

# MOBILE RIGS & EQUIPMENTS



**PetroMak**  
Drilling Technologies



## Company

Our company produces land rig, mobile rig and workover rigs for oil, naturel gas and geothermal drillings with together movable product pumps of on ground.

In the near future will be begining to production of seismic application vehicles .

The company aims that product design and engineering calculations for all brands to the highest performance is similar to continuous improvement will be reached.

Productions are using quality materials and labors.

Primarily on the ISO 9001:2000 standards – all components are design and calculations made in accordance with API spectrs, Ultrasonic, magnetic and penetrant testing shall be kept under control with the quality standards.

Productions quality control testing procedure make by independent organizations and to make a report.

All productions have detail spare parts catalog, user manuel, Operation and Maintenance Manual, assembly – disassembly figures, electric – pneumatic – hydraulic diagrams with Turkish and English documents. This documents is given customers with machine.

## Mobile Rig Solutions

Petromak rigs standart rig features;

- Rigs are designed in accordance with the applicable local standarts, in addition to the American Petroleum Institute (API) and American Instute of Steel Construction.
- Placement of control panels that are located precisely to provide a clear view of racking boards, travelling equipment and work floor operations on all well servicing, workover and drilling rigs; controls are ergonomically set to assure maximum operator efficiency, while minimizing unwanted distractions.
- Handrails and walkways is designed suitable for operator and worker.
- A basic rig design that offers excellent value.
- Driller's control panels is located to provide a clear view of the drill floor areas.

# Technical Data

## Model PM 2500

Static hook load 160 Tons (350.000 lbs)

