



## PT. FAJAR BENUA INDOPACK

Engineering Services Company and Distributor of 3 Star, Hidroflex, Eagle Amusa, USHose, Winflex & Woodfield  
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PT Fajar Benua Indopack was established in 1984 as a trading company, selling sealing and insulation products. Today, we have largely expanded our line of business with high technology products such as Expansion Joints, Mechanical Seals, Fluoroplastic Lining, Advanced Application Hoses, and Exotic Metal Pressure Vessels. In addition to that, we extremely focus on Service works such as Stress Analysis, Installation, Construction, Troubleshooting, and Emergency Breakdown Repair.

We strive in our after sales service, providing customers in technical guidance and documentation. Our teams are highly dedicated to increase and utilize excellent service through the network of 12 Branches and Project Division, located all over the nation with self-motivated, dynamic and trained sales and engineers. More than two decades of experience through intensive development and work improvement have enabled us to optimize our services.

The company works on the principle of continuous upgrade of quality service and products, by providing customer feedback and suggestions to the Principals and implementing the within a time frame that keeps the company and our products always one step ahead in the market.

PT Fajar Benua Indopack is committed not only to become a highly responsible service provider, but also an important factor to increase your profit and the nation's growth.



## GASKET NON METAL



### SPIRAL WOUND GASKET

Spiral wound gasket is the ideal gasket in the semimetallic category. A narrow strip of V-shape metal hoop is spirally wound under tension with a filler cushion between the lamination of the metal and is spot-welded at both ends. This unique construction of a spring-like metal and soft filler provides gasket excellent characteristics.

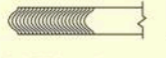
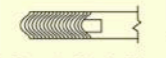


- Resistance to high temperatures and high pressures
- Great resilience which allows the gasket to adjust automatically to changes in operating conditions, such as pressure and thermal shocks, vibrations, etc.,
- Excellent sealability is maintained with comparatively small gasket area.
- Good tolerance for flange surface finish irregularities.

Can be designed to any dimensions economically in circular or moderately non-circular shape. Available in a variety of hoop metals and filler materials to satisfy specific operating conditions.



### STANDARD TYPE GASKET

Cross Section and JIC NO.

Cross Section	Hoop Material	Filler Material				Application	
		Asbestos	Non-Asbestos	Starfoil	Starflon		
 Gasket Thickness : 4.5mm Basic type (Without anything attached)	SUS 304	1804	3804-NA	3804-SF	3804-TF	High temperature & Pressure Equipment, Extreme Low Temperature Equipment, Valve, Boiler Manhole, Handhole, Turbine, Pump, Casting Cover T&G, M&F Flange Special Flange	KS B1518 JIS B2404 JPI 75-41
	SUS 316	1806	3806-NA	3806-SF	3806-TF		
	as specified	1808	3808-NA	3808-SF	3808-TF		
 Inner Ring : Low Carbon Steel 3.2mm Stainless Steel 3.0mm Gasket Thickness : 4.5mm With inner ring attached	SUS 304	1804-R	3804-R-NA	3804-R-SF	3804-R-TF	High temperature & Pressure Equipment, Extreme Low Temperature Equipment T&G, M&F Flange	KS B1518 JIS B2404 JPI 75-41
	SUS 316	1806-R	3806-R-NA	3806-R-SF	3806-R-TF		
	as specified	1808-R	3808-R-NA	3808-R-SF	3808-R-TF		
 Outer Ring : Low Carbon Steel 3.2mm Stainless Steel 3.0mm Gasket Thickness : 4.5 mm With outer guide ring attached	SUS 304	1834	3834-NA	3834-SF	3834-TF	High temperature & Pressure Equipment, Extreme Low Temperature, Pipe, General Pipe Flange, R.F. Flange, Flat Flange	KS B1518 KS V7112 450SU KS V7112 520SU JIS F7102 520SU JIS 7102 510SU API 601 JPI-75-41
	SUS 316	1836	3836-NA	3836-SF	3836-TF		
	as specified	1838	3838-NA	3838-SF	3838-TF		
 Outer Ring : Low Carbon Steel 3.2mm Inner Ring : Stainless Steel 3.0mm Gasket Thickness : 4.5mm With outer guide ring and inner ring attached	SUS 304	1834-R	3834-R-NA	3834-R-SF	3834-R-TF	Places requiring Merits of Outer and inner Rings, R.F. Flange, Flat Flange	KS B1518 KS V7112 450SU KS V7112 520SU JIS F7102 520SU JIS 7102 510SU API 601 JPI-75-41
	SUS 316	1836-R	3836-R-NA	3836-R-SF	3836-R-TF		
	as specified	1838-R	3838-R-NA	3838-R-SF	3838-R-TF		



### SPECIAL TYPE GASKET

#### JIC NO. 1804-M/1806-M/1808-M

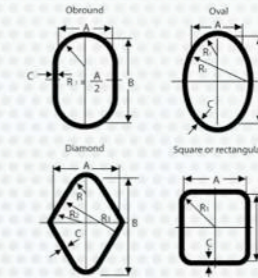
M-series are designed and manufactured for boiler manholes and handholes, valve bonnet covers, etc. in required shapes and dimensions for service pressure range from 150 lbs to 2500 lbs.

