

Face Master 2.320

Twin boom drilling rig

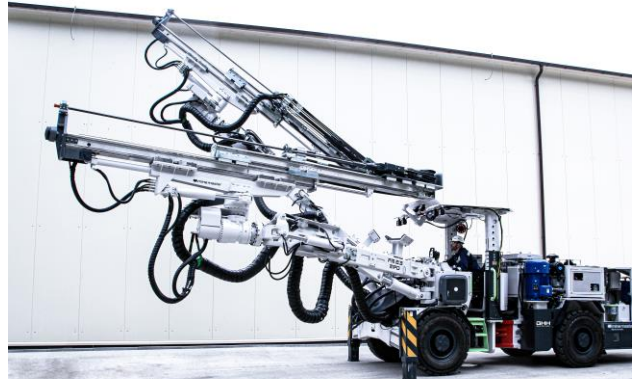
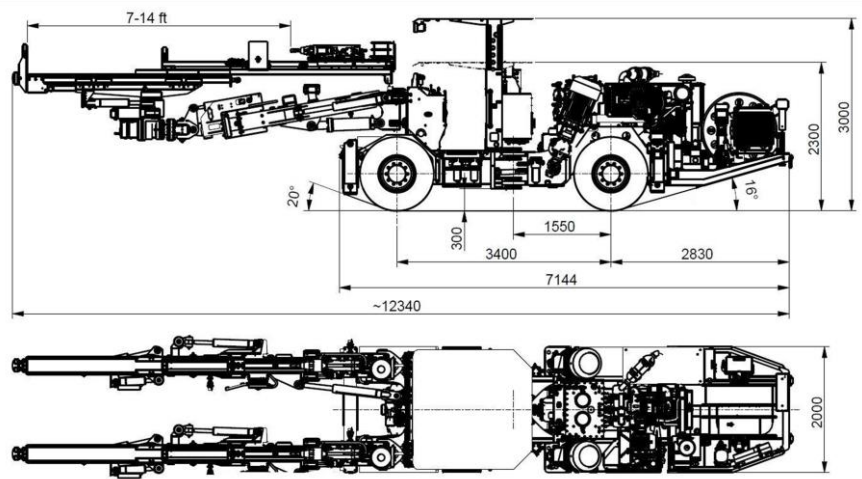


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TECHNICAL SPECIFICATION

Weight and dimensions

Weight (without options)	22 000 kg
Length (with 14ft feeder)	12 340 mm
Width	2 000 mm
Height (depending on chosen cabin type):	
Min.	2 300 mm
Max.	3 000 mm
Turning radius	$R_i = 3\,620\text{ mm}$
	$R_o = 6\,760\text{ mm}$
Admissible along gradeability	10 degrees
Admissible cross-grade	5 degrees



Note: drawing shows machine equipped with optional telescopic feeders

Main components

Operator's protection structure – canopy/cabin	FOPS/ROPS certified
Rockdrills	2 x MM 20
Booms	B36
Diesel engine	Deutz diesel engine TCD 3.6 L4 100kW, liquid cooled, comply with Stage 3A
Feeders	Alloy, 2x fixed 14ft
Tires	12.00 x 20
Basic Monitoring System	Tramming and hydraulic systems parameters

Rock drills MM 20

Drilling range	45-102 mm
Shank adapter	R38, T38
Weight	164 kg
Impact power	20 kW
Frequency	67 Hz
Percussion oil flow	110-130 Imp @ 80-150 bar
Rotation oil flow	90 Imp @ 175 bar
Rotation speed	max. 250 rpm
Rotation torque	796 Nm
Lubricator	SKF, 5 l tank, electrical drifter protection system

Booms

B36

Boom extension	1 350 mm
Feeder rotation	360° (+180 /-180°)
Feeder crowd	610 mm
Feeder swing	+180 /-90°
Feeder tilt	0-90°
Weight	2 500 kg
Slides replacement	Patented cassette solution for quick replacement
Hydraulic dampening system	

Control systems

- All working unit movements provided via fully-proportional valves and flow-sharing technology
- Highly precise parallel system
- Hydraulically controlled drilling system which incorporates the anti-jamming function, anti-blank firing function, collaring, rotation speed control, feed pressure control
- Hole blowing kit with air tanks
- Basic Monitoring System - diagnostic of tramming & working system, visualization of working parameters on operator's panel, data logging on external memory (SD card, USB stick)

