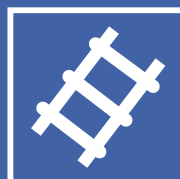


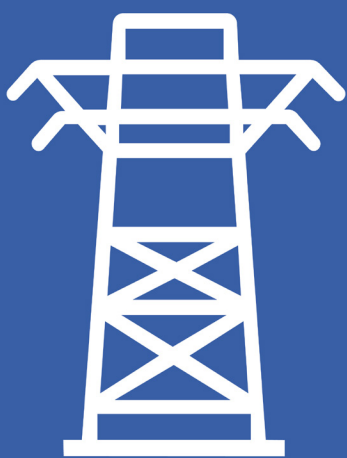
OVERHEAD LINE STRINGING

MACHINES AND EQUIPMENT



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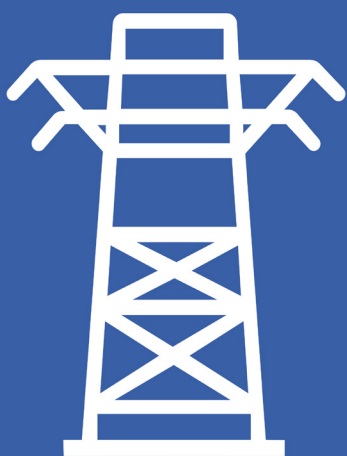
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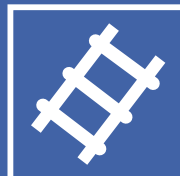


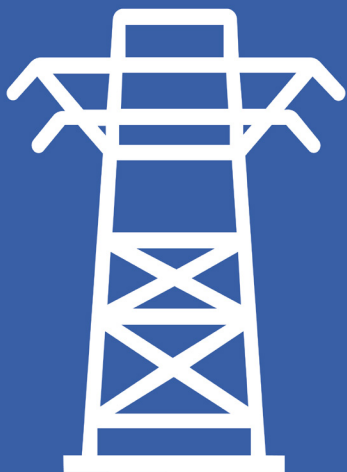
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MACHINES

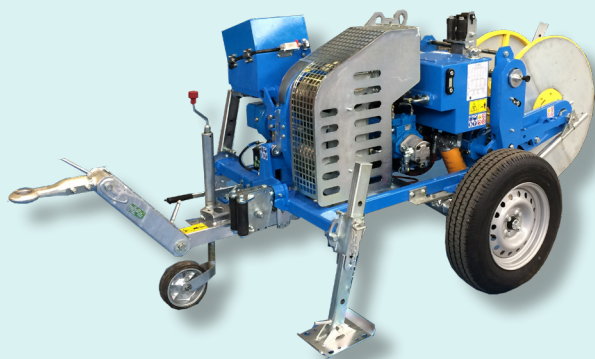




HYDRAULIC PULLERS

F265.20

max pull 20 kN



Hydraulic puller fit to pull one rope in stringing operations of overhead transmission lines 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 nylon rope diam.	12 mm
Max steel rope diam.	8 mm

ENGINE

Feeding	gasoline
Power	20,5 hp / 15 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 self-loading
Capacity:	
Steel rope Ø 8 mm:	1000 m
Nylon rope Ø 12 mm:	500 m

DIMENSIONS AND WEIGHT (without rope)

Dimensions	2,30x1,50x1,20 m
Weight	700 kg

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 jack-arm with wheel on drawbar side
- Attachments for anchoring and for lifting
- Heat exchanger to cool the oil in the hydraulic circuit
- Built-in reel-winder with automatic rope-winder and extractable reel Ø700 mm

OPTIONAL DEVICES

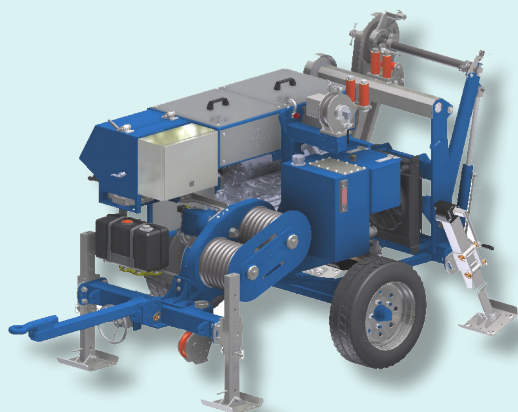
- 003 Damped axle for towing on road, with mechanical brake (homologation excluded)
- 028.3 Air cooled diesel engine with electric starting 19 HP/ 14 kW (it adds 50 kg to the machine weight)
- 067 Telescopic rod to lay underground cables (art.F277)
- 069.2 Electronic device with USB port, to save the data of the pull
- 069.5 Printer with accessories
- 083.1 Rope transmission pulley, 360° revolving, fit for pulling underground cables, predisposed to receive the telescopic bar mod. F276 and F277

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

max pull 30 kN



Hydraulic puller fit to pull one rope in stringing operations of overhead transmission lines.
One hydraulic circuit allows to continuously vary the speed in both directions by operating one control device.

FEATURES		ENGINE		PULL PERFORMANCES	
Capstans	2 x Ø 250 mm	Feeding	diesel	Max pull	30 kN
Capstan grooves	7	Power	35 hp / 26 kW	Speed at max pull	1,2 km/h
Max rope diameter	13 mm		35 hp / 26 kW *	Max speed	3,8 km/h
Max joint diameter	40 mm	Cooling	water	Pull at max speed	12 kN
Dimensions LxWxH	2,10x1,60x1,60 m	Electric plant	12 V		
Weight (without rope)	1100 kg				

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
- **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
- Reelwinder fit for a 1400-mm-dia reel, with automatic ropewinder

OPTIONAL DEVICES

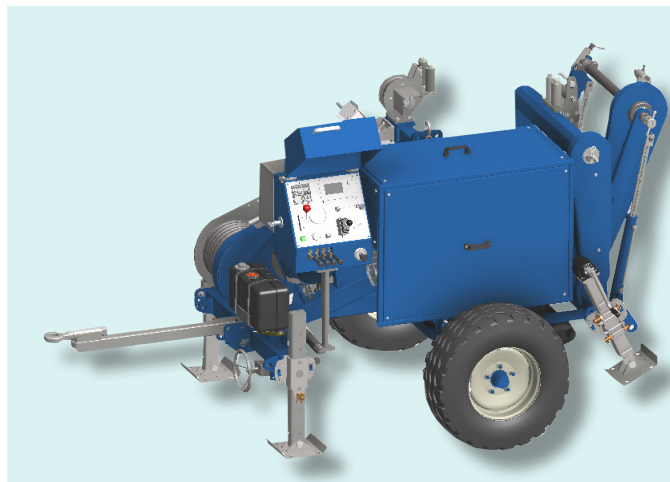
- 007 Chassis with damped axle, overrun brake and drawbar for towing on road (homologation excluded)
- 037 Remote control by cable, with 10 m of cable
- 038.1 Pushbutton radio-control
- 038 Radio-control (max distance 100 m)
- 045.3 Manual clamp for rope
- 047 Hydraulic front stabilisers
- 067 Telescopic rod to lay underground cables (mod.F277)
- 069.5 Printer with accessories, complete with case
- 083.1 Rope transmission pulley, 360° revolving, fit for pulling underground cables, predisposed to receive the telescopic bar mod. F 276 and F277

* 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.

F280.35

max pull 35 kN



Hydraulic puller fit to pull one rope in stringing operations of overhead transmission lines.
One hydraulic circuit allows to continuously vary the speed in both directions by operating one control device.

FEATURES		ENGINE		PULL PERFORMANCES	
Capstans	2 x Ø 325 mm	Feeding	diesel	Max pull	35 kN
Capstan grooves	7	Power	39 hp / 29 kW 48 hp / 36 kW *	Speed at max pull	1,3 km/h 1,6 km/h*
Max rope diameter	16 mm	Cooling	water	Max speed	4 km/h
Max joint diameter	45 mm	Electric plant	12 V	Pull at max speed	14 kN / 17 kN*
Dimensions LxWxH	2,15x1,60x1,55 m				
Weight (without rope)	1700 kg				

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
- Hydraulic back stabilisers and manual front stabilisers
- Attachments for anchoring and for lifting
- Heat exchanger to cool the oil in the hydraulic circuit
- 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)
- 037 Remote control by cable, with 10 m of cable
- 038.1 Pushbutton radio-control
- 038 Radio-control (max distance 100 m)
- 045.3 Manual clamp for rope
- 047 Hydraulic front stabilisers
- 067 Telescopic rod to lay underground cables (mod.F277)
- 069.5 Printer with accessories, complete with case
- 083.1 Rope transmission pulley, 360° revolving, fit for pulling underground cables, predisposed to receive the telescopic bar mod. F 276 and F277

* 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.

F230.45

max pull 45 kN



Hydraulic puller fit to pull one rope in stringing operations of overhead transmission lines.
One hydraulic circuit allows to continuously vary the speed in both directions by operating one control device.

FEATURES		ENGINE		PULL PERFORMANCES	
Capstans	2 x Ø 400 mm	Feeding	diesel	Max pull	45 kN
Capstan grooves	7	Power	57 hp / 42 kW 57 hp / 42 kW *	Speed at max pull	2,2 km/h 2,2 km/h *
Max rope diameter	16 mm	Cooling	water	Max speed	5 km/h
Max joint diameter	50 mm	Electric plant	12 V	Pull at max speed	17 kN 17 kN *
Dimensions LxWxH	2,85x1,80x1,85 m				
Weight (without rope)	2100 kg				

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**
- Device for pull force setting which allows to maintain the pre-set force even at speed "0"
- Safety negative hydraulic brake
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in 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
- 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)
- 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)
- 045.2 Automatic clamp for rope
- 045.3 Manual clamp for rope
- 047 Hydraulic front stabilisers
- 069.5 Printer with accessories, complete with case.
- 083.1 Rope transmission pulley, 360° revolving, fit for pulling underground cables, predisposed to receive the telescopic bar mod. F 276 and F277

* 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.

F230.70

max pull 70 kN



Hydraulic puller fit to pull one rope in stringing operations of overhead transmission lines.
One hydraulic circuit allows to continuously vary the speed in both directions by operating one control device.

FEATURES		ENGINE		PULL PERFORMANCES	
Capstans	2 x Ø 400 mm	Feeding	diesel	Max pull	70 kN
Capstan grooves	8	Power	74 hp / 55 kW	Speed at max pull	1,6 km/h
Max rope diameter	18 mm		74 hp / 55 kW *		1,6 km/h *
Max joint diameter	50 mm	Cooling	water	Max speed	4,5 km/h
Dimensions LxWxH	3,20x1,95x2,00 m	Electric plant	12 V	Pull at max speed	28 kN
Weight (without rope)	2400 kg				28 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**
- Device for pull force setting which allows to maintain the pre-set force even at speed "0"
- Safety negative hydraulic brake
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in 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
- Reelwinder fit for a 1600-mm-dia reel, with automatic opewinder

OPTIONAL DEVICES

- 007 Chassis with damped axle, overrun brake and drawbar for towing 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)
- 045.2 Automatic clamp for rope
- 045.3 Manual clamp for rope
- 047 Hydraulic front stabilisers
- 069.5 Printer with accessories, complete with case
- 083.1 Rope transmission pulley, 360° revolving, fit for pulling underground cables, predisposed to receive the telescopic bar mod. F 276 and F277

* 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.

F245.90

max pull 90 kN



Hydraulic puller fit to pull one rope in stringing operations of overhead transmission lines.
One hydraulic circuit allows to continuously vary the speed in both directions by operating one control device.

FEATURES		ENGINE		PULL PERFORMANCES	
Capstans	2 x Ø 525 mm	Feeding	diesel	Max pull	90 kN
Capstan grooves	9	Power	135 hp / 100 kW 135 hp / 100 kW *	Speed at max pull	2,5 km/h 2,5 km/h *
Max rope diameter	20 mm	Cooling	water	Max speed	5 km/h
Max joint diameter	60 mm	Electric plant	12 V	Pull at max speed	42 kN 42 kN *
Dimensions LxWxH	3,70x2,15x2,10 m				
Weight (without rope)	3900 kg				

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**
- Device for pull force setting which allows to maintain the pre-set force even at speed "0"
- Safety negative hydraulic brake
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site
- Hydraulic back stabilisers and manual front stabilisers
- Attachments for anchorage and for lifting
- Heat exchanger to cool the oil in the hydraulic circuit
- Reelwinder fit for a 1600-mm-dia reel, with automatic ropewinder

OPTIONAL DEVICES

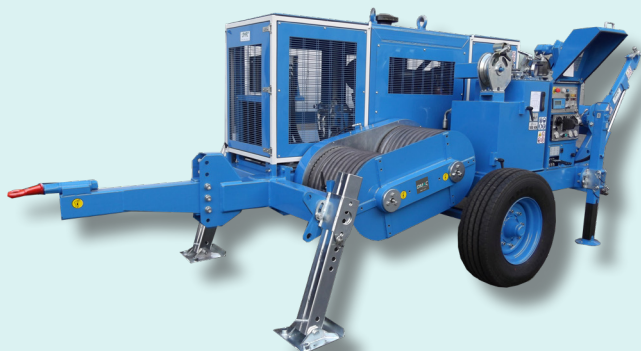
- 008 Axle with leaf spring suspensions, drawbar, pneumatic braking system, tires and lights for towing on the road (without homologation)
- 006.1 Lights for towing on the road
- 006.2 Pneumatic braking system
- 028.7 Device to start the diesel engine and the hydraulic circuit at low temperatures (up to -30°C)
- 037 Remote control by cable, with 10 m of cable
- 038 Radio-control (max distance 100 m)
- 045.2 Automatic clamp for rope
- 045.3 Manual clamp for rope
- 047 Hydraulic front stabilisers
- 069.5 Printer with accessories, complete with case
- 084 Bigger reelwinder fit for a 1900-mm-dia reel
- 115 Setting-up for pulling 2 ropes simultaneously
- 014 Second reel-winder, ideal to complete the opt. 115

* 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.

F260.140

max pull 140 kN



Hydraulic puller fit to pull one rope in stringing operations of overhead transmission lines.
One hydraulic circuit allows to continuously vary the speed in both directions by operating one control device.

FEATURES		ENGINE		PULL PERFORMANCES	
Capstans	2 x Ø 600 mm	Feeding	diesel	Max pull	140 kN
Capstan grooves	10	Power	176 hp / 130 kW	Speed at max pull	1,8 km/h
Max rope diameter	24 mm		176 hp / 130 kW *		1,8 km/h *
Max joint diameter	60 mm	Cooling	water	Max speed	4,5 km/h
Dimensions LxWxH	3,95x2,30x2,20 m	Electric plant	12 V	Pull at max speed	55 kN
Weight (without rope)	4900 kg				55 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**
- Device for pull force setting which allows to maintain the pre-set force even at speed "0"
- Safety negative hydraulic brake
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in 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
- Reelwinder fit for a 1600-mm-dia reel, with automatic ropewinder

OPTIONAL DEVICES

- 008 Axle with leaf spring suspensions, drawbar, pneumatic braking system, tires and lights for towing on the road (without homologation)
- 006.1 Lights for towing on the road
- 006.2 Pneumatic braking system
- 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)
- 045.2 Automatic clamp for rope
- 045.3 Manual clamp for rope
- 047 Hydraulic front stabilisers
- 069.5 Printer with accessories, complete with case
- 084 Bigger reelwinder fit for a 1900-mm-dia reel
- 115 Setting-up for pulling 2 ropes simultaneously
- 014 Second reel-winder, ideal to complete the opt. 115
- 174.1 Synchronising device for the connection of 2 machines to pull 2 ropes simultaneously, complete with cable-control (20 m)

* 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.

F260.160

max pull 160 kN



Hydraulic puller fit to pull one rope in stringing operations of overhead transmission lines.
One hydraulic circuit allows to continuously vary the speed in both directions by operating one control device.

FEATURES		ENGINE		PULL PERFORMANCES	
Capstans	2 x Ø 600 mm	Feeding	diesel	Max pull	160 kN
Capstan grooves	10	Power	278 hp / 205 kW	Speed at max pull	2,5 km/h
Max rope diameter	24 mm		278 hp / 205 kW *		2,5 km/h *
Max joint diameter	60 mm	Cooling	water	Max speed	5 km/h
Dimensions LxWxH	4,10x2,30x2,30 m	Electric plant	24 V	Pull at max speed	80 kN
Weight (without rope)	5200 kg				80 kN *

ALSO AVAILABLE F260.190

Max pull	190 kN
Speed at max force	2,2 km/h
	2,2 km/h *
Max speed	5 km/h
Pull at max speed	80 kN
	80 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**
- Device for pull force setting which allows to maintain the pre-set force even at speed "0"
- Safety negative hydraulic brake
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in 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
- Reelwinder fit for a 1600-mm-dia reel, with automatic ropewinder

OPTIONAL DEVICES

- 008 Axle with leaf spring suspensions, drawbar, pneumatic braking system, tires and lights for towing on the road (without homologation)
- 006.1 Lights for towing on the road
- 006.2 Pneumatic braking system
- 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)
- 045.2 Automatic clamp for rope
- 045.3 Manual clamp for rope
- 047 Hydraulic front stabilisers
- 069.5 Printer with accessories, complete with case
- 084 Bigger reelwinder fit for a 1900-mm-dia reel
- 115 Setting-up for pulling 2 ropes simultaneously
- 014 Second reel-winder, ideal to complete the opt. 115
- 174.1 Synchronising device for the connection of 2 machines to pull 2 ropes simultaneously, complete with cable-control (20 m)

* 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.

F375.240

max pull 240 kN



Hydraulic puller fit to pull one rope in stringing operations of overhead transmission lines.
One hydraulic circuit allows to continuously vary the speed in both directions by operating one control device.

FEATURES		ENGINE		PULL PERFORMANCES	
Capstans	2 x Ø 800 mm	Feeding	diesel	Max pull	240 kN
Capstan grooves	10	Power	380 hp / 280 kW	Speed at max pull	2,5 km/h
Max rope diameter	32 mm		380 hp / 280 kW *		2,5 km/h *
Max joint diameter	80 mm	Cooling	water	Max speed	5 km/h
Dimensions LxWxH	5,10x2,50x3,00 m	Electric plant	24 V	Pull at max speed	130 kN
Weight (without rope)	9900 kg				130 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**
- Device for pull force setting which allows to maintain the pre-set force even at speed "0"
- Safety negative hydraulic brake
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site
- Hydraulic back and front stabilisers
- Attachments for anchoring and for lifting
- Heat exchanger to cool the oil in the hydraulic circuit
- Reelwinder fit for a 1900-mm-dia reel, with automatic ropewinder

OPTIONAL DEVICES

- 005.1 Chassis with tandem axle, drawbar, suspensions, air braking system, tires and lights for towing on the road (homologation excluded)
- 008 Axle with leaf spring suspensions, drawbar, pneumatic braking system, tires and lights for towing on the road (without homologation)
- 006.1 Lights for towing on the road
- 006.2 Pneumatic braking system
- 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)
- 045.2 Automatic clamp for rope
- 045.3 Manual clamp for rope
- 069.5 Printer with accessories, complete with case
- 084 Bigger reelwinder fit for a 2250-mm-dia reel
- 115 Setting-up for pulling 2 ropes simultaneously
- 014 Second reel-winder, ideal to complete the opt. 115

* 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.

F250.280

max pull 280 kN



Hydraulic puller fit to pull one rope in stringing operations of overhead transmission lines.
One hydraulic circuit allows to continuously vary the speed in both directions by operating one control device.

FEATURES		ENGINE		PULL PERFORMANCES	
Capstans	2 x Ø 960 mm	Feeding	diesel	Max pull	280 kN
Capstan grooves	12	Power	476 hp / 350 kW	Speed at max pull	2,3 km/h
Max rope diameter	38 mm	Cooling	water	Max speed	5 km/h
Max joint diameter	80 mm	Electric plant	24 V	Pull at max speed	120 kN
Dimensions LxWxH	5,40x2,50x3,15 m				
Weight (without rope)	13000 kg				

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**
- Device for pull force setting which allows to maintain the pre-set force even at speed "0"
- Safety negative hydraulic brake
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site
- Hydraulic back and front stabilisers
- Attachments for anchoring and for lifting
- Heat exchanger to cool the oil in the hydraulic circuit
- Reelwinder fit for a 1900-mm-dia reel, with automatic ropewinder

OPTIONAL DEVICES

- 005.1 Chassis with tandem axle, drawbar, suspensions, air braking system, tires and lights for towing on the road (homologation excluded)
- 008 Axle with leaf spring suspensions, drawbar, pneumatic braking system, tires and lights for towing on the road (without homologation)
- 006.1 Lights for towing on the road
- 006.2 Pneumatic braking system
- 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)
- 045.2 Automatic clamp for rope
- 045.3 Manual clamp for rope
- 069.5 Printer with accessories, complete with case
- 084 Bigger reelwinder fit for a 2250-mm-dia reel
- 115 Setting-up for pulling 2 ropes simultaneously
- 014 Second reel-winder, ideal to complete the opt. 115

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.

F260.150.22

max pull 150 kN (2 x 75 kN)



Hydraulic puller fit to pull one or two ropes in stringing operations of overhead transmission lines.

Two hydraulic circuits allow to continuously vary the speed in both directions by operating two independent control devices. The two circuits may also be matched and operated together by one control device.

FEATURES		ENGINE		PULL PERFORMANCES	
Capstans	4 x Ø 600 mm	Feeding	diesel	Max pull	1 X 150 kN or 2 x 75 kN
Max rope diameter	2 X 26 mm	Power	278 hp / 205 kW	Speed at max pull	2,2 km/h 2,2 km/h *
Max joint diameter	60 mm		278 hp / 205 kW *	Max speed	4,6 km/h
Dimensions LxWxH	4,60x2,45x2,75 m	Cooling	water	Pull at max speed	1 x 80 kN or 2 x 40 kN 1 x 80 kN * or 2 x 40 kN *
Weight (without rope)	8500 kg	Electric plant	24 V		

CONFIGURATION

- Two pairs of multi-grooved steel capstans fit for stringing two steel ropes
- 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**
- Two devices for pull force setting which allows to maintain the pre-set force even at speed "0"
- Two safety negative hydraulic brakes
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site
- Hydraulic back and front stabilisers
- Attachments for anchorage and for lifting
- Heat exchanger to cool the oil in the hydraulic circuit
- Devices for coupling the two pairs of capstans, fit to obtain the max force of 15000 daN stringing one rope
- Two reelwinders fit for 1400-mm-dia reels, with automatic ropewinder

OPTIONAL DEVICES

- 005.1 Chassis with tandem axle, drawbar, suspensions, air braking system, tires and lights for towing on the road (homologation excluded)
- 006.1 Lights for towing on the road
- 006.2 Pneumatic braking system
- 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)
- 045.2 Automatic clamp for rope
- 045.3 Manual clamp for rope
- 069.5 Printer with accessories, complete with case

* 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.

F260.180.22

max pull 180 kN (2 x 90 kN)



Hydraulic puller fit to pull one or two ropes in stringing operations of overhead transmission lines.

Two hydraulic circuits allow to continuously vary the speed in both directions by operating two independent control devices. The two circuits may also be matched and operated together by one control device.

FEATURES		ENGINE		PULL PERFORMANCES	
Capstans	4 x Ø 600 mm	Feeding	diesel	Max pull	1 X 180 kN or 2 x 90 kN
Max rope diameter	2 X 28 mm	Power	278 hp / 205 kW 278 hp / 205 kW *	Speed at max pull	2,2 km/h 2,2 km/h *
Max joint diameter	60 mm	Cooling	water	Max speed	4,6 km/h
Dimensions LxWxH	4,60x2,45x2,90 m	Electric plant	24 V	Pull at max speed	1 x 80 kN or 2 x 40 kN 1 x 80 kN * or 2 x 40 kN *
Weight (without rope)	8900 kg				

CONFIGURATION

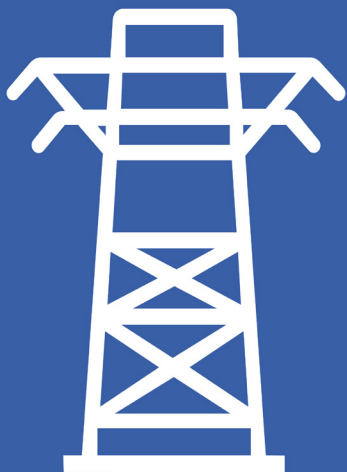
- Two pairs of multi-grooved steel capstans fit for stringing two steel ropes
- Machine control panel equipped with built-in electronic instrument DEG 4.0 featuring a 7" large graphic colour display and a USB port
- **Maintenance-free load cell reading system**
- **Electronic instrument by-pass**
- Two devices for pull force setting which allows to maintain the pre-set force even at speed "0"
- Two safety negative hydraulic brakes
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site
- Hydraulic back and front stabilisers
- Attachments for anchorage and for lifting
- Heat exchanger to cool the oil in the hydraulic circuit
- Devices for coupling the two pairs of capstans, fit to obtain the max force of 18000 daN stringing one rope
- Two reelwinders fit for 1400-mm-dia reels, with automatic ropewinder

OPTIONAL DEVICES

- 005.1 Chassis with tandem axle, drawbar, suspensions, air braking system, tires and lights for towing on the road (homologation excluded)
- 006.1 Lights for towing on the road
- 006.2 Pneumatic braking system
- 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)
- 045.2 Automatic clamp for rope
- 045.3 Manual clamp for rope
- 069.5 Printer with accessories, complete with case

* 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.



HYDRAULIC TENSIONERS

F120.30

max tension 30 kN



Hydraulic tensioner fit to string one conductor or fiber optic cable. One hydraulic circuit allows to tension at constant force even varying the speed of stringing. Equipped with engine for pull-back performances.

FEATURES		ENGINE		TENSION PERFORMANCES	
Capstans	2 x Ø 1500 mm	Feeding	diesel	Max tension force	30 kN
Capstan grooves	5	Power	35 hp / 26 kW 25,5 hp / 18,8 kW *	Min tension force	1,5 kN
Max conductor diameter	1 x 36 mm	Cooling	water	Max speed	5 km/h
Dimensions LxWxH	3,85x1,85x2,20 m	Electric plant	12 V		
Weight	2500 kg				

PULL-BACK PERFORMANCES	
Max pull	30 kN
Max speed	1,5 km/h 1,1 km/h *

CONFIGURATION

- One pair of steel capstans lined with multi-grooved nylon sectors
- Machine control panel equipped with built-in electronic instrument DEG 4.0 featuring a 7" large graphic colour display and a USB port
- Device to control low-force tensions (1,5-15 kN), specially fit for optical fibers
- **Maintenance-free load cell reading system**
- **Electronic instrument by-pass**
- Freewheeling disconnection (neutral) of capstans
- **Self-recovery device for sagging operations**
- Safety negative hydraulic brake
- Back fix conductor-driver with nylon rollers
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site
- Mechanical front plough and back stabilisers
- Attachments for anchoring and for lifting
- Heat exchanger to cool the oil in the hydraulic circuit
- One auxiliary hydraulic circuit for controlling 1 reel-stand
- Grounding connection point

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

OPTIONAL DEVICES

- 008 Damped axle, air brake, drawbar and lights
- 006.2 Pneumatic braking system
- 024.1 Aluminium sectors with grooves, fit for tripolar cable ELICORD 80-mm dia
- 037 Remote control by cable, with 10 m of cable
- 038 Radio-control (max distance 100 m)
- 045.2 Automatic clamp for conductor
- 045.3 Manual clamp for conductor
- 069.5 Printer for the electronic recorder, with accessories
- 047.2 Hydraulic front plough
- 048 Hydraulic back 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.

F120.45.2

max tension 45 kN



Hydraulic tensioner fit to string one or two conductors or optical fiber cables.

One hydraulic circuit allows to tension at constant force even varying the speed of stringing.

Equipped with engine for pull-back performances.

FEATURES		ENGINE		TENSION PERFORMANCES	
Capstans	2 x Ø 1500 mm	Feeding	diesel	Max tension force	45 kN
Capstan grooves	8	Power	35 hp / 26 kW	Min tension force	2 kN
Max conductor diameter	2 x 36 mm		35 hp / 26 kW *	Max speed	5 km/h
Dimensions LxWxH	3,95x2,00x2,20 m	Cooling	water		
Weight	2700 kg	Electric plant	12 V		
PULL-BACK PERFORMANCES		ALSO AVAILABLE VERSION WITH Ø1800 mm CAPSTANS			
Max pull	45 kN				
Max speed	0,8 km/h				
	0,8 km/h *				

CONFIGURATION

- One pair of steel capstans lined with multi-grooved nylon sectors
- 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**
- Device to control low-force tensions (2-15 kN), specially fit for optical fibers
- **Self-recovery device for sagging operations**
- Freewheeling disconnection (neutral) of capstans
- Safety negative hydraulic brake
- Two back fix conductor-drivers with nylon rollers
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site
- Mechanical front plough and back stabilisers
- Attachments for anchoring and for lifting
- Heat exchanger to cool the oil in the hydraulic circuit
- Auxiliary hydraulic circuit for controlling 1 or 2 reel-stands (not independent)
- Grounding connection point

OPTIONAL DEVICES

- 008 Damped axle, air brake, drawbar and lights
- 006.4 Arrangement of the chassis for circulation on road (homologation excluded)
- 037 Remote control by cable, with 10 m of cable
- 038 Radio-control (max distance 100 m)
- 045.2 Automatic clamp for 2 conductors
- 045.3 Manual clamp for 2 conductors
- 069.5 Printer for the electronic recorder, with accessories
- 047.2 Hydraulic front plough
- 048 Hydraulic back stabilisers

* 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.

F120.75.2

max tension 75 kN



Hydraulic tensioner fit to string one or two conductors or optical fiber cables. One hydraulic circuit allows to tension at constant force even varying the speed of stringing.

Equipped with engine for pull-back performances.

FEATURES		ENGINE		TENSION PERFORMANCES	
Capstans	2 x Ø 1500 mm	Feeding	diesel	Max tension force	75 kN
Capstan grooves	10	Power	35 hp / 26 kW	Min tension force	2 kN
Max conductor diameter	2 x 42 mm		35 hp / 26 kW *	Max speed	5 km/h
Dimensions LxWxH	3,95x2,10x2,20 m	Cooling	water		
Weight	3500 kg	Electric plant	12 V		

PULL-BACK PERFORMANCES		ALSO AVAILABLE VERSION WITH Ø1800 mm CAPSTANS			
Max pull	75 kN				
Max speed	1 km/h				
	1 km/h*				

CONFIGURATION

- One pair of steel capstans lined with multi-grooved nylon sectors
- 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**
- Device to control low-force tensions (2-25 kN), specially fit for fibre-optic cables
- Freewheeling disconnection (neutral) of capstans
- **Self-recovery device for sagging operations**
- Safety negative hydraulic brake
- Two back fix conductor-drivers with nylon rollers
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site
- Mechanical front plough and back stabilisers
- Attachments for anchoring and for lifting
- Heat exchanger to cool the oil in the hydraulic circuit
- Auxiliary hydraulic circuit for controlling 1 or 2 reel-stands (not independent)
- Grounding connection point

OPTIONAL DEVICES

- 008 Damped axle, air brake, drawbar and lights
- 006.4 Arrangement of the chassis for circulation on road (homologation excluded)
- 028.7 Device to start the diesel engine at low temperatures (up to -30°C)
- 037 Remote control by cable, with 10 m of cable
- 038 Radio-control (max distance 100 m)
- 045.2 Automatic clamp for 2 conductors
- 045.3 Manual clamp for 2 conductors
- 069.5 Printer for the electronic recorder, with accessories.
- 174.2 Synchronising device for the connection of 2 machines complete with remote control by cable (20 m)
- 047.2 Hydraulic front plough
- 048 Hydraulic back stabilisers

* 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.

F120.90.2

max tension 90 kN



Hydraulic tensioner fit to string one or two conductors or optical fiber cables.

One hydraulic circuit allows to tension at constant force even varying the speed of stringing.

Equipped with engine for pull-back performances.

