

SMGI CO., Ltd.

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Dare to Be Different

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**Global Innovative
Solution Partner**

We offer innovative solutions for gas, oil and energy industries

SMGI CO., Ltd.



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Perfection For Customers

Founded in 2012, SMGI has been an industry-leading manufacturer and supplier of solutions for shipbuilding, oil and gas, chemical, and petrochemical industries with unique technology. SMGI owns its R&D center, manufacturing facility, and warehousing in Busan, South Korea.

We can design and manufacture the different product categories.

SMGI supplies a complete line of liquid and gas Sampling Systems using our core technology, which can sample toxic and/or volatile organic chemicals, process streams, and prevent the escape of emissions into the atmosphere.

Our top priority is to provide the best quality products and professional services. We continuously seek customer feedback and entertain customer requests for improving our products and expanding our product line. We pride ourselves on owning a loyal customer base who stay as regular with trust and rapport.

Manho Lee CEO

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Location



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Solutions for Oil & Gas, Chemicals & Petrochemical Industries

[INQ.NO.2308M10] Established in 2012, SMGI Co., Ltd. is an industry-leading manufacturer and supplier of solutions for the shipbuilding, oil and gas, chemical and petrochemical industries. Currently, SMGI is the only company in Korea that meets the manufacturing standards for new technology.

SMGI designs and manufactures a full line of liquid and gas sampling systems, using its core technology to sample toxic and volatile organic chemicals and process streams, and to prevent the release of airborne emissions. SMGI has obtained TPED and DOT approval respectively, and has acquired certifications from Korea Gas Corporation and a Korea-based hydrogen company.

Gas-sampling cylinder

SMGI's gas cylinders are manufactured without welding and are robust and reliable products that meet the highest safety standards.

The cylinders are built to last and are ideal for a wide range of applications including industrial, commercial, and medical. It is a high-pressure cylinder manufactured according to the Korea Gas Safety Corporation's ac212 manufacturing, standard and the U.S Department of Transportation's container manufacturing standard.

SMGI is the only company that can meet the testing requirements for design, material, pressure, crushing and bursting.

With its state-of-the-art-technology, SMGI offers tailor-made solutions to meet specific requirements for compressed, liquefied, or specialty gases.



Condensate pot(Seal pot)

Condensate pot is widely used in the plant industry, such as power plants, oil plants, and chemical plants. The state-of-the-art design promotes superior condensation, recovering more heat from the condensate, and thus increasing the overall efficiency of the plant.



Sample Cylinders

Sample Cylinders



Overview

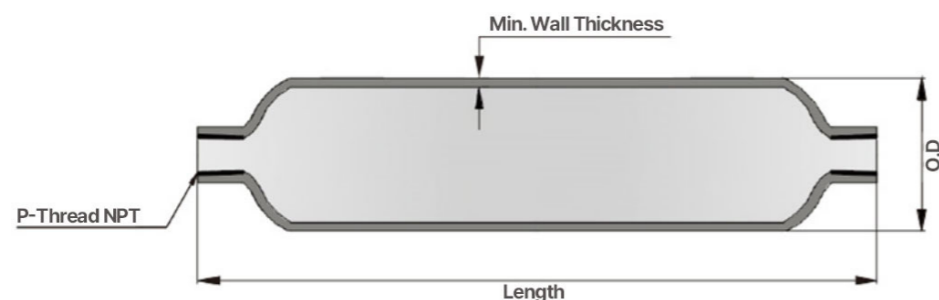
Sample cylinders can be used for many applications across various industries. When transporting chemicals, we need to ensure that the integrity of the product will be maintained and that the person handling containers will be protected.

SMGI offers a wide selection of sample cylinders compliant with various transportation industry standards related to chemical transfer, such as KGS, DOT, and TPED. All SMGI sample cylinders are made with seamless pipe originating in G7 or South Korean raw materials, providing consistent wall thickness and internal volume.

Technical Data

- Double-ended and Single-ended Sample cylinders
- Volume from 150cc to 3785cc (1gal) with availability 8000cc or more
- Working pressure 1800psi (124bar), 5000psi (344bar) or up to 700bar
- Working Temperature: -63.4 °F ~ 122 °F (-53 °C ~ 50 °C)
- End-connections with 1/8", 1/4", 1/2" Female NPT or BSPP available
- TPED (CE), DOT (US), KGS (Korea) and General type cylinders
- Options including Carrying handle, Valves, Outage tubes and Flexible Metal Hose
- Surface treatment of PTFE, Electropolishing and SilcoNert® 2000 (Sulfinert®) coating
- Cylinders constructed with 316L, 304L, Duplex, Super Duplex, Alloy 625/825, 6MO, Monel, Hastelloy materials
- MTC 3.1 Certificate with ONLY G7 and South Korean raw material
- Seamless Pipe with NACE MR 0175/0103

Cylinders



Ordering Information

Material		Series	Working Pressure		End Connection		Internal Volume	
4L	304L SS	SC	100	100bar	N1/8	1/8 Female NPT	300	300cm ³
6L	316L SS		124	124bar	N1/4	1/4 Female NPT	400	400cm ³
			300	300bar	N1/2	1/2 Female NPT	500	500cm ³
							1000	1000cm ³
							2250	2250cm ³
							3785	3785cm ³

Transportable Pressure Equipment Directive (TPED)

Transportable Pressure Equipment Directive (TPED) provides requirements relating to the design, manufacture, and testing of carriageable pressure vessels and accessories, including sample cylinders and cylinder valves, used in gas service. The directive intends to provide a uniform level of product safety throughout the countries of the European Union. SMGI Sample Cylinders are certified by the body of certification for the following models and marked with the proper 'Pi-Marking' at the cylinder surface.

TPED Sample Cylinders

Material	Pressure Rating bar (psig)	Cylinder Volume (cm ³ ±10%)	P - Female NPT (Inch)	Dimensions, mm (in.)			Weight kg(lb) ±1.0~3.0	Ordering Number
				O.D ± 1%	Length ±1.0~3.0	Min. Wall Thickness +1.0~3.0		
Double-ended								
ASTM A312 304L/316L SS	124bar (1800psi)	150	1/4	47.3(1.86)	160(6.29)	2.5(0.098)	0.66(1.45)	6(4)L - SC124 - N1/4 - 150
		200	1/4	47.3(1.86)	179(7.05)		0.66(1.45)	6(4)L - SC124 - N1/4 - 200
		250	1/4	50.8(2.0)	203(7.99)		0.7(1.54)	6(4)L - SC124 - N1/4 - 250
		290	1/4		226(8.90)		0.8(1.76)	6(4)L - SC124 - N1/4 - 290
		300	1/4		227(8.94)		0.8(1.76)	6(4)L - SC124 - N1/4 - 300
		400	1/4	293(11.54)	1.05(2.31)		6(4)L - SC124 - N1/4 - 400	
		500	1/4	351(13.82)	1.3(2.86)		6(4)L - SC124 - N1/4 - 500	
		1000	1/4	87.3(3.44)	277(10.9)	4.4(0.173)	2.5(5.51)	6(4)L - SC124 - N1/4 - 1000
		1000	1/2	87.3(3.44)	277(10.9)	4.4(0.173)	2.5(5.51)	6(4)L - SC124 - N1/2 - 1000
		2250	1/4	100.6(3.96)	437(17.2)	5.0(0.197)	6.4(14.1)	6(4)L - SC124 - N1/4 - 2250
		2250	1/2	100.6(3.96)	437(17.2)	5.0(0.197)	6.4(14.1)	6(4)L - SC124 - N1/2 - 2250
		3785	1/4	100.6(3.96)	678(26.7)	5.0(0.197)	9.5(20.94)	6(4)L - SC124 - N1/4 - 3785
		3785	1/2	100.6(3.96)	678(26.7)	5.0(0.197)	9.5(20.94)	6(4)L - SC124 - N1/2 - 3785
		8000	1/4	101.6(4.0)	1300(51.18)	2.5(0.098)	17(37.47)	6(4)L - SC124 - N1/4 - 8000

U.S. Department of Transportation (DOT)

The Pipeline and Hazardous Materials Safety Administration of U.S. Department of Transportation(DOT) has the primary responsibility for the issuance of DOT special permits and approvals for hazardous materials and for natural gas and hazardous liquid pipelines. Approvals authorize the transportation of designated hazardous materials under the PHMSA regulations. SMGI Co., Ltd. Is authorized to manufacture DOT-3A and DOT-3E.

DOT Sample Cylinders

Material	Pressure Rating bar (psig)	Cylinder Volume (cm±10%)	P - Female NPT (Inch)	Dimensions, mm (in.)			Weight kg(lb) ±1.0~3.0	Ordering Number	
				O.D ± 1%	Length ±1.0~3.0	Min. Wall Thickness +1.0~3.0			
Double-ended									
ASTM A312 304L/316L SS	124bar (1800psi)	150	1/4	47.3(1.86)	160(6.29)	2.5(0.098)	0.66(1.45)	6(4)L - SC124 - N1/4 - 150	
		200	1/4	47.3(1.86)	179(7.05)		0.66(1.45)	6(4)L - SC124 - N1/4 - 200	
		250	1/4	50.8(2.0)	203(7.99)		0.7(1.54)	6(4)L - SC124 - N1/4 - 250	
		290	1/4		226(8.90)		0.8(1.76)	6(4)L - SC124 - N1/4 - 290	
		300	1/4		227(8.94)		0.8(1.76)	6(4)L - SC124 - N1/4 - 300	
		400	1/4		293(11.54)		1.05(2.31)	6(4)L - SC124 - N1/4 - 400	
		500	1/4	351(13.82)	1.3(2.86)		6(4)L - SC124 - N1/4 - 500		
		1000	1/4	87.3(3.44)	227(10.9)		4.4(0.173)	2.5(5.51)	6(4)L - SC124 - N1/4 - 1000
		1000	1/2	87.3(3.44)	227(10.9)		4.4(0.173)	2.5(5.51)	6(4)L - SC124 - N1/2 - 1000
		2250	1/4	100.6(3.96)	437(17.2)		5.0(0.197)	6.4(14.1)	6(4)L - SC124 - N1/4 - 2250
		2250	1/2	100.6(3.96)	437(17.2)		5.0(0.197)	6.4(14.1)	6(4)L - SC124 - N1/2 - 2250
		3785	1/4	100.6(3.96)	678(26.7)		5.0(0.197)	9.5(20.94)	6(4)L - SC124 - N1/4 - 3785
		3785	1/2	100.6(3.96)	678(26.7)		5.0(0.197)	9.5(20.94)	6(4)L - SC124 - N1/2 - 3785
		8000	1/4	101.6(4.0)	1300(51.18)		2.5(0.098)	17(37.47)	6(4)L - SC124 - N1/4 - 8000

Korea Gas Safety

KGS Codes are the detailed standards for technical matters such as facility, technology, and inspection stipulated in relevant Acts and subordinate statutes. As technical standards in gas safety areas, KGS Codes are deliberated and resolved by the gas technical standards committee and approved by Ministry of Trade, Industry and Energy. KGS Certificate proves SMGI's sampling cylinders meet required standards according to the specification under Paragraph 1 of Article 17 of the High-Pressure Gas Safety Management Act.

