

Fine pinch valve with applied pneumatic technology

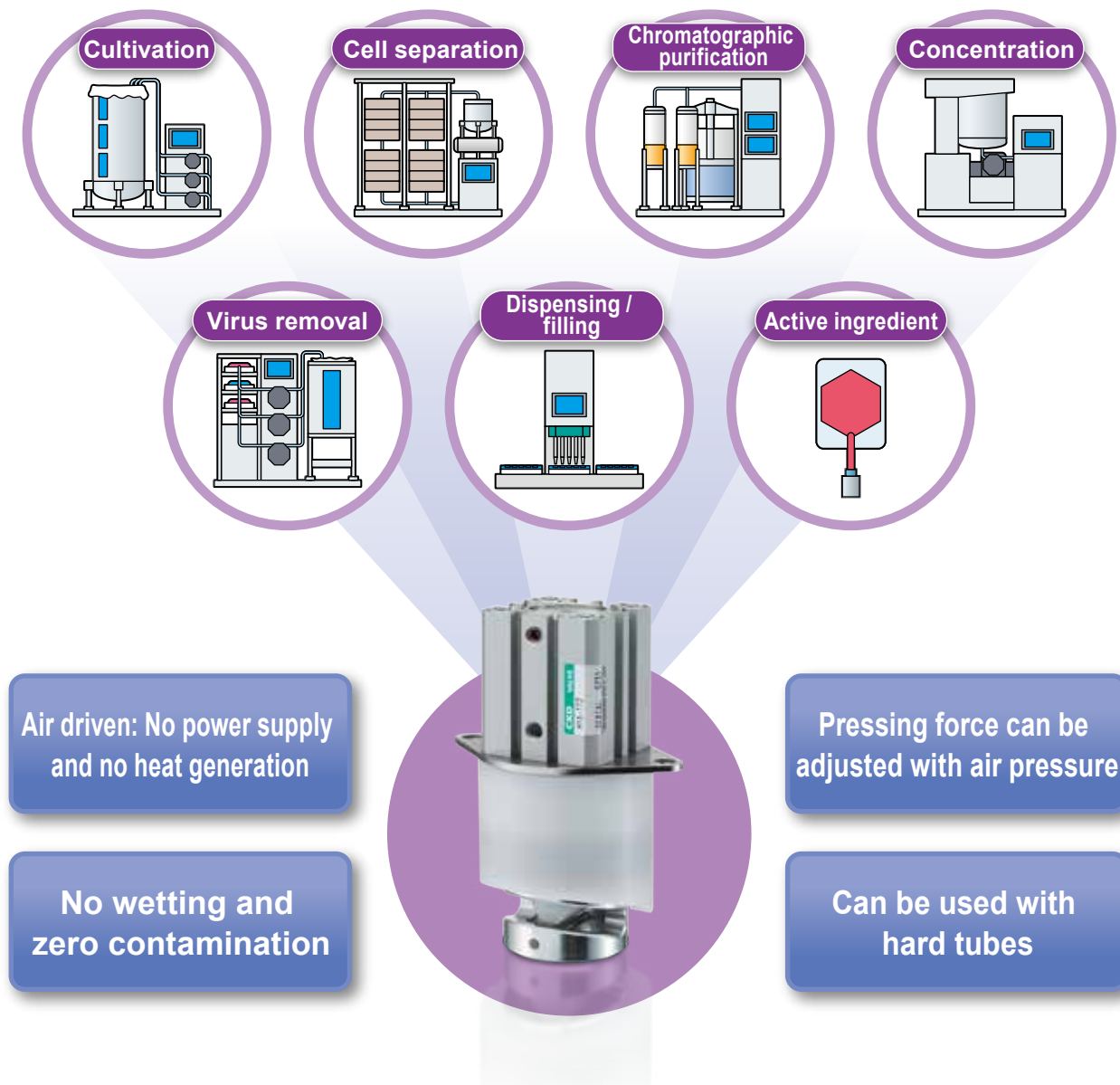


Ideal for single use

Fluids can be controlled with no thermal effect on the ambient environment



Can be used in various processes



CKD contributes to pharmaceutical manufacturing with its accumulated fluid control and automation technologies.

