

# MUD PUMPS

## CATALOG



**DRILLMEC**  
DRILLING TECHNOLOGIES

# MUD PUMPS

Drillmec S.p.A. can offer a complete range of triplex mud pumps, from 300 HP up to 2200 HP.

Drillmec S.p.A. gathers the experience of Massarenti and of Soilmec drilling division to deliver high quality design solutions and specialized material selection.

The mud pumps accept a variety of drive arrangements on either sides.

Main features of Drillmec S.p.A. Triplex mud Pumps:

- Power end and fluid end are realized with cast iron.
- The Power end is made by welded and stress-relieved frame construction.
- The fluid end has triple interchangeable modular cylinders.
- The fluid end is equipped with a discharge pulsation dampener.
- Crank shaft and pinions gear mounted on bearings;
- The crank shaft is made of casted alloy steel complete with gear connecting rod and bearing.
- Double row spherical roller bearings are mounted at both ends of the crankshaft.
- Connecting rods and crossheads mounted on high capacity roller bearings.
- Bronze overlay of crosshead sliding faces.
- Dual, splash or forced bearing lubrication system.
- Full spray cooling and lubricating of liners.
- Valves realized following API standards, with corresponding seats.
- Springs and guides are designed for resilient operation under high working pressure with abrasive fluid.
- Screw type valve covers and pistons are designed for easy disassembly and replacement.
- Pinion and eccentrics shafts are realized from forged alloy steel, quenched and tempered, and mounted both with taper roller bearings.
- Liners, pistons, rods, valves and seats are manufactured from heat treated alloy steel.
- The frame is made in welded steel plate and stress relief treated to obtain the right rigidity and high strength.
- The frame is completed by oil basin and oil way system for cooling and lubricating purpose.
- Connection with extension rod is made by using bolted flange.(Available fast change system for 12T1600)
- Concentricity is assured by the rigid connection between crosshead and extension rod.

