HV TRANSMISSION LINE STRINGING

MACHINES

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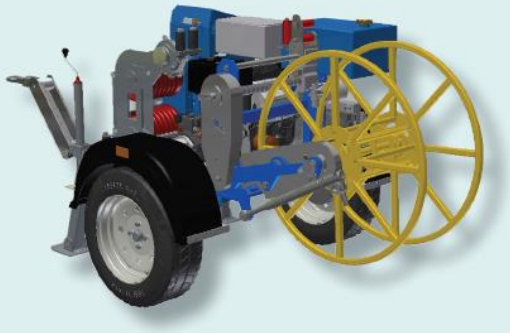
Supplier of machines and equipment for laying and pulling cables and pipelines

01
HYDRAULIC PULLERS

F265.20

max pull 20 kN



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

FEATURES	
Capstans	2 x Ø 200 mm
Max nylon rope diam.	12 mm
Max steel rope diam.	8 mm

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

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

REEL	
Type	extractable self-loading
Capacity of steel rope:	
Ø 12 mm	1000 m
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 Ø825 mm.

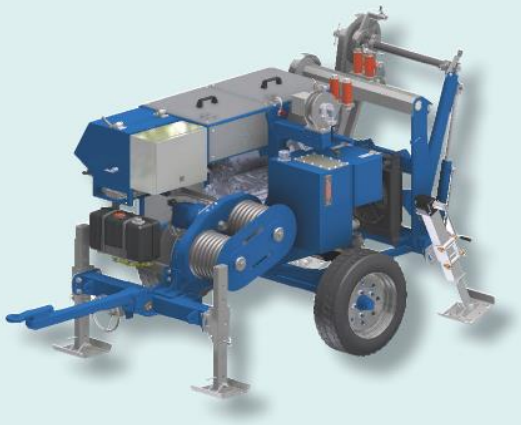
OPTIONAL DEVICES

003	Damped axle for towing on road, with mechanical brake (homologation excluded).
027	Metallic coverage with doors.
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. F 276 and F 279.

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	
Capstans	2 x Ø 250 mm
Grooves on the capstans	7 + 7
Max rope diameter	13 mm
Max joint diameter	40 mm
Dimensions LxWxH	2,10x1,60x1,60 m
Weight (without rope)	1100 kg

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

PULL PERFORMANCES	
Max pull	30 kN
Speed at max pull	1,2 km/h
Max speed	3,8 km/h
Pull at max speed	12 kN

CONFIGURATION

- One pair of multi-grooved steel capstans fit for stringing one steel rope.
- Machine control panel equipped with built-in electronic instrument featuring a large graphic color 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	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 F 279.

Performances of the machine without optional devices, at sea level and temperature 20°C.
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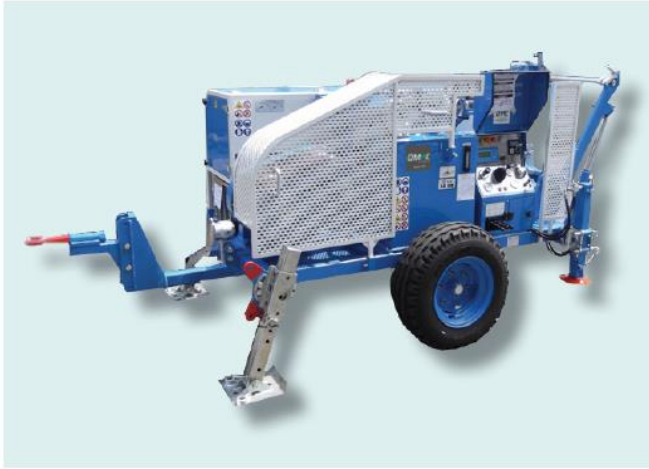
F280.35

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	
Capstans	2 x Ø 325 mm
Grooves on the capstans	7 + 7
Max rope diameter	16 mm
Max joint diameter	45 mm
Dimensions LxWxH	2,15x1,60x1,55 m
Weight (without rope)	1700 kg

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

PULL PERFORMANCES	
Max pull	35 kN
Speed at max pull	1,2 km/h
Max speed	4 km/h
Pull at max speed	13 kN

CONFIGURATION

- One pair of multi-grooved steel capstans fit for stringing one steel rope.
- Machine control panel equipped with built-in electronic instrument featuring a large graphic color 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	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 F 279.

Performances of the machine without optional devices, at sea level and temperature 20°C.
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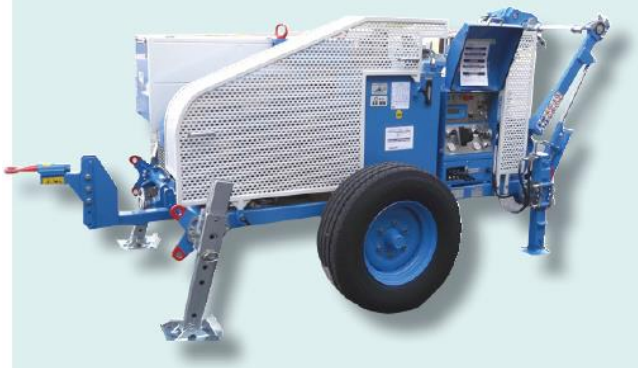
F230.45

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	
Capstans	2 x Ø 400 mm
Grooves on the capstans	7 + 7
Max rope diameter	16 mm
Max joint diameter	50 mm
Dimensions LxWxH	2,85x1,80x1,85 m
Weight (without rope)	2100 kg

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

PULL PERFORMANCES	
Max pull	45 kN
Speed at max pull	2,2 km/h 2,4 km/h *
Max speed	5 km/h
Pull at max speed	17 kN 20 kN *

CONFIGURATION

- One pair of multi-grooved steel capstans fit for stringing one steel rope.
- Machine control panel equipped with built-in electronic instrument featuring a large graphic color 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 F 279.

*** 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.
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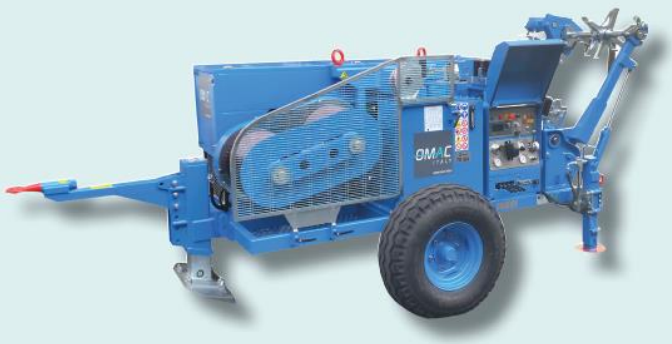
F230.70

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	
Capstans	2 x Ø 400 mm
Grooves on the capstans	8 + 8
Max rope diameter	18 mm
Max joint diameter	50 mm
Dimensions LxWxH	3,20x1,95x2,00 m
Weight (without rope)	2400 kg

ENGINE	
Feeding	diesel
Power	84 hp / 62 kW 100 hp / 75 kW *
Cooling	water
Electric plant	12 V

PULL PERFORMANCES	
Max pull	70 kN
Speed at max pull	1,8 km/h 2,0 km/h *
Max speed	4,5 km/h
Pull at max speed	32 kN 36 kN *

CONFIGURATION

- One pair of multi-grooved steel capstans fit for stringing one steel rope.
- Machine control panel equipped with built-in electronic instrument featuring a large graphic color 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 F 279.

