



المصنع القطري الألماني للأجزاء المانعة للتسرب QATAR GERMAN GASKET FACTORY



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About Us

Qatar German Gasket Factory (Q-Ger) is the first and foremost Industrial Gasket manufacturing facility started in the State of Qatar to meet the unique gasketing requirements of Qatar including world wide clients.

Q-Ger was established on June 2007 and started manufacturing on September 2008.

Our Factory is equipped with most modern technologies to produce top quality Metallic , Semi Metallic and Non-metallic Industrial sealing products and our well experienced & skilled production team are technically capable enough to ensure that our products are at the highest quality standards.

The broad production portfolio of Q-GER covers all types of industrial gaskets which is more than enough to meet the requirements of the oil, Gas, chemical, Petrochemical, Water and Power Industries with ON-Time deliveries at customer site with competitive prices. The bulk of raw material are sourced in Europe and USA using approved Quality suppliers assuring the high standards set out to manufacture qualitative gaskets. Our strict QA/QC guarantees that all gaskets are manufactured according to the required standards. Therefore, Q-GER have implemented a quality management system in accordance with the requirements of API Spec. Q1 and ISO 9001:2015 standard to ensure that our quality policy is maintained and Quality objectives are attained. We are also Certified to ISO 14001:2015 and ISO 45001:2018 in order to meet the environmental and safety standards. Our fully computerized administration system enables us to provide you an excellent service and control of documents.

Qatar German Gasket Factory (Q-GER) is the name you can TRUST and we have one of the best gasket manufacturing facility in the GCC and the supplier of the top quality gaskets based on the highest standards available in the world today and committed to provide a reliable service at all times.



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Our Certifications

API REGISTRATION NO. Q1-1053

Certificate of Registration

The American Petroleum Institute certifies that the quality management system of
QATAR GERMAN GASKET FACTORY (Q-GER)
 Street No.9, Building No.55
 New Industrial Area
 Doha
 Qatar

has been assessed by the American Petroleum Institute and found to be in conformance with the following:

API Specification Q1

The scope of this registration and the approved quality management system applies to the:

Manufacture of Spiral Wound, Camprofile, Jacketed, Ring Joint and Non-Metallic Gaskets

API approves the organization's justification for excluding:
 Design and Development; Servicing

Effective Date: SEPTEMBER 13, 2019
 Expiration Date: SEPTEMBER 13, 2022
 Registered Since: SEPTEMBER 13, 2010

Anna C. Pfeiffer
 Vice President of Global Industry Services

This certificate is valid for the period specified herein. The registered organization must continually meet all requirements of API Spec Q1, Supplement for Q1-2019 registered by the Registrar, International and National Gas Industry, and the requirements of the Registration Agreement. Registration is maintained and regularly monitored through annual full scope audits. Further clarification regarding the scope of this certificate and the applicability of ISO 9001 standard requirements may be obtained by consulting the registered organization. This certificate has been issued from APIHQ offices located at 290 Massachusetts Avenue, NW Suite 1100, Washington, DC 20001-5571, U.S.A. It is the property of API and cannot be reprinted upon request. To verify the authenticity of this certificate, go to www.api.org/compositecert.

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TCCPL
 Certificate of Registration

This is to certify that

Qatar German Gasket Factory
 New Industrial Area, Near Otel Tower, Doha, Qatar

has been assessed and registered by TCCPL as conforming to the requirements of:

ISO 45001:2018

[Occupational Health and Safety Management Systems]
 The Occupational Health and Safety Management System is applicable to:

Manufacture of Spiral Wound, Camprofile, Jacketed, Ring Joint and Non-Metallic Gaskets

Certificate No. OM-97409101771 | Certificate Issue date: 09-10-2019 | Certificate valid till: 09-10-2022
 1st Surveillance due before: 08-10-2020 | 2nd Surveillance due before: 08-10-2021

Anna C. Pfeiffer
 Managing Director

Accredited by **United Accreditation Foundation (UAF)** Full Member of IAF
 3010, Corner, Norfolk, VA 23509, United States of America (USA)
 To check certification status: <http://uafcertification.org>

Trans Continental Certifications Pvt. Ltd.
www.tccplcertifications.com
 To check certification status: <http://uafcertification.org>, www.tccplcertifications.com or write us at info@tccplcertifications.com
 Certificate is the Property of TCCPL and shall be returned immediately when demanded.
 Lack of fulfillment of conditions set out for the issuance of this certificate and timely completion of periodic surveillance audit may render this certificate invalid.

TCCPL
 Certificate of Registration

This is to certify that

Qatar German Gasket Factory
 New Industrial Area, Near Otel Tower, Doha, Qatar

has been assessed and registered by TCCPL as conforming to the requirements of:

ISO 14001:2015

[Environmental Management System]
 The Environmental Management System is applicable to:

Manufacture of Spiral Wound, Camprofile, Jacketed, Ring Joint and Non-Metallic Gaskets

Certificate No. E-67409101772 | Certificate Issue date: 08-10-2019 | Certificate valid till: 08-10-2022
 1st Surveillance due before: 08-10-2020 | 2nd Surveillance due before: 08-10-2021

Anna C. Pfeiffer
 Managing Director

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Trans Continental Certifications Pvt. Ltd.
www.tccplcertifications.com
 To check certification status: <http://uafcertification.org>, www.tccplcertifications.com or write us at info@tccplcertifications.com
 Certificate is the Property of TCCPL and shall be returned immediately when demanded.
 Lack of fulfillment of conditions set out for the issuance of this certificate and timely completion of periodic surveillance audit may render this certificate invalid.

AP QMS REGISTERED

Certificate of Registration

APIQR® REGISTRATION NUMBER
 1254

This certifies that the quality management system of
QATAR GERMAN GASKET FACTORY (Q-GER)
 Street No.9, Building No.55
 New Industrial Area
 Doha
 Qatar

has been assessed by the American Petroleum Institute Quality Registrar (APIQR®) and found it to be in conformance with the following standard:

ISO 9001:2015

The scope of this registration and the approved quality management system applies to the

Manufacture of Spiral Wound, Camprofile, Jacketed, Ring Joint and Non-Metallic Gaskets

APIQR® approves the organization's justification for excluding:
 8.3 Design and Development of Products and Services

Effective Date: JANUARY 13, 2020
 Expiration Date: SEPTEMBER 13, 2022
 Registered Since: JANUARY 13, 2020

Anna C. Pfeiffer
 Vice President of Global Industry Services

Accredited by Member of the International Accreditation Forum Multilateral Recognition Arrangement for Quality Management Systems

This certificate is valid for the period specified herein. The registered organization must continually meet all requirements of APIQR's Registration Program and the requirements of the Registration Agreement. Registration is maintained and regularly monitored through annual full scope audits. Further clarification regarding the scope of this certificate and the applicability of ISO 9001 standard requirements may be obtained by consulting the registered organization. This certificate has been issued from APIHQ offices located at 290 Massachusetts Avenue, NW Suite 1100, Washington, DC 20001-5571, U.S.A. It is the property of APIQR and must be returned upon request. To verify the authenticity of this certificate, go to www.api.org/compositecert.

2019-12-12 02:29:04

NSF International
 789 N. Dixboro Road, Ann Arbor, MI 48105 USA

RECOGNIZES
Qatar German Gasket Factory
 Qatar

AS COMPLYING WITH NSF/ANSI 61 AND ALL APPLICABLE REQUIREMENTS. PRODUCTS APPEARING IN THE NSF OFFICIAL LISTING ARE AUTHORIZED TO BEAR THE NSF MARK.

NSF

ANSI
 Certification Program
 Accredited by the American National Standards Institute

ISO
 Certification Program
 Accredited by the International Organization for Standardization

This certificate is the property of NSF International and must be returned upon request. This certificate remains valid as long as the client has products on Listing for the referenced standards. For the most current and complete Listing information, please access NSF's website (www.nsf.org).

May 18, 2016
 Certificate# C2025564 - 01

Theresa Bellish
 Theresa Bellish
 General Manager, Water Systems

AP QMS REGISTERED

Certificate of Authority to use the Official API Monogram

License Number: 6A-1161 ORIGINAL

The American Petroleum Institute hereby grants to
QATAR GERMAN GASKET FACTORY (Q-GER)
 Street No.9, Building No.55
 New Industrial Area
 Doha
 Qatar

the right to use the Official API Monogram® on manufactured products under the conditions in the official publications of the American Petroleum Institute entitled API Spec Q1® and API-6A and in accordance with the provisions of the License Agreement.

In all cases where the Official API Monogram is applied, the API Monogram shall be used in conjunction with this certificate number: 6A-1161

The American Petroleum Institute reserves the right to revoke this authorization to use the Official API Monogram for any reason satisfactory to the Board of Directors of the American Petroleum Institute.

The scope of this license includes the following: Ring Gaskets

QMS Exclusions: Design and Development; Servicing

Effective Date: NOVEMBER 1, 2019
 Expiration Date: SEPTEMBER 13, 2022

To verify the authenticity of this license, go to www.api.org/compositecert.

Anna C. Pfeiffer
 Vice President of Global Industry Services

Quality Policy & Quality Objectives

QUALITY POLICY

The Quality Policy of Qatar German Gasket Factory (“Q-GER”) is implemented in our Vision, Mission, and Values.

QUALITY POLICY

We continuously maximize the quality of our products and services to become the global leader in the gasket manufacturing sector. We achieve this goal by permanently enhancing the skillset of our highly competent professionals and by regularly improving the already sophisticated technologies that we use.

OUR MISSION

We ensure the production and delivery of highest-quality internationally standardized gaskets to customer sites, with the shortest possible lead times and at competitive prices.

OUR VALUES

We go beyond customer and market expectations.

We create sustainable business partnerships, guarantee our products’ top quality, and comply with international standards and requirements at all times, thus achieving total customer satisfaction.

We improve the knowledge and skill levels of all our employees through defined training programs, ensuring that teamwork principles and quality awareness are fully implemented throughout our organization.

Our continuously refined quality management system is in line with the requirements of ISO 9001:2015 and API spec Q1 9th Edition, and always meets or even exceeds the requirements of all our customers and stakeholders.

Our top management reviews our quality policy at frequent intervals to ensure its suitability to all product and customer needs.

Our top management regularly establishes quality objectives, thus meeting defined process and product requirements, and maintaining Q-GER’s constantly high performance.

QUALITY OBJECTIVES

Quality Objectives define the direction of our continuous improvement.

Our performance is regularly reviewed and all relevant data analyzed by our Quality Team.

Measurable objectives and targets are set annually to ensure continuous process improvement.

Our Quality Management System is subject to annual reviews.

Quality Control Activities



Hardness Testing

The hardness of all the Metallic Materials are verified with respect to the purchase order requirements using the Mitutoyo Rockwell Hardness Testing Machine.



In-process Inspection:

In-process inspections are conducted to ensure that our products are conforming to standard/specific requirements at all stages of manufacturing and to ensure a flawless product flow until dispatch without any rejection.



Positive Material Identification (P.M.I)

All products those are ready for dispatch will be inspected visually and dimensionally apart from the in-process/goods inward inspection stages to ensure the full compliance with the customer order requirements and to avoid rejections after delivery.



Final Inspection

All products those are ready for dispatch will be inspected visually and dimensionally apart from the in-process/goods inward inspection stages to ensure the full compliance with the customer order requirements and to avoid rejections after delivery.

Spiral Wound Gaskets

We manufacture Spiral wound gaskets which is semi-metallic, comprising of a spirally wound preformed metal strip and a nonmetallic filler material, such as graphite or PTFE on the outer periphery of the inner ring and superposed metal with non-metallic windings are continually wound until the required outer diameter is attained.

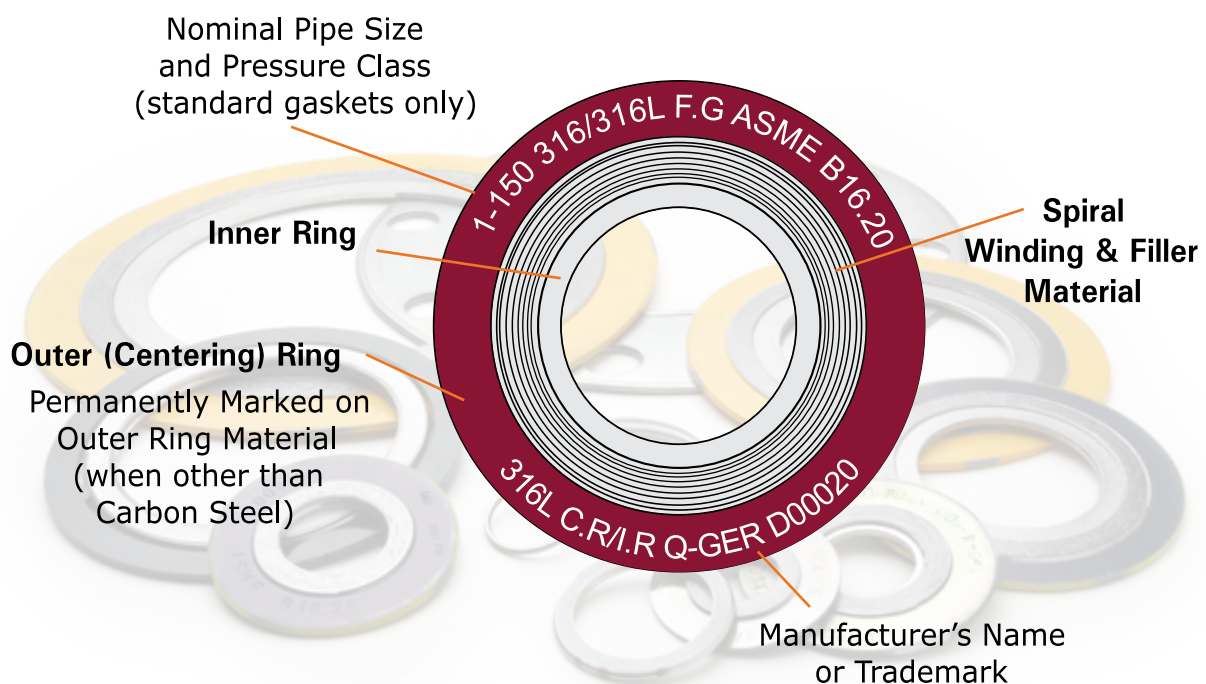
The spiral wound gasket is commonly used with flange surface finishes created using Mirage flange facing machines. These gaskets used in the oil, gas and petrochemical industries are engineered to cope with high pressures, extreme temperatures and chemical attack. Fluctuations in the above, along with temperature differential across the flange face and bolt stress relaxation, demand a gasket with flexibility and recovery. The need for the gasket to recover from changing conditions cannot be over emphasized.

