




SF-55 CONTINUOUS FLIGHT AUGER

soilmec®
Drilling and Foundation Equipment





The new SF-55 delivers the ideal combination of efficiency, smart working and compactness.

Since 1987 when the first CM-48 was produced in Cesena, Soilmec became a landmark for CFA dedicated machines. Today, after 3 further models and over 600 units sold, Soilmec launches the next generation of this dedicated CFA rig: **the new SF-55**.

The main design elements and the technological innovations come together in this new machine. Increased performance, simplicity and reliability are the result of this new step forward.

Soilmec DMS Drilling Mate System

Electronic system for drilling equipment control, production supervision and fleet management developed and owned by Soilmec since the late '90s.



DMS ON BOARD

Built-in instrumentation for equipment supervision and performance control.

DMS PC

Licensed software for machine and production data processing and reporting.



DMS MANAGER 4.0

Cloud app for asset, fleet and site management.



Smart Working

New DMS 4.0, a multi-language adjustable 12" touch-screen to manage the drilling rig, monitor alarms, and set and store technology parameters in real time.

CFA Autorotary. This function increases the operator comfort reducing the fatigue and arm vibration during the drilling phase.

CFA Auto Drilling is the automated drilling system developed by Soilmec: DMS defines the correct mix of parameters and checks to ensure greater efficiency in terms of digging performance.

- Allows the operator to detect the corkscrew effect
- Allows the operator to detect excessive over-excavation & over-flighting
- Optimises the level of auger filling
- Optimises the drilling process
- Allows the operator to become a controller of the automated functions set
- Reduces stress and fatigue to the operator

Sleeve extension warning system (*Patent Pending*) to avoid incorrect operations during coupling procedure, giving the operator the visualization of the correct locking position of the sleeve extension.

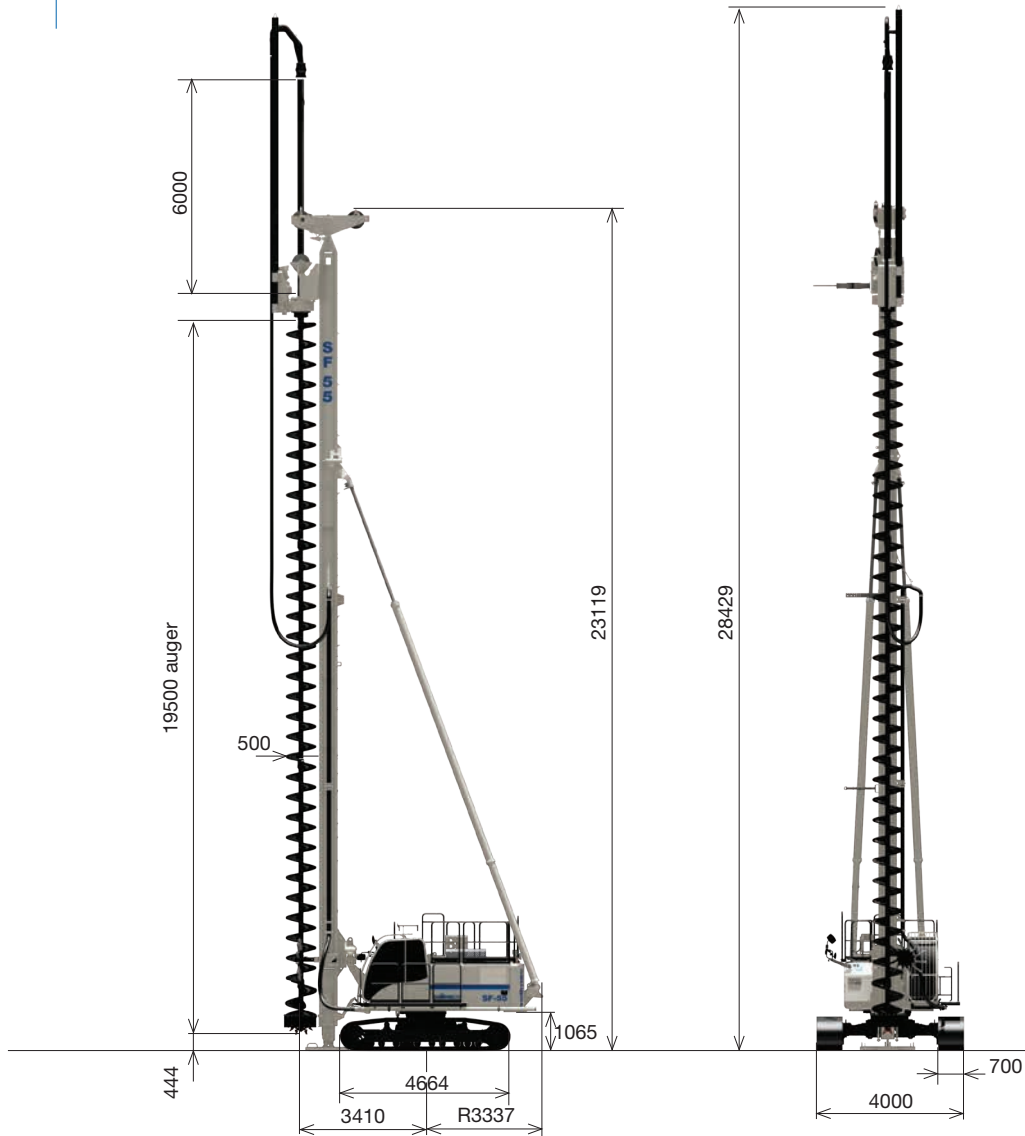
Wi-Fi Concrete Sensor used to measure the pressure of the concrete.