FEATURES		ENGINE		TENSION PERFORMANCES	
Capstans	2 x Ø 1500 mm	Feeding	diesel	Max tension force	90 kN
Capstan grooves	10	Power	47 hp / 35 kW	Min tension force	4 kN
Max conductor diameter	2 x 42 mm		47 hp / 35 kW *	Max speed	5 km/h
Dimensions LxWxH	4,00x2,10x2,30 m	Cooling	water		
Weight	4100 kg	Electric plant	12 V		

PULL-BACK PERFORMANCES	
Max pull	90 kN
Max speed	0,8 km/h
	0,8 km/h*

ALSO AVAILABLE VERSION WITH
Ø1800 mm CAPSTANS

CONFIGURATION

- One pair of steel capstans lined with multi-grooved nylon sectors
- 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**
- Device to control low-force tensions (4-30 kN), specially fit for fibre-optic cables
- Freewheeling disconnection (neutral) of capstans
- **Self-recovery device for sagging operations**
- Safety negative hydraulic brake
- Two back fix conductor-drivers with nylon rollers
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site
- Mechanical front plough and back stabilisers
- Attachments for anchoring and for lifting
- Heat exchanger to cool the oil in the hydraulic circuit
- Auxiliary hydraulic circuit for controlling 1 or 2 reel-stands (not independent)
- Grounding connection point

* 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.

OPTIONAL DEVICES

- 008 Damped axle, air brake, drawbar and lights
- 006.4 Arrangement of the chassis for circulation on road (homologation excluded)
- 028.7 Device to start the diesel engine at low temperatures (up to -30°C)
- 037 Remote control by cable, with 10 m of cable
- 038 Radio-control (max distance 100 m)
- 045.2 Automatic clamp for 2 conductors
- 045.3 Manual clamp for 2 conductors
- 069.5 Printer for the electronic recorder, with accessories
- 174.2 Synchronising device for the connection of 2 machines complete with remote control by cable (20 m)
- 047.2 Hydraulic front plough
- 048 Hydraulic back stabilisers

F120.100.22

max tension 100 kN (2 x 50 kN)



Hydraulic tensioner fit to string one or two conductors.

Two hydraulic circuits allow to tension at constant force even varying the speed of stringing. The two circuits can be used independently or simultaneously, with automatic forces partition.

Equipped with engine for pull-back performances. In pull-back mode, two hydraulic circuit allow to continuously vary the speed in both directions, allowing to use one of the hydraulic circuits or both of them matched.

FEATURES		ENGINE		TENSION PERFORMANCES	
Capstans	4 x Ø 1500 mm	Feeding	diesel	Max tension force	1 x 100 kN or 2 x 50 kN
Capstan grooves	12	Power	57 hp / 42 kW 57 hp / 42 kW *	Max speed	5 km/h
Max conductor diameter	2 x 42 mm	Cooling	water		
Dimensions LxWxH	4,50x2,25x2,80 m	Electric plant	12 V		
Weight	5500 kg				
PULL-BACK PERFORMANCES		ALSO AVAILABLE VERSION WITH Ø1800 mm CAPSTANS			
Max pull	1 x 100 kN or 2 x 50 kN				
Max speed	0,8 km/h 0,8 km/h*				

CONFIGURATION

- Two pairs of steel capstans lined with multi-grooved nylon sectors
- 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**
- **Self-recovery device for sagging operations**
- Two safety negative hydraulic brakes
- Back fix conductor-drivers with nylon rollers
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site
- Hydraulic front plough and back stabilisers
- Attachments for anchoring and for lifting
- Heat exchanger to cool the oil in the hydraulic circuit
- Device for coupling the two pairs of capstans
- Two auxiliary hydraulic circuits for controlling 1 or 2 reel-stands independently
- Grounding connection point

OPTIONAL DEVICES

- 005.1 Chassis with 2 damped axles (tandem), air braking system and lights
- 008 Damped axle, air brake, drawbar and lights
- 006.4 Arrangement of the chassis for circulation on road (homologation excluded)
- 012 Predisposition of one hydraulic circuit to feed a press for high pressure joints (max. 700 bar)
- 017 Hydraulic/mechanical device (n.1, on 1 circuit) to control low tension values (3-30 kN), fit to string fiber optics
- 028.7 Device to start the diesel engine at low temperatures (up to -30°C)
- 037 Remote control by cable, with 10 m of cable
- 038 Radio-control (max distance 100 m)
- 045.2 Automatic clamp for 2 conductors
- 045.3 Manual clamp for 2 conductors
- 069.5 Printer for the electronic recorder, with accessories
- 174.2 Synchronising device for the connection of 2 machines complete with remote control by cable (20 m)

* 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.

F110.140.22

max tension 140 kN (2 x 70 kN)



Hydraulic tensioner fit to string one or two conductors.

Two hydraulic circuits allow to tension at constant force even varying the speed of stringing. The two circuits can be used independently or simultaneously, with automatic forces partition.

Equipped with engine for pull-back performances. In pull-back mode, two hydraulic circuit allow to continuously vary the speed in both directions, allowing to use one of the hydraulic circuits or both of them matched.

FEATURES		ENGINE		TENSION PERFORMANCES	
Capstans	4 x Ø 1800 mm	Feeding	diesel	Max tension force	1 x 140 kN or 2 x 70 kN
Capstan grooves	12	Power	75 hp / 55 kW 75 hp / 55 kW *	Speed at max tension	3 km/h
Max conductor diameter	2 x 52 mm	Cooling	water	Max speed	5 km/h
Max rope diameter	28 mm	Electric plant	12 V		
Dimensions LxWxH	4,50x2,25x2,80 m				
Weight	9700 kg				
PULL-BACK PERFORMANCES					
Max pull	1 x 140 kN or 2 x 70 kN				
Max speed	0,8 km/h 0,8 km/h*				

CONFIGURATION

- Two pairs of steel capstans lined with multi-grooved nylon sectors
- 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**
- **Self-recovery device for sagging operations**
- Two safety negative hydraulic brakes
- Back fix conductor-drivers with nylon rollers
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site
- Hydraulic front plough and back stabilisers
- Attachments for anchoring and for lifting
- Heat exchanger to cool the oil in the hydraulic circuit
- Devices for coupling the two pairs of capstans
- Two auxiliary hydraulic circuits for controlling 1 or 2 reel-stands independently
- Grounding connection point

OPTIONAL DEVICES

- 005.1 Chassis with 2 damped axles (tandem), air braking system and lights
- 008 Damped axle, air brake, drawbar and lights
- 006.4 Arrangement of the chassis for circulation on road (homologation excluded)
- 012 Predisposition of one hydraulic circuit to feed a press for high pressure joints (max. 700 bar)
- 017 Hydraulic/mechanical device (n.1, on 1 circuit) to control low tension values (4-40 kN), fit to string fiber optics
- 028.7 Device to start the diesel engine at low temperatures (up to -30°C)
- 037 Remote control by cable, with 10 m of cable
- 038 Radio-control (max distance 100 m)
- 045.2 Automatic clamp for 2 conductors
- 045.3 Manual clamp for 2 conductors
- 069.5 Printer for the electronic recorder, with accessories
- 174.2 Synchronising device for the connection of 2 machines complete with remote control by cable (20 m)

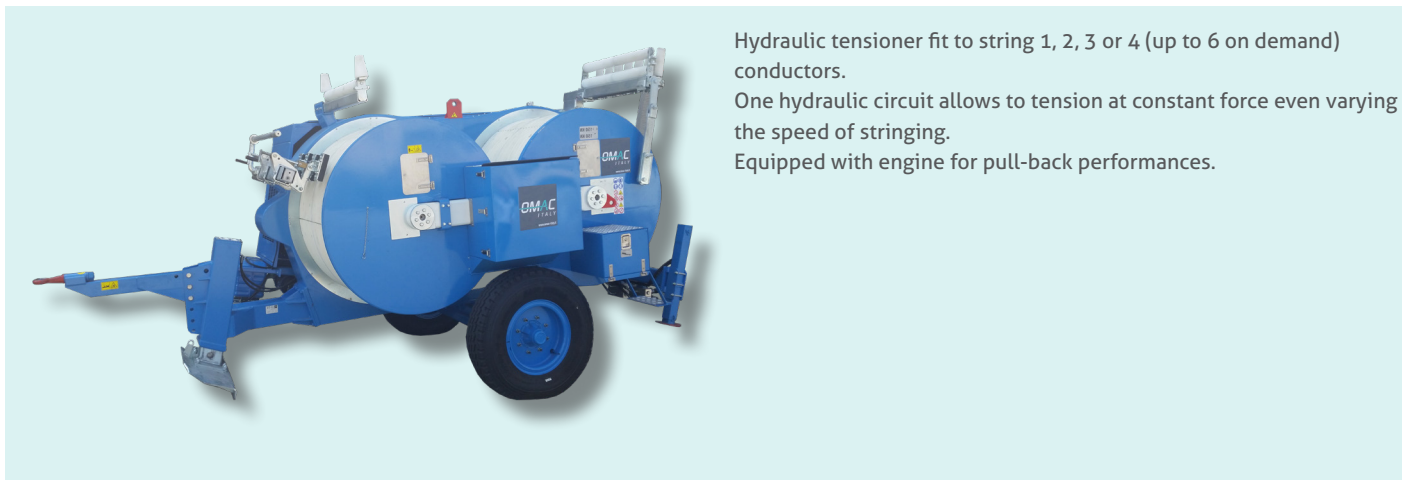
* According to the EC directive 97/68/CE with subsequent amendments and additions.

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.

F120.150.4

max tension 150 kN



Hydraulic tensioner fit to string 1, 2, 3 or 4 (up to 6 on demand) conductors.
One hydraulic circuit allows to tension at constant force even varying the speed of stringing.
Equipped with engine for pull-back performances.

FEATURES		ENGINE		TENSION PERFORMANCES	
Capstans	2 x Ø 1500 mm	Feeding	diesel	Max tension force	150 kN
Capstan grooves	16	Power	75 hp / 55 kW	Max speed	5 km/h
Max conductor diameter	4 x 42 mm		75 hp / 55 kW *		
Dimensions LxWxH	4,50x2,30x2,80 m	Cooling	water		
Weight	7800 kg	Electric plant	24 V		
PULL-BACK PERFORMANCES					
Max pull	150 kN				
Max speed	1 km/h				
	1 km/h*				

CONFIGURATION

- One pair of steel capstans lined with multi-grooved nylon sectors
- 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**
- **Self-recovery device for sagging operations**
- Safety negative hydraulic brakes
- Back fix conductor-driven with nylon rollers for 4 cond.
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site
- Hydraulic front plough and back stabilisers
- Attachments for anchoring and for lifting
- Heat exchanger to cool the oil in the hydraulic circuit
- Two auxiliary hydraulic circuits for controlling up to 4 reel-stands (not independent)
- Grounding connection point

OPTIONAL DEVICES

- 005.1 Chassis with 2 damped axles (tandem), air braking system and lights
- 008 Damped axle, air brake, drawbar and lights
- 006.4 Arrangement of the chassis for circulation on road (homologation excluded)
- 012 Predisposition of one hydraulic circuit to feed a press for high pressure joints (max. 700 bar)
- 017 Device to control low-force tension values, specially fit for fibre-optic cables
- 020.3 Set of nylon sectors with grooves fit for 6 conductors Ømax 31,5 mm (instead of standard set), and 2 additional hydraulic circuits to control 2 extra reel-stands (total 6)
- 028.7 Device to start the diesel engine at low temperatures (up to -30°C)
- 037 Remote control by cable, with 10 m of cable
- 038 Radio-control (max distance 100 m)
- 045.2 Automatic clamp for conductors
- 045.3 Manual clamp for conductors
- 069.5 Printer for the electronic recorder, with accessories
- 174.2 Synchronising device for the connection of 2 machines complete with remote control by cable (20 m)

* 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.

F120.150.42

max tension 150 kN (2 x 75 kN)



Hydraulic tensioner fit to string 1, 2, 3 or 4 conductors.

Two hydraulic circuits allow to tension at constant force even varying the speed of stringing. The two circuits can be used independently or simultaneously, with automatic forces partition.

Equipped with engine for pull-back performances. In pull-back mode, two hydraulic circuit allow to vary the speed in both directions, allowing to use one of the hydraulic circuits or both them matched.

FEATURES		ENGINE		TENSION PERFORMANCES	
Capstans	4 x Ø 1500 mm	Feeding	diesel	Max tension force	150 kN = 2 x 75 kN
Max conductor diameter	4 x 42 mm	Power	75 hp / 55 kW	Max tension per conductor	37,5 kN
Dimensions LxWxH	5,10x2,45x3,00 m		75 hp / 55 kW *	Max speed	5 km/h
Weight	8200 kg	Cooling	water		
		Electric plant	12 V		

PULL-BACK PERFORMANCES	
Max pull	150 kN = 2 x 75 kN
Max speed	1 km/h
	1 km/h*

ALSO AVAILABLE VERSION WITH
Ø1800 mm CAPSTANS

CONFIGURATION

- Two pairs of steel capstans lined with multi-grooved nylon sectors
- 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**
- **Self-recovery device for sagging operations**
- Two safety negative hydraulic brakes
- Front and back conductor-drivers with nylon rollers, for 4 cond.
- Chassis with two rigid axles (tandem), tires and drawbar for towing at low speed in job-site
- Hydraulic front plough
- Attachments for anchoring and for lifting
- Heat exchanger to cool the oil in the hydraulic circuit
- Devices for coupling the two pairs of capstans
- Two auxiliary hydraulic circuits for controlling up to 4 reel-stands (not independent)
- Grounding connection point

OPTIONAL DEVICES

- 005.1 Chassis with 2 damped axles (tandem), air braking system and lights
- 006.4 Arrangement of the chassis for circulation on road (homologation excluded)
- 012 Predisposition of one hydraulic circuit to feed a press for high pressure joints (max. 700 bar)
- 017 Hydraulic/mechanical device (n.1, on 1 circuit) to control low tension values, fit to string fiber optics
- 020.3 Set of nylon sectors with grooves fit for 6 conductors Ømax 31,5 mm (instead of standard set), and 2 additional hydraulic circuits to control 2 extra reel-stands (total 6)
- 028.7 Device to start the diesel engine at low temperatures (up to -30°C)
- 037 Remote control by cable, with 10 m of cable
- 038 Radio-control (max distance 100 m)
- 045.2 Automatic clamp for 4 conductors
- 045.3 Manual clamp for 4 conductors
- 069.5 Printer for the electronic recorder, with accessories

* 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.

F110.280.42

max tension 280 kN (2 x 140 kN)



Hydraulic tensioner fit to string 1, 2, 3 or 4 (up to 6 on demand) conductors.

Two hydraulic circuits allow to tension at constant force even varying the speed of stringing.

The two circuits can be used independently or simultaneously, with automatic forces partition.

Equipped with engine for pull-back performances. In pull-back mode, two hydraulic circuit allow to vary the speed in both directions, allowing to use one of the hydraulic circuits or both of them matched.

FEATURES		ENGINE		TENSION PERFORMANCES	
Capstans	4 x Ø 1800 mm	Feeding	diesel	Max tension force	280 kN = 2 x 140 kN
Max conductor diameter	4 x 54 mm	Power	156 hp / 115 kW	Max speed at max tension force	3 km/h
Dimensions LxWxH	5,40x2,45x3,00 m	Cooling	water	Max speed	5 km/h
Weight	14500 kg	Electric plant	24 V		

PULL-BACK PERFORMANCES	
Max pull	280 kN = 2 x 140 kN
Max speed	1 km/h

CONFIGURATION

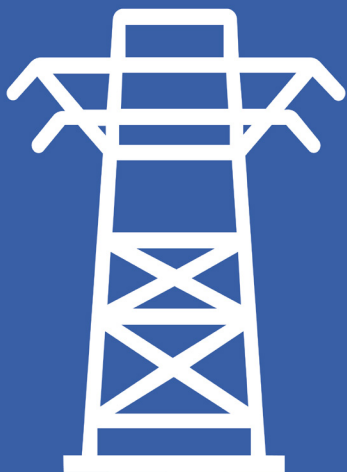
- Two pairs of steel capstans lined with multi-grooved nylon sectors, fit for 4 conductors totally
- Machine control panel equipped with built-in electronic instrument DEG 4.0 featuring a 7" large graphic colour display and a USB port
- **Maintenance-free load cell reading system**
- **Electronic instrument by-pass**
- **Self-recovery device for sagging operations**
- Two safety negative hydraulic brakes
- Front and back conductor-drivers with nylon rollers, for 4 cond.
- Chassis with two rigid axles (tandem), tires and drawbar for towing at low speed in job-site
- Hydraulic front plough
- Attachments for anchoring and for lifting
- Heat exchanger to cool the oil in the hydraulic circuit
- Devices for coupling the two of pairs of capstans
- Three auxiliary hydraulic circuits for controlling up to 6 reel-stands (not independent)
- Grounding connection point

* 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.

OPTIONAL DEVICES

- 005.1 Chassis with 2 damped axles (tandem), air braking system and lights
- 006.4 Arrangement of the chassis for circulation on road (homologation excluded)
- 012 Predisposition of one hydraulic circuit to feed a press for high pressure joints (max. 700 bar)
- 020.3 Set of nylon sectors with grooves fit for 6 conductors Ømax 36 mm
- 028.7 Device to start the diesel engine at low temperatures (up to -30°C)
- 037 Remote control by cable, with 10 m of cable
- 038 Radio-control (max distance 100 m)
- 045.2 Automatic clamp for 6 conductors
- 069.5 Printer for the electronic recorder, with accessories



HYDRAULIC PULLER-TENSIONERS

F120.AF.30

max pull-tension 30 kN



Hydraulic machine designed to operate both as a tensioner and as puller, fit to string one rope or conductor. One hydraulic circuit allows to tension at constant force even varying the speed of stringing. In puller mode, one hydraulic circuit allows to continuously vary the speed in both directions.

FEATURES		ENGINE		PULL PERFORMANCES	
Capstans	2 x Ø 1500 mm	Feeding	diesel	Max pull	30 kN
Capstan grooves	5	Power	47 hp / 35 kW	Speed at max pull	2,5 km/h
Max conductor diameter	36 mm		47 hp / 35 kW *		2,5 km/h *
Max rope diameter	16 mm	Cooling	water	Max speed	4,5 km/h
Dimensions LxWxH	3,85x1,85x2,20 m	Electric plant	12 V	Pull at max speed	15 kN
Weight	2700 kg				15 kN *

TENSION PERFORMANCES	
Max tension force	30 kN
Max speed	5 km/h

CONFIGURATION

- One pair of steel capstans lined with multi-grooved nylon sectors
- 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**
- **Self-recovery device for sagging operations**
- Freewheeling disconnection (neutral) of capstans
- Safety negative hydraulic brake
- Back fix conductor-driver with nylon rollers
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site
- Mechanical front plough and back stabilisers
- Attachments for anchoring and for lifting
- Oil cooling system
- Auxiliary hydraulic circuit for additional equipment (one reel-stand or reel-winder)
- Grounding connection point

OPTIONAL DEVICES

- 008 Damped axle, air braking system, drawbar and lights
- 006.4 Arrangement of the chassis for circulation on road (homologation excluded)
- 014 Reel-winder arm fit for a 1400-mm-dia. reel
- 037 Remote control by cable, with 10 m of cable.
- 038 Radio-control (max distance 100 m)
- 045.2 Automatic clamp for rope/conductor
- 045.3 Manual clamp for rope/conductor
- 069.5 Printer for the electronic recorder, with accessories
- 047.2 Hydraulic front plough
- 048 Hydraulic back stabilisers

* 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.

F120.AF.45.2

max pull-tension 45 kN



Hydraulic machine designed to operate both as a tensioner and as puller, fit to string one or two ropes or conductors. One hydraulic circuit allows to tension at constant force even varying the speed of stringing. In puller mode, one hydraulic circuit allows to continuously vary the speed in both directions.

FEATURES		ENGINE		PULL PERFORMANCES	
Capstans	2 x Ø 1500 mm	Feeding	diesel	Max pull	45 kN
Capstan grooves	8	Power	75 hp / 55 kW	Speed at max pull	2,3 km/h
Max conductor diameter	2 x 36 mm		75 hp / 55 kW *		2,3 km/h *
Max rope diameter	16 mm	Cooling	water	Max speed	5 km/h
Dimensions LxWxH	3,95x2,00x2,20 m	Electric plant	12 V	Pull at max speed	22 kN
Weight	3600 kg				22 kN *

TENSION PERFORMANCES	
Max tension force	45 kN
Max speed	5 km/h

ALSO AVAILABLE VERSION WITH
Ø1200 Ø1800 mm CAPSTANS

CONFIGURATION

- One pair of steel capstans lined with multi-grooved nylon sectors
- 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**
- **Self-recovery device for sagging operations**
- In puller mode, device for pull-force setting, which allows to maintain the pre-set force even at speed "0"
- Device to control low-force tensions (2-15 kN), fit for OPGW
- Freewheeling disconnection (neutral) of capstans
- Safety negative hydraulic brake
- Back fix conductor-driver with nylon rollers for 2 cond
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site
- Hydraulic front plough and back stabilisers
- Attachments for anchoring and for lifting
- Oil cooling system
- Two auxiliary hydraulic circuits for additional equipment (1 or 2 reel-winders or reel-stands)
- Grounding connection point

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

OPTIONAL DEVICES

- 008 Damped axle, air braking system, drawbar and lights
- 012 Hydraulic circuit to feed a press for high pressure joints (max. 700 bar)
- 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)
- 045.2 Automatic clamp for 2 ropes/conductors
- 045.3 Manual clamp for 2 ropes/conductors
- 069.5 Printer for the electronic recorder, with accessories
- 119 Capstans with steel grooves chemically treated

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.

F120.AF.75.2

max pull-tension 75 kN



Hydraulic machine designed to operate both as a tensioner and as puller, fit to string one or two ropes or conductors. One hydraulic circuit allows to tension at constant force even varying the speed of stringing. In puller mode, one hydraulic circuit allows to continuously vary the speed in both directions.

FEATURES		ENGINE		PULL PERFORMANCES	
Capstans	2 x Ø 1500 mm	Feeding	diesel	Max pull	75 kN
Capstan grooves	10	Power	100 hp / 75 kW	Speed at max pull	2 km/h
Max conductor diameter	2 x 42 mm		100 hp / 75 kW *		2 km/h *
Max rope diameter	18 mm	Cooling	water	Max speed	5 km/h
Dimensions LxWxH	3,95x2,10x2,20 m	Electric plant	12 V	Pull at max speed	35 kN
Weight	4800 kg				35 kN *

TENSION PERFORMANCES	
Max tension force	75 kN
Max speed	5 km/h

ALSO AVAILABLE VERSION WITH
Ø1200 Ø1800 mm CAPSTANS

CONFIGURATION

- One pair of steel capstans lined with multi-grooved nylon sectors
- 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**
- **Self-recovery device for sagging operations**
- Device to control low-force tensions (2-25 kN), fit for OPGW
- In puller mode, device for pull-force setting, which allows to maintain the pre-set force even at speed "0"
- Freewheeling disconnection (neutral) of capstans
- Safety negative hydraulic brake.
- Back fix conductor-driver with nylon rollers for 2 cond
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site
- Hydraulic front plough and back stabilisers
- Attachments for anchoring and for lifting
- Oil cooling system
- Two auxiliary hydraulic circuits for additional equipment (1 or 2 reel-winders or reel-stands)
- Grounding connection point

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

OPTIONAL DEVICES

- 008 Damped axle, air braking system, drawbar and lights.
- 006.4 Arrangement of the chassis for circulation on road (homologation excluded)
- 012 Hydraulic circuit to feed a press for high pressure joints (max. 700 bar)
- 014 Reel-winder arm fit for a 1600-mm-dia. reel
- 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)
- 045.2 Automatic clamp for 2 ropes/conductors
- 045.3 Manual clamp for 2 ropes/conductors
- 069.5 Printer for the electronic recorder, with accessories
- 119 Capstans with steel grooves chemically treated
- 174.2 Synchronising device for the connection of 2 machines, complete with remote control by cable (20 m)

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.

F120.AF.90.2

max pull-tension 90 kN



Hydraulic machine designed to operate both as a tensioner and as puller, fit to string one or two ropes or conductors. One hydraulic circuit allows to tension at constant force even varying the speed of stringing. In puller mode, one hydraulic circuit allows to continuously vary the speed in both directions.

FEATURES		ENGINE		PULL PERFORMANCES	
Capstans	2 x Ø 1500 mm	Feeding	diesel	Max pull	90 kN
Capstan grooves	10	Power	135 hp / 100 kW	Speed at max pull	2,4 km/h
Max conductor diameter	2 x 42 mm		135 hp / 100 kW *		2,4 km/h *
Max rope diameter	18 mm	Cooling	water	Max speed	5 km/h
Dimensions LxWxH	4,00x2,25x2,30 m	Electric plant	12 V	Pull at max speed	45 kN
Weight	5000 kg				45 kN *

TENSION PERFORMANCES	
Max tension force	90 kN
Max speed	5 km/h

ALSO AVAILABLE VERSION WITH
Ø1800 mm CAPSTANS

CONFIGURATION

- One pair of steel capstans lined with multi-grooved nylon sectors
- 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**
- **Self-recovery device for sagging operations**
- Device to control low-force tensions (4-30 kN), fit for OPGW
- In puller mode, device for pull-force setting, which allows to maintain the pre-set force even at speed "0"
- Freewheeling disconnection (neutral) of capstans
- Safety negative hydraulic brake
- Back fix conductor-driver with nylon rollers for 2 cond
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site
- Hydraulic front plough and back stabilisers
- Attachments for anchoring and for lifting
- Oil cooling system
- Two auxiliary hydraulic circuits for additional equipment (1 or 2 reel-winders or reel-stands)
- Grounding connection point

OPTIONAL DEVICES

- 008 Damped axle, air braking system, drawbar and lights
- 006.4 Arrangement of the chassis for circulation on road (homologation excluded)
- 012 Hydraulic circuit to feed a press for high pressure joints (max. 700 bar)
- 014 Reel-winder arm fit for a 1600-mm-dia. reel
- 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)
- 045.2 Automatic clamp for 2 ropes/conductors
- 045.3 Manual clamp for 2 ropes/conductors
- 069.5 Printer for the electronic recorder, with accessories
- 119 Capstans with steel grooves chemically treated
- 174.2 Synchronising device for the connection of 2 machines, complete with remote control by cable (20 m)

* 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.

F120.AF.90.22

max pull-tension 90 kN (2 x 45 kN)



Hydraulic machine designed to operate both as a tensioner and as puller, fit to string one or two ropes or conductors. Two hydraulic circuits allow to tension at constant force even varying the speed of stringing. The two circuits can be used independently or simultaneously, with automatic forces partition. In puller mode, 2 closed hydraulic circuits allow to vary the speed in both directions, allowing to use one of the hydraulic circuits or both of them matched.

FEATURES		ENGINE		PULL PERFORMANCES	
Capstans	4 x Ø 1500 mm	Feeding	diesel	Max pull	1 x 90 kN or 2 x 45 kN
Max conductor diameter	2 x 42 mm	Power	135 hp / 100 kW 135 hp / 100 kW *	Speed at max pull	2,4 km/h 2,4 km/h *
Max rope diameter	18 mm	Cooling	water	Max speed	5 km/h
Dimensions LxWxH	4,50x2,25x2,80 m	Electric plant	12 V	Pull at max speed	45 kN 45 kN*
Weight	6200 kg				

TENSION PERFORMANCES	
Max tension force	1 x 90 kN or 2 x 45 kN
Max speed	5 km/h

ALSO AVAILABLE VERSION WITH
Ø1800 mm CAPSTANS

CONFIGURATION

- Two pairs of steel capstans lined with multi-grooved nylon sectors
- 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**
- **Self-recovery device for sagging operations**
- In puller mode, device for pull-force setting, which allows to maintain the pre-set force even at speed "0"
- Freewheeling disconnection (neutral) of capstans
- Two safety negative hydraulic brakes
- Back fix conductor-driver with nylon rollers for 2 cond
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site
- Hydraulic front plough and back stabilisers
- Attachments for anchoring and for lifting
- Oil cooling system
- Devices for coupling the two pairs of capstans
- Two auxiliary hydraulic circuits for additional equipment (1 or 2 reel-winders or reel-stands)
- Grounding connection point

* 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.

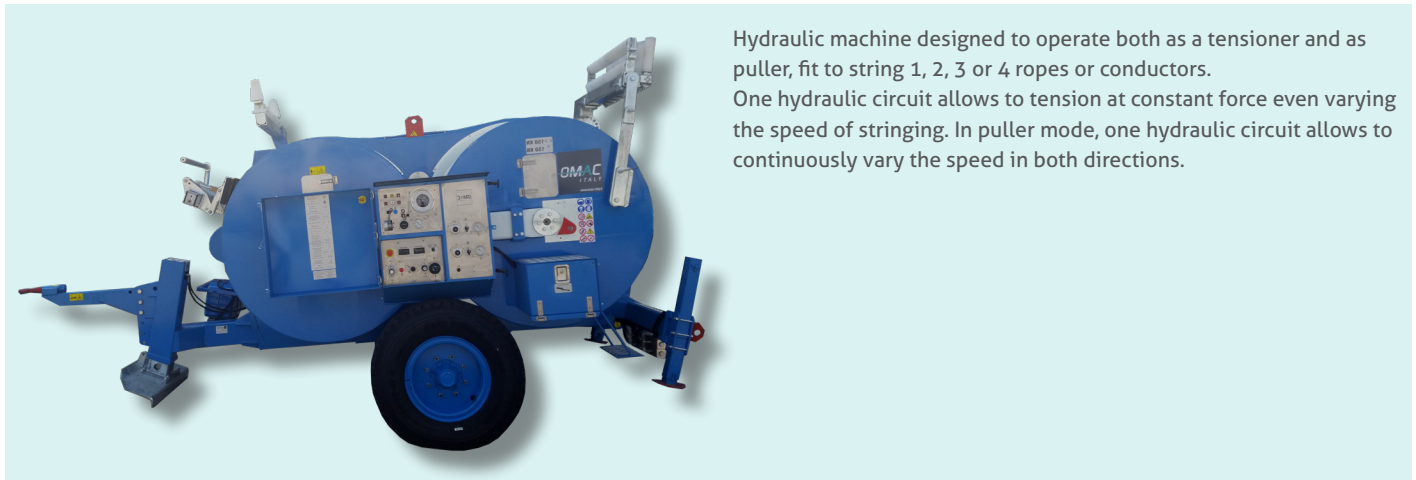
Dimensions and weights are without optional devices. All data may change without notice. Images and drawings are indicative only.

OPTIONAL DEVICES

- 005.1 Chassis with 2 damped axles (tandem), air braking system and lights
- 008 Damped axle, air braking system, drawbar and lights
- 006.4 Arrangement of the chassis for circulation on road (homologation excluded)
- 012 Hydraulic circuit to feed a press for high pressure joints (max. 700 bar)
- 017 Hydraulic/mechanical device (n.1, on 1 circuit) to control low tension values (2-15 kN), fit to string fiber optics
- 014 Reel-winder arm fit for a 1600-mm-dia. reel (1 or 2)
- 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)
- 045.2 Automatic clamp for 2 ropes/conductors
- 045.3 Manual clamp for 2 ropes/conductors
- 069.5 Printer for the electronic recorder, with accessories
- 119 Capstans with steel grooves chemically treated
- 174.2 Synchronising device for the connection of 2 machines, complete with remote control by cable (20 m)

F120.AF.140.4

max pull-tension 140 kN



Hydraulic machine designed to operate both as a tensioner and as puller, fit to string 1, 2, 3 or 4 ropes or conductors. One hydraulic circuit allows to tension at constant force even varying the speed of stringing. In puller mode, one hydraulic circuit allows to continuously vary the speed in both directions.

