



ASAHI/AMERICA[®]
Your Experts in Plastics[™]



Dymatrix[™]

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www.asahi-america.com

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定流量弁
Constant flow valve

AVCFV

DI Water Chemical Air Flow Control

6X4 6.35X4.35

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PVC製2方弁
PVC 2 way valve

HDV12/R

DI Water Chemical Air Shut

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HDVR 15 20 25

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AVFCS2

DI Water Slurry Flow Control

6X4 6.35X4.35

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※適合流体はP.104の適合流体リストをご参照ください。※ Please refer to page 104 for "Suitability List on Medium".

※スラリーはご使用いただいている実績はありますが、保証するものではありません。ご使用にあたっては、お客様において十分な評価を行ってください。

※ We cannot guarantee Dymatrix products for slurry-contained fluid, although there are some cases in which the products are used for this kind of fluid. If you use Dymatrix products for slurry-contained fluid, We recommends you to sufficiently evaluate them under your working conditions.



本製品の取扱注意事項 Important notice for use of **Dymatrix™**

ご使用前に必ずお読み下さい。 Please read the following instructions carefully before using the **Dymatrix™** products.



警告

Warning

- 弊社製品のご使用に際しては、製品仕様や注意事項等の遵守をお願い致します。
- 弊社は製品の品質・信頼性の向上に努めておりますが、その完全性を保証するものではありません。特に人の生命、身体または財産を侵害する恐れのある設備等へご使用される場合には、通常発生し得る不具合を十分に考慮した適切な安全設計等の対策を施してください。このようご使用については、事前に仕様書等の書面による弊社の同意を得ていない場合は、弊社はその責を負いかねますのでご了承願います。
- 弊社製品の選定、施工・据付け、操作、メンテナンス等の注意事項は技術資料、取扱説明書等に記載してありますので、最寄りの販売店・弊社営業所へお問い合わせ下さい。

Follow all product specification and warnings when using these products.

Our company does not guarantee every application, although we are constantly making every effort to improve the quality and reliability of these product. The **Dymatrix™** products used in equipment could cause serious physical damage or property damage, if appropriate and safe design procedures are not followed. We take no responsibility for these products if there was no written agreement regarding the compatibility of the product with the application.

Consult your nearest the **Dymatrix™** products supplier or our office if you need assistance on product specification, installation/plumbing, operation and maintenance.



警告：取り扱いを誤った場合に、人が死亡もしくは重傷を負うことが想定される。

Warning : Wrongful use of these products could cause death or severe injury.



注意：取り扱いを誤った場合に、人が軽傷を負う危険、もしくは物的損害のみが発生する危険を負うことが想定される。

Attention : Wrongful use of these products could cause material damage.

設計・選定時の注意事項 Cautions for design of piping and product selection.



警告

Warning

1. 製品仕様：流体・温度・圧力その他の使用条件等を考慮し、本製品の仕様範囲内でご使用下さい。
2. 使用流体：製品の構成材料と使用流体との適合性については、適合流体リストにてご確認の上ご使用下さい。リストに記載以外の流体につきましては、別途お問い合わせ下さい。
圧縮性流体をご使用の際は安全対策を十分に実施して下さい。
3. 流体圧力：本カタログに記載しております使用圧力範囲内でご使用下さい。
4. 流体温度：本カタログに記載しております使用流体温度範囲内でご使用下さい。
5. 周囲環境：本カタログに記載しております周囲温度範囲内でご使用下さい。製品の構成材料と周囲雰囲気との適合性をご確認の上ご使用下さい。また製品外面に流体が付着しないようにして下さい。
6. 液封：システム上に逃がし弁を設け、液封の回路にならないようにして下さい。
7. メンテナンススペース：メンテナンスに必要なスペースを確保して下さい。

1. Product Specifications : Use the **Dymatrix™** products within the specification range of the working conditions such as medium, working temperature/pressure and so on.
2. Use Medium : Confirm the fluid compatibility with the wetted part of the **Dymatrix™** products in the "Suitability List on Medium". Consult us on any medium, which is not listed in "Suitability List on Medium". Pay careful attention to the use of our products with compressive fluids.
3. Working pressure : Use the **Dymatrix™** products within the range of working pressure shown in this catalog.
4. Working Temperature : Use the **Dymatrix™** products within the range of working temperature shown in this catalog.
5. Atmospheric Temperature : Use the **Dymatrix™** products within the range of atmospheric temperature shown in this catalog. Please use the **Dymatrix™** products upon confirmation of compatibility with material and atmosphere. Do not adhere any fluid to the external surface of product.
6. When preparing the bypass piping, avoid making the circuit a sealed loop, which would cause breakage of the piping material.
7. Maintenance space : Secure the maintenance space.

据付・配管時の注意事項 Cautions for installation and plumbing



警告

Warning

1. 事前に各製品の取扱説明書をよくお読みいただき、理解した上で正しく据付・配管を行って下さい。
2. 据付・配管前には配管内を十分フラッシングし、異物を取り除いて下さい。
3. 据付・配管後は漏れの検査を行い、正しく実施されているかご確認下さい。
4. バルブに引張・圧縮・曲げ等の応力がかからないようにして下さい。
5. 流体方向が表記されている製品は、流体の流れ方向と一致するように設置して下さい。
6. 逆作動の場合、操作圧を加えないポートは大気開放にして下さい。
7. チューブとの接続については、各継手メーカーが推奨する取り付け方法で行って下さい。

1. Read User's Manual (IOM-Manual) carefully prior to installation/plumbing.
2. Flush the piping completely and make sure that there is no foreign substances in the piping prior to installation/plumbing of our product into it.
3. Confirm the leak inspection is carried out correctly after the installation/plumbing.
4. Make sure that the valves are free of tensile/compression/bending stresses.
5. Install the valve to match the arrow on the body with the flow direction of the fluid.
6. In the case of Air-To-Open (Spring Return) Type, leave the port that is not for pilot air supply opened to atmosphere.
7. To connect our products with tubing, follow the procedure given by the manufacturer of fittings.



注意

Attention

1. エア配管用継手は必ず樹脂製を使用してください。締付けは、0.4～0.6N・mの締付けトルクで行って下さい。
※ AVHPRS は 0.2～0.4N・mの締付けトルクです。
1. Please use the pilot air supply fitting made of the plastic. To fit the pilot air supply tube onto actuator cylinder tighten the torque to 0.4 to 0.6N-m. For the AVHPRS, tighten the torque to 0.2 to 0.4N-m.

使用上の注意事項 Cautions for use of the *Dymatrix™* products



警告

Warning

1. 流体・温度・圧力その他の使用条件等を考慮し、本製品の仕様範囲内でご使用下さい。
1. Use the *Dymatrix™* products within the specification range of the working conditions such as medium, working temperature/pressure and so on.



注意

Attention

1. 製品の構成材料と使用流体との適合性については、適合流体リストにてご確認の上ご使用下さい。
リストに記載以外の流体につきましては、別途お問い合わせ下さい。
2. 使用圧力によってはウォーターハンマーが発生する恐れがあります。スピードコントローラなどで開閉速度を調整して下さい。
3. 使用条件によってはキャビテーションが発生する恐れがあります。流体圧力や配管条件などの見直しをして下さい。
4. クリーンルーム内での設置を想定し、精密洗浄後クリーンバックしておりますので、お取り扱いにはご注意下さい。
5. 流量調整付、バイパス付については、ハンドルを閉め過ぎないようにして下さい。
6. 操作エアは有機溶剤や腐食性ガスを含まない、清浄なエアをご使用下さい。
7. 流体方向が表記されている製品は、流体の流れ方向と一致するように使用して下さい。
8. 異物を含んだ流体でご使用の場合、バルブがシール不能になります。
1. Confirm the fluid compatibility with the wetted part of the *Dymatrix™* products in the "Suitability List on Medium". Consult us on any medium, which is not listed in "Suitability List on Medium".
2. Water hammering could be generated depending on the working pressure. To avoid water hammering, adjust the operation speed by the speed controller.
3. Cavitations could be generated depending on the working condition. If cavitations are observed, review the fluid pressure and piping design.
4. Handle the *Dymatrix™* products carefully to protect the clean (room) packaging.
5. To avoid breakage or deformation, don't apply excess force to the handle.
6. Use CDA (Clean Dry Air) for pilot air, which does not contain any organic solvents or corrosive gases.
7. Use the valve to match the arrow on the body with the flow direction of the fluid.
8. Cannot use for the fluid containing the foreign substance. (It make the valve unable to seal.)

メンテナンス時の注意事項 Cautions for maintenance



警告

Warning

1. 事前に操作エアおよび流体を抜いて下さい。
2. バルブおよび配管内に残留した薬液を除去し、純水、エアで十分置換した上で作業して下さい。
3. 製品を分解しないで下さい。分解後に再度組立てても、本来の性能、仕様を損なう可能性があります。また、分解された製品の保証は致しかねますのでご了承下さい。
4. 製品を最適な状態でご使用いただくために、バルブおよび継手からの漏れの有無の確認を定期的に行って下さい。
1. Discharge the fluid and the pilot air prior to the maintenance.
2. Start maintenance after medium has been completely flushed by DI Water or air.
3. Do not disassemble the product. Disassembled product may not keep its original specifications or performance.
We cannot guarantee a disassemble product.
4. Check the piping periodically to maintain the appropriate condition for the products.

輸出に際して Cautions for export, when exporting to overseas from Japan



注意

本カタログ中には、輸出貿易管理令（リスト規制）において輸出規制の対象となる製品が含まれております。リストをご参照の上、対象となる製品のお取り扱いにはご注意ください。

輸出貿易管理令(リスト規制)該当品リスト

Dymatrix™		ラインナップ		輸出貿易管理令(リスト規制)			
				非該当品		該当品	
				ミリ	インチ	ミリ	インチ
ピンチ弁	AVPV3	6×4~25×22	6.35×4.35~ 25.40×22.20	-			
	AVPVM						
	AVPVSL						
薬液用2方弁	AVSDV	6×4~12×10	6.35×4.35~ 12.70×9.53	19×16、25×22	19.05×15.88、 25.40×22.20		
	AVSDV-M	3×2~12×10	3.18×1.6~ 12.70×4.35				
	AVSDV-T						
サックバック弁	AVSAS	3×2~6×4	3.18×1.6~ 6.35×4.35	-			
マルチポート弁	AVMPV	6×4~12×10*	6.35×4.35~ 12.70×9.53*	19×16、25×22	19.05×15.88、 25.40×22.20		
3方切替弁	AVDIV	6×4~12×10	6.35×4.35~ 12.70×9.53	-			
ニードル弁	AVNVM	6×4~12×10	6.35×4.35~ 12.70×9.53	-			
定圧弁	AVHPRL	3×2~12×10	3.18×1.6~ 12.70×9.53	19×16、25×22	19.05×15.88、 25.40×22.20		
	AVHPRL-M	6×4~12×10	6.35×4.35~ 12.70×9.53				
	AVHPRS	6×4~12×10	6.35×4.35~ 12.70×9.53	-			
背圧弁	AVBPR	12×10	12.70×9.53	19×16	19.05×15.88		
定流量弁	AVCFV	6×4	6.35×4.35	-			
PVC製2方弁	HDV12	15~50	-	-			
	HDVR	15~25					
	HDVW	15~65					
急速排水弁	AVQDV	20~100	-	-			
チューブ接続用 ボールバルブ	AVBVX	U-PVC, C-PVC, PP	6×4~25×22	6.35×4.35~ 25.40×22.20	-		
		PVDF	6×4~12×10	6.35×4.35~ 12.70×9.53	19×16、25×22	19.05×15.88、 25.40×22.20	
チューブ接続用 プレハブジョイント	AVPJX	6×4~25×22	6.35×4.35~ 25.40×22.20	-			

※ M1 ポート、M2 ポート及びSUB ポート全てが6×4(6.35×4.35)~12×10(12.70×9.53) で構成される場合に限ります。

Dymatrix™

Specialty Valves and Control Products

Thermoplastic valves



- AVP/3
- AVP/M
- AVP/SL
- AVSDV
- AVSD/M
- AVSD/T
- AVSAS
- AVMPV
- AVD/V
- AVW/M
- AVH/PRL
- AVH/PRL™
- AVH/PRS
- AVB/PR
- AVCFV
- HDV/2R
- HDV/W
- AVQDV
- AVB/VX
- AVP/JX
- AVS/V
- AVFCS2
- AVFCN
- OTHER

AVPV3

ピンチ弁 Pinch valve

Specialty Valves and Control Products **Dymatrix™**



Straight flow

The straight flow path applies no stress to the medium. There is almost no influence to the particle size even with highly coherent fluids such as slurry. It can also be used for DI water, and there is no restriction on the flow direction.

Excellent durability/seal performance

The use of a pinch seal structure provides superior durability. Our slurry evaluation test shows there is no decline in the sealing performance, and that it has excellent durability against foreign substances caught in the flow passage.

Specifications

項目	Items	Unit	Size				
			6×4 6.35×4.35	10×8 9.53×6.35	12×10 12.70×9.53	19×16 19.05×15.88	25×22 25.40×22.20
作動	Actuation	—	Air to open				
流体温度	Medium Temperature	℃	10 ~ 40				
構造耐圧	Proof Pressure	MPa	1.0 145psi				
使用圧力範囲	Working Pressure range	MPa	0 ~ 0.3 0 ~ 43.5psi				
弁座漏れ量	Leakage Rate	cm ³ /min	0 (at hydraulic pressure 23℃)				
周囲温度	Ambient Temperature	℃	10 ~ 40				
開閉頻度	Frequency of opening and closing	times/min	< 20				
取付姿勢	Installation direction	—	Any direction				
接続	Connection	—	Flowell 20 series, Flowell 60 series Super Type Pillar Fitting, Super 300 Type Pillar Fitting Flare Type, Rc, FNPT				
オリフィス※1	Orifice diameter	mm	φ 3.5	φ 6	φ 7	φ 11	φ 11
Cv値※1	Cv value	—	0.4	1.2	2.1	6.9	6.9
重量	Weight	kg	0.3	0.6	0.6	1.0	1.1
Pilot	Pilot pressure	MPa	0.35 ~ 0.5 50.8 ~ 72.5psi				
	Pilot air consumption※2	L/times(ANR)	0.02	0.05	0.05	0.13	0.13
	Pilot port	—	Rc1/8" , FNPT1/8"				

※1. It is typical value.

※2. The value on the table shows the air consumption volume when the pilot pressure is 0.5 MPa.

Ordering Code

AVPV3 - 1 F ① ② ③ ④ ⑤

Actuation

1 (NC) Air to open

Body material

F PVDF

② Tubing standard

M Millimeter

I Inch

④ Mounting

0 Thread at bottom

1※2 Base plate

Connection tubing size

06	6× 4	6.35× 4.35	□35
10	10× 8	9.53× 6.35	□45
12	12×10	12.70× 9.53	□45
19	19×16	19.05×15.88	□55
25	25×22	25.40×22.20	□55

⑤ Pilot port

n/a	Rc 1/8"
N	FNPT 1/8"

③ Connection

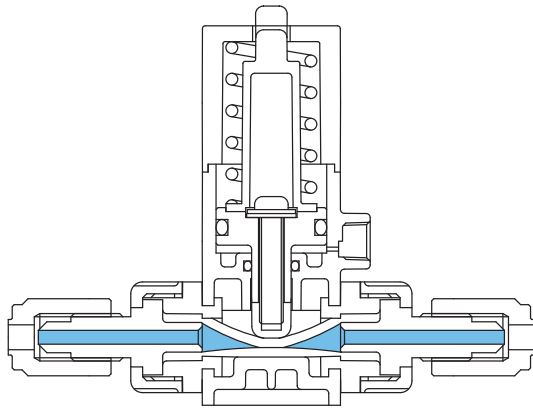
2	Flowell 20 series
6	Flowell 60 series
S	Super Type Pillar Fitting
3	Super 300 Type Pillar Fitting
F ※1	Flare Type
R ※1	Rc
N ※1	FNPT

※1: In the case of the connection is "F", "R" or "N", only "I (Inch)" can be selected for the "Tubing Standard".

※2: In the case of tubing size "25", only "1(Base plate)" can be selected for "Mounting".

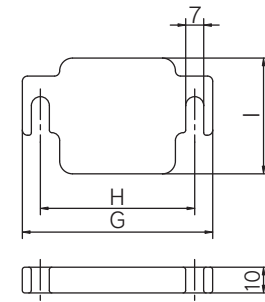
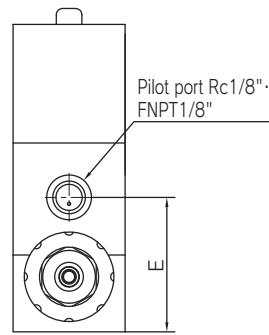
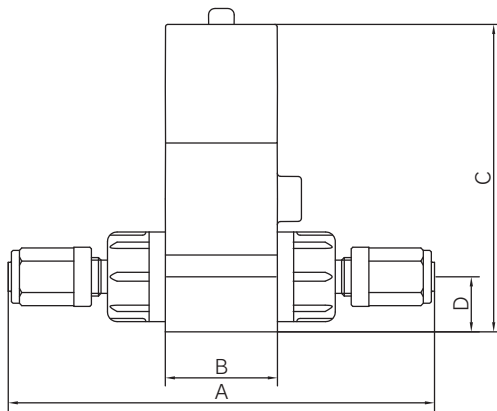
Ordering code example
AVPV3-1F06I30
AVPV3-1F06I30-N

Parts & Materials

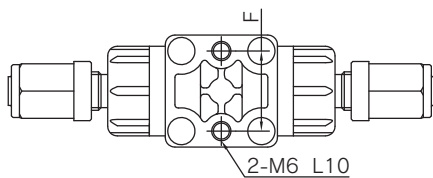


Parts	Material	Wetted parts
Actuator	PVDF	
Tube	Silicon based rubber	○
End connector	PTFE	○

Dimensions



Base Plate (PVDF)



(Unit) : mm

		Standard	Size				
			6×4 6.35×4.35	10×8 9.53×6.35	12×10 12.70×9.53	19×16 19.05×15.88	25×22 25.40×22.20
A	Flowell 20 series	inch	107	140	148	172	194
		mm	105	137	145	172	194
	Flowell 60 series	inch	133	173	173	198	212
		mm	131	169	169	198	209
	Super Type Pillar Fitting	inch/mm	110	148	155	189	220
	Super 300 Type Pillar Fitting	inch/mm	109	145	153	182	216
Flare Type	inch	127	157	161	186	204	
Rc, FNPT	inch	81	111	111	142	156	
	B		□ 35	□ 45	□ 45	□ 55	□ 55
	C		96(MAX101)	116(MAX124)	116(MAX124)	141(MAX153.5)	151(MAX163.5)
	D		17	23	23	26	36
	E		41.5	52	52	61.5	71.5
	F		25	32	32	42	42
	G		64	74	74	85	85
	H		50	60	60	70	70
	I		35	45	45	55	55

※ reference value

- AVPV3
- AVPVM
- AVPVS
- AVSDV
- AVSDVM
- AVSDVT
- AVSAS
- AVMPV
- AVDIV
- AVVM
- AVHRL
- AVHRL-M
- AVHPRS
- AVBPR
- AVCFV
- HDV12R
- HDVM
- AVQDV
- AVBVX
- AVPJX
- AVSIV
- AVFCS2
- AVFCN
- OTHER

AVPVM

ピンチ弁手動タイプ Pinch valve manual type

Specialty Valves and Control Products **Dymatrix™**     



Straight flow

The straight flow path applies no stress to the medium. There is almost no influence to the particle size even with highly coherent fluids such as slurry. It can also be used for DI water, and there is no restriction on the flow direction.

Excellent durability/seal performance

The use of a pinch seal structure provides superior durability. Our slurry evaluation test shows there is no decline in the sealing performance, and that it has excellent durability against foreign substances caught in the flow passage.

Specifications

項目	Items	Unit	Size				
			6×4	10×8	12×10	19×16	25×22
			6.35×4.35	9.53×6.35	12.70×9.53	19.05×15.88	25.40×22.20
作動	Actuation	—	Manual				
流体温度	Medium Temperature	℃	10 ~ 40				
構造耐圧	Proof Pressure	MPa	1.0 145psi				
使用圧力範囲	Working Pressure range	MPa	0 ~ 0.5 0 ~ 72.5psi				
弁座漏れ量	Leakage Rate	cm ³ /min	0 (at hydraulic pressure 23℃)				
周囲温度	Ambient Temperature	℃	10 ~ 40				
取付姿勢	Installation direction	—	Any direction				
接続	Connection	—	Flowell 20 series Flowell 60 series Super Type Pillar Fitting Super 300 Type Pillar Fitting Flare Type Rc、FNPT				
オリフィス※	Orifice diameter	mm	φ 3.5	φ 6	φ 7	φ 11	φ 11
Cv値※	Cv value	—	0.4	1.2	2.1	6.9	6.9
重量	Weight	kg	0.2	0.4	0.4	0.7	0.9

※ Typical value.

Ordering Code

AVPVM

F

①

②

③

④

Body material

F

PVDF

② Tubing standard

M

Millimeter

I

Inch

④ Mounting

0

Thread at bottom

1※2

Base plate

① Connection tubing size

①	Connection tubing size	①
06	6× 4	□35
10	10× 8	□45
12	12×10	□45
19	19×16	□55
25	25×22	□55

※1: In the case of the connection is "F", "R" or "N", only "I (Inch)" can be selected for the "Tubing Standard".

※2: In the case of tubing size "25", only "1 (Base plate)" can be selected for "Mounting".

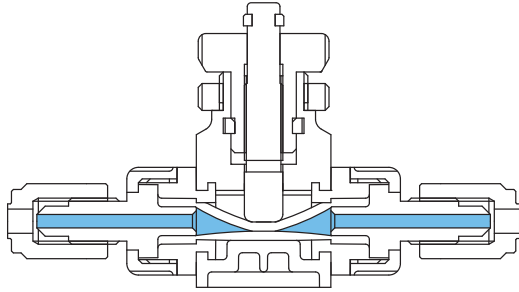
③ Connection

2	Flowell 20 series
6	Flowell 60 series
S	Super Type Pillar Fitting
3	Super 300 Type Pillar Fitting
F※1	Flare Type
R※1	Rc
N※1	FNPT

Ordering code example

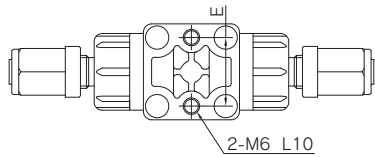
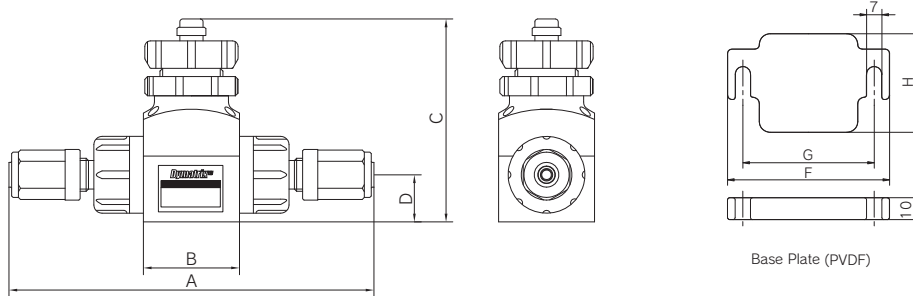
AVPVM-F06I30
AVPVM-F25M61

Parts & Materials



Parts	Material	Wetted parts
Actuator	PVDF	
Tube	Silicon based rubber	○
End connector	PTFE	○

Dimensions

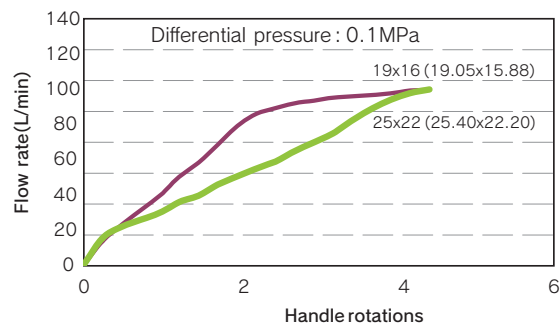
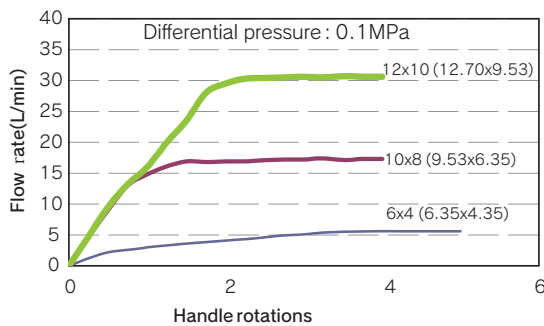


(Unit) : mm

		Standard	Size				
			6×4 6.35×4.35	10×8 9.53×6.35	12×10 12.70×9.53	19×16 19.05×15.88	25×22 25.40×22.20
A	Flowell 20 series	inch	107	140	148	172	194
		mm	105	137	145	172	194
	Flowell 60 series	inch	133	173	173	198	212
		mm	131	169	169	198	209
	Super Type Pillar Fitting	inch/mm	110	148	155	189	220
	Super 300 Type Pillar Fitting	inch/mm	109	145	153	182	216
	Flare Type	inch	127	157	161	186	204
Rc. FNPT	inch	81	111	111	142	156	
	B		□ 35	□ 45	□ 45	□ 55	□ 55
	C		74(MAX79)	82.5(MAX90.5)	82.5(MAX90.5)	102(MAX115)	112(MAX125)
	D		17	23	23	26	36
	E		25	32	32	42	42
	F		64	74	74	85	85
	G		50	60	60	70	70
	H		35	45	45	55	55

※ Reference value.

Technical Data



The data shown here is the experimental values and the reference values.

- AVPV3
- AVPVM
- AVPVS
- AVPVS2
- AVSDV
- AVSDVM
- AVSDVT
- AVSAS
- AVMPV
- AVDIV
- AVWV
- AVHPR
- AVHPRM
- AVHPRS
- AVBPR
- AVCFV
- AVCFV2
- AVQDV
- AVBVX
- AVPJX
- AVSIV
- AVFCS2
- AVFCN
- OTHER

AVPVSL

ピンチ弁スローリークタイプ Pinch valve slow leak type

Specialty Valves and Control Products **Dymatrix™**



Air operated pinch valve with manual stop adjustment

This air operated pinch valve has manual flow control capabilities. By operating the handle, the leak rate can be adjusted. The full-open position allows the valve to flush completely, preventing clogs.

Specifications

項目	Items	Unit	Size				
			6×4	10×8	12×10	19×16	25×22
作動	Actuation	—	6.35×4.35	9.53×6.35	12.70×9.53	19.05×15.88	25.40×22.20
流体温度	Medium Temperature	°C	Air to open 10 ~ 40				
構造耐圧	Proof Pressure	MPa	1.0 145psi				
使用圧力範囲	Working Pressure range	MPa	0 ~ 0.3 0 ~ 43.5psi				
弁座漏れ量	Leakage Rate	cm ³ /min	0 (at hydraulic pressure 23°C)				
周囲温度	Ambient Temperature	°C	10 ~ 40				
開閉頻度	Frequency of opening and closing	times/min	< 20				
取付姿勢	Installation direction	—	Any direction				
接続	Connection	—	Flowell 20 series Flowell 60 series Super Type Pillar Fitting Super 300 Type Pillar Fitting Flare Type Rc, FNPT				
オリフィス※1	Orifice diameter	mm	φ 3.5	φ 6	φ 7	φ 11	φ 11
Cv値※1	Cv value	—	0.4	1.2	2.1	6.9	6.9
重量	Weight	kg	0.5	0.7	0.7	1.4	1.7
Pilot	Pilot pressure	MPa	0.35 ~ 0.5 50.8 ~ 72.5psi				
	Pilot air consumption※2	L/times(ANR)	0.02	0.05	0.05	0.13	0.13
	Pilot port	—	Rc1/8" , FNPT1/8"				

※1. Typical value.

※2. The value on the table shows the air consumption volume when the pilot pressure is 0.5 MPa.

Ordering Code

AVPVSL- 1 F ① ② ③ ④ - ⑤ ⑥

Actuation

1 Air to open

Body material

F PVDF

② Tubing standard

M Millimeter

I Inch

⑤ Revision

n/a □35, □55

1 □45

Connection tubing size

06	6×4	6.35×4.35	□35
10	10×8	9.53×6.35	□45
12	12×10	12.70×9.53	
19	19×16	19.05×15.88	□55
25	25×22	25.40×22.20	

Connection

2 Flowell 20 series

6 Flowell 60 series

S Super Type Pillar Fitting

3 Super 300 Type Pillar Fitting

F※1 Flare Type

R※1 Rc

N※1 FNPT

④ Mounting

0 Thread at bottom

1※2 Base plate

⑥ Pilot port

n/a Rc 1/8"

N FNPT 1/8"

※1: In the case of the connection is "F", "R" or "N", only "I (Inch)" can be selected for the "Tubing Standard".

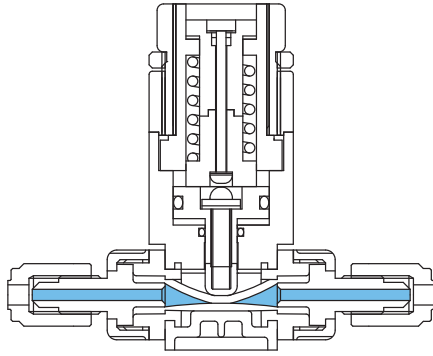
※2: In the case of tubing size "25", only "1 (Base plate)" can be selected for "Mounting".

Ordering code example

AVPVSL-1F06I30

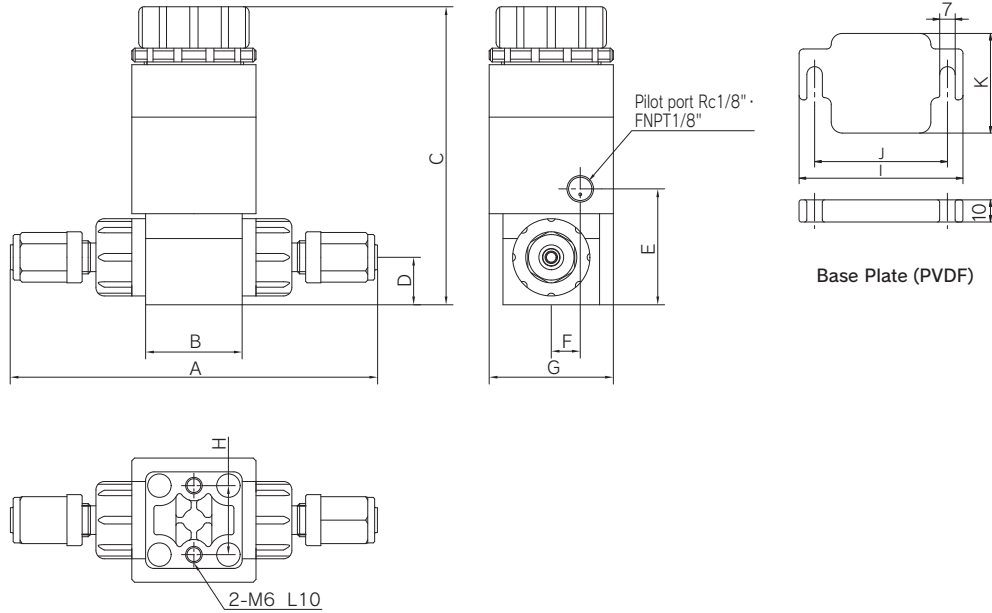
AVPVSL-1F06I30-N

Parts & Materials



Parts	Material	Wetted parts
Actuator	PVDF	
Tube	Silicon based rubber	○
End connector	PTFE	○

Dimensions



(Unit) : mm

		Standard	Size				
			6×4	10×8	12×10	19×16	25×22
A	Flowell 20 series	inch	107	140	148	172	194
		mm	105	137	145	172	194
	Flowell 60 series	inch	133	173	173	198	212
		mm	131	169	169	198	209
	Super Type Pillar Fitting	inch/mm	110	148	155	189	220
	Super 300 Type Pillar Fitting	inch/mm	109	145	153	182	216
	Flare Type	inch	127	157	161	186	204
	Rc, FNPT	inch	81	111	111	142	156
B		□ 35	□ 45	□ 45	□ 55	□ 55	
C		108(MAX 123)	118(MAX 133)	118(MAX 133)	164.5(MAX 184)	174.5(MAX 194)	
D		17	23	23	26	36	
E		41.5	51	51	61.5	71.5	
F		10.5	11	11	16	16	
G		45	53	53	67	67	
H		25	32	32	42	42	
I		64	74	74	85	85	
J		50	60	60	70	70	
K		35	45	45	55	55	

※ Reference value.

- AVPV3
- AVPVM
- AVPVS
- AVSDV
- AVSDVM
- AVSDVT
- AVSAS
- AVMPV
- AVDIV
- AVVM
- AVHPR
- AVHPRM
- AVHPR
- AVHPRS
- AVBPR
- AVCFV
- HDV12R
- HDVM
- AVQDV
- AVBVX
- AVPJX
- AVSIV
- AVFCS2
- AVFCN
- OTHER

AVSDV

薬液用2方弁 2way valve for chemical

Specialty Valves and Control Products **Dymatrix™**



Excellent durability

AVSDV has excellent durability and reliability.

Abundant line-up

We designed the AVSDV with wide Variation sizes, and it is compact. Abundant options (with Travel stop, with Indicator with Bypass) can be selected to meet various customer's needs.

Specifications

項目	Items	Unit	Size					
			□30		□40		□50	□60
			6×4	10×8※1	10×8	12×10	19×16	25×22
			6.35×4.35	9.53×6.35	9.53×6.35	12.70×9.53	19.05×15.88	25.40×22.20
作動	Actuation	—	Air to open · Air to close · Double acting				Air to open · Double acting	
流体温度	Medium Temperature	℃	5 ~ 90 <small>Please consult us in case you need the valve for Middle Temp(5 ~ 140℃) or High Temp (10 ~ 200℃).</small>					
構造耐圧	Proof Pressure	MPa	1.0 145psi					
使用圧力範囲※2	Working Pressure range	MPa	0 ~ 0.5 0 ~ 72.5psi					
弁座漏れ量	Leakage Rate	cm ³ /min	0 (at hydraulic pressure 23℃)					
背圧※2	Back Pressure	MPa	0 ~ 0.25	0 ~ 36.25psi	0 ~ 0.3	0 ~ 43.5psi	0 ~ 0.5	0 ~ 72.5psi
周囲温度	Ambient Temperature	℃	5 ~ 60					
開閉頻度	Frequency of opening and closing	times/min	< 20					
取付姿勢	Installation direction	—	Any direction					
接続	Connection	—	Flowell 20 series Flowell 60 series Super Type Pillar Fitting Super 300 Type Pillar Fitting Flare Type Tube Rc、FNPT					
オリフィス※5	Orifice diameter	mm	φ 4	φ 6	φ 8	φ 10	φ 16	φ 22
Cv 値 Cv value※3※5	A Type	—	0.26	—	1.16	1.8	4.4	7.4
	B Type	—	0.3	0.8	1.2	2.1	5.3	8.1
Pilot	Pilot pressure	Air to open	0.4 ~ 0.5 58 ~ 72.5psi					
		Air to close	0.4 ~ 0.5 58 ~ 72.5psi		0.3 ~ 0.5 43.5 ~ 72.5psi		—	
		Double acting	0.3 ~ 0.4 43.5 ~ 58psi					
	エPilot air ※4 consumption	Air to open	0.003		0.01		0.02	0.05
		Air to close	0.03		0.06		—	
		Double acting	0.04		0.07		0.13	0.30
Pilot port	—	Rc1/8" , FNPT1/8"						

Type	Connection
A type	Flowell 60 series
	Flare Type
B type	Flowell 20 series
	Super Type Pillar Fitting
	Super 300 Type Pillar Fitting
	Tube
	Rc, FNPT

- ※ 1. Specifications only fro the PFA body (Super 300 Type Pillar Fitting, Flare Type)
- ※ 2. For the details, please refer to the characteristic graph of "Working pressure-Back pressure".
- ※ 3. "Cv value" is different by "Connection". Please refer to a list shown on the left.
- ※ 4. The value on the table shows the air consumption volume when the pilot pressure is 0.4MPa.
- ※ 5. Typical value.

Ordering Code

● PFA (PFA Body)

AVSDV - ① **A** ② ③ ④ ⑤ ⑥ ⑦ ⑧ - ⑨ ⑩

① Actuation

G	(NC) Air to open
S*1	(NO) Air to close
F	(DA) Double acting

Body material

A	PFA
---	-----



② Connection

3	Super 300 Type Pillar Fitting
F*2	Flare Type

③ Tubing standard

M	Millimeter
I	Inch


Mounting

1	Baseplate	
2*3	Baseplate	

⑤ Option

0 (Standard)	ON-OFF only
1*4	Travel stop
2	Bypass
3	Travel stop • Bypass
4*4	Indicator
5	Bypass • Indicator

⑥ Pilot port connection

2 (Standard)	
0	
1	
3	

⑦ Chemical-resistant *5

	O-ring *6	Metal Coating	Material of Exposure parts
V	FKM	○	PPS/PP
		○	PVDF
		○	PVDF
E	EPDM	○	PPS/PP
		○	PVDF
		○	PVDF
F	*7 Viflon F	○	PPS/PP
		○	PVDF
		○	PVDF
K	Kalrez® 6190	○	PPS/PP
		○	PVDF
		○	PVDF

⑧ Connection tubing size

06	6×4	6.35×4.35	<input type="checkbox"/> 30
10A	10×8	9.53×6.35	<input type="checkbox"/> 40
10	10×8	9.53×6.35	<input type="checkbox"/> 50
12	12×10	12.70×9.53	<input type="checkbox"/> 60
19	19×16	19.05×15.88	<input type="checkbox"/>
25	25×22	25.40×22.20	<input type="checkbox"/>

⑨ Revision

1	Except the following
Chemical-resistant	Connection tubing size
*2	06 ~ 12
Chemical-resistant	Connection tubing size
*3	06 ~ 12

⑩ Pilot port

n/a	Rc 1/8"
N	FNPT 1/8"

*1: In the case of tubing size "19", "25", please consult us for the specification Air to close.
 *2: In the case of the connection is "F", only "I (Inch)" can be selected for the "Tubing Standard".
 *3: In the case of Mounting "2" there is some possibility of the mounting holes are hidden by some connection from top side, and hard to be mounted.
 *4: In the case of tubing size "06" "10A", please select the option from "0" "1" and "4".
 *5: Please consult us for the specification if the medium is a strong chemical, strong acid etc.
 *6: O-ring are not wetted.
 *7: "Viflon" is the Terpolymerization Fluorocarbon Elastomers.

Ordering code example
 AVSDV-GA31100V006
 AVSDV-GA31100V006-N

● PTFE (PTFE Body)

AVSDV - ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ - ⑨ ⑩

① Actuation

G	(NC) Air to Open
S*1	(NO) Air to close
F	(DA) Double acting



② Connection *2

2	Flowell 20 series
6	Flowell 60 series
S	Super Type Pillar Fitting
T*3	Tube
R*4	Rc
N*4	FNPT

③ Tubing standard

M	Millimeter
I	Inch

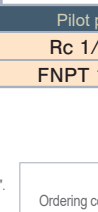
④ Mounting

1	Baseplate	
2*5	Baseplate	

⑤ Option *6

0 (Standard)	ON-OFF only
1	Travel stop
2	Bypass
3	Travel stop • Bypass
4	Indicator
5	Bypass • Indicator

⑥ Pilot port connection

2 (Standard)	
0	
1	
3	

⑦ Chemical-resistant *7

	O-ring *8	Metal Coating	Material of Exposure parts
V	FKM	○	PPS/PP
		○	PVDF
		○	PVDF
E	EPDM	○	PPS/PP
		○	PVDF
		○	PVDF
F	*9 Viflon F	○	PPS/PP
		○	PVDF
		○	PVDF
K	Kalrez® 6190	○	PPS/PP
		○	PVDF
		○	PVDF

⑧ Connection tubing size

06	6×4	6.35×4.35	<input type="checkbox"/> 30
10	10×8	9.53×6.35	<input type="checkbox"/> 40
12	12×10	12.70×9.53	<input type="checkbox"/> 50
19	19×16	19.05×15.88	<input type="checkbox"/> 60
25	25×22	25.40×22.20	<input type="checkbox"/>

⑨ Revision

1	Except the following
Chemical-resistant	Connection tubing size
*2	06 ~ 12
Chemical-resistant	Connection tubing size
*3	06 ~ 12

⑩ Pilot port

n/a	Rc 1/8"
N	FNPT 1/8"

*1: In the case of tubing size "19", "25", please consult us for the specification Air to close.
 *2: Please consult us for the specification "Super 300 Type Pillar Fitting", "Flare Type" in the case of the hope.
 *3: Please refer to page 106 for diameter of "Tube".
 *4: In the case of the connection is "R", "N", only "I (Inch)" can be selected for the "Tubing Standard".
 *5: In the case of Mounting "2" there is some possibility of the mounting holes are hidden by some connection from top side, and hard to be mounted.
 *6: In the case of tubing size "06", please select the option from "0" "1" and "4".
 *7: Please consult us for the specification if the medium is a strong chemical, strong acid.
 *8: O-ring are not wetted.
 *9: "Viflon" is the Terpolymerization Fluorocarbon Elastomers.

Ordering code example
 AVSDV-G21100V006
 AVSDV-G21100V006-N

AVPV3
AVPVM
AVPVS
AVSDV
AVSDVM
AVSDVT
AVSAS
AVMPV
AVDIV
AVWM
AVHRL
AVHRL-M
AVHPRS
AVBPR
AVCFV
HDV12R
HDVM
AVQDV
AVBVX
AVPJX
AVSIV
AVFCS2
AVFCN
OTHER

Ordering Code

Body Materials · Connection combination

Connection	□30		□40		□50	□60
	06	10A	10	12	19	25
2 Flowell 20 series	PTFE	—	PTFE	PTFE	PTFE	PTFE
6 Flowell 60 series	PTFE	—	PTFE	PTFE	PTFE	PTFE
S Super Type Pillar Fitting	PTFE	—	PTFE	PTFE	PTFE	PTFE
3 Super 300 Type Pillar Fitting	PFA	PFA	PFA	PFA	PFA	PFA
F Flare Type	PFA	PFA	PFA	PFA	PFA	PFA
T Tube	PTFE	—	PTFE	PTFE	PTFE	PTFE
R Rc	PTFE	—	PTFE	PTFE	PTFE	PTFE
N FNPT	PTFE	—	PTFE	PTFE	PTFE	PTFE

Option

Body size 30 mm × 30 mm (□ 30)

Option No.	0	1	4
Travel stop	—	○	—
Indicator	—	—	○

Body size 40 mm × 40 mm (□ 40) ~ 60 mm × 60 mm (□ 60)

Option No.	0	1	2	3	4	5
Travel stop	—	○	—	○	—	—
Bypass	—	—	○	○	—	○
Indicator	—	—	—	—	○	○

Weight List (Reference)

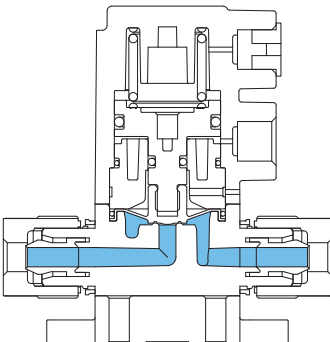
(Unit) : kg

PFA Body	Size					
	□ 30		□ 40		□ 50	□ 60
	6 × 4 6.35 × 4.35	10 × 8 9.53 × 6.35	10 × 8 9.53 × 6.35	12 × 10 12.70 × 9.53	19 × 16 19.05 × 15.88	25 × 22 25.40 × 22.20
Air to open	0.1		0.2		0.4	0.7
Air to close	0.1		0.2		—	—
Double acting	0.1		0.2		0.3	0.5

(Unit) : kg

PTFE Body	Size				
	□ 30	□ 40		□ 50	□ 60
	6 × 4 6.35 × 4.35	10 × 8 9.53 × 6.35	12 × 10 12.70 × 9.53	19 × 16 19.05 × 15.88	25 × 22 25.40 × 22.20
Air to open	0.1	0.2		0.5	0.8
Air to close	0.1	0.2		—	—
Double acting	0.1	0.2		0.4	0.5

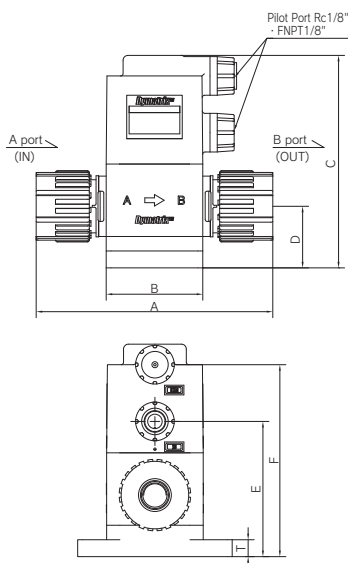
Parts & Materials



Parts	Chemical-resistant				Wetted parts
	0	1	2	3	
Body	PFA or PTFE				○
Diaphragm	PTFE				○
Actuator	PPS		PVDF		
O-ring	FKM / EPDM / RYDOL® <i>Viflon® F</i> / Kalrez® 6190				
Metal parts	SUS304	SUS304 PTFE Coating	SUS304		

Dimensions

● Air to open · Air to close · Double acting

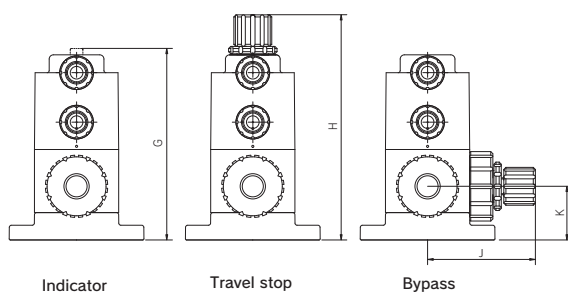


(Unit) : mm

		Size						
		□30		□40		□50	□60	
Standard	6×4	10×8	10×8	12×10	19×16	25×22		
	6.35×4.35	9.53×6.35	9.53×6.35	12.70×9.53	19.05×15.88	25.40×22.20		
Flowell 20 series	inch	66	—	85	93	112	144	
	mm	64	—	82	90	112	144	
Flowell 60 series	inch	92	—	118	118	138	162	
	mm	90	—	114	114	138	159	
A	Super Type Pillar Fitting	inch/mm	69	—	93	100	129	150
	Super 300 Type Pillar Fitting	inch/mm	68 (PFA)	80 (PFA)	90 (PFA)	98 (PFA)	122 (PFA)	146 (PFA)
	Flare Type	inch	86 (PFA)	92 (PFA)	102 (PFA)	106 (PFA)	126 (PFA)	154 (PFA)
	Tube	inch/mm	90	—	100	100	130	140
	Rc, FNPT	inch	50	—	72	72	90	110
B			□30		□40	□50	□60	
C			70	75	88	104	138.5	
D			18	22	25.5	34	39	
E			42	47	56	68	84.5	
F			61	66	79.5	95	116.5	
T			5		7			

Dimensions (Option)

● Option

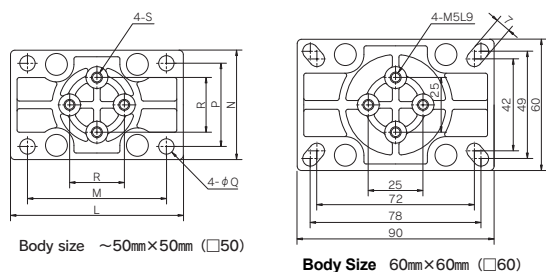


(Unit) : mm

	Size					
	□30		□40		□50	□60
	6×4	10×8*	10×8	12×10	19×16	25×22
	6.35×4.35	9.53×6.35	9.53×6.35	12.70×9.53	19.05×15.88	25.40×22.20
G	71.5	76.5	91	107.5	143	
H	91.5	96.5	110	127	161.5	
J	—	—	52	59	64	
K	—	—	25.5	34	39	

* Specifications only for the PFA body (Super 300 Type Pillar Fitting, Flare Type)
* Reference value.

