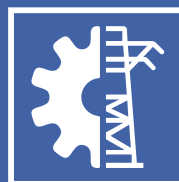
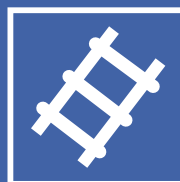


# OVERHEAD LINE STRINGING

MACHINES

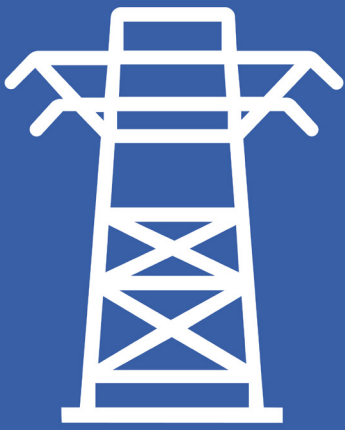


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# INDEX

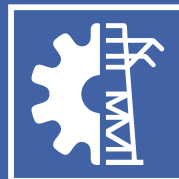
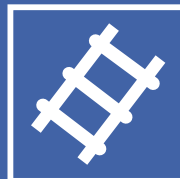
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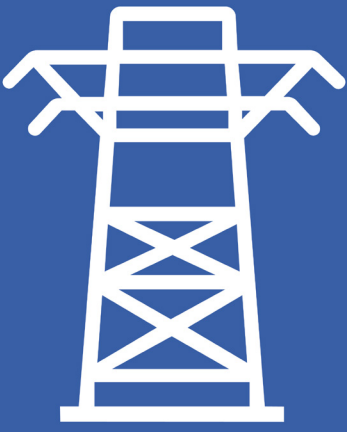




# MACHINES







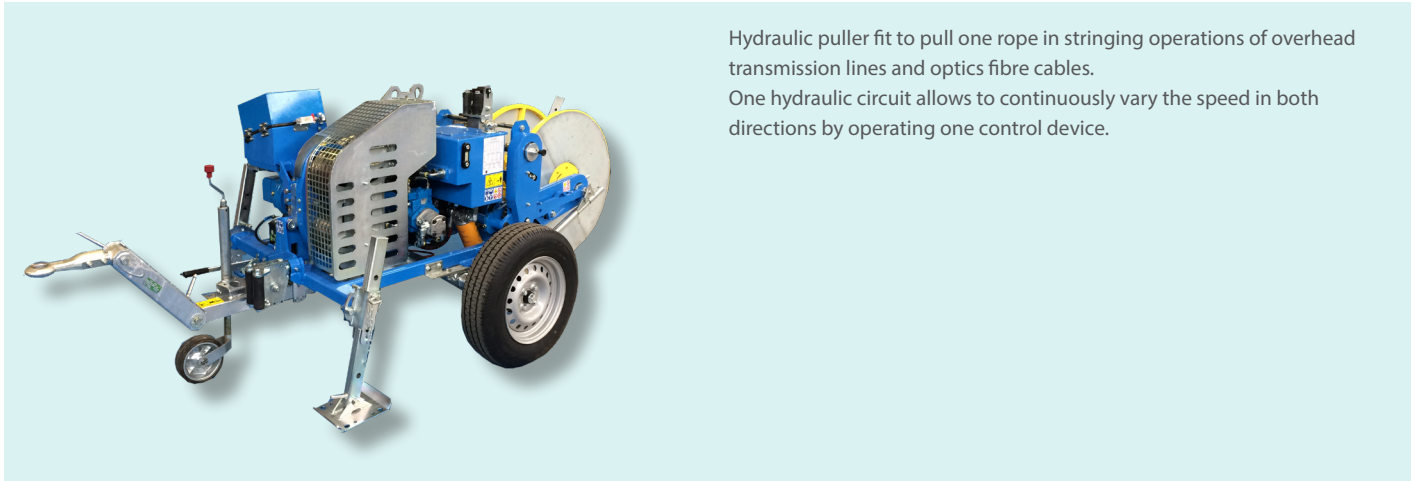
# HYDRAULIC PULLERS

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# 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:	
Nylon rope Ø 12 mm:	700 m
Steel rope Ø 8 mm:	500 m

## DIMENSIONS AND WEIGHT (without rope)

Dimensions	2,30x1,50x1,20 m
Weight	565 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 Ø750 mm

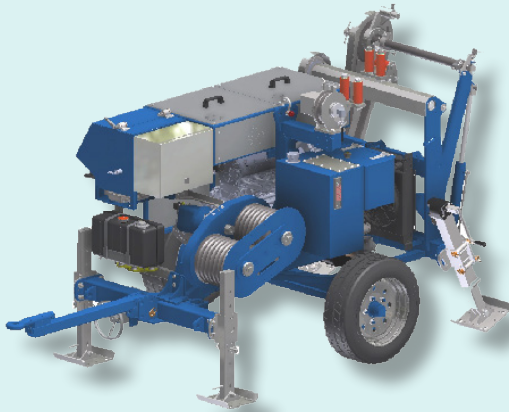
## OPTIONAL DEVICES

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 35 hp / 26 kW *	Speed at max pull	1,2 km/h
Max rope diameter	13 mm	Cooling	water	Max speed	3,8 km/h
Max joint diameter	40 mm	Electric plant	12 V	Pull at max speed	12 kN
Dimensions LxWxH	2,10x1,60x1,60 m				
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

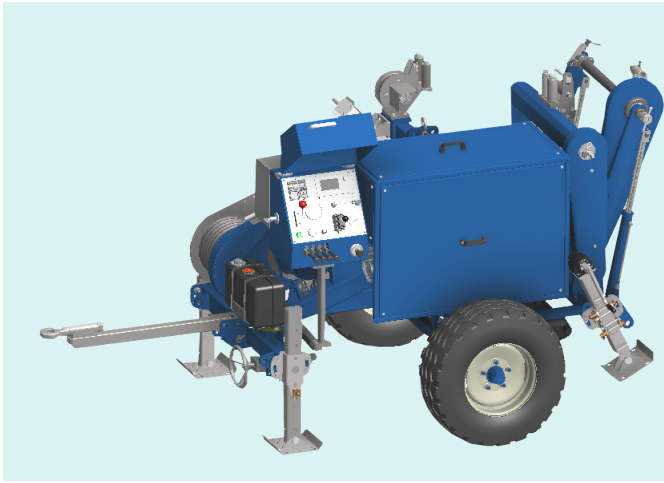
- 007 Chassis with damped axle, overrun brake and drawbar for towing on road (homologation excluded)
- 037 Remote control by cable, with 10 m of cable
- 038.1 Pushbutton radio-control
- 038 Radio-control (max distance 100 m)
- 045.3 Manual clamp for rope
- 047 Hydraulic front stabilisers
- 067 Telescopic 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 74 hp / 55 kW *	Speed at max pull	1,6 km/h
Max rope diameter	18 mm	Cooling	water	Max speed	1,6 km/h *
Max joint diameter	50 mm	Electric plant	12 V	Pull at max speed	4,5 km/h
Dimensions LxWxH	3,20x1,95x2,00 m				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

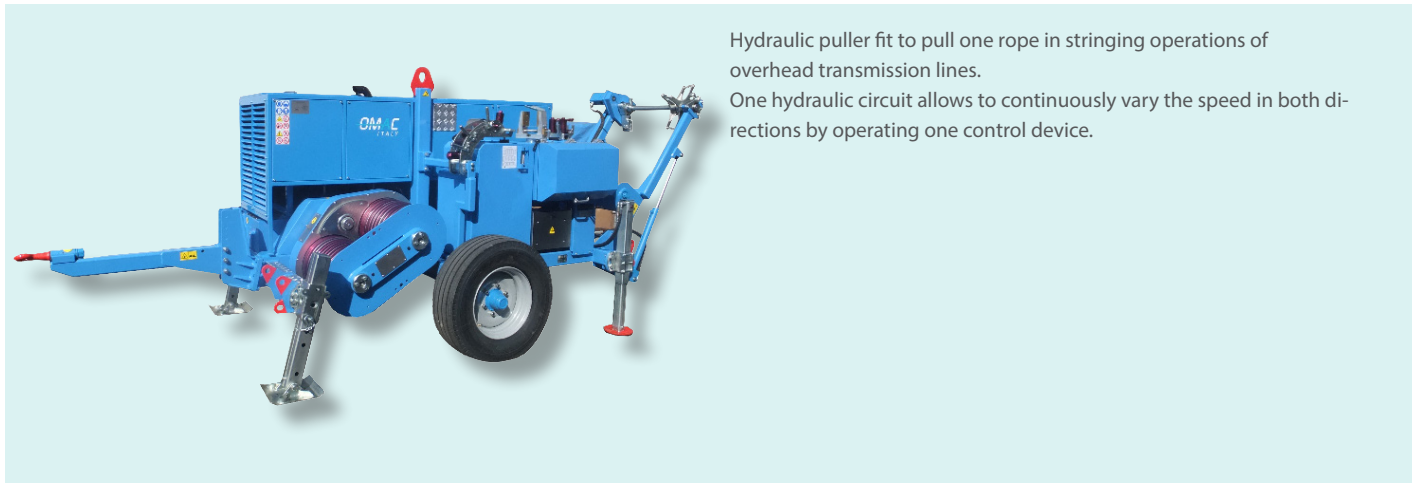
- 007 Chassis with damped axle, overrun brake and drawbar for towing on road (homologation excluded)
- 028.7 Device to start the diesel engine and the hydraulic circuit at low temperatures (up to -30°C)
- 037 Remote control by cable, with 10 m of cable
- 038 Radio-control (max distance 100 m)
- 045.2 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.

# 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 380 hp / 280 kW *	Speed at max pull	2,5 km/h 2,5 km/h *
Max rope diameter	32 mm	Cooling	water	Max speed	5 km/h
Max joint diameter	80 mm	Electric plant	24 V	Pull at max speed	130 kN 130 kN *
Dimensions LxWxH	5,10x2,50x3,00 m				
Weight (without rope)	9500 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

\* 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.



# 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	407 hp / 300 kW	Speed at max pull	2,2 km/h
Max rope diameter	38 mm		407 hp / 300 kW *		2,2 km/h *
Max joint diameter	80 mm	Cooling	water	Max speed	5 km/h
Dimensions LxWxH	5,40x2,50x3,15 m	Electric plant	24 V	Pull at max speed	120 kN
Weight (without rope)	13000 kg				120 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.

# 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	Cooling	278 hp / 205 kW *	Max speed	4,6 km/h
Dimensions LxWxH	4,60x2,45x2,75 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)	8500 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 15000 daN stringing one rope
- Two reelwinders fit for 1400-mm-dia reels, with automatic ropewinder

\* 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.