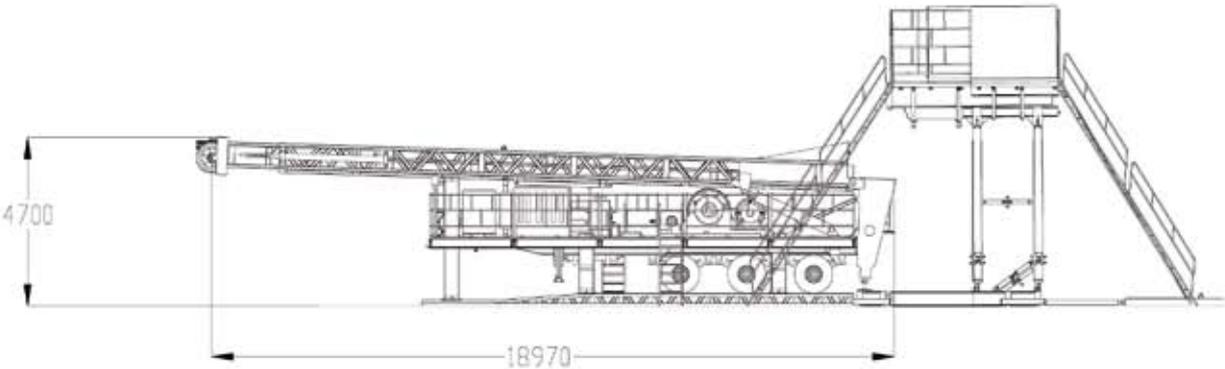
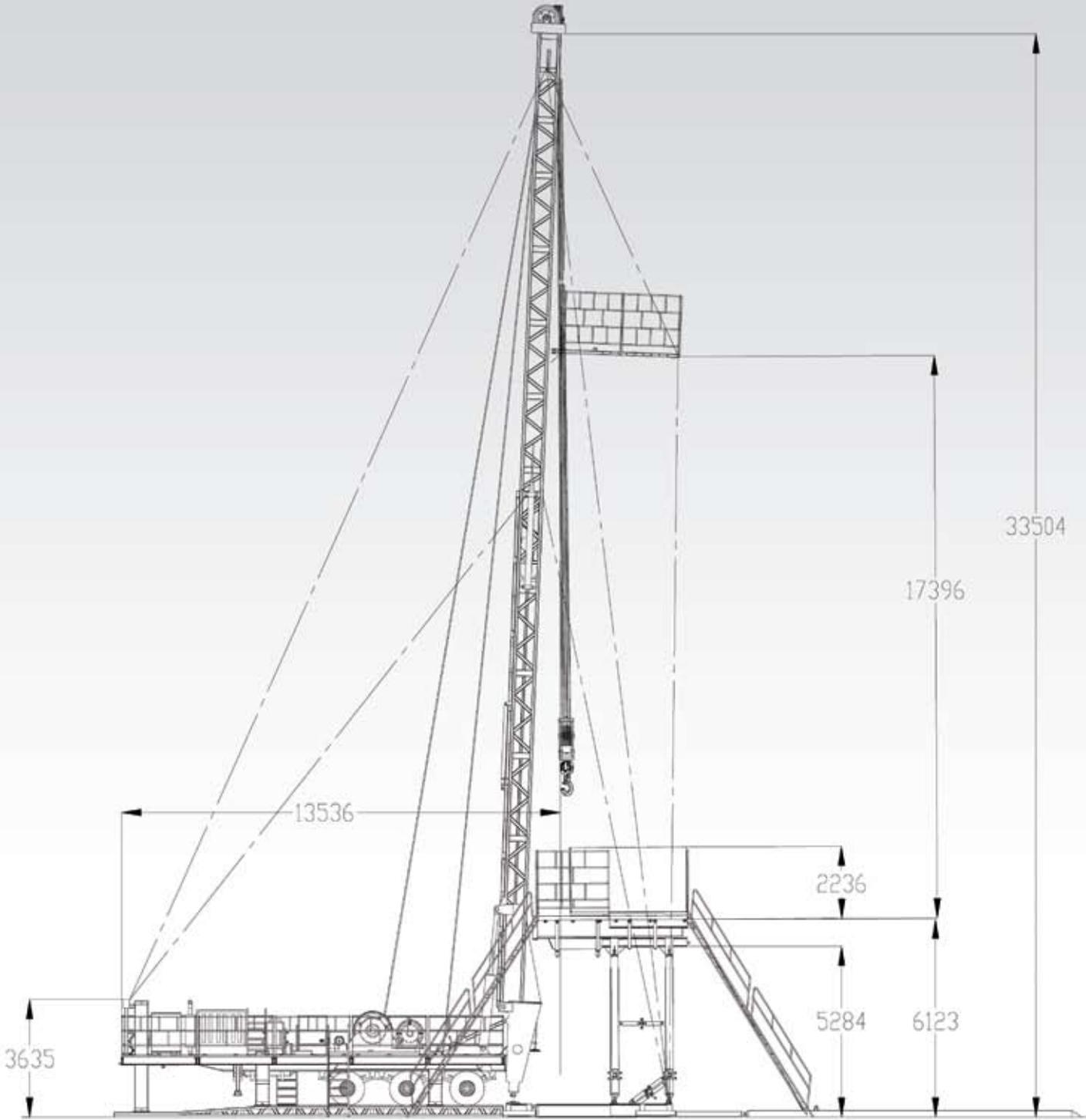
<b>Main Drum</b>	<ul style="list-style-type: none"> <li>-Single drum drawworks</li> <li>-Brake rims: DxW (42"x10") water cooling system</li> <li>-Input power 800 Hp</li> <li>-Diameter x Length 24"x41" (610 mm x1040 mm)</li> <li>-Spooling capacity 750 m 1 1/8" line</li> <li>-Pneumatic multiple plate clutch Double 29"</li> <li>-Min-Max hoisting speed 0-1,4 m/s</li> <li>-Fast line pull force 235 KN</li> </ul>
<b>Sand Line Drum</b>	
<b>Drawworks Components</b>	<ul style="list-style-type: none"> <li>- Auxiliary Brake: Hydro - Brake 700 RPM x 3500 Hp</li> <li>- Service Winch of drive hydromotor (1 st 63 KN and 3.st 50 KN 5/8" wire)</li> <li>- Grooving main drum and service winch</li> <li>- Max lowering speed 1,5 m/s</li> </ul>
<b>All Oilfield Heavy Duty</b>	<ul style="list-style-type: none"> <li>- 4 Axles (Semi Mobile Versions)</li> <li>- High Resistance "I" Beams</li> <li>- Dimensions: L: 13.60 W: 3.00 + ( 2 x 0.60 ) H: 4.40</li> <li>- Air operated braking system</li> </ul>