*** 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.
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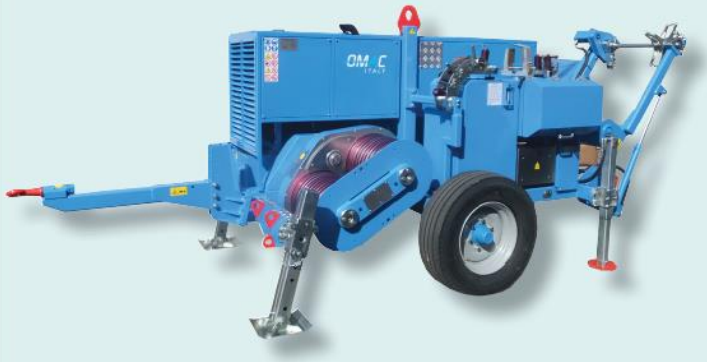
F235.90

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	
Capstans	2 x Ø 450 mm
Grooves on the capstans	9 + 9
Max rope diameter	20 mm
Max joint diameter	60 mm
Dimensions LxWxH	3,70x2,15x2,10 m
Weight (without rope)	3900 kg

ENGINE	
Feeding	diesel
Power	138 hp / 102 kW 150 hp / 110 kW *
Cooling	water
Electric plant	12 V

PULL PERFORMANCES	
Max pull	90 kN
Speed at max pull	2,4 km/h 2,5 km/h *
Max speed	5 km/h
Pull at max speed	40 kN 40 kN *

CONFIGURATION

- One pair of multi-grooved steel capstans fit for stringing one steel rope.
- Machine control panel equipped with built-in electronic instrument featuring alarge graphic color 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.
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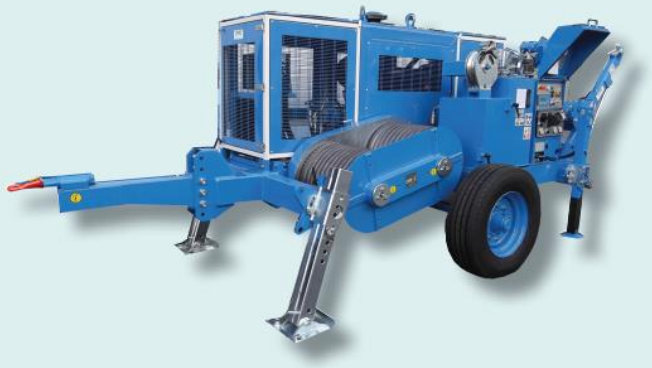
F260.140

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	
Capstans	2 x Ø 600 mm
Grooves on the capstans	10 + 10
Max rope diameter	24 mm
Max joint diameter	60 mm
Dimensions LxWxH	3,95x2,40x2,20 m
Weight (without rope)	4900 kg

ENGINE	
Feeding	diesel
Power	175 hp / 129 kW 175 hp / 130 kW *
Cooling	water
Electric plant	12 V

PULL PERFORMANCES	
Max pull	140 kN
Speed at max pull	1,8 km/h 1,8 km/h *
Max speed	4,5 km/h
Pull at max speed	55 kN 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 featuring a large graphic color 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.
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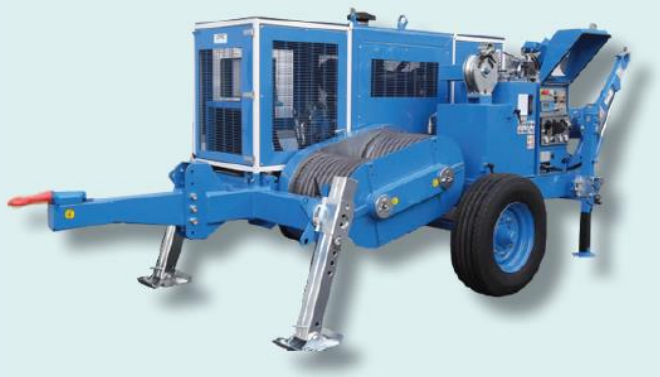
F260.160

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	
Capstans	2 x Ø 600 mm
Grooves on the capstans	10 + 10
Max rope diameter	24 mm
Max joint diameter	60 mm
Dimensions LxWxH	4,10x2,42x2,30 m
Weight (without rope)	5200 kg

ENGINE	
Feeding	diesel
Power	280 hp / 209 kW 275 hp / 205 kW *
Cooling	water
Electric plant	24 V

PULL PERFORMANCES	
Max pull	160 kN
Speed at max pull	2,5 km/h 2,5 km/h *
Max speed	5 km/h
Pull at max speed	80 kN 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 featuring a large graphic color display and a USB port.
- **Maintenance-free load cell reading system.**
- **Electronic instrument by-pass.**
- Device for pull force setting which allows to maintain the pre-set force even at speed “0”.
- Safety negative hydraulic brake.
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site.
- Hydraulic back stabilisers and manual front stabilisers.
- Attachments for anchoring and for lifting.
- Heat exchanger to cool the oil in the hydraulic circuit.
- Reelwinder fit for a 1600-mm-dia reel, with automatic ropewinder.

OPTIONAL DEVICES

008	Axle with leaf spring suspensions, drawbar, pneumatic braking system, tires and lights for towing on the road (without homologation).
006.1	Lights for towing on the road.
006.2	Pneumatic braking system.
028.7	Device to start the diesel engine and the hydraulic circuit at low temperatures (up to -30°C).
037	Remote control by cable, with 10 m of cable.
038	Radio-control (max distance 100 m).
045.2	Automatic clamp for rope.
045.3	Manual clamp for rope. 047 Hydraulic front stabilisers.
069.5	Printer with accessories, complete with case.
084	Bigger reelwinder fit for a 1900-mm-dia reel.
115	Setting-up for pulling 2 ropes simultaneously.
014	Second reel-winder, ideal to complete the opt. 115.
174.1	Synchronising device for the connection of 2 machines to pull 2 ropes simultaneously, complete with cable-control (20 m).

*** According to the EC directive 97/68/CE with subsequent amendments and additions.**
Performances of the machine without optional devices, at sea level and temperature 20°C.
Dimensions and weights are without optional devices. All data may change without notice. Images and drawings are indicative only.

F375.240

max pull 240 kN

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

FEATURES	
Capstans	2 x Ø 800 mm
Grooves on the capstans	12 + 12
Max rope diameter	32 mm
Max joint diameter	80 mm
Dimensions LxWxH	5,10x2,50x3,00 m
Weight (without rope)	9500 kg

ENGINE	
Feeding	diesel
Power	380 hp / 280 kW
Cooling	water
Electric plant	24 V

PULL PERFORMANCES	
Max pull	240 kN
Speed at max pull	2,5 km/h
Max speed	5 km/h
Pull at max speed	130 kN

CONFIGURATION

- One pair of multi-grooved steel capstans fit for stringing one steel rope.
- Machine control panel equipped with built-in electronic instrument featuring a large graphic color display and a USB port.
- **Maintenance-free load cell reading system.**
- **Electronic instrument by-pass.**
- Device for pull force setting which allows to maintain the pre-set force even at speed “0”.
- Safety negative hydraulic brake.
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site.
- Hydraulic back and front stabilisers.
- Attachments for anchoring and for lifting.
- Heat exchanger to cool the oil in the hydraulic circuit.
- Reelwinder fit for a 1900-mm-dia reel, with automatic ropewinder.

OPTIONAL DEVICES

005.1	Chassis with tandem axle, drawbar, suspensions, air braking system, tires and lights for towing on the road (homologation excluded).
008	Axle with leaf spring suspensions, drawbar, pneumatic braking system, tires and lights for towing on the road (without homologation).
006.1	Lights for towing on the road.
006.2	Pneumatic braking system.
028.7	Device to start the diesel engine and the hydraulic circuit at low temperatures (up to -30°C).
037	Remote control by cable, with 10 m of cable.
038	Radio-control (max distance 100 m).
045.2	Automatic clamp for rope.
045.3	Manual clamp for rope.
069.5	Printer with accessories, complete with case.
084	Bigger reelwinder fit for a 2250-mm-dia reel.
115	Setting-up for pulling 2 ropes simultaneously.
014	Second reel-winder, ideal to complete the opt. 115.