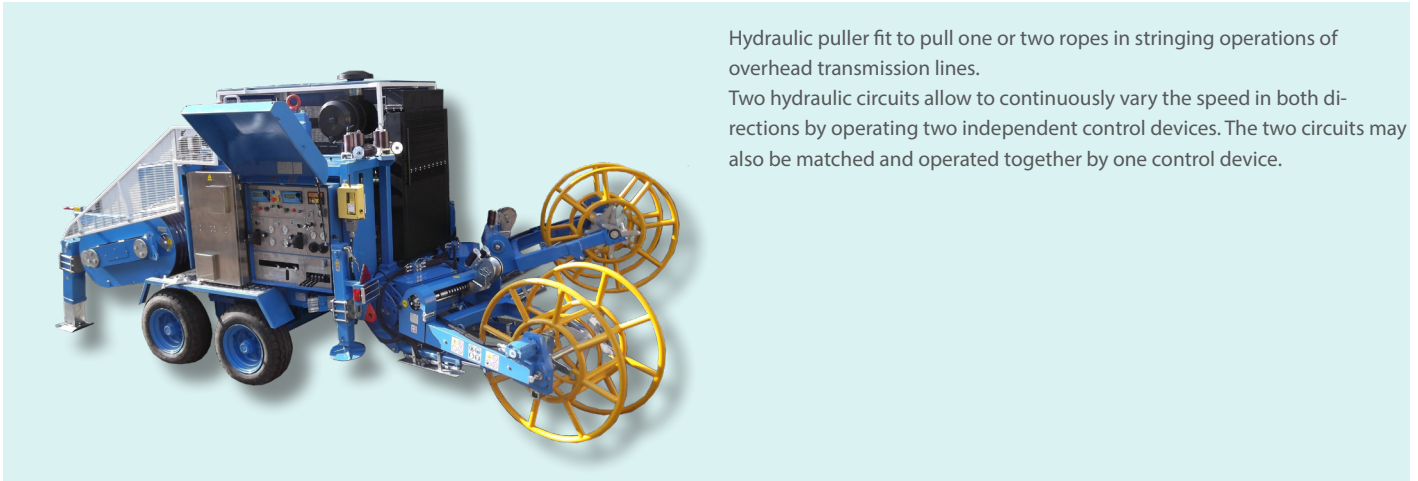
## OPTIONAL DEVICES

- 005.1 Chassis with 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



# 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

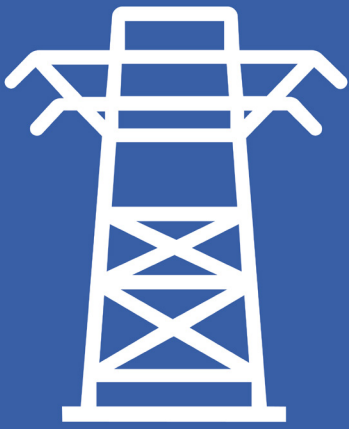
- Two pairs of multi-grooved steel capstans fit for stringing two steel ropes
- Machine control panel equipped with built-in electronic instrument DEG 4.0 featuring a 7" large graphic colour display and a USB port
- **Maintenance-free load cell reading system**
- **Electronic instrument by-pass**
- Two 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

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# 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 35 hp / 26 kW *	Min tension force	2 kN
Max conductor diameter	2 x 36 mm	Cooling	water	Max speed	5 km/h
Dimensions LxWxH	3,95x2,00x2,20 m	Electric plant	12 V		
Weight	2700 kg				

PULL-BACK PERFORMANCES	
Max pull	45 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 (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

\* 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)
- 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

# 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

\* 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

# F120.90.2

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		ALSO AVAILABLE VERSION WITH Ø1800 mm CAPSTANS	
Max pull	90 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 (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 *	Max speed	5 km/h
Max conductor diameter	2 x 46 mm	Cooling	water		
Dimensions LxWxH	4,50x2,25x2,80 m	Electric plant	12 V		
Weight	7700 kg				

PULL-BACK PERFORMANCES	
Max pull	1 x 140 kN or 2 x 70 kN
Max speed	0,9 km/h 0,9 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.

HYDRAULIC TENSIONERS

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 75 hp / 55 kW *	Max speed	5 km/h
Max conductor diameter	4 x 42 mm	Cooling	water		
Dimensions LxWxH	4,50x2,30x2,80 m	Electric plant	24 V		
Weight	7800 kg				

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

Capstans	4 x Ø 1500 mm
Max conductor diameter	4 x 42 mm
Dimensions LxWxH	5,10x2,45x3,00 m
Weight	8200 kg

## ENGINE

Feeding	diesel
Power	75 hp / 55 kW
	75 hp / 55 kW *
Cooling	water
Electric plant	12 V

## TENSION PERFORMANCES

Max tension force	150 kN = 2 x 75 kN
Max tension per conductor	37,5 kN
Max speed	5 km/h

## 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 51 mm	Power	135 hp / 100 kW	Max speed	5 km/h
Dimensions LxWxH	5,40x2,45x3,00 m		135 hp / 100 kW *		
Weight	14500 kg	Cooling	water		
		Electric plant	24 V		

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

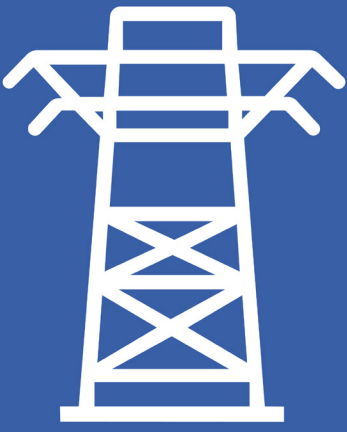
\* According to the EC directive 97/68/CE with subsequent amendments and additions.

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 31,5 mm (instead of standard set)
- 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





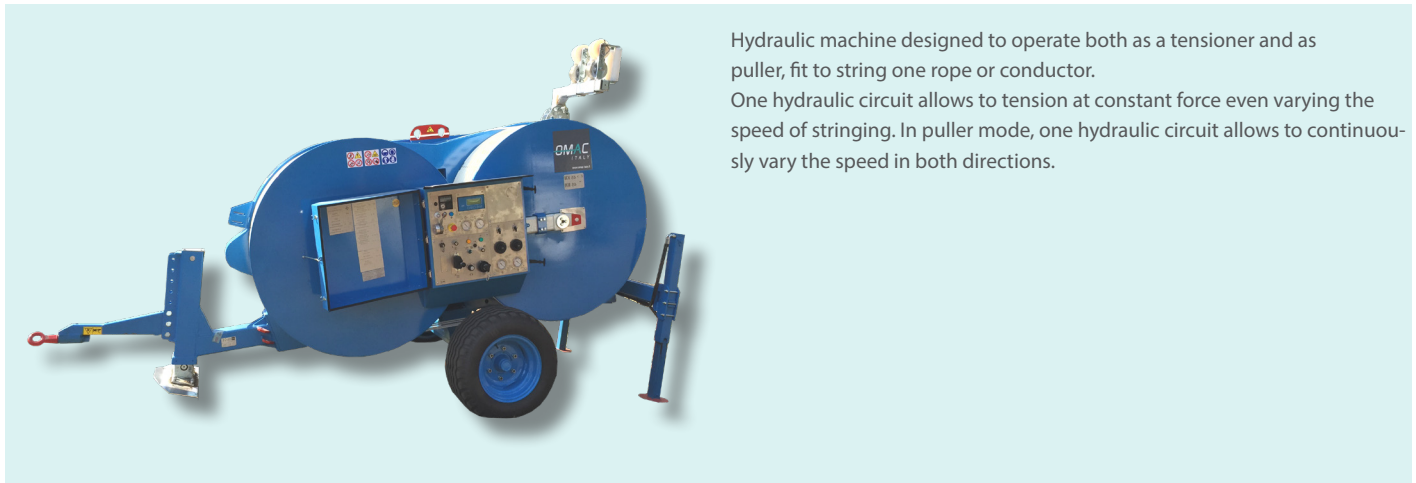
# HYDRAULIC PULLER-TENSIONERS

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# 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

Capstans	2 x Ø 1500 mm
Capstan grooves	8
Max conductor diameter	2 x 36 mm
Max rope diameter	16 mm
Dimensions LxWxH	3,95x2,00x2,20 m
Weight	3600 kg

## ENGINE

Feeding	diesel
Power	75 hp / 55 kW 75 hp / 55 kW *
Cooling	water
Electric plant	12 V

## PULL PERFORMANCES

Max pull	45 kN
Speed at max pull	2,3 km/h 2,3 km/h *
Max speed	5 km/h
Pull at max speed	22 kN 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-win- ders 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 100 hp / 75 kW *	Speed at max pull	2 km/h 2 km/h *
Max conductor diameter	2 x 42 mm	Cooling	water	Max speed	5 km/h
Max rope diameter	18 mm	Electric plant	12 V	Pull at max speed	35 kN 35 kN *
Dimensions LxWxH	3,95x2,10x2,20 m				
Weight	4800 kg				

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 a 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

Capstans	2 x Ø 1500 mm
Capstan grooves	10
Max conductor diameter	2 x 42 mm
Max rope diameter	18 mm
Dimensions LxWxH	4,00x2,25x2,30 m
Weight	5000 kg

## ENGINE

Feeding	diesel
Power	135 hp / 100 kW 135 hp / 100 kW *
Cooling	water
Electric plant	12 V

## PULL PERFORMANCES

Max pull	90 kN
Speed at max pull	2,4 km/h 2,4 km/h *
Max speed	5 km/h
Pull at max speed	45 kN 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

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

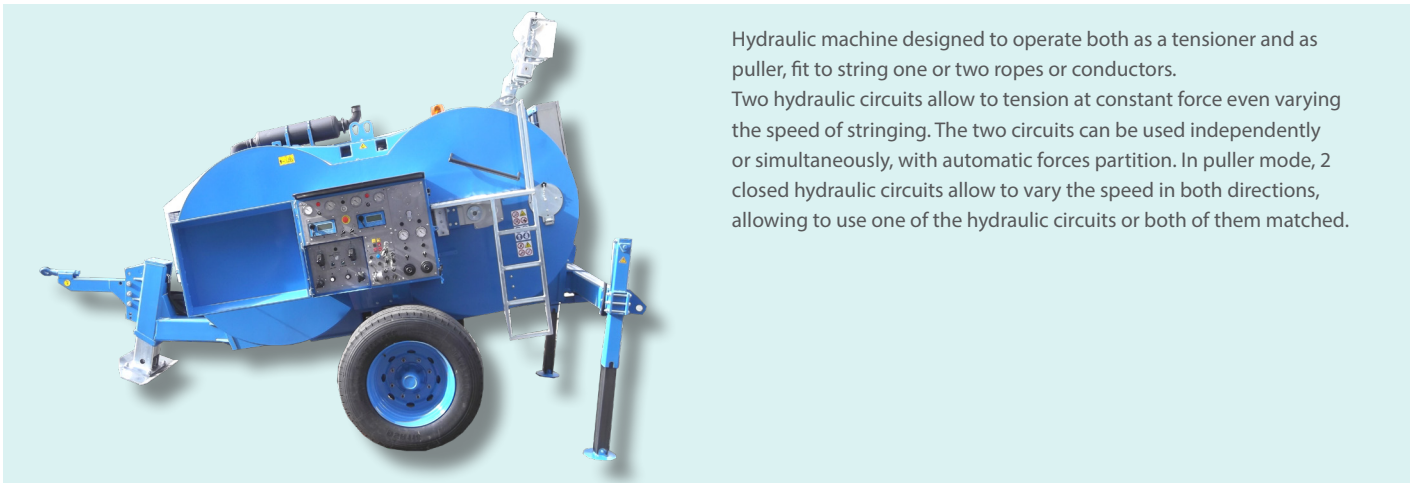
## OPTIONAL DEVICES

- 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.90.22

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.

