

CORE DRILL RIGS

Technical
Catalogue
2022



HIDROPORT DRILLING // CORE DRILLING RIGS

As Hidroport Engineering, we set out to become a brand in core drilling rig production, with the experience we have gained as a result of a wide range of services we have provided to the hydraulic sector for many years. We know and implement the requirements of a reliable and long-lasting drilling rig with our experienced technical team, which knows best about the probable difficulties of drilling rigs in all types of drilling sites and has been carrying out machine revisions for many years. We offer the most advanced technology, high efficiency, with world-class safety features.





HD 70 & 90 CORE DRILLING RIGS

HD70 is a surface core drill rig developed meticulously by Hidroport Engineering to run problem free in any drilling condition and formations for an extended period of time.

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Prime Mover

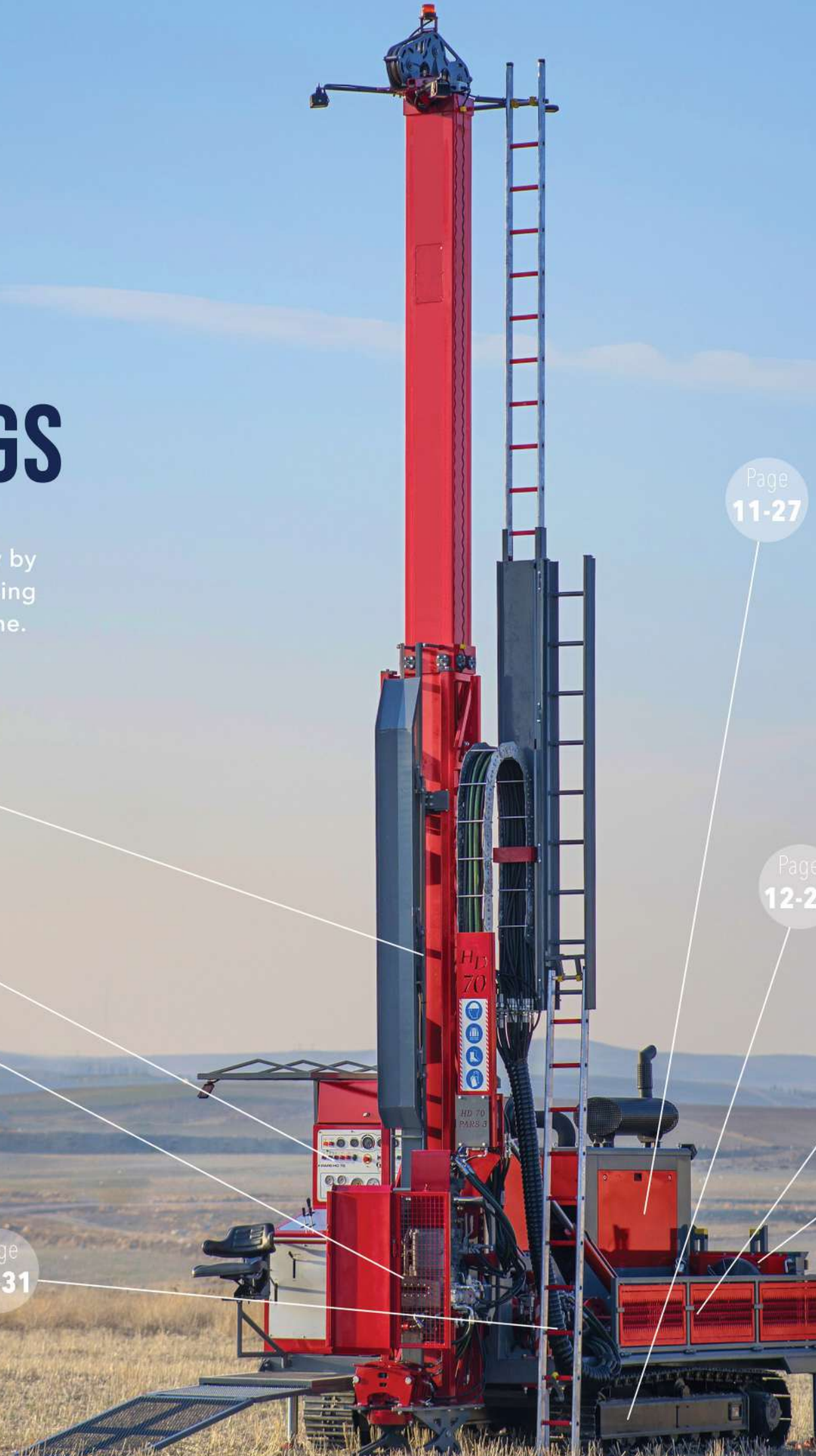
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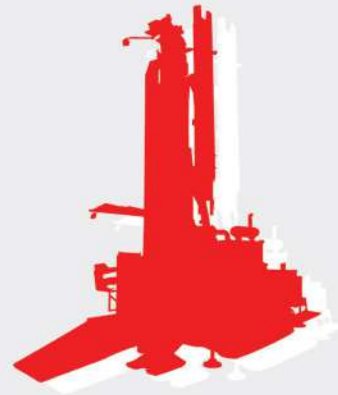
Movement System

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Mud Pump

Cooler (AKG)

