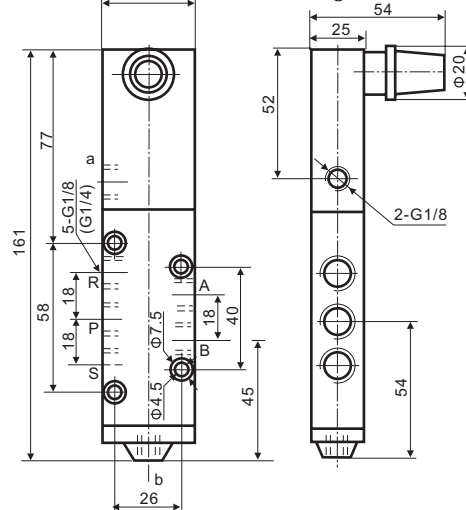
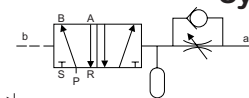
XQ230651



Symbol

XQ250451

XQ250651



2 Position 2-Port Piston-operated Angle-seat Valve

QASV200 Series

Characteristics and Advantages:

Externally air piloted

Seeable position indicator

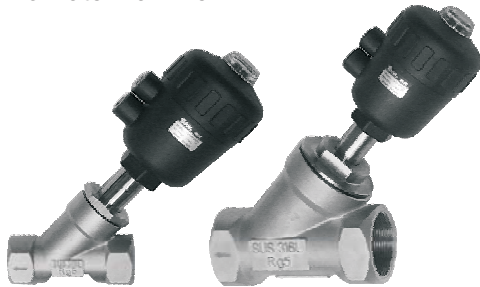
Double sealing compensates wear and tear

Applicable to high temperature (180°C) steam, neutral gas and liquid fluids.

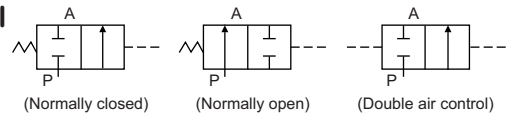
High flow rate

Use in hazardous area

No water hammer

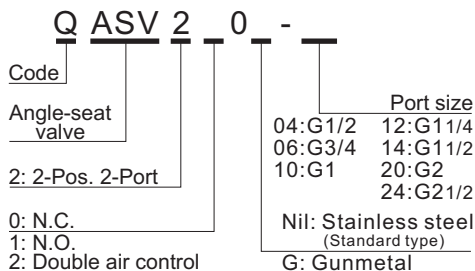


Symbol



Model	QASV2□□0	QASV2□□0G
Proof pressure	2.4MPa	
Max. Operating pressure	1.6MPa	
Control pressure range	0.4~1.0MPa	
Fluid temperature	-10~+180°C	
Ambient temperature	-10~+60°C	
Fluid	Neutral gas and liquid fluids	
Control fluid	Filtered compressed air, neutral gases	
Body material	Stainless steel	Gunmetal
Port size	G1/2 ~ G21/2	

How to Order

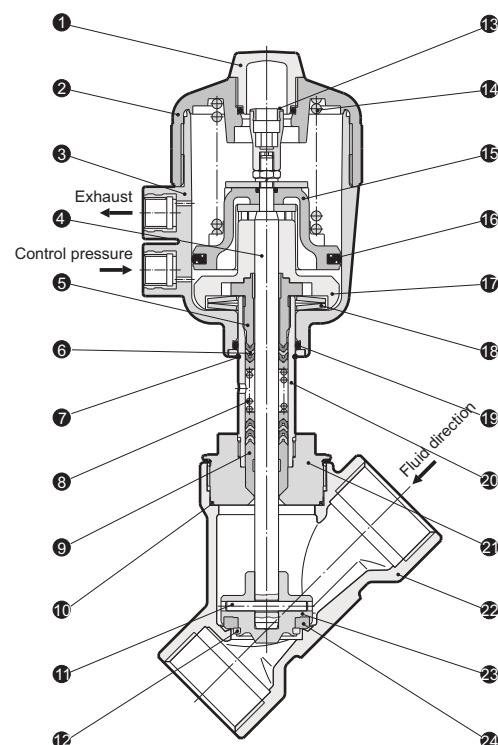


Model	Nominal diameter mm	Cv factor	Port size	Operating pressure range MPa	Min. Control pressure MPa	Piston diameter φ mm	Flow direction
QASV2□0□-04	13	4.9	G1/2	0 ~ 1.6	0.39	50	On the main seat seal (N.C)
QASV2□0□-06	20	9.3	G3/4				
QASV2□0□-10	25	22.2	G1		0.2	63	
QASV2□0□-12	32	32.1	G11/4				
QASV2□0□-14	40	49.0	G11/2				
QASV2□0□-20	50	60.7	G2				
QASV2□0□-24	65	64.2	G21/2		0.16	80	

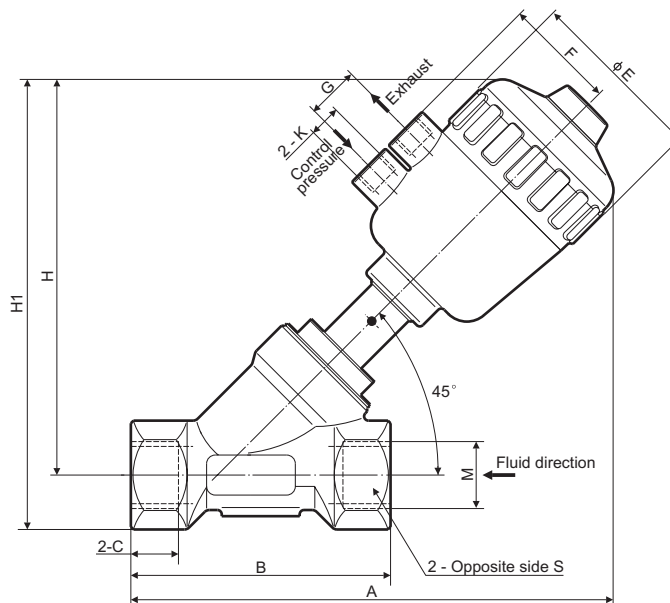
Parts List

No.	Description	Material
1	Sight window	PC
2	Cover	Reinforced N66
3	Housing	Reinforced N66
4	Piston rod	SUS304
5	Threaded bushing	SUS304
6	Seal assembly	PTFE / FPM
7	Wire retainer	65Mn
8	Spring	65Mn
9	Guide sleeve	PTFE + Packing material
10	Sealing gasket	PTFE
11	Connection pin	2Cr13
12	Clamping ring	SUS304
13	Indicator	Reinforced N6
14	Return spring	65Mn
15	Piston	Reinforced N66
16	Z-seal	NBR
17	Spacing disk	Reinforced N66
18	Plate-type spring	65Mn
19	O-ring	NBR
20	Connection barrel	SUS304
21	Bonnet	SUS304
22	Body	SUS304
23	Main seat seal	SUS304
24	Sealing gasket	PTFE

Construction



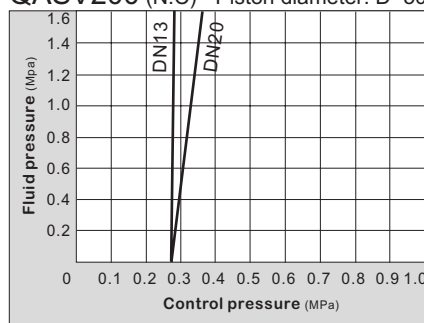
Dimensions (mm)



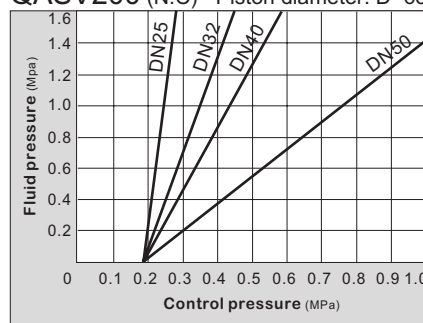
Model		Code	Nominal diameter (mm)	A	B	C	E	F	G	H	H1	K	M	S
Stainless steel body	Gunmetal body													
QASV2□0-04	QASV2□0G-04	DN13	13	173	85	12	64.5	44	24	137	154	G1/4	G1/2	27
QASV2□0-06	QASV2□0G-06	DN20	20	178	95	14	64.5	44	24	145	160	G1/4	G3/4	32
QASV2□0-10	QASV2□0G-10	DN25	25	212	105	18	80.5	52	24	173	196.5	G1/4	G1	41
QASV2□0-12	QASV2□0G-12	DN32	32	226	120	18	80.5	52	24	186	208.5	G1/4	G1 1/4	50
QASV2□0-14	QASV2□0G-14	DN40	40	230	130	18	80.5	52	24	189	214	G1/4	G1 1/2	55
QASV2□0-20	QASV2□0G-20	DN50	50	250	150	20	80.5	52	24	205	237.5	G1/4	G2	70
QASV2□0-24	QASV2□0G-24	DN65	65	298	185	25	101.5	60	24	241	283.5	G1/4	G2 1/2	85

Fluid Pressure – Control Pressure Curves

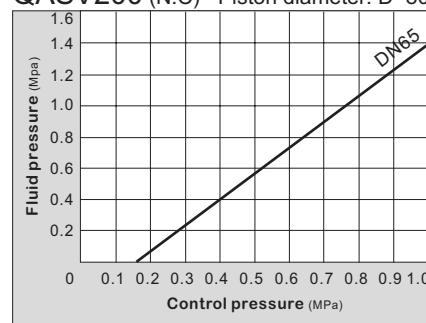
QASV200 (N.C) Piston diameter: D=50



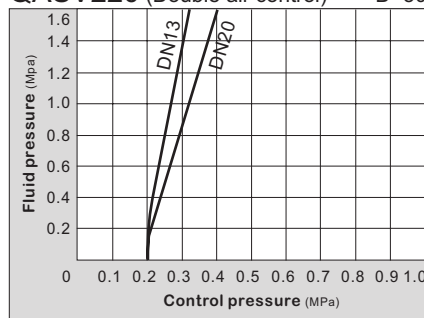
QASV200 (N.C) Piston diameter: D=63



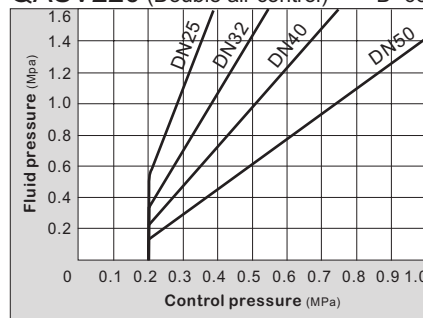
QASV200 (N.C) Piston diameter: D=80



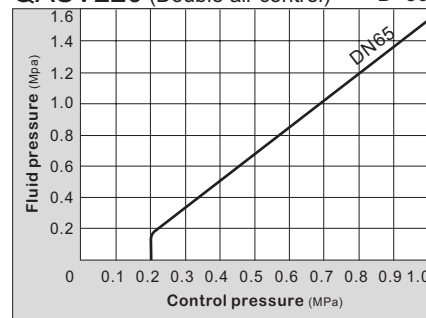
QASV210 (N.O) Piston diameter: D=50
QASV220 (Double air control)



QASV210 (N.O) Piston diameter: D=63
QASV220 (Double air control)



QASV210 (N.O) Piston diameter: D=80
QASV220 (Double air control)



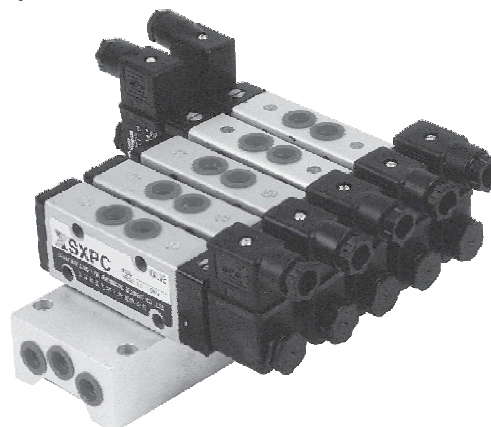
2 Position 3,4,5-Port & 3 Position 5-Port Group Direction Control Valves XQ Series

Two or more solenoid operated or air operated valves mounted on a manifold with common air supply port and exhaust port make the group direction control valves, compact structure and easy assembling.