PULLER-TENSIONERS

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

## 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)

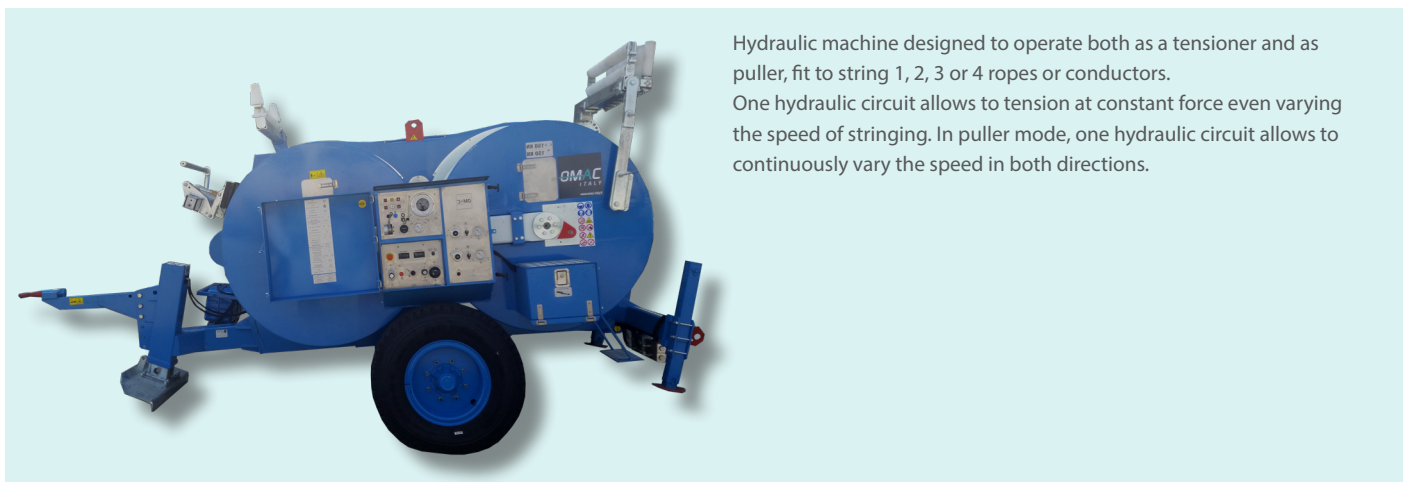
\* According to the EC directive 97/68/CE with subsequent amendments and additions.

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.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)

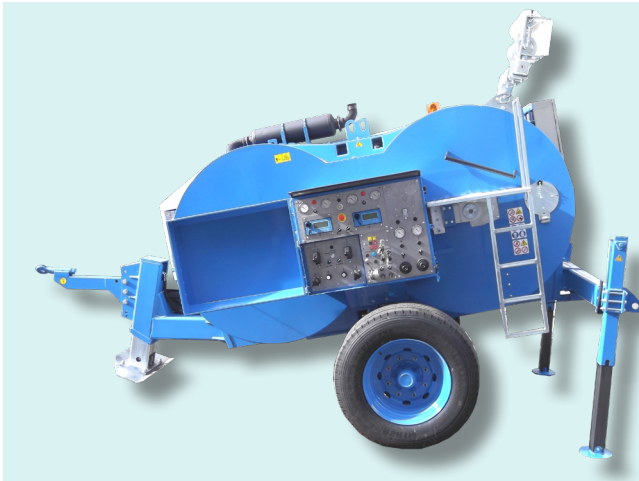
\* According to the EC directive 97/68/CE with subsequent amendments and additions.

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 a 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	176 hp / 130 kW 176 hp / 130 kW *	Speed at max pull	1,9 km/h 1,9 km/h *
Max conductor diameter	2 x 46 mm	Cooling	water	Max speed	4,5 km/h 4,5 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	9500 kg				

TENSION PERFORMANCES	
Max tension force	1 x 140 kN or 2 x 70 kN
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 a 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

## 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

\* 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.



# 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:

- Mini joystick for controlling the rotation of the capstans
- Speed adjustment control
- Emergency stop button
- 10-m of the connection cable

### OPTIONAL DEVICES

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

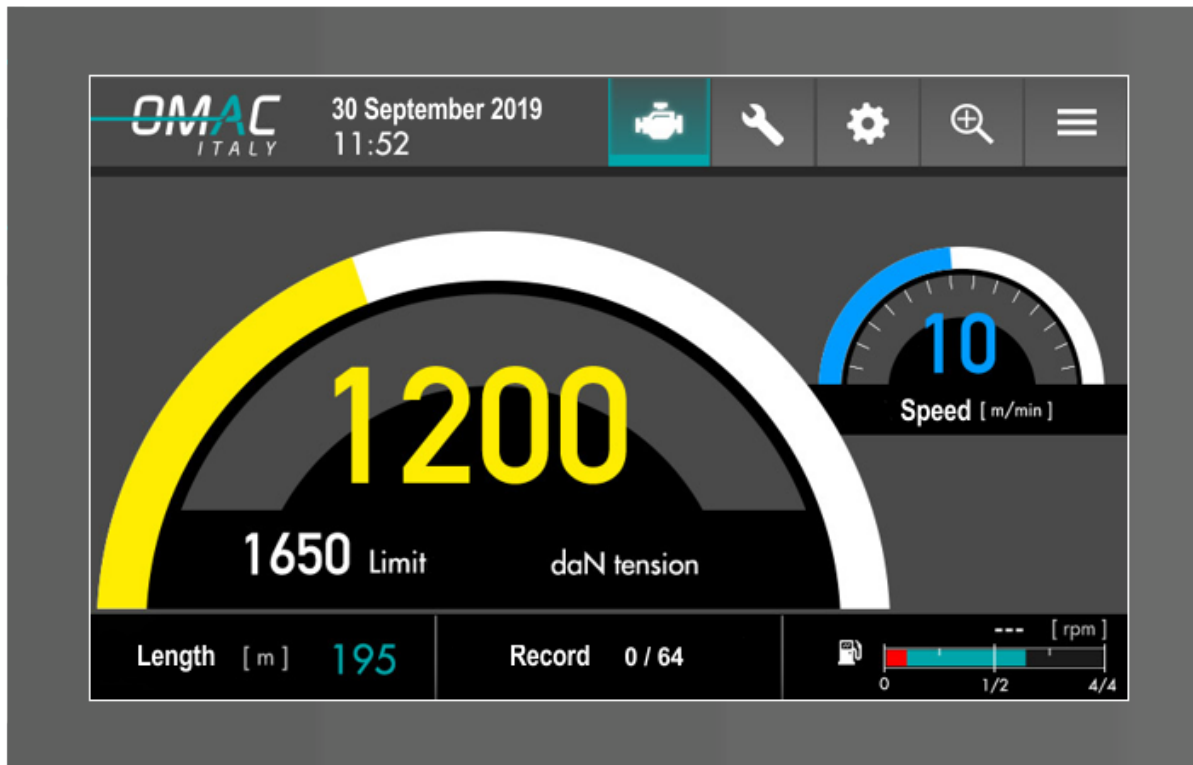
The radio-control is complete with:

- Mini joystick 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)                        |

# 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

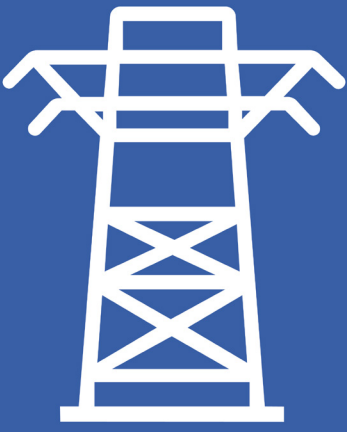
## OPTIONAL 069.5

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.





# HYDRAULIC SERVICE WINCHES

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# 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	500 m
Ø 6 mm	800 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 over-pull
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 26 hp / 18.8 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

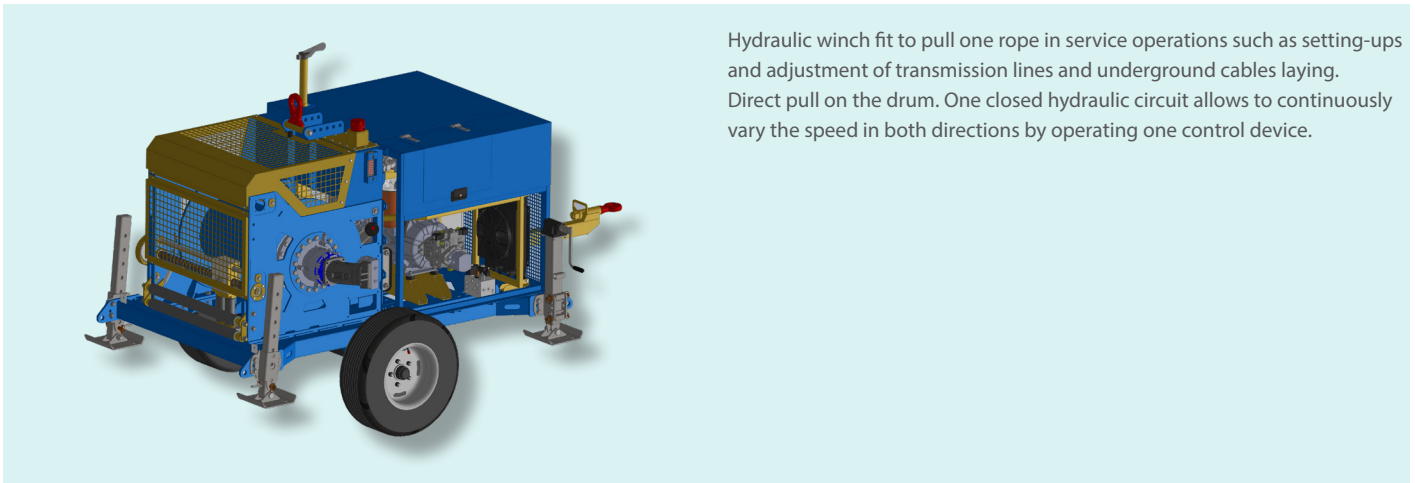
007	Damped axle, overrun brake and drawbar for towing on the road (homologation excluded)
026	PVC cloth cover
027	Metallic coverage with doors
037	Remote control by cable, with 10 m of cable
038	Radio-control for remote control (max distance 100 m)
046.3	Rope-presser roller on the drum
058	Service winch 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	6 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**

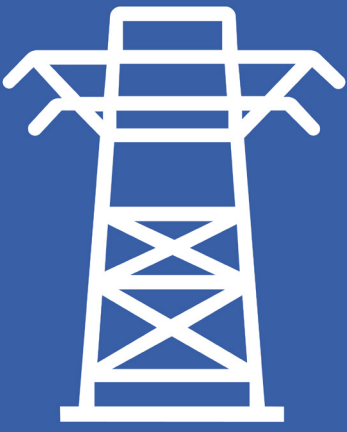
- |       |  |
|-------|--|
| 007   | Damped axle, overrun brake and drawbar for towing on the road (homologation excluded)                        |
| 037.2 | Remote control by cable, with 10 m of cable  |
| 046.3 | Rope-presser roller on the drum  |
| 058   | Service winch with large-groove capstan 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.







