

# Forged Integral Bonnet Needle Valves

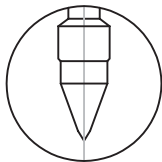


## Features

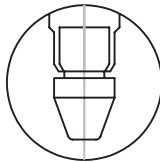
- Pressure rating up to 5000psi(340bar) at 38°C(100°F)
- Temperature rating from -53°C(-65°F) to 232°C(450°F) with standard PTFE packing, up to 315°C(600°F) with Grafoil packing
- Materials : Standard 316SS and Brass
- Forged body with straight and angle pattern
- Panel mounting without packing disruption
- Wide choices of end connections : Kor-Lok Tube Fittings, Male & Female NPT or PT(ISO 7/1) thread, Socket Weld ANSI/ASME B16.11
- Standard lubrication : Nickel anti-seize lubricant (Hydrocarbon carrier)
- Standard seat : Metal to metal/body material  
Optional seat : Metal to metal/stellite, hard coating, soft seat(CTFE, Kel-F\*)  
Kel-F\* is the trademark of 3M Co.

## Choice of Stem

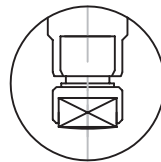
- Vee Stem is standard for pressure tightness even at elevated temperatures. Regulating Stem & Soft-seat Stem are optional.



Vee Stem  
(Standard)



Regulating Stem



Soft-seat Stem

## Sour Gas Service

- Materials for wetted valve component are selected in accordance with NACE standard MR 0175-2000 for sulfide stress cracking resistant.

## Testing

- Standard Factory Test : Every valve is 100% factory tested with air and nitrogen at 1000psi(69bar) for leakage at the seat and packing. Each test is performed to a maximum allowable leak rate of 0.1scc/min.
- Optional Hydrostatic Test : This hydrostatic shell test is performed with pure water at 1-1/2 times of the working pressure. Other optional tests are available upon request.

## Safe Valve Selection

- When selecting a valve, the total system design must be considered to ensure safe, trouble-free performance. Valve function, materials compatibility, adequate ratings, proper installation, operation and maintenance are the responsibility of the system designer or user.

## Working Pressure in psi

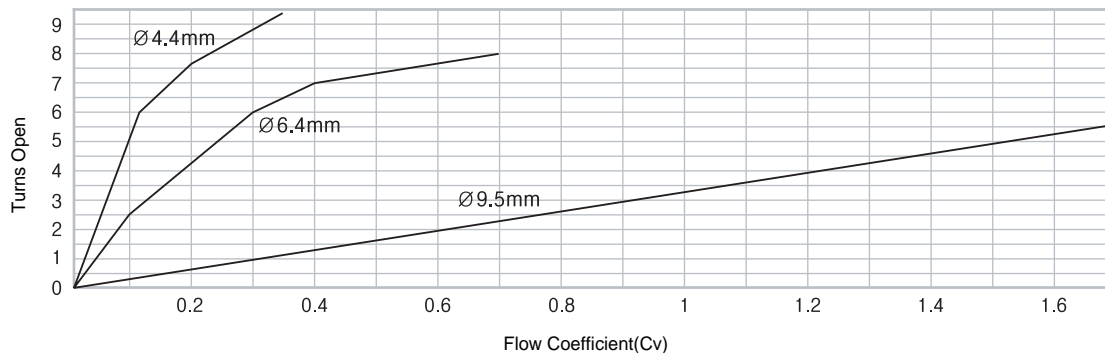
ANSI Group	2.2	N/A
ANSI Group	316SS	Brass
Material Name Class(ANSI)	2080	N/A
Temperature@Pressure(PSI)		
30°C(86°F)	5000	3000
90°C(194°F)	4331	2624
120°C(248°F)	4087	2413
-65°F(-54°C) to 150°C(302°F)	3871	2202
180°C(356°F)	3698	1402
210°C(410°F)	3530	613
230°C(446°F)	3435	-

## Temperature & Pressure Rating

Valve Material	Temperature Rating	Pressure Rating 38°C(100°F)
316SS	-50°C to 230°C (-58°C to 446°F)	5000psi(340bar)
Brass	-50°C to 230°C (-58°C to 446°F)	3000psi(206bar)

These ratings are for a standard valve with PTFE packing. Optional seal material will affect the temperature rating.