KGS Sample Cylinders

Material	Pressure Rating bar (psig)	Cylinder Volume (cm±10%)	P - Female NPT (Inch)	Dimensions, mm (in.)			Weight kg(lb) ±1.0~3.0	Ordering Number
				O.D ± 1%	Length ±1.0~3.0	Min. Wall Thickness +1.0~3.0		
Double-ended								
ASTM A312 304L/316L SS	124bar (1800psi)	150	1/4	47.3(1.86)	160(6.29)	2.5(0.098)	0.66(1.45)	6(4)L - SC124 - N1/4 - 150
		200	1/4	47.3(1.86)	179(7.05)		0.66(1.45)	6(4)L - SC124 - N1/4 - 200
		250	1/4	50.8(2.0)	203(7.99)		0.7(1.54)	6(4)L - SC124 - N1/4 - 250
		290	1/4		226(8.90)		0.8(1.76)	6(4)L - SC124 - N1/4 - 290

ASTM A312 304L/316L SS	124bar (1800psi)	300	1/4	50.8(2.0)	227(8.94)	2.5(0.098)	0.8(1.76)	6(4)L - SC124 - N1/4 - 300
		400	1/4		293(11.54)		1.05(2.31)	6(4)L - SC124 - N1/4 - 400
		500	1/4		351(13.82)		1.3(2.86)	6(4)L - SC124 - N1/4 - 500
		1000	1/4	87.3(3.44)	277(10.9)	4.4(0.173)	2.5(5.51)	6(4)L - SC124 - N1/4 - 1000
		1000	1/2	87.3(3.44)	277(10.9)	4.4(0.173)	2.5(5.51)	6(4)L - SC124 - N1/2 - 1000
		2250	1/4	100.6(3.96)	437(17.2)	5.0(0.197)	6.4(14.1)	6(4)L - SC124 - N1/4 - 2250
		2250	1/2	100.6(3.96)	437(17.2)	5.0(0.197)	6.4(14.1)	6(4)L - SC124 - N1/2 - 2250
		3785	1/4	100.6(3.96)	678(26.7)	5.0(0.197)	9.5(20.94)	6(4)L - SC124 - N1/4 - 3785
		3785	1/2	100.6(3.96)	678(26.7)	5.0(0.197)	9.5(20.94)	6(4)L - SC124 - N1/2 - 3785
		8000	1/4	101.6(4.0)	1300(51.18)	2.5(0.098)	17(37.47)	6(4)L - SC124 - N1/4 - 8000

General Type Sample Cylinders

Material	Pressure Rating bar (psig)	Cylinder Volume (cm±10%)	P - Female NPT (Inch)	Dimensions, mm (in.)			Weight kg(lb) ±1.0~3.0	Ordering Number	
				O.D ± 1%	Length ±1.0~3.0	Min. Wall Thickness +1.0~3.0			
Double-ended									
ASTM A312 304L/316L SS	124bar (1800psi)	150	1/4	47.3(1.86)	160(6.29)	2.5(0.098)	0.66(1.45)	6(4)L - SC124 - N1/4 - 150	
		200	1/4	47.3(1.86)	179(7.05)		0.66(1.45)	6(4)L - SC124 - N1/4 - 200	
		250	1/4	50.8(2.0)	203(7.99)		0.7(1.54)	6(4)L - SC124 - N1/4 - 250	
		290	1/4		226(8.90)		0.8(1.76)	6(4)L - SC124 - N1/4 - 290	
		300	1/4		227(8.94)		0.8(1.76)	6(4)L - SC124 - N1/4 - 300	
		400	1/4		293(11.54)		1.05(2.31)	6(4)L - SC124 - N1/4 - 400	
		500	1/4	351(13.82)	1.3(2.86)		6(4)L - SC124 - N1/4 - 500		
		1000	1/4	87.3(3.44)	277(10.9)		4.4(0.173)	2.5(5.51)	6(4)L - SC124 - N1/4 - 1000
		1000	1/2	87.3(3.44)	277(10.9)		4.4(0.173)	2.5(5.51)	6(4)L - SC124 - N1/2 - 1000
		2250	1/4	100.6(3.96)	437(17.2)		5.0(0.197)	6.4(14.1)	6(4)L - SC124 - N1/4 - 2250
		2250	1/2	100.6(3.96)	437(17.2)		5.0(0.197)	6.4(14.1)	6(4)L - SC124 - N1/2 - 2250
		3785	1/4	100.6(3.96)	678(26.7)		5.0(0.197)	9.5(20.94)	6(4)L - SC124 - N1/4 - 3785
		3785	1/2	100.6(3.96)	678(26.7)		5.0(0.197)	9.5(20.94)	6(4)L - SC124 - N1/2 - 3785
		8000	1/4	101.6(4.0)	1300(51.18)		2.5(0.098)	17(37.47)	6(4)L - SC124 - N1/4 - 8000
ALLOY UNS 6625	124bar (1800psi)	300	1/4	59.3(2.34)	210(8.27)	2.5(0.098)	1.12(2.47)	UNS 6625 - SC124 - N1/4 - 300	
	124bar (1800psi)	300	1/2	59.3(2.34)	210(8.27)	2.5(0.098)	1.12(2.47)	UNS 6625 - SC124 - N1/2 - 300	
	124bar (1800psi)	500	1/4	59.3(2.34)	310(12.20)	3.0(0.118)	1.5(3.30)	UNS 6625 - SC124 - N1/4 - 500	
	124bar (1800psi)	500	1/2	59.3(2.34)	310(12.20)	3.0(0.118)	1.5(3.30)	UNS 6625 - SC124 - N1/2 - 500	
	207bar (3000psi)	500	1/4	59.3(2.34)	310(12.20)	3.5(0.138)	1.87(4.12)	UNS 6625 - SC207 - N1/4 - 500	
	207bar (3000psi)	500	1/2	59.3(2.34)	310(12.20)	3.5(0.138)	1.87(4.12)	UNS 6625 - SC207 - N1/2 - 500	
ALLOY UNS 8825	124bar (1800psi)	300	1/4	59.3(2.34)	210(8.27)	2.5(0.098)	1.12(2.47)	UNS 8825 - SC124 - N1/4 - 300	
	124bar (1800psi)	300	1/2	59.3(2.34)	210(8.27)	2.5(0.098)	1.12(2.47)	UNS 8825 - SC124 - N1/2 - 300	
	124bar (1800psi)	500	1/4	47.3(1.86)	310(12.20)	3.0(0.118)	1.5(3.30)	UNS 8825 - SC124 - N1/4 - 500	

ALLOY UNS 8825	124bar (1800psi)	500	1/2	47.3(1.86)	310(12.20)	3.0(0.118)	1.5(3.30)	UNS 8825 - SC124 - N1/2 - 500
	207bar (3000psi)	500	1/4	59.3(2.34)	310(12.20)	3.5(0.138)	1.87(4.12)	UNS 8825 - SC207 - N1/4 - 500
	207bar (3000psi)	500	1/2	59.3(2.34)	310(12.20)	3.5(0.138)	1.87(4.12)	UNS 8825 - SC207 - N1/2 - 500
6MO UNS31254	124bar (1800psi)	300	1/4	59.3(2.34)	210(8.27)	2.5(0.098)	1.12(2.47)	UNS31254 - SC124 - N1/4 - 300
	124bar (1800psi)	300	1/2	59.3(2.34)	210(8.27)	2.5(0.098)	1.12(2.47)	UNS31254 - SC124 - N1/2 - 300
	124bar (1800psi)	500	1/4	59.3(2.34)	310(12.20)	2.5(0.098)	1.87(4.12)	UNS31254 - SC124 - N1/4 - 500
	124bar (1800psi)	500	1/2	59.3(2.34)	310(12.20)	2.5(0.098)	1.87(4.12)	UNS31254 - SC124 - N1/2 - 500
	207bar (3000psi)	500	1/4	59.3(2.34)	310(12.20)	3.5(0.138)	1.87(4.12)	UNS31254 - SC207 - N1/4 - 500
	207bar (3000psi)	500	1/2	59.3(2.34)	310(12.20)	3.5(0.138)	1.87(4.12)	UNS31254 - SC207 - N1/2 - 500
	207bar (3000psi)	500	1/2	59.3(2.34)	310(12.20)	3.5(0.138)	1.87(4.12)	UNS31254 - SC207 - N1/2 - 500
SUPER DUPLEX 32750	124bar (1800psi)	300	1/4	59.3(2.34)	210(8.27)	2.5(0.098)	1.12(2.47)	DUPLEX 32750 - SC124 - N1/2 - 300
	124bar (1800psi)	300	1/2	59.3(2.34)	210(8.27)	2.5(0.098)	1.12(2.47)	DUPLEX 32750 - SC124 - N1/2 - 300
	124bar (1800psi)	500	1/4	59.3(2.34)	310(12.20)	2.5(0.098)	1.87(4.12)	DUPLEX 32750 - SC124 - N1/4 - 500
	124bar (1800psi)	500	1/2	59.3(2.34)	310(12.20)	2.5(0.098)	1.87(4.12)	DUPLEX 32750 - SC124 - N1/2 - 500
	207bar (3000psi)	500	1/4	59.3(2.34)	310(12.20)	3.5(0.138)	1.87(4.12)	DUPLEX 32750 - SC207 - N1/4 - 500
	207bar (3000psi)	500	1/2	59.3(2.34)	310(12.20)	3.5(0.138)	1.87(4.12)	DUPLEX 32750 - SC207 - N1/2 - 500
HASTELLOY C-276	124bar (1800psi)	3785	1/4	100.6(3.96)	678(26.7)	5.0(0.197)	9.5(20.9)	C-276 - SC124 - N1/4 - 3785
	124bar (1800psi)	3785	1/2	100.6(3.96)	678(26.7)	5.0(0.197)	9.5(20.9)	C-276 - SC124 - N1/2 - 3785
ASTM A312 304L/316L SS	207bar (3000psi)	150	1/4	47.3(1.86)	160(6.29)	3.8(0.149)	0.66(1.45)	6(4)L - SC207 - N1/4 - 150
	300bar (4350psi)	300	1/4	47.3(1.86)	368(14.5)	6.0(0.236)	2.5(5.5)	6(4)L - SC300 - N1/4 - 300
		500	1/4	47.3(1.86)	597(23.5)	6.0(0.236)	4.1(9.04)	6(4)L - SC300 - N1/4 - 500
	344BAR	150	1/4	47.3(1.86)	215(8.46)	6.2(0.244)	1.22(2.68)	6(4)L - SC344 - N1/4 - 150
	344BAR	150	1/2	47.3(1.86)	215(8.46)	6.2(0.244)	1.22(2.68)	6(4)L - SC344 - N1/2 - 150
	344BAR	290	1/4	47.3(1.86)	367(14.45)	6.2(0.244)	2.5(5.51)	6(4)L - SC344 - N1/4 - 290
	344BAR	290	1/2	47.3(1.86)	367(14.45)	6.2(0.244)	2.5(5.51)	6(4)L - SC344 - N1/2 - 290
	344BAR	300	1/4	47.3(1.86)	368(14.5)	6.2(0.244)	2.5(5.51)	6(4)L - SC344 - N1/4 - 300
	344BAR	300	1/2	47.3(1.86)	368(14.5)	6.2(0.244)	2.5(5.51)	6(4)L - SC344 - N1/2 - 300
DUPLEX UNS31803	344BAR	500	1/4	59.3(2.34)	317(12.48)	4.0(0.157)	4.1(9.03)	UNS31803 - SC344 - N1/4 - 500
	344BAR	500	1/2	59.3(2.34)	317(12.48)	4.0(0.157)	4.1(9.03)	UNS31803 - SC344 - N1/2 - 500
ASTM A312 304L/316L SS	344BAR	750	1/4	87.3(3.44)	279(10.98)	9.8(0.385)	4.0(8.81)	6(4)L - SC344 - N1/4 - 750
	344BAR	750	1/2	87.3(3.44)	279(10.98)	9.8(0.385)	4.0(8.81)	6(4)L - SC344 - N1/2 - 750
	344BAR	1000	1/4	87.3(3.44)	350(13.78)	9.8(0.385)	5.6(12.34)	6(4)L - SC344 - N1/4 - 1000
	344BAR	1000	1/2	87.3(3.44)	350(13.78)	9.8(0.385)	5.6(12.34)	6(4)L - SC344 - N1/2 - 1000