# REEL-STANDS AND TRAILERS

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# F155

max load 70 to 200 kN



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

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

### OPTIONAL DEVICES

- 423 Additional disk brake (2 brakes in total)
- 410.3 No. 1 or 2 disc brakes with hydraulic clamp controlled 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).
- 401 Devices fit for steel reel and bushes to centre the reel hole (diameter on demand)
- 419.1 Manual rope-winder, fit to stratify different diameters of rope (max reel width to be confirmed). Available for mod. F155.070 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.

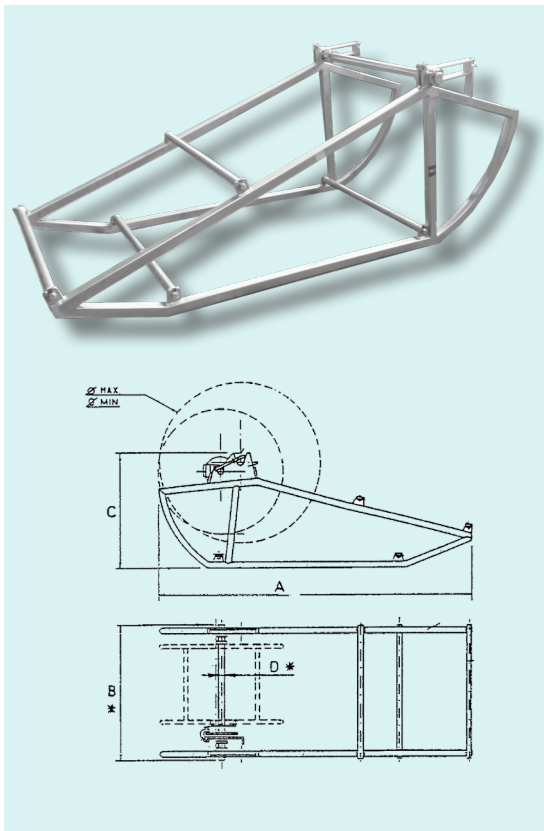
	Reel diameter min-max (*)	Reel max width	Spindle diameter	Dimensions of each reel-stand	Weight of the pair of reel-stands (²)
	m	m	mm	m (LxW)	kg
F155.070	1,00-2,80	1,50	55	2,10 x 0,50	350
F155.100	1,50-3,20	1,70	70	2,40 x 0,55	540
F155.150	2,00-4,00	3,00	95	3,10 x 0,60	1100
F155.200	2,00-4,00	3,00	95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

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

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

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

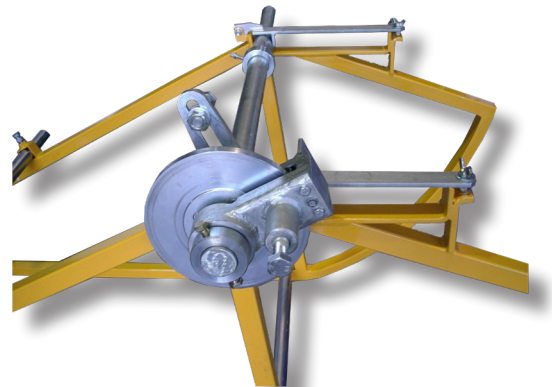
# F157



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 F157.19 braking 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 <sup>(1)</sup>	Max speed <sup>(1)</sup>	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

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

WITH AUTONOMOUS DRIVE (OPT. 417)							
	Engine power		Max pull <sup>(2)</sup>	Speed at max pull <sup>(2)</sup>	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

<sup>(2)</sup> 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	6,40x3,30x2,60 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

- Framework made of 3 steel sections
- 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
- 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	7,30x3,50x2,70 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

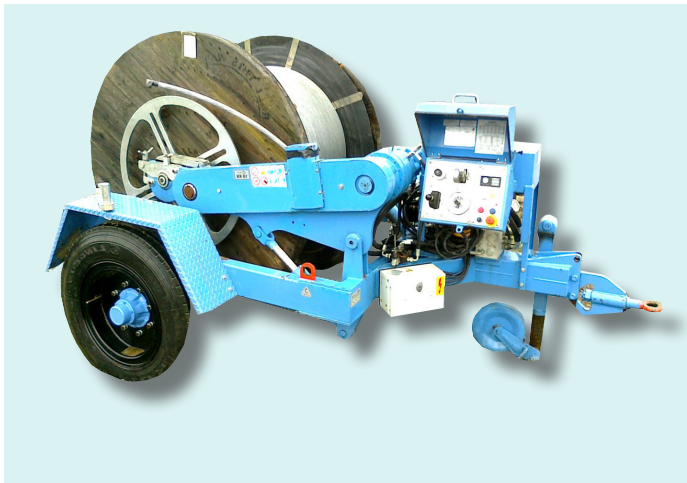
- Framework made of 3 steel sections
- Spindle rotating on ball joints, with arm for close and drag the reel, and collars for wooden reel
- Safe mechanical locking in working position
- Mechanical locking of the spindle rotation for safe transport
- Hydraulic reel lift with hand pump
- Single rigid axle 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
- 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

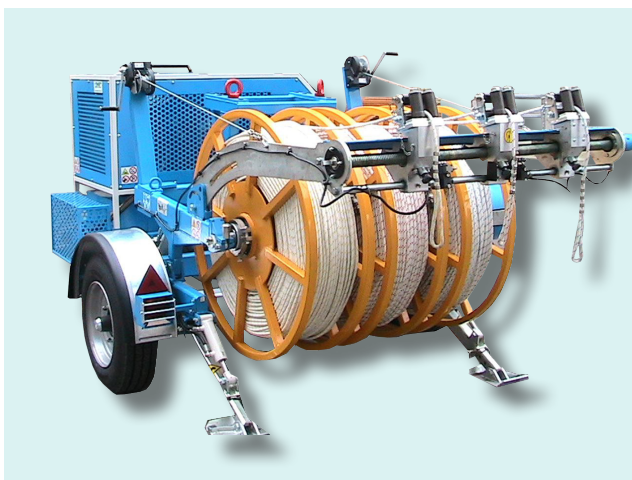
- Hydraulic power unit made of electric motor or air cooled diesel engine with electric starting and a variable-delivery hydraulic pump, that allows to continuously and gradually the speed of rotation of the reel, in either directions, by operating one control handle only (puller use)
- Hydraulic circuit 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 <sup>(1)</sup>	20 kN @ 20 m/min	30 kN @ 20 m/min	30 kN @ 25 m/min
Max speed at low force <sup>(2)</sup>	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

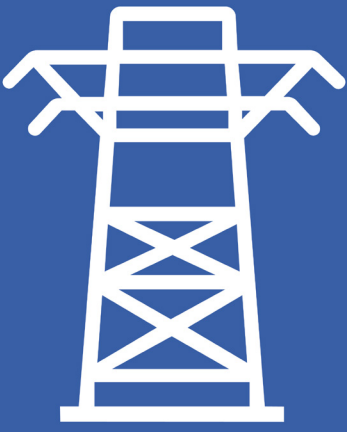
<sup>(1)</sup> values referred to the medium layer of rope <sup>(2)</sup> values referred to the very external diameter of rope (full reel)

## 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. 10 mm
- 060.1 No. 1 steel reel fit for 2500 m of rope diam. 14 mm



# REELS AND ROPES

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## 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

## OPTIONAL DEVICES

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

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

# 22...1



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

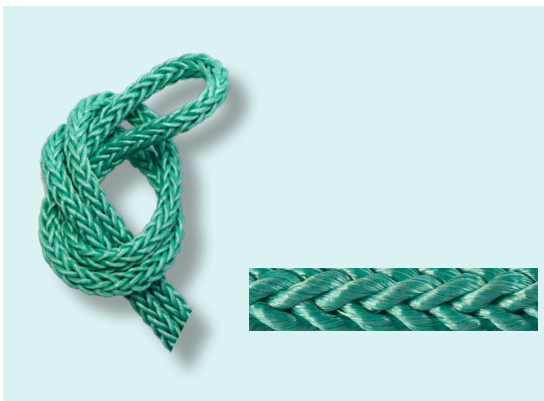
### OPTIONAL DEVICES

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

	Nominal diameter	Elongation under tension		Breaking load	Weight	Standard Lengths (*)				
	mm	at 10 % BL <sup>(1)</sup>	at 30 % BL <sup>(2)</sup>	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			

<sup>(1)</sup> elongation rate at 10% of breaking load <sup>(2)</sup> elongation rate at 30% of breaking load

# 22...2



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

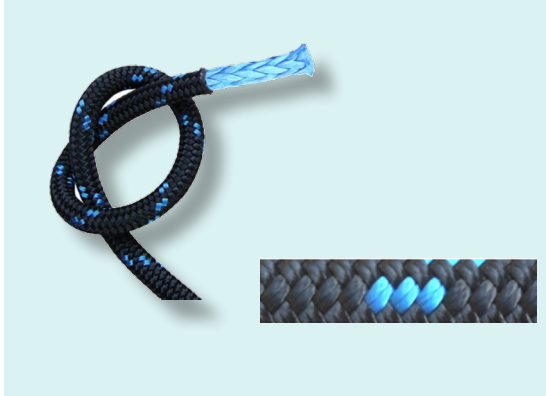
### OPTIONAL DEVICES

- Hand-spliced ends

	Nominal diameter	Elongation under tension	Breaking load	Weight	Standard Lengths (*)				
	mm	at 50 % BL <sup>(1)</sup>	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 <b>1000</b> 1500 2000 3000
23.08.P	8	3%	5.480	0,064	500 <b>1000</b> 1500 2000 3000
23.10.P	10	3%	8.210	0,078	500 <b>1000</b> 1500 2000 3000
23.12.P	12	3%	11.860	0,120	500 <b>1000</b> 1500 2000
23.14.P	14	3%	16.430	0,139	500 <b>1000</b> 1500 2000
23.16.P	16	3%	20.990	0,200	500 <b>1000</b>

## 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

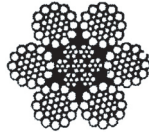
Dimensions and weights are without optional devices. All data may change without notice. Images and drawings are indicative only.