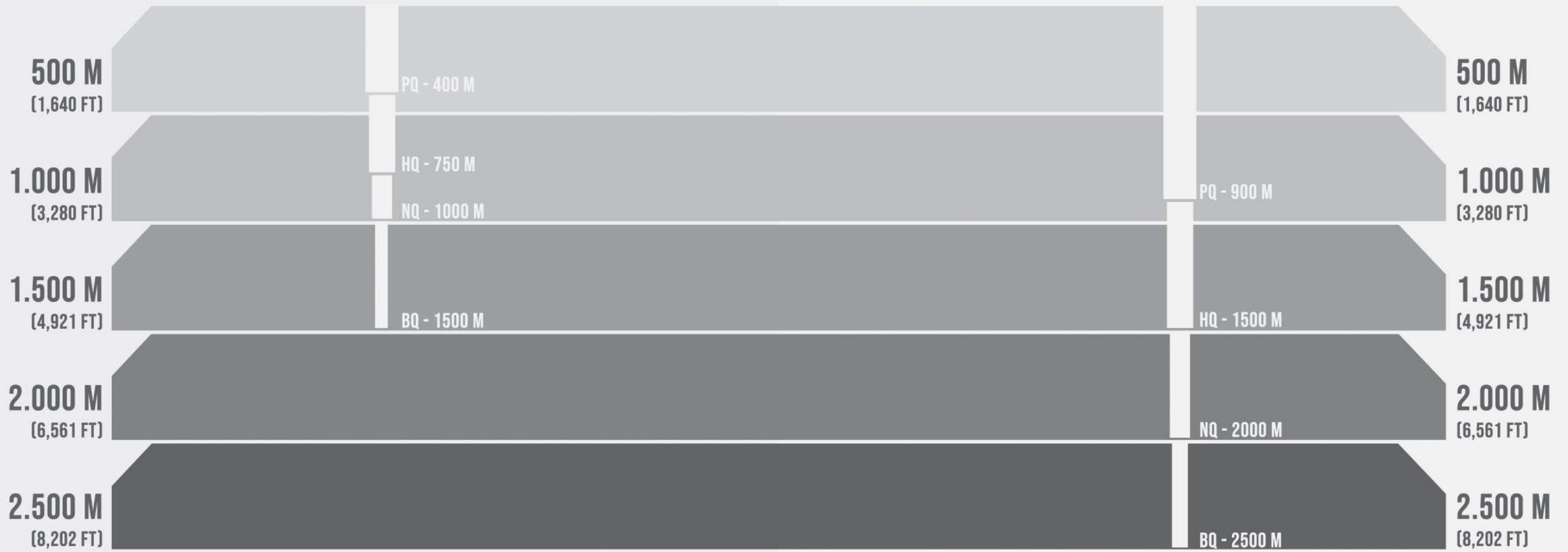




HD 70



HD 90



OUTER DIAMETER		DRILLING CAPACITY
PQ	114,00 MM	400 M
HQ	88,90 MM	750 M
NQ	69,90 MM	1000 M
BQ	55,60 MM	1500 M

OUTER DIAMETER		DRILLING CAPACITY
PQ	114,00 MM	900 M
HQ	88,90 MM	1500 M
NQ	69,90 MM	2000 M
BQ	55,60 MM	2500 M

* The figures in this table are estimates which have been calculated using the applicable pullback capacity of the drill. Actual drilling results may vary and will depend on in-hole tools, subsurface and other environmental conditions, drilling techniques and equipment used. Always verify manufacturers' rod depth ratings prior to use.



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HD 70 >> DRILL HEAD

Rotation Engine	Rexroth 107 cc Axial Piston Variable Displacement Motor
Transmission	4 Gears
Jaw System	Spring or Nitrogen Piston
Holding Capacity	20.000 kg
Maximum Flow	1200 RPM
Hydraulic Side Slip	30 cm
Max. Coupling Diameter	117 mm
Lubrication Tandem	Casappa (11 cc + 6 cc) 7,2 L / min. max. flow
Ratios	1st 6.27:1 2nd 3.12:1 3rd 1.75:1 4th 1.00:1

HD 70 >> TORQUE AND RPM RATINGS

* Hydraulic motor at maximum / minimum displacement.

	Speed (No Load)	Torque (Stall)	
	RPM	Nm	lbft
1st Gear	122 - 199	5322 - 3254	3,925 - 2,400
2nd Gear	246 - 400	2648 - 1620	1,963 - 1,195
3rd Gear	439 - 714	1486 - 908	1,096 - 670
4th Gear	769 - 1,200	849 - 519	626 - 383

HD 70 >> DRILL MAST AND FEED SYSTEM

Feed Stroke	3,80 m
Pull Cap. @ 280 bar	22.000 kg
Thrust Cap. @ 280 bar	12.000 kg
Rod Pull Capacity	3 or 6
Drilling Angle	45° - 90°
Telescopic Mast Length	3.5 m.



PRIMARY PUMP

Type Axial piston, variable displacement load sensing, pressure compensated with low pressure standby

Max. Flow 180 - 200 liter / min. (Diesel Engine 1600 - 1800 RPM)

Max. Working Pressure 280 - 350 bar

** We are using Rexroth pump sets on our systems. According to customer demands and variable lead times, Kawasaki, Danfoss and Parker brand products can also be used.*

SECONDARY (2ND) PUMP

Type Axial piston, variable displacement load sensing, pressure compensated with low pressure standby

Max. Flow 96 - 108 liter / min. (Diesel Engine 1600 - 1800 RPM)

Max. Working Pressure 350 bar

** We are using Rexroth pump sets on our systems. According to customer demands and variable lead times, Kawasaki, Danfoss and Parker brand products can also be used.*

THIRD (3RD) PUMP

Type Axial piston, pressure compensated

Max. Flow 45 - 50 liter / min.