ALLOY UNS 8825	344BAR	1000	1/4	87.3(3.44)	375(14.76)	9.6(0.378)	7.5(16.53)	UNS 8825 - SC344 - N1/4 - 1000
	344BAR	1000	1/2	87.3(3.44)	375(14.76)	9.6(0.378)	7.5(16.53)	UNS 8825 - SC344 - N1/2 - 1000
ASTM A312 304L/316L SS	346BAR	2000	1/4	88.9(3.50)	620(24.40)	10.3(0.405)	12(26.45)	6(4)L - SC346 - N1/4 - 2000
			1/2	88.9(3.50)	620(24.40)	10.3(0.405)	12(26.45)	6(4)L - SC346 - N1/2 - 2000
	351BAR	3000	1/4	88.9(3.50)	890(35.04)	10.3(0.405)	17(37.47)	6(4)L - SC351 - N1/4 - 3000
			1/2	88.9(3.50)	890(35.04)	10.3(0.405)	17(37.47)	6(4)L - SC351 - N1/2 - 3000
	466BAR	3000	1/4	114.3(4.50)	670(26.38)	16.0(0.629)	24(52.49)	6(4)L - SC466 - N1/4 - 3000
			1/2	114.3(4.50)	670(26.38)	16.0(0.629)	24(52.49)	6(4)L - SC466 - N1/2 - 3000
9000		1/4	114.3(4.50)	1840(72.44)	16.0(0.629)	71(156.52)	6(4)L - SC466 - N1/4 - 9000	
		1/2	114.3(4.50)	1840(72.44)	16.0(0.629)	71(156.52)	6(4)L - SC466 - N1/2 - 9000	
DUPLEX UNS31803	700bar (10150psi)	200	1/4	59.3(2.34)	200(7.87)	8.0(0.315)	1.72(3.79)	UNS31803 - SC700 - N1/4 - 200
		200	1/2	59.3(2.34)	200(7.87)	8.0(0.315)	1.72(3.79)	UNS31803 - SC700 - N1/2 - 200
	700bar (10150psi)	300	1/4	59.3(2.34)	250(9.84)	8.0(0.315)	2.7(5.95)	UNS31803 - SC700 - N1/4 - 300
		300	1/2	59.3(2.34)	250(9.84)	8.0(0.315)	2.7(5.95)	UNS31803 - SC700 - N1/2 - 300
	700bar (10150psi)	300	1/4	47.3(1.86)	368(14.5)	6.2(0.244)	2.5(5.51)	UNS31803 - SC700 - N1/4 - 300
		300	1/2	47.3(1.86)	368(14.5)	6.2(0.244)	2.5(5.51)	UNS31803 - SC700 - N1/2 - 300
	700bar (10150psi)	1000	1/4	100.6(3.96)	330(12.99)	10.3(0.405)	6.0(13.22)	UNS31803 - SC700 - N1/4 - 1000
		1000	1/2	100.6(3.96)	330(12.99)	10.3(0.405)	6.0(13.22)	UNS31803 - SC700 - N1/2 - 1000
SUPER DUPLEX 32750	700bar (10150psi)	500	1/4	59.3(2.34)	500(19.68)	8.1(0.318)	5.6(12.34)	UNS32750 - SC700 - N1/4 - 500
		500	1/2	59.3(2.34)	500(19.68)	8.1(0.318)	5.6(12.34)	UNS32750 - SC700 - N1/2 - 500
	700bar (10150psi)	1000	1/4	100.6(3.96)	330(12.99)	10.3(0.405)	6.0(13.22)	UNS32750 - SC700 - N1/4 - 1000/S
		1000	1/2	100.6(3.96)	330(12.99)	10.3(0.405)	6.0(13.22)	UNS32750 - SC700 - N1/2 - 1000/S
	700bar (10150psi)	1000	1/4	100.6(3.96)	350(13.78)	9.3(0.366)	6.02(13.27)	UNS32750 - SC700 - N1/4 - 1000/D
		1000	1/2	100.6(3.96)	350(13.78)	9.3(0.366)	6.02(13.27)	UNS32750 - SC700 - N1/2 - 1000/D

Sampling Options

Besides these standard sample cylinders, other customized configurations are also available upon request:

- Carrying handles fitting for each size of sample cylinders
- Valves in various sizes
- Different connection types
- Other materials
- Rupture discs and quick-connects



Condensate Pot

Condensate Pot



Overview

Condensate pot is utilized in steam pipelines to achieve accurate flow measurement, which provides an interface between the vapor and the liquid. The condensate pots catch and hold condensate or foreign material, so will be installed in the pipeline near the restriction device. It is also known as a seal pot because it would create a liquid seal between the instrument and the gases mostly it would be steam. The main function of the condensate pot is to maintain the level of the liquid in the impulse line. SMGI offers various types of condensate pots, specially manufactured with 'Hot spinning form technology' from a seamless pipe, originating in G7 or South Korean raw materials.

Technical Data

- Chambers of seamless structure without welded caps
- Provides safety according to 'Hot spinning forming' in the manufacturing process
- Volume from 200cc to 3785cc (1gal) with availability of customized size
- Working pressure up to 10150psi (700bar)
- Working Temperature: -58 °F ~ 932 °F (-50 °C ~ 500 °C)
- End-connections with 1/4", 1/2" Female NPT and Socket welding
- Various shapes (2 Pot ~ 4 Pot), Materials, Pipe size (2" ~ 6"), Thickness (SCH40 ~ SCH160) available
- Options including Vent plug, Hex head plug, Valves and Flexible Metal Hose
- Materials with 316L, 304L, Duplex, Super Duplex, Alloy 625/825, 6MO, Monel, Hastelloy
- MTC 3.1 Certificate with ONLY G7 and South Korean raw material
- Seamless Pipe with NACE MR 0175/0103

Ordering Information

The SMGI Condensate pots can be designed according to the customer's requirements from the raw material, pipe size, and thickness. From the material (304L, 316L, Carbon Steel or required alloy), Pipe size (2" ~ 6") to the Thickness (SCH40~SCH160), SMGI design the condensate pot to meet the required specifications.

1. Ordering Example : 6SCP3-S1608N8N-4A8N8N (6S)

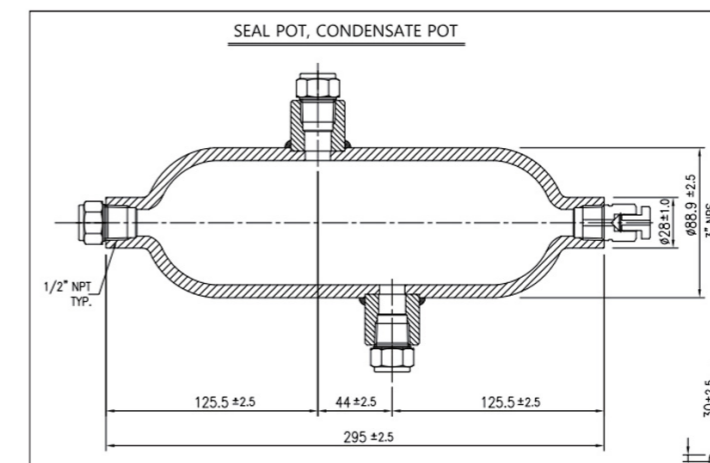
Material	Designator
A312 TP316L	6S
A312 TP304L	4S
A106 GR.B	CB
A335 P11	P11
A335 P22	P22
A335 P91	P91
A335 P92	P92

2. Ordering Example : 6SCP3-S1608N8N-4A8N8N (CP)

Features

All condensate pots are designed following ASME SEC. VIII Div. 1 and produced in an ASME-coded workshop.

