

Hat type needle valve

NIP & NI series

Total 316 stainless steel structure
Max. working pressure 42MPa (6090psi)
The highest permissible temperature 315°C (600°F)
Flow coefficient: 0.09~1.8
Aperture: 2.0mm~9.5mm

Hat type needle valve

Features

Test

Parts details

Pressure-temperature
rated value

Coding rule for item No.

Order info & size



Features

The hat-type needle valve has solid forging valve body, which is delicate in structural design, reliable in operation. It can apply to the flow regulation and cut-off in diverse occasions.

- Compact structure
- Self-compensating type packing seal structure
- Regulating valve rod and V-shape valve rod for selection
- Panel mounting
- Various connector forms for selection

Hat type needle valve

Features

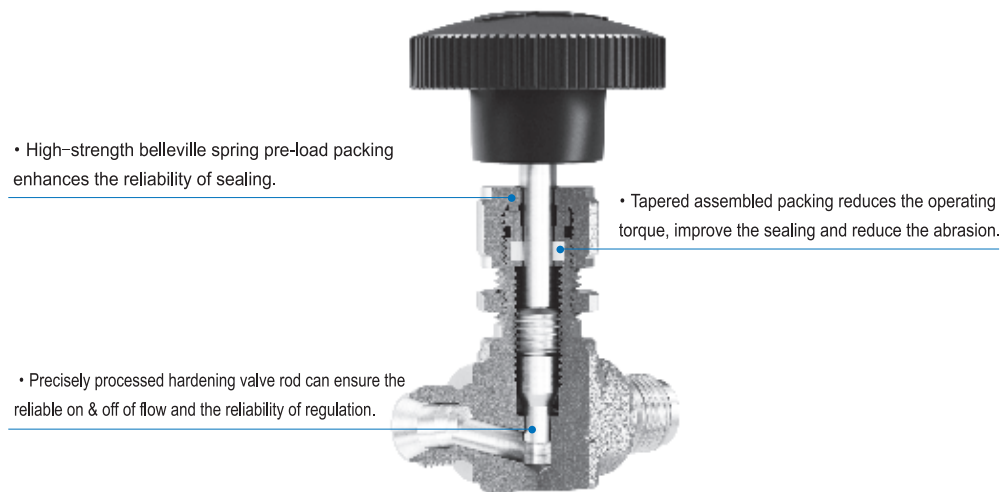
Test

Parts details

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Test

Before leaving the factory, each needle valve has passed the 7MPa nitrogen pressure test. There is no bubble produced in the shell and the valve seats within 1min.

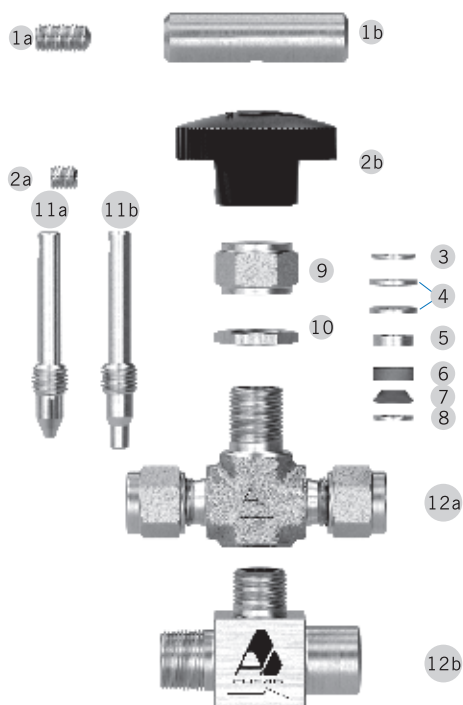


1. The packing can be adjusted at any time to prevent the valve leakage.
2. With respect to the valves which haven't been open or closed for a long time, the initial torque will increase.

Parts details

Parts details		Series	Materials/ASTM standard	Parts details		Series	Materials/ASTM standard
1a	Stop screw	All	316 SS / A276	7	Lower packing	All	PFA / D3307
1b	Bar-type handle		316 SS / A276	8	Support ring	All	316 SS / A240
2a	Stop screw	All	316 SS / A276	9	Packing nut	All	316 SS / A276
2b	Rounded handle		Phenolic resin	10	Panel nut	NIP series	316 SS / A276
3	Gland	All	316 SS / A240	11a	V-shape valve rod	All	316 SS / A276
4	Spring	All	S17700 / A693	11b	Regulating valve rod	NIP series	
5	Packing gland	All	316 SS / A240	12a	Valve body with panel mounting	NIP series	316 SS / A479
6	Upper packing	All	PFA / D3307	12b	Valve body with panel mounting	NI series	316 SS / A479

Note: Other structural materials can be customized.