Spiral wound gaskets (SPW Gaskets) can be used over the complete temperature range from cryogenic to approximately 2000°F and in all pressures from vacuum to the standard 2500 psi flange ratings They are more resilient than any other type of metallic gasket with higher flexibility and recovery characteristics to maintain a seal under variable working conditions.

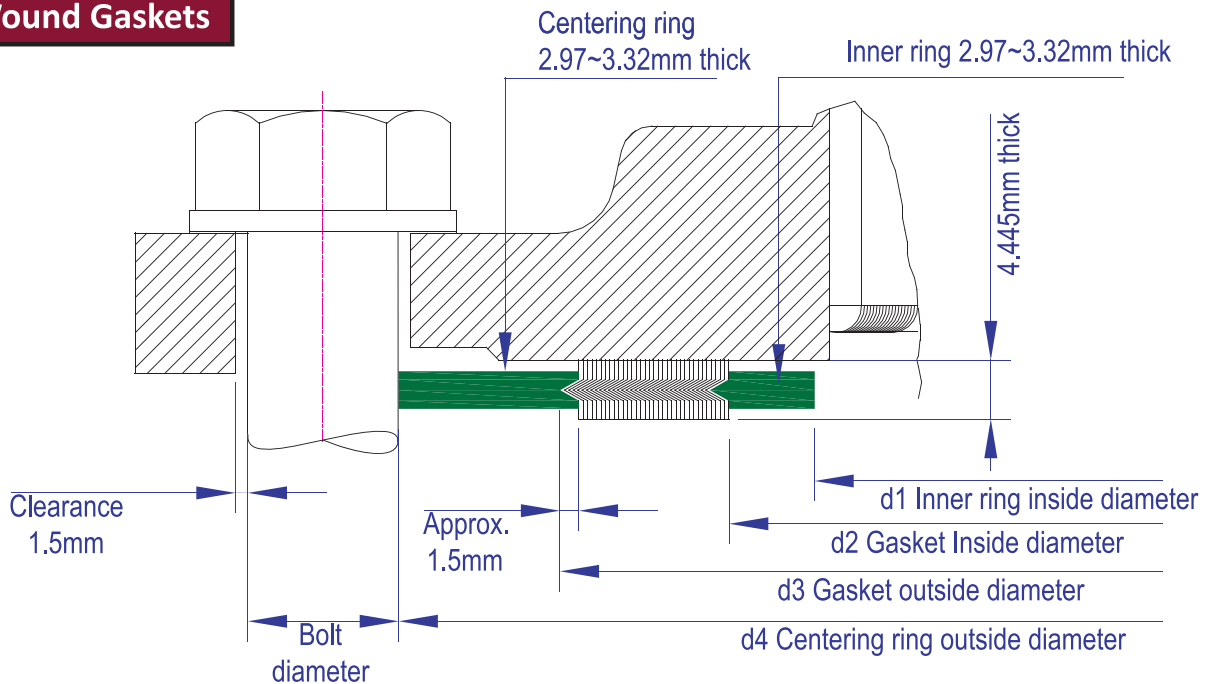
Also on the gasket, is a solid outer ring used for centering and controlling compression. This minimizes the risk of material creep through over-tightening.

For the toughest conditions, spiral wound gaskets are available with an additional inner ring. This protects the windings (particularly the filler), from contamination, or attack by the product travelling past the pipeline joint.

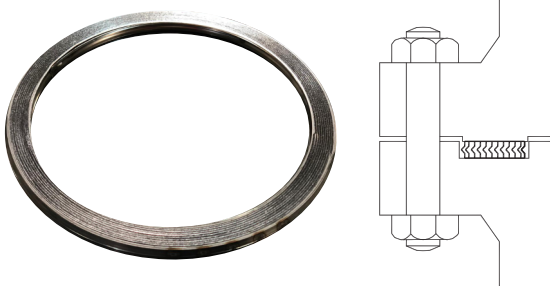
GASKET IDENTIFICATION MARKINGS REQUIRED BY ASME B16.20



Spiral Wound Gaskets

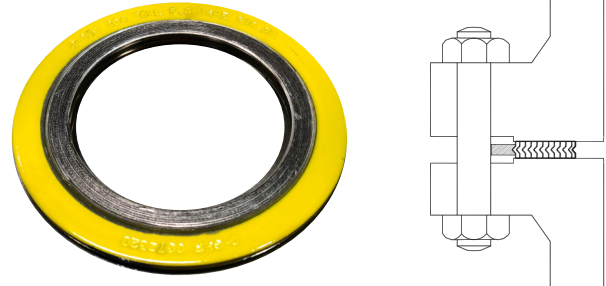


● QSW1



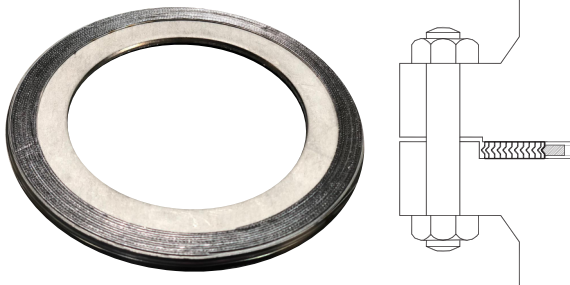
The QSW1 Q-Ger Spiral Wound gasket has no metal ring. This style is suitable for tongue and groove face connection and sometimes for male and female face connection but not suitable for ordinary pipe flange of raised face. This style is commonly used for valve bonnet, pressure vessels, etc.

● QSW3



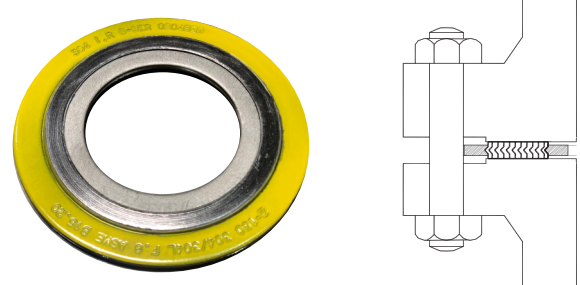
The QSW 2 Q-Ger Spiral Wound gasket has metal inner ring. As inner ring works as reinforcement to prevent internal extrusion or inward buckling of gasket windings caused by compression, this style is suitable for male and female face connection but not suitable for ordinary pipe flange of raised face.

● QSW2



The QSW 3 Q-Ger Spiral Wound gasket is with outer metal ring. Outer ring works as 1) centering a gasket properly between the flanges, 2) limiting bolt load at proper compression, 3) preventing external expansion by compression. For PTFE filler gasket, this style is basically not recommended due to possibility of inward buckling during compression. This style is most common for ordinary pipe flange of raised face.

● QSW4



The QSW4 Q-Ger Spiral Wound gasket has both metal outer and inner ring. As inner ring works to prevent internal extrusion or inward buckling, this style is especially recommended for the following cases.

- For flanges NPS 24 and larger in class 900, NPS 12 and larger in class
- 1500 and NPS 4 and larger in class 2500#.
- PTFE filler material.- For socket welding, lapped, welding neck & integral flanges. This style is suitable for pipe or pressure vessels using raised face flange connection.

STANDARD DIMENSION TABLE

Spiral Wound Gaskets

DIMENSIONS FOR SPIRAL -WOUND GASKETS USED WITH ASME/ANSI B16.5 FLANGES ASME B16.20:2017

All dimensions are in millimeters.

FLANGES SIZE		d1					d2					d3		d4						
		PN 20	PN 68-100	PN 150	PN 250	PN 420	PN 20-50	PN 68-100	PN 150	PN 250	PN 420	PN 20-100	PN150 420	PN 20	PN 50	PN 68	PN 100	PN 150	PN 250	PN 420
DN mm	NPS in.	150 300	400 ^{a)} 600	900 ^{b)} 1200	1500 ^{c)} 2000	2500 ^{d)}	150 300	400 600	900	1500	2500	150-600	900-2500	150	300	400	600	900	1500	2500
15	1/2	14.2	14.2	14.2	14.2	14.2	19.1	19.1	19.1	19.1	19.1	31.8	31.8	47.8	54.1	54.1	54.1	63.5	63.5	69.9
20	3/4	20.6	20.6	20.6	20.6	20.6	25.4	25.4	25.4	25.4	25.4	39.6	39.6	57.2	66.8	66.8	66.8	69.9	69.9	76.2
25	1	26.9	26.9	26.9	26.9	26.9	31.8	31.8	31.8	31.8	31.8	47.8	47.8	66.8	73.2	73.2	73.2	79.5	79.5	85.9
32	1 1/4	38.1	38.1	33.3	33.3	33.3	47.8	47.8	39.6	39.6	39.6	60.5	60.5	76.2	82.6	82.6	82.6	88.9	88.9	104.9
40	1 1/2	44.5	44.5	41.4	41.4	41.4	54.1	54.1	47.8	47.8	47.8	69.9	69.9	85.9	95.3	95.3	95.3	98.6	98.6	117.6
50	2	55.6	55.6	52.3	52.3	52.3	69.9	69.9	58.7	58.7	58.7	85.9	85.9	104.9	111.3	111.3	111.3	143	143	146
65	2 1/2	66.5	66.5	63.5	63.5	63.5	82.6	82.6	69.9	69.9	69.9	98.6	98.6	124	130.3	130.3	130.3	165.1	165.1	168.4
80	3	81.0	81.0	78.7	78.7	78.7	101.6	101.6	95.3	92.2	92.2	117.6	117.6	120.7	136.7	136.7	136.7	168.4	168.4	196.9
90	3 1/2	93.7	93.7	-	-	-	114.3	104.8	104.8	104.8	-	133.4	133.4	161.9	165.1	161.9	161.9	190.5	187.3	-
100	4	106.4	102.6	102.6	-	-	127	120.7	120.7	117.6	-	149.4	149.4	174.8	181.1	177.8	193.8	206.5	209.6	235
125	5	131.8	128.3	128.3	124.5	124.5	155.7	147.6	147.6	143	143	177.8	177.8	196.9	215.9	212.9	241.3	247.7	254	279.4
150	6	157.2	154.9	154.9	147.3	147.3	182.6	174.8	174.8	171.5	171.5	209.6	209.6	222.3	251	247.7	266.7	289.1	282.7	317.5
200	8	215.9	205.7	196.9	196.9	196.9	233.4	225.6	225.6	215.9	215.9	263.7	257.3	279.4	308.1	304.8	320.8	358.9	352.6	387.4
250	10	268.3	255.3	246.1	246.1	246.1	287.3	274.6	274.6	266.7	270	317.5	311.2	339.9	362	358.9	400.1	435.1	435.1	476.3
300	12	317.5	307.3	292.1	292.1	292.1	339.9	327.2	327.2	323.9	317.5	374.7	368.3	409.7	422.4	419.1	457.2	498.6	520.7	549.4
350	14	349.3	342.9	320.8	320.8	-	371.6	362	355.6	362	-	406.4	400.1	450.9	485.9	482.6	492.3	520.7	577.9	-
400	16	400.1	389.9	374.7	368.3	-	422.4	412.8	412.8	406.4	-	463.6	457.2	514.4	539.8	536.7	565.2	574.8	641.4	-
450	18	449.3	438.2	425.5	425.5	-	474.7	469.9	463.6	463.6	-	527.1	520.7	549.4	596.9	593.9	612.9	638.3	704.9	-
500	20	500.1	489.0	482.6	476.3	-	525.5	520.7	520.7	514.4	-	577.9	571.5	606.5	654.1	647.7	682.8	698.5	755.7	-
600	24	603.3	590.6	590.6	577.9	-	628.7	628.7	628.7	616.0	-	685.8	679.5	717.6	774.7	768.4	790.7	838.2	901.7	-

NOTES:
FOR INNER RING - ASME B16.20
1) There are no: a) NPS 1/2 through NPS 3 Class 400 flanges; therefore, use Class 600 flanges.
b) NPS 3/2 through NPS 2 1/2 Class 900 flanges; therefore, use Class 1500 flanges.
c) NPS 14 and larger class 2500 flanges.
2) Refer to para. 3.2.5 for required use of inner rings.