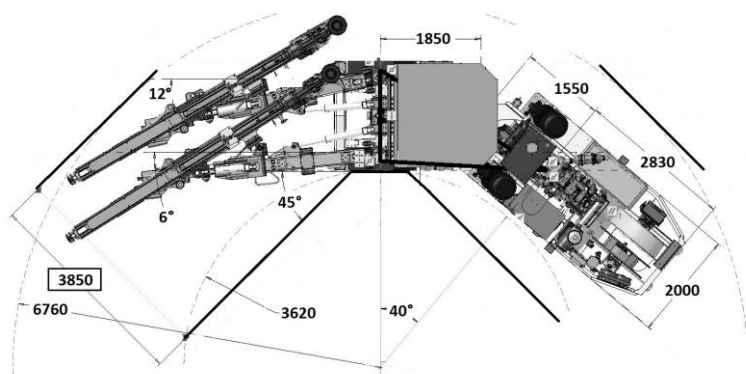
Feeders

F-7000 (14ft)

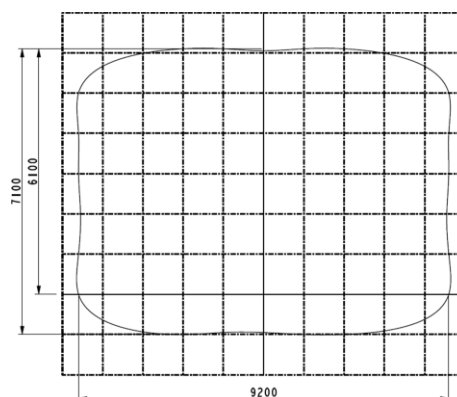
Beam material	Aluminium Alloy
Slides	Stainless steel
Overall length	6 200 mm
Hole depth	3 800 mm
Rod length	4 305 mm
Weight	775 kg
Centralizers	With quick bush release
Compatible rods	HEX 32, HEX 35

- Start-up set of 2 shank adaptors, 2 couplings (if applicable), 2 rods and 2 button bits

Turning radius with 14ft feeders



Coverage – parallel mode



Carrier

Diesel engine	Deutz diesel engine TCD 3.6 L4 100kW, liquid cooled, comply with Stage 3A Four wheel drive (Power shift) 20km/h on flat surface
Tramming	6km/h on 2nd gear at inclination 1:7 (8 degrees) 4 km/h on 1st gear @ 10 degrees slope
Transmission	MHR24000 series, Dana Off-Highway
Torque converter	Transmission integrated
Axles	113 Dana Off-Highway front (LS 45%) and rear (open)
Rear axle on pivot	For better traction
Front hydraulic jacks	With horizontal and vertical extension Pipe-in-pipe construction
Rear hydraulic jacks	With vertical extension Cylinder construction
Articulation	Danfoss – Orbitrol controlled by steering wheel, 24V emergency steering
Brakes	Fail-safe, wet multi-disc service brakes with additional fail-safe emergency-parking brake Neutral braking included Emergency 24V brake release
Tires	12.00 x 20
Fuel tank	150 l with lockable fuel cap
Electrical control system	24 V
Battery	2 x 12 V DC
Master switch	Lockable master switch (for padlock), switches off everything on the machine (24V, diesel, high-voltage electric)
Driving lights	4 x 35 W LED
Automatic centralized lubrication system	SKF

- Reverse camera
- Floor in drilling compartment equipped with vibro isolators
- Seat with suspension, arm rests and 3-contact seatbelt
- Diesel engine fault monitor
- Engine v-belt made of anti-static and non-flammable material
- Engine cooler cap with safety pressure release
- Engine oil level indicator and deep stick in long version for easy access
- Fuel level indicator
- Transmission oil level indicator located in easy visible place
- Fuel hoses double coated
- Diesel engine temp. indicator
- Gear box temp. indicator
- Battery charging indicator
- Fire extinguisher
- Exhaust catalizer
- Cabin/canopy LED environmental lights
- Horn
- Cabin fan (if no air-conditioning)
- Rotating beacon (orange)
- Hand pump to release emergency/parking brakes
- Wheel chocks

Hydraulic system

Hydraulic pump	130ccm axial-piston with load sensing for percussion & boom movements and gear pump for rotation
Monoblocks	One for collaring & anti-jamming, one for parallel system
Measure points	Concentrated in easily accessible place
Percussion	160 bar
Feed	max. 150 bar (factory set-up max. 100 bar)
Rotation	max. 175 bar
Quick release safety valves	For rotary actuator & hydraulic cylinder of the working unit
Hydraulic oil tank capacity	260 l
Filtration	10 µm
Oil cooler	Water cooling system
Hydraulic oil	Mineral
Low oil level indicator	
High oil temp. indicator	
24V electric pump to fill up hydraulic oil	