Max. Working Pressure 280 bar

** We are using Rexroth pump sets on our systems. According to customer demands and variable lead times, Kawasaki, Danfoss and Parker brand products can also be used.*

MIXER AND ROTATION LUBRICATION

Type Gear Pump

Max. Flow 35 liter / min.

Max. Working Pressure 280 bar

Rotation Lubr. Pumps Gear Pump

Max. Flow 15 liter / min.

Max. Working Pressure 280 bar





HD 70 >> PRIME MOVER

Brand Ford, Cummins or Volvo brand motors will be used

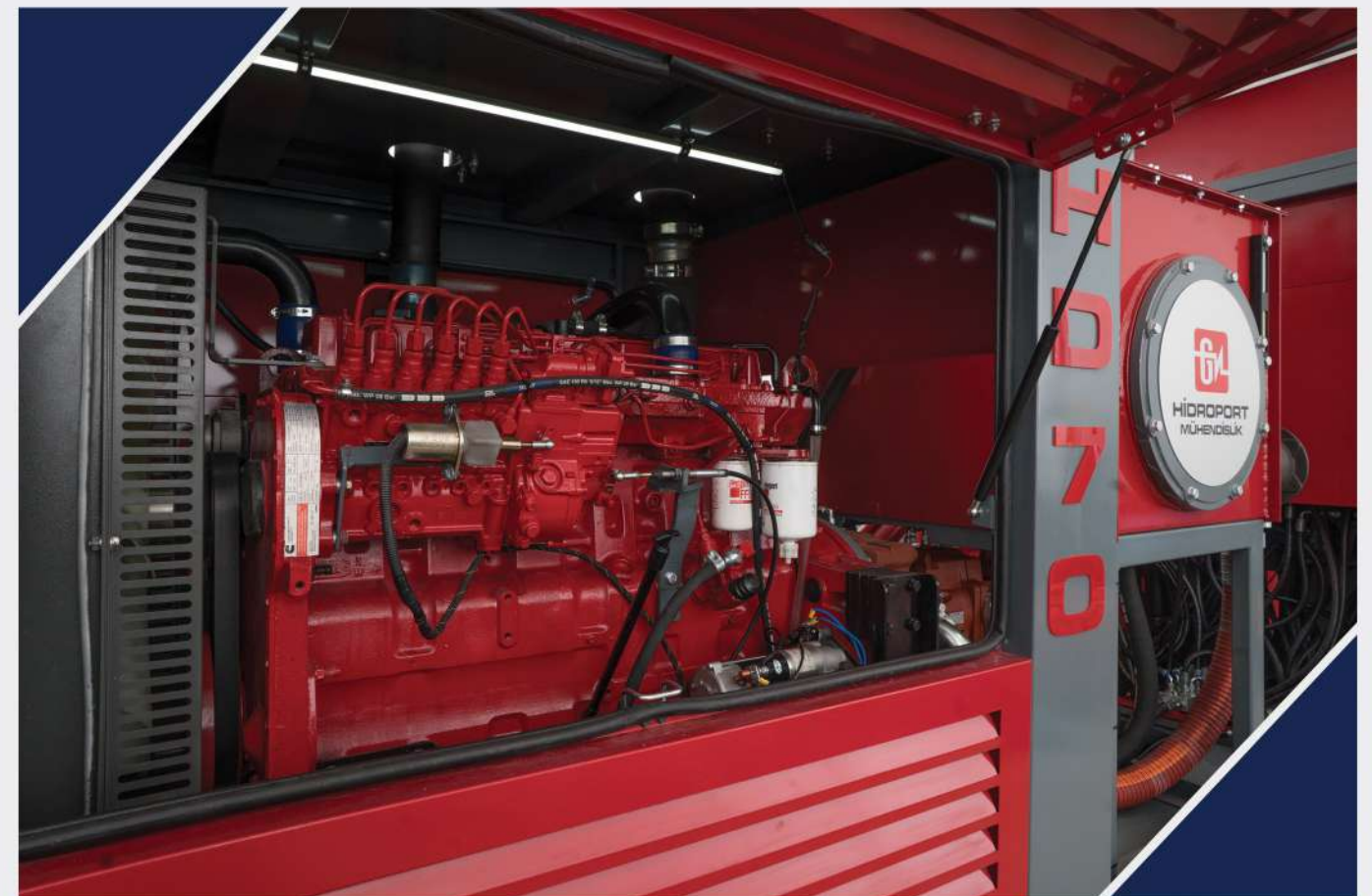
Maximum Power 280 - 380 hp (208 - 283 kw)

Maximum RPM 0 - 2200 RPM

Emission Class Will vary according to the selected motor model

Fuel Consumption Euro-3, Euro-5, Euro-6

** Will vary according to the selected model*



** A mechanical engine is used as a visual representation for the Prime Mover. For HD70 rigs both electronic and mechanical can be used.*