DIMENSIONS FOR SPIRAL -WOUND GASKETS USED WITH ASME B16.47 SERIES 'A' FLANGES

ASME B16.20:2017 Table SW-2.1-2 & SW-2.1-5

FLANGES SIZE		d1					d2					d3					d4				
		PN 20	PN 50	PN 68	PN 100	PN 150	PN 20	PN 50	PN 68	PN 100	PN 150	PN 20	PN 50	PN 68	PN 100	PN 150	PN 20	PN 50	PN 68	PN 100	PN 150
DN mm	NPS in.	150 lbs	300 lbs	400 lbs	600 lbs	900 lbs	150 lbs	300 lbs	400 lbs	600 lbs	900 lbs	150 lbs	300 lbs	400 lbs	600 lbs	900 lbs	150 lbs	300 lbs	400 lbs	600 lbs	900 lbs
550	22	552.5	552.5	552.5	552.5	-	577.9	577.9	577.9	577.9	616.0	609.6	628.7	628.7	628.7	685.8	660.4	704.8	701.7	733.4	838.2
650	26	654.1	654.1	660.4	647.7	660.4	673.1	685.8	685.8	685.8	685.8	704.9	736.6	736.6	736.6	774.7	774.7	835.2	831.9	866.9	882.7
700	28	704.9	704.9	711.2	698.5	711.2	723.9	736.6	736.6	736.6	736.6	755.7	787.4	787.4	787.4	831.9	898.7	892.3	914.4	946.2	-
750	30	755.7	755.7	755.7	755.7	768.4	774.7	793.8	793.8	793.8	793.8	806.5	844.6	844.6	844.6	882.7	952.5	946.2	971.6	1009.7	-
800	32	806.5	806.5	812.8	812.8	825.5	850.9	850.9	850.9	850.9	860.6	901.7	901.7	901.7	939.8	1006.6	1003.3	1022.4	1073.2	-	
850	34	857.3	857.3	863.6	863.6	876.3	901.7	901.7	901.7	911.4	952.5	952.5	952.5	990.6	1057.4	1054.1	1073.2	1136.7	-		
900	36	908.1	908.1	917.7	917.7	927.1	955.8	955.8	955.8	968.5	1006.6	1006.6	1006.6	1047.8	1117.6	1117.6	1178.1	1219.2	1301.8	-	
950	38	958.9	952.5	952.5	1009.7	977.9	977.9	971.6	990.6	1035.1	1019.3	1016.0	1022.4	1041.4	1085.8	1111.3	1054.1	1073.2	1104.9	1200.2	
1000	40	1009.7	1003.3	1000.3	1009.7	1060.5	1028.7	1022.4	1025.7	1047.8	1098.6	1070.1	1070.1	1076.5	1149.4	1162.1	1114.6	1127.3	1155.7	1251.0	
1050	42	1060.5	1054.1	1051.1	1066.8	1111.3	1079.5	1073.2	1076.5	1104.9	1149.4	1124.0	1120.9	1157.7	1200.2	1219.2	1165.4	1178.1	1219.2	1301.8	
1100	44	1111.3	1104.9	1104.9	1111.3	1155.7	1130.3	1130.3	1130.3	1162.1	1206.5	1178.1	1181.1	1181.1	1212.9	1257.3	1276.4	1219.2	1231.9	1270.0	
1150	46	1162.1	1152.7	1168.4	1162.1	1219.2	1181.1	1178.1	1193.8	1212.9	1270.0	1228.9	1228.9	1244.6	1263.7	1320.8	1327.2	1255.8	1289.1	1327.2	
1200	48	1212.9	1209.8	1206.5	1219.2	1270.0	1231.9	1235.2	1244.6	1270.0	1320.8	1279.7	1286.0	1295.4	1320.8	1371.6	1384.3	1324.1	1346.2	1485.9	
1250	50	1263.7	1244.6	1257.3	1270.0	-	1282.7	1295.4	1295.4	1320.8	-	1333.5	1346.2	1346.2	1371.6	-	1435.1	1378.0	1403.4	1447.8	
1300	52	1314.5	1320.8	1308.1	1320.8	-	1333.5	1346.2	1346.2	1371.6	-	1384.3	1397.0	1397.0	1422.4	-	1492.3	1428.8	1454.2	1498.6	
1350	54	1358.9	1352.6	1352.6	1378.0	-	1384.3	1403.4	1403.4	1428.8	-	1435.1	1454.2	1454.2	1479.6	-	1549.4	1492.3	1517.7	1555.8	
1400	56	1409.7	1403.4	1403.4	1428.8	-	1435.1	1454.2	1454.2	1479.6	-	1485.9	1505.0	1505.0	1530.4	-	1606.6	1543.1	1568.5	1612.9	
1450	58	1460.5	1447.8	1454.1	1473.2	-	1485.9	1511.3	1505.0	1536.7	-	1536.7	1562.1	1555.8	1587.5	-	1663.7	1593.8	1619.3	1663.7	
1500	60	1511.3	1524.0	1517.7	1530.4	-	1536.7	1562.1	1568.5	1593.9	-	1587.5	1612.9	1619.3	1644.7	-	1714.5	1644.7	1682.8	1733.6	

NPS 22 in. (DN 550mm) for reference only. Size not listed in ASME B16.47. For information only

DIMENSIONS FOR SPIRAL -WOUND GASKETS USED WITH ASME B16.47 SERIES 'B' FLANGES

FLANGES SIZE		d1					d2					d3					d4				
		PN 20	PN 50	PN 68	PN 100	PN 150	PN 20	PN 50	PN 68	PN 100	PN 150	PN 20	PN 50	PN 68	PN 100	PN 150	PN 20	PN 50	PN 68	PN 100	PN 150
DN mm	NPS in.	150 lbs	300 lbs	400 lbs	600 lbs	900 lbs	150 lbs	300 lbs	400 lbs	600 lbs	900 lbs	150 lbs	300 lbs	400 lbs	600 lbs	900 lbs	150 lbs	300 lbs	400 lbs	600 lbs	900 lbs
650	26	654.1	654.1	654.1	644.7	666.8	673.1	673.1	666.8	663.7	692.2	698.5	711.2	698.5	714.5	749.3	725.4	771.7	746.3	765.3	838.2
700	28	704.9	704.9	701.8	685.8	717.6	723.9	723.9	714.5	704.9	743.0	749.3	762.0	749.3	755.7	800.1	776.2	825.5	800.1	819.2	901.7
750	30	755.7	755.7	752.6	752.6	781.4	774.7	774.7	765.3	778.0	806.5	800.1	812.8	806.5	828.8	857.3	827.0	886.0	857.3	879.6	958.9
800	32	806.5	806.5	800.1	793.8	838.2	825.5	825.5	812.8	831.9											

Spiral Wound Gaskets

COLOR CODING & TEMPERATURE LIMITS

TEMPERATURE LIMITS FOR COMMON METALS (ASME B16.20)

Material	Minimum		Maximum		Abbreviation	Guide Ring Edge Color Code
	°F	°C	°F	°C		
304 Stainless Steel	-320	-195	1,400	760	304	Yellow
316L Stainless Steel	-150	-100	1,400	760	316L	Green
317L Stainless Steel	-150	-100	1,400	760	317L	Maroon
321 Stainless Steel	-320	-195	1,400	760	321	Turquoise
347 Stainless Steel	-320	-195	1,700	925	347	Blue
Carbon Steel	-40	-40	1,000	540	CRS	Silver
20Cb-3 (Alloy 20)	-300	-185	1,400	760	A-20	Black
HASTELLOY® B 2	-300	-185	2,000	1,090	HAST B	Brown
HASTELLOY® C 276	-300	-185	2,000	1,090	HAST C	Beige
INCOLOY® 800	-150	-100	1,600	870	IN 800	White
INCOLOY® 825	-150	-100	1,600	870	IN 825	White
INCONEL® 600	-150	-100	2,000	1,090	INC 600	Gold
INCONEL® 625	-150	-100	2,000	1,090	INC 625	Gold
INCONEL® X750	-150	-100	2,000	1,090	INX	No Color
MONEL® 400	-200	-130	1,500	820	MON	Orange
Nickel 200	-320	-195	1,400	760	NI	Red
Titanium	-320	-195	2,000	1,090	TI	Purple

TEMPERATURE LIMITS FOR FILLER MATERIAL (ASME B16.20)

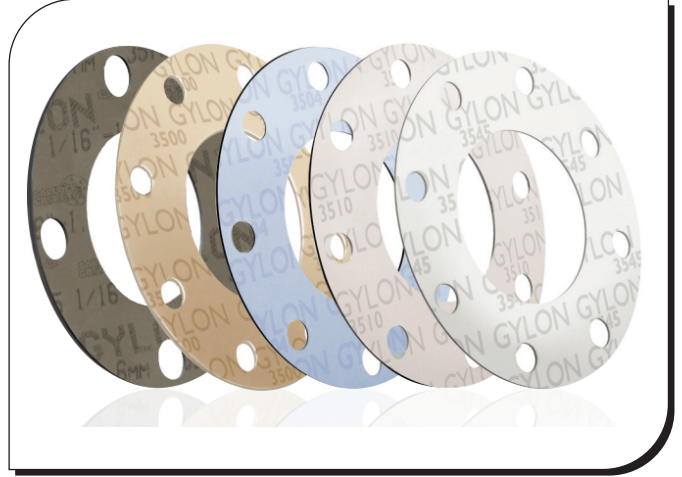
Material	Minimum		Maximum COT		Abbreviation	Guide Ring Edge Stripe Color Code
	°F	°C	°F	°C		
Ceramic	-350	-212	2,000	1,090	CER	Light Green
Flexible Graphite	-350	-212	850	454	F.G.	Gray
PTFE	-400	-240	500	260	PTFE	White
Vermiculite/Mg Mica	-	-	-	-	M-FG	Light Blue

Non-metallic Gaskets

Non-Asbestos Materials



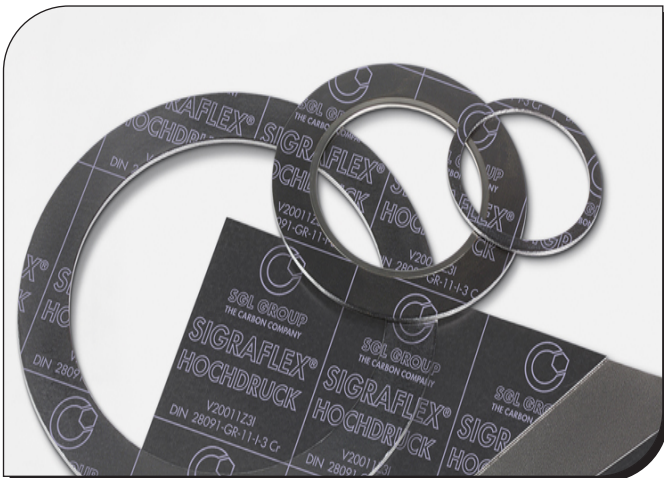
PTFE Based Materials



High Performance Graphite Materials



Elastomeric Rubber Materials



Non-metallic Gaskets

ELASTOMERIC GASKET MATERIALS

Elastomeric gaskets with different chemical and mechanical properties are being supplied to oil and petrochemical industries, sewerage & chilled water sector and exclusively for Potable water applications.

There are varieties of elastomeric gaskets, gasket sheets/rolls with different sizes which are produced against the international standards such as ASME B16.21, BS EN 1514-1, JIS etc.

The materials available with us are as follows:-

- Neoprene
- Neoprene W/ Cotton Reinforcement
- EPDM (Ethylene Propylene Diene Monomer)
- EPDM W/ Cotton Reinforcement
- EPDM (WRAS Approved) for Potable Water Applications W/ 2 Ply Cloth Reinforcement.
- NBR (Nitrile Butadiene Rubber)
- Viton (FPM)
- Silicon
- SBR (Styrene Butadiene Rubber)
- Kalrez (FFKM)

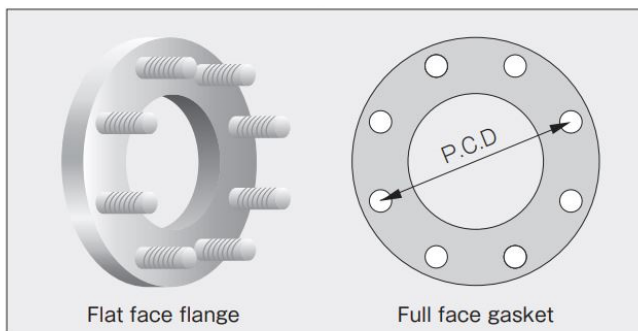


Full Face Gaskets for Flat Face Flanges



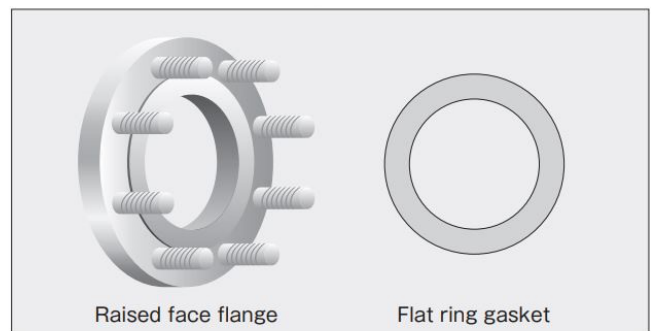
Flat Ring Gaskets for Raised Face Flanges

Schematic Representation of Gasket on Flange Installation



Flat face flange

Full face gasket



Raised face flange

Flat ring gasket

Non-metallic Gaskets

PTFE ENVELOPED GASKETS

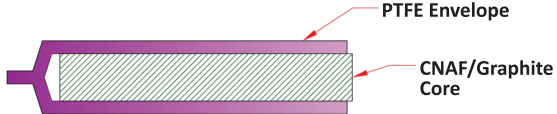
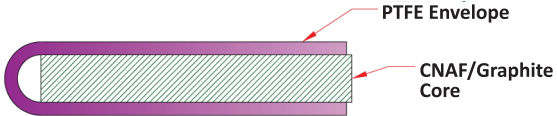
Polytetrafluorethylene (PTFE) Envelope Gaskets are used for sealing all acid and caustic media PH 0-14, with the gasket material being used as a filter gasket. envelope gaskets, resistant to virtually all chemicals and exhibiting excellent non-stick properties. No risk of process contamination, provided by strict process control and manufactured by Q-GER.

Envelope Gasket using Compressed Non-Asbestos Fiber Sheet and Flexible Graphite in the core. Common uses for PTFE Envelope Gaskets and materials below.

- * Food & Chemical Industries
- * Piping service
- * Pharmaceutical Industry
- * General purpose for glass line industry.

The PTFE envelopes are available in standard and non standard dimensions with us.

PTFE envelope gaskets are available in the following configurations:

<p><u>Y-FORM</u> Split-type, suitable for most applications</p>	
<p><u>U-FORM</u> Machined round-edge type, for use with toxic chemicals and on large diameter gaskets</p>	



Non-metallic Gaskets

Standard Dimension Table For ASME B16.5 Flanges

**FLAT RING GASKET DIMENSIONS TO ASME B16.21:2016
 USED WITH ASME/ANSI B16.5 RAISED FACE FLANGES**

NOMINAL SIZE		ID	OD				
DN mm	NPS in.		150 lbs	300 lbs	400 lbs	600 lbs	900 lbs
15	½	21	48	54	54	54	64
20	¾	27	57	67	67	67	70
25	1	33	67	73	73	73	79
32	1¼	42	76	83	83	83	89
40	1½	48	86	95	95	95	98
50	2	60	105	111	111	111	143
65	2½	73	124	130	130	130	165
80	3	89	137	149	149	149	168
90	3½	102	162	165	162	162	-
100	4	114	175	181	178	194	206
125	5	141	197	216	213	241	248
150	6	168	222	251	248	267	289
200	8	219	279	308	305	321	359
250	10	273	340	362	359	400	435
300	12	324	410	422	419	457	498
350	14	356	451	486	483	492	521
400	16	406	514	540	537	565	575
450	18	457	549	597	594	613	638
500	20	508	606	654	648	683	699
600	24	610	718	775	768	791	838

For information only

Dimensions are in millimeters (mm)

**FLAT RING GASKET DIMENSIONS TO ASME B16.21:2016
 USED WITH ASME B16.47 SERIES-A RAISED FACE FLANGES**

NOMINAL SIZE		ID	OD			
DN mm	NPS in.		150 lbs	300 lbs	400 lbs	600 lbs
550 ¹⁾	22 ¹⁾	559	660	705	702	733
650	26	660	775	835	832	867
700	28	711	832	899	892	914
750	30	762	883	953	946	972
800	32	813	940	1006	1003	1022
850	34	864	991	1057	1054	1073
900	36	914	1048	1118	1118	1130
950	38	965	1111	1054	1073	1105
1000	40	1016	1162	1114	1127	1156
1050	42	1067	1219	1165	1178	1219
1100	44	1118	1276	1219	1232	1270
1150	46	1168	1327	1273	1289	1327
1200	48	1219	1384	1324	1346	1391
1250	50	1270	1435	1378	1403	1448
1300	52	1321	1492	1429	1454	1499
1350	54	1372	1549	1492	1518	1556
1400	56	1422	1607	1543	1568	1613
1450	58	1473	1664	1594	1619	1664
1500	60	1524	1715	1645	1683	1721