- Seamless pipe construction
- Working pressure: up to Class 250 BAR
- A variety of end connections are available
- Extra connections can be furnished upon customer request
- All threads will be protected with plugs or plastic caps as required by the customer
- All chambers are factory-tested fully before shipment



Technical Data

*PT : Liquid Penetrant Testing
 *MT : Magnetic Particle Testing

Material Of Connection			Dimensions			(UNIT : MM)
NO.	Description	Material	Pipe Size(D)	L	L1Ø	
1	Pipe 3" SCH 40	Seamless Stainless Steel 316L	NPS 3(O.D.88.9) SCH 80	274	120.8	
2	BOSS 1/2"(F)NPT #3000	Stainless Steel 316L	NPS 3(O.D.88.9) SCH 80	288	127.8	
3	Plug	Stainless Steel 316L (1/2" NPT 316L)	NPS 3(O.D.88.9) SCH 160	274	120.8	
4	Tube Male Connector	Stainless Steel 316L (1/2" NPT 316L)	NPS 3(O.D.88.9) SCH 160	280	127.8	
5	Flange 1" ANST 300% RF	Stainless Steel 316L	NPS 4(O.D.114.3) SCH 80	350	130	
6	Nipple	1/2" SCH 40	NPS 4(O.D.114.3) SCH 120	355		

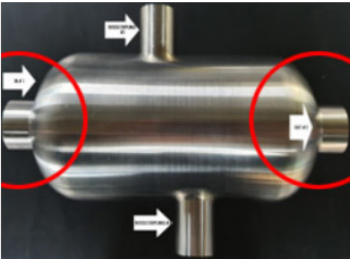
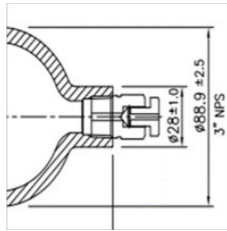
3. Ordering Example : 6SCP3-S1608N8N-4A8N8N (3)

Pipe size	Designator	
ANSI	NPS 2(O.D.60.3)	2
	NPS 3(O.D.88.9)	3
	NPS 4(O.D.114.3)	4



4. Ordering Example : 6SCP3-S1608N8N-4A8N8N (S160)

Designator	Shapes
SCH .40	S40
SCH .80	S80
SCH .160	S160

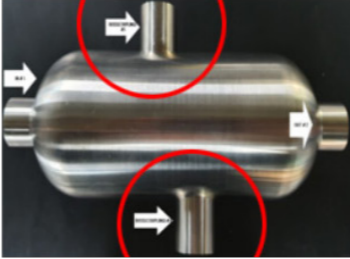
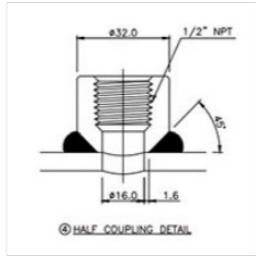
5. Ordering Example : 6SCP3-S1608N8N-4A8N8N (8N8N)

End connectors are described by first the run (1 and 2)	Size	Designator	End connectors (1 and 2)
	IN,OUT/END CONNECTIONS(1 AND 2)		
	1/2" NPT FEMALE	8N	
	1/4" NPT FEMALE	4N	
	1/2" SW SOCKET WELD	SW	
Fitting class on end connection is selected as per the pipe schedule rating.			

6. Ordering Example : 6SCP3-S1608N8N-4A8N8N (4A)

Shapes	Designator	Shapes	Designator	Shapes	Designator
	2A		3A		4A
	2B		3B		4B
	2C		3C		4C

7. Ordering Example : 6SCP3-S1608N8N-4A8N8N (8N8N)

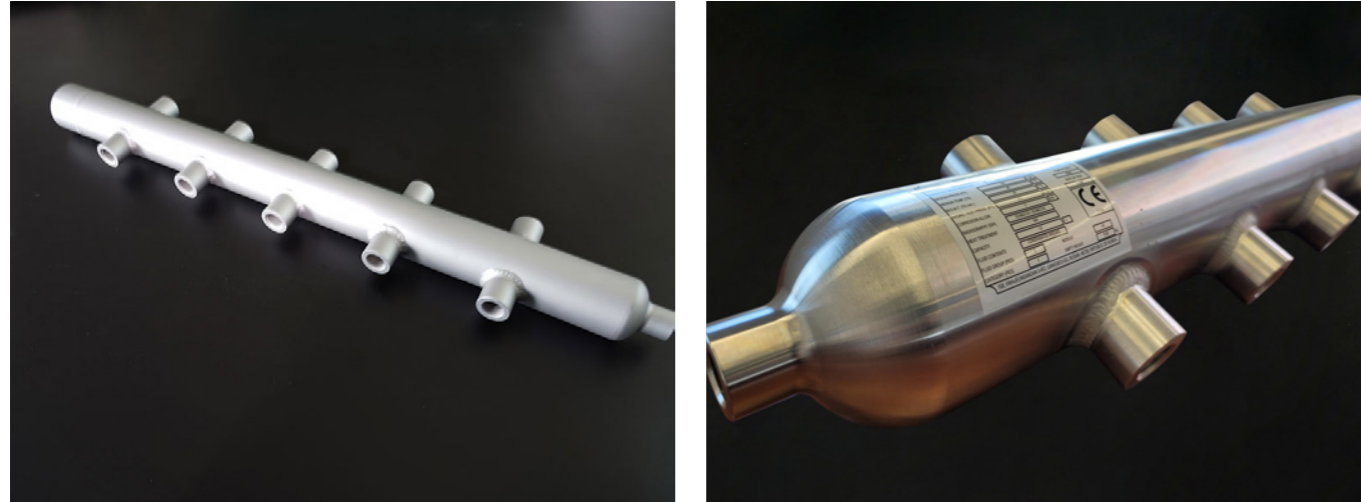
End connectors are described by first the branch (3 and 4)	Size	Designator	End connectors (1 and 2)
		BOSS / END CONNECTIONS(3 AND 4)	
		1/2" NPT FEMALE	8N
		1/4" NPT FEMALE	4N
		VENT PLUG	VP
		HEX HEAD PLUG	P
Fitting class on end connection is selected as per the pipe schedule rating.			

Options for Condensate Pot

For installation purposes, SMGI can provide other accessories such as a vent plug, hex head plug, valves, flexible metal hose, etc. Any customized configurations are also available upon request.

Air Header

Air Header



Overview

An Air Header, also referred to as an air distribution manifold, is a vital component used to distribute compressed air or gas to various pneumatic instruments or devices. It's specially designed for gas and liquid distribution applications when multiple take-offs are required. The Air header consists of a series of inlet and outlet ports connected to the compressed air supply and the pneumatic instruments subsequently. It can be installed close to the source of compressed air. It can be wall or pipe-mounted and can be supplied complete with fixing brackets to suit the preferred mounting method. SMGI offers a wide range of air headers using seamless pipe originating in G7 or South Korean raw materials.

Technical Data

- Double-side and Single-side Air Header (Air Distribution Manifold)
- Body of seamless structure without welded caps and safety according to 'Hot spinning forming' technology
- Outlet port up to 20 (Single/Double-side)
- Working pressure up to 10150psi (700bar)
- Working Temperature: -63.4 °F ~ 449.6 °F (-53 °C ~ 232 °C)
- Drain connections with Threaded, Ball, or Needle Valves
- Options include fixing brackets for wall mounting or pipe mounted
- Materials with 316L, 304L, Duplex, Super Duplex, Alloy 625/825, 6MO, Monel, Hastelloy
- MTC 3.1 Certificate with ONLY G7 and South Korean raw materials
- Seamless Pipe with NACE MR 0175/0103
- Coded welding and NDE (Non-Destructive Testing) as standard

Standard Connection Ends

The SMGI Air header can be designed to the customer's requirements from the raw material, pipe size, pipe thickness, Double/single side, number of ways, and process/outlet connection types. Drain ports can be available up to 20 ports.

1. Bespoke Design of Air Header

A	2 S (SCH 80)		6	8		N		8		N	
Series	Material		Number of Distribution Valve outlets	Inlet Size (inch)		Inlet Connection		Drain Valve Outlet Size (inch)		Drain Valve Outlet Connection	
High Pressure Distribution Manifold	Seamless Stainless Steel		Insert number from 4-20	8	1/2	N	Female NPT	8	1/2	N	Female NPT
	1S	1 1/2 INCH SCH 160		12	3/4	K	BSPT	12	3/4	K	BSPT
	2S	2 INCH SCH 80		16	1	R	BSPP	16	1	R	BSPP
	3S	3 INCH SCH 80		24	1 1/2			24	1 1/2		
	4S	4 INCH SCH 80		32	2			32	2		
	5S	5 INCH SCH 80									
	6S	6 INCH SCH 80									

2. Process (Drain) Connections

8		N		BVO			
Distribution Valve Outlet (inch)		Distribution Valve Outlet		Drain Options		Valve Configuration	
4	1/4	N	Female NPT	BVO	Ball Valve Outlet	-	Both Sides
6	3/8	K	BSPT	BPBVO	Ball Valve Plugged Outlet	R	Right Side
8	1/2	R	BSPP	BP	Plugged Drain	L	Left Side
				CP	Plugged Distribution		

Flanged Inlet Style

1. Bespoke Design of Air Header

A	2 S (SCH 80)		12	8		F		150	8		K	
Series	Material		Number of Distribution	Inlet Size (inch)		Inlet Connection		Flange Class	Drain Valve Outlet Size (inch)		Drain Valve Outlet Connection	
High Pressure Distribution Manifold	Seamless Stainless steel		Insert Number From 4-20	8	1/2	F	Raised Face	150	8	1/2	N	Female NPT
	1S	1 1/2 INCH SCH 160		12	3/4	T	Ring Type	250	12	3/4	K	BSPT
	2S	2 INCH SCH 80		16	1			600	16	1	R	BSPP
	3S	3 INCH SCH 80		24	1 1/2				24	1 1/2		
	4S	4 INCH SCH 80		32	2				32	2		

High Pressure Distribution Manifold	5S	5 INCH SCH 80	Insert Number From 4-20																	
	6S	6 INCH SCH 80																		

2. Process (Drain) Connections

8		N		BVO			
Distribution Valve Outlet		Distribution Valve Outlet		Drain Options		Valve Configuration	
8	1/2	N	Female NPT	BVO	Ball Valve Outlet	-	Both Sides
		K	BSPT	BPBVO	Ball Valve Plugged	R	Right Side
		R	BSPP	BP	Plugged Drain	L	Left Side
				CP	Plugged Distribution		

Air Header(Air Distributor Manifold) with 6 & 8 Distribution Valve Outlets



Air Deader Distribution Manifold with 8 Distribution Valve Outlets and Flanged Inlet, Both Sides Configuration



Air Header(Air Distributor Manifold) with 8 Distribution Valve Outlets

Option for Air Header

For installation purposes, SMGI provides other accessories such as pipe mounting or wall mounting brackets, flexible metal hoses, etc. Any customized configurations are also available upon request.