Pressure-temperature rated value

Temperature °C(°F)	Packing materials	
	PFA (standard configuration)	PEEK
	Working pressure MPa (psi)	
-54(-65) to 37(100)	42.0 (6090)	42.0 (6090)
93(200)	35.5 (5160)	35.5 (5160)
148(300)	32.1 (4660)	32.1 (4660)
204(400)	29.4 (4280)	29.4 (4280)
232(450)	28.4 (4130)	28.4 (4130)
260(500)	-	27.4 (3980)
315(600)	-	25.9 (3760)

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Coding rule for item No.

SS – NIP 6 R - M 4 - K6 - A - SH - P
1
2
3
4
5
6
7
8
9
10

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Coding rule for item No.

Order info & size

1	Material type
	SS — 316 stainless steel

2	Needle valve series
	NIP — Integral type needle valve, with panel mounting
	NI — integral type needle valve, without panel mounting

3	Aperture size series
	2 — Aperture 2mm
	3 — Aperture 3.2mm
	4 — Aperture 4.4mm
	6 — Aperture 6.4mm
9 — Aperture 9.5mm	

4	Valve rod type
	R — Regulating valve rod
	V — V-shape valve rod

5	The form of the first connector (upstream)
	K — Bite type tube fittings
	F — NPT internal thread
	M — NPT external thread

6	The size of the first connector (upstream)
	British system: size value (Unit: in. ×16) For example: 1/2×16=8, 1/2in.NPT internal thread is indicated by F8.
	Metric system: size value (Unit: mm) + "mm"

7	The size of the second connector (downstream)
	As per the first connector. If this section of codes are the same with that of the first connector, they can be omitted.

8	Circulation type
	A — Angle type
	No indication — Straight-through type

9	Handle type
	SH — Bar-type handle
	No indication — Rounded handle

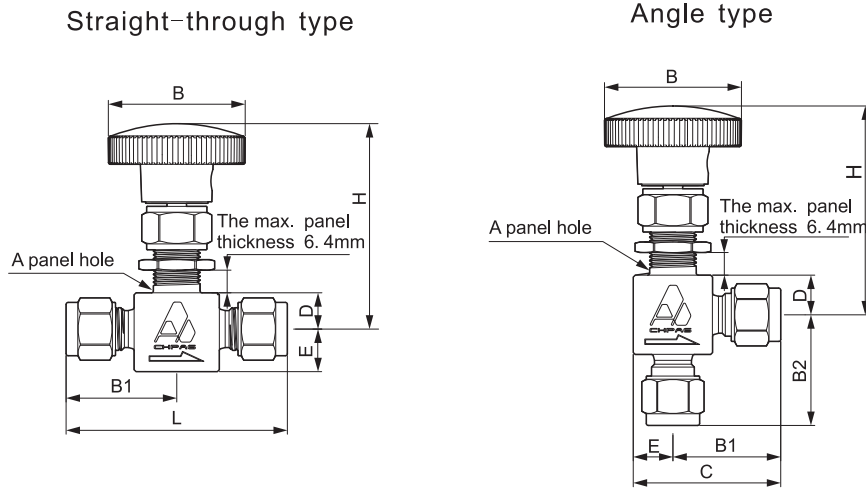
10	Packing material
	P — PEEK
	No indication — PFA

For example: SS-NIP6R-M4-K6

It means straight-through hat type needle valve, whose material is 316 SS and has panel mounting. Its aperture is 6.4mm. It adopts regulating valve rod. The first connector (upstream) is 1/4 in. NPT external thread and the second connector (downstream) is 3/8 in. bite type tube fitting. The handle is rounded handle and the packing is PFA.

Order info & size (The H shown in the figure is the size of full-open state. The sizes are only for reference.)