## Flow Coefficient(Cv)@ Turns Open



## How to Order

**08 - SNV U - 08 N - S - B - SS**

Tube O.D.	Valve Type	End Connection Type	Pipe Size	Thread Type	System Type	Handle Type	Material
↓	SNV Needle Valve (Straight Pattern) SAV Angle Valve (Straight Pattern)	U : Kor-Lok Tube Fitting F : Female Thread M : Male Thread W : Socket Weld	↓	N : NPT R : PT(ISO 7/1)	None : Vee Stem R : Regulating Stem S : Soft-seat Stem	None : PC Round Handle B : 316SS Bar Handle	SS - 316 Stainless Steel BS - Brass

**Tube O.D. Designations**

Tube O.D.	inch	1/4	3/8	1/2	3/4
	mm	6.35	9.52	12.70	19.05
Designation		04	06	08	12

Tube O.D	6	8	10	12	20
Designation	M06	M08	M10	M12	M20

**Pipe Size Designations**

Nom. Size	1/8	1/4	3/8	1/2	3/4	1
Designation	02	04	06	08	12	16

### Example:

08-SNVU-SS : Needle Valve, 1/2"OD, 316SS

SAVF-04R-SS : Angle Valve, 1/4" Female PT, 316SS

SNVM-04N-SB-SS : Needle Valve, 1/4" Male NPT, Soft-Seat, Bar Handle, 316SS

## Forged Integral Bonnet Needle Valves

SNVU Series (Kor-Lok Tube Fitting)

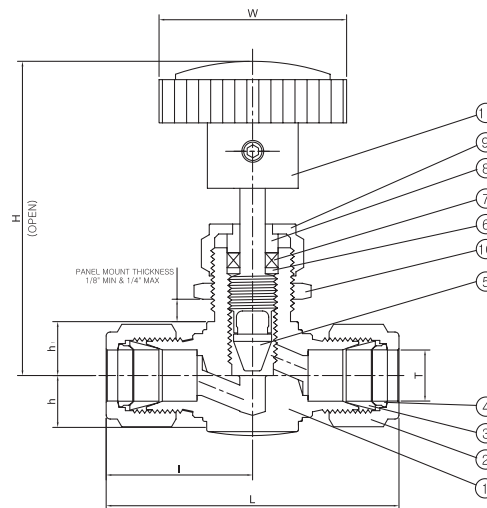
### Specification

End Connection : Kor-Lok Tube Fitting  
 Max. Operating Temperature : -53°C(-65°F) ~ +232°C(+450°F)  
 Max. Operating Pressure : ASTM A182 F316 - 5000psi  
 Brass - 3000psi



### Materials of Construction

No.	Description	316SS Valve	Brass Valve
1	Body	316SS	Brass
2	Nut	316SS	Brass
3	Front Ferrule	316SS	Brass
4	Back Ferrule	316SS	Brass
5	Stem	316SS	Brass
6	Packing Ring	316SS	Brass
7	Packing	PTFE	PTFE
8	Packing Gland	316SS	Brass
9	Packing Nut	316SS	Brass
10	Panel Nut	316SS	Brass
11	Handle	Standard	Round(PC)
		Alternative	Bar(316SS)



