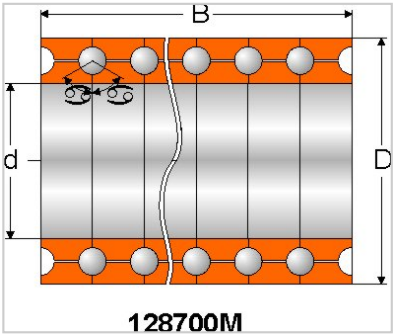
Mud Motor Bearing

Thrust Bearing Stack-LZ185

H	**LZ185**
D	128718EK
d	90
Bearing	162
Drilling Tools	380



INTRODUCTION OF THRUST BEARINGS STACK

Our main bearings products including bearings of petroleum screw drilling tools,equal-wall-thickness rubber stator of petroleum screw drilling tools,roller bearings(bearing roll),**55SiMoVa or 8620 steel** ball of three-roller rock bit,roller,thrust block and pad as well as hobbing cutter shaft of coal mine development,and main and supporting components and parts of construction machinery.The bearings for petroleum screw drilling tools(multi-row thrust ball bearings)are our leading products developed and filled the gap of China in 1980s.Up to now,there are more than 20 series including over 200 models.

SCHEDULE FOR OVERALL DIMENSION OF SOME BEARINGS FOR SCREW DRILLING TOOLS(only parts for reference)

Model of	Bearing model	Model of	Bearing model

Drilling Tools			Drilling Tools		
	Bearing Model	Overall Dimension		Bearing Model	Overall Dimension
LZ60	128705K	50*25*75mm	LZ172	128718EA	154*92*330mm
LZ73	128807K	60*36*91mm	LZ185	128718EK	162*90*380mm
LZ89	128708K	74*42*162mm	LZ197	128718KA	160*90*440mm
LZ95	128709K	77*45*180mm	LZ197	128718K	170*90*380mm
LZ102	128809K	85*45*220mm	LZ197	128820K	173*100*460mm
LZ105	128709K(LL)	86*46*220mm	LZ197	128819D	175*95*466mm
LZ120	128711K	98*54*240mm	LZ203	128720KAI	174*100*656mm
LZ120	128711K(LL)	100*55*190mm	LZ203	128720A	176*100*400mm
LZ127	128713EB	110*65*220mm	LZ203	128820D	180*100*466mm
LZ165	128717G(LL)	144*84*308mm	LZ216	128721K	188*105*418mm
LZ165	128816KBX	145*80*347mm	LZ216	128722EB	192*110*440mm
LZ165	128717KA	145*84*357.5mm	LZ244	128724K	215*100*465mm
LZ172	128817K	150*85*375mm	LZ244	128725EA	215*125*440mm
LZ172	128718KC	152*90*433mm	LZ244	128726E	215*130*418mm
LZ172	128717KB	152*84*338.5mm	LZ286	128729K	260*145*550mm

Lubrication Mud Motor Bearings , Mudstack Thrust Bearings For Downhole Drilling Tools

Monton solutions for downhole drilling tools

Whether you're drilling for oil or gas, drill strings must endure extreme operating conditions. Monton solutions for downhole drilling tools are designed to increase performance and reliability.

Cylindrical thrust bearings

To provide superior axial thrust load support for sealed motors, Monton's cylindrical thrust bearings are manufactured to the highest quality standards. The contact surfaces between the rollers and the raceways, and the internal geometry are all controlled to extremely tight tolerances to improve performance compared to low-quality cylindrical thrust bearings available in the marketplace.

Tungsten carbide radial bearings

Specially designed to provide excellent radial load support for both sealed and mud motors, Monton tungsten carbide radial bearings are made using a unique microwave sintering process (resulting in 1 600 Vickers hardness) as compared to typical conventional sintering (with 1 000 Vickers hardness). This results in a high hardness of 92 HRa for excellent wear resistance and longer life.

Downhole sealing solutions

Monton has innovative seal designs and quality materials for downhole rotating seals exposed to high pressure. The Monton Teflathene seal incorporates a low-friction PTFE seal ring bonded to a rubber body. The all-rubber DM2 seal separates drifting mud from lubricants in oil-lubricated mud motor bearings. Bottom hole assembly (BHA) tools such as shocks and jars require seals to protect the tool hydraulics from the abrasive drill muds and cuttings in the hole. Measure-while-drilling (MWD) tools sometimes require high-temperature sealing solutions.Monton has developed a full line of field-proven seals to work in this demanding environment, including a seal capable of withstanding up to 315 °C (600 °F).

Mud stack thrust bearings

Mud bearings close to the drill string end have a major impact on productivity and reliability. In addition to severe axial and shock loads, these bearings are "lubricated" with highly abrasive mud, which for a bearing is the definition of an extreme operating condition. Monton's mudstack bearings are optimized for our customers' applications through rigorous finite element analysis and physical lab tests by testing the bearings with drilling mud circulating through them.

Monton mudstack bearings provide:

- Improved wear resistance
- Increased load-carrying capacity
- Optimized load distribution
- Increased robustness

• Improved reliability
• Customized design

Product Description

The bearings in a mud motor at the end of a drill string would place a huge influence on productivity and reliability in terms of oil drilling or gas drilling.The working condition of these mud motor bearings are extremely harsh: the bearings bear heavy axial and
shock loads, and they are also exposedwith highly abrasive mud.

• Special steel for all bearing components
• Full complement bearing
• Precision matched rings
• Unique bearing design to support heavy
• axial drilling loads

Application:

Oil drilling motor
Downhole motor
Electric submersible pump

Bearing life:

300hours

Main Customers:

Oil company like:SLB,Halliburton or GE

Main application:

Downhole motor or drilling motor

Down hole motor or drilling motor for the oil drilling industry

Bearing Assembly of Downhole Motor is used to transmit motor rotary dynamic force to the bit, meanwhile to withstand axial and radial load from drilling weight. Inside of the Bearing Assembly,Monton uses TC Radial Bearing and a stacked thrust bearings. The thrust bearings support the downward force resulting from the “weight on bit” (WOB) and the loads from the combination of hydraulic thrust and weight loads from internal components.Monton provides different bearing assemblies, designed to meet the diverse requirements of the drilling industry.

Downhole drilling motor bearings

Whether you’re drilling for oil or gas, the bearings in a mud motor at the end of a drill string have a direct impact on productivity and reliability.These mud motor bearings have to endure extreme operating conditions. In addition to severe axial and shock loads, these bearings are “lubricated” with highly abrasive mud, which for a bearing is the definition of an extreme operating condition.

How the new bearing works ?

The typical mud motor bearing contains between 8 and 12 rows for design optimization. When the bearing is new, the majority of the load is

accommodated by the first four or five rows. As each row starts to wear, the load is shifted to the next row and the next until all the rows are worn equally. Then, the load is shifted back to the first row and the process is repeated. This unique Monton design enables the bearing to last significantly longer than previous bearing designs.

About the redesign process

To significantly improve bearing performance and reliability,Monton engineers used proprietary Monton design and simulation tools to

• accurately define the behaviour of a bearing stack
• redesign the bearing to minimize stresses and optimise load carrying capacity
• test new designs and materials. With the Monton virtual test rig, engineers were able to identify and correct the problem of cracked rings and sheared balls – two common problems with these bearing

Product features

• Special steel for all bearing components
• Full complement bearing
• Precision matched rings
• Unique bearing design to support heavy axial drilling loads

Customer benefits

• Improved wear-resistance
• Increased load carrying capacity
• Optimized load distribution
• Increased robustness
• Improved reliability
• Customized design