

Discontinue



Air operated valve for chemical liquids

AMD¹₂¹/₃/AMD¹₃¹/₃/AMD¹₄¹/₃/AMD¹₅¹/₃ Series

● Orifice size: ø8, ø10, ø12, ø16, ø20, ø22, ø25

To be discontinued as of December 28, 2018



Export controlled items

* Target: AMD3 (*1), AMD4, 5

Specifications

Descriptions		AMD2*-10-8		AMD3*-15-12		AMD4*-20-20		AMD5*-25-25	
Working fluid		Chemical liquids/pure water/N ₂ gas/air							
Fluid temperature °C		5 to 60 (5 to 90) (5 to 150) (*3)							
Proof pressure MPa		1.4							
Working pressure (A→B) MPa		0 to 0.5			0 to 0.4			0 to 0.3	
Working pressure (B→A) MPa		0 to 0.3			0 to 0.2			0 to 0.2	
Valve seat leakage cm ³ /min		0 (water pressure)							
Back pressure MPa		0 to 0.3			0 to 0.2				
Ambient temperature °C		0 to 40							
Frequency		30 times/min. or less				20 times/min. or less			
Mounting orientation		Unrestricted							
Connection		Rc3/8 O.D. ø10 tube connection O.D. 3/8" tube connection	O.D. ø12 tube connection O.D. 1/2" tube connection	Rc1/2	O.D. 3/4" tube connection	Rc3/4	O.D. ø25 tube connection O.D. 1" tube connection	Rc1	
Orifice size		ø8	ø10	ø12	ø16	ø20	ø22	ø25	
Cv		1.25	1.8	2.5	5.2	8	9.5	12	
Operating section	Operating pressure MPa	NC/NO: 0.3 to 0.5, double acting: 0.2 to 0.3 (*4)							
	Operating port	Rc1/8							

*1: For AMD3, only connection Rc1/2 is applicable; integrated fitting is not applicable.

*2: Refer to pages 125 and 126 for flow characteristics.

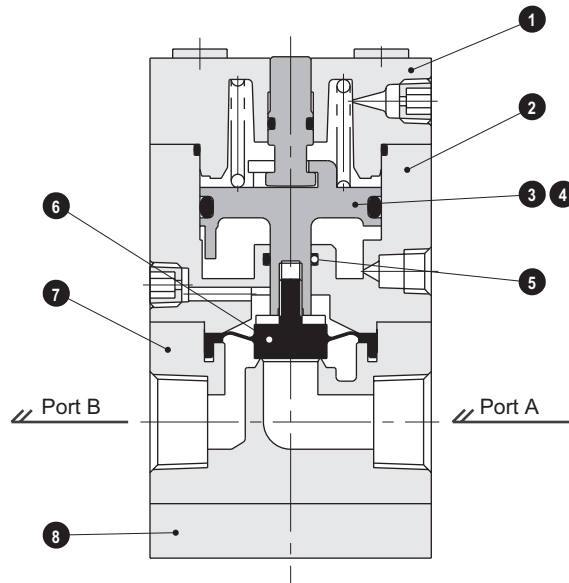
*3: 5 to 40°C for hydrofluoric acid.

*4: 0.2 to 0.25 MPa for fluid codes Y and K (for high temperature) of actuation 3 (double acting).

Always read the precautions on Intro Pages 7 to 16 before use.

Internal structure and parts list

Internal structure and parts list



No.	Part name	Material (by fluid code)				
		Standard	F	Y	K	M
1	Cover	CPVC		PVDF		CPVC
2	Cylinder	CPVC		PVDF		CPVC
3	Piston	CPVC	CPVC	PVDF	PVDF	CPVC
4	Rod	(Piston/rod integrated)	PVDF	PPS	PEEK	(Piston/rod integrated)
5	O-ring		FKM			
6	Diaphragm	PTFE				
7	Body	PFA				
8	Mounting plate	CPVC		PVDF		CPVC

The material and structure may vary depending on the model number. Contact CKD for details.