Performances of the machine without optional devices, at sea level and temperature 20°C.
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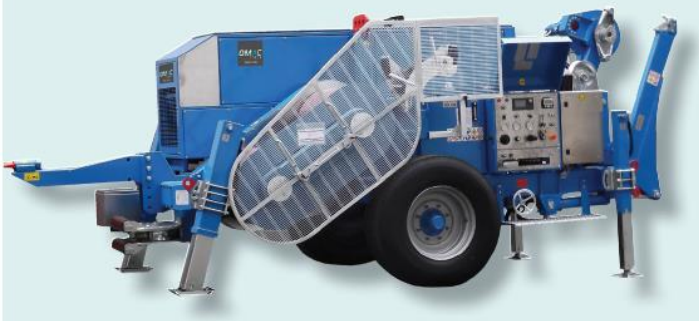
F250.280

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	
Capstans	2 x Ø 960 mm
Grooves on the capstans	12 + 12
Max rope diameter	38 mm
Max joint diameter	80 mm
Dimensions LxWxH	5,40x2,50x3,15 m
Weight (without rope)	13000 kg

ENGINE	
Feeding	diesel
Power	490 hp / 360 kW
Cooling	water
Electric plant	24 V

PULL PERFORMANCES	
Max pull	280 kN
Speed at max pull	2,5 km/h
Max speed	5 km/h
Pull at max speed	140 kN

CONFIGURATION

- One pair of multi-grooved steel capstans fit for stringing one steel rope.
- Machine control panel equipped with built-in electronic instrument featuring a large graphic color display and a USB port.
- **Maintenance-free load cell reading system.**
- **Electronic instrument by-pass.**
- Device for pull force setting which allows to maintain the pre-set force even at speed “0”.
- Safety negative hydraulic brake.
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site.
- Hydraulic back and front stabilisers.
- Attachments for anchoring and for lifting.
- Heat exchanger to cool the oil in the hydraulic circuit.
- Reelwinder fit for a 1900-mm-dia reel, with automatic ropewinder.

OPTIONAL DEVICES

005.1	Chassis with tandem axle, drawbar, suspensions, air braking system, tires and lights for towing on the road (homologation excluded).
008	Axle with leaf spring suspensions, drawbar, pneumatic braking system, tires and lights for towing on the road (without homologation).
006.1	Lights for towing on the road.
006.2	Pneumatic braking system.
028.7	Device to start the diesel engine and the hydraulic circuit at low temperatures (up to -30°C).
037	Remote control by cable, with 10 m of cable.
038	Radio-control (max distance 100 m).
045.2	Automatic clamp for rope.
045.3	Manual clamp for rope.
069.5	Printer with accessories, complete with case.
084	Bigger reelwinder fit for a 2250-mm-dia reel.
115	Setting-up for pulling 2 ropes simultaneously.
014	Second reel-winder, ideal to complete the opt. 115.

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

F260.150.22

max pull 150 kN (2 x 75 kN)

Hydraulic puller fit to pull one or two ropes in stringing operations of overhead transmission lines. Two hydraulic circuits allow to continuously vary the speed in both directions by operating two independent control devices. The two circuits may also be matched and operated together by one control device.

FEATURES	
Capstans	4 x Ø 600 mm
Max rope diameter	2 X 26 mm
Max joint diameter	60 mm
Dimensions LxWxH	4,60x2,45x2,75 m
Weight (without rope)	8500 kg

ENGINE	
Feeding	diesel
Power	280 hp / 209 kW
Cooling	water
Electric plant	24 V

PULL PERFORMANCES	
Max pull	1 X 150 kN or 2 x 75 kN
Speed at max pull	2,6 km/h
Max speed	4,6 km/h
Pull at max speed	1 x 90 kN or 2 x 45 kN

CONFIGURATION

- Two pairs of multi-grooved steel capstans fit for stringing two steel ropes.
- Machine control panel equipped with 2 built-in electronic instruments featuring a large graphic color display and a USB port.
- **Maintenance-free load cell reading system.**
- **Electronic instrument by-pass.**
- Two devices for pull force setting which allows to maintain the pre-set force even at speed “0”.
- Two safety negative hydraulic brakes.
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site.
- Hydraulic back and front stabilisers.
- Attachments for anchorage and for lifting.
- Heat exchanger to cool the oil in the hydraulic circuit.
- Devices for coupling the two pairs of capstans, fit to obtain the max force of 15000 daN stringing one rope.
- Two reelwinders fit for 1400-mm-dia reels, with automatic ropewinder.

OPTIONAL DEVICES

005.1	Chassis with tandem axle, drawbar, suspensions, air braking system, tires and lights for towing on the road (homologation excluded).
006.1	Lights for towing on the road.
006.2	Pneumatic braking system.
028.7	Device to start the diesel engine and the hydraulic circuit at low temperatures (up to -30°C).
037	Remote control by cable, with 10 m of cable.
038	Radio-control (max distance 100 m).
045.2	Automatic clamp for rope.
045.3	Manual clamp for rope.
069.5	Printer with accessories, complete with case.

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

F260.180.22

max pull 180 kN (2 x 90 kN)

Hydraulic puller fit to pull one or two ropes in stringing operations of overhead transmission lines. Two hydraulic circuits allow to continuously vary the speed in both directions by operating two independent control devices. The two circuits may also be matched and operated together by one control device.

FEATURES	
Capstans	4 x Ø 600 mm
Max rope diameter	2 X 28 mm
Max joint diameter	60 mm
Dimensions LxWxH	4,60x2,45x2,90 m
Weight (without rope)	8900 kg

ENGINE	
Feeding	diesel
Power	280 hp / 209 kW
Cooling	water
Electric plant	24 V

PULL PERFORMANCES	
Max pull	1 X 180 kN or 2 x 90 kN
Speed at max pull	2,2 km/h
Max speed	4,6 km/h
Pull at max speed	1 x 90 kN or 2 x 45 kN

CONFIGURATION

- Two pairs of multi-grooved steel capstans fit for stringing two steel ropes.
- Machine control panel equipped with 2 built-in electronic instruments featuring a large graphic color 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.

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 onl

02

HYDRAULIC TENSIONERS

F120.25

max tension 25 kN

Hydraulic tensioner fit to tension one conductor or fiber optic cable. One hydraulic circuit allows to tension at constant force even varying the speed of stringing.

FEATURES	
Capstans	2 x Ø 1500 mm
Capstans grooves	6 + 6
Max conductor diameter	36 mm
Dimensions LxWxH	3,85x1,80x2,25 m
Weight	2000 kg

TENSION PERFORMANCES	
Max tension force	25 kN
Min tension force	1kN
Max speed	5 km/h

ELICORD - with opt.024.1	
Max diameter of elicord cable	80 mm

CONFIGURATION

- One pair of steel capstans lined with multi-grooved nylon sectors.
- Machine control panel equipped with hydraulic dynamometer and mechanical metercounter.
- Device to control low-force tensions (min. 1 kN), specially fit for optical fibers.
- 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.
- Heat exchanger to cool the oil in the hydraulic circuit.
- Grounding connection point.

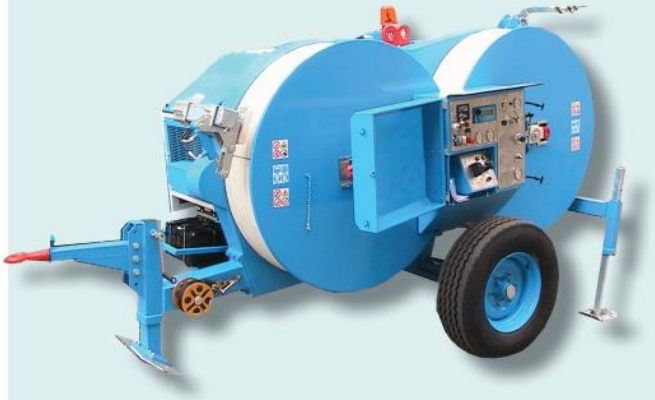
OPTIONAL DEVICES

010	Arrangement to use the machine as a puller (fed by a separated hydraulic power unit).
024.1	Aluminium sectors with grooves, fit for tripolar cable ELICORD 80-mm dia.
045.3	Manual clamp for conductor.
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.

