

# Champion SWMG

## SPIRAL WOUND METALLIC GASKETS



High Pressure and Temperature,  
Metallic Gasket for Piping, Heat exchanger  
and Vessel Applications

**CHAMPION SPIRAL WOUND METALLIC GASKETS** consists of the basic sealing element combining several layers of pre-formed V-shaped metal strip which are spirally wound together under pressure with the soft-material filler (PTFE or expanded Graphite) to improve the mechanical strength and internal pressure. This gasket provides perfect sealing under fluctuating high pressure operating conditions (thermal Cycling) providing resilience and recovery.

### Key Features:

- Available in a range of materials capable of withstanding high and low temperatures
- Designed to seal high pressures
- Maintains high tightness / low leakage under thermal transient conditions
- Resists corrosion in aggressive media environments

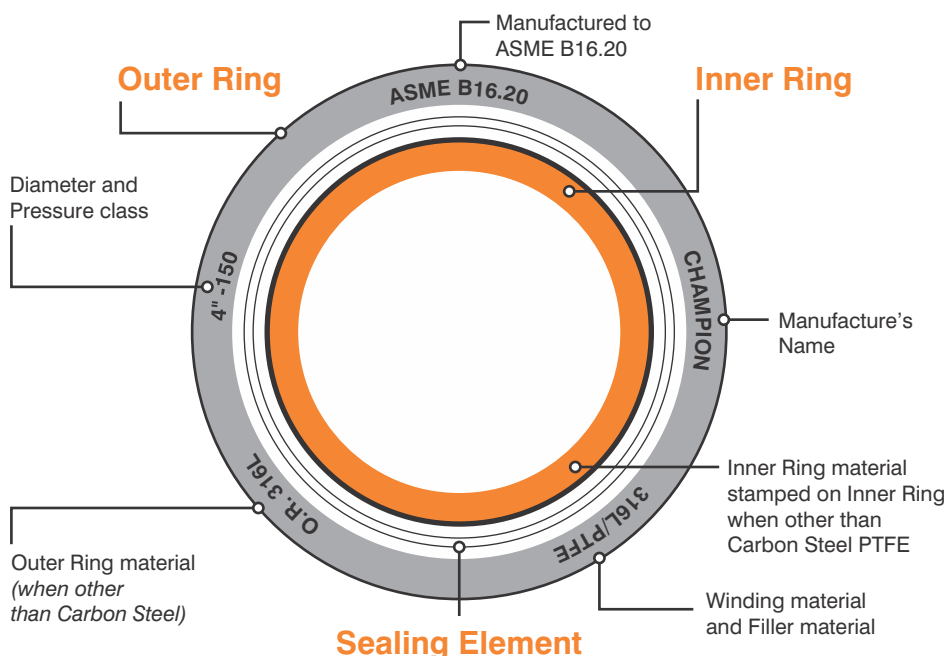
### Application Guidelines:

- High pressures and vacuum service.
- Piping flange gaskets, heat exchangers, vessels, boilers, reactors and OEM special equipment.
- Recommended for wide range of chemicals, HP steam, hydrocarbons.
- Suitable for standard ASME, EN, JIS, DIN, PN flanges.

### Available winding and ring materials:

- Carbon Steel
- SS 304
- SS 316
- SS 316L
- SS 347
- SS 321
- Monel 400
- Nickel 400
- Inconel 400
- Alloy 20

CMG Sizes		
Nominal Thickness	Compressed Thickness	Guide Ring Thickness
3.2 mm	2.4 - 2.6 mm	2.0 - 2.2 mm
4.5 mm	3.2 - 3.45 mm	3.0 - 3.2 mm