1804 - M is manufactured with SUS 304 and asbestos paper filler, and 1806 - M with SUS 316. 1806 - M is manufactured with other metals on request. Other asbestos free types are also available on request.

Service Temperature	1804-M : up to 500° C 1806-M : up to 530° C
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Following information is necessary for manufacturing gasket to order.

1. Pressure service rating
2. Operating temperature
3. Gasket thickness (3.2mm, 4.5mm available)
4. Hoop material
5. Shapes and dimensions as shown on the right side



- Note:
1. For some oval shapes, "R3" is required.
  2. "A" is to be 40mm and over for an oval and obround shape, and 60mm and over for a diamond, square and rectangular one.
  3. A/B is to be more than 2/3.

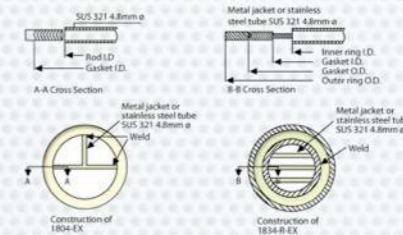
### HEAT EXCHANGER GASKET

#### JIC NO. 1804-EX/ 1 804-R-EX/ 1834-EX/ 1 834-R-EX

This Ex-Series of gasket is designed and manufactured for multipass heat exchangers. It is constructed using gasketed and pass ribs welded to 03.2mm stainless steel rod of SUS 304 fixed in circumferential groove of the gasket inner hoop.

The ribs is SUS 321 stainless steel tube of 4.8mm diameter and 0.5 mm wall thickness. Asbestos filled metal jacket rib is also available on request.

Inner ring attached type and inner & outer ring attached type are also recommended for some service conditions.



### AVAILABILITY OF HOOP MATERIALS AND FILLER MATERIALS

#### Availability of Hoop Materials

Materials	Code	Recommended for	Temperature
SUS 304	304	Standard product	500°C
SUS 304L	304L	Fluid where low carbon contained stainless steel is required	430°C
SUS 316	316	Petroleum and petrochemical industries	600°C
SUS 316L	316L	Fluid where low carbon contained stainless steel is required	600°C
SUS 310S	310	For high temperature	800°C
SUS 321	321	Petroleum and petrochemical industries	800°C
SUS 347	347	For high temperature	800°C
SUS 430	430	Where Ni content is not allowed	700°C
AISI316ELC	316ELC	Thermal power station at supercritical pressure	800°C
AISI309S+Cb	309+Cb	Thermal power station at high temperature	800°C
Titanium	TI	Anti-corrosion at high temperature	600°C
Monel	MO	Anti-corrosion at high temperature	800°C
Nickel	NI	Anti-corrosion at high temperature	760°C
Aluminium	AL	For aluminium flange	200°C
Inconel 600	IN	Anti-corrosion at high temperature	800°C

Some materials is might not be available for 3.2 and 6.4 mm thick.



Availability of Filler Materials

Materials	Applications	Temperature
Asbestos paper	To seal in cooling system of BWR type atomic power plant and advanced type converter and to seal in primary cooling system of BWR type atomic power plant where halogen must be avoided	600°C
Non-asbestos paper	Same applications as asbestos paper but where to avoid the use of asbestos paper	300°C~550°C
Starfoil (Graphite)	To seal in high vacuum or high temperature condition where a perfect airtightness is required, or in the place where it is wanted to do without additional bolting even attached by severe heat cycles.	450°C
Starflon (PTFE)	To seal strong acids	260°C

SERVICE RANGE AND AVAILABLE SIZE

Application Standard

Fluid	JIC NO.	1834-R		1836-R		3836-R-SF		3836-R-TF	
		Temp. (°C)	Pressure (kgf/cm <sup>2</sup> )	Temp. (°C)	Pressure (kgf/cm <sup>2</sup> )	Temp. (°C)	Pressure (kgf/cm <sup>2</sup> )	Temp. (°C)	Pressure (kgf/cm <sup>2</sup> )
Water	100	300	100	300	100	350	100	200	
Steam, Hot water	500	200	580	250	580	350	300	100	
Hot Oil	500	100	580	100	580	200	300	100	
Organic Solvents	500	100	580	100	580	200	300	100	
Heat Transfer Liquids	500	100	580	100	580	200	300	100	
Hydrocarbon	500	100	580	100	580	200	300	100	
Gases	400	100	400	100	580	200	300	100	
Cryogenic Gases	-200	50	-200	50	-240	200	-100	100	
Acidic Fluid	-	-	-	-	-	100	300	100	
Vacuum	400	-	400	-	580	-	300	-	

Notes: JIC No. 3836-SF is recommended for synthetic heat transfer liquids (KSK oil ect.) for temperatures over 300°C  
 \* Starfoil cannot be for used oxidizing agents