● Base Plate



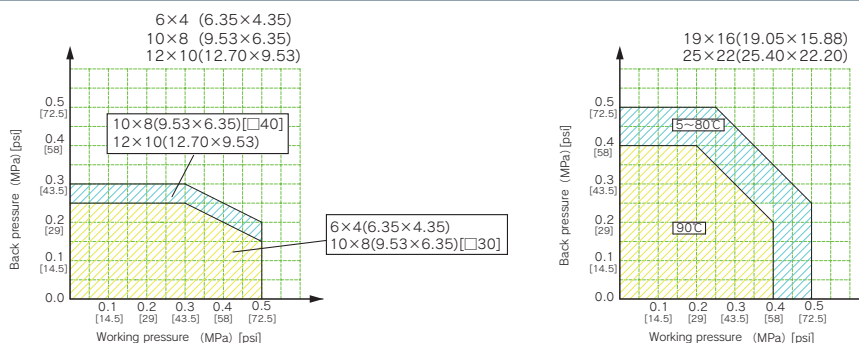
(Unit) : mm

	Size					
	□30		□40		□50	□60
	6×4	10×8*	10×8	12×10	19×16	25×22
	6.35×4.35	9.53×6.33	9.53×6.33	12.70×9.53	19.05×15.88	25.40×22.20
L	50	—	64	79	—	—
M	42	—	52	63.5	—	—
N	30	—	40	50	—	—
P	22	—	30	38	—	—
Q	φ 4.2	—	φ 5.5	φ 7	—	—
R	20		20		25	—
S	M5L7.5					

* Specifications only for the PFA body (Super 300 Type Pillar Fitting, Flare Type)
* Reference value.

Technical Data

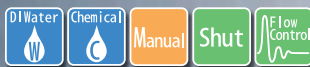
Working pressure-Back pressure



AVSDV-M

マルチターン式手動弁 Multi turn Type Manual valve

Specialty Valves and Control Products **Dymatrix™**



Excellent durability

AVSDV-M has excellent durability and reliability.

Abundant line-up

We designed the AVSDV-M with wide variation sizes. Panel Mount is possible as a standard.

Specifications

項目 Items	Unit	□30		□40		□50	□60	
		3×2 ※1	6×4	10×8 ※2	10×8	12×10	19×16	25×22
		3.18×1.6	6.35×4.35	9.53×6.35	9.53×6.35	12.70×9.53	19.05×15.88	25.40×22.20
作動 Actuation	—	Manual Multi-turn Type						
流体温度 Medium Temperature	℃	5 ~ 90 ※ Please consult manufacturer for temp ranges of (5 ~ 140℃) MT or (10 ~ 200℃) HT						
構造耐圧 Proof Pressure	MPa	1.0 145psi						
使用圧力範囲 ※3 Working Pressure range	MPa	0 ~ 0.5 0 ~ 72.5psi						
弁座漏れ量 Leakage Rate	cm ³ /min	0 (at hydraulic pressure 23℃)						
背圧 ※3 Back Pressure	MPa	0 ~ 0.5 0 ~ 72.5psi						
周囲温度 Ambient Temperature	℃	5 ~ 60						
取付姿勢 Installation direction	—	Any direction						
接続 Connection	—	Flowell 20 series Flowell 60 series Super Type Pillar Fitting Super 300 Type Pillar Fitting Flare Type Tube Rc、FNPT						
※5 Orifice diameter	mm	φ 4		φ 6	φ 8	φ 10	φ 16	φ 22
Cv 値 ※4 Cv value	A Type	0.08	0.26	—	1.16	1.8	4.4	7.4
	B Type	0.08	0.3	0.8	1.2	2.1	5.3	8.1

※1. Specifications only for the PTFE Body.

※2. Specifications only for the PFA Body (Super 300 Type Pillar Fitting, Flare Type).

※3. For the details, please refer to the characteristic of " Working pressure-Back pressure".

※4. "Cv value" is different by "Connection". Please refer to a list shown below.

※5. Typical value.

type	Connection
A type	Flowell 60 series
	Flare Type
B type	Flowell 20 series
	Super Type Pillar Fitting
	Super 300 Type Pillar Fitting
	Tube
	Rc、FNPT

Ordering Code

AVSDV- P ① ② ③ ④ ⑤ ⑥ ⑦

Actuation

P Manual (Push-lock)

Body materials^{※1}

A PFA

T PTFE

Connection

2 Flowell 20 series

6 Flowell 60 series

S Super Type Pillar Fitting

3 Super 300 Type Pillar Fitting

F^{※3} Flare Type

T^{※4} Tube

R^{※3} Rc

N^{※3} FNPT

Tubing standard

M Millimeter

I Inch

Mounting

1 Baseplate

Direction 1

2^{※5} Baseplate

Direction 2

Mountnut

0 Off

1 On

Chemical-resistant^{※6}

		O-ring ^{※7}	Metal Coating
V	0	FKM	X
	1		○
E	0	EPDM	X
	1		○
F^{※8}	0	テフロン[®]F Vijlon F	X
	1		○
K	0	Kalrez [®] 6190	X
	1		○

Connection tubing size

	3X 2	3.18X 1.6	
06	6× 4	6.35× 4.35	□30
10A^{※9}	10× 8	9.53× 6.35	
10	10× 8	9.53× 6.35	□40
12	12×10	12.70× 9.53	
19	19×16	19.05×15.88	□50
25	25×22	25.40×22.20	□60

Ordering code example
 AVSDV-PAF11E119
 AVSDV-PTTM20K125

Body Materials · Connection combination

Connection	□30			□40			□50	□60
	03	06	10A	10	12	19	25	
2 Flowell 20 series	PTFE	PTFE	—	PTFE	PTFE	PTFE	PTFE	
6 Flowell 60 series	PTFE	PTFE	—	PTFE	PTFE	PTFE	PTFE	
S Super Type Pillar Fitting	PTFE	PTFE	—	PTFE	PTFE	PTFE	PTFE	
3 Super 300 Type Pillar Fitting	PTFE	PFA	PFA	PFA	PFA	PFA	PFA	
F Flare Type	—	PFA	PFA	PFA	PFA	PFA	PFA	
T Tube	—	PTFE	—	PTFE	PTFE	PTFE	PTFE	
R Rc	—	PTFE	—	PTFE	PTFE	PTFE	PTFE	
N FNPT	—	PTFE	—	PTFE	PTFE	PTFE	PTFE	

- ※1 : In the case of the connection is "3","F", remove tubing size "03", only "A" can be selected for the "Body Material". In the case of the other connection, only "T" can be selected for the "Body Material".
- ※2 : In case the tube diameter is "03", F,T,R and N connection is not available.
- ※3 : In the case of the connection is "F","R" or "N", only "I (Inch)" can be selected for the "Tubing Standard"
- ※4 : Please refer to page 105 for diameter of "Tube".
- ※5 : In the case of Mounting "2" there is some possibility of that the mounting holes are hidden by some connection from top side, and hard to be mounted.
- ※6 : Please consult us for the specification if the medium is a strong chemical, strong acid etc.
- ※7 : O-rings are not wetted.
- ※8 : "Vijlon" is the Terpolymerization Fluorocarbon Elastomers.
- ※9 : Connection suitable for only "3"and"F"

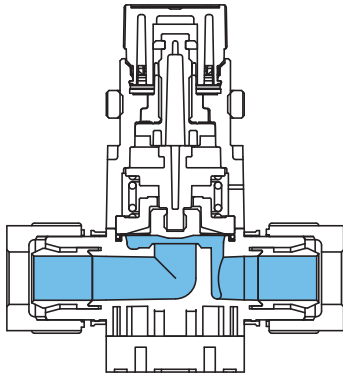
- AVPV3
- AVPVM
- AVPVL
- AVSDV
- AVSDMM
- AVSDFT
- AVSAS
- AVMPV
- AVDIV
- AVWM
- AVHRL
- AVHRLM
- AVHPRS
- AVBPR
- AVCFV
- HDV12R
- HDVM
- AVQDV
- AVBVX
- AVPJX
- AVSIV
- AVFCS2
- AVFCN
- OTHER

Weight List (Reference)

(Unit) : kg

	Size						
	□ 30			□ 40		□ 50	□ 60
	3 × 2	6 × 4	10 × 8	10 × 8	12 × 10	19 × 16	25 × 22
	3.18 × 1.6	6.35 × 3.95	9.53 × 6.35	9.53 × 6.35	12.70 × 9.53	19.05 × 15.88	25.40 × 22.20
PFA	—	0.15	—	0.25	0.3	0.5	0.8
PTFE	0.15	—	—	0.25	0.3	0.6	0.9

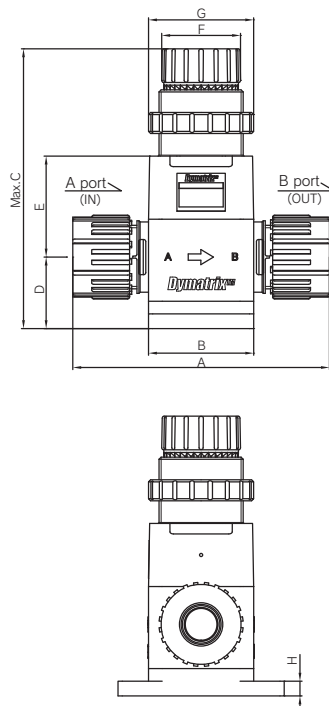
Parts & Materials



Parts	Chemical-resistant		Wetted parts
	0	1	
Body	PFA or PTFE		○
Diaphragm	PTFE		○
Actuator	PVDF		
O-ring	FKM / EPDM / HYDRO-F Viton® F / Kalrez® 6190		
Metal parts	SUS304	SUS304 PTFE Coating	

Dimensions

(Unit) : mm



	Standard	Size							
		□ 30			□ 40		□ 50	□ 60	
		3 × 2*1	6 × 4	10 × 8*2	10 × 8	12 × 10	19 × 16	25 × 22	
		3.18 × 1.60	6.35 × 4.35	9.53 × 6.35	9.53 × 6.35	12.70 × 9.53	19.05 × 15.88	25.40 × 22.20	
A	Flowell 20 series	inch	—	66	—	85	93	112	144
		mm	48	64	—	82	90	112	144
	Flowell 60 series	inch	65	92	—	118	118	138	162
		mm	65	90	—	114	114	138	159
	Super Type Pillar Fitting	inch/mm	60	69	—	93	100	129	150
	Super 300 Type Pillar Fitting	inch/mm	60	68 (PFA)	80 (PFA)	90 (PFA)	98 (PFA)	122 (PFA)	146 (PFA)
	Flare Type	inch	—	86 (PFA)	92 (PFA)	102 (PFA)	106 (PFA)	126 (PFA)	154 (PFA)
Tube	inch/mm	—	90	—	100	100	130	140	
Rc.FNPT	inch	—	50	—	72	72	90	110	
B		□ 30			□ 40		□ 50	□ 60	
C		102.5	107.5	—	111.5	—	133	165	
D		18	22	—	25.5	—	34	39	
E		29	30	—	32.5	—	48	63	
F		22			38				
G		30			40		50	60	
H		5			7				

※ 1. Specifications only for the PTFE Body.

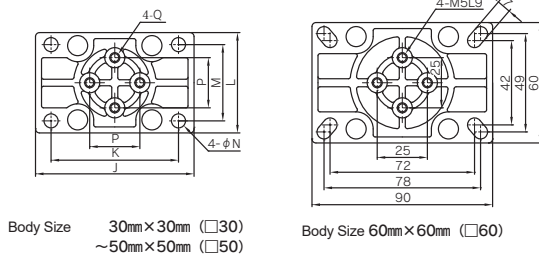
※ 2. Specifications only for the PFA Body (Super 300 Type Pillar Fitting, Flare Type).

※ 3. Reference value.

Dimensions

● Base Plate

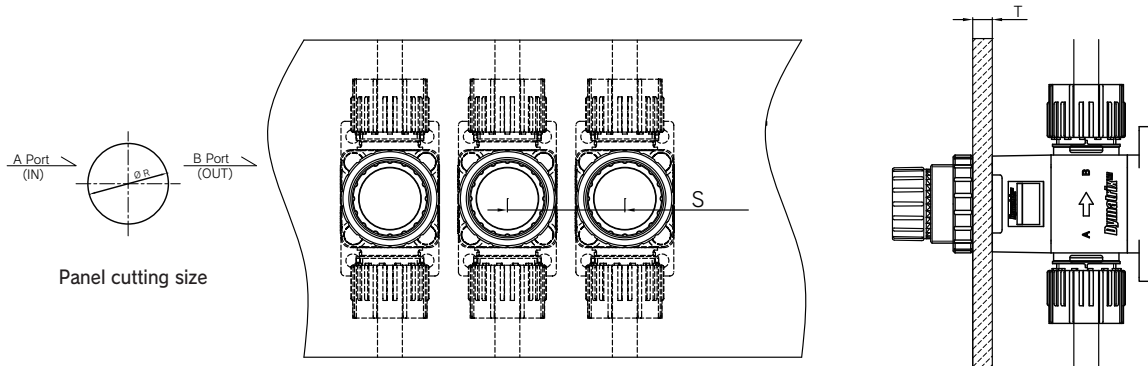
(Unit) : mm



	Size						
	□30		□40		□50	□60	
	3×2※1	6×4	10×8※2	10×8	12×10	19×16	25×22
	3.18×1.6	6.35×4.35	9.53×6.35	9.53×6.35	12.70×9.53	19.05×15.88	25.40×22.20
J	50		64		79	—	
K	42		52		63.5	—	
L	30		40		50	—	
M	22		30		38	—	
N	4.2		5.5		7	—	
P			20		25	—	
Q	M5L10		M5L13		M5L7.5	—	
R	24		34		42	52	
S	40		50		60	70	
T			1.5 ~ 10		1.5 ~ 21.5	1.5 ~ 15	

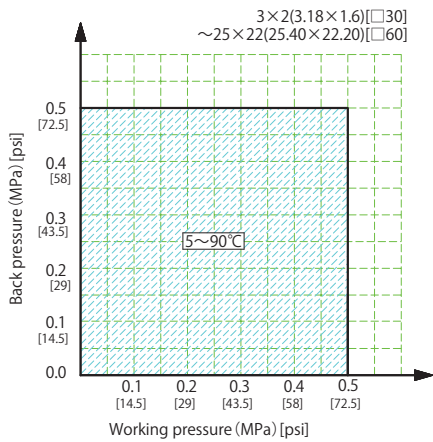
- ※ 1. Specifications only for the PTFE Body.
- ※ 2. Specifications only for the PFA Body (Super 300 Type Pillar Fitting, Flare Type).
- ※ 3. Reference value.

● Panel Mounting

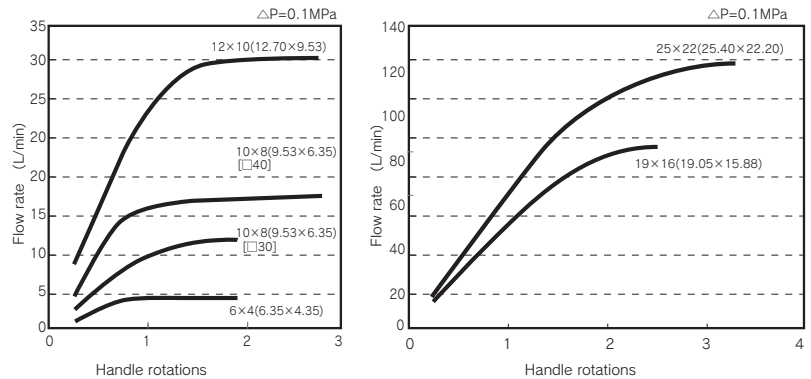


Technical Data

Working pressure - Back pressure



Handle rotations - Flow rate



- ※ 1. In the case of a micro opening degree of the use, there would be the cavitation or the fluctuation of flow depending on a condition. Please review the fluid pressure and piping design.
- ※ 2. The data shown here is the experimental values and the reference values.

AVPV3
AVPVM
AVPVS
AVSDV
AVSDVM
AVSDVT
AVSAS
AVMPV
AVDIV
AVVM
AVHPR
AVHPRM
AVHPRS
AVBPR
AVCFV
FDM12R
HDVM
AVQDV
AVBVX
AVPJX
AVSIV
AVFCS2
AVFCN
OTHER

AVSDV-T

トグル式手動弁 Toggle Type Manual valve

Specialty Valves and Control Products **Dymatrix™**



Excellent durability

AVSDV-T has excellent durability and reliability.

Abundant line-up

We designed the AVSDV-T with wide variation sizes, Handle types can be selected to meet various customers situations. Panel Mount is possible as a standard.

Specifications

項目	Items	Unit	Size							
			□30			□40		□50	□60	
			3×2 ^{※1}	6×4	10×8 ^{※2}	10×8	12×10	19×16	25×22	
			3.18×1.6	6.35×4.35	9.53×6.35	9.53×6.35	12.70×9.53	19.05×15.88	25.40×22.20	
作動	Actuation	—	Manual Toggle Type							
流体温度	Medium Temperature	℃	5 ~ 90 ※ Please consult manufacturer for temp ranges of (5 ~ 140℃) MT or (10 ~ 200℃) HT							
構造耐圧	Proof Pressure	MPa	1.0 145psi							
使用圧力範囲 ^{※3}	Working Pressure range	MPa	0 ~ 0.5 0 ~ 72.5psi						0 ~ 0.4 0 ~ 58psi	
弁座漏れ量	Leakage Rate	cm ³ /min	0 (at hydraulic pressure 23℃)							
背圧 ^{※3}	Back Pressure	MPa	0 ~ 0.25 0 ~ 36.25psi		0 ~ 0.3 0 ~ 43.5psi		0 ~ 0.25 0 ~ 36.25psi		0 ~ 0.2 0 ~ 29psi	
周囲温度	Ambient Temperature	℃	5 ~ 60							
取付姿勢	Installation direction	—	Any direction							
接続	Connection	—	Flowell 20 series Flowell 60 series Super Type Pillar Fitting Super 300 Type Pillar Fitting Flare Type Tube Rc, FNPT							
	^{※5} Orifice diameter	mm	φ 4		φ 6	φ 8	φ 10	φ 16	φ 22	
Cv	^{※4} ^{※5} Cv value	A Type	0.08	0.26	—	1.16	1.8	4.4	7.4	
		B Type	0.08	0.3	0.8	1.2	2.1	5.3	8.1	

※1. Specifications only for the PTFE Body.

※2. Specifications only for the PFA Body(Super 300 Type Pillar Fitting, Flare Type).

※3. For the details, please refer to the characteristic graph of "Working pressure-Back pressure".

※4. "Cv value" is different by "Connection". Please refer to a list shown below.

※5. It is typical value.

Type	Connection
A type	Flowell 60 series
	Flare Type
B type	Flowell 20 series
	Super Type Pillar Fitting
	Super 300 Type Pillar Fitting
	Tube Rc, FNPT

Ordering Code

AVSDV - T ① ② ③ ④ ⑤ ⑥ ⑦

Actuation

T Toggle

Body materials ※1

A PFA

T PTFE

② Connection

2 Flowell 20 series

6 Flowell 60 series

S Super Type Pillar Fitting

3 Super 300 Type Pillar Fitting

F ※4 Flare Type

T ※3 Tube

R ※4 Rc

N ※4 FNPT

④ Mounting

1 Baseplate Direction 1

2 ※5 Baseplate Direction 2

⑤ Handle type ※5

0 90° Lock Type

1 Non-Lock Type

2 180° Lock Type

⑥ Chemical-resistant ※6

	O-ring ※7	Metal Coating
V 0	FKM	×
V 1	FKM	○
E 0	EPDM	×
E 1	EPDM	○
F 0	テフロン®F ※8 Viflon F	×
F 1	テフロン®F ※8 Viflon F	○
K 0	Kalrez®6190	×
K 1	Kalrez®6190	○

⑦ Connection tubing size

Code	Size	Dimensions	Option
03 ※2	3 × 2	3.18 × 1.6	
06	6 × 4	6.35 × 4.35	□30
10A ※9	10 × 8	9.53 × 6.35	
10	10 × 8	9.53 × 6.35	□40
12	12 × 10	12.70 × 9.53	
19	19 × 16	19.05 × 15.88	□50
25	25 × 22	25.40 × 22.20	□60

Ordering code example
AVSDV-TAFI20V006
AVSDV-TTSM12E119

● Body Materials · Connection combination

Connection	Tubing standard							
	□30	□40	□50	□60	□30	□40	□50	□60
2 Flowell 20 series	PTFE	PTFE	—	PTFE	PTFE	PTFE	PTFE	PTFE
6 Flowell 60 series	PTFE	PTFE	—	PTFE	PTFE	PTFE	PTFE	PTFE
S Super Type Pillar Fitting	PTFE	PTFE	—	PTFE	PTFE	PTFE	PTFE	PTFE
3 Super 300 Type Pillar Fitting	PTFE	PFA	PFA	PFA	PFA	PFA	PFA	PFA
F Flare Type	—	PFA	PFA	PFA	PFA	PFA	PFA	PFA
T Tube	—	PTFE	—	PTFE	PTFE	PTFE	PTFE	PTFE
R Rc	—	PTFE	—	PTFE	PTFE	PTFE	PTFE	PTFE
N FNPT	—	PTFE	—	PTFE	PTFE	PTFE	PTFE	PTFE

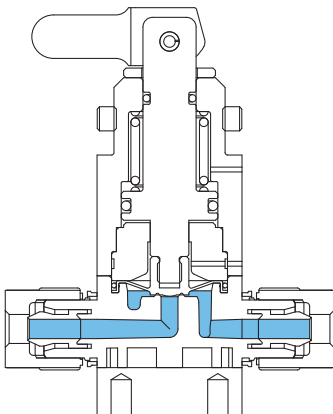
- ※1: In the case of the connection is "3", "F", remove tubing size "03", only "A" can be selected for the "Body Material". In the case of the other connection, only "T" can be selected for the "Body Material".
- ※2: In the case the tube diameter is "03", F, T, R and N connection is not available.
- ※3: Please refer to page 105 for diameter of "Tube".
- ※4: In the case of the connection is "F", "R" or "N", only "I (Inch)" can be selected for the "Tubing Standard".
- ※5: In the case of Mounting "2" there is some possibility of that the mounting holes are hidden by some connection from top side, and hard to be mounted.
- ※6: Please consult us for the specification if the medium is a strong chemical, strong acid etc.
- ※7: O-rings are not wetted.
- ※8: "Viflon" is the Terpolymerization Fluorocarbon Elastomers.
- ※9: Connection suitable only for "3" and "F".

Weight List (Reference)

(Unit) : kg

	Size							
	□ 30		□ 40		□ 50		□ 60	
	3 × 2	6 × 4	10 × 8	10 × 8	12 × 10	19 × 16	25 × 22	
	3.18 × 1.6	6.35 × 4.35	9.53 × 6.35	9.53 × 6.35	12.70 × 9.53	19.05 × 15.88	25.40 × 22.20	
PFA	—	—	0.1	—	0.3	0.4	0.8	
PTFE	—	0.1	—	—	0.3	0.5	0.9	

Parts & Materials



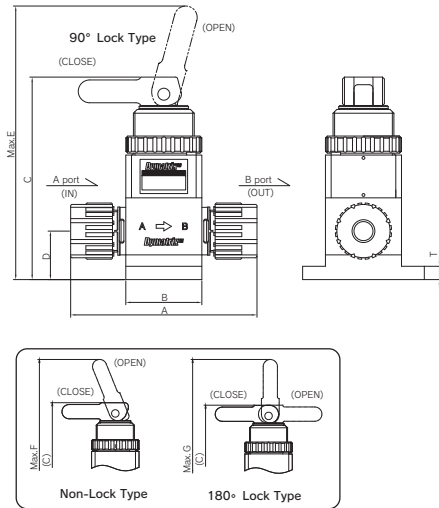
Parts	Chemical-resistant		Wetted parts
	0	1	
Body	PFA or PTFE		○
Diaphragm	PTFE		○
Actuator	PP / PVDF		
O-ring	FKM / EPDM / テフロン®F Viflon F / Kalrez®6190		
Metal parts	SUS304	SUS304 PTFE Coating	

- AVPV3
- AVPVM
- AVPVL
- AVSDV
- AVSDVM
- AVSDVT
- AVSAS
- AVMPV
- AVDIV
- AVWM
- AVHRL
- AVHRL-M
- AVHRS
- AVBPR
- AVCFV
- HDV12R
- HDVM
- AVQDV
- AVBVX
- AVPJX
- AVSIV
- AVFCS2
- AVFCN
- OTHER

Dimensions

Manual Toggle Type

(Unit) : mm

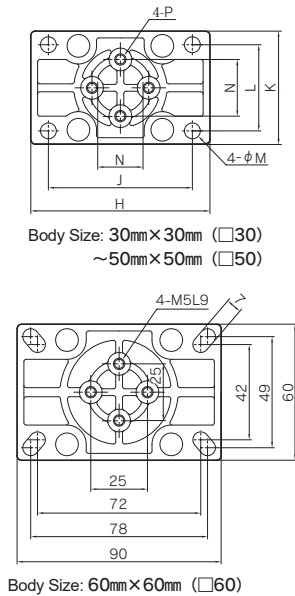


		Size							
		□30		□40		□50	□60		
		3×2 ※1	6×4	10×8 ※2	10×8	12×10	19×16	25×22	
A	Standard	3.18×1.6	6.35×4.35	9.53×6.35	9.53×6.35	12.70×9.53	19.05×15.88	25.40×22.20	
	Flowell 20 series	inch mm	— 48	66 64	—	85 82	93 90	112 112	144 144
	Flowell 60 series	inch mm	65 65	92 90	—	118 114	118 114	138 138	162 159
	Super Type Pillar Fitting	inch/mm	60	69	—	93	100	129	150
	Super 300 Type Pillar Fitting	inch/mm	60	68 (PFA)	80 (PFA)	90 (PFA)	98 (PFA)	122 (PFA)	146 (PFA)
	Flare Type	inch	—	86	92 (PFA)	102	106	126	154
	Tube	inch/mm	—	90	—	100	100	130	140
	Rc, FNPT	inch	—	50	—	72	72	90	110
	B		□30		□40		□50	□60	
	C		84.5	89.5	106.5	129.5	158.5		
D		18	22	25.5	34	39			
E		107	112	144	174	227.5			
F		106	111	143	173.5	227			
G		107	112	145	175	228.5			
T		5			7				

- ※1. Specifications only for the PTFE Body.
- ※2. Specifications only for the PFA Body(Super 300 Type Pillar Fitting, Flare Type).
- ※3. Reference value.

Base Plate(PP/PVDF)

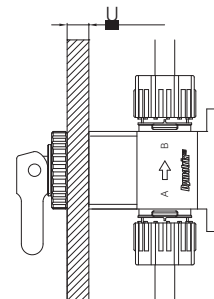
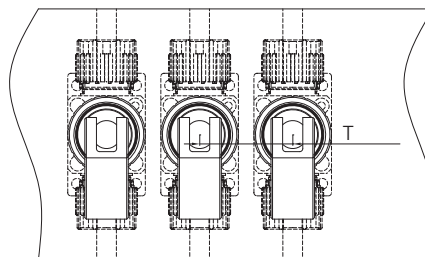
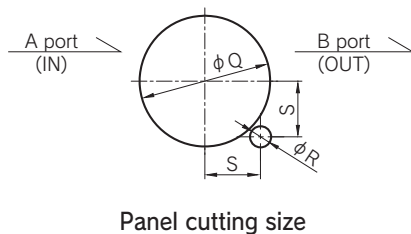
(Unit) : mm



	Size						
	□30		□40		□50	□60	
	3×2 ※1	6×4	10×8 ※2	10×8	12×10	19×16	25×22
	3.18×1.6	6.35×4.35	9.53×6.35	9.53×6.35	12.70×9.53	19.05×15.88	25.40×22.20
H	50			64		79	—
J	42			52		63.5	—
K	30			40		50	—
L	22			30		38	—
M	φ 4			φ 5.5		φ 7	—
N	20					25	—
P	M5L7.5						—
Q	24			34		42	52
R	5.5						
S	10.8			14.5		18.5	23
T	40			50		60	70
U	11			16		14	10

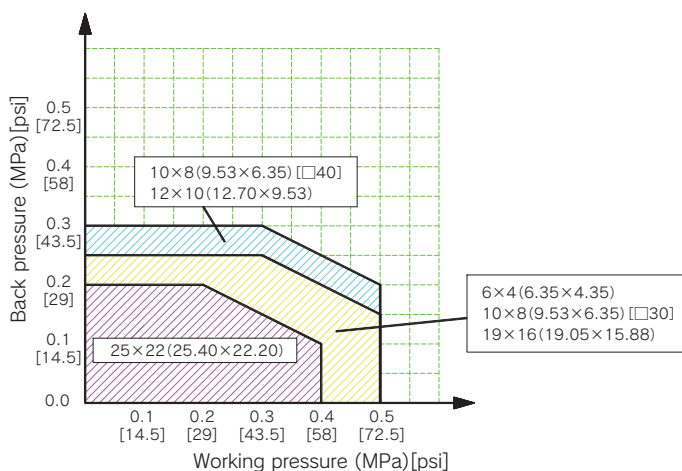
- ※1. Specifications only for the PTFE Body.
- ※2. Specifications only for the PFA Body(Super 300 Type Pillar Fitting, Flare Type).
- ※3. Reference value.

Panel Mounting



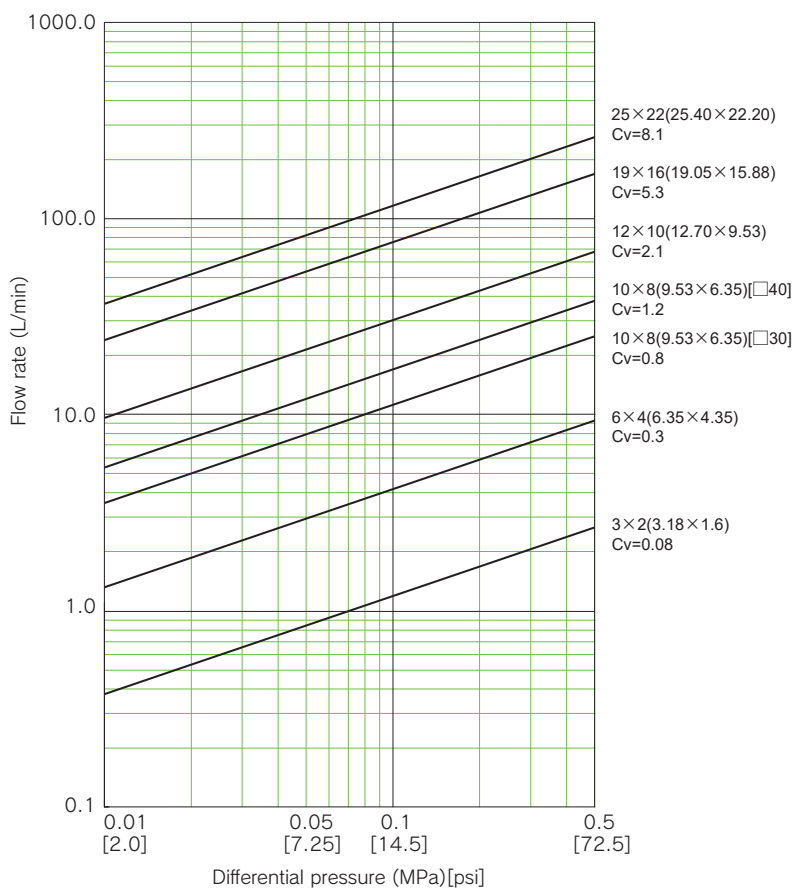
Technical Data

Working pressure - Back pressure



Technical Data (Common data of SDV series)

Differential Pressure - Flow rate



※1. The date of "B type Cv value".
 ※2. The data shown here is the experimental values and the reference values.

- AVPV3
- AVPVM
- AVPVS
- AVSDV
- AVSDVM
- AVSDVT
- AVSAS
- AVMPV
- AVDIV
- AVVM
- AVHRL
- AVHRL-M
- AVHPRS
- AVBPR
- AVCFV
- HDV12R
- HDVM
- AVQDV
- AVBVX
- AVPJX
- AVSIV
- AVFCS2
- AVFCN
- OTHER

AVSAS

サックバック弁 Suck back valve

Specialty Valves and Control Products **Dymatrix™**



Compact design

A single actuator, which has a double function to open/shut and suck back, made the valve compact.

Excellent stability

A stable amount of fluid can be repeatedly suck-backed. Large volume type can be selected.

Specifications

項目	Items	Unit	Size		
			□30		□40
			3×2	6×4	6×4
			3.18×1.6	6.35×4.35	6.35×4.35
作動	Actuation	—	Air to open		
流体温度	Medium Temperature	℃	5 ~ 90 ※ Please consult manufacturer for temp ranges of (10 ~ 200℃) HT		
構造耐圧	Proof Pressure	MPa	1.0 145psi		
使用圧力範囲	Working Pressure range	MPa	0 ~ 0.5 0 ~ 72.5psi		0 ~ 0.3 0 ~ 43.5psi
弁座漏れ量	Leakage Rate	cm ³ /min	0 (at hydraulic pressure 23℃)		
背圧	Back Pressure	MPa	0 0 psi		
周囲温度	Ambient Temperature	℃	5 ~ 60		
開閉頻度	Frequency of opening and Closing	Times/min	< 10		
取付姿勢	Installation direction	—	Any direction		
接続	Connection	—	Flowell 20 series Flowell 60 series Super Type Pillar Fitting Super 300 Type Pillar Fitting	Flowell 20 series Flowell 60 series Super Type Pillar Fitting Super 300 Type Pillar Fitting Flare Type Tube Rc FNPT	
Cv値 ^{※4}	Cv value	—	0.1	0.25	0.31
重量	Weight	kg	0.15		0.27
操作部 Pilot	Pilot pressure	MPa	0.3 ~ 0.5 43.5 ~ 72.5psi		
	Pilot air consumption ^{※1}	L/times (ANR)	0.007		0.014
	Pilot port	—	Rc1/8", FNPT1/8"		
Maximum suck back volume ^{※2 ※3 ※4}		mL	0.2		0.56

※1. The pilot air consumption is the value at 0.4 MPa.

※2. It is different in the suck-backing speed, the piping condition, and the fluid, etc.

※3. The suck back volume can be controlled by the handle rotation.

It may make the valve unable to seal because of the handle rotation, in case the suck back volume is controlled as a little.

※4. Typical value.

Ordering Code

AVSAS - G T ① ② ③ ④ ⑤ ⑥ ⑦ - 2

Actuation

G	Air to open
---	-------------

Body materials

T	PTFE
---	------

① Connection

2	Flowell 20 series
6	Flowell 60 series
S	Super Type Pillar Fitting
3	Super 300 Type Pillar Fitting
F ^{※1}	Flare Type
T ^{※2} _{※3}	Tube
R ^{※1} _{※3}	Rc
N ^{※1} _{※3}	FNPT

② Tubing standard^{※1}

M	Millimeter
I	Inch

③ Mounting

1	Baseplate (Direction1)	
2	Baseplate (Direction2)	

④ Pilot port

R	Rc 1/8"
N	FNPT 1/8"

⑤ Pilot port connection

0	Standard	
2	Direction 2	

⑥耐薬仕様 Chemical-resistant^{※4}

	O-ring ^{※5}	Metal Coating
V0	FKM	×
E0	EPDM	×
F0	テフロン®F Viflon®F ^{※6}	○
K0	Kalrez® 6190	×

⑦ Connection tubing size

	3A	6A	06	
3×2	3.18×1.6			□30
6×4	6.35×4.35			
6×4	6.35×4.35			□40

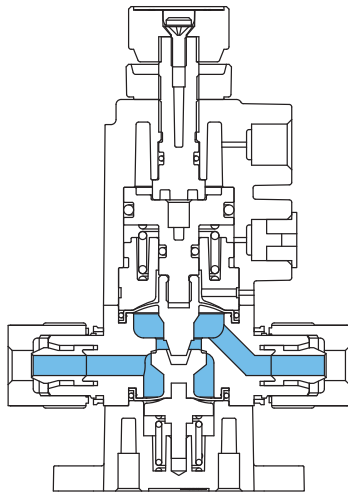
Revision

2	Connection tubing size 3A, 6A, 06
---	-----------------------------------

Ordering code example
AVSAS-GTRI1R0K06A-2
AVSAS-GT3M2N2F106-2

- ※1 : In the case of the connection is "F", "R" or "N", only "I" (Inch) can be selected for the "Tubing Standard".
- ※2 : Please refer to page 105 for diameter of "Tube".
- ※3 : In case the tube diameter is "3A", "Tube", "Rc" and "FNPT" connections are not available.
- ※4 Please consult us for the specification if the medium is a strong chemical, strong acid etc.
- ※5 : O-rings are not wetted.
- ※6 : "Viflon" is the Terpolymerization Fluorocarbon Elastomers.

Parts & Materials

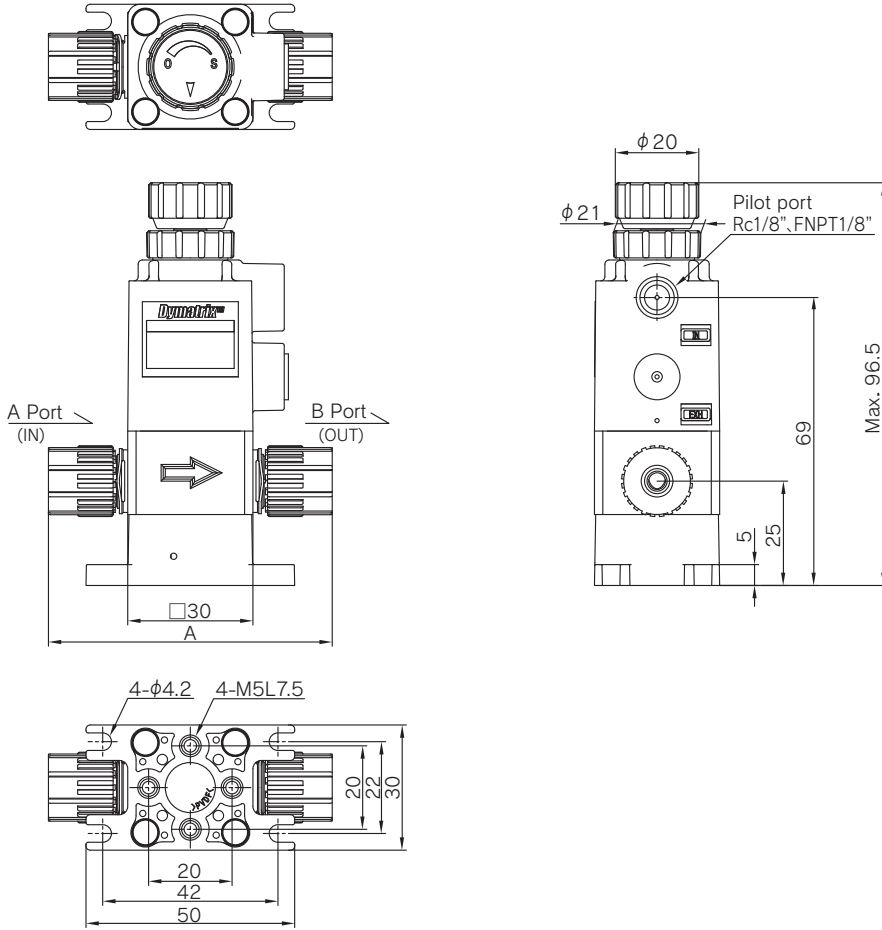


Parts	Chemical-resistant		Wetted parts
	0	1	
Body	PTFE		○
Diaphragm	PTFE		○
Actuator	PVDF / PP		
O-ring	FKM/EPDM/ テフロン®F Viflon®F/ Kalrez®6190		
Metal parts	SUS304	SUS304 PTFE Coating	

- AVPV3
- AVPVM
- AVPVL
- AVSDV
- AVSDVM
- AVSDVT
- AVSAS
- AVMPV
- AVDIV
- AVWM
- AVHRL
- AVHRL-M
- AVHRS
- AVBPR
- AVCFV
- HDV12R
- HDVM
- AVQDV
- AVBVX
- AVPJX
- AVSIV
- AVFCS2
- AVFCN
- OTHER

Dimensions

□ 30



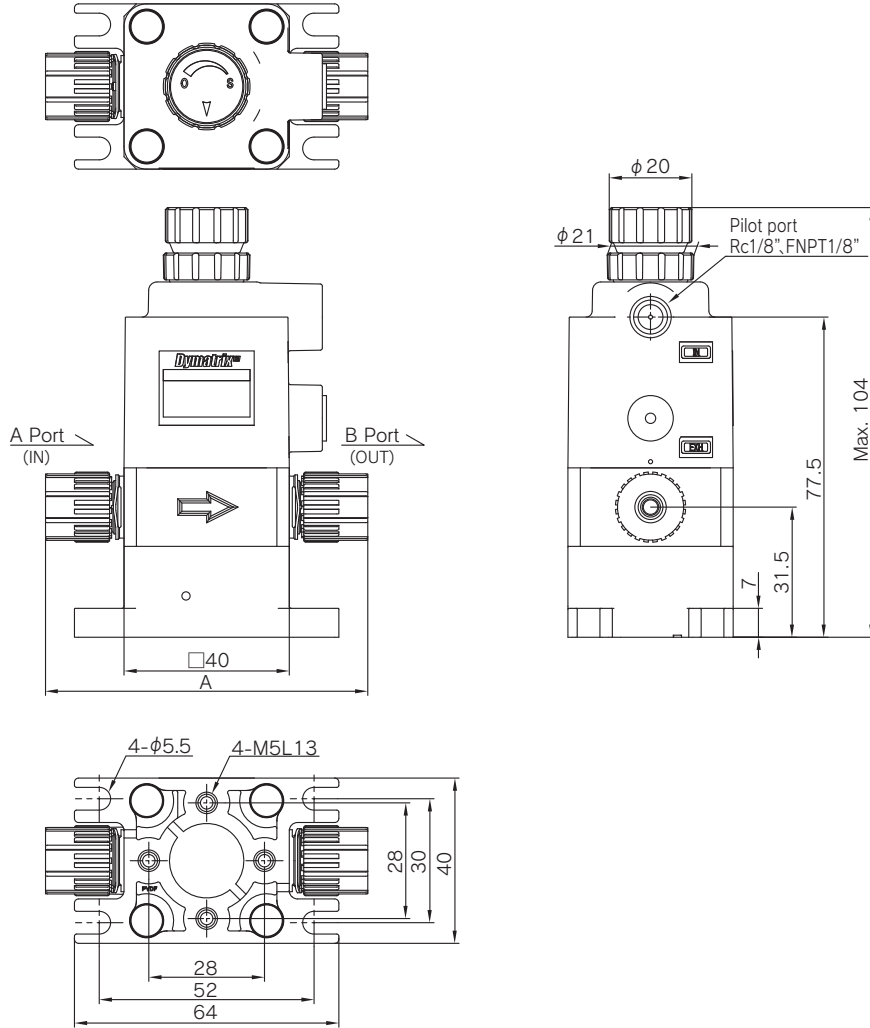
(Unit) : mm

		Size	
		3×2	6×4
A	Flowell 20 series	Standard	3.18×1.60
		inch	—
	mm	66	
	Flowell 60 series	inch	65
		mm	92
	Super Type Pillar Fitting	inch/mm	60
	Super 300 Type Pillar Fitting	inch/mm	69
	Flare Type	inch	60
Tube	inch/mm	—	
Rc, FNPT	inch	86	
		inch	90
		inch	58

※ Reference values.

Dimensions

□ 40



(Unit) : mm

		Standard	Size
A	Flowell 20 series	inch	76
		mm	74
	Flowell 60 series	inch	102
		mm	100
	Super Type Pillar Fitting	inch/mm	79
	Super 300 Type Pillar Fitting	inch/mm	78
	Flare Type	inch	96
	Tube	inch/mm	100
Rc, FNPT	inch	76	

※ Reference Values

- AVPV3
- AVPVM
- AVPVS
- AVSDV
- AVSDVM
- AVSDVT
- AVSAS
- AVMPV
- AVDIV
- AVVM
- AVHPR
- AVHPRM
- AVHPRS
- AVBPR
- AVCFV
- HDV12R
- HDVM
- AVQDV
- AVBVX
- AVPJX
- AVSIV
- AVFCS2
- AVFCN
- OTHER

AVMPV

マルチポート弁 Multi port valve

Specialty Valves and Control Products **Dymatrix™**



Abundant applications

AVMPV is the optimal valve for flushing, sampling, and branching from the distribution line. This valve has the results to a slurry, DI water and chemical applications because of its compact design and minimized dead volume.

Made-to-order

We designed the MPV with the flexibility to meet the various user's specific needs. Made-to-order designs are available for the manifold layout, branching port quantities, fitting size, etc. AVMPV turns complicated equipment piping into a simple and compact product.

