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Discontinue



Air operated valve for process gas

AGD0 1/2 V Series

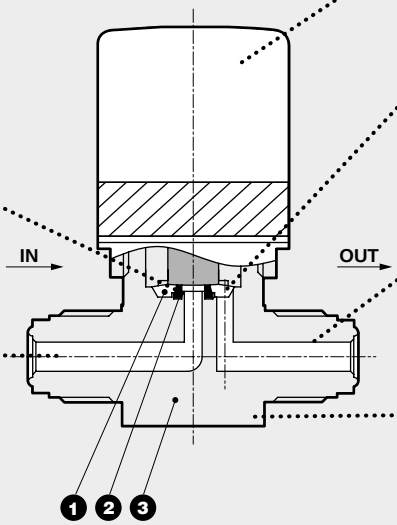
● Metal diaphragm ● Compact type

CAD

Model No.	Actuation	Cv flow factor	Model No.	Actuation	Cv flow factor
AGD01V	NC	Cv=0.1	AGD02V	NO	Cv=0.1

Saving space while maintaining basic operations

- ●Continuous use possible up to 80℃
- ●Zero particle generation realized with optimum seal structure and improved surface roughness
- ●Electropolished finish specifications
- ●Slim 30 diameter actuator
- ●High corrosion resistance and long life Ni-Co alloy diaphragm (4 million cycles achieved *2)
- ●JXR joint connection *1 1/4-inch size male and female fittings
- ●□22.5mm compact body



Materials for wetted areas

No.	Parts name	Material
1	Diaphragm	Ni-Co alloy
2	Valve seat	PCTFE
3	Body	SUS316L

*1: The JXR joint can be connected to the VCR joint.
*2: Life when working fluid is inert gas within specified range, which does not contain solids such as reaction products.

Specifications

Descriptions	AGD01V	AGD02V
Working fluid	Inert gas/process gas	
Working pressure range Pa(abs)-MPa	1.3×10^{-6} to 0.5	
Fluid temperature ℃	-10 to 80	
Ambient temperature ℃	-10 to 80	
Valve seat leakage Pa·m³/s(He)	1.3×10^{-9} or less	
External leakage Pa·m³/s(He)	2.8×10^{-12} or less	
Cv flow factor	0.1	
Connection	1/4" JXR male joint 1/4" JXR female joint	
Actuation	NC (normally closed)	NO (normally open)
Operating pressure MPa	0.4 to 0.6	0.4 to 0.5 (fluid temperature ≦ 60℃) 0.4 to 0.45 (60℃ < fluid temperature)
Operating pressure connection port	M5	
Weight kg	0.22 *1	

*1: Value for AGD01V-4RM (1/4-inch JXR male joint).

Precautions

Always read page 9 in the introduction and pages 2 to 3 to ensure correct and safe use of this product.

Discontinue

How to order

AGD0 1 V - 4R

Ⓐ Actuation

Ⓑ Connection

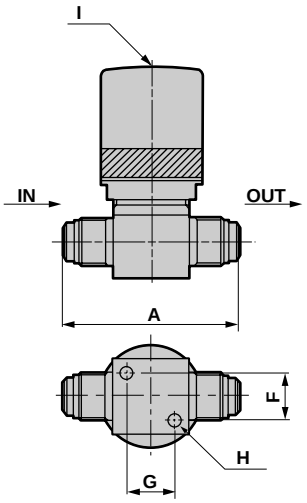
Symbol	Descriptions
Ⓐ Actuation	
1	NC (normally closed)
2	NO (normally open)
Ⓑ Connection	
4RM	1/4" JXR male joint
4R	1/4" JXR female joint

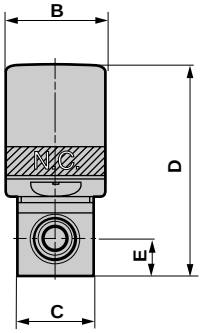
Dimensions

AGD0*V-4RM

● JXR male joint





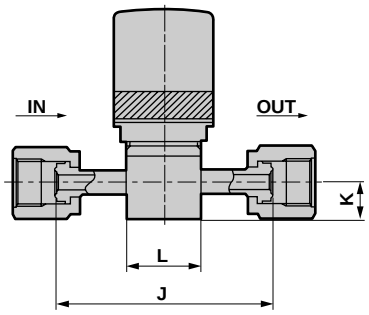


Model No. \ Symbol	Actuation	A	B	C	D	E	F	G	H	I
AGD01V-4RM	NC	52	ø30	□22.5	63	11	14	14	2-M4 depth 5	M5
AGD02V-4RM	NO	52	ø30	□22.5	63	11	14	14	2-M4 depth 5	M5

AGD0*V-4R

● JXR female joint





Model No. \ Symbol	Actuation	J	K	L
AGD01V-4R	NC	66	11	□22.5
AGD02V-4R	NO	66	11	□22.5

Discontinue



Air operated valve for process gas

AGD1 1/2 V Series
AGD2 1/2 V Series

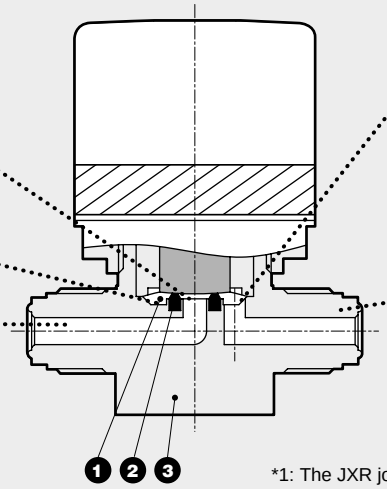
● Metal diaphragm ● Standard

CAD

Model No.	Actuation	Cv flow factor	Model No.	Actuation	Cv flow factor
AGD11V	NC	Cv=0.26	AGD21V	NC	Cv=0.6
AGD12V	NO	Cv=0.26	AGD22V	NO	Cv=0.6

Standard diaphragm valve V series created from a pursuit of contamination control

- Continuous use possible up to 80℃
- Zero particle generation realized with optimum seal structure and improved surface roughness
- Valve dead space minimized
- Electropolished finish specifications
- High corrosion resistance and long life Ni-Co alloy diaphragm (4 million cycles achieved *2)
- JXR joint connection *1 Standard (male and female) and double barbed joints



Materials for wetted areas

No.	Parts name	Material
1	Diaphragm	Ni-Co alloy
2	Valve seat	PCTFE
3	Body	SUS316L

*1: The JXR joint can be connected to the VCR joint.
*2: Life when working fluid is inert gas within specified range, which does not contain solids such as reaction products.

Specifications

Descriptions	AGD1*V	AGD2*V
Working fluid	Inert gas/process gas	
Working pressure range Pa(abs)-MPa	1.3×10^{-6} to 1.0	
Fluid temperature ℃	-10 to 80	
Ambient temperature ℃	-10 to 80	
Valve seat leakage Pa·m³/s(He)	1.3×10^{-9} or less	
External leakage Pa·m³/s(He)	2.8×10^{-12} or less	
Cv flow factor	0.26	0.6
Connection	1/4" JXR male joint 1/4" JXR female joint 1/4" double barbed joint	3/8" JXR male joint 3/8" JXR female joint 3/8" double barbed joint
Actuation	NC (normally closed) NO (normally open)	NC (normally closed) NO (normally open)
Operating pressure MPa	NC : 0.4 to 0.6 NO : 0.4 to 0.5	NC : 0.4 to 0.6 NO : 0.4 to 0.5
Operating pressure connection port	Rc1/8	
Weight kg	0.35 *1	0.88 *1

*1: Value for AGD11V-4RM (1/4-inch JXR male joint) and AGD21V-6RM (3/8-inch JXR male joint).

Precautions

Always read page 9 in the introduction and pages 2 to 3 to ensure correct and safe use of this product.

Discontinue

AGD1½V/AGD2½V Series

Air operated valve for process gas

How to order

AGD1 **1** V- **4RM**

Model No.

A Actuation

B Connection

Symbol	Descriptions
A Actuation	
1	NC (normally closed)
2	NO (normally open)
B Connection	
4RM	1/4" JXR male joint
4R	1/4" JXR female joint
4S	1/4" double barbed joint

AGD2 **1** V- **6R**

Model No.