FEATURES		ENGINE		PULL PERFORMANCES	
Capstans	2 x Ø 1500 mm	Feeding	diesel	Max pull	140 kN
Capstan grooves	16	Power	176 hp / 130 kW	Speed at max pull	1,8 km/h
Max conductor diameter	4 x 42 mm		176 hp / 130 kW *		1,8 km/h *
Max rope diameter	24 mm	Cooling	water	Max speed	4 km/h
Dimensions LxWxH	4,50x2,30x2,80 m	Electric plant	12 V	Pull at max speed	55 kN
Weight	8500 kg				55 kN *

TENSION PERFORMANCES	
Max tension force	140 kN
Max speed	4,5 km/h

ALSO AVAILABLE VERSION WITH
Ø1800 mm CAPSTANS

CONFIGURATION

- One pair of steel capstans lined with multi-grooved nylon sectors
- 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**
- **Self-recovery device for sagging operations**
- In puller mode, device for pull-force setting, which allows to maintain the pre-set force even at speed "0"
- Safety negative hydraulic brake
- Back fix conductor-drivers with nylon rollers for 4 cond
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site
- Hydraulic front plough and back stabilisers
- Attachments for anchoring and for lifting
- Oil cooling system
- Four auxiliary hydraulic circuits for additional equipment (4 reel-winders or 4 reel-stands)
- Grounding connection point

OPTIONAL DEVICES

- 005.1 Chassis with 2 damped axles (tandem), air braking system and lights
- 008 Damped axle, air braking system, drawbar and lights
- 006.4 Arrangement of the chassis for circulation on road (homologation excluded)
- 014 Reel-winder arm fit for a 1600-mm-dia. reel (1 or 2)
- 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)
- 045.2 Automatic clamp for 4 ropes/conductors
- 045.3 Manual clamp for 4 ropes/conductors
- 069.5 Printer for the electronic recorder, with accessories
- 119 Capstans with steel grooves chemically treated
- 174.2 Synchronising device for the connection of 2 machines, complete with remote control by cable (20 m)
- 020.3 Set of nylon sectors with grooves fit for 6 conductors Ømax 31,5 mm (instead of standard set), and 2 additional hydraulic circuits to control 2 extra reel-stands (total 6)

* 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.

F110.AF.140.22

max pull-tension 140 kN (2 x 70 kN)



Hydraulic machine designed to operate both as a tensioner and as puller, fit to string one or two ropes or conductors. Two hydraulic circuits let to tension at constant force even varying the speed of stringing. The two circuits can be used independently or simultaneously, with automatic forces partition. In puller mode, 2 closed hydraulic circuits allow to vary the speed in both directions, allowing to use one of the hydraulic circuits or both of them matched.

FEATURES		ENGINE		PULL PERFORMANCES	
Capstans	4 x Ø 1800 mm	Feeding	diesel	Max pull	1 x 140 kN or 2 x 70 kN
Capstan grooves	12	Power	183 hp / 135 kW 176 hp / 130 kW *	Speed at max pull	2 km/h 2 km/h *
Max conductor diameter	2 x 52 mm	Cooling	water	Max speed	5 km/h 5 km/h *
Max rope diameter	28 mm	Electric plant	24 V	Pull at max speed	70 kN
Dimensions LxWxH	4,60x2,50x3,00 m				
Weight	10800 kg				

TENSION PERFORMANCES	
Max tension force	1 x 140 kN or 2 x 70 kN
Speed at max tension force	3 km/h
Max speed	5 km/h

CONFIGURATION

- Two pairs of steel capstans lined with multi-grooved nylon sectors
- Machine control panel equipped with 2 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**
- **Self-recovery device for sagging operations**
- In puller mode, device for pull-force setting, which allows to maintain the pre-set force even at speed "0"
- Freewheeling disconnection (neutral) of capstans
- Two safety negative hydraulic brakes
- Back fix conductor-driver with nylon rollers for 2 cond
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site
- Hydraulic front plough and back stabilisers
- Attachments for anchoring and for lifting
- Oil cooling system
- Devices for coupling the two pairs of the capstans
- Two auxiliary hydraulic circuits for additional equipment (1 or 2 reel-winders or reel-stands)
- Grounding connection point

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

OPTIONAL DEVICES

- 005.1 Chassis with 2 damped axles (tandem), air braking system and lights
- 008 Damped axle, air braking system, drawbar and lights
- 006.4 Arrangement of the chassis for circulation on road (homologation excluded)
- 012 Hydraulic circuit to feed a press for high pressure joints (max. 700 bar)
- 014 Reel-winder arm fit for a 1600-mm-dia. reel (1 or 2)
- 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)
- 045.2 Automatic clamp for 2 ropes/conductors
- 045.3 Manual clamp for 2 ropes/conductors
- 069.5 Printer for the electronic recorder, with accessories
- 119 Capstans with steel grooves chemically treated
- 174.2 Synchronising device for the connection of 2 machines, complete with remote control by cable (20 m)

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.

F120.AF.180.42

max pull-tension 180 kN (2 x 90 kN)



Hydraulic machine designed to operate both as a tensioner and as puller, fit to string 1, 2, 3 or 4 ropes or conductors. Two hydraulic circuits allow to tension at constant force even varying the speed of stringing. The two circuits can be used independently or simultaneously, with automatic forces partition. In puller mode, 2 closed hydraulic circuits allow to vary the speed in both directions, allowing to use one of the hydraulic circuits or both of them matched.

FEATURES		ENGINE		PULL PERFORMANCES	
Capstans	4 x Ø 1500 mm	Feeding	diesel	Max pull	1 x 180 kN or 2 x 90 kN
Max conductor diameter	4 x 45 mm	Power	278 hp / 205 kW 278 hp / 205 kW *	Speed at max pull	2,1 km/h 2,1 km/h *
Max rope diameter	30 mm	Cooling	water	Max speed	5 km/h 5 km/h *
Dimensions LxWxH	6,00x2,50x3,15 m	Electric plant	24 V		
Weight	13200 kg				

TENSION PERFORMANCES	
Max tension force	1 x 180 kN or 2 x 90 kN
Max speed	5 km/h

CONFIGURATION

- Two pairs of capstans with steel grooves thermally and chemically treated, high resistance, fit for steel wire ropes or conductors
- Machine control panel equipped with 2 built-in electronic instruments DEG 4.0 featuring a 7" large graphic colour display and a USB port
- **Maintenance-free load cell reading system**
- **Electronic instrument by-pass**
- **Self-recovery device for sagging operations**
- In puller mode, device for pull-force setting, which allows to maintain the pre-set force even at speed "0"
- Two safety negative hydraulic brakes
- Back conductor-drivers with nylon rollers for 4 cond
- Frame with two axles, steering-one with drawbar, leaf spring suspensions and tires, fit for towing at low speed in job-site
- Hydraulic front plough
- Attachments for anchoring and for lifting
- Oil cooling system
- Four auxiliary hydraulic circuits for additional equipment (4 reel-winders or 4 reel-stands)
- Grounding connection point

OPTIONAL DEVICES

- 006.4 Arrangement of the chassis for circulation on road (homologation excluded)
- 012 Hydraulic circuit to feed a press for high pressure joints (max. 700 bar)
- 014 Reel-winder arm fit for a 1600-mm-dia. reel (1 or 2)
- 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)
- 045.2 Automatic clamp for 4 ropes/conductors
- 045.3 Manual clamp for 4 ropes/conductors
- 069.5 Printer for the electronic recorder, with accessories

* 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.

F120.AF.180.44

max pull-tension 180 kN (2 x 90 or 4 x 45 kN)



Hydraulic machine designed to operate both as a tensioner and as puller, fit to string 1, 2, 3 or 4 ropes or conductors. Four hydraulic circuits allow to tension at constant force even varying the speed of stringing. The four circuits can be used independently or simultaneously, with automatic forces partition. In puller mode, four closed hydraulic circuits allow to vary the speed in both directions, allowing to use one of the hydraulic circuits or all of them matched.

FEATURES		ENGINE		PULL PERFORMANCES	
Capstans	8 x Ø 1500 mm	Feeding	diesel	Max pull	1 x 180 kN or 2 x 90 kN or 4 x 45 kN
Max conductor diameter	4 x 45 mm	Power	285 hp / 210 kW 305 hp / 225 kW *	Speed at max pull	2,1 km/h 2,1 km/h *
Max rope diameter	30 mm	Cooling	water	Max speed	5 km/h 5 km/h *
Dimensions LxWxH	6,40x2,50x3,25 m	Electric plant	24 V		
Weight	15000 kg				

TENSION PERFORMANCES	
Max tension force	1 x 180 kN or 2 x 90 kN or 4 x 45 kN
Max speed	5 km/h

ALSO AVAILABLE VERSION WITH
Ø1800 mm CAPSTANS

CONFIGURATION

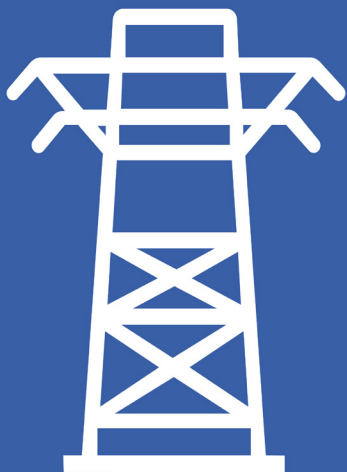
- Four pairs of capstans with high resistance steel grooves thermally and chemically treated, fit for steel wire ropes or conductors
- Machine control panel equipped with 4 built-in electronic instruments DEG 4.0 featuring a 7" large graphic colour display and a USB port
- **Maintenance-free load cell reading system**
- **Electronic instrument by-pass**
- **Self-recovery device for sagging operations**
- In puller mode, device for pull-force setting, which allows to maintain the pre-set force even at speed "0"
- Four safety negative hydraulic brakes
- Back and front conductor-drivers with nylon rollers for 4 cond. to position the reel-stands in front or rear of the machine
- Frame with two axles, steering-one with drawbar, leaf spring suspensions and tires, fit for towing at low speed in job-site
- Hydraulic front plough
- Attachments for anchoring and for lifting
- Oil cooling system
- Four auxiliary hydraulic circuits for additional equipment (4 reel-winders or 4 reel-stands)
- Grounding connection point

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

OPTIONAL DEVICES

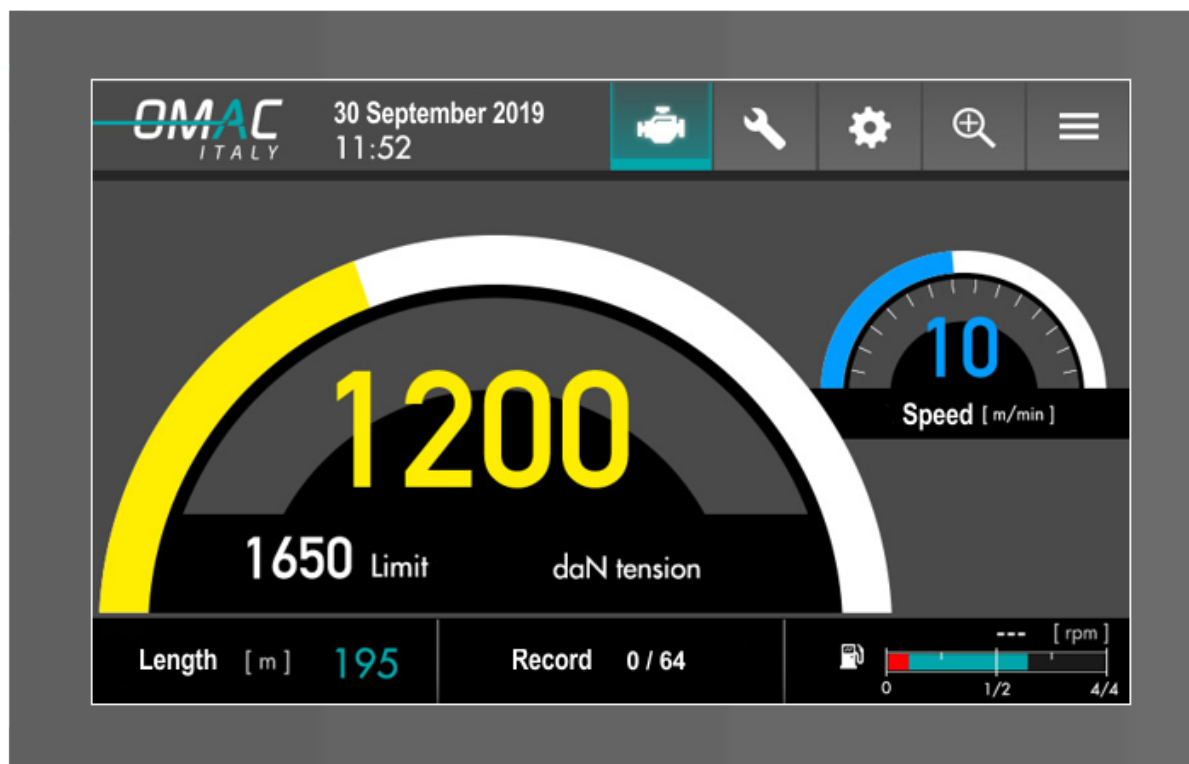
- 006.4 Arrangement of the chassis for circulation on road (homologation excluded)
- 012 Hydraulic circuit to feed a press for high pressure joints (max. 700 bar)
- 028.7 Device to start the diesel engine and the hydraulic circuit at low temperatures (up to -30°C)
- 037 Remote control by cable, with 10 m of cable
- 038 Radio-control (max distance 100 m)
- 045.2 Automatic clamp for 4 ropes/conductors
- 045.3 Manual clamp for 4 ropes/conductors
- 069.5 Printer for the electronic recorder, 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.



STANDARD DEVICES

DEG EVOLUTION 4.0



DEG FEATURES

- Large-sized (7") color graphic display, built in the main control pane
- Resistive type glove-friendly touch-screen, intuitive as well as easy in setting-up and browsing through
- High capacity memory: over 200 km of line
- High accuracy and reliability by means of the load cell and encoder system
- USB port for data downloading/uploading
- Software provided to handle data stored

DEG FUNCTIONS

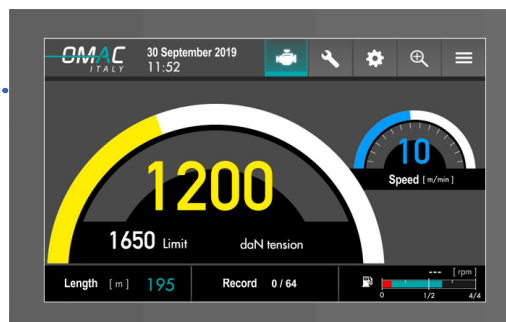
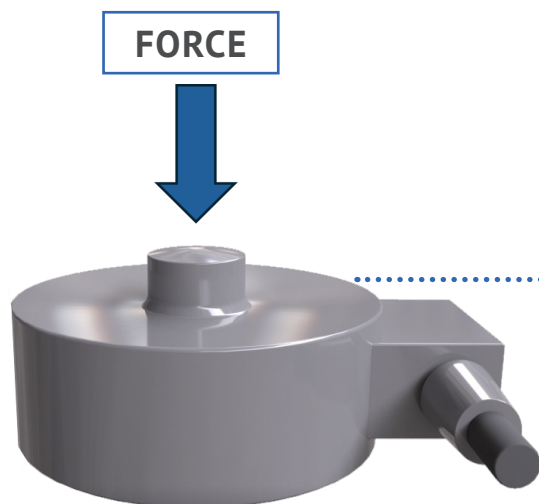
- Real-time reading and recording pulling force, max pull alarm, speed and length of cable/conductor
- ZOOM mode
- Max pull force setting
- Display of working parameters (force, speed, distance covered and time elapsed)
- Help page on board
- Fuel level
- Electronic engine parameters
- Maintenance schedules and alerts
- Self-diagnostics upon machine start

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.

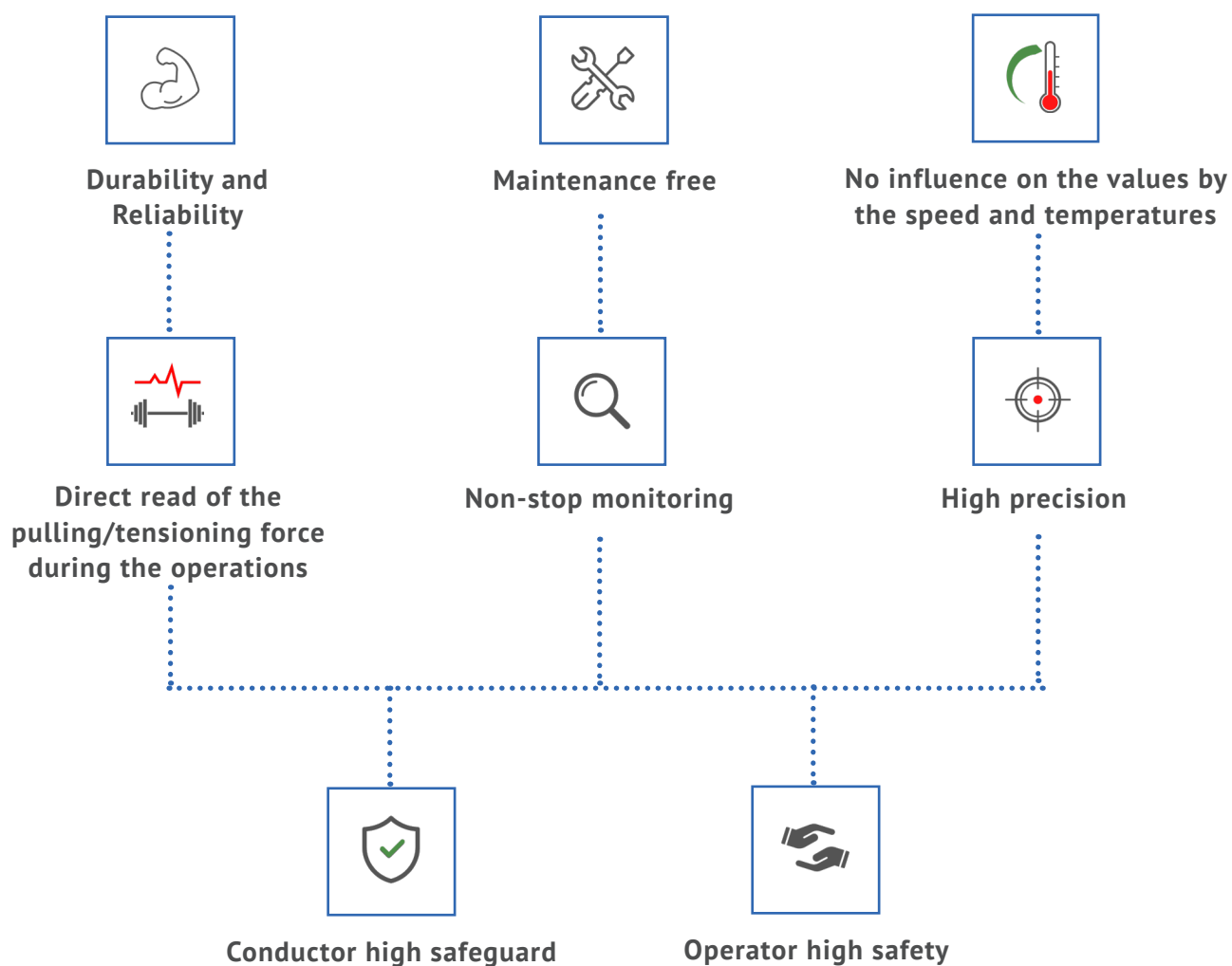


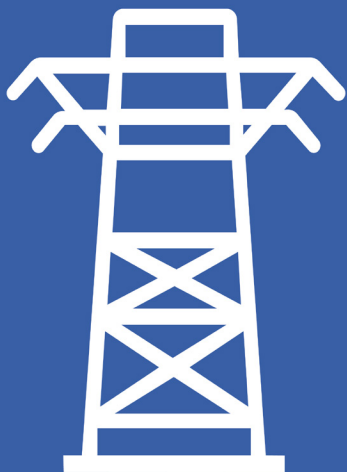
Dimensions and weights are without optional devices. All data may change without notice. Images and drawings are indicative only.



Electronic Load Cell

Omac Digital built-in data read out





ADDITIONAL DEVICES

THE LATEST AND MOST POWERFUL EVOLUTION FOR REMOTE MASTERING,
MONITORING AND LOCATING YOUR FLEET OF MACHINES
OMAC MACHINES HAVE ALWAYS BEEN EQUIPPED WITH **BUILT-IN DIGITAL READ OUT** AND **RECORDER**



MIRRORING

BUILT-IN ROUTER GENERATES A LOCAL WI-FI NETWORK (NO DATA CONNECTION REQUIRED)

DISPLAY MIRRORING ON SMARTPHONES

DOWNLOAD RECORDINGS AND MACHINE SETTINGS ON SMARTPHONES

UNLIMITED LOCAL WI-FI CONNECTIONS



REMOTE MONITORING & DIAGNOSTICS

RUN-TIME MACHINE REMOTE WORKING PARAMETERS READING

RUN-TIME MACHINE REMOTE DIAGNOSTICS READING

CAN PORT FOR REMOTE MONITORING OF ELECTRONIC DIESEL ENGINE PARAMETERS



REMOTE PARAMETERS SETTING

MACHINE REMOTE PARAMETERS SETTING

NEW FIRMWARE RELEASE UPDATE

MACHINE REMOTE SETUP



REMOTE MAINTENANCE & TROUBLESHOOTING

REMOTE ACCESS TO MACHINE MAINTENANCE SCHEDULES

MAINTENANCE ALERTS

REMOTE ENABLING OR DISABLING OF SPECIFIC FUNCTIONS

OLS WILL BE SUPPLIED ON ALL NEW 4.0 OMAC MACHINES AS WELL AS ON THE EXISTING MACHINES (ON REQUEST)



GPS GEOLOCATION

BUILT-IN GPS ALLOWS REMOTE ACCESS TO REAL-TIME FLEET POSITION

CUT INSURANCE COSTS

LESS THEFT RISK

CABLE REMOTE CONTROL



037

Remote control by cable. Fit for "puller" and "puller-tensioner" machines with 1, 2, 3 or 4 hydraulic circuits.

The control is complete with:

- Minijoystick 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 |
| 04 | Tension force adjustment control (tensioner) |

RADIO REMOTE CONTROL



038.1

Radio remote control fit for "puller" machines.

Max operational distance: up to 100 m.

The radio-control is complete with:

- Two buttons for controlling the capstans rotation
- Speed-adjustment control
- Emergency stop button
- Back-up cable for connect radio control to the machine in case of radio-failure
- Dynamometer to read the pulling force, metercounter and speedometer

(Only for the following machine models: F275.30 and F280.35)



038

Radio remote control. Fit for "puller" and "puller-tensioner" machines with 1,2,3 or 4 hydraulic circuits.

Max operational distance: up to 100 m.

The radio-control is complete with:

- Minijoystick for controlling the capstans rotation
- Speed adjustment control (puller)
- Emergency stop button
- Back-up cable to connect the radio remote control to the machine in case of radio-failure

OPTIONAL DEVICES

- | | |
|----|---|
| 01 | Dynamometer to read the pulling force, metercounter and speedometer |
| 02 | Engine start/stop |
| 03 | Engine accelerator |
| 04 | Tension force adjustment control (tensioner) |

051.3

Motorised rubber crawler system for puller.

PERFORMANCES

Moving speed	Adjustable
Max speed	1,5 km/h
Max inclination	75 %
Minimum turning radius	3,5-4,5 m
Ground loading	0,26 kg/cm ³

FEATURES

- The crawler 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

051.3 Mod. P

Mod. P	Dimensions LxWxH	Total weight	Rope (*)
	m	kg	
P30.U	2550x1650x1450	1920	1
P50.U	2600x1300x1600	2025	1
P100.U	4200x2100x1950	5330	1
P150.U	4650x2200x2400	8360	1

(1) Weight without rope
(2) Weight with rope

051.3 Mod. UP

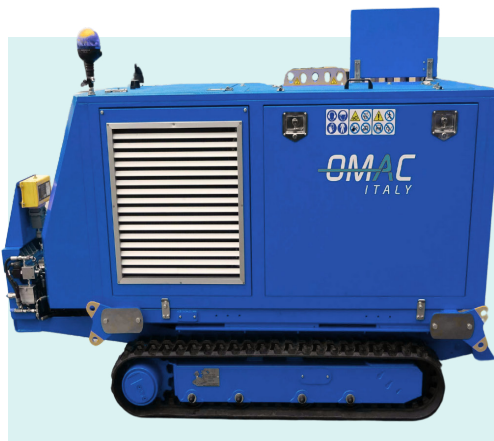
Mod. UP	Dimensions LxWxH	Total weight	Rope (*)
	m	kg	
UP50	2350x1350x1600	3200	2
UP100.B	3200x1700x1800	4100	2
UP150	3500x2200x2400	4800	2

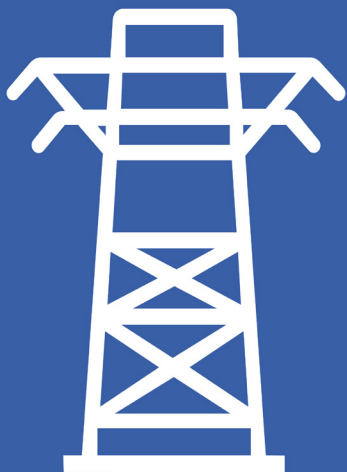
(1) Weight without rope
(2) Weight with rope

051.3 Mod. PT

Mod. PT	Dimensions LxWxH	Total weight	Rope (*)
	m	kg	
PT50.2	4800x2000x2850	6215	1

(1) Weight without rope
(2) Weight with rope





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	1,65x1,25x1,10 m
Weight (without rope)	430 kg

DRUM

Internal diameter	240 mm
External diameter	500 mm
Width	480 mm
Capacity of rope:	
Ø 8 mm	800 m
Ø 6 mm	500 m

ENGINE

Feeding	gasoline
Power	12 hp / 9,6 kW
Cooling	air
Starting	by rope

PULL PERFORMANCES

Max pull	10 kN
Speed at max pull	0,9 km/h
Max speed	2,4 km/h
Pull at max speed	4 kN

ALSO AVAILABLE F206.20

Max pull	20 kN
Speed at max pull	1 km/h
Max speed	3 km/h
Pull at max speed	6 kN
Power	20 hp / 15 kW

CONFIGURATION

- Automatic swinging rope-winder with idle position for manual operation
- Dynamometer for reading the 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
- 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 electric starting
034	Engine electric starting with battery 12 V
035	Preselector of max pull force to stop the engine in case of overpull
090	Monophase electric motor 220 V
090.1	Three-phase electric motor
080	Heat exchanger to cool the oil in the hydraulic circuit
127.3	Device for lifting material applications
001.2	Freewheeling of the drum

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	325 mm
External diameter	540 mm
Width	500 mm
Capacity of rope:	
Ø 12 mm	400 m
Ø 14 mm	350 m

ENGINE

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

PULL PERFORMANCES

Max pull	30 kN
Speed at max pull	1,5 km/h
Max speed	5 km/h
Pull at max speed	10 kN

CONFIGURATION

- 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

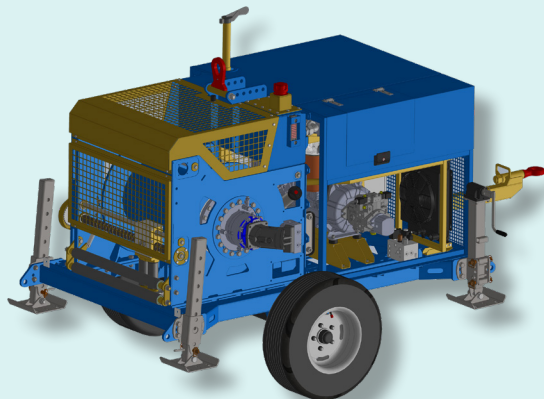
007	Damped axle, overrun brake and drawbar for towing on the road (homologation excluded)
026	PVC cloth cover
027	Metallic coverage with doors
037	Remote control by cable, with 10 m of cable
038	Radio-control for remote control (max distance 100 m)
046.3	Rope-presser roller on the drum
058	Service winch 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
127.3	Device for lifting material applications
001.2	Freewheeling of the drum

* 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.

F208.50

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	2,40x1,74x1,55 m
Weight (without rope)	1250 kg

DRUM

Internal diameter	457 mm
External diameter	700 mm
Width	700 mm
Capacity of rope:	
Ø 16 mm	500 m
Ø 18 mm	400 m

ENGINE

Feeding	diesel
Power	49 hp / 36 kW
	49 hp / 36 kW *
Cooling	water
Starting	12 V

PULL PERFORMANCES

Max pull	50 kN
Speed at max pull	1,3 km/h
Max speed	5 km/h
Pull at max speed	10,5 kN

CONFIGURATION

- Steel drum
- Automatic swinging rope-winder
- 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
- Anchoring points
- Mechanical back and front stabilizers
- Heat exchanger to cool the oil in the hydraulic circuit
- Metallic coverage with doors

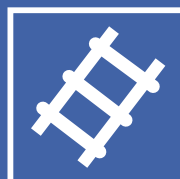
OPTIONAL DEVICES

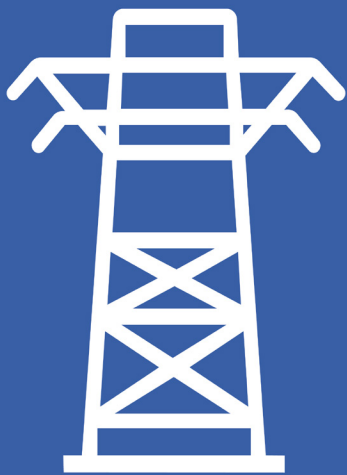
- | | |
|-------|--|
| 007 | Damped axle, overrun brake and drawbar for towing on the road (homologation excluded) |
| 037.2 | Remote control by cable, with 10 m of cable |
| 046.3 | Rope-presser roller on the drum |
| 058 | Service winch with large-groove capstan fed by the hydraulic circuit of the puller. Max pulling force 500 kg |
| 064 | Device to control the load descent in case of diesel engine breakdown |
| 127.3 | Safety device for lifting material applications |

* 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.

EQUIPMENT





REEL-STANDS AND TRAILERS

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
- Devices fit for steel reel and bushes to centre the reel hole (diameter on demand)

OPTIONAL DEVICES

- 423 Additional disk brake (2 brakes in total)
- 410.3 No. 1 or 2 disc brakes with hydraulic clamp controlled by manual 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).
- 411.1 N.1 driving arm with n. 2 pins "U" type fit for steel drums
- 419.1 Manual rope-winder, fit to stratify different diameters of rope (max reel width to be confirmed). Available for mod. F155.070 only.
- 419.2 Automatic rope-winder, fit to stratify different diameters of rope (suitable for standard steel reels mod.F162 and F164). Available for mod. F155.150 and F155.200
- 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 (*)	Reel max width	Spindle diameter	Dimensions of each reel-stand	Weight of the pair of reel-stands (²)
	m	m	mm	m (LxW)	kg
F155.080	1,00-2,80	1,50	55	2,10 x 0,50	350
F155.100	1,50-3,20	1,70	70	2,40 x 0,55	540
F155.120	1,50-3,60	2,00	85	2,60x0,60	760
F155.160	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
F155.080	8000	150	300	—	225	180	5
F155.100	10000	230	460	600	400	350	5
F155.120	12000	280	560	800	400	350	5
F155.160	16000	280	560	1000	1400	1500	5
F155.200	20000	280	560	1200	1400	1500	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.B

max load 40 to 70 kN



Capacity from 4 to 7 t.

Suitable for conductor wooden drums or steel reels for aerial stringing operations and underground cabling.

Made in steel with foldable structure for ease of transport.

Drum lifting system by hydraulic jacks.

N°2 mechanical disc brakes to control and adjust the torque force pull, with replaceable brake pads.

Steel shaft on ball-bearings with adjustment wedges.