Availability Dimensions of Products (Thickness : 4.5mm)

Outer ring O.D.	Width of Gasket	Width of Inner Ring	Width of outer Ring	Outer ring O.D.	Width of Gasket	Width of Inner Ring	Width of outer Ring
Inner ring I.D. N	Dimensions	Min. Width	Min. Width	Inner ring I.D.	Dimensions	Min. Width	Min. Width
Gasket I.D.				Gasket I.D.			
15 ~ 30	5.0 ~ 10	3.0	-	301 ~ 400	9.0 ~ 40	9.0	9.0
31 ~ 46	5.0 ~ 15	3.0	5.5	401 ~ 500	10.0 ~ 40	10.0	10.0
47 ~ 55	5.5 ~ 20	3.5	5.5	501 ~ 600	11.0 ~ 35	11.0	11.0
56 ~ 70	5.5 ~ 25	4.0	5.5	601 ~ 800	12.0 ~ 35	12.0	12.0
71 ~ 90	6.0 ~ 30	4.5	5.5	801 ~ 1000	13.0 ~ 30	13.0	13.0
91 ~ 110	6.0 ~ 35	5.0	5.5	1001 ~ 1200	14.0 ~ 30	14.0	14.0
111 ~ 150	6.5 ~ 35	5.5	5.5	1201 ~ 1500	15.0 ~ 23	15.0	15.0
151 ~ 170	7.0 ~ 40	6.0	6.0	1501 ~ 1800	15.0 ~ 25	20.0	20.0
171 ~ 200	7.0 ~ 40	7.0	7.0	1801 ~ 2000	-	-	20.0
201 ~ 300	8.0 ~ 40	8.0	8.0	-	-	-	-

Maximum Gasket O.D.

Gasket Thickness	Type			
	Asbestos S.W. Gasket	NA S.W. Gasket	Starfoil S.W. Gasket	Starflon S.W. Gasket
3.2	600	500	400	400
4.5 (Standard)	1900	2000	1500	1500
6.4	2500	-	2500	2500

Note : Maximum outer, inner ring O.D. is Ø 2000mm  
 Over this size, SUS 304 ring is available.

Standard Thickness of Inner and Outer Rings

Gasket Thickness	Material	
	Low Carbon Steel	SUS 304
3.2	2.0	2.0
4.5 (Standard)	3.2	3.0
6.4	4.5	4.0

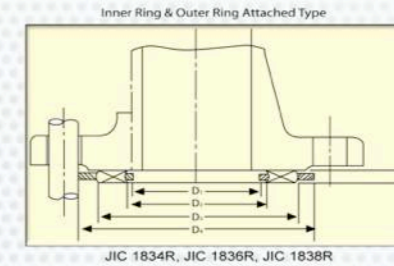
Note : Please consult us if ring material is other than low carbon steel or SUS 304.



SPIRAL WOUND GASKET DIMENSIONS FOR KS OR JIS FLANGES

(Unit : mm)

Flange Size	10kg/cm <sup>2</sup>			Thickness (T)
	D2	D3	D4	
10A	24	37	52	4.5 or 4.8
15	28	41	57	
20	34	47	62	
25	40	53	74	
32	51	67	84	
40	57	73	89	
50	69	89	104	
65	87	107	124	
80	98	118	134	
90	110	130	144	
100	123	143	159	
125	148	173	190	
150	174	199	220	
175	201	226	245	
200	227	252	270	
225	252	277	290	
250	278	310	332	
300	329	361	377	
350	366	406	422	
400	417	457	484	
450	468	518	539	
500	518	568	594	
550	569	619	650	
600	620	670	700	



JIC 1834R, JIC 1836R, JIC 1838R

- (Note)
- For the flanges below 50A, male & female flanges are not applied.
  - For the flanges below 50A, please use butt weld flanges.
  - For 63 kg/cm<sup>2</sup> the inner ring and outer ring attached type is recommendable.
  - For the flange size over 650 A, the inner ring and outer ring attached type is recommendable.
  - These dimensions comply with the standards A KS B 1518-82 or JIS B2404-1979.

Tolerance of KS or JIS Dimensions

(Unit : mm)

Gasket Size	Size of IR of OR	Thickness (T)
Upto 200	±0.5	±0.3
250 ~ 630	±0.8	±0.5
Over 630	±1.3	±0.8

- For the 3.2 mm (T) spiral wound gaskets, D must be below 500 mm. 3.2 mm (T) is not available for marked dimensional gaskets.
- For the standard thickness of 4.5 mm, the groove depth must be over 5.0 mm
- These dimensions comply with the standards of KS B 1518-82 or JIS 13 2404-1978

(Unit : mm)

