UNDERGROUND CABLE LAYING

MACHINES AND EQUIPMENT

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Supplier of machines and equipment for laying and pulling cables and pipelines

MACHINES AND EQUIPMENT
UNDERGROUND CABLE LAYING

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01

HYDRAULIC PULLERS

F265.P.20

max pull 20 kN

Hydraulic puller fit to pull one rope in laying underground transmission cables and optics fibre cables. One hydraulic circuit allows to continuously vary the speed in both directions by operating one control device.

FEATURES	
Capstans	2 x Ø 200 mm
Max rope diameter	8 mm
Dimensions	2,10x1,50x1,20 m
Weight (without rope)	610 kg

ENGINE	
Feeding	gasoline
Power	18 hp / 13 kW
Cooling	air
Starting	electric with battery 12 V

PULL PERFORMANCES	
Max pull	20 kN
Speed at max pull	18 m/min
Max speed	65 m/min
Pull at max speed	3,5 kN

REEL	
Type	extractable
Capacity of steel rope Ø 8 mm	800 m

CONFIGURATION

- One pair of multi-grooved steel capstans fit for stringing one steel rope.
- Dynamometer and preselector of max pull force.
- Mechanical metercounter.
- Safety negative hydraulic brake.
- Damped axle with tires and adjustable drawbar for towing at low speed in the job-site.
- Mechanical stabilisers on pull side and jockey wheel on drawbar side.
- Attachments for anchoring and for lifting.
- Heat exchanger to cool the oil in the hydraulic circuit.
- Pulley for rope arranged for telescopic rod.
- Built-in reel-winder with automatic rope-winder and extractable reel.
- Metallic cover with doors.

OPTIONAL DEVICES

003 Damped axle for towing on road at max speed of 80 km/h, with mechanical brake (homologation excluded).
067 Telescopic rod to lay underground cables (art.F277).
069.2 Electronic device with USB port, to save the data of the pull.
028.3 Air cooled diesel engine with electric starting 19 HP/ 14 kW (it adds 50 kg to the machine weight).
069.5 Printer with accessories.

Performances of the machine without optional devices, at sea level and temperature 20°C.
Dimensions and weights are without optional devices. All data may change without notice. Images and drawings are indicative only.

F215.P.30

max pull 30 kN

Hydraulic puller fit to pull one rope in laying underground transmission cables and optics fibre cables. One hydraulic circuit allows to continuously vary the speed in both directions by operating one control device.

FEATURES	
Capstans	2 x Ø 200 mm
Max rope diameter	10 mm
Dimensions LxWxH	2,10x1,30x1,30 m
Weight (without rope)	1000 kg

ENGINE	
Feeding	diesel
Power	27,2 hp / 20 kW
Cooling	water
Starting	12 V

PULL PERFORMANCES	
Max pull	30 kN
Speed at max pull	16 m/min
Max speed	80 m/min
Pull at max speed	5 kN

REEL	
Type	extractable
Diameter	600 mm
Capacity of steel rope:	
Ø 8 mm	1000 m
Ø 10 mm	700 m

CONFIGURATION

- One pair of multi-grooved steel capstans fit for stringing one steel rope.
- Machine control panel equipped with built-in electronic instrument DEG 4.0 featuring a 7'' large graphic colour display and a USB port.
- **Maintenance-free load cell reading system.**
- **Electronic instrument by-pass.**
- Safety negative hydraulic brake.
- Chassis with dumped axle, tires, overrun brake, manual brake and drawbar for towing on road at max speed of 80 km/h (homologation on request).
- Metallic coverage with doors.
- Four adjustable mechanical stabilisers.
- Attachments for anchoring and for lifting.
- Heat exchanger to cool the oil in the hydraulic circuit.
- Pulley for rope arranged for telescopic rod.
- Built-in reel-winder with automatic rope-winder and extractable reel.

OPTIONAL DEVICES

037	Remote control by cable, with 10 m of cable.
038	Radio-control (max distance 100 m).
051.3	Motorised rubber caterpillars.
038.C	Radio-control for caterpillars.
067	Telescopic rod to lay underground cables (art.F277).
069.5	Printer with accessories.

Performances of the machine without optional devices, at sea level and temperature 20°C.
Dimensions and weights are without optional devices. All data may change without notice. Images and drawings are indicative only.

F275.P.50

max pull 50 kN

Hydraulic puller fit to pull one rope in laying underground transmission cables and optics fibre cables. One hydraulic circuit allows to continuously vary the speed in both directions by operating one control device.

FEATURES	
Capstans	2 x Ø 280 mm
Max rope diameter	14 mm
Dimensions LxWxH	3,10x1,70x1,75 m
Weight (without rope)	1900 kg

ENGINE	
Feeding	diesel
Power	35 hp / 26 kW
Cooling	water
Starting	12 V

PULL PERFORMANCES	
Max pull	50 kN
Speed at max pull	13 m/min
Max speed	60 m/min
Pull at max speed	13 kN

REEL	
Type	extractable
Diameter	520 mm
Capacity of steel rope:	
Ø 14 mm	800 m
Ø 12 mm	1000 m
Ø 10 mm	1500 m

ALSO AVAILABLE F275.P.40	
Max pull	40 kN
Speed at max pull	16 m/min
Max speed	60 m/min
Steel rope Ø 12 mm	1000 m
Steel rope Ø 10 mm	1500 m

CONFIGURATION

- One pair of multi-grooved steel capstans fit for stringing one steel rope.
- Machine control panel equipped with built-in electronic instrument DEG 4.0 featuring a 7'' large graphic colour display and a USB port.
- **Maintenance-free load cell reading system.**
- **Electronic instrument by-pass.**
- Safety negative hydraulic brake.
- Chassis with dumped axle, tires, overrun brake, manual brake and drawbar for towing on road at max speed of 80 km/h (homologation on request).
- Metallic coverage with doors.
- Four adjustable mechanical stabilisers.
- Attachments for anchoring and for lifting.
- Heat exchanger to cool the oil in the hydraulic circuit.
- Pulley for rope arranged for telescopic rod.
- Built-in reel-winder with automatic rope-winder and extractable reel.

OPTIONAL DEVICES

037	Remote control by cable, with 10 m of cable.
038	Radio-control (max distance 100 m).
051.3	Motorised rubber caterpillars.
038.C	Radio-control for caterpillars.
067	Telescopic rod to lay underground cables (art.F277).
069.5	Printer with accessories.
082	Device for pull force setting, which allows to maintain the pre-set even at speed '0' (fit for pipe refurbishing).

Performances of the machine without optional devices, at sea level and temperature 20°C.
Dimensions and weights are without optional devices. All data may change without notice. Images and drawings are indicative only.

F285.P.100

Hydraulic puller fit to pull one rope in laying underground transmission cables and optics fibre cables. One hydraulic circuit allows to continuously vary the speed in both directions by operating one control device.

FEATURES	
Capstans	2 x Ø 300 mm
Max rope diameter	16 mm
Dimensions LxWxH	3,10x1,85x1,65 m
Weight (without rope)	2100 kg

ENGINE	
Feeding	diesel
Power	40 hp / 30 kW
Cooling	water
Starting	12 V

PULL PERFORMANCES	
Max pull	100 kN
Speed at max pull	10 m/min
Max speed	50 m/min
Pull at max speed	20 kN

REEL	
Type	extractable
Diameter	850 mm
Capacity of steel rope:	
Ø 16 mm	850 m
Ø 14 mm	1100 m
Ø 12 mm	1500 m

CONFIGURATION

- One pair of multi-grooved steel capstans fit for stringing one steel rope.
- Machine control panel equipped with built-in electronic instrument DEG 4.0 featuring a 7'' large graphic colour display and a USB port.
- **Maintenance-free load cell reading system.**
- **Electronic instrument by-pass.**
- Safety negative hydraulic brake.
- Chassis with dumped axle, tires, overrun brake, manual brake and drawbar for towing on road at max speed of 80 km/h (homologation on request).
- Metallic coverage with doors.
- Four adjustable mechanical stabilisers.
- Attachments for anchoring and for lifting.
- Heat exchanger to cool the oil in the hydraulic circuit.
- Pulley for rope arranged for telescopic rod.
- Built-in reel-winder with automatic rope-winder and extractable reel.

OPTIONAL DEVICES

037	Remote control by cable, with 10 m of cable.
038	Radio-control (max distance 100 m).
051.3	Motorised rubber caterpillars.
038.C	Radio-control for caterpillars.
067.1	Telescopic rod to lay underground operation (art.F276).
069.5	Printer with accessories.
082	Device for pull force setting, which allows to maintain the pre-set even at speed '0' (fit for pipe refurbishing).

Performances of the machine without optional devices, at sea level and temperature 20°C.
Dimensions and weights are without optional devices. All data may change without notice. Images and drawings are indicative only.

F280.P.150

Hydraulic puller fit to pull one rope in laying underground transmission cables and optics fibre cables. One hydraulic circuit allows to continuously vary the speed in both directions by operating one control device.