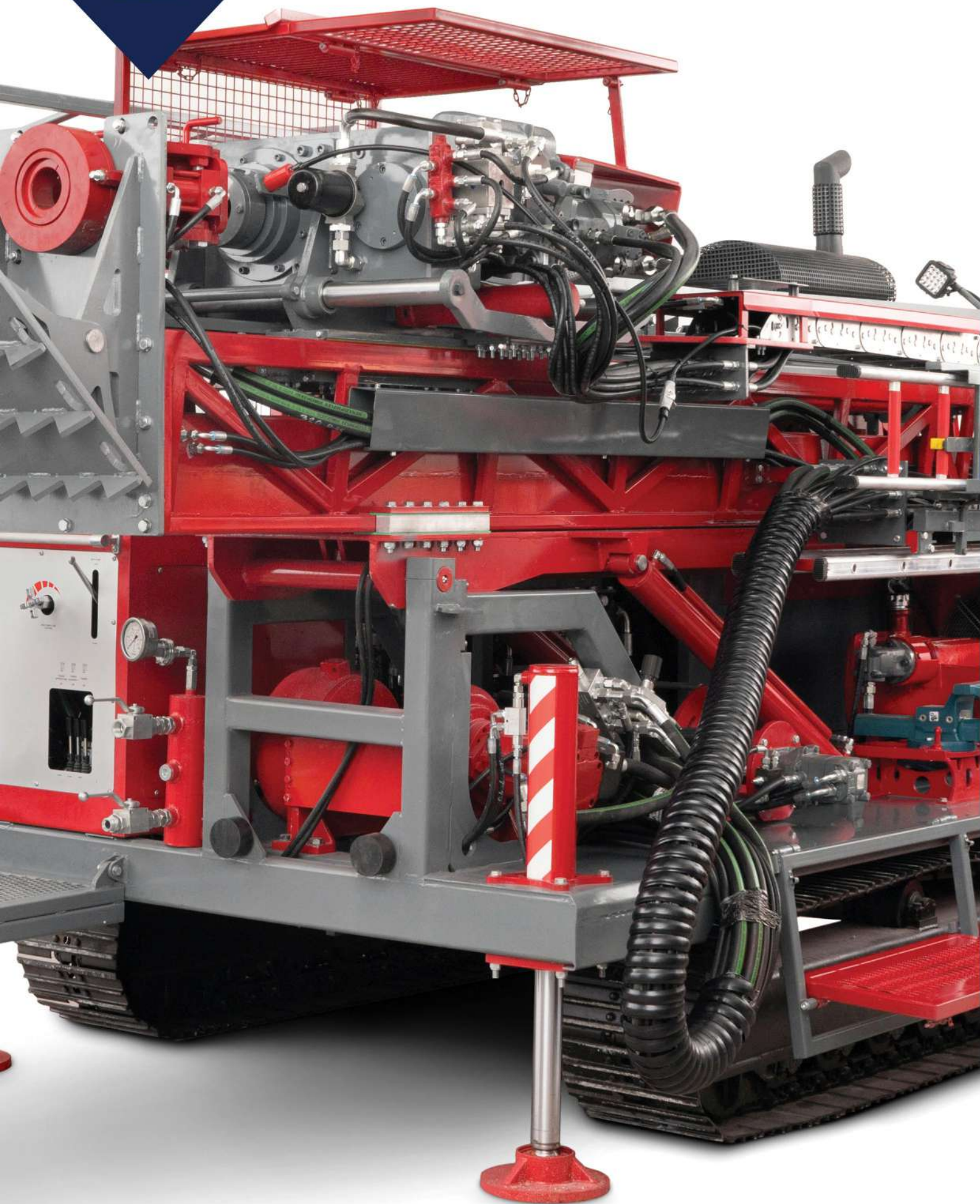
HD 70 >> MOVEMENT SYSTEM

Undercarriage Model	IVA Johann Track (Germany)
Max. Dynamic Capacity	12 ton
Track Type	Double Speed
Control	Mechanical or Remote Control (Optional)
Speed	2,3 - 4,3 km / h
Gearbox Type	706CK - 18.000Nm
Gradeability	Max 30° - 225 Bar
Total Height	2790 mm
Total Length	650 mm
Total Width	400 mm

* Hidroport Engineering is the official distributor for German undercarriage producer

IVA Johann GmbH
Baumaschinentechnik





HD 70 >> MAIN LINE HOIST

Main Winch	Braden or equal counterpart
Hydromotor	Rexroth Hydraulic Motor, Double Speed, Variable Displacement
Hook Load (Single Rope) Empty Drum	18.000 kg (18 ton)
Elevation Speed (Single Rope) Empty Drum	72 meter/min. and 40 meter/min.
Main Winch Steel Rope	18 mm (28 meter)
Minimum Rupture Strength	20.900 kg
Foot Brake Capacity	HWT

HD 70 >> WIRELINE WINCH

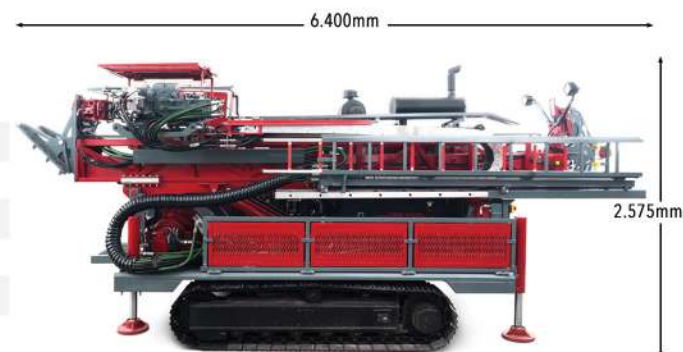
Rotation Motor	Sauer/Danfoss OMT400 400 cc / Hydraulic Moor with Speed Brake
Pulling Force	
Empty Drum	1200 kg
Full Drum	350 kg
Pulling Speed	
Empty Drum	100 m/min.
Full Drum	250 m/min.
Drum Capacity 4.8 mm for (3/16") Rope	1.500 m
Minimum Rupture Strenght	2.000 kg