Specifications

Pneumatic Type

項目			Unit	Pneumatic Type		
本体サイズ			body size	—	□ 30	□ 40 □ 50
作動			Actuation	—	Air to close • Air to open	
流体温度			Medium Temperature	℃	5 ~ 80	
構造耐圧			Proof Pressure	MPa	1.0 145psi	
使用圧力範囲			Working Pressure range	MPa	0 ~ 0.5 0 ~ 72.5psi	
弁座漏れ量			Leakage Rate	cm ³ /min	0 (at hydraulic pressure 23℃)	
背圧			Back Pressure	MPa	0 ~ 0.5 0 ~ 72.5psi	
周囲温度			Ambient Temperature	℃	5 ~ 50	
開閉頻度			Frequency of opening and closing	times/min	< 20	
取付姿勢			Installation direction	—	Any direction	
接続			Connection	—	Flowell 20 series Flowell 60 series Super Type Pillar Fitting Super 300 Type Pillar Fitting Flare Type	
Pilot	Pilot pressure	Air to open	MPa	0.4 ~ 0.5 58 ~ 72.5psi		
		Air to close		0.3 ~ 0.4 43.5 ~ 58psi		
	Air to open	L/times(ANR)*		0.003	0.01	0.02
	Air to close	0.03		0.06	0.11	
Pilot port			—	Rc1/8", FNPT1/8"		

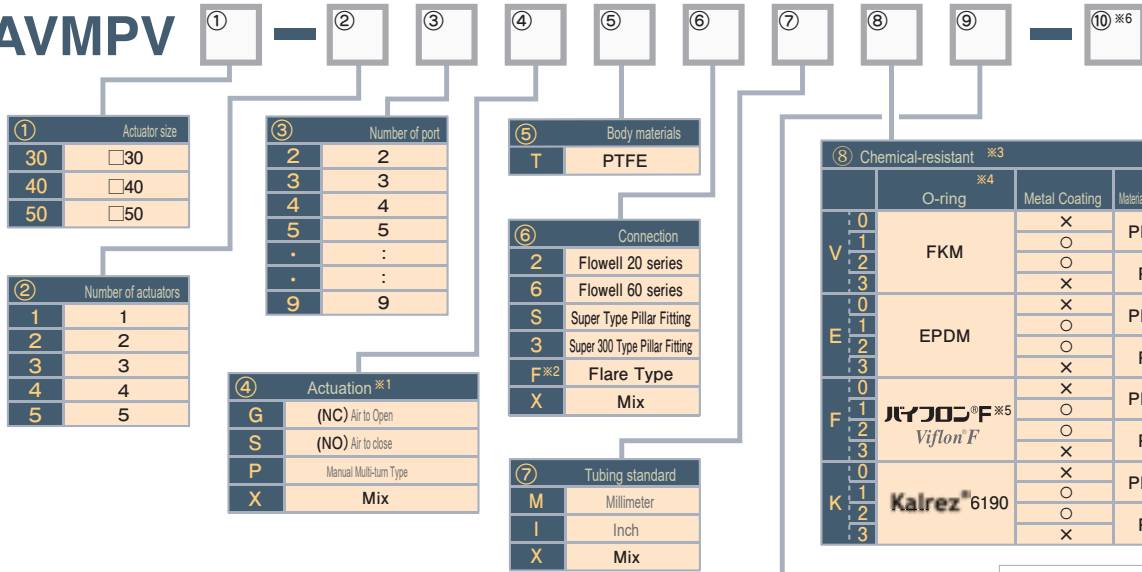
※ The pilot air consumption is the value at 0.4MPa.

Manual Type

項目			Unit	Manual Type		
本体サイズ			body size	—	□ 30	□ 40 □ 50
作動			Actuation	—	Manual Multi-turn Type	
流体温度			Medium Temperature	℃	5 ~ 80	
構造耐圧			Proof Pressure	MPa	1.0 145psi	
使用圧力範囲			Working Pressure range	MPa	0 ~ 0.5 0 ~ 72.5psi	
弁座漏れ量			Leakage Rate	cm ³ /min	0 (at hydraulic pressure 23℃)	
背圧			Back Pressure	MPa	0 ~ 0.5 0 ~ 72.5psi	
周囲温度			Ambient Temperature	℃	5 ~ 50	
取付姿勢			Installation Direction	—	Any direction	
接続			Connection	—	Flowell 20 series Flowell 60 series Super Type Pillar Fitting Super 300 Type Pillar Fitting Flare Type	

Ordering Code

AVMPV



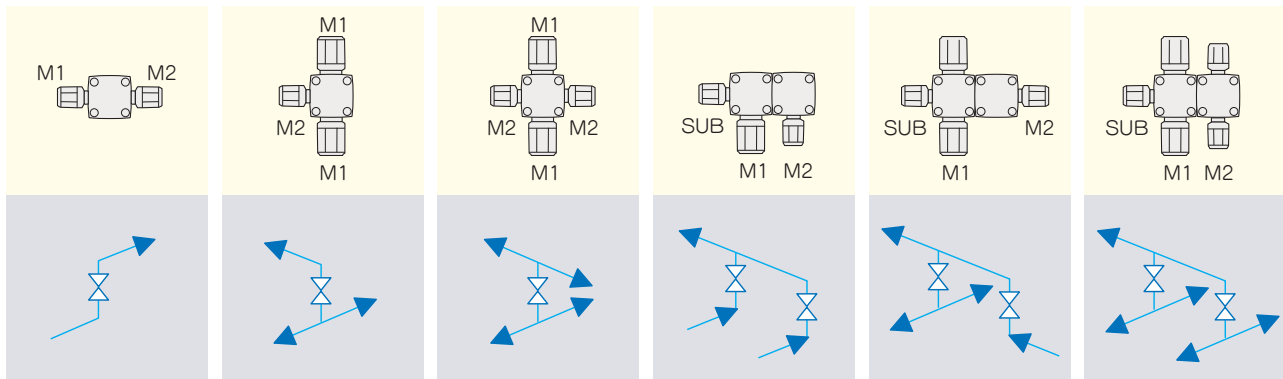
No.	Main Port		Sub Port		Body size		
	mm	inch	mm	inch	□30	□40	□50
					Orificeφ 4	Orificeφ 9	Orificeφ 16
11	3 x 2	3.18 x 1.6	3 x 2	3.18 x 1.6	○	※7	※7
21	6 x 4	6.35 x 4.35	3 x 2	3.18 x 1.6	○	○	※7
22			6 x 4	6.35 x 4.35	○	○	※7
31	10 x 8	9.53 x 6.35	3 x 2	3.18 x 1.6	○	○	※7
32			6 x 4	6.35 x 4.35	○	○	※7
33			10 x 8	9.53 x 6.35	×	○	※7
41	12 x 10	12.70 x 9.53	3 x 2	3.18 x 1.6	×	○	※7
42			6 x 4	6.35 x 4.35	×	○	※7
43			10 x 8	9.53 x 4.35	×	○	※7
44			12 x 10	12.70 x 9.53	×	○	※7
61	19 x 16	19.05 x 15.88	3 x 2	3.18 x 1.6	×	○	※7
62			6 x 4	6.35 x 4.35	×	○	※7
63			10 x 8	9.53 x 6.35	×	○	○
64	25 x 22	25.40 x 22.20	12 x 10	12.70 x 9.53	×	○	○
66			19 x 16	19.05 x 15.88	×	×	○
81			3 x 2	3.18 x 1.6	×	×	○
82	25 x 22	25.40 x 22.20	6 x 4	6.35 x 4.35	×	×	○
83			10 x 8	9.53 x 6.35	×	×	○
84			12 x 10	12.70 x 9.53	×	×	○
86	25 x 22	25.40 x 22.20	19 x 16	19.05 x 15.88	×	×	○

	O-ring ※4	Metal Coating	Material of Exposure parts
V	0	×	PPS/PP
	1	○	PPS/PP
	2	○	PVDF
	3	×	PVDF
E	0	×	PPS/PP
	1	○	PPS/PP
	2	○	PVDF
	3	×	PVDF
F	0	×	PPS/PP
	1	○	PPS/PP
	2	○	PVDF
	3	×	PVDF
K	0	×	PPS/PP
	1	○	PPS/PP
	2	○	PVDF
	3	×	PVDF

Ordering code example
 AVMPV30-34GT2MV032-*****
 AVMPV50-23PT6IF263-*****
 AVMPV40-45XTXK044-*****

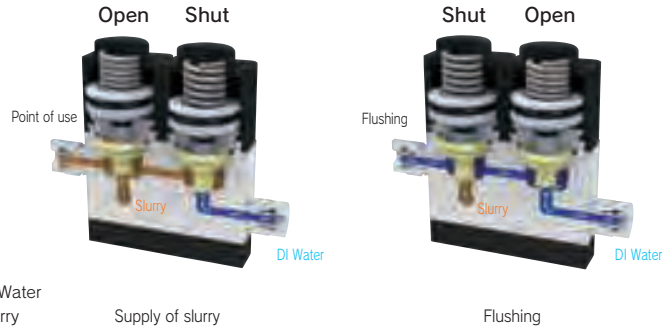
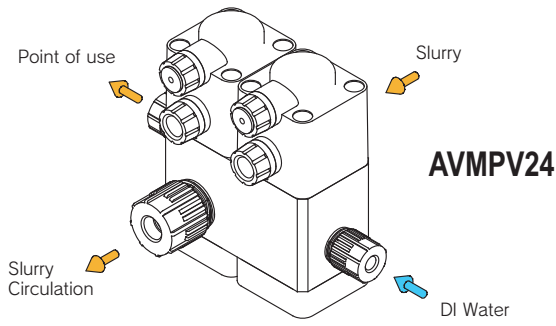
- ※1 : Please consult us for the specification "Double acting" in the case of the hope.
- ※2 : In the case of the connection is "F", only "I (Inch)" can be selected for the "Tubing Standard".
- ※3 : Please consult us for the specification if the medium isa strong chemical, strong acid etc.
- ※4 : O-rings are not wetted.
- ※5 : "Viflon" is the Terpolymerization Fluorocarbon Elastomers.
- ※6 : The product has a five -digit code depending on customizations, such as the direction of the port. Please contact us for the formal ordering code.
- ※7 : Please consult us.

Port combinations



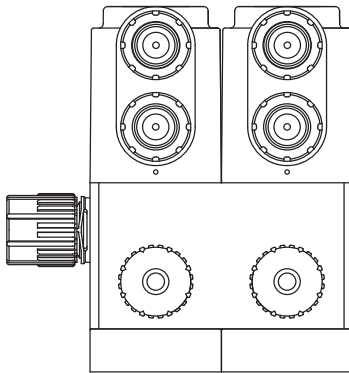
- AVPV3
- AVPM
- AVPSL
- AVSDV
- AVSDVM
- AVSDVT
- AVSAS
- AVMPV
- AVDIV
- AVWM
- AVHRL
- AVHRL-M
- AVHPRS
- AVBPR
- AVCFV
- AV12R
- HDVM
- AVQDV
- AVBVX
- AVPJX
- AVSIV
- AVFCS2
- AVFCN
- OTHER

Example



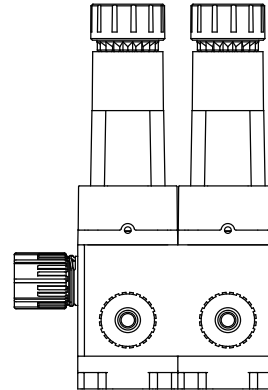
Parts & Materials

Pneumatic Type



Parts	Chemical-resistant				Wetted parts
	0	1	2	3	
Body	PTFE				○
Diaphragm	PTFE				○
Actuator	PPS / PP		PVDF		
O-ring	FKM / EPDM / VIKON® F <i>Viflon F</i> / Kalrez® 6190				
Metal parts	SUS304	SUS304 PTFE Coating	SUS304		

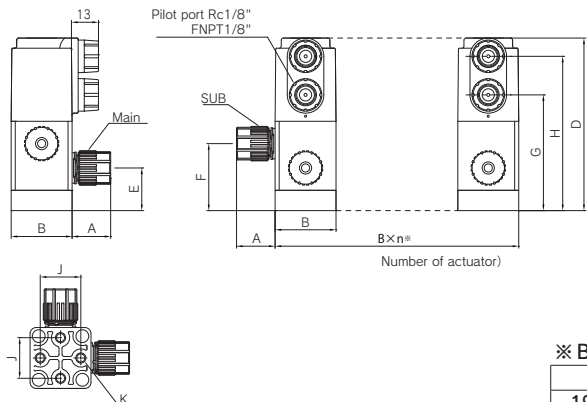
Manual Type



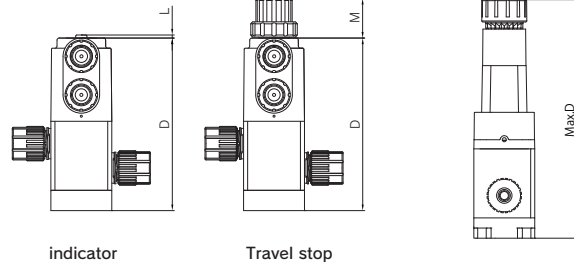
Parts	Chemical-resistant		Wetted parts
	2	3	
Body	PTFE		○
Diaphragm	PTFE		○
Actuator	PVDF		
O-ring	FKM / EPDM / VIKON® F <i>Viflon F</i> / Kalrez® 6190		
Metal parts	SUS304 PTFE Coating	SUS304	

Dimensions

Pneumatic Type



Manual Multi-turn Type



※ B = 50

Main Port size		
19 × 16	19.05 × 15.88	B × n + (n-1)
25 × 22	25.40 × 22.20	B × n + 10 × (n-1)

Dimensions

(Unit) : mm

Main Port size	3 × 2		6 × 4		10 × 8		12 × 10		19 × 16		25 × 22	
	3.18 × 1.6		6.35 × 4.35		9.53 × 6.35		12.70 × 9.53		19.05 × 15.88		25.40 × 22.20	
A	Flowell 20 series	inch	-	18	22.5	26.5	31	42				
		mm	9	17	21	25	31	42				
	Flowell 60 series	inch	-	31	39	39	44	51				
		mm	17.5	30	37	37	44	49.5				
	Super Type Pillar fitting	inch/mm	15	19.5	26.5	30	39.5	45				
Super 300 Type Pillar fitting	inch/mm	15	19	25	29	36	43					
Flare Type	inch	-	28	31	33	38	47					
B					40				50			
L			1.5								3.5	
M				Max. 21.5		Max. 22						Max. 23

B=30

Main Port size	3 × 2	6 × 4	10 × 8	12 × 10	19 × 16	25 × 22
	3.18 × 1.6	6.35 × 4.35	9.53 × 6.35	12.70 × 9.53	19.05 × 15.88	25.40 × 22.20
D		85	90			
Max.D		117.5	122.5			
E		21	25.5			
F		33	38			
G		57	62			
H		76	81			
J		20				
K		M5 L10				
L		5.0				

B=40

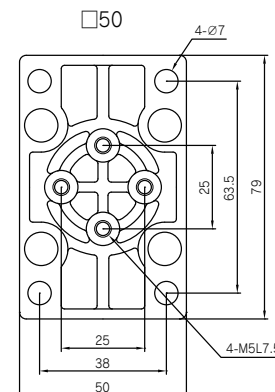
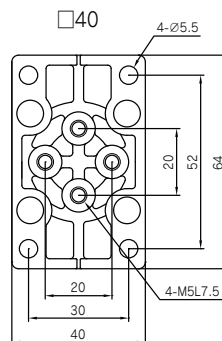
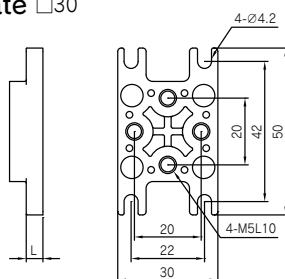
Main Port size	3 × 2	6 × 4	10 × 8	12 × 10	19 × 16	25 × 22
	3.18 × 1.6	6.35 × 4.35	9.53 × 6.35	12.70 × 9.53	19.05 × 15.88	25.40 × 22.20
D		93	103		108	
Max.D		116.5	126.5		131.5	
E		22	27.5		30.5	
F		33	43		48	
G		61	71		76	
H		84.5	94.5		99.5	
J			20			
K			M5 L13			
L			7.0			

B=50

Main Port size	3 × 2	6 × 4	10 × 8	12 × 10	19 × 16	25 × 22
	3.18 × 1.6	6.35 × 4.35	9.53 × 6.35	12.70 × 9.53	19.05 × 15.88	25.40 × 22.20
D					129	134
Max.D					158	163
E					34	35.5
F					59	64
G					93	98
H					120	125
J						
K						
L						7.0

※ Reference values

Base Plate □30



AVDIV

3方切替弁 Diverting valve

Specialty Valves and Control Products **Dymatrix™**



For various applications

6 flow patterns of 3 ports are available for various applications.

Excellent Cv value performance

AVDIV is equivalent in Cv value performance to AVSDV.

Specifications

項目	Items	Unit	Size		
			□40	□50	
			6×4 6.35×4.35	10×8 9.53×6.35	12×10 12.70×9.53
流体温度	Medium Temperature	°C	5 ~ 90		
構造耐圧	Proof Pressure	MPa	1.0 145psi		
使用圧力範囲	Working Pressure range	MPa	0 ~ 0.5 0 ~ 72.5psi		
弁座漏れ量	Leakage Rate	cm ³ /min	0 (at hydraulic pressure 23°C)		
背圧	Back Pressure	MPa	0 ~ 0.25 0 ~ 36.25psi		
周囲温度※1	Ambient Temperature	°C	5 ~ 60		
開閉頻度	Frequency of opening and closing	times/min	< 20		
取付姿勢	Installation direction	—	Any direction		
接続	Connection	—	Flowell 20 series Flowell 60 series Super Type Pillar Fitting Super 300 Type Pillar Fitting Flare Type Tube		
オリフィス※4	Orifice diameter	mm	φ 7	φ 12	
Cv値※4	Cv value	A Type※2	0.28	1.4	1.8
		B Type※2	0.27	1.2	1.8
重量	Weight	kg	0.25	0.51	0.54
Pilot	Pilot pressure	MPa	0.4 ~ 0.5 58 ~ 72.5psi	0.35 ~ 0.5 50.8 ~ 72.5psi	
	Pilot air consumption※3	L/times (ANR)	0.08	0.28	
	Pilot port		Rc1/8", FNPT1/8"		

※1. For the details, please refer to the characteristic graph of "Working pressure-Back pressure".

※2. "Cv value" is different by "Connection". Please refer to a list shown below.

※3. The pilot air consumption is the value at 0.4MPa.

※4. Typical values.

type	Connection
A type	Flowell 60 series
	Flare Type
B type	Flowell 20 series
	Super Type Pillar Fitting
	Super 300 Type Pillar Fitting
	Tube

Ordering Code

AVDIV — **3** **T** ① ② ③ ④ ⑤ ⑥ ⑦

Actuation

3 Diverting valve

Body materials

T PTFE

① Connection

2	Flowell 20 series
6	Flowell 60 series
S	Super Type Pillar Fitting
3	Super 300 Type Pillar Fitting
F ※1	Flare Type
T ※2	Tube

② Tubing standard

M	Millimeter
I	Inch

③ Mounting

1	Baseplate (Direction1)	
2	Baseplate (Direction2)	

④ Flow direction

	1	2
A		
B		
C		

⑤ Pilot port

R	Rc 1/8"
N	FNPT 1/8"

⑥ Chemical-resistant ※3

	O-ring	Metal Coating
V 0	FKM	×
1		○
E 0	EPDM	×
1		○
F 0	キヤノン®F ※5 Viflon®F	×
1		○
K 0	Kalrez®6190	×
1		○

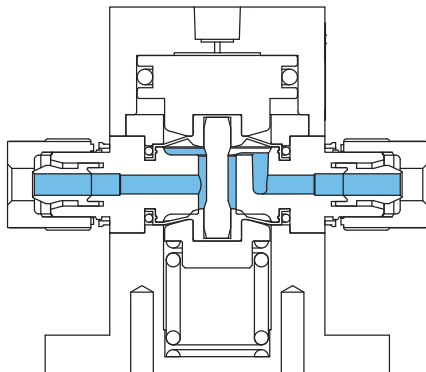
Connection tubing size

06	6× 4	6.35× 4.35	<input type="checkbox"/> 40
10	10× 8	9.53× 6.35	<input type="checkbox"/> 50
12	12×10	12.70× 9.53	<input type="checkbox"/> 50

Ordering code example
AVDIV-3T3I1A1RV006
AVDIV-3TFI2C1NV106

※1 : In the case of the connection is "F", only "I (Inch)" can be selected for the "Tubing Standard".
 ※2 : Please refer to page 105 for diameter of "Tube".
 ※3 : Please consult us for the specification if the medium is a strong chemical, strong acid etc.
 ※4 : O-rings are not wetted.
 ※5 : "Viflon" is the Terpolymerization Fluorocarbon Elastomers.

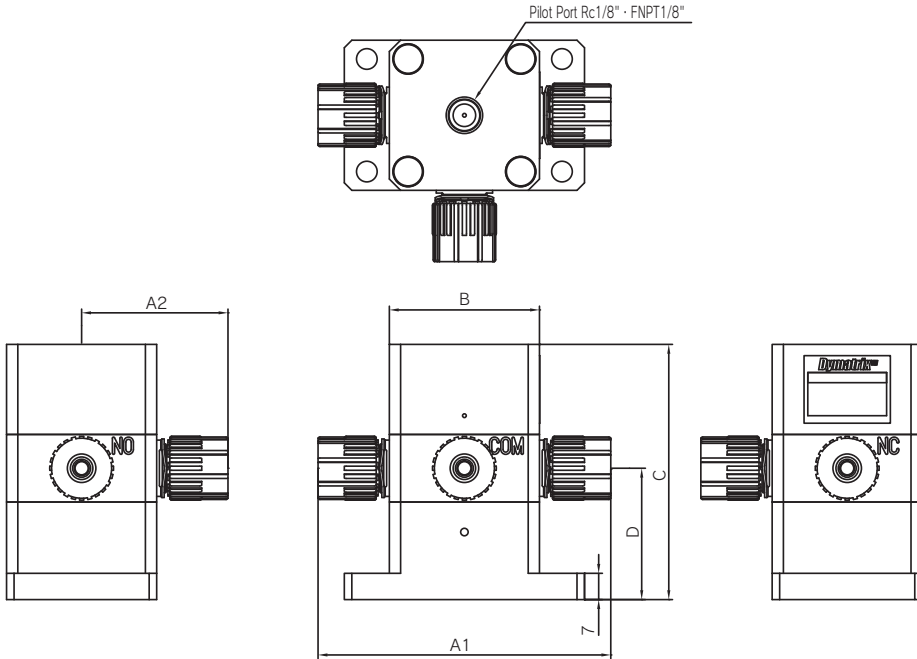
Parts & Materials



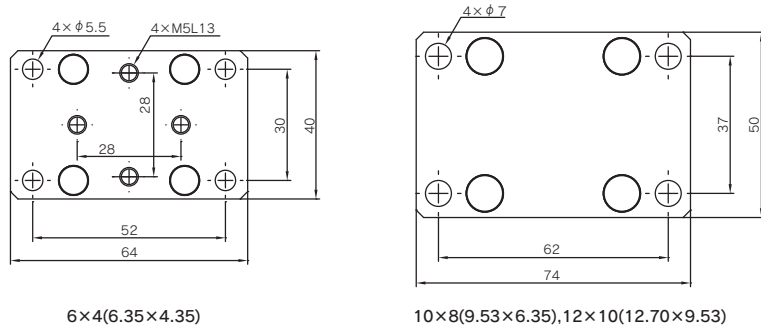
Parts	Chemical-resistant		Wetted parts
	0	1	
Body	PTFE		○
Diaphragm	PTFE / PCTFE		○
Actuator	PVDF		
O-ring	FKM / EPDM / キヤノン®F Viflon®F / Kalrez®6190		
Metal parts	SUS304	SUS304 PTFE Coating	

- AVPV3
- AVPVM
- AVPVS
- AVPVS
- AVSDV
- AVSDVM
- AVSDVT
- AVSAS
- AVMPV
- AVDIV
- AVVM
- AVHRL
- AVHRL-M
- AVHRS
- AVBPR
- AVCFV
- HDV12R
- HDVM
- AVQDV
- AVBVX
- AVPJX
- AVSIV
- AVFCS2
- AVFCN
- OTHER

Dimensions



● Base Plate



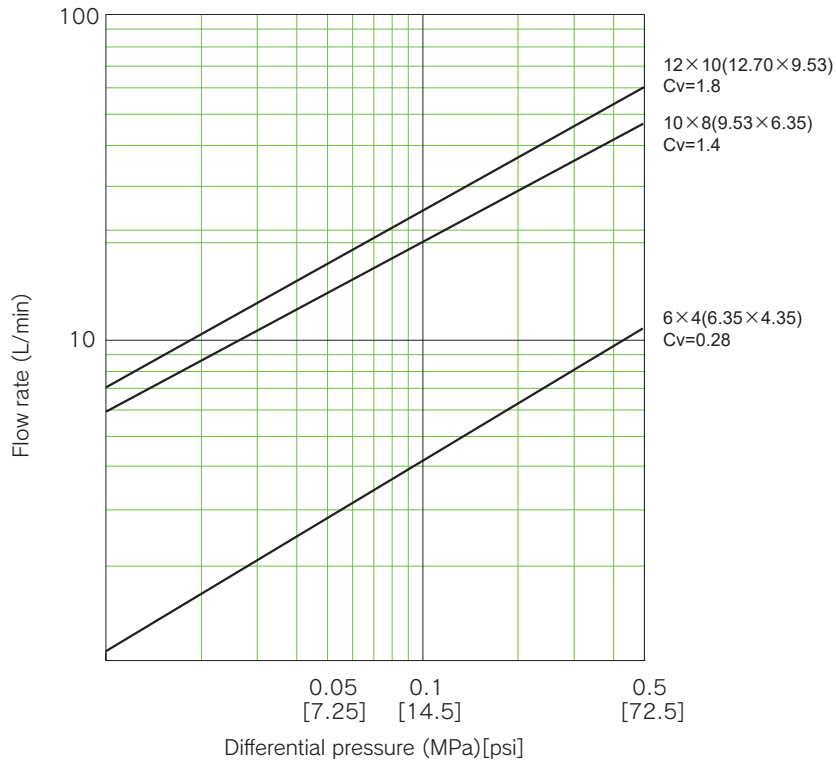
Unit) : mm

		Standard	Size		
			6 × 4 6.35 × 4.35	10 × 8 9.53 × 6.35	12 × 10 12.70 × 9.53
A1	Flowell 20 series	inch	76	95	103
		mm	74	92	100
	Flowell 60 series	inch	102	128	128
		mm	100	124	124
	Super Type Pillar fitting	inch/mm	79	103	110
	Super 300 Type Pillar fitting	inch/mm	78	100	108
Flare Type	inch	96	112	116	
	Tube	inch/mm	100	110	110
A2	Flowell 20 series	inch	38	47.5	51.5
		mm	37	46	50
	Flowell 60 series	inch	51	64	64
		mm	50	62	62
	Super Type Pillar fitting	inch/mm	39.5	51.5	55
	Super 300 Type Pillar fitting	inch/mm	39	50	54
Flare Type	inch	48	56	58	
	Tube	inch/mm	50	55	55
B			□ 40	□ 50	
C			68	95	
D			35	50	

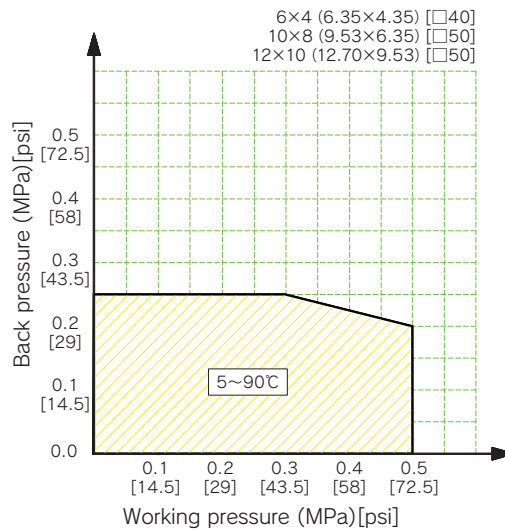
※ Reference values

Technical Data

Differential pressure - Flow rate



Working pressure - Back pressure



※ The data shown here is the experimental values and the reference values.

- AVPV3
- AVPVM
- AVPVS
- AVSDV
- AVSDVM
- AVSDVT
- AVSAS
- AVMPV
- AVDIV
- AVNVM
- AVHPR
- AVHPRM
- AVHPRS
- AVBPR
- AVCFV
- HDV12R
- HDVM
- AVQDV
- AVBVX
- AVPJX
- AVSIV
- AVFCS2
- AVFCN
- OTHER

AVNVM

ニードル弁 Needle valve

Specialty Valves and Control Products **Dymatrix™**



Easy Operation

AVNVM provides easy & precise flow control by the dual threaded stem structure, which gives liner flow characteristic and fine-tuning of flow.

Diaphragm Structure

Diaphragm isolates moving part from wetted part and it restrains the generation of particles.
All fluororesin made for wetted part.

Specifications

項目	Items	単位 Unit	Size		
			6×4 6.35×4.35	10×8 9.53×6.35	12×10 12.70×9.53
作動	Actuation	—	Manual Multi-turn Type		
流体温度	Medium Temperature	℃	5 ~ 90 ※ Please consult manufacturer for temp ranges of (10 ~ 200℃) HT		
構造耐圧	Proof Pressure	MPa	1.0 145psi		
使用圧力範囲	Working Pressure range	MPa	0 ~ 0.5 0 ~ 72.5psi		
周囲温度	Ambient Temperature	℃	5 ~ 60		
取付姿勢	Installation direction	—	Any direction		
接続	Connection	—	Flowell 20 series Flowell 60 series Super Type Pillar Fitting Super 300 Type Pillar Fitting Flare Type Tube Rc		
重量	Weight	PFA Body	0.12	0.17	0.19
		PTFE Body	0.17	0.23	0.25

Ordering Code

AVNVM ① — ② — **P** ③ ④ ⑤ ⑥ **S** ⑦ ⑧

① Actuator Size※1

30	<input type="checkbox"/> 30
35	<input type="checkbox"/> 35

② Maximum flow rate※1

010	100 mL/min
050	500 mL/min
120	1200 mL/min
180	1800 mL/min
300	3000 mL/min
380	3800 mL/min
900	9000 mL/min
10L	10 L/min

③ Body material※1

A	PFA
T	PTFE

④ Connection※1

2	Flowell 20 series
6	Flowell 60 series
S	Super Type Pillar Fitting
3	Super 300 Type Pillar Fitting
F	Flare Type
T	Tube
R	Rc

⑤ Tubing Standard

M	Millimeter
I	Inch

⑥ Mounting

1 Baseplate

2*4 Baseplate

⑦ Chemical-resistant※5

	O-ring	Metal Coating
V	FKM	×
E	EPDM	×
F	バイフロン®F	×
K	Kalrez® 6190	○

⑧ Connection tubing size※1

06	6×4	6.35×4.35	<input type="checkbox"/> 30
10	10×8	9.53×6.35	<input type="checkbox"/> 35
12	12×10	12.70×9.53	<input type="checkbox"/> 35

Actuation

P	Manual (Push-lock)
---	--------------------

Flow direction※1

S	Straight
---	----------

Ordering code example

AVNVM30-010-PT311SV006

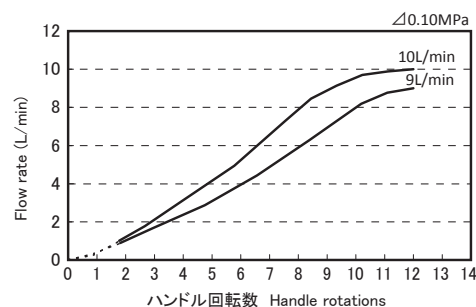
AVNVM30-180-PA312SV006

AVNVM35-10L-PT611SV012

- ※1: Please refer to the body size combination for body size material selection.
- In the case of Body material "A", only "3" can be selected for the "Connection".
- ※2: In the case of the connection is "F", "R", only "I (Inch)" can be selected for the "Tubing Standard".
- ※3: Please refer to page 105 for diameter of "Tube".
- ※4: In the case of Connection tubing size "10" or "12" specifications of Mounting "2" cannot chosen.
- ※5: Please consult us for the specification if the medium is a strong chemical, strong acid etc.
- ※6: O-rings are not wetted.
- ※7: "Viflon" is the Terpolymerization Fluorocarbon Elastomers.

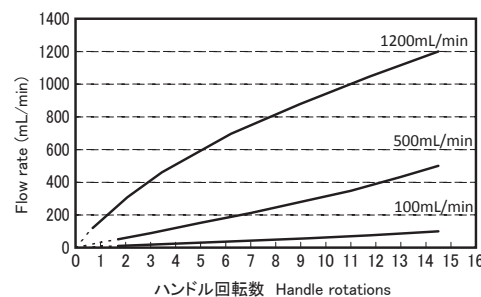
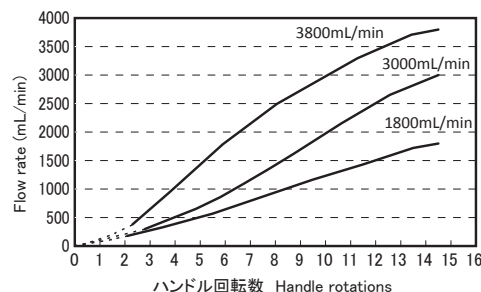
●Straight : Super 300 Type Pillar Fitting

Max. flow rate mL/min	100	500	1200	1800	3000	3800	9000	10000
	010	050	120	180	300	380	900	10L
Cv value	0.007	0.035	0.083	0.125	0.210	0.265	0.63	0.7
Orifice size	φ2	φ2	φ2	φ3.5	φ4	φ6	φ6	φ7
Body material	PTFE			PFA				
<input type="checkbox"/> 30	06	○	○	○	○	○	○	
<input type="checkbox"/> 35	10						○	
	12							○



●Straight : Other Connection

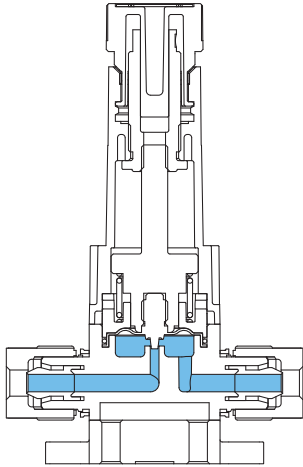
Max. flow rate mL/min	100	500	1200	1800	3000	3800	9000	10000
	010	050	120	180	300	380	900	10L
Cv value	0.007	0.035	0.083	0.125	0.210	0.26	0.63	0.7
Orifice size	φ2	φ2	φ2	φ3.5	φ4	φ6	φ6	φ7
Body material	PTFE							
<input type="checkbox"/> 30	06	○	○	○	○	○	○	
<input type="checkbox"/> 35	10						○	
	12							○



※ The data shown here is the experimental values and the reference values.

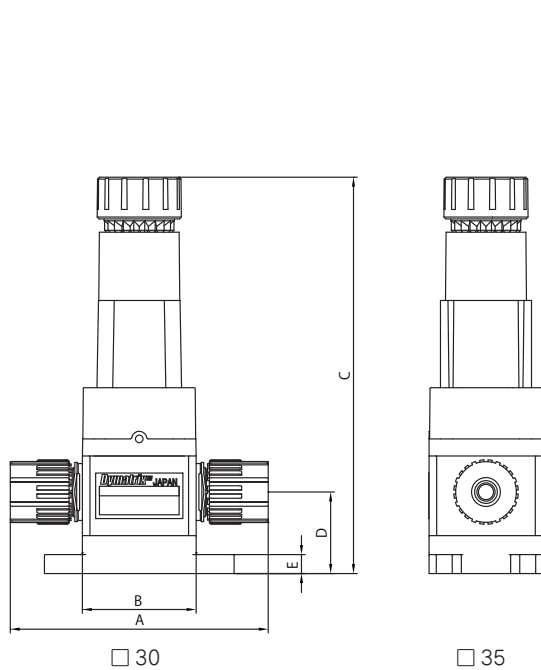
- AVPV3
- AVPM
- AVPSL
- AVSDV
- AVSDM
- AVSDT
- AVSAS
- AVMPV
- AVDIV
- AVNVM
- AVHRL
- AVHRL-M
- AVHRS
- AVBPR
- AVCFV
- HDV12R
- HDVM
- AVQDV
- AVBVX
- AVPJX
- AVSIV
- AVFCS2
- AVFCN
- OTHER

Parts & Materials



Parts	Chemical-resistant		Wetted parts
	0	1	
Body	PFA or PTFE		○
Diaphragm	PTFE		○
Actuator	PVDF		
O-ring	FKM / EPDM / JKJOS®F Viflon®F / Kalrez® 6190		
Metal parts	SUS304	SUS304 PTFE Coating	

Dimensions

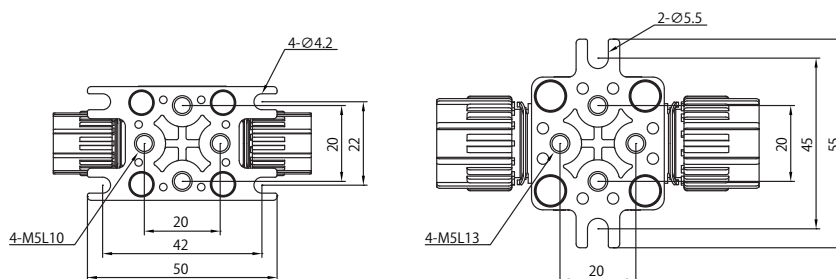


Unit) : mm

Standard	Size				
	6×4	10×8	12×10		
	6.35×4.35	9.53×6.35	12.70×9.53		
A	Flowell 20 series	inch	66	80	88
		mm	64	77	85
A	Flowell 60 series	inch	92	113	113
		mm	90	109	109
	Super Type Pillar Fitting	inch/mm	69	88	95
	Super 300 Type Pillar Fitting	inch/mm	68	85	93
	Flare Type	inch	86	97	101
	Tube	inch/mm	90	95	95
	B		□ 30	□ 35	
	C		Max. 104.5	Max. 111.5	
	D		21.5	26	
	E		5	7	

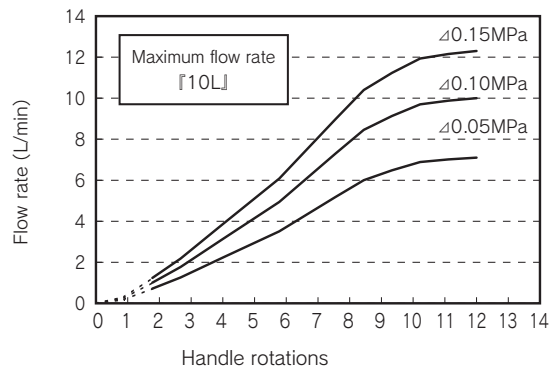
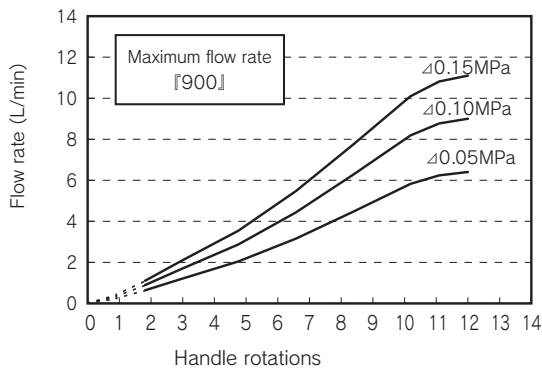
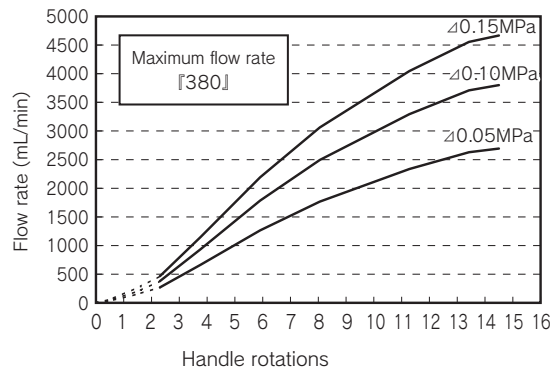
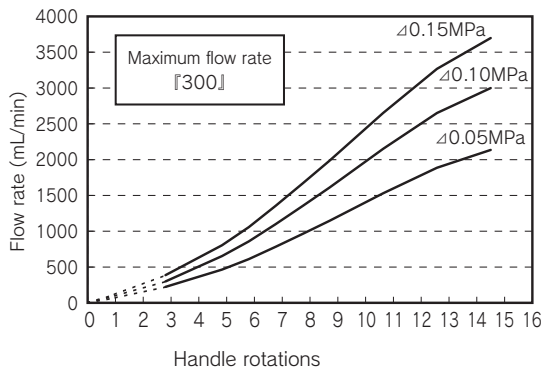
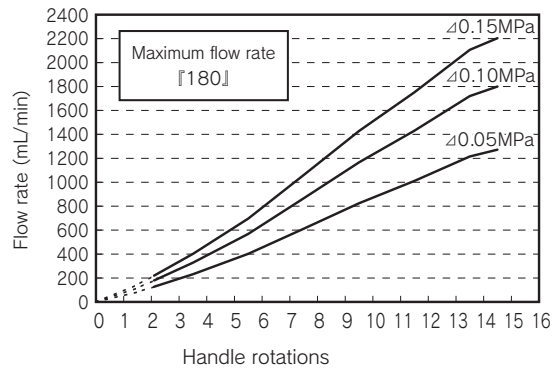
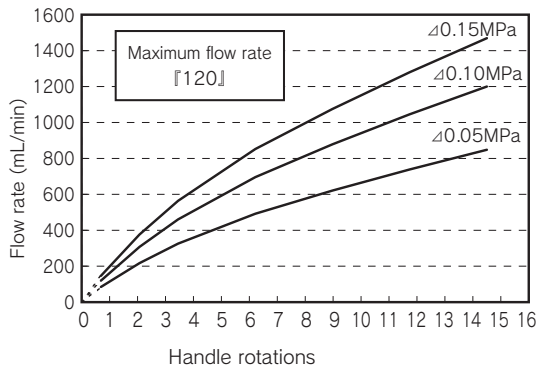
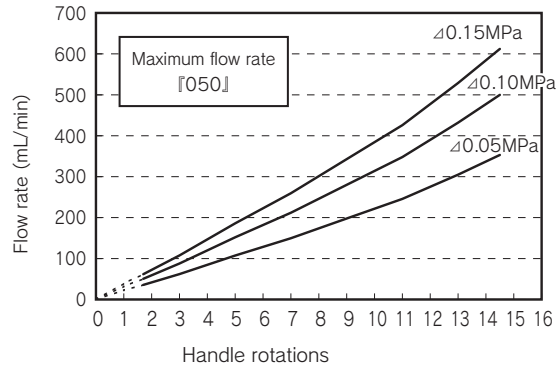
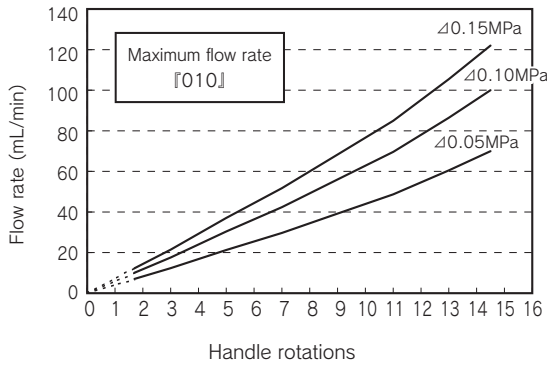
Standard	Size				
	6×4	10×8	12×10		
	6.35×4.35	9.53×6.35	12.70×9.53		
A	Rc	inch	44	51	60
	B		□ 30	□ 35	
	C		Max. 110.5	Max. 115.5	
	D		24	29	
	E		5	7	

※ Reference values



Technical Data

Handle rotations – Flow



The data shown here is the experimental values and the reference values.

- AVPV3
- AVPVM
- AVPVS
- AVSDV
- AVSDVM
- AVSDVT
- AVSAS
- AVMPV
- AVDIV
- AVVM
- AVHPR
- AVHPR-L
- AVHPRS
- AVBPR
- AVCFV
- HDV12R
- HDVM
- AVQDV
- AVBVX
- AVPJX
- AVSIV
- AVFCS2
- AVFCN
- OTHER

AVHPRL

定圧弁 Regulator

Specialty Valves and Control Products **Dymatrix™**



Excellent stability

The flow can be maintained stable instantly in the change of setting due to the quick response of the valve. There is no overshooting even just after the valve started.

Specifications

項目	Items	Unit	Type			
			LF	MF	HF	SHF
流体温度	Medium Temperature	°C	10 ~ 90 ※ Please consult manufacturer for temp ranges of (10 ~ 200°C) HT			
構造耐圧	Proof Pressure	MPa	0.9 130.5psi			
使用圧力範囲	Working Pressure range	MPa	+0.05 ~ 0.5 Pilot pressure +7.25 ~ 72.5psi			
周囲温度	Ambient Temperature	°C	10 ~ 60			
取付姿勢	Installation direction	—	Any direction			
接続	Connection	—	Flowell 20 series Flowell 60 series Super Type Pillar Fitting Super 300 Type Pillar Fitting Flare Type Tube			
接続口径	Connection tubing size	mm	3×2(3.18×1.6)、 6×4(6.35×4.35)	6×4(6.35×4.35)、 10×8(9.53×6.35)、 12×10(12.70×9.53)	12×10(12.70×9.53)、 19×16(19.05×15.88)	19×16(19.05×15.88)、 25×22(25.40×22.20)
参考流量範囲	Reference Flow Range	L/min	10 ~ 500mL/min	0.4 ~ 15	5 ~ 50	10 ~ 100
精度	Accuracy	—	±5%F.S. Accuracy of flow rate when the range of inlet pressure is from minimum working pressure to 0.5MPa, and there is no back pressure change.			
重量	Weight	kg	0.2	0.4	1.0	2.0
操作部 Pilot	Pilot pressure	Open control	0.1 ~ 0.3	0.08 ~ 0.3		
		Feed back control	0.12~0.3			
	エア消費量※ Pilot air consumption	L/times(ANR)	0.06	0.11	0.32	0.65
	Pilot port	—	Rc1/8" , FNPT1/8"			

※ The pilot air consumption is the value at 0.3 MPa.