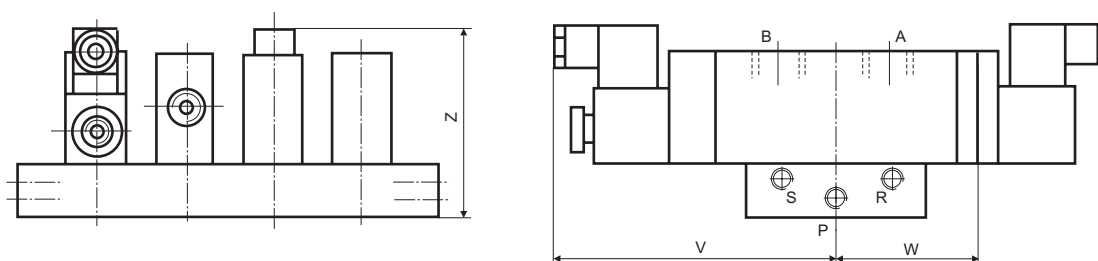
XQ000000U-T Group direction control valves

XQ000000U-T-01 Manifold

T: Number of valves. T = 2、3、4、...9、10



Dimensions (mm)



A, B: Working ports, the number is based on the number and model of valves.

P: Common air supply ports, two ports for a group.

R, S: Common exhaust ports, two or four for a group.

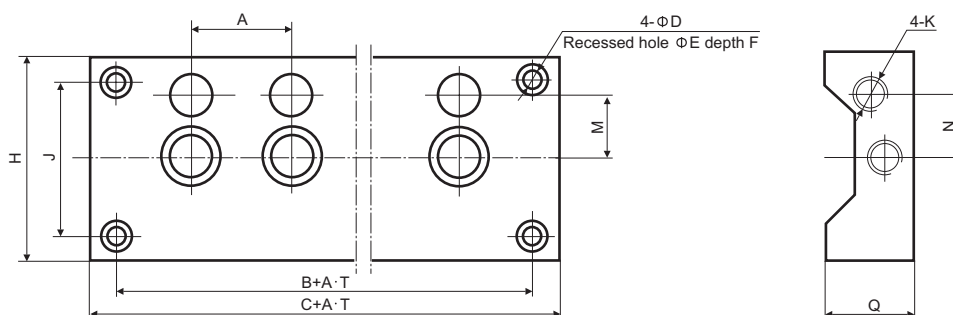
V: The width from P port to the outer edge of the valve top.

W: The width from P port to the outer edge of the valve bottom.

Z: The height of the group valves.

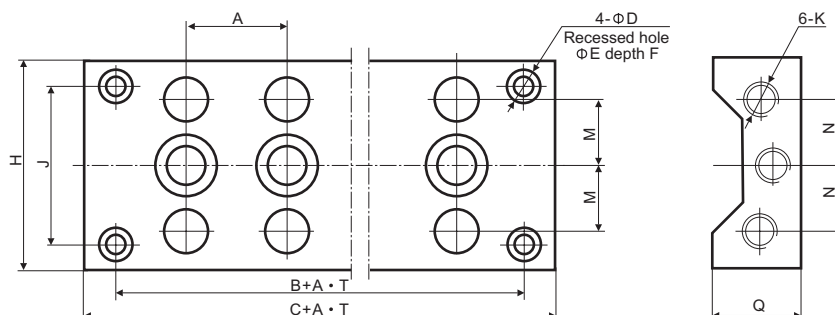
Z = The height of the manifold + the height of the highest valve

Manifold of 2-Pos. 3-Port Group Valves



Model	A	B	C	D	E	F	H	J	K	M	N	Q
XQ230400U-T-01	30	30	60	5.5	9	6	65	54	G1/4	18	18	35
XQ230600U-T-01												
XQ230800U-T-01	35	30	60	5.5	10	7	100	85	G3/8	24	24	45
XQ231000U-T-01												
XQ231500U-T-01	40	30	60	5.5	10	7	120	100	G1/2	33	33	50

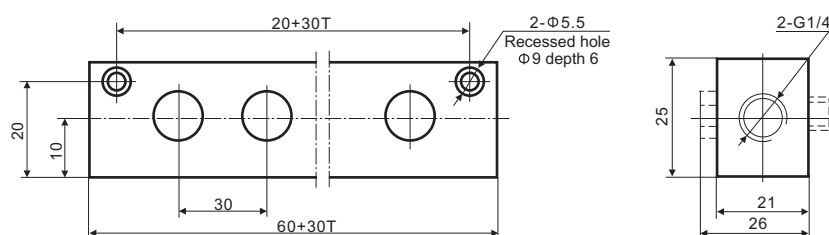
Manifold of 2-Pos. 5-Port, 3-Pos. 5-Port Group Valves



Model	A	B	C	D	E	F	H	J	K	M	N	Q
XQ250400U-T-01	30	30	60	5.5	9	6	65	54	G1/4	18	18	35
XQ250600U-T-01												
XQ250800U-T-01	35	30	60	6.5	10	7	100	85	G3/8	24	24	45
XQ251000U-T-01												
XQ251500U-T-01	40	30	60	6.5	10	7	120	100	G1/2	33	33	50
XQ350400U-T-01	30	30	60	5.5	9	6	65	54	G1/4	18	18	35
XQ350600U-T-01												

5

Manifold of 2-Pos. 4-Port Group Valves



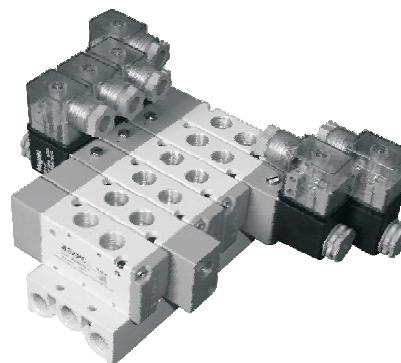
Group Valves List

Model	Type	Operator			
		Single air operated	Double air operated	Single solenoid operated	Double solenoid operated
XQ230000U-T-01	3/2	XQ230030	XQ230031	XQ230040	XQ230041
XQ240440U-T-01	4/2	—	—	XQ240440	—
XQ250000U-T-01	5/2	XQ250030	XQ250031	XQ250040	XQ250041
XQ350000U-T-01	5/3	Closed center	—	—	XQ350041.0
		Exhaust center	—	—	XQ350041.1
		Pressure center	—	—	XQ350041.2

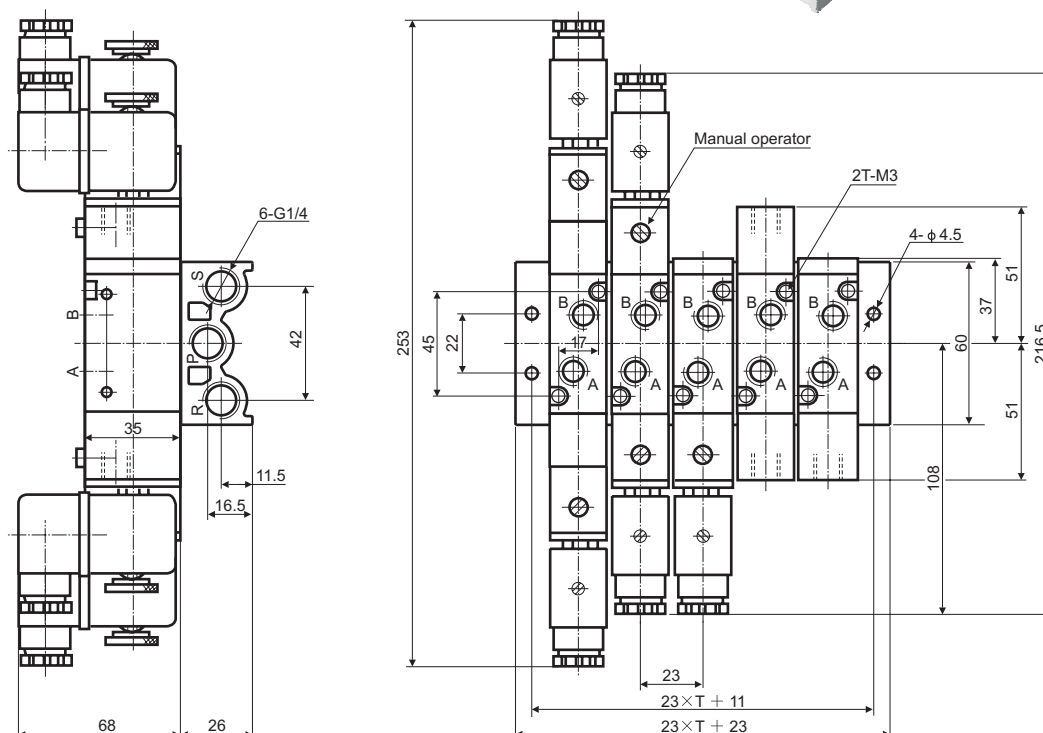
2,3 Position 5-Port Group Direction Control Valves XQ-V502U Series

Two or more solenoid operated or air operated valves mounted on a manifold with common air supply port and exhaust port make the group direction control valves, compact structure and easy assembling.

XQ-V502U-T Group direction control valves
T = 2, 3, 4, ...9, 10 Number of valves.



Dimensions (mm)



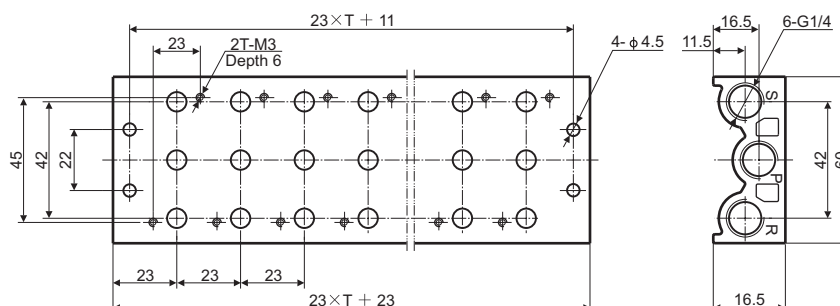
A, B: Working ports, the number is based on the number and model of valves.

P: Common air supply ports, two ports for a group.

R, S: Common exhaust ports, two or four for a group.

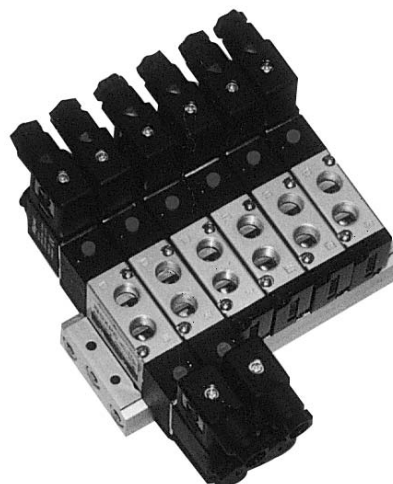
Manifold of 2-Pos. 5-Port Group Valves

XQ-V502U-T-01 Manifold T = 2, 3, 4, ...9, 10 Number of valves.