Compatible with a wide range of tubes

Model No.	HYA-1*	HYA-2*	HYA-3*
Applicable tube size (O.D.)	1/8" to 7/32" (ø3 to ø6)	1/4" to 3/8" (ø6 to ø10)	7/16" to 9/16" (ø10 to ø15)
Recommended tube	Silicone tube hardness (Shore A) 50 to 64 (guideline) PharMed BPT Tubing TYGON 3350 Tubing		
Working fluid	Water/pure water/chemical liquids (Fluids that do not corrode working tubes)		

Be careful of tubing sticking when using silicone tubing.

Easy maintenance

Tube attachment/removal is easy. With tube fall prevention holder.





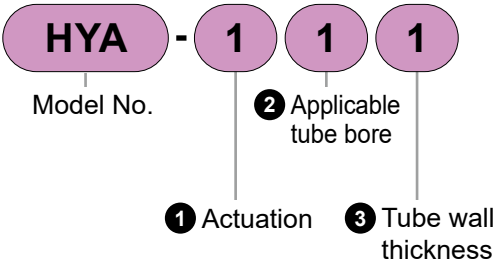
Air operated fine pinch valve

HYA Series

- NC (normally closed), NO (normally open), double acting
- Applicable tube bore: 1/8" to 7/32", 1/4" to 3/8", 7/16" to 9/16"



How to Order



1 Actuation

Code	Description
1	Normally closed
2	Normally open
3	Double acting

2 Applicable tube bore

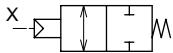
Code	Description
1	1/8" to 7/32" (ø3 to ø6)
2	1/4" to 3/8" (ø6 to ø10)
3	7/16" to 9/16" (ø10 to ø15)

3 Tube wall thickness

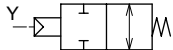
Code	Description	2 Applicable tube bore		
		1	2	3
1	1/32" (0.79 mm)	●	●	
2	1/16" (1.59 mm)	●	●	●
3	3/32" (2.38 mm)		●	●
4	1/8" (3.18 mm)			●

Circuit diagram symbol

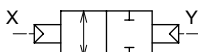
- NC (normally closed)



- NO (normally open)



- Double acting



Specifications

Item	HYA-1	HYA-2	HYA-3
Actuation	NC (Normally closed)	NO (Normally open)	Double acting
Working pressure	MPa 0 to 0.1 (*1)		
Fluid temperature	°C 0 to 40 (no freezing)		
Ambient temperature	°C 5 to 40		
Frequency	cycles/min. 30 or less		
Mounting orientation	Unrestricted		
Pilot fluid	Compressed air		
Pilot fluid pressure	MPa 0.35 to 0.5		0.2 to 0.4
Recommended tube (*2)	Silicone tube "hardness (Shore A) 50 to 64 (guideline)" PharMed BPT Tubing TYGON 3350 Tubing		

*1: The maximum working pressure varies by tube, so confirm the specifications of the tube in use.
*2: Be careful of tubing sticking when using a silicone tube.