FEATURES	
Capstans	2 x Ø 350 mm
Max rope diameter	18 mm
Dimensions LxWxH	3,50x1,95x1,70 m
Weight (without rope)	3000 kg

ENGINE	
Feeding	diesel
Power	56 hp / 42 kW 68 hp / 50 kW *
Cooling	water
Starting	12 V

PULL PERFORMANCES	
Max pull	150 kN
Speed at max pull	9 m/min 10 m/min *
Max speed	30 m/min 30 m/min *
Pull at max speed	40 kN

REEL	
Type	extractable
Diameter	950 mm
Capacity of steel rope:	
Ø 18 mm	600 m
Ø 16 mm	1000 m

ALSO AVAILABLE F280.P.100	
Max pull	100 kN
Speed at max pull	12 m/min 14 m/min *
Max speed	35 m/min 35 m/min *
Steel rope Ø 16 mm	1000 m
Steel rope Ø 14 mm	1500 m

CONFIGURATION

- One pair of multi-grooved steel capstans fit for stringing one steel rope.
- Machine control panel equipped with built-in electronic instrument DEG 4.0 featuring a 7'' large graphic colour display and a USB port.
- **Maintenance-free load cell reading system.**
- **Electronic instrument by-pass.**
- Safety negative hydraulic brake.
- Chassis with two damped axles (tandem), tires, overrun brake, manual brake and drawbar for towing at low speed in the job-site.
- Metallic coverage with doors.
- Four adjustable mechanical stabilisers.
- Attachments for anchoring and for lifting.
- Heat exchanger to cool the oil in the hydraulic circuit.
- Pulley for rope arranged for telescopic rod.
- Built-in reel-winder with automatic rope-winder and extractable reel.

OPTIONAL DEVICES

006.3	Pneumatic braking system and ABS.
028.7	Device to start the diesel engine and the hydraulic circuit at low temperatures (up to -30°C).
037	Remote control by cable, with 10 m of cable.
038	Radio-control (max distance 100 m).
051.3	Motorised rubber caterpillars.
038.C	Radio-control for caterpillars.
067.1	Telescopic rod to lay underground operation (art.F276).
069.5	Printer with accessories.
082	Device for pull force setting, which allows to maintain the pre-set even at speed '0' (fit for pipe refurbishing).

*** According to the EC directive 97/68/CE with subsequent amendments and additions.**

Performances of the machine without optional devices, at sea level and temperature 20°C.
Dimensions and weights are without optional devices. All data may change without notice. Images and drawings are indicative only.

F290.P.200

Hydraulic puller fit to pull one rope in laying underground transmission cables and optics fibre cables. One hydraulic circuit allows to continuously vary the speed in both directions by operating one control device.

FEATURES	
Capstans	2 x Ø 380 mm
Max rope diameter	22 mm
Dimensions LxWxH	3,90x2,20x1,90 m
Weight (without rope)	4200 kg

ENGINE	
Feeding	diesel
Power	85 hp / 63 kW 74 hp / 55 kW *
Cooling	water
Starting	12 V

PULL PERFORMANCES	
Max pull	200 kN
Speed at max pull	10 m/min 8 m/min *
Max speed	25 m/min 21 m/min *
Pull at max speed	80 kN

REEL	
Type	extractable
Diameter	1100 mm
Capacity of steel rope:	
Ø 22 mm	1000 m
Ø 18 mm	1500 m

CONFIGURATION

- One pair of multi-grooved steel capstans fit for stringing one steel rope.
- Machine control panel equipped with built-in electronic instrument DEG 4.0 featuring a 7'' large graphic colour display and a USB port.
- **Maintenance-free load cell reading system.**
- **Electronic instrument by-pass.**
- Safety negative hydraulic brake.
- Chassis with two rigid axles (tandem), tires and drawbar for towing at low speed in the job-site.
- Metallic coverage with doors.
- Four adjustable mechanical stabilisers.
- Attachments for anchoring and for lifting.
- Heat exchanger to cool the oil in the hydraulic circuit.
- Pulley for rope arranged for telescopic rod.
- Built-in reel-winder with automatic rope-winder and extractable reel.

OPTIONAL DEVICES

006.3	Pneumatic braking system and ABS.
006.4	Arrangement of the chassis for circulation on road (homologation excluded).
028.7	Device to start the diesel engine and the hydraulic circuit at low temperatures (up to -30°C).
037	Remote control by cable, with 10 m of cable.
038	Radio-control (max distance 100 m).
051.3	Motorised rubber caterpillars.
038.C	Radio-control for caterpillars.
067.1	Telescopic rod to lay underground operation (art.F276).
069.5	Printer with accessories.
082	Device for pull force setting, which allows to maintain the pre-set even at speed '0' (fit for pipe refurbishing).
097.1	Device to get a max loadless speed of 45 m/min.

*** According to the EC directive 97/68/CE with subsequent amendments and additions.**

Performances of the machine without optional devices, at sea level and temperature 20°C.
Dimensions and weights are without optional devices. All data may change without notice. Images and drawings are indicative only.

F260.P.600

max pull 600 kN

Hydraulic puller fit to pull one rope in laying underground transmission cables and pipe refurbishing works.
One hydraulic circuit allows to continuously vary the speed in both directions by operating one control device.

FEATURES	
Capstans	2 x Ø 580 mm
Max rope diameter	38 mm
Dimensions LxWxH	5,60x2,50x2,60 m
Weight (without rope)	10500 kg

ENGINE	
Feeding	diesel
Power	130 hp / 97 kW 148 hp / 110 kW *
Cooling	water
Starting	12 V

PULL PERFORMANCES	
Max pull	600 kN
Speed at max pull	4,5 m/min 5,5 m/min *
Max speed	28 m/min 32 m/min *
Pull at max speed	100 kN

REEL	
Type	extractable
Capacity of the standard reel: 700 m of steel rope Ø 38 mm	
Capacity of the optional reel: 1000 m of steel rope Ø 32 mm	

ALSO AVAILABLE F260.P.400	
Max pull	400 kN
Speed at max pull	7,0 m/min 8,2 m/min *
Max speed	28 m/min 32 m/min *

CONFIGURATION

- One pair of multi-grooved steel capstans fit for stringing one steel rope.
- Machine control panel equipped with built-in electronic instrument DEG 4.0 featuring a 7'' large graphic colour display and a USB port.
- **Maintenance-free load cell reading system.**
- **Electronic instrument by-pass.**
- Safety negative hydraulic brake.
- Chassis with two rigid axles (tandem), tires and drawbar for towing at low speed in the job-site.
- Metallic coverage with doors.
- Four adjustable mechanical stabilisers.
- Attachments for anchoring and for lifting.
- Heat exchanger to cool the oil in the hydraulic circuit.
- Pulley for rope arranged for telescopic rod.
- Built-in reel-winder with automatic rope-winder and extractable reel.

OPTIONAL DEVICES

006.3	Pneumatic braking system and ABS.
006.4	Arrangement of the chassis for circulation on road (homologation excluded).
028.7	Device to start the diesel engine and the hydraulic circuit at low temperatures (up to -30°C).
037	Remote control by cable, with 10 m of cable.
038	Radio-control (max distance 100 m).
051.3	Motorised rubber caterpillars.
038.C	Radio-control for caterpillars.
069.5	Printer with accessories.
082	Device for pull force setting, which allows to maintain the pre-set even at speed '0' (fit for pipe refurbishing).

*** According to the EC directive 97/68/CE with subsequent amendments and additions.**

Performances of the machine without optional devices, at sea level and temperature 20°C.
Dimensions and weights are without optional devices. All data may change without notice. Images and drawings are indicative only.

F420.100.C

max pull 100 kN

Cable recovery winch designed to remove old or redundant armored telephone cables of up to 80 mm in diameter, mainly for duct reclamation allowing installation of fibre optic cables, but also for recovering old cables for recycling. The winch is driven by a diesel hydraulic power-pack which is totally enclosed within a coverage thereby limiting noise emission. The machine is mounted on damped trailer and it is complete with stabilizing jacks.

FEATURES	
Capstans	350 x Ø 650 mm
Max cable diameter	80 mm
Dimensions LxWxH	4,00x2,20x1,80 m
Weight (without rope)	2600 kg

ENGINE	
Feeding	diesel
Power	57 hp / 42 kW 68 hp / 50 kW *
Cooling	water
Starting	12 V

PULL PERFORMANCES	
Max pull	100 kN
Continuos pull:	
100 kN @ 12 m/min	
100 kN @ 15 m/min *	

CONFIGURATION

- Diesel engine, water cooled, electric starting with 12V battery.
- Large-groove steel capstan, with anti-slipping device.
- Control panel with instruments for controlling the hydraulic circuit and the diesel engine.
- Dynamometer for checking pulling values.
- Preselector of maximum wanted pull force to stop the puller in case of overpull.
- Hydrostatic circuit that allows to vary in continue way the speed of the capstan in both sense of rotation operating only one command.
- Hydraulic emergency negative brake auto-operating in central position of command lever or in case of hydraulic breakdown (not fit for lifting).
- Chassis with damped axle, tires, overrun brake, manual brake and drawbar for towing on road at max speed of 80 km/h (homologation on request).
- Metallic coverage with doors.
- Mechanical front and back stabilisers.
- Attachments for anchoring and for lifting.
- Heat exchanger to cool the oil in the hydraulic circuit.
- Back-tension rollers with hydraulic drive.

OPTIONAL DEVICES

005.2	Tandem axle with torsion bar suspensions, overrun braking system and lights (homologation excluded),
011	Arrangement of an auxiliary hydraulic circuit, capacity 25 l/min, pressure 200 bar, with 3 outputs for feeding a hydraulic cutter, a water pump and a hydraulic cylinder for the boom.
037	Remote control by cable, with 10 m of cable.
038	Radio-control (max distance 100 m).
044	Mechanical metercounter for measuring the recovered cables length.
067	Telescopic rod to lay underground cables (art.F277).
068.3	Support with chain-hoist for lifting and lowering the boom.
069.5	Printer with accessories.
069.2	Electronic device with USB port, to save the pulling data.

*** According to the EC directive 97/68/CE with subsequent amendments and additions.**

Performances of the machine without optional devices, at sea level and temperature 20°C.
Dimensions and weights are without optional devices. All data may change without notice. Images and drawings are indicative only.