## C02...AC

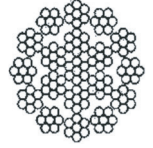
Bright steel rope 216 wires + steel core. Construction 6 (14+7/7+7+1)  
WS+WR. Right and left crossed.  
UNI 7297-74. Resistance of wires: 180 kg/mm<sup>2</sup>.

OPTIONAL  
• Galvanization



## C02...LR

Bright steel rope 133 wires. Construction 19x7.  
Lang lay or regular lay. Resistance of wires 200 kg/mm<sup>2</sup>.

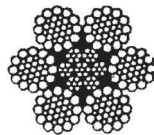


Nominal diameter	Wires diameter	Breaking load	Weight
mm	mm	kN	kg/m
6	0,38	27,2	0,15
8	0,50	47,3	0,28
10	0,62	75	0,43
11	0,68	89	0,52
12	0,75	108	0,62
14	0,77	131	0,82
16	0,88	168	1,07
18	0,99	220	1,35
20	1,10	270	1,68
22	1,22	320	2,03
24	1,33	380	2,40
26	1,44	450	2,83
28	1,55	504	3,30
30	1,66	600	3,80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

Rope diam.	Wires diam.	Sect.	Breaking load	Weight
mm	mm	mm <sup>2</sup>	kN	kg/m
<b>Lang lay</b>				
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
<b>Regular lay</b>				
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/mm<sup>2</sup>



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

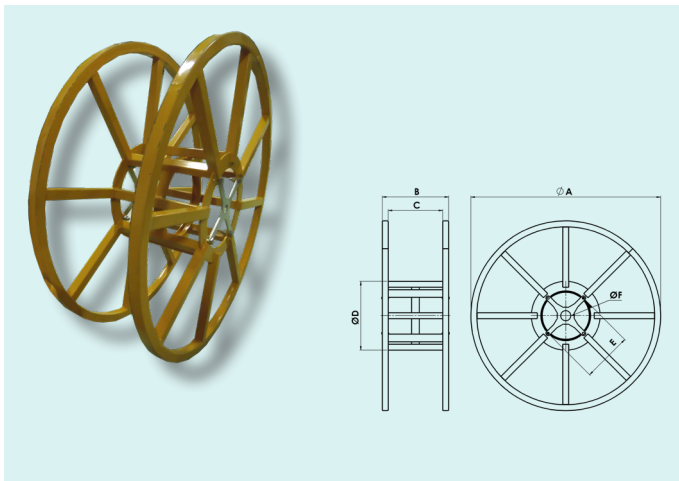
Bright steel rop. Construction 35x7. Resistance of wires 220 kg/mm<sup>2</sup>.



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

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

# F162



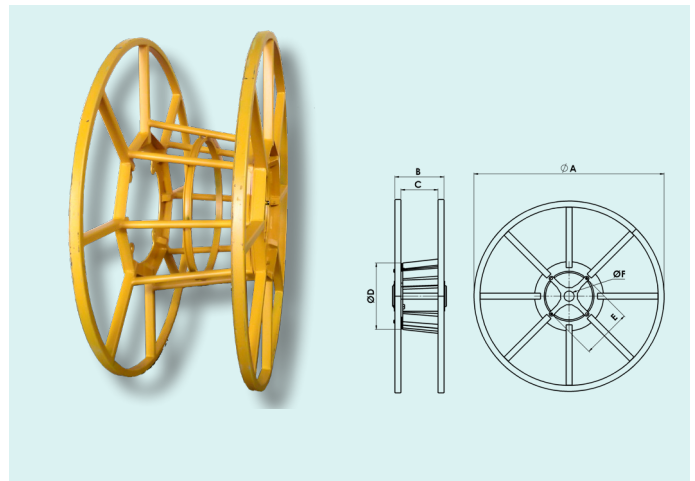
Welded and painted steel reel.

### 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)
	A	B	C	D	E	F	kg
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

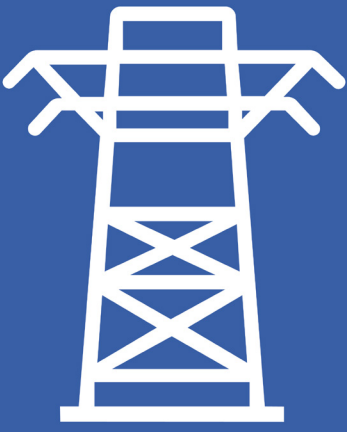
- 02 Pair of standard dials
- 03 Pair of dials equipped with ball bearings
- 05 Drum core covered with steel sheet

	Dimensions mm						Weight (without rope)
	A	B	C	D	E	F	kg
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

Rope diameter (mm)	REEL CAPACITY (meters of rope)					
	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

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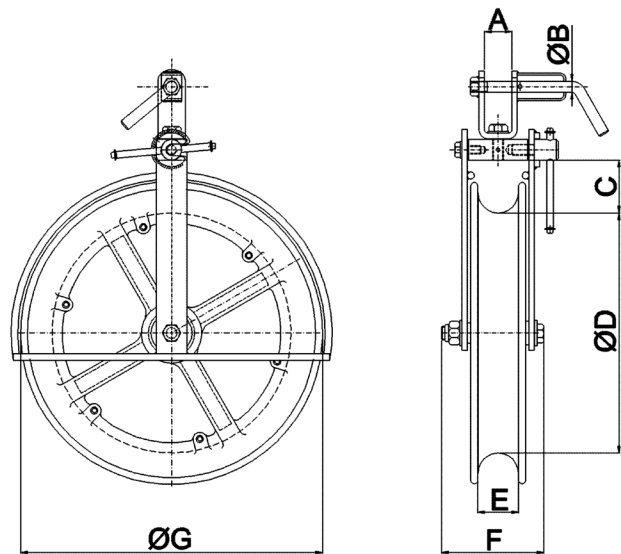
# F144 F150



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

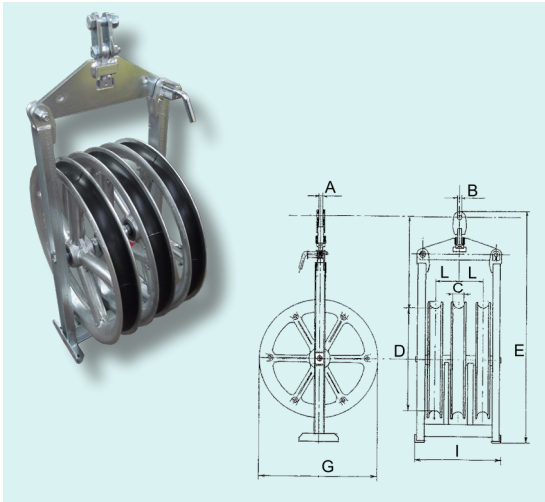
- 301.2 Fix hook (code FT)
- 301.1 Swivelling hook attachment (code GG)
- 314 Bottom groove lined with aluminium sectors (only for sheaves with groove width E= 60, 68 and 95 mm)
- 327 Non-fleeting device as big as half wheel circumference
- 326 Grounding device (only for wheels with groove width E= 60, 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)									Working Load	Weight
	A	A1	A2	B	C	D	E	F	G		
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

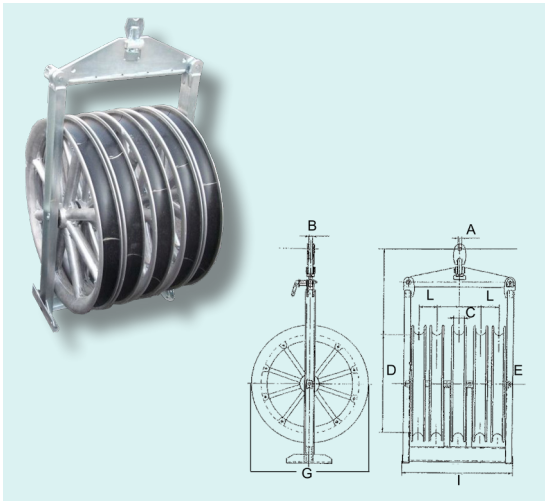
- 314 Sheaves lined with aluminium sectors
- 320 Cage for stocking and transport
- 326 Grounding device (opt.314 needed)
- 329 Copper cable, 6-m long, with transparent PVC protection, with a clamp for tower and a terminal for the running out block (opt.326)
- 325 Reinforced central sheave with total 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)										Working Load	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	40	93
F145.65.68	25	25	68	650	1400	550	770	280	500	145	40	112
F145.65.95	25	30	95	650	1400	550	770	280	590	175	60	125
F145.80.68	25	25	68	800	1500	550	900	280	500	145	60	128
F145.80.95	25	30	95	800	1550	550	900	300	590	175	60 <sup>(1)</sup>	156 <sup>(1)</sup>
F145.100.95	25	30	95	1000	1750	550	1100	300	590	175	67 <sup>(1)</sup>	200 <sup>(1)</sup>

Larger diameters on demand

(<sup>1</sup>) 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

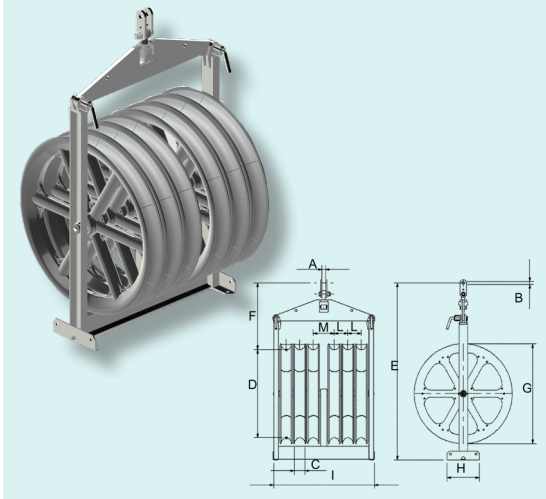
	Dimensions (mm)									Working Load	Weight
	A	B	C	D	E	F	G	H	L	kN	kg
F149.50.68	25	25	520	500	68	145	100	700	1250	40	128
F149.65.68	25	25	590	650	68	145	100	700	1400	40	147
F149.65.95	25	30	590	650	95	175	130	820	1400	60	185
F149.80.68	25	25	590	800	68	145	100	700	1560	60	180
F149.80.95	25	30	590	800	95	175	130	820	1560	60 <sup>(1)</sup>	220 <sup>(1)</sup>
F149.100.95	30	30	590	1000	95	175	130	820	1800	67 <sup>(1)</sup>	272 <sup>(1)</sup>

Larger diameters on demand

(<sup>1</sup>) 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



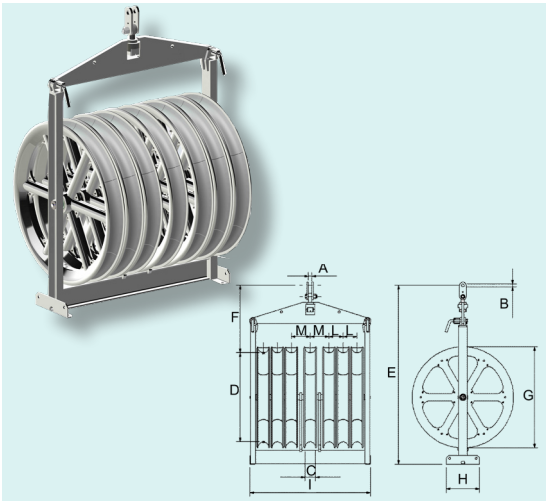
Six-sheave running out block, fit for stringing 6 conductors. Aluminium sheaves mounted on sealed ball bearings. Grooves lined with nylon sectors. Steel frame with non-fleeting devices on lateral sheaves. Demountable attachment revolving by 90°.