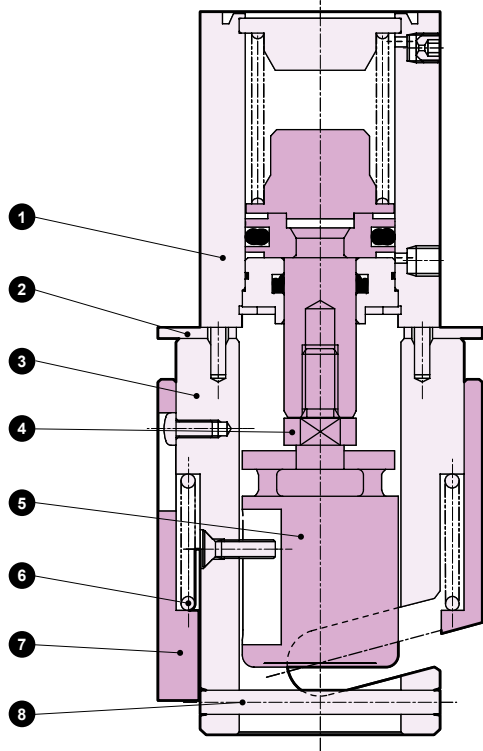
Individual specifications

Model No.	Applicable tube bore	Pilot port size	Weight (kg)
HYA-11*	1/8" to 7/32" (ø3 to ø6)	M5	0.32
HYA-21*			0.2
HYA-31*			0.2
HYA-12*	1/4" to 3/8" (ø6 to ø10)	M5	0.5
HYA-22*			0.3
HYA-32*			0.3
HYA-13*	7/16" to 9/16" (ø10 to ø15)	Rc1/8	0.83
HYA-23*		M5	0.42
HYA-33*			0.42

HYA Series

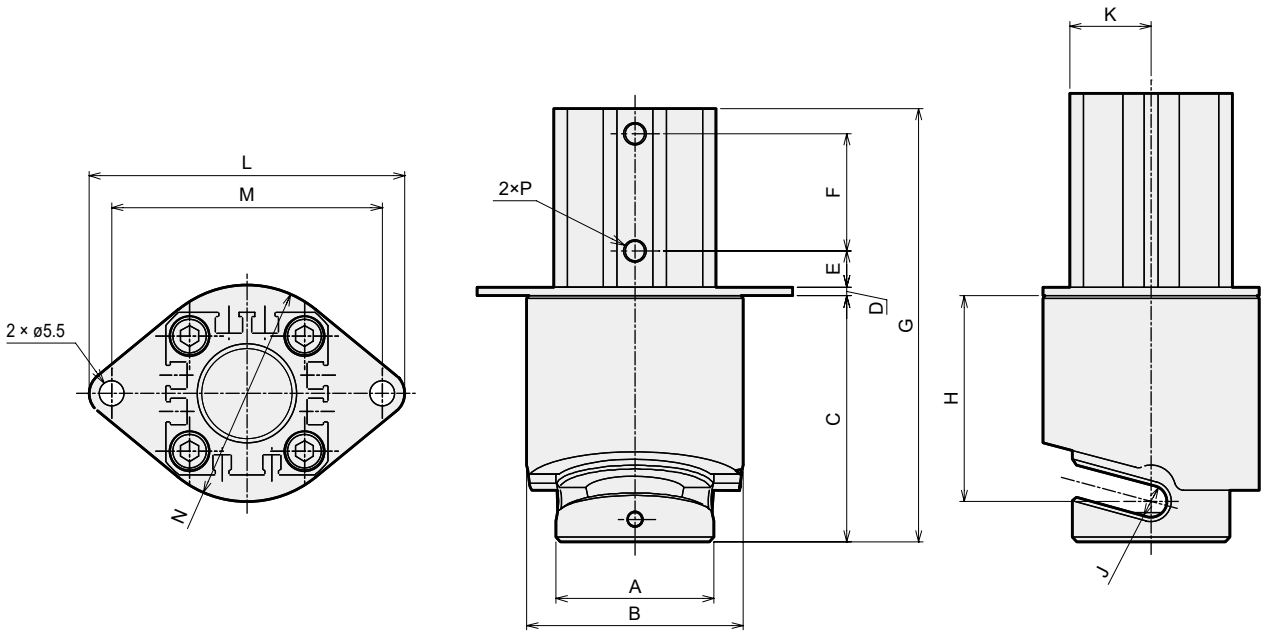
Internal Structure / Material / Dimensions

Internal Structure Diagram / Material



Part No.	Part name	Material	
1	Actuator assembly	-	SSD2
2	Bracket	SUS304	Stainless steel
3	Valve A	A5056	Aluminum
4	Fitting	SUS303	Stainless steel
5	Valve B	POM	Polyacetal resin
6	Holder spring	SUS304	Stainless steel
7	Holder	POM	Polyacetal resin
8	Parallel pin	SUS303	Stainless steel