AMDZ AMD3R AMD3R AMD0	AMD02	AMD32 SUS 100V	AMD1H	AMD1M	AMG23R AMG03R AMG00	AMG20 AMG02	GAAMD3R GAAMD3R GAAMD2A GAAMD22	Hbp pressure specification	AMD dataclass	AMD02	AMD0H	AMD0M	AMD02	AMD0	TMD02	FMD00 MNV	AMS	AMDS	Fire regulator	KML	Others	Related
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How to order

●AMD2 Series

AMD2 **1** - **10** - **8** - **1** **F**

Model No.

Instruction on orifice size

B Connection

A Actuation

C Option

D Fluid

B Connection											
10	10US	10BUS	10UF	10BUF	10UA	10BUA					
Rc3/8	Super Pillar integrated fitting		F-LOCK 20 Series integrated fitting		F-LOCK 20A Series integrated fitting						
	ø10 x ø8 tube connection	3/8" x 1/4" tube connection	ø10 x ø8 tube connection	3/8" x 1/4" tube connection	ø10 x ø8 tube connection	3/8" x 1/4" tube connection					
ø8											
A Actuation											
1	NC (normally closed)	●					●	●	●	●	●
2	NO (normally open)	●	●	●	●	●	●				
3	Double acting	●	●	●	●	●	●				
C Option											
Blank	ON/OFF only	●	●	●	●	●	●				
1	With flow rate adjustment	●	●	●	●	●	●				
D Fluid											
Blank	Standard	●	●	●	●	●	●				
F	For medium temperature (5 to 90°C) (*1)	●	●	●	●	●	●				
M	For ammonia (*1)	●	●	●	●	●	●				

Precautions for model No. selection

*1: When selecting F and M together, specify as FM.

How to order

●AMD3 Series

AMD3

Model No.

B Connection

A Actuation

c Instruction on orifice size

D Option

EFluid

B Connection

15	12US	15BUS	12UF	15BUF	12UA	15UA
Rc1/2	Super Pillar integrated fitting		F-LOCK 20 Series integrated fitting		F-LOCK 20A Series integrated fitting	
	ø12 x ø10 tube connection	1/2" x 3/8" tube connection	ø12 x ø10 tube connection	1/2" x 3/8" tube connection	ø12 x ø10 tube connection	1/2" x 3/8" tube connection

Code	Content
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A Actuation

1	NC (normally closed)	●	●	●	●	●	●	●
2	NO (normally open)	●	●	●	●	●	●	●
3	Double acting	●	●	●	●	●	●	●

© Orifice size

10	ø10		●	●	●	●	●	●
12	ø12	●						

D Option

Blank	ON/OFF only	●	●	●	●	●	●	●
1	With flow rate adjustment (*1)	●	●	●	●	●	●	●
2	With bypass (*1)	●	●	●	●	●	●	●
3	With flow rate adjustment/bypass (*1)	●	●	●	●	●	●	●

E Fluid

Blank	Standard	●	●	●	●	●	●	●
F	For medium temperature (5 to 90 °C)	●	●	●	●	●	●	●
Y	For high temp (5 to 150 °C) (nitric acid N/A)	●	●	●	●	●	●	●
K	For high temp (5 to 150 °C) (sulfuric acid N/A)	●	●	●	●	●	●	●
M	Fluid ammonia (*2)	●	●	●	●	●	●	●



Precautions for model No. selection

*1: For those with flow rate adjustment or bypass, Y and K in Item ⑤ Fluid cannot be specified.

*2: M and F can be specified together (FM), but Y and K cannot be specified together.

●AMD4 Series

Model No.

B Connection

A Actuation

C Instruction on orifice size

D Option

EFluid

B Connection

20	20BUS	20BUF	20BUA
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4/4

Super pillar
integrated fitting

F-LOCK 20 Series
integrated fitting

FF-LOCK 20A Series integrated fitting

3/4" x 5/8" tube connection		

Code	Content
	3/4" x 5/8" tube connection

A Actuation

1	NC (normally closed)	●	●	●	●
2	NO (normally open)	●	●	●	●
3	Double acting	●	●	●	●

C Orifice size

16	ø16		●	●	●
20	ø20	●			

D Option

Blank	ON/OFF only	●	●	●	●
1	With flow rate adjustment (*1)	●	●	●	●
2	With bypass (*1)	●	●	●	●
3	With flow rate adjustment/bypass (*1)	●	●	●	●

E Fluid

Blank	Standard	●	●	●	●
F	For medium temperature (5 to 90°C)	●	●	●	●
Y	For high temp (5 to 150°C) (nitric acid N/A)	●	●	●	●
K	For high temp (5 to 150°C) (sulfuric acid N/A)	●	●	●	●
M	Fluid ammonia (*2)	●	●	●	●



Precautions for model No. selection

*1: For those with flow rate adjustment or bypass, Y and K in Item **E** Fluid cannot be specified.