F275.30.P

max pull 30 kN

Hydraulic puller fit to pull one rope in laying underground transmission cables. One hydraulic circuit allows to continuously vary the speed in both directions by operating one control device.

FEATURES	
Capstans	2 x Ø 250 mm
Grooves on the capstans	7 + 7
Max rope diameter	13 mm
Max joint diameter	40 mm
Dimensions LxWxH	2,10x1,60x1,60 m
Weight (without rope)	1105 kg

ENGINE	
Feeding	diesel
Power	35 hp / 26 kW
Cooling	water
Starting	12 V

PULL PERFORMANCES	
Max pull	30 kN
Speed at max pull	20 m/min
Max speed	60 m/min
Pull at max speed	12 kN

CONFIGURATION

- One pair of multi-grooved steel capstans fit for stringing one steel rope.
- Machine control panel equipped with built-in electronic instrument DEG 4.0 featuring a 7'' large graphic colour display and a USB port.
- **Maintenance-free load cell reading system.**
- **Electronic instrument by-pass.**
- Safety negative hydraulic brake.
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site.
- Mechanical front and back stabilisers.
- Attachments for anchoring and for lifting.
- Heat exchanger to cool the oil in the hydraulic circuit.
- Pulley for rope arranged for telescopic rod.
- Reelwinder fit for a 1400-mm-dia reel, with automatic ropewinder.

OPTIONAL DEVICES

007	Chassis with damped axle, overrun brake and drawbar for towing on road (homologation excluded).
026	PVC cloth cover.
037	Remote control by cable, with 10 m of cable.
038	Radio-control (max distance 100 m).
051.3	Motorised rubber caterpillars.
038.C	Radio-control for caterpillars.
067	Telescopic rod to lay underground cables (art.F277).
069.5	Printer with accessories.
047	Hydraulic front stabilisers.

Performances of the machine without optional devices, at sea level and temperature 20°C.
Dimensions and weights are without optional devices. All data may change without notice. Images and drawings are indicative only.

F280.40.P

max pull 40 kN

Hydraulic puller fit to pull one rope in laying underground transmission cables. One hydraulic circuit allows to continuously vary the speed in both directions by operating one control device.

FEATURES	
Capstans	2 x Ø 325 mm
Grooves on the capstans	7 + 7
Max rope diameter	16 mm
Max joint diameter	45 mm
Dimensions LxWxH	2,15x1,60x1,55 m
Weight (without rope)	1200 kg

ENGINE	
Feeding	diesel
Power	35 hp / 26 kW
Cooling	water
Starting	12 V

PULL PERFORMANCES	
Max pull	40 kN
Speed at max pull	18 m/min
Max speed	60 m/min
Pull at max speed	12 kN

CONFIGURATION

- One pair of multi-grooved steel capstans fit for stringing one steel rope.
- Machine control panel equipped with built-in electronic instrument DEG 4.0 featuring a 7'' large graphic colour display and a USB port.
- **Maintenance-free load cell reading system.**
- **Electronic instrument by-pass.**
- Safety negative hydraulic brake.
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in the job-site.
- Hydraulic back stabilisers and manual front stabilisers.
- Attachments for anchoring and for lifting.
- Heat exchanger to cool the oil in the hydraulic circuit.
- Pulley for rope arranged for telescopic rod.
- Reelwinder fit for a 1400-mm-dia reel, with automatic ropewinder.

OPTIONAL DEVICES

007	Chassis with damped axle, overrun brake and drawbar for towing on road (homologation excluded).
026	PVC cloth cover.
037	Remote control by cable, with 10 m of cable.
038	Radio-control (max distance 100 m).
051.3	Motorised rubber caterpillars.
038.C	Radio-control for caterpillars.
067	Telescopic rod to lay underground cables (art.F277).
069.5	Printer with accessories.
047	Hydraulic front stabilisers.

Performances of the machine without optional devices, at sea level and temperature 20°C.
Dimensions and weights are without optional devices. All data may change without notice. Images and drawings are indicative only.

F230.60.P

max pull 60 kN

Hydraulic puller fit to pull one rope in laying underground transmission cables. One hydraulic circuit allows to continuously vary the speed in both directions by operating one control device.

FEATURES	
Capstans	2 x Ø 400 mm
Grooves on the capstans	8 + 8
Max rope diameter	18 mm
Max joint diameter	50 mm
Dimensions LxWxH	3,20x1,95x2,00 m
Weight (without rope)	2300 kg

ENGINE	
Feeding	diesel
Power	57 hp / 42 kW 68 hp / 50 kW *
Cooling	water
Starting	12 V

PULL PERFORMANCES	
Max pull	60 kN
Speed at max pull	20 m/min 23 m/min *
Max speed	70 m/min 70 m/min *
Pull at max speed	25 kN

ALSO AVAILABLE F230.100.P	
Max pull	100 kN
Speed at max pull	12,5 m/min 15 m/min *
Max speed	28 m/min 32 m/min *
Pull at max speed	45 kN

CONFIGURATION

- One pair of multi-grooved steel capstans fit for stringing one steel rope.
- Machine control panel equipped with built-in electronic instrument DEG 4.0 featuring a 7'' large graphic colour display and a USB port.
- **Maintenance-free load cell reading system.**
- **Electronic instrument by-pass.**
- Safety negative hydraulic brake.
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in the job-site.
- Hydraulic back stabilisers and manual front stabilisers.
- Attachments for anchoring and for lifting.
- Heat exchanger to cool the oil in the hydraulic circuit.
- Pulley for rope arranged for telescopic rod.
- Reelwinder fit for a 1600-mm-dia reel, with automatic ropewinder.

OPTIONAL DEVICES

007	Chassis with damped axle, overrun brake and drawbar for towing on road (homologation excluded).
026	PVC cloth cover.
028.7	Device to start the diesel engine and the hydraulic circuit at low temperatures (up to -30°C).
037	Remote control by cable, with 10 m of cable.
038	Radio-control (max distance 100 m).
047	Hydraulic front stabilisers.
051.3	Motorised rubber caterpillars.
038.C	Radio-control for caterpillars.
069.5	Printer with accessories.
067.1	Telescopic rod for underground operations (art.F276).

*** According to the EC directive 97/68/CE with subsequent amendments and additions.**

Performances of the machine without optional devices, at sea level and temperature 20°C.
Dimensions and weights are without optional devices. All data may change without notice. Images and drawings are indicative only.

F235.130.P

max pull 130 kN

Hydraulic puller fit to pull one rope in laying underground transmission cables. One hydraulic circuit allows to continuously vary the speed in both directions by operating one control device.

FEATURES	
Capstans	2 x Ø 450 mm
Grooves on the capstans	9 + 9
Max rope diameter	24 mm
Max joint diameter	60 mm
Dimensions LxWxH	3,70x2,15x2,10 m
Weight (without rope)	3800 kg

ENGINE	
Feeding	diesel
Power	110 hp / 75 kW 110 hp / 75 kW *
Cooling	water
Starting	12 V

PULL PERFORMANCES	
Max pull	130 kN
Speed at max pull	17 m/min 17 m/min *
Max speed	55 m/min 55 m/min *
Pull at max speed	40 kN

ALSO AVAILABLE F235.150.P	
Max pull	150 kN
Speed at max pull	15 m/min 15 m/min *
Max speed	56 m/min 56 m/min *
Pull at max speed	40 kN

CONFIGURATION

- One pair of multi-grooved steel capstans fit for stringing one steel rope.
- Machine control panel equipped with built-in electronic instrument DEG 4.0 featuring a 7'' large graphic colour display and a USB port.
- **Maintenance-free load cell reading system.**
- **Electronic instrument by-pass.**
- Safety negative hydraulic brake.
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in the job-site.
- Hydraulic back stabilisers and manual front stabilisers.
- Attachments for anchoring and for lifting.
- Heat exchanger to cool the oil in the hydraulic circuit.
- Pulley for rope arranged for telescopic rod.
- Reelwinder fit for a 1600-mm-dia reel, with automatic ropewinder.

OPTIONAL DEVICES

008	Axle with leaf spring suspensions, drawbar, pneumatic braking system, tyres and lights for towing on the road at 60 km/h (homologation excluded).
026	PVC cloth cover.
028.7	Device to start the diesel engine and the hydraulic circuit at low temperatures (up to -30°C).
037	Remote control by cable, with 10 m of cable.
038	Radio-control (max distance 100 m).
047	Hydraulic front stabilisers.
051.3	Motorised rubber caterpillars.
038.C	Radio-control for caterpillars.
069.5	Printer with accessories.
084	Bigger reelwinder fit for a 1800-mm-dia reel.
067.1	Telescopic rod for underground operations (art.F276). 082 Device for pull force setting, which allows to maintain the pre-set force even at speed '0' (fit for pipe refurbishing).

*** According to the EC directive 97/68/CE with subsequent amendments and additions.**

Performances of the machine without optional devices, at sea level and temperature 20°C.
Dimensions and weights are without optional devices. All data may change without notice. Images and drawings are indicative only.

F260.200.P

max pull 200 kN

Hydraulic puller fit to pull one rope in laying underground transmission cables. One hydraulic circuit allows to continuously vary the speed in both directions by operating one control device.