### Table of Dimension

Unit : mm

Part No.	Applicable Tube T		Orifice	Cv	L	I	h	h1	H (Open)	W	Panel Hole Drill Size
	Nom. Size	O.D.									
04-SNVU	1/4	6.35	4.4	0.37	57.6	28.8	9.5	11.0	59.0	35.0	13.5
06-SNVU	3/8	9.52	6.4	0.73	66.4	33.2	12.7	12.7	71.0	47.0	20.0
08-SNVU	1/2	12.70	6.4	0.73	72.0	36.0	12.7	12.7	71.0	47.0	20.0
12-SNVU	3/4	19.05	9.5	1.80	96.5	48.3	19.0	19.0	99.0	56.0	23.0
16-SNVU	1	25.4	12.7	3.20	100.0	50.0	20.0	20.0	85.6	85.0	29.0
M06-SNVU	6	6	4.4	0.37	57.6	28.8	9.5	11.0	59.0	35.0	13.5
M08-SNVU	8	8	4.4	0.37	59.2	29.6	9.5	11.0	59.0	35.0	13.5
M10-SNVU	10	10	6.4	0.73	66.4	33.2	12.7	12.7	71.0	47.0	20.0
M12-SNVU	12	12	6.4	0.73	72.0	36.0	12.7	12.7	71.0	47.0	20.0
M20-SNVU	20	20	9.5	1.80	96.5	48.3	19.0	19.0	99.0	56.0	23.0
M25-SNVU	25	25	12.7	3.20	100.0	50.0	20.0	20.0	85.6	85	29.0

Note : Dimensions are reference only, subject to change without prior notice.

## Forged Integral Bonnet Needle Valves

### SNVF Series(Female Thread)

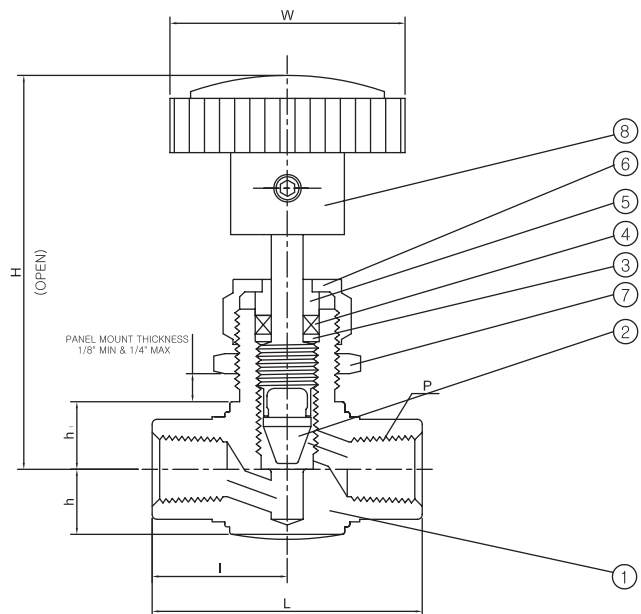


### Specification

End Connection : Female NPT or PT(ISO 7/1)  
 Max. Operating Temperature : -53°C (-65°F) ~ +232°C (+450°F)  
 Max. Operating Pressure : ASTM A182 F316 - 5000psi  
 Brass - 3000psi

### Materials of Construction

No.	Description	316SS Valve	Brass Valve
1	Body	316SS	Brass
2	Stem	316SS	Brass
3	Packing Ring	316SS	Brass
4	Packing	PTFE	PTFE
5	Packing Gland	316SS	Brass
6	Packing Nut	316SS	Brass
7	Panel Nut	316SS	Brass
8	Handle	Standard Round(PC) Alternative Bar(316SS)	Round(PC) Bar(Brass)



### Table of Dimension

Part No.	P (NPT)	Orifice	Cv	L	l	h	h1	H (Open)	W	Unit : mm
										Panel Hole Drill Size
SNVF-02N	1/8	4.4	0.37	42.0	21.0	9.5	11.0	59.0	35.0	13.5
SNVF-04N	1/4	6.4	0.73	56.0	28.0	12.7	12.7	71.0	47.0	20.0
SNVF-06N	3/8	7.2	1.15	60.0	30.0	16.0	13.0	99.0	56.0	23.0
		9.5	1.80	76.0	38.0	19.0	19.0	99.0	56.0	23.0
SNVF-08N	1/2	9.5	1.80	76.0	38.0	19.0	19.0	99.0	56.0	23.0
SNVF-12N	3/4	12.7	3.20	75.0	37.5	20.2	20.0	85.6	85.0	29.0

Male ISO Tapered Threads are available for all SNVF Series. Add "R" as a suffix instead of "N"  
 Note : Dimensions are reference only, subject to change without prior notice.