Ordering Code

AVHPR ① - G ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ - 3

① Type	
LF	Low Flow
MF	Medium Flow
HF	High Flow
SHF	Super High Flow

Actuation	
G	Air to open

② Body material	
A ^{※1}	PFA
T	PTFE

③ Connection	
2	Flowell 20 series
6	Flowell 60 series
S	Super Type Pillar Fitting
3	Super 300 Type Pillar Fitting
F ^{※3}	Flare Type
T ^{※4}	Tube

④ Tubing standard	
M	Millimeter
I	Inch

⑤ Mounting	
0	Thread at bottom
1	Base plate (Direction 1)
2	Base plate (Direction 2)
3	Attached parts

⑥ Pilot port	
R	Rc 1/8"
N	FNPT 1/8"

⑦ Pilot port connection	
0 (Standard)	
1	
2	
3	
4	Direction 0 horizontal
5	Direction 1 horizontal
6	Direction 2 horizontal
7	Direction 3 horizontal

⑧ Chemical-resistant ^{※5}		
	O-ring ^{※6}	Metal Coating
V	FKM	X
E	EPDM	X
F	FKM ^{※7} Viflon F	O
K	Kalrez 6190	O

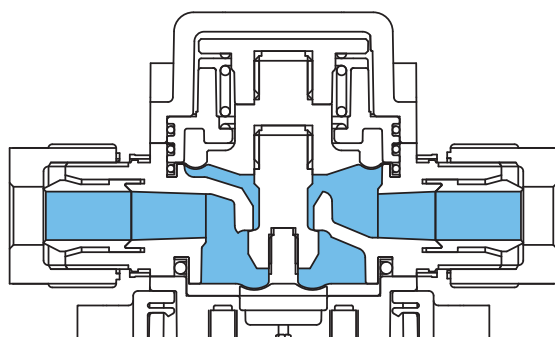
⑨	Connection tubing size					
	mm	inch	LF	MF	HF	SHF
03	3 × 2	3.18 × 1.6	○			
06	6 × 4	6.35 × 4.35	○	○		
10	10 × 8	9.53 × 6.35		○		
12	12 × 10	12.70 × 9.53		○	○	
19	19 × 16	19.05 × 15.88			○	○
25	25 × 22	25.40 × 22.20				○

Revision	
3	LF
	MF
	HF
	SHF

Ordering code example
 AVHPRLF-GT6M2N5K106-3
 AVHPRHF-GA310R0V019-3

※1: In the case of Body material "A", only "3" can be selected for the "Connection".
 ※2: In the case of Body material "A", only "12(MF)", "19(HF)" can be selected for the "Connection Tubing Size".
 ※3: In the case of the connection is "F", only "I (Inch)" can be selected for the "Tubing Standard".
 ※4: Please refer to page 105 for diameter of "Tube".
 ※5: Please consult us for the specification if the medium is a strong chemical, strong acid etc.
 ※6: O-rings are not wetted.
 ※7: "Viflon" is the Terpolymerization Fluorocarbon Elastomers.

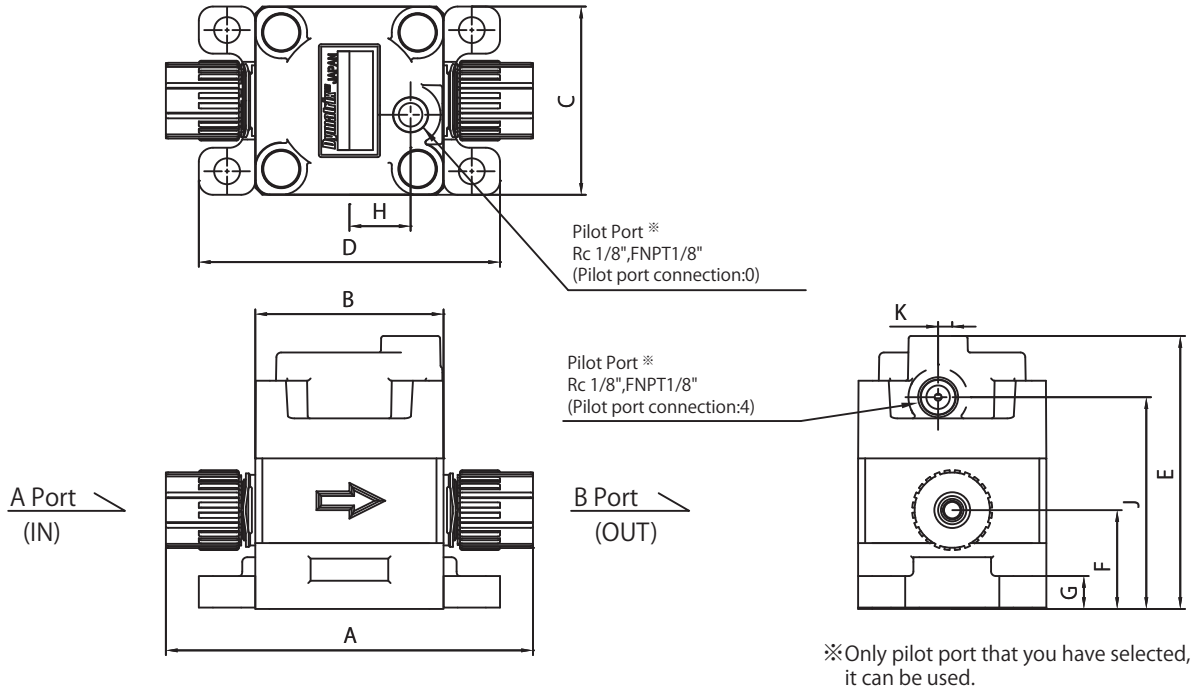
Parts & Materials



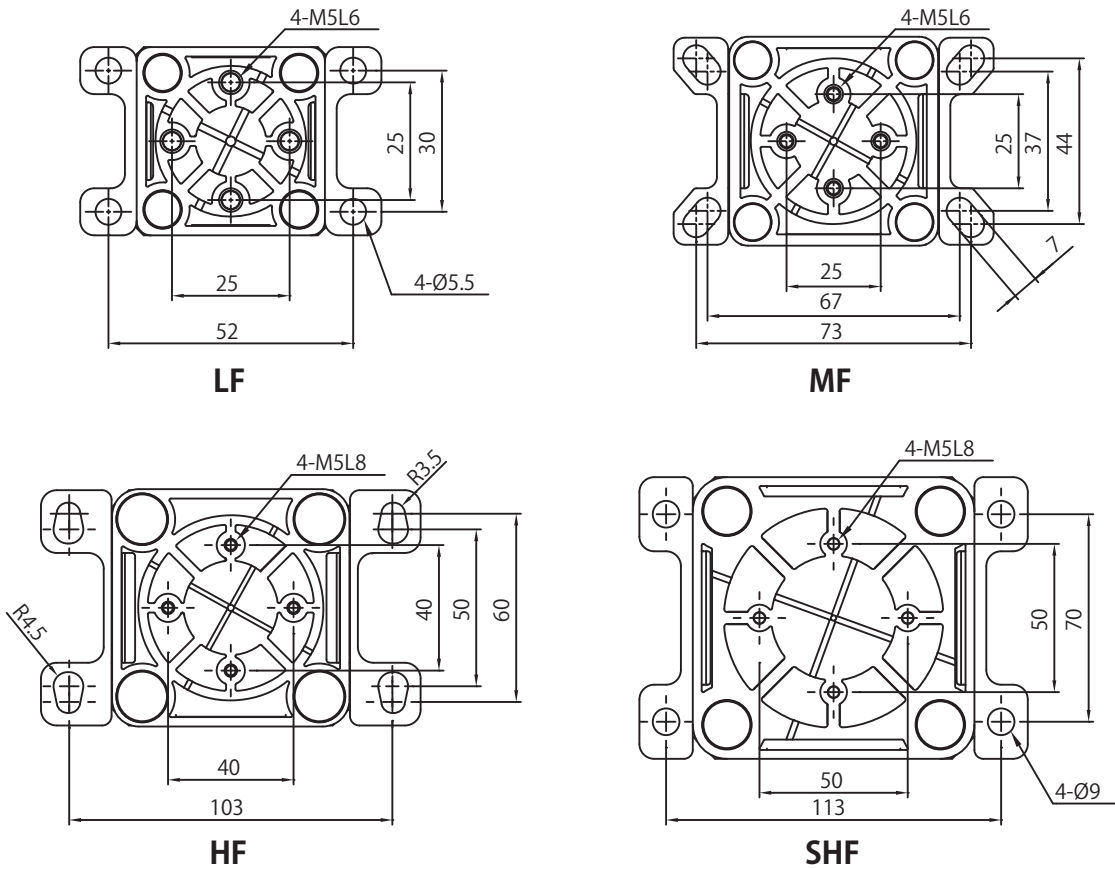
Parts	Chemical-resistant		Wetted parts
	0	1	
Body	PFA/PTFE		○
Diaphragm	PTFE		○
Actuator	PVDF		
O-ring	FKM/EPDM/ FKM ^{※7} Viflon F / Kalrez 6190		
Metal parts	SUS304	SUS304 PTFE Coating	

- AVPV3
- AVPM
- AVPSL
- AVSDV
- AVSDVM
- AVSDVT
- AVSAS
- AVMPV
- AVDIV
- AVVM
- AVHPR
- AVHPRM
- AVHPRS
- AVBPR
- AVCFV
- HDV12R
- HDVM
- AVQDV
- AVBVX
- AVPJX
- AVSIV
- AVFCS2
- AVFCN
- OTHER

Dimensions



Base plate



Dimensions

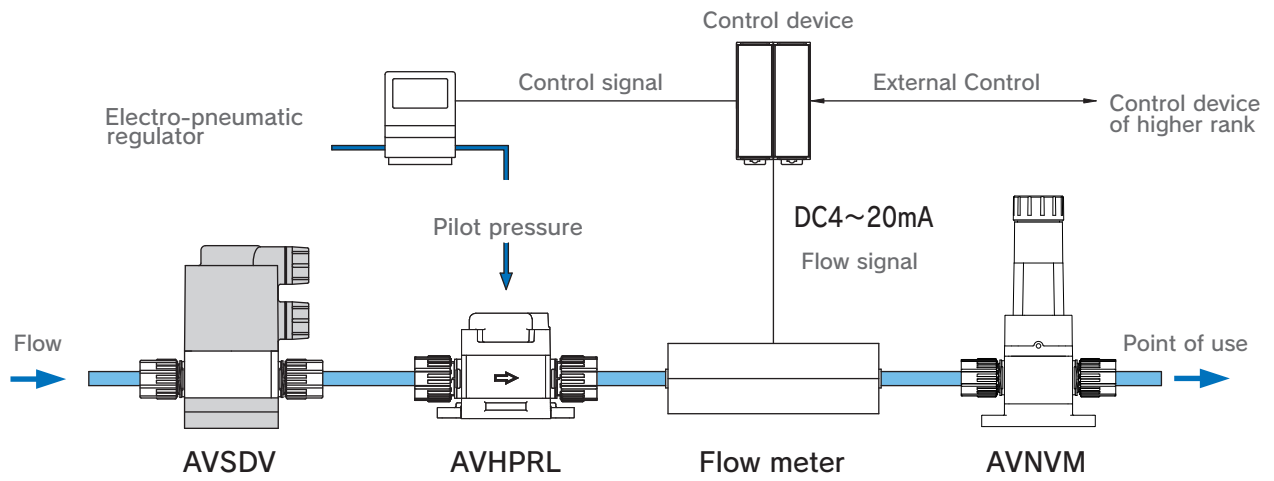
(Unit) : mm

Type	Tube size	Standard	Connection**	Dimension										
				A	B	C	D	E	F	G	H	J	K	
LF	3 × 2 (3.18×1.6)	mm	2	58	40	40	64	58	21	7	13	45	3	
		inch	6	75										
		mm		75										
		inch/mm	S	70										
		inch/mm	3	70										
		inch	2	76										
	6 × 4 6.35×4.35	mm	2	74										
		inch	6	102										
		mm		100										
		inch/mm	S	79										
		inch/mm	3	78										
		inch	F	96										
		inch/mm	T	100										
		inch	2	91										
MF	6 × 4 6.35×4.35	mm	2	89	55	55	85	67.5	25.5	7	20	52.5	11	
		inch	6	117										
		mm	6	115										
		inch/mm	S	94										
		inch/mm	3	93										
		inch	F	111										
		inch/mm	T	115										
		inch	2	100										
		mm		97										
		inch	6	133										
		mm		129										
		inch/mm	S	108										
	inch/mm	3	105											
	inch	F	117											
	inch/mm	T	115											
	12 × 10 12.70×9.53	inch	2	108										
		mm		105										
		inch	6	133										
		mm		129										
		inch/mm	S	115										
		inch/mm	3	113										
		inch	F	121										
		inch/mm	T	115										
		inch	2	128										
mm			125											
inch		6	153											
mm			149											
inch/mm	S	135												
inch/mm	3	133												
inch	F	141												
inch/mm	T	135												
HF	12 × 10 12.70×9.53	inch	2	137	75	75	121	94	34	8	23.4	74	13.5	
		mm	2	137										
		inch	6	163										
		mm		163										
		inch/mm	S	154										
		inch/mm	3	147										
		inch	F	151										
		inch/mm	T	155										
		inch	2	157										
		mm		157										
		inch	6	183										
		mm		183										
	inch/mm	S	174											
	inch/mm	3	167											
inch	F	171												
inch/mm	T	175												
SHF	19 × 16 19.05×15.88	inch	2	179	95	95	131	114	39	8	26.6	87	18.6	
		mm	2	179										
		inch	6	197										
		mm		194										
		inch/mm	S	185										
		inch/mm	3	181										
		inch	F	189										
		inch/mm	T	175										
		25 × 22 25.40×22.20	inch	2										179
			mm											179
		inch	6	197										
		mm		194										
	inch/mm	S	185											
	inch/mm	3	181											
inch	F	189												
inch/mm	T	175												

※ Reference values
 ※ Connection
 2...Flowell 20 series
 6...Flowell 60 series
 S...Super Type Pillar Fitting
 3...Super 300 Type Pillar Fitting
 F...Flare Type
 T...Tube

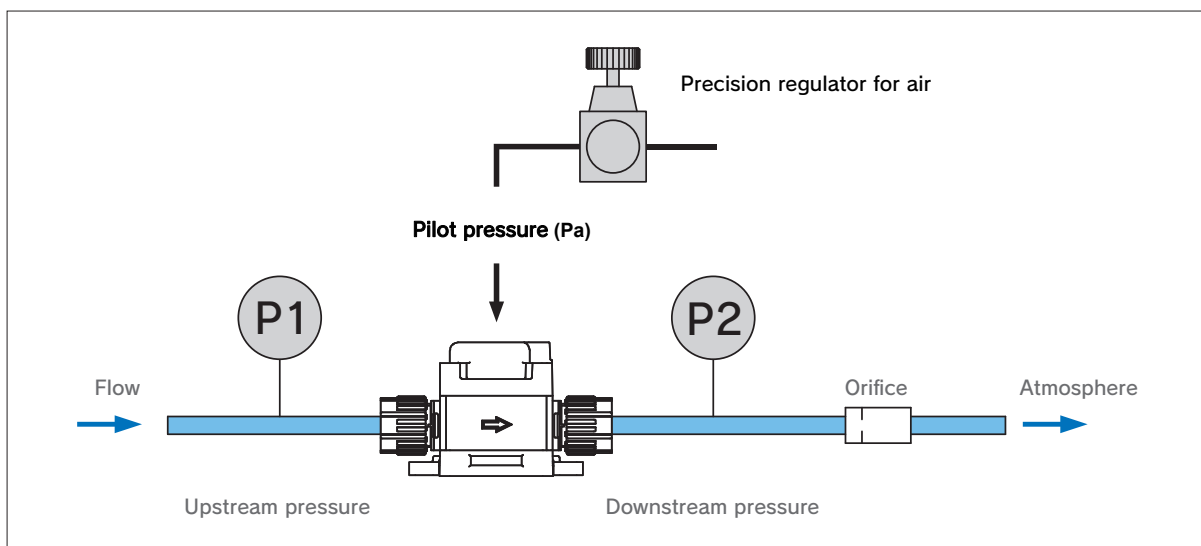


Example



Technical Data

Test line



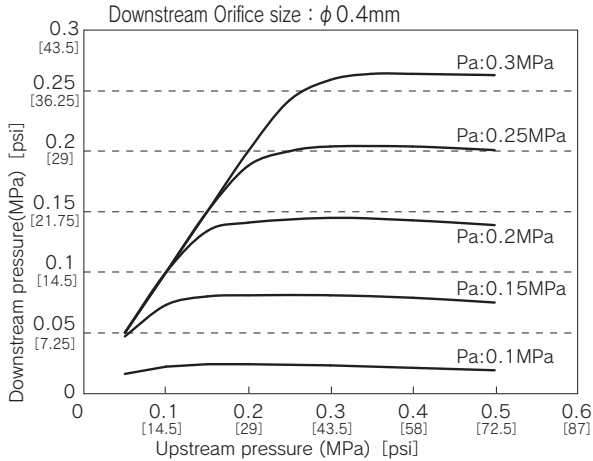
Test condition

1. The characteristic graph shows the data in the case of horizontal piping.
2. The test temperature is 23°C.
3. The characteristic graph is by connection tubing size mentioned in each graph.
4. The data in the characteristic graph are the experiment value and the reference value.

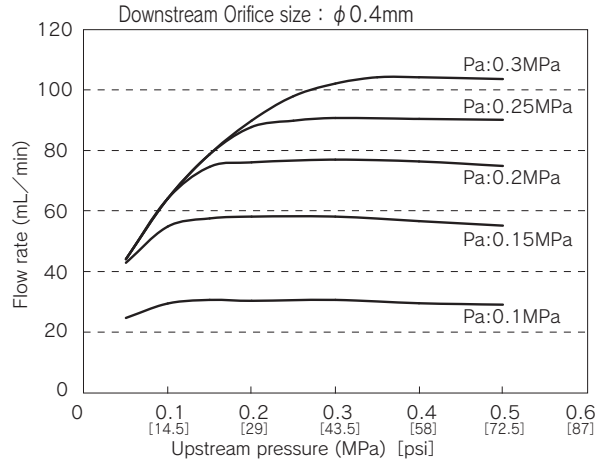
Cautions for use

1. Please install a constriction such as the orifice at downstream side for proper flow control.
2. Please do not use the **AVHPRL** in negative pressure. (It would cause the breakage of the valve)
3. Please use CDA (clean, dry compression air) for pilot air. In case the pilot air contains foreign substance, such as chemicals, synthetic oil contains organic solvent, salt, corrosive gas and so on, it would cause the breakage and operation defectiveness.
4. We recommend to use the high quality regulator for pilot air control such as the precise regulator and Electronic-Pneumatic regulator.
5. Please do not use the regulator without the exhaust function. (The valve may not operate precisely)
6. Please leave the pilot air pressure off in case the valve is not used for long time.
7. The range of the flow rate differs with high viscosity fluid from the one for water. Please consult us in case of use of high viscosity fluid.
8. The valve is not suited to the use to the crystallizing nature fluid and Slurry.
9. Please use **AVHPRL** for the fluid that has passed filter.

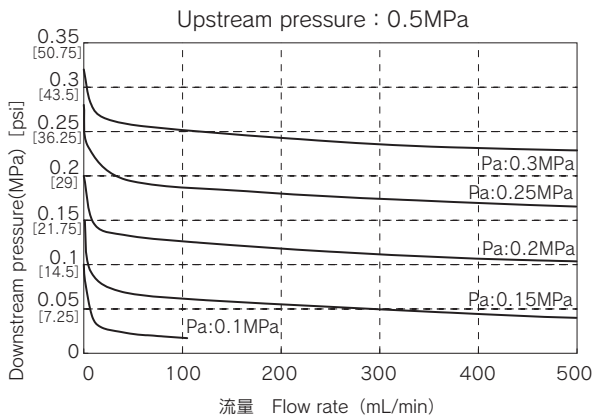
Upstream pressure - Downstream pressure



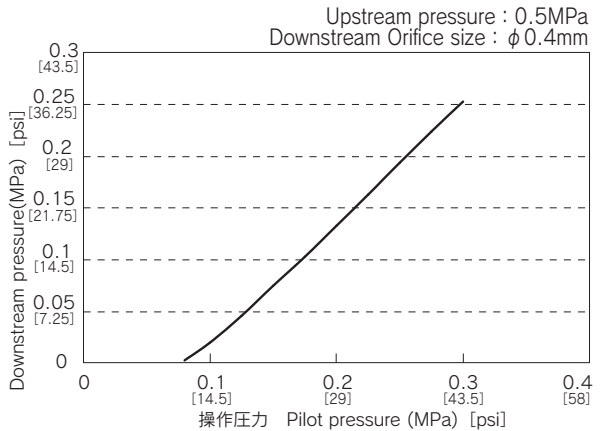
Upstream pressure - Flow rate



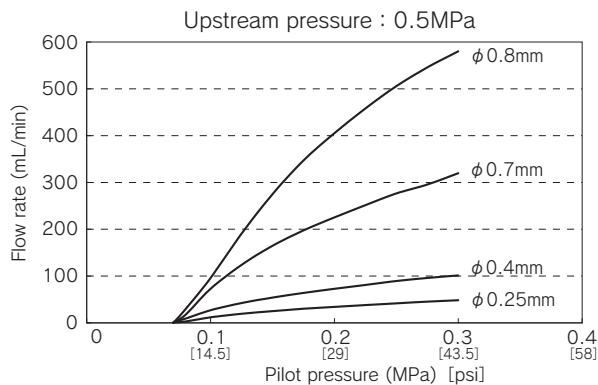
Flow rate - Downstream pressure



Pilot pressure - Downstream pressure



Pilot pressure - Flow rate



Orifice - Reference Flow Range

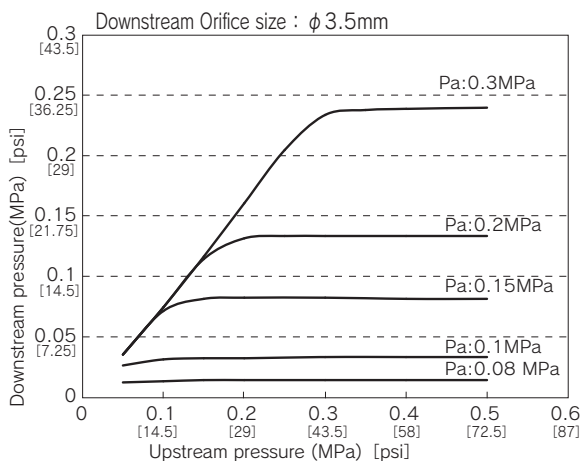
Orifice diameter (reference)	
Orifice (mm)	Flow rate (mL/min)
φ 0.25	10~ 50
φ 0.4	20~100
φ 0.7	65~330
φ 0.8	100~500

※ The data shown here is the experimental values and the reference values.

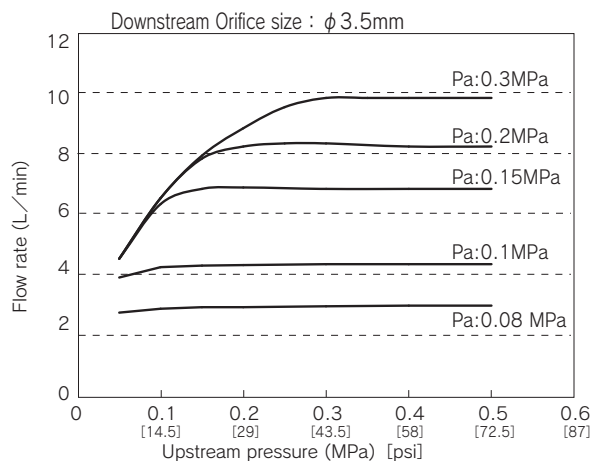
Technical Data

AVHPRMF <PTFE Body> Connection tubing size of test: 12.70×9.53

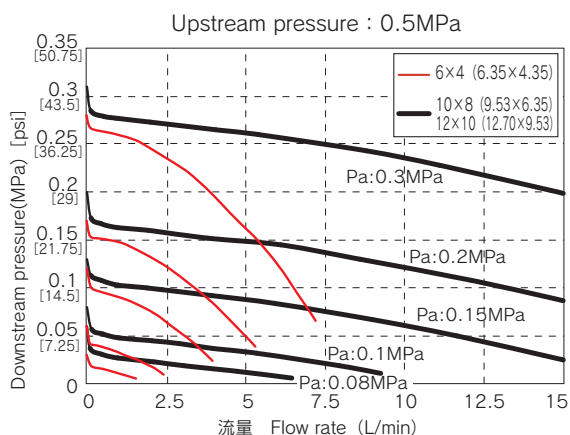
Upstream pressure - Downstream pressure



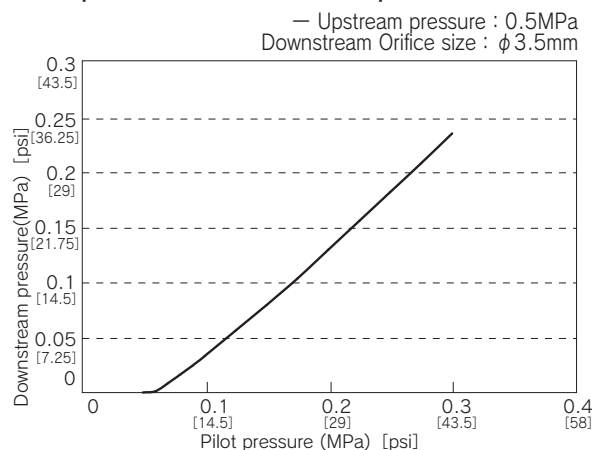
Upstream pressure - Flow rate



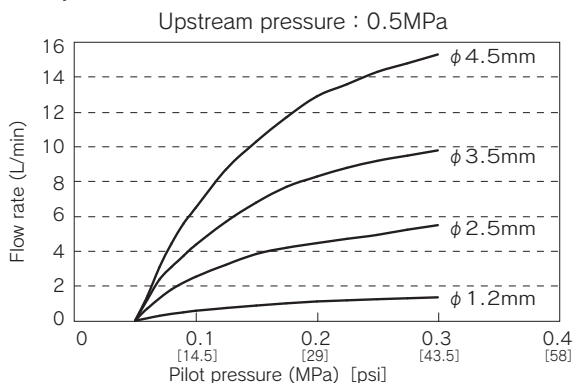
Flow rate - Downstream pressure



Pilot pressure - Downstream pressure



Pilot pressure - Flow rate



Orifice - Reference Flow Range

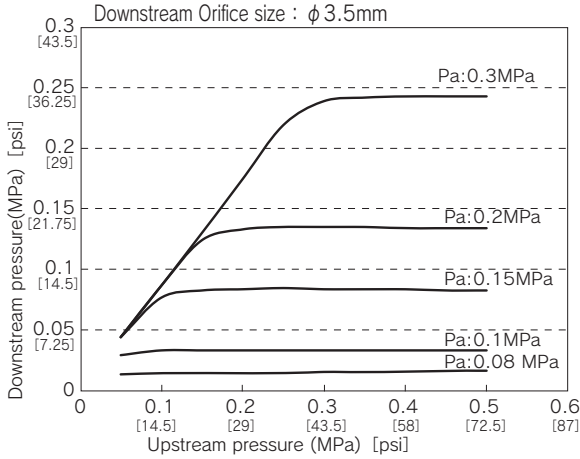
Orifice diameter (reference)	
Orifice (mm)	Flow rate (L/min)
φ 1.2	0.4 ~ 1.4
φ 2.5	1.8 ~ 5.5
φ 3.5	3.0 ~ 10.0
φ 4.5	4.5 ~ 15.0

※ The data shown here is the experimental values and the reference values.

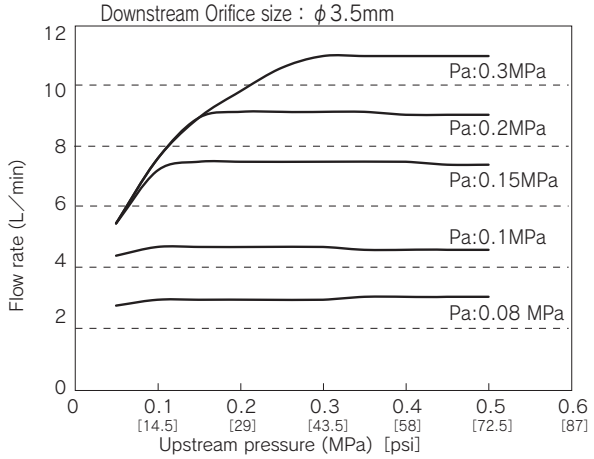
- AVPV3
- AVPVM
- AVPVS
- AVSDV
- AVSDVM
- AVSDVT
- AVSAS
- AVMPV
- AVDIV
- AVNVM
- AVHPR
- AVHPRM
- AVHPRS
- AVBPR
- AVCFV
- HDV12R
- HDVW
- AVQDV
- AVBVX
- AVPJX
- AVSIV
- AVFCS2
- AVFCN
- OTHER

AVHPRMF (PFA Body) Connection tubing size of test: 12.70×9.53

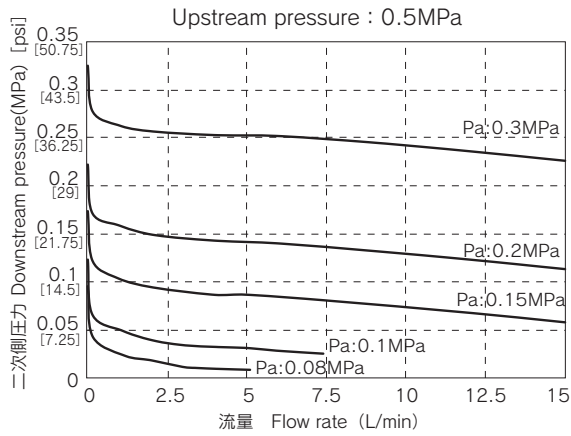
Upstream pressure - Downstream pressure



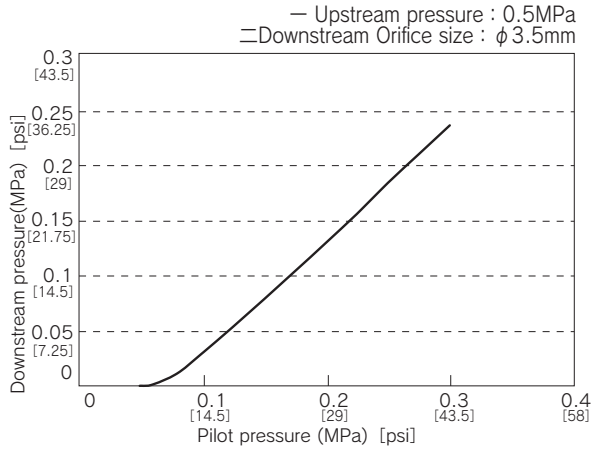
Upstream pressure - Flow rate



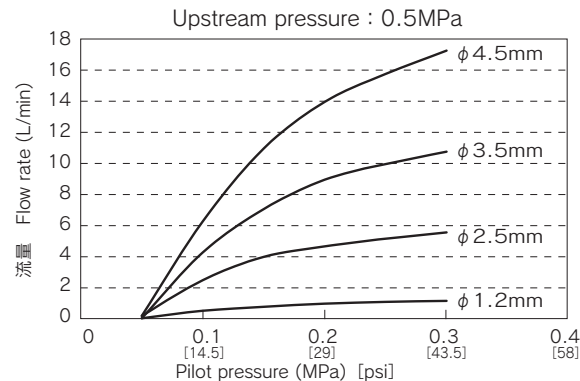
Flow rate - Downstream pressure



Pilot pressure - Downstream pressure



Pilot pressure - Flow rate



Orifice - Reference Flow Range

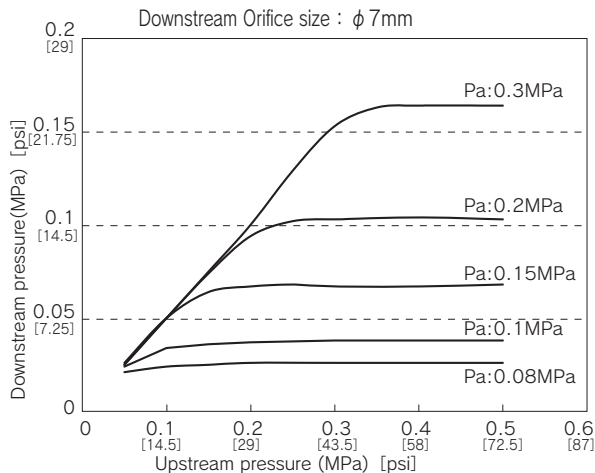
Orifice diameter (reference)	
Orifice (mm)	Flow rate (L/min)
φ 1.2	0.4 ~ 1.4
φ 2.5	1.8 ~ 5.5
φ 3.5	3.0 ~ 10.5
φ 4.5	4.5 ~ 17.0

※ The data shown here is the experimental values and the reference values.

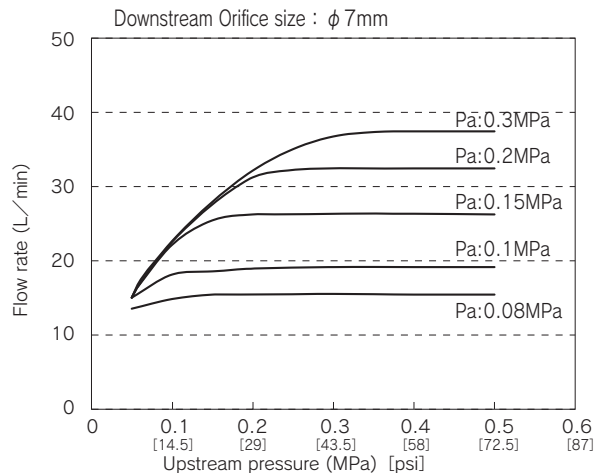
Technical Data

AVHPRHF (PTFE Body) Connection tubing size of test: 19.05×15.88

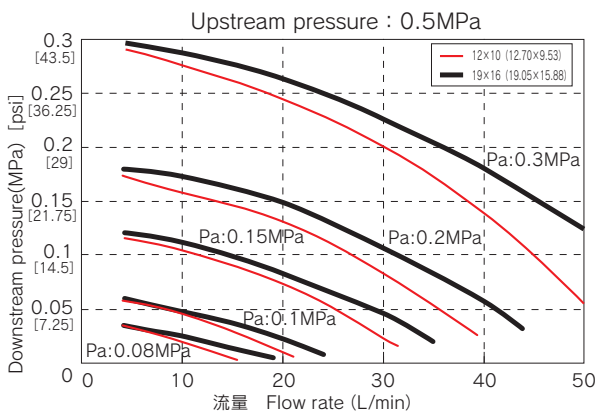
Upstream pressure - Downstream pressure



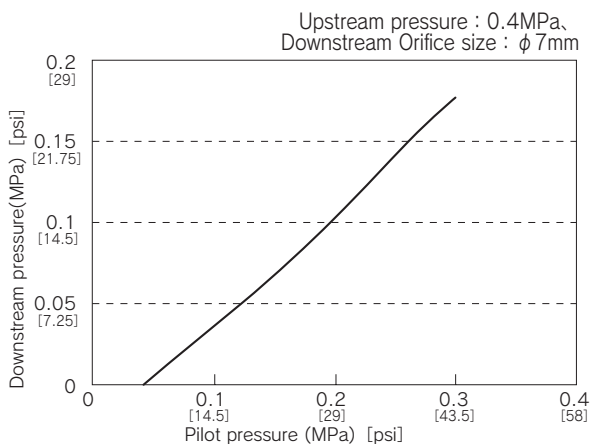
Upstream pressure - Flow rate



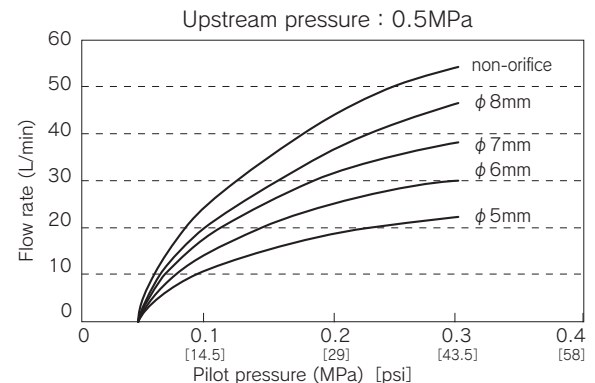
Flow rate - Downstream pressure



Pilot pressure - Downstream pressure



Pilot pressure - Flow rate



Orifice - Reference Flow Range

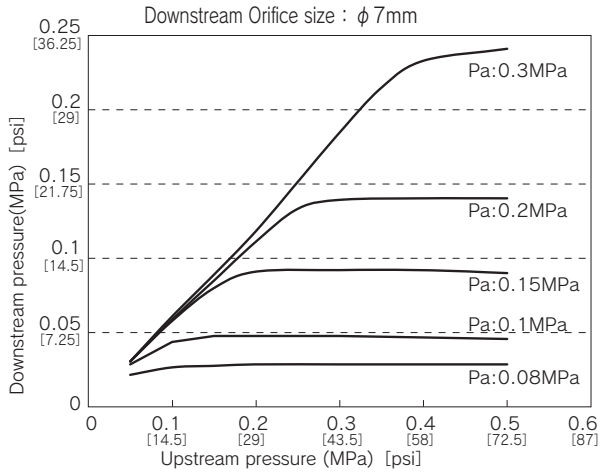
) Orifice diameter (reference)	
Orifice (mm)	Flow rate (L/min)
φ5	10~22
φ6	12.5~30
φ7	15.5~39
φ8	17.5~47
non-orifice	21~50

※ The data shown here is the experimental values and the reference values.

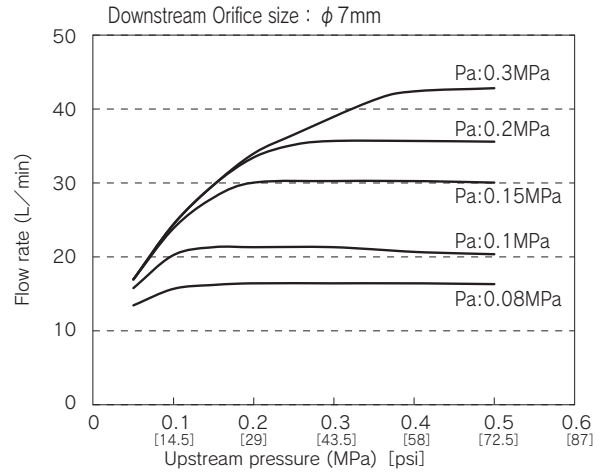
- AVPV3
- AVPVM
- AVPVS
- AVSDV
- AVSDVM
- AVSDVT
- AVSAS
- AVMPV
- AVDIV
- AVNVM
- AVHPR
- AVHPRM
- AVHPRS
- AVBPR
- AVCFV
- HDV12R
- HDVW
- AVQDV
- AVBVX
- AVPJX
- AVSIV
- AVFCS2
- AVFCN
- OTHER

AVHPRHF (PFA Body) Connection tubing size of test: 19.05×15.88

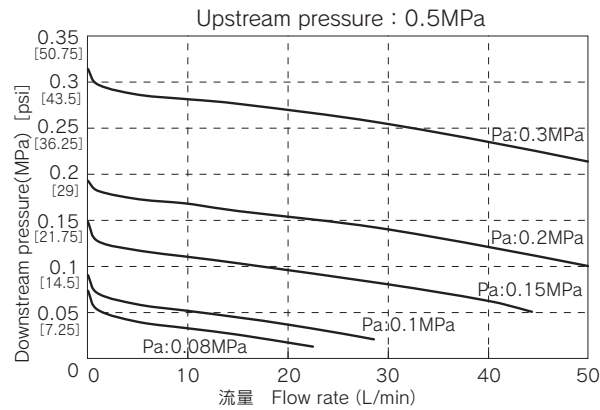
Upstream pressure - Downstream pressure



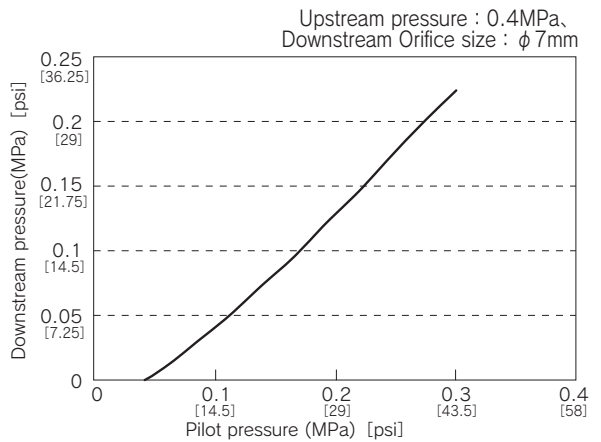
Upstream pressure - Flow rate



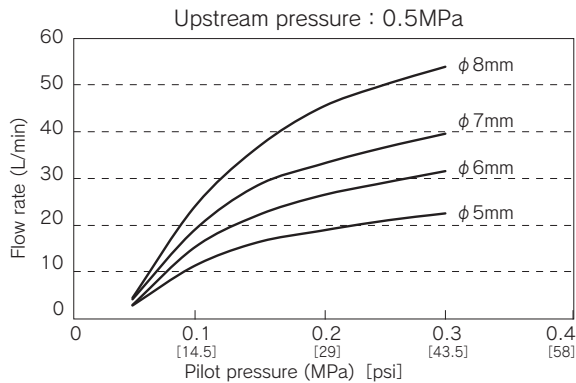
Flow rate - Downstream pressure



Pilot pressure - Downstream pressure



Pilot pressure - Flow rate



Orifice - Reference Flow Range

Orifice diameter (reference)	
Orifice (mm)	Flow rate (L/min)
ϕ 5	10~22
ϕ 6	12.5~30
ϕ 7	15.5~39
ϕ 8	17.5~53

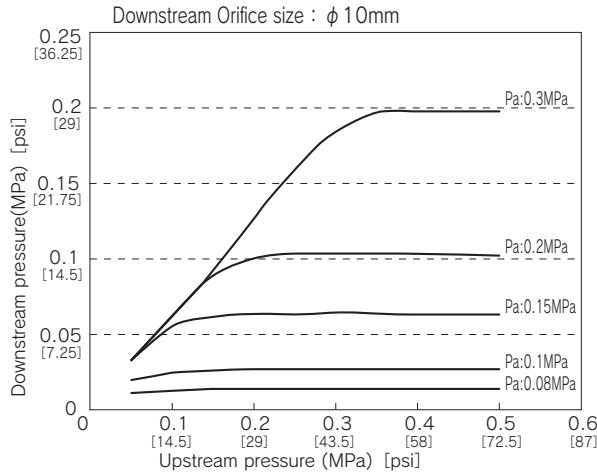
※ The data shown here is the experimental values and the reference values.

Technical Data

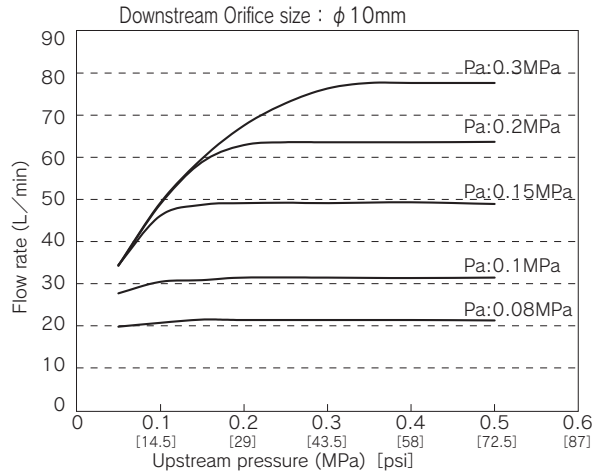
AVHPRSHF

Connection tubing size of test: 25.40×22.20

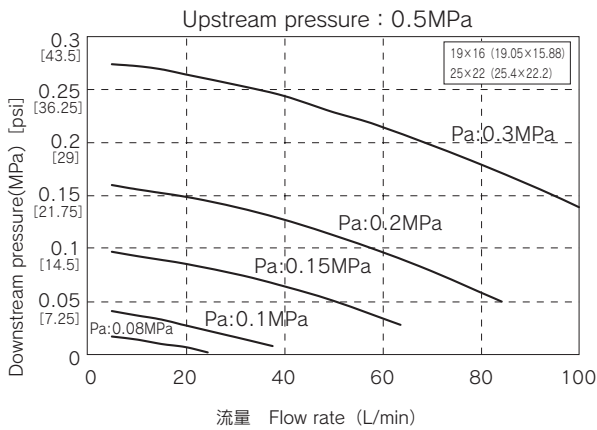
Upstream pressure - Downstream pressure



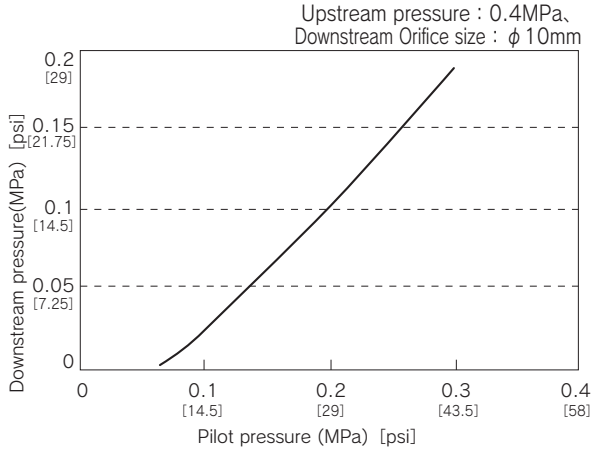
Upstream pressure - Flow rate



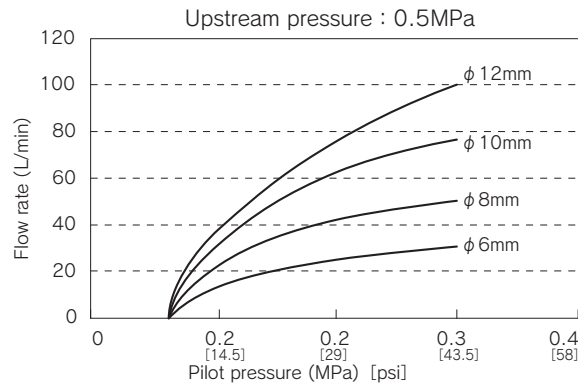
Flow rate - Downstream pressure



Pilot pressure - Downstream pressure



Pilot pressure - Flow rate



Orifice - Reference Flow Range

Orifice diameter (reference)	
Orifice (mm)	Flow rate (L/min)
ϕ 6	8~31
ϕ 8	15~51
ϕ 10	20~76
ϕ 12	25~100

※ The data shown here is the experimental values and the reference values.

- AVPV3
- AVPVM
- AVPVS
- AVSDV
- AVSDVM
- AVSDVT
- AVSAS
- AVMPV
- AVDIV
- AVWVM
- AVHPR
- AVHPRM
- AVHPRS
- AVBPR
- AVCFV
- HDV12R
- HDVVM
- AVQDV
- AVBVX
- AVPJX
- AVSIV
- AVFCS2
- AVFCN
- OTHER

AVHPRL-M

定圧弁手動タイプ Regulator manual type

Specialty Valves and Control Products **Dymatrix™**



Easy Operation

Since the downstream pressure characteristic is Linear, it is easy to adjust the downstream pressure.

