MBA

Miniature Bearings Australia

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Bearing Closures

Bearing closures (seals and shields) are situated between the inner and outer rings of the bearing. The purpose of seals and shields are to protect the inside of the bearing from contaminants and to help prevent the leakage of lubricant from the bearing.

Shields are usually made from STEEL or STAINLESS STEEL. Shields do not contact the inner ring of the bearing and therefore do not increase the running torque. Shields can be either crimped into the inside of the outer race (type ZZ) or held in the outer race by circlips (type ZZS). The ZZS type are removable to allow inspection and maintenance of the bearing. RMB FILMOSEAL is a type of shield that utilises a film of lubricant between the inner race and the specially designed shield to more effectively exclude contaminants.

Seals are usually made from NITRILE. Seals are either CONTACT (type 2RS) or NON-CONTACT (type 2RU). Contact type seals, which are secured within the outer race and contact the inner race greatly increase start up and running torque, thereby reducing running speed. They also provide a very effective method of excluding contaminants and retaining the bearing lubricant. Standard Nitrile seals have a maximum recommended temperature of 100° Celsius (212° Fahrenheit). Some bearings are also available with PTFE seals offering very effective sealing whilst minimising torque. PTFE seals can operate at temperatures up to 300° Celsius (572° Fahrenheit). Note however that whilst the seals can withstand these temperatures the bearing itself will need special treatment if it is to be used at any temperature greater than those shown in the materials section of our website. For special orders, Viton seals may also be available (temperatures up to 230° Celsius (446° Fahrenheit).