## Forged Integral Bonnet Needle Valves

### SNVM Series(Male Thread)

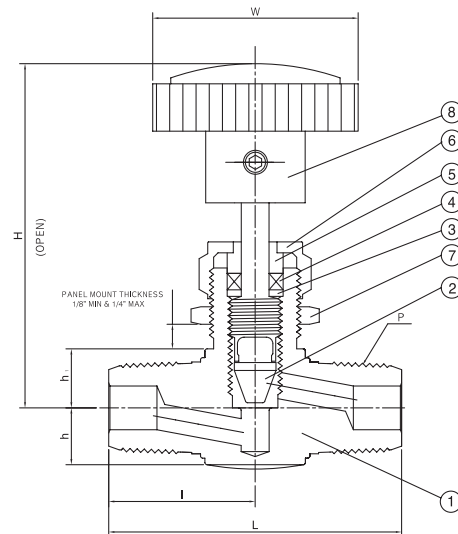
### Specification

End Connection : Male NPT or PT(ISO 7/1)  
 Max. Operating Temperature : -53°C(-65°F) ~ +232°C(+450°F)  
 Max. Operating Pressure : ASTM A182 F316 - 5000psi  
 Brass - 3000psi



### Materials of Construction

No.	Description	316SS Valve	Brass Valve
1	Body	316SS	Brass
2	Stem	316SS	Brass
3	Packing Ring	316SS	Brass
4	Packing	PTFE	PTFE
5	Packing Gland	316SS	Brass
6	Packing Nut	316SS	Brass
7	Panel Nut	316SS	Brass
8	Handle	Standard Round(PC)	Round(PC)
	Alternative	Bar(316SS)	Bar(Brass)



### Table of Dimension

Unit : mm

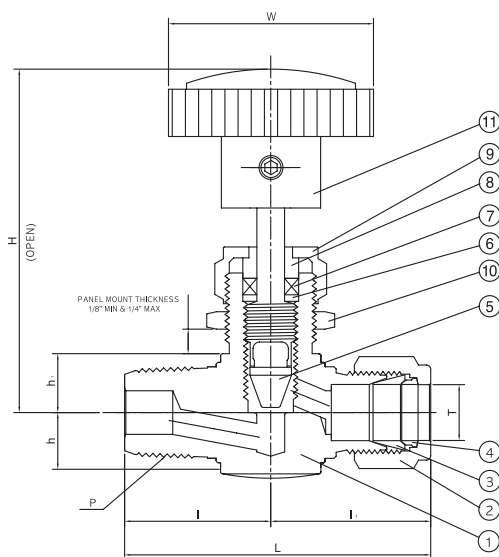
Part No.	P (NPT)	Orifice	Cv	L	l	h	h1	H (Open)	W	Panel Hole Drill Size
SNVM-02N	1/8	4.4	0.37	42.0	21.0	9.5	11.0	59.0	35.0	13.5
SNVM-04N	1/4	4.4	0.37	50.0	25.0	9.5	11.0	59.0	35.0	13.5
SNVM-06N	3/8	6.4	0.73	58.0	29.0	12.7	12.7	71.0	47.0	20.0
SNVM-08N	1/2	9.5	1.80	76.0	38.0	19.0	19.0	99.0	56.0	23.0

Male ISO Tapered Threads are available for all SNVM Series. Add "R" as a suffix instead of "N"

Note : Dimensions are reference only, subject to change without prior notice.

