

INNOVATION LEADS TO VALUE

SUNWARD

SWDM215 ROTARY DRILLING RIG

EN.25.03

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ROTARY DRILLING RIG  
SWDM215

SUNWARD

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@Sunward Group

- The above parameters may be different due to product upgarding



SUNWARD

# SWDM215

## MAIN TECHNICAL FEATURES

MAX. DRILLING DIAMETER:

1500mm

MAX. DRILLING DEPTH:

72 m

MAX. TORQUE:

215 kN·m

ENGINE:

EU stage v / US EPA Tire 4F :

252 kW @ 1800 rpm

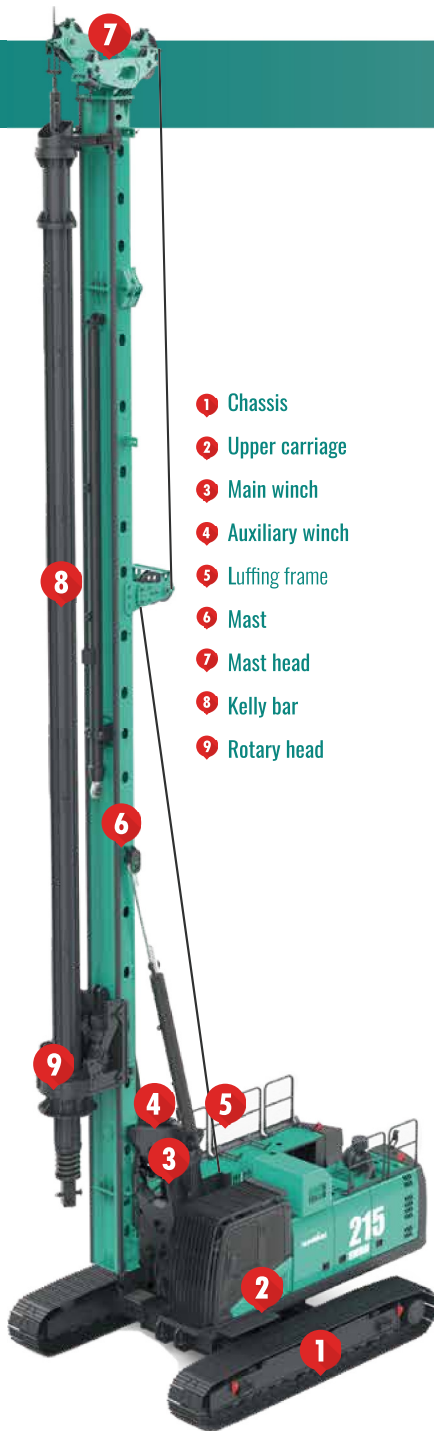
EU stage III : 194 kW @ 2200 rpm

MAX. HEIGHT:

21.8 m

OPERATING WEIGHT:

65 t



- ① Chassis
- ② Upper carriage
- ③ Main winch
- ④ Auxiliary winch
- ⑤ Luffing frame
- ⑥ Mast
- ⑦ Mast head
- ⑧ Kelly bar
- ⑨ Rotary head

## HIGHLIGHTS



EFFICIENT, POWERFUL AND RELIABLE ENGINE



MULTI-LANGUAGE SUPPORT, VERSATILE FUNCTIONS,  
MACHINE MONITORING, DIAGNOSTICS



SPACIOUS, QUIET & COMFORTABLE CAB WITH  
A USER-FRIENDLY CONTROL SYSTEM



FULL-VIEW CAMERA, EMERGENCY STOP SWITCH,  
GUARDRAIL AND OTHER SAFETY DEVICES



SMART LAYOUT,  
EASY MAINTENANCE



POWER HEAD :  
STANDARD WITH HIGH-SPEED SOIL THROWING , DRIVE KEY STRIP IS EASY TO MAINTAIN  
ACCUMULATOR IMPACT PROTECTION SEAL, EXTENDING THE LIFE OF THE POWER HEAD MOTOR



ELECTRICAL SYSTEM:  
1.ONE-TOUCH CASING EXTRACTION  
2.ONE-TOUCH SOIL THROWING  
3.ONE-TOUCH LIFTING  
4.ROCK ENTRY MODE  
5.ROTATION RESET





ROTARY DRILLING RIG

# SWDM215

**SWDM215** has been designed for versatility and resilience. This state-of-the-art machine delivers high performance even in the most challenging conditions with a focus on operator comfort and safety.