FEATURES	
Capstans	2 x Ø 600 mm
Grooves on the capstans	10 + 10
Max rope diameter	24 mm
Max joint diameter	60 mm
Dimensions LxWxH	3,95x2,40x2,20 m
Weight (without rope)	6500 kg

ENGINE	
Feeding	diesel
Power	131 hp / 97 kW 148 hp / 110 kW *
Cooling	water
Starting	24 V

PULL PERFORMANCES	
Max pull	200 kN
Speed at max pull	12 m/min 16 m/min *
Max speed	40 m/min 46 m/min *
Pull at max speed	70 kN

CONFIGURATION

- One pair of multi-grooved steel capstans fit for stringing one steel rope.
- Machine control panel equipped with built-in electronic instrument DEG 4.0 featuring a 7'' large graphic colour display and a USB port.
- **Maintenance-free load cell reading system.**
- **Electronic instrument by-pass.**
- Safety negative hydraulic brake.
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in the job-site.
- Hydraulic back stabilisers and manual front stabilisers.
- Attachments for anchoring and for lifting.
- Heat exchanger to cool the oil in the hydraulic circuit.
- Pulley for rope arranged for telescopic rod.
- Reelwinder fit for a 1600-mm-dia reel, with automatic ropewinder.

OPTIONAL DEVICES

006	Lights and pneumatic brake system for towing on the road at max 30 km/h.
008	Axle with leaf spring suspensions, drawbar, pneumatic braking system, tyres and lights for towing on the road at 60 km/h (homologation excluded).
026	PVC cloth cover.
028.7	Device to start the diesel engine and the hydraulic circuit at low temperatures (up to -30°C).
037	Remote control by cable, with 10 m of cable.
038	Radio-control (max distance 100 m).
047	Hydraulic front stabilisers.
051.3	Motorised rubber caterpillars.
038.C	Radio-control for caterpillars.
069.5	Printer with accessories.
084	Bigger reelwinder fit for a 1800-mm-dia reel.
067.1	Telescopic rod for underground operations (art.F276). 082 Device for pull force setting, which allows to maintain the pre-set force even at speed '0' (fit for pipe refurbishing).

*** According to the EC directive 97/68/CE with subsequent amendments and additions.**

Performances of the machine without optional devices, at sea level and temperature 20°C.
Dimensions and weights are without optional devices. All data may change without notice. Images and drawings are indicative only.

F260.400.P

max pull 400 kN

Hydraulic puller fit to pull one rope in laying underground transmission cables. One hydraulic circuit allows to continuously vary the speed in both directions by operating one control device.

FEATURES	
Capstans	2 x Ø 600 mm
Grooves on the capstans	10 + 10
Max rope diameter	32 mm
Max joint diameter	65 mm
Dimensions LxWxH	4,00x2,45x2,30 m
Weight (without rope)	7500 kg

ENGINE	
Feeding	diesel
Power	174 hp / 129 kW 174 hp / 129 kW *
Cooling	water
Starting	24 V

PULL PERFORMANCES	
Max pull	400 kN
Speed at max pull	10 m/min 10 m/min *
Max speed	36 m/min 36 m/min *
Pull at max speed	105 kN

CONFIGURATION

- One pair of multi-grooved steel capstans fit for stringing one steel rope.
- Machine control panel equipped with built-in electronic instrument DEG 4.0 featuring a 7'' large graphic colour display and a USB port.
- **Maintenance-free load cell reading system.**
- **Electronic instrument by-pass.**
- Safety negative hydraulic brake.
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in the job-site.
- Hydraulic back stabilisers and manual front stabilisers.
- Attachments for anchoring and for lifting.
- Heat exchanger to cool the oil in the hydraulic circuit.
- Pulley for rope arranged for telescopic rod.
- Reelwinder fit for a 1900-mm-dia reel, with automatic ropewinder.

OPTIONAL DEVICES

006	Lights and pneumatic brake system for towing on the road at max 30 km/h max.
008	Axle with leaf spring suspensions, drawbar, pneumatic braking system, tyres and lights for towing on the road at 60 km/h (homologation excluded).
005.1	Chassis with 2 damped axles (tandem) air braking system and lights.
026	PVC cloth cover.
028.7	Device to start the diesel engine and the hydraulic circuit at low temperatures (up to -30°C).
037	Remote control by cable, with 10 m of cable.
038	Radio-control (max distance 50 m).
051.3	Motorised rubber caterpillars.
038.C	Radio-control for caterpillars.
069.5	Printer with accessories.
084	Bigger reelwinder fit for a 2200-mm-dia reel (mod.162.220).
067.1	Telescopic rod for underground operations (art.F276).
082	Device for pull force setting, which allows to maintain the pre-set force even at speed '0' (fit for pipe refurbishing).
084.1	Bigger reelwinder fit for a 2200-mm-dia reel (mod.162.220.1).

*** According to the EC directive 97/68/CE with subsequent amendments and additions.**

Performances of the machine without optional devices, at sea level and temperature 20°C.
Dimensions and weights are without optional devices. All data may change without notice. Images and drawings are indicative only.

F224

pushing force 0-8 kN

F224.08

F306.08.SP

Cable-pusher machine powered by hydraulic unit. Fit for laying underground cables in long conducts and in harsh conditions. When working in combination with a puller, it reduces the stress on the cable. Longer distances can be covered by using more than one cable-pusher machines. This compact machine can be placed in small rooms and can be remote-controlled (up to 15 m) thanks to the separated power unit connected by hoses.

CABLE-PUSHER UNIT F224.08	
Pushing force	0–8 kN
Pushing speed	0–20 m/min
Cable diameter (min - max)	40-135 mm
Track length	800 mm
Hoses length	5 m
Dimensions LxWxH	1,30x0,35x0,80 m
Weight	200 kg

POWER UNIT F306.08.SP	
Feeding	gasoline
Power	5,88 kW / 8 hp
Cooling	air
Starting	by rope
Max oil flow	20 l/min
Max pressure	150 bar
Dimensions LxWxH	0,75x0,50x0,60 m
Weight	65 kg

CABLE-PUSHER UNIT

- Cable-pusher unit made of electro-welded steel frame with fittings for anchoring and lifting.
- One pair of tracks (“V-placed”) with upper rollers operated by hand, with reaction spring to press the cable against the tracks for a more eficient push.
- Reversible hydraulic motor for operating the tracks. The motor is fitted with quick couplings to connect the power unit through flexible hoses.

POWER UNIT

- Hydraulic power unit, with gasoline engine and hydraulic circuit, that permits to adjust, by a control valve, the pushing force (0 to max), and the pushing speed. Complete with wheels and handles.
- Flexible hoses 5-m long to connect the cable-pusher unit to the power unit.

OPTIONAL DEVICES

090	Power unit equipped with monophase electric motor 220 V.
090.1	Power unit equipped with three-phase electric motor 380 V.
028.3	Power unit with air-cooled diesel engine.
418	Cable-pusher unit complete with wheels for easy moving.
078.1	Flexible hoses 10-m long.
RCI-1	Hydraulic device controlling the pressure of the upper rollers over the cable, controlled by the power unit.
CAV-1	Machine arrangement suitable for push cable diameters up to Ø150 mm.
POT-1	Thrust force / traction increased up to 12 kN, speed 0 – 17 m/min.

Performances of the machine without optional devices, at sea level and temperature 20°C.
Dimensions and weights are without optional devices. All data may change without notice. Images and drawings are indicative only.

DEG EVOLUTION 4.0

DEG 4.0 is the evolution of the digital system which has been used on all Omac machines for a long time. The new DEG integrates the latest technologies for monitoring the functions and the performances of machines in the stringing sector. Color graphic 7'' touch-screen display, resistive type, intuitive as well as easy in setting-up and browsing through. Configuration, performances reading and recording, display of electronic diesel engine parameters, diagnostics and remote monitoring in one instrument built-In the machine.

FEATURES

- Large-sized (7'') color graphic display, built in the main control panel
- High capacity memory: over 200 km of line.
- High accuracy and reliability by means of the load cell and encoder system.
- Local Wi-Fi network allowing to display the machine status and to download data stored.
- USB port for data downloading.
- Software provided to handle data stored.
- Analog and digital signals for diagnostics.
- CAN port for monitoring electronic diesel engine parameters.

FUNCTIONS

- Real-time reading and recording pulling force, speed and length of cable/conductor .
- ZOOM mode.
- Max pull force setting.
- Display of working hours.
- Fuel level
- Display of electronic diesel engine parameters.
- Display mirroring on smartphones through local WI-FI.
- Help page on board.
- Remote monitoring system for diagnostics and GPS through data connection (optional device).

OPTIONAL 069.5

Portable printer c/w connection cable to be plugged to the machine.
Fit for printing the recorded data directly in the job-site.
Supplied in aluminium case.

DIAGNOSTICS

- Self-diagnostics upon machine start.
- 5-level maintenance schedules.
- Maintenance alerts.
- Machine diagnostics for problem identification.
- Electronic diesel engines diagnostics.

Dimensions and weights are without optional devices. All data may change without notice. Images and drawings are indicative only.

REC.1

Compact remote control by cable. Fit for “puller” machines with 1 hydraulic circuit. Pull/release buttons and emergency stop button. 10 m of connection cable.

REC.2

Remote control by cable. Fit for “puller” machines.

The control is complete with:

- mini joystick for controlling the rotation of the capstans • speed-adjustment control
- emergency stop button
- 10 m of the connection cable

OPTIONAL DEVICES

01	Dynamometer to read the pulling force, metercounter and speedometer.
02	Engine start/stop.
03	Engine accelerator.

RER.1

Remote radio-control fit for “puller” machines. Max operative distance: up to 100 m.

The radio-control is complete with:

- mini joystick for controlling the rotation of the capstans • speed-adjustment control
- emergency stop button
- back-up cable for connecting the control to the machine in case of emergency.

OPTIONAL DEVICES

01	Dynamometer to read the pulling force, metercounter and speedometer.
02	Engine start/stop.
03	Engine accelerator.

Dimensions and weights are without optional devices. All data may change without notice. Images and drawings are indicative only.