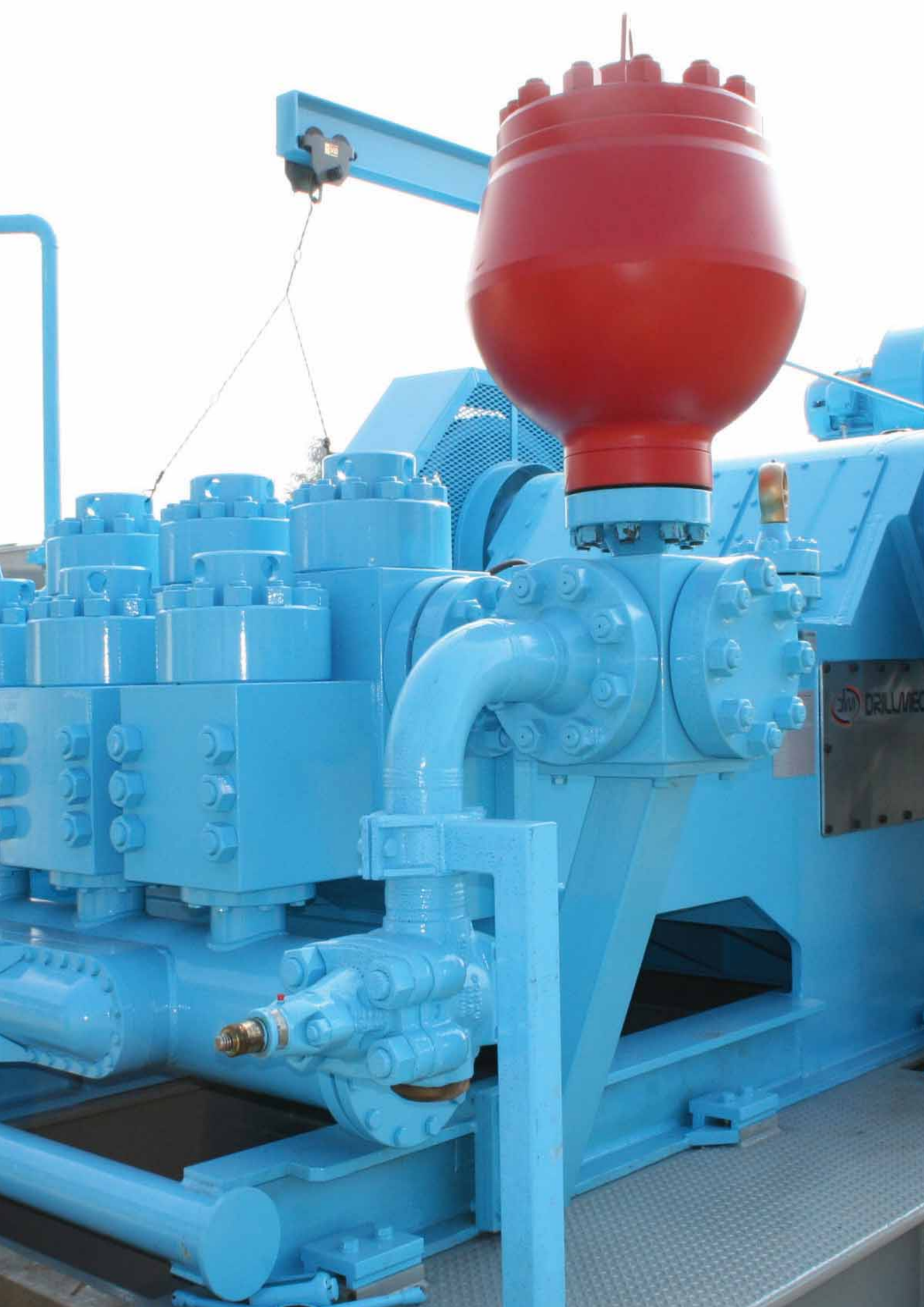
## ■ Cooling System

- The cooling of the mud pump is obtained by the spraying system.
- The spraying system consist mainly of spray pump, cooling water box and spray pipe with the function to cool and rinse liners and pistons to promote their service life.
- The spray pipe is mounted on the coupling between the extension rod and the piston rod and can be reciprocated with the piston. Nozzles are near the piston end so the cooling lubricating fluid can rinse the contact surface between the piston and liner all the time.

## ■ Lubricating system

- Power end use: combined lubricating system of forced lubrication and splash lubrication on 12T1600 and 14T2200. Splash lubricating system on 9T1000. In all the other models the oil in pressure is conveyed through lubricating pipeline to crosshead, extension rod, crosshead guide and all bearings by a gear oil pump within the oil box to realize the forced lubrication.
- The lubricating oil helps also the cooling of the moving parts of the mud pumps.





# Triplex pumps for drilling and cementing

## triplex mud pumps

## technical data

Model	LINER SIZE		STROKE IN	MAX PRESSURE BAR/PSI	MAX DELIVERY		RAITED		APPROX WEIGHT		Max SPM SPM
	MIN	MAX			GPM	L/MIN	HP	KW	lbs	KG	
7TS600	4"	7"	7"	345/5000	524	1986	600	448	22050	10000	150
9T1000	4 1/2"	7"	9"	345/5000	674	2554	1000	746	41890	19000	150
12T1600 - 5000 psi	4 1/2"	7 1/2"	12"	345/5000	826	3127	1600	1193	66150	30000	120
14T2200	4"	9"	14"	517/7500	1272	4816	2200	1640	88185	40000	110

## triplex mud pumps on request

## technical data

Model	LINER SIZE		STROKE IN	MAX PRESSURE BAR/PSI	MAX DELIVERY		RAITED		APPROX WEIGHT		Max SPM SPM
	MIN	MAX			GPM	L/MIN	HP	KW	lbs	KG	
7T450	4 1/2"	5 1/2"	7"	220/3190	323	1229	450	336	13230	6000	150
8T300M	4"	7 1/2"	8"	109/1580	734	2779	215	160	6613	3000	160
8T600M	4"	7 1/2"	8"	207/3000	734	2779	515	384	22050	10000	160
9T800	4"	7"	9"	345/5000	674	2554	800	596	41890	19000	150
10T1300	4"	7"	10"	345/5000	699	2648	1300	969	50700	23000	140
12T1600 - 7500 psi	4 1/2"	7 1/4"	12"	517/7500	771	2922	1600	1193	66150	30000	120

Based on 100% volumetric and 90% mechanical efficiency

- 1- 9T1000
- 2- 12T 1600
- 3- 8T300



1



2



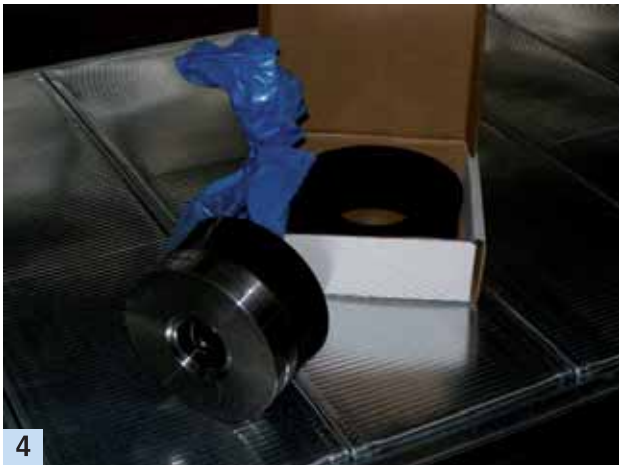
3

## Controls

Our mud Pumps are severely controlled by our Quality Dept. All the single parts are checked and branded with a quality code before being installed, and after the final assembly every mud pump is severely tested in our test area. The test area is used in order to simulate drilling conditions.