Compatible with all drilling technologies, the machine Plug & Play system simplifies setup and operation, making it easier than ever to switch between different drilling methods.

- **Efficiency & Productivity**

Improved performance and functionality with many automatic solutions to simplify and protect the operator's job. Powerful engine, high performing rotary head, fast and powerful winches, are the key to improve efficiency and productivity onsite.

- **Environment Protections**

Powerful Cummins Diesel Engine EU stage V / US EPA Tier 4f, with auto idle control system for fuel saving and low noise emission level, one of the lowest in its category.

- **SUNWARD Aftersales Quality System**

In Sunward we believe that a proactive and efficient after-sales organization is playing a pivotal role in our customers' success. This is the reason we globally invested in spare parts stock and skilled service engineers. Thanks to our Sunward Drill System, an electronic System for drilling equipment control, production supervision and fleet management, we can support our customers in their daily operations and trouble shootings onsite, wherever they are in the world.

# 6 MACHINE KEY FEATURES

SPECIALIZED CHASSIS

HIGH EFFICIENCY

INTELLIGENT CONTROL



SUNWARD ONLINE CLOUD

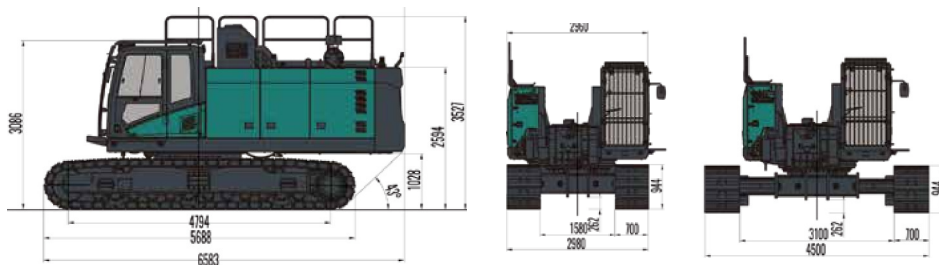
DIGITIZATION

OPERATION FRIENDLY

# SWDM215 TECHNICAL PARAMETER

## UNDERCARRIAGE

OVERALL WIDTH WITH RETRACTED CRAWLERS	2980 mm	9 ft 9 in
OVERALL WIDTH WITH EXTENDED CRAWLERS	4500 mm	14 ft 9 in
WIDTH OF TRIPLE GROUSER TRACK SHOES	700 mm	2 ft 4 in
OVERALL LENGTH OF CRAWLERS	5688 mm	18 ft 8 in
TRACTION FORCE (EFFECTIVE / NOMINAL)	490 / 80 kN	110,155 lbf / 130.39 lbf
TRAVELLING SPEED	1.55 km/h	0.96 mph