### 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)											Working Load	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

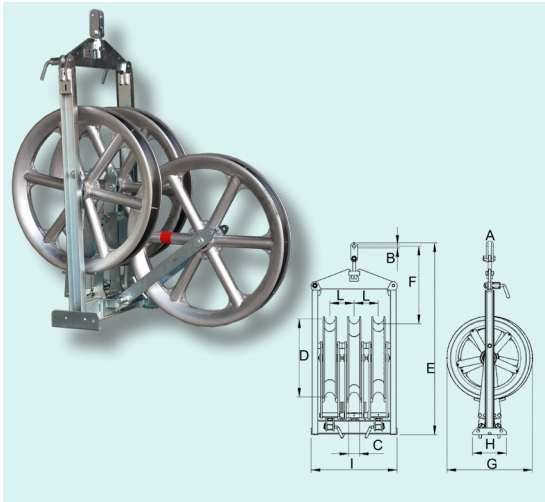
- 314 Sheaves lined with aluminium sectors
- 325 Central sheave lined with steel sectors
- 326 Grounding device (opt.314 needed)
- 329 Copper cable, 6-m long, with transparent PVC protection, with a clamp for tower and a terminal for the running out block (opt.326)

	Dimensions (mm)											Working Load	Weight
	A	B	C	D	E	F	G	H	I	L	M	kN	kg
F189.65.68	30	30	68	650	1400	590	100	400	930	100	145	40	195
F189.65.95	30	30	95	650	1400	590	125	400	1100	125	170	60	235
F189.80.68	30	30	68	800	1560	590	100	500	930	100	145	60	240
F189.80.95	30	30	95	800	1560	590	125	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



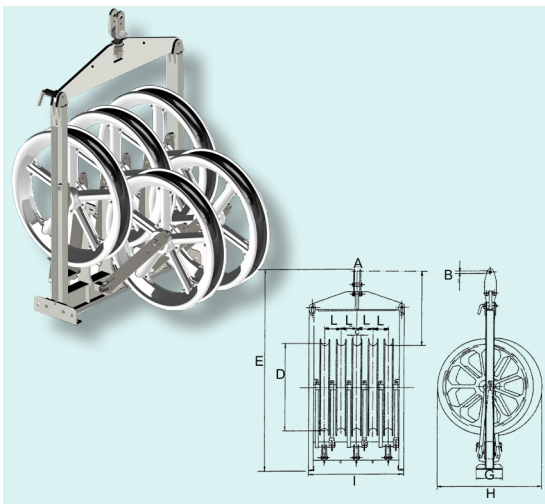
Detachable three-sheave running out block fit for stringing two- three-bundled conductors. The frame contains 3 running-out blocks that can be used singularly. Aluminium sheaves mounted on sealed ball bearings. Grooves lined with nylon sectors. Galvanised steel frame. Central sheave mounted on double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

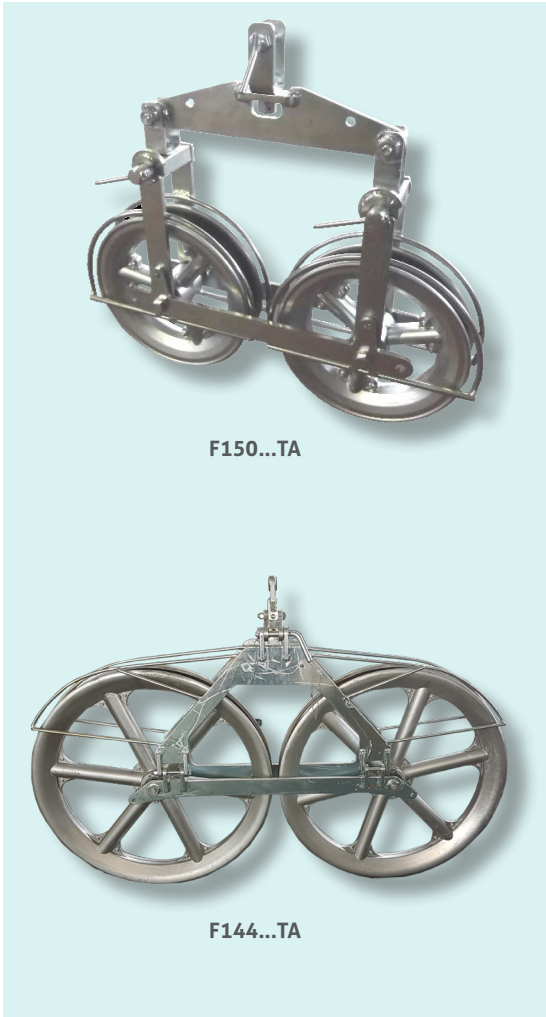
- 314 Sheaves lined with aluminium sectors
- 326 Grounding device (opt.314 needed)
- 329 Copper cable, 6-m long, with transparent PVC protection, with a clamp for tower and a terminal for the running out block

	Dimensions (mm)										Working Load	Weight
	A	B	C	D	E	F	G	H	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

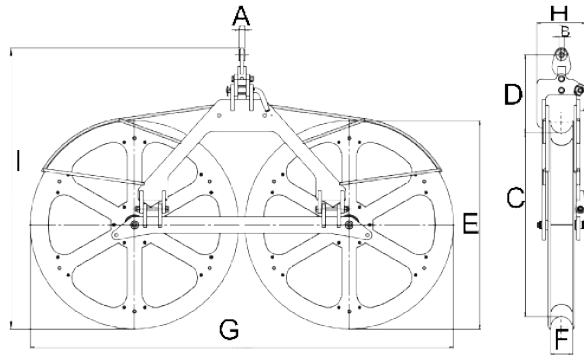
Dimensions and weights are without optional devices. All data may change without notice. Images and drawings are indicative only.

PULLEY BLOCKS

# F144...TA F150...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.

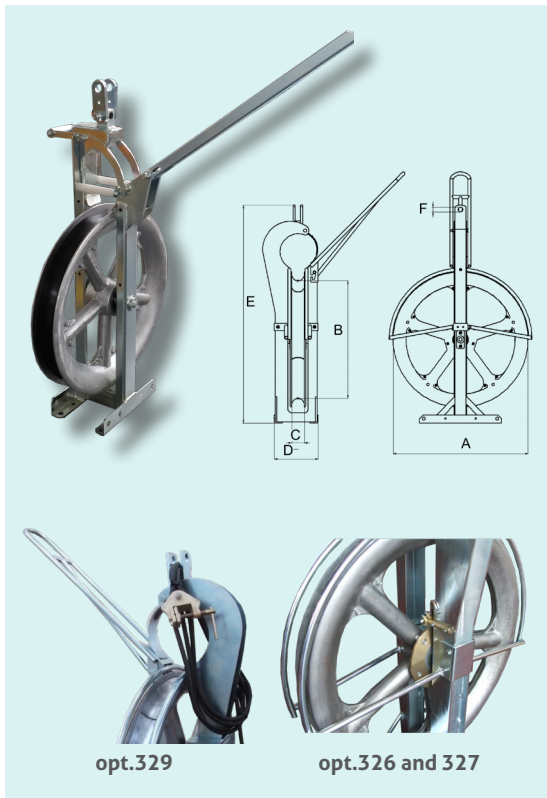


	Dimensions (mm)							Working load	Weight
	A	B	C	D	E	F	G		
F150.23.TA	20	16	230	160	300	50	650	40	27
F150.35.TA	20	18	350	160	440	60	920	45	38
F144.50.70.TA	25	21	500	350	630	68	1300	50	72
F144.65.70.TA	25	21	650	350	770	68	1600	55	85
F144.65.95.TA	25	21	650	350	770	95	1600	65	95
F144.80.70.TA	25	21	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



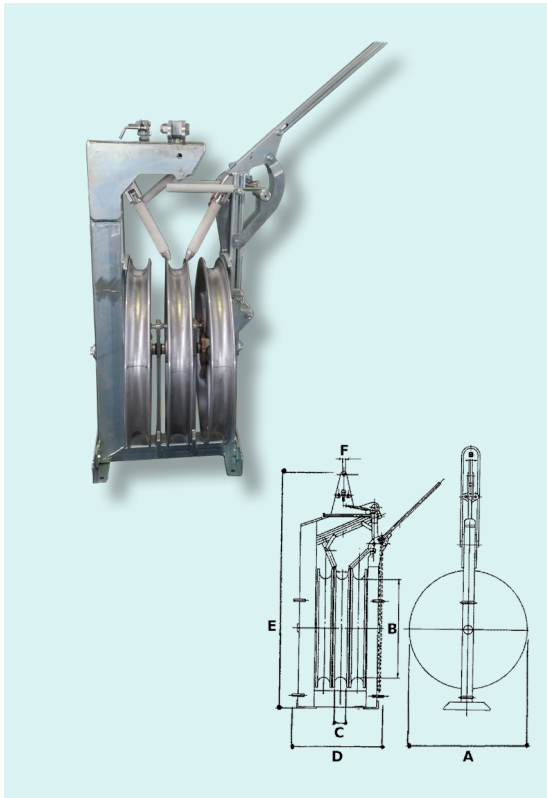
Single sheave block fit for stringing a pilot rope by helicopter. Proper devices allow to position the pulling rope in the sheave groove and keep it inside the groove during stringing operations. Aluminium sheave mounted on waterproof bearings. Groove lined with nylon sectors. Galvanized steel frame. 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 kN	Weight kg
	A	B	C	D	E	F		
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.

