



Air operated valve for process gas

# AGD02R Series

Metal diaphragm

Compact



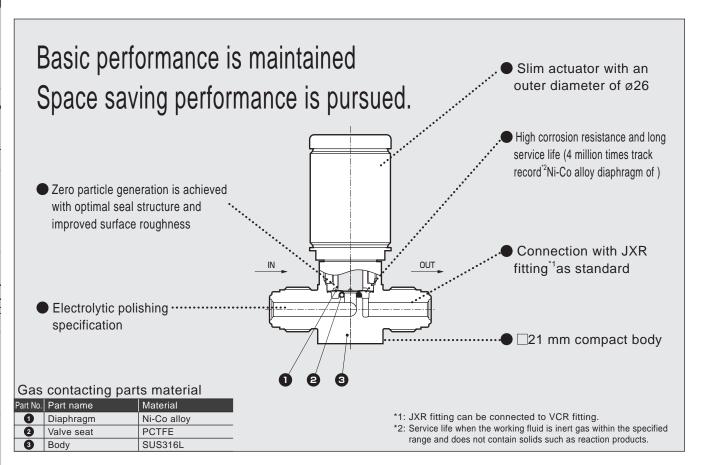


Model No. Actuation Cv

AGD01R NC Cv=0.1

Model No. Actuation Cv

AGD02R NO Cv=0.1



# **Specifications**

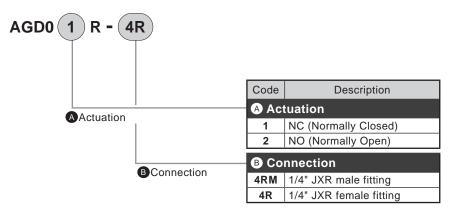
Item	AGD01R	AGD02R		
Working fluid	Inert gas/process gas			
Working pressure Pa(abs)-MPa(G)	1.3 x 10 <sup>-6</sup> to 0.99			
Fluid temperature °C	5 to	80		
Operating ambient temperature °C	5 to	80		
Storage ambient temperature °C	-10 t	0 80		
Valve seat leakage Pa·m³/s(He)	1.0 x 10 <sup>-10</sup> or less			
External leakage Pa·m³/s(He)	2.8 x 10	<sup>12</sup> or less		
Cv (23°C, under pressurization)	0.	0.1		
Connection	1/4" JXR male fitting 1/4" JXR female fitting			
Actuation	NC (Normally Closed)	NO (Normally Open)		
Operating pressure MPa	0.4 to 0.6	0.4 to 0.5		
Operating port	M5			
Weight kg	0.15 *1			

<sup>\*1:</sup> Values with AGD01R-4RM (1/4"JXR male fitting).

Read the Safety Precautions on Intro Page
9 and pages 84 to 85 to ensure correct and
safe use of the product.

Safety precautions

How to order

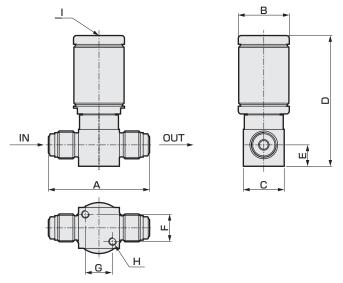


#### **Dimensions**

#### AGD0\*R-4RM







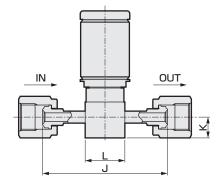
Model No. Code	Actuation	Α	В	С	D	E	F	G	Н	I
AGD01R-4RM	NC	52	ø26	□ 21	67	11	14	14	2-M4 depth 5	M5
AGD02R-4RM	NO	52	ø26	□ 21	67	11	14	14	2-M4 depth 5	M5