NOTE:

Dimensions are in millimeters (mm)

1) NPS 22 for reference only. Size not listed in ASME B16.47

For information only

**FLAT RING GASKET DIMENSIONS TO ASME B16.21:2016
 USED WITH ASME B16.47 SERIES-B RAISED FACE FLANGES**

NOMINAL SIZE		ID	OD				
DN mm	NPS in.		75 lbs	150 lbs	300 lbs	400 lbs	600 lbs
650	26	660	708	725	772	746	765
700	28	711	759	776	826	800	819
750	30	762	810	827	886	857	879
800	32	813	860	881	940	911	933
850	34	864	911	935	994	962	997
900	36	914	973	987	1048	1022	1048
950	38	965	1024	1045	1099	-	-
1000	40	1016	1075	1095	1149	-	-
1050	42	1067	1126	1146	1200	-	-
1100	44	1118	1181	1197	1251	-	-
1150	46	1168	1232	1256	1318	-	-
1200	48	1219	1283	1307	1368	-	-
1250	50	1270	1334	1357	1419	-	-
1300	52	1321	1387	1408	1470	-	-
1350	54	1372	1438	1464	1530	-	-
1400	56	1422	1495	1514	1594	-	-
1450	58	1473	1546	1580	1656	-	-
1500	60	1524	1597	1630	1705	-	-

For information only

Dimensions are in millimeters (mm)

**FULL FACE GASKET DIMENSIONS TO ASME B16.21:2016
 USED WITH ASME/ANSI B16.5 FLAT FACE FLANGES**

NOMINAL SIZE		ID	150 lbs				* 300 lbs			
DN mm	NPS in.		OD	BCD	HOLE DIA.	No. of bolt holes	OD	BCD	HOLE DIA.	No. of bolt
15	½	21	89	60.3	15.9	4	95	67	16	4
20	¾	27	98	69.9	15.9	4	117	83	19	4
25	1	33	108	79.4	15.9	4	123	89	19	4
32	1¼	42	117	88.9	15.9	4	133	98	19	4
40	1½	48	127	98.4	15.9	4	155	114	22	4
50	2	60	152	120.7	19.1	4	165	127	19	8
65	2½	73	178	139.7	19.1	4	190	149	22	8
80	3	89	191	152.4	19.1	4	209	168	22	8
90	3½	102	216	177.8	19.1	8	228	184	22	8
100	4	114	229	190.5	19.1	8	254	200	22	8
125	5	141	254	215.9	22.3	8	279	235	22	8
150	6	168	279	241.3	22.3	8	317	270	22	12
200	8	219	343	298.5	22.3	8	381	330	25	12
250	10	273	406	362.0	25.4	12	444	387	29	16
300	12	324	483	431.8	25.4	12	520	451	32	16
350	14	356	533	476.3	28.6	12	584	514	32	20
400	16	406	597	539.8	28.6	16	647	572	35	20
450	18	457	635	577.9	31.8	16	711	629	35	24
500	20	508	699	635.0	31.8	20	774	686	35	24
600	24	610	813	749.3	34.9	20	914	813	41	24

For information only

Dimensions are in millimeters (mm)

* QGER INTERNAL MANUFACTURING SPECIFICATIONS

Standard Dimension Table for ASME & BSEN Flanges

**FULL FACE GASKET DIMENSION FOR ASME B16.47:2016 SERIES-A
 FLAT FACE FLANGES**

NOMINAL SIZE		*150 lbs					*300 lbs				
DN mm	NPS in.	ID	OD	BCD	HOLE DIA.	No. of bolt holes	ID	OD	BCD	HOLE DIA.	No. of bolt holes
550	22	558.8	749	692	35	20	558.8	838	743	41	24
650	26	660.4	870	806.4	35.0	24	660.4	970	876.3	44.5	28
700	28	711.2	925	863.6	35.0	28	711.2	1035	939.8	44.5	28
750	30	762.0	985	914.4	35.0	28	762.0	1090	997.0	47.6	28
800	32	812.8	1060	977.9	41.3	28	812.8	1150	1054.1	50.8	28
850	34	863.6	1110	1028.7	41.3	32	863.6	1205	1104.9	50.8	28
900	36	914.4	1170	1085.8	41.3	32	914.4	1270	1168.4	54.0	32
950	38	965.2	1240	1149.4	41.3	32	965.2	1170	1092.2	41.3	32
1000	40	1016.0	1290	1200.2	41.3	36	1016.0	1240	1155.7	44.5	32
1050	42	1066.8	1345	1257.3	41.3	36	1066.8	1290	1206.5	44.5	32
1100	44	1117.6	1405	1314.4	41.3	40	1117.6	1355	1263.6	47.6	32
1150	46	1168.4	1455	1365.2	41.3	40	1168.4	1415	1320.8	50.8	28
1200	48	1219.2	1510	1422.4	41.3	44	1219.2	1465	1371.6	50.8	32
1250	50	1270.0	1570	1479.6	47.6	44	1270.0	1530	1428.8	54.0	32
1300	52	1320.8	1625	1536.7	47.6	44	1320.8	1580	1479.6	54.0	32
1350	54	1371.6	1685	1593.8	47.6	44	1371.6	1660	1549.4	60.3	28
1400	56	1422.4	1745	1651.0	47.6	48	1422.4	1710	1600.2	60.3	28
1450	58	1473.2	1805	1708.2	47.6	48	1473.2	1760	1651.0	60.3	32
1500	60	1524.0	1855	1759.0	47.6	52	1524.0	1810	1701.8	60.3	32

= For information only
 * QGER MANUFACTURING SPECIFICATIONS (FULL FACE GASKET DIMENSIONS NOT MENTIONED IN ASME B16.21:2016)

Dimensions are in millimeters (mm)

**FULL FACE GASKET DIMENSION FOR ASME B16.47:2016 SERIES-B
 FLAT FACE FLANGES**

NOMINAL SIZE		*150 lbs					*300 lbs				
DN mm	NPS in.	ID	OD	BCD	HOLE DIA.	No. of bolt holes	ID	OD	BCD	HOLE DIA.	No. of bolt holes
650	26	661.9	785	744.5	22.3	36	665.2	865	803.3	35.0	32
700	28	712.7	835	795.3	22.3	40	716.0	920	857.2	35.0	36
750	30	763.5	885	846.1	22.3	44	768.4	990	920.8	38.1	36
800	32	814.3	940	900.1	22.3	48	819.2	1055	977.9	41.3	32
850	34	865.1	1005	957.3	25.4	40	870.0	1110	1031.9	41.3	36
900	36	915.9	1055	1009.6	25.4	44	920.8	1170	1089.0	44.5	32
950	38	968.2	1125	1070.0	28.6	40	971.6	1220	1139.8	44.5	36
1000	40	1019.0	1175	1120.8	28.6	44	1022.4	1275	1190.6	44.5	40
1050	42	1069.8	1225	1171.6	28.6	48	1074.7	1335	1244.6	47.7	36
1100	44	1120.6	1275	1222.4	28.6	52	1125.5	1385	1295.4	47.7	40
1150	46	1171.4	1340	1284.3	31.8	40	1176.3	1460	1365.2	50.8	36
1200	48	1222.2	1390	1335.1	31.8	44	1227.1	1510	1416.0	50.8	40
1250	50	1273.0	1445	1385.9	31.8	48	1277.9	1560	1466.8	50.8	44
1300	52	1323.8	1495	1436.7	31.8	52	1328.7	1615	1517.6	50.8	48
1350	54	1374.6	1550	1492.2	31.8	56	1379.5	1675	1578.0	50.8	48
1400	56	1425.4	1600	1543.0	31.8	60	1430.3	1765	1651.0	60.4	36
1450	58	1476.2	1675	1611.3	35.0	48	1481.1	1825	1712.9	60.4	40
1500	60	1527.0	1725	1662.1	35.0	52	1557.3	1880	1763.7	60.4	40

= For information only
 * QGER MANUFACTURING SPECIFICATIONS (FULL FACE GASKET DIMENSIONS NOT MENTIONED IN ASME B16.21:2016)

Dimensions are in millimeters (mm)

**FLAT RING GASKET DIMENSIONS FOR RAISED FACE FLANGES,
 PN-DESIGNATED (BS EN 1514-1:1997)**

NOMINAL SIZE		PN - 2.5		PN 6		PN 10		PN 16		PN 25		PN 40		PN 63	
DN mm	NPS in.	ID	OD	ID	OD	ID	OD	ID	OD	ID	OD	ID	OD	ID	OD
15	½	18	39	18	39	18	46	18	46	18	46	18	46	18	56
20	¾	22	44	22	44	22	51	22	51	22	51	22	51	21	61
25	1	27	54	27	54	27	61	27	61	27	61	27	61	25	72
32	1¼	34	64	34	64	34	71	34	71	34	71	34	71	30	82
40	1½	43	76	43	76	43	82	43	82	43	82	43	82	41	88
50	2	49	86	49	86	49	92	49	92	49	92	49	92	40	103
60 ^b	2½	61	96	61	96	61	107	61	107	61	107	61	107	59	113
65	2½	77	116	77	116	77	117	77	117	77	117	77	117	68	123
80	3	89	132	89	132	89	142	89	142	89	142	89	142	73	138
100	4	115	152	115	152	115	162	115	162	115	168	115	168	110	174
125	5	141	182	141	182	141	192	141	192	141	194	141	194	135	210
150	6	169	207	169	207	169	218	169	218	169	224	169	224	163	247
200	8	220	262	220	262	220	273	220	273	220	284	220	290	210	309
250	10	273	317	273	317	273	328	273	329	273	340	273	352	264	364
300	12	324	373	324	373	324	378	324	384	324	400	324	417	314	424
350	14	356	423	356	423	356	438	356	444	356	457	356	474	350	486
400	16	407	473	407	473	407	489	407	495	407	514	407	546	415	543
450	18	458	528	458	528	458	539	458	555	458	564	458	571	-	-
500	20	508	578	508	578	508	594	508	617	508	624	508	628	-	-
600	24	610	679	610	679	610	695	610	734	610	731	610	747	-	-
700	28	712	784	712	784	712	810	712	804	712	833	-	-	-	-
800	32	813	890	813	890	813	917	813	911	813	942	-	-	-	-
900	36	915	990	915	990	915	1017	915	1011	915	1042	-	-	-	-
1000	40	1016	1090	1016	1090	1016	1124	1016	1128	1016	1154	-	-	-	-
1100	44	-	-	-	-	-	1120	1120	1231	1120	1254	-	-	-	-
1200	48	1220	1290	1220	1307	1220	1341	1220	1342	1220	1364	-	-	-	-
1400	56	1420	1490	1420	1524	1420	1548	1420	1542	1420	1578	-	-	-	-
1500 ^c	60	-	-	-	-	-	1520	1658	1520	1654	1520	1688	-	-	-
1600	64	1620	1700	1620	1724	1620	1772	1620	1764	1620	1798	-	-	-	-
1800	72	1820	1900	1820	1931	1820	1972	1820	1964	1820	2000	-	-	-	-
2000	80	2020	2100	2020	2138	2020	2182	2020	2168	2020	2230	-	-	-	-
2200	88	2220	2307	2220	2348	2220	2384	-	-	-	-	-	-	-	-
2400	96	2420	2507	2420	2558	2420	2594	-	-	-	-	-	-	-	-
2600	104	2620	2707	2620	2762	2620	2794	-	-	-	-	-	-	-	-
2800	112	2820	2924	2820	2972	2820	3014	-	-	-	-	-	-	-	-
3000	120	3020	3124	3020	3172	3020	3228	-	-	-	-	-	-	-	-
3200	128	3220	3324	3220	3382	-	-	-	-	-	-	-	-	-	-
3400	136	3420	3524	3420	3592	-	-	-	-	-	-	-	-	-	-
3600	144	3620	3734	3620	3804	-	-	-	-	-	-	-	-	-	-
3800	152	3820	3931	-	-	-	-	-	-	-	-	-	-	-	-
4000	160	4020	4131	-	-	-	-	-	-	-	-	-	-	-	-

= For information only
 Dimensions in mm

Non-metallic Gaskets

Standard Dimension Table for BSEN Flanges

FULL FACE GASKET DIMENSION FOR FLAT FACE FLANGES, PN-DESIGNATED (BS EN 1514-1:1997)

NOMINAL SIZE		ID	PN 16				PN 25				PN 40			
DN mm	NPS in.		OD ²⁾³⁾	BCD	HOLE DIA.	No. of holes	OD ²⁾³⁾	BCD	HOLE DIA.	No. of holes	OD ²⁾³⁾	BCD	HOLE DIA.	No. of holes
10		18	90	60	14	4	90	60	14	4	90	60	14	4
15	½	22	95	65	14	4	95	65	14	4	95	65	14	4
20	¾	27	105	75	14	4	105	75	14	4	105	75	14	4
25	1	34	115	85	14	4	115	85	14	4	115	85	14	4
32	1¼	43	140	100	18	4	140	100	18	4	140	100	18	4
40	1½	49	150	110	18	4	150	110	18	4	150	110	18	4
50	2	61	165	125	18	4	165	125	18	4	165	125	18	4
60 ¹⁾		72	175	135	18	8	175	135	18	8	175	135	18	8
65 ⁵⁾	2½	77	185	145	18	8	185	145	18	8	185	145	18	8 ⁵⁾
80	3	89	200	160	18	8	200	160	18	8	200	160	18	8
100	4	115	220	180	18	8	235	190	22	8	235	190	22	8
125	5	141	250	210	18	8	270	220	26	8	270	220	26	8
150	6	169	285	240	22	8	300	250	26	8	300	250	26	8
200	8	220	340	295	22	12	360	310	26	12	375	320	30	12
250	10	273	405 ⁴⁾	355	26	12	425	370	30	12	450	385	33	12
300	12	324	460 ⁴⁾	410	26	12	485	430	30	16	515	450	33	16
350	14	356	520	470	26	16	555	490	33	16	580	510	36	16
400	16	407	580	525	30	16	620	550	36	16	660	585	39	16
450	18	458	640	585	30	20	670	600	36	20	685	610	39	20
500	20	508	715	650	33	20	730	660	36	20	755	670	42	20
600	24	610	840	770	36	20	845	770	39	20	890	795	48	20
700	28	712	910	840	36	24	960	875	42	24	-	-	-	-
800	32	813	1025	950	39	24	1085	990	48	24	-	-	-	-
900	36	915	1125	1050	39	28	1185	1090	48	28	-	-	-	-
1000	40	1016	1255	1170	42	28	1320	1210	56	28	-	-	-	-
1100	44	1120	1355	1270	42	32	1420	1310	56	32	-	-	-	-
1200	48	1220	1485	1390	48	32	1530	1420	56	32	-	-	-	-
1400	56	1420	1685	1590	48	36	1755	1640	62	36	-	-	-	-
1500 ¹⁾	60	1520	1820	1710	56	36	1865	1750	62	36	-	-	-	-
1600	64	1620	1930	1820	56	40	1975	1860	62	40	-	-	-	-
1800	72	1820	2130	2020	56	44	2195	2070	70	36	-	-	-	-
2000	80	2020	2345	2230	62	48	2425	2300	70	36	-	-	-	-

NOTE: FOR PN 16 and PN 40

1) Relates to cast iron flanges only.