Dimensions



Model No.	A	B	C	D	E	F	G	H	J	K	L	M	N	P
HYA-11*	ø35	ø48	54.5	2	8	26	96	45.5	ø7	18	70	60	ø48	M5
HYA-12*	ø40	ø54	66	2	11	35.5	120.5	54	ø11	20	80	70	ø54	M5
HYA-13*	ø50	ø66	77.5	3	8	57	153.5	61	ø16	27	90	80	ø66	Rc1/8
HYA-21*	ø28	ø39	49	2	5.5	16	78	40	ø7	14.5	60	50	ø39	M5
HYA-22*	ø35	ø48	57.5	2	8	16	89	45	ø11	18	70	60	ø48	M5
HYA-23*	ø40	ø54	73.5	2	11	25.5	118	58	ø16	20	80	70	ø54	M5
HYA-31*	ø28	ø39	49	2	5.5	16	78	40	ø7	14.5	60	50	ø39	M5
HYA-32*	ø35	ø48	57.5	2	8	16	89	45	ø11	18	70	60	ø48	M5
HYA-33*	ø40	ø54	73.5	2	11	20.5	113	58	ø16	20	80	70	ø54	M5



Fluid Control Valves

Safety Precautions

Be sure to read this section before use.
Refer to "Fluid control valves (RJ-013AA)" for general precautions

Product-specific cautions: Air operated fine pinch valve HYA Series

Design / Selection

CAUTION

Pilot Air

(1) Drain Countermeasures

Compressed air contains a large amount of drainage (water, oil oxides, tar, foreign matter, etc.). This is a factor that significantly reduces the reliability of the pneumatic components. For drainage measures, improve air quality (clean air) by dehumidifying with an after cooler or dryer, removing foreign matter with a filter, using a tar removal filter, etc.

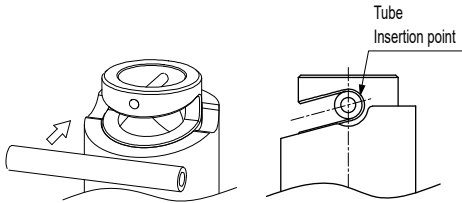
(2) No lubrication used

This valve is pre-lubricated, so no lubricator is required. However, once lubrication has been started, it must be continued so that the lubricant does not run out. Use turbine oil Class 1 ISOVG32 (#90) or equivalent for lubrication.

(3) Filter

Mount a filter with a 5 µm or less filter element.

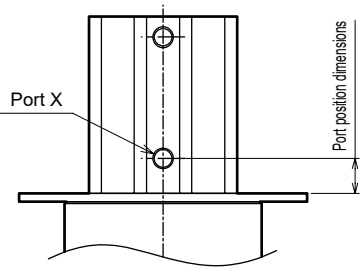
- The actuator sliding section is greased, so the grease may spatter when air is discharged.
- Securely insert the tube to the prescribed position.



- The performance may not be satisfied if a tube other than the recommended ones is used.

■ As compatible piping fittings on the port X side are limited, refer to the table below to select the fitting.

Model No.	Port size	Port position dimensions	Usable fitting O.D.	Inapplicable fittings
HYA-11*	M5	8	ø15 or less	-
HYA-12*		11		
HYA-13*	Rc1/8	8	ø15 or less	GWS 10-6 GML8-6 GWL10-6
HYA-21*	M5	5.5	ø11 or less	GWS6-M5
HYA-22*		8	ø15 or less	-
HYA-23*		11		
HYA-31*		5.5	ø11 or less	GWS6-M5
HYA-32*		8	ø15 or less	-
HYA-33*		11		



- When using CKD's recommended tubes in products, the Export Trade Control Ordinance does not apply; however, the Ordinance may apply to tubes prepared by the customer depending on their material. When exporting products of this kind, please note that an application for export permission to the Minister of Economy, Trade and Industry is required. (Refer to Ordinance of the Ministry of Land, Infrastructure, Transport and Tourism, Article 2, Paragraph 2, Item 7, (a).)

For cautions for mounting, installation, adjustment, use and maintenance, refer to the CKD components Product Site (<https://www.ckd.co.jp/kiki/en/>) → "Model No. → [Instruction manual](#)" for details.

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