## Forged Integral Bonnet Needle Valves

SNVMU Series (Male Thread to Kor-Lok Tube Fitting)



### Specification

End Connection : Male NPT or PT(ISO 7/1) to Kor-Lok Tube Fitting  
 Max. Operating Temperature : -53°C(-65°F) ~ +232°C(+450°F)  
 Max. Operating Pressure : ASTM A182 F316 - 5000psi  
 Brass - 3000psi

### Materials of Construction

No.	Description	316SS Valve	Brass Valve
1	Body	316SS	Brass
2	Nut	316SS	Brass
3	Front Ferrule	316SS	Brass
4	Back Ferrule	316SS	Brass
5	Stem	316SS	Brass
6	Packing Ring	316SS	Brass
7	Packing	PTFE	PTFE
8	Packing Gland	316SS	Brass
9	Packing Nut	316SS	Brass
10	Panel Nut	316SS	Brass
11	Handle	Standard	Round(PC)
		Alternative	Bar(316SS)
			Round(PC)
			Bar(Brass)

### Table of Dimension

Unit : mm

Part No.	P (NPT)	Applicable Tube		Orifice	Cv	L	I	I1	h	h1	H (Open)	W	Panel Hole Drill Size
		Nom. Size	O.D										
SNVMU-04N-04	1/4	1/4	6.35	4.4	0.37	53.8	25.0	28.8	9.5	11.0	59.0	35.0	13.5
SNVMU-06N-06	3/8	3/8	9.52	6.4	0.73	62.2	29.0	33.2	12.7	12.7	71.0	47.0	20.0
SNVMU-06N-08	3/8	1/2	12.70	6.4	0.73	65.0	29.0	36.0	12.7	12.7	71.0	47.0	20.0

Male ISO Tapered Threads are available for all SNVMU Series. Add "R" as a suffix instead of "N"

Note : Dimensions are reference only, subject to change without prior notice.

## Forged Integral Bonnet Needle Valves

### SNVW Series(Socket Weld)

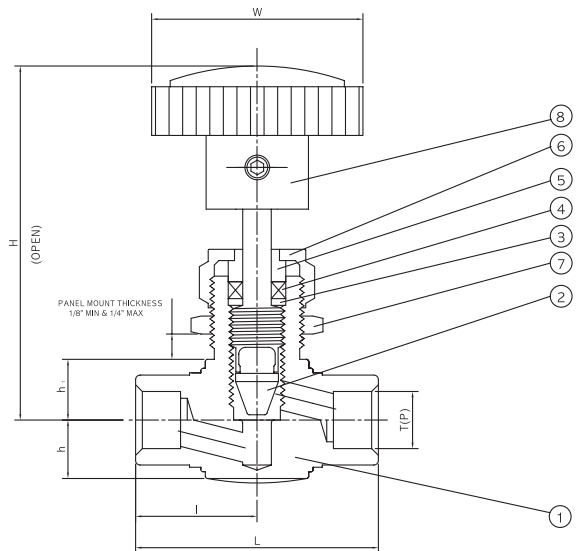


### Specification

End Connection : Socket Weld  
 Max. Operating Temperature : -53°C(-65°F) ~ +232°C(+450°F)  
 Max. Operating Pressure : ASTM A182 F316 - 5000psi  
 Brass - 3000psi

### Materials of Construction

No.	Description	316SS Valve	Brass Valve
1	Body	316SS	Brass
2	Stem	316SS	Brass
3	Packing Ring	316SS	Brass
4	Packing	PTFE	PTFE
5	Packing Gland	316SS	Brass
6	Packing Nut	316SS	Brass
7	Panel Nut	316SS	Brass
8	Handle	Standard	Round(PC)
		Alternative	Bar(316SS)