CATERPILLAR FOR PULLER

051.3

FEATURES

- The caterpillar system allows to travel over steeply sloping ground, to turn in tight space.
- The power transmission is granted by the hydraulic circuit of the puller.
- Self-acting negative parking brakes.
- Reversible movement.
- Radio-control.
- Hydraulic controlled share on the pull side, for anchoring the machine.
- Back stabilizers.
- Front and back hooks for towing the machine.

PERFORMANCES	
Moving speed	adjustable
Max speed	2 km/h
Max inclination	80%
Minimum turning radius	4,50 m
Ground loading	0,26 kg/cm3

	Dimensioni LxWxH	Total weight
	(mm)	kg
F215.P.30	1,80 x 1,60 x 1,20	1350
F275.P.40 / F275.P.50	2,15 x 1,80 x 1,40	1800
F280.P.100 / F285.P.100	2,86 x 1,85 x 1,87	3600
F290.P.200	3,10 x 2,20 x 2,00	6000
F275.30.P	1,95 x 1,45 x 1,40	1500
F280.40.P	2,20 x 1,60 x 1,60	2300
F230.60.P	3,20 x 1,95 x 2,00	3000

Performances of the machine without optional devices, at sea level and temperature 20°C.
Dimensions and weights are without optional devices. All data may change without notice. Images and drawings are indicative only.

F276 - F277 - F278

Telescopic rods for laying underground cables. Mounted on pullers properly arranged, they permit to pull the wire rope inside the manholes. Made with galvanised/painted steel, the rods are easily demountable to facilitate the transport. Telescopic rod for pulling the wire rope inside the pits. Guide system with 360° swivelling pulley.

F276

Telescopic rod for pulling the wire rope inside the pits. Guide system with 360° swivelling pulley.

F277

Telescopic rod for pulling the wire rope inside the pits. Guide system with 360° swivelling pulley. Equipped with demountable centerings fit for pipes diameter 80, 100, 120 and 150 mm.

F278

Telescopic rod for guiding the wire rope inside the pits. Guide system with 360° swivelling pulley. Equipped with rollers device for obtaining a reserve of cable, and demountable centerings fit for pipes diameter 80, 100, 120 and 150 mm.

OPTIONAL DEVICES

201 Supplementary reaction upper arm.
202 Reaction arm (90° respect to the pull line).
204 Interchangeable, demountable and openable centerings for pipes diam. 80, 100, 120 and 150 mm (standard for mod. F277 e F278). 205 Telescopic strut with pulley to space the puller from the manhole.
206 Hydraulic control of the rod extension (only for mod. F276 e F277).

	Max pull force	Pit depth (x)	Distance from the pipe	Rod width	Rod weight	Reserve of cable
	daN	A mm/ina	(B mm/max)	mm	kg	m
F276.60	6000 / 10000	500 / 2000	1000 / 1500	120	150	-
F276.100	10000 / 15000	500 / 2000	1400 / 1800	150	200	-
F276.200	20000	1000 / 2000	1500 / 2000	200	350	-
F277.20	2000	0 / 1500	400 / 700	60	55	-
F277.40	3000 / 4000	0 / 1500	400 / 700	80	50	-
F278.20	2000	0 / 1500	1000 / 1400	60	55	2,5
F278.40	3000 / 4000	100 / 2000	1000 / 1500	80	100	3,0

Dimensions and weights are without optional devices. All data may change without notice. Images and drawings are indicative only.

02

HYDRAULIC SERVICE WINCHES

F206.10

max pull 10 kN

Hydraulic winch fit to pull one rope in service operations such as setting-ups and adjustment of transmission lines and underground cables laying. Direct pull on the drum. One closed hydraulic circuit allows to continuously vary the speed in both directions by operating one control device.

FEATURES	
Dimensions LxWxH	1,20x1,05x0,85 m
Weight (without rope)	350 kg

DRUM	
Internal diameter	200 mm
External diameter	500 mm
Width	500 mm
Capacity of rope:	
Ø 8 mm	800 m
Ø 6 mm	500 m

ENGINE	
Feeding	gasoline
Power	12 hp / 8,8 kW
Cooling	air
Protection	by rope

PULL PERFORMANCES	
Max pull	10 kN
Speed at max pull	15 m/min
Max speed	40 m/min
Pull at max speed	4 kN

ALSO AVAILABLE F206.15	
Max pull	15 kN
Speed at max pull	13 m/min
Max speed	40 m/min
Pull at max speed	4,5 kN

CONFIGURATION

- Detachable drum.
- Automatic swinging rope-winder with idle position for manual operation.
- Dynamometer for reading the pull force.
- Freewheeling of the drum.
- Safety hydraulic negative brake.
- Rigid axle with tires and drawbar fit for towing at low speed in the job-site.
- Stabilisers and attachments for anchoring.
- Heat exchanger to cool the oil in the hydraulic circuit.
- Rope-driver rollers fit for vertical and horizontal pull.

OPTIONAL DEVICES

003	Axle with independent torsion bar suspensions and tires for towing on the road at 60 km/h, with mechanical parking brake.
026	PVC cloth cover.
028.2	Diesel engine with rope starting.
034	Engine electric starting with battery 12 V.
035	Preselector of max pull force to stop the engine in case of overpull.
056.4	Service steel capstan beside the drum. 065 Automatic clamp for rope on side capstan.
090	Monophase electric motor 220 V.
090.1	Three-phase electric motor.

Performances of the machine without optional devices, at sea level and temperature 20°C.
Dimensions and weights are without optional devices. All data may change without notice. Images and drawings are indicative only.

F207.30

max pull 30 kN

Hydraulic winch fit to pull one rope in service operations such as setting-ups and adjustment of transmission lines and underground cables laying. Direct pull on the drum. One closed hydraulic circuit allows to continuously vary the speed in both directions by operating one control device.

FEATURES	
Dimensions LxWxH	1,70x1,50x1,35 m
Weight (without rope)	950 kg

DRUM	
Internal diameter	270 mm
External diameter	500 mm
Width	500 mm
Capacity of rope:	
Ø 10 mm	500 m
Ø 12 mm	350 m

ENGINE	
Feeding	diesel
Power	26 hp / 19 kW
Cooling	water
Electric system	12 V

PULL PERFORMANCES	
Max pull	30 kN
Speed at max pull	15 m/min
Max speed	70 m/min
Pull at max speed	6 kN

CONFIGURATION

- Drum equipped with neutral device for unwinding the rope manually.
- Automatic swinging rope-winder with idle position for manual operation.
- Machine control panel with dynamometer and preselector of max pull force.
- Safety hydraulic negative brake.
- Rigid axle with tires and drawbar fit for towing at low speed in the job-site.
- Stabilisers and attachments for anchoring.
- Heat exchanger to cool the oil in the hydraulic circuit.
- Rope-driver rollers fit for vertical and horizontal pull.

OPTIONAL DEVICES

007	Damped axle, overrun brake and drawbar for towing on the road (homologation excluded).
026	PVC cloth cover.
027	Metallic coverage with doors.
037	Remote control by cable, with 10 m of cable.
038	Radio-control for remote control (max distance 100 m).
046.3	Rope-presser roller on the drum.
058	Service winch with large-groove capstan (Ø 160 or 200 mm) fed by the hydraulic circuit of the puller. Max pulling force 500 kg.
064	Device to control the load descent in case of diesel engine breakdown.
090.1	Three-phase electric motor.

Performances of the machine without optional devices, at sea level and temperature 20°C.
Dimensions and weights are without optional devices. All data may change without notice. Images and drawings are indicative only.

F210.50

max pull 50 kN

Hydraulic winch fit to pull one rope in service operations such as setting-ups and adjustment of transmission lines and underground cables laying. Direct pull on the drum. One closed hydraulic circuit allows to continuously vary the speed in both directions by operating one control device.

FEATURES	
Dimensions LxWxH	2,25x1,80x1,50 m
Weight (without rope)	1900 kg

DRUM	
Internal diameter	400 mm
External diameter	700 mm
Width	700 mm
Capacity of rope:	
Ø 14 mm	500 m
Ø 16 mm	400 m

ENGINE	
Feeding	diesel
Power	47 hp / 35 kW
Cooling	water
Protection	12 V

PULL PERFORMANCES	
Max pull	50 kN
Speed at max pull	21 m/min
Max speed	65 m/min
Pull at max speed	20 kN

CONFIGURATION

- Steel drum.
- Automatic swinging rope-winder with idle position for manual operation.
- Machine control panel with dynamometer and preselector of max pull force.
- Safety hydraulic negative brake.
- Rigid axle with tires and drawbar fit for towing at low speed in the job-site.
- Stabilisers and attachments for anchoring.
- Heat exchanger to cool the oil in the hydraulic circuit.
- Rope-driver rollers fit for vertical and horizontal pull.

OPTIONAL DEVICES

007	Damped axle, overrun brake and drawbar for towing on the road (homologation excluded).
026	PVC cloth cover.
027	Metallic coverage with doors.
037	Remote control by cable, with 10 m of cable.
038	Radio-control for remote control (max distance 100 m).
046.3	Rope-presser roller on the drum.
058	Service winch with large-groove capstan (Ø 160 or 200 mm) fed by the hydraulic circuit of the puller. Max pulling force 500 kg.
064	Device to control the load descent in case of diesel engine breakdown.

Performances of the machine without optional devices, at sea level and temperature 20°C.
Dimensions and weights are without optional devices. All data may change without notice. Images and drawings are indicative only.