OPTIONAL DEVICES

410.3 No. 1 or 2 disc brakes with hydraulic clamp controlled by manual pump

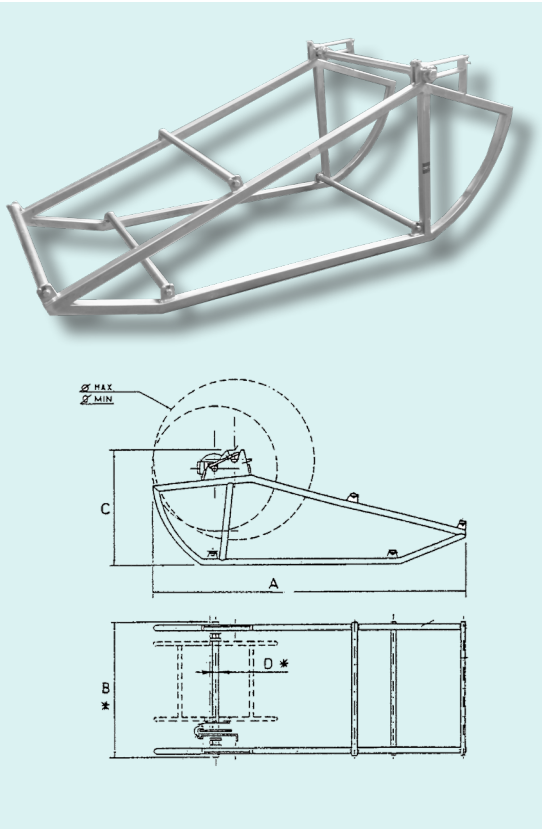
402.2 Mechanical safe-stops mounted on the jack arm

	Max load of the pair of reel-stands	Reel diameter min-max (*)	Reel max width	Spindle diameter	Braking torque with 2 brakes	Braking torque with 2 brake opt. 410.3	Dimensions of each reel-stand	Weight of the pair of reel-stands (²)
	daN	m	m	mm	daN m	daN m	m (LxW)	kg
F155.040.B	4000	0,8 - 2,8	1,4	40	100	150	1,8 x 0,50	230
F155.070.B	7000	1,0 - 2,8	1,5	40	100	150	2,0 x 0,50	280

(*) on demand we can supply stands fit for reels with bigger diameter

(²) weight of a pair of standard stands, with no optional devices

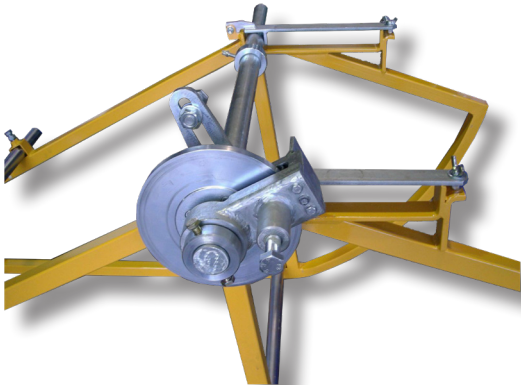
F157



Reel-cradle fit for lifting and unwinding steel rope reel. Fully galvanized. Completely demountable for an easy transport. Complete with reel shaft.

OPTIONAL DEVICES

- 410.1 Disc brake for braked unwinding (F157.14.5 and F157.19braking torque 150 daN m)
- 410.4 Disc brake with high brake capacity (F157.19 only - braking torque 280 daN m)



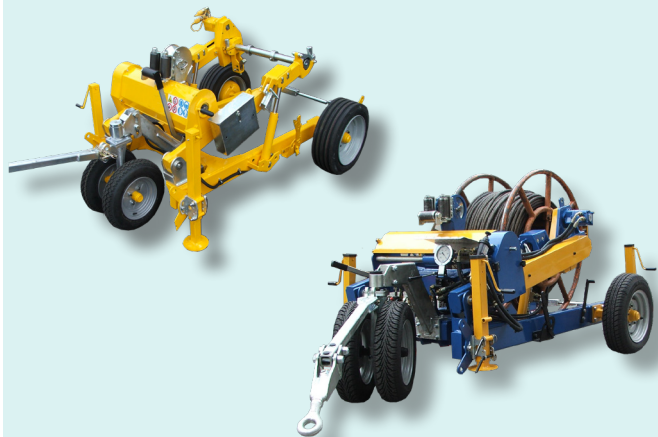
opt.410.1

	Reel diameter min - max	Overall dimensions (A x B x C)	Spindle (ØD)	Load	Weight
	m	m	mm	daN	kg
F157.14.S	1,10 - 1,40	2,50 x 1,10 x 0,95	50	2000	72
F157.19	1,40 - 1,90	3,00 x 1,10 x 1,10	50	2600	160

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



F106



Reel-winder trolley fit for reel transport and wire recovering/releasing, designed to be used with pullers, puller-tensioners or hydraulic power units, from which it receives the transmission needed to move the reel. It can even be fitted with own motorization.

	Reel Ømax	Capacity	Rope Ø	Max pull ⁽¹⁾	Max speed ⁽¹⁾	Dimensions AxBxC	Weight
	mm	kg	mm	daN	km/h	m	kg
F106.110.1	1100	1200	10-13-16	150	4	1,70 x 1,25 x 1,00	450
F106.140.1	1600	2000	16-18-20	250	5	2,00 x 1,35 x 1,40	700
F106.190.1	1900	3000	18-20-24	300	5	2,50 x 1,80 x 1,40	1200

⁽¹⁾ performances obtained when connected to the hydraulic circuit of a puller or puller-tensioner

WITH AUTONOMOUS DRIVE (OPT. 417)							
Engine power		Max pull ⁽²⁾	Speed at max pull ⁽²⁾	Max speed	Dimensions AxBxC	Weight	
kW	hp	daN	m/min	m/min	m	kg	
F106.110.1	4,4	6	200	30	65	2,00 x 1,25 x 1,00	540
F106.140.1	5,9	8	300	30	65	2,20 x 1,35 x 1,40	800
F106.190.1	7,3	10	400	30	65	2,50 x 1,40 x 1,40	1350

⁽²⁾ on the middle layer

CONFIGURATION

- Bi-directional hydraulic motor, controlled directly by the machine panel through flexible hoses, fit for moving the reel by means of a reduction unit
- Neutral device to unwind the rope easily
- Reel lifting arm hydraulic operated by manual pump
- Automatic rope-winder complete with rope-driver rollers, fit for winding three different diameters of rope on the reel. The rope-winder may also be operated manually
- Frame with three tires, one of them steering with drawbar, fit for towing in the job-site
- Mechanical stabilisers and anchoring and lifting points
- Devices for locking the reel rotation mechanically

OPTIONAL DEVICES

- 416 Negative safety brake that self-operates in case of pressure drop in the hydraulic circuit feeding
- 417 Installation of a diesel engine that operates a hydraulic power unit, fit to make the reel-winder autonomous
- 438.2 Device that allows to lift the reel by using the reel-rotation circuit
- 078.1 Set of flexible hoses for feeding the drive unit (lengths available: 5, 10, 15 m)

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

F106.220



Reel-winder trolley designed for recovering/pulling and releasing ropes and conductors to/from steel reels.

The reel is operated by a hydraulic motor fed by a separate power unit or by the auxiliary hydraulic circuit of a puller, tensioner or puller/tensioner.

FEATURES

Reel diameter (min/max)	1400/2200 mm
Reel width (max)	1560 mm
Max weight of the reel	8000 kg
Dimensions AxBxC	3,70 x 2,41 x 1,50 m
Weight	1950 Kg

PERFORMANCES

Max pull	500 daN
Speed at max pull	2,5 km/h
Max speed	5 km/h
Pull at max speed	250 daN

CONFIGURATION

- Hydraulic motor with reduction group connected to the spindle
- Negative safety brake self-operating in the event of hydraulic breakdown
- Reel-carrier arms with hydraulic lifting of reel, operated through a manual pump
- Rigid axle, tires, hand brake and drawbar for towing at low speed the job-site
- Adjustable pivoting reel
- Mechanical stabilisers and attachments for anchoring and lifting the machine
- Reel arm fit for reels max diameter 2200 mm
- Spindle with dragger and bushes for reels
- Steel reel mod. F162.220
- Automatic rope-winder, fit to stratify the different diameters of rope on the reel. The rope-winder can also be operated manually
- Set of flexible hoses for connection to the hydraulic power unit, length 15 m

OPTIONAL DEVICES

- 005.1 Tandem axle with torsion bar suspensions, air braking system and lights
- 006 Pneumatic braking system and lights
- 059 Extra metallic reel F162.220
- 096.1 Hydraulic power unit with gasoline engine mounted on trolley, to control the reel-lifter and stabilisers
- 417.1 Hydraulic power unit with diesel engine mounted on trolley or separate, mounted on the trolley for autonomous use in conductor braking and recovering

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

F10.50



Trailer fit to transport and unwind reels of cable weighing up to 4000 kg.

TRAILER CHARACTERISTICS

Dimensions LxWxH	6,40x2,50x2,60 m
Total weight with drum	5000 kg
Drum max diameter	3000 mm
Drum max width	1400 mm

Performances with optional drive (opt.408.4 or 408.5)

Pulling force	0 - 9 kN
Pulling speed	0 - 60 m/min

ALSO AVAILABLE TRAILERS WITH DIFFERENT CAPACITY

CONFIGURATION

- Spindle rotating on ball joints, with arm for close and drag the reel, and collars for wooden reel
- Safe mechanical locking in working position
- Mechanical locking of the spindle rotation for safe transport
- Hydraulic reel lift with hand pump
- Single rigid axle and rigid towing assembly
- Towing speed 40 Km/h
- 12V light system
- Hand parking brake for trailer
- Front support

OPTIONAL DEVICES

425	Mechanical back supports
007-A	Damped single axle, towing speed 60 km/h. Complete with ABS system
007-B	Damped single axle, towing speed 80 km/h. Complete with ABS system and pneumatic suspensions
018.11	Framework made of 3 steel sections for container
029.2	Electric start of the diesel/gasoline engine, with battery
401	Devices fit for using steel reels with the reel-elevator
408.4	Hydraulic drive with quick connections for controlling the reel rotation both recovering and releasing cables, complete with power unit and gasoline engine
408.5	Hydraulic drive with quick connections for controlling the reel rotation both recovering and releasing cables, complete with power unit and diesel engine
410.1	Disk brake with manual regulation of the braking to keep under control the unwinding

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

F10.100



Trailer fit to transport and unwind reels of cable weighing up to 8000 kg.

TRAILER CHARACTERISTICS

Dimensions LxWxH	7,30x2,50x2,70 m
Total weight with drum	10000 kg
Drum max diameter	3200 mm
Drum max width	1500 mm

Performances with optional drive (opt.408.4 or 408.5)

Pulling force	0 - 9 kN
Pulling speed	0 - 60 m/min

ALSO AVAILABLE TRAILERS WITH DIFFERENT CAPACITY

CONFIGURATION

- Spindle rotating on ball joints, with arm for close and drag the reel, and collars for wooden reel
- Safe mechanical locking in working position
- Mechanical locking of the spindle rotation for safe transport
- Hydraulic reel lift with hand pump
- Single rigid axle and rigid towing assembly
- Towing speed 40 Km/h
- 12V light system
- Hand parking brake for trailer
- Front support

OPTIONAL DEVICES

425	Mechanical back supports
005.1	Damped tandem axle, towing speed 60 km/h. Complete with ABS system
005.3	Damped tandem axle, towing speed 80 km/h. Complete with ABS system and Pneumatic suspensions
018.11	Framework made of 3 steel sections for container
029.2	Electric start of the diesel/gasoline engine, with battery
401	Devices fit for using steel reels with the reel-elevator
408.4	Hydraulic drive with quick connections for controlling the reel rotation both recovering and releasing cables, complete with power unit and gasoline engine
408.5	Hydraulic drive with quick connections for controlling the reel rotation both recovering and releasing cables, complete with power unit and diesel engine
410.1	Disk brake with manual regulation of the braking to keep under control the unwinding

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

F10.AF.20.20



Trailer for reels, fit for recovering and releasing ropes and conductors to/from wooden or steel reels.

The reel, operated by a hydraulic motor, allows to recover the wire or conductor (puller use) and to release it (tensioner use).

FEATURES

Dimensions AxBxC	3,60x2,20x1,40 m
Weight (without rope opts)	1750 kg

REEL TRANSPORT CAPACITY

Transportable reel dimensions	
Diameter max	1800 mm
Width max	1100 mm
Weight max	2000 kg

ENGINE

Feeding	diesel
Power	21 hp/15,4 kW

PERFORMANCE

Max pull/tension force	2000 daN
Speed at max pull/tension	10 m/min
Max speed	50 m/min
the performances here above are referred to the rope-layer diameter 500 mm	

CONFIGURATION

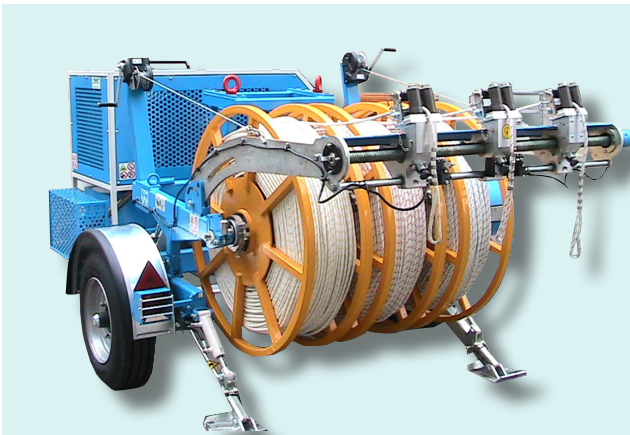
- Hydraulic power unit made of electric motor or air cooled diesel engine with electric starting and a variable-delivery hydraulic pump, that allows to continuously and gradually the speed of rotation of the reel, in either directions, by operating one control handle only (puller use)
- Hydraulic circuit fit for braking the wire (tensioner use)
- Control panel with control and instruments for the machine and the engine
- Dynamometer to check the pulling force, with possibility to set a maximum limit of the force
- Hydraulic motor with reduction group connected to the spindle.
- Self-operating negative safety brake
- Reel-carrier arms with hydraulic lifting of reel, operated through the power unit
- Rigid axle, tires, hand brake and drawbar for towing at low speed the job-site
- Adjustable pivoting wheel
- Stabilisers and attachments for anchoring and lifting the machine.
- Spindle with dragger and conical bushes for wooden reels (reel hole diameter to be specified)
- Dragger and cylindrical bushes for steel reels (reel hole diameter to be specified)

OPTIONAL DEVICES

- | | |
|-------|---|
| 007 | Axle with independent torsion bar suspensions, adjustable drawbar, overrun braking system, tyres and lights, for towing on road at 60 km/h (without homologation) |
| 059 | Steel cylindrical reel fit for reel wires and nylon ropes (Øext 1400 x 560 mm) |
| 060 | Conical metallic reels with opening side (Øext 1400 x 560 mm) |
| 060.1 | Conical metallic reels with opening side (Øext 1400 x 800 mm) |
| 419.2 | Automatic rope-winder, fit to stratify the different diameters of rope on the reels of different width |

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

F10.M



Trailer designed for transporting reels as well as for recovering and releasing ropes and conductors to/from wooden or steel reels. The trailer can host up to 3 or 4 reels. The reels, operated by a hydraulic motor, allow to recover the wires (like a puller) and to release them (braked tension).

	F10.M.10.10.3	F10.M.15.30.3	F10.M.20.30.4
Max number of reel hosted	3	3	3/4
Reel diameter (max)	1200 mm	1200 mm	1400 mm
Reel width (max)	1100 mm	1100 mm	1400 mm
Max pulling/braking force ⁽¹⁾	20 kN @ 20 m/min	30 kN @ 20 m/min	30 kN @ 25 m/min
Max speed at low force ⁽²⁾	100 m/min	100 m/min	70 m/min
Engine power	18 hp (13,2 kW)	27 hp (19,8 kW)	30 hp (22 kW)
Max reel weight	1000 kg	1600 kg	2000 kg
Dimensions (LxWxH)	3,4+1,2x2,3x1,7 m	3,6+1,2x2,3x1,8 m	4,3+1,2x2,4x2,0 m
Weight (without optional devices)	1000 kg	1800 kg	2000 kg

⁽¹⁾ values referred to the medium layer of rope ⁽²⁾ values referred to the very external diameter of rope (full reel)

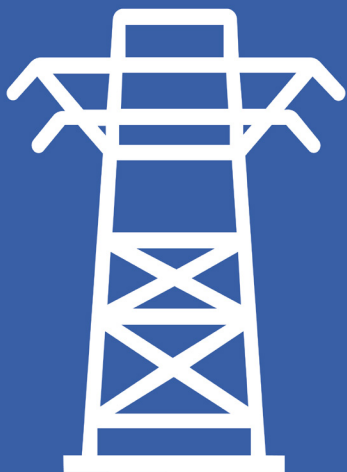
CONFIGURATION

- Hydraulic power unit made of an air cooled diesel/gasoline engine with electric starting and a variable-delivery hydraulic pump, that allows to continuously and gradually the speed of rotation of the reel, in either directions, by operating one control handle only
- Hydraulic circuit fit for braking the wire
- Control panel with control and instruments for the machine and the engine
- Dynamometer to check the pulling force, with possibility to set a maximum limit of the force
- Hydraulic motor with reduction group connected to the spindle
- Possibility to use one or more reels idling the others
- Self-operating negative safety brake
- Reel-carrier arms with hydraulic lifting of reel, operated through the power unit
- Rigid axle, tires, hand brake and drawbar for towing at low speed in workplace
- Adjustable pivoting wheel
- Hydraulic stabilisers and attachments for anchoring and lifting the machine
- Spindle with dragger and conical bushes for wooden reels (reel hole diameter to be specified)
- Dragger and cylindrical bushes for steel reels (reel hole diameter to be specified)
- Heat exchanger to cool the hydraulic oil

OPTIONAL DEVICES

- 007 Axle with suspensions, drawbar, overrun brake, lights and tires for towing on the road at 60 km/h. (homologation excluded)
- 008 Axle with leaf spring suspensions, drawbar, pneumatic braking system, tyres and lights for towing on the road at 60 km/h
- 026 Protective PVC cover
- 028.1 Water-cooled diesel engine
- 046.B No. 3 or 4 rope-winders fit to stratify several diameters of wires on the reels, adjustable, with neutral position
- 060 No. 3 or 4 conical metallic reels with opening side
- 061 No. 3 or 4 metallic reels fit for 1500 m of rope dia. 10mm
- 060.1 No. 1 steel reel fit for 2500 m of rope diam. 14mm

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

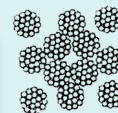


REELS AND ROPES

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	on steel reel
21.12.13	13	105	0,55	1000	Ø 1100 mm
21.12.16	16	163	0,80	1000	Mod. F162.110
21.12.18	18	235	1,07	800	
21.12.20	20	268	1,24	1000	on steel reel
21.12.22	22	330	1,56	900	Ø 1400 mm
21.12.24	24	380	1,80	800	Mod. F162.140
21.12.28	28	480	2,80	500	

(*) other lengths on request

HIGH RESISTANCE

	Nominal diameter	Breaking load	Weight	Standard Lengths (*)	
	mm	kN	kg	m	
21.18.22	22	402	1,86	900	on steel reel
21.18.24	24	490	2,34	800	Ø 1400 mm
21.18.30	30	720	3,25	400	Mod. F162.140

(*) other lengths on request

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.

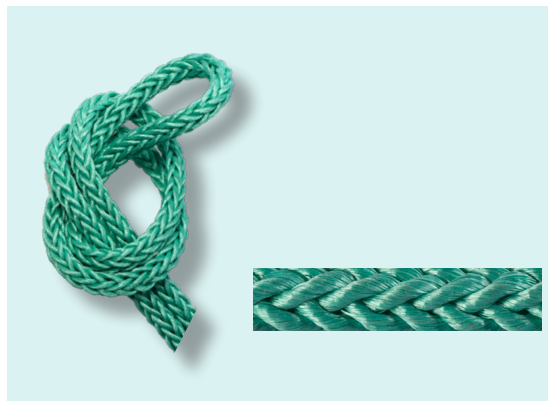
OPTIONAL DEVICES

146.3 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.

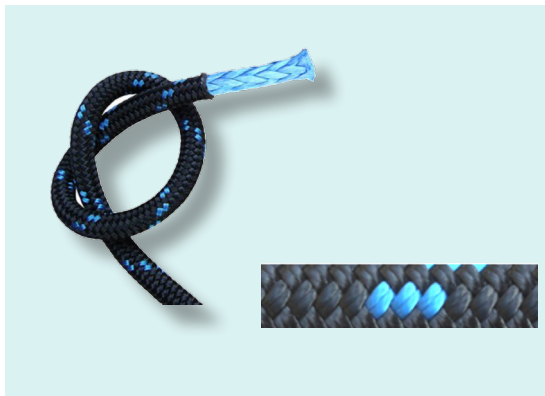
OPTIONAL DEVICES

146.2 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	at 8 % BL	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

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 % BL	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

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

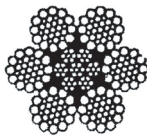
C02...AC

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

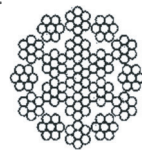
- Galvanization



C02...LR

Bright steel rope 133 wires. Construction 19x7.

Lang lay or regular lay. Resistance of wires 200 kg/mm².

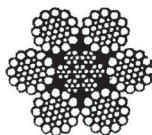


Rope diam.	Wires diam.	Sect.	Breaking load	Weight
mm	mm	mm ²	kN	kg/m
Lang lay				
6	0,38	16,5	26	0,15
8	0,51	29,3	48,1	0,27
10	0,64	45,7	72,1	0,41
11	0,70	55,3	87,2	0,50
12	0,76	65,8	104	0,60
13	0,83	77,3	122	0,70
14	0,89	89,6	141	0,81
16	1,02	117	185	1,06
18	1,15	148	234	1,34
Regular lay				
20	1,27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

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

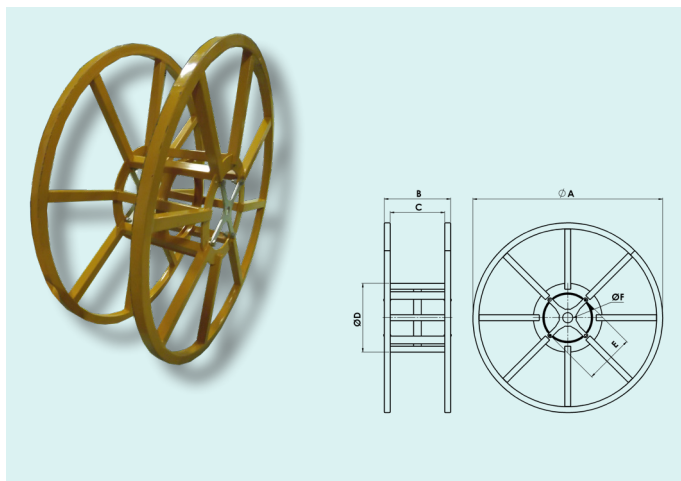
C02...AT

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

F162



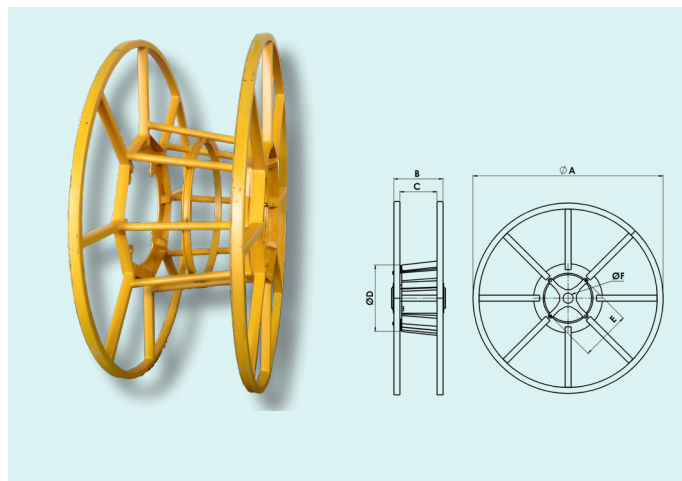
Welded and painted steel reel.

OPTIONAL DEVICES

- 02 Pair of standard dials
- 03 Pair of dials equipped with ball bearings
- 04 Reinforced reel, made of square tubular (30% heavier than the standard version)

	Dimensions mm						Weight (without rope) kg
	A	B	C	D	E	F	
F162.075	750	530	460	245	50	50	38
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
F162.220	2200	1560	1400	1010	420	100	950

F164



Welded and painted steel conical reel with openable side.

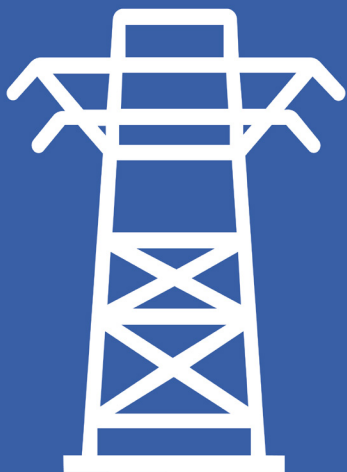
OPTIONAL DEVICES

- 02 Pair of standard dials
- 03 Pair of dials equipped with ball bearings
- 05 Drum core covered with steel sheet

	Dimensions mm						Weight (without rope) kg
	A	B	C	D	E	F	
F164.075	750	530	460	245	50	50	50
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
F164.220	2200	1310	1170	1010	420	100	1050

REEL CAPACITY (meters of rope)						
Rope diameter (mm)	F162.075 F164.075	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	3000

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



PULLEY BLOCKS

F144

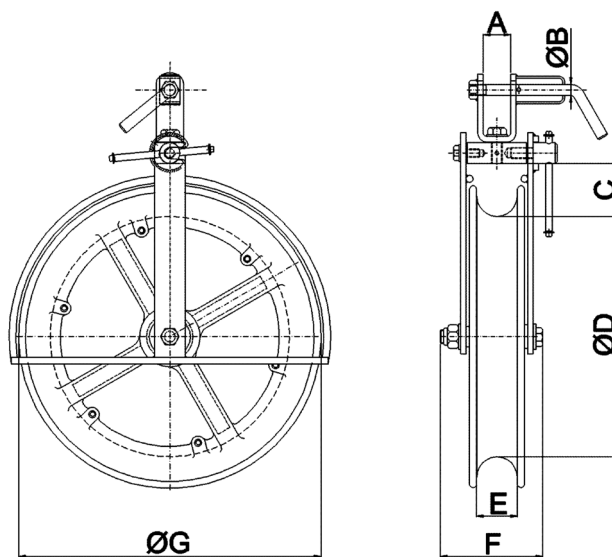
F150



Single sheave running out block fit for stringing one conductor. Aluminium sheave mounted on sealed ball bearings. Groove lined with nylon sectors. Openable galvanised steel frame with non-fleeting device. Standard swivelling fork attachment.

OPTIONAL DEVICES

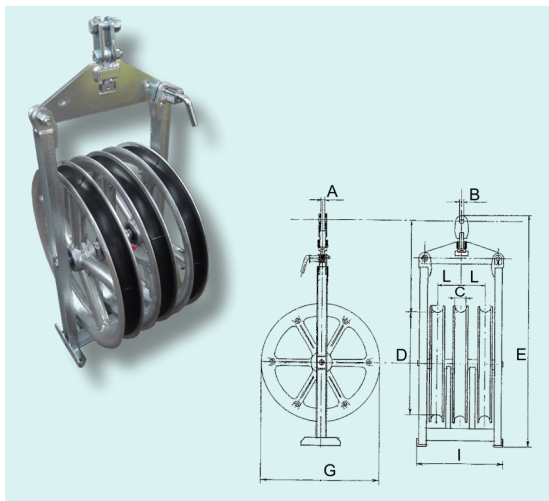
- 301.2 Fix hook (code FT)
- 301.1 Swivelling hook attachment (code GG)
- 314 Bottom groove lined with aluminium sectors (only for sheaves with groove width E= 60, 68 and 95 mm)
- 327 Non-fleeting device as big as half wheel circumference
- 326 Grounding device (only for wheels with groove width E=60, 68 and 95 mm;opt.314 needed)
- 329 Copper cable, 6-m long, with transparent PVC protection, with a clamp for tower and a terminal for the running out block (for opt.326)
- 328 Special U-shaped frame
- 320 Box for transport and stocking



	Dimensions (mm)										W.L.L	Weight
	A	A1	A2	B	C	D	E	F	G		kN	kg
F150.23.1	25	25	26	14	110	230	50	150	300		27	8,0
F150.35	30	27	26	16	110	350	60	170	440		30	11,5
F144.50.70	40	27	27	20	150	500	68	188	630		33	25
F144.65.70	40	33	27	20	160	650	68	188	770		40	32
F144.65.95	40	33	27	20	150	650	95	210	770		40	35
F144.80.70	45	33	27	20	160	800	68	188	900		60	36
F144.80.95	45	33	27	20	150	800	95	210	900		60	42
F144.100.95	45	37	27	25	150	1000	95	230	1120		60	52

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

F145



Three-sheave running out block fit for stringing two- three-bundled conductors. Aluminium sheaves mounted on sealed ball bearings. Grooves lined with nylon sectors. Galvanised steel frame with non-fleeting devices on lateral sheaves. Demountable attachment revolving by 90° (available with tight wheel).

OPTIONAL DEVICES

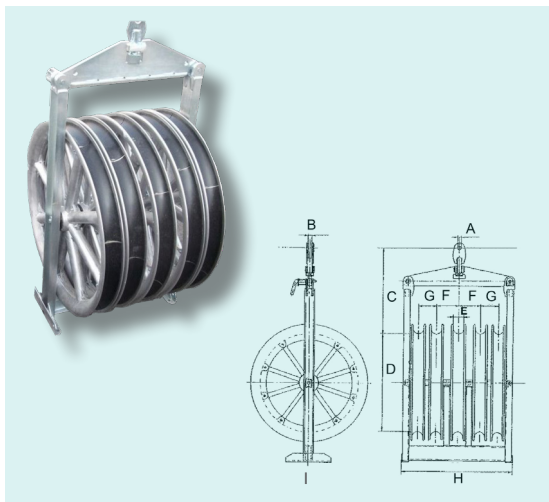
- 314 Sheaves lined with aluminium sectors
- 320 Cage for stocking and transport
- 326 Grounding device (opt.314 needed)
- 329 Copper cable, 6-m long, with transparent PVC protection, with a clamp for tower and a terminal for the running out block (opt.326)
- 325 Reinforced central sheave with total working load 80 kN (for mod. F145.80.95 F145.100.95 only)
- 330 Central sheave with groove width 95 mm (for models F145.xx.68 e F149 xx.68).
- 327.1 Non-fleeting device between the central wheel and the lateral ones

	Dimensions (mm)										W.L.L	Weight
	A	B	C	D	E	F	G	H	I	L	kN	kg
F145.35.60	20	21	60	350	900	400	440	200	400	100	26	40
F145.50.68	25	25	68	500	1250	550	630	280	500	145	50	93
F145.65.68	25	25	68	650	1400	550	770	280	500	145	50	112
F145.65.95	25	30	95	650	1400	550	770	280	590	175	70	125
F145.80.68	25	25	68	800	1500	550	900	280	500	145	70	128
F145.80.95	25	30	95	800	1550	550	900	300	590	175	70	156 ⁽¹⁾
F145.100.95	25	30	95	1000	1750	550	1100	300	590	175	70	200 ⁽¹⁾

Larger diameters on demand

⁽¹⁾ With opt.325 working load 80 kN. Weight F145.80.95=165 kg; F145.100.95=218 kg

F149



Five-sheave running out block fit for stringing four-bundled conductors. Aluminium sheaves mounted on sealed ball bearings. Grooves lined with nylon sectors. Galvanised steel frame with non-fleeting devices on lateral sheaves. Demountable attachment revolving by 90° (available with tight wheel).