Excellent stability

A stable flow rate can be easily and quickly obtained by operating the handle.

Specifications

項目	Items	Unit	Type	
			MF	SHF
流体温度	Medium Temperature	°C	10 ~ 90	
構造耐圧	Proof Pressure	MPa	0.9 130.5psi	
使用圧力範囲	Working Pressure range	MPa	0.1 ~ 0.5 14.5 ~ 72.5psi	
周囲温度	Ambient Temperature	°C	10 ~ 60	
取付姿勢	Installation direction	—	Any direction	
接続	Connection	—	Flowell 20 series Flowell 60 series Super Type Pillar Fitting Super 300 Type Pillar Fitting Flare Type Tube	
接続口径	Connection tubing size	mm	6 × 4 (6.35 × 4.35) 10 × 8 (9.53 × 6.35) 12 × 10 (12.70 × 9.53)	19 × 16 (19.05 × 15.88) 25 × 22 (25.40 × 22.20)
参考流量範囲	Reference Flow Range	L/min	0.4 ~ 15	
精度※	Accuracy	%	± 5%(F.S.) ± 5%(F.S.) or below	± 8%(F.S.) ± 8%(F.S.) or below
重量	Weight	Kg	0.56 1.80	

※ Accuracy depends on the operating pressure in the upstream side under the condition that the pressure in the downstream side does not change.

Ordering Code

AVHPR

① Type	
MF	Medium Flow
SHF	Super High Flow

② Actuation *1	
P	Manual (Push-lock)
M	Manual

Body materials	
T	PTFE

③ Connection	
2	Flowell 20 series
6	Flowell 60 series
S	Super Type Pillar Fitting
3	Super 300 Type Pillar Fitting
F *2	Flare Type
T *3	Tube

④ Tubing standard	
M	Millimeter
I	Inch

Mounting		
0	Thread at bottom	
1	Baseplate	
	Direction 1	
2	Baseplate	
	Direction 2	
3	Attached parts	

⑥ Mountnut	
0 *4	off
1	on

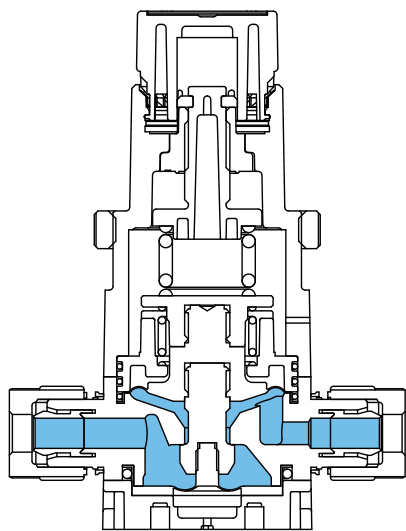
⑦ Chemical-resistant *5			
	O-ring *6	Metal Coating	
V	FKM	0	x
		1	○
E	EPDM	0	x
		1	○
F	KUREHA *7 Viflon F	0	x
		1	○
K	Kalrez *6190	0	x
		1	○

⑧ Connection tubing size			
06	6× 4	6.35× 4.35	MF
10	10× 8	9.53× 6.35	
12	12×10	12.70× 9.53	
19	19×16	19.05×15.88	SHF
25	25×22	25.40×22.20	

- *1 : In the case of Type "MF", only "P" can be selected for the "Actuation".
In the case of Type "SHF", only "M" can be selected for the "Actuation".
- *2 : In the case of the connection is "F", only "I (Inch)" can be selected for the "Tubing Standard".
- *3 : Please refer to page 105 for diameter of "Tube".
- *4 : In the case of Type "SHF", only "0" can be selected for the "Mountnut".
- *5 : Please consult us for the specification if the medium is a strong chemical, strong acid etc.
- *6 : O-rings are not wetted.
- *7 : "Viflon" is the Terpolymerization Fluorocarbon Elastomers.

Ordering code example
AVHPRMF-PT3M20E012
AVHPRSHF-MTSI31F125

Parts & Materials

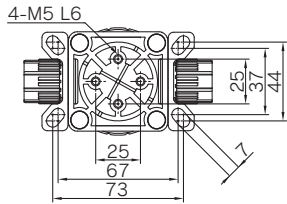
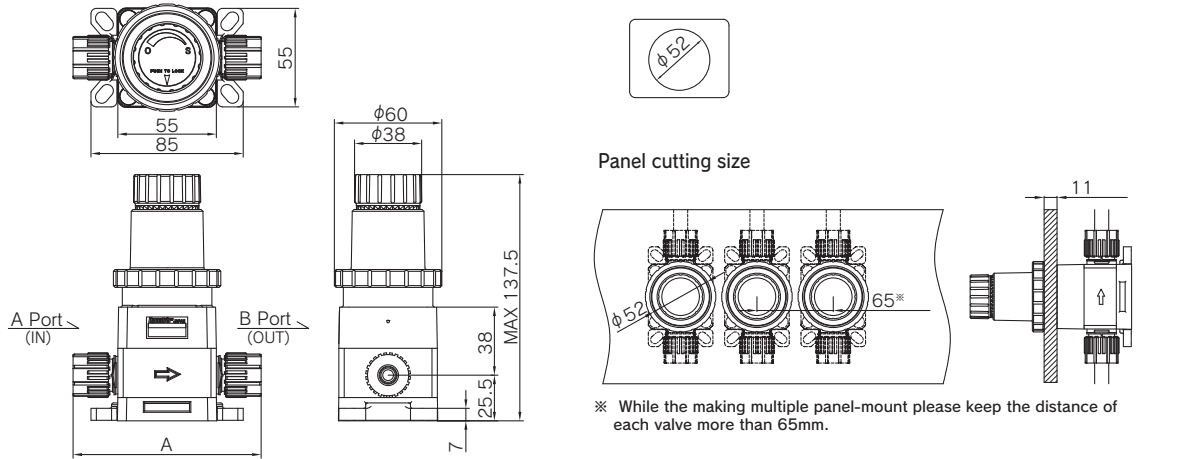


Parts	Chemical-resistant		Wetted parts
	0	1	
Body	PTFE		○
Diaphragm	PTFE		○
Actuator	PP / PVDF		
O-ring	FKM / EPDM / KUREHA *7 Viflon F / Kalrez *6190		
Metal parts	SUS304	SUS304 PTFE Coating	

- AVPV3
- AVPVM
- AVPVS
- AVSDV
- AVSDVM
- AVSDVT
- AVSAS
- AVMPV
- AVDIV
- AVVM
- AVHPR
- AVHRL-M
- AVHPRS
- AVBPR
- AVCFV
- HDV12R
- HDVM
- AVQDV
- AVBVX
- AVPJX
- AVSIV
- AVFCS2
- AVFCN
- OTHER

Dimensions

AVHPRMF-P



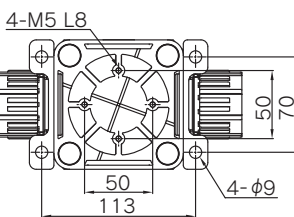
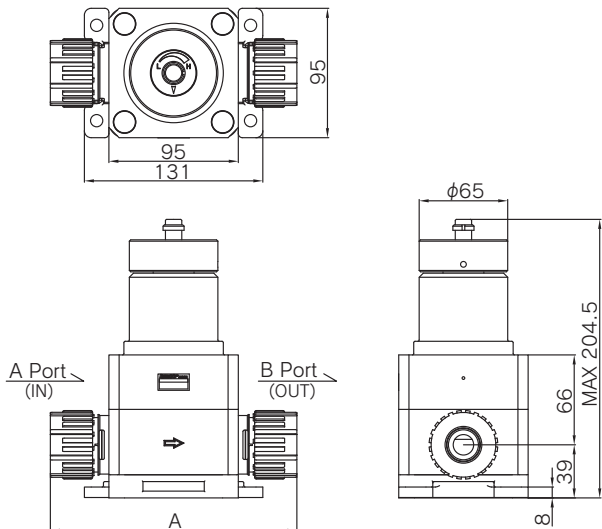
Base Plate

		Size			
		6×4	10×8	12×10	
A	Standard	6.35×4.35	9.53×6.35	12.70×9.53	
	Flowell 20 series	inch	91	100	108
		mm	89	97	105
	Flowell 60 series	inch	117	133	133
		mm	115	129	129
	Super Type Pillar Fitting	inch/mm	94	108	115
Super 300 Type Pillar Fitting	inch/mm	93	105	113	
Flare Type	inch	111	117	121	
Tube	inch/mm	115	115	115	

Unit) : mm

※ Reference values

AVHPRSHF-M



Base Plate

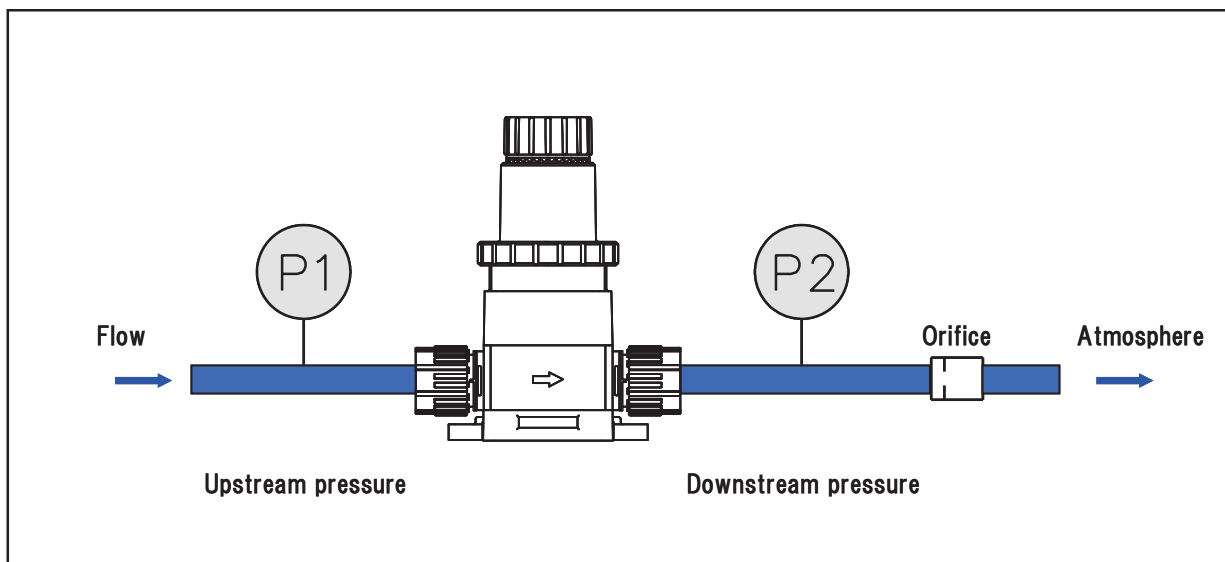
		Size		
		19×16	25×22	
A	Standard	19.05×15.88	25.40×22.20	
	Flowell 20 series	inch	157	179
		mm	157	179
	Flowell 60 series	inch	183	197
		mm	183	194
	Super Type Pillar Fitting	inch/mm	174	185
Super 300 Type Pillar Fitting	inch/mm	167	181	
Flare Type	inch	171	189	
Tube	inch/mm	175	175	

(Unit) : mm

※ Reference values

Technical Data

Test line



Test condition

1. The characteristic graph shows the data in the case of horizontal piping.
2. The test temperature is 23°C.
3. The characteristic graph is by connection tubing size mentioned in each graph.
4. The data in the characteristic graph are the experiment value and the reference value.

Cautions for use

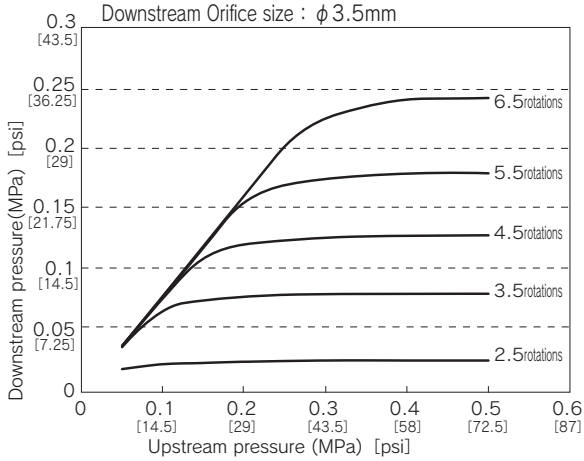
1. Please install a constriction such as the orifice at downstream side for proper flow control.
2. Please do not use the **AVHPRI-M** in negative pressure. (It would cause the breakage of the valve)
3. The range of the flow rate differs with high viscosity fluid from the one for water. Please consult us in case of use of high viscosity fluid.
4. The valve is not suited to the use to the crystallizing nature fluid and Slurry.
5. Please use **AVHPRI-M** for the fluid that has passed filter.

AVPV3
AVPVM
AVPVS
AVSDV
AVSDVM
AVSDVT
AVSAS
AVMPV
AVDIV
AVVM
AVHPR
AVHPRL-M
AVHPRS
AVBPR
AVCFV
HDV12R
HDVM
AVQDV
AVBVX
AVPJX
AVSIV
AVFCS2
AVFCN
OTHER

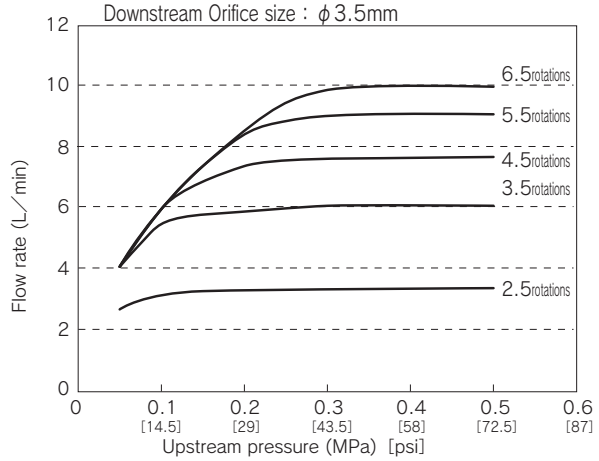
AVHPRMF-P

Connection tubing size of test:12.70×9.53

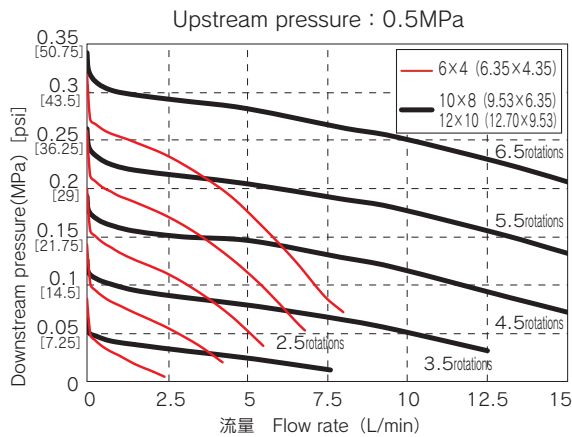
Upstream pressure - Downstream pressure



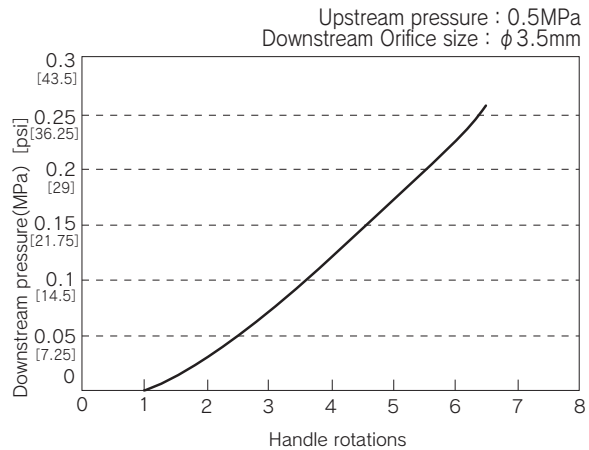
Upstream pressure - Flow rate



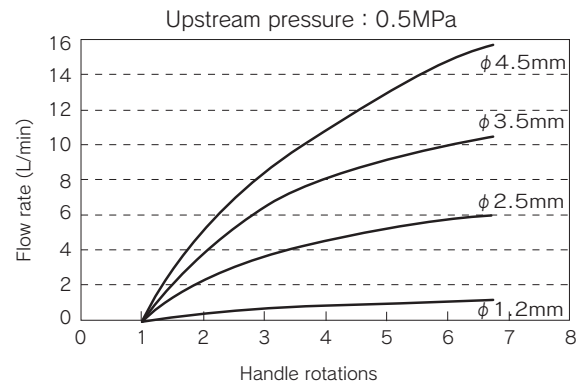
Flow rate - Downstream pressure



Handle rotation - Downstream pressure



Handle rotation - Flow rate



Orifice - Reference Flow Range

Orifice diameter (reference)	
Orifice (mm)	Flow rate (L/min)
φ 1.2	0.4 ~ 1.4
φ 2.5	1.8 ~ 5.5
φ 3.5	3.0 ~ 10.0
φ 4.5	4.5 ~ 15.0

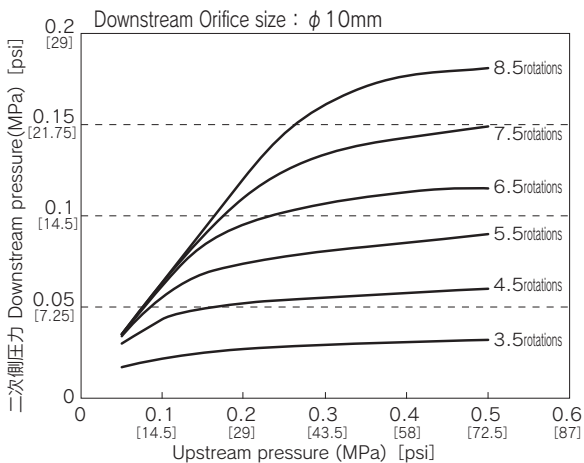
※ The data shown here is the experimental values and the reference values.

Technical Data

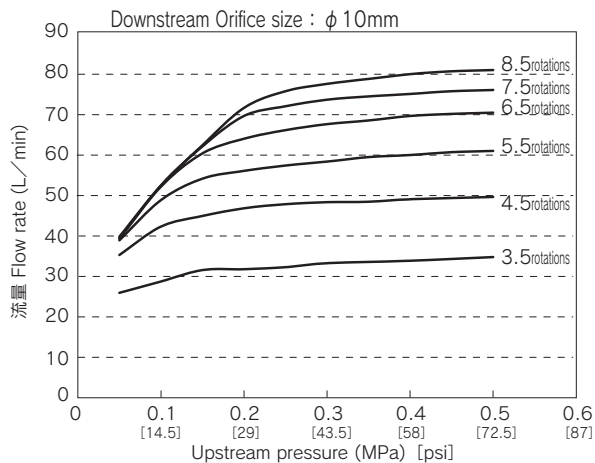
AVHPRSHF-M

Connection tubing size of test: 25.40×22.20

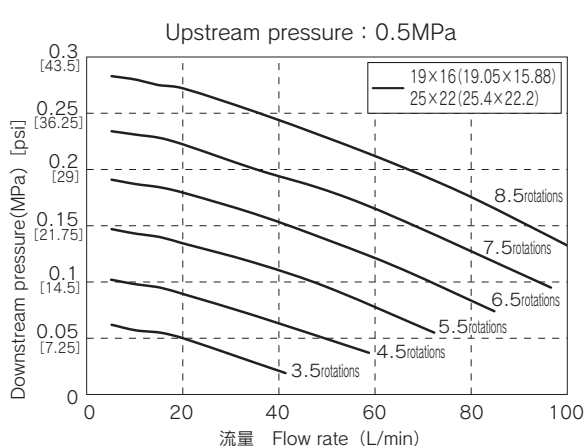
Upstream pressure - Downstream pressure



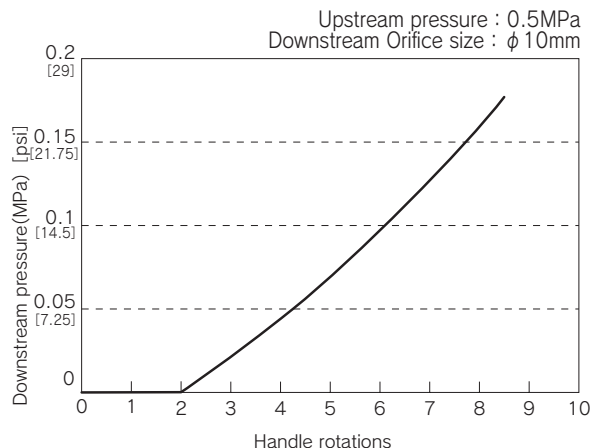
Upstream pressure - Flow rate



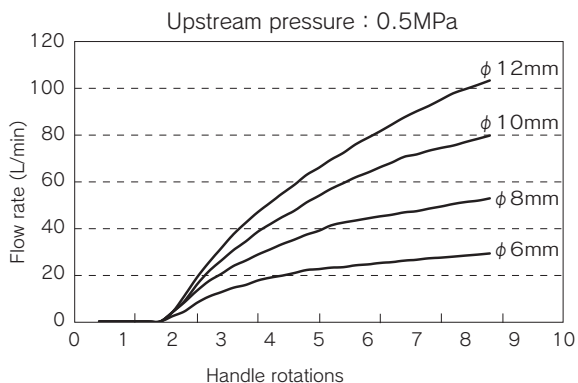
Flow rate - Downstream pressure



Handle rotation - Downstream pressure



Handle rotation - Flow rate



Orifice - Reference Flow Range

Orifice diameter (reference)	
Orifice (mm)	Flow rate (L/min)
φ6	15 ~ 31
φ8	25 ~ 51
φ10	34 ~ 76
φ12	42 ~ 100

※ The data shown here is the experimental values and the reference values.

- AVPV3
- AVPVM
- AVPVS
- AVSDV
- AVSDVM
- AVSDVT
- AVSAS
- AVMPV
- AVDIV
- AVWVM
- AVHRL
- AVHRL-M
- AVHPRS
- AVBPR
- AVCFV
- HDV12R
- HDVVM
- AVQDV
- AVBVX
- AVPJX
- AVSIV
- AVFCS2
- AVFCN
- OTHER

AVHPRS

定圧弁スラリー用 Regulator for slurry

Specialty Valves and Control Products **Dymatrix™**



Simple Structure

The valve has a proprietary simple structure. There is almost no influence to the particle size even with the highly coherent fluid such as slurry solution. It also can be used for DI water or chemicals.

Specifications

項目	Items	Unit	Type	
			50	60
流体温度	Medium Temperature	°C	10 ~ 50	
構造耐圧	Proof Pressure	MPa	0.5 72.5psi	
使用圧力範囲	Working Pressure range	MPa	Pilot Pressure +0.03 ~ 0.3 (+4.35 ~ 43.5psi)	
最高設定圧力	Max. setting pressure	MPa	0.1 1.45psi	
周囲温度	Ambient Temperature	°C	10 ~ 50	
取付姿勢	Installation direction	—	Any direction	
接続	Connection	—	Flowell 20 series Flowell 60 series Super Type Pillar Fitting Super 300 Type Pillar Fitting Flare Type Tube	
接続口径	Connection tubing size	mm	6×4(6.35×3.95)	10×8(9.53×6.35), 12×10(12.70×9.53)
参考流量範囲	Reference Flow Range	L/min	0.05 ~ 0.50	0.05 ~ 3.0
精度	Accuracy	—	±5%F.S. Accuracy of flow rate when the range of inlet pressure is from minimum working pressure to 0.3MPa, and there is no back pressure change.	
重量	Weight	kg	0.3	0.5
Pilot	Pilot pressure	MPa	0.03 ~ 0.1 Open control · Feed back control	
	Pilot port	—	Rc1/8" , FNPT1/8"	
	Tighten the torque	N · m	0.2 ~ 0.4	

Cautions for Use

1. Please install the shut-off valve at upstream side of AVHPRS. (Otherwise it would cause breakage of the valve)
2. Please use the AVHPRS with the downstream side opened to atmosphere.
3. Please install a constriction such as the orifice at downstream side for proper flow control.
4. Please do not use the AVHPRS in negative pressure. (It would cause the breakage of the valve)
5. Please use CDA for pilot air. In case the pilot air contains foreign substance, such as chemicals, synthetic oil contains organic solvent, salt, corrosive gas and so on, it would cause the breakage and operation defectiveness.
6. We recommend to use the high quality regulator for pilot air control such as the precise regulator and Electronic-Pneumatic regulator.
7. Please do not use the regulator without the exhaust function. (The valve may not operate precisely)
8. Please leave the pilot air pressure off in case the valve is not used for long time.
9. The range of the flow rate differs with high viscosity fluid from the one for water. Please consult us in case of use of high viscosity fluid.
10. The valve is not suited to the use to the crystallizing nature fluid.
11. Please use AVHPRS for the fluid that has passed filter.

Ordering Code

AVHPR ① - **T** ② ③ ④ ⑤ ⑥ - ⑦

①	Type
50	50
60	60

Body materials	
T	PTFE

②	Connection tubing size			
06	6×4	6.35×4.35	□50	
10	10×8	9.53×6.35	□60	
12	12×10	12.70×9.53		

③	Tubing standard
M	Millimeter
I	Inch

④	Connection
2	Flowell 20 series
6	Flowell 60 series
S	Super Type Pillar Fitting
3	Super 300 Type Pillar Fitting
F ^{※3}	Flare Type
T ^{※4}	Tube

⑤	O-ring ^{※1}
V	FKM
E	EPDM
F	キヤノン [®] F <i>Viflon[®]F</i> ^{※2}
K	Kalrez [®] 6190

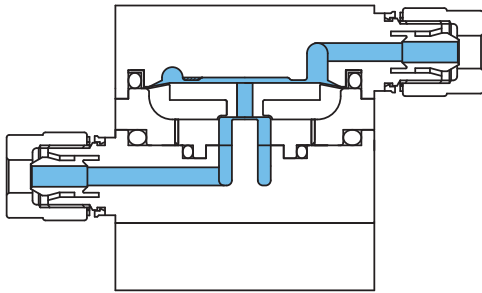
⑥	Mounting
0	Thread at bottom
1	Base plate

⑦	Pilot port
n/a	Rc 1/8"
N	FNPT 1/8"

※1: O-rings are not wetted.
 ※2: "Viflon" is the Terpolymerization FluorocarbonElastomers.
 ※3: In the case of the connection is "F", only "1 (inch)" can be selected for the "Tubing Standard".
 ※4: Please refer to page 105 for diameter of "Tube"

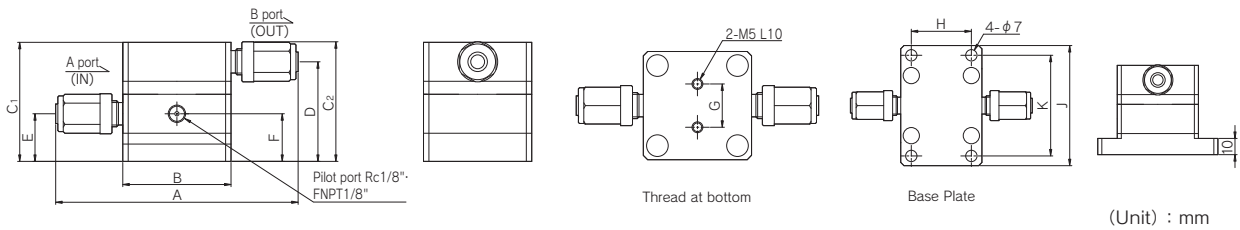
Ordering code example
 AVHPR50-T06I3V0
 AVHPR50-T06I3V0-N

Parts & Materials



Parts	Material	Wetted parts
Body	PTFE	○
Diaphragm	PTFE	○
Actuator	PP	
O-ring	FKM / EPDM / キヤノン [®] F <i>Viflon[®]F</i> / Kalrez [®] 6190	
Metal parts	SUS304	

Dimensions



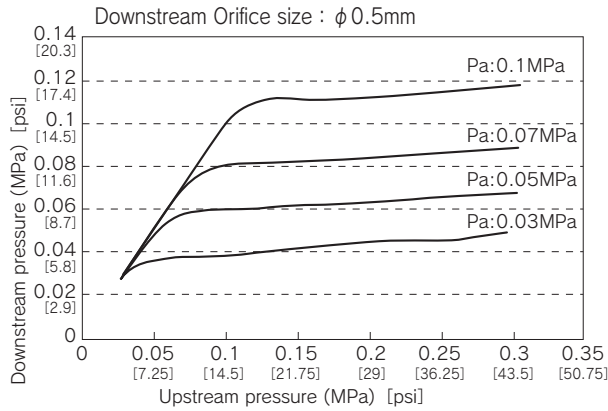
Type	Tube size	Standard	Connection [※]	Dimension											
				A	B	C ₁	C ₂	D	E	F	G	H	J	K	
50	6×4 6.35×4.35	inch	2	86	50	55	56	—	46	22	21	20	37	74	62
		mm	6	84				—							
		inch	S	89				56							
		mm	3	112				56							
	10×8 9.53×6.35	inch/mm	F	106				55							
		inch/mm	T	110				58							
		inch	2	105				—							
		mm	6	102				—							
60	10×8 9.53×6.35	inch	6	138	60	70	71	—	57.5	25.5	25.5	25	42	84	72
		mm	S	134				—							
		inch/mm	3	113				71							
		inch/mm	F	110				71							
	12×10 12.70×9.53	inch/mm	T	102				71							
		inch	2	113				—							
		mm	6	110				73							
		inch	6	138				73							
12×10 12.70×9.53	mm	S	134	72											
	inch/mm	3	120	72											
	inch/mm	F	118	74											
	inch/mm	T	126	72											

※ Please refer to Ordering Code the symbols of the connection methods.
 ※ Reference values

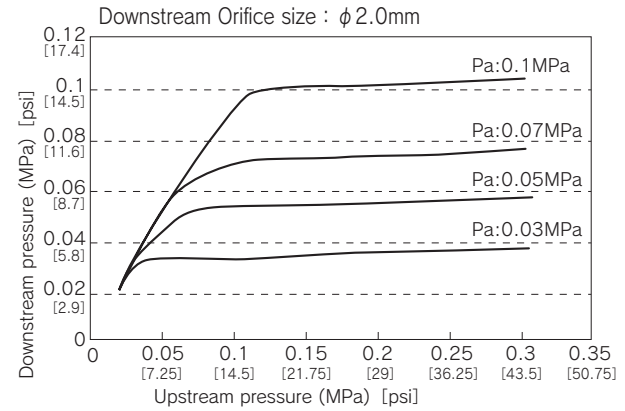
- AVPV3
- AVPVM
- AVPVS
- AVSDV
- AVSDVM
- AVSDVT
- AVSAS
- AVMPV
- AVDIV
- AVWM
- AVHPR
- AVHPRM
- AVHPRN
- AVHPRS
- AVBPR
- AVCFV
- HDV12R
- HDVM
- AVQDV
- AVBVX
- AVPJX
- AVSIV
- AVFCS2
- AVFCN
- OTHER

Upstream pressure - Downstream pressure

AVHPR50

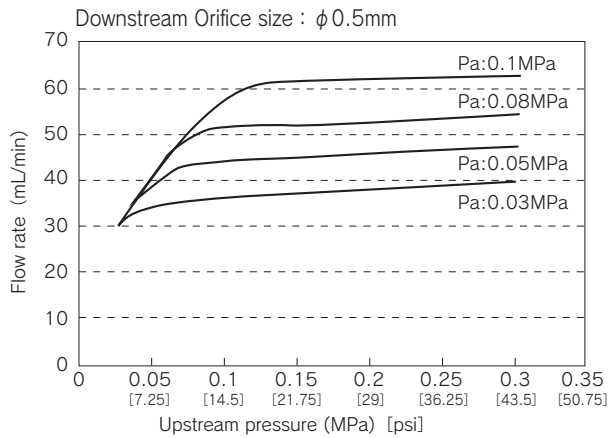


AVHPR60

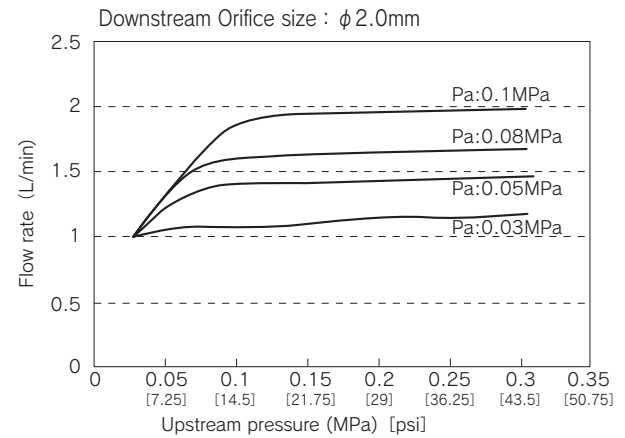


Upstream pressure - Flow rate

AVHPR50

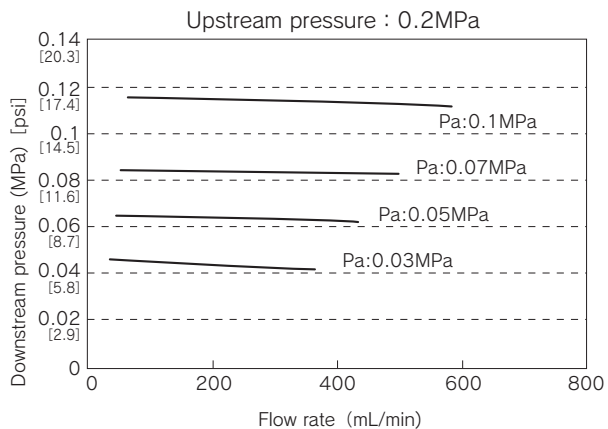


AVHPR60

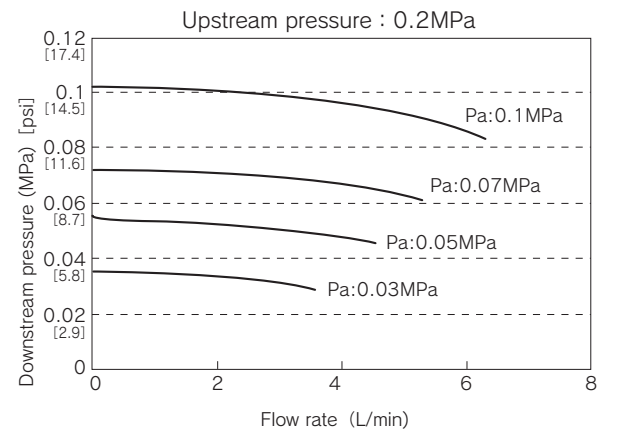


Flow rate - Downstream pressure

AVHPR50



AVHPR60



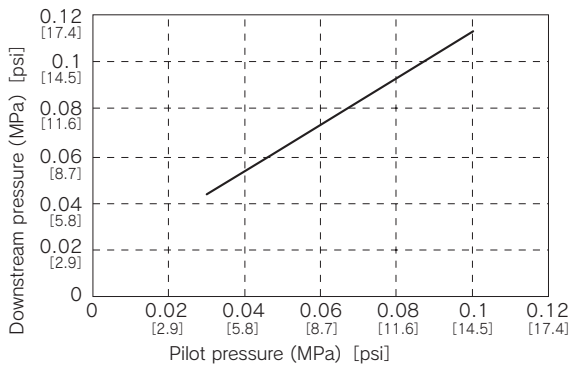
※ The data shown here is the experimental values and the reference values.

Technical Data

Pilot pressure - Downstream pressure

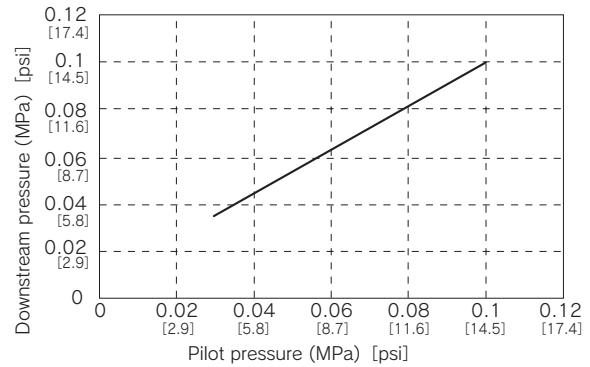
AVHPR50

Upstream pressure : 0.2MPa,
Downstream Orifice size : ϕ 0.5mm



AVHPR60

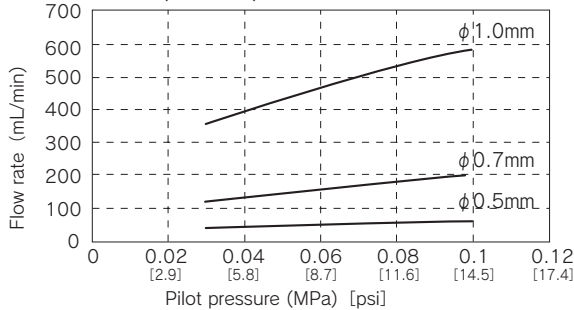
Upstream pressure : 0.2MPa,
Downstream Orifice size : ϕ 1.5mm



Pilot pressure - Flow rate

AVHPR50

Upstream pressure : 0.2MPa

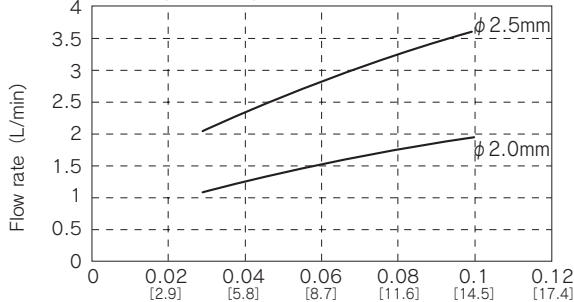


Orifice - Reference Flow Range

Orifice diameter (reference)	
Orifice (mm)	Flow rate (mL/min)
ϕ 0.5	35 ~ 60
ϕ 0.6	70 ~ 115
ϕ 0.7	120 ~ 200
ϕ 0.8	170 ~ 290
ϕ 0.9	250 ~ 420
ϕ 1.0	360 ~ 580

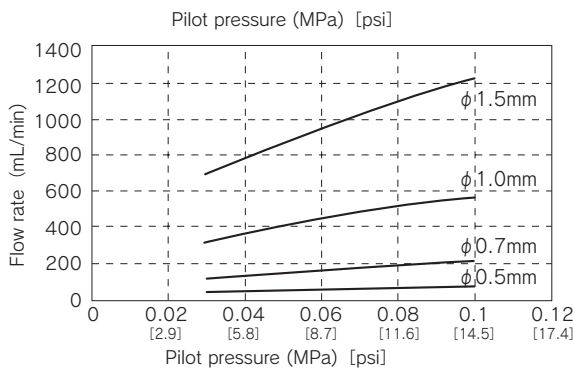
AVHPR60

Upstream pressure : 0.2MPa



Orifice - Reference Flow Range

Orifice diameter (reference)	
Orifice (mm)	Flow rate (L/min)
ϕ 1.0	0.3 ~ 0.55
ϕ 1.2	0.5 ~ 0.8
ϕ 1.4	0.6 ~ 1.0
ϕ 1.6	0.8 ~ 1.3
ϕ 1.8	0.95 ~ 1.6
ϕ 2.0	1.1 ~ 1.9
ϕ 2.5	2.0 ~ 3.0



Orifice - Reference Flow Range

Orifice diameter (reference)	
Orifice (mm)	Flow rate (mL/min)
ϕ 0.5	40 ~ 71
ϕ 0.6	72 ~ 130
ϕ 0.7	120 ~ 210
ϕ 0.8	175 ~ 310
ϕ 0.9	240 ~ 430

The data shown here is the experimental values and the reference values.

- AVPV3
- AVPVM
- AVPVS
- AVSDV
- AVSDVM
- AVSDVT
- AVSAS
- AVMPV
- AVDIV
- AVVM
- AVHRL
- AVHRL-M
- AVHPRS
- AVBPR
- AVCFV
- HDV12R
- HDVM
- AVQDV
- AVBVX
- AVPJX
- AVSIV
- AVFCS2
- AVFCN
- OTHER

AVBPR

背压弁 Back Pressure Regulator

Specialty Valves and Control Products **Dymatrix™**



Excellent stability

This product stabilizes medium pressure of the main line with fast response.

Specifications

項目	Items	Unit	Type	
			HF	
接続口径	Connection tubing size	mm	12×10, 12.70×9.53	19×16, 19.05×15.88
作動	Actuation	—	Air to Close	
流体温度	Medium Temperature	℃	10 ~ 90 ※ Please consult us in case you need the valve for High Temp (10 ~ 200℃).	
構造耐圧	Proof Pressure	MPa	0.9 130.5psi	
使用圧力範囲	Working Pressure range	MPa	0.1 ~ 0.25 (14.5 ~ 36.25psi)	0.1 ~ 0.3 (14.5 ~ 43.5psi)
背圧	Back Pressure	MPa	0 ~ 0.05 (0 ~ 7.25psi)	
周囲温度	Ambient Temperature	℃	10 ~ 60	
取付姿勢	Installation direction	—	Any direction	
接続	Connection	—	Flowell 20 series Flowell 60 series Super Type Pillar Fitting Super 300 Type Pillar Fitting Flare Type Tube	
参考流量範囲	Reference Flow Range	L/min	5 ~ 15	5 ~ 30
精度	Accuracy	—	Within 20kPa of upstream pressure variations, when a flow rate varies 5L/min in the reference flow rate range of 13 L/min. (When the upstream pressure is set at 200kPa)	Within 15kPa of upstream pressure variations, when a flow rate varies 10L/min in the reference flow rate range of 5 - 30 L/min. (When the upstream pressure is set at 200kPa)
重量	Weight	kg	0.9	1.0
Pilot	Pilot pressure	MPa	0.1 ~ 0.25 14.5 ~ 36.25psi	0.1 ~ 0.3 14.5 ~ 43.5psi
	Pilot air consumption	L/times(ANR)	0.27 ※ 1	0.32 ※ 2
	Pilot port	—	Rc1/8" , FNPT1/8"	

※ 1. The pilot air consumption is the value at 0.25 MPa.

※ 2. The pilot air consumption is the value at 0.3 MPa.

Ordering Code

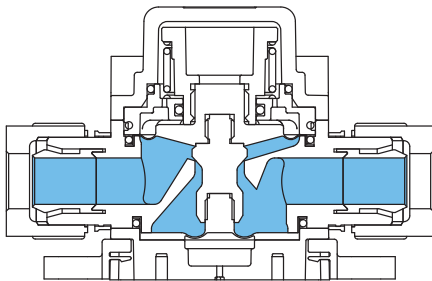
AVBPR HF - S ① ② ③ ④ ⑤ ⑥ ⑦ ⑧

Type	HF High Flow
Actuation	S Air to close
① Body materials	A ※1 ※2 PFA T PTFE
② Connection	2 Flowell 20 series 6 Flowell 60 series S Super Type Pillar Fitting 3 Super 300 Type Pillar Fitting F ※3 Flare Type T ※4 Tube
③ Tubing standard	M Millimeter I Inch
④ Mounting	0 Thread at bottom 1 Base plate (Direction1) 2 Base plate (Direction2) 3 Attached parts
⑤ Pilot port	R Rc 1/8" N FNPT 1/8"
⑥ Pilot port connection	0 (Standard) 1 2 3 4 Direction 0 horizontal 5 Direction 1 horizontal 6 Direction 2 horizontal 7 Direction 3 horizontal
⑦ Chemical-resistant ※5	O-ring ※6 Metal Coating V 0 1 FKM E 0 EPDM 1 F 0 株式会社 Viflon F ※7 1 K 0 Kalrez® 6190 1
⑧ Connection tubing size	12 12×10 12.70× 9.53 HF 19 19×16 19.05×15.88

- ※1: In the case of Body material "A", only "3" can be selected for the "Connection".
- ※2: In the case of Body material "A", only "19(HF)" can be selected for the "Connection Tubing Size".
- ※3: In the case of the connection is "F", only "I (Inch)" can be selected for the "Tubing Standard".
- ※4: Please refer to page 105 for diameter of "Tube".
- ※5: Please consult us for the specification if the medium is a strong chemical, strong acid etc.
- ※6: O-rings are not wetted.
- ※7: "Viflon" is the Terpolymerization Fluorocarbon Elastomers.

Ordering code example
AVBPRHF-ST311R0V012
AVBPRHF-SA311R0V019

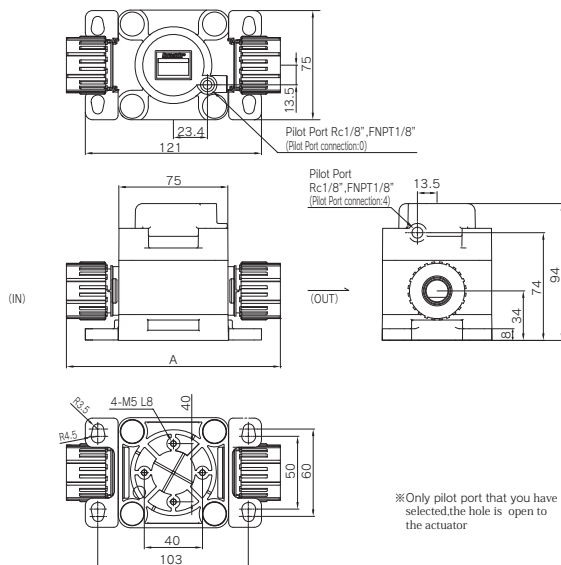
Parts & Materials



Parts	Chemical-resistant		Wetted parts
	0	1	
Body	PFA or PTFE		○
Diaphragm	PTFE		○
Actuator	PVDF		
O-ring	FKM / EPDM / 株式会社 Viflon F / Kalrez® 6190		
Metal parts	SUS304	SUS304 PTFE Coating	

Dimensions

AVBPRHF



※Only pilot port that you have selected, the hole is open to the actuator.