<b>Mast</b>	<ul style="list-style-type: none"> <li>- Max Hook Load capacity : 160 Metric Tons (350.000 lbs)</li> <li>- Mast Clear Height :34 m (110 ft)</li> <li>- Monkey Board racking capacity: 3000 m of 4 1/2"</li> <li>- Crown Blok with 4 sheaves OD 36" and 1 sheaves OD 30" for 1 1/8"</li> </ul>
<b>Power Units</b>	<ul style="list-style-type: none"> <li>- Engine: Caterpillar C-13 ACERT 2 x 415 Hp</li> <li>- Transmission: Automatic Allison Torgue Converter</li> <li>- Right Angle drive with spiral bevel gear case.</li> <li>- Rotary table Pneumatic multiple plate clutch</li> <li>- Gearbox included two engines input and drawwork, pump,rotary table,generator and oil pump outputs.</li> </ul>
<b>Rotary Table</b>	<ul style="list-style-type: none"> <li>-Table opening: 560 mm</li> <li>-Static Rotary table capacity: 250 ton</li> <li>-Table Height: 5-6 m (Optional)</li> </ul>
<b>Substructure</b>	<ul style="list-style-type: none"> <li>- Height adjustable (5-6m) parallelogram folding type structure.</li> <li>- Beams are from pipe.</li> </ul>
<b>Hydraulic System and Control</b>	<ul style="list-style-type: none"> <li>- Hydraulic mast erection and mechanical lock.</li> <li>- Hydraulic mast raising by telescoping cylinder.</li> <li>- Six hydraulic jacks for stabilizers.</li> <li>- Two Hydraulic Catheads,</li> <li>- Driller's control panel.</li> </ul>