OPTIONAL DEVICES

- 314 Sheaves lined with aluminium sectors
- 320 Cage for stocking and transport
- 326 Grounding device (opt.314 needed)
- 329 Copper cable, 6-m long, with transparent PVC protection, with a clamp for tower and a terminal for the running out block (opt.326)
- 325 Reinforced central sheave with total working load 80 kN (for mod. F145.80.95 F145.100.95 only)
- 330 Central sheave with groove width 95 mm (for models F145.xx.68 e F149 xx.68).
- 327.1 Non-fleeting device between the central wheel and the lateral ones

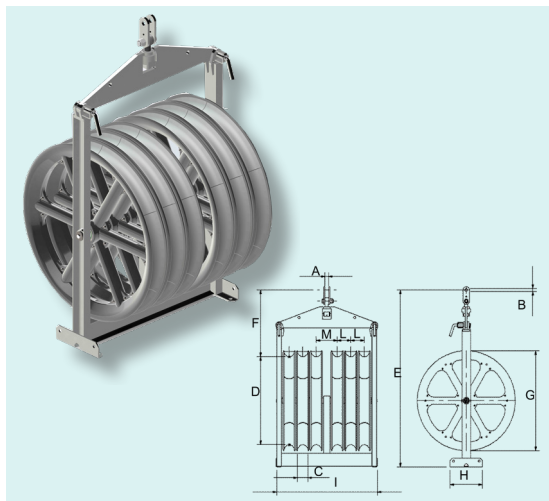
	Dimensions (mm)										W.L.L	Weight
	A	B	C	D	E	F	G	H	I	L	kN	kg
F149.50.68	25	25	520	500	68	145	100	700	630	1250	50	128
F149.65.68	25	25	590	650	68	145	100	700	770	1400	50	147
F149.65.95	25	30	590	650	95	175	130	820	770	1400	70	185
F149.80.68	25	25	590	800	68	145	100	700	900	1560	70	180
F149.80.95	25	30	590	800	95	175	130	820	900	1560	70 ⁽¹⁾	220 ⁽¹⁾
F149.100.95	30	30	590	1000	95	175	130	820	1100	1800	70 ⁽¹⁾	272 ⁽¹⁾

Larger diameters on demand

⁽¹⁾ With opt.325 working load 80 kN. Weight F149.80.95=250 kg; F149.100.95=290 kg

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

F188



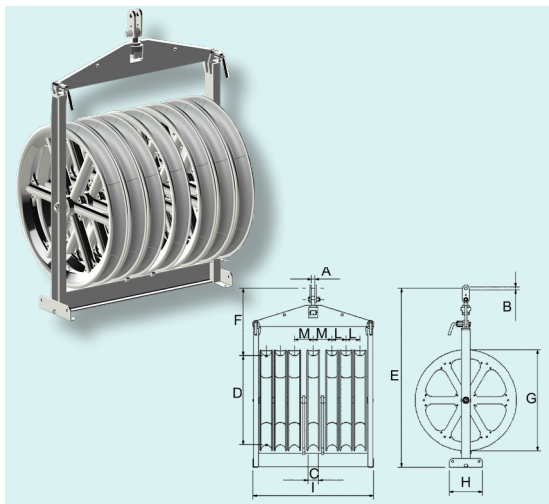
Six-sheave running out block, fit for stringing 6 conductors. Aluminium sheaves mounted on sealed ball bearings. Grooves lined with nylon sectors. Steel frame with non-fleeting devices on lateral sheaves. Demountable attachment revolving by 90°.

OPTIONAL DEVICES

- 314 Sheaves lined with aluminium sectors
- 326 Grounding device (opt.314 needed)
- 329 Copper cable, 6-m long, with transparent PVC protection, with a clamp for tower and a terminal for the running out block (opt.326)

	Dimensions (mm)											W.L.L	Weight
	A	B	C	D	E	F	G	H	I	L	M	kN	kg
F188.65.68	30	30	68	650	1400	550	770	400	750	100	145	40	180
F188.65.95	30	30	95	650	1400	550	770	400	880	125	170	60	207
F188.80.68	30	30	68	800	1500	550	900	500	750	100	145	60	204
F188.80.95	30	30	95	800	1550	550	900	500	880	125	170	60	240

F189



Seven-sheave running out block, fit for stringing 4 or 6 conductors. Aluminium sheaves mounted on sealed ball bearings. Grooves lined with nylon sectors. Steel frame with non-fleeting devices on lateral sheaves. Demountable attachment revolving by 90°.

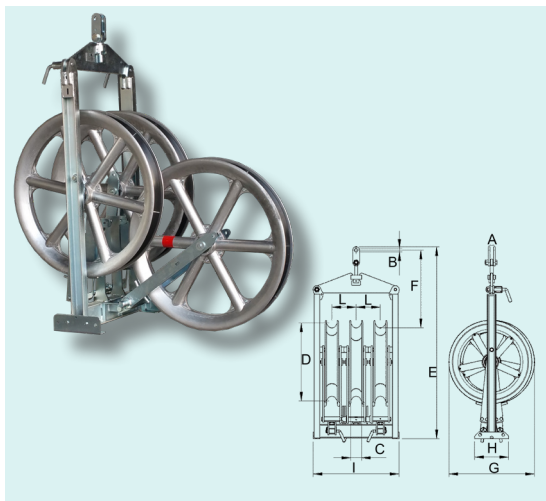
OPTIONAL DEVICES

- 314 Sheaves lined with aluminium sectors
- 325 Central sheave lined with steel sectors
- 326 Grounding device (opt.314 needed)
- 329 Copper cable, 6-m long, with transparent PVC protection, with a clamp for tower and a terminal for the running out block (opt.326)

	Dimensions (mm)											W.L.L	Weight
	A	B	C	D	E	F	G	H	I	L	M	kN	kg
F189.65.68	30	30	68	650	1400	590	770	400	930	100	145	60	195
F189.65.95	30	30	95	650	1400	590	770	400	1100	125	170	60	235
F189.80.68	30	30	68	800	1560	590	900	500	930	100	145	60	240
F189.80.95	30	30	95	800	1560	590	900	500	1100	125	170	60	295

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

F145.S



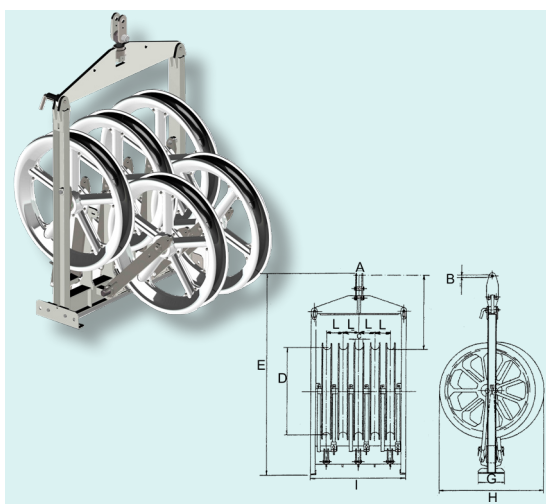
Detachable three-sheave running out block fit for stringing two- three-bundled conductors. The frame contains 3 running-out blocks that can be used singularly. Aluminium sheaves mounted on sealed ball bearings. Grooves lined with nylon sectors. Galvanised steel frame. Central sheave mounted on double bearings. Demountable attachment revolving by 90°.

OPTIONAL DEVICES

- 314 Sheaves lined with aluminium sectors
- 326 Grounding device (opt.314 needed)
- 329 Copper cable, 6-m long, with transparent PVC protection, with a clamp for tower and a terminal for the running out block

	Dimensions (mm)										Working Load	Weight
	A	B	C	D	E	F	G	H	I	L	kN	kg
F145.S.50.68	25	25	68	500	1480	600	630	280	590	148	40	122
F145.S.65.68	25	25	68	650	1550	600	770	280	590	148	40	145
F145.S.65.95	25	30	95	650	1650	600	770	280	670	178	60	165
F145.S.80.68	25	25	68	800	1750	600	900	280	590	148	60	167
F145.S.80.95	25	30	95	800	1750	600	900	300	670	178	60	190
F145.S.100.95	30	30	95	1000	1980	600	1100	300	700	178	67	230

F149.S



Detachable five-sheave running out block fit for stringing four-bundled conductors. The frame contains 5 running-out blocks that can be used singularly. Aluminium sheaves mounted on sealed ball bearings. Grooves lined with nylon sectors. Galvanised steel frame. Central sheave mounted on double bearings. Demountable attachment revolving by 90°.

OPTIONAL DEVICES

- 314 Sheaves lined with aluminium sectors
- 326 Grounding device (opt.314 needed)
- 329 Copper cable, 6-m long, with transparent PVC protection, with a clamp for tower and a terminal for the running out block

	Dimensions (mm)										Working Load	Weight
	A	B	C	D	E	F	H	G	I	L	kN	kg
F149.S.50.68	25	25	68	500	1480	600	630	280	890	148	40	185
F149.S.65.68	25	25	68	650	1550	600	770	280	890	148	40	210
F149.S.65.95	25	30	95	650	1650	600	770	280	1050	178	60	245
F149.S.80.68	25	25	68	800	1750	600	900	280	890	148	60	249
F149.S.80.95	25	30	95	800	1750	600	900	300	1050	178	60	300
F149.S.100.95	30	30	95	1000	1980	600	1100	300	1070	178	67	328

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

F144...TA

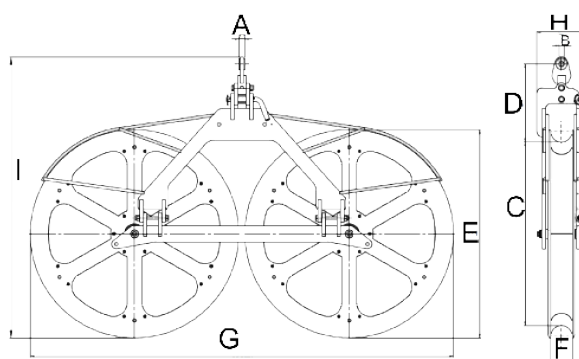
F150...TA



F150...TA

F144...TA

Tandem sheave running out block fit for stringing one conductor.
Aluminium sheave mounted on sealed ball bearings. Groove lined with nylon sectors.
Openable galvanised steel frame with non-fleeting device. Standard swivelling fork attachment. Designed to distribute high working loads over two pulleys.
The tandem sheaves are mounted on a special steel frame consisting of a yoke and two arms. The sheaves can also be used as standard single pulleys.

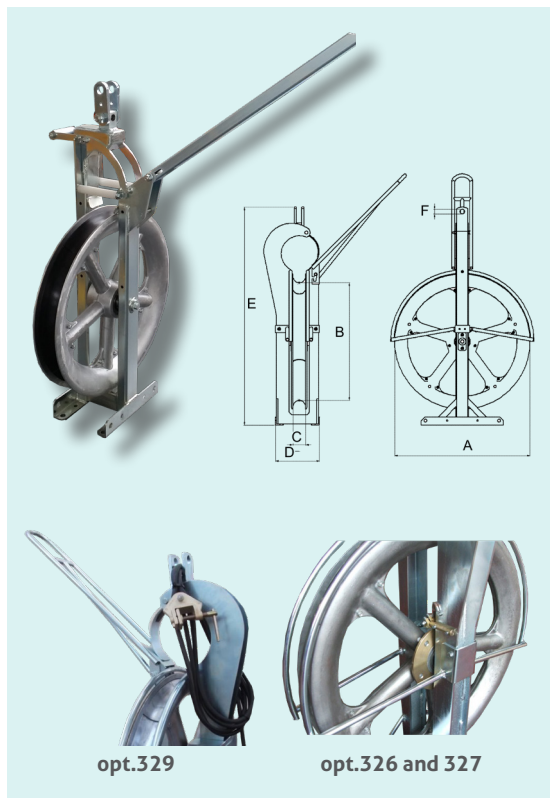


	Dimensions (mm)							Working load	Weight
	A	B	C	D	E	F	G	kN	kg
F150.23.TA	20	16	230	160	300	50	650	40	27
F150.35.TA	20	18	350	160	440	60	920	45	38
F144.50.70.TA	25	21	500	350	630	68	1300	50	72
F144.65.70.TA	25	21	650	350	770	68	1600	55	85
F144.65.95.TA	25	21	650	350	770	95	1600	65	95
F144.80.70.TA	25	21	800	350	900	68	1860	65	98
F144.80.95.TA	25	21	800	350	900	95	1860	80	120
F144.100.95.TA	30	30	1000	400	1120	95	2300	80	145

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

F144...E

F150...E



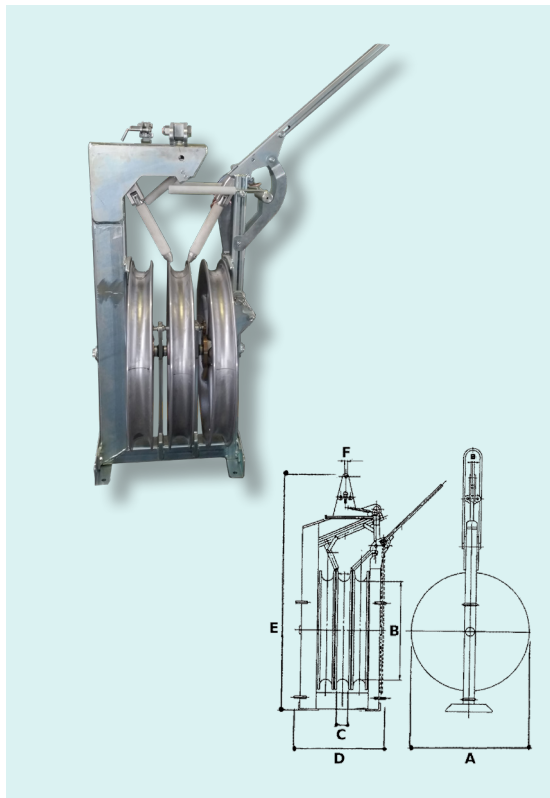
Single sheave block fit for stringing a pilot rope by helicopter. Proper devices allow to position the pulling rope in the sheave groove and keep it inside the groove during stringing operations. Aluminium sheave mounted on waterproof bearings. Groove lined with nylon sectors. Galvanized steel frame. Fix attachment.

OPTIONAL DEVICES

- 314 Sheaves lined with aluminium sectors
- 326 Grounding device (opt.314 needed)
- 327 Non-fleeting device on half wheel circumference
- 329 Copper cable, 6-m long, with transparent PVC protection, with a clamp for tower and a terminal for the running out block (opt.326)

	Dimensions (mm)						Working load	Weight
	A	B	C	D	E	F	kN	kg
F150.23.50.E	300	230	50	220	550	18	26	15
F150.35.60.E	440	350	60	240	680	20	30	22
F144.50.70.E	630	500	68	340	980	25	60	49
F144.65.70.E	770	650	68	340	1220	25	40	52
F144.65.95.E	770	650	95	370	1220	25	40	61
F144.80.70.E	900	800	68	340	1320	25	40	64
F144.80.95.E	900	800	95	380	1320	25	40	68
F144.100.95.E	1120	1000	95	380	1560	25	67	85

F145...E



Three-sheave block fit for stringing a pilot rope by helicopter. Proper devices allow to position the pulling rope in the sheave groove, and keep it inside the groove during stringing operations. Aluminium sheave mounted on waterproof bearings. Groove lined with nylon sectors. Galvanized steel frame. Fix attachment.

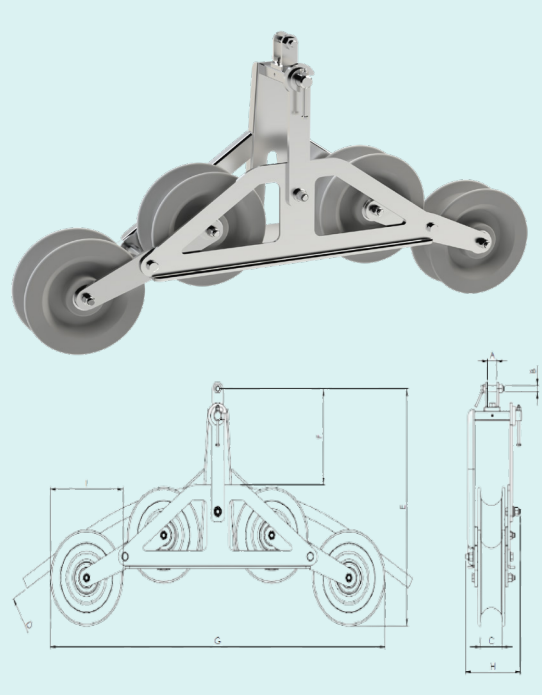
OPTIONAL DEVICES

- 314 Sheaves lined with aluminium sectors
- 326 Grounding device (opt.314 needed)
- 329 Copper cable, 6-m long, with transparent PVC protection, with a clamp for tower and a terminal for the running out block (opt.326)

	Dimensions (mm)						Working load	Weight
	A	B	C	D	E	F	kN	kg
F145.50.70.E	630	500	68	670	1080	25	60	120
F145.65.70.E	770	650	68	670	1320	25	60	160
F145.65.95.E	770	650	95	780	1320	25	60	170
F145.80.70.E	900	800	68	670	1420	25	60	175
F145.80.95.E	900	800	95	800	1420	25	60	196
F145.100.95.E	1120	1000	95	800	1640	25	67	250

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

F308.S



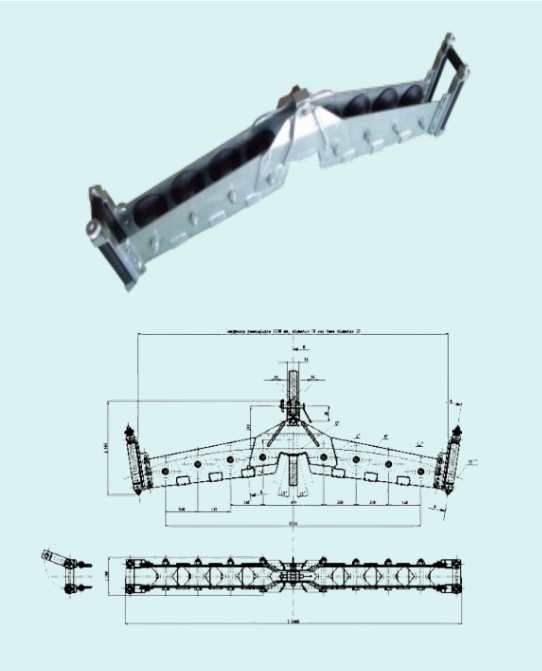
Rollers for stringing single conductor made of galvanized steel frame with openable side. N° 4 nylon sheaves mounted on sealed ball bearings.

OPTIONAL DEVICES

- 326.1 Contact roller grounding device through an aluminum contact wheel on conductor with contrast spring
- 329 Copper cable, 6 m long, with transparent PVC protection with a clamp for tower and a terminal for the running out block

	Dimensions (mm)									Working Load	Weight
	A	B	C	D	E	F	G	H	I	kN	kg
F308.S.20.68	40	20	68	1600	810	393	1350	295	305	40	42
F308.S.20.95	40	20	95	1820	800	367	1470	295	305	40	42

F308.100.98



Rollers/pulley designed for stringing conductors up to diameter 60 mm. Made of electrowelded and galvanized steel. Nylon rollers turning on bearings. Flexible fittings.

- Breaking load: 1800 daN
- Bending radius: 1500 mm
- Rollers-groove width: 70 mm
- Dimensions: 1660x180x450 mm
- Weight: 35 kg

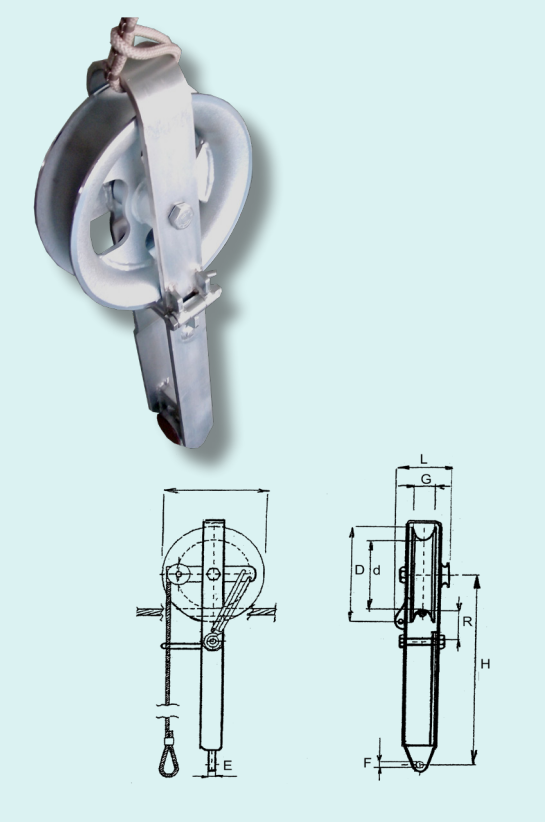
OPTIONAL DEVICES

- 01 Antifleeting framework made of nylon rollers, with openable upper roller
- 02 Groove width 100 mm

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

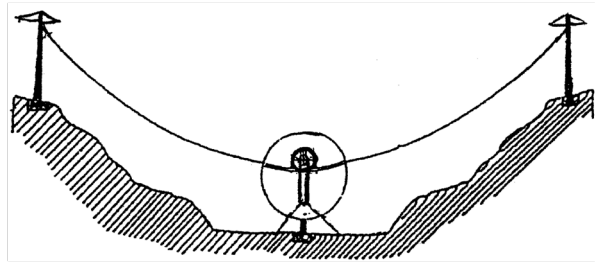


F151.235

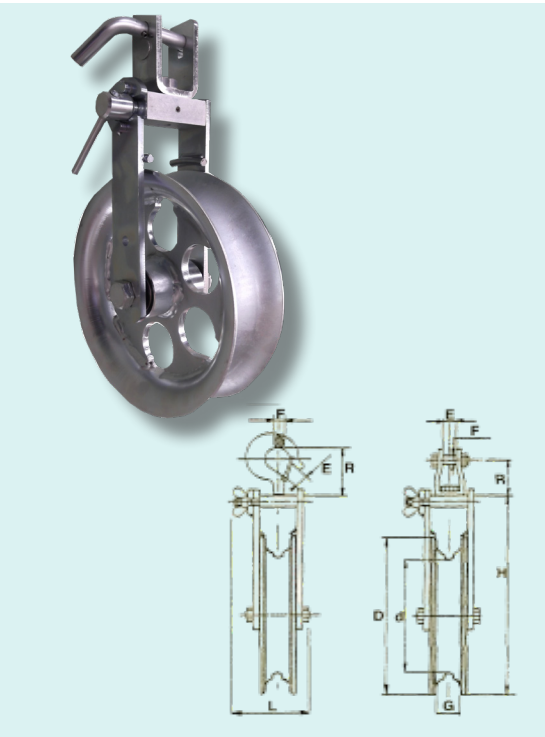


Counter-pull running-out block. Galvanised steel frame, openable side, with swivelling hooks on the ends. Automatic releasing device for recovering the unit.
vers. AS Galvanised steel pulley mounted on ball bearings.
vers. BS Aluminium pulley lined with interchangeable nylon ring.

	Dimensions (mm)								Working Load	Weight
	d	D	E	F	G	H	L	R	kN	kg
F151.235.AS	240	300	25	25	65	600	170	95	28	21
F151.235.BS	235	300	25	25	50	550	150	95	22	20



F151



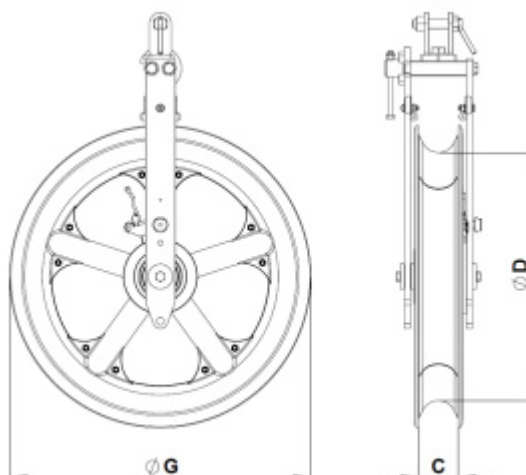
Running out block fit for stringing shield wires. Galvanized steel sheave mounted on ball bearings. Galvanized steel frame with non-fleeting device.
Different attachments available:
A - swivel hook (optional)
B - swivel fork (standard)
C - fix hook (optional)
Blocks with different dimensions can be built on demand

	Attachment type	Dimensions (mm)								Working Load	Weight
		d	D	E	F	G	H	L	R	kN	kg
F151.235.A	A	230	300	25	22	65	400	155	100	28	13
F151.235.B	B/C	230	300	25	20	65	400	155	70	28	13

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



F144.1



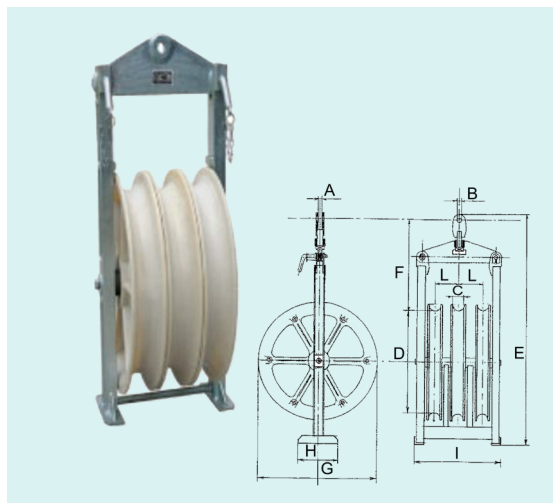
Single sheave running out block fit for stringing one conductor. Nylon sheaves mounted on sealed ball bearings. Galvanised steel frame. Demountable attachment revolving by 90° (available with narrow wheel).

OPTIONAL DEVICES

320 Cage for stocking and transport

	Dimensions (mm)			W.L.L.	Weight
	C	D	G		
F144.1.35.60	60	350	440	20	15
F144.1.56.78	78	560	660	40	41
F144.1.64.88	88	640	750	40	45
F144.1.80.97	97	800	916	50	63

F145.1



Three-sheave running out block fit for stringing two- three-bundled conductors. Nylon sheaves mounted on sealed ball bearings. Galvanised steel frame. Demountable attachment revolving by 90° (available with narrow wheel).

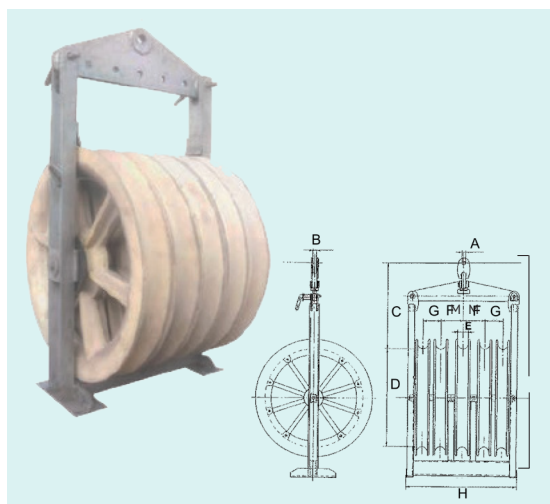
OPTIONAL DEVICES

- 320 Cage for stocking and transport
- 339 Steel central sheave

	Dimensions (mm)						W.L.L.	Weight
	C	D	G	L	I	E		
F145.1.40.78	78	408	508	104	440	1000	40	52
F145.1.56.88	88	560	660	114	470	1200	50	83
F145.1.64.88	88	640	750	114	470	1350	60	93
F145.1.70.98	98	710	822	125	505	1450	75	122
F145.1.80.98	98	800	916	125	505	1550	80	128

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

F149.1



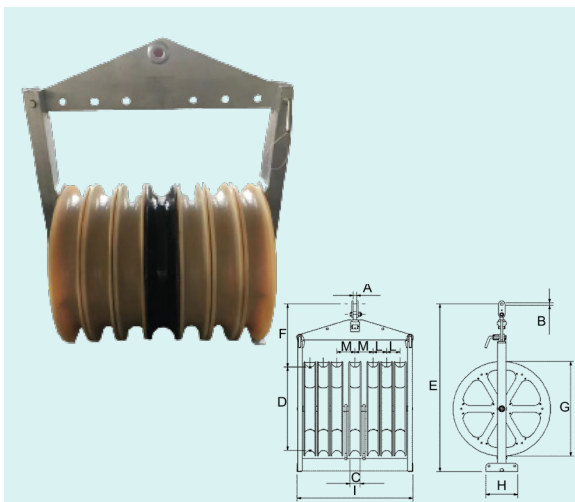
Five-sheave running out block fit for stringing four-bundled conductors. Nylon sheaves mounted on sealed ball bearings. Galvanised steel frame. Demountable attachment revolving by 90° (available with narrow wheel).

OPTIONAL DEVICES

- 320 Cage for stocking and transport
- 339 Steel central sheave

	Dimensions (mm)							W.L.L.	Weight
	C	D	G	M	L	I	E	kN	kg
F149.1.40.78	78	408	508	104	104	650	1000	50	75
F149.1.56.88	88	560	660	114	114	700	1200	60	121
F149.1.64.88	88	640	750	114	114	700	1350	70	145
F149.1.70.98	98	710	822	125	125	760	1450	110	182
F149.1.80.98	98	800	916	125	125	760	1550	130	220

F189.1



Seven-sheave running out block fit for stringing six-bundled conductors. Nylon sheaves mounted on sealed ball bearings. Galvanised steel frame. Demountable attachment revolving by 90° (available with narrow wheel).

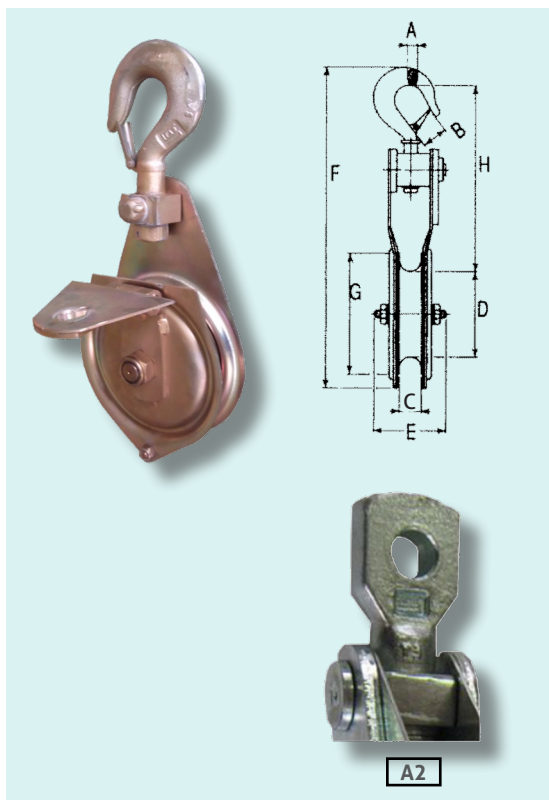
OPTIONAL DEVICES

- 320 Cage for stocking and transport
- 339 Steel central sheave

	Dimensions (mm)							W.L.L.	Weight
	C	D	G	M	L	I	E	kN	kg
F189.1.56.78	78	560	660	104	104	870	1200	100	180
F189.1.64.90	90	640	750	114	114	940	1350	120	204
F189.1.70.88	88	710	822	114	114	940	1450	125	235
F189.1.80.98	98	800	916	125	125	1000	1550	130	265

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

C86.ST

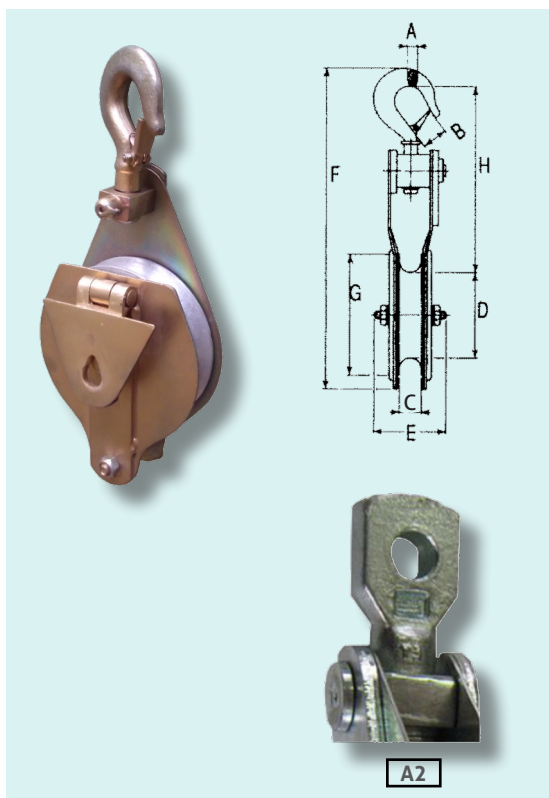


Openable snatch block. Galvanised steel sheave mounted on ball bearings. Galvanised steel frame with openable side. Standard hook attachment.