2 Position 5-Port Group Direction Control Valves XC Series

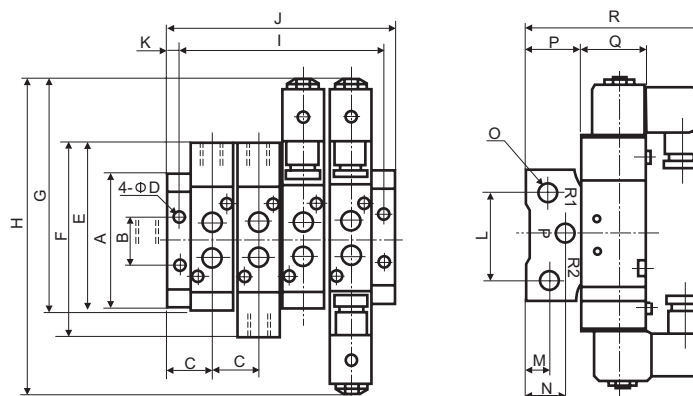
The group valves consist of two or more solenoid operated valves or air operated valves mounted on a manifold with common air supply port and exhaust port. Compact structure and easy assembling.



How to Order

X	C	200M	—	6F
Code				
Series				
Manifold type				Number of stations
100M: for series 100 valves				1-12F (station number): for series 100
200M: for series 200 valves				1-12F (station number): for series 200
300M: for series 300 valves				1-12F (station number): for series 300
400M: for series 400 valves				1-5F (station number): for series 400

Dimensions (mm)



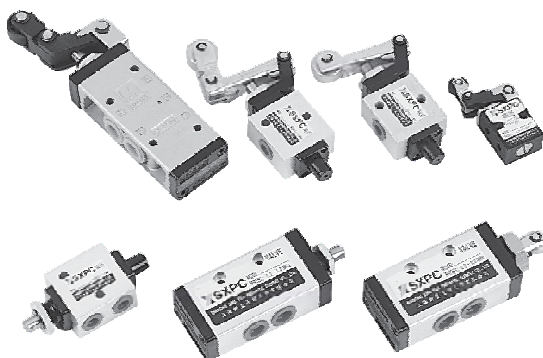
Model	A	B	C	D	E	F	G	H	I											
									1F	2F	3F	4F	5F	6F	7F	8F	9F	10F	11F	12F
XC100M-□F	58	20	19	4.3	73	81	116.5	168	28	47	66	85	104	123	142	161	180	199	218	237
XC200M-□F	60	21	23	4.5	77.5	92	132.5	202	34	57	80	103	126	149	172	195	218	241	264	287
XC300M-□F	75	26	28	4.5	98.5	117	150	220	42	70	98	126	154	182	210	238	266	294	322	350
XC400M-□F	110	32	35	5.5	124	138	179.5	249	49	84	119	154	189	-	-	-	-	-	-	-

Model	K	L	M	N	O	P	Q	R	J											
									1F	2F	3F	4F	5F	6F	7F	8F	9F	10F	11F	12F
XC100M-□F	5	40	10	15	G1/4	25	27	79.5	38	57	76	95	114	133	152	171	190	209	228	247
XC200M-□F	6	42	9.5	15.5	G1/4	25	35	94	46	69	92	115	138	161	184	207	230	253	276	299
XC300M-□F	6	52	13	18	G3/8	31	40	101	54	82	110	138	166	194	222	250	278	306	334	362
XC400M-□F	7	64	17	25	G1/2	42	50	116	63	98	133	168	203	-	-	-	-	-	-	-

2Position 3,5-Port Mechanical Valve XQ Series

Mechanical valves usually use the external forces from cams or rams to change the fluid flowing directions. When the external forces disappear the valves reset automatically. There are several control types: plunger, roller plunger, roller lever and one way roller lever, 2-Pos. 3-Port and 2-Pos. 5-Port. The P port and R port of a 2-Pos. 3-Port valve can be exchanged so as to change the valve from normally closed to normally open.

When a mechanical valve is installed, the moving direction of the ram should be in α angle against the valve and the plunger should be pressed down a S distance (the direction-changed stroke) as shown in diagram (XQ230410).



Specifications

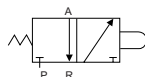
Model	Type	Port size	Nominal dia. mm	Operating force	Operating pressure	Fluid temperatur	Ambient temperature	Service life
XQ230410	3/2	G1/8	4	26N	0~1.0MPa	-10~+60℃	5~60℃	10 million times
XQ230610		G1/4	6	35N				
XQ250410	5/2	G1/8	4	30N				
XQ250610		G1/4	6	40N				
XQ230411	3/2	G1/8	4	26N				
XQ230611		G1/4	6	35N				
XQ250411	5/2	G1/8	4	30N				
XQ250611		G1/4	6	40N				
XQ230412	3/2	G1/8	4	16N				
XQ230612		G1/4	6	24N				
XQ250412	5/2	G1/8	4	19N				
XQ250612		G1/4	6	27N				
XQ230413	3/2	G1/8	4	17.8N				
XQ230613		G1/4	6	20N				
XQ250413	5/2	G1/8	4	21N				
XQ250613		G1/4	6	23N				

Dimensions (mm)

Plunger Type

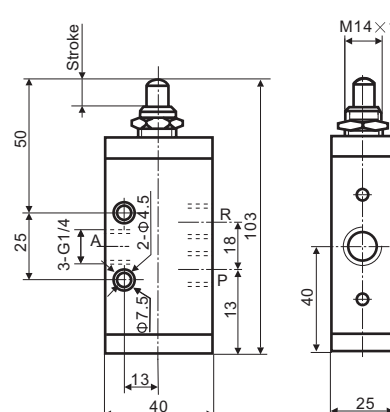
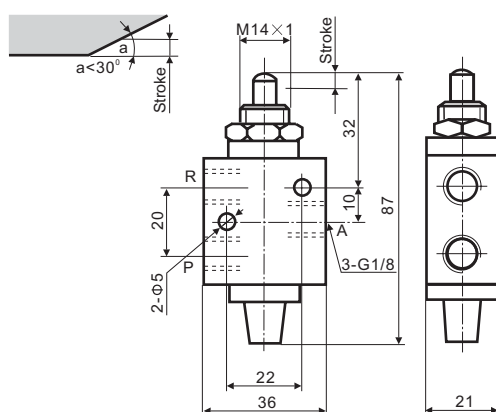
(2-Pos. 3-Port)

Symbol



XQ230410

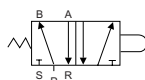
XQ230610



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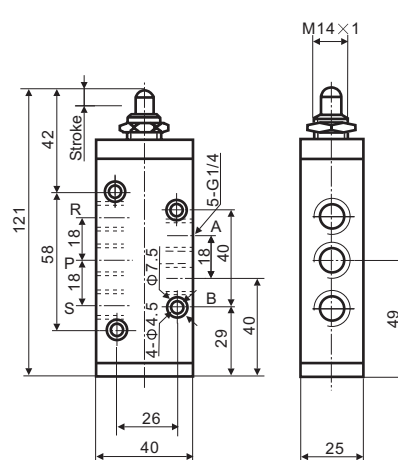
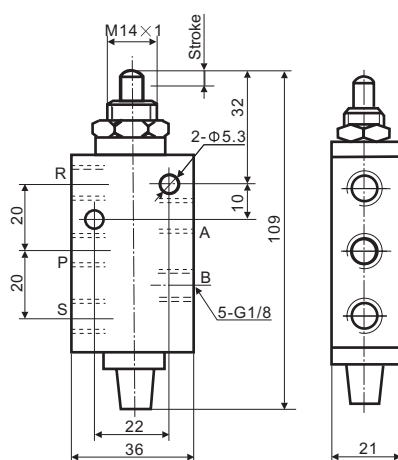
(2-Pos. 5-Port)

Symbol



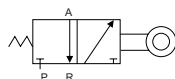
XQ250410

XQ250610

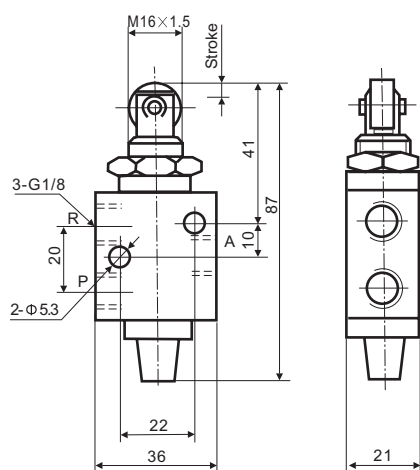


Roller Plunger Type (2-Pos. 3-Port)

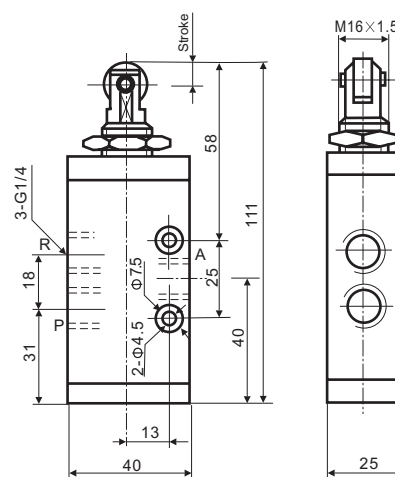
Symbol



XQ230411



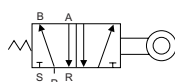
XQ230611



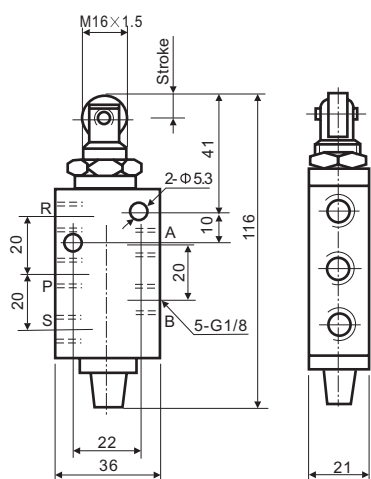
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(2-Pos. 5-Port)

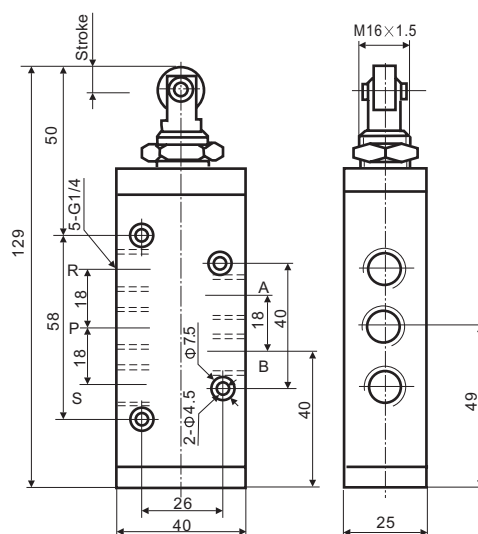
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XQ250411