F44.15

Mechanical winch fit to pull one rope while laying underground cables. The motion to the capstans is transmitted through a multiple-disk clutch and a gearbox, operated by means of 2 levers.

FEATURES	
Dimensions LxWxH	1,20x0,80x0,80 m
Weight (without rope)	175 kg

ENGINE	
Feeding	Gasoline
Power	10 hp / 7,3 kW
Cooling	air
Starting	by rope

PULL PERFORMANCES (capstan Ø160 mm)	
with capstan Ø 160 mm	
Forward	18 kN @ 14 m/min
Reverse	15 kN @ 15 m/min

CONFIGURATION

- Steel capstan dia. 160 mm at bottom groove.
- Gearbox with 1 forward and 1 reverse gears.
- Axle with detachable tires and drawbar fit for moving the machine by hand.
- Protection of capstans.
- The puller is easily decomposable in 4 light-weight groups.
- Rope-driver rollers.

OPTIONAL DEVICES

028.2	Diesel engine with rope starting.
034	Engine electric starting with battery 12 V.
053	Dynamometer for reading the pull force.
091	Electric motor 220/380 V, one or two speeds.
101.2	Capstan ø200 at bottom groove (max pull 12 kN).

Performances of the machine without optional devices, at sea level and temperature 20°C.
Dimensions and weights are without optional devices. All data may change without notice. Images and drawings are indicative only.

03
REEL-STAND

F155

max load 70 to 200 kN

Stands fit for steel or wooden reels, used for lifting a reel and braking it while stringing the conductor/cable. The reel stands, as an option, can be hydraulically driven by a hydraulic power unit. Reel-stands are supplied in pairs.

- No. 1 self-braking disk brake.
- Each stand can be raised or lowered independently by a hydraulic hand pump.
- Mechanical safe-stops mounted on the jack arm.
- Side supports with ball joints.
- Spindle complete with accessories.
- Conical bushes for wooden reels (diameter on demand).
- Welded and painted steel framework with attachments for anchoring.
- Metallic tool box for the accessories.

OPTIONAL DEVICES

423	Additional disk brake (2 brakes in total).
410.3	No. 1 or 2 disc brakes with hydraulic clamp controlled bymanual pump.
408	Hydraulic drive to control the reel rotation, either recovering or releasing the conductor/cable (to be fed by hydraulic power unit).
078.1	Set of flexible hoses for feeding the drive unit (available lengths: 7, 10, 15 m). 401 Devices fit for steel reel and bushes to centre the reel hole (diameter on demand).
419.1	Manual rope-winder, fit to stratify different diameters of rope (max reel width to be confirmed). Available for mod. F155.05 only.
419.2	Automatic rope-winder, fit to stratify different diameters of rope (suitable for standard steel reels). Available for mod. F155.070 only
419.3	Automatic rope-winder, fit to stratify different diameters of rope (max reel width to be confirmed). Available for mod. F155.070 only.

	Reel diameter min-max (1)	Reel max width	Spindle diameter	Dimensions of each reel-stand	Weight of the pair of reel-stands (2)
	m	m	mm	m (LxW)	kg
F155.070	1,00–2,80	1,50	45	2,10 x 0,50	350
F155.100	1,50-3,20	1,70	55	2,40 x 0,55	540
F155.150	2,00–4,00	3,00	95	3,10 x 0,60	1100
F155.200	2,00–4,00	3,00	95	3,10 x 0,60	1250

(*)on demand we can supply stands fit for reels with bigger diameter - (2) weight of a pair of standard stands, with no optional devices.

	Max load of the pair of reel-stands	Braking torque with standard brake	Braking torque with 2 brakes opt. 423	Braking torque with brake opt. 410.3	Performances with drive opt. 408		
					Max braking torque	Max recovery torque	Max speed (3)
	daN	daN m	daN m	daN m	daN m	daN m	km/h
F155.070	7000	150	300	—	225	180	5
F155.100	10000	230	460	600	280	230	5
F155.150	15000	230	460	1000	312	250	5
F155.200	20000	280	560	1200	375	300	5

(3)powered by hydraulic circuit of a tensioner and puller-tensioner or power unit.

Dimensions and weights are without optional devices. All data may change without notice. Images and drawings are indicative only.

F155.A

max load 300/500 kN

Opt.408

Stands fit for steel or wooden reels, used for lifting a reel and braking it while stringing the conductor/cable. The reel stands, as an option, can be hydraulically driven by a hydraulic power unit. Reel-stands are supplied in pairs.

- Each stand can be raised or lowered independently by a hydraulic hand pump.
- Side supports with ball joints.
- Spindle complete with accessories.
- Conical bushes for wooden reels and cylindrical bushes for steel reels (diameter on demand).
- Welded and painted steel framework with attachments for anchoring.
- Metallic tool box for the accessories.
- Ladder and footboard for the operator.
- Dials to close and drag steel and wooden reels, with detachable disk brake.
- Disk brake with manual regulation.

ALSO AVAILABLE F155.A.400 (40 TON MAX LOAD)

OPTIONAL DEVICES

402	Additional conical or cylindrical bushes for wooden or steel reels (diameter on demand).
408	Hydraulic drive to control the reel rotation, either recovering or releasing the conductor/cable (to be fed by hydraulic power unit).
408x2	Double hydraulic drive.
078.1	Set of flexible hoses for feeding the drive unit (available lengths: 7, 10, 15 m).
409	Steel containers for transporting and stocking the stands (2 containers). 410.3 One disc brake with hydraulic clamp controlled by manual pump.
419.2	Automatic rope-winder, fit to stratify the different diameters of rope on the reels of different width (note: it needs to be powered by hydraulic power unit).
423	Additional disk brake (2 brakes in total).
SP2	Base to raise up the stand, fit for reels with diameter up to 6 m.

	Reel diameter min-max	Reel width max	Dimensions of each reel-stand	Spindle diameter	Weight of the pair of reel-stands (²)
	m	m	m (LxW)	mm	kg
F155.A.300	3,00 – 4,60	2,80	2,80 x 0,70	100 - 140	1600
F155.A.500	3,50 – 4,80	3,60	3,10 x 0,90	120 - 160	2400

(¹) to be specified when ordering - (²) weight of a pair of standard reel-stands, without optional devices.

	Max load of the pair of reel-stands	Braking torque with standard brake	Braking torque with 2 brakes opt. 423	Performances with drive opt. 408		
				Max braking torque opt.408	Max recovering torque opt.408	Max speed (³)
	daN	daN m	daN m	daN m	daN m	m/min
F155.A.300	30000	150	300	600	500	50
F155.A.500	50000	230	460	1600	1400	15

(³) powered by hydraulic power unit mod. F306.21.CC

Dimensions and weights are without optional devices. All data may change without notice. Images and drawings are indicative only.

F155.C

max load 300/900 kN

Opt.408

Tail-stock stands fit for steel reels, used for lifting a reel and braking it while stringing the conductor/cable. The reel stands, as an option, can be hydraulically driven by a hydraulic power unit. Reel-stands are supplied in pairs.

- Each stand can be raised or lowered independently by a hydraulic hand pump.
- Tail-stocks for sustaining the reel.
- Steel frame with detachable feet for reduced overall dimensions.
- Frame fit for being lifted by crane or fork.
- Pair of bushes for centring the reel hole (reel hole diameter to be specified).
- Disk brake with manual regulation (optional: two disk brakes – opt.423).

OPTIONAL DEVICES

402	Additional cylindrical bushes for steel reels (diameter on demand).
408	Hydraulic drive to control the reel rotation, either recovering or releasing the conductor (to be fed by hydraulic power unit), weight 380kg.
408x2	Double hydraulic motorization.
078	Set of flexible hoses (10 m long) for feeding the drive unit by separate hydraulic power unit.
410.3	One or two disc brakes with hydraulic control and manual pump.
423	Additional mechanical manual disk brake (2 brakes in total).
458	Reel lifting/lowering system controlled by separate hydraulic circuit. Complete with flexible hoses 10 m long with quick couplings.
464	Sliding tailstock controlled by hydraulic cylinder with hand pumps (the weight increase by 650 kg).

	Max load of the pair of reel-stands	Reel diameter min-max (*)	Reel width max	Dimensions of each reel-stand	Tail-stocks diameter	Weight of each stand (²)
	daN	m	m	m (LxWxH)	mm	kg
F155.C.300	30.000	3,00 – 4,60	Infinite	3,00 x 1,50 x 2,70	120	3900
F155.C.500	50.000	3,00 – 5,00	Infinite	4,05 x 1,80 x 3,20	150	4500
F155.C.700	70.000	3,00 – 5,00	Infinite	4,05 x 1,80 x 3,20	150	4600
F155.C.900	90.000	3,60 – 5,20	Infinite	4,70 x 2,40 x 3,40	250	9500

(*)on demand we can supply stands fit for reels with bigger diameter - (²) weight with no optional devices.

	Braking torque		Performances with drive opt. 408 (³)			
			Braking		Recovering	
	with 1 brake (standard)	with 2 brakes (opt.423)	Max torque	Speed	Max torque	Speed
	daN m	daN m	daN m	m/min	daN m	m/min
F155.C.300	200	400	700	25	600	15
F155.C.500	200	400	1600	25	1400	15
F155.C.700	200	400	1600	25	1400	15
F155.C.900	350	700	3000	25	2500	12

(³)powered by hydraulic unit mod. F306.21.CC

Dimensions and weights are without optional devices. All data may change without notice. Images and drawings are indicative only.

F21.I

Stands fit for steel or wooden reels, used for lifting a reel while stringing the cable.
Optionally, it is possible to fit a disk brake for braking the conductor.
The stands are supplied in pairs.