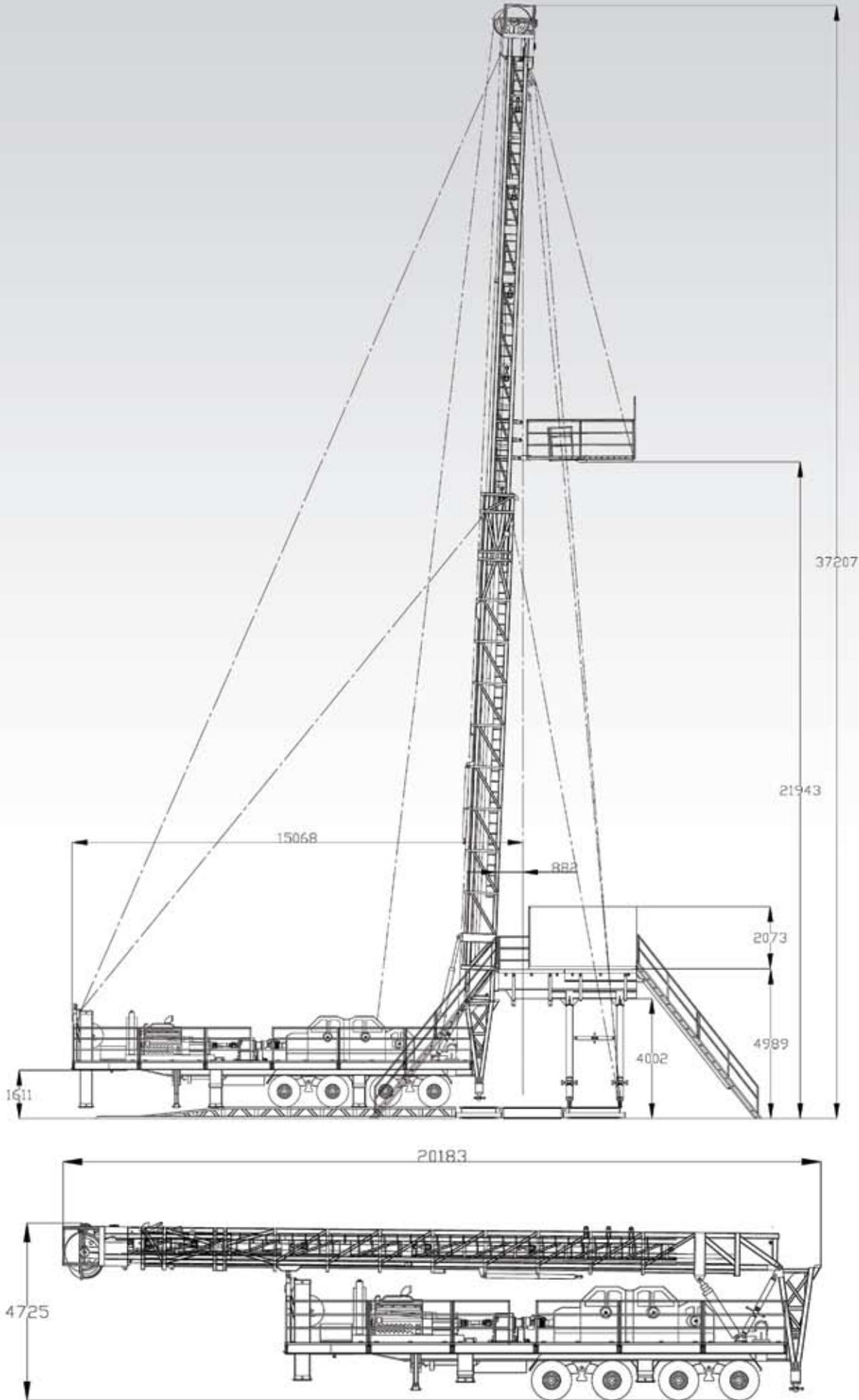
## Model PM 3000

Static hook load 180 Tons ( 395.000 lbs)

<b>Main Drum</b>	<ul style="list-style-type: none"> <li>- Double drum drawworks</li> <li>- Brake rims: DxW (42"x10") water cooling system</li> <li>- Input power 1000 Hp</li> <li>- Diameter x Length 24"x41" (610 mm x1040 mm)</li> <li>- Spooling capacity 750 m 1 1/8" line</li> <li>- Pneumatic clutch Double 32 - PM - 1000</li> <li>- Min-Max hoisting speed 0-1,4 m/s</li> <li>- Fast line pull force 265 KN</li> </ul>
<b>Sand Line Drum</b>	<ul style="list-style-type: none"> <li>- Spooling capacity 2500 m 5/8"</li> <li>- Diameter x Length 12"x41" (300 mm x1040 mm)</li> <li>- Brake rims DxW (42"x10") water cooling system</li> <li>- Min - max hoisting speed 0-3,4 m/s</li> <li>- Sand line force 115 KN</li> <li>- Pneumatic clutch 32 - PM -1000</li> </ul>
<b>Drawworks Components</b>	<ul style="list-style-type: none"> <li>- Auxiliary Brake: Hydro - Brake 700 RPM x 3500 Hp</li> <li>- Service Winch of drive hydromotor (1 st 63 KN and 3.st 50 KN 5/8" wire)</li> <li>- Grooving main drum and service winch</li> <li>- Max lowering speed 1,5 m/s</li> </ul>
<b>All Oilfield Heavy Duty</b>	<ul style="list-style-type: none"> <li>- 4 Axles ( Semi Mobile Versions )</li> <li>- High Resistance "I" Beams</li> <li>- Dimensions: L: 13.60 W: 3.00 + ( 2 x 0.60 ) H: 4.40</li> <li>- Air operated braking system</li> </ul>
<b>Mast</b>	<ul style="list-style-type: none"> <li>- Max Hook Load capacity : 180 Metric Tons (395.000 lbs)</li> <li>- Mast Clear Height :34 m (110 ft)</li> <li>- Monkey Board racking capacity : 3000 m of 4 1/2"</li> <li>- Crown Block with 4 sheaves OD 36" and 1 sheaves OD 30" for 1 1/8"</li> </ul>
<b>Power Units</b>	<ul style="list-style-type: none"> <li>- Engine: Caterpillar C-15 ACERT 2 x 540 Hp</li> <li>- Transmission: Automatic Allison Torgue Converter</li> <li>- Right Angle drive with spiral bevel gear case.</li> <li>- Rotary table Pneumatic clutch 28-PM-525</li> <li>- Gearbox included two engines input and drawworks, pump and rotary table outputs.</li> </ul>
<b>Rotary Table</b>	<ul style="list-style-type: none"> <li>- Table opening: 560 mm</li> <li>- Static Rotary table capacity: 250 ton</li> <li>- Table Height: 5-6 m (Optional)</li> </ul>
<b>Substructure</b>	<ul style="list-style-type: none"> <li>- Height adjustable (5-6m) parallelogram folding type structure.</li> <li>- Beams are from pipe.</li> </ul>
<b>Hydraulic System and Control</b>	<ul style="list-style-type: none"> <li>- Hydraulic mast erection and hydraulic lock.</li> <li>- Hydraulic mast raising by telescoping cylinder.</li> <li>- Six hydraulic jacks for stabilizers.</li> <li>- Two Hydraulic Catheads,</li> <li>- Driller's control panel.</li> </ul>