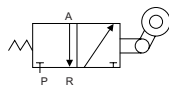


XQ250611



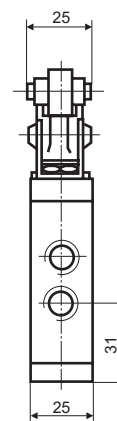
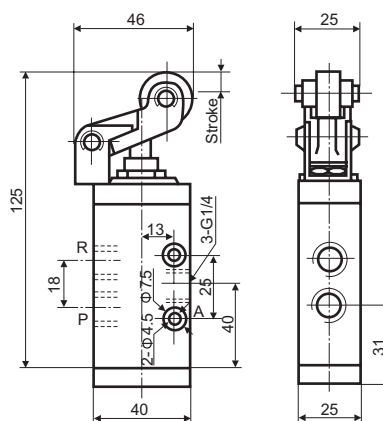
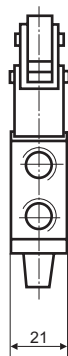
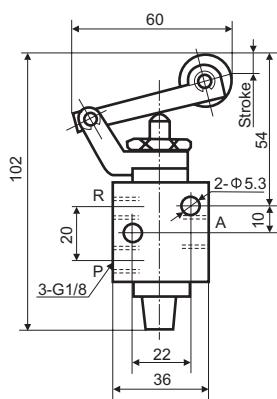
Roller Lever Type (2-Pos. 3-Port)

Symbol



XQ230412

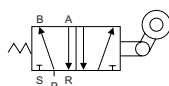
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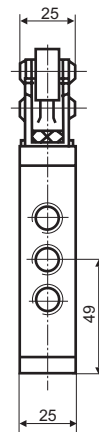
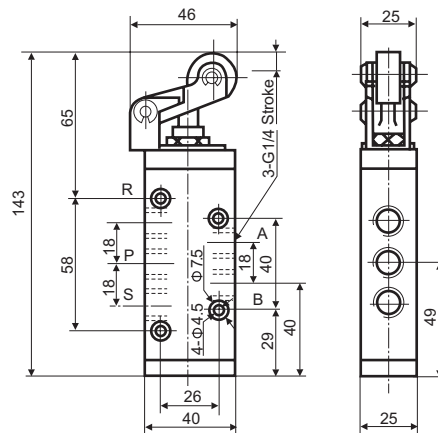
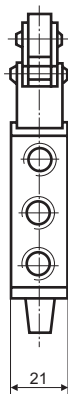
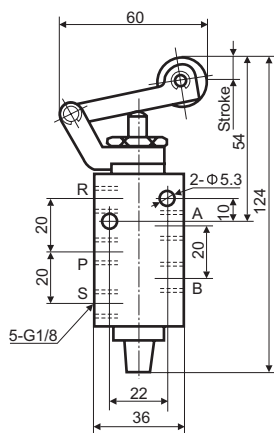
(2-Pos. 3-Port)

Symbol



XQ250412

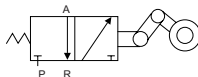
XQ250612



One Way Roller Lever Type

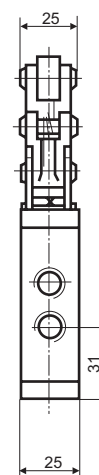
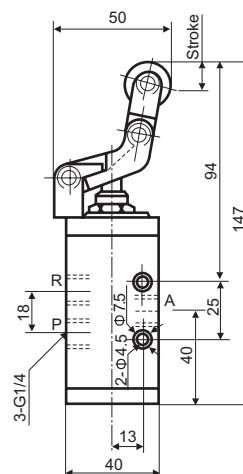
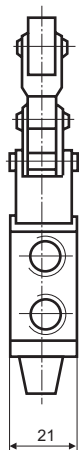
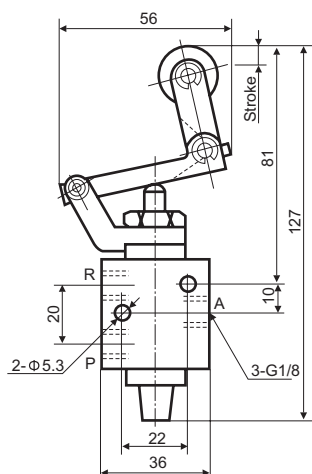
(2-Pos. 3-Port)

Symbol



XQ230413

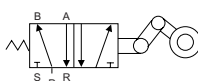
XQ230613



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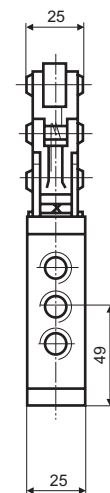
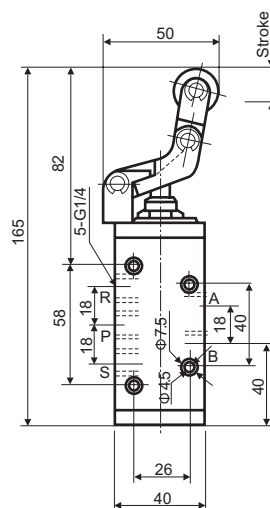
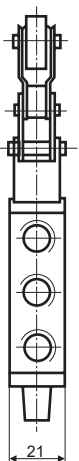
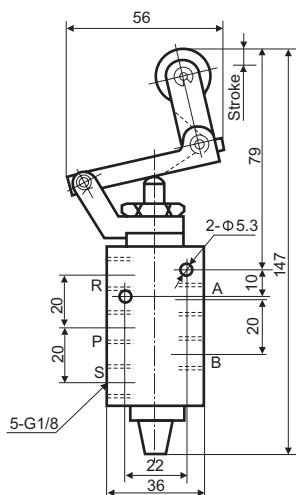
(2-Pos. 3-Port)

Symbol



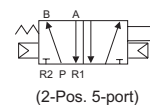
XQ250413

XQ250613



2 Position 5-Port Pilot Mechanical Valve QVFM350 Type

Symbol



Fluid	Filtered compressed air, Inert gases
Ambient and fluid temperature	5 ~ 60 °C
*Lubrication	Pro-lubrication in factory
Effective orifice (Cv factor)	18mm ² (1.0)
Max. Operating frequency	5 c/s
Port size	P, A, B: G1/4, R1, R2: G1/8

*If used, turbine oil #1 (ISO VG32) is recommended.

Parts List

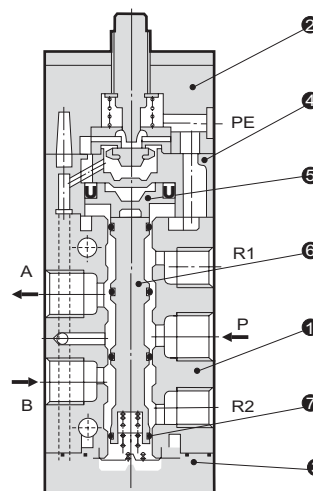
No.	Description	Material	Note
1	Body	Die casting aluminium	Silver-coloured coating
2	Pilot cover	Zinc alloy	Black coating
3	End cover	Zinc alloy	Black coating
4	Pilot body	PBT	
5	Piston	Plastic	
6	Spool	Aluminium	
7	Seal	NBR	

Order example:

Need: A 2-pos., 5-port mechanical valve, standard, G1/4.

Model: QVFM350-02-00

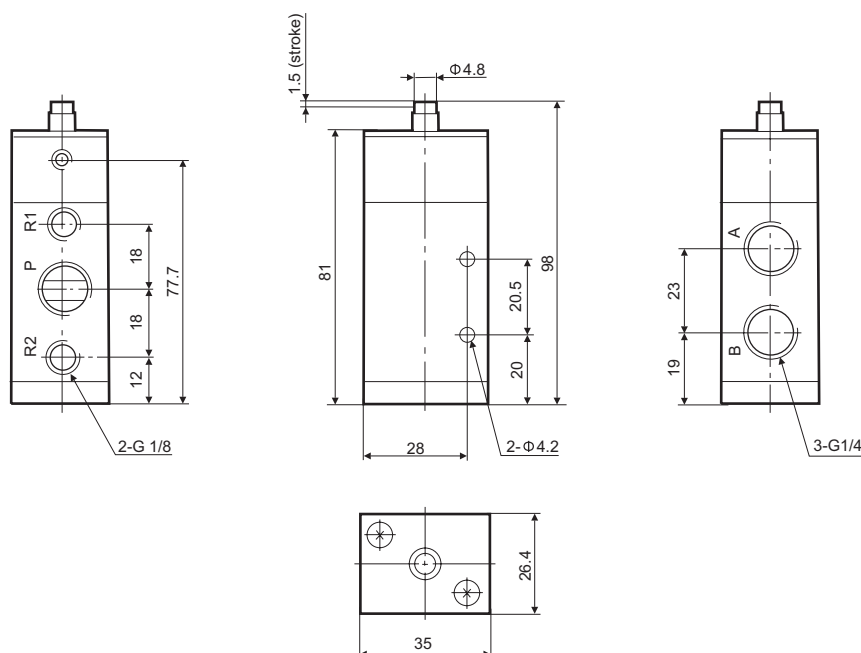
Construction



Dimensions (mm)

Basic Type

QVFM350-02-00

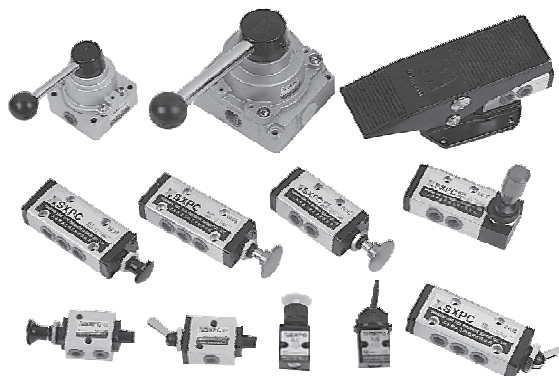


2 Position 3,5-Port Manual Valves

XQ Series

The valves are manual direction control valves. They can be used to directly control cylinders or used as the signal valves of some pneumatic components. There are many control types of the valves: push button, toggle lever, push-pull, foot pedal, hand control and hand rotary. Especially the emergency stop valve is used as the emergency stopper of pneumatic equipment due to its short switching stroke.

2-Pos. 3-Port, 2-Pos. 5-Port, 3-Pos. 4-Port, 3-Pos. 5-Port. The P and R ports can be exchanged so as to make the valve normally closed or open.



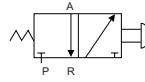
Specifications

Model	Type	Port size	Nominal dia. mm	Operating force (torque)	Operating pressure	Fluid temperatur	Ambient temperature	Service life
XQ230420	3/2	G1/8	4	26N	0~1.0MPa	-10~+60℃	5~+60℃	10 million times
XQ230620		G1/4	6	35N				
XQ250420	5/2	G1/8	4	30N				
XQ250620		G1/4	6	40N				
XQ230420.1	3/2	G1/8	4	26N				
XQ230620.1		G1/4	6	35N				
XQ250420.1	5/2	G1/8	4	30N				
XQ250620.1		G1/4	6	40N				
XQ230421	3/2	G1/8	4	15N.cm				
XQ230621		G1/4	6	28N.cm				
XQ250421	5/2	G1/8	4	17N.cm				
XQ250621		G1/4	6	32N.cm				
XQ230422	3/2	G1/8	4	13N				
XQ230622		G1/4	6	17N				
XQ250422	5/2	G1/8	4	15N				
XQ250622		G1/4	6	20N				
XQ230423	3/2	G1/8	4	20N				
XQ230623		G1/4	6	22N				
XQ250423	5/2	G1/8	4	25N				
XQ250623		G1/4	6	28N				
XQ230460.1	3/2 Hand reset	G1/8	4	5N				
XQ230660.1		G1/4	6	8N				
XQ250460.1	5/2	G1/8	4	5N				
XQ250660.1		G1/4	6	8N				
XQ350660.0	5/3 Hand reset	G1/4	6	8N				
XQ240661	4/2	G1/4	8	1.0N • m				
*XQ241061		G3/8	10	1.5N • m				
XQ241561		G1/2	15	3.0N • m				
XQ340661.0	4/3 Closed center	G1/4	8	1.0N • m				
*XQ341061.0		G3/8	10	1.5N • m				
XQ341561.0		G1/2	15	3.0N • m				

Note: The products with * are supplied respectively by corresponding Shanghai Quanwei products: QVH302-03(XQ241061), QVH300-03(XQ341061.0) and so on.