*2: M and F can be specified together (FM), but Y and K cannot be specified together.

How to order

●AMD5 Series

AMD5 (2) - (25) - (25) - (1) F

Model No.

B Connection

A Actuation

c Instruction on orifice size

D Option

EFluid

		B Connection		
		25	25US	25BUS
		Rc1	Super Pillar integrated fitting	
			ø25 x ø22 tube connection	1" x 7/8" tube connection
Code	Content			
A Actuation				
1	NC (normally closed)	●	●	●
2	NO (normally open)	●	●	●
3	Double acting	●	●	●
C Orifice size				
22	ø22		●	●
25	ø25	●		
D Option				
Blank	ON/OFF only	●	●	●
1	With flow rate adjustment (*1)	●	●	●
2	With bypass (*1)	●	●	●
3	With flow rate adjustment/bypass (*1)	●	●	●
E Fluid				
Blank	Standard	●	●	●
F	For medium temperature (5 to 90°C)	●	●	●
Y	For high temp (5 to 150°C) (nitric acid N/A)	●	●	●
K	For high temp (5 to 150°C) (sulfuric acid N/A)	●	●	●
M	Fluid ammonia (*2)	●	●	●



Precautions for model No. selection

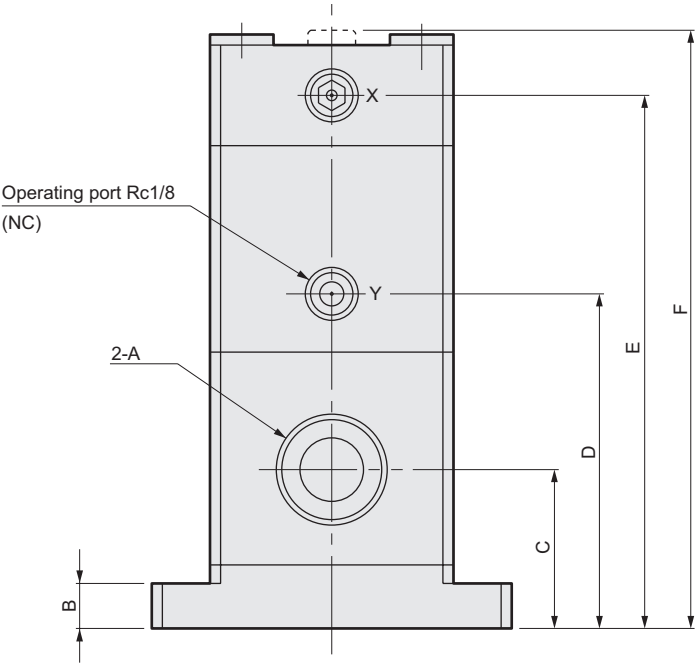
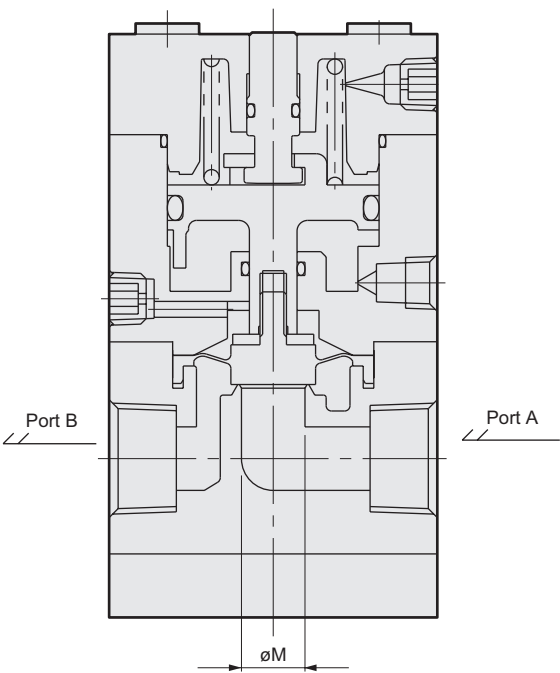
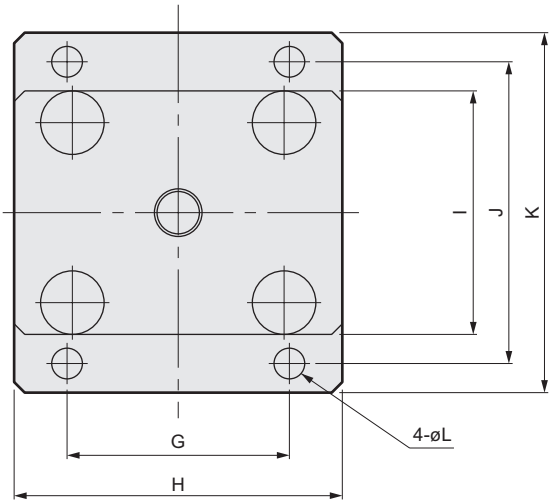
*1: For those with flow rate adjustment or bypass, Y and K in Item ⑤ Fluid cannot be specified.