## ENGINE

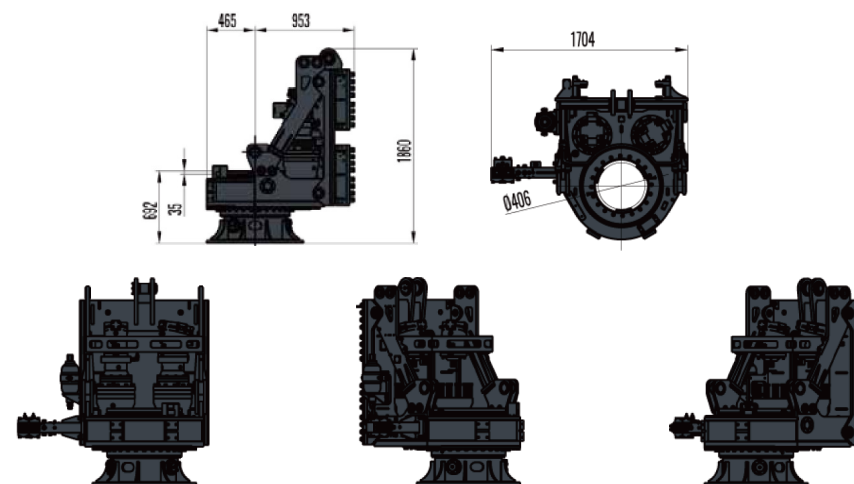
ENGINE MODEL	Cummins L9	Cummins L9
POWER RATING	252 kW @ 1800 rpm	194KW@2200rpm
ENGINE EMISSION	EU stage V /US EPA Tire 4f	EU stage III
FUEL TANK CAPACITY	465 L	465 L
AD BLUE TANK CAPACITY	31 L	31 L

## HYDRAULIC SYSTEM

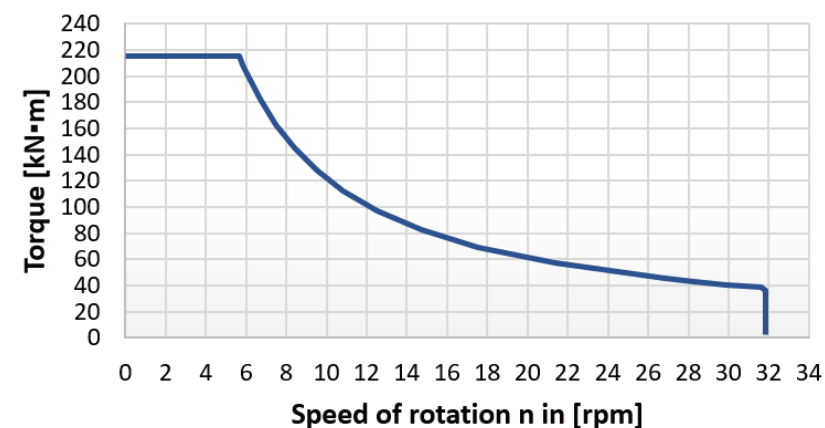
MAIN PUMPS FLOW	2X234 L/min	2X234 L/min
HYDRAULIC OIL TANK CAPACITY	597 L	597 L
HYDRAULIC PRESSURE	320 bar	4641 pst

## ROTARY HEAD

MAX. NOMINAL TORQUE	215 kN.m	158,612 lbf.ft
SPEED OF ROTATION	6-32 rpm	6-32 rpm
SPIN OFF SPEED	-	-
WEIGHT	4 t	8,818 lbs



Rotary head





# SWDM215 TECHNICAL PARAMETER

# SWDM215 STANDARD CONFIGURATION & OPTIONS

## MAIN WINCH

FIRST LAYER LINE PULL (EFFECTIVE)	210 kN	47,240 lbf
LINE SPEED (MAX.)	76 m/min	249.3 ft/min
ROPE DIAMETER	28 mm	1.1 in

## AUXILIARY WINCH

FIRST LAYER LINE PULL (EFFECTIVE)	80 kN	17,984 lbf
LINE SPEED (MAX.)	50 m/min	164 ft/min
ROPE DIAMETER	20 mm	0.79 in

## NOISE EMISSION

SOUND PRESSURE LEVEL IN CABIN – STAGE V (EN 16228, ANNEX B)	LPA 80 db	LPA 80 db
SOUND POWER LEVEL (2000/14/EC AND EN 16228, ANNEX B)	LWA 109 db	LWA 109 db

## CYLINDER CROWD SYSTEM

STROKE	5200 mm	17 ft 1 in
CROWD FORCE PULL (NOMINAL)	280 kN	62,947 lbf
CROWD FORCE PUSH	140 kN	31,473 lbf
SPEED UP (MAX.)	16 m/min	52.5 ft/min
SPEED DOWN (MAX.)	14 m/min	45.9 ft/min