Push Button Valve (2-Pos. 3-Port)

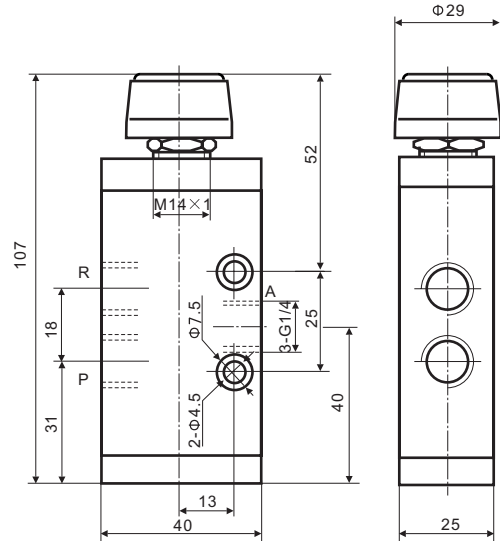
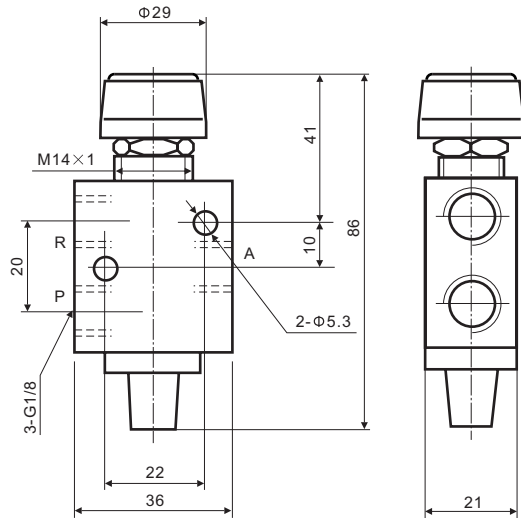
Symbol



Dimensions (mm)

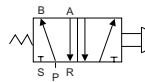
XQ230420

XQ230620



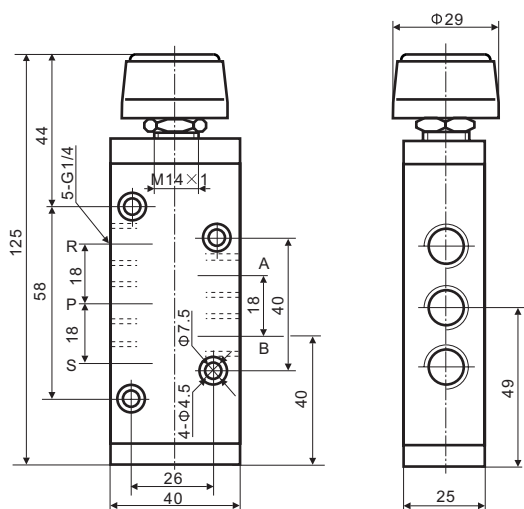
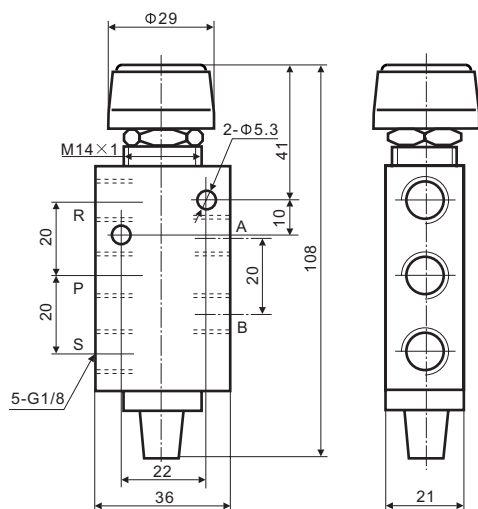
(2-Pos. 5-Port)

Symbol



XQ250420

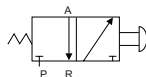
XQ250620



Emergency Stop Valve

(2-Pos. 3-Port)

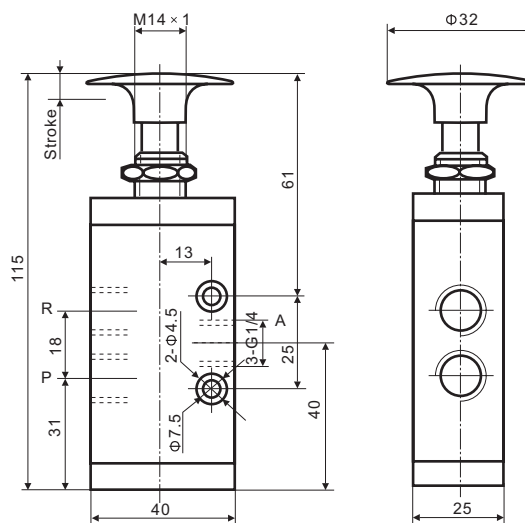
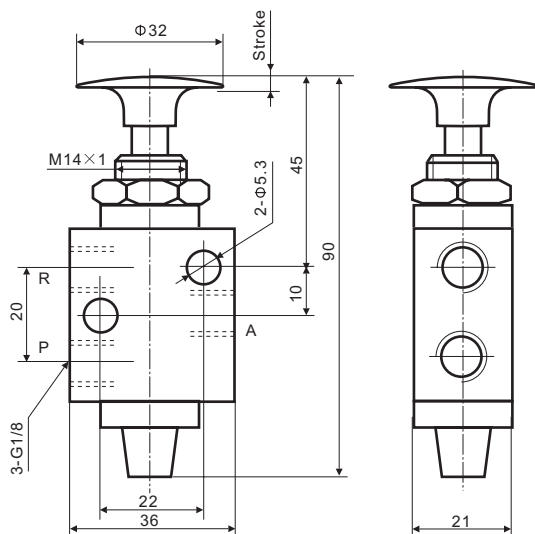
Symbol



Dimensions (mm)

XQ230420.1

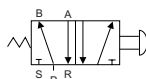
XQ230620.1



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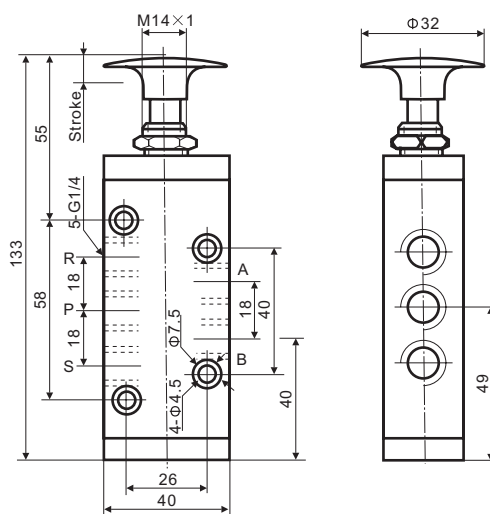
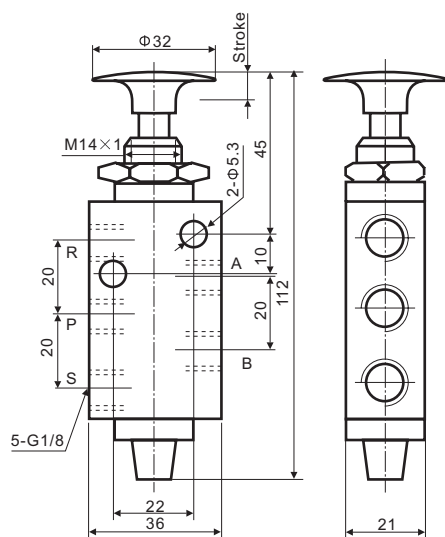
(2-Pos. 5-Port)

Symbol



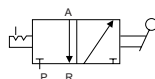
XQ250420.1

XQ250620.1

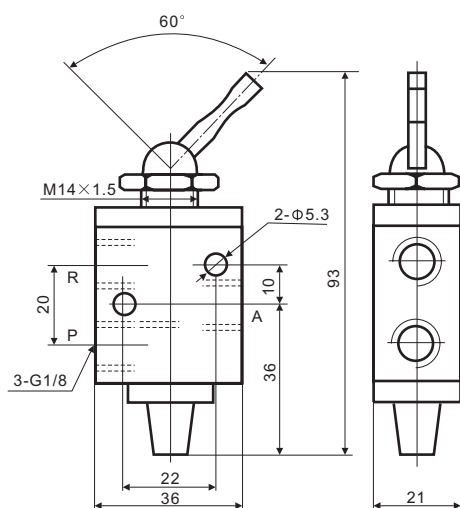


Toggle Lever Valve (2-Pos. 3-Port)

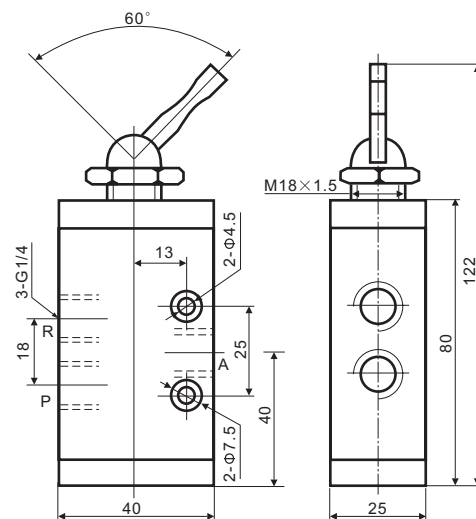
Symbol



XQ230421



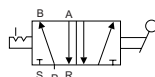
XQ230621



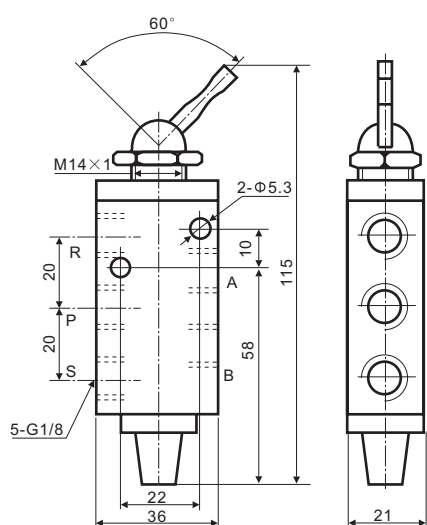
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(2-Pos. 5-Port)