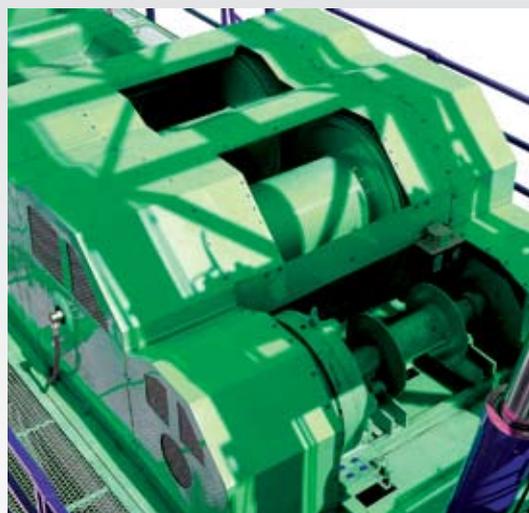






## Petromak Drawworks

The Petromak Drawworks have a reliable design, coming from the engineering experience. The sprocket's teeth are hardened by induction, to minimize the wearing. The brake system is using now the band brake system. The PM models are rated for 750-1000 HP with a nominal depth range from 500 to 3000 m. The PM line is engine driven with provision of diesel engines coupled to input shaft. The customer can choosing double or single drum models that double drum is main and sand drum or single drum with only main drum.



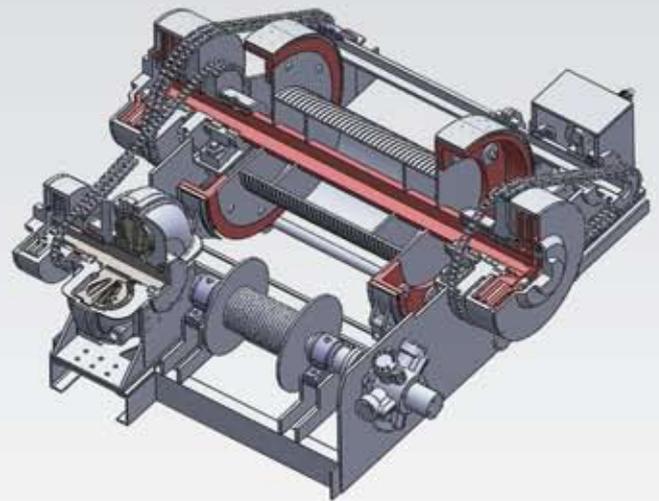
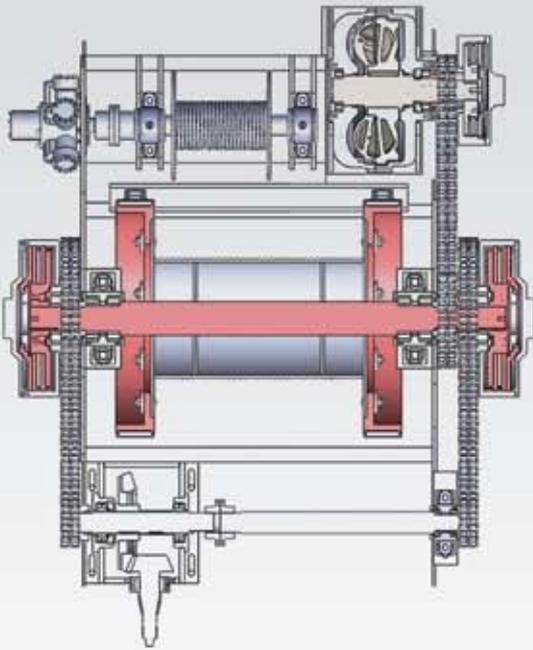
### Main features:

- Main frame made of high resistance steel,
- Rotary air clutch type,
- Sandreel complete with friction brake system,
- Auxiliary Brake hydro-brake with own productions,
- Induction hardened tooth sprockets in conformance with API
- All chains have forced lubrication system with flange mounted gear pump. Lubrication system functions in forward and reverse rotation.
- Self-aligning and grease lubricated main shaft roller bearings,
- Oil-tight and weatherproof housing,
- Emergency shut down.