## WINCH CROWD SYSTEM

STROKE	/	/
CROWD FORCE PULL (NOMINAL)	/	/
CROWD FORCE PUSH (NOMINAL)	/	/
SPEED UP (MAX.)	/	/
SPEED DOWN (MAX.)	/	/
ROPE DIAMETER	/	/

NOTE: ● STANDARD; ○ OPTION;

## UNDERCARRIAGE

VARIABLE GAUGE, TELESCOPIC SIDE FRAMES	●
MACHINE ANCHOR POINTS FOR TRANSPORT	●

## UPPER STRUCTURE

DIESEL ENGINE EU STAGE V - US EPA TIRE 4F	●
ON-BOARD LIGHTING SYSTEM LED	●
AIR-CONDITIONING SYSTEM	●
RADIO	○
AIR-CUSHIONED OPERATOR'S SEAT (NO SEAT HEATING)	●
PROTECTIVE ROOF GUARD	●
ENGINE DIAGNOSTIC SYSTEM	●
FRONT PROTECTIVE GRILLE	●
360 DEGREE CAREMA	●
REARVIEW MIRRORS	●
LIGHTING SYSTEM IN FRONT OF THE JOB	●

## ROTARY HEAD

ROTATE HIGH SPEED	×
TRIGGER PLATE	●
CARDANIC JOINT	○
EXCHANGEABLE KELLY DRIVE KEYS	●

MAST INCLINATION MEASUREMENT ON X/Y AXES	●
ELECTRIC LOAD CELL ON MAIN ROPE	●
SPEED SENSING DEVICE ON ROTARY DRIVE	●
AUTOMATIC CROWD CONTROL	●
CASING EXTRACTION ASSISTANT	
SLEWING ANGLE DISPLAY FOR UPPER CARRIAGE	●

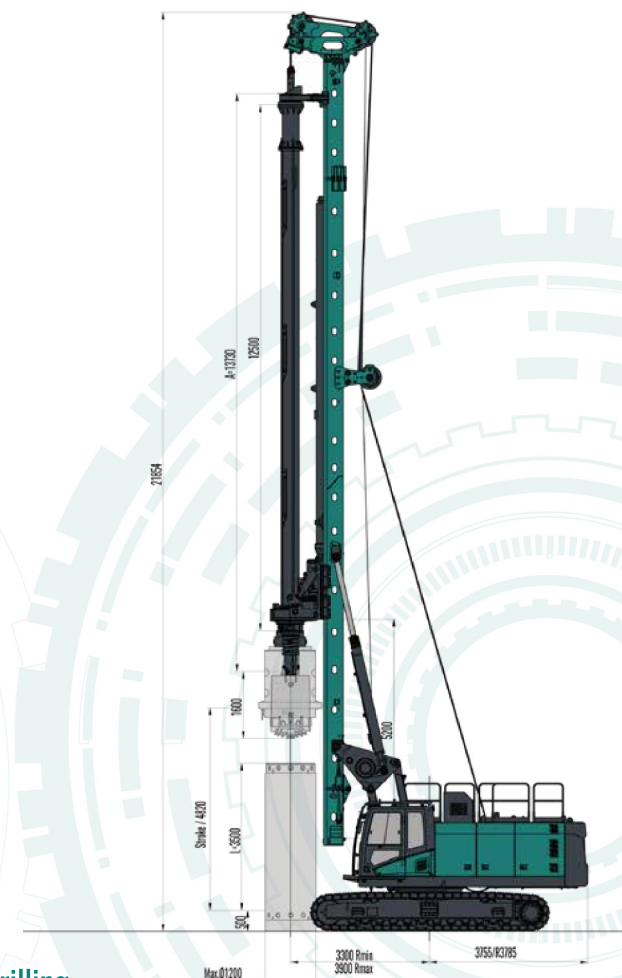
H-TYPE KINEMATIC SYSTEM	●
SWIVEL FOR MAIN ROPE	●
CFA KIT	○
UPPER KELLY GUIDE	●

# SWDM215 WORKING DIMENSION

CCS



CCS



Cased Kelly Drilling

	Kelly Bar	Casing Length L	Casing Shoe Length L1	Sand Bucket Height L2
SWDM215S	JS406-4x12.5m	4m	0.5m	1600mm

Drawing not to scale. All technical data is purely indicative and subject to change without notice.