A Actuation

B Connection

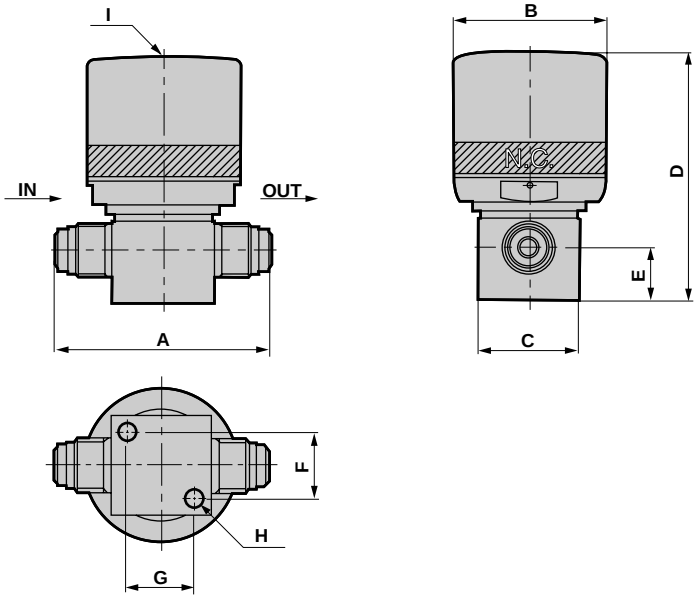
Symbol	Descriptions
A Actuation	
1	NC (normally closed)
2	NO (normally open)
B Connection	
6RM	3/8" JXR male joint
6R	3/8" JXR female joint
6S	3/8" double barbed joint

Dimensions

AGD1*V-4RM
AGD2*V-6RM

● JXR male joint



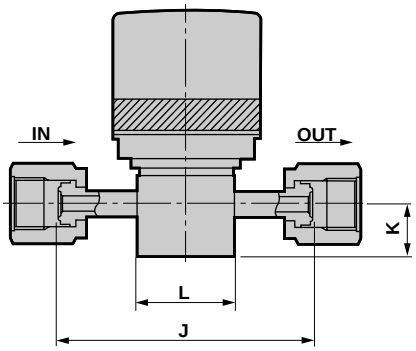


Model No. \ Symbol	Actuation	A	B	C	D	E	F	G	H	I
AGD11V-4RM	NC	57	ø41	□27	67	14.3	18	18	2-M5 depth 6	Rc 1/8
AGD12V-4RM	NO									
AGD21V-6RM	NC	76	ø55	□35	86	16	20.2	20.2	2-M5 depth 8	Rc 1/8
AGD22V-6RM	NO									

AGD1*V-4R
AGD2*V-6R

● JXR female joint



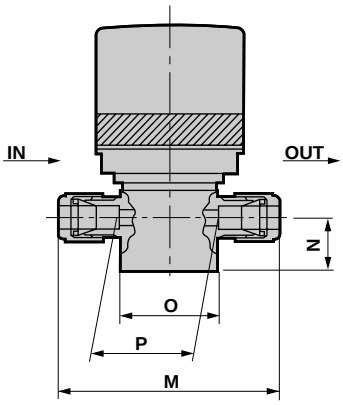


Model No. \ Symbol	Actuation	J	K	L
AGD11V-4R	NC	70.6	14.3	□27
AGD12V-4R	NO			
AGD21V-6R	NC	83	16	□35
AGD22V-6R	NO			

AGD1*V-4S
AGD2*V-6S

● Double barbed joint





Model No. \ Symbol	Actuation	M	N	O	P
AGD11V-4S	NC	62	14.3	□27	27.8
AGD12V-4S	NO				
AGD21V-6S	NC	80	16	□35	44.3
AGD22V-6S	NO				

Discontinue

Air operated valve for process gas

Parts compatible with other variations

AGD**V Series

Custom order

Model	Variations
AGD0*V AGD1*V AGD2*V	Body options (pages 10 to 21) ●Flow path direction ●NC/NO combination ●Connection ●Port shape combination ●Fluid temperature  Actuator options (pages 22 to 23) ●Valve opening adjustment function ●Air indicator ●Microswitch ●Proximity switch ●Cylinder switch 

How to order

2-way valve, 3-way separate flow valve

AGD (A) (A) V - (B) (C) - (D) (E) - (F)

Symbol	Descriptions	AGD0	AGD1	AGD2
(A) Size				
0	1/8"	●		
1	1/4"		●	
2	3/8"			●
(B) Actuation				
1	NC	●	●	●
2	NO	●	●	●
(C) Port size				
4	1/4"	●	●	
6	3/8"			●
8	1/2"			●
(D) Connection				
RJ	JXR female joint (with bearing)	●	●	●
R	JXR female joint	●	●	●
RM	JXR male joint	●	●	●
W	Automatic welded joint	●	●	●
S	Double barbed joint	●	●	●
(E) Port shape combination				
2 way valve				
Blank	IN, OUT Same joint type	●	●	●
MF	IN: Male OUT: Female	●	●	●
FM	IN: Female OUT: Male	●	●	●
3-way separate flow valve				
FFF	abc female/female/female	●	●	●
FFM	abc female/female/male	●	●	●
FMM	abc female/male/male	●	●	●
MMM	abc male/male/male	●	●	●
WWW	abc automatic welded joint	●	●	●
□□□	abc □・□・□ *1	●	●	●
(F) Fluid temperature				
Blank	80℃ standard	●	●	●
F	180℃ valve seat PFA	●	●	●

(D) Connection

Symbol	RJ	R	RM	W	S
2 way valve					
Blank	●	●	●	●	●
MF	●	●			
FM	●	●			
3-way separate flow valve					
FFF	●	●			
FFM	●	●			
FMM	●	●			
MMM			●		
WWW				●	
□□□	●	●		●	

*1 F: Female, M: Male, W: Automatic welded joint, all joints can be combined.

How to order 2-station 3-way valve

AGD (A) 1 1V- (B) Y (C) 11 - (D) 4 (E) RJ - (F) FFF - (G) F

(F) Port shape combination　(G) Fluid temperature

Symbol	Descriptions	Model No. AGD0	AGD1	AGD2
(A) Size				
0	1/8"	●		
1	1/4"		●	
2	3/8"			●
(B) Flow path direction				
Y	Selector type	●	●	●
T	Divider type	●	●	●
(C) NC/NO combination				
11	V1 : NC V2 : NC	●	●	●
12	V1 : NC V2 : NO	●	●	●
21	V1 : NO V2 : NC	●	●	●
22	V1 : NO V2 : NO	●	●	●
(D) Port size				
4	1/4"	●	●	
6	3/8"			●
(E) Connection				
RJ	JXR female joint (with bearing)	●	●	●
R	JXR female joint	●	●	●
RM	JXR male joint	●	●	●
(F) Port shape combination				
FFF	abc female/female/female	●	●	●
MMM	abc male/male/male	●	●	●
□□□	abc □ · □ · □ *2	●	●	●
(G) Fluid temperature				
Blank	80℃ standard	●	●	●
F	180℃ valve seat PFA	●	●	●

*2: F: Female, M: Male, all joints can be combined.

(E) Connection			
Symbol	RJ	R	RM
FFF	●	●	
MMM			●
□□□	●	●	

AGD0*V 2 way valve **Custom order**

Dimensions

AGD0*V-4RJ (1/4" JXR female joint (with bearing) type)
AGD0*V-4S (1/4" double barbed joint type)
AGD0*V-4W (1/4" automatic welded joint type)