2) Except tongue and groove gasket.

3) See table 10 for inside diameters of gasket to suit EN 545, En 598 and En 969 flanges.

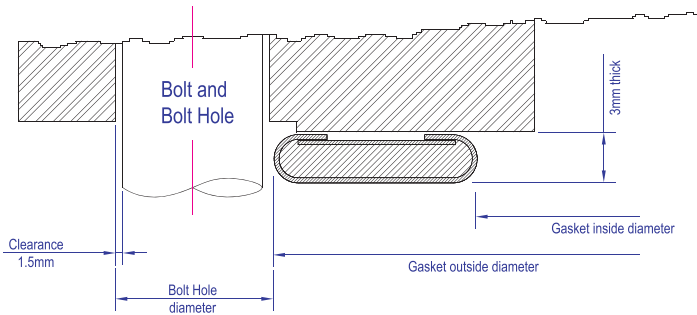
4) For ductile iron pipes and fittings complying with EN 545, En 598 and 969, the outside diameters for the following flanges are: DN 250: 400mm & DN 300: 455mm

5) This gasket is used also for flanges having 4 bolts holes.

■ = For information only









Dimensions in mm

Metal Jacketed Gaskets



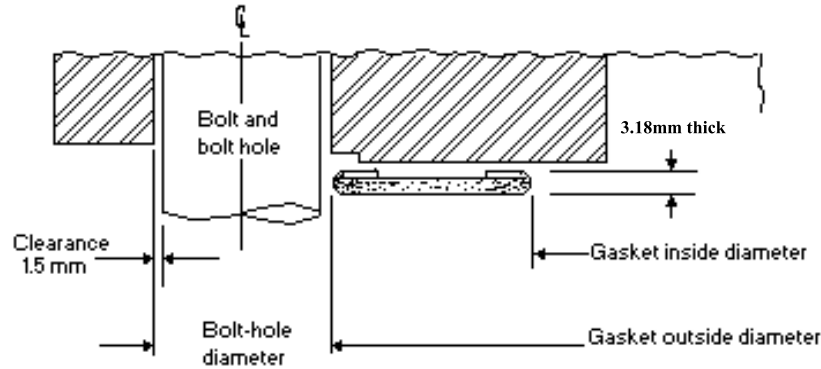
Filler Material

Metal Jacket

TYPE	PRODUCT	CHARACTERISTICS
QDJ1		The most popular style for heat exchangers, the double-jacket offers complete protection of the filler material. There is practically no diameter limitation, with greater compressibility and resilience than a similar solid metal gasket. This gasket provides even support by the use of the overlapped jacket on the inside and outside diameters. Also, the outside lap helps to prevent excessive distortion of light weight flanges. The most common filler used is graphite. A wide range of metal and filler material is available if dictated by temperature, pressure, or corrosive conditions.
QDJ2		The corrugated style has increased resilience with the benefit of a number of seal points. If a small leakage occurs across the inside edge, the corrugations act as separate seals under moderate and even bolt loads
QDJ3		This gasket employs a metal filler rather than graphite or other soft material. The result is greater resistance to problems resulting from temperature changes. The range of temperature is limited only by the metal selected.
QDJ4		This gasket is generally used for applications where narrow width is required. The single jacket gasket with a soft filler protects both edges of the filler material. It is an economical answer to many gasket needs. Single jacketed gaskets are available with corrugated metal fillers.
QDJ5		Affording the advantages of the standard double jacketed gasket, the doubles shell style allows greater strength and rigidity by the addition of a completely overlapping inner shell. This gasket has a minimum flange width of 1/4", and can be produced in almost any diameter. As with other heat exchanger gaskets, there is a greater variety of available metals and filler materials.
QDJ6		A Gasket with completely enclosed filler offering more filler protection than the standard single gasket. Especially useful for applications requiring small flange widths (to 1/8"). Certain sizes may requires tooling to produce.
QDJ7		The two piece French Style gasket is more readily available and easier to produce than the one-piece French style which requires expensive tooling. The soft filler is exposed on the outside diameter and the minimum flange width is 1/4". Size of diameter is practically unlimited.
QDJ8		This Gasket combines advantages of metal shielding on the I.D. with a thick, compressable layer of soft gasket material on either side of the metal. Metal thickness is 26 gauge, tack welded together and then rolled over on the ID, acting as a shield. The layers of soft gasket materials are available in various

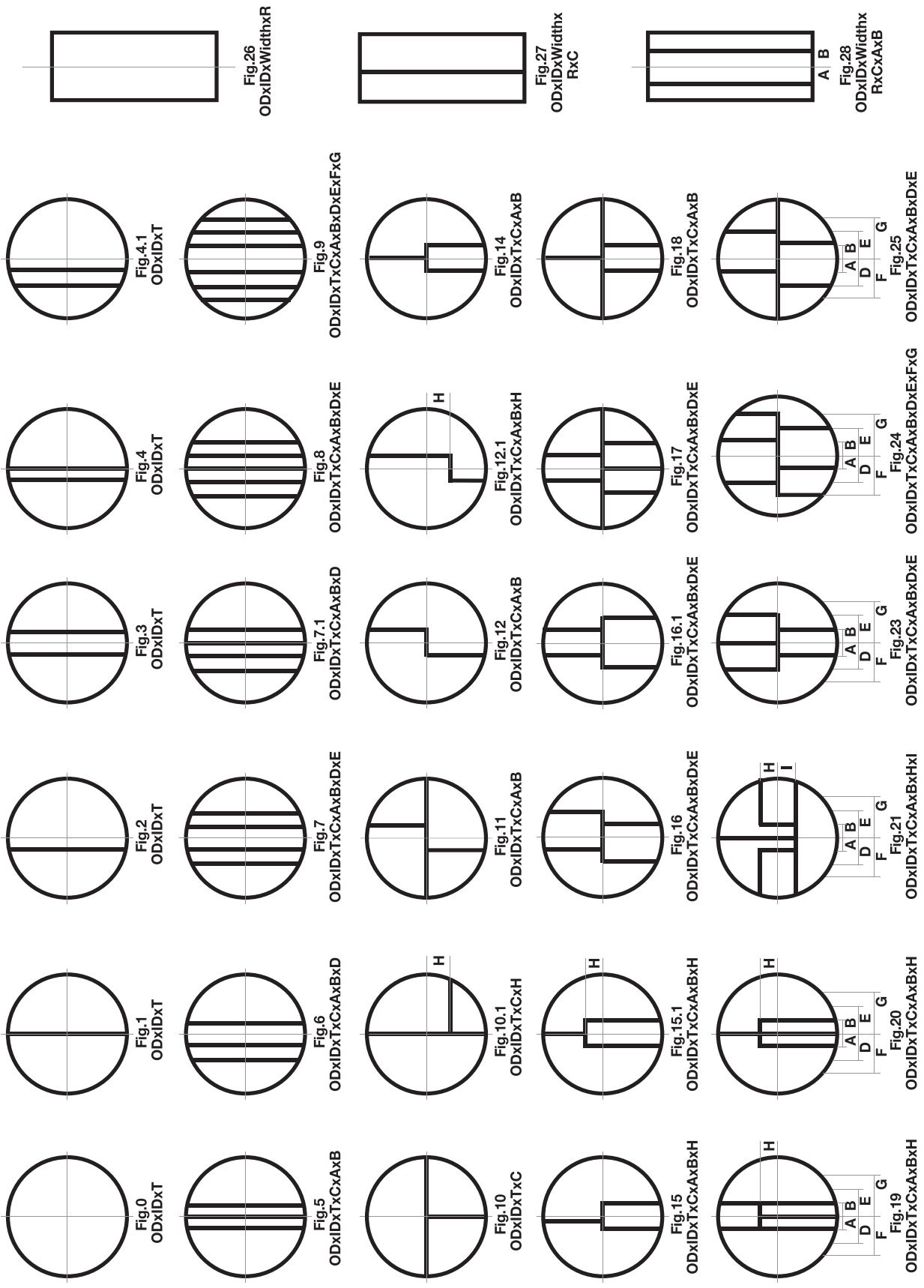
Metal Jacketed Gaskets

DIMENSIONS FOR JACKETED GASKETS USE WITH ASME/ ANSI B16.5 FLANGES



Flange Size (NPS)		Gasket Inside Diameter	GASKET OUTSIDE DIAMETER BY CLASS						
INCH	MM		150	300	400	600	900	1500	2500
1/2	15	22.4	44.5	50.8	50.8	50.8	60.5	60.5	66.8
3/4	20	28.7	54.1	63.5	63.5	63.5	66.8	66.8	73.2
1	25	38.1	63.5	69.9	69.9	69.9	76.2	76.2	82.6
1¼	32	47.8	73.2	79.5	79.5	79.5	85.9	85.9	101.6
1½	40	54.1	82.6	92.2	92.2	92.2	95.3	95.3	114.3
2	50	73.2	101.6	108.0	108.0	108.0	139.7	139.7	143.0
2½	65	85.9	120.7	127.0	127.0	127.0	162.1	162.1	165.1
3	80	108.0	133.4	146.1	146.1	146.1	165.1	171.5	193.8
4	100	131.8	171.5	177.8	174.8	190.5	203.2	206.5	231.9
5	125	152.4	193.8	212.9	209.6	238.3	244.6	251.0	276.4
6	150	190.5	219.2	247.7	244.6	263.7	285.8	279.4	314.5
8	200	238.3	276.4	304.8	301.8	317.5	355.6	349.3	384.3
10	250	285.8	336.6	358.9	355.6	397.0	431.8	431.8	473.2
12	300	342.9	406.4	419.1	416.1	454.2	495.3	517.7	546.1
14	350	374.7	447.8	482.6	479.6	489.0	517.7	574.8	—
16	400	425.5	511.3	536.7	533.4	562.1	571.5	638.3	—
18	450	489.0	546.1	593.9	590.6	609.6	635.0	701.8	—
20	500	533.4	603.3	651.0	644.7	679.5	695.5	752.6	—
24	600	641.4	714.5	771.7	765.3	787.4	835.2	898.7	—

Gasket Standard Shapes






Note: OD (Outer Dia), ID (Inner Dia), T (Thickness), C (Bar Width), A, B, D, E, F, G (Distance from Center), H (Offset from Center), R (Radius at corners)

Solid Metal Gaskets

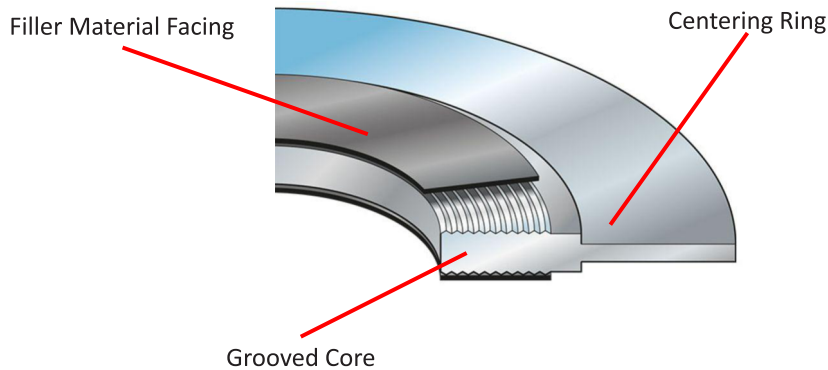
Solid metal gaskets have numerous plus points like great strength, good heat conductivity and resistance to temperature, corrosion and pressure. They are comparatively cheap, light weighing and have great modulus of resilience.



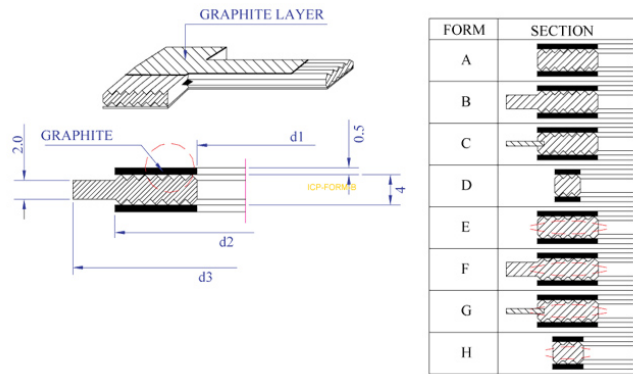
ITEM	PRODUCT	CHARACTERISTICS
QSM1		While requiring a smooth flange face and high bolt load, the solid metal QSM1 gasket has numerous “Plus” point. It has great strength, good heat conductivity, and resistance to temperature, corrosion and pressure. There is practically no size or shape limitation.
QSM2		This type of gasket is economical for a low-pressure seal on smooth flanges with low bolt pressure. Advantages are low cost, lightweight and greater resilience than a comparable flat solid gasket. Temperature applications are based upon the metal selected.
QSM3		In cross section, the QSM3 gasket incorporates a solid metal core with graphite foil bonded to each face. The graphite facing layers are manufactured from high purity material to exact thickness and density, thus ensuring that correct material compression can be controlled, vital in enclosed applications. This high quality graphite material provides excellent sealing characteristics, readily flowing into flange imperfections under relatively low applied loads, whilst the metallic core provides a rigid gasket construction, vital for operating and handling conditions.