HD 70 >> DIMENSIONS

Transport Position

Width	2.300 mm
Length	6.400 mm
Height	2.575 mm



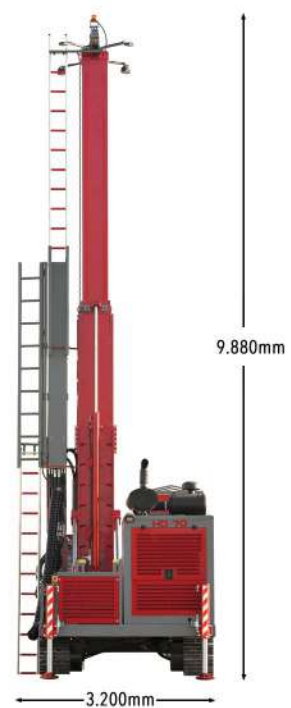
45° Inclined Mast (Wide Open)

Width	3.200 mm
Length	7.030 mm
Height	7.110 mm



90° Vertical Mast (Wide Open)

Width	3.200 mm
Length	7.030 mm
Height	9.880 mm





HD 70 >> MUD PUMP

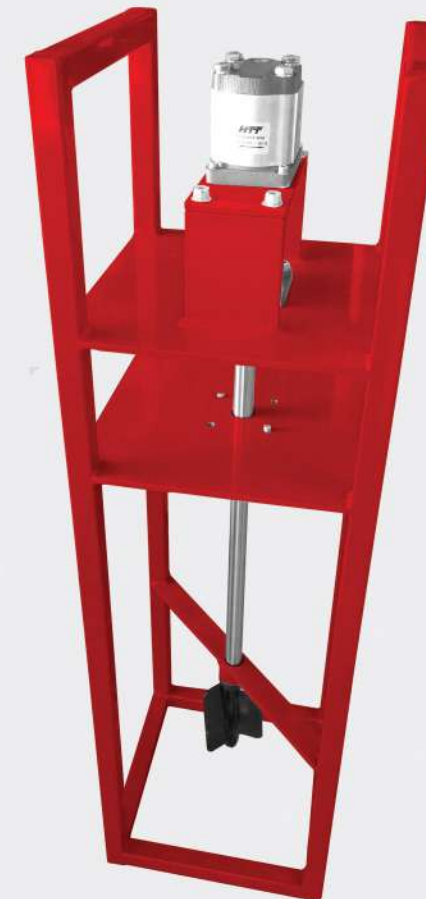
Maximum Flow	135 Liter / min.
Working Pressure	70 Bar
Maximum Pressure	100 Bar
Hydromotor	Eaton Vickers 130 cc, Hydraulic Motor



* Mud Pump Flow Control

HD 70 >> MUD MIXER

Maximum Flow	2300 rpm
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HD 90
PARS

HD 90 >> DRILL HEAD

Rotation Engine	Rexroth 160 cc Axial Piston Variable Displacement Motor		
Transmission	4 Gears		
Jaw System	Spring or Nitrogen Piston		
Holding Capacity	20.000 kg		
Maximum Flow	1200 RPM		
Hydraulic Side Slip	30 cm		
Max. Coupling Diameter	117 mm		
Lubrication Tandem	Casappa (11 cc + 6 cc) 7,2 L / min. max. flow		
Ratios	1st	6.27:1	
	2nd	3.12:1	
	3rd	1.75:1	
	4th	1.00:1	

HD 90 >> TORQUE AND RPM RATINGS

* Hydraulic motor at maximum / minimum displacement.

	Speed (No Load)	Torque (Stall)	
	RPM	Nm	lbft
1st Gear	122 - 199	7955 - 5268	5,867 - 3,885
2nd Gear	246 - 400	3960 - 2422	2,921 - 1,786
3rd Gear	439 - 714	2220 - 1355	1,637 - 999
4th Gear	769 - 1,200	1268 - 775	935 - 571

HD 90 >> DRILL MAST AND FEED SYSTEM

Feed Stroke	3,80 m
Pull Cap. @ 280 bar	31.500 kg
Thrust Cap. @ 280 bar	17.500 kg
Rod Pull Capacity	3 or 6
Drilling Angle	45° - 90°
Telescopic Mast Length	3.5 m.



PRIMARY PUMP

Type Axial piston, variable displacement load sensing, pressure compensated with low pressure standby

Max. Flow 232 - 262 liter / min. (Diesel Engine 1600 - 1800 RPM)

Max. Working Pressure 280 - 350 bar

** We are using Rexroth pump sets on our systems. According to customer demands and variable lead times, Kawasaki, Danfoss and Parker brand products can also be used.*

SECONDARY (2ND) PUMP

Type Axial piston, variable displacement load sensing, pressure compensated with low pressure standby

Max. Flow 96 - 108 liter / min. (Diesel Engine 1600 - 1800 RPM)

Max. Working Pressure 350 bar

** We are using Rexroth pump sets on our systems. According to customer demands and variable lead times, Kawasaki, Danfoss and Parker brand products can also be used.*

THIRD (3RD) PUMP

Type Axial piston, pressure compensated

Max. Flow 45 - 50 liter / min.