#### AGD0\*R-4R

#### JXR female fitting



Model No. Code	Actuation	J	K	L
AGD01R-4R	NC	66	11	□ 21
AGD02R-4R	NO	66	11	□ 21



Related products



Air operated valve for process gas

# AGD1<sup>1</sup><sub>2</sub>R Series AGD2<sup>1</sup><sub>2</sub>R Series

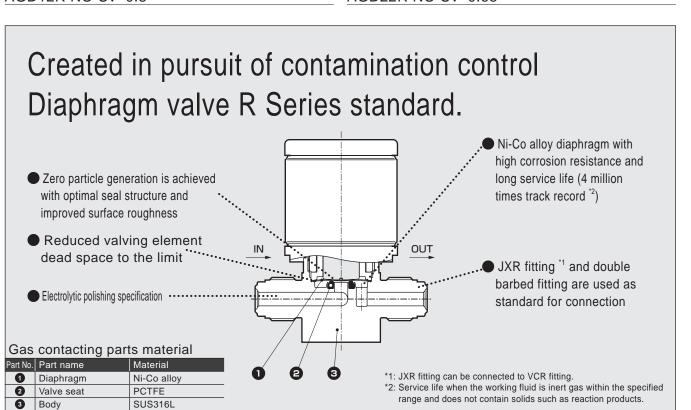
Metal diaphragm

Standard





Model No. Actuation Cv	Model No. Actuation Cv		
AGD11R NC Cv=0.3	AGD21R NC Cv=0.65		
AGD12R NO Cv=0.3	AGD22R NO Cv=0 65		



### Specifications

Item	AGD1*R	AGD2*R		
Working fluid	Inert gas/process gas			
Working pressure Pa(abs)-MPa(G)	1.3 x 10 <sup>-6</sup> to 0.99			
Fluid temperature °C	5 to	80		
Operating ambient temperature °C	5 to	80		
Storage ambient temperature °C	-10 t	o 80		
Valve seat leakage Pa·m³/s(He)	1.0 x 10 <sup>-10</sup> or less			
External leakage Pa·m³/s(He)	2.8 x 10 <sup>-12</sup> or less			
Cv (23°C, under pressurization)	0.3	0.65		
Connection	1/4" JXR male fitting	3/8" JXR male fitting		
	1/4" JXR female fitting	3/8" JXR female fitting		
	1/4" double barbed fitting	3/8" double barbed fitting		
Actuation	NC (Norma NO (Norma	,		
Operating pressure	NC:0.4	to 0.6		
MPa	NO:0.4 to 0.5			
Operating port	M5			
Weight kg	0.26 *1	0.59 *1		
*1. \/aluaa with ACD11D 4DM (1/	4" IVD male fitting) and ACD21D	CDM /2/0" IVD male fitting)		

<sup>\*1:</sup> Values with AGD11R-4RM (1/4"JXR male fitting) and AGD21R-6RM (3/8"JXR male fitting).

# Safety precautions

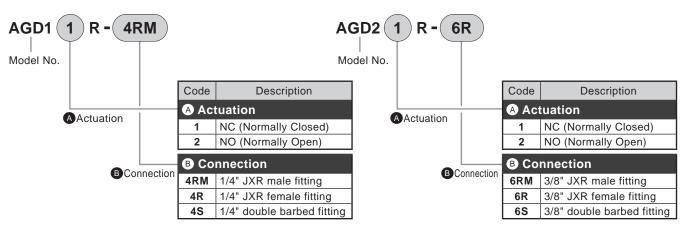
Read the Safety Precautions on Intro Page 9 and pages 84 to 85 to ensure correct and safe use of the product.

# AGD1<sup>1</sup><sub>2</sub>R/AGD2<sup>1</sup><sub>2</sub>R Series

How to order / Dimensions



How to order

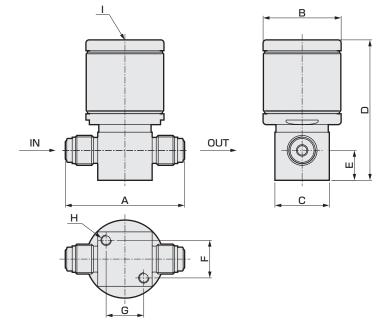


#### **Dimensions**

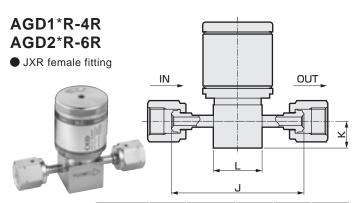
### AGD1\*R-4RM AGD2\*R-6RM

JXR male fitting

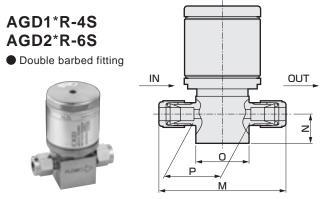




Model No. Code	Actuation	Α	В	С	D	E	F	G	Н	1
AGD11R-4RM	NC	57	ø37	□ 26	67	14.3	18	18	2-M5	M5
AGD12R-4RM	NO	57   0	037		67	14.3	10	10	depth 6	IVIO
AGD21R-6RM	NC	76	ø48	□ 34	88	16	20.2	20.2	2-M5	M5
AGD22P-6PM	NO	76	940	□ 34	00	16	20.2	20.2	denth 8	IVIO