F120.30

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	
Capstans	2 x Ø 1500 mm
Capstans grooves	5 + 5
Max conductor diameter	1 x 36 mm
Dimensions LxWxH	3,85x1,85x2,20 m
Weight	2500 kg

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

TENSION PERFORMANCES	
Max tension force	30 kN
Min tension force	1,5 kN
Max speed	5 km/h

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

CONFIGURATION

- One pair of steel capstans lined with multi-grooved nylon sectors.
- Machine control panel equipped with built-in electronic instrument featuring a large graphic color display and a USB port.
- **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.

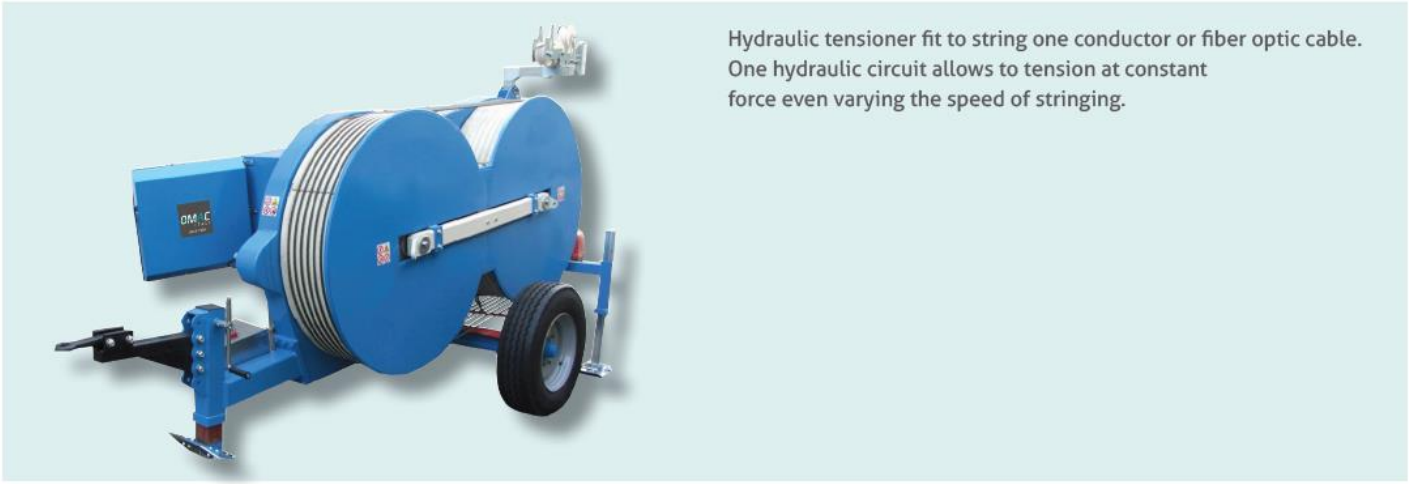
OPTIONAL DEVICES

008	Damped axle, air brake, drawbar and lights.
006.4	Arrangement of the chassis for circulation on road (homologation excluded).
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.

F120.40.2

max tension 40 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.

FEATURES	
Capstans	2 x Ø 1500 mm
Capstans grooves	8 + 8
Max conductor diameter	2 x 36 mm
Dimensions LxWxH	3,85x2,00x2,20 m
Weight	2600 kg

TENSION PERFORMANCES	
Max tension force	40 kN
Min tension force	1,5 kN
Max speed	5 km/h

ALSO AVAILABLE VERSION WITH Ø1200 mm CAPSTANS

CONFIGURATION

- One pair of steel capstans lined with multi-grooved nylon sectors.
- Machine control panel equipped with hydraulic dynamometer and mechanical metercounter.
- Device to control low-force tensions (1,5-15 kN), specially fit for optical fibers.
- 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.
- Grounding connection point.

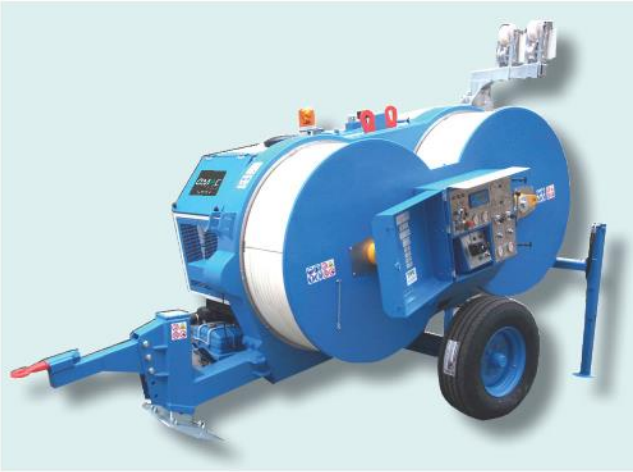
OPTIONAL DEVICES

010	Arrangement to use the machine as a puller (fed by a separated hydraulic power unit).
045.3	Manual clamp for 2 conductors.
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	
Capstans	2 x Ø 1500 mm
Capstans grooves	8 + 8
Max conductor diameter	2 x 36 mm
Dimensions LxWxH	3,95x2,00x2,20 m
Weight	2700 kg

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

TENSION PERFORMANCES	
Max tension force	45 kN
Min tension force	2 kN
Max speed	5 km/h

PULL-BACK PERFORMANCES	
Max pull	45 kN
Max speed	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 featuring a large graphic color display and a USB port.
- **Maintenance-free load cell reading system.**
- **Electronic instrument by-pass.**
- Device to control low-force tensions (2-15 kN), specially fit for optical fibers.
- **Self-recovery device for sagging operations.**
- Freewheeling disconnection (neutral) of capstans.
- Safety negative hydraulic brake.
- Two back fix conductor-drivers with nylon rollers.
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site.
- Mechanical front plough and back stabilisers.
- Attachments for anchoring and for lifting.
- Heat exchanger to cool the oil in the hydraulic circuit.
- Auxiliary hydraulic circuit for controlling 1 or 2 reel-stands (not independent).
- Grounding connection point.

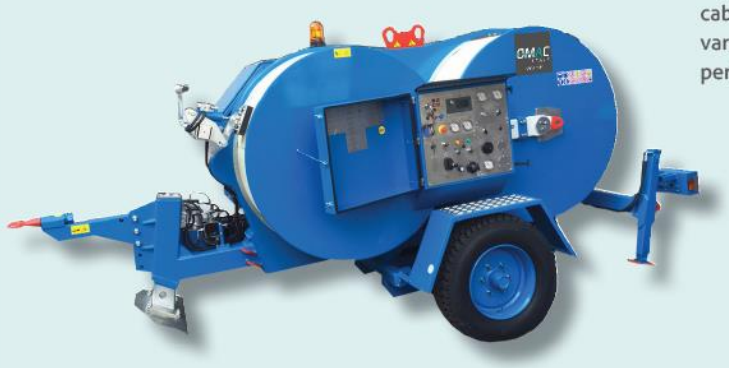
OPTIONAL DEVICES

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

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

F120.75.2

max tension 75 kN



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

FEATURES	
Capstans	2 x Ø 1500 mm
Capstans grooves	10 + 10
Max conductor diameter	2 x 42 mm
Dimensions LxWxH	3,95x2,10x2,20 m
Weight	3500 kg

ENGINE	
Feeding	diesel
Power	57 hp / 42 kW 35 hp / 26 kW *
Cooling	water
Electric plant	12 V

TENSION PERFORMANCES	
Max tension force	75 kN
Min tension force	2 kN
Max speed	5 km/h

PULL-BACK PERFORMANCES	
Max pull	75 kN
Max speed	1 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 featuring a large graphic color display and a USB port.
- **Maintenance-free load cell reading system.**
- **Electronic instrument by-pass.**
- Device to control low-force tensions (2-25 kN), specially fit for fibre-optic cables.
- Freewheeling disconnection (neutral) of capstans.
- **Self-recovery device for sagging operations.**
- Safety negative hydraulic brake.
- Two back fix conductor-drivers with nylon rollers.
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site.
- Mechanical front plough and back stabilisers.
- Attachments for anchoring and for lifting.
- Heat exchanger to cool the oil in the hydraulic circuit.
- Auxiliary hydraulic circuit for controlling 1 or 2 reel-stands (not independent).
- Grounding connection point.