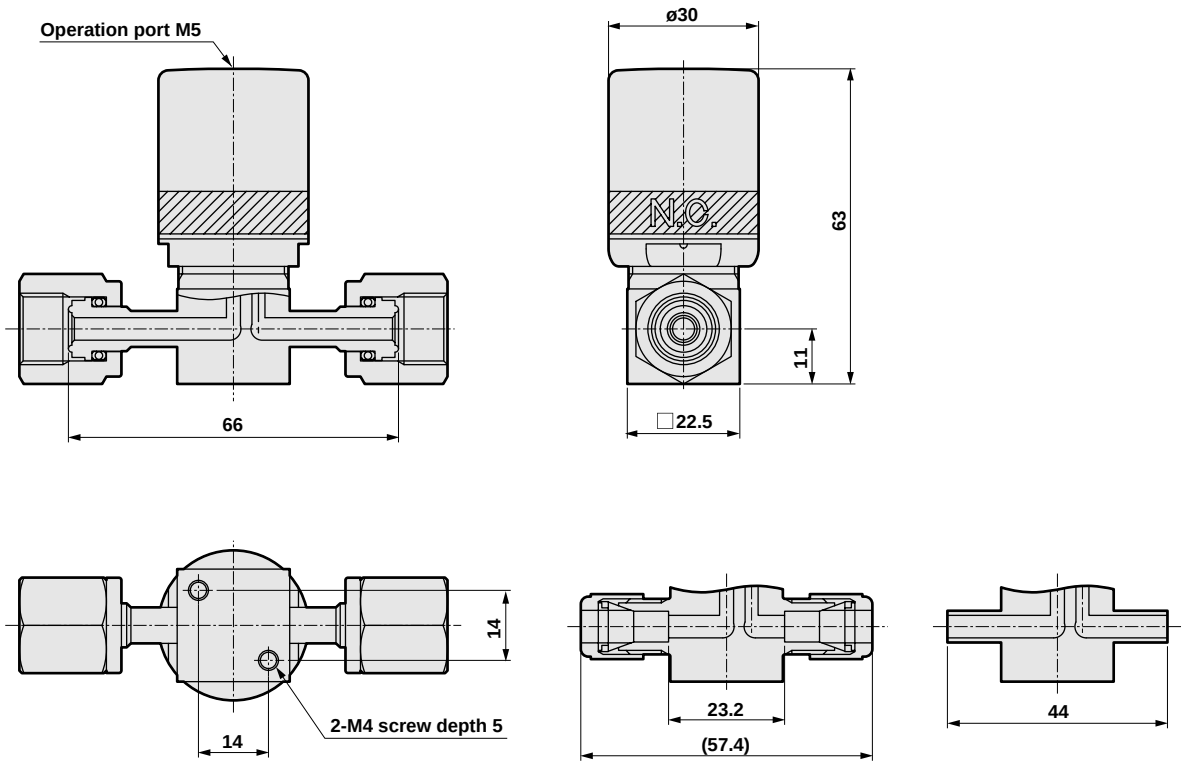


Figure shows AGD01V-4RJ female joint (with bearing)

Double barbed joint: 4S

Welded joint: 4W

AGD0*V-4RJ-$^{FM}_{MF}$ (1/4" JXR female (with bearing) - male combination type)
AGD0*V-4R-$^{FM}_{MF}$ (1/4" JXR female - male combination type)

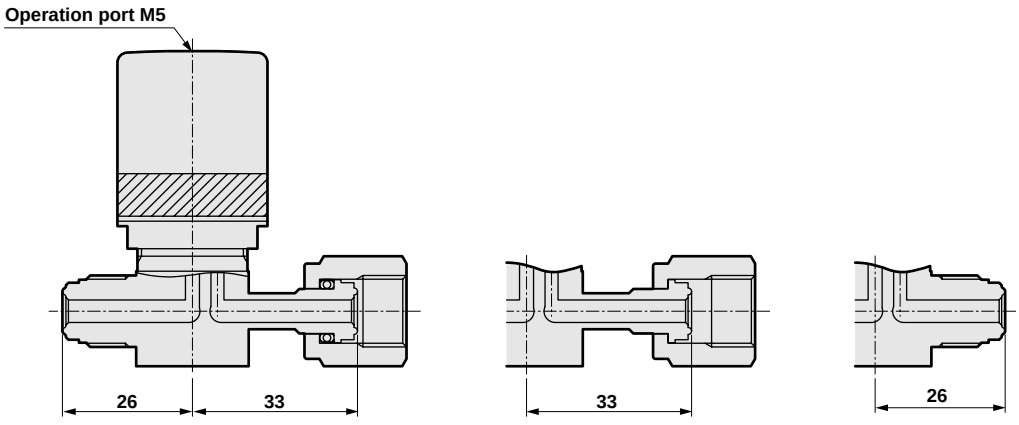


Figure shows AGD01V-4RJ-MF female joint (with bearing)

Female joint: 4R

Male joint: 4RM

AGD0*V 3-way separate flow valve **Custom order**

Dimensions

AGD0*V-4RJ-□□□ (1/4" JXR female joint (with bearing) combination type)
AGD0*V-4R-□□□ (1/4" JXR female joint combination type)
AGD0*V-4RM-MMM (1/4" JXR male joint type)
AGD0*V-4W-□□□ (1/4" automatic welding joint combination type)

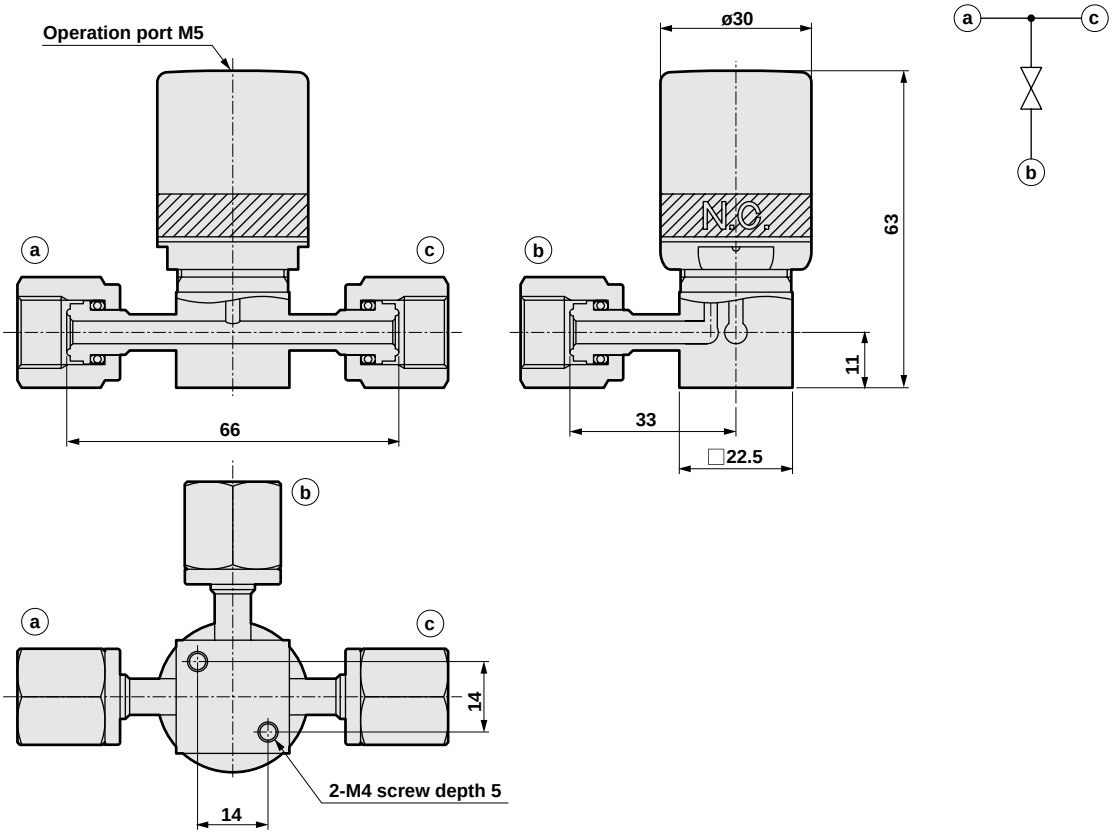
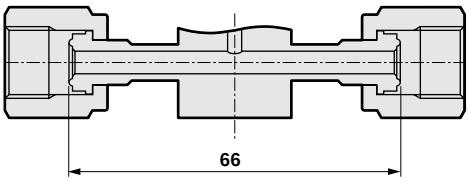
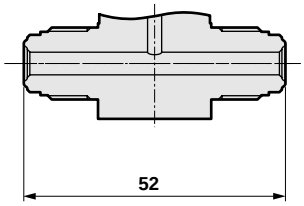


Figure shows AGD01V-4RJ-FFF
female joint (with bearing)

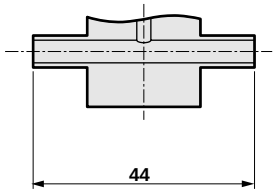
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Female joint: 4R

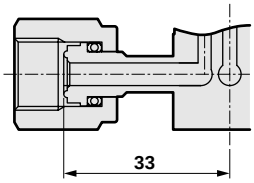


Male joint: 4RM

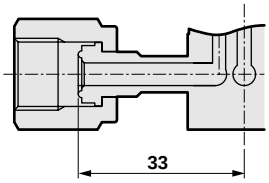


Welded joint: 4W

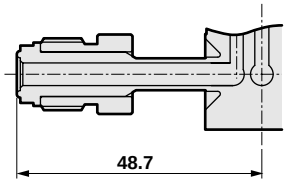
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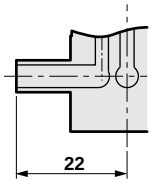
Female joint: 4RJ-□F□
(with bearing)



Female joint: 4R-□F□



Male joint: -□M□



Welded joint: -□W□

AGD0*V 2-station 3-way valve **Custom order**

Dimensions

AGD01V-□-4RJ-□□□** (1/4" JXR female joint (with bearing) combination type)
AGD01V-□-4R-□□□** (1/4" JXR female joint combination type)
AGD01V-□-4RM-MMM** (1/4" JXR male joint type)