Our R&D department is always studying new solutions to better our products. Computer 3D design is employed to develop our pumps, and to satisfy the customer needs.

All the mud pumps can be mounted on a oilfield heavy duty skid or can be trailerized to match the exclusive fast moving characteristics of the Drillmec S.p.A. rigs.



- 4 / 5 - The aftersales service provides all the parts needed in real time
- 6 - Chain transmission gearing
- 7 - 9T 1000 Crossheads
- 8 - Lathe machining of a crosshead
- 9 - Fluid end module



**7TS600 TRIPLEX MUD PUMP**  
PERFORMANCE DATA SHEET

**MAX. RATED INPUT : 600 HP (448 KW) @ 150 SPM**

STROKE		(in)	90% pump mechanical efficiency - 100% pump volumetric efficiency						
		(mm)							
		7							
		177.8							
LINER SIZE		(in)	7	6.5	6	5.5	5	4.5	4
		(mm)	177.8	165.1	152.4	139.7	127	114.3	101.6
MAX DISCHARGE PRESSURE		(psi)	1754	2045	2393	2857	3451	4264	5000
		(bar)	121	141	165	197	238	294	345
VOLUME / STROKE		(gal/rev)	3.499	3.017	2.570	2.160	1.785	1.446	1.142
		(l/rev)	13.244	11.419	9.730	8.176	6.757	5.473	4.324
PUMP SPEED (spm)	RATED INPUT (HP)	HYDR. POWER (HP)	U.S. G.P.M. l / min						
150	600	537	524	452	385	323	267	216	171
			1986	1712	1459	1226	1013	820	648
130	517	465	454	392	333	280	231	187	148
			1721	1484	1264	1062	878	711	562
110	438	394	384	331	282	237	196	159	125
			1456	1256	1070	899	743	602	475
90	358	322	314	271	231	194	160	129	102
			1191	1027	875	735	608	492	389
70	279	251	244	211	179	151	124	101	79
			927	799	681	572	472	383	302
50	199	179	174	150	128	107	89	72	57
			662	570	486	408	337	273	216



## 9T1000 TRIPLEX MUD PUMP

PERFORMANCE DATA SHEET

GEAR RATIO : 3.222			MAX. RATED INPUT : 800 HP (596 KW) @ 150 SPM					
STROKE	(in)	9	90% pump mechanical efficiency - 100% pump volumetric efficiency					
	(mm)	228.6						
LINER SIZE	(in)	7	6.5	6	5.5	5	4.5	
	(mm)	177.8	165.1	152.4	139.7	127	114.3	
MAX DISCHARGE PRESSURE	(psi)	2277	2639	3103	3698	4481	5000	
	(bar)	157	182	214	255	309	345	
VOLUME / STROKE	(gal/rev)	4.498	3.879	3.305	2.777	2.295	1.859	
	(l/rev)	17.027	14.682	12.510	10.512	8.687	7.037	
PUMP SPEED (spm)	RATED INPUT (HP)	HYDR. POWER (HP)	U.S. G.P.M.					
			l / min					
150	1000	896	674	581	495	416	344	278
			2554	2202	1876	1576	1303	1055
130	863	777	584	504	429	360	298	241
			2213	1908	1626	1366	1129	914
110	730	657	494	426	363	305	252	204
			1873	1615	1376	1156	955	774
90	597	538	404	348	297	249	206	167
			1532	1321	1125	946	781	633
70	464	418	314	271	231	194	160	129
			1191	1027	875	735	608	492
50	332	299	224	193	165	138	114	92
			851	734	625	525	434	351