Camprofile/Grooved Gaskets

Camprofile/grooved gaskets have proven extremely useful in all areas of industry, including the most demanding sealing tasks. Particularly in places where there are high pressures and temperatures, and fluctuating conditions



Q-GER PROFILE TYPES



GROOVED GASKET DIMENSIONS as per ASME B16.20 FOR ASME B16.5 FLANGES

Dimension in mm		Gasket Contact Width (1)	Gasket Inside Diameter (d1)	Gasket Outside Diameter (d2)	Centering Ring Outside Diameter (d3)						
(mm)	(in)				150	300	400	600	900	1500	2500
15	½	4.83	23.1	33.3	47.8	54.1	54.1	54.1	63.5	63.5	69.9
20	¾	4.83	28.7	39.6	57.2	66.8	66.8	66.8	69.9	69.9	76.2
25	1	6.35	36.6	47.5	66.8	73.2	73.2	73.2	79.5	79.5	85.9
32	1 ¼	7.87	44.5	60.2	76.2	82.6	82.6	82.6	88.9	88.9	104.9
40	1 ½	9.65	52.3	69.9	85.9	95.3	95.3	95.3	98.6	98.6	117.6
50	2	9.65	69.9	88.9	104.9	111.3	111.3	111.3	142.3	143.0	146.1
65	2 ½	9.65	82.6	101.6	124.0	130.3	130.3	130.3	165.1	165.1	168.4
80	3	9.65	98.3	123.7	136.7	149.4	149.4	149.4	168.4	174.8	196.9
90	3 ½	7.95	101.60	153.9	162.05	165.10	162.05	162.05	-	-	-
100	4	12.70	123.7	153.9	174.8	181.1	177.8	193.8	206.5	209.6	235.0
125	5	12.70	150.9	182.6	196.9	215.9	212.9	241.3	247.7	254	279.4
150	6	12.70	177.8	212.6	222.3	251	247.7	266.7	289.1	282.7	317.5
200	8	15.75	228.6	266.7	279.4	308.1	304.8	320.8	358.9	352.6	387.4
250	10	19.05	282.7	320.8	339.9	362	358.9	400.1	435.1	435.1	476.3
300	12	19.05	339.6	377.7	409.7	422.4	419.1	457.2	498.6	520.7	549.4
350	14	19.05	371.6	409.7	450.9	485.9	482.6	492.3	520.7	577.9	-
400	16	22.35	422.4	466.6	514.4	539.8	536.7	565.2	574.8	641.4	-
450	18	22.35	479.3	530.1	549.4	596.9	593.9	612.9	638.3	704.9	-
500	20	25.40	530.1	580.9	606.6	654.1	647.7	682.8	698.5	755.7	-
600	24	25.40	631.7	682.5	717.6	774.7	768.4	790.7	838.2	901.7	-

Camprofile/Grooved Gaskets

**GASKET DIMENSIONS FOR ASME B16.47 SERIES A
 FLANGES 150 LBS TO 900 LBS**

FLANGE SIZE		d1					d2					d3				
DN mm	NPS in.	150 lbs	300 lbs	400 lbs	600 lbs	900 lbs	150 lbs	300 lbs	400 lbs	600 lbs	900 lbs	150 lbs	300 lbs	400 lbs	600 lbs	900 lbs
650	26	673.1	685.8	685.8	685.8	685.8	704.9	736.6	736.6	736.6	736.6	774.7	835.2	831.9	866.9	882.7
700	28	723.9	736.6	736.6	736.6	736.6	755.7	787.4	787.4	787.4	787.4	831.9	898.7	892.3	914.4	946.2
750	30	774.7	793.8	793.8	793.8	793.8	806.5	844.6	844.6	844.6	844.6	882.7	952.5	946.2	971.6	1009.7
800	32	825.5	850.9	850.9	850.9	850.9	860.6	901.7	901.7	901.7	901.7	939.8	1006.6	1003.3	1022.4	1073.2
850	34	876.3	901.7	901.7	901.7	901.7	911.4	952.5	952.5	952.5	952.5	990.6	1057.4	1054.1	1073.2	1136.7
900	36	927.1	955.8	955.8	955.8	958.9	968.5	1006.6	1006.6	1006.6	1009.7	1047.8	1117.6	1117.6	1130.3	1200.2
950	38	977.9	977.9	971.6	990.8	1035.1	1019.3	1016.0	1022.4	1041.4	1085.9	1111.3	1054.1	1073.2	1104.9	1200.2
1000	40	1028.7	1022.4	1025.7	1047.8	1098.6	1070.1	1070.1	1076.5	1098.6	1149.4	1162.1	1114.6	1127.3	1155.7	1251.0
1050	42	1079.5	1073.2	1076.5	1104.9	1149.4	1124.0	1120.9	1127.3	1155.7	1200.2	1219.2	1165.4	1178.1	1219.2	1301.8
1100	44	1130.3	1130.3	1130.3	1162.1	1206.5	1178.1	1181.1	1181.1	1212.9	1257.3	1276.4	1219.2	1231.9	1270.0	1368.6
1150	46	1181.1	1178.1	1193.8	1212.9	1270.0	1228.9	1228.9	1244.6	1263.7	1320.8	1327.2	1273.3	1289.1	1327.2	1435.1
1200	48	1231.9	1235.2	1244.6	1270.0	1320.8	1279.7	1286.0	1295.4	1320.8	1371.6	1384.3	1324.1	1346.2	1390.7	1485.9
1250	50	1282.7	1295.4	1295.4	1320.8	-	1333.5	1346.2	1346.2	1371.6	-	1435.1	1378.0	1403.4	1447.8	-
1300	52	1333.5	1346.2	1346.2	1371.6	-	1384.3	1397.0	1397.0	1422.4	-	1492.3	1428.8	1454.2	1498.6	-
1350	54	1384.3	1403.4	1403.4	1428.8	-	1435.1	1454.2	1454.2	1479.6	-	1549.4	1492.3	1517.7	1555.8	-
1400	56	1435.1	1454.2	1454.2	1479.6	-	1485.9	1505.0	1505.0	1530.4	-	1606.6	1543.1	1568.5	1612.9	-
1450	58	1485.9	1511.3	1505.0	1536.7	-	1536.7	1562.1	1555.8	1587.5	-	1663.7	1593.9	1619.3	1663.7	-
1500	60	1536.7	1562.1	1568.5	1593.9	-	1587.5	1612.9	1619.3	1644.7	-	1714.5	1644.7	1682.8	1733.6	-

**GASKET DIMENSIONS FOR ASME B16.47 SERIES B
 FLANGES 150 LBS TO 900 LBS**

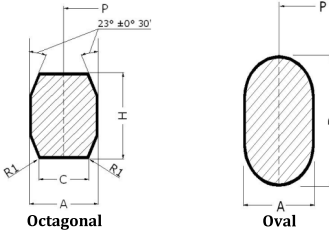
FLANGE SIZE		d1					d2					d3				
DN mm	NPS in.	150 lbs	300 lbs	400 lbs	600 lbs	900 lbs	150 lbs	300 lbs	400 lbs	600 lbs	900 lbs	150 lbs	300 lbs	400 lbs	600 lbs	900 lbs
650	26	673.1	673.1	666.8	663.7	692.2	698.5	711.2	698.5	714.5	749.3	725.4	771.7	746.3	765.3	838.2
700	28	723.9	723.9	714.5	704.9	743.0	749.3	762.0	749.3	755.7	800.1	776.2	825.5	800.1	819.2	901.7
750	30	774.7	774.7	765.3	778.0	806.5	800.1	812.8	806.5	828.8	857.3	827.0	886.0	857.3	879.6	958.9
800	32	825.5	825.5	812.8	831.9	863.6	850.9	863.6	860.6	882.8	914.4	881.1	939.8	911.4	933.5	1016.0
850	34	876.3	876.3	866.9	889.0	920.8	908.1	914.4	911.4	939.8	971.6	935.0	993.9	962.2	997.0	1073.2
900	36	927.1	927.1	917.7	939.8	946.2	958.9	965.2	965.2	990.6	997.0	987.6	1047.8	1022.4	1047.8	1124.0
950	38	974.9	1009.7	971.6	990.6	1035.1	1009.7	1047.8	1022.4	1041.4	1085.9	1044.7	1098.6	1073.2	1104.9	1200.2
1000	40	1022.4	1060.5	1025.7	1047.8	1098.6	1063.8	1098.6	1076.5	1098.6	1149.4	1095.5	1149.4	1127.3	1155.7	1251.0
1050	42	1079.5	1111.3	1076.5	1104.9	1149.4	1114.6	1149.4	1127.3	1155.7	1200.2	1146.3	1200.2	1178.1	1219.2	1301.8
1100	44	1124.0	1162.1	1130.3	1162.1	1206.5	1165.4	1200.2	1181.1	1212.9	1257.3	1197.1	1251.0	1231.9	1270.0	1368.6
1150	46	1181.1	1216.2	1193.8	1212.9	1270.0	1224.0	1254.3	1244.6	1263.7	1320.8	1255.8	1317.8	1289.1	1327.2	1435.1
1200	48	1231.9	1263.7	1244.6	1270.0	1320.8	1270.0	1311.4	1295.4	1320.8	1371.6	1306.6	1368.6	1346.2	1390.7	1485.9
1250	50	1282.7	1317.8	1295.4	1320.8	-	1325.6	1355.9	1346.2	1371.6	-	1357.4	1419.4	1403.4	1447.8	-
1300	52	1333.5	1368.6	1346.2	1371.6	-	1376.4	1406.7	1397.0	1422.4	-	1408.2	1470.2	1454.2	1498.6	-
1350	54	1384.3	1403.4	1403.4	1428.8	-	1422.4	1454.2	1454.2	1479.6	-	1463.8	1530.4	1517.7	1555.8	-
1400	56	1444.8	1479.6	1454.2	1479.6	-	1478.0	1524.0	1505.0	1530.4	-	1514.6	1593.9	1568.5	1612.9	-
1450	58	1500.6	1535.2	1505.0	1536.7	-	1528.8	1573.3	1555.8	1587.5	-	1579.6	1655.8	1619.3	1663.7	-
1500	60	1557.3	1589.0	1568.5	1593.9	-	1586.0	1630.4	1619.3	1644.7	-	1630.4	1706.6	1682.8	1733.6	-

MANUFACTURING TOLERANCES AS PER ASME B16.20

DESCRIPTION DN(NPS)	d ₁ (mm)	d ₂ (mm)	d ₃ (mm)
UPTO 600MM(24")	±0.8	±0.8	±0.8
650MM(26")-850MM(34")	±0.8	±1.5	±0.8
650MM(36")-1500MM(60")	±1.5	±1.5	±0.8

Metal Ring Joint Gaskets

TYPE 'R'



Note for markings:

- = TO BE MARKED WITH **API 6A** AND **ASME B16.20**
- = TO BE MARKED WITH **ASME B16.20** ONLY



Ring joint gaskets are typically manufactured to API 6A / ASME B16.20 and it is primarily used in high pressure & high temperature flange gasket applications. These are made from solid metallic materials. The requirements in terms of dimensional accuracy and surface finish are therefore high

[4] TYPE "R" Ring Gaskets - According to ASME B16.20 : 2017 / API 6A:2010
 ASME B16.20:2017; Table:RJ-5-1 and API 6A 20" Ed.:2010; Clause 10.4.2.1 Table 63

NOMINAL PIPE SIZE / NOMINAL PRESSURE											Dimensions in millimeters											
ASME/ANSI B16.5			API 6B				ASME B16.47 Series A				RING NUMBER	OUTSIDE DIA. OF RING	INSIDE DIA. OF RING	PITCH DIAMETER OF RING	HEIGHT OF RING OVAL	HEIGHT OF RING OCTA.	WIDTH OF RING	WIDTH OF FLAT OF OCTA. RING	Radius in Oct. Ring	WEIGHT		
150	300-600	900	1500	2500	720-960	2000	3000	5000	150	300-600		900	OD ±0.38	ID	P ±0.18	B ±0.5	H ⁽⁵⁾ +1.3 / -0.5	A ±0.20	C ±0.20	R ₁ ±0.50	OVAL Kgs.	OCTA Kgs.
		1/2										R11	40.49	27.79	34.14	11.2	9.7	6.35	4.32	1.5	0.05	0.05
		1/2	1/2									R12	47.65	31.75	39.7	14.2	12.7	7.95	5.23	1.5	0.10	0.10
		3/4		1/2								R13	50.83	34.93	42.88	14.2	12.7	7.95	5.23	1.5	0.10	0.10
		3/4	3/4									R14	52.4	36.5	44.45	14.2	12.7	7.95	5.23	1.5	0.11	0.11
1												R15	55.58	39.67	47.63	14.2	12.7	7.95	5.23	1.5	0.12	0.11
	1	1	1	3/4	1	1	1	1				R16	58.75	42.85	50.8	14.2	12.7	7.95	5.23	1.5	0.12	0.11
1 1/4												R17	65.1	49.2	57.15	14.2	12.7	7.95	5.23	1.5	0.14	0.13
	1 1/4	1 1/4	1 1/4	1	1 1/4	1 1/4	1 1/4	1 1/4				R18	68.28	52.37	60.33	14.2	12.7	7.95	5.23	1.5	0.15	0.14
1 1/2												R19	73.05	57.15	65.1	14.2	12.7	7.95	5.23	1.5	0.16	0.15
	1 1/2	1 1/2	1 1/2		1 1/2	1 1/2	1 1/2	1 1/2				R20	76.23	60.33	68.28	14.3	12.7	7.95	5.23	1.5	0.17	0.15
				1 1/2								R21	83.36	61.11	72.24	17.5	16.0	11.13	7.75	1.5	0.30	0.29
2												R22	90.5	74.6	82.55	14.2	12.7	7.95	5.23	1.5	0.20	0.19
	2			1 1/2	2	2						R23	93.68	71.42	82.55	17.5	15.9	11.13	7.75	1.5	0.34	0.33
		2	2				2	2				R24	106.38	84.12	95.25	17.5	15.9	11.13	7.75	1.5	0.39	0.38
2 1/2												R25	109.55	93.65	101.6	14.2	12.7	7.95	5.23	1.5	0.25	0.23
	2 1/2			2	2 1/2	2 1/2						R26	112.73	90.47	101.6	17.5	15.9	11.13	7.75	1.5	0.42	0.41
		2 1/2	2 1/2				2 1/2	2 1/2				R27	119.08	96.82	107.95	17.5	15.9	11.13	7.75	1.5	0.45	0.43
				2 1/2								R28	123.83	98.43	111.13	19.1	17.5	12.7	8.66	1.5	0.57	0.55
3												R29	122.25	106.35	114.3	14.2	12.7	7.95	5.23	1.5	0.28	0.26
	3											R30	128.6	106.35	117.48	17.5	16.0	11.13	7.75	1.5	0.48	0.47
		3	3		3	3	3					R31	134.95	112.7	123.83	17.5	15.9	11.13	7.75	1.5	0.51	0.50
				3								R32	139.7	114.3	127	19.1	17.5	12.7	8.66	1.5	0.65	0.63
3 1/2												R33	139.73	123.83	131.78	14.2	12.7	7.95	5.23	1.5	0.32	0.30
	3 1/2											R34	142.9	120.65	131.78	17.5	16.0	11.13	7.75	1.5	0.54	0.52
			3					3				R35	147.65	125.4	136.53	17.5	15.9	11.13	7.75	1.5	0.56	0.55
4												R36	157.18	141.27	149.23	14.2	12.7	7.95	5.23	1.5	0.37	0.34
	4	4			4	4	4	3 1/2				R37	160.35	138.1	149.23	17.5	15.9	11.13	7.75	1.5	0.62	0.60
				4								R38	173.05	141.3	157.18	22.4	20.6	15.88	10.49	1.5	1.16	1.14
				4				4				R39	173.05	150.8	161.93	17.5	15.9	11.13	7.75	1.5	0.67	0.65
5												R40	179.4	163.5	171.45	14.2	12.7	7.95	5.23	1.5	0.42	0.39
	5	5			5	5	5					R41	192.1	169.85	180.98	17.5	15.9	11.13	7.75	1.5	0.75	0.73
				5								R42	209.55	171.45	190.5	25.4	23.9	19.05	12.32	1.5	1.91	1.88
6												R43	201.63	185.72	193.68	14.2	12.7	7.95	5.23	1.5	0.48	0.44
			5					5				R44	204.8	182.55	193.68	17.5	15.9	11.13	7.75	1.5	0.80	0.78
	6	6			6	6	6					R45	222.28	200.03	211.15	17.5	15.9	11.13	7.75	1.5	0.87	0.85
				6				6				R46	223.85	198.45	211.15	19.1	17.5	12.7	8.66	1.5	1.08	1.05
				6								R47	247.65	209.55	228.6	25.4	23.9	19.05	12.32	1.5	2.29	2.26
8												R48	255.6	239.7	247.65	14.2	12.7	7.95	5.23	1.5	0.61	0.56
	8	8			8	8	8					R49	281	258.75	269.88	17.5	15.9	11.13	7.75	1.5	1.11	1.09
				8				8				R50	285.75	254	269.88	22.4	20.6	15.88	10.49	1.5	1.99	1.95
				8								R51	301.63	257.18	279.4	28.7	26.9	22.23	14.81	1.5	3.65	3.69
10												R52	312.75	296.85	304.8	14.2	12.7	7.95	5.23	1.5	0.75	0.69
	10	10			10	10	10					R53	334.98	312.72	323.85	17.5	15.9	11.13	7.75	1.5	1.34	1.30
				10				10				R54	339.73	307.98	323.85	22.4	20.6	15.88	10.49	1.5	2.39	2.35
				10								R55	371.48	314.33	342.9	36.6	35.1	28.58	19.81	2.3	7.35	7.68