Flexible Metal Hose

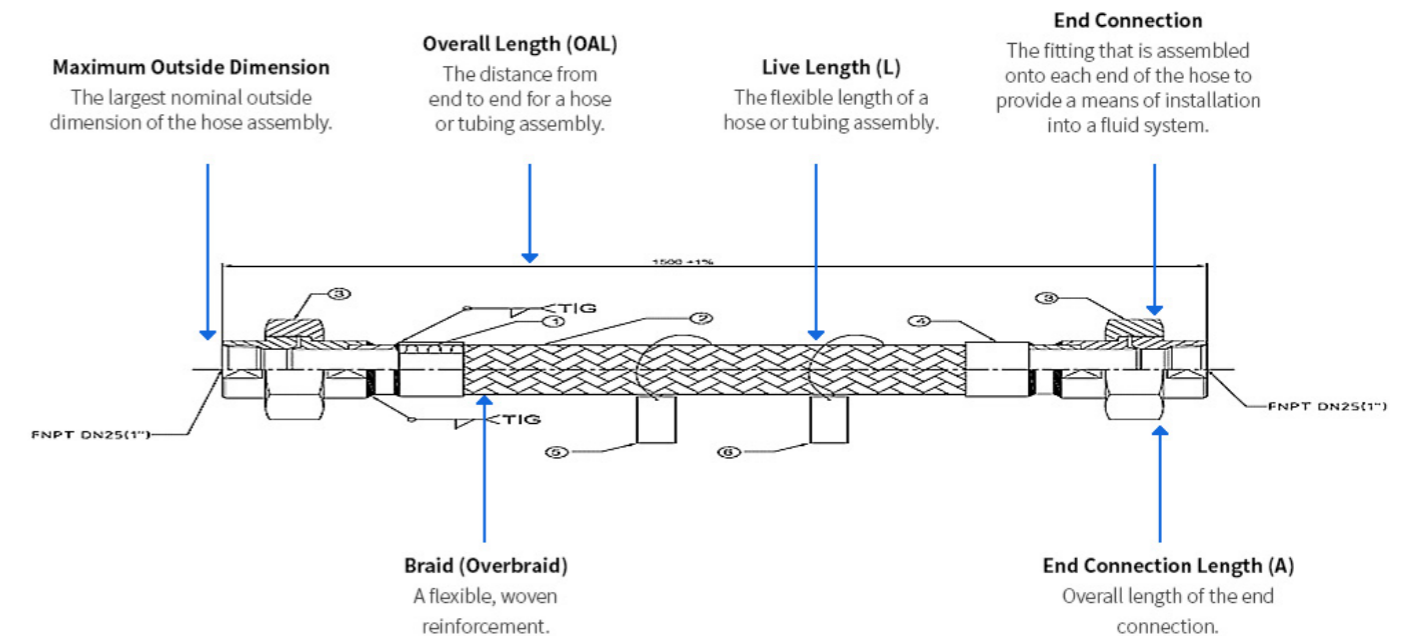
Flexible Metal Hose

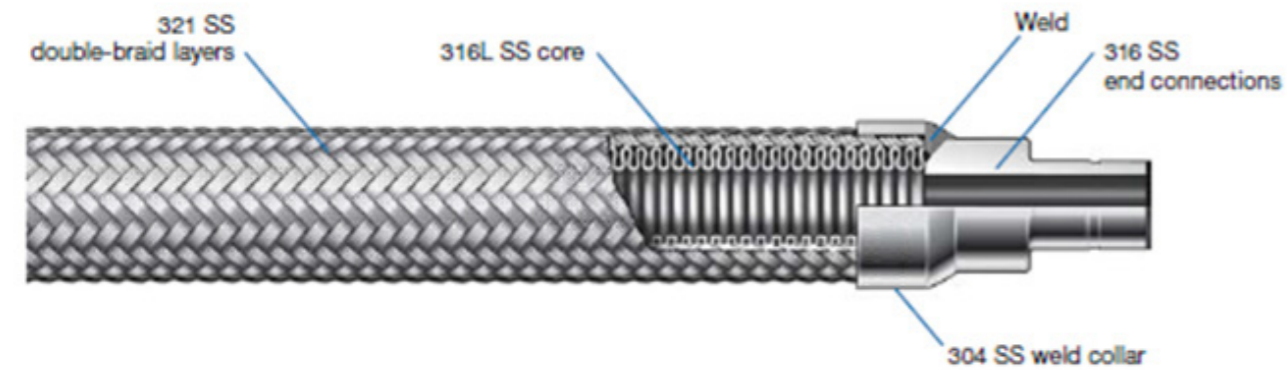
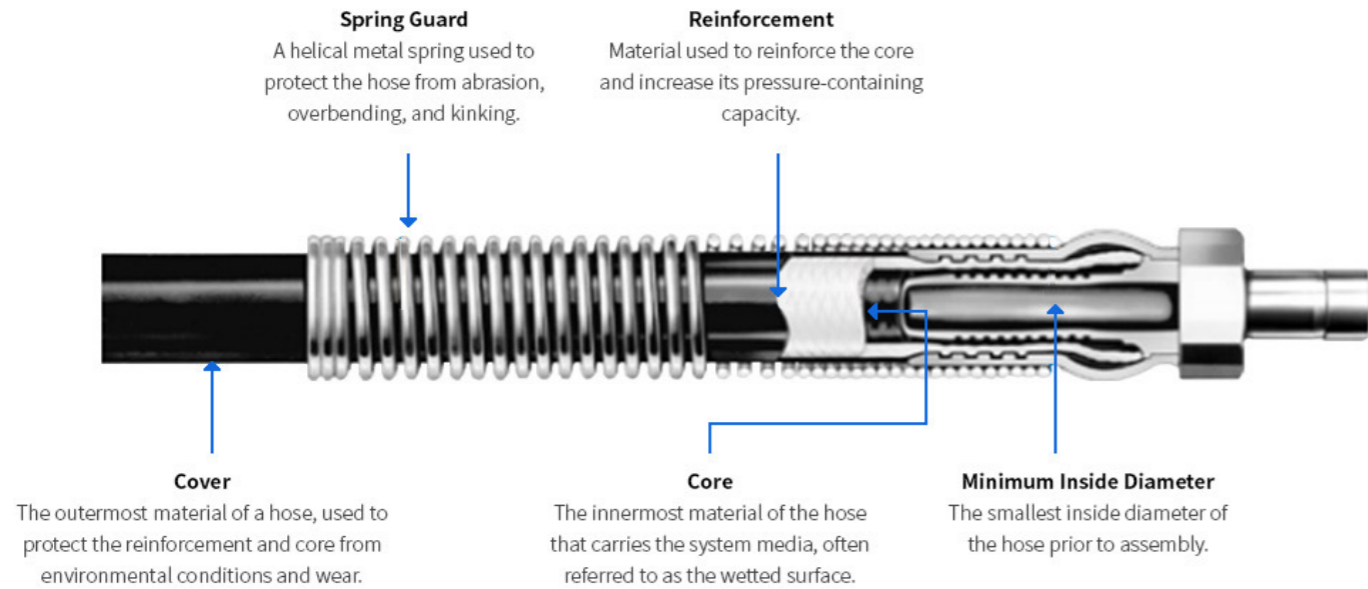


1. Overview

Metal hoses offer various solutions in different applications, from taking up misalignment or thermal expansion to absorbing vibrations. They are also used to facilitate repeating machine movements. SMGI manufactures a wide range of Metal hoses with numerous strengths:

- No cracking of piping due to stress fatigue
- No leakages at joints, gaskets, or flanges due to undesirable tensions
- Simplified mounting and decoupling during maintenance
- Increased possibilities for prefab manufacturing





Considerations for Selecting a Hose Assembly Solution

Temperature	Identify the minimum and maximum temperatures the hose assembly will be exposed to depending on the system media and the environment
Pressure	Identify the minimum and maximum pressures (or vacuum) within and outside the hose assembly
Material	Identify the system media and the environment to which the hose assembly will be exposed. This information affects deciding the materials of construction best suited to the application demands and whether the hose requires a static dissipative core.
Movement	Confirm whether the hose assembly will be installed in a dynamic application as this will require different considerations than a static application
Length	Determine the most likely route for installation of the hose and use this to identify length requirements
Cleanliness	Identify the need for cleanliness. Ease of cleaning the internal surfaces of the hose, as well as maintaining outside cleanliness may be a concern
End Connection	Identify the type of end connection most compatible with the system requirements. End connections differ by materials of construction and pressure ratings.
Orientation	Clarify space constraint concerns. Hose assemblies with elbows and union ball joints may help resolve space constraint issues.
Desired Flow	Consider the desired flow. Hose connection size, core tube construction, and routed installation may impact flow.
Drainability	Consider core construction which will impact drain ability. Test reports identify the need for documentation in the form of test reports.
Special Marking	Discuss special marking requirements; various options are available to identify hose assemblies
Documentation and Regulatory Requirements	Identify the need for special regulatory approvals or documentation
Additional Protection and Covers	Identify whether covers are necessary for additional protection of the hose assemblies or surrounding systems

Testing

Every SMGI hose assembly is inboard helium leak tested to a maximum leak rate of 1×10^{-5} std cm³/s. For additional testing, please inquire about your requirements!

Cleaning and Packaging

SMGI hose components are cleaned by our standards. Each hose is bagged individually and boxed; longer hoses are coiled, bagged, and boxed.

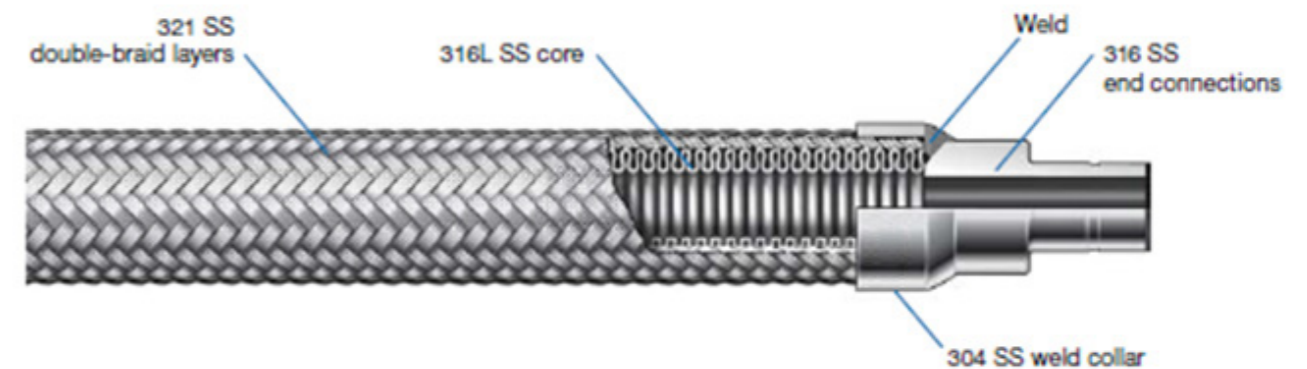
2. Products

SMGI Flexible Metal Hose and End Connections

- High-pressure corrosion-resistant all-metal hose
- 316L stainless steel annular convoluted core
- Size range (1/4"~2")
- Working pressures to 6000 psi (413 bar) and 3100 psi (213 bar)
- Double braid layers of 321 stainless steel promote hose pressure containment (HP Types)
- End connections welded by ASME Boiler and Pressure Vessel Code Section IX
- Commonly used in high-temperature vacuum and high/medium-pressure corrosive environments
- Standard and custom assemblies available
- Options include hose covers, hose tags, and additional helium leak testing
- MTC 3.1 Certificate with ONLY G7 and South Korean raw materials

HP Types (High-pressure Flexible Metal Hose)

- High-pressure corrosion-resistant all-metal hose
- 316L stainless steel annular convoluted core-Size range of 1/4 through 2 in. and working pressures from vacuum to 6000 psig (413 bar)
- Double braid layers of 321 stainless steel promote hose pressure containment
- End connections welded per ASME Boiler and Pressure Vessel Code Section IX
- Commonly used in high-temperature vacuum and high-pressure corrosive environments or where permeation is undesirable
- Standard and custom assemblies are available
- Options include hose covers, hose tags, and additional helium leak testing