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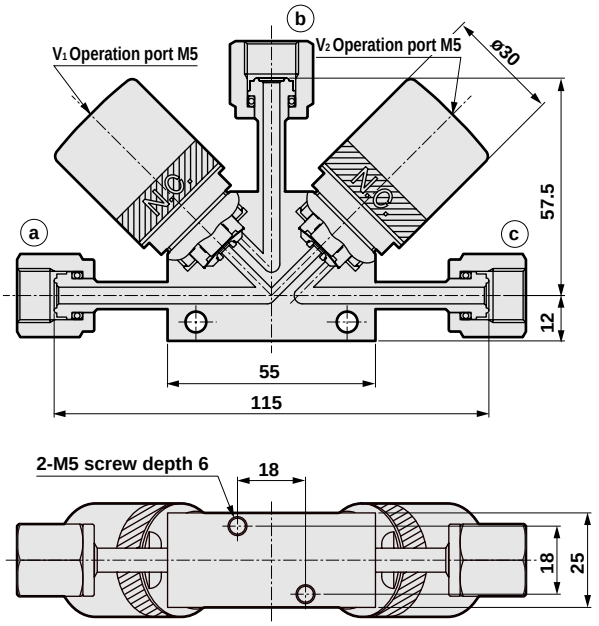
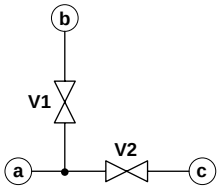


Figure shows AGD01V-Y11-4RJ-FFF
female joint (with bearing)



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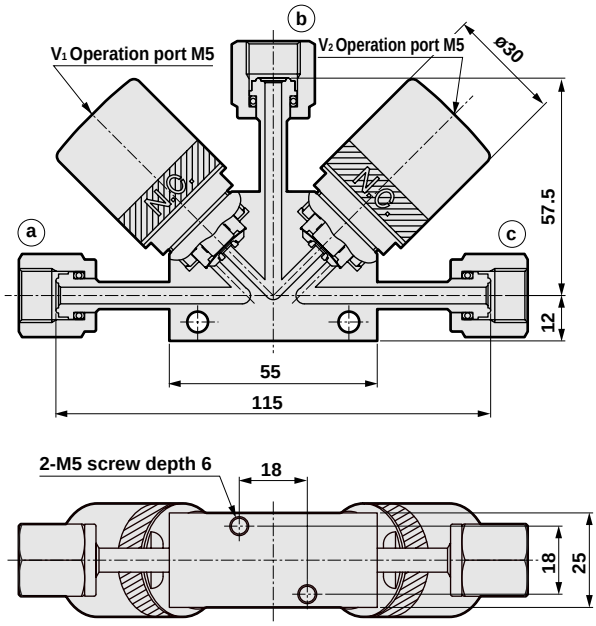
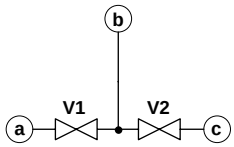
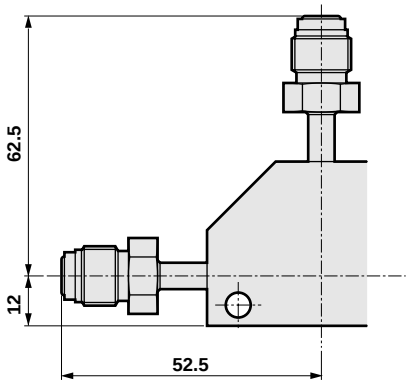


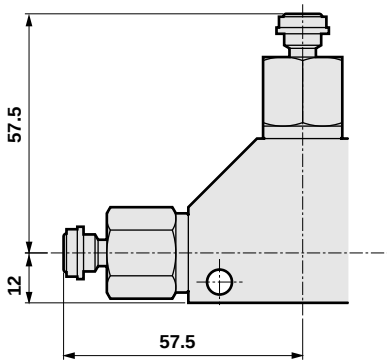
Figure shows AGD01V-T11-4RJ-FFF
female joint (with bearing)



<Other joint dimension>



Male joint: 4RM



Female joint: 4R

AGD1*V 2 way valve **Custom order**

Dimensions

AGD1*V-4RJ (1/4" JXR female joint (with bearing) type)
AGD1*V-4W (1/4" automatic welded joint type)

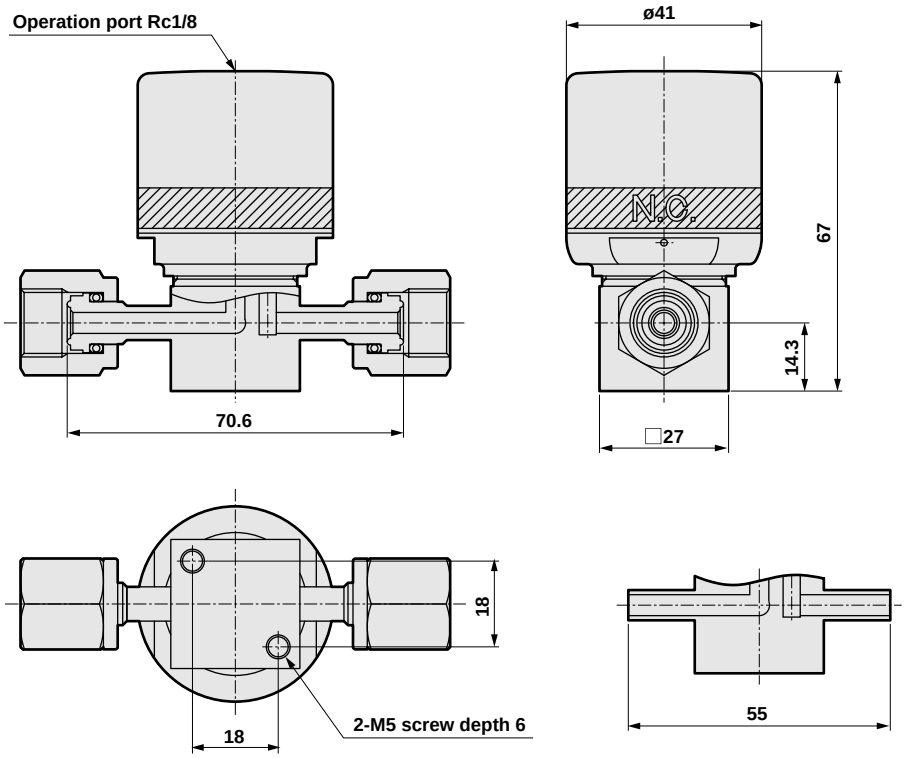


Figure shows AGD11V-4RJ female joint (with bearing)

Welded joint: 4W

AGD1*V-4RJ-$^{FM}_{MF}$ (1/4" JXR female (with bearing) male combination type)
AGD1*V-4R-$^{FM}_{MF}$ (1/4" JXR female - male combination type)

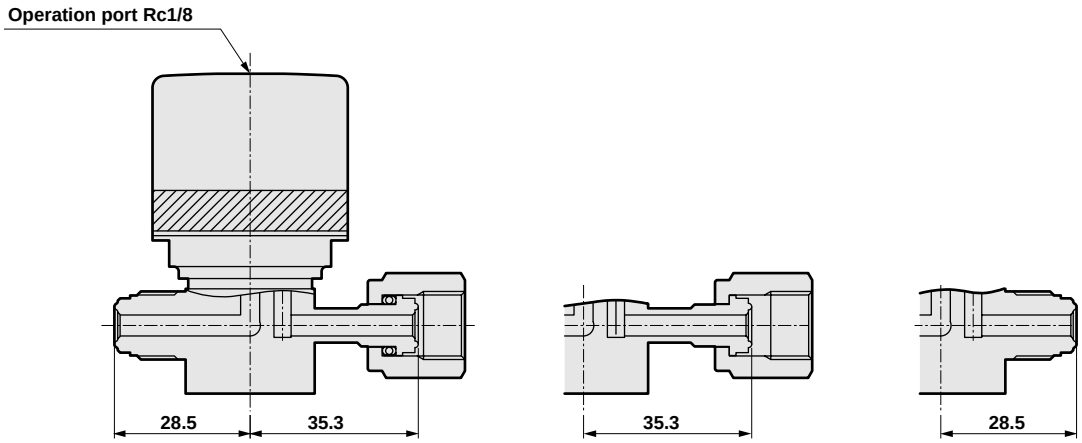


Figure shows AGD11V-4RJ-MF female joint (with bearing)