Auxiliary line restraint - in a safe position easily accessible to the banksman.

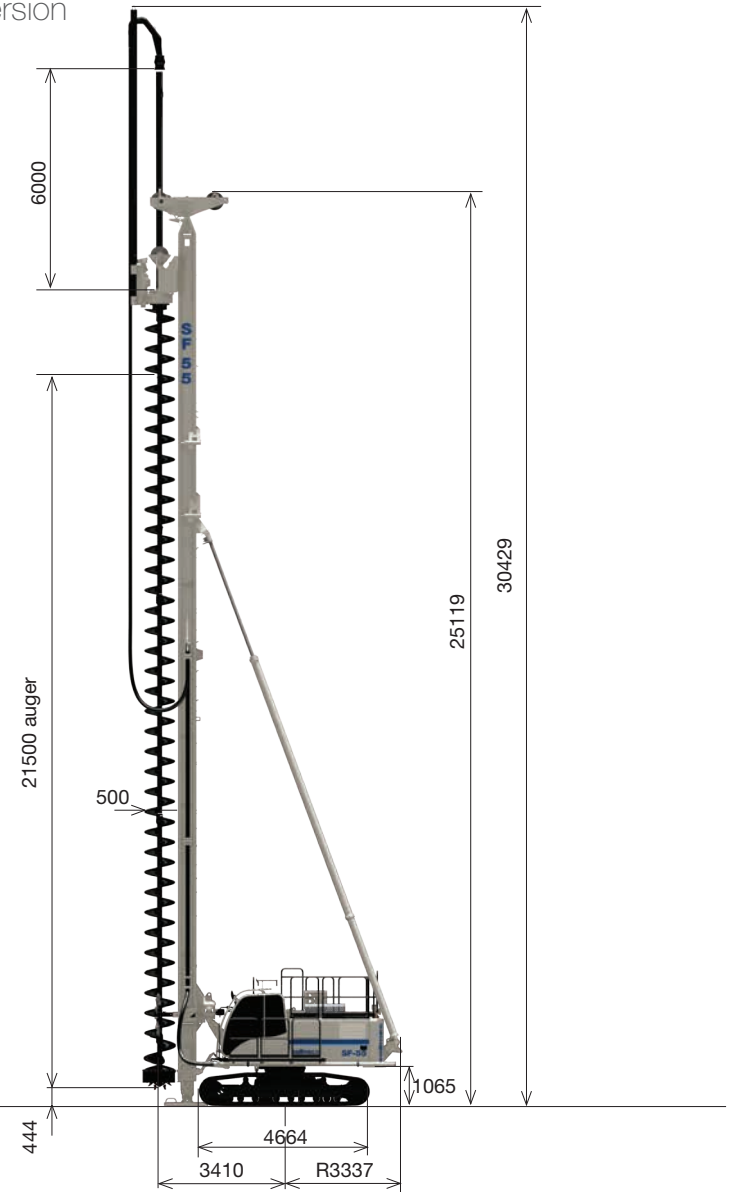


Working configuration

Standard version



Extended version



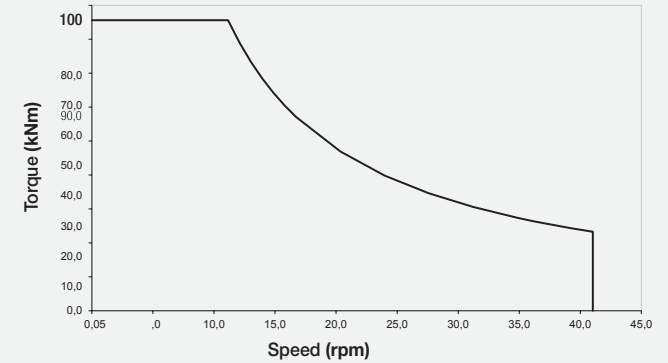
CFA - Continuous Flight Auger - 5 lines pull		standard version
Operating weight (c/w 6 m - 19.7 ft sleeve extension, w/o auger)	36300 kg	80028 lb
Max pile diameter	900 mm	35.43 in
Max length of auger	19,5 m	63.98 ft
Max length of sleeve extension	6 m	19.69 ft
Max pile depth (c/w 6 m - 19.7 ft sleeve extension) ¹	25 m	82.02 ft
Nominal extraction force	510 kN	114651 lbf
Additional crowd force on auger ²	37 kN	8318 lbf

CFA - Continuous Flight Auger - 5 lines pull		extended version
Operating weight (c/w 6 m - 19.7 ft sleeve extension, w/o auger)	37200 kg	82012 lb
Max pile diameter	900 mm	35.43 in
Max length of auger	21,5 m	70.54 ft
Max length of sleeve extension	6 m	19.69 ft
Max pile depth (c/w 6 m - 19.7 ft sleeve extension) ¹	27 m	88.58 ft
Nominal extraction force	510 kN	114651 lbf
Additional crowd force on auger ²	37 kN	8318 lbf

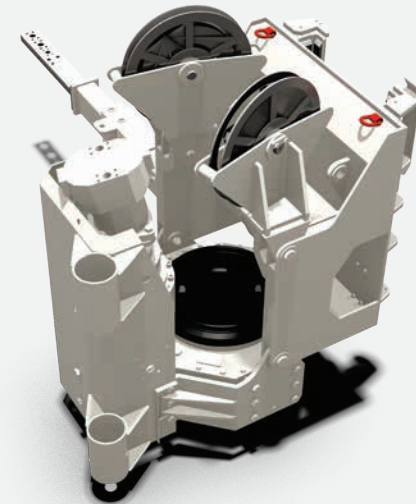
¹ depth reduced of 1,5 m (4.92 ft) with roller auger cleaner