Flange Size	16.20kg/cm <sup>2</sup>				30kg/cm <sup>2</sup>				40kg/cm <sup>2</sup>				63kg/cm <sup>2</sup>				Thickness (T)	
	D1	D2	D3	D4	D1	D2	D3	D4	D1	D2	D3	D4	D1	D3	D3	D4		
10A	18	24	37	52	18	24	37	59	15	21	34	59	15	21	34	64	4.5 or 4.8	
15	22	28	41	57	22	28	41	64	18	24	37	64	18	24	37	69		
20	28	34	47	62	28	34	47	69	23	29	42	69	23	29	42	75		
25	34	40	53	74	34	40	53	79	29	35	48	79	29	35	48	80		
32	43	51	67	84	43	51	67	89	36	44	60	89	36	44	60	90		
40	49	57	73	89	49	57	73	100	43	51	67	100	43	51	67	107		
50	61	69	89	104	61	69	89	114	55	63	79	114	55	63	79	125		
65	77	87	107	124	68	78	98	140	68	78	98	140	68	78	98	152		
80	89	99	119	140	80	90	110	150	80	90	110	150	80	90	110	162		
90	102	114	139	150	92	102	127	162	92	102	127	162	92	102	127	179		
100	115	127	152	165	104	116	141	172	104	116	141	182	104	116	141	194		
125	140	152	177	202	128	140	165	207	128	140	165	224	128	140	165	235		
150	166	182	214	237	153	165	197	249	153	165	197	265	153	165	197	275		
200	217	233	265	282	202	218	250	294	202	218	250	315	202	218	250	328		
250	268	288	328	354	251	271	311	360	251	271	311	378	251	271	311	394		
300	319	339	379	404	300	320	360	418	300	320	360	434	300	320	360	448		
350	356	376	416	450	336	356	396	463	336	356	396	479	336	356	396	488		
400	407	432	482	508	383	403	463	524	383	403	463	531	383	403	463	545		
450	458	483	533	573	-	-	-	-	-	-	-	-	-	-	-	-		-
500	508	533	583	628	-	-	-	-	-	-	-	-	-	-	-	-		-
550	559	584	634	684	-	-	-	-	-	-	-	-	-	-	-	-	-	
600	610	635	685	734	-	-	-	-	-	-	-	-	-	-	-	-	-	

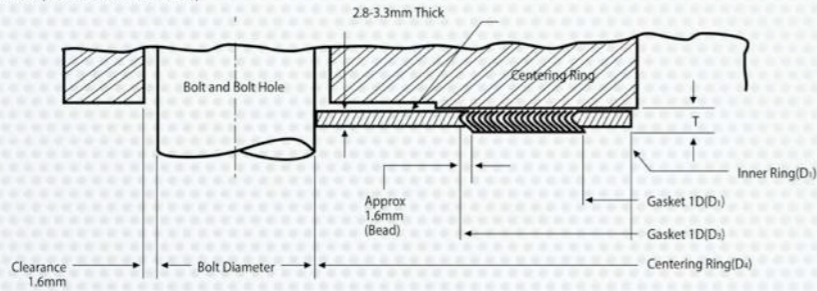


Gasket Semimetallic

ASME B 16.20 (1993) SPIRAL WOUND GASKET

SPIRAL WOUND GASKET DIMENSIONS FOR ASME B.16.5 FLANGES

ASME B16.20 (ASME B16.5 FLANGE)



SIZE (NPS)	CLASS 150				CLASS 300			
	D1	D2	D3	D4	D1	D2	D3	D4
1/2	14.2	19.1	31.8	47.8	14.2	19.1	31.8	54.1
3/4	20.6	25.4	39.6	57.2	20.6	25.4	39.6	66.8
1	26.9	31.8	47.8	66.8	26.9	31.8	47.8	73.2
1-1/4	38.1	47.8	60.5	76.2	38.1	47.8	60.5	82.6
1-1/2	44.5	54.1	69.9	85.9	44.5	54.1	69.9	95.3
2	55.6	69.9	85.9	104.9	55.6	69.9	85.9	111.3
2-1/2	66.5	82.6	98.6	124.0	66.5	82.6	98.6	130.3
3	81.0	101.6	120.7	136.7	81.0	101.6	120.7	149.4
4	106.4	127.0	149.4	174.8	106.4	127.0	149.4	181.1
5	131.8	155.7	177.8	196.9	131.8	155.7	177.8	215.9
6	157.2	182.6	209.6	222.3	157.2	182.6	209.6	251.0
8	215.9	233.4	263.7	279.4	215.9	233.4	263.7	308.1
10	268.2	287.3	317.5	339.9	268.2	287.3	317.5	362.0
12	317.5	339.9	374.7	409.7	317.5	339.9	374.7	422.4
14	349.3	371.6	406.4	450.9	349.3	371.6	406.4	485.9
16	400.1	422.4	463.6	514.4	400.1	422.4	463.6	539.8
18	449.3	474.7	527.1	549.4	449.3	474.7	527.1	596.9
20	500.1	525.5	577.9	606.6	500.1	525.5	577.9	654.1
24	603.3	628.7	685.8	717.6	603.3	628.7	685.8	774.7

(Unit : mm)