*2: M and F can be specified together (FM), but Y and K cannot be specified together.

Dimensions

●ON/OFF only

- AMD2*
- AMD3*
- AMD4*
- AMD5*



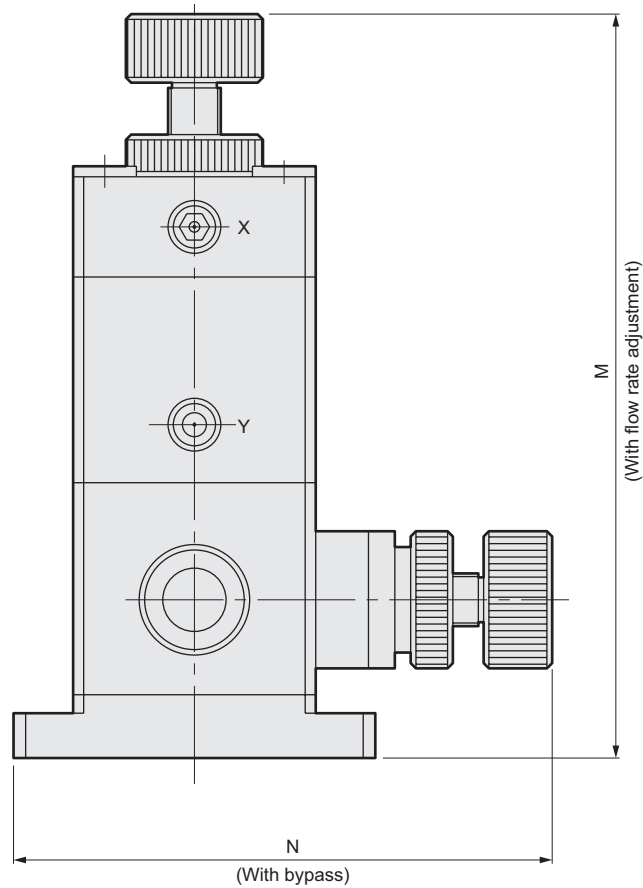
Code	A	B	C	D	E	F	G	H	I	J	K	L	M
Model No.													
AMD2 ¹ ₂ -10-8	Rc3/8	7	22	48	80	MAX 90	34	44	36	46	56	5.8	8
AMD3 ¹ ₃ -15-12	Rc1/2	8	30	64	101	MAX 113	42	62	46	57	68	5.8	12
AMD4 ¹ ₄ -20-20	Rc3/4	8	34	71	116	MAX 133	56	80	58	71	84	6.8	20
AMD5 ¹ ₅ -25-25	Rc1	10	39	85	141	MAX 160	70	88	68	85	100	6.8	25





□ Actuation

1	NC
2	NO
3	Double acting

Dimensions

●With flow rate adjustment/bypass



Code Model No.	M	N
AMD2  10-8-1	MAX 111	-
AMD3  15-12-3	MAX 144	MAX 103
AMD4  20-20-3	MAX 162	MAX 130
AMD5  25-25-3	MAX 193	MAX 148

*** Actuation**

1	NC
2	NO
3	Double acting