



INDO GERMAN INDUSTRIES

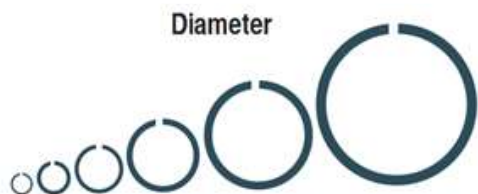
Ideal for use in blind assemblies.

These particular sealing rings are designed for applications that require passing counter bores and retaining ring grooves. Use when restricting ring movement is necessary during assembly.

DATA SHEET STEP CUT



SIZE RANGES



Quality and Innovation Since 1977

ISO 9001:2015

CERTIFIED COMPANY



MATERIALS

- Cast Iron
- Ductile Iron
- Steel



FEATURES

- Chamfer
- Radius
- Groove



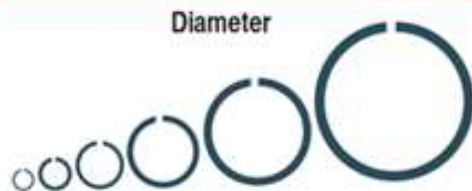


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SIZE RANGES



MATERIALS

- Cast Iron
- Ductile Iron
- Steel

FEATURES

- Chamfer
- Radius
- Groove

DATA SHEET ANGLE CUT



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SIZE RANGES

Diameter



MATERIALS

- Cast Iron
- Ductile Iron
- Steel

FEATURES

- Chamfer
- Radius
- Groove

DATA SHEET OIL CONTROL



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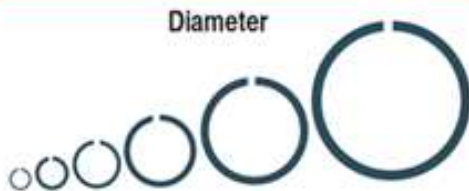
Ideal for use in blind assemblies.

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DATA SHEET BUTT CUT



SIZE RANGES



MATERIALS

- Cast Iron
- Ductile Iron
- Steel

FEATURES

- Chamfer
- Radius
- Groove

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SIZE RANGES

Diameter



MATERIALS

- Cast Iron
- Ductile Iron
- Steel

FEATURES

- Chamfer
- Radius
- Groove

DATA SHEET SIDE PIN



Quality and Innovation Since 1977

ISO 9001:2015

CERTIFIED COMPANY

intertek
Total Quality Assured.



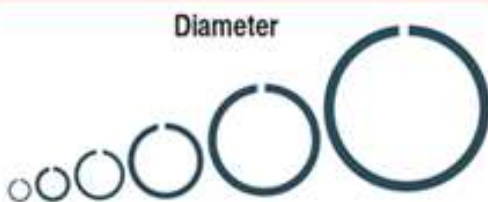
Ideal for use in blind assemblies.

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DATA SHEET HOOK CUT/STEPLOCK



SIZE RANGES



MATERIALS

- Cast Iron
- Ductile Iron
- Steel

FEATURES

- Chamfer
- Radius
- Groove

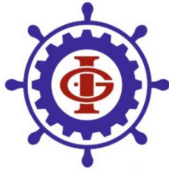
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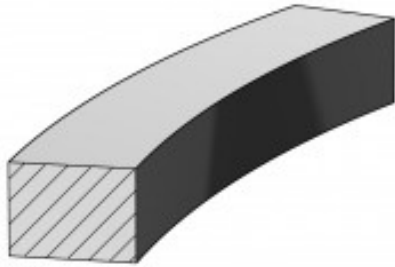


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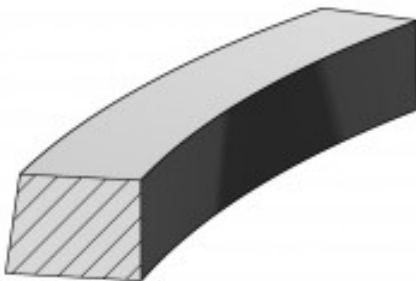
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INDO GERMAN INDUSTRIES



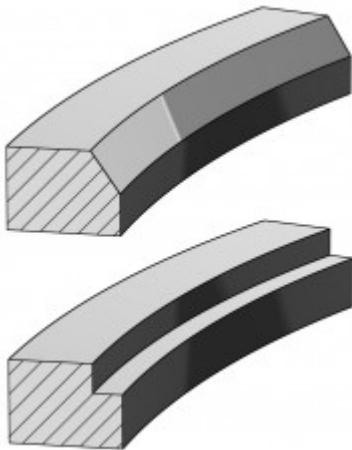
Rectangular Ring:

A piston ring with a rectangular cross section. This ring with its geometrically simple shape performs the necessary sealing functions under normal operating conditions. With a peripheral coating and appropriate barrel face the rectangular ring is today used mainly in the top groove in passenger car gasoline and diesel engines. Besides service in internal combustion engines, rectangular rings are commonly used as rotary shaft seals, e.g. transmission seals.