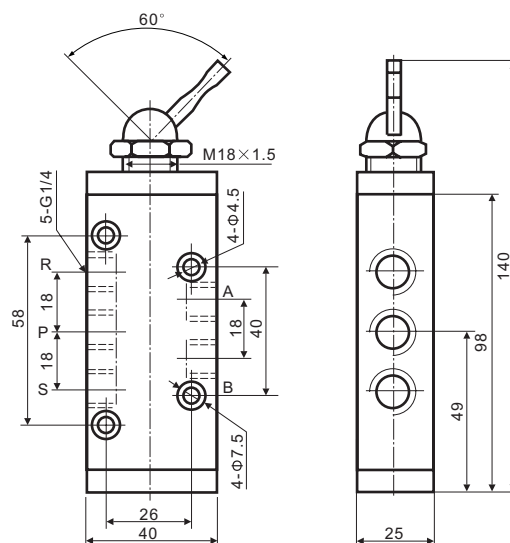
Symbol



XQ250421

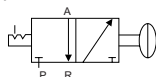


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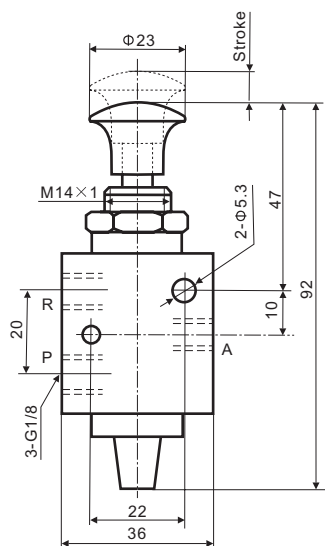


Push-Pull Valve (2-Pos. 3-Port)

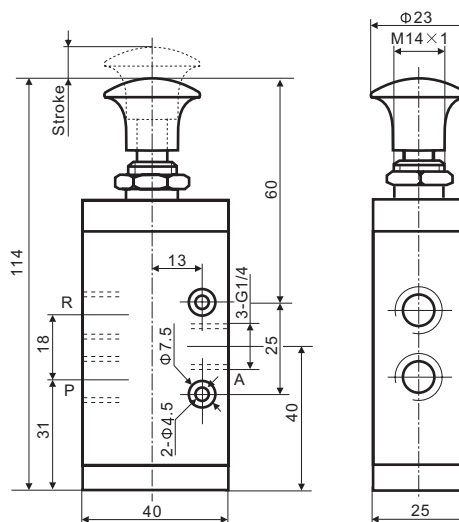
Symbol



XQ230422



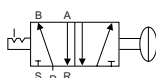
XQ230622



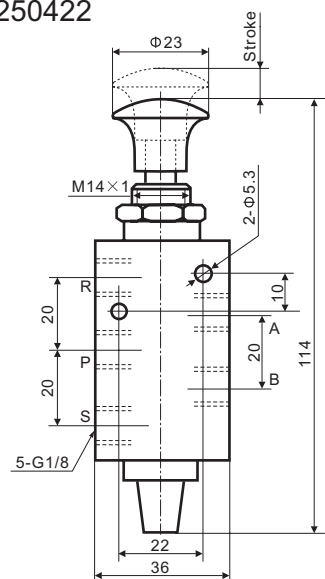
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(2-Pos. 5-Port)

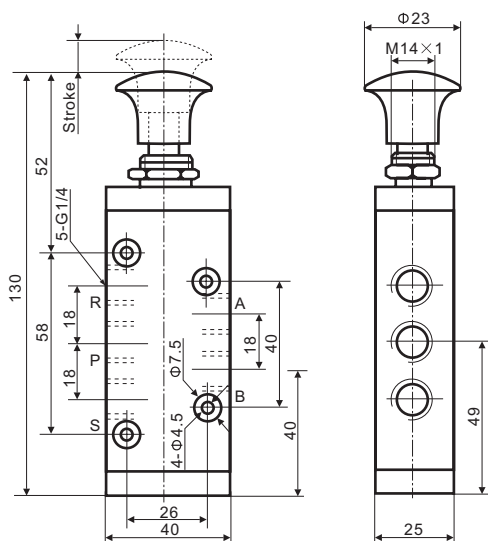
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XQ250422



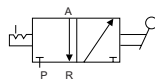
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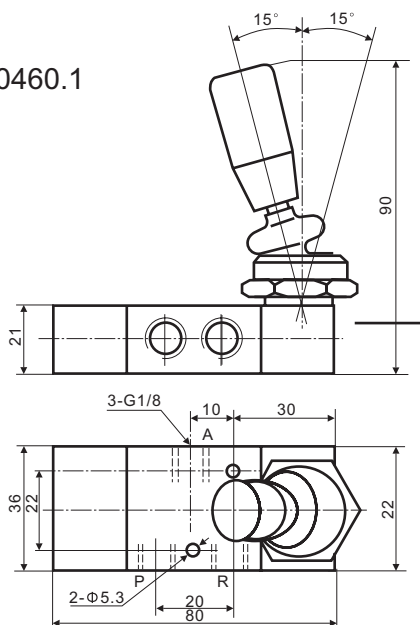
Hand Operated Valve

(2-Pos. 3-Port)

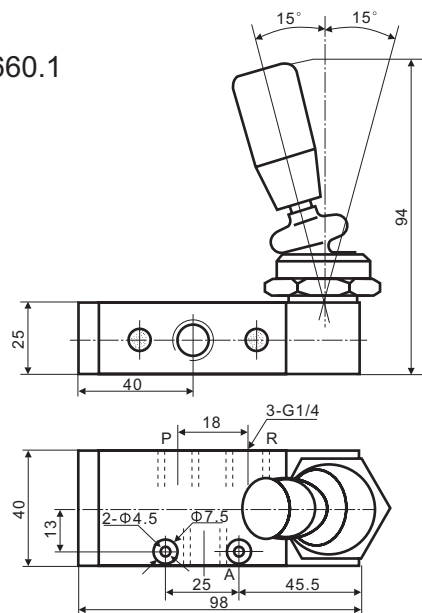
Symbol



XQ230460.1



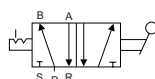
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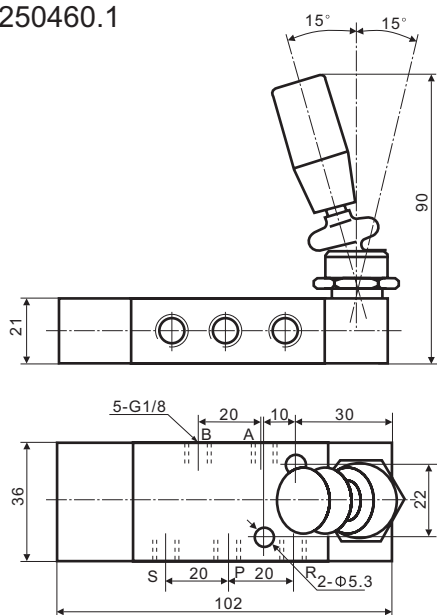
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(2-Pos. 5-Port)

Symbol

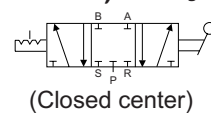


XQ250460.1

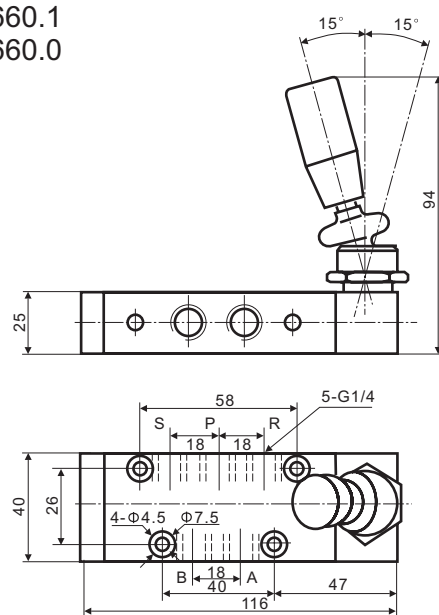


(3-Pos. 5-Port)

Symbol



XQ250660.1
XQ350660.0

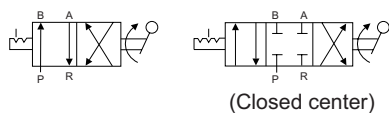


Hand Rotary Valve

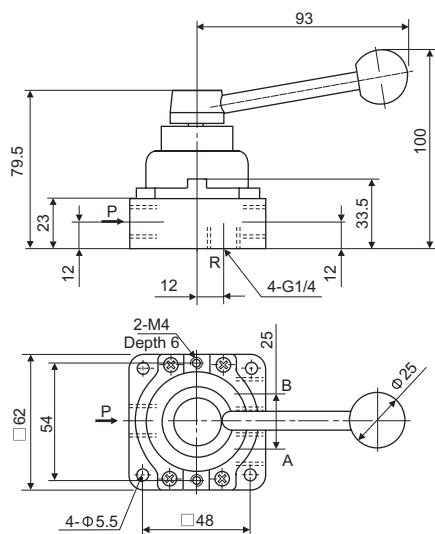
(2-Pos. 4-Port)

(3-Pos. 4-Port)

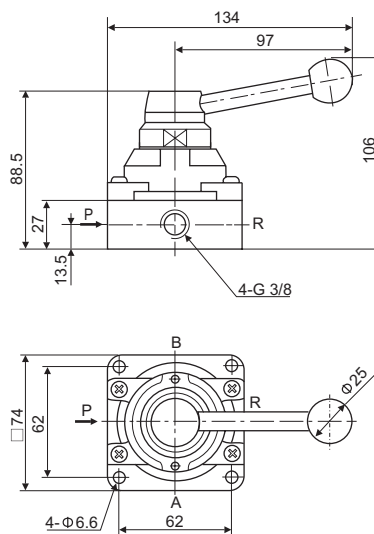
Symbol



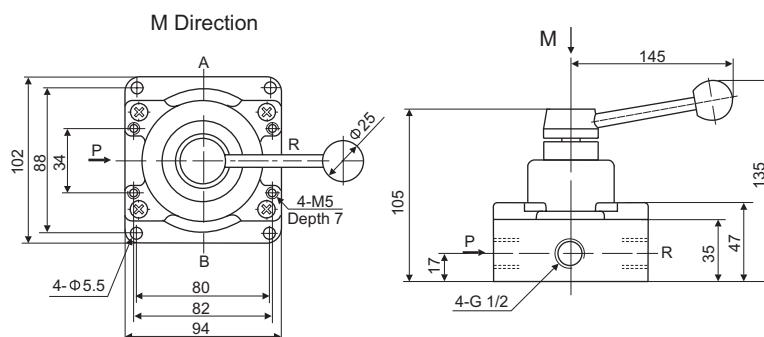
XQ240661
XQ340661.0



XQ241061
XQ341061.0



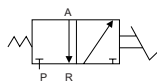
XQ241561
XQ341561.0



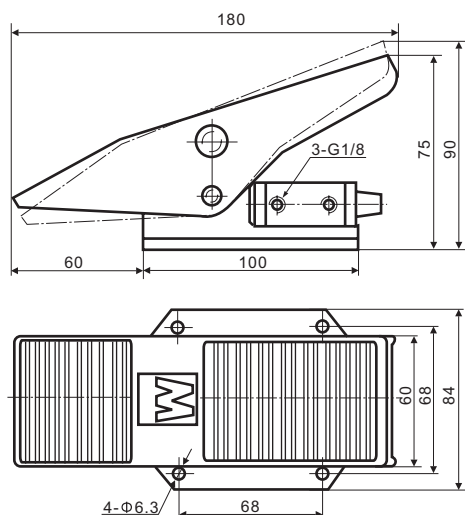
Foot Pedal Valve

(2-Pos. 3-Port)