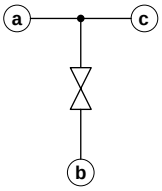
Female joint: 4R

Male joint: 4RM

AGD1*V 3-way separate flow valve **Custom order**

Dimensions

AGD1*V-4RJ-□□□ (1/4" JXR female joint (with bearing) combination type)
AGD1*V-4R-□□□ (1/4" JXR female joint combination type)
AGD1*V-4RM-MMM (1/4" JXR male joint type)
AGD1*V-4W-□□□ (1/4" automatic welding joint combination type)



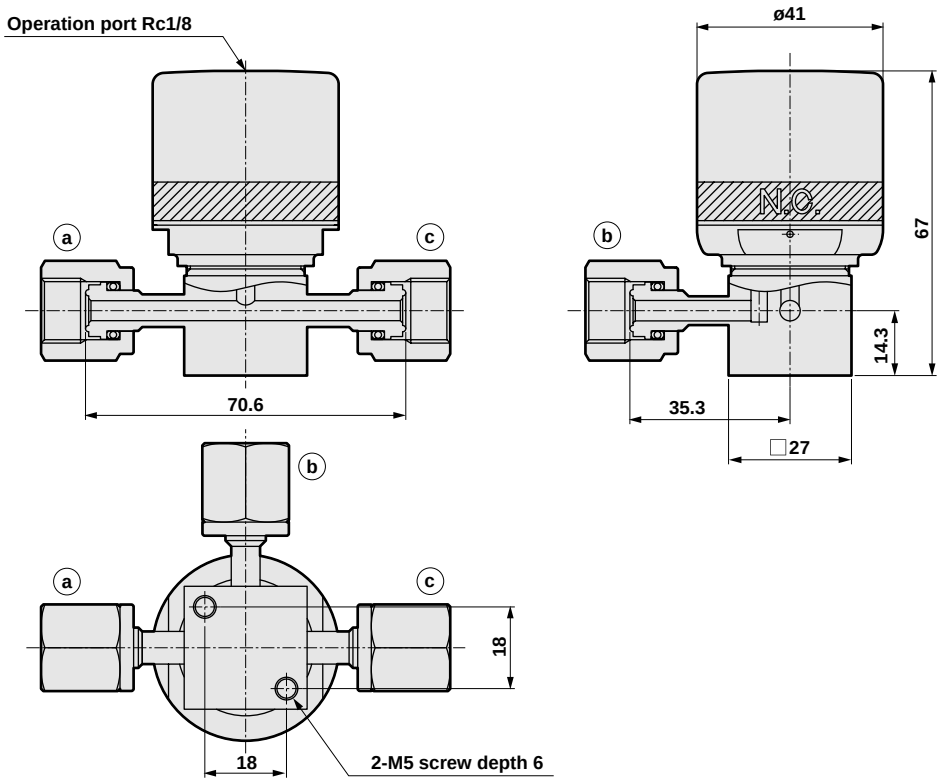
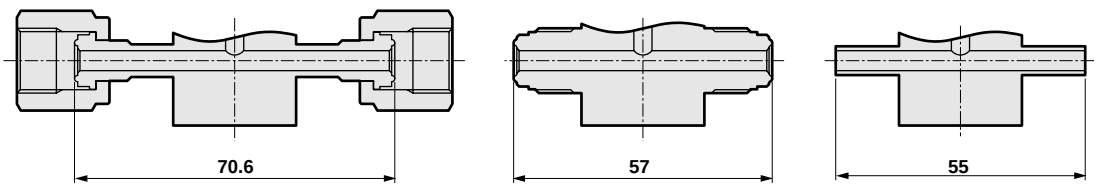


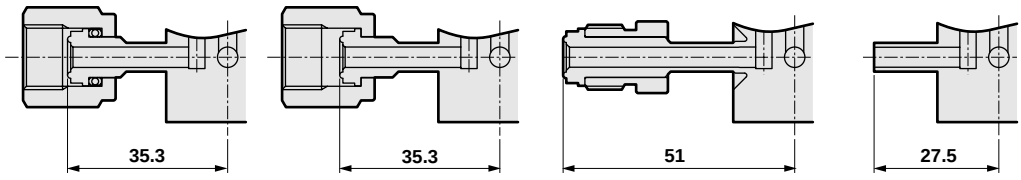
Figure shows AGD11V-4RJ-FFF
female joint (with bearing)

<Main port>



Female joint: 4R | Male joint: 4RM | Welded joint: 4W

<Branch port>



Female joint: 4RJ-□F□ (with bearing) | Female joint: 4R-□F□ | Male joint: -□M□ | Welded joint: -□W□

AGD11V 2-station 3-way valve **Custom order**

Dimensions

AGD11V-□-4RJ-□□□** (1/4" JXR female joint (with bearing) combination type)
AGD11V-□-4R-□□□** (1/4" JXR female joint combination type)
AGD11V-□-4RM-MMM** (1/4" JXR male joint type)

<Y: Selector type>

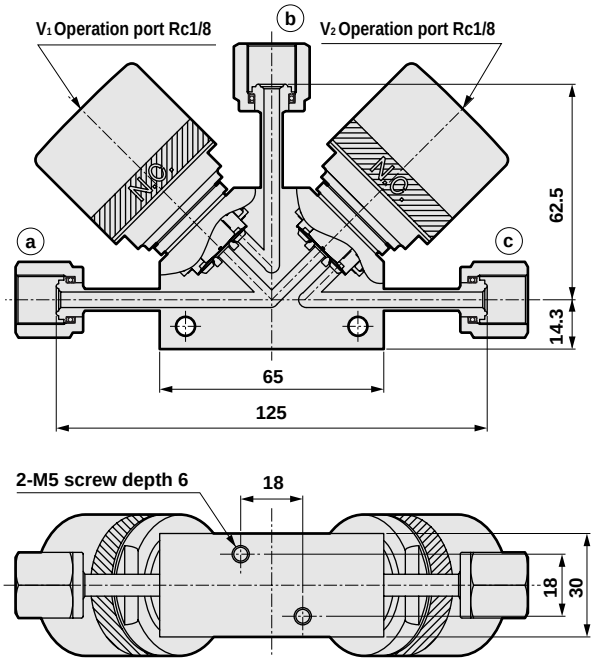


Figure shows AGD11V-Y11-4RJ-FFF
female joint (with bearing)

<T: Divider type>

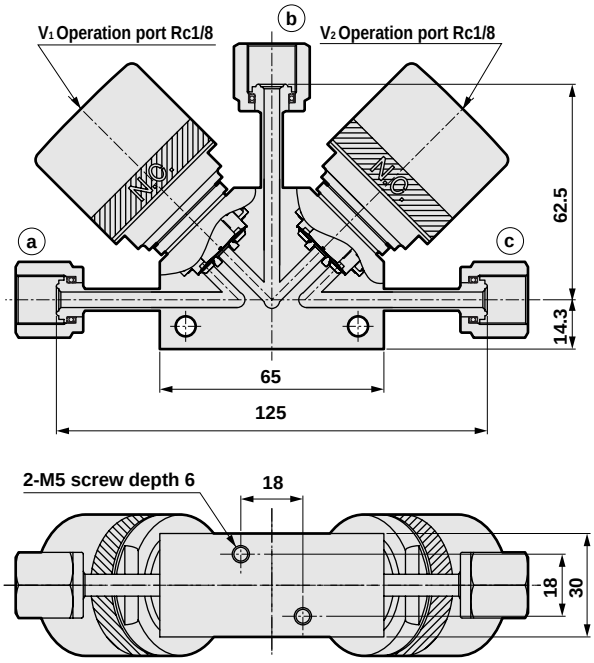
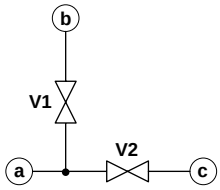
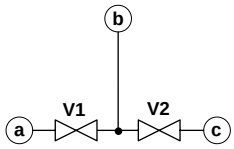
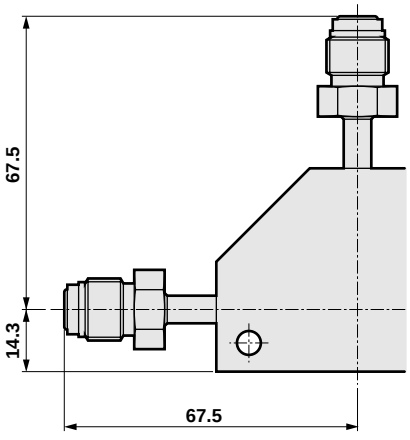


Figure shows AGD11V-T11-4RJ-FFF
female joint (with bearing)