² package on request

Rotary torque diagram

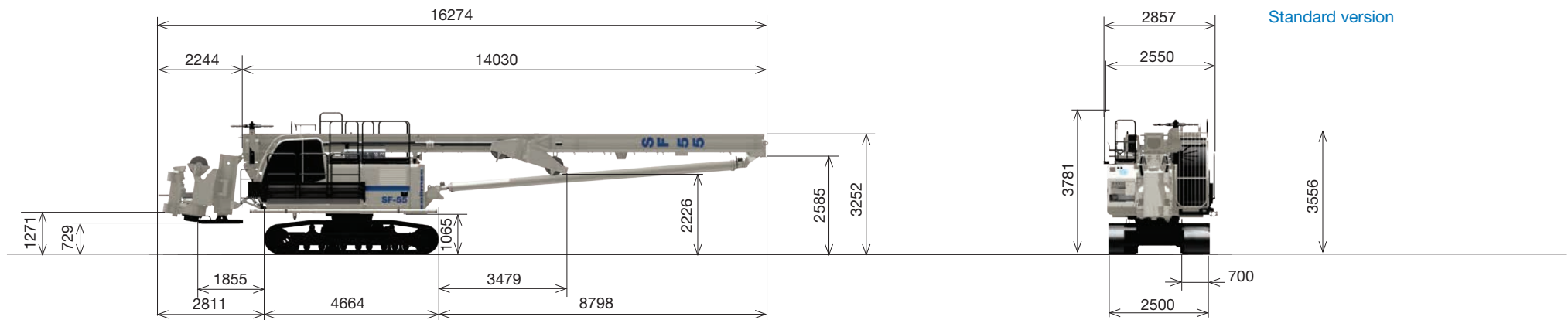


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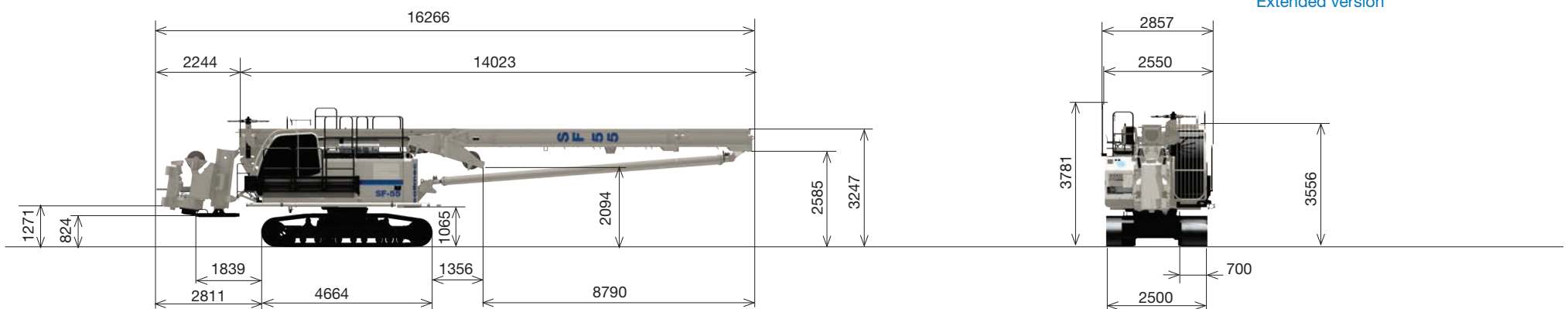
Rotary		
Type	single gear	single gear
Max torque	100 kNm	73755 lb*ft
Rated torque	85 kNm	62692 lb*ft
Max drilling speed	41 rpm	41 rpm
Weight	2150 kg	4740 lb

Transport, dimensions & weights



Transport configuration in CFA - standard version

Transport weight	34800 kg¹	76721 lb¹
Transport length	16274 mm	53.38 ft
Transport width	2550 mm	8.36 ft



Transport configuration in CFA - extended version

Transport weight	35700 kg²	78705 lb²
Transport length	16266 mm	53.37 ft
Transport width	2550 mm	8.36 ft

¹ includes the base carrier c/w undercarriage with 700 mm track shoes

² includes the base carrier c/w undercarriage with 700 mm track shoes

Safer Workplace. Better Workplace.

Every Soilmec equipment can be purchased with the EN16228 certification package which includes all accessories/devices to ensure the highest level of accessibility and safety in accordance with European standards. Each machine undergoes the most stringent functional and performance tests: all loads are detected and compared with the expected values to guarantee the highest quality in production.

