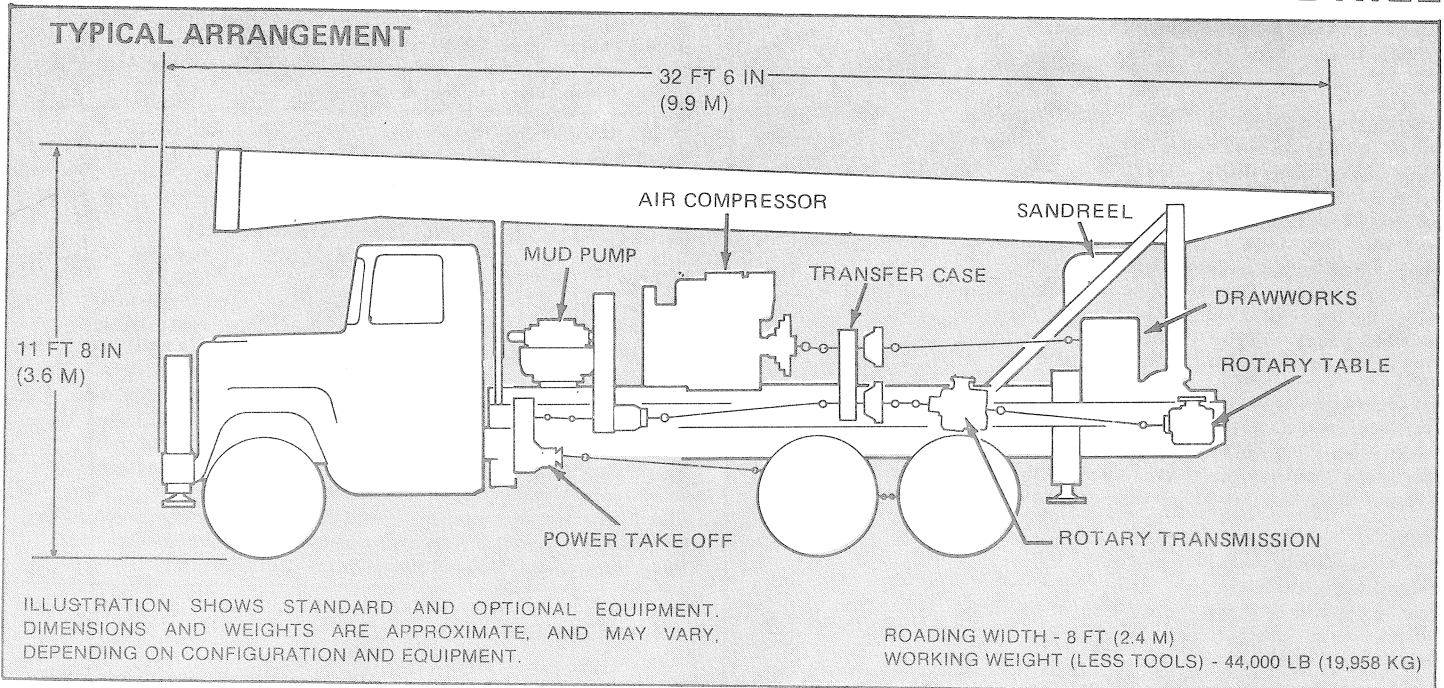




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# 1400

## PORTABLE ROTARY DRILL



## SPECIFICATIONS AND FEATURES

### MAXIMUM CAPACITIES

This drill is recommended for operation with a maximum drill string static load (including yoke, swivel, kelly, drill pipe, collars, etc.) of 20,000 lb (9,072 kg) on 3 lines. When operating with static load near maximum, avoid inducing dynamic load that may cause the total load to exceed maximum. Operation exceeding this limit may result in equipment overload and possible collapse or falling components that may be hazardous to personnel.

### MAXIMUM CAPACITIES OF PRIMARY LOAD-BEARING COMPONENTS

based on equipment that is new or in top condition and under proper operating procedures.

Component	Maximum Capacity	
	Lb	Kg
Mast	35,000	15,876
2 in Swivel (at 100 rpm)	32,800	14,878
TB-10 Traveling Block	20,000	9,072
24M Drawworks (single line Pull, Bare Drum)	10,000	4,536
24M Sandreel (Single Line Pull, Bare Drum)	10,000	4,536

Consult the manufacturer for capacities of components other than these standard components. If you substitute an alternate component to increase capacity, be sure you do not exceed the capacity of one of the other load-bearing components.