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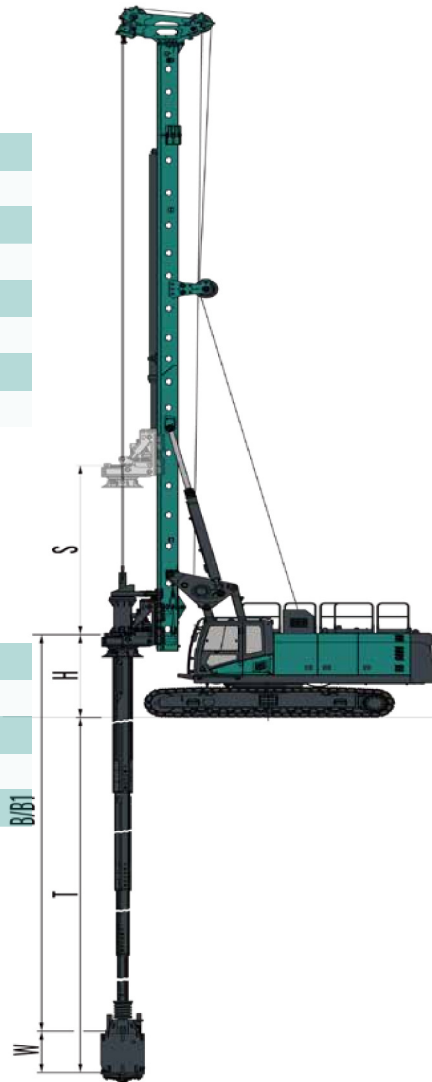
# SWDM215 DRILLING TOOLS INFORMATION

## CALCULATION OF DRILLING DEPTH

S	STROKE OF CROWD SYSTEM
H	HEIGHT OF ROTARY DRIVE ABOVE GROUND LEVEL
W	LENGTH OF TOOL
B	LENGTH OF KELLY BAR FULLY EXTENDED. FRICTION
B1	LENGTH OF KELLY BAR FULLY EXTENDED. LOCKED
T	DRILLING DEPTH
$T=B+W-H$	MAX. DEPTH FRICTION KELLY BAR
$T=B1+W-H$	MAX. DEPTH LOCKED KELLY BAR

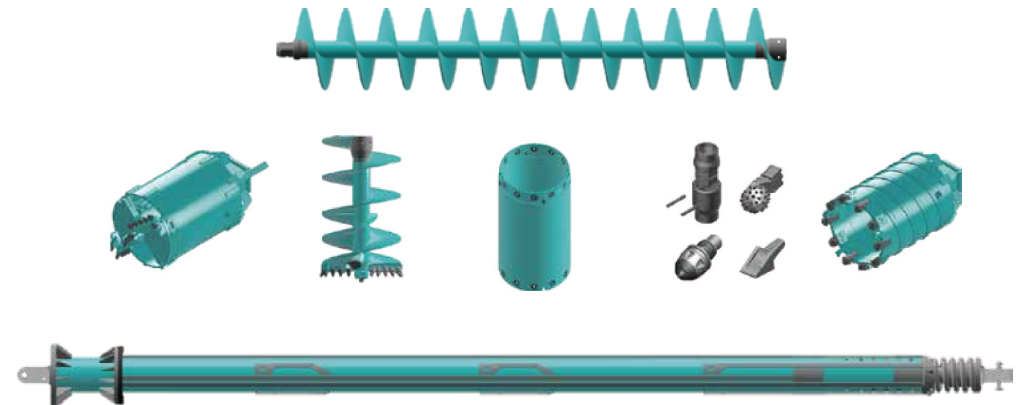
## KELLY BAR

A	RETRACTED LENGTH
D	TRANSPORT LENGTH
∅E	MAX. TRANSPORT DIAMETER
B	EXTENDED LENGTH
B1	EXTENDED LENGTH (LOCKED)