Metal Ring Joint Gaskets

NOMINAL PIPE SIZE / NOMINAL PRESSURE													Dimensions in millimeters										
ASME/ANSI B16.5					API 6B					ASME B16.47 Series A			RING NUMBER	OUTSIDE DIA. OF RING OD ±0.38	INSIDE DIA. OF RING ID	PITCH DIAMETER OF RING P ±0.18	HEIGHT OF RING OVAL B ±0.5	HEIGHT OF FLAT OF RING OCTA. H ⁽⁵⁾ +1.3 / -0.5	WIDTH OF RING A ±0.20	WIDTH OF FLAT OF OCTA. RING C ±0.20	Radius in Oct. Ring R ₁ ±0.50	WEIGHT	
150	300-600	900	1500	2500	720-960	2000	3000	10000	150	300-600	900	OVAL Kgs.										OCTA Kgs.	
													R56	388.95	373.05	381	14.2	12.7	7.95	5.23	1.5	0.93	0.87
	12	12			12	12	12				12	12	R57	392.13	369.87	381	17.5	15.9	11.13	7.75	1.5	1.57	1.53
			12										R58	403.23	358.78	381	28.7	26.9	22.23	14.81	1.5	4.98	5.03
													R59	404.83	388.92	396.88	14.2	12.7	7.95	5.23	1.5	0.98	0.90
				12									R60	438.15	374.65	406.4	39.6	38.1	31.75	22.33	2.3	10.47	11.09
	14				14	14	14				14		R61	430.23	407.97	419.1	17.5	16.0	11.13	7.75	1.5	1.73	1.69
		14										14	R62	434.98	403.23	419.1	22.4	20.6	15.88	10.49	1.5	3.09	3.04
			14										R63	444.5	393.7	419.1	33.3	31.8	25.4	17.3	2.3	7.33	7.54
													R64	461.98	446.07	454.03	14.2	12.7	7.95	5.21	1.5	1.12	1.03
	16				16	16					16		R65	481.03	458.77	469.9	17.5	15.9	11.13	7.75	1.5	1.94	1.89
		16					16					16	R66	485.78	454.03	469.9	22.4	20.6	15.88	10.49	1.5	3.47	3.40
			16										R67	498.48	441.33	469.9	36.6	35.1	28.58	19.81	2.3	10.07	10.53
													R68	525.48	509.57	517.53	14.2	12.7	7.95	5.23	1.5	1.28	1.18
	18				18	18					18		R69	544.53	522.27	533.4	17.5	15.9	11.13	7.75	1.5	2.20	2.15
		18					18					18	R70	552.45	514.35	533.4	25.4	23.9	19.05	12.32	1.5	5.35	5.27
			18										R71	561.98	504.83	533.4	36.6	35.1	28.58	19.81	2.3	11.43	11.95
													R72	566.75	550.85	558.80	14.2	12.7	7.95	5.23	1.5	1.38	1.27
	20				20	20					20		R73	596.90	571.50	584.20	19.1	17.5	12.70	8.66	1.5	2.99	2.92
		20					20					20	R74	603.25	565.15	584.20	25.4	23.9	19.05	12.32	1.5	5.85	5.77
			20										R75	615.95	552.45	584.20	39.6	38.1	31.75	22.33	2.3	15.05	15.94
													R76	681.05	665.15	673.10	14.2	12.7	7.95	5.23	1.5	1.66	1.53
	24										24		R77	708.03	676.28	692.15	22.4	20.6	15.88	10.49	1.5	5.11	5.01
		24										24	R78	717.55	666.75	692.15	33.3	31.8	25.40	17.30	2.3	12.10	12.46
			24										R79	727.08	657.23	692.15	44.5	41.4	34.93	24.82	2.3	22.58	22.06
											22		R80	623.90	608.00	615.95	-	12.7	7.95	5.23	1.5	1.52	1.40
											22		R81	649.30	620.70	635.00	-	19.1	14.30	9.58	1.5	4.05	3.86
								1					R82	68.28	46.02	57.15	-	15.9	11.13	7.75	1.5	-	0.23
								1½					R84	74.63	52.37	63.50	-	15.9	11.13	7.75	1.5	-	0.25
								2					R85	92.08	66.68	79.38	-	17.5	12.70	8.66	1.5	-	0.40
								2½					R86	106.38	74.63	90.50	-	20.6	15.88	10.49	1.5	-	0.65
								3					R87	115.90	84.15	100.03	-	20.6	15.88	10.49	1.5	-	0.72
								4					R88	142.88	104.78	123.83	-	23.9	19.05	12.32	1.5	-	1.22
								3½					R89	133.35	95.25	114.30	-	23.9	19.05	12.32	1.5	-	1.13
								5					R90	177.80	133.35	155.58	-	26.9	22.23	14.81	1.5	-	2.05
								10					R91	292.10	228.60	260.35	-	38.1	31.75	22.33	2.3	-	7.10
													R92	239.73	217.47	228.60	17.5	16.0	11.13	7.75	1.5	0.94	0.92
											26		R93	768.35	730.25	749.30	-	23.9	19.05	12.32	1.5	0.94	0.92
											28		R94	819.15	781.05	800.10	-	23.9	19.05	12.32	1.5	-	7.40
											30		R95	876.30	838.20	857.25	-	23.9	19.05	12.32	1.5	-	7.90
											32		R96	936.63	892.18	914.40	-	26.9	22.23	14.81	1.5	-	8.47
											34		R97	987.43	942.98	965.20	-	26.9	22.23	14.81	1.5	-	12.08
											36		R98	1,044.58	1,000.13	1,022.35	-	26.9	22.23	14.81	1.5	-	12.75
						8	8						R99	246.08	223.82	234.95	-	15.9	11.13	7.75	1.5	-	13.51
											26		R100	777.88	720.73	749.30	-	35.1	28.58	19.81	2.3	-	0.95
											28		R101	831.85	768.35	800.10	-	38.1	31.75	22.33	2.3	-	16.79
											30		R102	889.00	825.50	857.25	-	38.1	31.75	22.33	2.3	-	21.83
											32		R103	946.15	882.65	914.40	-	38.1	31.75	22.33	2.3	-	23.39
											34		R104	1,000.13	930.28	965.20	-	41.4	34.93	24.82	2.3	-	24.95
											36		R105	1,057.28	987.43	1,022.35	-	41.4	34.93	24.82	2.3	-	31.49

GENERAL NOTE: End flanges to API 6D and API 600 use gaskets for equivalent pipe size under ASME/ANSI B16.5 or ASME B16.47 series A.

NOTE:

- All dimensions are in mm.
- R30 is suitable for lapped flanges only.
- Class 720, 960 and 10000 flanges to API 6B are obsolete. Data are for information only.
- The 23° surfaces on R and RX gaskets shall have a surface finish not rougher than 1.6 µm Ra (63 µin RMS).
- B, H Variation in height throughout the entire circumference of any ring shall not exceed 0.5 mm within these tolerances..

TYPE 'RX'

Metal Ring Joint Gaskets

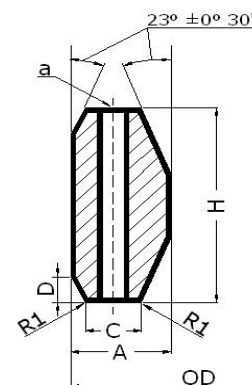
**[4] TYPE "RX" Ring Gaskets - according to ASME B16.20 : 2017 of Table RJ-5-3 and
 TYPE RX Pressure Energized Ring Gasket - according to API 6A 20th Ed.:2010 Clause 10.4.2.1 Table:64**

NOMINAL PIPE SIZE / NOMINAL PRESSURE API 6B				RING NUMBER	OUTSIDE DIA. OF RING OD +0.50, 0	ID	PITCH DIA. OF RING P ±0.13	HEIGHT OF RING H ⁽⁷⁾ +0.20, 0	WIDTH OF RING A ⁽⁷⁾ +0.20, 0	WIDTH OF FLAT C +0.15, 0	HEIGHT OF OUTSIDE BEVEL D +0.80, -0	RADIUS IN RING R ₁ ±0.50	HOLE DIAMETER a +0.50, 0	WEIGHT OCTA Kgs.
720-960 2000psi (6)	2900 psi (6)	3000 psi	5000 psi											
1½		1½	1½	Rx 20	76.20	58.72	68.26	19.05	8.74	4.62	3.18	1.5	N/A	0.24
2				Rx 23	93.27	69.44	82.55	25.40	11.91	6.45	4.24	1.5	N/A	0.52
		2	2	Rx 24	105.97	82.14	95.25	25.40	11.91	6.45	4.24	1.5	N/A	0.60
			3¾	Rx 25	109.55	92.08	101.60	19.05	8.74	4.62	3.18	1.5	N/A	0.50
2½				Rx 26	111.91	88.09	101.60	25.40	11.91	6.45	4.24	1.5	N/A	0.64
		2½	2½	Rx 27	118.26	94.44	107.95	25.40	11.91	6.45	4.24	1.5	N/A	0.68
3		3		Rx 31	134.54	110.72	123.83	25.40	11.91	6.45	4.24	1.5	N/A	0.78
			3	Rx 35	147.24	123.42	136.53	25.40	11.91	6.45	4.24	1.5	N/A	0.86
4		4		Rx 37	159.94	136.12	149.23	25.40	11.91	6.45	4.24	1.5	N/A	0.95
			4	Rx 39	172.64	148.82	161.93	25.40	11.91	6.45	4.24	1.5	N/A	1.03
5		5		Rx 41	191.69	167.87	180.98	25.40	11.91	6.45	4.24	1.5	N/A	1.15
			5	Rx 44	204.39	180.57	193.68	25.40	11.91	6.45	4.24	1.5	N/A	1.23
6		6		Rx 45	221.84	198.02	211.15	25.40	11.91	6.45	4.24	1.5	N/A	1.34
			6	Rx 46	222.25	195.28	211.15	28.58	13.49	6.68	4.78	1.5	N/A	1.66
			8 ⁽⁶⁾	Rx 47	245.26	205.59	228.60	41.28	19.84	10.34	6.88	2.3	N/A	3.88
8		8		Rx 49	280.59	256.77	269.88	25.40	11.91	6.45	4.24	1.5	N/A	1.72
			8	Rx 50	283.36	250.04	269.88	31.75	16.66	8.51	5.28	1.5	N/A	2.43
10		10		Rx 53	334.57	310.74	323.85	25.40	11.91	6.45	4.24	1.5	N/A	2.06
			10	Rx 54	337.34	304.01	323.85	31.75	16.66	8.51	5.28	1.5	N/A	2.92
12		12		Rx 57	391.72	367.89	381.00	25.40	11.91	6.45	4.24	1.5	N/A	2.42
			14	Rx 63	441.73	387.73	419.10	50.80	27.00	14.78	8.46	2.3	N/A	11.96
16				Rx 65	480.62	456.79	469.90	25.40	11.91	6.45	4.24	1.5	N/A	3.00
		16		Rx 66	457.99	424.66	469.90	31.75	16.66	8.51	5.28	1.5	N/A	4.25
18				Rx 69	544.12	520.29	533.40	25.40	11.91	6.45	4.24	1.5	N/A	3.41
		18		Rx 70	550.06	510.39	533.40	41.28	19.84	10.34	6.88	2.3	N/A	9.12
20				Rx 73	596.11	569.14	584.20	31.75	13.49	6.68	5.28	1.5	N/A	5.27
		20		Rx 74	600.86	561.19	584.20	41.28	19.84	10.34	6.88	2.3	N/A	10.01
	1			Rx 82	67.87	44.04	57.15	25.40	11.91	6.45	4.24	1.5	1.5	0.36
	1½			Rx 84	74.22	50.39	63.50	25.40	11.91	6.45	4.24	1.5	1.5	0.40
	2			Rx 85	90.09	63.12	79.38	25.40	13.49	6.68	4.24	1.5	1.5	0.40
	2½			Rx 86	103.58	73.41	90.50	28.58	15.09	8.51	4.78	1.5	2.4	0.81
	3			Rx 87	113.11	82.93	100.03	28.58	15.09	8.51	4.78	1.5	2.4	0.90
	4			Rx 88	139.29	104.34	123.83	31.75	17.48	10.34	5.28	1.5	3.0	1.46
	3½			Rx 89	129.77	93.24	114.30	31.75	18.26	10.34	5.28	1.5	3.0	3.09
	5			Rx 90	174.63	134.95	155.58	44.45	19.84	12.17	7.42	2.3	3.0	7.75
	10			Rx 91	286.94	226.59	260.35	45.24	30.18	19.81	7.54	2.3	3.0	1.50
8 ⁽⁶⁾		8 ⁽⁶⁾		Rx 99	245.67	221.84	234.95	25.40	11.91	6.45	4.24	1.5	N/A	2.20
			1¾	Rx 201	51.46	39.98	46.05	11.30	5.74	3.20	1.45 ⁽³⁾	0.5 ⁽⁴⁾	N/A	0.10
			1 ⁻¹³ / ₁₆	Rx 205	62.31	51.18	57.15	11.10	5.56	3.05	1.83 ⁽³⁾	0.5 ⁽⁴⁾	N/A	0.13
			2 ⁻⁹ / ₁₆	Rx 210	97.64	78.59	88.90	19.05	9.53	5.41	3.18 ⁽³⁾	0.8 ⁽⁴⁾	N/A	0.35
			4 ⁻¹ / ₁₆	Rx 215	140.89	117.07	130.18	25.40	11.91	5.33	4.24 ⁽³⁾	1.5 ⁽⁴⁾	N/A	0.80