NIP series



Connector				Item No. ①	Size (mm)								
Form	Size	Cv	Aperture (mm)		L	B1	B2	C	D	E	B	A	H
Bite type tube fittings	6mm	0.37	4.4	SS-NIP4R-K6mm	57	28.5	28.4	38.5	11	10	35	13	62
	8mm			SS-NIP4R-K8mm	59.5	30	30	39	11	10	35	13	63.5
	10mm	0.73	6.4	SS-NIP6R-K10mm	66	33	33	46	14	13	50	19	75.5
	12mm	1.8	6.4	SS-NIP6R-K12mm	71	35.5	35.5	48.5	14	13	50	19	75.5
	12mm	1.8	9.5	SS-NIP9R-K12mm	96.5	48.5	48.5	67.5	19	19	76	23	99.5
	18mm			48.5		48.5	67.5	19	19	76	99.5		
	1/4in.	0.37	4.4	SS-NIP4R-K4	57.5	29.5	29.5	38.5	11	10	35	13	63.5
	3/8in.	0.73	6.4	SS-NIP6R-K6	65.5	33	33	45.5	14	13	48	19	75.5
	1/2in.	0.73	6.4	SS-NIP6R-K8	71	35.5	35.5	48.5	14	13	48	19	75.5
	1/2in.	1.8	9.5	SS-NIP9R-K8	96.5	48.5	48.5	67.5	19	19	76	23	99.5
3/4in.	48.5			48.5		67.5	19	19	76	99.5			
NPT internal thread	1/8 in.	0.09	2	SS-NIP2R-F2	48	24	24	32	11	8	25.5	13	58
	1/8 in.	0.37	4.4	SS-NIP4R-F2	41	20.5	20.5	30	11	10	35	13	63.5
	1/4 in.	0.73	6.4	SS-NIP6R-F4	54	27	27	39.5	14	13	48	19	75.5
	3/8 in.	1.8	9.5	SS-NIP9R-F6	76	38	38	57	19	19	76	23	98.5
	1/2 in.			38		38	57	19	19	76	98.5		
NPT external thread	1/8 in.	0.09	2	SS-NIP2R-M2	38	19	19	27	11	8	25.5	13	58
	1/8 in.	0.37	4.4	SS-NIP4R-M2	41	20.5	20.5	30	11	10	35	13	63.5
	1/4 in.			50	25	25	34.5	11	10	35	63.5		
	3/8 in.	0.73	6.4	SS-NIP6R-M6	62.5	29.5	29.5	41	14	13	48	19	75.5
NPT external thread/bite type tube fittings	1/2 in.	1.8	9.5	SS-NIP9R-M8	76	38	38	57	19	19	76	23	98.5
	1/4 in.	0.37	4.4	SS-NIP4R-M4-K4	49.5	29	25	38.5	11	10	35	13	63.5
	1/4 in.	0.73	6.4	SS-NIP6R-M4-K6	61.5	33	28.5	45.5	14	13	48	19	75.5
	3/8 in.			SS-NIP6R-M6-K6									
3/8 in.	0.73	6.4	SS-NIP6R-M6-K8	64	35.5	28.5	48.5	14	113	48	19	75.5	
NPT external thread	1/4 in.	0.73	6.4	SS-NIP6R-M4-F4	55.5	27	28.5	39.5	14	13	48	19	75.5
NPT internal thread	1/2 in.	1.8	9.5	SS-NIP9R-M8-F8	76	38	38	57	19	19	76	23	98.5

Note ①: if it is angle type, add "-A" behind the item No.

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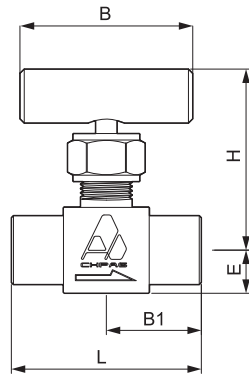
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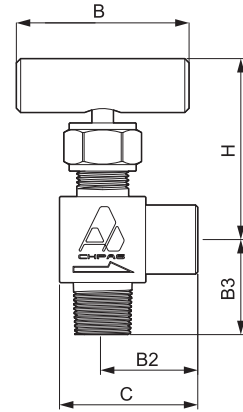
Order info & size

NI series

Straight-through type



Angle type



Hat type needle valve

Features

Test

Parts details

Pressure-temperature rated value

Coding rule for item No.

Order info & size

Form	Connector			Item No. ^①	Size (mm)								
	Size	Cv	Aperture (mm)		L	B1	B2	B3	C	E	B	H	
Bite type tube fittings	1/4 in.	0.21	3.2	SS-NI3V-K4	62.5	31	29	29.5	40	11	44.5	42	
	3/8 in.	0.73	6.4	SS-NI6V-K6	78	39	-	-	-	17	63.5	59	
	1/2 in.			SS-NI6V-K8	84	42	-	-	-	17	63.5	59	
NPT internal thread	1/4 in.	0.21	3.2	SS-NI3V-F4	48	24	25.5	36.5	11	44.5	42		
	3/8 in.	0.73	6.4	SS-NI6V-F6	63.5	32	-	-	-	17	63.5	59	
	1/2 in.			SS-NI6V-F8	-	-	36	52.5	-	-	-	-	
NPT external thread	1/4 in.	-	-	SS-NI3V-M4	49.5	24.5	-	-	-	11	-	-	
NPT external thread/ bite type tube fittings	1/4 in.	0.21	3.2	SS-NI3V-M4-K4	-	-	29	25.5	40	-	44.5	42	
	1/4 in.	-	-	SS-NI3V-M4-F4	48.5	24	25.5	26	36.5	11	-	-	
NPT external thread/ NPT internal thread	3/8 in.	0.73	6.4	SS-NI6V-M6-F6	63.5	32	36	31	52.5	-	-	-	
	1/2 in.			SS-NI6V-M8-F8	65	32	36	-	-	17	63.5	58.7	
	3/4 in.			-	-	-	-	-	-	-	-	-	-
	1/2 in.			SS-NI6V-M12-F8	63.5	32	-	-	-	-	-	-	-

Note ①: if it is angle type, add "-A" behind the item No.