- Each stand can be raised or lowered independently by a hydraulic hand pump.
- Mechanical safe-stops mounted on the jack arm.
- Lateral supports with ball bearings for reel-shaft.
- Max reel speed: 100 m/min.
- Welded and galvanised steel folding framework with attachments for anchoring.

OPTIONAL DEVICES

402.1	Spindle with cylindrical and conical bushes.
402.2	Safety device to prevent the spindle to fall out from the rollers.
410.1	Disc brake with manual regulation of the braking to keep under control the unwinding.
405	Frame galvanisation.

	F21.I.30	F21.I.30.1	F21.I.50	F21.I.100
Max load	3000 daN	3000 daN	5000 daN	10000 daN
Braking torque with 1 brake opt. 410.1	100 daN m	100 daN m	100 daN	150 daN m
Reel diameter min/max	0,60 - 1,60 m	0,60 - 2,10 m	0,80 - 3,00 m	1,00 - 3,60 m
Max width of the reel	1,20 m	1,40 m	1,60 m	1,80 m
Spindle diameter x length	40x1500 mm	50x1700 mm	50-60x2000 mm	70-80x2200 mm
Dimensions of each stand A x B x C	1,05x0,75x1,00 m	1,05x0,75x1,25 m	1,40x0,90x1,70 m	1,60x1,00x2,00 m
Weight (1)	90 kg	120kg	180 kg	240 kg

Dimensions and weights are without optional devices. All data may change without notice. Images and drawings are indicative only.

04

HYDRAULIC POWER UNITS

F306.09.CA

Hydraulic power unit with one hydraulic circuit (open type) fit to feed various equipment.

ENGINE	
Feeding	gasoline
Power	9 hp / 6,6 kW
Revolutions per minute	2800 rpm
Cooling system	air
Starting	by rope
Dimensions LxWxH	0,70x0,50x0,60 m
Weight	68 kg

PERFORMANCES	
Working pressure	150 bar
Capacity	20 L/min
Noise level	80 dbA

CONFIGURATION

- Control lever.
- Manometer to control the pressure.
- Quick couplings to connect hydraulic hoses.
- Hydraulic oil tank.
- Wheels with tow handle.
- Protective frame.

OPTIONAL DEVICES

028	Air cooled diesel engine.
034	Engine electric starting with battery.
078	Set of flexible hoses (10m long) with quick couplings.
080	Oil cooling system (needed for operating in hot environments).
090	Monophase electric motor 220 V, 3kW.
090.1	Three-phase electric motor 380 V, 3 kW.

Performances of the machine without optional devices, at sea level and temperature 20°C.
Dimensions and weights are without optional devices. All data may change without notice. Images and drawings are indicative only.

F306.18.CC

Hydraulic power unit with one hydraulic circuit (closed type) fit to feed reel-stands drive.

ENGINE	
Feeding	gasoline
Power	18 hp / 13,2 kW
Cooling system	air
Electric system	12 V
Dimensions LxWxH	1,20x0,90x0,95 m
Weight	475 kg

PERFORMANCES	
Fit for motorizations of reel-stands with capacity	120-500 kN
Pump delivery (variable)	0-28 cm³
Working pressure	210 bar

ALSO AVAILABLE F306.21.CC	
feeding	diesel
power	21 hp / 15,4 kW
electric system	12 V
cooling system	air
fit for motorizations of reel-stands with capacity	300-500 kN
pump delivery (variable)	0-40 cm³
working pressure	210 bar

CONFIGURATION

- Control panel with joystick for puller use, dynamometer and preselector of max pull force, valve to adjust the tension force and control for unlocking the negative brake.
- Group of quick couplings to connect the hydraulic hoses.
- Rigid axle, tires, hand brake and drawbar for towing at low speed in workplace.
- Metallic coverage with side doors.
- Oil cooling system.

OPTIONAL DEVICES

011	Auxiliary hydraulic circuit for additional equipment (like hydraulic cylinders).
028	Air-cooled diesel engine.
028.1	Water-cooled diesel engine.
078.3	Set of flexible hoses (10 m long) with quick-joints to feed additional equipment (with opt. 011).

Performances of the machine without optional devices, at sea level and temperature 20°C.
Dimensions and weights are without optional devices. All data may change without notice. Images and drawings are indicative only.

05

REELS and ROPES

21.12

Anti-twisting galvanised steel rope specifically designed for stringing operations. Made up of 12 braided strands. High resistant to break, antitwisting, flexible, safe and easy to handle. The linear contact between the braided strands grants a low stress on the rope. Supplied wound up on steel or wooden reels.

	Nominal diameter	Breaking load	Weight	Standard Lengths (*)
	mm	kN	kg	m
21.12.08	8	44	0,22	1000
21.12.10	10	72	0,35	1000
21.12.13	13	105	0,55	1000
21.12.16	16	163	0,80	1000
21.12.18	18	235	1,07	1000
21.12.20	20	268	1,24	1000
21.12.22	22	330	1,56	900
21.12.24	24	380	1,80	800
21.12.28	28	480	2,80	600

(*) other lengths on request

HIGH RESISTANCE (18 strands)

	Nominal diameter	Breaking load	Weight	Standard Lengths (*)
	mm	kN	kg	m
21.18.22	22	402	1,86	900
21.18.24	24	490	2,34	800
21.18.30	30	720	3,25	500

OPTIONAL DEVICES

146.2 Spliced eyes at both ends
146.3 Clamped eyes at both ends

Dimensions and weights are without optional devices. All data may change without notice. Images and drawings are indicative only.

22...1

Pilot rope made of an external polyester mesh stocking and a hi-tenacity nylon core. Double torsion. Highly resistant to wear and UV rays. white colour.
Supplied wound up on wooden reels or in coils.

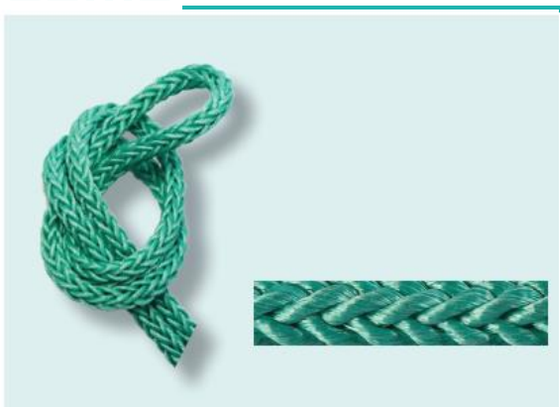
OPTIONAL DEVICES

- Clamped eyes with metallic collars at the ends (note: the clamped eyes have breaking load 30-35% lower than the rope).
- Sewn eyes (note: available up to Ø18 mm. The breaking load of the clamped eyes is the same as the breaking load of the rope).

	Nominal diameter	Elongation under tension		Breaking load	Weight	Standard Lengths (*)
	mm	at 10 % BL (¹)	at 30 % BL (²)	daN	kg/m	m
22.06.1	6	4%	7,5%	750	0,027	500 1000 1500 2000 3000
22.08.1	8	4%	7,5%	1.200	0,045	500 1000 1500 2000 3000
22.10.1	10	4%	7,5%	2.000	0,073	500 1000 1500 2000 3000
22.12.1	12	4%	7,5%	3.500	0,115	500 1000 1500 2000 3000
22.14.1	14	4%	7,5%	4.300	0,142	500 1000 1500 2000
22.16.1	16	4%	7,5%	5.000	0,195	500 1000 1500 2000
22.18.1	18	4%	7,5%	5.800	0,240	500 1000 1500
22.20.1	20	4%	7,5%	6.500	0,295	500 1000 1500
22.22.1	22	4%	7,5%	8.300	0,350	500 900
22.24.1	24	4%	7,5%	9.500	0,410	500 800

(¹) elongation rate at 10% of breaking load (²) elongation rate at 30% of breaking load

22...2



Pilot rope made of polypropylene and polyester hi-tenacity 12-fuses mesh.
Light-weight, waterproof and UV resistant. Easy to splice without any special tool.
Green colour. Supplied wound up on wooden reels or in coils.

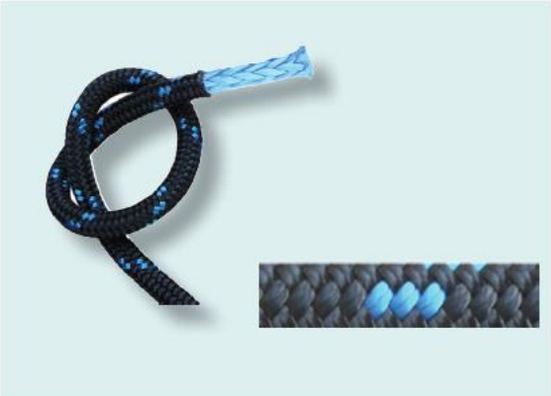
OPTIONAL DEVICES

- Hand-spliced ends.

	Nominal diameter	Elongation under tension	Breaking load	Weight	Standard Lengths (*)
	mm	at 50 % BL (¹)	daN	kg/m	m
22.10.2	10	5%	1.500	0,040	1000
22.12.2	12	5%	2.300	0,060	1000
22.14.2	14	5%	2.800	0,075	1000
22.16.2	16	5%	3.300	0,088	1000
22.18.2	18	5%	4.500	0,120	1000
22.20.2	20	5%	5.500	0,150	1000
22.22.2	22	5%	6.200	0,165	800
22.24.2	24	5%	8.500	0,240	800

Dimensions and weights are without optional devices. All data may change without notice. Images and drawings are indicative only.

23...P



Rope with Dyneema-core and polyester covering. Supplied wound up on wooden reels or in coils.