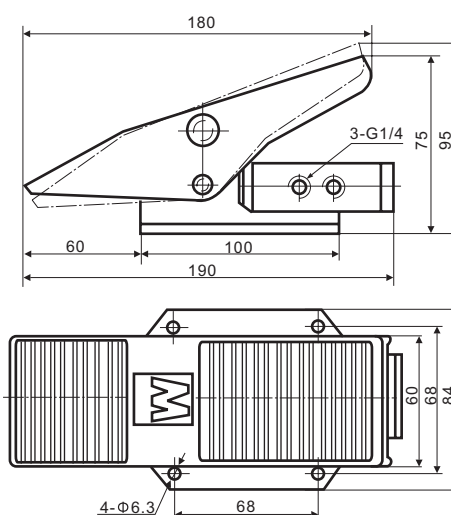
Symbol



XQ230423



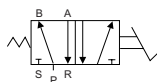
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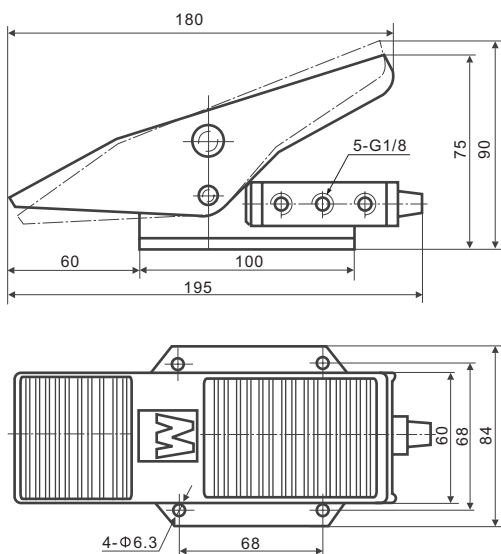
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(2-Pos. 5-Port)

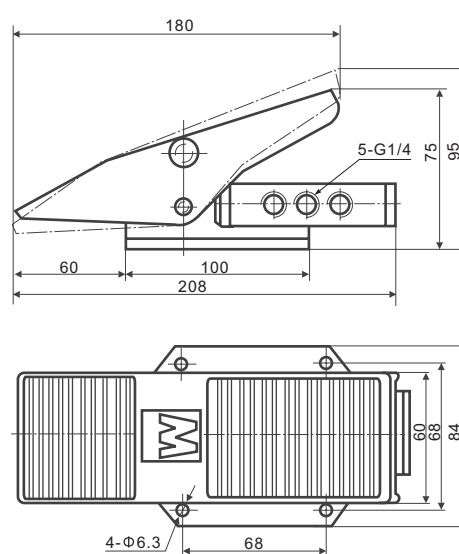
Symbol



XQ250423



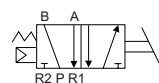
XQ250623



2 Position 5-Port Foot Pedal Valve

QVFM350-02-40 Type

Symbol



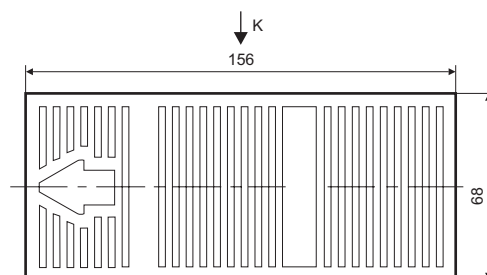
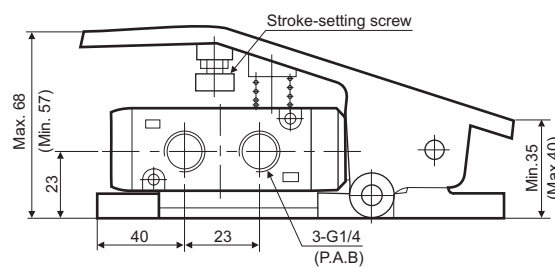
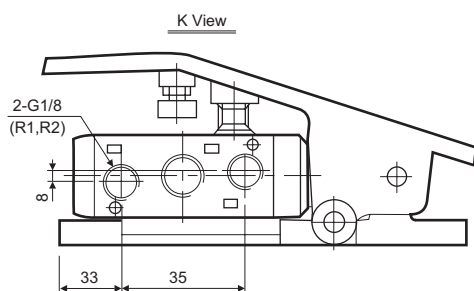
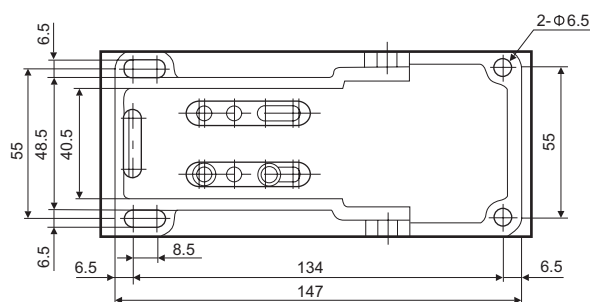
Fluid		Filtered compressed air
Operating pressure range		0.15 ~ 0.8MPa
Ambient and fluid temperature		5~60°C
Effective orifice mm² (Cv factor)		18mm ² (1.0)
Main valve model		QVFM350-02-00
*Lubrication		Pro-lubrication in factory
Port size	P, A, B	G1/4
	R1, R2	G1/8
Weight (kg)		0.725

*If used, turbine oil #1 (ISO VG32) is recommended.

Dimensions (mm)

QVFM350-02-40

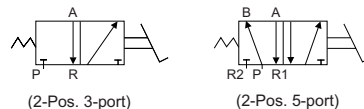
(2-Pos. 5-port)



2 Position 3,5-Port Foot Pedal Valve

QF-0-02 QFP-0-02 QFP-0-02H Type

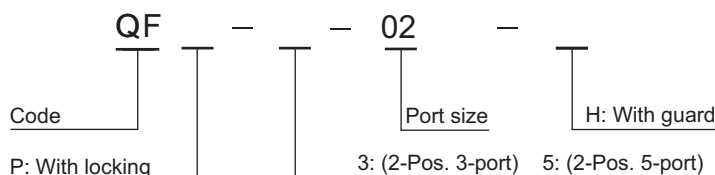
Symbol



Model	QF-3-02	QF-5-02	QFP-3-02	QFP-5-02
Fluid	Filtered compressed air (vacuum can be used)			
Max. Operating pressure	1.0MPa			
Ambient and fluid temperature	5~60℃			
Operating pressure range	0.1~1.0MPa			
Main valve type	Direct-operated			
*Lubrication	Pro-lubrication in factory			
Port size	G1/4			
Nominal size	Φ 7mm			
Rated flow	550NI/min			

*If used, turbine oil #1 (ISO VG32) is recommended.

How to Order

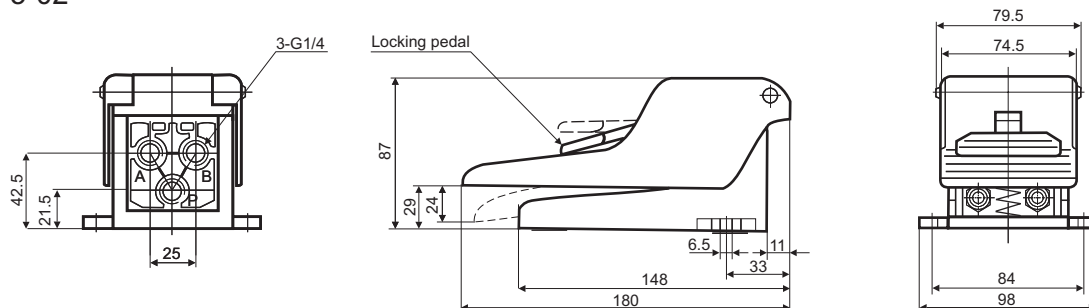


5

Dimensions (mm)

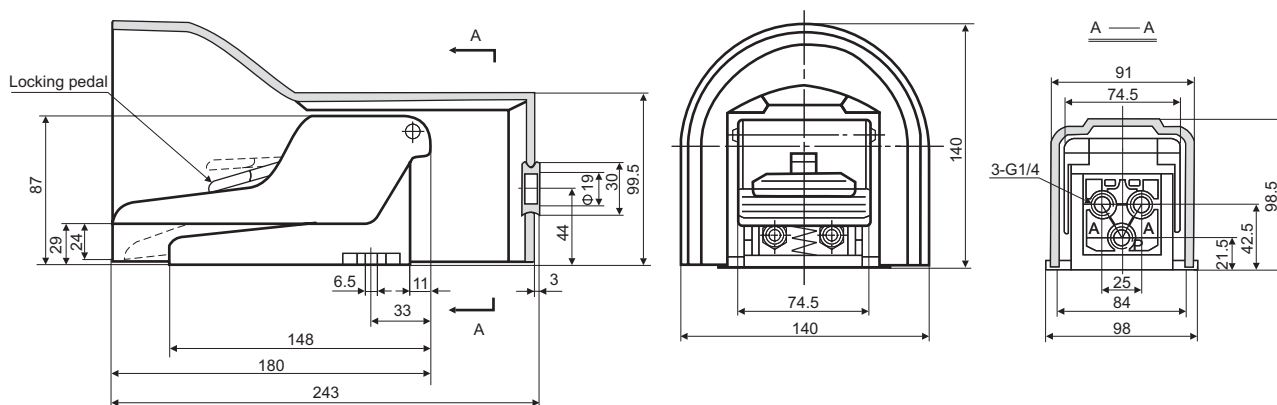
Without Guard

QFP-5-02



With Guard

QFP-5-02-H



2 Position 3,5-Port PUSh-Pull Valve XQ-V Series

The series is 2 position 3,5-port push-pull valves with compact construction, High flow rate, Not required lubrication, reliable direction control and long service life.

The valves are extensively used in controlling cylinders and other pneumatic components.

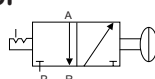


Specifications

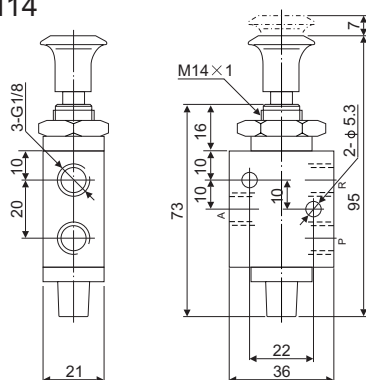
Model	Type	Operating type	Operating pressure	Port size	Effective orifice mm ² (Cv factor)	Operating force	Fluid temperature	Ambient temperature	Service life
XQ-V300114	3/2	Push-pull	0.15~1.0MPa	G1/8	10.5mm ² (Cv=0.58)	13N	-10~+60℃	5~60℃	10 million times
XQ-V300214				G1/4	17.3mm ² (Cv=0.96)	17N			
XQ-V500114	5/2			G1/8	10.5mm ² (Cv=0.58)	15N			
XQ-V500214				G1/4	17.3mm ² (Cv=0.96)	20N			

Dimensions (mm) (2 position 3-port)

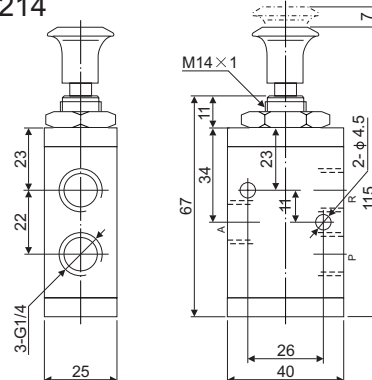
Symbol



XQ-V300114

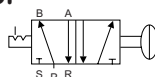


XQ-V300214

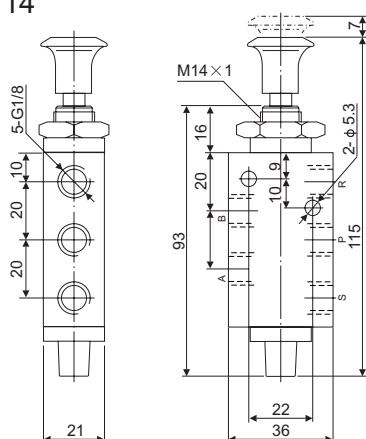


(2 position 5-port)

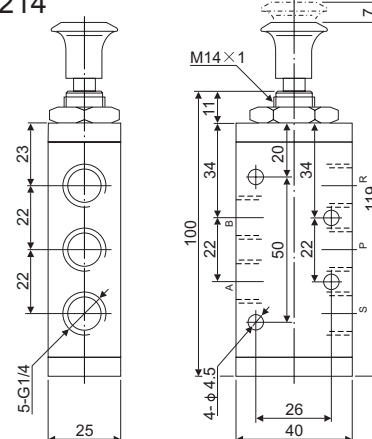
Symbol



XQ-V500114



XQ-V500214



2 Position 3-Port Mini Mechanical Valve XQ Series

This series valves are all with nominal diameter $\Phi 2$ mm, small volume, compact structure, mechanical and manual operated. They are suitable for using as signal transmitters of pneumatic equipment.