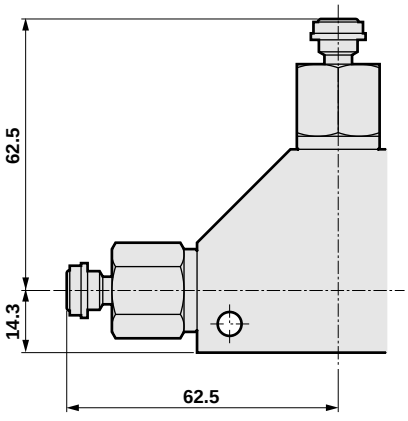




<Other joint dimension>



Male joint: 4RM



Female joint: 4R

AGD2*V 2 way valve **Custom order**

Dimensions

AGD2*V-6RJ (3/8" JXR female joint (with bearing) type)
AGD2*V-6W (3/8" automatic welded joint type)
AGD2*V-8S (1/2" double barbed joint type)
AGD2*V-8RM (1/2" JXR male joint type)
AGD2*V-8R (1/2" JXR female joint type)
AGD2*V-8RJ (1/2" JXR female joint (with bearing) type)
AGD2*V-8W (1/2" automatic welded joint type)

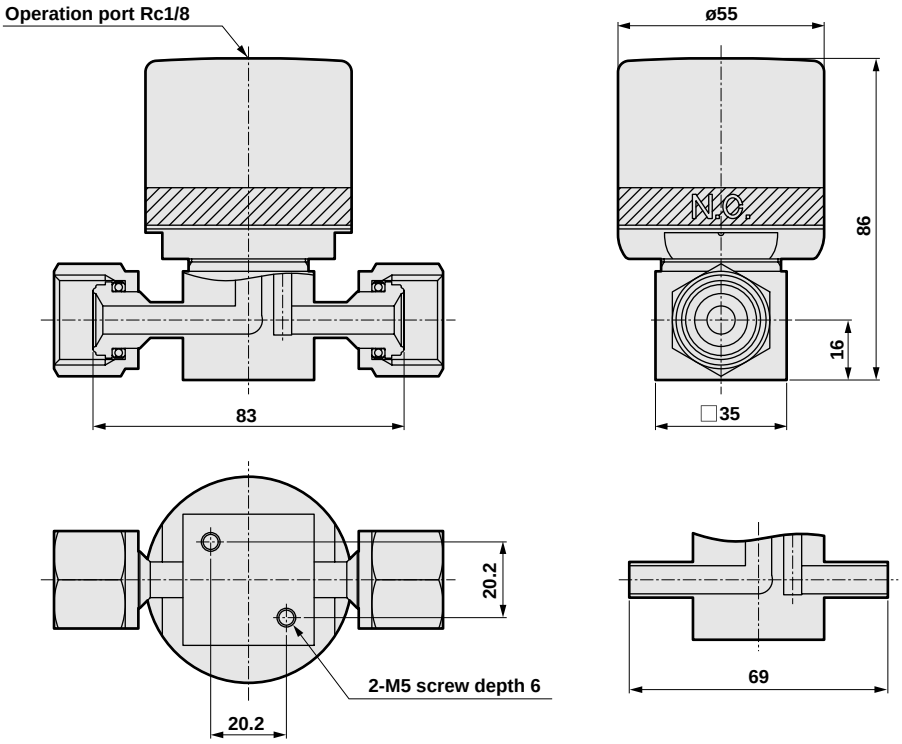
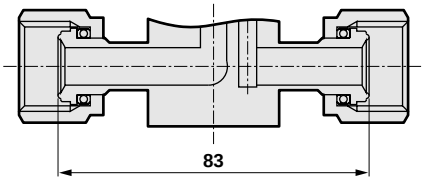
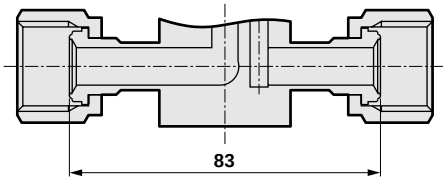


Figure shows AGD21V-6RJ female joint (with bearing)

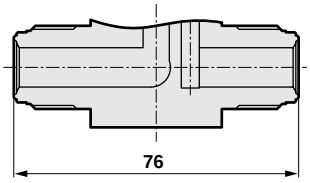
Welded joint: 6W



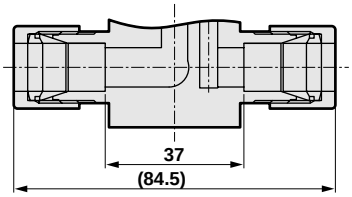
Female joint: 8RJ (with bearing)



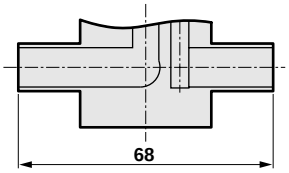
Female joint: 8R



Male joint: 8RM



Double barbed joint: 8S



Welded joint: 8W

AGD2*V 2 way valve **Custom order**

Dimensions

AGD2*V-6RJ-FM/MF (3/8" JXR female joint (with bearing) male combination type)
AGD2*V-6R-FM/MF (3/8" JXR female - male combination type)

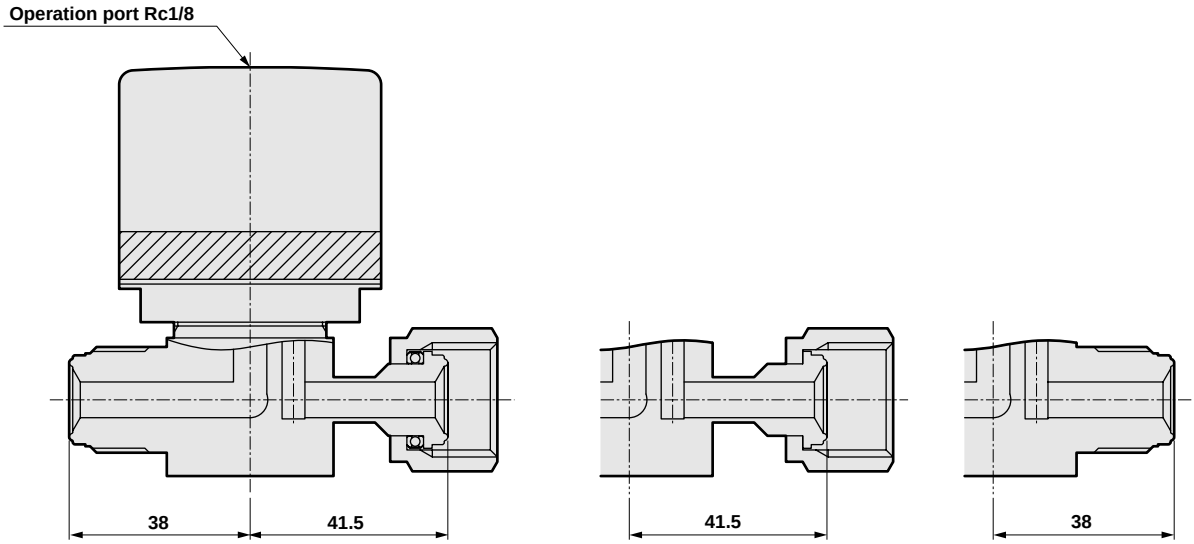


Figure shows AGD21V-6RJ-MF female joint (with bearing)

Female joint: 6R

Male joint: 6RM

AGD2*V-8RJ-FM/MF (1/2" JXR female joint (with bearing) male combination type)
AGD2*V-8R-FM/MF (1/2" JXR female - male combination type)