Access. Cabin footplate (walkways) with frontal access ladder

Coupling Hook. New anchor points on the undercarriage for machine transport

Winches. Measured lifted weight by the service and main winch with loading cell, displayed on DMS

Cabin/visibility. Aid of the camera kit and new mirrors

CFA Limit Switch. Lowering mast control in CFA version

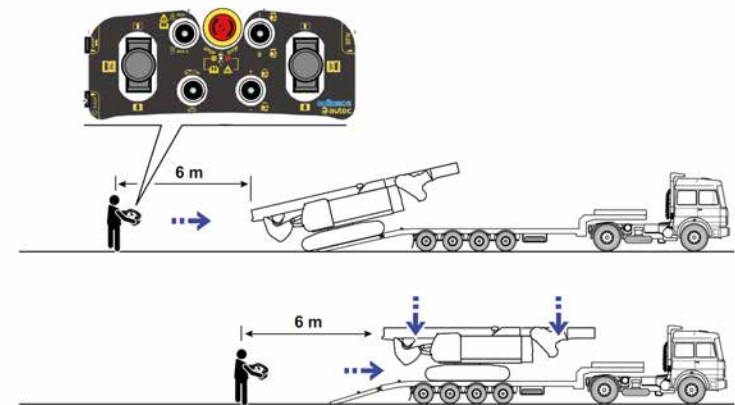
CFA auger guide. Guard rubber protections

Maintenance. Conveying the contaminated liquids

Turret Rotation. Automatic turret alarm during rotation

Visibility. Led light 25-50W for having 10lux

Safety/Radio Remote Control. Safety during transport phase or along ramps



Technical data

Engine



Engine		
Engine model	Cummins B6.7	<i>Cummins B6.7</i>
Power rating ¹	168 kW @ 2200 rpm	<i>225 HP @ 2200 rpm</i>
Engine conforms to Exhaust emission Std ²	EU stage V	<i>US EPA Tier 4f</i>
Fuel tank capacity	375 l	<i>99 US gal</i>
AD Blue tank capacity	57 l	<i>15 US gal</i>