NOTE:

- 1) All 23° surfaces on R and RX gaskets shall have a surface finish no rougher than 1.6µm Ra (63 µin RMS).
- 2) One pressure-passage hole illustrated in fig.1 < a >. Centerline of hole shall be located at midpoint of dimension "C".
- 3) Tolerance on these dimensions is +0, -0.38
- 4) Tolerance on these dimensions is +0.50, -0
- 5) Class 720,960, and 2900 flanges to API 6B are obsolete. Data is for information only.
- 6) Crossover flange connection.
- 7) A plus tolerance of 0.20 mm for width "A" and height "H" is permitted, provided the variation in width or height of any ring does not exceed 0.10 mm throughout its entire circumference.

Fig.1



Dimensions in millime-

Metal Ring Joint Gaskets

TYPE 'BX'

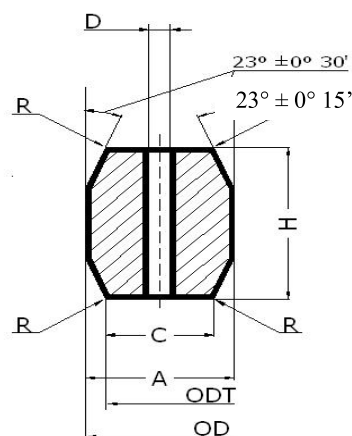
[3] TYPE "BX" Ring Gaskets - according to ASME B16.20:2017 of Table:7 and
 TYPE BX Pressure Energized Ring Gasket - according to API 6A 20th Ed.:2010 Clause 10.4.2.1 Table:

NOMINAL PIPE SIZE / NOMINAL PRESSURE						RING NUMBER	OUTSIDE DIA. OF RING OD 0, -0.15	I.D	HEIGHT OF RING H ⁽³⁾ +0.20, 0	WIDTH OF RING A ⁽³⁾ +0.20, 0	WIDTH OF FLAT C +0.15, 0	RADIUS IN RING R ⁽²⁾ 8% to 12% Gasket "H"	HOLE DIA. D ±0.50	DIA. OF FLAT ODT ±0.05
API 6BX														
2000	3000	5000	10000	15000	20000									
			1 ⁻¹¹ / ₁₆	1 ⁻¹¹ / ₁₆		Bx150	72.19	53.59	9.30	9.30	7.98	0.93	1.6	70.87
			1 ⁻¹³ / ₁₆	1 ⁻¹³ / ₁₆	1 ⁻¹³ / ₁₆	Bx151	76.40	57.15	9.63	9.63	8.26	0.96	1.6	75.03
			2 ⁻¹ / ₁₆	2 ⁻¹ / ₁₆	2 ⁻¹ / ₁₆	Bx152	84.68	64.21	10.24	10.24	8.79	1.02	1.6	83.23
			2 ⁻⁹ / ₁₆	2 ⁻⁹ / ₁₆	2 ⁻⁹ / ₁₆	Bx153	100.94	78.18	11.38	11.38	9.78	1.14	1.6	99.34
			3 ⁻¹ / ₁₆	3 ⁻¹ / ₁₆	3 ⁻¹ / ₁₆	Bx154	116.84	92.05	12.40	12.40	10.64	1.24	1.6	115.08
			4 ⁻¹ / ₁₆	4 ⁻¹ / ₁₆	4 ⁻¹ / ₁₆	Bx155	147.96	119.51	14.22	14.22	12.22	1.42	1.6	145.96
			7 ⁻¹ / ₁₆	7 ⁻¹ / ₁₆	7 ⁻¹ / ₁₆	Bx156	237.92	200.69	18.62	18.62	15.98	1.86	3.2	235.28
			9	9	9	Bx157	294.46	252.50	20.98	20.98	18.01	2.10	3.2	291.49
			11	11	11	Bx158	352.04	305.77	23.14	23.14	19.86	2.31	3.2	348.76
			13%	13%	13%	Bx159	426.72	375.31	25.70	25.70	22.07	2.57	3.2	423.09
		13%				Bx160	402.59	375.11	23.83	13.74	10.36	2.38	3.2	399.21
		16%				Bx161	491.41	459.00	28.07	16.21	12.24	2.81	3.2	487.44
		16%	16%	16%		Bx162	475.49	447.04	14.22	14.22	12.22	1.42	1.6	473.49
		18%				Bx163	556.16	521.41	30.10	17.37	13.11	3.01	3.2	551.9
		18%	18%	18%		Bx164	570.56	521.39	30.10	24.59	20.32	3.01	3.2	566.29
		21%				Bx165	624.71	587.73	32.03	18.49	13.97	3.20	3.2	620.19
		21%				Bx166	640.03	587.76	32.03	26.14	21.62	3.20	3.2	635.51
26%						Bx167	759.36	733.15	35.86	13.11	8.03	3.59	1.6	754.28
	26%					Bx168	765.25	733.15	35.86	16.05	10.97	3.59	1.6	760.17
			5%			Bx169	173.51	147.65	15.85	12.93	10.69	1.58	1.6	171.27
			6%	6%		Bx170	218.03	189.59	14.22	14.22	12.22	1.42	1.6	216.03
			8 ⁻⁹ / ₁₆	8 ⁻⁹ / ₁₆		Bx171	267.44	238.99	14.22	14.22	12.22	1.42	1.6	265.44
			11 ⁻⁵ / ₃₂	11 ⁻⁵ / ₃₂		Bx172	333.07	304.62	14.22	14.22	12.22	1.42	1.6	331.07
30	30					Bx303	852.75	818.82	37.95	16.97	11.61	3.79	1.6	847.39

Dimensions in millimeters

- NOTE: 1) All 23° surfaces on BX gaskets shall have a surface finish no rougher than 0.8 μm Ra (32 μin RMS).
 2) Radius " R " shall be 8 % to 12 % of the gasket height " H ".
 One pressure-passage hole required per gasket on centerline. See fig. 1
 3) A plus tolerance of 0.20 mm for width " A " and height " H " is permitted, provided the variation in width or height of any ring does not exceed 0.10 mm throughout its entire circumference.

Fig.1



Graphite Packing Rings

GRAPHITE is characterized by a high level of chemical resistance and thermal stability as well as an excellent sealing effect and constant elasticity. Regardless of temperature cycle this material will not be subject to cold flow, shrinkage or aging. GRAPHITE fulfills the purity requirements for seals in nuclear power station valves (content of soluble chlorides < 20 ppm).

Types

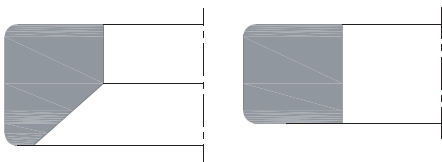
GRAPHITE foil material Approved for use in oxygen applications for pressures up to 250 bar and temperatures up to 200 °C by BAM (German Federal Institute for Material Testing, Berlin). Approved for use in food processing industries by the Chemical and Technical Testing Office, Stuttgart, Germany. Tested by DVGW (German Association of Gas and Water Industry) according to the KTW (plastics - drinking water) recommendations of the BGA (Federal . Health Office) for use as sealing elements D1 and D2.

GRAPHITE rings Preformed GRAPHITE rings are supplied in densities between 1,4 and 1,85 g/cm³.

GRAPHITE tape is used to make rings for repair purposes. In order to stabilize the material and to ensure ease of handling the material has a surface pattern and a W-profile.

GRAPHITE cover seals are supplied as preformed rings and have shown their advantages in self-sealing covers, e. g. heavy-duty valves, high-pressure feedwater preheaters. GRAPHITE remains elastic even with continually changing temperatures and pressures up to 200 N/mm² surface compression. It can bridge the large sealing gaps which occur in self-sealing covers up to 0,3 mm without difficulty.

Typical Forms:



Operating Conditions

Pressure: 1000 bar

Temperature: - 200°C to +550 °C1)

200°C to +700 °C2)

200°C to + 2500 °C3)

PH value: 0-14

1) most media and air

2) steam

3) inert gas

4. Media

Hot water and feed water, steam, heat transfer oils, hydrocarbons and many other media.

Exceptions: strongly oxidizing media.

Gasket Factors "M" and "Y"

"M" and "Y" data are to be used for flange designs only as specified in the ASME Boiler and Pressure Vessel Code Division 1, Section VIII, Appendix 2. They are not meant to be used as gasket seating stress values in actual service. Our bolt torque tables give that information and should be used as such.

"M"-Maintenance Factor

A factor that provides the additional preload needed in the flange fasteners to maintain the compressive load on a gasket after internal pressure is applied to a joint.

$$M = (W - A_2P) / A_1P$$

Where: W = Total Fastener force (lb. or N)

A_2 = Inside area of gasket (in.² or mm²)


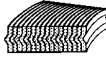
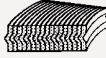




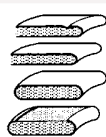
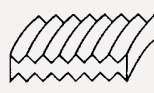
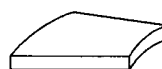

P = Test pressure (psig or N/mm²)

A_1 = Gasket area (in.² or mm²)

"Y"-Minimum Design Seating Stress

The minimum compressive stress in pounds per square inch (or bar) on the contact area of the gasket that is required to provide a seal at an internal pressure of 2 psig (0.14 bar).

$$Y = W / A_1$$

Gasket Design	Gasket Material	Gasket Factor "M"	Min Design Seating Stress "Y" psi
Spiral wound metal, graphite or PTFE filled	 Stainless Steel or MONEL®	3.00	10,000
Garlock CONTROLLED DENSITY® flexible graphite filled spiral wound	 Stainless Steel or MONEL®	3.00	7,500
Garlock EDGE®	 Stainless Steel or MONEL®	2.00	5,000
Garlock GRAPHONIC®	 Stainless Steel and flexible graphite	2.00 (1/16")	2,000 (1/16")
		9.00 (1/8")	3,000 (1/8")
Liquid service:		2.00	900
Kammprofile™ gasket	 Stainless steel core Flexible graphite facing	4.00	1,000*
Corrugated metal, non-asbestos or corrugated metal-jacketed, non-asbestos filled	 Soft aluminum	2.50	2,900
		2.75	3,700
		3.00	4,500
		3.25	5,500
		3.50	6,500
Corrugated metal	 Soft aluminum	2.75	3,700
		3.00	4,500
		3.25	5,500
		3.50	6,500
		3.75	7,600
Flat metal-jacketed, non-asbestos filled	 Soft aluminum	3.25	5,500
		3.50	6,500
		3.75	7,600
		3.50	8,000
		3.75	9,000
KAMMPROFILE	 Soft aluminum	3.25	5,500
		3.50	6,500
		3.75	7,600
		3.75	9,000
		4.25	10,100
Solid flat metal	 Soft aluminum	4.00	8,800
		4.75	13,000
		5.50	18,000
		6.00	21,800
		6.50	26,000
Ring joint	 Iron or soft steel	5.50	18,000
		6.00	21,800
		6.50	26,000

This table lists many commonly used gasket materials and contact facings with suggested design values of "M" and "Y" that generally have proven satisfactory in actual service when using effective gasket seating width B1 described in the formula on page 35. The design values and other details given in this table are suggested only and are not mandatory.

Conversions

Common Abbreviations

SI - International Metric Standard	kgf - kilogram force
Pa - Pascal	N - Newton
psi - pounds per square inch	in - inch
psig - pounds per square inch guage	ft - foot
oz - ounce	yd - yard
g - gram	m - meter
lbf - pound force	gal - gallon
	l - liter

Prefixes

M (mega)	= 1,000,000	= 10 ⁶
k (kilo)	= 1,000	= 10 ³
c (centi)	= 0.01	= 10 ⁻²
m (milli)	= 0.001	= 10 ⁻³
u (micro)	= 0.000001	= 10 ⁻⁶

Metric Conversions

Conversion from:	To SI units:	Multiply by:
Length		
mil	mm	0.0254
in	mm	25.4
in	cm	2.54
ft	m	0.3048
yd	m	0.9144
Weight		
oz	g	28.35
oz	kg	0.0283
lb	g	453.6
lb	kg	0.4536
lb	N	4.4482
Force		
lbf	N	4.448
kgf	N	9.8066
Area		
in ²	cm ²	6.4516
ft ²	m ²	0.0929
Pressure		
bar	psi	14.5
psi	Pa	6895
psi	kPa	6.89
psi	bar	0.069
psi	MPa	0.0069
N/m ²	Pa	1.00
N/mm ²	MPa	1.00
Torque		
in-lb	Nm	0.113
ft/lb	Nm	1.3558
Density		
oz/in ³	g/cm ³	1.73
g/cm ³	kg/m ³	1000
lb/ft ³	kg/m ³	16.02
lb/ft ³	g/cm ³	0.01602
Adhesion		
lb/in	kN.m	0.1751
Volume		
gal	l	3.7854
gal	m ³	0.0038

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