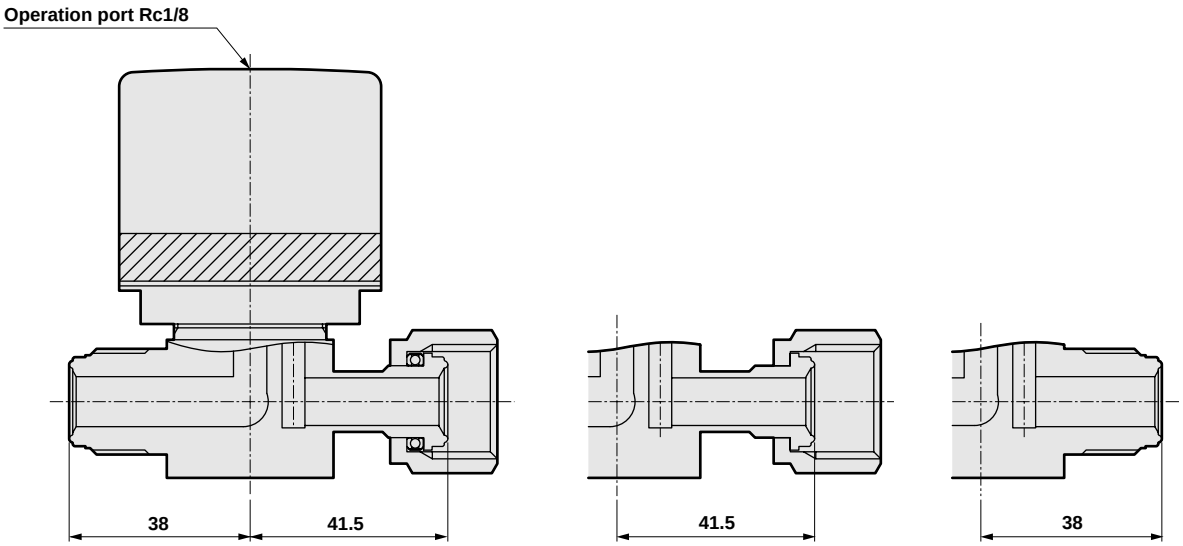


Figure shows AGD21V-8RJ-MF female joint (with bearing)

Female joint: 8R

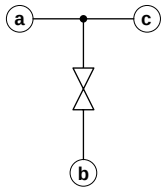
Male joint: 8RM

AGD2*V 3-way separate flow valve **Custom order**

Dimensions

AGD2*V-6RJ-□□□ (3/8" JXR female joint (with bearing) combination type)
AGD2*V-6R-□□□ (3/8" JXR female joint combination type)
AGD2*V-6RM-MMM (3/8" JXR male joint type)
AGD2*V-6W-□□□ (3/8" automatic welded joint combination type)

· The 1/2-inch size is also available. The face-to-face distance is the same as the 3/8-inch size.



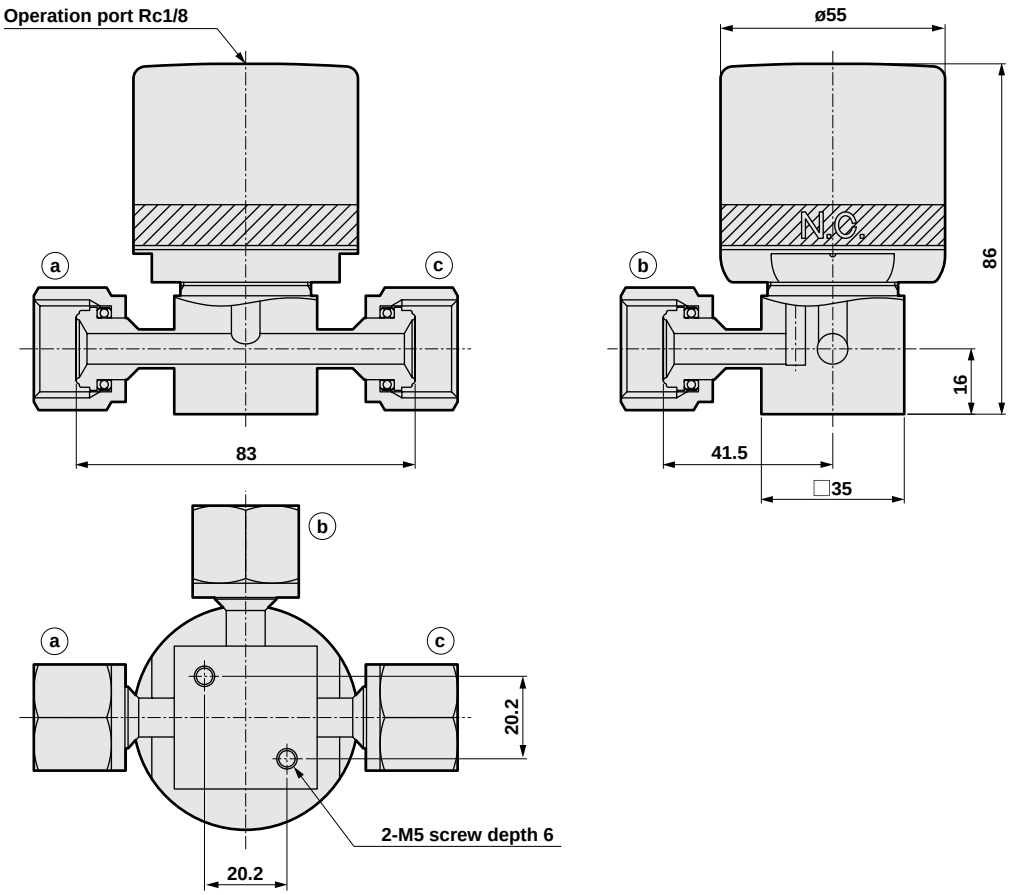
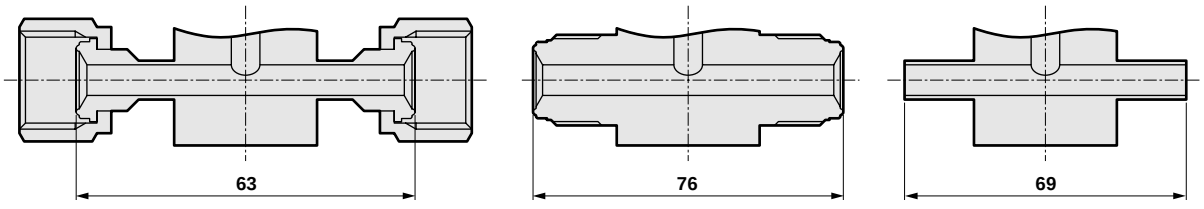


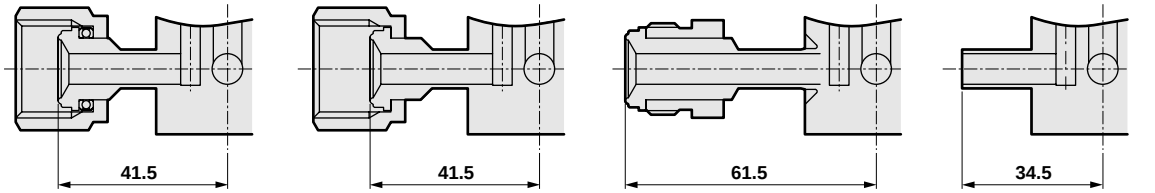
Figure shows AGD21V-6RJ-FFF
female joint (with bearing.)

<Main port>



Female joint: 6R | Male joint: 6RM | Welded joint: 6W

<Branch port>



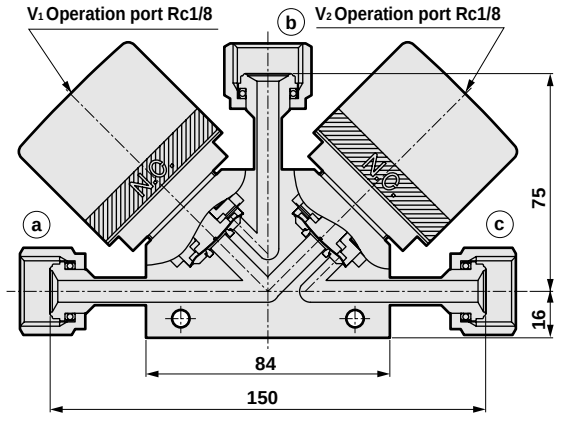
Female joint: 6RJ-□F□ (with bearing) | Female joint: 6R-□F□ | Male joint: -□M□ | Welded joint: -□W□

AGD21V 2-station 3-way valve **Custom order**

Dimensions

AGD21V-□-6RJ-□□□** (3/8" JXR female joint (with bearing) combination type)
AGD21V-□-6R-□□□** (3/8" JXR female joint combination type)
AGD21V-□-6RM-MMM** (3/8" JXR male joint type)

<Y: Selector type>



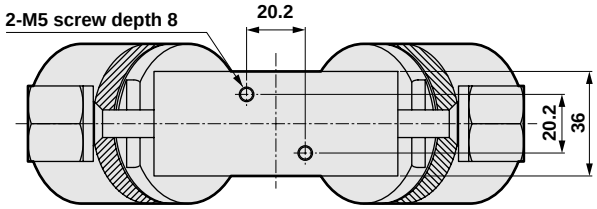
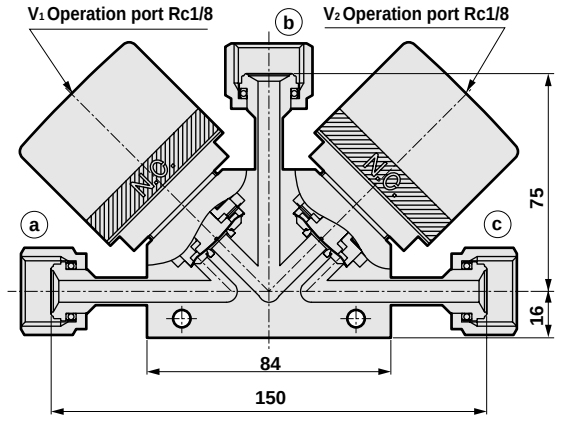


