

Roller Bearings in SOILMEC Triplex Pump



Examples of Application Engineering

WL 16 502 EA



SOILMEC Triplex Pump 12T 1600

Courtesy of SOILMEC S.p.A

SOILMEC S.p.A., is a mechanical engineering Company that designs, manufactures and markets drilling machinery and structures, down-the-hole accessories and special tools to be used in the drilling and servicing of oil, gas and water wells. The main customers are drilling and well servicing contractors, oil companies, supplying companies, servicing companies, foundation companies and engineering contractors.

SOILMEC Drilling Equipment Division production offers a wide range of innovative rigs and rig systems. Thirty years of international experience as water and oil-field rig manufacturer permit to ensure the quality and improved performance of products used by the SOILMEC Drilling Equipment Division customers worldwide.

Since several years Schaeffler KG develops and delivers special roller bearings for SOILMEC triplex mud pumps. For example the triplex pump 12T 1600 is completely equipped with FAG bearings. The main features of this SOILMEC Triplex Pump is described in the following chapter.

Technical Data

Liner Size	min 4" max 7 1/2"
Stroke	12"
Max. Pressure	5 000 p.s.i.
Max. Output	3 127 l/min
Nominal rating	1 600 HP
Mass	28 000 kg

The power end is made by welded and stress-relieved frame construction. The fluid end is equipped with triple interchangeable modular cylinders made from heat treated forged alloy steel. The crankshaft and pinion gear are mounted on low-friction roller bearings tapered- and cylindrical roller bearings. The connecting rods and crosshead are mounted on high-capacity roller-resp. needle roller bearings.

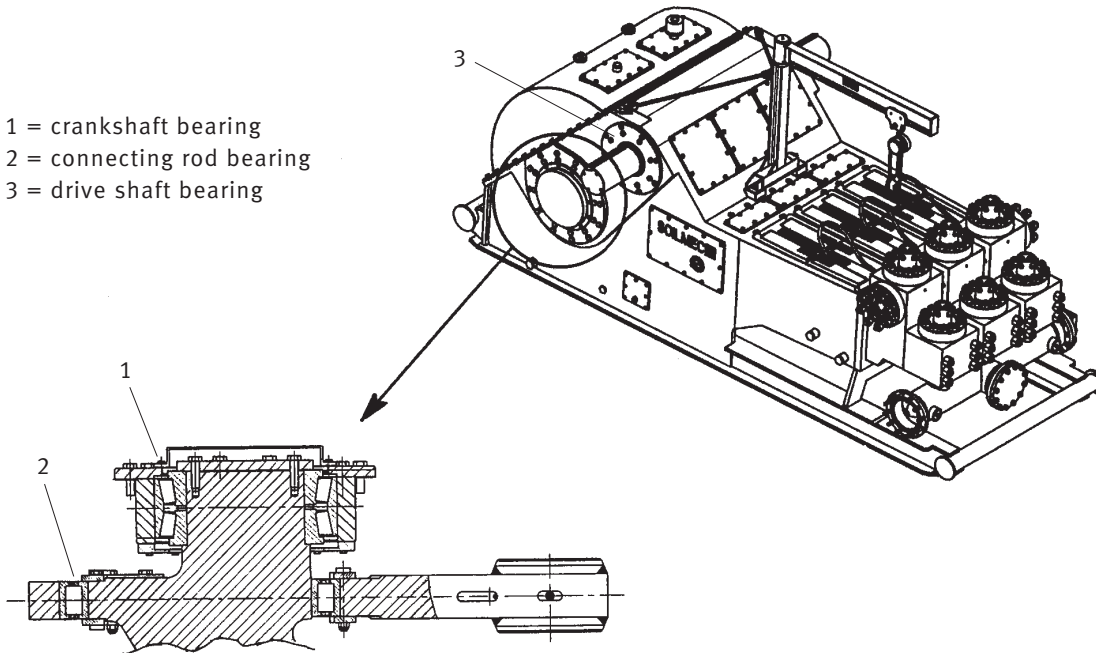
For a new design of the triplex pump 12T 1600, FAG created following bearings:

Crankshaft (1):	F-808453.TBR	2 pcs.
Connecting rod (2):	F-808510.ZL	3 pcs.
Crosshead:	10-6418	3 pcs.
Drive Shaft (3):	24052B-MB-C3	2 pcs.

For mounting and dismounting the bearings on the crosshead, FAG has created a bearing with following internal design:

- no lips on the inner ring
- solid steel cages
- two rows of rolling elements in two separate M-profile sheet metal cages
- lubricant groove and 6 lubricant holes in the outer ring and central of cages

- 1 = crankshaft bearing
2 = connecting rod bearing
3 = drive shaft bearing



Two different kinds of valves are used: the valves API std. and the screw-type valve covers. The valves API std. with corresponding seats, springs and guides are designed for long-life operation under high working pressure with abrasive fluid. The screw-type valve covers and pistons are designed for easy disassembly and replacement of worn parts.

Lubrication

The bearings are lubricated by a dual, splash oil and forced oil lubrication system. The crosshead sliding faces have a bronze overlay.

The piston liners are full spray cooled and lubricated.

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