OPTIONAL DEVICES

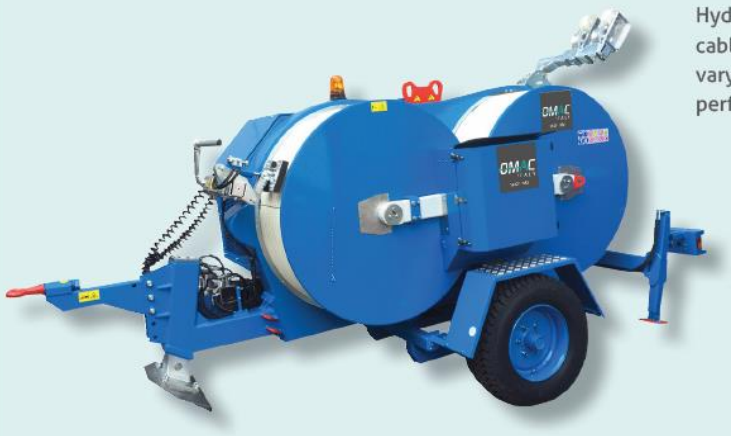
008	Damped axle, air brake, drawbar and lights.
006.4	Arrangement of the chassis for circulation on road (homologation excluded).
028.7	Device to start the diesel engine at low temperatures (up to -30°C).
037	Remote control by cable, with 10 m of cable.
038	Radio-control (max distance 100 m).
045.2	Automatic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

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

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

F120.90.2

max tension 90 kN



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

FEATURES	
Capstans	2 x Ø 1500 mm
Capstans grooves	10 + 10
Max conductor diameter	2 x 42 mm
Dimensions LxWxH	4,00x2,10x2,30 m
Weight	4100 kg

ENGINE	
Feeding	diesel
Power	57 hp / 42 kW 35 hp / 26 kW *
Cooling	water
Electric plant	12 V

TENSION PERFORMANCES	
Max tension force	90 kN
Min tension force	4 kN
Max speed	5 km/h

PULL-BACK PERFORMANCES	
Max pull	90 kN
Max speed	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 featuring a large graphic color 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.

OPTIONAL DEVICES

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

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

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

F120.100.22

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	
Capstans	4 x Ø 1500 mm
Capstans grooves	12 + 12
Max conductor diameter	2 x 42 mm
Dimensions LxWxH	4,50x2,25x2,80 m
Weight	5500 kg

ENGINE	
Feeding	diesel
Power	57 hp / 42 kW 75 hp / 55 kW *
Cooling	water
Electric plant	12 V

TENSION PERFORMANCES	
Max tension force	1 x 100 kN or 2 x 50 kN
Max speed	5 km/h

PULL-BACK PERFORMANCES	
Max pull	1 x 100 kN or 2 x 50 kN
Max speed	0,8 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 2 built-in electronic instruments featuring a large graphic color 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 indipendently.
- Grounding connection point.

OPTIONAL DEVICES

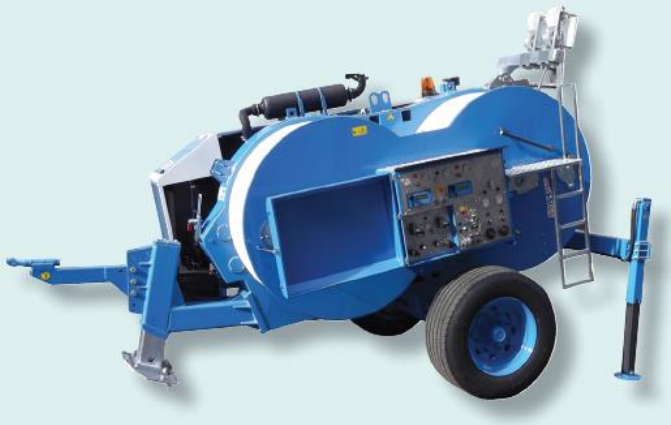
005.1	Chassis with 2 damped axles (tandem), air braking system and lights.
008	Damped axle, air brake, drawbar and lights.
006.4	Arrangement of the chassis for circulation on road (homologation excluded).
012	Predisposition of one hydraulic circuit to feed a press for high pressure joints (max. 700 bar).
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	
Capstans	4 x Ø 1800 mm
Capstans grooves	12 + 12
Max conductor diameter	2 x 46 mm
Dimensions LxWxH	4,50x2,25x2,80 m
Weight	7700 kg

ENGINE	
Feeding	diesel
Power	86 hp / 63 kW 75 hp / 55 kW *
Cooling	water
Electric plant	24 V

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

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

CONFIGURATION

- Two pairs of steel capstans lined with multi-grooved nylon sectors.
- Machine control panel equipped with 2 built-in electronic instruments featuring a large graphic color 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 indipendently.
- Grounding connection point.

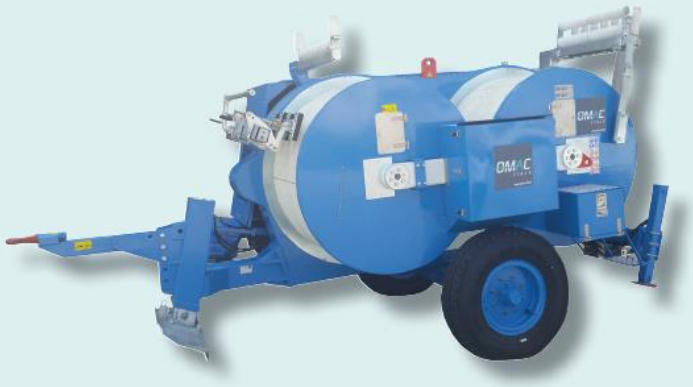
OPTIONAL DEVICES

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

*** According to the EC directive 97/68/CE with subsequent amendments and additions.**
Performances of the machine without optional devices, at sea level and temperature 20°C.
Dimensions and weights are without optional devices. All data may change without notice. Images and drawings are indicative only.

F120.150.4

max tension 150 kN



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

FEATURES	
Capstans	2 x Ø 1500 mm
Capstans grooves	16 + 16
Max conductor diameter	4 x 42 mm
Dimensions LxWxH	4,50x2,30x2,80 m
Weight	7800 kg

ENGINE	
Feeding	diesel
Power	86 hp / 63 kW 75 hp / 55 kW *
Cooling	water
Electric plant	24 V

TENSION PERFORMANCES	
Max tension force	150 kN
Max speed	5 km/h

PULL-BACK PERFORMANCES	
Max pull	150 kN
Max speed	1,6 km/h

CONFIGURATION

- One pair of steel capstans lined with multi-grooved nylon sectors.
- Machine control panel equipped with built-in electronic instrument featuring a large graphic color 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 conductors.
- 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 indipendent).
- Grounding connection point.

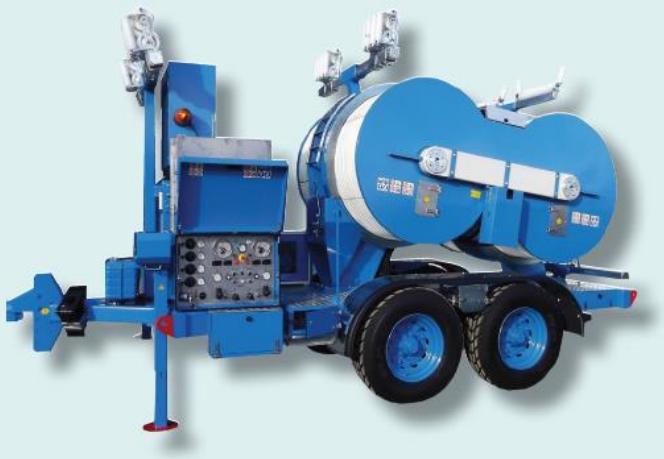
OPTIONAL DEVICES

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	86 hp / 63 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

ALSO AVAILABLE VERSION WITH Ø1800 mm CAPSTANS

CONFIGURATION

- Two pairs of steel capstans lined with multi-grooved nylon sectors.
- Machine control panel equipped with 2 built-in electronic instruments featuring a large graphic color 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 indipendent).
- Grounding connection point.