### ROTARY TABLE

**Model** — DSM/Mayhew RT 7.5

**Standard Opening** — 7½ in (191 mm)

**Frame Opening with Table Retracted** — 16 in (406 mm)

**Typical Operating Speed Range\*** — 23 to 200 rpm

**Type** — Enclosed ring gear and pinion

**Drive** — Torque tube

**Transmission** — Ten speeds forward, two reverse

**Clutch** — Mechanical with two 8 in (203 mm) friction plates

**Lubrication** — Enclosed oilbath

**Table Mounting** — Retracting by hydraulic cylinder

### DRAWWORKS (DRILLING AND HOISTING LINES)

**Model** — DSM/Mayhew 24M

**Single Line Pull (Bare Drum)** — 10,000 lb (4,536 kg)

**Typical Line Speeds\*** — 310 ft/min (94 m/min)

**Spooling Capacity (Each Drum)** — 270 ft (82 m) ⅝ in (16 mm)

**No of Drums** — 2

**Drilling Line** — 270 ft (82 m) ⅝ in (16 mm)

**Hoisting Line** — 270 ft (82 m) ⅝ in (16 mm)

**Barrel Size** — 8 in (203 mm) dia x 9 in (229 mm) lg

**Drive** — Torque tube to drawworks ring gear and pinion

**Clutches** — Full air with three 11 in (279 mm) friction plates

**Brakes** — Single band on drum 6 in (152 mm) wide x 16 in (406 mm) dia

**Net Braking Area (Each Drum)** — 288 in² (1,858 cm²)

# 1400

## PORTABLE ROTARY DRILL

### SPECIFICATIONS AND FEATURES (CONTINUED)

#### PULLDOWN

**Power**—Hydraulic through planetary gearbox  
**Feed**—1½ in (38 mm) pitch single roller chains  
**Engagement**—Air actuated jaw clutch mechanism  
**Kelly Guides**—Channel type

#### SANDREEL (OPTIONAL)

**Model**—DSM/Mayhew 24M  
**Single Line Pull (Bare Drum)**—10,000 lb (4,536 kg)  
**Typical Line Speeds\***—183 ft/min (56 m/min)  
**Spooling Capacity**—1500 ft (457 m) ¾ in (10 mm)  
**Barrel Size**—6½ in (165 mm) dia x 20 ¾ in (530 mm) lg  
**Drive**—Chain from drawworks shaft  
**Clutch**—Full air with three 11 in (279 mm) friction plates  
**Brake**—Single 6 in (152 mm) wide x 16 in (406 mm) dia  
**Net Braking Area**—288 in<sup>2</sup> (1,858 cm<sup>2</sup>)

#### MAST

**Maximum Capacity**—35,000 lb (15,875 kg)  
**Overall Length**—32 ft (9.75 m)  
**Construction**—Tubular, box type, electrically welded  
**Drawworks Sheaves**—Six 10 ¼ in (260 mm) dia with roller bearings  
**Pulldown Sheaves**—Two 10 ¼ in (260 mm) dia with bronze bushings

#### SWIVEL

**Model**—DSM 2" Little Giant  
**Watercourse**—2 in (50.8 mm)  
**Bearing Capacity**—32,800 lb (14,878 kg) at 100 rpm  
**Service**—Air or mud  
**Main Bearing**—Ball

#### TRAVELING BLOCKS

**Model**—DSM/Mayhew TB-10  
**Capacity**—20,000 lb (9,072 kg)  
**Sheaves**—One 11½ in (292 mm) dia  
**Weight**—139 lb (63 kg)

**KELLY**—3¾ (95 mm) dia x 23 ft (7 m) lg with three 1 in (25.4 mm) drive pins

#### CHAIN CASES

	PTO	Transfer
<b>Model</b>	DSM 2001D	DSM 602R
<b>Type</b>	Split shaft-full torque	Chain Case
<b>Chain</b>	Quad	Quad
<b>Bearings</b>	Ball	Ball
<b>Sprockets</b>	Heat treated	Heat treated
<b>Lubrication</b>	Oilbath	Oilbath