Taper Faced Ring:

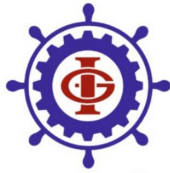
Owing to the tapered running face the ring contacts the cylinder bore with its bottom outer edge. This shortens running-in and improves oil scraping. The gas forces acting initially at the running face provide a degree of pressure relief (especially when used in the top groove). Taper faced rings are chiefly installed in the second groove in passenger car gasoline and passenger car and truck diesel engines. In passenger car gasoline engines they are also used in the top groove.



Internally Bevelled or Stepped Ring:

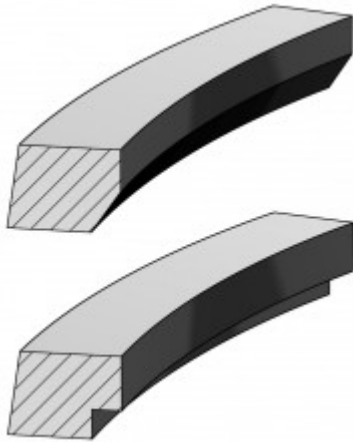
By providing an edge relief on the top side of rectangular and taper faced rings a twist effect is achieved which, in all operating phases without gas pressure loading, brings the ring into bore contact only with its bottom outer edge while the inner edge contacts the bottom groove side (positive twist). This helps to improve oil consumption control. Under operating conditions the gas pressure forces the ring flat against the piston groove, creating an additional dynamic behavior of the ring. Rings of this kind are used in the top and second groove of passenger car gasoline and passenger car and truck diesel engines.

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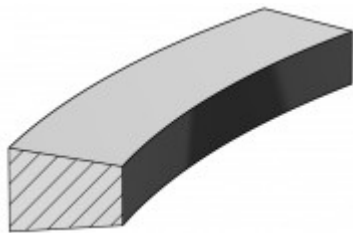
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Taper Faced Ring with Inside Bottom Bevel or Step:

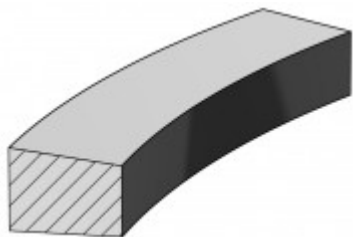
In the installed condition this edge relief causes a negative twist, i.e. in the opposite direction to a ring with the relief on the top side. The taper must be larger than on a taper faced ring without twist or with positive twist so that the top outer edge is prevented from contacting the cylinder wall.

The effect of the negative twist is to make the ring contact the groove and create a seal with its outer bottom side and its inner top side. This type of ring is installed in the second groove in passenger car gasoline and passenger car and truck diesel engines.



Keystone Ring:

A compression ring with a wedge cross section. With its tapered sides, radial movement of the ring in engine operation will cause the axial clearance in the groove to increase and decrease. This greatly reduces ring sticking, as the ring continuously works its way free of the combustion residues. These rings are designed with an overall side angle of 6° bzw. 15° , the larger angle being more effective against the tendency to coking. The keystone ring is used in the top groove in passenger car and truck diesel engines where ring sticking must be expected.



Keystone Ring:

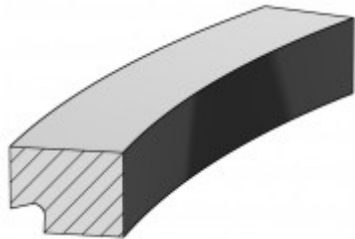
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L-Shaped Compression Ring:

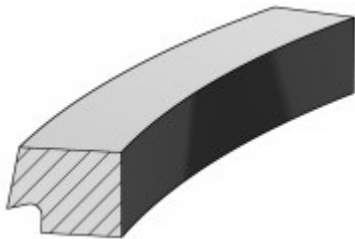
This ring is used mainly in small 2-stroke gasoline engines as a "head land" ring, the vertical arm of the L being flush with the top edge of the piston crown. With gas pressure acting behind the vertical arm, this ring will also seal when in contact with the top side of the piston groove.