OPTIONAL DEVICES

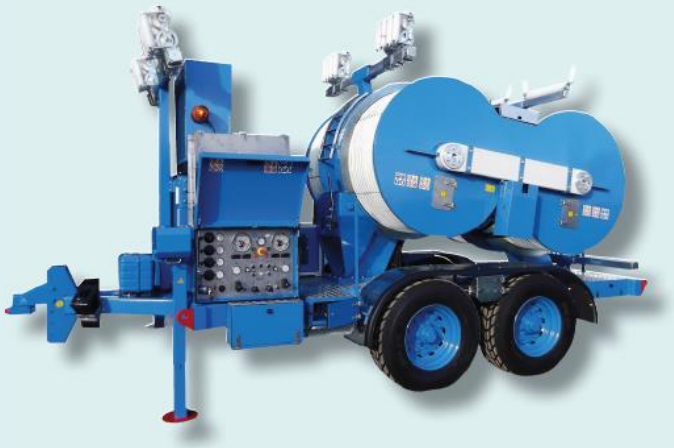
005.1	Chassis with 2 damped axles (tandem), air braking system and lights.
006.4	Arrangement of the chassis for circulation on road (homologation excluded).
012	Predisposition of one hydraulic circuit to feed a press for high pressure joints (max. 700 bar).
017	Hydraulic/mechanical device (n.1, on 1 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 2 conductors.
045.3	Manual clamp for 2 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.

F110.280.62

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 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	
Capstans	4 x Ø 1800 mm
Max conductor diameter	4 x 51 mm
Dimensions LxWxH	5,40x2,45x3,00 m
Weight	14500 kg

ENGINE	
Feeding	diesel
Power	175 hp / 129 kW 175 hp / 130 kW *
Cooling	water
Electric plant	24 V

TENSION PERFORMANCES	
Max tension force	280 kN = 2 x 140 kN
Max speed	5 km/h

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

CONFIGURATION

- Two pairs of steel capstans lined with multi-grooved nylon sectors, fit for 4 conductors totally.
- Machine control panel equipped with 2 built-in electronic instruments featuring a large graphic color 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 indipendent).
- 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).
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.

*** 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.
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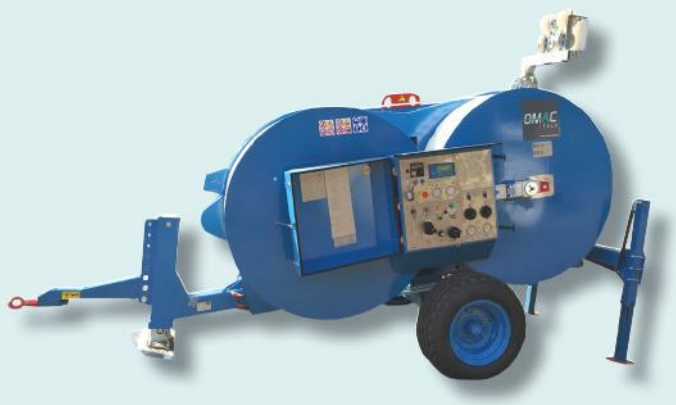
03
HYDRAULIC PULLER-TENSIONERS

F120.AF.30

max pull-tension 30 kN



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

FEATURES	
Capstans	2 x Ø 1500 mm
Capstans grooves	5 + 5
Max conductor diameter	36 mm
Max rope diameter	16 mm
Dimensions LxWxH	3,85x1,85x2,20 m
Weight	2700 kg

ENGINE	
Feeding	diesel
Power	42 hp / 31 kW 42 hp / 31 kW *
Cooling	water
Electric plant	12 V

PULL PERFORMANCES	
Max pull	30 kN
Speed at max pull	2,2 km/h 2,2 km/h *
Max speed	4,5 km/h
Pull at max speed	13 kN 13 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 featuring a large graphic color 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.
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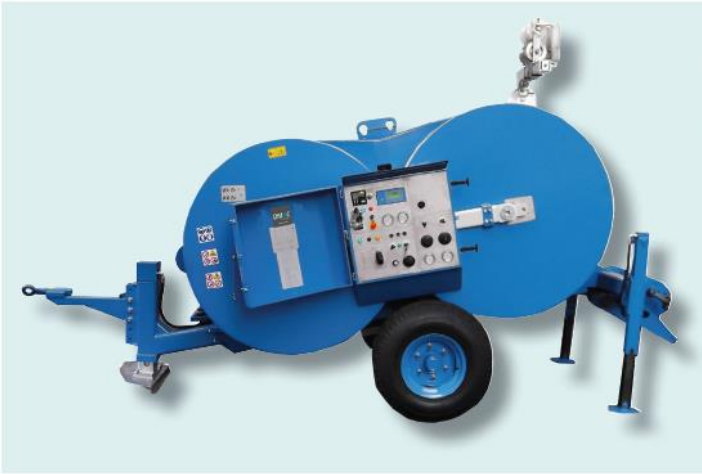
F120.AF.45.2

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
Capstans grooves	8 + 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	86 hp / 63 kW 75 hp / 55 kW *
Cooling	water
Electric plant	12 V

PULL PERFORMANCES	
Max pull	45 kN
Speed at max pull	2,7 km/h 2,3 km/h *
Max speed	5 km/h
Pull at max speed	26 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 featuring a large graphic color display and a USB port.
- **Maintenance-free load cell reading system.**
- **Electronic instrument by-pass.**
- **Self-recovery device for sagging operations.**
- In puller mode, device for pull-force setting, which allows to maintain the pre-set force even at speed “0”.
- Device to control low-force tensions (2-15 kN), fit for OPGW.
- Freewheeling disconnection (neutral) of capstans.
- Safety negative hydraulic brake.
- Back fix conductor-driver with nylon rollers for 2 cond.
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site.
- Hydraulic front plough and back stabilisers.
- Attachments for anchoring and for lifting.
- Oil cooling system.
- Two auxiliary hydraulic circuits for additional equipment (1 or 2 reel-winders or reel-stands).
- Grounding connection point.

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.
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.
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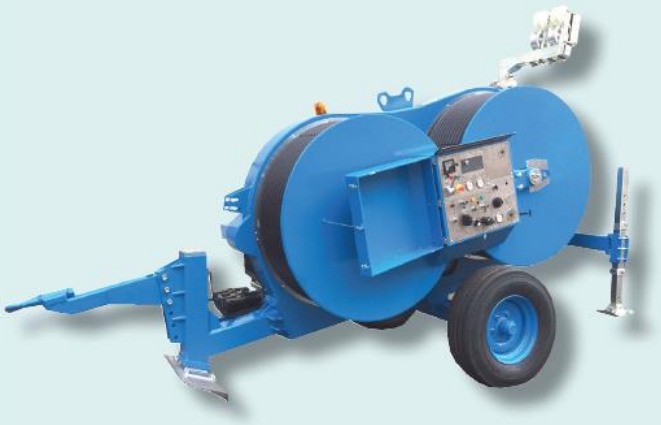
F120.AF.75.2

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	
Capstans	2 x Ø 1500 mm
Capstans grooves	10 + 10
Max conductor diameter	2 x 42 mm
Max rope diameter	18 mm
Dimensions LxWxH	3,95x2,10x2,20 m
Weight	4800 kg

ENGINE	
Feeding	diesel
Power	100 hp / 75 kW 100 hp / 75 kW *
Cooling	water
Electric plant	12 V

PULL PERFORMANCES	
Max pull	75 kN
Speed at max pull	2 km/h 2 km/h *
Max speed	5 km/h
Pull at max speed	35 kN 35 kN *

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

ALSO AVAILABLE VERSION WITH Ø1200 Ø1800 mm CAPSTANS

CONFIGURATION

- One pair of steel capstans lined with multi-grooved nylon sectors.
- Machine control panel equipped with built-in electronic instrument featuring a large graphic color 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.

