

# KmN1.4ua - 2.0ua

Safe and hardworking autonomous drill rig, with performance features built for optimal results



**STRONGER AND STRONGER**

## FEATURES AND BENEFITS

- **Many automated features:**

- Full 3 m drilling operation
- Entry and exit
- Clamping and unclamping
- Lowering and retrieval
- Depth measurement

This **reduces workers' involvement, keeps them safe, and improves operations.**

- User-friendly, fully automatic interface, **reducing the initial training time for operators**

- Can be operated by a single worker, **countering the current labour shortage**

- **Data collection :**

- Water flow and pressure
- Metres drilled
- Feed speed and pressure applied to the drill bit
- Drilling RPM
- Drilling pressure and torque
- Drilling time and downtime
- List of errors and their frequency
- Reason for stoppage

This database can be used to produce performance reports and plan actions to **continuously improve drilling operations.**

## OPTIONAL

- Side rod handler
- Optical safety guard with real-time moving element tracking (ex. operator) (safety device)
- Rod handler

### Power unit

	93 kW, 1 750 RPM	125 HP, 1 750 RPM
Main power panel 575 V/60 Hz/460 V/60 Hz/3 ph		
Auxiliary 24 VDC panel (control unit)		
Primary pump (130 cc)	6 500 psi (448 Bar)	60 gpm (228 lpm)
Auxiliary pump (74 cc)	4 000 psi (276 Bar)	34 gpm (130 lpm)
Feed pump (9.5 cc)	4 000 psi (276 Bar)	4 gpm (17 lpm)
Hydraulic oil cooling, air and water (if needed)		

### Mast and feed system

Mast dump	40 in (1,02 m)	
Tilt angle	-90 @ 90 deg (depending on options chosen)	
Feed stroke	66 in (1,68 m)	
Working pressure	4 100 psi (283 Bar)	
Thrust/pull (telescopic hydraulic cylinder)	26 000 lb (116 kN)	171 ft/min (52 m/s)

### Depth based on pull capacity

Size B wireline drill rod	40 lb/³ m (18,2 kg/³ m)	6 391 ft (1 948 m)
Size N wireline drill rod	51 lb/³ m (23,2 kg/³ m)	5 014 ft (1 528 m)
Size H wireline drill rod	76 lb/³ m (34,5 kg/³ m)	3 372 ft (1 028 m)
Size P wireline drill rod	115 lb/³ m (52,2 kg/³ m)	2 228 ft (679 m)

### Wireline 315 cc motor @ 3500 psi

Length capacity	9514 ft (2 900 m)	3/16 in (4,76 mm)
	5085 ft (1 550 m)	1/4 in (6,35 mm)
Bare drum pull capacity/speed	2974 lb (14 kN)	334 ft/min (102 m/min)
Full drum pull capacity/speed	731 lb (3 kN)	1 300 ft/min (396 m/min)

### Drill head (compatible with rod sizes A to P)

Final drive HV-80-3 chain in an oil bath with 1:2.33 ratio	
Lubrication pump for bearings	
No transmission	
380 cc motor with proportional hydraulic control	
Holding capacity	45 000 lb (200 kN)
Rotation speed and torque	918 lb*ft (1 254 N*m) @ 1 250 RPM
	2 296 lb*ft (3 113 N*m) @ 500 RPM
Breaking torque (computer controlled to prevent damage)	4 526 lb*ft (6137 N*m)

### Rod clamp (compatible with rod sizes A to P)

Holding capacity	45 000 lb (200 kN)
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### Operator control interface

Information	10" Danfoss DM1000 touchscreen, colour display	
Drilling information	Rotation	Speed (RPM), pressure (torque)
	Feed	Penetration rate, calculated WOB, RPI (RPC)
	Water pump	Water flow rate, water pressure
	Wireline	RPM, drum turn count, pull pressure
	Diagnostics	Warning, operator instructions, alarm, machine status, operating mode, etc.
Drilling control	2 x joysticks (2-axis)	
	3 x HMR rotary devices (button and POT)	
	Keypad near drill rig (mode control)	

# KmN2.0ua

## FEED CYLINDER INCREASE

### Power unit

	93 kW, 1 750 RPM	125 HP, 1 750 RPM
Main power panel 575 V/60 Hz/460 V/60 Hz/3 ph		
Auxiliary 24 VDC panel (control unit)		
Primary pump (130 cc)	6 500 psi (448 Bar)	60 gpm (228 lpm)
Auxiliary pump (74 cc)	4 000 psi (276 Bar)	34 gpm (130 lpm)
Feed pump (9.5 cc)	4 000 psi (276 Bar)	4 gpm (17 lpm)
Hydraulic oil cooling, air and water (if needed)		

### Mast and feed system

Mast dump	40 in (1,02 m)	
Tilt angle	-90 @ 90 deg (depending on options chosen)	
Feed stroke	66 in (1,68 m)	
Working pressure	4 100 psi (283 Bar)	
Thrust/pull (telescopic hydraulic cylinder)	37 000 lb (165 kN)	125 ft/min (38 m/s)

### Depth based on pull capacity

Size B wireline drill rod	40 lb/³ m (18,2 kg/³ m)	9 095 ft (2 772 m)
Size N wireline drill rod	51 lb/³ m (23,2 kg/³ m)	7 135 ft (2 175 m)
Size H wireline drill rod	76 lb/³ m (34,5 kg/³ m)	4 798 ft (1 462 m)
Size P wireline drill rod	115 lb/³ m (52,2 kg/³ m)	3 171 ft (967 m)

### Wireline 315 cc motor @ 3500 psi

Length capacity	9514 ft (2 900 m)	3/16 in (4,76 mm)
	5085 ft (1 550 m)	1/4 in (6,35 mm)
Bare drum pull capacity/speed	2974 lb (14 kN)	334 ft/min (102 m/min)
Full drum pull capacity/speed	731 lb (3 kN)	1 300 ft/min (396 m/min)

### Drill head (compatible with rod sizes A to P)

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