Max. Working Pressure 280 bar

** We are using Rexroth pump sets on our systems. According to customer demands and variable lead times, Kawasaki, Danfoss and Parker brand products can also be used.*

MIXER AND ROTATION LUBRICATION

Type Gear Pump

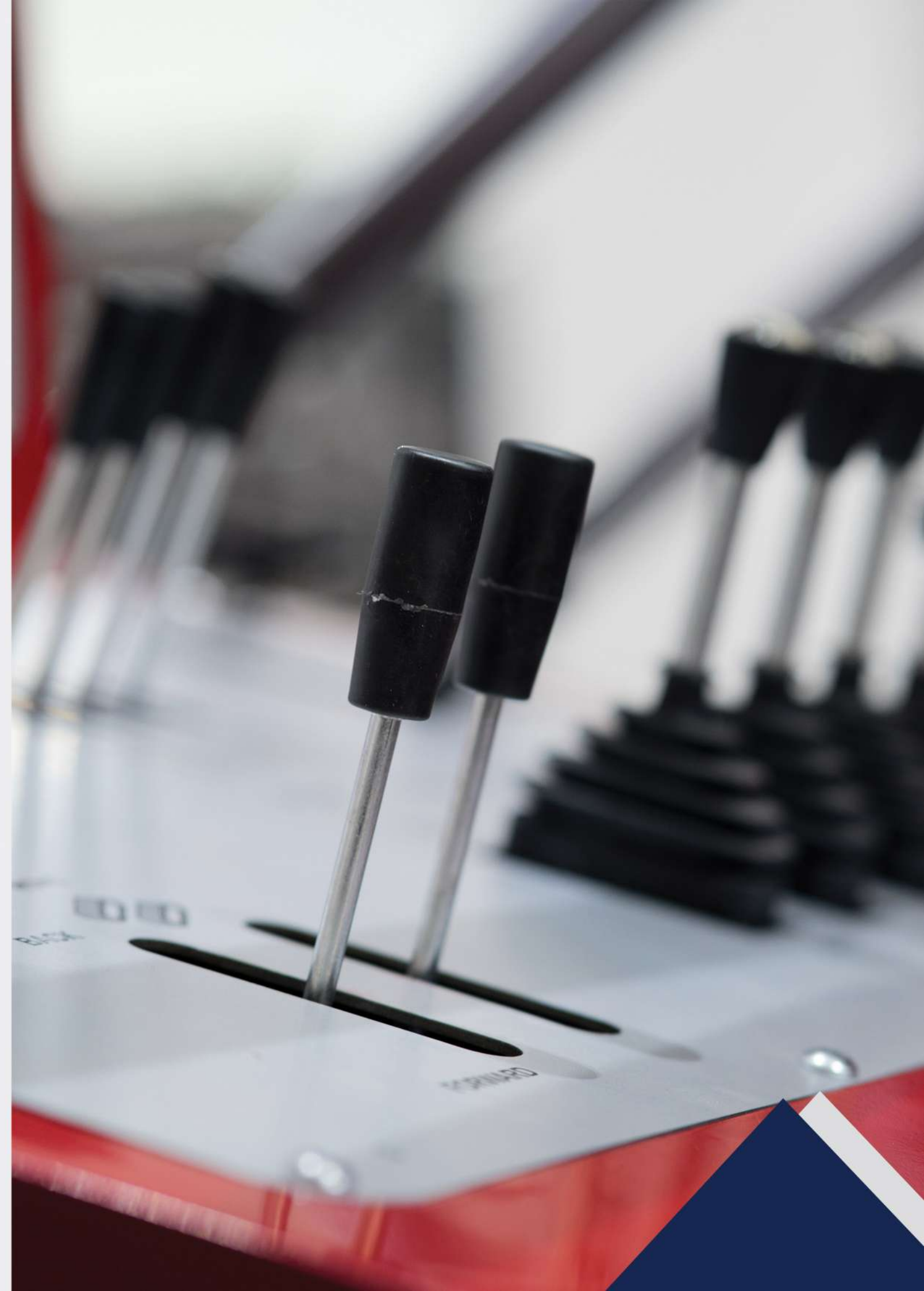
Max. Flow 35 liter / min.

Max. Working Pressure 280 bar

Rotation Lubr. Pumps Gear Pump

Max. Flow 15 liter / min.

Max. Working Pressure 280 bar





HD 90 >> PRIME MOVER

Brand Ford, Cummins or Volvo brand motors will be used

Maximum Power 320 - 500 hp (238 - 374 kw)

Maximum RPM 0 - 2200 RPM

Emission Class Will vary according to the selected motor model

Fuel Consumption Euro-3, Euro-5, Euro-6

** Will vary according to the selected model*



** A mechanical engine is used as a visual representation for the Prime Mover. Electronic motor will be used in HD90 rigs.*