OPTIONAL DEVICES

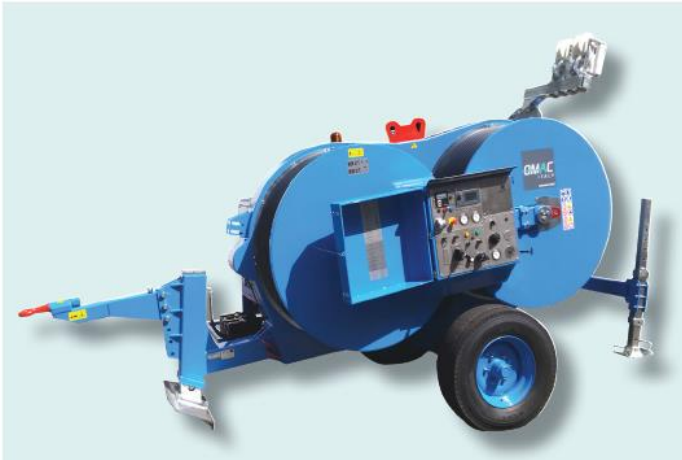
008	Damped axle, air braking system, drawbar and lights.
006.4	Arrangement of the chassis for circulation on road (homologation excluded).
012	Hydraulic circuit to feed a press for high pressure joints (max. 700 bar).
014	Reel-winder arm fit for a 1600-mm-dia. reel.
028.7	Device to start the diesel engine 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).
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.90.2

max pull-tension 90 kN



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

FEATURES	
Capstans	2 x Ø 1500 mm
Capstans grooves	10 + 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	138 hp / 102 kW 130 hp / 110 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 featuring a large graphic color display and a USB port.
- **Maintenance-free load cell reading system.**
- **Electronic instrument by-pass.**
- **Self-recovery device for sagging operations.**
- Device to control low-force tensions (4-30 kN), fit for OPGW.
- In puller mode, device for pull-force setting, which allows to maintain the pre-set force even at speed “0”.
- Freewheeling disconnection (neutral) of capstans.
- Safety negative hydraulic brake.
- Back fix conductor-driver with nylon rollers for 2 cond.
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site.
- Hydraulic front plough and back stabilisers.
- Attachments for anchoring and for lifting.
- Oil cooling system.
- Two auxiliary hydraulic circuits for additional equipment (1 or 2 reel-winders or reel-stands).
- Grounding connection point.

OPTIONAL DEVICES

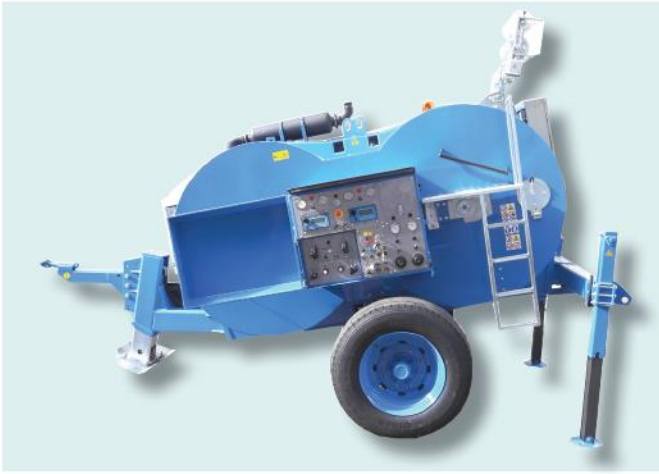
008	Damped axle, air braking system, drawbar and lights.
006.4	Arrangement of the chassis for circulation on road (homologation excluded).
012	Hydraulic circuit to feed a press for high pressure joints (max. 700 bar).
014	Reel-winder arm fit for a 1600-mm-dia. reel.
028.7	Device to start the diesel engine and the hydraulic circuit at low temperatures (up to -30°C).
037	Remote control by cable, with 10 m of cable.
038	Radio-control (max distance 100 m).
045.2	Automatic clamp for 2 ropes/conductors.
045.3	Manual clamp for 2 ropes/conductors.
069.5	Printer for the electronic recorder, with accessories.
119	Capstans with steel grooves chemically treated.
174.2	Synchronising device for the connection of 2 machines, complete with remote control by cable (20 m).
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.90.22

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



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

FEATURES	
Capstans	4 x Ø 1500 mm
Max conductor diameter	2 x 42 mm
Max rope diameter	18 mm
Dimensions LxWxH	4,50x2,25x2,80 m
Weight	6200 kg

ENGINE	
Feeding	diesel
Power	138 hp / 102 kW 150 hp / 110 kW *
Cooling	water
Electric plant	12 V

PULL PERFORMANCES	
Max pull	1 x 90 kN or 2 x 45 kN
Speed at max pull	2,4 km/h 2,5 km/h *
Max speed	5 km/h
Pull at max speed	1 x 45 kN or 2 x 22,5 kN

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 2 built-in electronic instruments featuring a large graphic color 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.

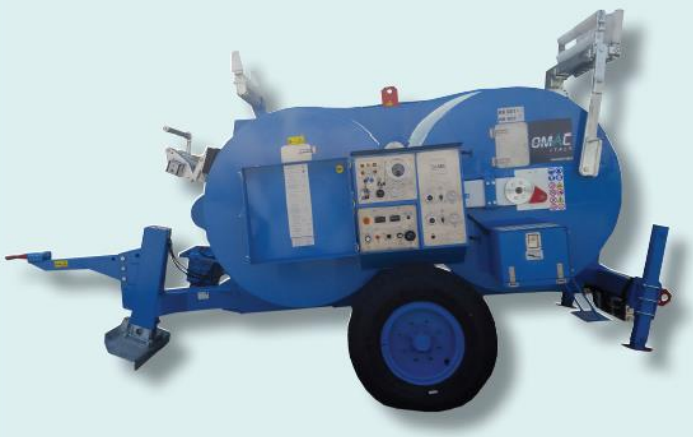
OPTIONAL DEVICES

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	
Capstans	2 x Ø 1500 mm
Capstans grooves	16 + 16
Max conductor diameter	4 x 42 mm
Max rope diameter	24 mm
Dimensions LxWxH	4,50x2,30x2,80 m
Weight	8500 kg

ENGINE	
Feeding	diesel
Power	175 hp / 129 kW 175 hp / 130 kW *
Cooling	water
Electric plant	12 V

PULL PERFORMANCES	
Max pull	140 kN
Speed at max pull	1,8 km/h 4,5 km/h *
Max speed	4 km/h
Pull at max speed	55 kN 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 featuring a large graphic color display and a USB port.
- **Maintenance-free load cell reading system.**
- **Electronic instrument by-pass.**
- **Self-recovery device for sagging operations.**
- In puller mode, device for pull-force setting, which allows to maintain the pre-set force even at speed “0”.
- Safety negative hydraulic brake.
- Back fix conductor-drivers with nylon rollers for 4 cond.
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site.
- Hydraulic front plough and back stabilisers.
- Attachments for anchoring and for lifting.
- Oil cooling system.
- Four auxiliary hydraulic circuits for additional equipment (4 reel-winders or 4 reel-stands).
- Grounding connection point.

OPTIONAL DEVICES

005.1	Chassis with 2 damped axles (tandem), air braking system and lights.
008	Damped axle, air braking system, drawbar and lights.
006.4	Arrangement of the chassis for circulation on road (homologation excluded).
014	Reel-winder arm fit for a 1600-mm-dia. reel (1 or 2).
028.7	Device to start the diesel engine and the hydraulic circuit at low temperatures (up to -30°C).
037	Remote control by cable, with 10 m of cable.
038	Radio-control (max distance 100 m).
045.2	Automatic clamp for 4 ropes/conductors.
045.3	Manual clamp for 4 ropes/conductors.
069.5	Printer for the electronic recorder, with accessories.
119	Capstans with steel grooves chemically treated.
174.2	Synchronising device for the connection of 2 machines, complete with remote control by cable (20 m).
020.3	Set of nylon sectors with grooves fit for 6 conductors Ømax 31,5 mm (instead of standard set), and 2 additional hydraulic circuits to control 2 extra reel-stands (total 6).