OPTIONAL DEVICES
eye attachment **A2**

	W.L.L	Max rope	Dimensions (mm)			Weight
	kN	Ø	C	D	G	kg
C86.ST.20.1	30	20	24	120	150	8,8
C86.ST.40.1	50	22	26	130	166	11,1
C86.ST.50.1	80	24	28	160	200	12,6

C86.AL



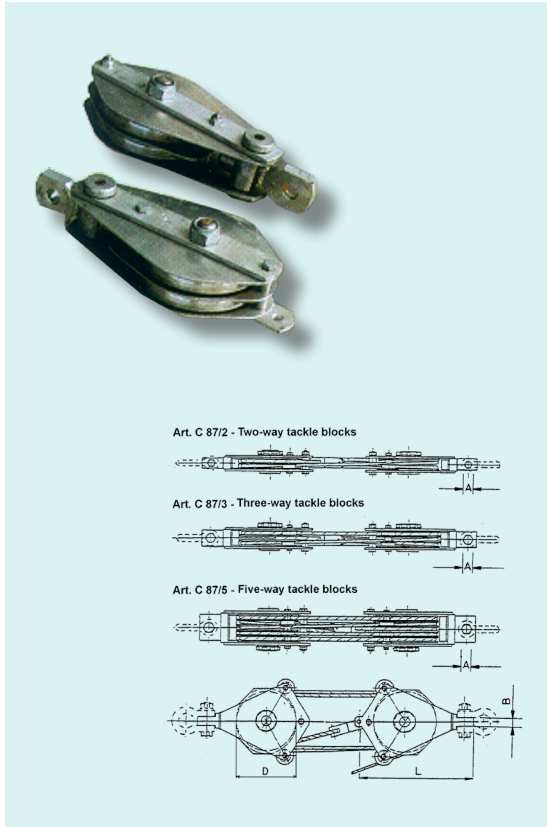
Openable snatch block. Aluminium sheave mounted on ball bearings. Aluminium frame with openable side. Standard steel hook attachment.

OPTIONAL DEVICES
eye attachment **A2**

	W.L.L	Max rope	Dimensions (mm)			Weight
	kN	Ø	C	D	G	kg
C86.AL.6	8	16	20	98	120	1,6
C86.AL.12	12	20	24	130	155	2,8

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

C87



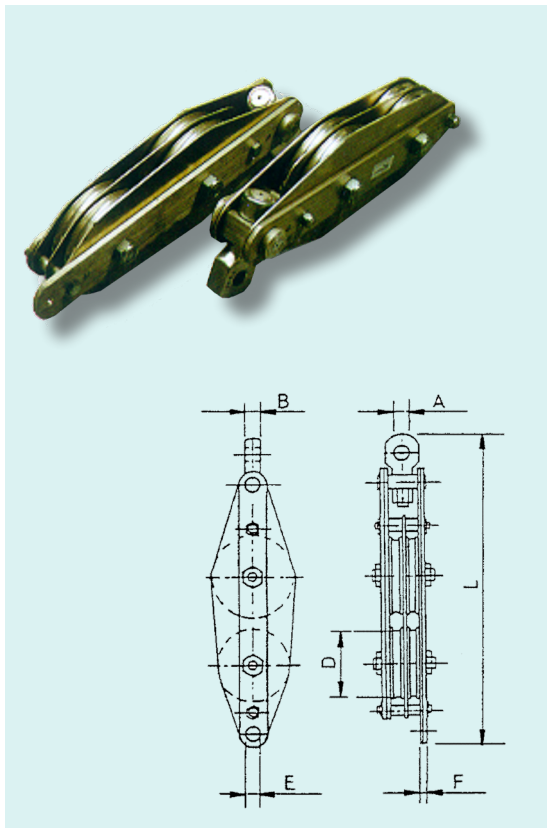
Snatch block for wire ropes. Galvanised steel frame with 2, 3 or 5 steel sheaves mounted on waterproof ball bearings. The snatch blocks are supplied in pairs.

OPTIONAL DEVICES

- 01 Shackle, swivel joint and wire rope (length and diameter of the rope to be specified)
- 02 Anti-fleeting bars

	Sheaves		Dimensions (mm)				W.L.L	Weight per pair
	no.	D min	rope Ø	L max	A	B	kN	kg
C87.2.025	2	160	8	380	22	22	30	20
C87.3.035	3	160	8	450	25	22	50	27
C87.5.055	5	160	8	500	29	22	80	45
C87.2.030	2	180	9	370	22	22	38	25
C87.3.045	3	180	9	430	25	22	60	30
C87.5.070	5	180	9	470	29	22	100	45

C88



Tackle block for high voltage lines. Steel frame with 4 or 6 steel sheaves mounted on waterproofed ball bearings. Supplied in pairs.

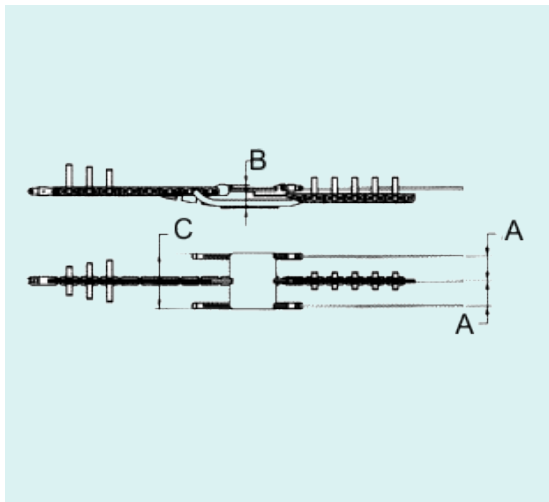
OPTIONAL DEVICES

- 01 Aluminium sheaves

	Sheaves		Dimensions (mm)					W.L.L	Weight per pair
	no.	D min	rope Ø	L max	A	B	E min	kN	kg
C88.4.025	4	120	6	500	23	23	11	40	25
C88.4.045	4	160	8	650	25	23	11	73	45
C88.6.065	6	160	8	680	27	35	11	105	70
C88.6.095	6	200	10	800	36	45	12	150	100
C88.6.120	6	240	12	940	38	48	14	200	130

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

F153..F



F153.2...F Fixed type running board for 2-bundle conductor, fit for connecting the pulling rope to 2 conductors. The running board is made up of:

- 1 swivel joint for the pulling rope
- 2 swivel joints for the conductors

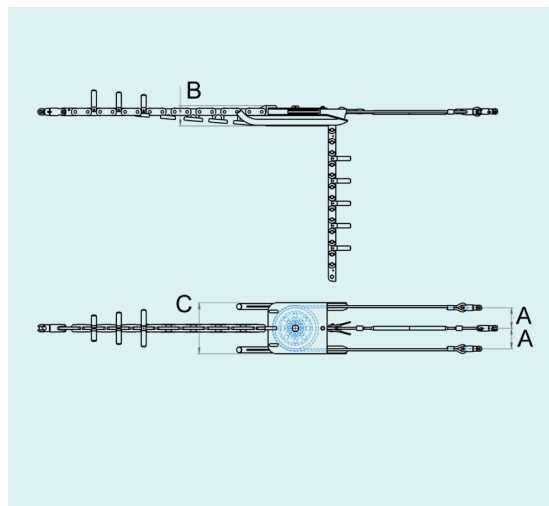
F153.3...F Fixed type running board for 3-bundle conductors, fit for connecting the pulling rope to 3 conductors. The running board is made up of:

- 1 swivel joint for the pulling rope
- 3 swivel joints for the conductors

	Cond.	Dimensions (mm)			Joints (model)		Rope for conductors		Working Load	Weight
	(a)	A	B	C	(b)	(c)	Ø mm	length m	kN	kg
F153.2.3.F	2	100	130	250	F250.R.16.1	F250.R.18.1	12	3	65	70
F153.2.1.F	2	146	160	360	F250.R.24.1	F250.R.18.1	16	3,5	95	135
F153.2.2.F	2	174	170	410	F250.R.24.1	F250.R.18.1	16	3,5	95	150
F153.3.3.F	3	100	130	250	F250.R.16.1	F250.R.18.1	12	3	65	75
F153.3.1.F	3	146	160	360	F250.R.24.1	F250.R.18.1	18	3,5	95	150
F153.3.2.F	3	174	170	410	F250.R.24.1	F250.R.18.1	18	3,5	95	170

(a) number of conductors – (b) joint for pulling rope – (c) joint for conductors

F153



F153.2 Balanced type running board for 2-bundle conductors, fit for connecting the pulling rope to 2 conductors.

The running board is made up of:

- 1 sheave with balancing counterweights
- 1 swivel joint for the pulling rope
- 2 swivel joints for the conductors
- 1 length of antitwisting steel rope for balancing the conductors

F153.3 Balanced type running board for 3-bundle conductors, fit for connecting the pulling rope to 3 conductors.

The running board is made up of:

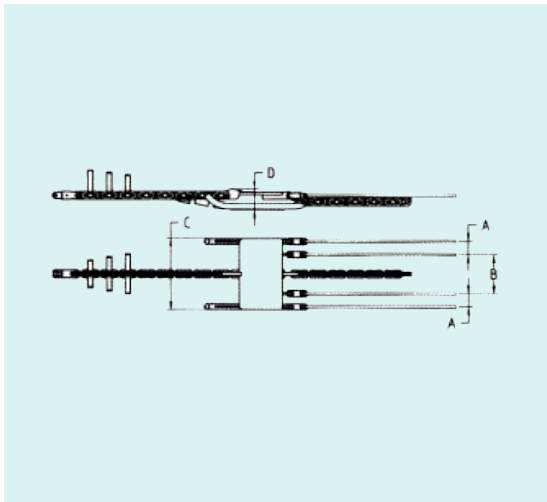
- 1 sheave with balancing counterweights
- 1 swivel joint for the pulling rope
- 3 swivel joints for the conductors
- 2 lengths of antitwisting steel rope: 1 for the lateral conductors and 1 for the central conductor

	Cond.	Dimensions (mm)			Joints (model)		Rope for conductors			Working Load	Weight
	(a)	A	B	C	(b)	(c)	Ø mm	(e) m	(f) m	kN	kg
F153.2.1	2	146	160	360	F250.R.24.1	F250.R.16.1	16	30	—	95	140
F153.2.2	2	174	170	410	F250.R.24.1	F250.R.16.1	16	30	—	95	155
F153.2.6	2	100	125	245	F250.R.18.1	F250.R.13.1	12	15	—	65	85
F153.3.1	3	146	160	360	F250.R.24.1	F250.R.18.1	18	30	15	95	155
F153.3.2	3	174	170	410	F250.R.24.1	F250.R.18.1	18	30	15	95	175
F153.3.6	3	100	125	245	F250.R.18.1	F250.R.13.1	12	15	7	65	90

(a) number of conductors – (b) swivel joint for pulling rope – (c) joint for conductors – (e) rope length for external conductors - (f) rope length for central conductor

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

F154...F



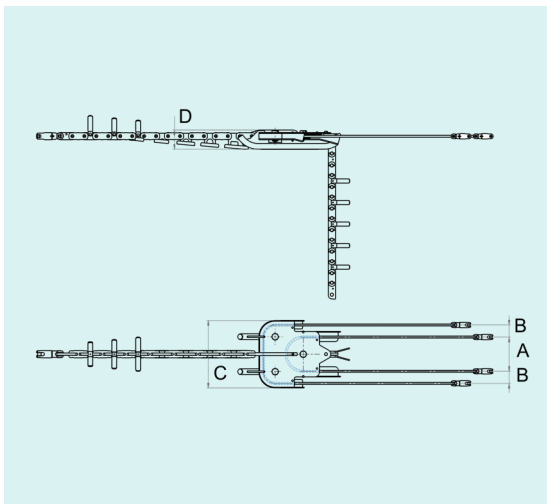
Fixed type running board for 4-bundle conductors fit for connecting the pulling rope to 4 conductors. The running board is made up of:

- 1 swivel joint for the pulling rope
- 4 swivel joints for the conductors

	Cond.	Dimensions (mm)			Thickness	Joints (model)		Rope for conductors		Working Load	Weight
	(a)	A	B	C	mm	(b)	(c)	Ø mm	length m	kN	kg
F154.4.1.F	4	100	290	540	160	F250.R.24.1	F250.R.18.1	18	3,5	95	190
F154.4.2.F	4	130	340	640	160	F250.R.24.1	F250.R.18.1	18	3,5	95	210
F154.4.5.F	4	148	296	640	160	F250.R.24.1	F250.R.18.1	18	3,5	95	210
F154.4.6.F	4	178	356	760	160	F250.R.24.1	F250.R.18.1	18	3,5	95	230
F154.4.8.F	4	130	340	640	180	F250.R.28.1	F250.R.24.1	18	3,5	250	265

(a) number of conductors – (b) joint for pulling rope – (c) joint for conductors

F154



Balanced type running board for 4-bundle conductors fit for connecting the pulling rope to 4 conductors.

The running board is made up of:

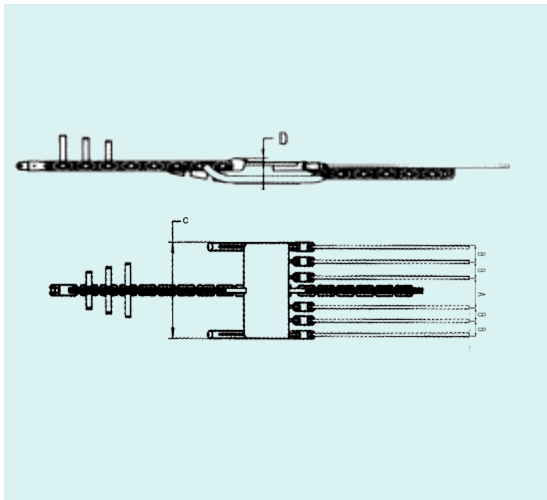
- 3 sheaves with balancing counterweights
- 1 swivel joint for the pulling rope
- 4 swivel joints for the conductors
- 2 lengths of antitwisting steel rope for balancing the conductors

	Cond.	Dimensions (mm)				Joints (model)		Rope for conductors			Working Load	Weight
	(a)	A	B	C	D	(b)	(c)	Ø mm	(e) m	(f) m	kN	kg
F154.4.1	4	290	100	540	160	F250.R.24.1	F250.R.18.1	18	30	30	95	200
F154.4.2	4	340	130	640	160	F250.R.24.1	F250.R.18.1	18	30	30	95	220
F154.4.5	4	296	148	640	160	F250.R.24.1	F250.R.18.1	18	30	30	95	220
F154.4.6	4	356	178	760	160	F250.R.24.1	F250.R.18.1	18	30	30	95	240
F154.4.8	4	340	130	640	180	F250.R.28.1	F250.R.24.1	18	30	30	250	340

(a) number of conductors – (b) swivel joint for pulling rope – (c) joint for conductors – (e) rope length for external conductors - (f) rope length for central conductor

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

F154.6...F



Fixed type running board for 6-bundle conductors fit for connecting the pulling rope to 6 conductors. The running board is made up of:

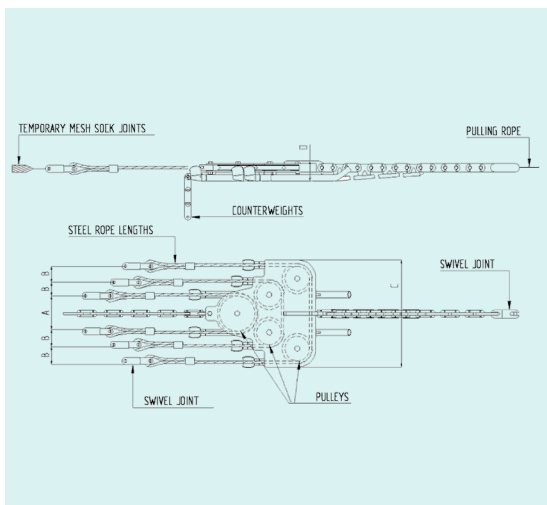
- 1 swivel joint for the pulling rope
- 6 swivel joints for the conductors

	Dimensions (mm)				Joints (model)		Rope for conductors		Working Load	Weight
	A	B	C	D	(a)	(b)	Ø mm	length m	kN	kg
F154.6.1.F	290	100	820	175	F250.R.28.1	F250.R.18.1	18	3	150	320
F154.6.2.F	340	125	1000	175	F250.R.28.1	F250.R.18.1	18	3	150	350

(a) joint for pulling rope – (b) joints for conductors

Running board fit for pulley mod. F189

F154.6



Balanced type running board for 6-bundle conductors fit for connecting the pulling rope to 6 conductors.

The running board is made up of:

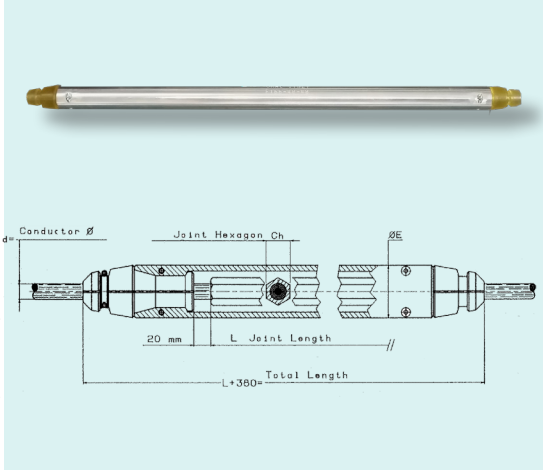
- 5 sheaves with balancing counterweights
- 1 swivel joint for the pulling rope
- 6 swivel joints for the conductors
- 3 lengths of antitwisting steel rope for balancing the conductors

	Dimensions (mm)				Joints (model)		Rope for conductors		Working Load	Weight
	A	B	C	D	(a)	(b)	Ø mm	length m	kN	kg
F154.6.1	290	100	820	175	F250.R.28.1	F250.R.18.1	18	3	150	320
F154.6.2	340	125	1000	175	F250.R.28.1	F250.R.18.1	18	3	150	350

(a) joint for pulling rope – (b) joints for conductors

Running board fit for pulley mod. F189

F166



Joint protector made up of two galvanised steel shells. The ends are shaped to host the rubber protections. It is fit to limit the bending radius of the conductor during the passage in the running out blocks.

Note: in the purchase order, please specify the following dimensions:

L = length of the joint after compression

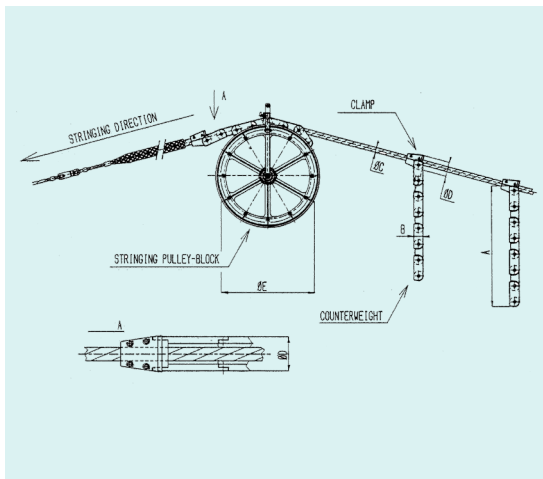
d = conductor diameter

ch = hexagon dimension of the joint after compression

	pulleys with groove	joint protector ext ØE	conductor Ød	L max (¹)	Hexagon Ch max	W.L	Weight
	mm	mm	mm	mm	mm	kN	kg
F166.40.1	54/60	50	20	700	30	2,5 - 5	10
F166.60.1	68	62	32	1050	42	4 - 6,5	16
F166.90.1*	95	89	38	1100	56	2 - 5	21
F166.95.1*	95	92	48	1300	64	6 - 6,5	34

* special - (¹)different lengths on request

F198



Antitwisting counterweight fit for stringing overhead fiber optic cables (OPGW).

The counterweight allows to avoid the cable twisting during the passage in the running out blocks. Its shape is designed for passing in the grooves of the running out blocks without damaging the cable. A pair of nylon liners prevents damages to the cable. Supplied in metallic case.

Note: counterweights F198 must always be used in pairs.

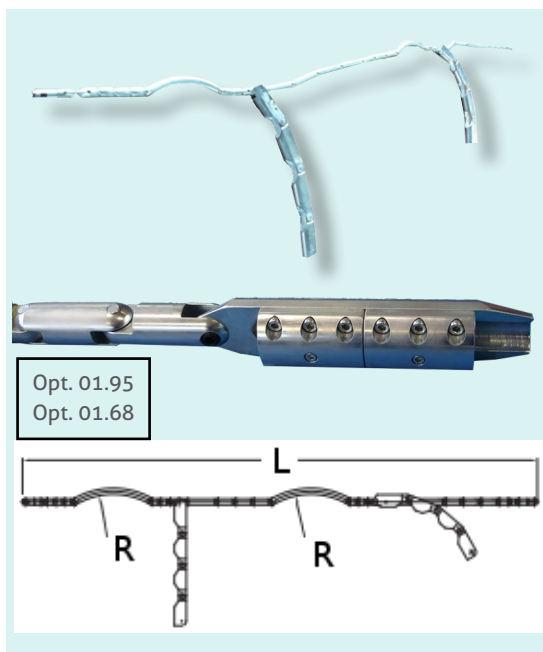
In the purchase order, please specify the OPGW diameter.

Attention: minimum distance between the two counterweights approximately 3m.

	Dimensions (mm)			Weight (¹)	Conductor ØC	Fit for running out block ØE groove width	
	ØD	A(²)	B	kg	mm	mm	mm
F198.50	50	1000	35	22	9 - 17	350/500	60/68
F198.60	64	1300	50	38	14 - 23	500/800	68
F198.88	80	1800	60	46	23 - 30	650/800	95

(¹) weight of a pair - (²) indicative length

F198.1



Antitwisting counterweight fit for stringing overhead fiber optic cables (OPGW). The

counterweight allows to prevent the cable from twisting during the passage in the running out blocks. Its shape is designed for passing in the grooves of the running out blocks without damaging the cable. To be matched with a pulling stocking (not supplied - to be quoted on request).

OPTIONAL DEVICES

01.95 Clamp for OPGW conductor to be applied at the head of the counterweight, instead of the pulling stocking. Running out block groove width = 95 mm.

Note: Specify the diameter of the conductor OPGW

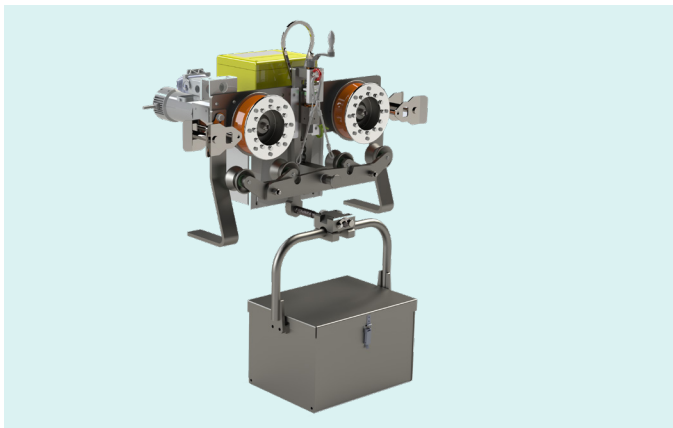
01.68 Clamp for OPGW conductor to be applied at the head of the counterweight, instead of the pulling stocking. Running out block groove width = 68 mm.

Note: Specify the diameter of the conductor OPGW

	Dimensions (mm)		Weight	W.L.	Ø Running out block
	L	R	kg	kN	mm
F198.1.65	3900	325	60	10	350 / 500 / 650
F198.1.100	4300	500	63	10	800 / 1000

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

F405.10.B



Pulling robot made of light aluminium alloy. Moved by two electric motors that control two aluminium wheels lined with Vulkollan. The motors are powered by an interchangeable and rechargeable battery. Device for unlocking and recovering the robot in case of stop while working. Complete with radio remote control. The robot can ride any rope/conductor. The lower wheels permit to overpass obstacles, like conductor joints. Supplied in metallic box (0,90 x 0,60 x 0,80 m). In case of failure on the electric system, the robot can be recovered and pulled by cable.

OPTIONAL

01 Charger for the motors battery complete with 220/230 V transformer

02 Extra battery

F405.15.S



Pulling robot made of light aluminium alloy. Moved by two electric motors that control two aluminium wheels lined with Vulkollan. The motors are powered by an electric power unit with gasoline engine. Device for unlocking and recovering the robot in case of stop while working. Complete with radio remote control. The robot can ride any rope/conductor. The lower wheels permit to overpass obstacles, like conductor joints. Supplied in metallic box (1,00 x 0,60 x 0,90 m). In case of failure on the electric system, the robot can be recovered and pulled by cable.

OPTIONAL

01 Charger for the motors battery complete with 220/230 V transformer

ENGINE OF THE POWER UNIT

Feeding	gasoline
Electric power unit	12 V
Autonomy	4 hours
Power	1,8 hp
Cooling system	air

	Max pull force	Max slope	Pull speed	Min-Max Ø conduc.	Max Span joint Ø	Dimensions (LxWxH)	Total weight	Electric system
	kN		max m/min	mm	mm	m	kg	
F405.10.B	1	20°	20	10/46	60	0,80x0,50x0,70	88 (robot 58 kg - n.2 battery 30 kg)	24 V
F405.15.S	1,5	20°	20	10/46	60	0,90x0,60x0,80	67 (robot 52 kg - engine 5 kg)	12 V

RADIO-CONTROL

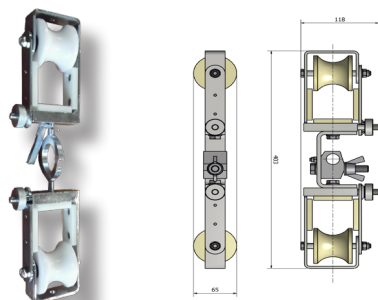


RADIO-CONTROL

Radiocontrol with forward/backward and stop control buttons, max distance 500 m. Complete with receiving unit, battery charger and 2 extractable and rechargeable batteries. Protection IP67.

Fit for F405.10.B and F405.15.S

F183.2.70



F183.2.70.A

F183.2.70.B

Cradle block designed for replacing the existing ground wire (GW) with optical ground wire (OPGW). Made of two galvanized steel half-frames linked by a ring with swivel plate. Each half-frame is complete with:

- one grooved nylon wheel mounted on ball bearings
- three nylon plates to protect the OPGW cable
- easy-to-open side

The frame is designed to avoid the contact between cable and metallic parts.

Working load: 200 daN

Groove width: 40 mm

Wheel diameter: 70 mm (external),

Dimensions: 390x65x118 mm

40 mm (bottom groove) Weight: 2,00 kg

OPTIONAL

01 – Metallic box for 50 blocks (dimensions 800x600x600 mm)

F183.2.70.A – complete with ring and rope block device.

F183.2.70.B – complete with lateral rope block clamp.

F183.2.70.C – complete with upper rope block clamp.

F183.3.70



Cradle block designed for replacing the existing cables, with head clamp for ropes diameter from 10 to 20 mm.

Two nylon wheels mounted on ball-bearings and aluminium frame with protective nylon plate.

Working load: 200 daN

Dimensions: 364x99x160 mm

Weight: 1,2 kg

OPTIONAL

01 – Metallic box for 50 blocks (dimensions 600x600x600 mm)

F183.4.70



Cradle block designed for the replacing existing cables, with clamp for ropes diameter from 10 to 20 mm. Two nylon wheels and aluminium frame.

Working load: 150 daN

Dimensions: 360x99x150 mm

Weight: 1,1 kg

OPTIONAL

01 – Metallic box for 50 blocks (dimensions 600x600x600 mm)

F405.15.FR



Braking device for cradle blocks. Positioned behind the cradles, to keep the distance between the cradles. Aluminium frame and aluminium, rubber wheels mounted on ball-bearings.

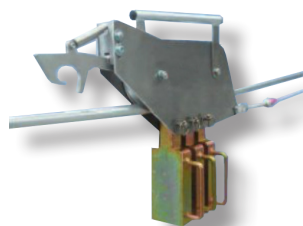
Working load: 150 daN

Weight: 4 kg

OPTIONAL

01 – Plastic box (dimensions 600x400x200 mm)

F405.15.RR



Recovering device to hook the robot in case of extreme inclination. Towing system by rope with detachable counterweights. Aluminium frame and wheels mounted on ball bearings and galvanised steel counterweights.

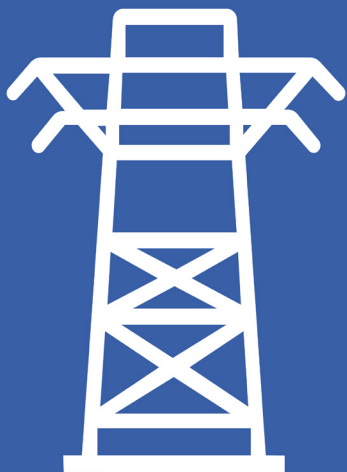
Working load: 150 daN

Counterweights: 3 x 8,8 kg each

Weight: 8,3 kg (counterweights excluded)

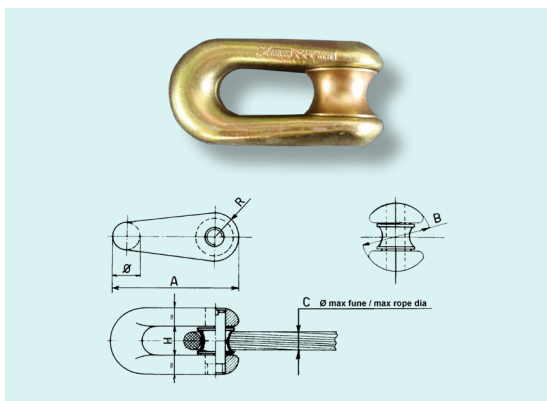
OPTIONAL

01 – Metallic box (dimensions 600x800x300 mm)



OVERHEAD TOOLS AND ACCESSORIES

GF..00

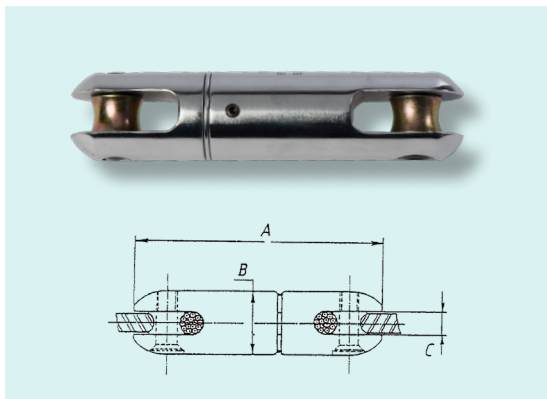


Joint made of high tensile galvanised steel, fit to connect pilot rope lengths and pulling rope.

Designed to pass on the capstan grooves of pullers or puller/tensioners.

	Dimensions mm					for rope	W.L.L	Weight
	A	H	B	Ø	R	Ø mm	kN	kg
GF.10.00	68	14	36	17	13	10/12	23	0,20
GF.13.00	76	17	37	21	15	13/14	37	0,30
GF.16.00	96	19	50	22	20	16	53	0,60
GF.18.00	110	25	56	24	22	18/20	73	0,90
GF.24.00	125	26,5	60	28	24	22/24	120	1,30
GF.26.00	168	30	72	38	30	26/28	250	3,00
GF.32.00	178	35	80	44	34	28/32	280	3,50

F250.R

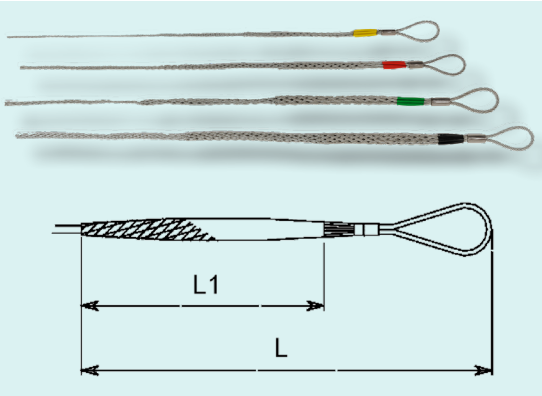


Swivel joint for ropes and conductors.

Designed to release the torsion efforts during the pulling operations. Made of galvanised steel, complete with an axial bearing for an easy rotation.