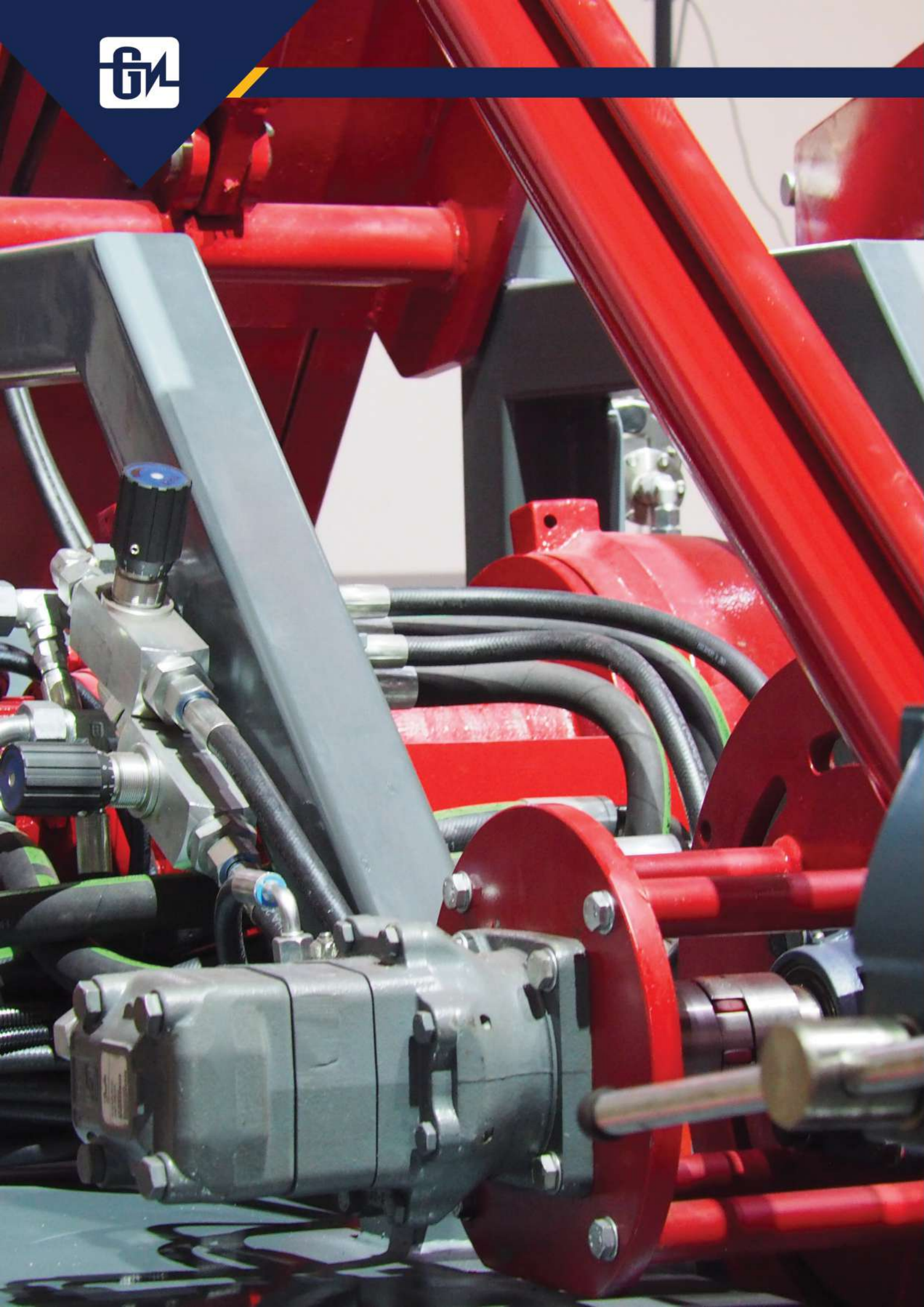
HD 90 >> MOVEMENT SYSTEM

Undercarriage Model	IVA Johann Track (Germany)
Max. Dynamic Capacity	15 ton
Track Type	Double Speed
Control	Mechanical or Remote Control (Optional)
Speed	2,3 - 4,3 km / h
Gearbox Type	706CK - 18.000Nm
Gradeability	Max 30° - 225 Bar
Total Height	3073 mm
Total Length	600 mm
Total Width	400-500 mm

* Hidroport Engineering is the official distributor for German undercarriage producer

IVA Johann GmbH
Baumaschinentechnik





HD 90 >> MAIN LINE HOIST

Main Winch	Braden or equal counterpart
Hydromotor	Rexroth Hydraulic Motor, Double Speed, Variable Displacement
Hook Load (Single Rope) Empty Drum	18.000 kg (18 ton)
Elevation Speed (Single Rope) Empty Drum	72 meter/min. and 40 meter/min.
Main Winch Steel Rope	18 mm (28 meter)
Minimum Rupture Strength	20.900 kg
Foot Brake Capacity	HWT

HD 90 >> WIRELINE WINCH

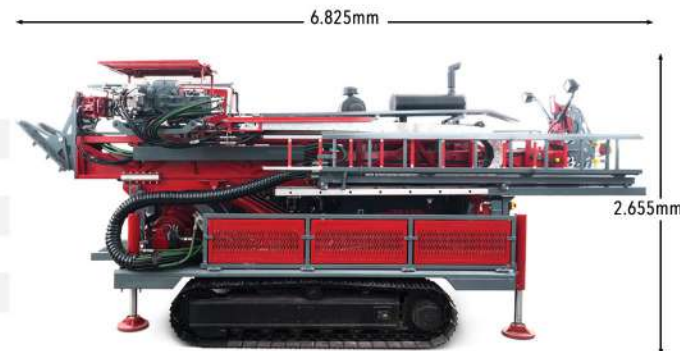
Rotation Motor	Sauer/Danfoss OMT400 400 cc / Hydraulic Moor with Speed Brake
Pulling Force	
Empty Drum	1200 kg
Full Drum	350 kg
Pulling Speed	
Empty Drum	100 m/min.
Full Drum	250 m/min.
Drum Capacity 4.8 mm for (3/16") Rope	2.200 m
Minimum Rupture Strenght	2.250 kg