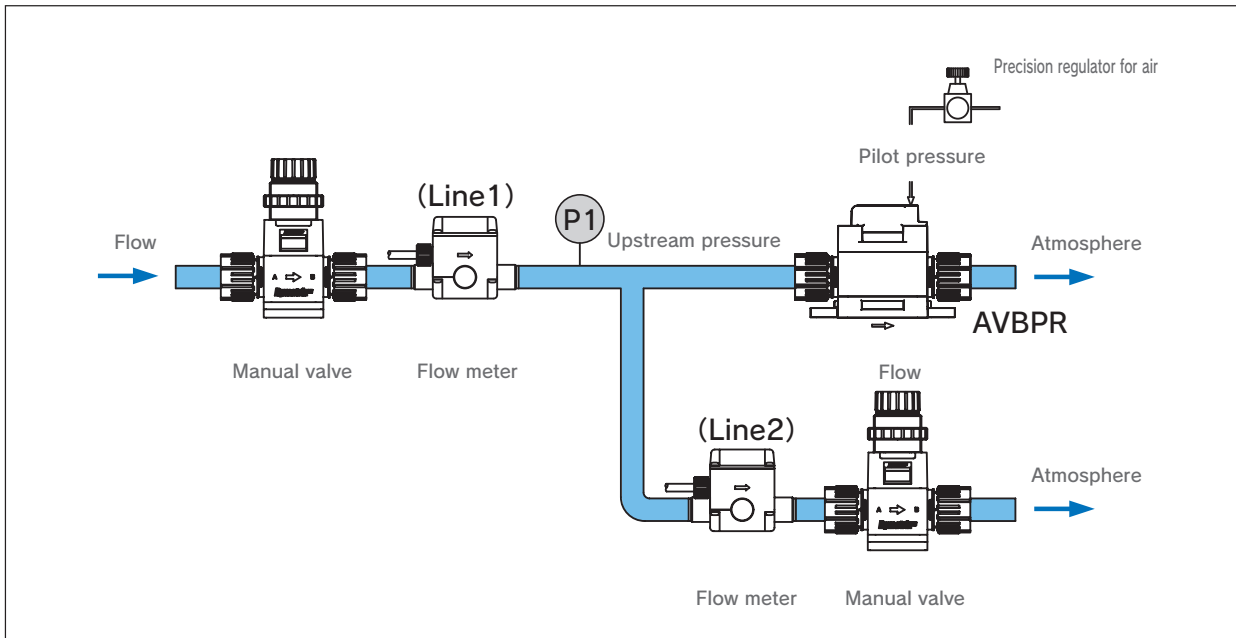
(Unit) : mm

Type	Tube size	Dimension		
		Standard	Connection※	A
HF	12×10 12.70×9.53	inch	2	128
		mm		125
		inch	6	153
		mm		149
		inch/mm	S	135
		inch/mm	3	133
	inch/mm	F	141	
	inch/mm	T	135	
	inch/mm	2	137	
	19×16 19.05×15.88	inch/mm	6	163
		inch/mm	S	154
		inch/mm	3	147
inch		F	151	
inch/mm		T	155	

※1. Please refer to Ordering Code the symbols of the connection methods.
※2. Reference values

- AVPV3
- AVPM
- AVPSL
- AVSDV
- AVSDVM
- AVSDVT
- AVSAS
- AVMPV
- AVDIV
- AVVM
- AVHRL
- AVHRL-M
- AVHRS
- AVBPR
- AVCFV
- AVD12R
- AVVM
- AVQDV
- AVBVX
- AVPJX
- AVSIV
- AVFCS2
- AVFCN
- OTHER

Test line



Test condition

1. The characteristic graph shows the data in the case of horizontal piping.
2. The test temperature is 23°C.
3. The characteristic graph is by connection tubing size mentioned in each graph.
4. The data in the characteristic graph are the experiment value and the reference value.

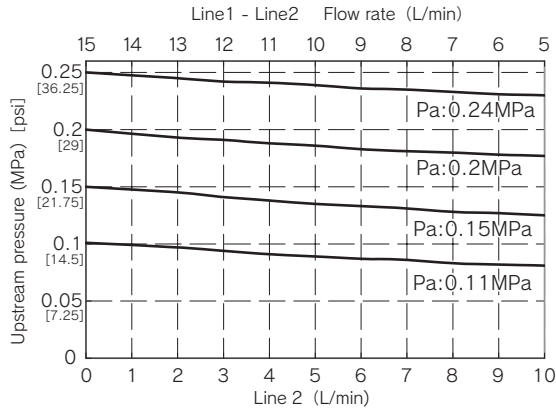
Cautions for use

1. Please do not use the **AVBPR** in negative pressure. (It would cause the breakage of the valve)
2. Please use CDA (clean, dry compression air) for pilot air. In case the pilot air contains foreign substance, such as chemicals, synthetic oil contains organic solvent, salt, corrosive gas and so on, it
3. We recommend to use the high quality regulator for pilot air control such as the precise regulator and Electronic-Pneumatic regulator.
4. Please do not use the regulator without the exhaust function. (The valve may not operate precisely)
5. Please leave the pilot air pressure off in case the valve is not used for long time.
6. The range of the flow rate differs with high viscosity fluid from the one for water. Please consult us in case of use of high viscosity fluid.
7. The valve is not suited to the use to the crystallizing nature fluid and Slurry.
8. Please use **AVBPR** for the fluid that has passed filter.

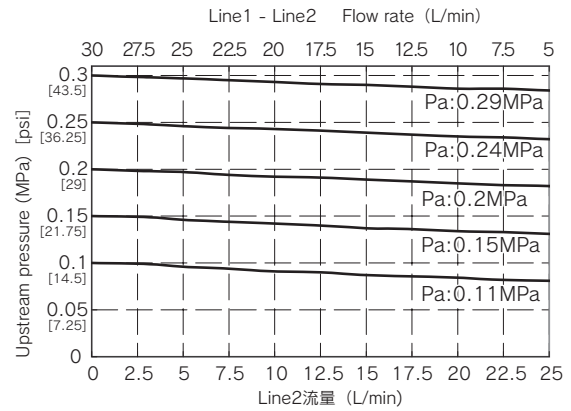
Technical Data

Flow rate - Upstream pressure

Connection tubing size of test: 12.70×9.53

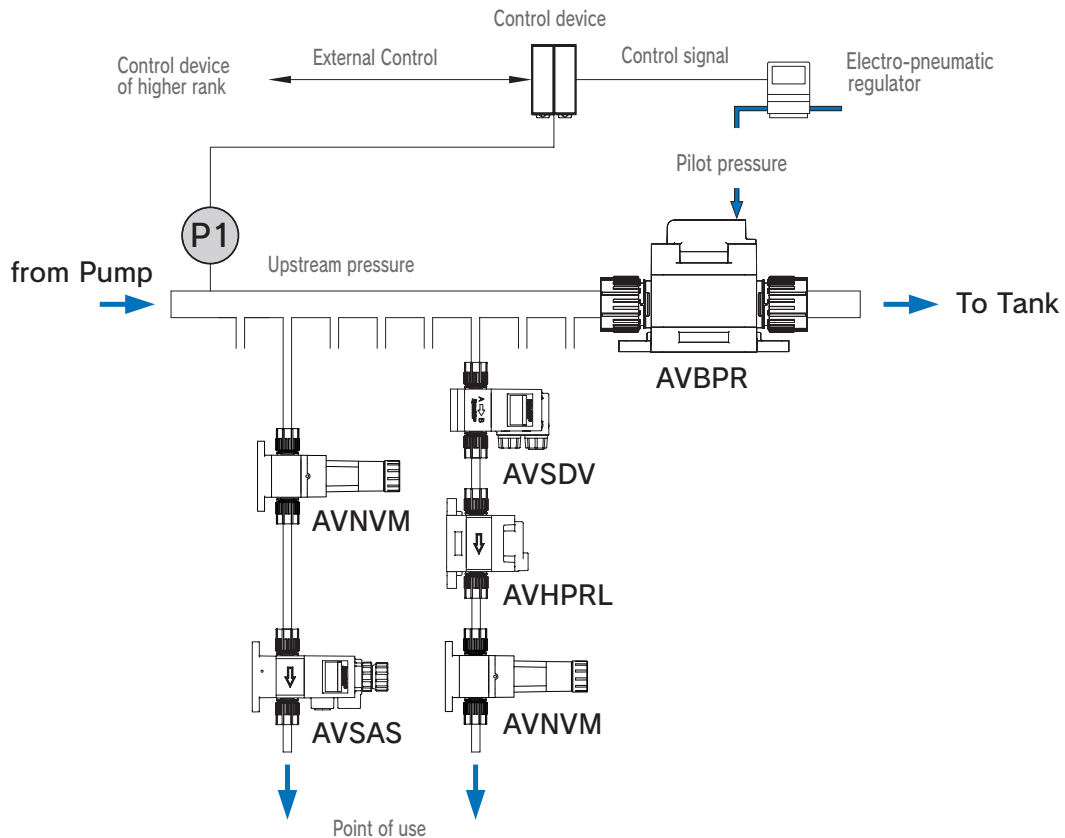


Connection tubing size of test: 19.05×15.88



※The data shown here is the experimental values and the reference values.

Example



- AVPV3
- AVPVM
- AVPSL
- AVSDV
- AVSDVM
- AVSDVT
- AVSAS
- AVMPV
- AVDIV
- AVNVM
- AVHPRL
- AVHPRL-M
- AVHPRS
- AVBPR
- AVCFV
- HDV12R
- HDVM
- AVQDV
- AVBVX
- AVPJX
- AVSIV
- AVFCS2
- AVFCN
- OTHER

AVCFV

定流量弁 Constant flow valve

Specialty Valves and Control Products **Dymatrix™**



Control flow rate

AVCFV is not for pressure control but for flow rate control. Use of AVCFV makes the plumbing design easier than use of pressure regulating valve since it is unnecessary to worry about the pressure fluctuation by the influence of the pipe length and back pressure.

Specifications

項 目	Items	Unit	Type
			LF
流 体 温 度	Medium Temperature	℃	10 ~ 90
構 造 耐 圧	Proof Pressure	MPa	0.6 87psi
使 用 圧 力 範 囲	Working Pressure range	MPa	0.1 ~ 0.5 14.5 ~ 72.5psi
最 低 動 作 差 圧	Minimum differential pressure	MPa	0.1 14.5psi
周 囲 温 度	Ambient Temperature	℃	10 ~ 60
取 付 姿 勢	Installation direction	—	Any direction
接 続	Connection	—	Flowell 20 series Flowell 60 series Super Type Pillar Fitting Super 300 Type Pillar Fitting Flare Type Tube
接 続 口 径	Connection tubing size	mm	6×4(6.35×4.35)
参 考 流 量 範 囲	Reference Flow Range	mL/min	5 ~ 2000
精 度	Accuracy	—	± 5%F.S.
レ ン ジ ア ビ リ テ ィ	Range ability	—	5 times
重 量	Weight	kg	0.5
Pilot	Pilot pressure	MPa	Max. 0.3(Open control) / 0.15~0.3(Feed back control)
	Pilot port	—	Rc1/8" , FNPT1/8"
	Tighten the torque	N · m	0.4 ~ 0.6

Ordering Code

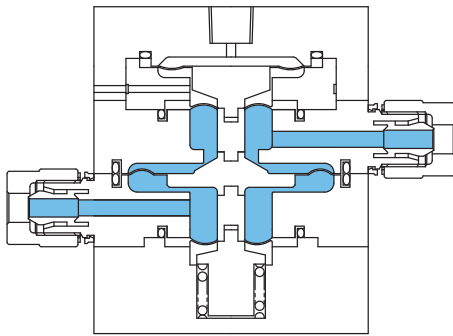
AVCFV **LF** ① — **T** **06** ② ③ ④ — ⑤

Type	LF Low Flow
① Maximum flow rate	005 50 mL/min 012 125 mL/min 025 250 mL/min 050 500 mL/min 100 1000 mL/min 200 2000 mL/min
Body material	T PTFE
Connection tubing size	06 6×4 6.35×4.35 LF
② Tubing standard	M Millimeter I Inch
③ Connection	2 Flowell 20 series 6 Flowell 60 series S Super Type Pillar Fitting 3 Super 300 Type Pillar Fitting F *1 Flare Type T *2 Tube
④ O-ring ※3	V FKM E EPDM F キヨコ®F Viflon®F ※4 K Kalrez®6190
⑤ Pilot port	n/a Rc 1/8" N FNPT 1/8"

Ordering code example
AVCFVLF025-T06I3V
AVCFVLF025-T06I3V-N

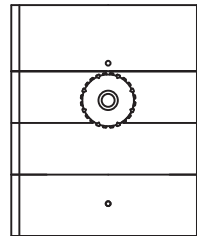
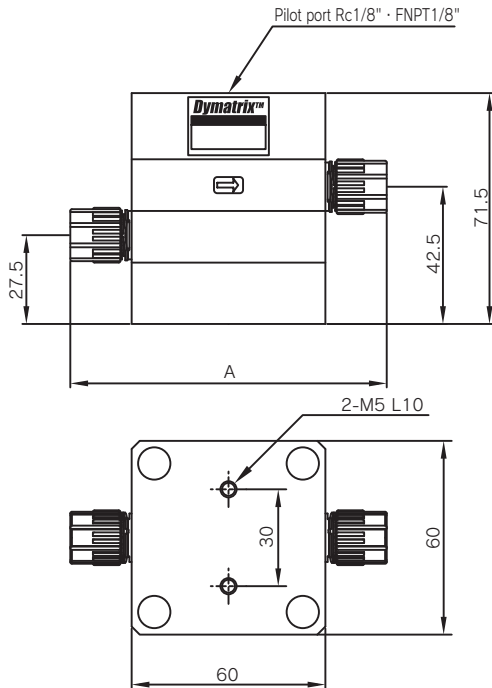
※1: In the case of the connection is "F", only "I (Inch)" can be selected for the "Tubing Standard".
 ※2: Please refer to page 105 for diameter of "Tube".
 ※3: O-rings are not wetted.
 ※4: "Viflon" is the Terpolymerization Fluorocarbon Elastomers.

Parts & Materials



Parts	Material	Wetted parts
Body	PTFE	○
Diaphragm	PTFE	○
Actuator	PVDF	
O-ring	FKM / EPDM / キヨコ®F Viflon®F / Kalrez® 6190	
Metal parts	SUS304	

Dimensions

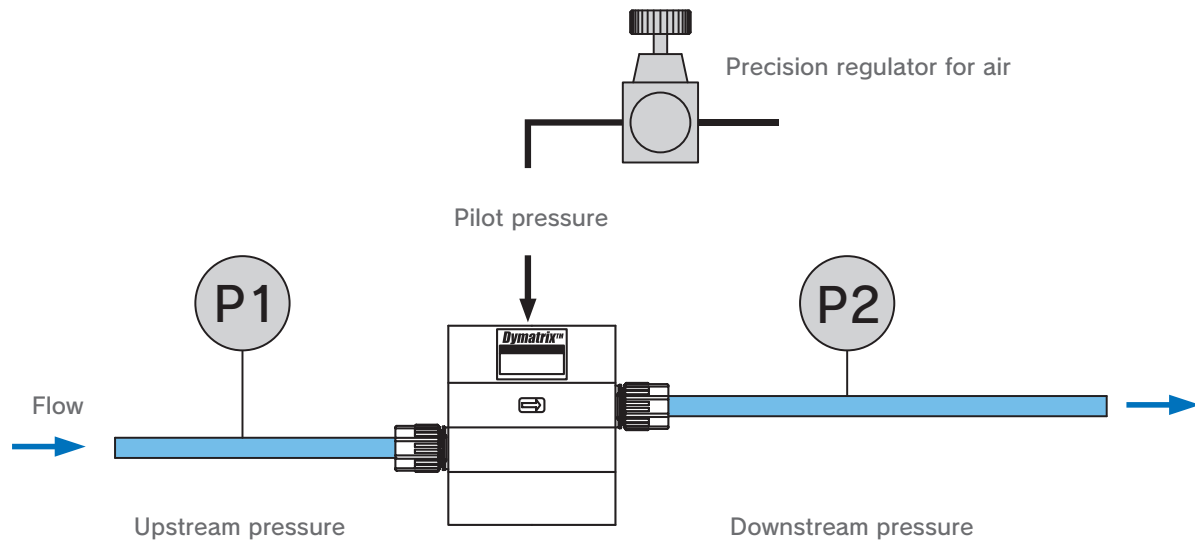


(Unit) : mm

Type	Tube size	Standard	Connection※	Dimension
LF	6×4 6.35×4.35	inch	2	96
		mm		94
		inch	6	122
		mm		120
		inch/mm	S	99
		inch/mm	3	98
		inch	F	116
		inch/mm	T	120

※ 1. Please refer to Ordering Code the symbols of the connection methods.
 ※ 2. Reference values

- AVPV3
- AVPVM
- AVPVS
- AVPVS2
- AVSDV
- AVSDVM
- AVSDVT
- AVSAS
- AVMPV
- AVDIV
- AVVM
- AVHRL
- AVHRL-M
- AVHRS
- AVBPR
- AVCFV
- HDV12R
- HDVM
- AVQDV
- AVBVX
- AVPJX
- AVSIV
- AVFCS2
- AVFCN
- OTHER



Test condition

1. The characteristic graph shows the data in the case of horizontal piping.
2. The test temperature is 23°C.
3. The characteristic graph is by connection tubing size mentioned in each graph.
4. The data in the characteristic graph are the experiment value and the reference value.

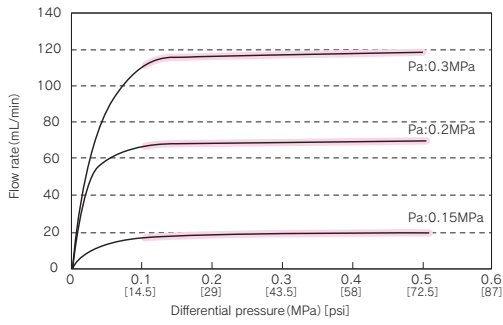
Cautions for use

1. Please do not use the **AVCFV** in negative pressure. (It would cause the breakage of the valve)
2. Please use CDA (clean, dry compression air) for pilot air. In case the pilot air contains foreign substance, such as chemicals, synthetic oil contains organic solvent, salt, corrosive gas and so on, it would cause the breakage and operation defectiveness.
3. We recommend to use the high quality regulator for pilot air control such as the precise regulator and Electronic-Pneumatic regulator.
4. Please do not use the regulator without the exhaust function. (The valve may not operate precisely)
5. Please leave the pilot air pressure off in case the valve is not used for long time.
6. The range of the flow rate differs with high viscosity fluid from the one for water. Please consult us in case of use of high viscosity fluid.
7. The valve is not suited to the use to the crystallizing nature fluid and Slurry.
8. Please use **AVCFV** for the fluid that has passed filter.

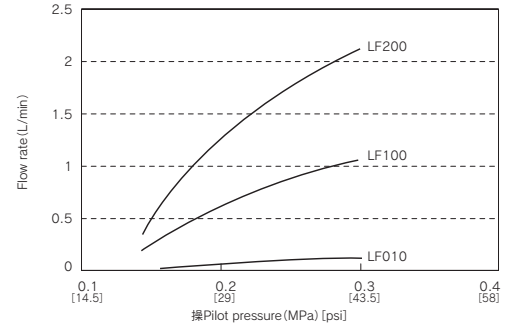
Technical Data

Connection tubing size of test: 6.35 × 4.35

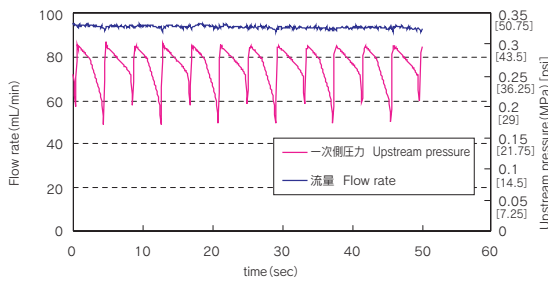
Differential pressure – Flow rate



Pilot pressure – Flow rate



Stability for pulsation



Fluid : Water (ambient)
Pa shows pilot pressure.

The data shown here is the experimental values and the reference values.

- AVPV3
- AVPVM
- AVPVS
- AVPVS2
- AVSDV
- AVSDVM
- AVSDVT
- AVSAS
- AVMPV
- AVDIV
- AVWM
- AVHPR
- AVHPRM
- AVHPR2
- AVBPR
- AVCFV
- HDV12R
- HDVM
- AVQDV
- AVBVX
- AVPJX
- AVSIV
- AVFCS2
- AVFCN
- OTHER

HDV12/HDVR

PVC製2方弁 PVC 2 way valve

Specialty Valves and Control Products **Dymatrix™**



Excellent durability

HDV12 has excellent durability and reliability since it is designed based on our know-how cultivated for years as a pioneer of plastic valve and our experience in developing valves for semiconductor industry.

Specifications

HDV12

PTFE Diaphragm

項目	Items	Unit	Nominal size					
			15mm 1/2inch	20mm 3/4inch	25mm 1inch	32mm 1-1/4inch	40mm 1-1/2inch	50mm 2inch
作動	Actuation	—	Air to open · Double acting			* Please consult us for the specification "Air to close" in the case of the hope.		
流体温度	Medium Temperature	℃	0 ~ 60			0 ~ 50		
使用圧力範囲※1	Working Pressure range	MPa	0 ~ 0.5 0 ~ 72.5psi			0 ~ 0.4 0 ~ 58psi		
弁座漏れ量	Leakage Rate	cm ³ /min	0 (23℃) 0 (at hydraulic pressure 23℃)					
背圧※1	Back Pressure	MPa	0 ~ 0.5 0 ~ 72.5psi			0 ~ 0.4 0 ~ 58psi		
周囲温度	Ambient Temperature	℃	0 ~ 60			0 ~ 50		
開閉頻度	Frequency of opening and closing	times/min	< 20			< 15		
取付姿勢	Installation direction	—	Any direction					
接続	Connection	—	Socket · Threaded · Flanged					
オリフィス※3	Orifice diameter	mm	φ 16	φ 22	φ 22	φ 40	φ 40	φ 50
Cv 値※3	Cv value	—	4.8	8	9.5	24	26	44
操作部 Pilot	Pilot pressure	Air to open	0.4 ~ 0.5 58 ~ 72.5psi					
		Double acting	0.3 ~ 0.4 43.5 ~ 58psi					
	Pilot air consumption	Air to open	0.02	0.05	0.20	0.39		
		Double acting	0.13	0.30	1.21	2.13		
Pilot port		—	Rc1/8", FNPT1/8"					

HDVR

Rubber Diaphragm

項目	Items	単位 Unit	Nominal size		
			15mm 1/2inch	20mm 3/4inch	25mm 1inch
作動	Actuation	—	Air to open · Double acting		
流体温度	Medium Temperature	℃	0 ~ 50		
使用圧力範囲※1	Working Pressure range	MPa	0 ~ 0.5 0 ~ 72.5psi		
弁座漏れ量	Leakage Rate	cm ³ /min	0 (23℃) 0 (at hydraulic pressure 23℃)		
背圧※1	Back Pressure	MPa	0 ~ 0.2 0 ~ 29psi		
周囲温度	Ambient Temperature	℃	0 ~ 50		
開閉頻度	Frequency of opening and closing	times/min	< 20		
取付姿勢	Installation direction	—	Any direction		
接続	Connection	—	Socket · Threaded · Flanged		
オリフィス※3	Orifice diameter	mm	φ 16	φ 22	φ 22
Cv 値※3	Cv value	—	4.8	8	9.5
Pilot	Pilot pressure	Air to open	0.4 ~ 0.5 58 ~ 72.5psi		
		Double acting	0.3 ~ 0.4 43.5 ~ 58psi		
	Pilot air consumption	Air to open	0.02	0.05	0.30
		Double acting	0.13	0.30	0.30
Pilot port		—	Rc1/8", FNPT1/8"		

※1. For the details, please refer to the characteristic graph of "Fluid temperature- Working pressure" and "Working pressure-Back pressure".

※2. The pilot air consumption is the value at 0.4 MPa.

※3. Typical values

Ordering Code

HDV12

HDV 12 - ① ② ③ ④ ⑤ ⑥ ⑦ ⑧

① Actuation

G NC	Air to open
F DA	Double acting

② Connection

TJ	Socket • JIS
TA	Socket • ASTM SCH80
TD	Socket • DIN
NJ	Threaded • Rc
NA	Threaded • NPT
ND	Threaded • RP
F1	Flanged • JIS10K
FA	Flanged • ANSI CLASS150
FD	Flanged • DIN PN10

③ Mounting

0	Thread at bottom
1	Base plate

④ Option

4(Standard)	Indicator
0	ON-OFF only
1	Travel stop
2	Bypass
3	Travel stop • Bypass
5	Bypass • Indicator
6 ^{※1}	Travel stop • Indicator
7 ^{※1}	Travel stop • Bypass • Indicator

⑤ Pilot port connection

2(Standard)	
0	
1	
3	

⑥ O-ring

V	FKM
E	EPDM
F	¥フロンF ^{※2} Viton F
K	Kalrez [®] 6190

⑦ Nominal size

15	15mm	□50
20	20mm	□60
25	25mm	
32	32mm	□95
40	40mm	
50	50mm	□115

⑧ Pilot port

n/a	Rc 1/8"
N	FNPT 1/8"

Ordering code example
HDV12-GTJ142V25
HDV12-GTJ112V32-N

※1: Size 32mm ~ 50mm is not available.
※2: "Viton" is the Terpolymerization Fluorocarbon Elastomers.

● Upstream fitting and downstream fitting in case of different connections.

HDV 12 - ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

Actuation

G NC) A	Air to open
F DA) D	Double acting

④ Mounting

0	Thread at bottom
1	Base plate

⑤ Option

4(Standard)	Indicator
0	ON-OFF only
1	Travel stop
2	Bypass
3	Travel stop • Bypass
5	Bypass • Indicator
6 ^{※1}	Travel stop • Indicator
7 ^{※1}	Travel stop • Bypass • Indicator

⑥ Pilot port connection

2(Standard)	
0	
1	
3	

⑦ O-ring

V	FKM
E	EPDM
F	¥フロンF ^{※2} Viton F
K	Kalrez [®] 6190

⑧ Nominal size

15	15mm	□50
20	20mm	□60
25	25mm	
32	32mm	□95
40	40mm	
50	50mm	□115

⑨ Pilot port

n/a	Rc 1/8"
N	FNPT 1/8"

Ordering code example
HDV12-GF1TJ142V25
HDV12-GFATA112V40-N

※1: Size 32mm ~ 50mm is not available.
※2: "Viton" is the Terpolymerization Fluorocarbon Elastomers.

Option

Nominal size 15 ~ 25mm (1/2 inch ~ 1 inch)

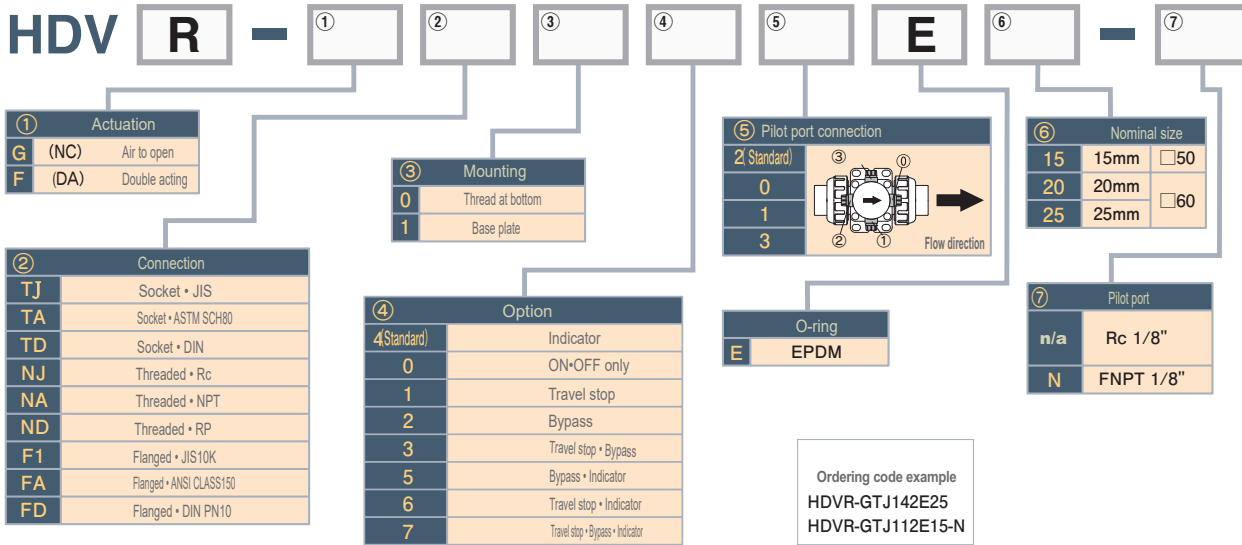
No.	Option No.	0	1	2	3	4	5	6	7
	Travel stop	—	○	—	○	—	—	○	○
	Bypass	—	—	○	○	—	○	—	○
	Indicator	—	—	—	—	○	○	○	○

Nominal size 32 ~ 50mm (1 1/4 inch ~ 2 inch)

No.	Option No.	0	1	2	3	4	5	6	7
	Travel stop	—	○	—	○	—	—	—	—
	Bypass	—	—	○	○	—	○	—	—
	Indicator	—	—	—	—	○	○	—	—

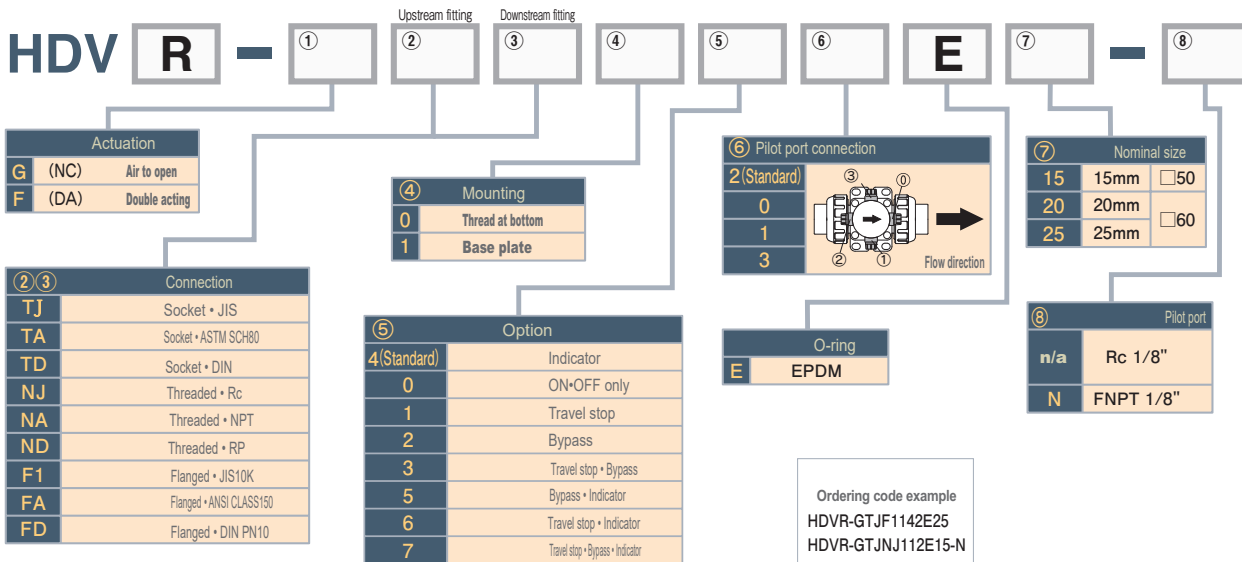
Ordering Code

HDVR



Ordering code example
 HDVR-GTJ142E25
 HDVR-GTJ112E15-N

- Upstream fitting and downstream fitting in case of different connections.



Ordering code example
 HDVR-GTJF1142E25
 HDVR-GTJNJ112E15-N

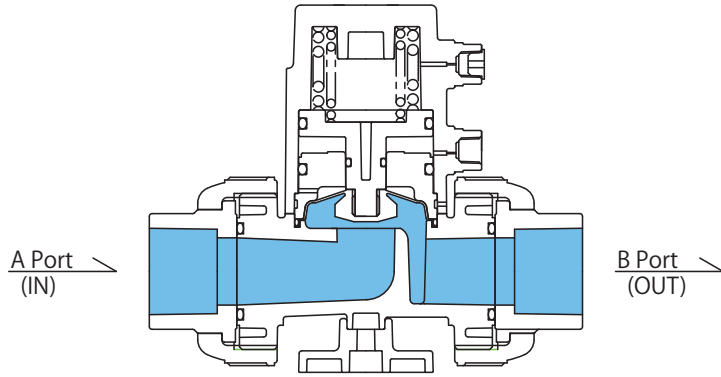
Weight List (Reference)

(Unit) : kg

Actuation			Air to open			Double acting			
Connection			Socket	Threaded	Flanged	Socket	Threaded	Flanged	
Nominal size	m	inch							
	15	½		0.4	0.4	0.7	0.4	0.4	0.6
	20	¾		0.7	0.7	1.0	0.7	0.7	1.0
	25	1		0.8	0.8	1.3	0.8	0.8	1.3
	32	1¼		2.7	2.7	3.4	2.3	2.3	3.0
	40	1½		3.1	3.1	3.8	2.7	2.7	3.4
50	2		5.6	5.6	6.4	4.9	4.9	5.7	

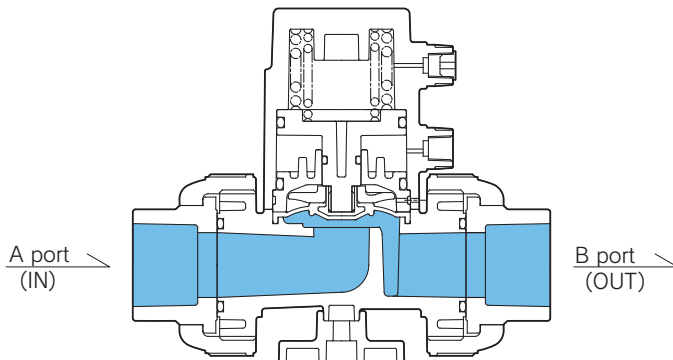
Parts & Materials

HDV12



Parts	Material	Wetted parts
Body	U-PVC	○
Diaphragm	PTFE	○
Actuator	PPS/PVDF/U-PVC	
O-ring	FKM EPDM KYJOC®F <i>Viflon®F</i> Kalrez™ 6190	○
Metal parts	SUS304	

HDVR

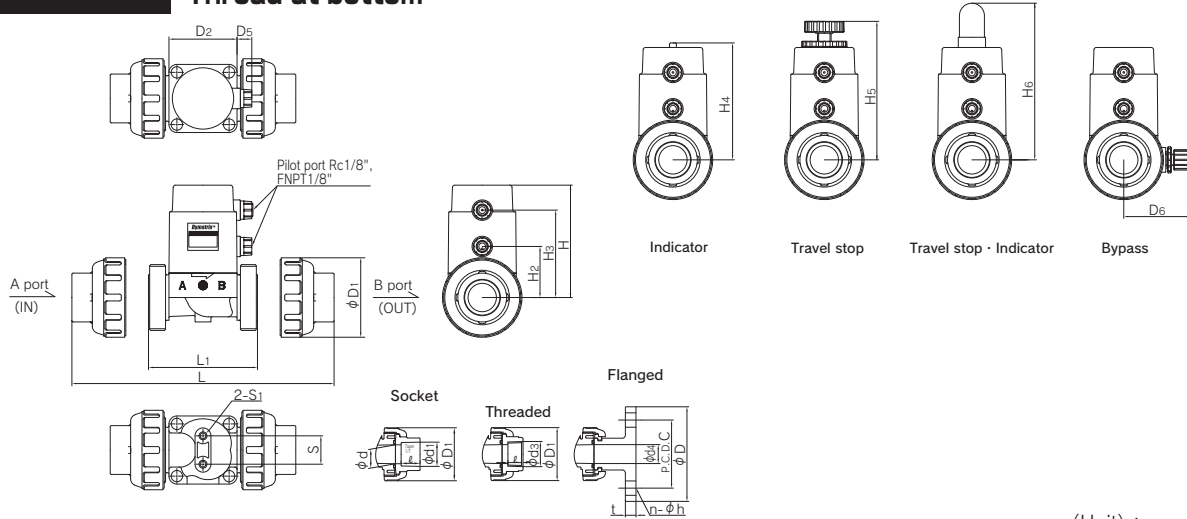


Parts	Material	Wetted parts
Body	U-PVC	○
Diaphragm	EPDM	○
Actuator	PPS/PVDF	
O-ring	EPDM	○
Metal parts	SUS304	

- AVPV3
- AVPVM
- AVPVS
- AVSDV
- AVSDVM
- AVSDVT
- AVSAS
- AVMPV
- AVDIV
- AVNVM
- AVHPR
- AVHPRM
- AVHPRS
- AVBPR
- AVCFV
- HDV12R
- HDVM
- AVQDV
- AVBVX
- AVPJX
- AVSIV
- AVFCS2
- AVFCN
- OTHER

Dimensions

Thread at bottom



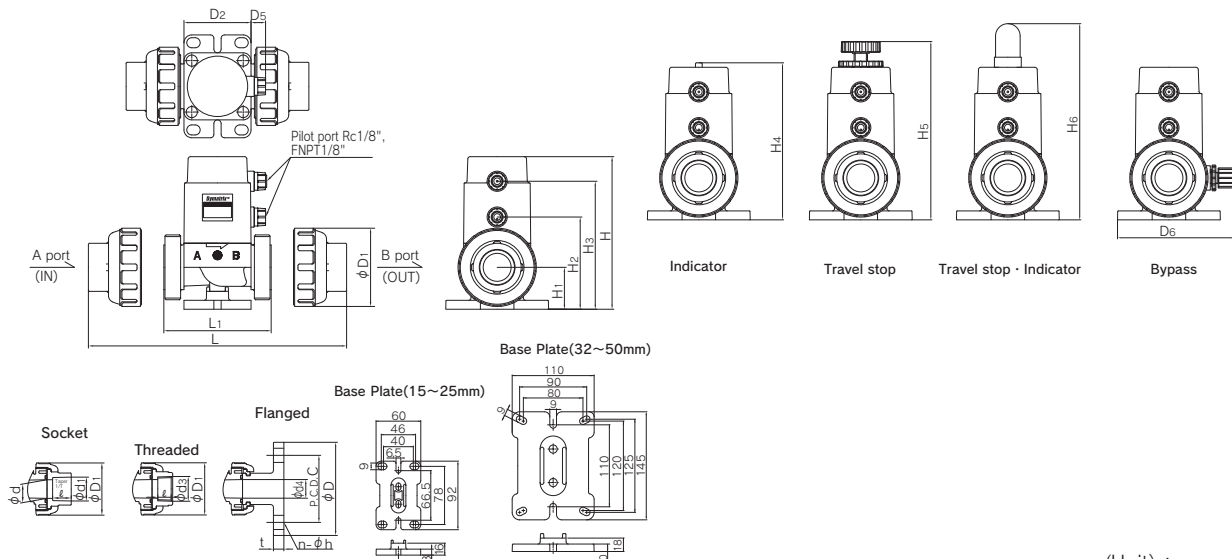
(Unit) : mm

Nominal size	d	Socket						Flanged										L ₁	D ₁	D ₂	D ₄ (Orifice)	D ₅	H	H ₁	H ₂	H ₃	S	S ₁	H ₄ (MAX)	H ₅ (MAX)	H ₆	D ₆ (MAX)
		Threaded			JIS 10K			JIS 10K			JIS 10K																					
		d ₁	ℓ	1/T	L	d ₃	ℓ	L	d ₄	D	C	n	h	L	t																	
15	1/2	15	22.11	20	1/34	124.4	Rc1/2	15	117.0	15	95	70	4	15	158.0	12	79.0	48	□50	16	13	69	17.0	33	60	20	M6	L7	72.5	92.0	111	55.0
20	3/4	20	26.13	24	1/34	147.0	Rc3/4	17	139.0	20	100	75	4	15	191.0	14	88.0	60	□60	22	13	98	20.5	44	76	25	M6	L7	102.0	121.0	140	59.0
25	1	25	32.16	27	1/34	163.5	Rc1	20	149.5	25	125	90	4	19	205.5	14	94.5	70	□60	22	13	99	21.5	45	77	25	M6	L7	103.0	122.0	141	59.0
32	1 1/4	40	38.19	30	1/34	226.0	Rc1 1/4	22	215.0	32	135	100	4	19	264.0	16	146.0	100	□95	40	12.5	147	35.0	67.5	115	45	M10	L10	155.0	184.5	—	89.5
40	1 1/2	40	48.21	37	1/37	241.0	Rc1 1/2	25	215.0	40	140	105	4	19	264.0	16	146.0	100	□95	40	12.5	147	35.0	68	115	45	M10	L10	155.0	184.5	—	89.5
50	2	50	60.25	42	1/37	283.0	Rc2	28	260.0	50	155	120	4	19	297.0	16	177.0	126	□115	50	13	174	48.0	83	137	45	M10	L17	185.0	215.0	—	99.5

※ The dimensions of HDV12/HDVR is compatible with HDVW (15~50).
 ※ Reference values.

Dimensions (With Base Plate)

Base plate



(Unit) : mm

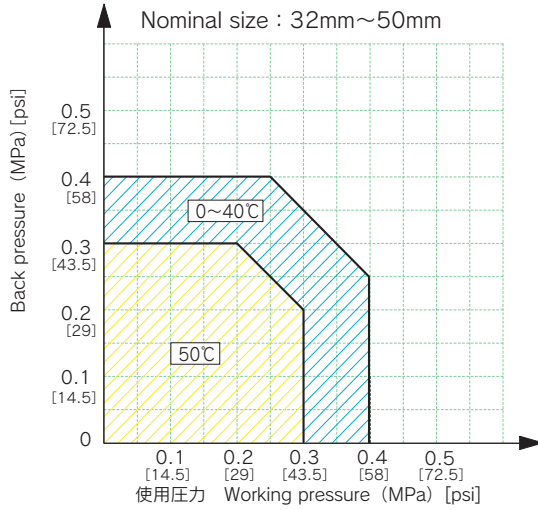
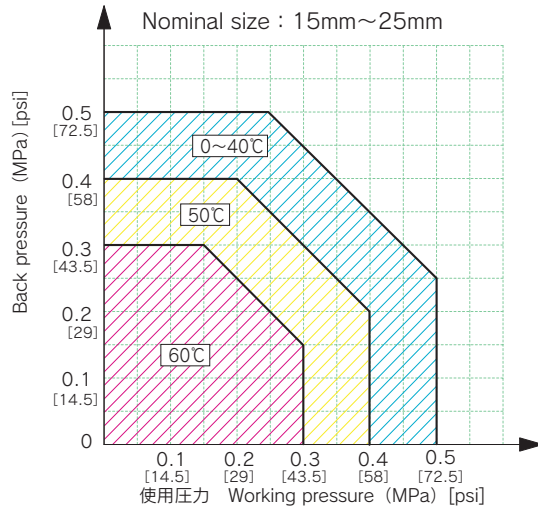
Nominal size	d	Socket						Flanged										L ₁	D ₁	D ₂	D ₄ (Orifice)	D ₅	H	H ₁	H ₂	H ₃	H ₄ (MAX)	H ₅ (MAX)	H ₆	D ₆ (MAX)
		Threaded			JIS 10K			JIS 10K			JIS 10K																			
		d ₁	ℓ	1/T	L	d ₃	ℓ	L	d ₄	D	C	n	h	L	t															
15	1/2	15	22.11	20	1/34	124.4	Rc1/2	15	117.0	15	95	70	4	15	158.0	12	79.0	48	□50	16	13	102.0	33.0	66.0	93.0	105.5	125.0	144.0	101	
20	3/4	20	26.13	24	1/34	147.0	Rc3/4	17	139.0	20	100	75	4	15	191.0	14	88.0	60	□60	22	13	134.5	36.5	80.5	112.5	138.5	157.5	176.5	105	
25	1	25	32.16	27	1/34	163.5	Rc1	20	149.5	25	125	90	4	19	205.5	14	94.5	70	□60	22	13	136.5	37.5	82.5	114.5	140.5	159.5	178.5	105	
32	1 1/4	40	38.19	30	1/34	226.0	Rc1 1/4	22	215.0	32	135	100	4	19	264.0	16	146.0	100	□95	40	12.5	200.0	53.0	120.5	168.0	208.0	237.5	—	162	
40	1 1/2	40	48.21	37	1/37	241.0	Rc1 1/2	25	215.0	40	140	105	4	19	264.0	16	146.0	100	□95	40	12.5	200.0	53.0	120.5	168.0	208.0	237.5	—	162	
50	2	50	60.25	42	1/37	283.0	Rc2	28	260.0	50	155	120	4	19	297.0	16	177.0	126	□115	50	13	240.0	66.0	149.0	202.5	251.0	281.0	—	172	

※ The dimensions of HDV12/HDVR is compatible with HDVW (15~50).
 ※ Reference values.

Technical Data

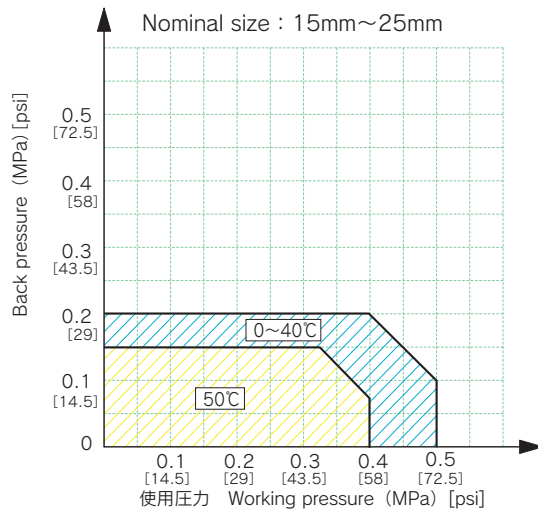
HDV12

Working pressure – Back pressure



HDVR

Working pressure – Back pressure



- AVPV3
- AVPVM
- AVPVS
- AVSDV
- AVSDVM
- AVSDVT
- AVSAS
- AVMPV
- AVDIV
- AVVM
- AVHPR
- AVHPRM
- AVHPRS
- AVBPR
- AVCFV
- HDV12R
- HDVM
- AVQDV
- AVBVX
- AVPJX
- AVSIV
- AVFCS2
- AVFCN
- OTHER

HDVW

ウォーターハンマー低減PVC製2方弁 Water hammer less PVC 2way valve

Specialty Valves and Control Products **Dymatrix™**



Water hammer less

The new design diaphragm achieved to reduce the water hammer. The sealing performance for the back pressure has been improved.

Abundant line-up

Abundant nominal size (1/2 ~ 2 · 1/2 inch) can be selected.