	Dimensions mm			for rope	W.L.L	Weight
	A	B	C	Ø mm	kN	kg
F250.R.06.1	60	18	8,5	7	4	0,10
F250.R.08.1	96	24	12	9	8	0,22
F250.R.12.1	142	32	13	14	25	0,50
F250.R.13.1	152	39	17	16	40	1,00
F250.R.16.1	177	45	20	18	63	1,20
F250.R.18.1	243	52	22	21	80	2,60
F250.R.24.1	260	60	26	25	130	3,30
F250.R.28.1	322	77	31	28	260	7,00
F250.R.32.1	337	80	36	32	280	8,50

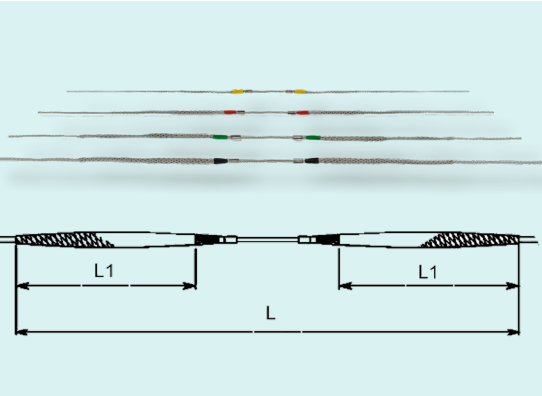
C06



Head stocking-grips for pulling overhead conductors.

	Conductor Ø	Identify colour (L1)	Useful length (L)	Total length	W.L	Weight
	mm		mm	mm	kN	kg
C06.S.1	8-17	YELLOW	1100	1400	12	0,70
C06.S.2	17-29	RED	1350	1700	28	1,30
C06.S.3	29-38	GREEN	1470	1900	43	2,10
C06.S.4	38-50	BLACK	1810	2270	60	2,70

C07



Double-head stocking-grip for temporary junction of overhead conductors.

	Conductor Ø	Identify colour (L1)	Useful length (L)	Total length	W.L	Weight
	mm		mm	mm	kN	kg
C07.S.1	8-17	YELLOW	1100	2680	12	1,15
C07.S.2	17-29	RED	1360	3240	28	2,30
C07.S.3	29-38	GREEN	1470	3540	43	3,60
C07.S.4	38-50	BLACK	1820	4240	60	4,80

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



C27.11



Self-gripping clamps fit for:

- Conductor ACSR, AAAC, ACSS and copper cable

Diameter: Ø 5-28 mm

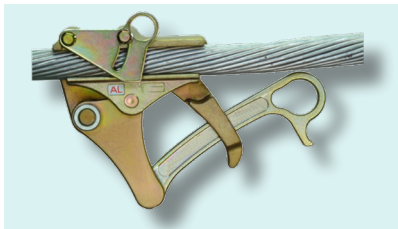
Maximum safety load: 20 kN

Jaws length: 120 mm

Weight: 1,9 kg

Dimensions: 320 x 180 mm

C30.11



Self-gripping clamps fit for:

- Conductor ACSR, AAAC, ACSS and copper cable

Diameter: Ø 18-35 mm

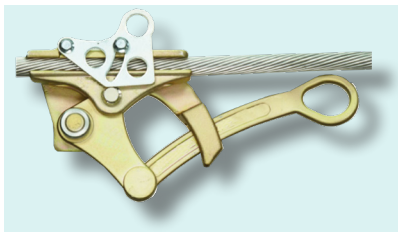
Maximum safety load: 30 kN

Jaws length: 120 mm

Weight: 2,4 kg

Dimensions: 320 x 180 mm

C32.10



Self-gripping clamps fit for:

- Conductor ACSR, AAAC, ACSS and copper cable

Diameter: Ø 18-36 mm

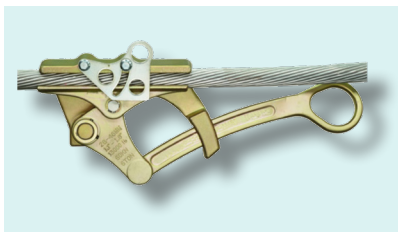
Maximum safety load: 50 kN

Jaws length: 180 mm

Weight: 4,7 kg

Dimensions: 380 x 200 mm

C33.10



Self-gripping clamps fit for:

- Conductor ACSR, AAAC, ACSS and copper cable

Diameter: Ø 28-46 mm

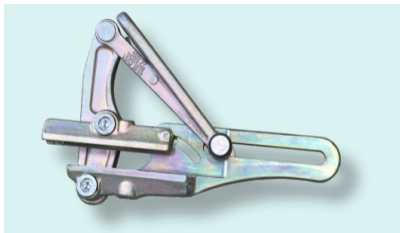
Maximum safety load: 60 kN

Jaws length: 220 mm

Weight: 7,0 kg

Dimensions: 420 x 220 mm

3107.1



Self-gripping clamps fit for:

- aluminium, ACSR and ACCC, copper conductor: 6-23 mm
- jaws length: 172 mm
- steel rope: 8-13 mm

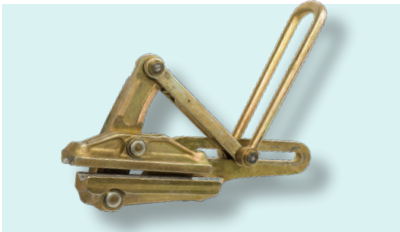
Interchangeable liners (type G07.A) conductor diameter to be confirmed.

Maximum safety load: 50 kN

Minimum breaking load: 150 kN

Weight: 7 kg

3105.1



Self-gripping clamps fit for:

- aluminium, ACSR and ACCC, copper conductor: 8-38 mm
- steel conductor and ground wire: 8-22 mm
- jaws length: 272 mm
- steel rope: 8-24 mm

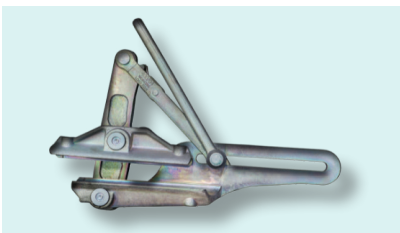
Interchangeable liners (type G05.A) conductor diameter to be confirmed.

Maximum safety load: 75 kN

Minimum breaking load: 225 kN

Weight: 15 kg

3104.1



Self-gripping clamps fit for:

- aluminium, ACSR and ACCC, copper conductor: 30-45 mm
- jaws length: 282 mm
- steel rope: 16-28 mm

Interchangeable liners (type G04.A) conductor diameter to be confirmed.

Maximum safety load: 91 kN

Minimum breaking load: 285 kN

Weight: 17 kg

3104.1.L



Self-gripping clamps fit for:

- aluminium, ACSR and ACCC, copper conductor: 23-46 mm
- jaws length: 280 mm

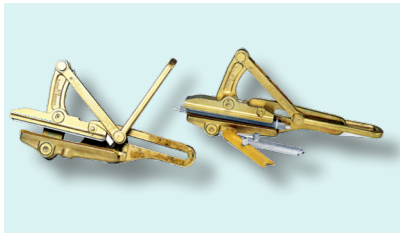
Interchangeable liners (type G04.A) conductor diameter to be confirmed.

Maximum safety load: 91 kN

Minimum breaking load: 320 kN

Weight: 18 kg

3112.1



Self-gripping clamps fit for:

- Ground wires with optical fiber (OPGW) with external diameter 6-23 mm
- Interchangeable liners (type G12TA.1)

Maximum safety load: 49 kN

Minimum breaking load: 180 kN

Weight: 7 kg

G12TA.1 Interchangeable liners in adiprene and aluminium, on demand according to OPGW diameter

C28.10.FS



Self-gripping clamps fit for:

- Guy wire, isolated cable, wire rope and copper cable

Diameter: Ø 5-22 mm

Maximum safety load: 20 kN

Jaws length: 90 mm

Weight: 1,6 kg

Dimensions: 280 x 160 mm

C28.11.FS



Self-gripping clamps fit for:

- Guy wire, isolated cable, wire rope and copper cable

Diameter: Ø 6-22 mm

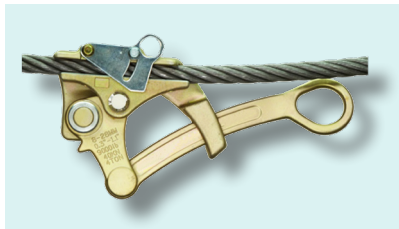
Maximum safety load: 30 kN

Jaws length: 90 mm

Weight: 1,8 kg

Dimensions: 280 x 160 mm

C28.12.FS



Self-gripping clamps fit for:

- Guy wire, isolated cable, wire rope and copper cable

Diameter: Ø 8-28 mm

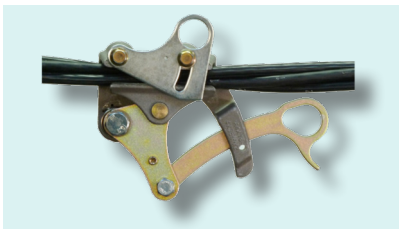
Maximum safety load: 40 kN

Jaws length: 140 mm

Weight: 3,5 kg

Dimensions: 340 x 200 mm

C26.10.ABC



Self-gripping clamps fit for:

Cable: 2 x 16 mm²/ 2 x 50 mm²

4 x 16 mm²/ 4 x 35 mm²

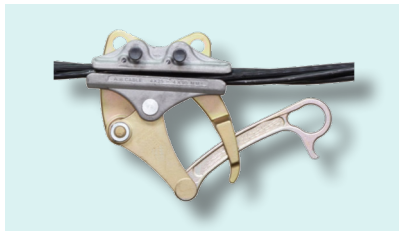
Maximum safety load: 3,5 kN

Dimensions: 250 x 150 mm

Weight: 0,6 kg

Aluminium jaws lined with high grip material (jaws length 80 mm)

C26.11.ABC



Self-gripping clamps fit for:

Cable: 4 x 25 mm² and 4 x 95 mm²

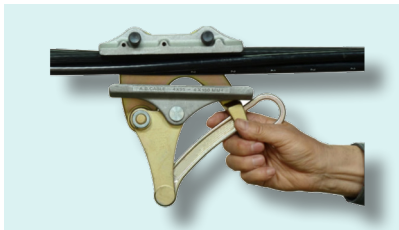
Maximum safety load: 10 kN

Dimensions: 300 x 150 mm

Weight: 2,4 kg

Aluminium jaws lined with high grip material (jaws length 160 mm)

C26.12.ABC



Self-gripping clamps fit for:

Cable: 4 x 95 mm² and 4 x 150 mm²

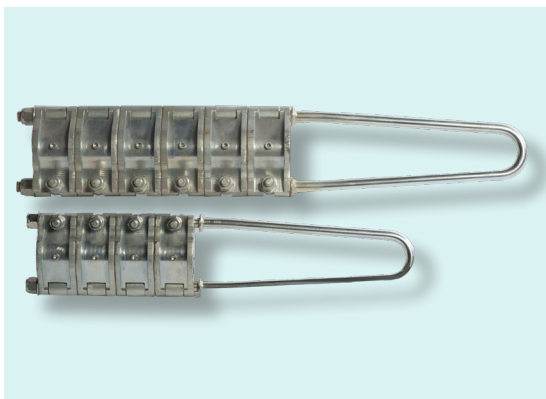
Maximum safety load: 18 kN

Dimensions: 320 x 160 mm

Weight: 2,6 kg

Aluminium jaws lined with high grip material (jaws length 180 mm)

C24



Multi-unit come-along clamp fit for pulling and anchoring overhead conductors and steel wire ropes. Made of steel elements, with aluminium liners for conductors. On request: bronze liners for wire ropes.

Note: specify diameter and type of conductor or rope.

OPTIONAL DEVICES

- 01 Bronze liners fit for anti twisting steel wire ropes (rope diameter to be specified)

	Elements	Dimensions L x W x H	For ropes up to diameter	For conductors up to diameter	Working load	Weight
		mm	mm	mm	kN	kg
C24.4	4	520 x 105 x 70	14	16	16	6
C24.5	5	680 x 130 x 70	16	18	20	12
C24.6	6	740 x 130 x 70	20	22	25	14
C24.7	7	800 x 130 x 70	24	26	28	16
C24.8	8	860 x 130 x 70	26	30	34	18

C24.1



Radial come-along clamp for aluminium conductors.

Made of electrowelded and galvanised steel elements, with aluminium liners.

On request: bronze liners for wire ropes.

Note: specify diameter and type of conductor or rope.

OPTIONAL DEVICES

- 01 Bronze liners fit for anti twisting steel wire ropes (rope diameter to be specified)

	Elements	Dimensions L x W x H	For ropes up to diameter	For conductors up to diameter	Working load	Weight
		mm	mm	mm	kN	kg
C24.1.4	4	450 x 160 x 180	20	15/26	40	18
C24.1.6	6	520 x 160 x 180	24	20/35	60	27
C24.1.7	7	630 x 160 x 180	28	20/38	66	32
C24.1.8	8	690 x 160 x 180	30	30/40	80	37
C24.1.10	10	820 x 160 x 180	34	30/45	100	42
C24.1.12	12	950 x 160 x 180	36	30/48	120	49
C24.1.14	14	1080 x 160 x 180	40	30/50	150	65
C24.1.16	16	1200 x 160 x 180	45	40/52	165	77
C24.1.20	20	1450 x 180 x 220	50	40/60	200	110

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

F39



Steel hydraulic presses. Fed by a separate power pack or hand pump.

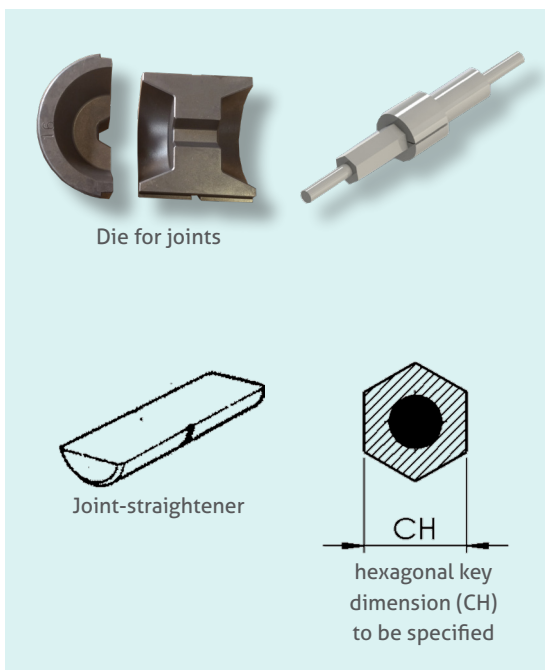
- Short pressing cycle
- Maximum flexibility: each press can be used with power unit or hand pump
- Adjustable pressure-control valve for die closing/opening, with manometer
- Quick couplings for flexible hoses connection
- Die-holder for semicircular dies
- Base with handles
- Press body can be rotate by 360°
- Metallic box with handles for transport

OPTIONAL DEVICES

- 701 Trailer for press and control hydraulic unit mod CIS.01 with rigid axle and drawbar for towing in the job-site
- 026 Frame with PVC-cover for opt.701
- 027 Metallic coverage for opt.701

	Max compressionforce		Max pressure	Max hexagon	Max stroke	Dimensions L x W x H	Weight
	kN	ton	bar	mm	mm	mm	kg
F39.70.1	700	70	700	52	32	500x210x400	47
F39.100.1	1000	100	700	65	35	500x230x400	49
F39.120.1	1200	120	700	65	40	600x260x450	51
F39.180.1	1800	180	700	90	40	600x450x700	140

Dies and straighteners for presses F39



Press	Joint	Die			Dimensions mm	Weight kg
		Compression type		tallurit		
		material	hexagonal	round		
F39.70.1	steel-copper	F39.2585	F39.2587		Ø 90 x 76	2
	aluminum	F39.2586	F39.2588	F39.4949A		
F39.100.1	steel-copper	F39.2570	F39.2558		Ø 90 x 80	2
F39.120.1	aluminum	F39.2566	F39.2554	F39.4648T		
F39.180.1	steel-copper	F39.2571	F39.2559		Ø 90 x 80 or	2
	aluminum	F39.2567	F39.2555	F39.4648G	Ø 130 x 120	6

Press	Joint-straighteners		Weight
	Code	Dimensions mm	
F39.70.1	F39.2582	Ø 90 x 170	7
F39.100.1	F39.2573	Ø 90 x 230	11
F39.120.1			
F39.180.1	F39.2575	Ø 90 x 230 - Ø 130 x 300	11 - 31

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

CID CIS CIE



Hydraulic power pack for feeding the hydraulic presses.

- Base and protection frame
- Metallic box with handles for transport
- 2-stage pump for a faster return of the press cylinder
- Quick couplings for connecting the flexible hoses
- Exhaust valve

OPTIONAL DEVICES

- 01 Control valve for presses mounted on power unit instead of the press
- 02 Single phase electric motor 220 V (for model CIE.01)
- 03 Oil tank with capacity 25 lt (only for model CIS.01 and CID.01)
- 04 Increased capacity of the pump at 8 - 2 liters/minute
- 05 Base frame with wheels and handles for towing and lifting

	Engine	Power	Max pressure	Max flow	Tank capacity	Dimensions L x W x H	Weight
		kW	bar	l/min	l	mm	kg
CIS.01	gasoline	3,5	700	4,7 - 1,8	10	530 x 340 x 370	51
CID.01	diesel	5	700	4,7 - 1,8	10	550 x 400 x 450	60
CIE.01	three phase Electric 380V	2,2	700	2,7 - 0,8	10	530 x 340 x 370	46

PL



Hand pump for presses.

- 2-stage pump for a faster return of the press cylinder
- Light-alloy construction
- Quick couplings for connecting the flexible hoses

	Max pressure	Displacement		Tank capacity	Dimensions l x w x h	Weight
	bar	1st stage cm ³	2nd stage cm ³	l	mm	kg
PL.262	700	13	3	2,5	565 x 125 x 170	8

TF



Kit of flexible hoses with quick couplings.
Lengths: 3, 6, 10, 15, 20, 30, 40, 50, 60 m
(specify the length needed).

GR



Quick couplings for connecting two flexible hoses.

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

C35



Grounding device to be used while stringing overhead conductors or pulling ropes. Aluminium alloy sheaves with bushes grant a good sliding and electric continuity even on junction points. Contrast spring for a safe and continuous contact on conductors with junction clamp. Supplied with:

- Copper cable section 50 mm² lined with high-insulating protection, length 6 m
- Brass clamp, clamping capacity 0 - 40 mm
- Metallic box for storage

OPTIONAL DEVICES

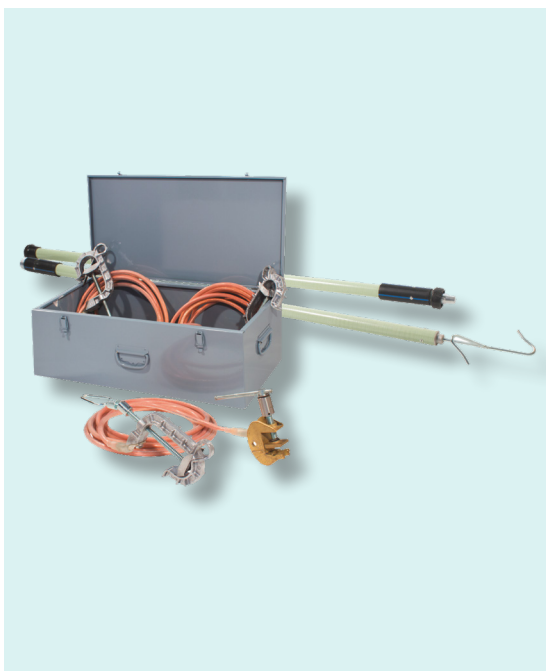
- 01 Steel-wheels fit for anti-twisting steel rope

	Short-circuit current	Fit for conductor	Dimensions A x B x C x D	Weight	Metallic box dimensions	Metallic box weight
		mm	mm	kg	mm	kg
C35.1	8 kA for 1 second	Ø 3 - 60	535 x 420 x 180 x 85	7,60	700 x 350 x 260	7,26

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



C37.AT



Short circuiting and grounding equipment for H.V. overhead lines 400-500 kV. Certified in conformity with the International Standard CEI EN 61230 (IEC 1230).

- C37.AT.50** with cable section 50 mm² - lcc: 12,7 kA eff / 1 s.
- C37.AT.70** with cable section 70 mm² - lcc: 18,6 kA eff / 1 s.
- C37.AT.95** with cable section 95 mm² - lcc: 25,2 kA eff / 1 s.
- C37.AT.150** with cable section 120 mm² - lcc: 30,7 kA eff / 1 s.

- 3 screw type contact clamps made by light alloy. Clamping capacity: conductors 5-60 mm diameter. Suitable for use on oxidized conductors. Lower ring for fastening and unfastening
- 3 extraflexible electrolytic copper cables covered by transparent plastic sheath (length to be specified on demand)
- 3 ground clamps made by press forged brass. Clamping capacity: round conductors and bars up to 33 mm
- Metallic case
- Insulating fiberglass rod made by synthetic resin reinforced by fiberglass, in two or three elements. Length 1,5 or 2 m each, with quick coupler and top hook for maneuvering the clamps. Total length to be specified on demand
- Heavy fabric bag for the insulating rod

C37.MT



Short circuiting and grounding equipment for M.V. overhead bare conductors. Certified in conformity with the International Standard CEI EN 61230 (IEC 1230).

- C37.MT.25** short circuit cables section 25 mm² - short circuit test 5,6 kA / 1 s.
- C37.MT.35** short circuit cables section 35 mm² - short circuit test 8,0 kA / 1 s.

- 3 light alloy contact clamps with automatic tightening. Clamping capacity: conductors 3-20 mm diameter. Tang suitable for fitting on clamp holder head
- Light alloy clamp holder head, complete of steel recover hook and threaded tang for screwing on the head of the insulating rod
- 2 short circuit extraflexible electrolytic copper cables, covered by transparent plastic sheath, length 2,5 m (different lengths on demand)
- Ground cable, characteristics as above, section 16 mm², length 16 m (different lengths on demand), rolled up on cable coiler
- Earthing rod
- Insulating fiberglass rod made by epoxy resin reinforced by fiberglass. Total length 3 m in two elements each length 1,5 m, with fast joint and threaded M10 attack suitable for fitting on clamp holder head
- Metallic case for the equipment, heavy fabric bag for the rod

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

C55



Chain lever hoist (pull-lift) made of steel. Fit for lifting and tensioning, with high strength chain. Swivelling hooks with safe-lock device.

Run of the hook: 1,5 m (variable on demand).

Load capacity: 750, 1500, 3000, 6000 and 9000 daN.

	Capacity	Force on handle at max load	Handle length	Chain length	Chain falls	Dimensions width x thick	Net weight
	kN	kN	mm	m		mm	kg
C55.075.1	7,5	0,14	280	3	1	148 x 136	7
C55.150.1	15	0,22	410	3	1	172 x 160	11
C55.300.1	30	0,32	410	3	1	200 x 180	21
C55.600.1	60	0,34	410	3	2	200 x 235	31
C55.900.1	90	0,36	410	3	3	200 x 320	46

C60



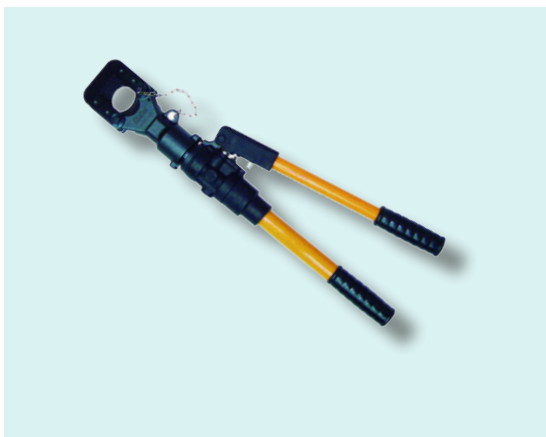
Rope hoist (TIRFOR). Fit for lifting and tensioning, with endless run.

	Capacity	Weight (without rope)	Overall dimensions	Rope diameter	Handle length
	kN	kg	mm	mm	mm
C60.08.1	8	6	428 x 65 x 260	8	800
C60.16.1	16	11	545 x 97 x 280	11,3	1200
C60.32.1	32	22	660 x 116 x 320	16,3	1200

	Fit for hoist	Diameter	Breaking load	Mass	Lengths
		mm	kN	kg/m	
C60.C.08.1	C60.08	8	48	0,25	10m, 20m, 30m, 40m, different lengths on demand
C60.C.16.1	C60.16	11,3	96	0,55	
C60.C.32.1	C60.32	16,3	192	0,98	

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

C15



Hand operated hydraulic cutters fit for cutting copper, aluminum, alloy, steel and steel-aluminum ropes and conductors.

- Two speeds action: high speed to quickly approach the blade to the conductor and low speed for cutting
- Blades made of high strength special steel
- Openable head, with quick locking device, to cut running cables
- The head can rotate 180° to let the operator work in the most comfortable position
- Safety valve that automatically bypasses oil when reaching the max pressure
- Release device that can be operated at any stage of the operation
- **C15.40.1.L** pair of spare blades
- **C15.50.1.L** pair of spare blades

C15.25	
Material	Max cutting diameter mm
aluminium-steel	25
aluminium	25
copper	25
steel-ropes	18
Length	Weight
382	3,2

C15.40.1	
Material	Max cutting diameter mm
aluminium-steel	40
aluminium	40
copper	40
steel-ropes	19
Length	Weight
683	6,8

C15.50.1		
Material	Max cutting diameter mm	
aluminium-steel	54	
aluminium	54	
copper	54	
steel-ropes	20	
Length	Weight	Cutting force
631	10,3	124,5 kN

C12 / C13

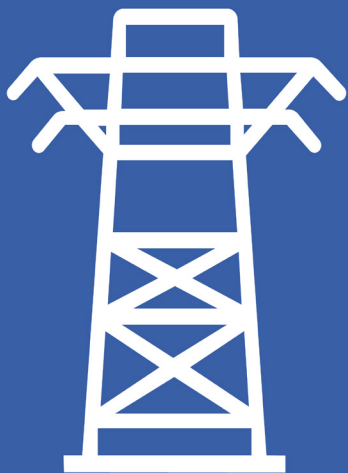


Ratchet cutters fit for conductors, cables and shield wires. The chain ratchet allows to cut the wire progressively with minimum effort. Insulated handles tested at 20.000 V.

C12 Cutter for ACSR and ACAR conductors. Cutting capacity up to Ø31 mm. Length 750 mm. C12.L pair of spare blades

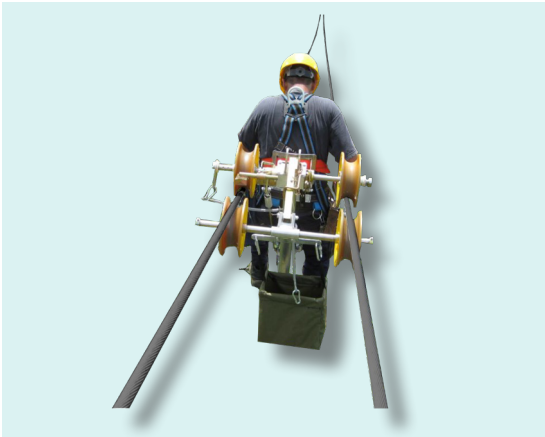
C13 Cutter for electric and telephonic cables. Cutting capacity up to Ø31 mm Not fit for ASCS conductors. Length 700 mm. C13.L pair of spare blades

C13.1 Cutter for shield wires. Cutting capacity up to Ø 11 mm. Length 720 mm. C13.1.L pair of spare blades



LIGHT ALLOY EQUIPMENT

C175



Bicycle for single, twin, 3- and 4-bundle conductor lines.
Nylon wheels mounted on ball-bearings.
Fit for moving on conductors. Equipped with negative disc brake and a safety brake clamping the conductor, safety belt, and metercounter. Max slope percentage 25%.
In models C175.2 C175.3 and C175.4, the wheel-distance is adjustable up to 500 mm.
On demand:

- 01. Bag for spacers
- 02. Electric motor with battery, speed 15 m/min, 3-hours autonomy circa, weight 19 kg ⁽¹⁾
- 03. Wheel-distance adjustable up to 600 mm ⁽¹⁾
- 04. Gasoline engine 2 hp, speed 0 to 20 m/min max, weight 15 kg ⁽¹⁾
- 05. Container for transporting and storing

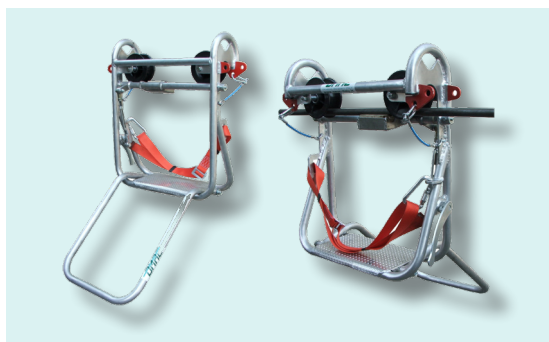
⁽¹⁾ available for mod. C175.2 C175.3 and C175.4



			Capacity	Dimensions	Weight
			kg	m	kg
C175.1	for single conductor lines		100	1,15 x 0,50 x 1,81	26
C175.2	for twin conductor lines ⁽¹⁾		100	0,75 x 0,70 x 1,40	34
C175.3	for 3-bundle conductor lines ⁽¹⁾		100	0,70 x 0,60 x 1,40	40
C175.4	for 4-bundle conductor lines ⁽¹⁾		100	1,60 x 0,70 x 1,50	49

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

C150.11



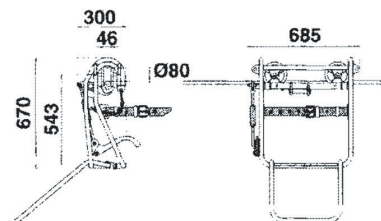
Single-seat line car fit for single-conductor lines.
Aluminium alloy structure with nylon wheels mounted on ball-bearings.
Parking brake. Nylon band for back support. Foot rest.

FEATURES

Capacity	100 kg
Weight	12 kg
02	Aluminium wheels

OPTIONAL DEVICES

02	Alluminium wheels
03	Metercounter



C155.10



Line car for single-conductor lines. Fit for 1 or 2 linemen.
Aluminium alloy structure with nylon wheels mounted on ball-bearings. Parking brake.
Equipped with metercounter.

FEATURES C155.10.A

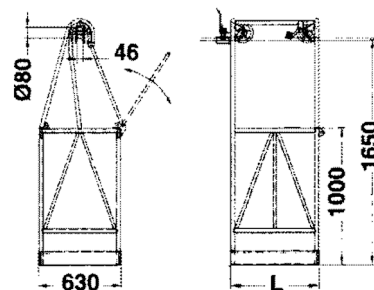
Fit for 1 person	
Length	650 mm
Capacity	100 kg
Weight	41 kg

FEATURES C155.10.B

Fit for 2 persons	
Length	1000 mm
Capacity	200 kg
Weight	45 kg

OPTIONAL DEVICES

709	Device for car angle adjustment (only for mod. C155.10.B)
02	Aluminium wheels



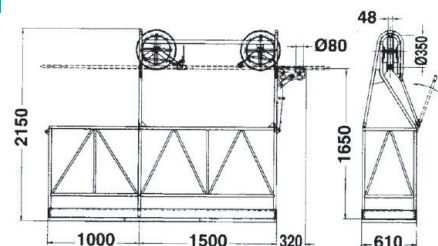
C155.11



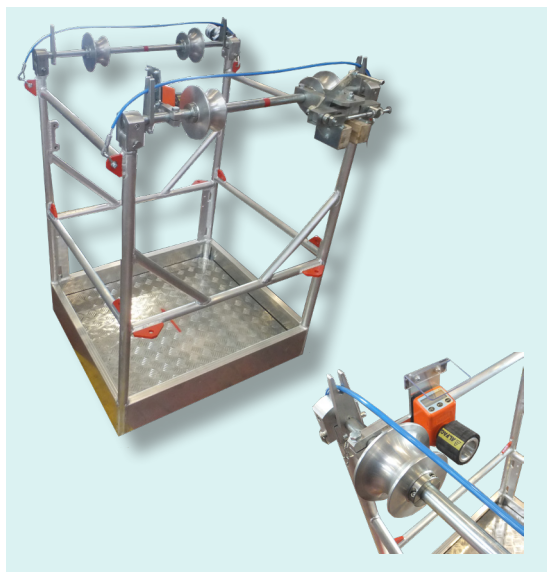
Line car for single-conductor electric lines. Fit for 2 linemen.
Aluminium alloy structure with nylon wheels mounted on ball-bearings.
Parking brake. Equipped with metercounter.