Nominal Hose Size in. (mm)	Inside Diameter in. (mm)	Outside Diameter in. (mm)	Minimum Center Line Bend Radius in. (cm)		Temperature Range °F (°C)	Working Pressure at -325 to 300°F (-200 to 148°C) Vacuum to ... psig (bar)	Minimum Burst Pressure at 70°F (20°C) psig (bar)	Bulk Hose Weight lb/ft (kg/m)
			Static	Dynamic				
1/4 (6.4)	0.25 (6.4)	0.68 (17.3)	1.5 (3.81)	5.5 (14.0)	-325 to 1000 (-200 to 537)	6000 (413)	24 000 (1653)	0.49 (0.73)
3/8 (9.7)	0.38 (9.5)	0.92 (23.4)	2.5 (6.40)	7.0 (17.8)		5000 (344)	20 000 (1378)	0.77 (1.15)
1/2 (12.7)	0.51 (13.0)	0.98 (24.9)	3.0 (7.62)	8.0 (20.3)		4500 (310)	18 000 (1240)	0.85 (1.26)
3/4 (19.0)	0.75 (19.0)	1.40 (35.6)	4.0 (10.2)	10.0 (25.4)		3600 (248)	14 400 (992)	1.58 (2.35)
1 (25.4)	1.00 (25.4)	1.70 (43.2)	5.0 (12.7)	11.0 (27.9)		3000 (206)	12 000 (826)	2.32 (3.45)
1 1/4 (31.8)	1.25 (31.8)	2.00 (50.8)	6.5 (16.5)	12.5 (31.8)		2600 (179)	10 400 (716)	2.88 (4.29)
1 1/2 (38.1)	1.50 (38.1)	2.36 (59.9)	7.5 (19.1)	13.0 (33.0)		2200 (151)	8 800 (606)	3.57 (5.31)
2 (50.8)	2.00 (50.8)	2.82 (71.6)	9.0 (22.9)	14.0 (35.6)		1675 (115)	6 700 (461)	4.45 (6.62)

Pressure-temperature ratings may be limited by the end connections.

Nominal Hose Size, in.	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
	Working Pressure Vacuum to ... psig (bar)							
Temperature °F (°C)								
-325 (-200) to 300 (148)	6000 (413)	5000 (344)	4500 (310)	3600 (248)	3000 (206)	2600 (179)	2200 (151)	1675 (115)
400 (204)	5640 (388)	4700 (323)	4230 (291)	3384 (233)	2820 (194)	2444 (168)	2068 (142)	1574 (108)
500 (260)	5317 (366)	4431 (305)	3988 (274)	3190 (219)	2658 (183)	2304 (158)	1949 (134)	1484 (102)
600 (315)	5029 (346)	4191 (288)	3772 (259)	3017 (207)	2514 (193)	2179 (150)	1844 (127)	1404 (96.7)
700 (371)	4850 (334)	4041 (278)	3637 (250)	2910 (200)	2425 (167)	2101 (144)	1778 (122)	1354 (93.2)
800 (426)	4634 (319)	3862 (266)	3476 (239)	2780 (191)	2317 (159)	2008 (138)	1699 (117)	1293 (89.0)
850 (454)	4562 (314)	3802 (261)	3422 (235)	2737 (188)	2281 (157)	1977 (136)	1673 (115)	1273 (87.7)
900 (482)	4455 (306)	3712 (255)	3341 (230)	2673 (184)	2227 (153)	1930 (132)	1633 (112)	1243 (85.6)
950 (510)	4347 (299)	3622 (249)	3260 (224)	2608 (179)	2173 (149)	1883 (129)	1594 (109)	1213 (83.5)
1000 (537)	4239 (292)	3532 (243)	3179 (219)	2543 (175)	2119 (145)	1837 (126)	1554 (107)	1183 (81.5)

Ratings are based on ASME Code for Pressure Piping B31.3, Process Piping.

GP Types (General Pressure Flexible Metal Hose)

- All-metal hose promotes corrosion resistance
- 316L stainless steel annular convoluted core
- Size range of 1/4 through 2 in. and working pressures from vacuum to 3100 psig (213 bar)
- A single braid layer of 316L stainless steel promotes hose pressure containment and exhibits strong performance in dynamic cycling applications
- End connections welded per ASME Boiler and Pressure Vessel Code Section IX
- Commonly used in high-temperature vacuum applications and medium pressure corrosive environments or where permeation is undesirable
- Standard and custom assemblies available
- Options include hose covers, hose tags, and additional helium leak testing

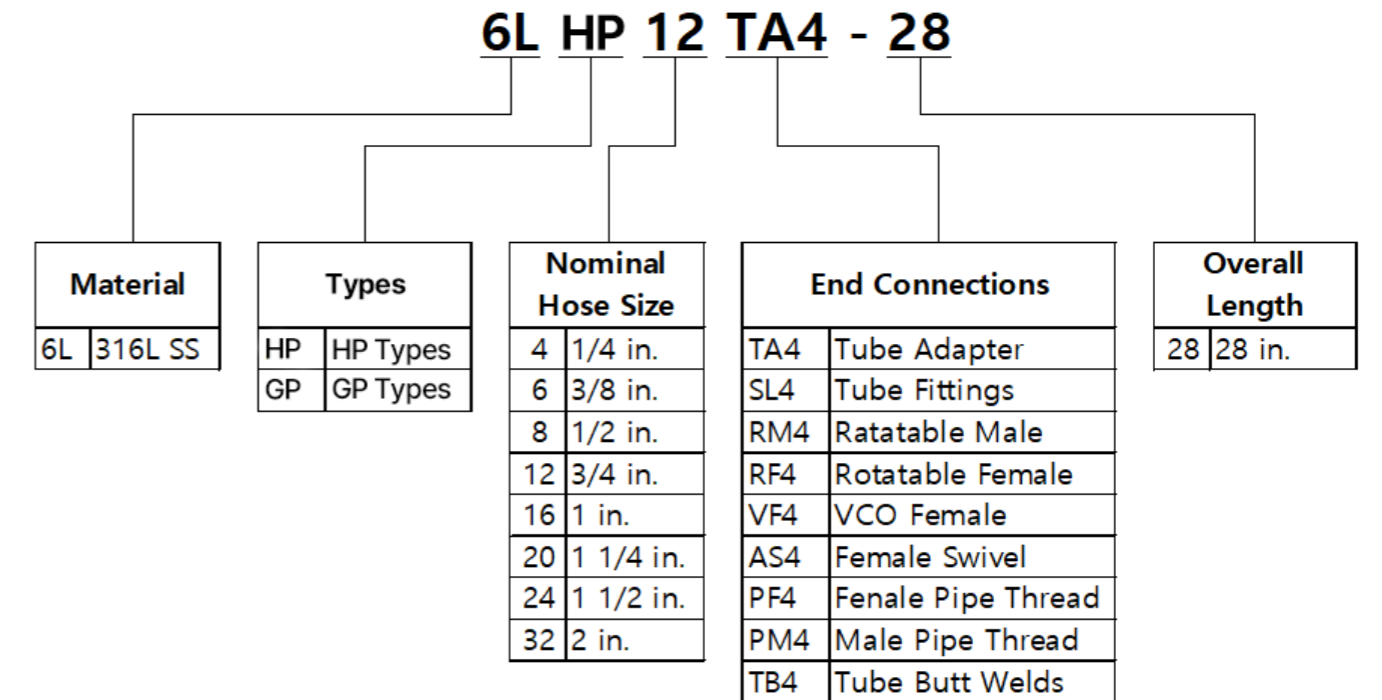
Nominal Hose Size in. (mm)	Inside Diameter in. (mm)	Outside Diameter in. (mm)	Minimum Center Line Bend Radius in. (cm)		Temperature Range °F (°C)	Working Pressure at -325 to 100°F (-200 to 37°C) Vacuum to ... psig (bar)	Minimum Burst Pressure at 70°F (20°C) psig (bar)	Bulk Hose Weight lb/ft (kg/m)
			Static	Dynamic				
1/4 (6.4)	0.28 (7.1)	0.53 (13.5)	2.25 (5.72)	10.0 (25.4)	-325 to 850 (-200 to 454)	3100 (213)	12 400 (854)	0.29 (0.43)
3/8 (9.7)	0.42 (10.6)	0.69 (17.5)	3.00 (7.62)	12.0 (30.5)		2000 (137)	8 000 (551)	0.33 (0.49)
1/2 (12.7)	0.53 (13.5)	0.85 (21.6)	4.50 (11.4)	16.0 (40.6)		1800 (124)	7 200 (496)	0.45 (0.67)
3/4 (19.0)	0.80 (20.3)	1.15 (29.1)	6.00 (15.2)	17.0 (43.2)		1500 (103)	6 000 (413)	0.62 (0.92)
1 (25.4)	1.03 (26.0)	1.45 (36.9)	6.75 (17.1)	20.0 (50.8)		1200 (82.6)	4 800 (330)	0.77 (1.15)
1 1/4 (31.8)	1.30 (33.0)	1.75 (44.5)	4.50 (11.4)	23.0 (58.4)		950 (65.4)	3 800 (261)	1.05 (1.56)
1 1/2 (38.1)	1.53 (38.9)	2.02 (51.3)	5.25 (13.3)	26.0 (66.0)		900 (62.0)	3 600 (248)	1.18 (1.76)
2 (50.8)	2.05 (52.1)	2.57 (65.3)	6.75 (17.1)	32.0 (81.3)		500 (34.4)	2 000 (137)	1.66 (2.47)

Pressure-temperature ratings may be limited by the end connections.

Nominal Hose Size, in.	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
Temperature, °F (°C)	Working Pressure, vacuum to ... psig (bar)							
-325 (-200) to 100 (37)	3100 (213)	2000 (137)	1800 (124)	1500 (103)	1200 (82.6)	950 (65.4)	900 (62.0)	500 (34.4)
200 (93)	2604 (179)	1680 (115)	1512 (104)	1260 (86.8)	1008 (69.4)	798 (54.9)	756 (52.0)	420 (28.9)
300 (148)	2356 (162)	1520 (104)	1368 (94.2)	1140 (78.5)	912 (62.8)	722 (49.7)	684 (47.1)	380 (26.1)
400 (204)	2170 (149)	1400 (96.4)	1260 (86.8)	1050 (72.3)	840 (57.8)	665 (45.8)	630 (43.4)	350 (24.1)
500 (260)	2015 (138)	1300 (89.5)	1170 (80.6)	975 (67.1)	780 (53.7)	618 (42.5)	585 (40.3)	325 (22.3)
600 (315)	1922 (132)	1240 (85.4)	1116 (76.8)	930 (64.0)	744 (51.2)	589 (40.5)	558 (38.4)	310 (21.3)
700 (371)	1829 (126)	1180 (81.3)	1062 (73.1)	885 (60.9)	708 (48.7)	561 (38.6)	531 (36.5)	295 (20.3)
800 (426)	1767 (121)	1140 (78.5)	1026 (70.6)	855 (58.9)	684 (47.1)	542 (37.3)	513 (35.3)	285 (19.6)
850 (454)	1736 (119)	1120 (77.1)	1008 (69.4)	840 (57.8)	672 (46.3)	532 (36.6)	504 (34.7)	280 (19.2)

Ratings are based on ASME Code for Pressure Piping B31.3, Process Piping.