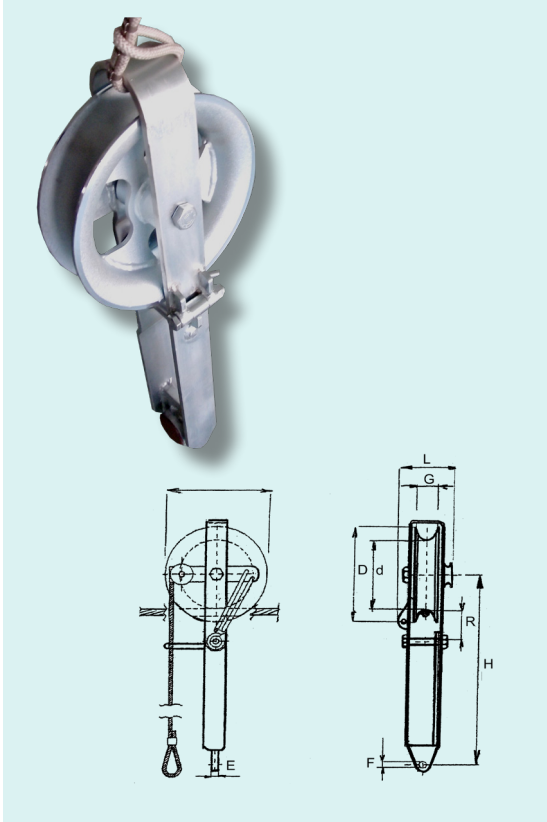
**OPTIONAL DEVICES**

- 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 kN	Weight kg
	A	B	C	D	E	F		
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

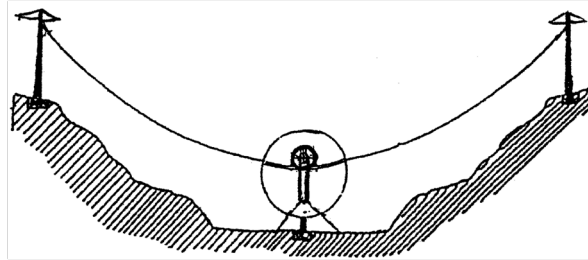
Dimensions and weights are without optional devices. All data may change without notice. Images and drawings are indicative only.

# 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 kN	Weight kg
	d	D	E	F	G	H	L	R		
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:

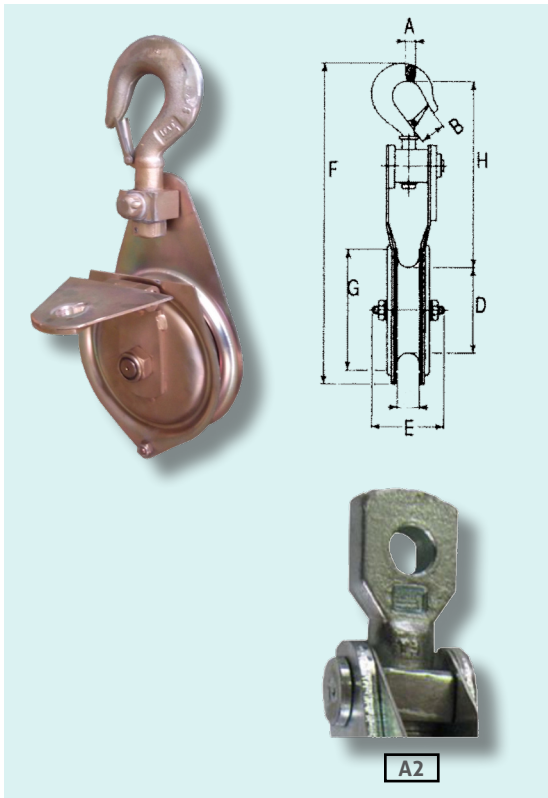
- A - swivel hook (optional)
- B - swivel fork (standard)
- C - fix hook (optional)

Blocks with different dimensions can be built on demand

	Attachment type	Dimensions (mm)								Working Load kN	Weight kg
		d	D	E	F	G	H	L	R		
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.

# C86.ST



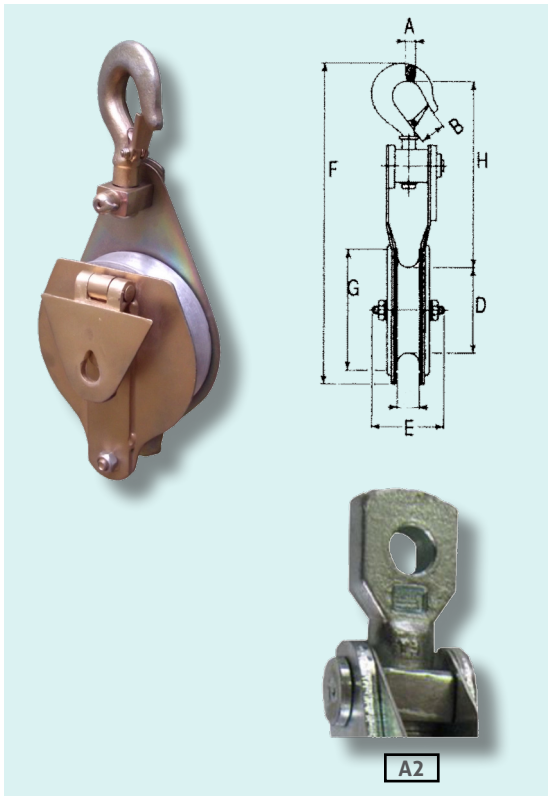
Openable snatch block. Galvanised steel sheave mounted on ball bearings.  
Galvanised steel frame with openable side. Standard hook attachment.

**OPTIONAL DEVICES**

eye attachment **A2**

	Working Load	Max rope	Dimensions (mm)							Weight
	kN	Ø	A	B	D	E	F	G	H	kg
C86.ST.20.1	30	20	23	28	102	75	400	132	210	6,5
C86.ST.40.1	50	25	40	45	140	90	475	165	380	10,2
C86.ST.50.1	80	27	45	45	145	115	500	192	410	14,5

# C86.AL



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

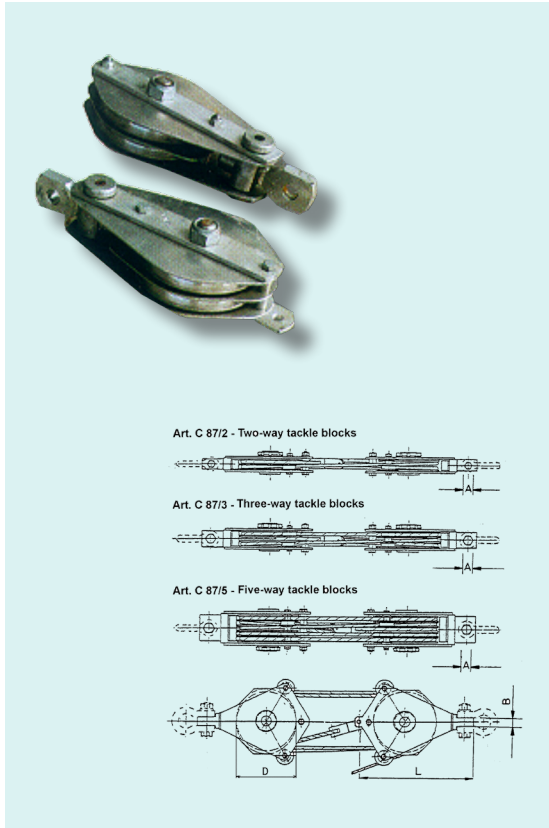
**OPTIONAL DEVICES**

eye attachment **A2**

	Working Load	Max rope	Dimensions (mm)							Weight
	kN	Ø	A	B	D	E	F	G	H	kg
C86.AL.6	8	16	16	16	98	72	300	120	160	1,6
C86.AL.12	12	20	18	25	130	72	320	155	180	2,8

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

# C87



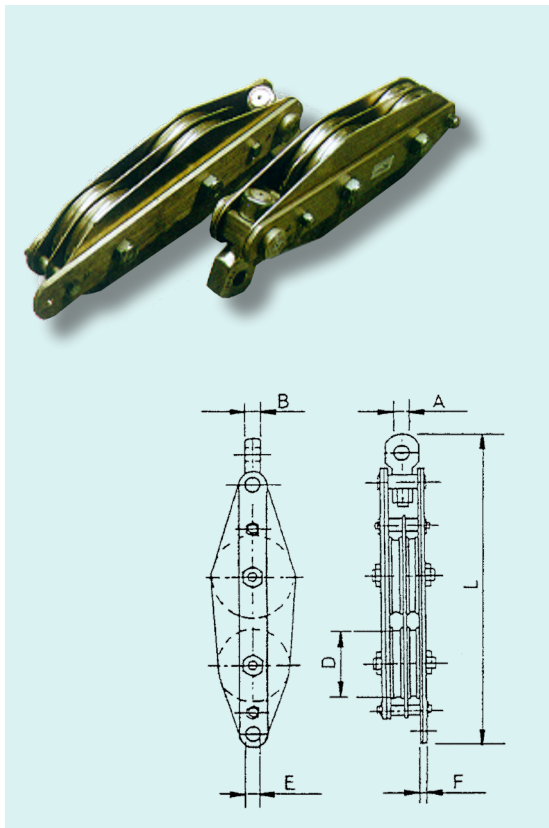
Snatch block for wire ropes. Galvanised steel frame with 2, 3 or 5 steel sheaves mounted on waterproof ball bearings. The snatch blocks are supplied in pairs.

### 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)				Working load kN	Weight per pair kg
	no.	D min	rope Ø	L max	A	B		
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

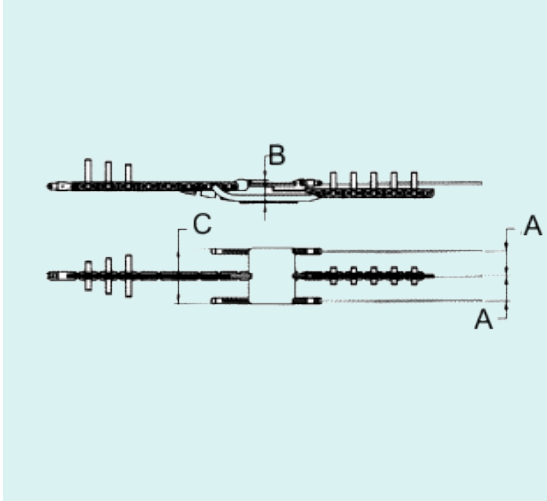
- 01 Aluminium sheaves

	Sheaves		Dimensions (mm)					Working load kN	Weight per pair kg
	no.	D min	rope Ø	L max	A	B	E min		
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

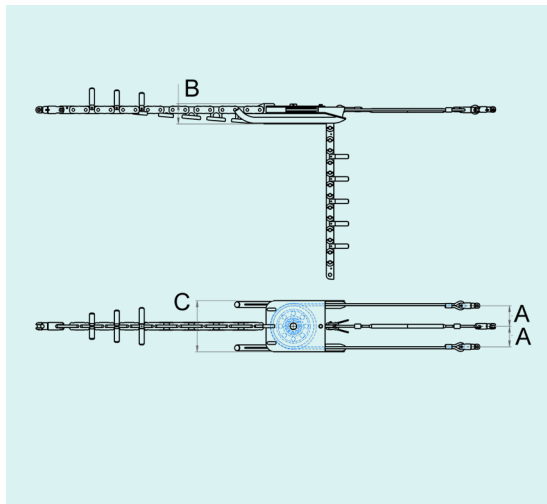
**F153.3...F Fixed type** running board for 3-bundle conductors, fit for connecting the pulling rope to 3 conductors. The running board is made up of:

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

	Cond.	Dimensions (mm)			Joints (model)		Rope for conductors		Working Load kN	Weight kg
		(a)	A	B	C	(b)	(c)	Ø mm		
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:

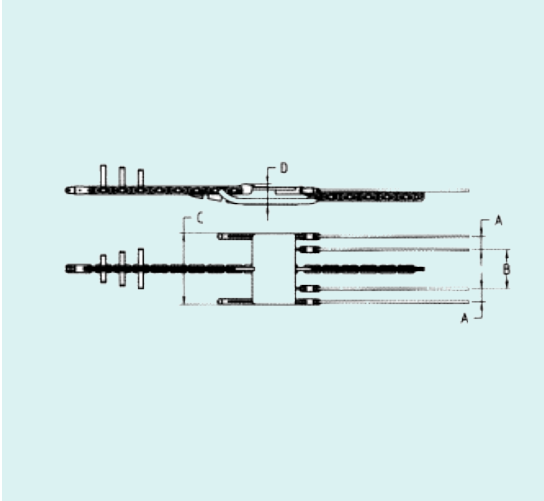
- 1 sheave with balancing counterweights
- 1 swivel joint for the pulling rope
- 3 swivel joints for the conductors
- 2 lengths of antitwisting steel rope: 1 for the lateral conductors and 1 for the central conductor

	Cond.	Dimensions (mm)			Joints (model)		Rope for conductors			Working Load kN	Weight kg
		(a)	A	B	C	(b)	(c)	Ø mm	(e) m		
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



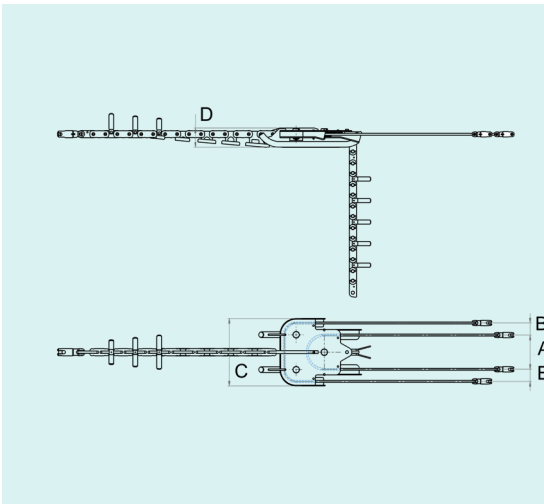
**Fixed type** running board for 4-bundle conductors fit for connecting the pulling rope to 4 conductors. The running board is made up of:

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

	Cond.	Dimensions (mm)			Thickness mm	Joints (model)		Rope for conductors		Working Load kN	Weight kg
		(a)	A	B		C	(b)	(c)	Ø mm		
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

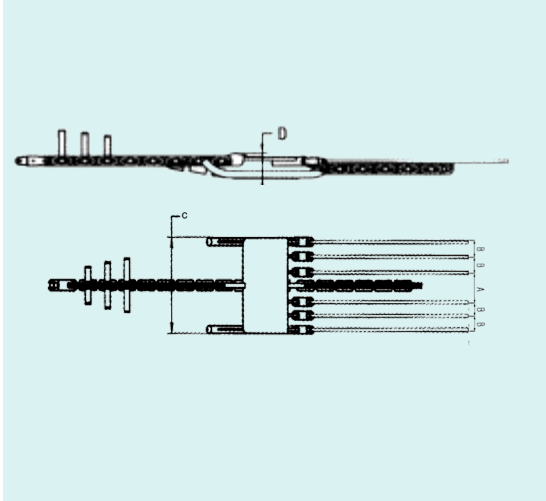
	Cond.	Dimensions (mm)				Joints (model)		Rope for conductors			Working Load kN	Weight kg
		(a)	A	B	C	D	(b)	(c)	Ø mm	(e) m		
F154.4.1	4	290	100	540	160	F250.R.24.1	F250.R.18.1	18	30	30	95	200
F154.4.2	4	340	130	640	160	F250.R.24.1	F250.R.18.1	18	30	30	95	220
F154.4.5	4	296	148	640	160	F250.R.24.1	F250.R.18.1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

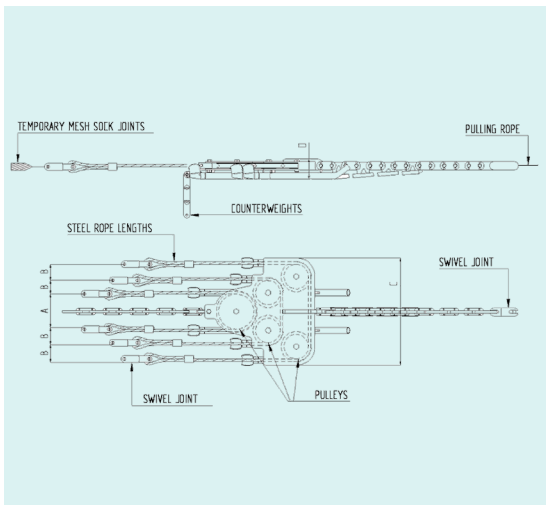
- 1 swivel joint for the pulling rope
- 6 swivel joints for the conductors

	Dimensions (mm)				Joints (model)		Rope for conductors		Working Load kN	Weight kg
	A	B	C	D	(a)	(b)	Ø mm	length m		
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

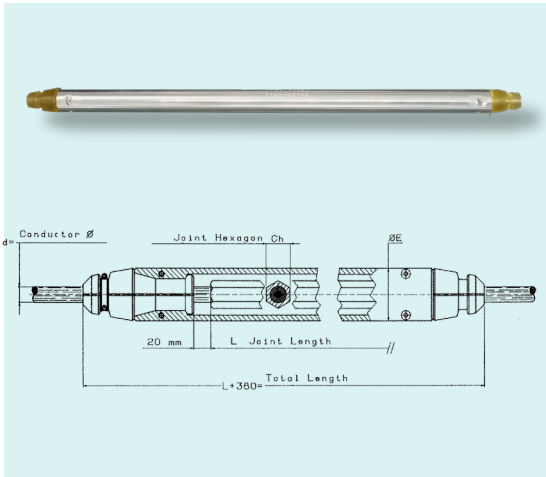
	Dimensions (mm)				Joints (model)		Rope for conductors		Working Load kN	Weight kg
	A	B	C	D	(a)	(b)	Ø mm	length m		
F154.6.1	290	100	820	175	F250.R.28.1	F250.R.18.1	18	3	150	320
F154.6.2	340	125	1000	175	F250.R.28.1	F250.R.18.1	18	3	150	350

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

Running board fit for pulley mod. F189

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

# 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

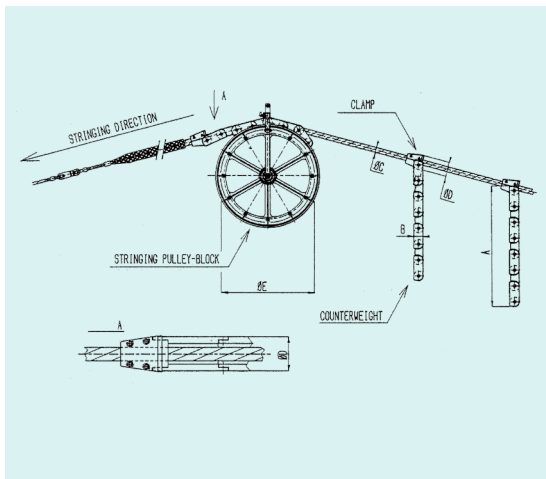
d = conductor diameter

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.

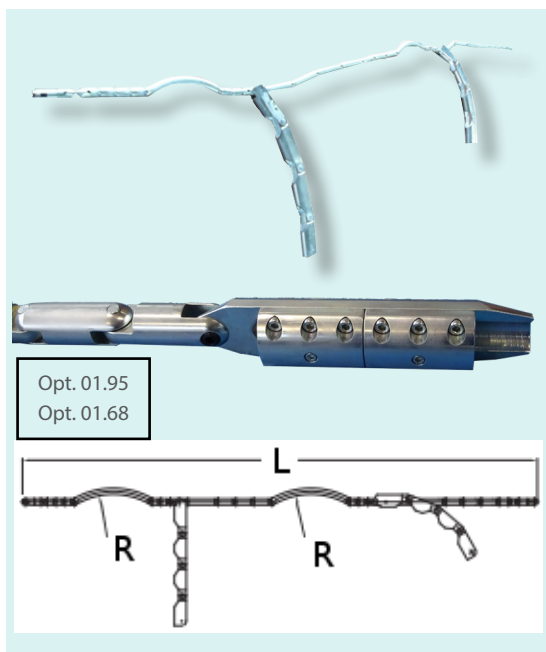
In the purchase order, please specify the OPGW diameter.

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

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

(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

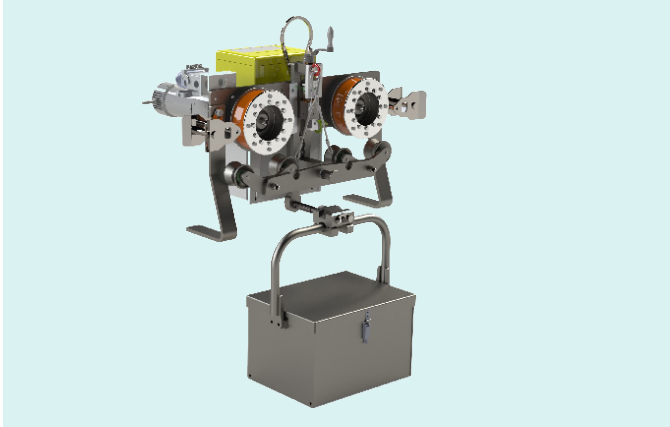
01.68 Clamp for OPGW conductor to be applied at the head of the counterweight, instead of the pulling stocking. Running out block groove width = 68 mm.

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



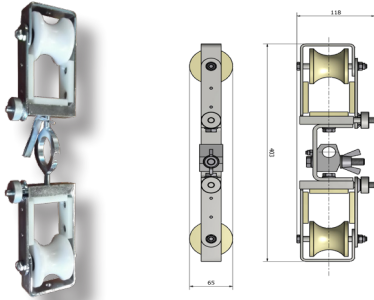
**RADIO-CONTROL**

Radioccontrol 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

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

## 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

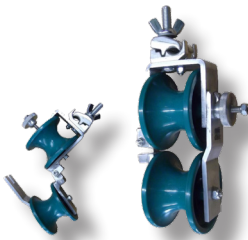
Dimensions: 364x99x160 mm

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.

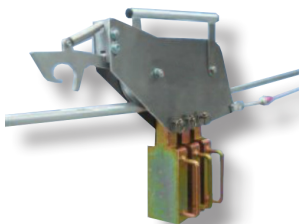
Working load: 150 daN

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)





















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