

# General needle valve

## General needle valve

Features

Test

Parts details

Pressure-temperature  
rated value

Coding rule for item No.

Order info & size

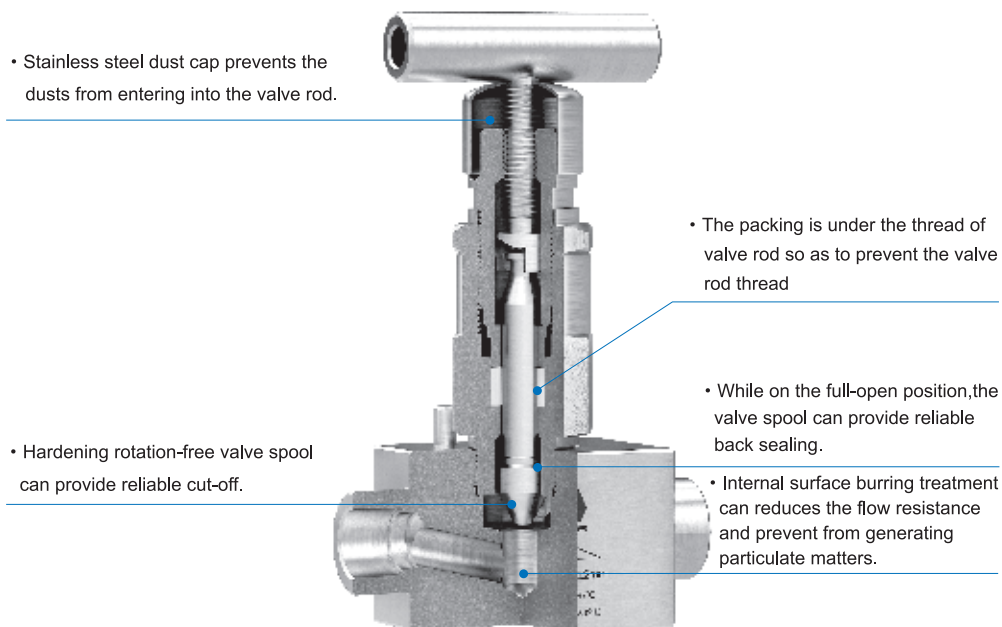
Total 316 stainless steel structure
Max. working pressure 42MPa (6090psi)
The highest permissible temperature 343°C (650°F)
Flow coefficient: 0.45~2.25
Aperture: 5mm~11mm



## Features

This series needle valve is used to cut off and regulate the flow. Hardening rotation-free valve spool structure can reduce the packing abrasion so as to ensure the reliable cut-off of flow and stability of regulation and thus prolong the service life.

- Provide straight-through type and angle type
- Normal-temperature working pressure 42MPa (6090psi)
- Total 316 stainless steel structure
- While using PTFE packing, the highest working temperature is 232°C(450°F)
- While using graphite packing, the highest temperature is 343°C(650°F)



## 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.

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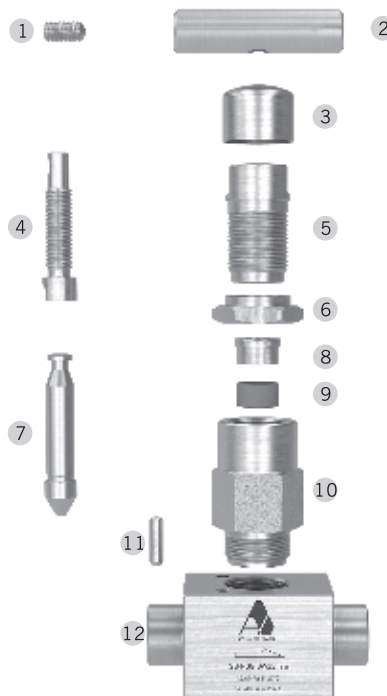
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## Parts details

Parts details		Materials/ASTM standard
1	Set screw	316 SS / A276
2	Handle	316 SS / A276
3	Dust cap	316 SS / A240
4	Valve rod	316 SS / A276
5	Packing nut	316 SS / A276
6	Locknut	316 SS / A276

Parts details		Materials/ASTM standard
7	Valve spool	316 SS / A479
8	Packing gland	316 SS / A276
9	Packing	PTFE or graphite
10	Valve deck	316 SS / A479
11	Shotpin	316 SS / A276
12	Valve body	316 SS / A479

Note: Other structural materials can be customized.



## Pressure-temperature rated value

Temperature °C (°F)	Packing materials	
	PTFE	Graphite
	Working pressure MPa (psi)	
-28(-20) to 37(100)	42.0 (6090)	42.0 (6090)
93(200)	35.5 (5160)	35.5 (5160)
148(300)	32.2 (4680)	32.2 (4680)
204(400)	29.3 (4260)	29.3 (4260)
232(450)	28.3 (4110)	28.3 (4110)
260(500)	-	27.2 (3960)
315(600)	-	26.0 (3780)
343(650)	-	25.2 (3660)

## Coding rule for item No.

SS – NG 5 – M 8 – F8 – A – G  
 1      2      3      4      5      6      7      8

1	Material type
	SS — 316 stainless steel

2	Needle valve type
	NG — General type

3	Aperture size
	5 — Aperture 5mm
	8 — Aperture 8mm
	11 — Aperture 11mm

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

5	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”	

6	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 will be omitted.