SIZE (NPS)	CLASS 400				CLASS 600			
	D1	D2	D3	D4	D1	D2	D3	D4
1/2	14.2	19.1	31.8	54.1	14.2	19.1	31.8	54.1
3/4	20.6	25.4	39.6	66.8	20.6	25.4	39.6	66.8
1	26.9	31.8	47.8	73.2	26.9	31.8	47.8	73.2
1-1/4	38.1	47.8	60.5	82.6	38.1	47.8	60.5	82.6
1-1/2	44.5	54.1	69.9	95.3	44.5	54.1	69.9	95.3
2	55.6	69.9	85.9	111.3	55.6	69.9	85.9	111.3
2-1/2	66.5	82.6	98.6	130.3	66.5	82.6	98.6	130.3
3	81.0	101.6	120.7	149.4	81.0	101.6	120.7	149.4
4	106.4	127.0	149.4	177.8	106.4	127.0	149.4	193.8
5	131.8	147.6	177.8	212.9	131.8	147.6	177.8	241.3
6	157.2	174.8	209.6	247.7	157.2	174.8	209.6	266.7
8	209.6	225.6	263.7	304.8	209.6	225.6	263.7	320.8
10	260.4	274.6	317.5	358.9	260.4	274.6	317.5	400.1
12	317.5	327.2	374.7	419.1	317.5	327.2	374.7	457.2
14	349.3	362.0	406.4	482.6	349.3	362.0	406.4	492.3
16	400.1	412.8	463.6	536.7	400.1	412.8	463.6	565.2
18	449.3	469.9	527.1	593.9	449.3	469.9	527.1	612.9
20	500.1	520.7	577.9	647.7	500.1	520.7	577.9	682.8
24	603.3	628.7	685.8	768.4	603.3	628.7	685.8	790.7

(Unit : mm)

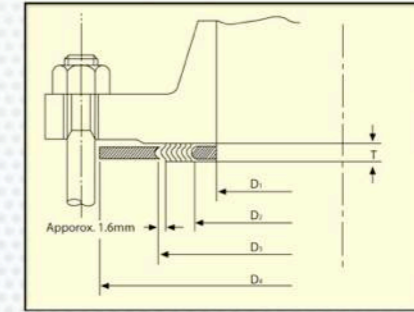


Gasket Semimetallic

Tolerance of Dimensions

Flange Size (NPS: inch) B	D1	D2	D3	D4	T
1/2 ~ 1	-	-	-	-	-
1 1/4 ~ 3	±0.76	±0.41	±0.76	-	-
4 ~ 8	±1.52	-	-	-	-
10 ~ 24	-	-	+1.52 -0.76	-	-
26 ~ 34	±0.76	-	-	-	-
36 ~ 60	±3.05	±1.27	±1.52	±0.76	±0.127

(Note) 1. 1/2" ~ 24" : ASME B16.5 Flanges.  
2. 26" ~ 60" : ASME B16.47 Series A & B Flanges (MSS SP-44 & API 605)



SIZE (NPS)	CLASS 900				CLASS 1500				CLASS 2500			
	D1	D2	D3	D4	D1	D2	D3	D4	D1	D2	D3	D4
1/2	14.2	19.1	31.8	63.5	14.2	19.1	31.8	63.5	14.2	19.1	31.8	69.9
3/4	20.6	25.4	39.6	69.9	20.6	25.4	39.6	69.9	20.6	25.4	39.6	76.2
1	26.9	31.8	47.8	79.5	26.9	31.8	47.8	79.5	26.9	31.8	47.8	85.9
1-1/4	33.3	39.6	60.5	88.9	33.3	39.6	60.5	88.9	33.3	39.6	60.5	104.9
1-1/2	41.4	47.8	69.9	98.6	41.4	47.8	69.9	98.6	41.4	47.8	69.9	117.6
2	52.3	58.7	85.9	143.0	52.3	58.7	85.9	143.0	52.3	58.7	85.9	146.1
2-1/2	63.5	69.9	98.6	165.1	63.5	69.9	98.6	165.1	63.5	69.9	98.6	168.4
3	81.0	95.3	120.7	168.4	81.0	92.2	120.7	174.8	81.0	92.2	120.7	196.9
4	106.4	120.7	149.4	206.5	106.4	117.6	149.4	209.6	106.4	117.6	149.4	235.0
5	131.8	147.6	177.8	247.7	131.8	143.0	177.8	254.0	131.8	143.0	177.8	279.4
6	157.2	174.8	209.6	289.1	157.2	171.5	209.6	282.7	157.2	171.5	209.6	317.5
8	196.9	222.3	257.3	358.9	196.9	215.9	257.3	352.6	196.9	215.9	257.3	387.4
10	246.1	276.4	311.2	435.1	246.1	266.7	311.2	435.1	246.1	270.0	311.2	476.3
12	292.1	323.9	368.3	498.6	292.1	323.9	368.3	520.7	292.1	317.5	368.3	549.4
14	320.8	355.6	400.1	520.7	320.8	362.6	400.1	577.9	-	-	-	-
16	374.7	412.8	457.2	574.8	374.7	406.4	457.2	641.4	-	-	-	-
18	425.5	463.6	520.7	638.3	425.5	463.6	520.7	704.9	-	-	-	-
20	482.6	520.7	571.5	698.5	482.6	514.4	571.5	755.7	-	-	-	-
24	590.6	628.7	679.5	838.2	590.6	616.0	679.5	901.7	-	-	-	-