**12T1600 - 5000 PSI TRIPLEX MUD PUMP**  
PERFORMANCE DATA SHEET

**GEAR RATIO : 3.171**

**MAX. RATED INPUT : 1600 HP (1193 KW) @ 120 SPM**

STROKE	(in)	12	90% pump mechanical efficiency - 100% pump volumetric efficiency									
	(mm)	304.8										
LINER SIZE	(in)	7.5	7.25	7	6.75	6.5	6.25	6	5.5	5	4.5	
	(mm)	190.5	184.15	177.8	171.45	165.1	158.75	152.4	139.7	127	114.3	
MAX DISCHARGE PRESSURE	(psi)	2897	3190	3422	3683	3974	4293	4655	5000	5000	5000	
	(bar)	206	220	236	254	274	296	321	345	345	345	
VOLUME / STROKE	(gal/rev)	6.885	6.434	5.998	5.577	5.171	4.781	4.406	3.703	3.060	2.479	
	(l/rev)	26.062	24.354	22.703	21.111	19.576	18.099	16.680	14.016	11.583	9.382	
PUMP SPEED (spm)	RATED INPUT (HP)	HYDR. POWER (HP)	U.S. G.P.M. l / min									
120	1600	1440	826	771	719	669	620	573	528	444	366	297
			3127	2922	2724	2533	2349	2171	2001	1681	1389	1125
110	1466	1320	757	707	659	613	568	525	484	407	336	272
			2867	2678	2497	2322	2153	1990	1834	1541	1274	1032
100	1333	1200	688	643	599	557	516	477	440	370	305	247
			2606	2435	2270	2111	1957	1809	1667	1401	1158	938
90	1200	1080	619	578	539	501	465	430	396	333	275	222
			2345	2191	2043	1899	1761	1628	1501	1261	1042	844
80	1066	960	550	514	479	445	413	382	352	296	244	198
			2084	1948	1816	1688	1566	1447	1334	1121	926	750
70	933	840	481	450	419	390	361	334	308	259	213	173
			1824	1704	1589	1477	1370	1266	1167	981	810	656
60	800	720	412	385	359	334	310	286	264	221	183	148
			1563	1461	1362	1266	1174	1085	1000	840	694	562
50	667	600	344	321	299	278	258	238	220	184	152	123
			1303	1217	1135	1055	978	904	833	700	579	469
40	533	480	275	257	239	222	206	190	176	147	122	99
			1042	974	908	844	783	723	667	560	463	375





# 14T2200 TRIPLEX MUD PUMP

## PERFORMANCE DATA SHEET

GEAR RATIO : 3.639			MAX. RATED INPUT : 2200 HP @ 110 SPM							
STROKE	(in)	14	90% pump mechanical efficiency - 100% pump volumetric efficiency							
	(mm)	355.6								
LINER SIZE	(in)	9.0	8.0	7.50	7.0	6.50	6.0	5.50	5.0	
	(mm)	228.6	203.2	190.5	177.8	165.10	152.4	139.7	127.0	
MAX DISCHARGE PRESSURE	(psi)	2654	3364	3828	4409	5105	5990	7135	7500	
	(bar)	183	232	264	304	352	413	492	517	
VOLUME / STROKE	(gal/rev)	11.567	9.139	8.032	6.997	6.033	5.141	4.320	3.570	
	(l/rev)	43.785	34.596	30.406	26.487	22.838	19.460	16.352	13.514	
PUMP SPEED (spm)	RATED INPUT (HP)	HYDR. POWER (HP)	U.S. G.P.M.							
			l / min							
110	2200	1970	1272	1005	883	769	663	565	474	392
			4816	3805	3344	2913	2512	2140	1789	1486
105	2089	1880	1214	959	843	734	633	539	453	374
			4597	3632	3192	2781	2398	2043	1716	1418
100	1990	1791	1156	913	803	699	603	513	431	356
			4378	3459	3040	2648	2283	1945	1635	1351
90	1791	1612	1040	822	722	629	542	462	388	321
			3940	3113	2736	2983	2055	1751	1471	1216
80	1592	1432	925	730	642	559	482	411	345	285
			3502	2767	2432	2118	1827	1556	1308	1081
70	1392	1253	809	639	562	489	422	359	302	249
			3064	2421	2128	1854	1598	1362	1144	945
60	1194	1074	693	548	481	419	361	308	259	213
			2627	2075	1824	1589	1370	1167	981	810
50	995	895	578	456	401	349	301	256	215	178
			2189	1729	1520	1324	1141	972	817	675
40	796	716	462	365	321	279	241	205	172	142
			1751	1383	1216	1059	913	778	654	540