#### HYDRAULIC SYSTEM

**Pump**—Variable volume piston pump 17 gal/min (64 lit/min) at 2000 psi (140.6 kg/cm<sup>2</sup>)  
**Pump Drive**—Direct coupled into transfer  
**Typical Pump Speed\***—1,200 rpm  
**Mast Raising Cylinders**—Twin, double acting, telescoping cylinders with flow restricters  
**Leveling Jacks**—Three hydraulic jacks, one on front of carrier and two on rear of drill, 9.62 in (244 mm) stabilizer with 5 in (127 mm) dia piston, 24 & 36 in (610 & 914 mm) stroke with pilot check valves  
**Type of Hydraulic Fluid**—ATF type F  
**Reservoir Capacity**—55 gal (208 lit)  
**Filters**—Full flow type with built in by-pass 3 micron

#### CONTROLS

Grouped at drillers position for one-man operation. Full air clutches on drawworks and sandreel. Air actuated clutches on mud pump and air compressors. Air actuated pulldown jaw clutch engagement. Mechanical actuated clutch on rotary. Hand and foot air throttle. Starter button, kill switch, and tachometer in panel protected by expanded metal cover. Expanded metal drillers and helpers platform.

#### TRUCK REQUIREMENTS

**Type**—6 x 4  
**Typical Input Speed to Rig\***—1,200 rpm

#### MUD PUMPS (ALL GARDNER-DENVER POWER PUMPS)

	Standard	Optional
<b>Model</b>	FG-FXG	FD-FXX
<b>Displacement at</b>	150 gal/min	222 gal/min
<b>Max rpm</b>	(568 lit/min)	(840 lit/min)
<b>Max Operating Pressure</b>	310 lb/in <sup>2</sup> (21.8 kg/cm <sup>2</sup> )	338 lb/in <sup>2</sup> (23.8 kg/cm <sup>2</sup> )
<b>Liner Dia</b>	5 in (127 mm)	5½ in (140 mm)
<b>Stroke</b>	6 in (152 mm)	8 in (203 mm)
<b>Suction Hose</b>	4 in (102 mm)	4 in (102 mm)
<b>Typical Operating Speed</b>	75 strokes/min	70 strokes/min
<b>Drive</b>	V-belt from in-line jackshaft clutch	
<b>Clutch</b>	Air actuated mechanical with three, 8 in (203 mm) friction plates	
<b>Manifolding</b>	Relief valve, pressure gauge, and surge chamber	
<b>Hinge Hose, Stand Pipe, and Swivel Hose</b>	2 in (50.8 mm)	

#### AIR COMPRESSORS

Model		ADL	WCG	WCH	WXH	WEE+
<b>Displacement at</b>	ft <sup>3</sup> /min	100	580	667	445	194
<b>Full Operating Speed</b>	m <sup>3</sup> /min	2.8	16.4	18.9	12.6	5.5
<b>Max Pressure</b>	lb/in <sup>2</sup>	250++	50	40	125	250
	kg/cm <sup>2</sup>	17.6++	3.5	2.8	8.8	17.6
<b>Operating Speed*</b>	rpm	870	870	870	870	870
<b>Drive</b>	Torque tube from transfer case					
<b>Clutch</b>	Air actuated mechanical. ADL and WEE—three 8 in (203 mm) friction plates. WCG, WCH, and WXH—one 16 in (406 mm) friction plate.					
	+WEE is water cooled. ++ intermittent					

\*Speeds are selected as an average for operating the Drill.

#### OPERATING EQUIPMENT FURNISHED WITH DRILL

Drills are furnished fully equipped, ready to drill except no pipe or bit.

Standard rig-up equipment includes • hoisting and drilling lines • swivel hoist plug • kelly • kelly drive bushing • kelly head and pipe adapters • pipe slips • standpipe, pressure hoses, and washdown hose with fittings.

Standard mud pump equipment includes • mud pump manifolding with shear relief valve, pressure gauge, and surge chamber • suction hose with foot screen.

Other standard equipment includes • clearance lights and reflectors • tool boxes • pipe tray • drillers and helpers platforms. operators manual, parts list, and lubrication guide.

**Request quotation listing the precise equipment you want.**