Model No. Code	Actuation	J	K	L	
AGD11R-4R	NC	70.6	70.6 14.3		□ 26
AGD12R-4R	NO	70.6	14.3	□ 20	
AGD21R-6R	NC	NC 83 16	16	□ 34	
AGD22R-6R	NO	03	16	□ 34	



Model No. \Code	Actuation	M	N	0	Р
AGD11R-4S	NC	62	14.3	34	27.8
AGD12R-4S	NO	02	14.3		
AGD21R-6S	NC	80	16		44.3
AGD22R-6S	NO	80	16		44.3

Air operated valve for process gas

# Variation-compatible products

AGD\*\*R Series

**B**Actuation

Port size

Connection

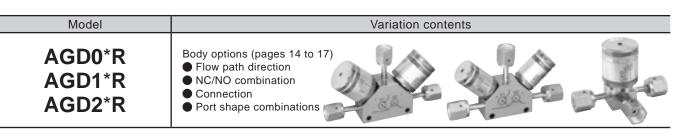
combinations



Model No.

AGD0 AGD1 AGD2

Made-to-order product



How to order 2-way valve, 3-way flow valve AGD(1 Code Description Size **A**Size 1/8" 1/4"

		1/7		
	2	3/8"		•
$\dashv$	B Ac	tuation		
	1	NC		•
	2	NO		
$\dashv$	<b>©</b> Po	ort size		
	4	1/4"		
	6	3/8"		

	-	0,0		_
	8	1/2"		
_	D Co	onnection		
	RJ	JXR female fitting(With bearing)		
	R	JXR female fitting		
	RM	JXR male fitting		
	۱۸/	Auto wolded fitting		

Auto welded fitting Double barbed fitting Port shape

Port shape combinations								
2-way valve								
Blank	IN/OUT common fitting							
MF	IN: Male OUT: Female	•						
FM	IN: Female OUT: Male	•		•				
3-way	flow valve							
FFF	abc female/female/female							
FFM	abc female/female/male	•		•				
FMM	abc female/male/male							
MMM	abc male/male/male	•						
www	abc auto welded fitting	•		•				
ппп	abc □/□/□*1							

2-way valve					
Blank					
MF					
FM	•				
3-way flow valve					
FFF					
FFM	•				
FMM					
MMM					
www					

Connection Code RJ R RM W S

<sup>\*1</sup> F: Female, M: Male, W: Auto welded fitting Free combination

LGD Series

High durability Other valves for process gas Components for process gases

Regulator

Integrated gas supply system

Safety precautions Air operated valve

Manual valve High vacuum components

Vacuum pressure control valves

Safety precautions Related products

How to order 2-station 3-way valve AGD(1 RJ **FFF** 1R - ( Model No. Port shape AGD0 AGD2 AGD1 combinations Code Description A Size **A**Size 0 1/8' 1/4" 1 3/8" 2 B Flow path direction B Flow path direction Selector Divider © NC/NO combination **C**NC/NO V1:NC V2:NC combination 12 V1:NC V2:NO 21 V1:NO V2:NC 22 V1:NO V2:NO D Port size Port size 1/4" 3/8" 6 Connection **■**Connection **RJ** JXR female fitting(With bearing) JXR female fitting RM JXR male fitting **■** Connection Port shape combinations RJ R RM Code FFF abc female/female/female FFF MMM abc male/male/male • MMM

\*2 F: Female, M: Male Free combination

□□□ abc □ / □ / □ \*2

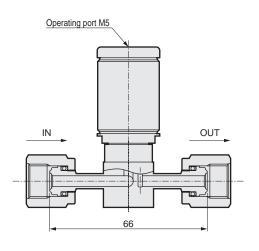
AGD0\*R 2-way valve

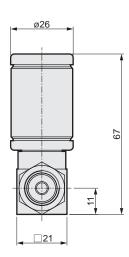
Made-to-order product

#### **Dimensions**

AGD0\*R-4RJ (1/4"JXR female fitting (with bearing)

AGD0\*R-4S (1/4" double barbed fitting) AGD0\*R-4W (1/4"auto welded fitting)