7	Circulation type
	A — Angle type Bite type tube fittings
	No indication — Straight-through type

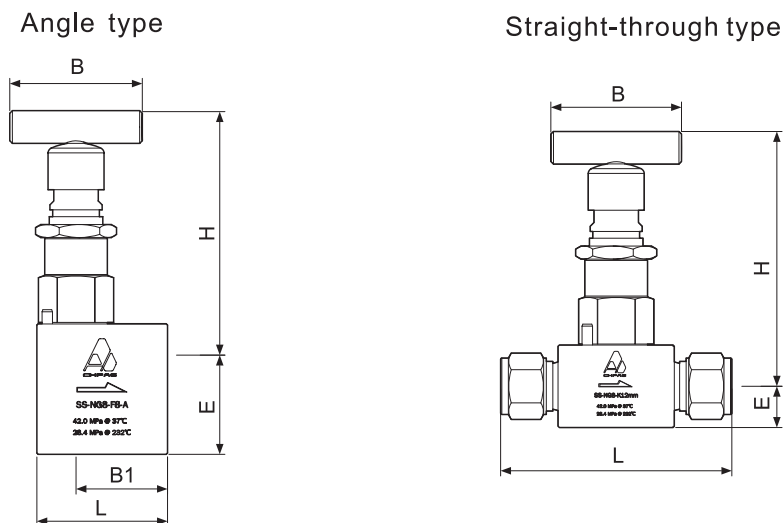
8	Packing type
	G — Graphite packing
	No indication — PTFE packing

For example: SS-NG8-M8-F8-G

It means straight-through type general needle valve, whose material is 316 SS and aperture is 8mm. The first connector (up stream) is ½ in. NPT external thread. The second connector (down stream) is ½ in. NPT internal thread. The packing is flexible graphite.

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



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**Angle type**

Connector		Cv	Aperture (mm)	Item No.	Size (mm)				
Form	Size				B	E	H	L	B1
NPT internal thread	1/4in.	0.55	5	SS-NG5-F4-A	50	21.5	81	38	25.5
	3/8in.			28		44.5		32	
	1/2in.			31		84.5	51	33.5	
	1/2in.	1.60	8	SS-NG8-F8-A	50	31	98.5	51	35
	3/4in.			40.5		101		63.5	38
	1 in.			108		70	44.5		

**Straight-through type**

Connector		Cv	Aperture (mm)	Item No.	Size (mm)				
Form	Size				B	E	H	L	
NPT internal thread	1/4in.	0.45	5	SS-NG5-F4	50	13	81	54	
	3/8in.			SS-NG5-F6				57	
	1/2in.	0.45	5	SS-NG5-F8	50	16	84.5	67	
		1.2	8	SS-NG8-F8	50			98.5	70
	3/4in.	1.2	8	SS-NG8-F12	50	19	101	76	
		2.25	11	SS-NG11-F12	76			22.5	133
	1 in.	1.2	8	SS-NG8-F16	50	25.5	108	89	
		2.25	11	SS-NG11-F16	76			136	102
	NPT external thread /NPT internal thread	1/4in.	0.45	5	SS-NG5-M4-F4	50	13	81	60.5
		3/8in.			SS-NG5-M6-F6				
		1/2in.	0.45	5	SS-NG5-M8-F8	50	16	84.5	70
			1.2	8	SS-NG8-M8-F8	50			98.5
3/4in.		1.2	8	SS-NG8-M12-F12	50	19	101	79.5	
		2.25	11	SS-NG11-M12-F12	76			22.5	133
1 in.		1.2	8	SS-NG8-M16-F16	50	25.5	108	89	
		2.25	11	SS-NG11-M16-F16	76			136	102
Bite type tube fittings		6mm	0.45	5	SS-NG5-K6mm	50	13	81	75.5
		8mm			SS-NG5-K8mm				66
	10mm	SS-NG5-K10mm							
	12mm	0.45	5	SS-NG5-K12mm	50	13	81	77	
		1.2	8	SS-NG8-K12mm	50			16	98
	14mm	1.2	8	SS-NG8-K14mm	50	16	98	87	
		2.25	11	SS-NG11-K14mm	76			22.5	133
	16mm	1.2	8	SS-NG8-K16mm	50	16	98	92	
		2.25	11	SS-NG11-K16mm	76			22.5	133
	18mm	2.25	11	SS-NG11-K18mm	76	22.5	133	108	
25mm	SS-NG11-K25mm								
Ferrule tube Socket weld	6mm	0.45	5	SS-NG5-SW6mm	50	13	81	60.5	
	8mm			SS-NG5-SW8mm				51	
	10mm			SS-NG5-SW10mm					
	12mm	0.45	5	SS-NG5-SW12mm	50	13	81	57	
		1.2	8	SS-NG8-SW12mm	50			16	98
	14mm	1.2	8	SS-NG8-SW14mm	50	16	98	67	
		2.25	11	SS-NG11-SW14mm	76			22.5	133
	16mm	1.2	8	SS-NG8-SW16mm	50	16	98	67	
		2.25	11	SS-NG11-SW16mm	76			22.5	133
	18mm	2.25	11	SS-NG11-SW18mm	76	22.5	133	82.5	
25mm	SS-NG11-SW25mm								

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