Kelly		A		B/B1		D		∅E		Weight		Drilling depth		CCS H1	
Type	Dimension	mm	ft	mm	ft	mm	ft	mm	ft	kg	t(US)	m	ft	mm	ft
Locked	JS406-4X9.0m	10230	33.6	32335	106.1	10395	34.1	580	1.9	5259.0	5.8	31.3	102.8	6493	21.3
Locked	JS406-4X10.0m	11230	36.8	36335	119.2	11395	37.4	580	1.9	5762.0	6.4	35.3	115.9	6493	21.3
Locked	JS406-4X11.0m	12230	40.1	40335	132.3	12395	40.7	580	1.9	6265.0	6.9	39.3	129.1	6493	21.3
Locked	JS406-4X12.0m	13230	43.4	44335	145.5	13395	43.9	580	1.9	6768.0	7.5	43.3	142.2	6493	21.3
Locked	JS406-4X13.0m	14230	46.7	48335	158.6	14395	47.2	580	1.9	7270.0	8.0	47.3	155.3	5993	19.7
Locked	JS406-4X14.0m	15230	50.0	52335	171.7	15395	50.5	580	1.9	7773.0	8.6	51.3	168.4	4993	16.4
Locked	JS406-4X15.5m	16730	54.9	58335	191.4	16895	55.4	580	1.9	8527.0	9.4	57.3	188.1	3493	11.5
Friction	MZ406-5X9.0	10230	33.6	40830	134.0	10395	34.1	580	1.9	5567.0	6.1	39.8	130.7	6493	21.3
Friction	MZ406-5X10.0	11230	36.8	45830	150.4	11395	37.4	580	1.9	6067.0	6.7	44.8	147.1	6493	21.3
Friction	MZ406-5X11.0	12230	40.1	50830	166.8	12395	40.7	580	1.9	6566.0	7.2	49.8	163.5	6493	21.3
Friction	MZ406-5X12.0	13230	43.4	55830	183.2	13395	43.9	580	1.9	7065.0	7.8	54.8	179.9	6493	21.3
Friction	MZ406-5X13.0m	14230	46.7	60830	199.6	14395	47.2	580	1.9	7564.0	8.3	59.8	196.3	5993	19.7
Friction	MZ406-5X14.0m	15230	50.0	65830	216.0	15395	50.5	580	1.9	8063.0	8.9	64.8	212.7	4993	16.4
Friction	MZ406-5X15.5m	16730	54.9	73330	240.6	16895	55.4	580	1.9	8811.0	9.7	72.3	237.3	3493	11.5

SWDM215 supports various drilling tools to meet construction site needs.



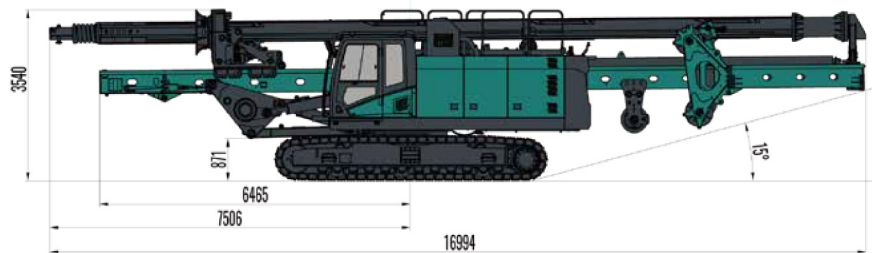


# SWDM215 TRANSPORT DATA

## TRANSPORT

G = Weight B = Width, overall

CCS



Note: G = 65t B = 2980mm

## REFERENCE



### Transportability

SWDM215 is a 65-ton class machine including the Kelly bar designed for faster and efficient set up on site.

# SWDM ROTARY DRILLING RIGS RANGE OVERVIEW--PRO SERIES



SWDM85

SWDM135

SWDM165

SWDM215

SWDM245

SWDM325

SWDM415