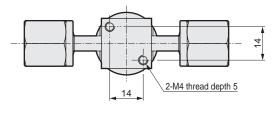
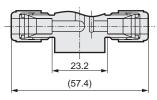
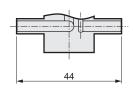


Figure shows AGD01R-4RJ Female fitting (with bearing)

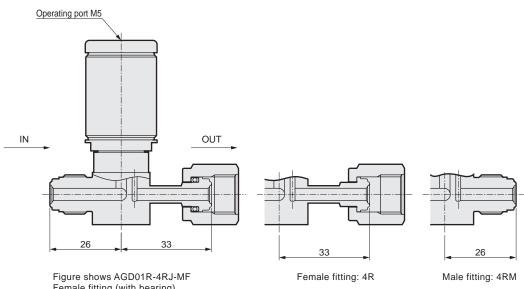


Double barbed fitting: 4S



Welded fitting: 4W

 $\begin{array}{c} \text{AGD0*R-4RJ-}^{\text{FM}}_{\text{MF}} \\ \text{AGD0*R-4R-}^{\text{FM}}_{\text{MF}} \end{array}$ (1/4"JXR female (with bearing)-male mix) (1/4"JXR female-male mix)



AGD0\*R 3-way flow divider valve

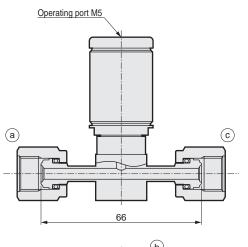
Made-to-order product

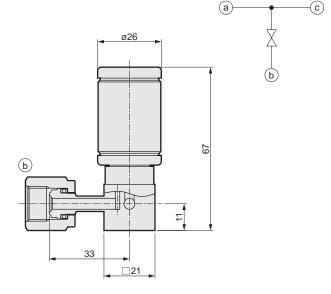
#### **Dimensions**

AGD0\*R-4RJ- □□□ (1/4" JXR female fitting (with bearing) mix)

AGD0\*R-4R- □□ (1/4" JXR female fitting mix) AGD0\*R-4RM-MMM (1/4" JXR male fitting)

AGD0\*R-4W- □□□ (1/4" auto welded fitting mix)





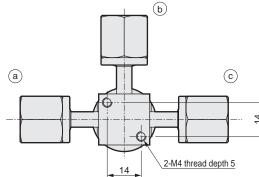
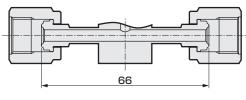
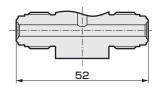


Figure shows AGD01R-4RJ-FFF Female fitting (with bearing)

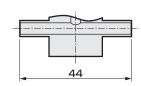
#### [Main port]



Female fitting: 4R

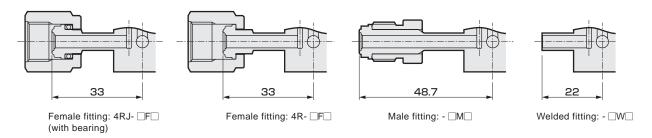


Male fitting: 4RM



Welded fitting: 4W

#### [Branching ports]



AGD0\*R 2-station 3-way valve

Made-to-order product

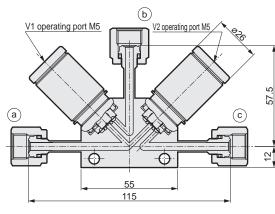
#### **Dimensions**

**AGD01R-** □\*\*-4RJ- □ □ □ (1/4" JXR female fitting (with bearing) mix)

AGD01R- □\*\*-4R- □ [ (1/4" JXR female fitting mix)

 $AGD01R- \square^{**}-4RM-MMM$ (1/4" JXR male fitting)





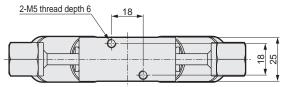
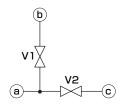
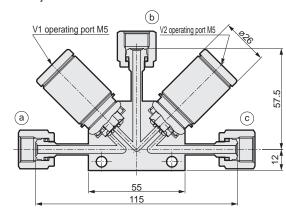


Figure shows AGD01R-Y11-4RJ-FFF Female fitting (with bearing)



#### [T: Divider]



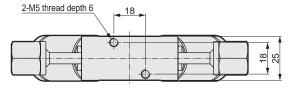
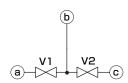
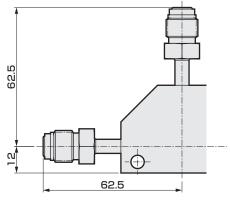