Specifications

HDVW

項目 Items	Unit	Nominal size							
		15mm 1/2inch	20mm 3/4inch	25mm 1inch	32mm 1-1/4inch	40mm 1-1/2inch	50mm 2inch	65mm 2-1/2inch	
作動 Actuation	—	Air to open · Double acting						Double acting	
流体温度 Medium Temperature	°C	0 ~ 60			0 ~ 50				
使用圧力範囲 ^{※1} Working Pressure range	MPa	0 ~ 0.5 0 ~ 72.5psi			0 ~ 0.4 0 ~ 58psi				
弁座漏れ量 Leakage Rate	cm ³ /min	0 (at hydraulic pressure 23°C)							
背圧 ^{※1} Back Pressure	MPa	0 ~ 0.5 0 ~ 72.5psi			0 ~ 0.4 0 ~ 58psi				
周囲温度 Ambient Temperature	°C	0 ~ 60			0 ~ 50				
開閉頻度 Frequency of opening and closing	times/min	< 10			< 6				
取付姿勢 Installation direction	—	Any direction							
接続 Connection	—	Socket Threaded Flanged							
オリフィス ^{※3} Orifice diameter	mm	φ 16	φ 22	φ 22	φ 40	φ 40	φ 50	φ 65	
Cv値 ^{※3} Cv value	—	4.8	8	9.5	24	26	44	70	
Pilot	Pilot pressure	Air to open	0.4 ~ 0.5 58 ~ 72.5psi						—
		Double acting	0.3 ~ 0.4 43.5 ~ 58psi						—
	Pilot air consumption	Air to open	0.02	0.05	0.20		0.39	—	
		Double acting	0.13	0.30	1.21		2.13	2.78	
Pilot port		—	Rc1/8"						

※ 1. For the details, please refer to the characteristic graph of "Medium temperature-Working pressure" and "Working pressure-Back pressure".

※ 2. The pilot air consumption is the value at 0.4 MPa.

※ 3. It is typical value.

Ordering Code

HDV W - [1] [2] [3] [4] [5] [6] [7]

① Actuation

G*1 (NC)	Air to open
F (DA)	Double acting

③ Mounting

0*1	Thread at bottom
1	Base plate

⑤ Pilot port connection

2 (Standard)	
0	
1	
3	

⑦ Nominal size

15	15mm	<input type="checkbox"/>	50
20	20mm	<input type="checkbox"/>	60
25	25mm	<input type="checkbox"/>	95
32	32mm	<input type="checkbox"/>	
40	40mm	<input type="checkbox"/>	
50	50mm	<input type="checkbox"/>	115
65	65mm	<input type="checkbox"/>	180

② Connection

TJ	Socket • JIS
TA	Socket • ASTM SCH80
TD	Socket • DIN
NJ	Threaded • Rc
NA	Threaded • NPT
ND	Threaded • RP
F1	Flanged • JIS10K
FA	Flanged • ANSI CLASS150
FD	Flanged • DIN PN10

④ Option

4 (Standard)	Indicator
0*1	ON-OFF only
1*1	Travel stop
2*1	Bypass
3*1	Travel stop • Bypass
5*1	Bypass • Indicator
6*1 *2	Travel stop • Indicator
7*1 *2	Travel stop • Bypass • Indicator

⑥ O-ring

V	FKM
E	EPDM
F	ビフロン®F*3 Viflon®F
K	Kalrez® 6190

Ordering code example
 HDVW-GTJ142V25
 HDVW-FTJ142V65

*1: Size 65mm is not available
 *2: Size 32mm,40mm,50mm are not available.
 *3: "Viflon" is the Terpolymerization Fluorocarbon Elastomers.

● Upstream fitting and downstream fitting in case of different connections.

HDV W - [1] [2] [3] [4] [5] [6] [7] [8]

① Actuation

G*1 (NC)	Air to open
F (DA)	Double acting

④ Mounting

0*1	Thread at bottom
1	Base plate

⑥ Pilot port connection

2 (Standard)	
0	
1	
3	

⑧ Nominal size

15	15mm	<input type="checkbox"/>	50
20	20mm	<input type="checkbox"/>	60
25	25mm	<input type="checkbox"/>	95
32	32mm	<input type="checkbox"/>	
40	40mm	<input type="checkbox"/>	
50	50mm	<input type="checkbox"/>	115
65	65mm	<input type="checkbox"/>	180

②③ Connection

	Socket • JIS
TA	Socket • ASTM SCH80
TD	Socket • DIN
NJ	Threaded • Rc
NA	Threaded • NPT
ND	Threaded • RP
F1	Flanged • JIS10K
FA	Flanged • ANSI CLASS150
FD	Flanged • DIN PN10

⑤ Option

4 (Standard)	Indicator
0*1	ON-OFF only
1*1	Travel stop
2*1	Bypass
3*1	Travel stop • Bypass
5*1	Bypass • Indicator
6*1 *2	Travel stop • Indicator
7*1 *2	Travel stop • Bypass • Indicator

⑦ O-ring

V	FKM
E	EPDM
F	ビフロン®F*3 Viflon®F
K	Kalrez® 6190

Ordering code example
 HDVW-GTJF1142V25
 HDVW-FTJN142V65

*1: Size 65mm is not available.
 *2: Size 32mm,40mm,50mm are not available.
 *3: "Viflon" is the Terpolymerization Fluorocarbon Elastomers.

Option

Nominal size 15 ~ 25mm (1/2 inch ~ 1 inch)

No.	Option No.	0	1	2	3	4	5	6	7
	Travel stop	-	○	-	○	-	-	○	○
	Bypass	-	-	○	○	-	○	-	○
	Indicator	-	-	-	-	○	○	○	○

Nominal size 32 ~ 50mm (1•1/4 inch ~ 2 inch)

Option No.	0	1	2	3	4	5	6	7
Travel stop	-	○	-	○	-	-	-	-
Bypass	-	-	○	○	-	○	-	-
Indicator	-	-	-	-	○	○	-	-

Nominal size 65mm (2•1/2 inch)

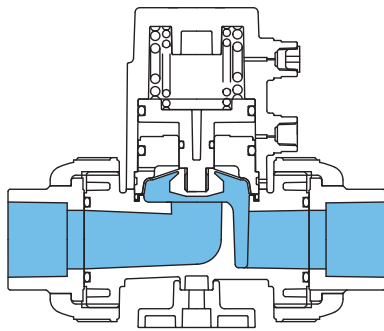
Option No.	0	1	2	3	4	5	6	7
Indicator	-	-	-	-	○	-	-	-

Weight List (Reference)

(Unit) : kg

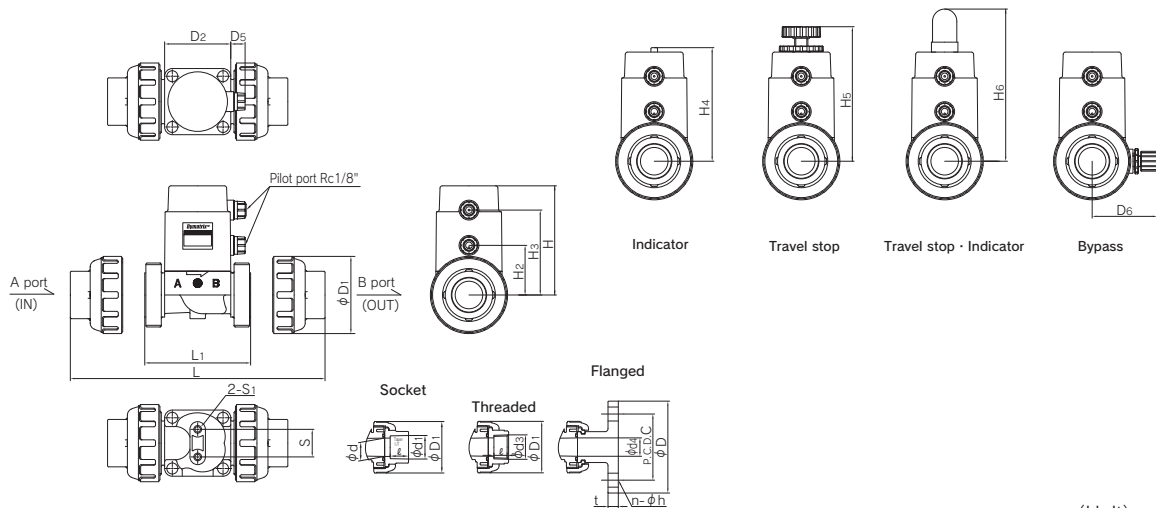
Actuation			Air to open			Double acting		
Connection			Socket	Threaded	Flanged	Socket	Threaded	Flanged
Nominal size	mm	inch						
	15	1/2	0.4	0.4	0.7	0.4	0.4	0.6
	20	3/4	0.7	0.7	1.0	0.7	0.7	1.0
	25	1	0.8	0.8	1.3	0.8	0.8	1.3
	32	1 1/4	2.7	2.7	3.4	2.3	2.3	3.0
	40	1 1/2	3.1	3.1	3.8	2.7	2.7	3.4
	50	2	5.6	5.6	6.4	4.9	4.9	5.7
65	2 1/2		—		5.0	5.0	6.5	

Parts & Materials



Parts	Material	Wetted parts
Body	U-PVC	○
Diaphragm	PTFE	○
Actuator	PPS/PVDF/U-PVC	
O-ring	FKM EPDM KYJOC® <i>Viflon F</i> Kalrez® 6190	○
Metal parts	SUS304	

Dimensions (Thread at Bottom)

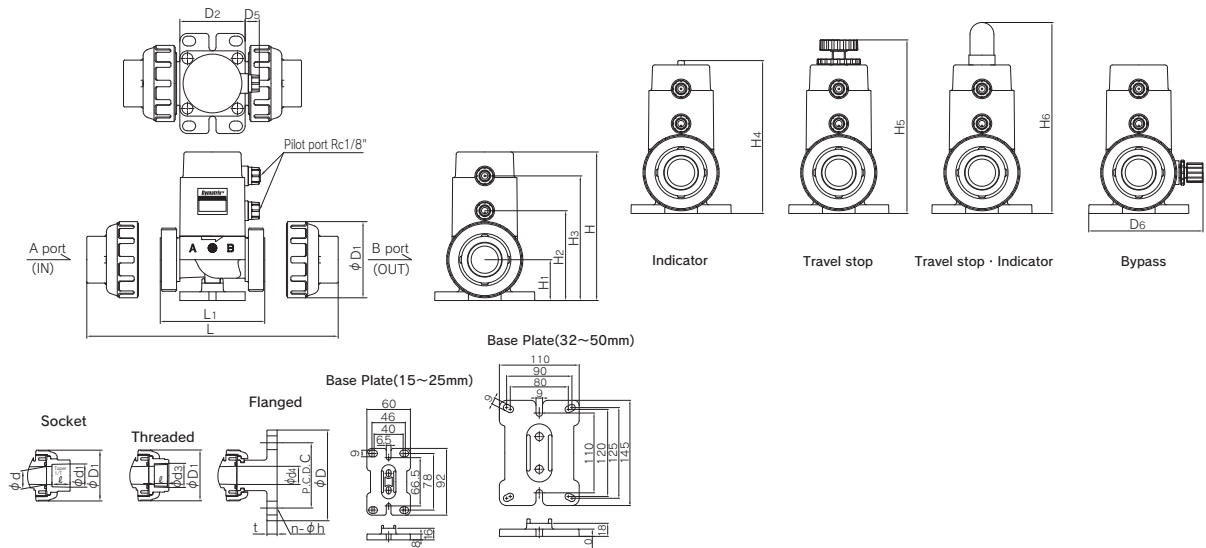


(Unit) : mm

Nominal size	d	Socket				Threaded			Flanged							L1	D1	D2	D4 (Office)	D5	H	H1	H2	H3	S	S1	H4 (MAX)	H5 (MAX)	H6	D6 (MAX)	
		d1	ℓ	1/T	L	d3	ℓ	L	d4	D	C	n	h	L	t																
15	1/2	15	22.11	20	1/34	124.4	Rc1/2	15	117.0	15	95	70	4	15	158.0	12	79.0	48	□50	16	13	69	17.0	33	60	20	M6 L7	72.5	92	111	55.0
20	3/4	20	26.13	24	1/34	147.0	Rc3/4	17	139.0	20	100	75	4	15	191.0	14	88.0	60	□60	22	13	98	20.5	44	76	25	M6 L7	102.0	121.5	140	59.0
25	1	25	32.16	27	1/34	163.5	Rc1	20	149.5	25	125	90	4	19	205.5	14	94.5	70	□60	22	13	99	21.5	45	77	25	M6 L7	103.0	122.5	141	59.0
32	1 1/4	40	38.19	30	1/34	226.0	Rc1 1/4	22	215.0	32	135	100	4	19	264.0	16	146.0	100	□95	40	12.5	147	35.0	68	115	45	M10 L10	155.0	184.5	—	89.5
40	1 1/2	40	48.21	37	1/37	241.0	Rc1 1/2	25	215.0	40	140	105	4	19	264.0	16	146.0	100	□95	40	12.5	147	35.0	68	115	45	M10 L10	155.0	184.5	—	89.5
50	2	50	60.25	42	1/37	283.0	Rc2	28	260.0	50	155	120	4	19	297.0	16	177.0	126	□115	50	13	174	48.0	83	137	45	M10 L17	185.0	215.0	—	89.5

※ The dimensions of HDV12/HDVR is compatible with HDWV (15~50).
 ※ Reference values.

Dimensions (With Base Plate)

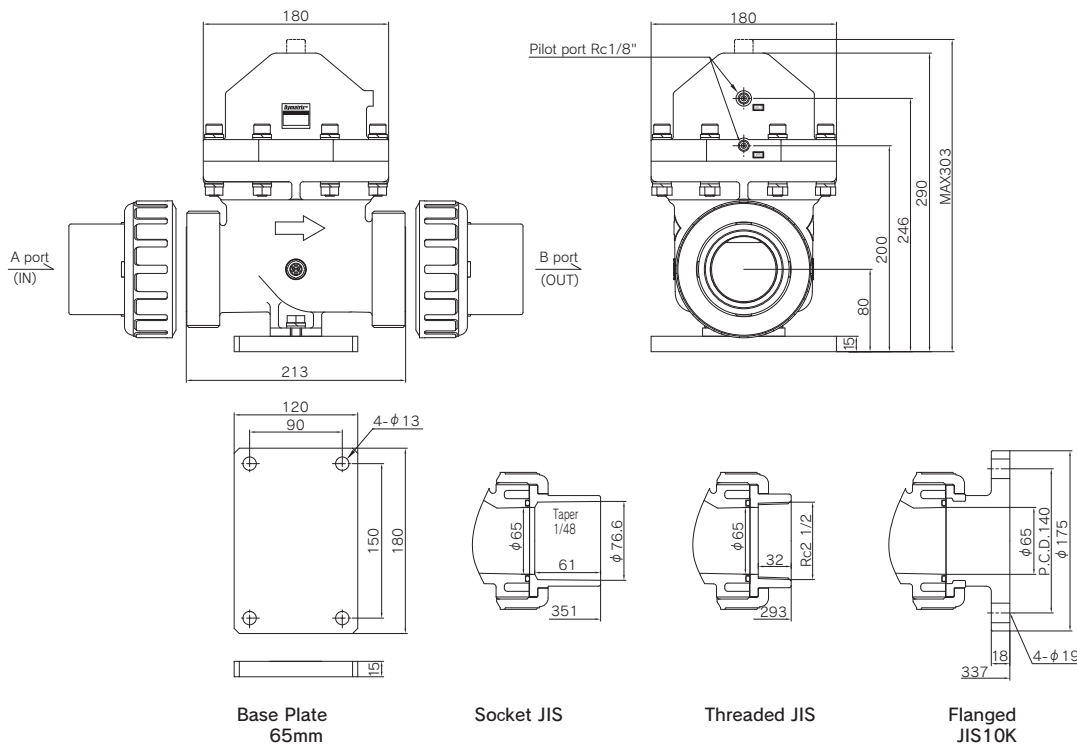


(Unit) : mm

Nominal size	d	Socket			Threaded			Flanged						L1	D1	D2	D4 (Orifice)	D5	H	H1	H2	H3	H4 (MAX)	H5 (MAX)	H6	D6 (MAX)			
		d1	l	1/T	L	d3	l	L	JIS 10K																				
mm	inch							d4	D	C	n	h	L	t															
15	1/2	15	22.11	20	1/34	124.4	Rc1/2	15	117.0	15	95	70	4	15	158.0	12	79.0	48	□50	16	13	102.0	33.0	66.0	93.0	105.5	125.0	144.0	101
20	3/4	20	26.13	24	1/34	147.0	Rc3/4	17	139.0	20	100	75	4	15	191.0	14	88.0	60	□60	22	13	134.5	36.5	80.5	112.5	138.5	157.5	176.5	105
25	1	25	32.16	27	1/34	163.5	Rc1	20	149.5	25	125	90	4	19	205.5	14	94.5	70	□60	22	13	136.5	37.5	82.5	114.5	140.5	159.5	178.5	105
32	1 1/4	40	38.19	30	1/34	226.0	Rc1 1/4	22	215.0	32	135	100	4	19	264.0	16	146.0	100	□95	40	12.5	200.0	53.0	120.5	168.0	208.0	237.5	—	162
40	1 1/2	40	48.21	37	1/37	241.0	Rc1 1/2	25	215.0	40	140	105	4	19	264.0	16	146.0	100	□95	40	12.5	200.0	53.0	120.5	168.0	208.0	237.5	—	162
50	2	50	60.25	42	1/37	283.0	Rc2	28	260.0	50	155	120	4	19	297.0	16	177.0	126	□115	50	13	240.0	66.0	149.0	202.0	251.0	281.0	—	172

※ The dimensions of HDWW is compatible with HDV12/HDVR (15~50).
 ※ Reference values

Base plate 65mm

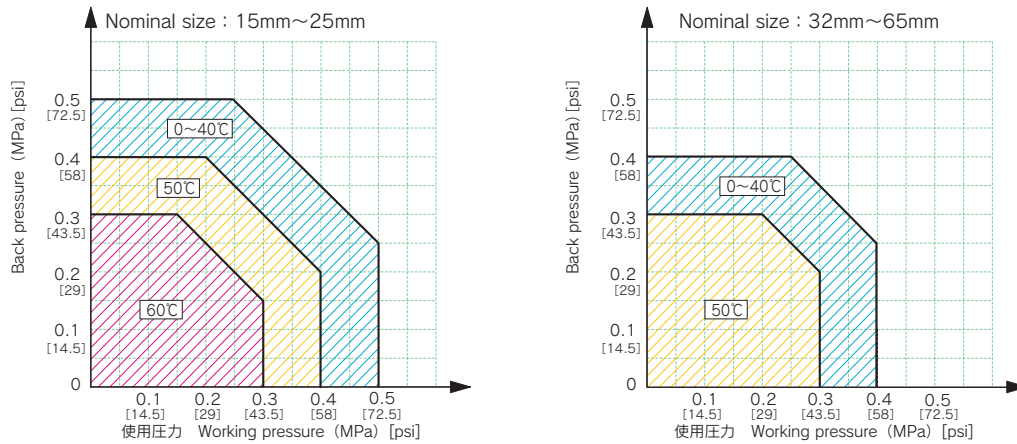


※ Reference values

- AVPV3
- AVPVM
- AVPVS
- AVPVS
- AVSDV
- AVSDVM
- AVSDVT
- AVSAS
- AVSAS
- AVMPV
- AVDIV
- AVDVM
- AVDVM
- AVHPR
- AVHPR
- AVHPR
- AVBPR
- AVCFV
- AVCFV
- HDV12R
- HDV12R
- HDV12R
- HDV12R
- AVQDV
- AVBVX
- AVPJK
- AVSIV
- AVSIV
- AVFCS2
- AVFCN
- OTHER

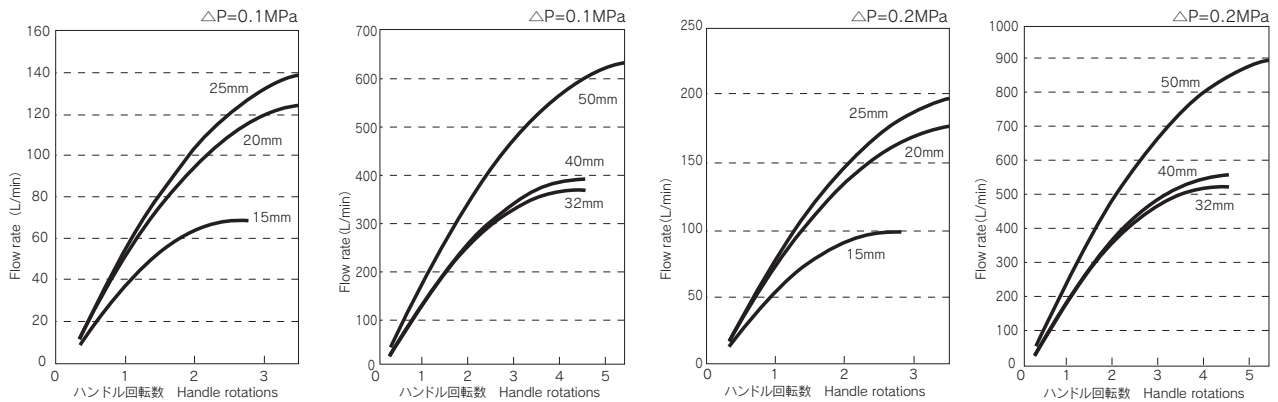
Technical Data

Working pressure – Back pressure

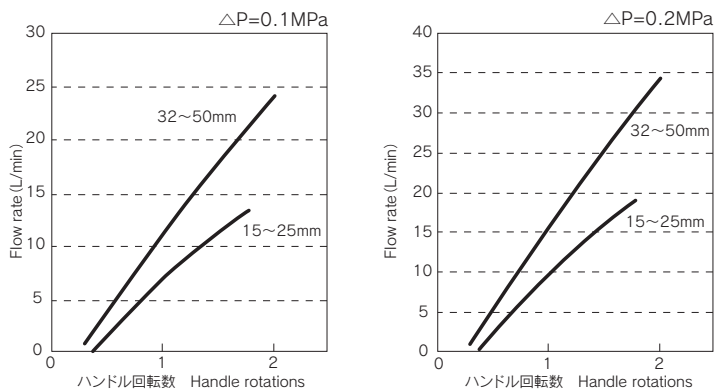


Technical Data(Common data of HDV series)

Handle rotations – Flow rate (Main Channel of Travel stop option)



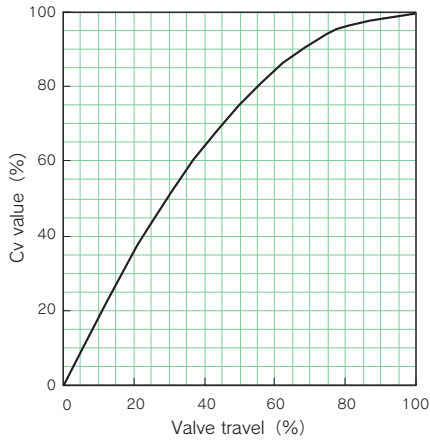
Handle rotations – Flow rate (Bypass channel of Bypass option)



- ※1. Cavitation may be occur when using Travel Stop or Bypass with nearly closed position. Please open the handle at least 1/4 turns from the closure to prevent the cavitation.
- ※2. The data shown here is the experimental values and the reference values.

Technical Data (Common data of HDV series)

Valve travel – Cv value

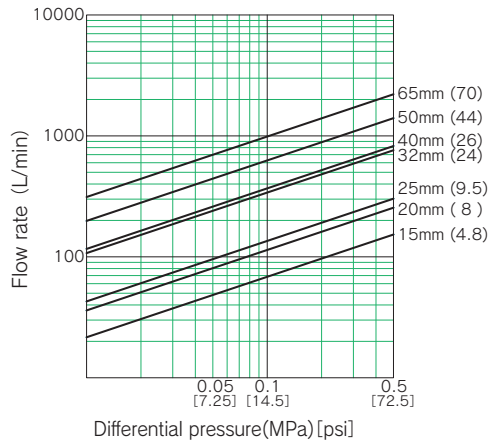


Cv value at full open

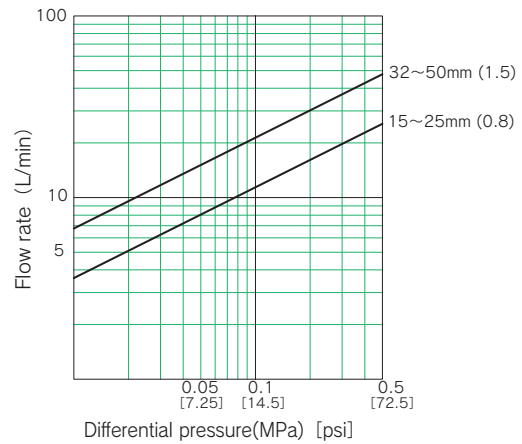
(mm) nominal size	15	20	25	32	40	50
Cv value	4.8	8	9.5	24	26	44

Differential pressure – Flow rate

Main channel



Bypass channel



※ Value in () shows Cv value at full open. The data shown here is the experimental values and the reference values.

- AVPV3
- AVPVM
- AVPVS
- AVSDV
- AVSDVM
- AVSDVT
- AVSAS
- AVMPV
- AVDIV
- AVVM
- AVHPR
- AVHPRM
- AVHPRS
- AVBPR
- AVCFV
- HDV12R
- HDVW
- AVQDV
- AVBVX
- AVPJX
- AVSIV
- AVFCS2
- AVFCN
- OTHER

AVQDV

急速排水弁 | Quick drain valve

Specialty Valves and Control Products **Dymatrix™**



Compact Design

Since AVQDV is including the actuator in the body, it is light, compact and do not require the plumbing space. It is possible to install or remove the valve body easily for both vertical and horizontal piping.

Specifications

項目	Items	Unit	Body material													
			U-PVC							PP						
			Nominal size													
			20 mm	25 mm	32 mm	40 mm	50 mm	80 mm	100 mm	20 mm	25 mm	32 mm	40 mm	50 mm	80 mm	100 mm
作動	Actuation	—	Double acting													
流体温度	Medium Temperature	°C	5 ~ 50							5 ~ 80						
構造耐圧	Proof Pressure	MPa	0.06 8.7psi													
使用圧力範囲	Working Pressure range	MPa	0 ~ 0.02 0 ~ 2.9psi													
弁座漏れ量	Leakage Rate	cm ³ /min	0 (at hydraulic pressure 23°C)													
背圧	Back Pressure	MPa	0													
周囲温度	Ambient Temperature	°C	5 ~ 50													
開閉頻度	Frequency of opening and closing	times/min	< 6													
取付姿勢	Installation direction	—	Any direction													
接続	Connection	—	Socket													
			Threaded													
			Flanged													
オリフィス ^{※1}	Orifice diameter	mm	φ20	φ25	φ31	φ40	φ51	φ70	φ100	φ20	φ25	φ31	φ40	φ51	φ70	φ100
Cv値 ^{※1}	Cv value	—	13.8	14.2	40.5	55	84	194	314	13.7	14.1	40	53.5	83	190	312
Pilot	Pilot pressure	MPa	0.3 ~ 0.5 43.5 ~ 72.5psi													
	Pilot air consumption	L/times(ANR)	0.024	0.09	0.19	0.44	1.17	0.024	0.09	0.19	0.44	1.17				
	Pilot port	—	Rc1/8" , FNPT1/8"													

※1. Typical values.

※2. The value on the table shows the air consumption volume when the pilot pressure is 0.5 MPa.

Ordering Code

AVQDV — **F** **F** ① ② **B** ③ ④ — ⑤

Type	F True Union
Actuation	F (DA) Double acting
① Body material	U U-PVC P PP
② O-ring	V FKM E EPDM F バイロン®F *1 Viflon® F
Specifications	B Bellows
③ Connection *2	TD Socket • JIS NJ Socket • DIN F1 Threaded • Rc Flanged • JIS10K
④ 呼び径 Nominal size	020 *3 20mm 025 25mm 032 32mm 040 40mm 050 50mm 080 80mm 100 100mm
⑤ Body material	n/a Rc 1/8" N FNPT 1/8"

Ordering code example
AVQDV-FFUVBTJ040
AVQDV-FFUVBTJ040-N

*1: "Viflon" is the Terpolymerization Fluorocarbon Elastomere.
*2: Please consult us for the other connecting standard for detail.
*3: Consult us for the connecting standards "NJ" and "F1" of nominal size 20mm.

● Upstream fitting and downstream fitting in case of different connections.

AVQDV — **F** **F** ① ② **B** ③ ④ ⑤ — ⑥

Upstream fitting Downstream fitting

Type	F True Union
Actuation	F Double acting
① Body material	U U-PVC P PP
② O-ring	V FKM E EPDM F バイロン®F *1 Viflon® F
Specifications	B Bellows
③④ Connection *2	TJ Socket • JIS TD Socket • DIN NJ Threaded • Rc F1 Flanged • JIS10K
⑤ 呼び径 Nominal size	020 *3 20mm 025 25mm 032 32mm 040 40mm 050 50mm 080 80mm 100 100mm
⑥ Body material	n/a Rc 1/8" N FNPT 1/8"

Ordering code example
AVQDV-FFUVBTJF1040
AVQDV-FFUVBTJN1040-N

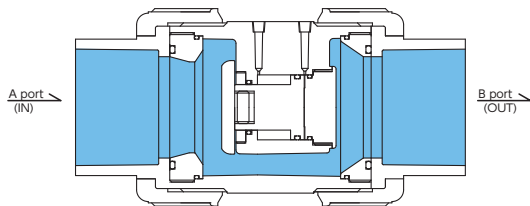
*1: "Viflon" is the Terpolymerization Fluorocarbon Elastomere.
*2: Please consult us for the other connecting standard for detail.
*3: Consult us for the connecting standards "NJ" and "F1" of nominal size 20mm.

Weight List (Reference)

(Unit) : kg

Body material		U-PVC			PP			
		Socket	Threaded	Flanged	Socket	Threaded	Flanged	
Nominal size	mm	inch						
	20	¾	0.4	—	—	0.3	—	—
	25	1	0.4	0.4	0.9	0.3	0.3	0.6
	32	1¼	1.1	1.1	1.8	0.7	0.7	1.2
	40	1½	1.1	1.1	1.8	0.7	0.7	1.2
	50	2	1.8	1.8	2.6	1.2	1.3	1.8
	80	3	3.3	3.2	4.5	2.0	2.0	3.2
100	4	8.2	8.1	9.8	5.0	5.2	6.8	

Parts & Materials

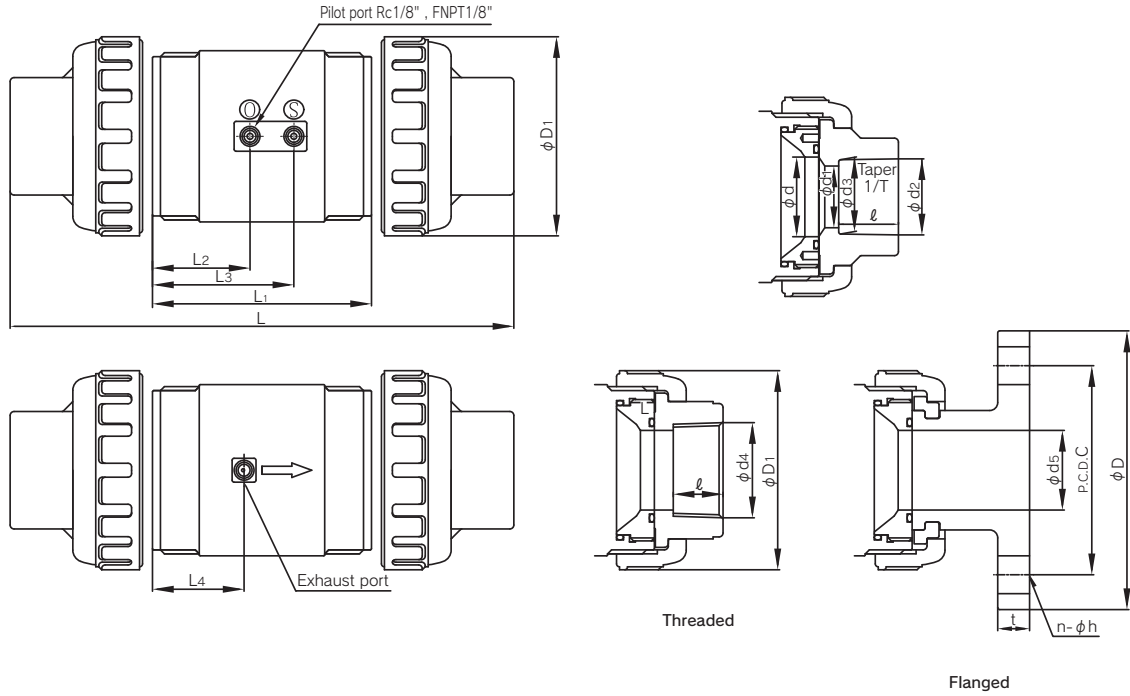


Parts	Material	Wetted parts
Body	U-PVC or PP	○
Seat	PTFE	○
O-ring	FKM / EPDM / バイロン®F Viflon® F	○

AVPV3
AVPVM
AVPVS
AVSDV
AVSDVM
AVSDVT
AVSAS
AVMPV
AVDIV
AVVM
AVHRL
AVHRL-M
AVHPRS
AVBPR
AVCFV
HDV12R
HDVM
AVQDV
AVBVX
AVPJX
AVSIV
AVFCS2
AVFCN
OTHER

Dimensions

Socket



(Unit) : mm

Nominal size		d	Socket					Threaded							
			d ₁	JIS (U-PVC)			DIN (PP)		d ₄	ℓ	U-PVC	PP			
mm	inch	d ₂		ℓ	1/T	L	d ₂	d ₃			ℓ	L	L	L	
20	3/4"	25	20	26.13	24.7	1/34	132	24.5	24.3	16.5	115	Rc ³ / ₄	17	126	—
25	1"	25	25	32.16	27	1/34	140	31.5	31.3	18	118	Rc1	20	126	125
32	1 1/4"	40	31	38.19	30	1/34	190	39.45	39.2	20.5	165	Rc1 1/4	22	179	179
40	1 1/2"	40	40	48.21	37	1/37	205	49.45	49.2	23.5	165	Rc1 1/2	25	179	176
50	2	51	51	60.25	42	1/37	234	62.5	62.1	27.5	190	Rc2	28	211	208
80	3	70	78	89.6	64	1/49	300	89.2	88.85	35.5	237	Rc3	35	249	248
100	4	100	100	114.7	84	1/56	404	109.05	108.65	41.5	319	Rc4	45	347	345

※ Reference values.

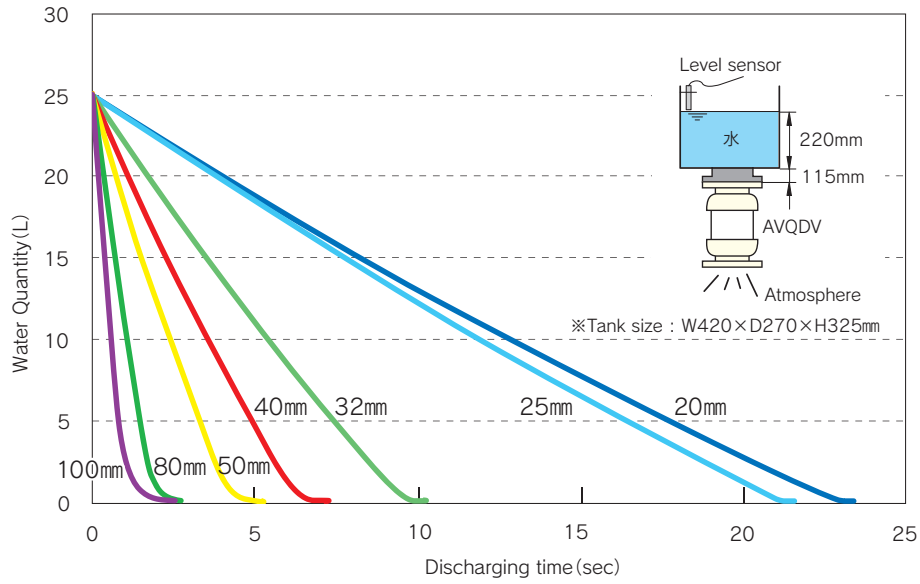
Unit) : mm

Nominal size		Flanged							L ₁	L ₂	L ₃	L ₄	D ₁
		JIS10K											
mm	inch	d ₅	L	t	D	C	n	h					
20	3/4"	—	—	—	—	—	—	—	71	34	46	31.5	70
25	1"	25	182	14	125	90	4	19	71	34	46	31.5	70
32	1 1/4"	40	228	16	135	100	4	19	110	49	71	45.5	100
40	1 1/2"	40	228	16	140	105	4	19	110	49	71	45.5	100
50	2	51	248	16	155	120	4	19	128	56	84	53.75	126
80	3	78	290	18	185	150	8	19	155	68.75	104.75	66.5	152
100	4	100	359	18	210	175	8	19	205	89	141	86.5	210

※ Reference values.

Technical Data

Draining performance



※The data shown here is in the case of vertical piping.
 The discharging time depends on the condition of downstream piping.
 The data shown here is the experimental values and the reference values.

- AVP/3
- AVP/M
- AVP/S
- AVP/S
- AVSDV
- AVSD/M
- AVSD/V
- AVSAS
- AVMPV
- AVD/V
- AVN/M
- AVH/P
- AVH/P
- AVH/P
- AVB/P
- AVCFV
- HDV/2R
- HDV/W
- AVQDV
- AVB/V
- AVP/J
- AVS/V
- AVFCS2
- AVFCN
- OTHER

AVBVX

チューブ接続用ボールバルブ Ball valve for PFA fitting

Specialty Valves and Control Products **Dymatrix™**



Efficient Plumbing

The plumbing from the hard piping to PFA connection was facilitated without the screw connection, and the leakage from the part of screwing in was lost. Moreover, the time of screwing in can be saved.

Abundant line-up

Abundant connection line-up are collected. Out to say nothing of the combination with the hard piping and both sides PFA connection putting is also possible.

Specifications

項目 Items	Unit	Nominal size				
		15mm 1/2inch			20mm 3/4inch	25mm 1inch
		Size				
		6 × 4	10 × 8	12 × 10	19 × 16	25 × 22
		6.35 × 4.35	9.53 × 6.35	12.70 × 9.53	19.05 × 15.88	25.40 × 22.20
作動 Actuation	—	Manual				
流体温度* Medium Temperature	℃	U-PVC 0 ~ 50 / C-PVC 0 ~ 90 PP 0 ~ 80 / PVDF 0 ~ 100				
使用圧力範囲* Working Pressure range	MPa	0 ~ 0.5 0 ~ 72.5psi				
弁座漏れ量 Leakage Rate	cm ³ /min	0 (at hydraulic pressure 23℃)				
背圧* Back Pressure	MPa	0 ~ 0.5 0 ~ 72.5psi				
周囲温度 Ambient Temperature	℃	5 ~ 50				
取付姿勢 Installation direction	—	Any direction				
接続 Connection	—	Socket				
		Threaded				
		Flanged Flowell 20 series Flowell 60 series				
		Super Type Pillar fitting				
		Super 300 Type Pillar fitting				
		Flare Type				
		Hose nipple				
Orifice diameter	mm	φ 15			φ 20	φ 25

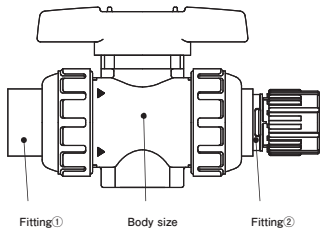
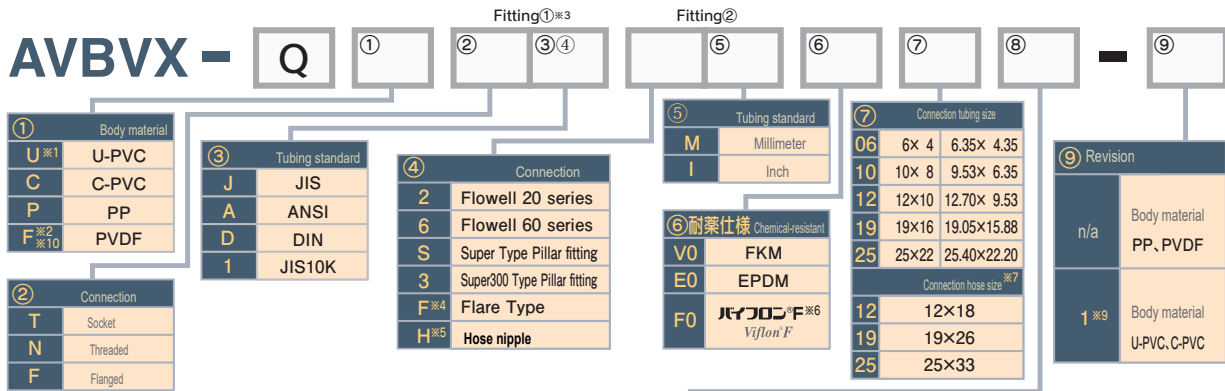
※ About relations of "Medium Temperature" and "Working pressure range" is different by fitting, please refer to specifications of a fitting maker.

※ Do not use the valve in conditions where the fluid contains slurry. (The valve may not work properly.)

There are some liquids which prone to be vaporized (Off-Gassing) in piping, such as H₂O₂, NaClO and so on. It could be cause of a dangerous condition due to irregular pressure increases. Therefore, be sure to take the necessary safety precautions.

Ordering Code

Upstream : Piping / Downstream : Tube or Hose nipple



Body size ※8	Connection	2, 6, F				S, 3				H					
		Tubing size	06	10	12	19	25	06	10	12	19	25	12	19	25
D (15mm)	(15mm)	○	○	○	○	○	○	○	○	○	○	○	○	○	○
E (20mm)	(20mm)	○	○	○	○	○	○	○	○	○	○	○	○	○	○
F (25mm)	(25mm)	○	○	○	○	○	○	○	○	○	○	○	○	○	○

※cannot choose the X.

- ※1 : In the case of the connection is "H", only "U" can be selected for the "Body Material".
- ※2 : In the case of Body material "F", It becomes the applicable article of the Export Trade Control Order.
- ※3 : Port size of Fitting① are the same size as port size of body.
- ※4 : In the case of the connection is "F", only "1 (Inch)" can be selected for the "Tubing Standard".
- ※5 : In the case of the connection is "H", only "M (Millimeter)" can be selected for the "Tubing Standard".
- ※6 : "Viton" is the Terpolymerization Fluorocarbon Elastomers.
- ※7 : In the case of the connection is "H", it can be selected.
- ※8 : In the case of "Connection" and "Tubing size" of the combination of "無記入 (n/a)", "Body size" is blank.
- ※9 : In the case of the revision is "-1", Ball valve is 21a type.
- ※10 : In the case of the Body material is "F", only "A", "D" can be selected for the Tubing standard.

Ordering code example
AVBVX-QUTJ3MV019F-1

Body material U-PVC, Connection① socket JIS.

Connection② Super300 Type Pillar fitting, FKM, Connection tubing size 19X16mm, Body size 25mm.

AVBVX-QCNJ2IF012

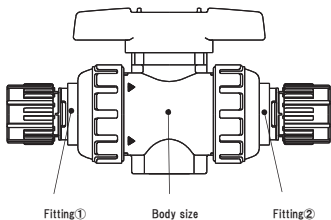
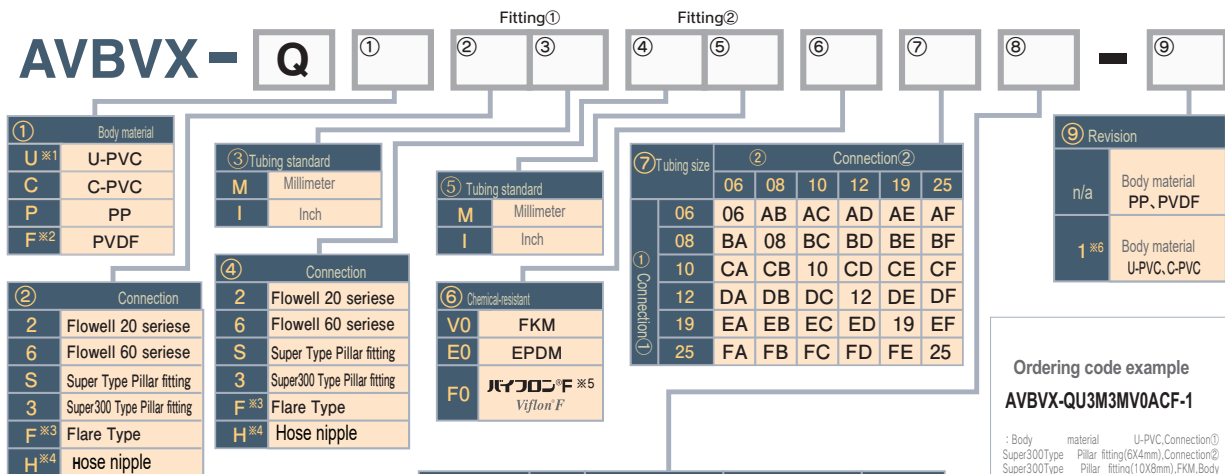
Body material C-PVC, Connection① Threaded, Connection② Flowell 20 series (inch), Viton F, Connection tubing size 12.7X9.53mm, Body size 15mm.

AVBVX-QUTJHME019D-1

Body material U-PVC, Connection① socket JIS.

Connection② Super300 Type Pillar fitting, FKM, Connection tubing size 19X16mm, Body size 25mm.

Both upstream and downstream fitting in case of tube / hose nipple.



Body size	Connection	2, 6, F				S, 3				H					
		Tubing size	06	10	12	19	25	06	10	12	19	25	12	19	25
D (15mm)	(15mm)	○	○	○	○	○	○	○	○	○	○	○	○	○	○
E (20mm)	(20mm)	○	○	○	○	○	○	○	○	○	○	○	○	○	○
F (25mm)	(25mm)	○	○	○	○	○	○	○	○	○	○	○	○	○	○

※cannot choose the X.

- ※1 : In the case of the connection is "H", only "U" can be selected for the "Body Material".
- ※2 : In the case of Body material "F", It becomes the applicable article of the Export Trade Control Order.
- ※3 : In the case of the connection is "F", only "1 (Inch)" can be selected for the "Tubing Standard".
- ※4 : In the case of the connection is "H", only "M (Millimeter)" can be selected for the "Tubing Standard".
- ※5 : "Viton" is the Terpolymerization Fluorocarbon Elastomers.
- ※6 : In the case of the revision is "-1", Ball valve is 21a type.

Ordering code example
AVBVX-QU3M3MV0ACF-1

Body material U-PVC, Connection① Super300 Type Pillar fitting (6X4mm), Connection② Super300 Type Pillar fitting (10X8mm), FKM Body size 25mm.

AVBVX-QP3M2IF010E

Body material PP, Connection① Super300 Type Pillar fitting (10X8mm), Connection② Flowell 20 series (9.53X6.35mm), Viton F, Body size 20mm.

AVBVX-QUHMHME0EDD-1

Body material U-PVC, Connection① Hose nipple (19mm), Connection② Hose nipple (12mm), EPDM, Body size 15mm.

AVBVX-QF3I3IV012E

Body material PVDF, Connection① Super300 Type Pillar fitting (12.7X9.5mm), Connection② Super300 Type Pillar fitting (12.7X9.5mm), FKM, Body size 20mm.