Besides being used in 2-stroke engines, in some cases it has been installed in automotive diesel engines in order to minimize crevice volume in the combustion chamber.



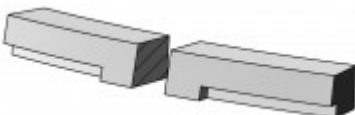
Napier Ring:

This can be installed in the second groove in passenger car gasoline and passenger car and truck diesel engines, but has been almost entirely replaced by the taper faced Napier ring. It is now occasionally used only in the compressors of air brake systems.



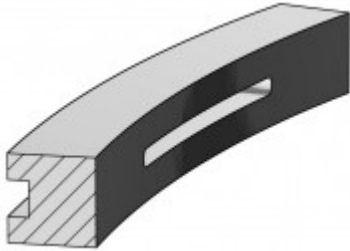
Taper Faced Napier Ring:

Like on the taper faced ring, the periphery of this ring is designed with a taper in order to improve oil scraping and quicken running-in. These rings are used on the same applications as Napier rings.



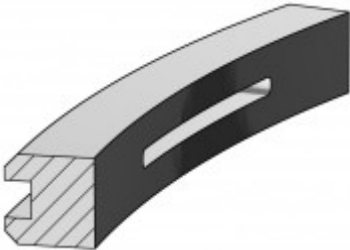
Taper Faced Closed Gap Scraper Ring::

On this ring the step runs out at the gap and is designed without an undercut. It seals better against blowby than the Napier and taper faced Napier rings with a continuous step. The applications for this ring are the same as for Napier and taper faced Napier rings.



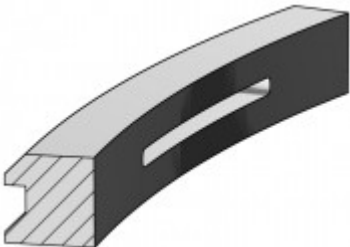
Slotted Oil Control Ring:

A slotted oil control ring with two outer lands, the sides of which are parallel to one another. As the width of the lands is smaller than the overall width a higher unit pressure can be obtained than with a rectangular ring.



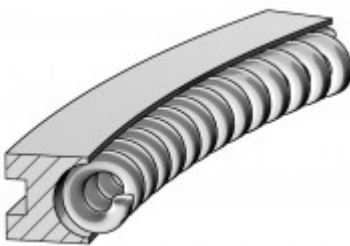
Bevelled Edge Oil Control Ring:

To obtain still higher unit pressures than with a slotted oil control ring, this type of ring has the outer lands chamfered on the outer edge.



Double Bevelled Oil Control Ring:

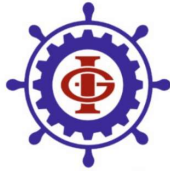
On this type both lands are chamfered on the edge facing the combustion chamber. While the unit pressure is the same, oil consumption is reduced through the improved oil scraping effect.



Coil Spring Loaded Slotted Oil Control Ring::

A slotted oil control ring with two outer lands, the sides of which are parallel to one another. Compared to the slotted oil control ring described above, this ring additionally has a groove on the inside diameter to accommodate the coil spring.

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Coil Spring Loaded Bevelled Edge Oil Control Ring::

Consists of a ring similar to the bevelled edge ring, but has an additional groove for the coil spring.



Coil Spring Loaded Double Bevelled Oil Control Ring::

Like the double bevelled ring, but with a groove to hold the coil spring.



Coil Spring Loaded Bevelled Edge Oil Control Ring with Chromed, Profile Ground Lands::

The wear coating gives the ring high long-time stability and makes it particularly suitable for operation mainly in diesel engines. The profile grinding of the lands allows close tolerances to be achieved on these critical working surfaces.



Nitrided Profiled Steel Ring::

A bevelled edge ring made from a high-chromium profiled steel. Wear protection is provided by nitriding the ring all over. Like the chromed bevelled edge ring, this ring is chiefly used in diesel engines. Oil drainage is provided by means of punched holes.