Specifications

Fluid	Filtered compressed air
Type	3/2
Port size	M5
Nominal diameter	2mm
Rated flow	80 l/min (ANR)
Operating force	23N (0.6MPa operating pressure)
Operating pressure	0~0.8MPa
Ambient temperature	5~60°C

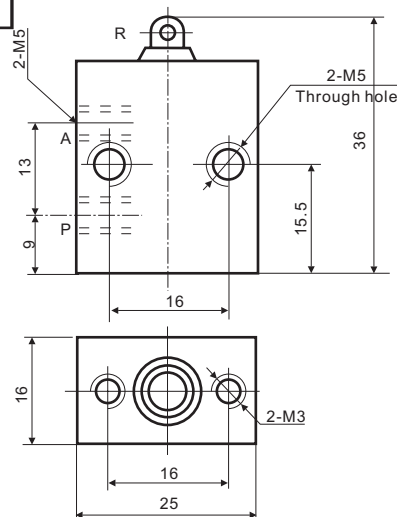
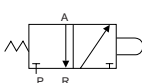


Dimensions (mm) (2-Pos. 3-Port)

Mechanical Valve (Plunger Type)

XQ230270

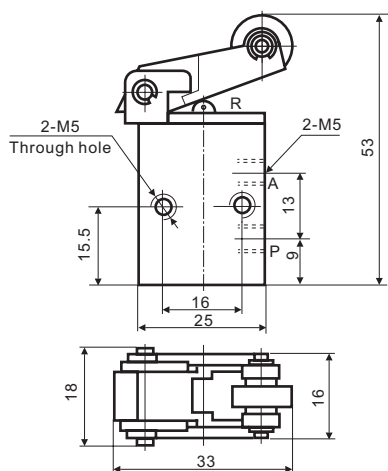
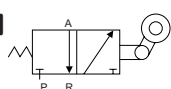
Symbol



Roller Lever Type

XQ230271

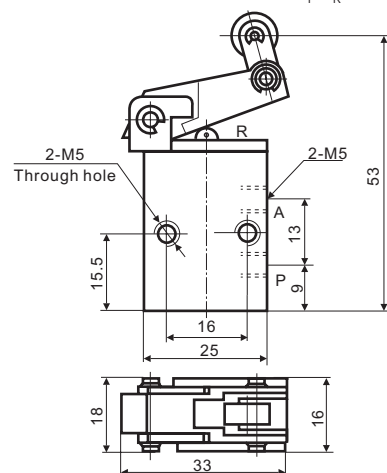
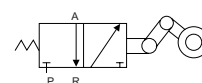
Symbol



One Way Roller Lever Type

XQ230272

Symbol



2 Position 3-Port Mini Mechanical Valve & Manual Valve

QVM100 Series



Fluid	Filtered compressed air
Operating pressure range	-1.0 ~ 1.0MPa
Ambient and fluid temperature	5 ~ 60°C
*Lubrication	Pro-lubrication in factory
Effective orifice mm ² (Cv factor)	2.5mm ² (0.14)
Port size	G1/8
Weight (kg)	95g

*If used, turbine oil #1 (ISO VG32) is recommended.

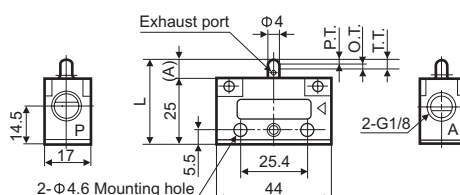
Dimensions (mm)

Plunger Type (Basic)

QVM 131-01-00

Long Plunger Type

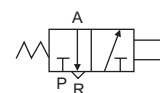
QVM 130-01-00



QVM131: L=28.5mm (A)=3.5mm

QVM130: L=37.5mm (A)=7.5mm

Symbol

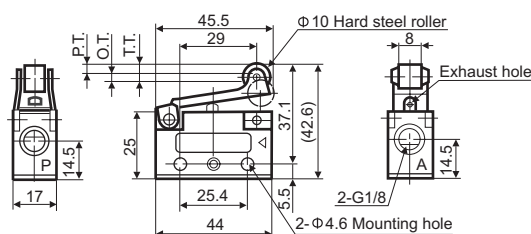


Supply Pressure: 0.5MPa

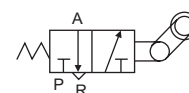
F.O.F.	20N
P.T.	1.5mm
O.T.	1.5mm
T.T.	3mm

Roller Lever Type

QVM 131-01-01



Symbol

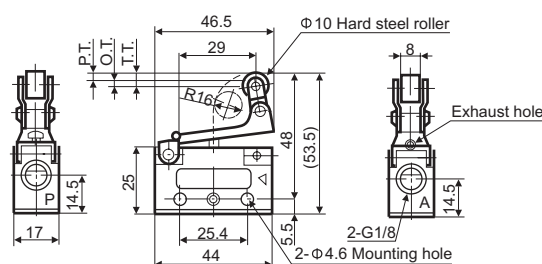


Supply Pressure: 0.5MPa

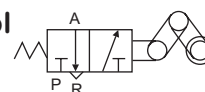
F.O.F.	10N
P.T.	3.2mm
O.T.	2.3mm
T.T.	5.5mm

One Way Roller Lever Type

QVM 131-01-02



Symbol



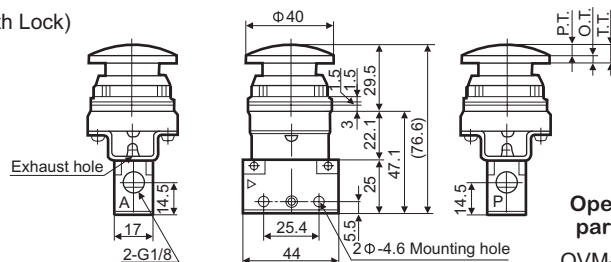
Supply Pressure: 0.5MPa

F.O.F.	10N
P.T.	3.2mm
O.T.	2.3mm
T.T.	5.5mm

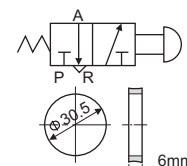
Push Bottom Type (Colour: B-black, G-green, R-red)

QVM 131-01-30□

QVM 131-01-30L□ (with Lock)



Symbol



Supply Pressure: 0.5MPa

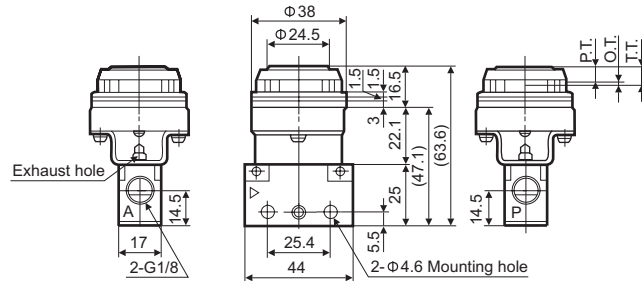
F.O.F.	10N
P.T.	3.2mm
O.T.	2.3mm
T.T.	5.5mm

Operator part N.o

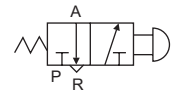
QVM-30A□

Push Button (Flush) Type (Colour: B-black, G-green, R-red)

QVM 131-01-33□

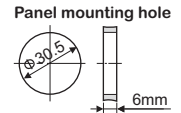


Symbol



Operator part N.o

QVM-33A□

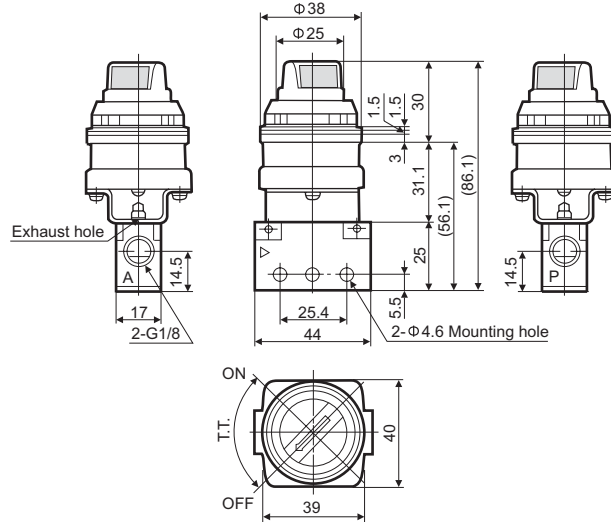


Supply Pressure: 0.5MPa

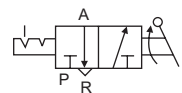
F.O.F*	21N
P.T.	5.4mm
O.T.	1.6mm
T.T.	7mm

Twist Selector Type (Colour: B-black, G-green, R-red)

QVM 131-01-34□

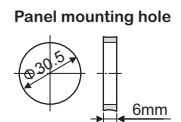


Symbol



Operator part N.o

QVM-34A□

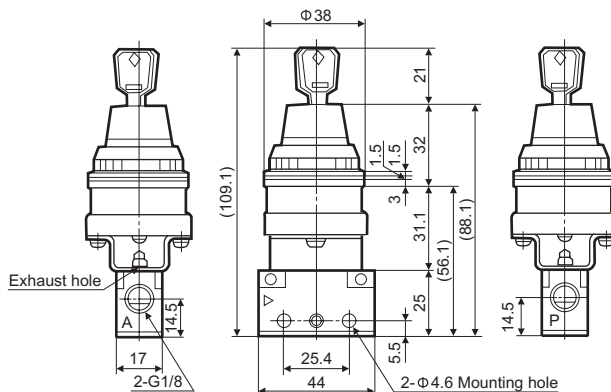


Supply Pressure: 0.5MPa

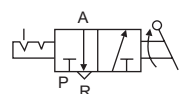
F.O.F*	15N
T.T.	90°

Key Selector Type

QVM 131-01-36

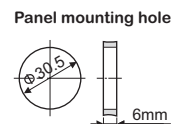


Symbol



Operator part N.o

QVM-36A□



Supply Pressure: 0.5MPa

F.O.F	15N
T.T.	90°

Notes:

F.O.F.- Required force to total travel position.

P.T. - From free position to initial valve opening position.

O.T. - From initial valve opening position to total travel position.

T.T. - From free position to total travel position.