FEATURES

Capacity	200 kg
Weight	90 kg
02	Aluminium wheels



C155.A.2



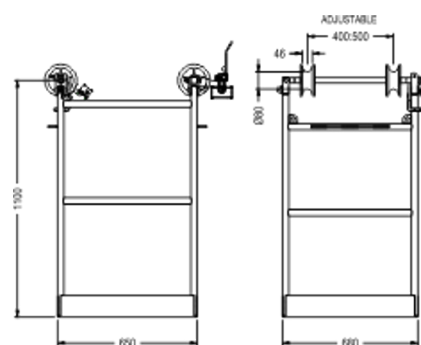
Line-car for twin conductor lines (2 cond.). Made of light alloy structure with nylon wheels mounted on ball-bearings. Stationary brake and metercounter. Also available for 3-bundle lines (3 conductors): mod. **C155.A.3**

FEATURES

Adjustable distance between wheels	400 to 600 mm.
Capacity	600 kg
Weight	48 kg

OPTIONAL DEVICES

02	Aluminium wheels
----	------------------



C155.AM.2



Motorized line-car for twin conductor lines (2 cond.). Made of light alloy structure with wulcolan wheels mounted on ball-bearings. Transmission axle with high grip rubber wheels. Stationary brake and metercounter.

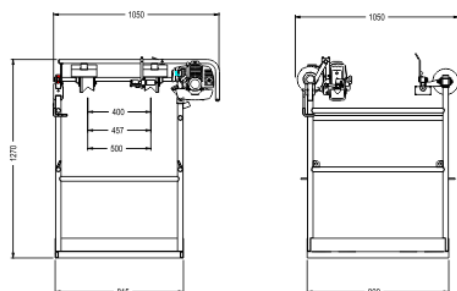
Also available for 3-bundle lines (3 cond.): mod. **C155.AM.3**

Also available for 4-bundle lines (4 cond.): mod. **C155.AM.4**

FEATURES

Adjustable distance between wheels	400 to 600 mm
Gasoline engine	2,4 hp, 2 strokes, 48 cc
Speed	0-20 m/min
Max inclination	25%
Mechanical transmission with idle device	
Capacity	100 kg
Weight	82 kg

707 - Negative disk brake, with manual opening



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

C155.B



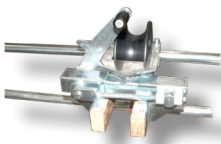
Line-car for 2 linemen, fit for 2-, 3- or 4-bundle conductor lines.
Made of light alloy structure with nylon wheels mounted on ball-bearings.
Stationary brake and metercounter.
Max load: 200 daN

FEATURES	
Capacity	200 kg

OPTIONAL DEVICES

02 Aluminium wheels

n. of conductors of the line: height 'B'	2 conductors B = 1200 mm	3 conductors B = 1550 mm	4 conductors B = 1550 mm
line car without engine	C155.B.2 weight 45 kg	C155.B.3 weight 50 kg	C155.B.4 weight 55 kg

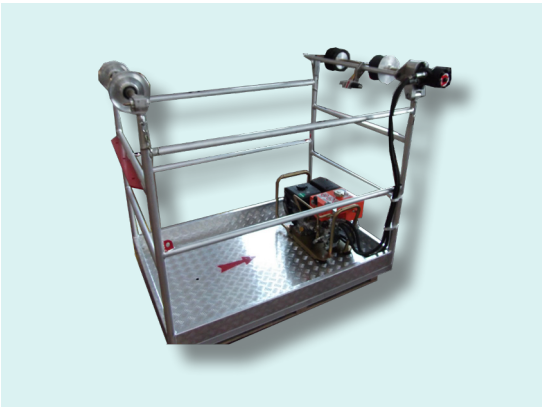


Stationary brake



Metercounter

C155.BM



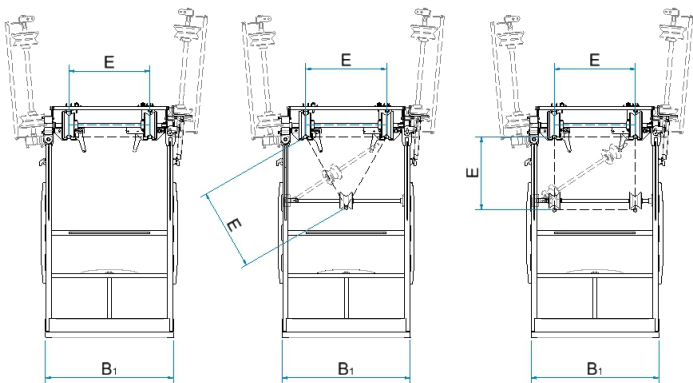
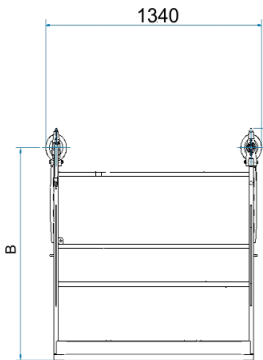
Motorized line-car for 2 linemen, fit for 2-, 3- or 4-bundle conductor lines.
Made of light alloy structure with nylon wheels mounted on ball-bearings.
Transmission axle with high grip rubber wheels. Stationary brake and metercounter.

FEATURES	
Capacity	200 kg
Gasoline engine	5 hp, 48 cc with hydraulic power unit
Translation speed	0-40 m/min
Max slope	40%.
Removable engine and hydraulic transmission group.	

OPTIONAL DEVICES

02 Aluminium wheels

n. of conductors of the line: height 'B'	2 conductors B = 1200 mm	3 conductors B = 1550 mm	4 conductors B = 1550 mm
line car with engine	C155.BM.2 weight 115 kg	C155.BM.3 weight 125 kg	C155.BM.4 weight 140 kg



note:the dimensions E are adjustable 400-457-500-600 mm. Line cars with different dimensions can be produced on request.

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

C155.C



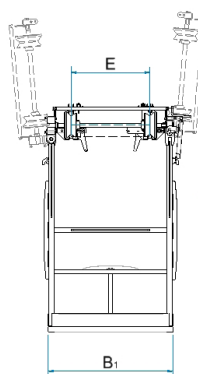
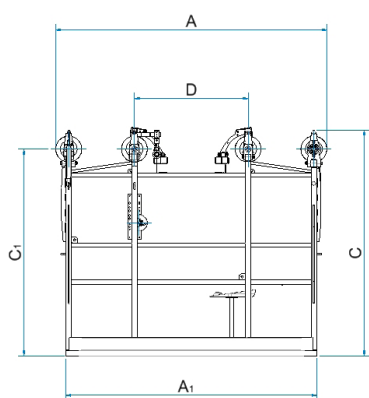
Line-car for 2 linemen, fit for 2-, 3- or 4-bundle conductor lines.

- Light aluminium-alloy structure welded TIG-system
- Four openable arms for wheels, fit for passing obstacles
- Nylon wheels mounted on ball-bearings
- Parking brake acting on the conductor
- Metercounter
- Service platform
- Fit for 2 operators

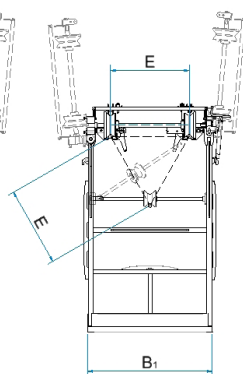
OPTIONAL DEVICES

- 01 Nylon wheels mounted on bearings
- 02 Aluminium wheels
- 03 Arms for wheels openable with horizontal rotation

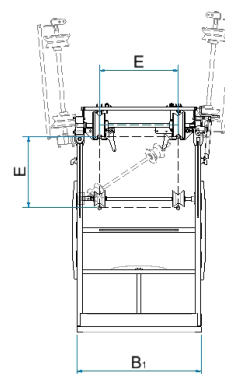
	Line type	Capacity		Dimensions								Weight
		kg	A	A1	B	B1	C	C1	D	E		kg
C155.C.2	2 cond.	250	2070	1900	1270	950	1570	1390	865	400-500-600		87
C155.C.3	3 cond.	250	2070	1900	1270	950	1570	1390	865	400-500-600		90
C155.C.4	4 cond.	250	2070	1900	1270	950	1570	1390	865	400-500-600		92



C155.C.2



C155.C.3



C155.C.4

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

C155.CM



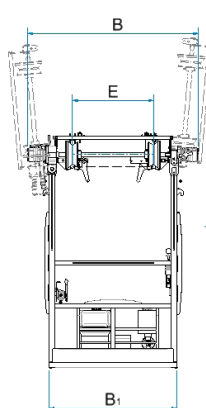
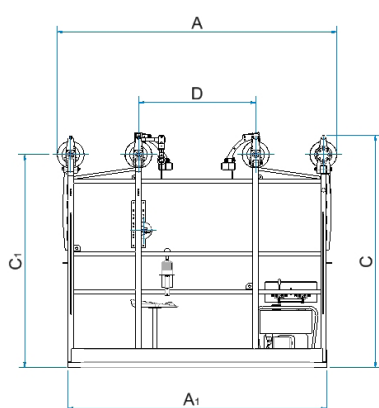
Motorised line-car for 2 linemen, fit for 2-, 3- or 4-bundle conductor lines.

- Light aluminium-alloy structure welded TIG-system
- Four openable arms for wheels, fit for passing obstacles
- Aluminium wheels lined with hi-grip rubber
- N.2 parking brakes acting on the conductor
- Metercounter
- Service platform
- Fit for 2 operators
- Hydraulic power pack transmitting the motion to the openable driven wheels
- Gasoline engine 4 hp
- Variable speed 0 to 30 m/min in both senses
- Max slope allowed: 40%
- Removable power pack

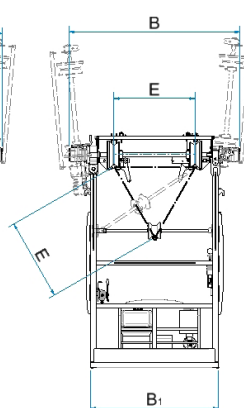
OPTIONAL DEVICES

- 03 Arms for wheels openable with horizontal rotation
 - 04 Earthing device
 - 05 N.2 negative disk brake manually controlled by 1 lever
 - 06 N.4 negative disk brake manually controlled by 2 levers
 - 07 Special structure with load capacity = 400 kg
- NOTE: The weight is 20% higher than the standard version.

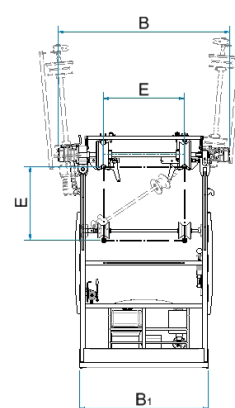
	Line type	Capacity		Dimensions (mm)							Weight	
		kg	A	A1	B	B1	C	C1	D	E	kg	
C155.CM.2	2 cond.	250	2070	1900	1270	950	1570	1390	865	400-500-600	188	
C155.CM.3	3 cond.	250	2070	1900	1270	950	1570	1390	865	400-500-600	197	
C155.CM.4	4 cond.	250	2070	1900	1270	950	1570	1390	865	400-500-600	205	



C155.CM.2



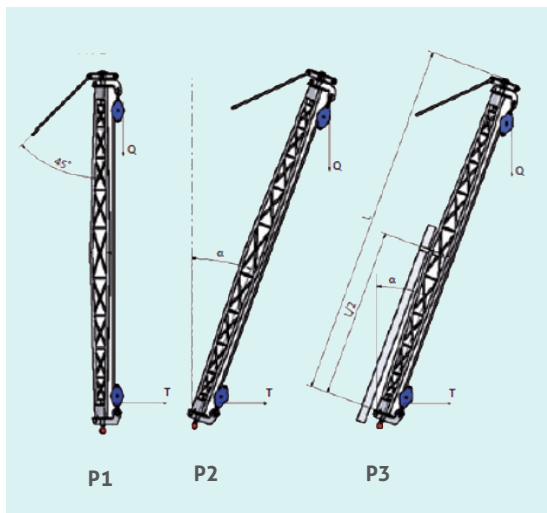
C155.CM.3



C155.CM.4

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

C158



Gin poles made of aluminium alloy tubular structure welded with TIG system.

Made of two or more separated sections.

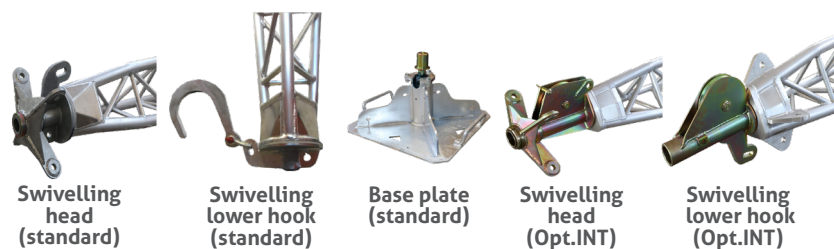
Working Capacity: 1000 to 10000 daN (note: the real capacity depends on the angle of use).

Available with external wire-rope passage (standard) or internal wire-rope passage (optional).

Complete of swivelling head, base with ground plate and base hook for tower attachment.

OPTIONAL DEVICES

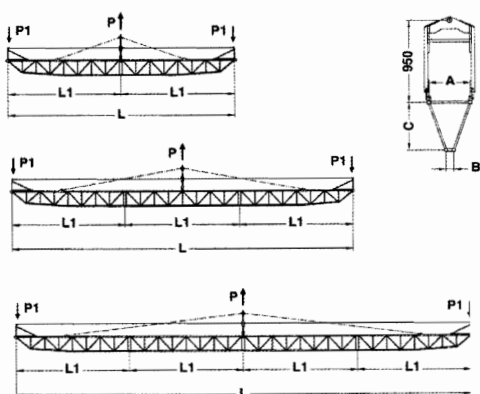
C158....INT Device for internal wire-rope passage



	Capacity (P = Q + T)			Total length m	Sections		Weight		Weight of the base kg
	P1 a=0°	P2 a=20°	P3 a=20°		Number	Lengths m	Standard version kg	.INT version kg	
	daN	daN	daN						
C158.100.062	1000	600	240	6	2	3+3	43	54	11.5
C158.100.082				8	2	4+4	54	66	
C158.150.082				8	2	4+4	65	74	
C158.150.102	1500	900	360	10	2	5+5	76	87	16
C158.150.123				12	3	4+4+4	86	98	
C158.200.082				8	2	4+4	67	75	
C158.200.103	2000	1200	480	10	3	4+2+4	80	88	16
C158.200.123				12	3	4+4+4	91	99	
C158.300.082				8	2	4+4	74	79	
C158.300.123	3000	1800	720	12	3	4+4+4	109	117	25
C158.300.164				16	4	4+4+4+4	146	155	
C158.400.103				10	3	4+2+4	98	116	
C158.400.123	4000	2500	960	12	3	4+4+4	113	131	25
C158.400.164				16	4	4+4+4+4	166	182	
C158.400.204				20	4	5+5+5+5	208	225	
C158.500.123	5000	3000	1200	12	3	4+4+4	139	152	35
C158.500.164				16	4	4+4+4+4	208	221	
C158.500.204				20	4	5+5+5+5	266	278	
C158.700.123	7000	4200	1680	12	3	4+4+4	160	198	35
C158.700.164				16	4	4+4+4+4	210	245	
C158.700.204				20	4	5+5+5+5	245	283	
C158.1000.164	10000	6000	2400	16	4	4+4+4+4	241	278	76
C158.1000.204				20	4	5+5+5+5	291	325	
C158.1000.244				24	4	6+6+6+6	350	385	

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

F127

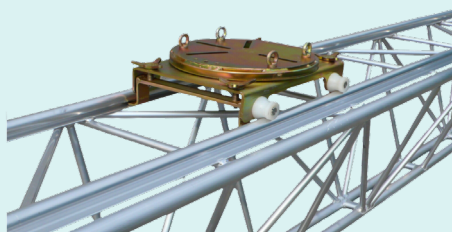


Suspension platform for overhead line works. Aluminium alloy structure.
Made of two or more trapezoidal sections, with central fitting and lateral hooks for anchoring.
Complete with galvanized steel lifeline (anti-fall barrier).

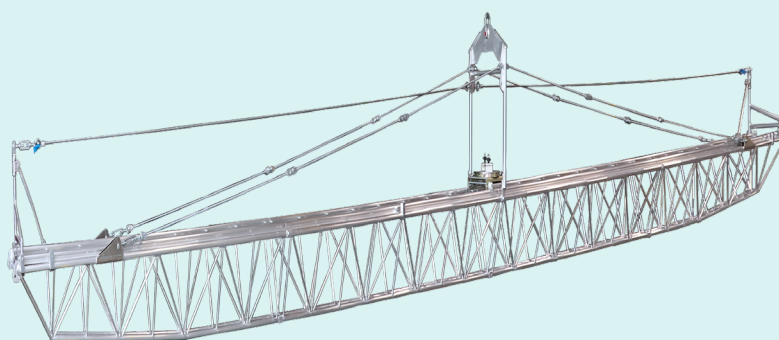
OPTIONAL DEVICES

- 701 Trolley for press, swivelling 360°
- 703 Rail for press-trolley
- 704.1 Additional anti-fall barrier

On demand, we build suspension platforms with higher capacities or different lengths



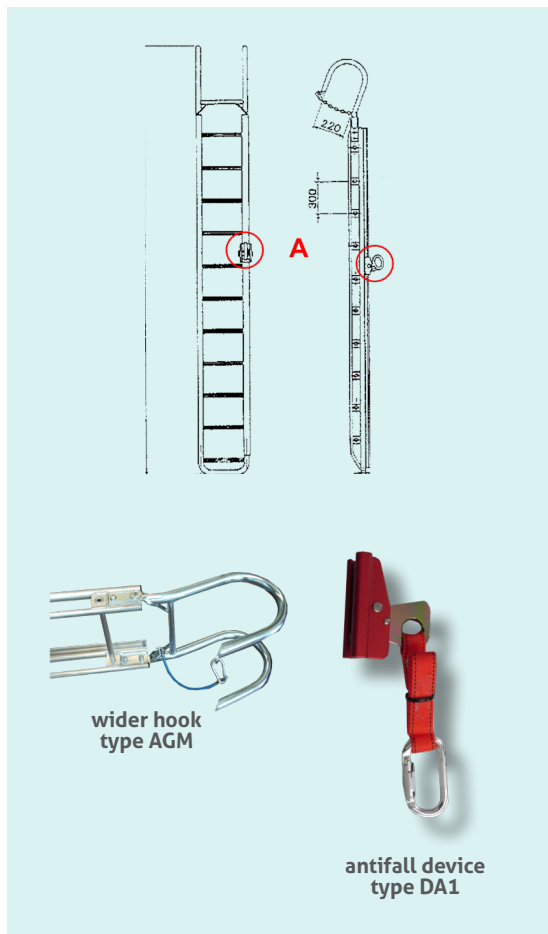
Opt. 701
and 703



	Total length L	Length of each section L1	Working load P (max P1=300 daN)	Breaking load	Dimensions (mm)			Weight
	m	m	daN	daN	A	B	C	kg
F127.4	4	4	600	1800	350	85	390	50
F127.5	5	5	600	1800	350	85	390	56
F127.6	6	6	600	1800	350	85	390	62
F127.6.2	6	3+3	600	1800	350	85	390	65
F127.7.2	7	3,5+3,5	600	1800	350	85	446	77
F127.8.2	8	4+4	600	1800	350	85	446	86
F127.10.3	10	4+2+4	600	1800	350	85	446	103
F127.12.3	12	4+4+4	600	1800	350	85	446	115
F127.14.3	14	5+4+5	600	1800	350	85	446	126
F127.16.4	16	4+4+4+4	600	1800	350	85	446	144
F127.18.3	18	6+6+6	600	1800	350	85	446	160
F127.20.4	20	5+5+5+5	600	1800	450	85	550	200
F127.24.4	24	6+6+6+6	600	1800	450	85	556	254

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

C167



Ladder fit for vertical suspension, for working on transmission towers.
Aluminium alloy construction, TIG welded, in one length or more separated sections to facilitate the transport. Hook complete with steel safety cable.

Vertical working capacity: 300 daN

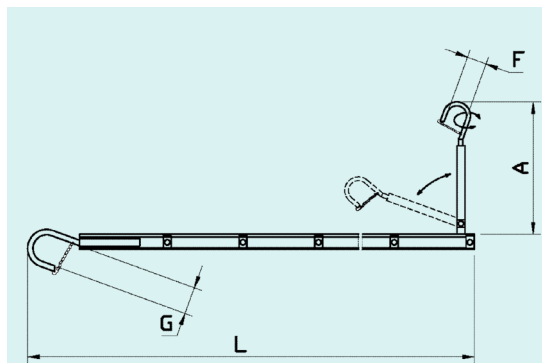
OPTIONAL DEVICES

- DA1 Antifall device complete with fall absorber, nylon tape and carabiner (part'A')
AGM Wider hook opening (up to 400 mm)

	Total length (L)	Sections	Weight (vers. AS)
	m	No.	kg
C167.AS.251	2,5	1	10
C167.AS.301	3	1	11,5
C167.AS.351	3,5	1	12,5
C167.AS.401	4	1	13,8
C167.AS.501	5	1	17
C167.AS.601	6	1	20
C167.AS.602	6 (4+2)	2	20,4
C167.AS.802	8 (4+4)	2	26,4
C167.AS.1002	10 (5+5)	2	32,3

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

C167.F



Suspension ladder fit for vertical or horizontal use.

Aluminum alloy structure welded with TIG system, complete with T profile for anti-fall device.

Interchangeable tower hook made of galvanized steel. The foldable end with conductor hook allows to use the ladder as a horizontal platform.

Also available C167.F...S version, working load 200 daN.

OPTIONAL DEVICES

- 01 Conductor hook complete with nylon sheave
DA1 Antifall device

FEATURES

Vertical working load	300 daN
Horizontal working load	100 daN
	G=220 mm
Dimensions:	F=100 mm
	A=900 mm



Opt. DA1

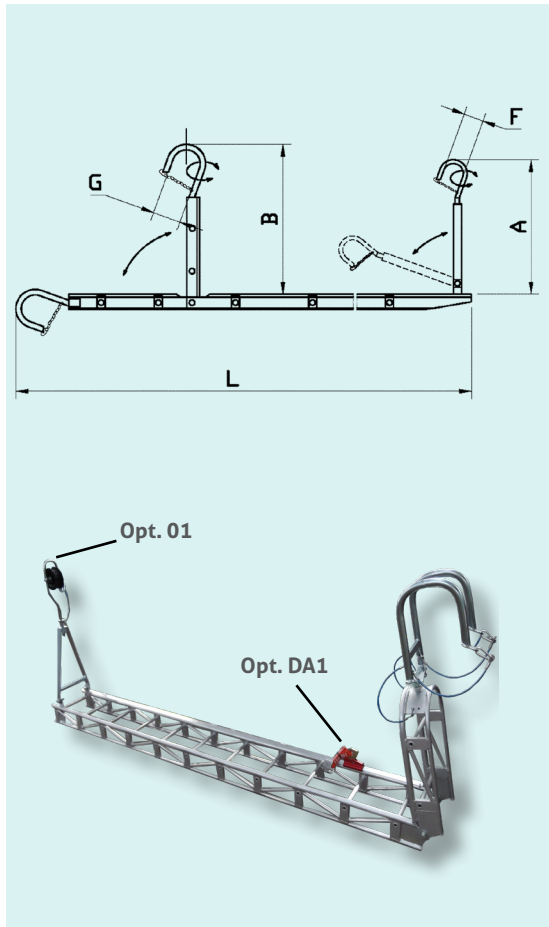


Opt. 01

	Total length (L)	No. of parts	Weight
	m		kg
C167.F.251	2,5	1	12,2
C167.F.301	3	1	13,5
C167.F.351	3,5	1	14,8
C167.F.401	4	1	16,2
C167.F.501	5	1	18,8
C167.F.601	6	1	21,5
C167.F.602	6 (4+2)	2	22,5

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

C167.G



Suspension ladder fit for vertical and horizontal use.
Aluminum alloy structure welded with TIG system, complete with T profile for anti-fall device. The two foldable ends, fitted with hooks for tower and for conductor, allow to use the ladder as a horizontal platform.

Also available C167.G...S version, working load 200 daN.

OPTIONAL DEVICES

- 01 Conductor hook complete with nylon sheave
- DA1 Antifall device

FEATURES	
Vertical working load	300 daN
Horizontal working load	100 daN
	G=220 mm
	B=1000 mm
	F=100 mm
	A=900 mm

	Total length (L)	No. of parts	Weight
	m		kg
C167.G.301	3	1	19
C167.G.351	3,50	1	21
C167.G.401	4	1	22,5
C167.G.501	5	1	26,5
C167.G.601	6	1	32,5
C167.G.602	6 (4+2)	2	33,5

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

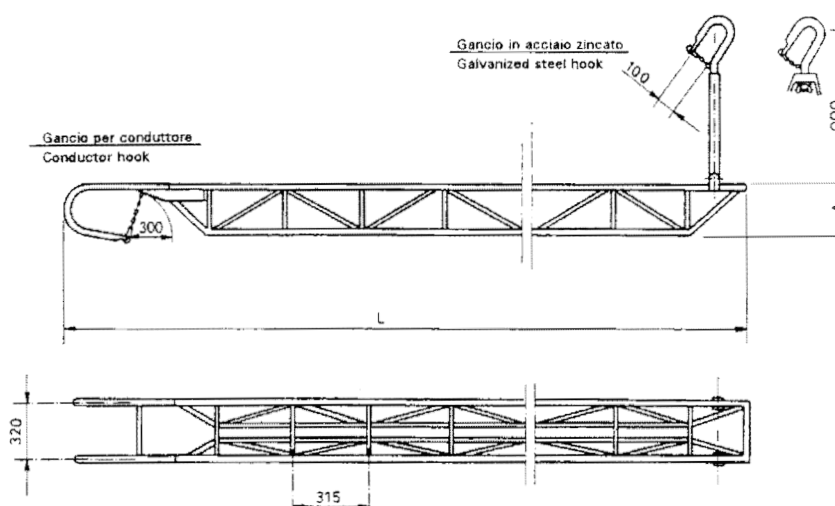
C161



Anchoring ladder made of light aluminum alloy, with steps made of antislipping material and suspension hooks in hot-dip galvanized steel. The ladder is complete with a fix hook for tower, 220 mm opening, and a swivel hook for leaning on the conductor, to use the ladder in horizontal position. The ladders have trapezoidal shape.

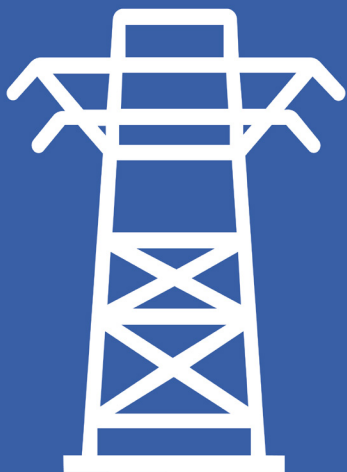
OPTIONAL DEVICES

- 01 Hook for conductor complete with nylon pulley



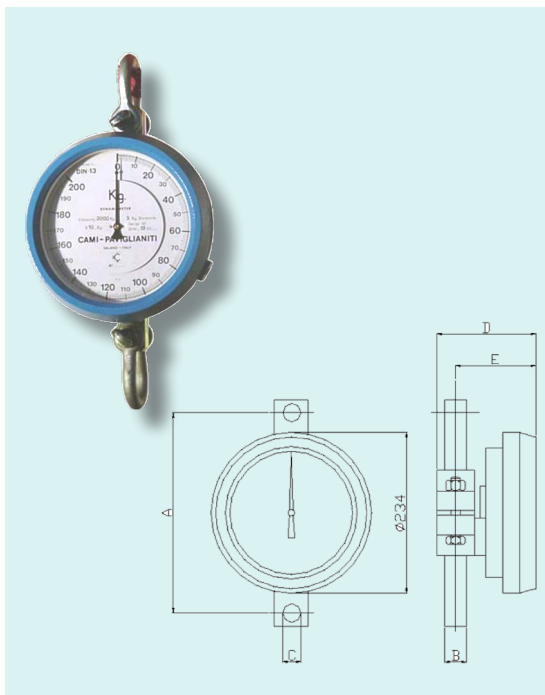
	Total length (L)	Sections number	Dimension A	Max horizontal working load	Max vertical working load	Weight
	m	N.	mm	kN	kN	kg
C161.TP.351	3,5	1	320	3	3	19
C161.TP.401	4,0	1	320	3	3	21
C161.TP.451	4,5	1	320	3	3	23
C161.TP.501	5	1	320	3	3	24,5
C161.TP.601	6	1	350	3	3	28
C161.TP.602	6 (4+2)	2	350	3	3	29,5
C161.TP.702	7 (4+3)	2	350	3	3	34,5
C161.TP.802	8 (4+4)	2	350	3	3	39

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



CONTROL INSTRUMENTS

C40.4



Mechanical dynamometer type DIN13 with built-in dampener.
Dial diameter: 200 mm. Manual regulation of zero (tare).
Overload protection up to 180% over the full scale value.
Working temperature range: -30 to +60 °C.
Accuracy: $\pm 1\%$ of full scale value. Fittings for omega shackles.
Safety factor: 5.

OPTIONAL DEVICES

IMAX Index of max
GRO Omega shackles
GAS Hinged hook with connection for shackles

	Capacity	Sensitivity	Dimensions (mm)					Weight
	daN	daN	A	B	C	D	E	kg
C40.4.10	1000	2	268	25	20	155	134	9
C40.4.20	2000	5	268	25	20	155	134	9
C40.4.30	3000	10	268	25	20	155	134	9
C40.4.60	6000	20	282	35	26	179	158	13
C40.4.100	10000	20	298	50	36	179	158	13

C43.4



High precision digital electronic dynamometer.
Tare zeroing and weight restore. Locking/unlocking of the displayed weight.
Peak holding function. Visualization of gross, net and tare weights. Selection of the measuring unit (kg, t, ton, Lbs, kN). Selection of the speed of reading. Auto power-off enabling function.
Calibration of zero and weight. Accuracy: $\pm 0,15\%$ of full scale value.
Working temperature range: -10 to +55 °C.
Max overload admitted: 200% of full scale value.
Protection factor: IP65. 5-digit 17 mm display.
Power supply: 9V with standard battery.
Autonomy: 200 hours circa.

OPTIONAL DEVICES

01 No. 1 pair of high-resistance eyebolts
02 No. 2 sets of spare batteries

	Capacity	Sensitivity	Dimensions	Weight
	daN	daN	mm	kg
C43.4.25	2500	1	218 x 90 x 56	1,35
C43.4.50	5000	2	230 x 90 x 56	1,85
C43.4.100	10000	5	315 x 110 x 59	3,60
C43.4.125	12500	5	315 x 110 x 59	3,60
C43.4.250	25000	10	350 x 126 x 70	5,50

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

F77



Device for measuring the length of ropes and cables. Measuring wheel made of steel. Idle wheels made of aluminum or nylon. Fit for ropes with diameter up to 50mm.

- Dimensions: A x B x C = 430 x 370 x 255 mm; D = 70 mm.
- Mass: 5,5 kg.

C120



Sagging scope for conductors, complete with fittings for tower legs. Supplied with protective case.

- Dimensions: 400 x 300 x 180 mm
- Weight: 12 kg

OPTIONAL DEVICES

- 001 Device for anchorage on round poles up to 600 mm diameter

F196.A



Thermometer for conductors, made up of a bulb shaped and dimensioned like a conductor. Column reading, scale in Celsius degrees (°C).

- Length 600 mm
- Weight 0,5 to 1 kg

Supplied with case.

NOTE: in order, please specify the diameter of the conductor.

F196.C



Thermometer for conductors. The dial diameter 80 mm, with incorporated sensor, can be fixed easily on the conductor by means of its elastic clamp.

Double scale (°C and °F).

Supplied with case.



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