(Unit : mm)

ASME B16.20 (1993) LARGE DIAMETER GASKETS

SPIRAL WOUND GASKET DIMENSIONS FOR ASME B.16.47 SERIES A FLANGES

ASME B16.20 - ASME B16.47 SERIES "A" FLANGES (MSS SP-44 FLANGES)

SIZE (NPS)	CLASS 150				CLASS 300				CLASS 400			
	D1	D2	D3	D4	D1	D2	D3	D4	D1	D2	D3	D4
26	654.1	673.1	704.9	774.7	654.1	685.8	736.6	835.2	660.4	685.8	736.6	831.9
28	704.9	723.9	755.7	831.9	704.9	736.6	787.4	898.7	711.2	736.6	787.4	892.3
30	755.7	774.7	806.5	882.7	755.7	793.8	844.6	952.5	755.7	793.8	844.6	946.2
32	806.5	825.5	860.6	939.8	806.5	850.9	901.7	1006.6	812.8	850.9	901.7	1003.3
34	857.3	876.3	911.4	990.6	857.3	901.7	952.5	1057.4	863.3	901.7	952.5	1054.1
36	908.1	927.1	968.5	1047.8	908.1	955.8	1006.6	1117.6	917.7	955.8	1006.6	1117.6
38	958.9	977.9	1019.3	1111.3	952.5	977.9	1016.0	1054.1	952.5	971.6	1022.4	1073.2
40	1009.7	1028.7	1070.1	1162.1	1003.3	1022.4	1070.1	1114.6	1000.3	1025.7	1076.5	1127.3
42	1060.5	1079.5	1124.0	1219.2	1054.1	1073.2	1120.9	1165.4	1051.1	1076.5	1127.3	1178.1
44	1111.3	1130.3	1178.1	1276.4	1104.9	1130.3	1181.1	1219.2	1104.9	1130.3	1181.1	1231.9
46	1162.1	1181.1	1228.9	1327.2	1152.7	1178.1	1228.9	1273.3	1168.4	1193.8	1244.6	1298.1
48	1212.9	1231.9	1279.7	1384.3	1209.8	1235.2	1286.0	1324.1	1206.5	1244.6	1295.4	1346.2
50	1263.7	1282.7	1333.5	1435.1	1244.6	1295.4	1346.2	1378.0	1257.3	1295.4	1346.2	1403.4
52	1314.5	1333.5	1384.3	1492.3	1320.8	1346.2	1397.0	1428.8	1308.1	1346.2	1397.0	1454.2
54	1358.9	1384.3	1435.1	1549.4	1352.6	1403.4	1454.2	1492.3	1352.6	1403.4	1454.2	1517.7
56	1409.7	1435.1	1485.9	1606.6	1403.4	1454.2	1505.0	1543.1	1403.4	1454.2	1505.0	1568.5
58	1460.5	1485.9	1536.7	1663.7	1447.8	1511.3	1562.1	1593.9	1454.2	1505.0	1555.8	1619.3
60	1511.3	1536.7	1587.5	1714.5	1524.0	1562.1	1612.9	1644.7	1517.7	1568.5	1619.3	1682.8

(Unit : mm)



Gasket Semimetallic

(Unit : mm)

SIZE (NPS)	CLASS 600				CLASS 900			
	D1	D2	D3	D4	D1	D2	D3	D4
26	647.7	685.8	736.6	866.9	660.4	685.8	736.6	882.7
28	698.5	736.6	787.4	914.4	711.2	736.6	787.4	946.2
30	755.7	793.8	844.6	971.6	768.4	793.8	844.6	1009.7
32	812.8	850.9	901.7	1022.4	812.8	850.9	901.7	1073.2
34	863.6	901.7	952.5	1073.2	863.6	901.7	952.5	1136.7
36	917.7	955.8	1006.6	1130.3	920.8	958.9	1009.7	1200.2
38	952.5	990.6	1041.4	1104.9	1009.7	1035.1	1085.9	1200.2
40	1009.7	1047.8	1098.6	1155.7	1060.5	1098.6	1149.4	1251.0
42	1066.8	1104.9	1155.7	1219.2	1111.3	1149.4	1200.2	1301.8
44	1111.3	1162.1	1212.9	1270.0	1155.7	1206.5	1257.3	1368.6
46	1162.1	1212.9	1263.7	1327.2	1219.2	1270.0	1320.8	1435.1
48	1219.2	1270.0	1320.8	1390.7	1270.0	1320.8	1371.6	1485.9
50	1270.0	1320.8	1371.6	1447.8	-	-	-	-
52	1320.8	1371.6	1422.4	1498.6	-	-	-	-
54	1378.0	1428.8	1479.6	1555.8	-	-	-	-
56	1428.8	1479.6	1530.4	1612.9	-	-	-	-
58	1473.2	1536.7	1587.5	1663.7	-	-	-	-
60	1530.4	1593.9	1644.7	1733.6	-	-	-	-