### TEMPERATURE

#### FLEXIBLE GRAPHITE

**Maximum Operating Temperature:**  
+450°C / +810°F (Oxidising)  
+550°C / +990°C (Inert)  
+600°C / 1080°C (Steam)

**Minimum Operating Temperature:**  
-200°C / -360°F

#### PTFE

**Maximum Operating Temperature:**  
+260°C / +500°F

**Minimum Operating Temperature:**  
-200°C / -360°F

#### PHLOGOPITE MICA

**Maximum Operating Temperature:**  
+815°C / +1500°F



### PRESSURE

**Maximum Pressure:**  
25 MPa / 250 Bar (3626 psi)

**Minimum Operating Temperature:**  
Full vacuum

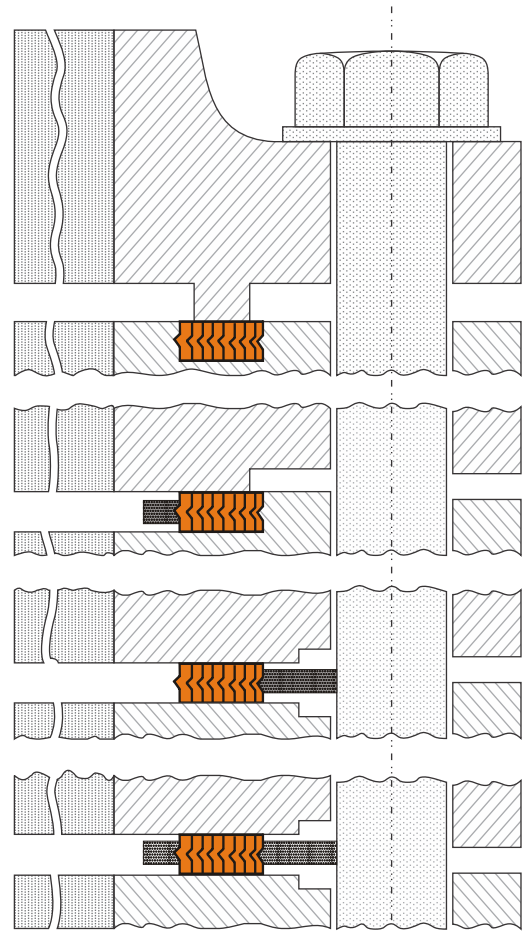
### COMPLIANCE

ASME B16.20 gaskets designed for use in ASME B16.5 and ASME 16.47 A/B flanges.

\*Kindly consult Champion Technical Support for all critical applications.

**CHAMPION Spiral Wound Metallic Gaskets** are manufactured in following types :

- Type G-Gasket Only** - (without inner and outer ring) suitable for groove flanges. These are suitable for large tongue and groove joints, large male and female joints. Recommended for valves & high pressure pumps. Highly suitable for use where limited gasket sealing width is available.
- Type CG-Gasket with centering ring** - This is a standard Spiral Wound Gasket consisting of a sealing element and a solid metal outer ring. The metallic outer ring is used as a centering device and compression stop i.e., it (a) Centres the gasket in the joints (b) Furnishes extra radial strength to help prevent gasket blow out (c) Resists Atmospheric conditions (d) Provides a gauge reference point for determining compression during bolt pull up. Used mainly for general duty applications used mainly with raised face and flat face flanges.
- Type GI-Gasket with only inner ring** used as a high pressure temperature capability - for groove flanges and general applications, used in pressure vessels, pumps, boilers, manholes, caps, covers, etc.
- Type CGI-Gasket with centering ring and inner ring** of solid metallic inner and outer ring suitable for high pressure and temperature applications. Standard gasket is suitable for use with raised face applications. it prevents erosion damage to flange and turbulence, also prevents damage to gasket bore and inner windings while inner ring acts as heat shield and corrosion barrier. Highly suitable for vacuum services, critical applications and corrosive and toxic media.



Champion Metallic Gaskets are made as per ASME B16.20 to suit ASME B16.5 flanges and as per "A" Series and "B" Series to suit ASME B16.47 flanges. We can offer on request CMG as per DIN 2632-2638 , IS Standards also .

Tolerances (for ASME B16.20 Gaskets) :		
	Outside Diameter Tolerances	Inside diameter tolerances
1/2" through 8" NPS	+/- 0.762 mm/0.03"	+/- 0.406 mm/0.016"
10" through 24" NPS	+ 1.524 mm/0.06" to - 0.762 mm/0.03"	+/- 0.762 mm/0.03"

The materials most commonly used for the metal strip are the classical Stainless Steels (AISI-316L, AISI-304, AISI-321), special Stainless Steels (AISI-341 or similar), and other special metals as Monel 400, Nickel 400, Inconel 400 or Alloy 20 are available on request. The materials for the inner or outer rings used to be the same as that used for the metal strip. The soft materials for the sealing filler strip can be manufactured from Graphite, PTFE or others.

**Adaptable production:** Our production offers extensive possibilities:

- Special sizes as per customer requirements.
- Production according to customer's specifications.
- Gaskets made of special materials, etc.

**Disclaimer:** Information given in this datasheet is based on general experience and given in good faith. As the company's products are used for a multiplicity of purposes without control over the method of installation or selection or use with other equipment, the company excludes all conditions, liabilities or warranties, expressed or implied by statute or otherwise, as to their products and or their fitness for any purpose. Any technical suggestions is shared in good faith without any liability whatsoever.



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