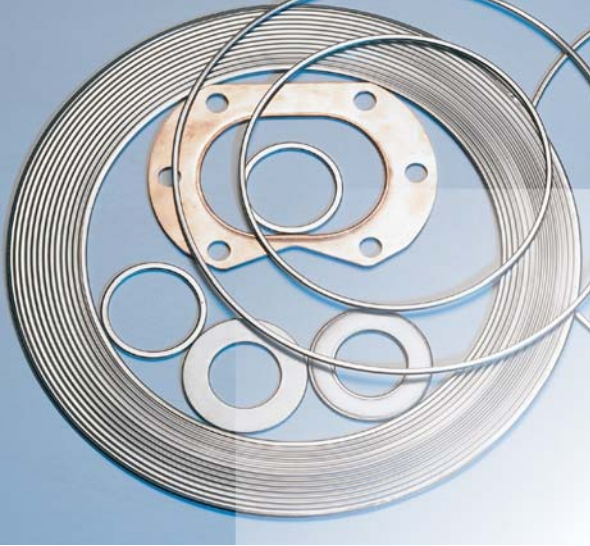


2. METAL - JACKETED GASKETS



PROPERTIES AND APPLICATION

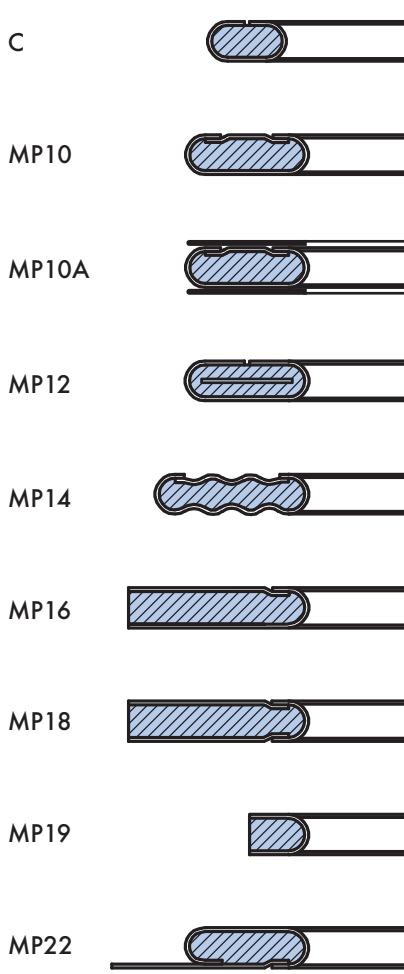
Metal - jacketed gaskets are particularly suitable for sealing flat surfaces of heat exchangers, gas pipes, cast iron flanges, autoclaves and similar. By their sealing efficiency, provided by exerting strong pressure on circular rims of the flanges, metal - jacketed gaskets can stand up to 30% deviation from the initial thickness, which is very useful in case of irregular or faulty flange rims. The chemical compatibility of the metal and the medium being sealed should be considered.

ADVANTAGES

- Suitable for high assembly stress.
- Highly resistant against blow-out.

SHAPE AND CONSTRUCTION

Metal-jacketed gaskets are produced in several types to meet the requirements of the most demanding applications. Inside a metallic jacket they feature a soft filler as shown in the figure.



Material	ASTM	DIN Material No.
Low Carbon Steel	Soft iron (CS)	1.0333
Stainless steel	AISI 304	1.4301
Stainless steel	AISI 316, 316 L	1.4401, 1.4404
Stainless steel	AISI 321	1.4541
Stainless steel	AISI 316 Ti	1.4571
Monel (NiCu30Fe)	Alloy 400	2.4360
Copper	Copper	2.0090
Brass	Brass Ms 63	2.0321

The metallic jacket is normally 0.4 mm thick.

Other materials are available on customer request.

Filler

The standard filler material is Flexible Graphite.

Other fillers like ceramic, mineral or other can be also used.

SIZE

The metal jacketed gaskets come in sizes according to EN 1514-4, ASME B16.21 standards.

Maximum size:

Outside diameter: up to 4000 mm

Thickness: from 2 to 12 mm

MANUFACTURING TOLERANCES

Gasket inside diameter (mm)	Diameter tolerance (mm)	
	Inside diameter	Outside diameter
Up to 150	+ 0.8; - 0.0	+ 0.0; - 0.8
from 150 to 1500	+ 1.6; - 0.0	+ 0.0; - 1.6
1500 or greater	+ 2.4; - 0.0	+ 0.0; - 2.4

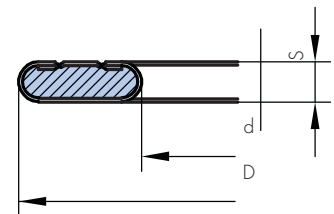
2. METAL - JACKETED GASKETS

Gasket Type	MATERIAL (Jacket)	DIN 2505		ASME	
		k ₁ [mm]	k _{0x} K ₀ [N/mm]	m	y [MPa]
MP 10, MP 12,	Cr-Ni steel	2.0x _D	100x _D	2.0	
MP 16, MP 18,	Soft iron	1.8x _D	70x _D	1.8	70
MP 19, MP 22	Cu	1.6x _D	60x _D	1.6	60
	Ms	1.6x _D	60x _D	1.6	60