HD 90 >> DIMENSIONS

Transport Position

Width	2.300 mm
Length	6.825 mm
Height	2.655 mm



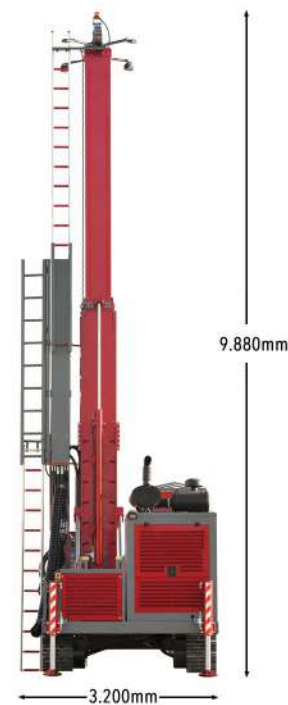
45° Inclined Mast (Wide Open)

Width	3.200 mm
Length	7.440 mm
Height	7.110 mm



90° Vertical Mast (Wide Open)

Width	3.200 mm
Length	7.030 mm
Height	9.880 mm





HD 90 >> MUD PUMP

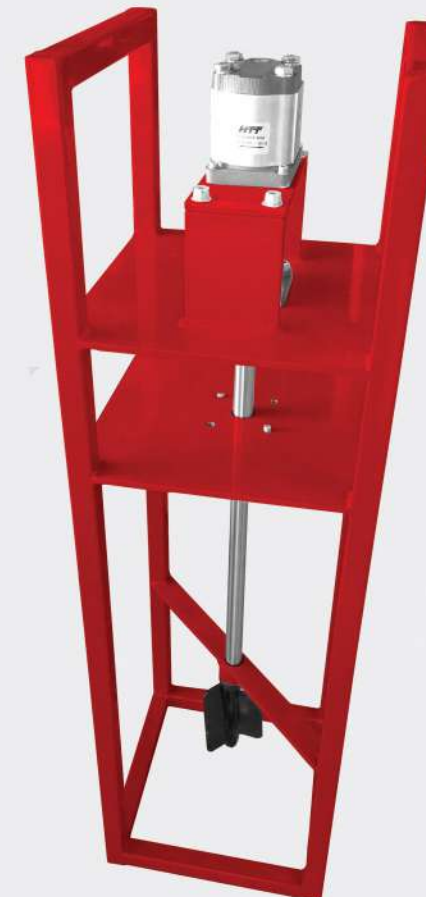
Maximum Flow	135 Liter / min.
Working Pressure	70 Bar
Maximum Pressure	100 Bar
Hydromotor	Eaton Vickers 130 cc, Hydraulic Motor



* Mud Pump Flow Control

HD 90 >> MUD MIXER

Maximum Flow	2300 rpm
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SAFETY SWITCH SYSTEM

It minimizes the operational faults and ensures the safety of the main winch against breakage or jamming by means of the rod, one end of which is attached to the rope.

LIGHTING & LADDER SYSTEM

Wide-angle, high-performance led lighting system enables a suitable environment for working by illuminating the field of view of the drilling point and its surroundings. With the foldable mast ladders, workers can climb up the ladder and do their work safely.

FOLDABLE FRONT and SIDE PLATFORMS

There are foldable platforms and parts placed on the sides and front of the machine to facilitate the work of the personnel working in the drilling operation.

DRILL HEAD SAFETY GUARD

In order to fully apply the occupational health and increase the safety measures, rotary drill head kept in this protective cage housing to prevent any kind of accidental contact of personnel.



SAFETY SWITCH



LIGHTING & LADDER SYSTEM



FOLDABLE FRONT PLATFORM



DRILL HEAD SAFETY GUARD

EMERGENCY STOP BUTTON

Emergency stop buttons have been placed to the critical points of the machine to be reached easily in order to increase effective usage and emergency standards.

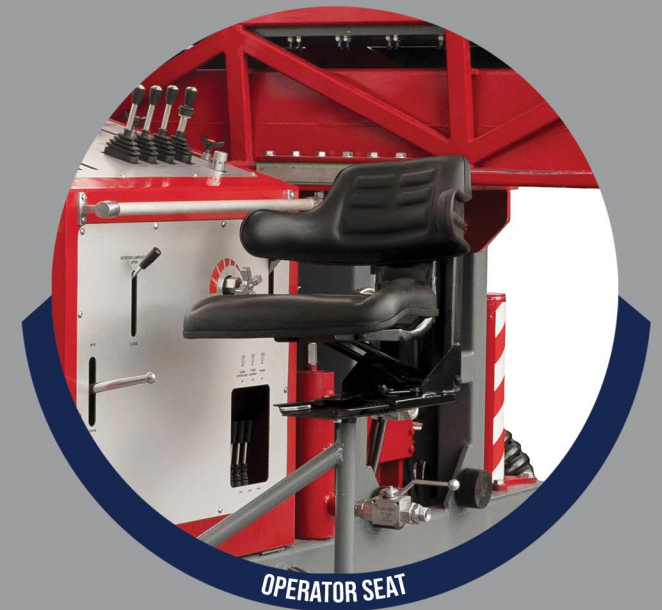


OPERATOR-FRIENDLY CONTROL PANEL

The design of the control panel is being carried out with the feedbacks obtained from the drilling areas. So the indicators, push-buttons and levers positioned at the key points to allow the operator to work most efficiently. Thereby, the operator can manage the whole process from the operator's cabin without being exposed to any distractions and thanks to the seat placed inside the cabin, the operator has the opportunity to work comfortably.



FOLDABLE SIDE PLATFORM



OPERATOR SEAT



**CORE
DRILL
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