3. Ordering Information



4. Options

Options

For multiple options, add designators with a dash between each designator.

CRN	Lanyard tag with CRN
A	Armor Guard
F	Fire Jacket
G	CGA 4.1 Cleaning on Hose Wetted Surfaces
F1	Thermo Sleeve
H7	Helium Leak Test (1X10_7STD CM3/S)
N3	Nitrogen Pressure Test
Z	316L SS Braid Material
S	302 SS Spring Guard, Hose-Length (1/4, 3/8 and 1/2 In. Only) * GP Types
W	Hydrostatic Test * GP Types

Mat Tags

For multiple options, add designators with a dash between each designator.

MA	Gray
MG	Green
MO	Orange
MB	Blue
MK	Black
MP	Purple
MC	Brown
MN	Pink
MR	Red
MW	White
MY	Yellow

Add 2 to end of the Mat Tag Designator for two tags (Ex. MA2)


Flanges

Overview

Metal hoses offer various solutions in different applications, from taking up misalignment or thermal expansion to Flange is a method of connecting pipes, valves, pumps and other equipment to form a piping system. It also provides easy access for cleaning, inspection or modification. Flanges are usually welded or screwed. Flanged joints are made by bolting together two flanges with a gasket between them to provide a seal. SMGI's Pipe flanges are protruding rims, edges, ribs, or collars used to make a connection between two pipes or between a pipe and any type of fitting or equipment component.

Flange Types

SMGI offers a wide selection of flanges originating in G7 or South Korean raw materials. The most used flanges types in the Petro & chemical industry are as below. All types except the Lap Joint flange are provided with a raised face.

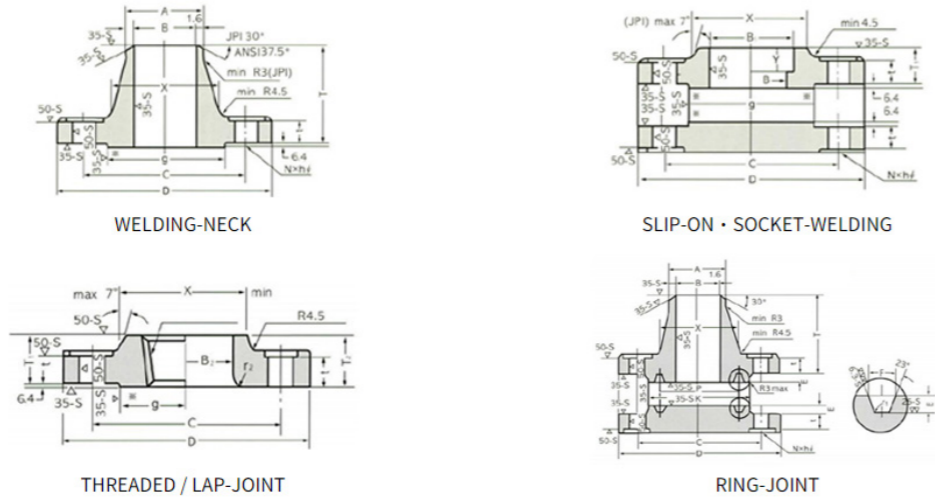
Welding Neck Flange	Slip On Flange	Socket-Welded Flanges
		
Butt welded onto the end of a pipe, providing a flange that is suitable for high temperature and pressure.	Have a plain hole but without the shoulder. Fillet welds are added to the pipe on both sides of the flange.	Have a plain hole with a shoulder at the bottom. The pipe is inserted into the hole to butt against the shoulder and then welded into place with a fillet weld around the outside. It is used for small-diameter pipes operating at low pressure.
Lap Joint Flange	Theraded Flange	Blind Flange
		
Consists of two parts; a stub end and a backing flange. The stub end is butt-welded to the end of the pipe and includes a small flange without any holes. The backing flange can slide over the stub end and provide holes to bolt to another flange. This arrangement allows disassembly in confined spaces.	Have an internal (female) thread, a threaded pipe screwed into it. It is relatively easy to fit but is not suitable for high pressure and temperature.	A form of a blanking plate that is bolted to another pipe flange to isolate a section of piping or to terminate piping.

Flange Products

1. ANSI Flange

The ANSI Class rating of a flange is defined as the maximum amount of pressure that the flange can withstand at increasing temperatures. SMGI provides all seven primary pressure classes for flanges, which are 150, 300, 400, 600, 900, 1500, and 2500.

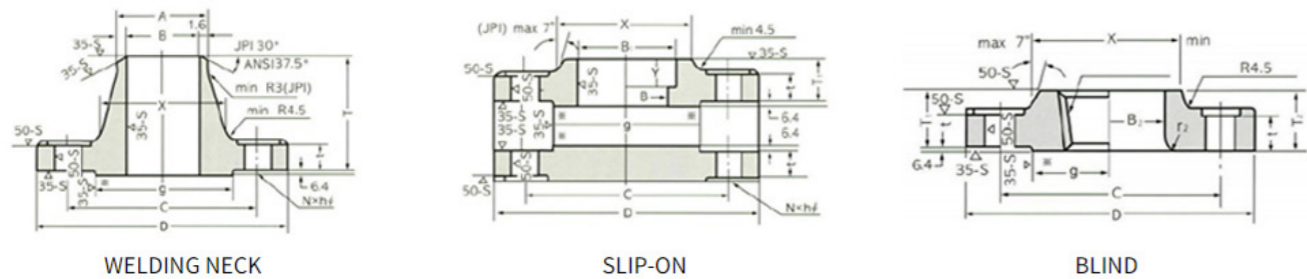
CLASS 1500-2500 FLANGES
JIP 7S-15-84 & ANSI B 16.5



2. DIN Flange

A DIN standard is a standard drawn up at the German Institute for Standardization (DIN) in Berlin that sets unified standards for products and processes, such as quality, minimum performance, characteristics, dimensions, etc. SMGI supplies the Pressures Ratings (PN) up to 40Bar such as PN6, PN10, PN16, PN25, and PN40.

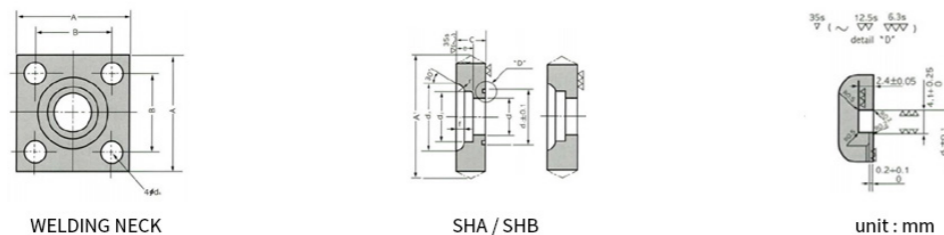
40BAR
DIN 2545 SLIP-ON FLANGES
DIN 2527 BLIND FLANGES
DIN 2635 WELDING NECK FLANGES



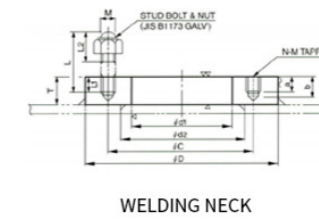
3. JIS Flange

The Japanese Industrial Standard (JIS), published by the Japanese Standards Association (JSA) is the equivalent of ANSI in the United States. They are created and updated by the Committee of the Japanese Industrial Standards (JISC). SMGI makes the JIS F7805, F2220, F2216, F2291 and F7806, up to 350Kgf/cm².

350Kgf/cm²
FLANGE FOR OIL PRESSURE



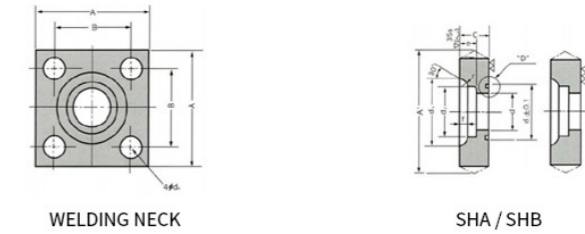
10K SET-ON FLANGE
JIS B 2220 - 1984



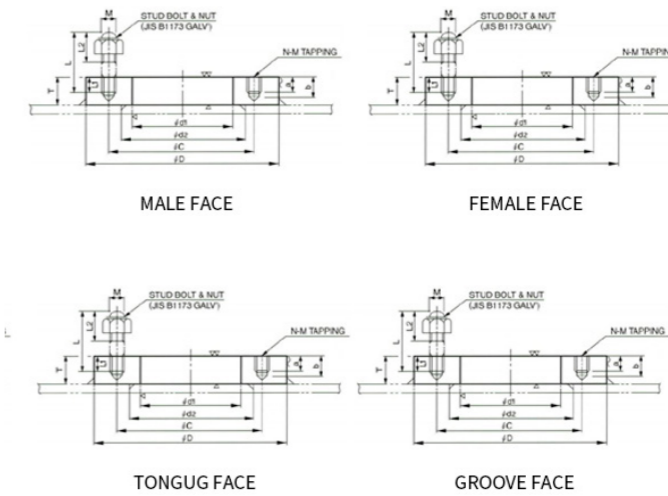
4. Welding Neck Flange

A weld neck flange, also referred to as tapered hub flange or high-hub flange, is a kind of flange that can relocate stress to the pipes, ensuring a decrease in high-stress concentration at the bottom of the flange. SMGI provides seven types and sizes up to 63Kgf/Cm² and FACING 2.

FACING2



63Kgf/cm²
JIS B2220-1984(KSB 1503-1999)
WELDING NECK STEEL PIPE FLANGES



5. KS Flange

We are authorized to provide the Korean Industrial Standards (KS Mark) flanges as well. The flanges for water industries such as sluice valves, butterfly valves, Fittings of coated steel pipes, and spring safety valves are also available.

KS B 2332 - 1994 : Sluice valves for water works flange
KD B 2333 - 1995 : Butterfly valves water works flange
KS D 3578 - 1997 : Fittings of Coated Steel Pipes for Water Service



Ordering Information

The materials for flanges are determined by the choice of the pipe, as in most cases, a flange is of the same material as the pipe. Each flange ASME B16.5 has many standard dimensions. If a draftsman in Japan a work preparer in Canada or a pipefitter in Australia is speaking about a Welding Neck flange NPS 6, Class 150, Schedule 40 ASME B16.5. To inquire correctly, please contact SMGI's sales team!