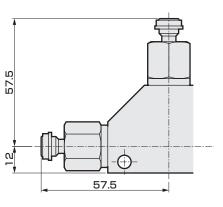
Figure shows AGD01R-T11-4RJ-FFF Female fitting (with bearing)



#### [Other fitting dimensions]



Male fitting: 4RM



Female fitting: 4R

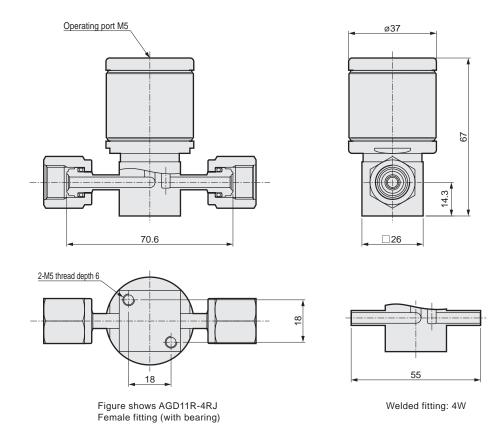
AGD1\*R 2-way valve

Made-to-order product

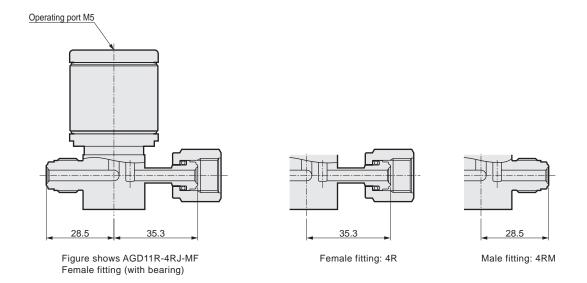
#### **Dimensions**

AGD1\*R-4RJ (1/4"JXR female fitting (with bearing))

AGD1\*R-4W (1/4" auto welded fitting)



AGD1\*R-4RJ-MF AGD1\*R-4R-MF (1/4"JXR female fitting (with bearing) male mix) (1/4"JXR female-male mix)



AGD1\*R 3-way flow valve

Made-to-order product

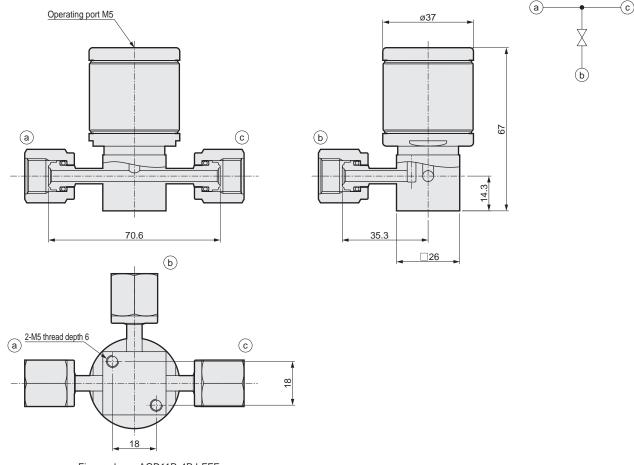
#### **Dimensions**

AGD1\*R-4RJ- □□□ (1/4" JXR female fitting (with bearing) mix)

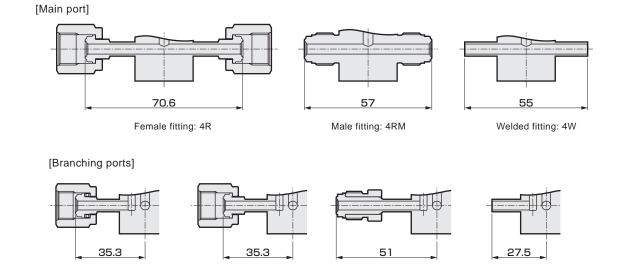
AGD1\*R-4R- □ □ 🗆 (1/4" JXR female fitting mix)

AGD1\*R-4RM-MMM (1/4" JXR male fitting)

AGD1\*R-4W- □□ (1/4" auto welded fitting mix)







Male fitting: - □M□

Welded fitting: - □W□

Female fitting: 4R- □F□

(with bearing)

Female fitting: 4RJ- □F□

AGD11R 2-station 3-way valve

Made-to-order product

#### **Dimensions**

**AGD11R-** □\*\*-4RJ- □ □ □

(1/4" JXR female fitting (with bearing) mix)

