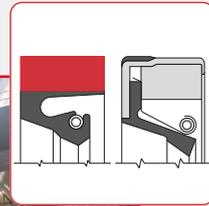


**BTSEALS<sup>®</sup>**

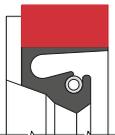
*We Seal Your Success*



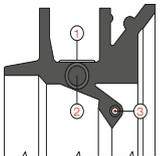
## SEALS

For Heavy Duty Industry  
and Rolling Mills

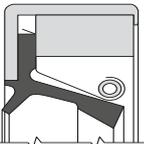
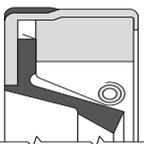
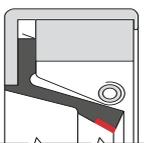
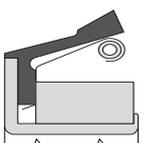
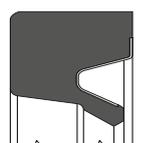
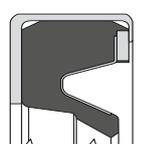
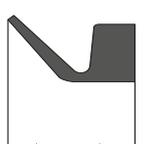
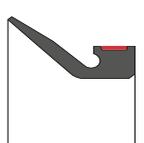
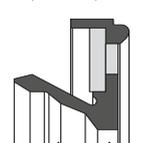
## Seals for Heavy Duty Industry and Rolling Mills

	<b>FR-A</b>	Outer cover: Rubber-fabric body for stable static sealing, rotary shaft seal with sealing lip and garter spring. To be installed with a retaining plate; p/max. 0,5 bar. Optionally available with finger spring instead of garter spring (type GM126).
	<b>FR-AS</b>	Just as FR-A, but with additional dust lip. To be installed with a retaining plate; p/max. 0,5 bar.
	<b>FR-AG1</b>	Wie FR-A, jedoch mit mehreren, von außen nach innen gerichteten Fettkanälen für Dichtlippenschmierung. Einbau mit axial wirkendem Vorspannung; max. Druck 0,5 bar.
	<b>FR-AG2</b>	Just as FR-A, but with several grease grooves, running from the o.d. to the i.d., allowing sealing lip lubrication. To be installed with a retaining plate; p/max. 0,5 bar.
	<b>FR-AP2G</b>	As F-RA but with a short, strong sealing lip and garter spring for higher pressure. Additional radial lubrication groove and several grease grooves from the o.d. to the i.d.. Retaining plate required; p/max. 4 bar.
	<b>FR-AE</b>	A reverted seal construction of FR-A with the sealing lip located on the o.d. and an expander spring. For installation on static axles and rotating shells. Retaining plate required; p/max. 0,5 bar.
	<b>RM-A</b>	Oil seal with sealing lip and garter spring. Rubber-covered steel ring on the o.d. of seal to ensure best static sealing effect. No retaining plate required; p/max. 0,2-0,4 bar.
	<b>RM-AS</b>	Same seal as RM-A but with additional dust lip. No retaining plate required; p/max. 0,2-0,4 bar.
	<b>RM-AG2</b>	Same seal as RM-A but with a radial lubrication groove on o.d. and several grease grooves from there to the i.d. of seal. No retaining plate required; p/max. 0,2-0,4 bar.
	<b>RM-AP</b>	Same seal as RM-A but with a short, strong sealing lip and a garter spring for higher pressure up to 4 bar. No retaining plate required.

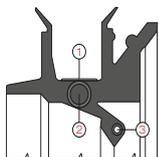
## Special Seals for hot and cold rolling mills

	<b>BT-MX</b>	<p>Special seal for bearing pins in oilfilm bearings in compounds NBR and HNBR.</p> <p>For bearing dimensions 12", 14", 16", 18", 21", 42", 48", 50", 52", 54" and 56".</p>	<ul style="list-style-type: none"> <li>① Metal band</li> <li>② Vulcanized garter spring with enclosed steelwire</li> <li>③ Sealing lip spring fully vulcanized (not only bonded!)</li> </ul>
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## Seals for Heavy Duty Industry and Rolling Mills

	<b>M2</b>	Heavy Duty oil seal for hardest working conditions with integrated stiffening metalring. Grinded steel case on o.d. to ensure a perfect pressfit into the housing. Elastomer sealing lip is bonded to the metal case by VULCANIZING (not crimping) to avoid leakage. Stainless steel fingerspring with incorporated garter springs to follow a large shaft runout. All M-types: min. shaft $\varnothing$ : 150 mm, max. housing $\varnothing$ : 1960 mm. p/max: 0,5 bar.
	<b>M2S</b>	Similar to M2 but with an additional dust lip. All M2/M2S types acc. to ASTM dash sizes available. All M2/M2S and M2E types can do with fitted vulcanized „SPACERS“ on backside for external lubrication. All M2 types have a radial notch for selfcentering (self-centering) assembly; p/max: 0,5 bar.
	<b>AM2</b>	Similar to M2 but with an additional Elastomere part on the o.d. for a perfect sealing, even the housing has scratches; the heat transfer through the metal case is also given. p/max: 0,5 bar.
	<b>M2-FLON</b>	Similar to M2 but a special, modified PTFE adapted sealing lip allows a very high speed up to 45 m/s. Axial movement of the shaft and a runout of up to 3 mm is possible. In FKM-compound only (min. i.d. 300 / max o.d. 1000 mm); p/max: 0,5 bar.
	<b>M2E</b>	A reverted seal construction of M2 with the sealing lip located on the o.d., preloaded by combined force of a fingerspring with an integrated garter-extension spring, both made from stainless steel. Only in FKM-LUB compound; alternatively as a M2E – FLON for papermills at high speeds up to 40 m/s available.
	<b>G123</b>	Rotary shaft seal for grease only. SPLIT-type, supplied with open ends, but exactly fitting the shaft-dia. With stainless steel fingerspring for difficult installation circumstances. Standard cross-sections 12,5 x 12,5 / 15 x 15 / 20 x 20 / 25 x 25 in NBR + FKM. v/max. 10 m/s for pressureless working condition. Retaining plate required.
	<b>G159</b>	Rotary shaft seal for grease only. ENDLESS-type, with grinded steel case on o.d. and a stainless steel finger spring, vulcanized to the seal body. Min. id. 100 mm / max o.d. 1450 mm; p/max: 0,4 bar. No retaining plate required.
	<b>VAX</b>	Classic V-ring for shaft dia. 250-1320 mm in NBR and FKM available. Normally used as a primary seal to keep out dirt, water, coolant and scale from the bearing seal behind. Dimensions and installation shown in our V-ring catalogue
	<b>VRME</b>	Classic V-Ring for dia 280-1025 mm fixed on the shaft by a metalband (not included); same function as VAX.
	<b>WBS</b>	Heavy duty dirt, water coolant and scale deflector for hardest working conditions; available with or without finger spring. Mainly used as a „coolant-seal“ in oilfilm bearings. Up to 72“ bearing sizes. Either separately, or together with oil film bearingseals available.

### Special Seals for hot and cold rolling mills

	<b>BT-DF</b>	<p>Special seal for bearing pins in oilfilm bearings in compounds NBR and HNBR.</p> <p>For bearing dimensions 48“, 50“, 52“, 54“, 56“ und 72“.</p>	<ul style="list-style-type: none"> <li>① Metal band</li> <li>② Vulcanized garter spring</li> <li>③ Sealing lip spring fully vulcanized (not only bonded!)</li> </ul>
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*BT Seals products worldwide*



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