13

**9T800 TRIPLEX MUD PUMP**  
PERFORMANCE DATA SHEET

			MAX. RATED INPUT : 800 HP (596 KW) @ 150 SPM					GEAR RATIO : 3.222	
STROKE	(in)	9	90% pump mechanical efficiency - 100% pump volumetric efficiency						
	(mm)	228.6							
LINER SIZE	(in)	7	6.5	6	5.5	5	4.5	4	
	(mm)	177.8	165.1	152.4	139.7	127	114.3	101.6	
MAX DISCHARGE PRESSURE	(psi)	1827	2117	2480	2958	3582	4423	5000	
	(bar)	126	146	171	204	247	305	345	
VOLUME / STROKE	(gal/rev)	4.498	3.879	3.305	2.777	2.295	1.859	1.469	
	(l/rev)	17.027	14.682	12.510	10.512	8.687	7.037	5.560	
PUMP SPEED (spm)	RATED INPUT (HP)	HYDR. POWER (HP)	U.S. G.P.M. l / min						
150	800	719	674	581	495	416	344	278	220
			2554	2202	1876	1576	1303	1055	833
130	692	623	584	504	429	360	298	241	190
			2213	1908	1626	1366	1129	914	722
110	586	527	494	426	363	305	252	204	161
			1873	1615	1376	1156	955	774	611
100	533	479	449	387	330	277	229	185	146
			1702	1468	1250	1051	868	703	555
90	479	431	404	348	297	249	206	167	132
			1532	1321	1125	946	781	633	500
80	426	384	359	310	264	221	183	148	117
			1362	1174	1000	840	694	562	444
70	373	335	314	271	231	194	160	129	102
			1191	1027	875	735	608	492	389
60	319	288	269	232	198	166	137	111	87
			1021	880	750	630	521	422	333
50	266	240	224	193	165	138	114	92	73
			851	734	625	525	434	351	277





12T1600 - 7500 PSI TRIPLEX MUD PUMP PERFORMANCE DATA SHEET												
			GEAR RATIO : 3.171				MAX. RATED INPUT : 1600 HP (1193 KW) @ 120 SPM					
STROKE	(in)	12	90% pump mechanical efficiency - 100% pump volumetric efficiency									
	(mm)	304.8										
LINER SIZE		(in)	7.25	7	6.75	6.5	6.25	6	5.75	5.5	5	4.5
		(mm)	184.15	177.8	171.45	165.1	158.75	152.4	146.05	139.7	127	114.3
MAX DISCHARGE PRESSURE		(psi)	3190	3422	3683	3974	4293	4655	5076	5554	6715	7500
		(bar)	220	236	254	274	296	321	350	383	463	517
VOLUME / STROKE		(gal/rev)	6.434	5.998	5.577	5.171	4.781	4.406	4.047	3.703	3.060	2.479
		(l/rev)	24.354	22.703	21.111	19.576	18.099	16.680	15.319	14.016	11.583	9.382
PUMP SPEED (spm)	RATED INPUT (HP)	HYDR. POWER (HP)	U.S. G.P.M. l / min									
120	1600	1437	771	719	669	620	573	528	485	444	366	297
			2922	2724	2533	2349	2171	2001	1838	1681	1389	1125
100	1330	1197	643	599	557	516	477	440	404	370	305	247
			2435	2270	2111	1957	1809	1667	1531	1401	1158	938
80	1064	958	514	479	445	413	382	352	323	296	244	198
			1948	1816	1688	1566	1447	1334	1225	1121	926	750
60	798	718	385	359	334	310	286	264	242	221	183	148
			1461	1362	1266	1174	1085	1000	919	840	694	562
40	532	479	257	239	222	206	190	176	161	147	122	99
			974	908	844	783	723	667	612	560	463	375



Drillmec policy is one of continuous product improvement, therefore specifications are nominal and subject to change.

## commercial network

**SOILMEC LTD. - U.K.**  
**SOILMEC MISR. S.A.E. CO. - Egypt**  
**SOILMEC GULF FZCO - U.A.E.**  
**DRILLMEC INC. - U.S.A.**  
**OOO "DRILLMEC R" - Russia**  
**SOILMEC FRANCE SAS - France**  
**DRILLMEC IRAQ LTD. - Iraq**  
**SEISMOTEKHNKA - Belarus**

02/2012-2000-N-EDIPRIMA S.R.L.



## certified quality system



Drillmec quality management system is certified by API (American Petroleum Institute) and DNV (Det Norske Veritas) and GOST-R (Russian approval) for special products



**DRILLMEC SPA**

a **TREVI** Group company

12, via 1° Maggio  
29027 Gariga di Podenzano  
PIACENZA (Italy)  
Tel. +39.0523.354211  
Fax +39.0523.524418 / 524012  
web site: [www.drillmec.com](http://www.drillmec.com)  
e-mail: [info@drillmec.com](mailto:info@drillmec.com)