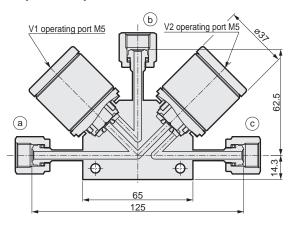
AGD11R- □\*\*-4R- □ □

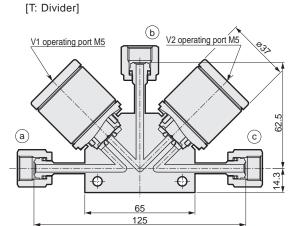
(1/4" JXR female fitting mix)

AGD11R-  $\square$ \*\*-4RM-MMM

(1/4" JXR male fitting)

#### [Y: Selector]





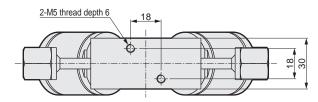
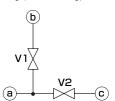


Figure shows AGD11R-Y11-4RJ-FFF Female fitting (with bearing)



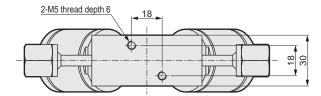
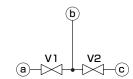
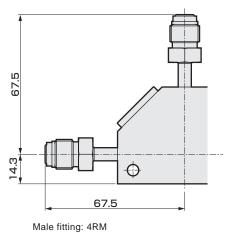
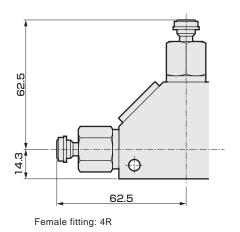


Figure shows AGD11R-T11-4RJ-FFF Female fitting (with bearing)



#### [Other fitting dimensions]





Safety precautions

### AGD2\*R 2-way valve

Made-to-order product

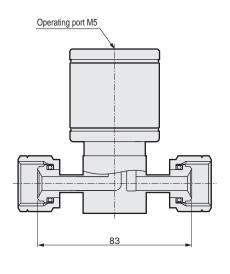
#### **Dimensions**

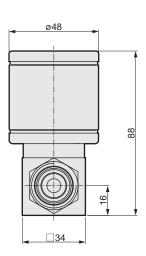
AGD2\*R-6RJ (3/8"JXR female fitting (with bearing))

AGD2\*R-6W (3/8" auto welded fitting) AGD2\*R-8S (1/2" double barbed fitting) AGD2\*R-8RM (1/2" JXR male fitting) AGD2\*R-8R (1/2"JXR female fitting)

AGD2\*R-8RJ (1/2"JXR female fitting (with bearing))

AGD2\*R-8W (1/2" auto welded fitting)





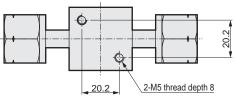
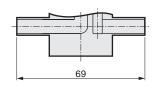
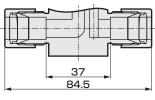


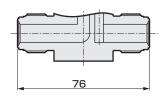
Figure shows AGD21R-6RJ Female fitting (with bearing)



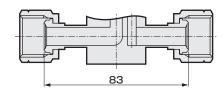
Welded fitting: 6W



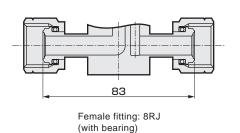
Double barbed fitting: 8S

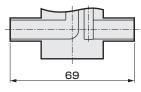


Male fitting: 8RM



Female fitting: 8R





Welded fitting: 8W

AGD2\*R 2-way valve

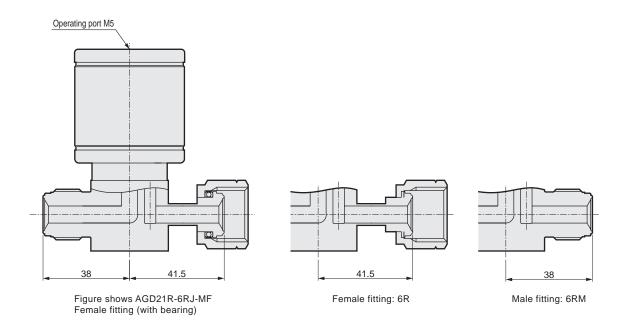
Made-to-order product

#### **Dimensions**

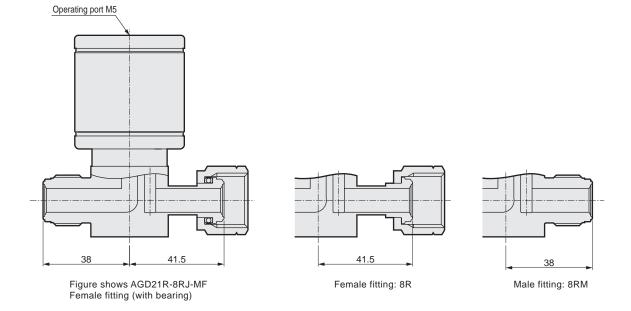
AGD2\*R-6RJ-MF AGD2\*R-6R-MF

(3/8"JXR female fitting (with bearing) male mix)