OPTIONAL DEVICES

- Clamped eyes with metallic collars at the ends (note: the clamped eyes have breaking load 30-35% lower than the rope).
- Hand-spliced eyes.
- Head stocking-grip with eyes.
- Steel reel Ø 1100, 1400 or 1600 mm.

	Nominal diameter	Elongation under tension (*)	Breaking load	Weight	Standard Lengths (*)
	mm	%	daN	kg/m	m
23.06.P	6	3%	3.100	0,050	500 **1000** 1500 2000 3000
23.08.P	8	3%	5.480	0,064	500 **1000** 1500 2000 3000
23.10.P	10	3%	8.210	0,078	500 **1000** 1500 2000 3000
23.12.P	12	3%	11.860	0,120	500 **1000** 1500 2000
23.14.P	14	3%	16.430	0,139	500 **1000** 1500 2000
23.16.P	16	3%	20.990	0,200	500 **1000**

(*) elongation rate at 8% of breaking load

23...D

High resistance dyneema rope. Light-weight and wear resistant. Supplied wound up on wooden reels or in coils.

OPTIONAL DEVICES

- Clamped eyes with metallic collars at the ends (note: the clamped eyes have breaking load 30-35% lower than the rope).
- Hand-spliced eyes.
- Head stocking-grip with eyes.
- Steel reel Ø 1100, 1400 or 1600 mm.

	Nominal diameter	Elongation under tension	Breaking load	Weight	Standard Lengths (*)
	mm	at 2 %	daN	kg/m	m
23.06.D	6	3%	4.000	0,02	500 1000 1500 2000 3000
23.08.D	8	3%	6.000	0,03	500 1000 1500 2000 3000
23.10.D	10	3%	9.000	0,05	500 1000 1500 2000 3000
23.12.D	12	3%	13.000	0,07	500 1000 1500 2000
23.14.D	14	3%	18.000	0,08	500 1000 1500 2000
23.16.D	16	3%	23.000	0,12	500 1000 1500 2000
23.18.D	18	3%	29.000	0,17	500 800 1000
23.20.D	20	3%	36.500	0,20	500 800 1000

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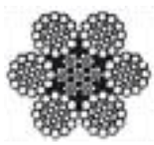
C02...AC

Bright steel rope 216 wires + steel core. Construction 6 (14+7/7+7+1) WS+WR. Right and left crossed.
UNI 7297-74. Resistance of wires: 180 kg/mm².

OPTIONAL
• Galvanization



Nominal diameter	Wires diameter	Breaking load	Weight
mm	mm	kN	kg/m
6	0,38	27,2	0,15
8	0,50	47,3	0,28
10	0,62	75	0,43
11	0,68	89	0,52
12	0,75	108	0,62
14	0,77	131	0,82
16	0,88	168	1,07
18	0,99	220	1,35
20	1,10	270	1,68
22	1,22	320	2,03
24	1,33	380	2,40
26	1,44	450	2,83
28	1,55	504	3,30
30	1,66	600	3,80
32	1,77	670	4,33

C02...LR

Bright steel rope 133 wires. Construction 19x7.
Lang lay or regular lay. Resistance of wires 200 kg/mm².

Rope diam.	Wires diam.	Sect.	Breaking load		Weight
mm	mm	mm2	kN	kN (¹)	kg/m
		Lang lay			
6	0,38	16,5	26	26	0,15
8	0,51	29,3	48,1	46,1	0,27
10	0,64	45,7	72,1	72,1	0,41
11	0,70	55,3	87,2	87,2	0,50
12	0,76	65,8	104	104	0,60
13	0,83	77,3	122	122	0,70
14	0,89	89,6	141	141	0,81
16	1,02	117	185	185	1,06
18	1,15	148	234	234	1,34
		Regular lay			
20	1,27	183	288	281	1,66
22	1,40	221	349	340	2,01
24	1,53	263	415	405	2,39
26	1,65	309	487	475	2,81

(¹) Galvanised type.

C02...AR

Bright steel rope 216 wires “compacted strands”, high resistance, with metal core.
Resistance of wires: 220 kg/mm²

Nominal diameter	Wires diameter	Breaking load	Weight
mm	mm	kN	kg/m
10	0,59	90,2	0,45
11	0,66	111	0,55
12	0,72	132	0,67
13	0,78	153	0,78
14	0,84	176	0,90
16	0,96	240	1,18
18	1,08	294	1,48
20	1,20	367	1,85
22	1,32	443	2,25
24	1,41	525	2,50
26	1,53	613	3,04
28	1,64	704	3,64
30	1,76	809	4,20

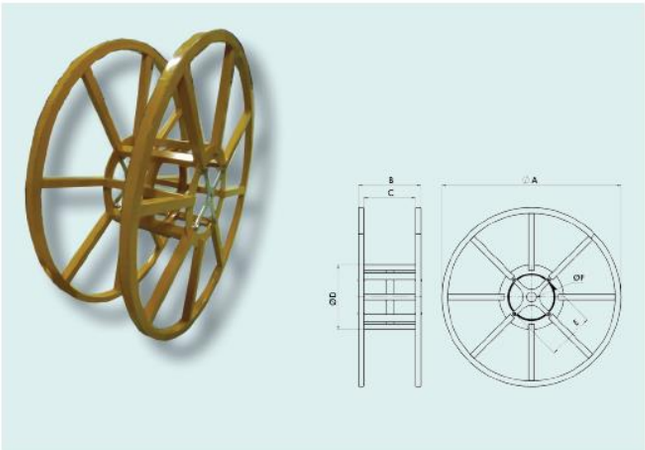
C02...AT

Bright steel rop. Construction 35x7. Resistance of wires 220 kg/mm².

Nominal diameter	Wires diameter	Breaking load	Weight
mm	mm	kN	kg/m
8	0,40	49,2	0,26
10	0,50	77	0,42
12	0,60	110,8	0,60
14	0,70	150,9	0,82
16	0,80	197,1	1,07
18	0,90	249,4	1,36
20	1,00	308	1,68
22	1,10	372,6	2,03
24	1,20	443,5	2,42
26	1,30	520,5	2,84
28	1,40	603,6	3,29
30	1,40	693	3,78

Dimensions and weights are without optional devices. All data may change without notice. Images and drawings are indicative only.

F162



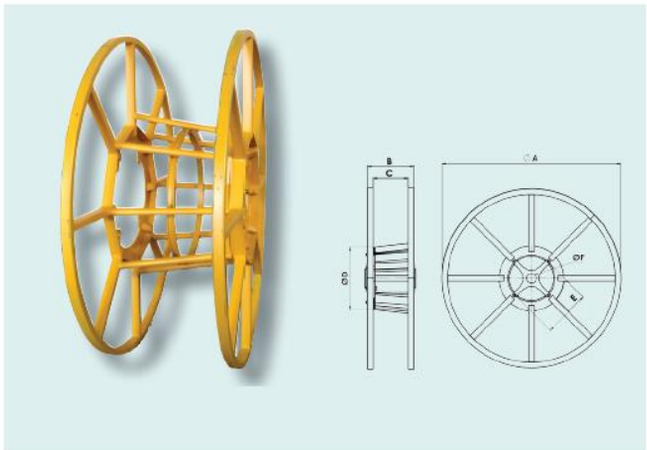
Welded and painted steel reel, complete with central dials and bolts.

OPTIONAL DEVICES

- Total galvanization.
- Additional pair of standard dials.
- Pair of dials equipped with ball bearings.
- Reinforced reel, made of square tubular (30% heavier than the standard version).

	Dimensions mm						Weight (without rope)
	A	B	C	D	E	F	kg
F162.060	700	530	460	219		50	27
F162.110	1100	560	460	570	420	50	66
F162.140	1400	560	460	570	420	50	105
F162.160	1600	560	460	570	420	50	120
F162.190	1900	560	460	570	420	50	140
F162.200	2200	1560	1400	1010	420	100	950

F164



Welded and painted steel conical reel with openable side. Complete with central dials and bolts.

OPTIONAL DEVICES

- Total galvanization.
- Additional pair of standard dials.
- Pair of dials equipped with ball bearings.
- Drum core covered with steel sheet.

	Dimensions mm						Weight (without rope)
	A	B	C	D	E	F	kg
F164.060	700	530	460	219		50	40
F164.110	1100	560	460	570	420	50	85
F164.140	1400	560	460	570	420	50	115
F164.160	1600	560	460	570	420	50	130
F164.190	1900	560	460	570	420	50	220
F164.205	2050	1310	1170	630	420	50	550
F164.220	2200	1310	1170	1010	420	100	1050

REEL CAPACITY (meters of rope)

Rope diameter (mm)	F162.060 F164.060	F162.110 F164.110	F162.140 F164.140	F162.160 F164.160	F162.190 F164.190	F162.220 F164.220
6	2000	6300	13000	17000	25000	-
7	1500	4500	9000	12000	18000	-
8	1200	3500	6000	5500	14000	-
9	900	2800	5400	7500	11000	-
10	800	2300	4400	6000	9000	33000
11	500	1900	3600	5000	7500	31000
12	450	1600	3000	4200	6000	22000
13	400	1400	2600	3600	5400	19000
14	300	1250	2200	3000	4600	16000
16	250	1000	1700	2400	3500	13000
18	-	800	1300	1900	2800	10000
20	-	650	1100	1600	2200	8000
22	-	500	900	1200	1900	6000
24	-	-	750	1000	1500	5000
26	-	-	650	900	1300	4500
28	-	-	560	800	1100	4000
30	-	-	490	700	1000	3500
32	-	-	430	600	850	30

Dimensions and weights are without optional devices. All data may change without notice. Images and drawings are indicative only.

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