Figure shows AGD21V-Y11-6RJ-FFF
female joint (with bearing)

<T: Divider type>



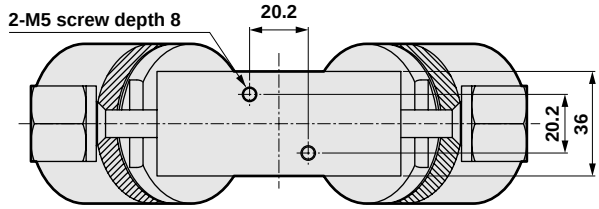
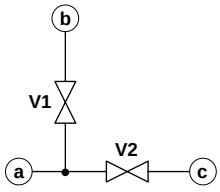
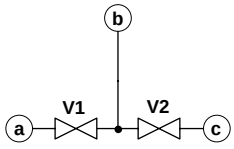
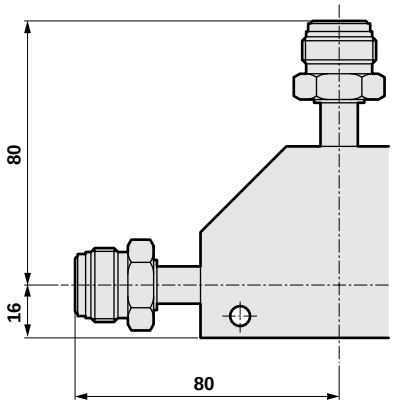


Figure shows AGD21V-T11-6RJ-FFF
female joint (with bearing)

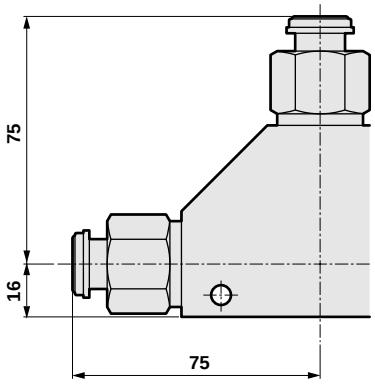




<Other joint dimension>



Male joint: 6RM

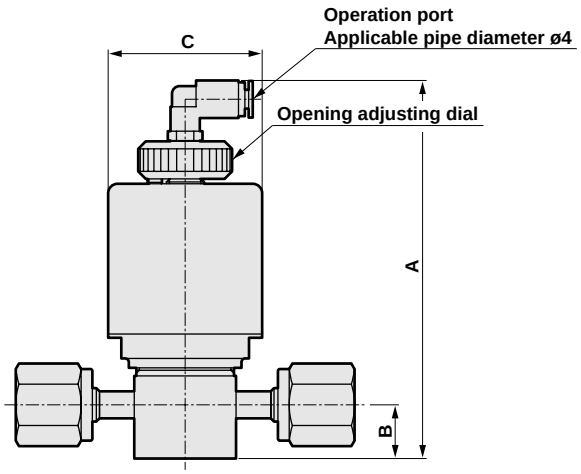


Female joint: 6R

AGD**V Actuator option **Custom order**

Dimensions

AGD**V With valve opening adjusting mechanism

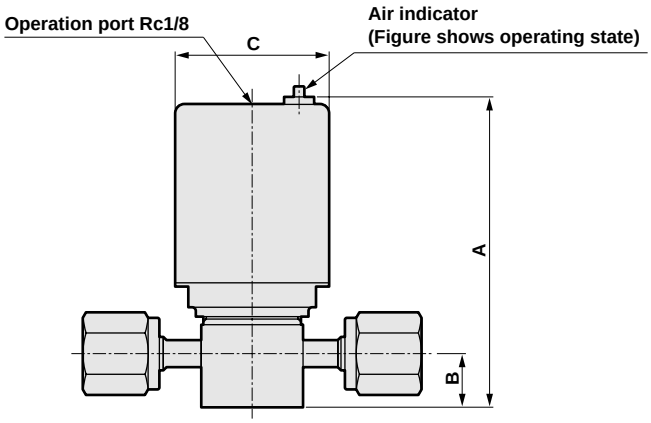


■The flow rate when the valve is open is adjustable.

Model No.	A	B	C
AGD01V-□	85.5	11	ø30
AGD02V-□	85.5	11	ø30
AGD11V-□	100	14.3	ø41
AGD12V-□	100	14.3	ø41
AGD21V-□	119	16	ø55
AGD22V-□	119	16	ø55

Note: Keep the ambient temperature within -10 to 60℃.
Note: The push-in joint cannot be used with AGD01V or AGD02V.

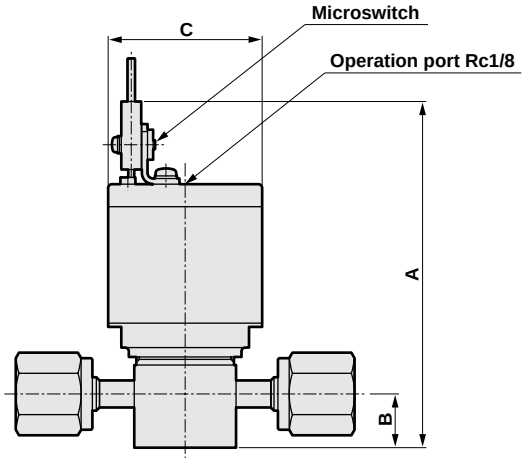
AGD**V With air indicator



■The indicator projects when the valve is operating (during air pressurization), so valve operation can be confirmed visually.

Model No.	A	B	C
AGD11V-□	100	14.3	ø41
AGD12V-□	100	14.3	ø41
AGD21V-□	119	16	ø55
AGD22V-□	119	16	ø55

AGD**V With microswitch



■Valve operation confirmation can be output from the microswitch when the valve is open.

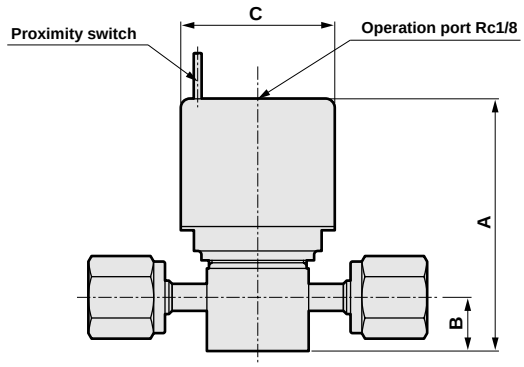
Microswitch
D2JW-011-MD (OMRON)
· DC 3-wire reed (NC, NO) lead length 0.3m
· 30 VDC, 100mA rating resistance load

Model No.	A	B	C
AGD11V-□	90	14.3	ø41
AGD12V-□	90	14.3	ø41
AGD21V-□	111	16	ø55
AGD22V-□	111	16	ø55

AGDV Actuator option** **Custom order**

Dimensions

AGD**V With proximity switch

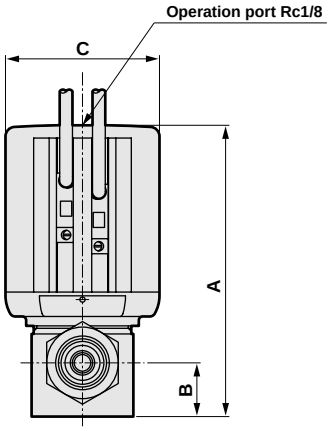


■Valve operation confirmation can be output from the proximity switch when the valve is open.

Proximity switch
EM-030 (KEYENCE)
· DC 3-wire proximity (NO) lead length 2m
· Power voltage 10.8 to 30 VDC
· Current consumption 12mA or less

Model No.	A	B	C
AGD11V-□	67	14.3	ø41
AGD21V-□	86	16	ø55

AGD**V With cylinder switch



■Valve operation confirmation can be output from the cylinder switch when the valve is open.

Cylinder switch
SW-T3V (CKD)
· DC 3-wire proximity (NO) lead length 1m
· Power voltage 10 to 28 VDC
· Current consumption 10mA or less (at 24V DC)

Model No.	A	B	C
AGD11V-□	78	14.3	ø41

Note: Keep the ambient temperature within -10 to 60℃.

* Contact your CKD representative for details on the actuator option model No., etc.

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