(3/8"JXR female-male mix)



AGD2\*R-8RJ-MF (1/2"JXR female fitting (with bearing) male mix) AGD2\*R-8R-MF (1/2"JXR female-male mix)



AGD2\*R 3-way flow valve

Made-to-order product

#### **Dimensions**

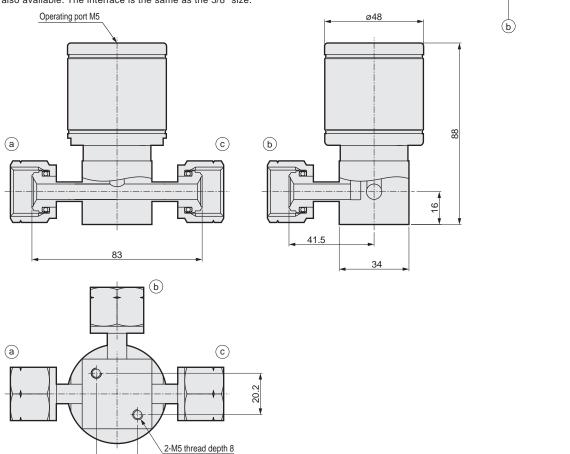
AGD2\*R-6RJ- □□□ (3/8" JXR female fitting (with bearing) mix)

AGD2\*R-6R- □□□ (3/8" JXR female fitting mix)

AGD2\*R-6RM-MMM (3/8" JXR male fitting)

AGD2\*R-6W- □□□ (3/8" auto welded fitting mix)

• 1/2" size is also available. The interface is the same as the 3/8 "size.



(a)

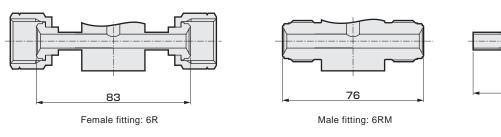
(c)

69

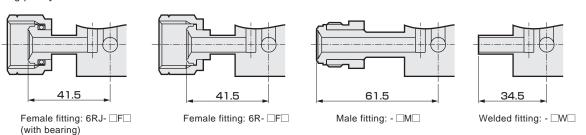
Welded fitting: 6W

20.2 Figure shows AGD21R-6RJ-FFF Female fitting (with bearing)

#### [Main port]



#### [Branching ports]



### AGD21R 2-station 3-way valve

Made-to-order product

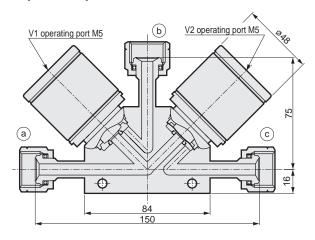
#### **Dimensions**

**AGD21R-** □\*\*-6RJ- □ □ □ (3/8" JXR female fitting (with bearing) mix)

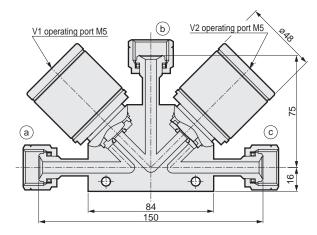
AGD21R- □\*\*-6R- □ □ □ (3/8" JXR female fitting mix)

AGD21R- □\*\*-6RM-MMM (3/8" JXR male fitting)

#### [Y: Selector]







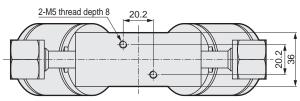


Figure shows AGD21R-Y11-6RJ-FFF Female fitting (with bearing)

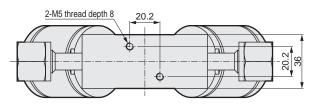
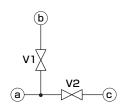
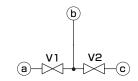
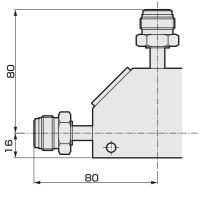


Figure shows AGD21R-T11-6RJ-FFF Female fitting (with bearing)

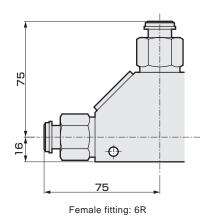




#### [Other fitting dimensions]



Male fitting: 6RM



Air operated valve for process gas

# **Option compatible products**

**AGD** Series

Made-to-order product

With valve opening adjustment mechanism



■ Flow rate is adjusted when the valve is open by rotating the knob on top of the actuator.