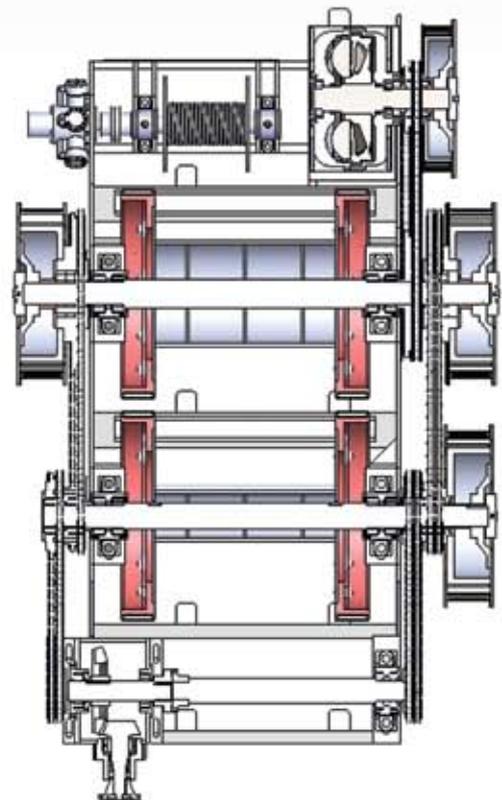
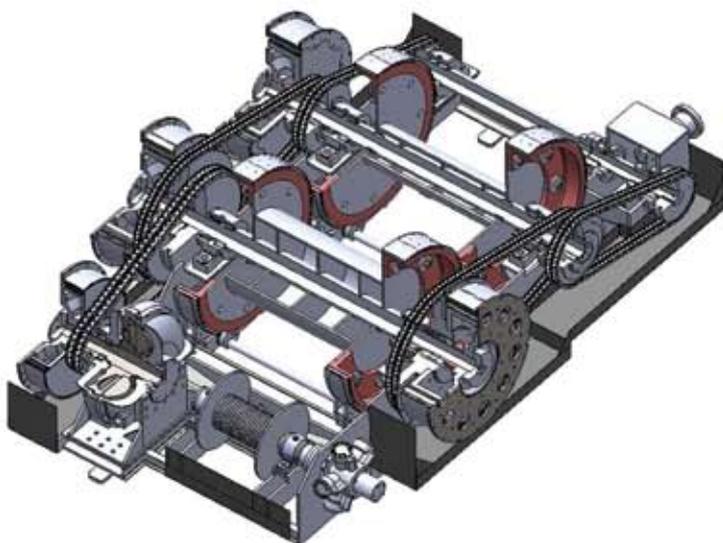
## Technical Data

Model		PM 160	PM 180
Horse power rating	HP	800	1000
Nominal depth range	m	1500 to 2500	2100 to 3000
Wireline size	inches - (mm)	1 1/8" - (29)	1 1/8" - (29)
Hoisting drum size (diam x length)	inches - (mm)	24" x 41" (610 mm x 1040mm)	24" x 41" (610 mm x 1040mm)
Sand drum size (diam x length)	inches - (mm)		12" x 41" (300 mm x 1040 mm)
Brake rim size (diam x length)	inches	42" x 10"	42" x 10"
Drum Chain Drive Size		1 1/2" P-4	1 1/2" P-4
Transmission Chain Size		1 1/2" P-4	1 1/2" P-4
Sand Drum Chain Drive Size			1 1/2" P-4
Hydro Brake Chain Drive Size		1 3/4" P-2	1 3/4" P-2
Min-Max Hoisting Speed	m/s	0 - 1.4 m/s	0 - 1.4 m/s
Hoisting speed		4-1 REV	4-1 REV
Catshaft speed		Hydraulic	Hydraulic
Drum clutch		Multiple Plate Clutch 29" (731mm)	32-PM-1000 x 2
Hydro-Brake Drum clutch		Multiple Plate Clutch 19" (483mm)	28-PM-525
Width overall	mm	Semi trailer mounted	Semi trailer mounted
Width for transportation	mm	2778	2858
Height overall	mm	1403	1484
Length overall	mm	3106	4256
Weight	kg	8.453	14.269

PM 160 Drawworks Single Drum



PM 180 Drawworks Double Drum





## Petromak Clutch

The PM range of constricting drum clutch and brake is commonly found throughout all industries in general power transmission duties. Constructed using an integral rim and tube actuator and with low inertia and high misalignment capacity, the PM range offers the simplest solution to less arduous clutch and brake requirements. Ariflex and plate type clutch can be made.