### Table of Dimension

Unit : mm

Part No.	Applicable Tube		Orifice	Cv	L	l	h	h1	H (Open)	W	Panel Hole Drill Size
	Nom.Size	O.D									
SNVW-04T	1/4	6.35	4.4	0.37	42.0	21.0	9.5	11.0	59.0	35.0	13.5
SNVW-06T	3/8	9.52	6.4	0.73	56.0	28.7	12.7	12.7	71.0	47.0	20.0
SNVW-08T	1/2	12.7	6.4	0.73	56.0	28.7	12.7	12.7	71.0	47.0	20.0
SNVW-04P	1/4	13.8	6.4	0.73	56.0	28.7	12.7	12.0	71.0	47.0	20.0
SNVW-06P	3/8	17.3	9.5	1.80	76.0	38.0	19.0	19.0	99.0	56.0	23.0
SNVW-08P	1/2	21.7	9.5	1.80	76.0	38.0	19.0	19.0	99.0	56.0	23.0

T : Tube Size, P : Pipe Size

Note : Dimensions are reference only, subject to change without prior notice.

## Forged Integral Bonnet Angle Valves

SAVU Series(Kor-Lok Tube Fitting)

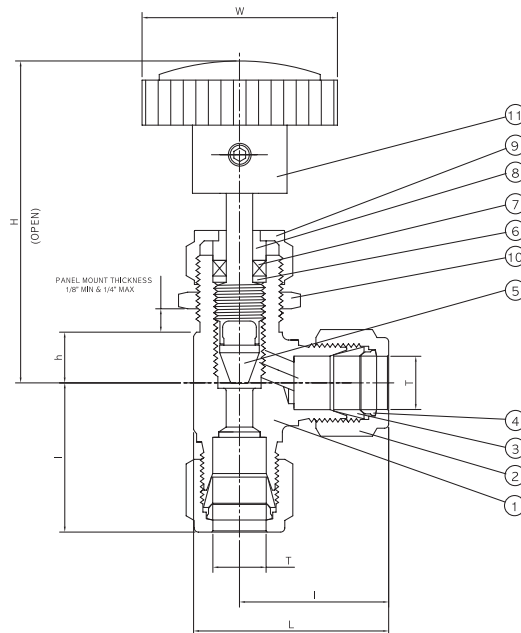


### Specification

End Connection : Kor-Lok Tube Fitting  
 Max. Operating Temperature : -53°C(-65°F) ~ +232°C(+450°F)  
 Max. Operating Pressure : ASTM A182 F316 - 5000psi  
 Brass - 3000psi

### Materials of Construction

No.	Description	316SS Valve	Brass Valve
1	Body	316SS	Brass
2	Nut	316SS	Brass
3	Front Ferrule	316SS	Brass
4	Back Ferrule	316SS	Brass
5	Stem	316SS	Brass
6	Packing Ring	316SS	Brass
7	Packing	PTFE	PTFE
8	Packing Gland	316SS	Brass
9	Packing Nut	316SS	Brass
10	Panel Nut	316SS	Brass
11	Handle	Standard Round(PC) Alternative Bar(316SS)	Round(PC) Bar(Brass)



### Table of Dimension

Unit : mm

Part No.	Applicable Tube		Orifice	Cv	L	l	h	H (Open)	W	Panel Hole Drill Size
	Nom.Size	O.D								
04-SAVU	1/4	6.35	4.4	0.37	38.3	9.5	11.0	59.0	35.0	13.5
06-SAVU	3/8	9.52	6.4	0.73	46.2	12.7	12.7	71.0	47.0	20.0
08-SAVU	1/2	12.70	6.4	0.73	49.0	12.7	12.7	71.0	47.0	20.0
M06-SAVU	6	6	4.4	0.37	38.3	9.5	11.0	59.0	35.0	13.5
M08-SAVU	8	8	4.4	0.37	39.1	9.5	11.0	59.0	35.0	13.5
M10-SAVU	10	10	6.4	0.73	46.2	12.7	12.7	71.0	47.0	20.0
M12-SAVU	12	12	6.4	0.73	49.0	12.7	12.7	71.0	47.0	20.0

Note : Dimensions are reference only, subject to change without prior notice.