#### **Specifications**

Item	AGD0*V	AGD1*V	AGD2*V	
Working fluid	Inert gas/process gas			
Working pressure Pa(abs)-MPa(G)	1.3 x 10 <sup>-6</sup> to 0.5 1.3 x 10 <sup>-6</sup> to 0.99			
Fluid temperature °C	-10 to 80			
Ambient temperature °C	-10 to 80			
Valve seat leakagePa·m³/s(He)	1.3 x 10 <sup>-9</sup> or less			
External leakagePa·m³/s(He)	2.8 x 10 <sup>-12</sup> or less			
Cv(23°C under pressurization)	0.1	0.26	0.6	
Connection Note	1/4" JXR male fitting 1/4" JXR female fitting	1/4" JXR male fitting 1/4" JXR female fitting 1/4" double barbed fitting	3/8" JXR male fitting 3/8" JXR female fitting 3/8" double barbed fitting	
Actuation	NC (Normally Closed) NO (Normally Open)			
Operating pressure MPa	NC:0.4 to 0.6 NO:0.4 to 0.45 NO:0.4 to 0.5			
Operating port	M5 Rc1/8			

Note: JXR fitting can be connected to VCR fitting.

### With proximity switch



■ Valve open/close can be detected. Contact CKD regarding equipped switches.

#### Specifications

Item	AGD0*R	AGD1*R	AGD2*R	
Working fluid	Inert gas/process gas			
Working pressure Pa(abs)-MPa(G)	1.3 x 10 <sup>-6</sup> to 0.99			
Fluid temperature °C	5 to 80 (70°C or below for proximity sensor section)			
Ambient temperature °C	5 to 80 (70°C or below for proximity sensor section)			
Storage ambient temperature°C	-10 to 80			
Valve seat leakagePa·m³/s(He)	1.0 x 10 <sup>-10</sup> or less			
External leakagePa·m³/s(He)	2.8 x 10 <sup>-12</sup> or less			
Cv(23°C under pressurization)	0.1	0.3	0.65	
Connection Note	1/4" JXR male fitting 1/4" JXR female fitting	1/4" JXR male fitting 1/4" JXR female fitting 1/4" double barbed fitting	3/8" JXR male fitting 3/8" JXR female fitting 3/8" double barbed fitting	
Actuation	NC (Normally Closed) NO (Normally Open)			
Operating pressure MPa	NC:0.4 to 0.6 NO:0.4 to 0.5			
Operating port	M5			

Note: JXR fitting can be connected to VCR fitting.

For high temperature fluids



■ High temperature fluids up to 180°C can be used.

## **Specifications**

Item	AGD0*V	AGD1*V	AGD2*V	
Working fluid	Inert gas/process gas			
Working pressure Pa(abs)-MPa(G)	1.3 x 10 <sup>-6</sup> to 0.5 1.3 x 10 <sup>-6</sup> 0.99			
Fluid temperature °C	-10 to 180			
Ambient temperature °C	-10 to 80			
Valve seat leakagePa·m³/s(He)	1.3 x 10 <sup>-9</sup> or less			
External leakagePa·m³/s(He)	2.8 x 10 <sup>-12</sup> or less			
Cv(23°C under pressurization)	0.1	0.26	0.6	
Connection Note	1/4" JXR male fitting 1/4" JXR female fitting	1/4" JXR male fitting 1/4" JXR female fitting 1/4" double barbed fitting	3/8" JXR male fitting 3/8" JXR female fitting 3/8" double barbed fitting	
Actuation	NC (Normally Closed) NO (Normally Open)			
Operating pressure MPa	NC:0.4 to 0.6 NO:0.4 to 0.45 NO:0.4 to 0.5			
Operating port	M5 Rc1/8			

Note: JXR fitting can be connected to VCR fitting.

<sup>\*</sup> Contact CKD for option-compatible product model numbers and other details