ASME B16.20 (1993) LARGE DIAMETER GASKETS

### SPIRAL WOUND GASKET DIMENSIONS FOR ASME B16.47 SERIES B FLANGES

ASME B16.20 - ASME B16.47 SERIES "B" FLANGES (API 605 FLANGES)

(Unit : mm)

SIZE (NPS)	CLASS 150				CLASS 300				CLASS 400			
	D1	D2	D3	D4	D1	D2	D3	D4	D1	D2	D3	D4
26	654.1	673.1	698.5	725.4	654.1	673.1	711.2	771.1	654.1	666.8	698.5	746.3
28	704.9	723.9	749.3	776.2	704.9	723.9	762.0	825.5	701.8	714.5	749.3	800.1
30	755.7	774.7	800.1	827.0	755.7	774.7	812.8	886.0	752.6	765.3	806.5	857.3
32	806.5	825.5	850.9	881.1	806.5	825.5	863.6	939.8	800.1	812.8	860.6	911.4
34	857.3	876.3	908.1	935.0	857.3	876.3	914.4	993.9	850.9	866.9	911.4	962.2
36	908.1	927.1	958.9	987.6	908.1	927.1	965.2	1047.8	898.7	917.7	965.2	1022.4
38	958.9	974.6	1009.7	1044.7	971.6	1009.7	1047.8	1098.6	952.5	971.6	1022.4	1073.2
40	1009.7	1022.4	1063.8	1095.5	1022.4	1060.5	1098.6	1149.4	1000.3	1025.7	1076.5	1127.3
42	1060.5	1079.5	1114.6	1146.3	1085.9	1111.3	1149.4	1200.2	1051.1	1076.5	1127.3	1178.1
44	1111.3	1124.0	1165.4	1197.1	1124.0	1162.1	1200.2	1251.0	1104.9	1130.3	1181.1	1231.9
46	1162.1	1181.1	1224.0	1255.8	1178.1	1216.2	1254.3	1317.8	1168.4	1193.8	1244.6	1289.1
48	1212.9	1231.9	1270.0	1306.6	1231.9	1263.7	1311.4	1368.6	1206.5	1244.6	1295.4	1346.2
50	1263.7	1282.7	1325.6	1357.4	1263.7	1317.8	1355.9	1419.4	1257.3	1295.4	1346.2	1403.4
52	1314.5	1333.5	1376.4	1408.2	1317.8	1368.6	1406.7	1470.2	1308.1	1346.2	1397.0	1454.2
54	1365.3	1384.3	1422.4	1463.8	1365.3	1403.4	1454.2	1530.4	1352.6	1403.4	1454.2	1517.7
56	1422.4	1444.8	1470.2	1514.6	1428.8	1479.6	1524.0	1593.9	1403.4	1454.2	1505.0	1568.5
58	1478.0	1500.4	1528.8	1579.6	1484.4	1535.2	1573.3	1655.8	1454.2	1505.0	1555.8	1619.3
60	1535.2	1557.3	1586.0	1630.4	1557.3	1589.0	1630.4	1706.6	1517.7	1568.5	1619.3	1682.8

(Unit : mm)

SIZE (NPS)	CLASS 600				CLASS 900			
	D1	D2	D3	D4	D1	D2	D3	D4
26	644.7	663.7	714.5	765.3	666.8	692.2	749.3	838.2
28	692.2	704.9	755.7	819.2	717.6	743.0	800.1	901.7
30	752.6	778.0	828.8	879.6	781.1	806.5	857.3	958.9
32	793.8	831.9	882.7	933.5	838.2	863.6	914.4	1016.0
34	850.9	889.0	939.8	997.0	895.4	920.8	971.6	1073.2
36	901.7	939.8	990.6	1047.8	920.8	946.2	997.0	1124.0
38	952.5	990.6	1041.4	1104.9	1009.7	1035.1	1085.9	1200.2
40	1009.7	1047.8	1098.6	1155.7	1060.5	1098.6	1149.4	1251.0
42	1066.8	1104.9	1155.7	1219.2	1111.3	1149.4	1200.2	1301.8
44	1111.3	1162.1	1212.9	1270.0	1155.7	1206.5	1257.3	1368.6
46	1162.1	1212.9	1263.7	1327.2	1219.2	1270.0	1320.8	1435.1
48	1219.2	1270.0	1320.8	1390.7	1270.0	1320.8	1371.6	1485.9
50	1270.0	1320.8	1371.6	1447.8	-	-	-	-
52	1320.8	1371.6	1422.4	1498.6	-	-	-	-
54	1378.0	1428.8	1479.6	1555.8	-	-	-	-
56	1428.8	1479.6	1530.4	1612.9	-	-	-	-
58	1473.2	1536.7	1587.5	1663.7	-	-	-	-
60	1530.4	1593.9	1644.7	1733.6	-	-	-	-