¹ Max power available: 188 kW (252 Hp) @ 1900 rpm

² Cummins QSB 6.7 - US EPA Tier3 is available on request (164 kW @ 2200 rpm)

Undercarriage



Undercarriage		
Type	variable gauge, articulated side frames	variable gauge, articulated side frames
Overall width with retracted crawlers	2500 mm	<i>98.43 in</i>
Overall width with extended crawlers	4000 mm	<i>157.48 in</i>
Width of triple grouser track shoes	700 mm	<i>27.56 in</i>
Overall length of crawlers	4660 mm	<i>183.46 in</i>
Traction force	280 kN	<i>62945 lbf</i>
Travelling speed	0 - 2 km/h	<i>0 - 1.24 mph</i>

Hydraulic system



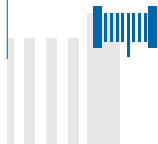
Hydraulic system		
Main pumps flow	320 l/min	<i>85 US gal/min</i>
Hydraulic oil tank capacity	400 l	<i>106 US gal</i>

FoW clearance



Front of wall clearance			
CFA - Continuous Flight Auger - standard version	due to swan neck	870 mm	<i>34.25 in</i>
CFA - Continuous Flight Auger - extended version	due to swan neck	870 mm	<i>34.25 in</i>

Winches



Main winch - standard		
Type	controlled descent	<i>controlled descent</i>
Rope layers	3	<i>3</i>
Line pull (1 st layer)	102 kN	<i>22930 lbf</i>
Rope diameter	19 mm	<i>0.75 in</i>
Rope speed (1 st layer)	67 m/min	<i>220 ft/min</i>

Auxiliary winch		
Type	controlled descent	<i>controlled descent</i>
Rope layers	4	<i>4</i>
Line pull (1 st layer)	41 kN	<i>9217 lbf</i>
Rope diameter	16 mm	<i>0.63 in</i>
Rope speed (1 st layer)	87 m/min	<i>285 ft/min</i>

Configurations

CFA

Continuous Flight Auger Piles

Standard Extended

UNDERCARRIAGE

Variable gauge, articulated side frames, 700 mm track shoes	●	●
Variable gauge, articulated side frames, 900 mm track shoes	○	○
Radio remote control for tramming operation	○	○

UPPER STRUCTURE

Diesel engine Cummins Stage V – US EPA Tier 4f	●	●
Diesel engine Cummins Stage IIIA – US EPA Tier 3	○	○
Acoustic & light alarm for tramming	●	●
Sound proofed canopies	●	●
Ladder kit on mast	○	○
440 kg Additional counterweight	○	○

CAB

Protective grille	●	●
Rearview mirrors	●	●
Comfort packakge	●	●
Lighting system in front of the cab	●	●

CONTROL AND MONITORING SYSTEM

DMS ON BOARD with technological package	●	●
DMS PC	●	●
DMS manager 4.0	○	○
GSM / GPRS / WIFI Modem	●	●
DMS ON BOARD adjustable monitor 12" touch screen	●	●
Surround view cameras with display in the cab	○	○
Inclinometer device	●	●
Depthmeter for main winch	●	●
Autorotary package	○	○

WINCHES

Main winch SW101 model	●	●
Service winch	●	●
Service rope holder	○	○

ROTARY UNIT

Rotary unit: max torque intermitted: 100 kNm	●	●
Replaceable drive sleeve	●	●

MAST

Upper foldable mast element	●	●
Lower foldable mast element	●	●
Concrete pipe on mast	○	○

CFA

Continuous Flight Auger Piles

Standard Extended

CFA TECHNOLOGY

Short sleeve HD-4	●	●
Sleeve 3 m long HD-4 or HD-5	○	○
Sleeve 6 m long HD-4 or HD-5	○	○
Package for CFA 21,5 m auger length including 2 m mast extension	○	●
Additional crowd force on auger	○	○
Openable lower guide d.900mm	●	●
Auger cleaner star type	○	○
Cohesive soil kit for star auger cleaner	○	○
Double roller auger cleaner d.850 mm	○	○
Two pressure transducers kit	●	●
WiFi sensor for concrete pressure	○	○
Warning system for CFA sleeve extension coupling	○	○
Hydraulic prearrangement for VTH-1 vibrator	○	○

● standard

○ optional

n.a. not available



standard equipment for CE certification



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