## Petromak Hydro-Brake

The new and improved Petromak Hydro-Brake brakes are as easy and simple to operate as ever. Any Driller can operate them without previous experience or special training. All that needs to be done is to open or close the valve that controls the water level in the brake circulating system.

Main features:

- Main disks made of high resistance ductile iron.

## Technical Data

Pneumatic Clutch	Torgue Rating	Max Speed	Friction Area	Minimum Drum Dia.
32-PM-1000	44100 Nm	1000 RPM	5823 cm <sup>2</sup>	780 mm
28-PM- 525	12000 Nm	1000 RPM	2770 cm <sup>2</sup>	706 mm
20-PM-500	6000 Nm	1300 RPM	1858 cm <sup>2</sup>	505 mm

Hydro - Brake	Max Pressure	Max Speed	Brake Capacity	Volume in Gallons
Specification	15 PSI	700 RPM	3500 Hp	15
Max Hook Lowering Speed	15 m/s			
Pneumatic Clutch	28-PM-525			
Weight	757.5 kg			

## Petromak Travelling Block

Petromak traveling equipment is available in a broad range of models and sizes, to meet any rating or specific applications.

- They are rated in accordance with the API yield strength method.
- Streamlined, compact design means there is no interference with mast or derrick components.
- Metallurgy of sheaves, hooks, and other components are care- fully matched to provide long, trouble-free service.
- API-8C versions are available upon request.



## Petromak Hook

Petromak hook and travelling block is product for optional pull capacities with high material quality and special design. The contact surface radius of bail, link ears and locking arm all conform to API 8A specification.

## Technical Data

Travelling Block	Load Rating	Number Sheaves	Sheave OD in (mm)	Line Size in (mm)	Width overall in (mm)	Length Overall in (mm)	Weight Kg
PM-TR-200	200 KN	4-5	36" (914,4)	1 1/8 (29)	23.6" (600)	70" (1775)	2135

Hook	Max. Load	Opening of Hook in (mm)	Width overall in (mm)	Length Overall in (mm)	Height Overall in (mm)	Weight Kg
PM-H-200	200 KN	10.2" (260)	30" (754)	116.2" (2950)	34.7" (883)	1435

## Petromak Crown Block

- To API 8A, 4F Maximum rated static hook load of 2500 KN
- Sheaves: 7x sheave (OD of 914 mm) grooved for 1-1/8" drilling line with gin-pole installed,
- 1 x sheave for dead line (30")
- 1 x sheave for fast line (36")
- 1 x sheave for sand line (28")
- 1 x crane of 5 ton capacity
- 3 x auxiliary sheave (36")
- Dimensions: 1730 x 1496 x 2470 (mm)
- Weight: 2500 Kg



## Petromak Mud Tanks

Petromak Mud tanks project and product make it possible to speciality for customer and according to customer prefering.



## Petromak Mast

Mast design and structure all conform to API 4F specification.  
This production to do using high strong and light materials.  
Material connecting and joining are produced special welding process.



## Petromak Substructure

Substructure design all conform to API 4F specification.  
Easy assemble - disassemble and have a possibility wide working.





## Petromak PumpJack

Petromak movable product pumps of on ground make it possess to produce between 50 – 500 barrel per day from petroleum production wells to depth of 1000 – 1500 m.

- Key structure parts can perform finite element analysis and study, stable performance, high reliability. The reducer is adopted with symmetrical split stream involute or double arc double helical spur gear drive; good air proof, low noise, stable and reliable operation, reliable and durable service.
- Easy operation of the complete unit, convenient maintenance, and long service life.
- Design by means of modularization and virtual manufacturing technology; the product possess the similar structure and movement characteristics as the normal pumping unit.
- The reducer is adopted with symmetrical split stream involute or double arc double helical spur gear drive; good air proof, low noise, stable and reliable operation, reliable and durable service.
- The crank is designed with guide angle to decrease the max torque speak value of the reducer; by increasing the extreme position angle to improve the dynamic behavior and to decrease the power of the engine, with good energy saving effect.
- The optimization of structure and mode of the complete unit; high level in “standardization, generalization, series” of the parts; easy operation, convenient and maintenance.



## Certified Quality System



Petromak quality management system is certified by ISO 9001 – 2000 and GOST-R (Russian approval) for special products.



## Partners and Equipments



**PetroMak**  
Drilling Technologies

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