Electrical system

Motor	2 x 55 kW
Total installed power	120,5 kW
Voltage	to suit customer's requirements
Starting method	star/delta 380-690 V, direct on line 1000 V
Working lights	6 x 35 W LED directed front + 2 x 35 W LED directed back
Cable reel capacity	100 m (<i>cable optional</i>)
Cable spooling device	Set-up for specific cable outer dia.
Cable reel controls	In operator's compartment & at the back
Electric cable last turn lock	stops machine while electric cable is fully pulled out
Compatible power network	TN-S in standard; IT (system with additional "pilot") and TN-C-S are optional

- Allowed voltage fluctuation -10% / +15%
- Electric motors thermal overload protection
- Percussion hour meter, Powerpack hour meter
- Voltmeter/amperage meter on electric cabinet
- Phase sequence indicator
- Earth fault indicator
- Short-circuit protection
- CAN- BUS

Water system

Water booster pump	Rotodynamic Grundfoss pump
Max. capacity	170 lpm
Min. inlet pressure	2 bar
Water hose reel capacity	80 m (1" water hose included)
Water-oil cooler	pipe type - harsh water

Air system

Compressor	Screw type
Capacity	1.05 m ³ /min
Air tanks for hole cleaning	
High compressor temp. indicator	
Low compressor pressure indicator	

Optional equipment

CLOSED, AIR-CONDITIONED CABIN	Fixed height of 3,0 m
BOOM ISOLATORS	Push buttons on both sides of the machine – safety feature to temporarily cut-off all the functions of the working units
FIRE SUPPRESSION SYSTEM	ANSUL activated manually
FIRE SUPPRESSION SYSTEM WITH FLAME DETECTION	ANSUL with Checkfire, activated automatically
BY – PASS FILTRATION	Additional filtration of hydraulic system for both tramming and drilling systems (minimum 5 µm particles)
AIR-MIST SYSTEM WITH 400L TANK	Mounted instead of water hose reel; additional air-coolers and more efficient compressor added
AIR-MIST SYSTEM WITH CONNECTION TO LOCAL WATER NETWORK	System with additional air-coolers and more efficient compressor
SPARE WHEEL	12.00 x 20" (including rim and tire)
FEEDER GUIDANCE SYSTEM (FGS)	Enables drilling parameters monitoring + accurate feeder positioning (in reference to drill plan)
FGS WI-FI CONNECTIVITY	Machine hardware necessary to upload data from FGS into cloud data; requires mine wi-fi network
ELECTRIC CABLE	4 or 5 wire – 100 m (plug can offered additionally after its specification is provided)
EXTRA POWER OUTLET	230 V, 50 Hz, 16 A – possible only with TN-C-S

HIGH PRESSURE WASHING KIT	Hydraulically driven
CORROSIVE PACKAGE	Electric cabinets made of stainless steel or other ambient-resistant material, cylinders with Ni-Cr layer, water flushing system made of stainless steel with dedicated filtration, top covers made of aluminium, steel structures such as chassis, canopy/cabin and other covered using polyurea paint
RODS, COUPLINGS, BUTTON BITS	To receive a precise quote please provide information about required hole dia and rock parameters
PNEUMATIC GREASE GUN	Consists of 15 l grease reservoir and gun with hose reel
PITO (GRIPPER)	Hydraulically controlled gripper installed on the front of the feeder – enables easy rod unscrewing while drilling longer rounds.
UNIVERSAL MACHINE CONTROLLER	Universal interface for Trackless Mining Machines (TMM). Can be widely used and connected with any Collision Avoidance Systems (CAS), full or part speed-brake interlock or facilitate crawl and stop and many other systems. Option consists of interface only connected to the machine.
BATTERY JUMP START CONNECTION	External starter socket for use with external source of DC power to jump start machine

Optional feeders

F-7000 series

Type	8ft	10ft	12ft
Overall length	4 330 mm	5 030 mm	5 600 mm
Hole depth	2 180 mm	2 670 mm	3 200 mm
Rod length	2 440 mm	3 050 mm	3 700 mm
Weight	705 kg	725 kg	745 kg

Optional telescopic feeders

Model number	Type of rods	Length of rods Min-Max [mm]	Max. depth of drilled hole [mm]	Overall length collapsed — extended [mm]
MMTF3100/1830	6-10 ft	1830-3100	1330 - 2600	3500 - 4755
MMTF4310/2135	7-14ft	2165 – 4310	1805 - 3950	3872 - 6032