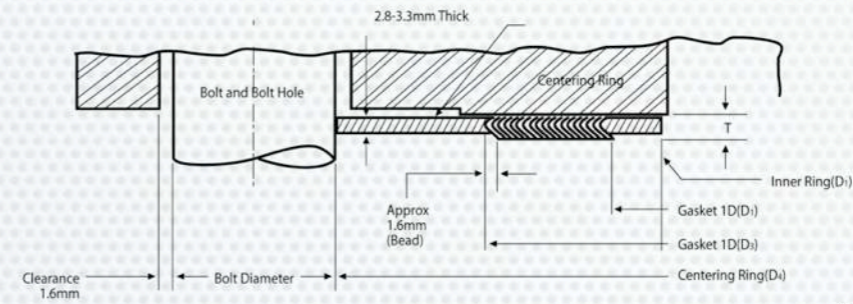


Gasket Semimetallic

### ASME B 16.20 (1998) SPIRAL WOUND GASKET

### SPIRAL WOUND GASKET DIMENSIONS FOR ASME B.16.5 FLANGES

ASME B16.20 (ASME B16.5 FLANGE)



(Unit : mm)

SIZE (NPS)	CLASS 150				CLASS 300			
	D1	D2	D3	D4	D1	D2	D3	D4
1/2	14.2	19.1	31.8	47.8	14.2	19.1	31.8	54.1
3/4	20.6	25.4	39.6	57.2	20.6	25.4	39.6	66.8
1	26.9	31.8	47.8	66.8	26.9	31.8	47.8	73.2
1-1/4	38.1	47.8	60.5	76.2	38.1	47.8	60.5	82.6
1-1/2	44.5	54.1	69.9	85.9	44.5	54.1	69.9	95.3
2	55.6	69.9	85.9	104.9	55.6	69.9	85.9	111.3
2-1/2	66.5	82.6	98.6	124.0	66.5	82.6	98.6	130.3
3	81.0	101.6	120.7	136.7	81.0	101.6	120.7	149.4
4	106.4	127.0	149.4	174.8	106.4	127.0	149.4	181.1
5	131.8	155.7	177.8	196.9	131.8	155.7	177.8	215.9
6	157.2	182.6	209.6	222.3	157.2	182.6	209.6	251.0
8	215.9	233.4	263.7	279.4	215.9	233.4	263.7	308.1
10	268.2	287.3	317.5	339.9	268.2	287.3	317.5	362.0
12	317.5	339.9	374.7	409.7	317.5	339.9	374.7	422.4
14	349.3	371.6	406.4	450.9	349.3	371.6	406.4	485.9
16	400.1	422.4	463.6	514.4	400.1	422.4	463.6	539.8
18	449.3	474.7	527.1	549.4	449.3	474.7	527.1	596.9
20	500.1	525.5	577.9	606.6	500.1	525.5	577.9	654.1
24	603.3	628.7	685.8	717.6	603.3	628.7	685.8	774.7

(Unit : mm)

SIZE (NPS)	CLASS 400				CLASS 600			
	D1	D2	D3	D4	D1	D2	D3	D4
1/2	14.2	19.1	31.8	54.1	14.2	19.1	31.8	54.1
3/4	20.6	25.4	39.6	66.8	20.6	25.4	39.6	66.8
1	26.9	31.8	47.8	73.2	26.9	31.8	47.8	73.2
1-1/4	38.1	47.8	60.5	82.6	38.1	47.8	60.5	82.6
1-1/2	44.5	54.1	69.9	95.3	44.5	54.1	69.9	95.3
2	55.6	69.9	85.9	111.3	55.6	69.9	85.9	111.3
2-1/2	66.5	82.6	98.6	130.3	66.5	82.6	98.6	130.3
3	78.7	101.6	120.7	149.4	78.7	101.6	120.7	149.4
4	102.6	120.7	149.4	177.8	102.6	120.7	149.4	193.8
5	128.3	147.6	177.8	212.9	128.3	147.6	177.8	241.3
6	154.9	174.8	209.6	247.7	154.9	174.8	209.6	266.7
8	205.7	225.6	263.7	304.8	205.7	225.6	263.7	320.8
10	255.3	274.6	317.5	358.9	255.3	274.6	317.5	400.1
12	307.3	327.2	374.7	419.1	307.3	327.2	374.7	457.2
14	342.9	362.0	406.4	482.6	342.9	362.0	406.4	492.3
16	389.9	412.8	463.6	536.7	389.9	412.8	463.6	565.2
18	438.2	469.9	527.1	593.9	438.2	469.9	527.1	612.9
20	489.0	520.7	577.9	647.7	489.0	520.7	577.9	682.8
24	590.6	628.7	685.8	768.4	590.6	628.7	685.8	790.7