## Forged Integral Bonnet Angle Valves

### SAVF Series(Female Thread)

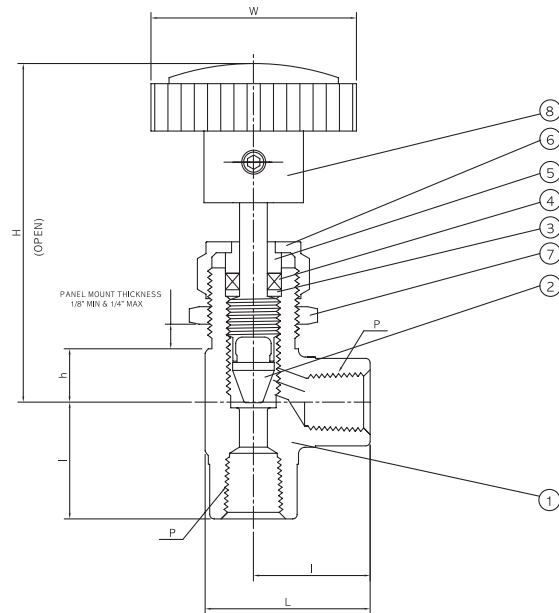


### Specification

End Connection : Female NPT or PT(ISO 7/1)  
 Max. Operating Temperature : -53°C(-65°F) ~ +232°C(+450°F)  
 Max. Operating Pressure : ASTM A182 F316 - 5000psi  
 Brass - 3000psi

### Materials of Construction

No.	Description	316SS Valve	Brass Valve
1	Body	316SS	Brass
2	Stem	316SS	Brass
3	Packing Ring	316SS	Brass
4	Packing	PTFE	PTFE
5	Packing Gland	316SS	Brass
6	Packing Nut	316SS	Brass
7	Panel Nut	316SS	Brass
8	Handle	Standard Round(PC)	Round(PC)
		Alternative Bar(316SS)	Bar(Brass)



### Table of Dimension

Unit : mm

Part No.	P (NPT)	Orifice	Cv	L	l	h	H (Open)	W	Panel Hole Drill Size
SAVF-02N	1/8	4.4	0.37	30.5	21.0	9.5	59.0	35.0	13.5
SAVF-04N	1/4	6.4	0.73	41.0	28.0	12.7	71.0	47.0	20.0
SAVF-06N	3/8	9.5	1.80	57.0	38.0	19.0	99.0	56.0	23.0
SAVF-08N	1/2	9.5	1.80	57.0	38.0	19.0	99.0	56.0	23.0

Male ISO Tapered Threads are available for all SAVF Series. Add "R" as a suffix instead of "N"

Note : Dimensions are reference only, subject to change without prior notice.

Tube Fittings



Pipe Fittings



Uni-primet Weld/Metal Seal Fittings



Ball Valves



Hex Ball Valves



Check Valves



Manifold Valves



Filters



Bleed Valves



Gauge Root Valves





**유니온금속공업(주)**  
**UNION METAL INDUSTRIAL CO.,LTD.**

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**Head Office and Factory**

133 Block-1Lot, Namdong Industrial Complex,  
704, Gojan-Dong, Namdong-Gu, Incheon, KOREA.  
TEL:+82-32-821-6601 FAX:+82-32-821-6604  
<http://www.unilok.com>  
E-mail:unilok@unilok.com

**Master Distributor**

**Kor-Lok USA, LLC**  
15060 West Drive, Suite 100 Houston, TX 77053, USA  
TEL:+1-281-437-8400 FAX:+1-281-437-8437  
<http://www.korlokusa.com>  
E-mail:michelle@korlokusa.com