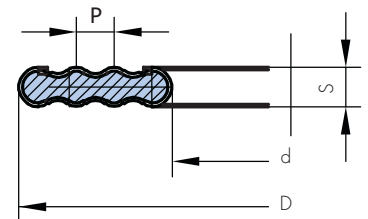
STANDARDS FOR METAL JACKETED GASKETS USED WITH FLANGES	
METAL JACKETED GASKETS Standard	Flange Standard
EN 1514-4	EN 1092
ASME B 16.20	ASME B 16.5
ASME B 16.20	ASME B 16.47

MP10 and MP14 dimensions for ASME B 16.5 flanges

NPS (in)	d (mm) Class (lb)	D (mm)							
		150	300	400	600	900	1500	2500	
1/2"	23.8	44.5	50.8	50.8	50.8	60.4	60.4	66.8	
3/4"	31.8	54	63.5	63.5	63.5	66.7	66.7	73.1	
1"	36.5	63.5	69.9	69.9	69.9	76.2	76.2	82.5	
1 1/4"	46	73	79.4	79.4	79.4	85.8	85.8	101.6	
1 1/2"	52.4	82.6	92.1	92.1	92.1	95.3	95.3	114.3	
2"	73.2	101.6	108	108	108	139.7	139.7	143	
2 1/2"	85.9	120.6	127	127	127	161.9	161.9	165.1	
3"	107.8	133.4	146.1	146.1	146.1	165.1	171.5	193.8	
4"	131.8	171.5	177.8	174.7	190.5	203.2	206.5	231.9	
5"	152.4	193.8	212.8	209.5	238.2	244.6	250.9	276.3	
6"	190.5	219.1	247.7	244.5	263.6	285.8	279.4	314.5	
8"	238.3	276.3	304.8	301.7	317.5	355.6	349.3	384.3	
10"	285.8	336.6	358.8	355.6	396.9	431.8	431.8	473.2	
12"	342.9	406.4	419.1	415.9	454.1	495.3	517.6	546.1	
14"	374.7	447.7	482.6	479.5	489	517.6	574.7		
16"	425.5	511.2	536.6	533.4	562	571.5	638.2		
18"	489	546.1	593.7	590.6	609.6	635	701.8		
20"	533.4	603.3	650.9	644.5	679.5	695.5	752.5		
24"	641.4	714.4	771.6	765.3	787.4	835.1	898.6		



MP14



Gasket dimensions for ASME B 16.47 Series A raised face flanges

NPS (in)	d (mm) Class (lb)	D (mm)				
		150	300	400	600	900
26"	673.1	771.6	831.8	828.8	863.6	879.6
28"	723.9	828.8	895.3	889	911.3	943.1
30"	774.7	879.6	949.4	943.1	968.5	1006.6
32"	825.5	936.7	1003.3	1000.2	1019.3	1070.1
34"	876.3	987.5	1054.1	1051	1070.1	1133.6
36"	927.1	1044.7	1114.7	1114.5	1127.2	1197.1
38"	977.9	1108.2	1051	1070.1	1101.8	1197.1
40"	1028.7	1159	1111.2	1124	1152.6	1248
42"	1079.5	1286.1	1162	1174.7	1216.1	1298.7
44"	1130.3	1273.3	1216.1	1228.8	1267	1365.2
46"	1181.1	1324.1	1270	1286	1324.1	1432
48"	1231.9	1381.2	1320.8	1343.1	1387.6	1482.8
50"	1282.7	1432	1374.9	1400.3	1444.7	
52"	1333.5	1489.2	1425.7	1451.1	1495.5	
54"	1384.3	1546.3	1489.2	1514.6	1552.7	
56"	1431.1	1603.5	1540	1565.4	1603.5	
58"	1485.9	1660.6	1590.8	1616.2	1660.6	
60"	1536.7	1711.4	1641.6	1679.7	1730.5	

TOLERANCE (mm)

	up to 24"	above 24"
D	+ 1.58 - 0	+ 3.3 - 0
d	+ 1.58 - 0	+ 3.3 - 0
s	+ 0.8 - 0	+ 0.8 - 0

GASKET ORDERING EXAMPLE

STANDARD DIMENSION:

Metal jacketed gasket MP 10,
ASME B 16.5, 8" - 600lbs,
Material: AISI 304,
Filler: Graphite

NON-STANDARD DIMENSION:

Metal jacketed gasket MP 10,
D = 836 mm, d = 804 mm, s = 3,2 mm,
Material: Cu,
Filler: Ceramic

01/2010