Class 2500

UNIT : mm

Nominal Pipe Size	Outside Dia. of Flanges	Dia of Bore											Dia. of Hub at Bevel A	Dia. of Hub at Base	Dia. of Raised Face	Thick of Flanges	Radius of Fillet	
		Slip-on Socket, B ₁		Lap-Joint B ₂		Welding-Neck, Socket B												
		JPI	ANSI	JPI	ANSI	JPI			ANSI									
A	B	D	JPI	ANSI	JPI	ANSI	SCH40	SCH80	SCH160	SCH40	SCH80	SCH160	JPI	ANSI	X	g	t	r ₂
15	1/2	133	22.2	22.4	-	22.9	16.1	14.3	12.3	15.8	13.9	11.8	21.7	21.3	42.9	34.9	30.2	3
20	3/4	140	27.7	27.7	-	28.2	21.4	19.4	16.2	20.9	18.8	15.6	27.2	26.7	50.8	42.9	31.8	3
25	1	159	34.5	34.5	-	35.1	27.2	25.0	21.2	26.6	24.3	20.7	34.0	33.5	57.2	50.8	35.1	3
(32)	(1 1/4)	184	43.2	43.2	-	43.7	35.3	32.9	29.9	35.1	32.5	29.5	42.7	42.2	73.2	63.5	38.1	5
40	1 1/2	203	49.1	49.5	-	50.0	41.2	38.4	34.4	40.9	38.1	34.0	48.6	48.3	79.2	73.0	44.5	6
50	2	235	61.1	62.0	-	62.5	52.7	49.5	43.1	52.5	49.3	42.9	60.5	60.5	95.3	92.1	50.8	8
65	2 1/2	267	77.1	74.7	-	75.4	65.9	62.3	57.3	62.7	59.0	54.0	76.3	73.2	114.3	104.8	57.2	8
80	3	305	90.0	90.7	-	91.4	78.1	73.9	66.9	77.9	73.7	66.9	89.1	88.9	133.4	127.0	66.5	10
(90)	(3 1/2)	-	-	-	-	-	90.2	85.4	76.2	90.1	85.5	-	-	-	-	-	-	-
100	4	356	115.4	116.1	-	116.9	102.3	97.1	87.3	102.3	97.2	87.3	114.3	114.3	165.1	157.2	76.8	11
(125)	(5)	419	141.2	143.8	-	144.5	126.6	120.8	108.0	128.2	122.3	109.6	139.8	141.2	203.2	185.7	91.5	11
150	6	483	166.6	170.7	-	171.5	151.0	143.2	128.8	154.1	146.3	131.8	165.2	168.4	235.0	215.9	108.0	13
200	8	552	218.0	221.5	-	222.3	199.9	190.9	170.3	202.7	193.7	173.1	216.3	219.2	304.8	269.9	127.0	13
250	10	673	269.5	276.4	-	277.4	248.8	237.2	210.2	254.5	242.9	215.9	267.4	273.1	374.7	323.8	165.1	13
300	12	762	321.0	327.2	-	328.2	297.9	283.7	251.9	303.2	288.9	257.2	318.5	323.9	441.5	381.0	184.2	13

Sample Cooler

Overview

A Sample Cooler is a shell and tube heat exchanger used to cool the sample from a process stream to the required temperature conditions for safety and analysis. It is one of the most critical components of a sampling system suitable for most applications in liquid, gas, or steam processes. The sample to be cooled flows through the tube side of the cooler, and the cooling fluid, usually water, flows through the shell side. Then cooled sample is taken to a laboratory for analysis or piped to in-line process instrumentation for further monitoring of properties such as conductivity, pH level, or other chemical constituents.

SMGI Sample Cooler

- Safe and accurate sampling
- Compact size to make the mounting of the sample cooler easy and minimize the cooling fluid utilization
- No welded joints in the coil as a complete single-piece coil assures trouble-free operations with no risks of failure of joints inside the shell
- Designed to handle high-pressure & high-temperature samples
- Corrosion-resistant materials
- High efficiency
- Outlet temperature to be very close to what is targeting
- Counter-current flow to achieve a very close temperature approach of the sample to the cooling fluid
- Cooling fluid requirement must be minimum
- Facilitation of routine on-site maintenance easily (If required, coils can be cleaned or replaced easily)
- Shell can be easily removed without disconnecting the sample lines for inspection or maintenance purposes

Ordering Information

Mark	Size	QTY	Flange			Flange		Service
			Rate	Type	MAT'L	TH'K	MAT'L	
N-1	1/2"	ASME150#	SWRF	A182-Gr.F316	A182-Gr.F316	SCH.40	A182-Gr.F316	Sample Inlet
N-2	1/2"	ASME150#	SWRF	A182-Gr.F316	A182-Gr.F316	SCH.40	A312-Gr.F316	Sample Outlet
N-3	3/4"	ASME150#	SWRF	A105-N	A105-N	SCH.160	A106-Gr.B	C.W Inlet
N-4	3/4"	ASME150#	SWRF	A105-N	A105-N	SCH.160	A106-Gr.B	C.W Outlet
N-5	3/4"	ASME150#	SWRF	A105-N	A105-N	SCH.160	A106-Gr.B	Drain

Applications

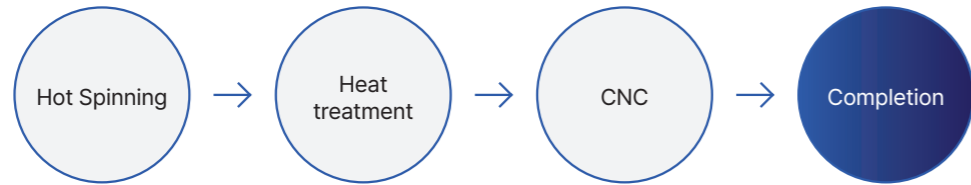
- Oil & Gas, Refinery and Power Generation
- Fertilizer and Pharmaceutical
- Other industries like Sugar, Paper, Cement, Textile, Steel etc



Manufacture Process

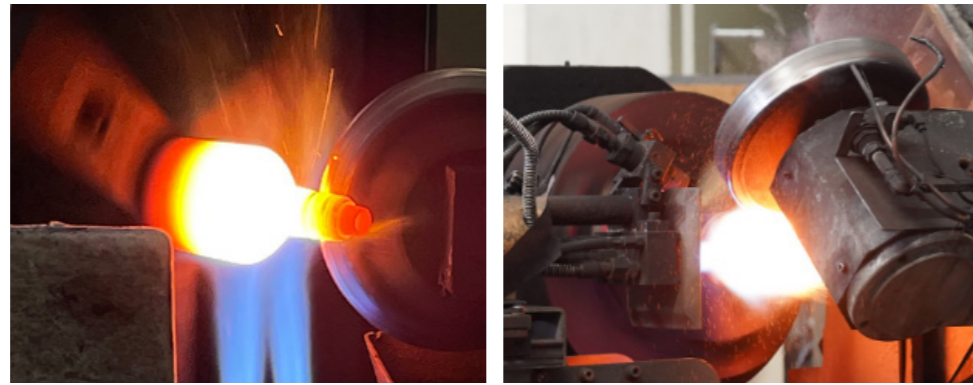
Manufacture Process

With pride and original technology, we SMGI strive to provide the highest quality product and the best service possible.



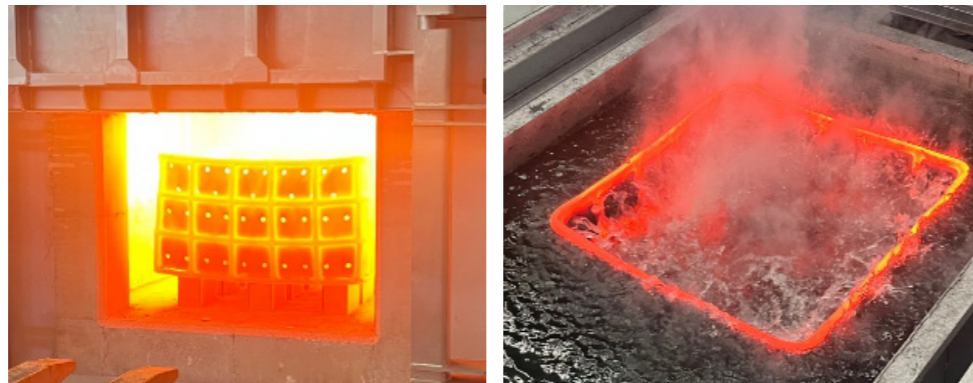
Hot Spinning

- Shaping



Heat Treatment

- Quenching & Tempering
- Carburization
- Induction Hardening



CNC

- Cutting
- Processing



Certificate

TPED Certificates - EN 1964 - 3 (2000)



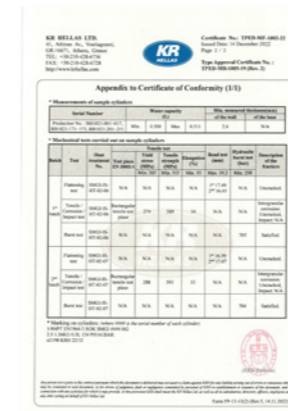
TPED 150-01 Type Approval



TPED 150-01 Conformity (1)



TPED 150-01 Conformity (2)



TPED 300-01 Type Approval



TPED 300-01 Conformity (1)



TPED 300-01 Conformity (2)



TPED 500-01 Type Approval



TPED 500-01 Conformity (1)

Korea Gas Certificate



TPED 500-01 Conformity (2)



TPED 1000-01 Type Approval



TPED 1000-01 Conformity (1)



20230103-KGS-CERTIFICATE-300CC-500CC-1000CC



20230103-KGS-CERTIFICATE-300CC-500CC-1000CC



20230103-KGS-CERTIFICATE-300CC-500CC-1000CC



TPED 1000-01 Conformity (2)



TPED 1000-02 Type Approval



TPED 2250-01 Type Approval



20230103-KGS-CERTIFICATE-300CC-500CC-1000CC



20230103-KGS-CERTIFICATE-300CC-500CC-1000CC



20230103-KGS-CERTIFICATE-300CC-500CC-1000CC



TPED 2250-01 Conformity (1)



TPED 2250-01 Conformity (2)



Korea Gas Certificate



Korea Gas Certificate



Korea Gas Certificate



Korea Gas Certificate



Korea Gas Certificate



Korea Gas Certificate



Korea Gas Certificate



Korea Gas Certificate

FTA Certificate



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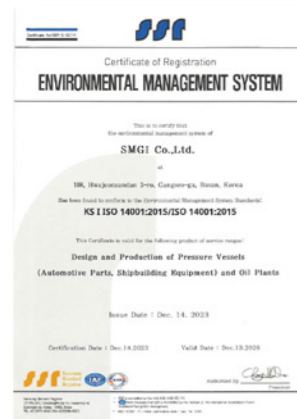
KOREA Certificate



KOREA Certificate



KOREA Certificate



KOREA Certificate



PED- Air Manifold (1)



PED- Air Manifold (2)



PED- Condensate Pot (Double) (1)



PED- Condensate Pot (Double) (2)



PED- Condensate Pot (Single) (1)



PED- Condensate Pot (Single) (2)



USA Certificate

SMGI Gallery