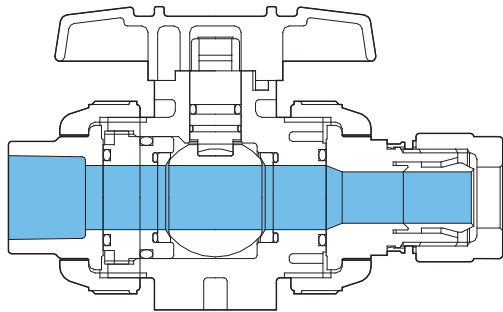
- AVPV3
- AVPVM
- AVPVL
- AVSDV
- AVSDVM
- AVSDVT
- AVSAS
- AVMPV
- AVDIV
- AVVM
- AVHRL
- AVHRLM
- AVHPRS
- AVBPR
- AVCFV
- AVD12R
- HDVW
- AVQDV
- AVBVX
- AVPJX
- AVSIV
- AVFCS2
- AVFCN
- OTHER

Weight List (Reference)

(Unit) : kg

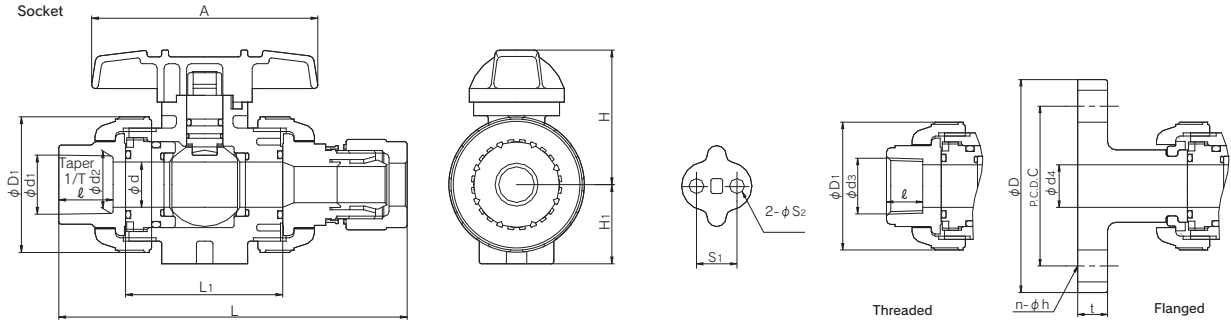
		Body material			
		U-PVC	C-PVC	PP	PVDF
Nominal size	Connection	Socket			
	15mm 1/2"	0.2	0.2	0.2	0.2
	20mm 3/4"	0.3	0.3	0.3	0.3
	25mm 1"	0.4	0.5	0.4	0.5
	Connection	Threaded			
	15mm 1/2"	0.2	0.2	0.2	0.2
	20mm 3/4"	0.3	0.3	0.3	0.3
	25mm 1"	0.4	0.5	0.4	0.5
	Connection	Flanged			
	15mm 1/2"	0.4	0.4	0.3	0.5
	20mm 3/4"	0.6	0.7	0.5	0.7
	25mm 1"	0.8	0.9	0.7	1.0

Parts & Materials



Parts	Material	Wetted parts
Body	U-PVC	
Ball	C-PVC	
Union	PP	○
End Connector	PVDF	
End Connector	PTFE, U-PVC (Hose nipple)	○
Union nut	U-PVC, C-PVC	
Stem	PP, PVDF	
Seat	PTFE	○
O-ring	FKM EPDM パライオン® F Viflon® F	○
Handle	ABS	
Nut	PFA	

Dimensions



(Unit) : mm

Size		d	D1	H	H1	A	S1	S2	S3	L1	Socket JIS (U-PVC, C-PVC)											
											L							d1	l	1/T	Flowell 20 series	
Connection size	tubing	Connection hose size	inch		mm		inch		mm		inch	mm	inch	mm	inch	mm	inch				mm	inch
6 × 4	6.35 × 4.35	—	15	48	51.5	29	92	19.0	7.3	11	64	22.11	20	1/34	121	120	134	133	122.5	122	131	—
10 × 8	9.53 × 6.35	—													125.5	124	142	140	129.5	128	134	—
12 × 10	12.70 × 9.53	12 × 18	20	60	59.5	35	100	19.0	7.3	11	69	26.13	24	1/34	129.5	128	142	140	133	132	136	155
19 × 16	19.05 × 15.88	19 × 26													148.5	148.5	161.5	161.5	157	153.5	155.5	181.5
25 × 22	25.40 × 22.20	25 × 33	25	70	68	39	110	19.0	7.3	11	76	32.16	27	1/34	172.5	172.5	181.5	180	175.5	173.5	177.5	205.5

※ Reference values.

(Unit) : mm

Size		Socket																				
		DIN (PP)						DIN (PVDF)														
Connection size	tubing	Connection hose size	d1	d2	l	L					d1	d2	l	L								
						Flowell 20 series		Flowell 60 series		Super Type Pillar fitting				Super 300 Type Pillar fitting	Flare Type	Flowell 20 series		Flowell 60 series		Super Type Pillar fitting	Super 300 Type Pillar fitting	Flare Type
						inch	mm	inch	mm	inch/mm	inch/mm	inch			inch	mm	inch	mm	inch/mm	inch/mm	inch	
6 × 4	6.35 × 4.35	—	19.5	19.3	14.5	116.5	115.5	115.5	129.5	118	117.5	126.5	19.5	19.3	14.5	116.5	115.5	129.5	128.5	118	117.5	126.5
10 × 8	9.53 × 6.35	—				121	119.5	119.5	137.5	125	123.5	129.5				121	119.5	137.5	135.5	125	123.5	129.5
12 × 10	12.70 × 9.53	12 × 18	24.5	24.3	16	125	123.5	123.5	137.5	128.5	127.5	131.5	24.5	24.3	16	125	123.5	137.5	135.5	128.5	127.5	131.5
19 × 16	19.05 × 15.88	19 × 26				141	141	141	154	149.5	146	148				141	141	154	154	149.5	146	148
25 × 22	25.40 × 22.20	25 × 33	31.5	31.3	18	161.5	161.5	161.5	170.5	164.5	162.5	166.5	31.5	31.3	18	161.5	161.5	170.5	169	164.5	162.5	166.5

※ Reference value.

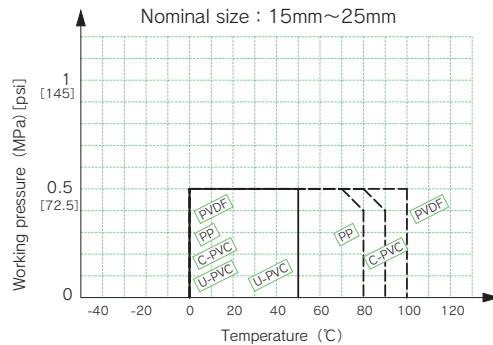
(Unit) : mm

Size		Threaded										Flange												
		JIS										JIS10K												
Connection size	tubing	Connection hose size	d3	l	L					d4	D	C	n	h	L					t				
					Flowell 20 series		Flowell 60 series		Super Type Pillar fitting						Super 300 Type Pillar fitting	Flare Type	Hose nipple	Flowell 20 series			Flowell 60 series		Super Type Pillar fitting	Super 300 Type Pillar fitting
						inch	mm	inch	mm	inch/mm	inch/mm	inch			inch	mm	inch	mm	inch/mm	inch/mm	inch	mm		
6 × 4	6.35 × 4.35	—	RC1/2	15	118	117	131	130	119.5	119	128	15	95	70	4	15	138.5	137.5	151.5	150.5	140	139.5	148.5	12
10 × 8	9.53 × 6.35	—			122.5	121	139	137	126.5	125	131						—	143	141.5	159.5	157.5	147	145.5	
12 × 10	12.70 × 9.53	12 × 18	RC3/4	17	126.5	125	139	137	130	129	133	152.0	20	100	75	4	147	145.5	159.5	157.5	150.5	149.5	153.5	172.5
19 × 16	19.05 × 15.88	19 × 26			144.5	144.5	157.5	157.5	153	149.5	151.5	177.5					170.5	170.5	183.5	183.5	179	175.5	177.5	203.5
25 × 22	25.40 × 22.20	25 × 33	RC1	20	165.5	165.5	174.5	173	168.5	166.5	170.5	198.5	25	125	90	19	193.5	193.5	202.5	201	196.5	194.5	198.5	226.5

※ Reference values.

Technical Data

Medium temperature - Working pressure



※About relations of "Medium Temperature" and "Working pressure range" is different by fitting, please refer to specifications of a fitting maker.

AVPJX

チューブ接続用フレハブジョイント Prefab joint for PFA fitting

Specialty Valves and Control Products **Dymatrix™**



Efficient Plumbing

The plumbing from the hard piping to PFA connection was facilitated without the screw connection, and the leakage from the part of screwing in was lost. Moreover, the time of screwing in can be saved.

Specifications

項目 Items	Unit	Nominal size				
		15mm 1/2inch		20mm 3/4inch	25mm 1inch	
		Size				
		6 × 4	10 × 8	12 × 10	19 × 16	25 × 22
		6.35 × 4.35	9.53 × 6.35	12.70 × 9.53	19.05 × 15.88	25.40 × 22.20
流体温度※ Medium Temperature	℃	U-PVC 0 ~ 50 / C-PVC 0 ~ 90				
使用圧力範囲※ Working Pressure range	MPa	0 ~ 0.5 0 ~ 72.5psi				
周囲温度 Ambient Temperature	℃	0 ~ 50				
接続 Connection	—	Socket / Threaded Flowell 20 series / Flowell 60 series Super Type Pillar fitting / Super 300 Type Pillar fitting Flare Type / Hose nipple				
Orifice diameter	mm	φ 15		φ 20	φ 25	

※ About relations of "Medium Temperature" and "Working pressure range" is different by fitting, please refer to specifications of a fitting maker.

Ordering Code

AVPJX — ① — ② — **J** — ③ — ④ — ⑤ — ⑥ — ⑦

① Body material

U※1 U-PVC

C C-PVC

② Connection

T Socket

N※7 Threaded

③ Connection

2 Flowell 20 serie

6 Flowell 60 serie

S Super Type Pillar fitting

3 Super300 Type Pillar fitting

F※2 Flare Type

H※3 Hose nipple

④ Tubing standard

M Millimeter

I Inch

⑤ Chemical-resistant

V0 FKM

E0 EPDM

F0 **バイフロン**※4
Viflon F

⑥ Connection tubing size

06	6×4	6.35×4.35
10	10×8	9.53×6.35
12	12×10	12.70×9.53
19	19×16	19.05×15.88
25	25×22	25.40×22.20

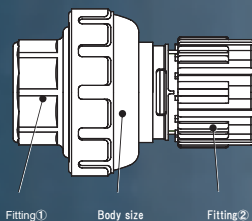
⑦ Connection hose size※5

12	12×18
19	19×26
25	25×33

⑦ Body size ※6	Connection	2, 6, F					S, 3			H				
		06	10	12	19	25	06	10	12	19	25	12	19	25
D (15mm)	Tubing size	N/A	○	×	N/A	×	×	N/A	○	○	○	○	○	○
E (20mm)		○	○	○	N/A	○	○	○	○	N/A	×	○	NA	○
F (25mm)		○	○	○	○	NA	○	○	○	○	○	○	○	NA
G (32mm)		○	○	○	○	○	○	○	○	○	○	○	○	○
H (40mm)		○	○	○	○	○	○	○	○	○	○	○	○	○
J (50mm)		○	○	○	○	○	○	○	○	○	○	○	○	○

※annot choose the X. ※無記入 = n/a

Body material	T		N		2		6		S		3		F		H	
	J	J	M/I	M/I	M/I	M/I	M/I	M/I	I	I	I	M	M	M	M	
U-PVC	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
C-PVC	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



Ordering code example
AVPJX-UTJ3IV019

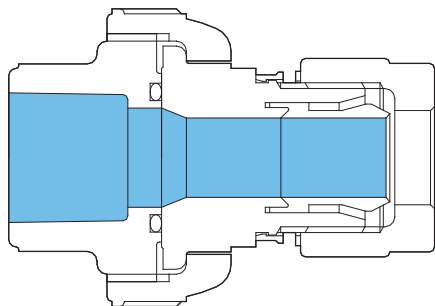
Body material U-PVC, Connection① socket JIS, Connection② Super300 Type Pillar fitting, FKM, Connection tubing size 19X16mm, Body size 25mm.

AVPJX-CTJ2IF012H

Body material C-PVC, Connection① Socket, Connection② Flowell 20 series(inch), Viflon F, Tubing size 12.7X9.53mm, Body size 40mm.

※1 : In the case of the connection is "H", only "U" can be selected for the "Body Material".
 ※2 : In the case of the connection is "F", only "I (Inch)" can be selected for the "Tubing Standard".
 ※3 : In the case of the connection is "H", only "M(Millimeter)" can be selected for the "Tubing Standard".
 ※4 : "Viflon" is the Terpolymerization Fluorocarbon Elastomers.
 ※5 : In the case of the connection is "H", it can be selected.
 ※6 : In the case of "Connection" and "Tubing size" of the combination of "無記入(n/a)", "Body size" is blank.
 ※7 : If C-PVC(C) is chosen for Body Material Volume, Rc(N) or Hose(H) at Connection Volume can not be chosen

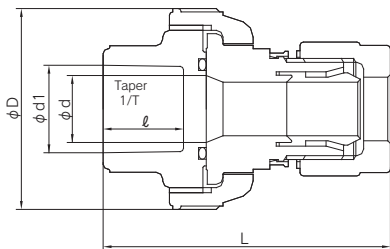
Parts & Materials



Parts	Material	Wetted parts
Body	U-PVC, C-PVC	○
End Connector	PTFE, U-PVC (Hose nipple)	○
Union nut	U-PVC, C-PVC	
O-ring	FKM EPDM バイロン® F Viflon® F	○
Nut	PFA	

Dimensions

Socket

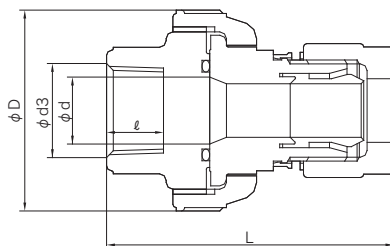


(Unit) : mm

Size			Socket											
			JIS (U-PVC, C-PVC)											
			L											
Connection tubing size	Connection hose size	d	d1	ℓ	1/T	Flowell 20 series		Flowell 60 series		Super Type Pillar fitting	Super 300 Type Pillar fitting	Flare Type	Hose nipple	
						inch	mm	inch	mm	inch/mm	inch/mm	inch	mm	
6 × 4	6.35 × 4.35	—	15	22.11	20	1/34	59	58	72	71	60.5	60	69	—
10 × 8	9.53 × 6.35	—					63.5	62	80	78	67.5	66	72	—
12 × 10	12.70 × 9.53	12 × 18	20	26.13	24	1/34	67.5	66	80	78	71	70	74	93
19 × 16	19.05 × 15.88	19 × 26					81	81	94	94	89.5	86	88	114
25 × 22	25.40 × 22.20	25 × 33	25	32.16	27		97.5	97.5	106.5	105	100.5	98.5	102.5	130.5

※ Reference values

Threaded



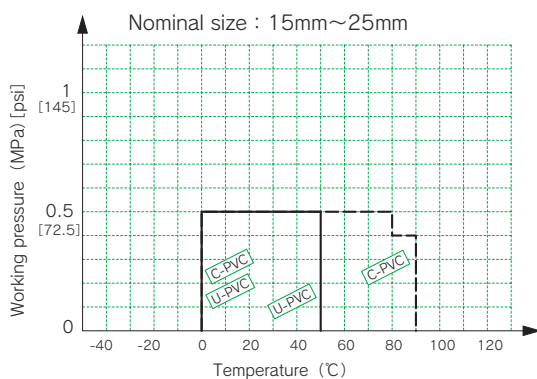
(Unit) : mm

Size			Threaded										
			JIS (U-PVC, C-PVC)										
			L										
Connection tubing size	Connection hose size	d3	ℓ	Flowell 20 series		Flowell 60 series		Super Type Pillar fitting	Super 300 Type Pillar fitting	Flare Type	Hose nipple	D	
				inch	mm	inch	mm	inch/mm	inch/mm	inch	mm		
6 × 4	6.35 × 4.35	—	RC1/2	15	59	58	72	71	60.5	60	69	—	
10 × 8	9.53 × 6.35	—			63.5	62	80	78	67.5	66	72	—	
12 × 10	12.70 × 9.53	12 × 18	RC3/4	17	67.5	66	80	78	71	70	74	93	
19 × 16	19.05 × 15.88	19 × 26			81	81	94	94	89.5	86	88	114	
25 × 22	25.40 × 22.20	25 × 33	RC1	20	97.5	97.5	106.5	105	100.5	98.5	102.5	130.5	70

※ Reference values

Technical Data

Medium temperature - Working puresure



※About relations of "Medium Temperature" and "Working pressure range" is different by fitting, please refer to specifications of a fitting maker.

- AVPV3
- AVPVM
- AVPSL
- AVSDV
- AVSDVM
- AVSDVT
- AVSAS
- AVMPV
- AVDIV
- AVWM
- AVHRL
- AVHRL-M
- AVHRL
- AVHPRS
- AVBPR
- AVCFV
- HDV12R
- HDVM
- AVQDV
- AVBVX
- AVPJX
- AVSIV
- AVFCS2
- AVFCN
- OTHER

AVSIV

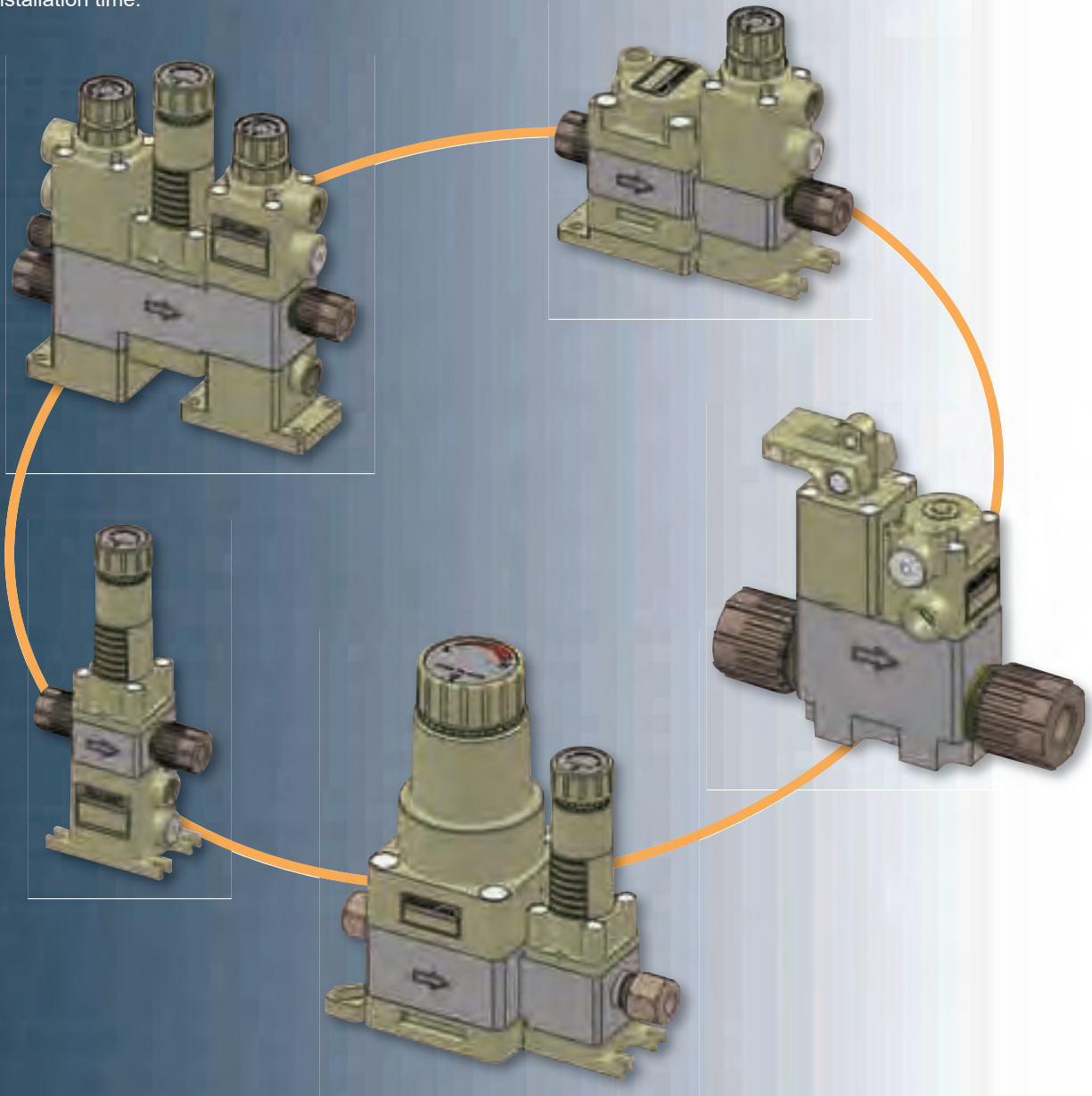
特殊集積弁 Specialty Integrated Valves

Specialty Valves and Control Products **Dymatrix™**



We offers truly one-of-a-kind valves

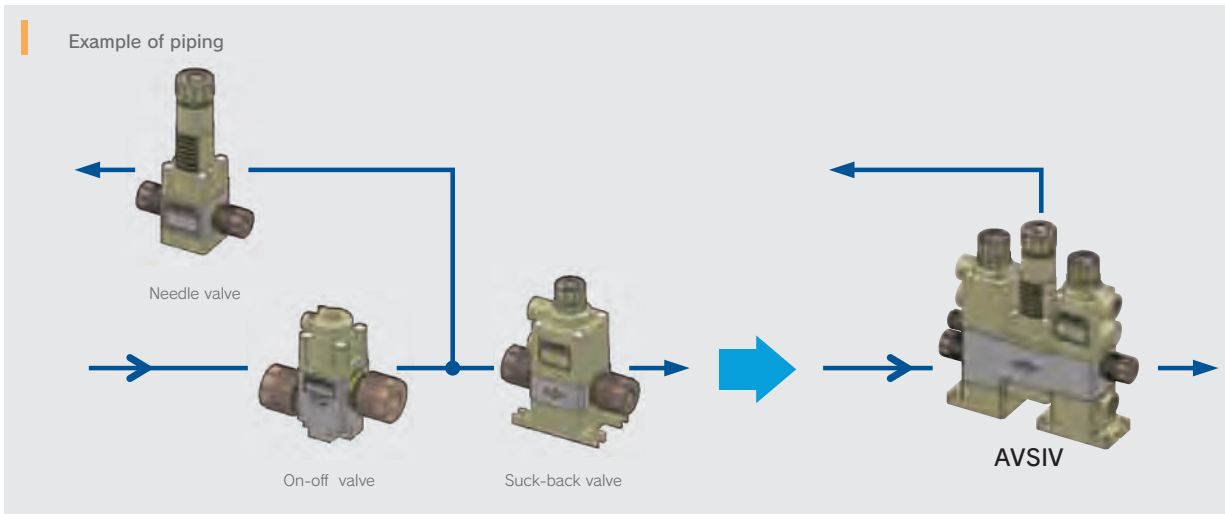
Application specific solutions engineered to meet unique design challenges. Integrate any combination of Dymatrix components onto a single hybrid valve body. These multi-function valves provide a compact solution, eliminating multiple connections and possible leak points. AVSIV valves simplify piping layout in complex systems and reduce installation time.



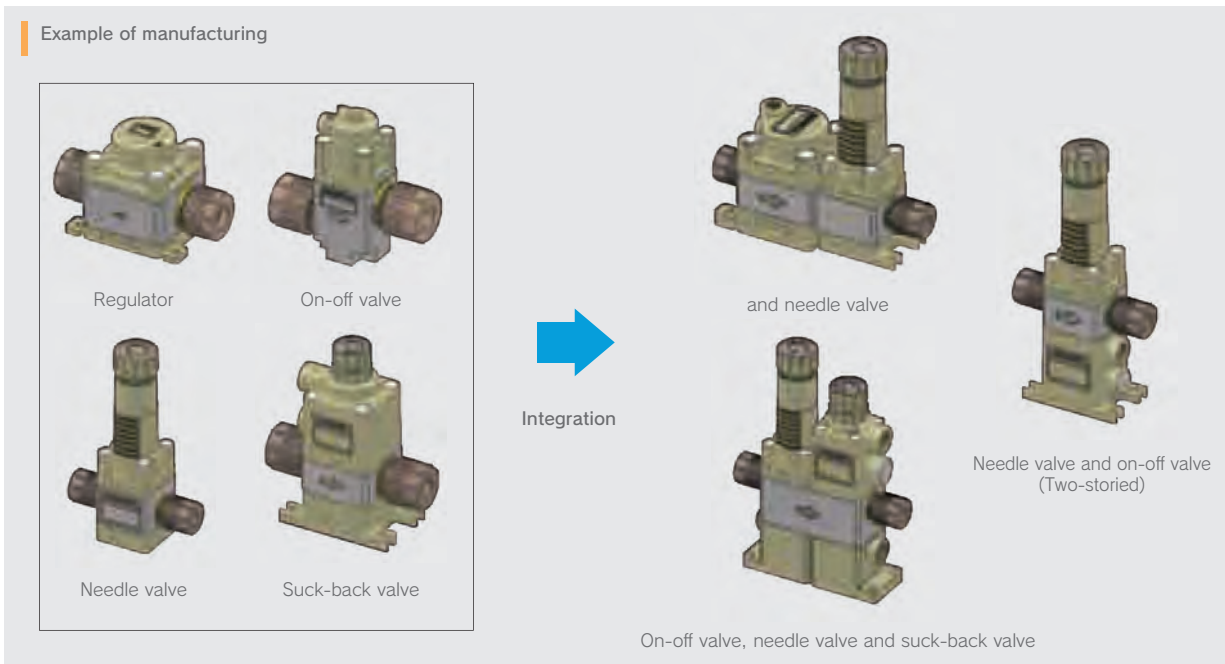
※ Customized and different combinations of valves that meet all needs.
※ Please contact us for detailed specifications on any necessary requirements.

Savings made with equipment space

1. Simplifying complicated piping: Simplifying piping layouts in equipment reduces man-hours needed for installation, while also increasing flexibility in terms of equipment design.
2. Reducing dead spaces: A combination of piping and numerous valves leads to inevitable stagnation within piping and valves. The integration of valves and elimination of additional piping solves this very problem.
3. Cost reductions: The number of piping materials can be reduced to a minimum.



Integrating different valves



- AVPV3
- AVPVM
- AVPVSL
- AVSDV
- AVSDVM
- AVSDVT
- AVSAS
- AVMPV
- AVDIV
- AVWVM
- AVHPR
- AVHRLM
- AVHRLS
- AVBPR
- AVCFV
- HDV12R
- HDVVM
- AVQDV
- AVBVX
- AVPJX
- AVSIV
- AVFCS2
- AVFCN
- OTHER

AVFCS2

スラリー用流量コントローラー Flow Controller for Slurry

Specialty Valves and Control Products **FALCONICS™**



Stress free

A straight flow path is achieved by combining an electric pinch valve and straight type ultrasonic flow meter. Reduces stress on CMP slurry, agglomeration and wafer scratching.

Excellent air bubble resistance

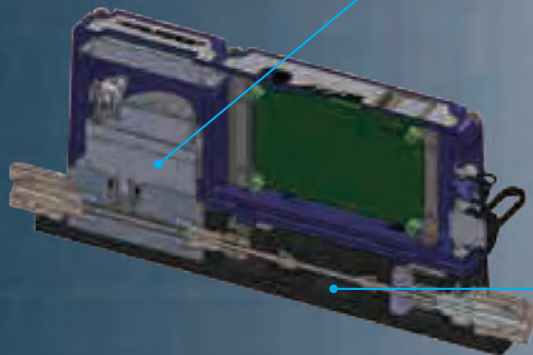
A straight flow path results in fewer air bubbles, thereby reducing the possibility of abnormal air bubble formations that could halt equipment.



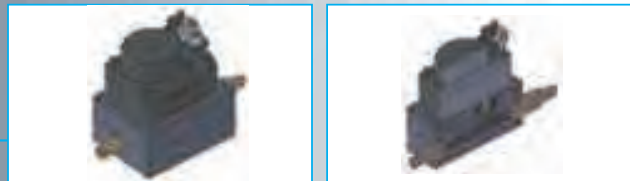
Wide range of functions available

- Autopurge function: On detecting that air bubbles have become mixed, the valve is opened fully to allow them to pass through.
- LCD indication: Current operating status and error conditions can be seen at a glance.
- Error log: Maintains error logs in memory for easy checking of any abnormal conditions.
- Self-diagnosis function: By monitoring ultrasonic reception and flow rate measurement statuses, measurement deviations are detected.
- Temperature correction function: Measures fluid temperatures and automatically corrects the effects of adverse temperature ranges.

Our one-of-a-kind flow controller for slurry combining AVFCS's unique straight type flow meter with a pinch valve is now available in a downsized format.



Electric pinch valve



This control valve takes advantage of a pinch valve with a straight passage structure, which is based on ample experience and excellent durability in terms of slurry solutions.

Straight type ultrasonic flow meter



A straight passage structure makes it possible to reduce the amount of any internal residues of slurry solutions and/or air bubbles.

Granted patents]
(Patent No. 4233445 in Japan; patents granted in the US and China; patents pending in Korea and Taiwan)

Specifications

Category		Unit	Specifications
Operating environment	作 動 Actuation	—	—
	流 体 温 度 ^{※1} Fluid temperature	℃	15 ~ 35
	構 造 耐 圧 Proof pressure	MPa	1.0 145psi
	使 用 圧 力 範 囲 Working pressure range	MPa	0.1 ~ 0.3 14.5psi ~ 43.5psi
	使 用 差 圧 範 囲 Working differential pressure range	MPa	0.1 ~ 0.3 14.5psi ~ 43.5psi
	周 囲 温 度 ^{※1} Ambient temperature	℃	20 ~ 30
	開 閉 頻 度 Frequency of opening & closing	回 /min times/min	< 10
	取 付 姿 勢 ^{※2} Installation direction	—	With restrictions
	接 続 Connection	—	Super 300 type pillar fitting, Flare type
	接 続 口 径 Connection tubing size	mm	6.35 × 3.95 (6 × 4), 6.35 × 4.35
	オ リ フ ィ ス ^{※4} _{※6} Orifice diameter	mm	1.6
	重 量 Weight	kg	0.9
	電 源 Power supply	V	24VDC ± 10%
消 費 電 流 Consumption current	A	≤ 0.4A	
Performance	流 量 範 囲 Flow range	mL/min	25 ~ 250, 50 ~ 500
	精 度 ^{※3} Accuracy	—	1%R.D (> 50mL/min) / 0.75mL/min (≤ 50mL/min)
	再 現 性 ^{※3} Repeatability	—	0.5%R.D (> 50mL/min) / 0.5mL/min (≤ 50mL/min)
	弁 座 漏 れ 量 Valve seat leakage	—	0 cm ³ /min at hydraulic pressure of 23℃)
	C v 値 ^{※4} _{※6} Cv value	—	0.05 (Typical)
	応 答 時 間 ^{※5} Response time	Sec	≤ 1 (Typical)
	閉 止 時 間 ^{※5} Closing time	Sec	≤ 1 (Typical)
Storage environment	周 囲 温 度 Ambient temperature	℃	10 ~ 40
	湿 度 Ambient humidity	%	30 ~ 80% RH () (Non-condensing)

※1. This product is calibrated with pure water at 25 degrees Celsius with an ambient temperature of 25 degrees Celsius. If using a different type of fluid and/or at any other temperature, it is recommended to calibrate the product in an actual environment.

※2. Please refer to separate "Instruction Manual."

※3. Performance in the case of pure water at 25 degrees Celsius.

※4. Typical value.

※5. Performance with differential pressure of 0.13 MPa or over.

※6. It is reference value.

Selection of model

AVFCS 2	—	A	0	2	5	0	N	F	I	—	0	0	0	0	0
Flow range			0	2	5	0									
			0	5	0	0									
Chemical resistancespecifications							N				Standard specifications ^{※1}				
Fitting type								F			Flare type fitting: 6.35×4.35mm				
								3			Super 300 type pillar fitting: 6.35×3.95mm / 6×4mm				
Standard									I		inch				
									M		millimeter				
Special product code ^{※2}											0	0	0	0	0

※1. Products with standard specifications are made up of the following materials: Materials that come in contact with fluid: Silicon based rubber, PFA and PTFE; other sealing materials: FKM

※2. Special product codes are used when given in the separate Instruction Manual. This information will be released by the ASAHI YUKIZAI CORPORATION.

AVPV3
AVPVM
AVPVS
AVSDV
AVSDVM
AVSDVM
AVSDVT
AVSAS
AVMPV
AVDIV
AVVM
AVHRL
AVHRLM
AVHPRS
AVBPR
AVCFV
HDV12R
HDVM
AVQDV
AVBVX
AVPJX
AVSIV
AVFCS2
AVFCN
OTHER

Functions

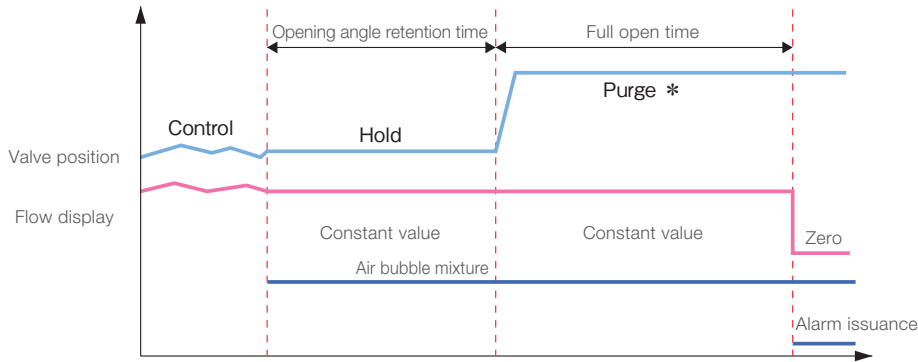
Auto purge function

- When air bubbles have become mixed, the device will automatically take the following action:

※ Purge : Fully opens valve position(as shown in example below).

It is possible to choose to open the valve to a specified position or retain the opening angle.

※ Immediately after air bubbles have been expelled, the controller will resume to normal control operations.

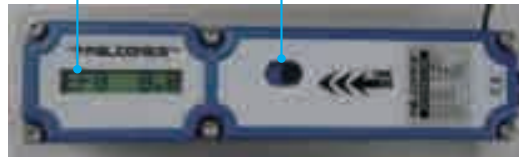


LCD indication

- Can monitor error information, operational status and current flow rates in real time.

[EFO xxx.x]

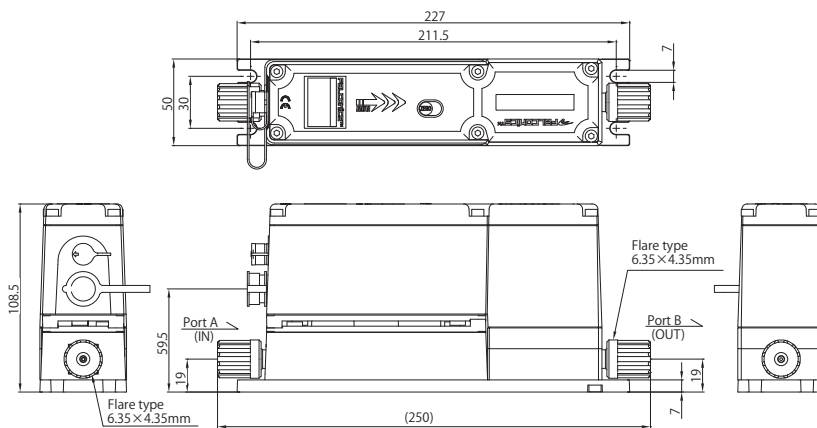
[EFO xxx.x]
EFO: air bubble mixture error;
xxx.x: current flow rate



Re-zero adjustment button

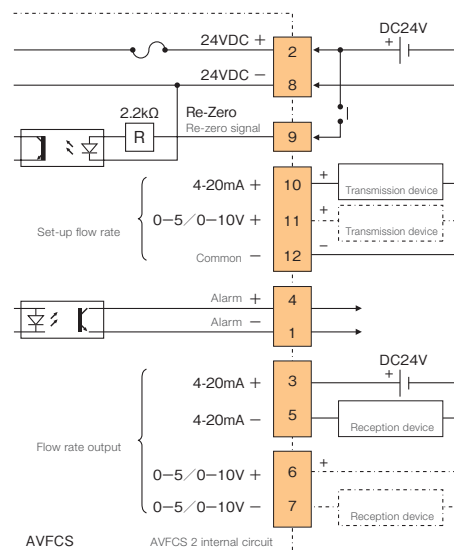
- This adjustment button enables usage to correct zero flow rate.

Dimensions

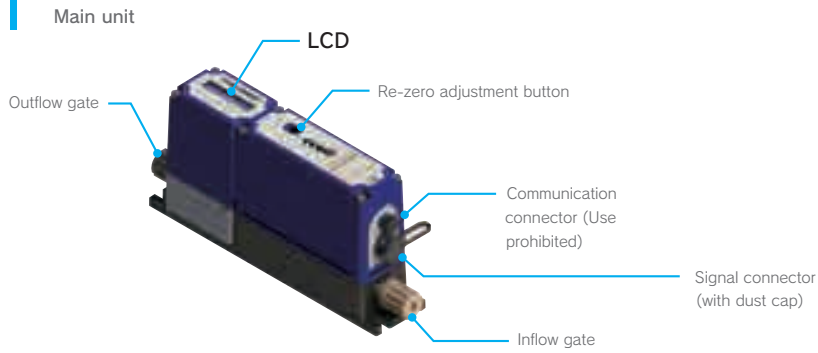


※ It is reference value.

Internal circuit and example of connections (4-20mA)



Component parts



Special signal cable

Option : AVFCS2-CBL0-00000

Length: 5 m



Signal connector cable

Special calibration kit (Option)

- Model: AVFCS2-CBL0-00000

<Contents>

- CD-ROM (Special software, Instruction Manual)
- Special signal cable
- RS-485 converter (with USB cable and device driver)



Note

- Use optional signal cable (AVFCS2-CBL0-00000) to connect with signal connector.
- Purchase of a special calibration kit is required only with the purchase of a first unit, as it can be commonly used across the series.

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弊社製品(以下「本製品」といいます)の次の保証事項について必ずお読みください。

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注:気体にて試験を行う場合、製造物責任を負いません。
- (F) 本保証期間経過後の修理・交換は有償となります。ただし、部品のみ供給はできません。
- (G) 次の事項により発生した不具合については保証いたしません。
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 - (2) 本製品の施工・据付、取扱い、メンテナンス等において、弊社の定める注意事項等が守られていない場合。
 - (3) 弊社製品以外の原因によるものであった場合。
 - (4) 弊社以外で本製品が改造・二次加工・分解された場合。
 - (5) 部品を本製品の本来の使い方以外にご使用された場合。
 - (6) 天災・災害等の不可抗力及び本製品に帰することができない事故による場合。
- (H) 上記事項に関する詳細事項は、最寄の販売店・弊社営業所へお問い合わせください。

※1 本製品の保証期間は、本カタログに記載された開閉頻度の範囲内で純水・常温で使用される弊社バルブに適用されます。強腐食性流体などの特殊流体を使用する場合は別途ご相談ください。

※2 弊社は、本製品の保証内容または本保証条項の規定の履行または不履行に関し、何らかの理由で生じた特別損害、二次的または間接的な損害について責任を負いません。

Guarantee

Be sure to read the following warranty clauses of our product (Product).

- (A) Always observe the precautions and instructions on using the Product.
- (B) We always strive to improve the quality and reliability of the Product, but cannot guarantee the perfection of the Product. Therefore, should you intend to use the Product with any equipment or machinery that may involve the risk of serious or even fatal injury, or property damage, ensure an appropriate safety design or take other measures with sufficient consideration to prevent possible problems. We shall assume no responsibility for any inconvenience on your part arising from such use without our prior written consent.
- (C) Precautions on selecting, constructing, installing, operating, maintaining, and servicing Products are prescribed in the related technical documents, operation manuals, and/or other documentation. For details, consult with our nearest distributor or agent.
- (D) We make a warranty that Product shall be free from defects in workmanship and materials(Warranty) and the Warranty extends for one and a half years after the Product is shipped from our factory or one year after the Product is installed, whichever comes first.*1

The abnormality of the Product occurred during the warranty period and reported to us will be investigated immediately to identify its cause. Should the Product be deemed defective, we shall, at our option, repair or replace it free of charge or repay the purchase price to you, which is the sole remedy for the Warranty.*2

- (E) Should you intend to use the Product with a special fluid (such as a highly corrosive fluid) that is not compatible, we do not guarantee the warranty period specified above*1 Please consult us in case of use for ozone water. We would not guarantee it in some cases.

Moreover, if you intend to use it with compressed air or gas (such as air, nitrogen, or other gas), we do not assume product liability of the Product. In conducting a leak test of a newly installed system, be sure to do it under water pressure.

Note; If you must conduct a test with a compressed air or gas for some unavoidable reason, we will not assume any product liability of the Product.

- (F) After the termination of warranty period we will repair or replace our Product at your expense, but will not supply repair parts.
- (G) We shall not responsible for the results to be occurred in the following cases:
 - (1) Using the Product under any condition beyond the scope of use instructed by us.
 - (2) Failure to observe our precautions or instructions regarding the construction, installation, handling, maintenance, or servicing of Product.
 - (3) Any inconvenience caused by any product other than ours.
 - (4) Remodeling, otherwise modifying, or disassembling the Product by anyone other than us.
 - (5) Using any part of the Product for anything other than the intended use of the Product.
 - (6) Any abnormality that occurs due to a natural disaster, accident, or other incident not attributable to the Product.
- (H) If you want more information on the above, please contact us, our nearest distributor or agent.

*1 The Product warranty period applies to our valves to be used within the open - close frequency specified in this catalogue", and "in the presence of pure water" and "at normal temperature". Consult us if you wish to use it under a highly corrosive atmosphere.

*2 We shall not be liable for any special, incidental or consequential damage for any cause with respect to the Product Warranty or performance of non-performance of any provision thereof.

AVPV3

AVPVM

AVPVL

AVSDV

AVSDVM

AVSDVT

AVSAS

AVMPV

AVDIV

AVWVM

AVHRL

AVHRLM

AVHPRS

AVBPR

AVCFV

HDV12R

HDVVM

AVQDV

AVBVX

AVPJX

AVSIV

AVFCS2

AVFCN

OTHER



Suitability List on Medium

Suitability of wet parts and medium

(AVPV3, AVPVM, AVPVSL)

Pinch Valve

Medium	Material of wet part
	Silicon based rubber
DI Water	○
Ammonium hydroxide	○
Potassium hydroxide ≤ 5%	○
Hydrogen peroxide	○
Surfactant	○
Sulfuric acid	×
Hydrochloric acid	×
Hydrofluoric acid	×
Nitric acid	×

- : Suitable
 △: Please consult
 ×: Not suitable

⚠ Please consult us on any medium, which is not listed. Be careful about dispersants and additives which are contained especially in Slurry.

Other Valve

Medium	Material of wet part		
	PTFE, PFA	U-PVC	PP
DI Water	○	○	○
Potassium hydroxide	○	○	○
Hydrogen peroxide	○	△	△
Sulfuric acid	○	△	△
Hydrochloric acid	○	△	△
Ammonium fluoride	○	○	△
Ammonium hydroxide	○	△	△
Hydrofluoric acid	○	△	△
Butyl acetate	○	×	×
Isopropyl alcohol	○	○	○
Ozone Water	△	△	×

- The above list shows suitability of each material with a working temperature of 40°C and below for Silicon based rubber, 90°C and below for PTFE, 60°C and below for PVC and 80°C and below for PP.
- The data shown above are for reference purposes only and not a guarantee of product performance.
- Please consult us on any medium, which is not listed.
- We cannot guarantee Dymatrix products for slurry-contained fluid, although there are some cases in which the products are used for this kind of fluid. If you use Dymatrix products for slurry-contained fluid, We recommends you to sufficiently evaluate them under your working conditions.

Connetion tubing size (Unit) : mm

		03	06	10	12	19	25
mm	Flowell 20 series					19 × 16	
	Flowell 60 series	3 × 2	6 × 4	10 × 8	12 × 10	19 × 15.8	25 × 22
	Super Type Pillar fitting						
	Super 300 Type Pillar fitting						
inch	Flowell 20 series	-					
	Flowell 60 series	3.18 × 1.6	6.35 × 4.35	9.53 × 6.35	12.70 × 9.53	19.05 × 15.88	
	Flare Type	-					25.4 × 22.2
	Super Type Pillar fitting	3.18 × 2.18	6.35 × 3.95	9.53 × 6.33	12.7 × 9.5	19 × 15.8	
	Super 300 Type Pillar fitting						

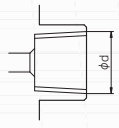
※: Please refer to the instruction manual given by the manufacturer of fittings about connection tubing size.

"Connection·Tube" size (Unit) : mm

		チ				
		06	10	12	19	25
mm		6 × 4	10 × 8	12 × 10	19 × 16	25 × 22
inch		6.35 × 4.35	9.53 × 6.35	12.70 × 9.53	19.05 × 15.88	25.40 × 22.20
		± 0.1			± 0.15	± 0.15

"Connection·Rc, FNPT" size (Unit) : mm

		06	10	12	19	25
Rc	φ d	Rc 1/4"	Rc 3/8"	Rc 1/2"	Rc 3/4"	Rc 1"
FNPT	φ d	FNPT 1/4"	FNPT 3/8"	FNPT 1/2"	FNPT 3/4"	FNPT 1"



Unit conversion table

1 mm	0.039inch
1 MPa	145psi
1 L	0.22Gallon(UK)
1 L	0.26Gallon(US)
1 kg	2.2lb
1 °C	1.8 × °C + 32 °F

Dymatrix™ 株式会社

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 Pillar is the trademark of NIPPON PILLAR PACKING CO., LTD.
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- AVPV3
- AVPVM
- AVPVL
- AVSDV
- AVSDVM
- AVSDVT
- AVSAS
- AVMPV
- AVDIV
- AVWM
- AVHRL
- AVHRL-M
- AVHRS
- AVBPR
- AVCFV
- HDV12R
- HDVM
- AVQDV
- AVBVX
- AVPJX
- AVSIV
- AVFCS2
- AVFCN
- OTHER

Dymatrix™
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2019年5月第16版

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