## INTRODUCTION

## LINERS

When it comes to mud pump fluid end expendable parts, TSC Manufacturing and Supply, LLC. has it all.

TSC mud pump liners are designed and manufactured to meet or exceed original equipment specification and API standards for almost all types of mud pumps in use today. With advanced technology, metallurgical control and rigid inspection, we offer unmatched performance and durability according to customer testimonies in the most severe drilling conditions, both triplex and duplex liners are available in a wide range of sizes.

### HIGH CHROME SLEEVE LINER

The outer hull, or body, of the liner is manufactured using high-strength forging. TSC uses forgings exclusively to ensure consistent quality. The sleeve is centrifugally cast in the TSC facilities by skilled craftsmen. It has the maximum amount of chrome for the base metal and TSC adds molybdenum to increase the hardness depth. The sleeve is then inserted into the hull at a tightness at exceeds its counterparts. The TSC liner is rated to match the pressure rating of the pump per liner size.

TSC mud pump liners are unsurpassed in quality and reliability.

#### **Features**

- · Rated for all drilling operations.
- Bore hardness is 62-69 Rockwell.
- "HP" lip design to prevent inner sleeve slippage.
- Extremely long service life.



## **CHROME-PLATED LINER**

TSC chrome-plates the same outer hull in lieu of the sleeve to maximum thickness. The hulls are then machined and polished to a mirror finish.

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# **FLUID END EXPENDABLES**

# **GARDNER DENVER**

PZ-11 HP(PZL) (7500 PSI)

7 x 11

	LINERS ZIRCONI.			LINER GASKETS	PISTONS				PISTON RUBBER
SIZE	1	PART	PART NUMBER	PART NUMBER	URETHANE BONDED	RUBBER BONDED	N'DURALL BONDED	REPLACEABLE RUBBER	PART NUMBER
4 1/2"	TS-1197-44HP		TS-07561450	G-756 *	LLU-44-B15	LL-44-B15	HPW-44-B15	I-44-B15	TM-44-BR
5"	TS-1197-50HP		TS-07561500	G-756 *	LLU-50-B15	LL-50-B15	HPW-50-B15	I-50-B15	TM-50-BR
5 1/2"	TS-1197-54HP		TS-07561550	G-756 *	LLU-54-B15	LL-54-B15	HPW-54-B15	I-54-B15	TM-54-BR
5 3/4"	TS-1197-56HP		TS-07561575	G-756 *	LLU-56-B15	LL-56-B15	HPW-56-B15	I-56-B15	TM-56-BR
6"	TS-1197-60HP		TS-07561600	G-756 *	LLU-60-B15	LL-60-B15	HPW-60-B15	I-60-B15	TM-60-BR
6 1/4"	TS-1197-62HP		TS-07561625	G-757 *	LLU-62-L15	LL-62-L15	HPW-62-L15	I-62-L15	TM-62-LR
6 1/2"	TS-1197-64HP		TS-07561650	G-757 *	LLU-64-L15	LL-64-L15	HPW-64-L15	I-64-L15	TM-64-LR
6 3/4"	TS-1	197-66HP	TS-07561675	G-757 *	LLU-66-L15	LL-66-L15	HPW-66-L15	I-66-L15	TM-66-LR
7"	TS-1	197-70HP	TS-07561700	G-757 *	LLU-70-L15	LL-70-L15	HPW-70-L15	I-70-L15	TM-70-LR
VALVES, SEATS, SPRINGS							GASKETS		
		4 WEB	DESIGN	3 WEB DESIGN	FULL OPEN (1)	FULL OPEN (2)			PART NUMBER
VALVE		TS-6-EH		-	TS-0995M	TS-6-V1	VALVE COVER GASKET		TS-309PZL316
SEAT		TS-6-ADDB6		-	TS-1380M	TS-6-S6	CYLINDER HEAD GASKET		-
SPRING		TS-5710-115		-	-	TS-5710-115	WEAR PLATE GASKET		TS-303PZL316
INSERT (Urethane)		TS-6-WI		-	TS-6-MI	TS-6-FI	EXTENSION ROD SEAL		TS-2011872-2
INSERT (Rubber)		TS-6-WR		-	-	TS-6-FR	EXTENSION ROD BAFFLE		TS-PZ840
PISTON ROD & EXTENSION ROD									
ROD CLAMP		PISTON ROD STUD	PISTON NUT	TWO-PIECE PISTON ROD FRONT	CLAMP TYPE PISTON ROD	TWO-PIECE PISTON ROD BACK	THREADED TYPE EXTENSION ROD		CLAMP TYPE EXTENSION ROD
TMPZ11	-03-08	TS-PP100529	TM-NUT	TS-PP1005290	TM-200	TS-PP1005292	-		TMPZ11-01-06
FLUID END MODULE									
FLUID END MODULE STUDDED					MODULE SEAL SET		STUDS & NUTS SET		
TS-300PZL2039					TMPZ11HP-SEALKIT		TMPZ11HP-STUDSET		

TSC does not warrant or represent that any of such information is accurate, or that any products listed are compatible with each other. Any deviations from the OEM products should be verified as to compatibility.

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