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

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

F110.AF.140.22

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

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

FEATURES	
Capstans	4 x Ø 1800 mm
Capstans grooves	12 + 12
Max conductor diameter	2 x 46 mm
Max rope diameter	28 mm
Dimensions LxWxH	4,60x2,50x3,00 m
Weight	9500 kg

ENGINE	
Feeding	diesel
Power	175 hp / 129 kW 175 hp / 130 kW *
Cooling	water
Electric plant	24 V

PULL PERFORMANCES	
Max pull	1 x 140 kN or 2 x 70 kN
Speed at max pull	1,9 km/h 1,9 km/h *
Max speed	4,5 km/h 4,5 km/h *
Pull at max speed	1 x 70 kN or 2 x 35 kN

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 instruments featuring a large graphic color 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.

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).

*** 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.180.42

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

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

FEATURES	
Capstans	4 x Ø 1500 mm
Max conductor diameter	4 x 45 mm
Max rope diameter	30 mm
Dimensions LxWxH	6,00x2,50x3,15 m
Weight	13200 kg

ENGINE	
Feeding	diesel
Power	280 hp / 205 kW 275 hp / 209 kW *
Cooling	water
Electric plant	24 V

PULL PERFORMANCES	
Max pull	1 x 180 kN or 2 x 90 kN
Speed at max pull	2,1 km/h 2,1 km/h *
Max speed	5 km/h 5 km/h *

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 featuring a large graphic color 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	
Capstans	8 x Ø 1500 mm
Max conductor diameter	4 x 45 mm
Max rope diameter	30 mm
Dimensions LxWxH	6,40x2,50x3,25 m
Weight	15000 kg

ENGINE	
Feeding	diesel
Power	280 hp / 209 kW 275 hp / 205 kW *
Cooling	water
Electric plant	24 V

PULL PERFORMANCES	
Max pull	1 x 180 kN or 2 x 90 kN or 4 x 45 kN
Speed at max pull	2,1 km/h 2,1 km/h *
Max speed	5 km/h 5 km/h *

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

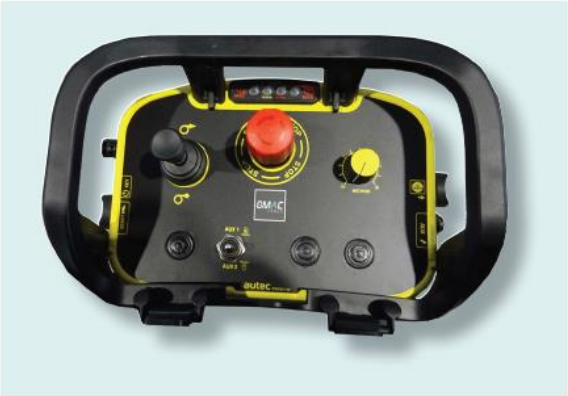
- Four pairs of capstans with high resistance steel grooves thermally and chemically treated, fit for steel wire ropes or conductors.
- Machine control panel equipped with 4 built-in electronic instruments featuring a large graphic color display and a USB port.
- **Maintenance-free load cell reading 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 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).
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.

REC.2 REC.3



REC.2

Remote control by cable. Fit for “puller” and “puller-tensioner” machines with 1 hydraulic circuit.
The control is complete with:

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

OPTIONAL DEVICES

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

REC.3

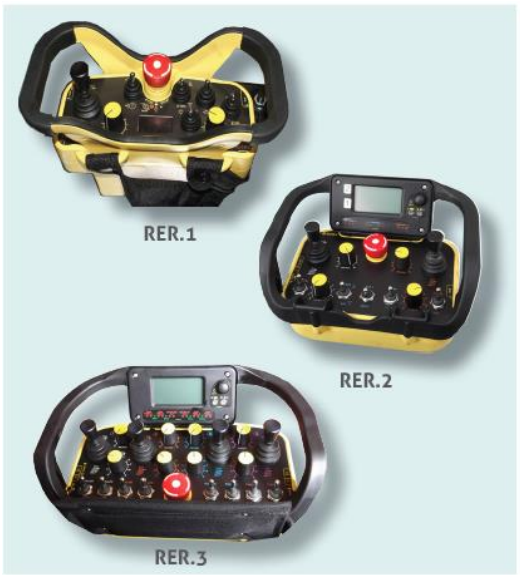
Remote control by cable. Fit for “puller” and “puller-tensioner” machines with 2 or more hydraulic circuit.
The control is complete with:

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

OPTIONAL DEVICES

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

RER



Remote radio-control fit for machines with 1,2,3 or 4 circuits.
Max operational distance: up to 100 m.
The remote radio-control is complete with:

- minijoystick for controlling the rotation of the capstans • speed adjustment control (puller)
- emergency stop button
- back-up cable, for connecting the control to the machine in case of emergency

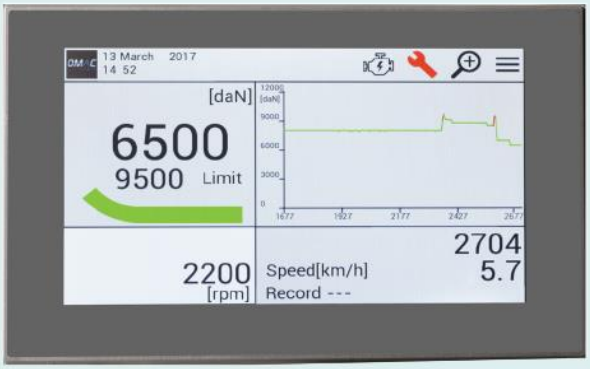
OPTIONAL DEVICES

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

Mod. RER.1	Fit for 1 circuit.
Mod. RER.2	Fit for 2 circuits
Mod. RER.3	Fit for 3 circuits
Mod. RER.4	Fit for 4 circuits

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

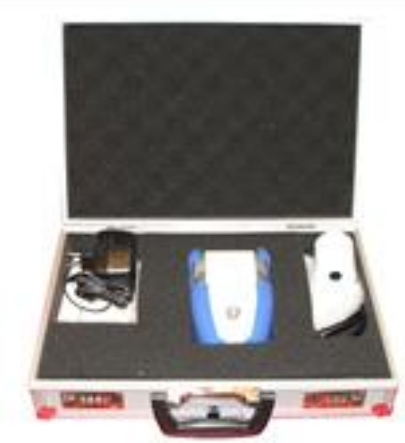
DEG EVOLUTION 4.0



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

FEATURES

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



FUNCTIONS

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

OPTIONAL 069.5

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

DIAGNOSTICS

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

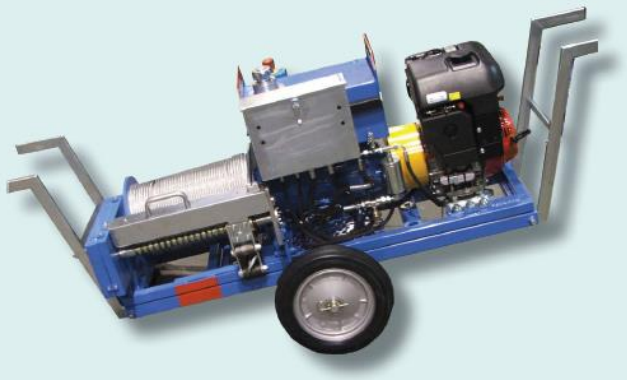
Dimensions and weights are without optional devices. All data may change without notice. Images and drawings are indicative only.

04

HYDRAULIC SERVICE WINCHES

F203.10

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. The winch can be disassembled into three parts.
One closed hydraulic circuit allows to continuously vary the speed in both directions by operating one control device.

FEATURES	
Dimensions LxWxH	1,20x0,55x0,60 m
Weight (without rope)	190 kg

DRUM	
Internal diameter	150 mm
External diameter	325 mm
Width	420 mm
Capacity of rope:	
Ø 8 mm	300 m
Ø 6 mm	500 m

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

PULL PERFORMANCES	
Max pull	10 kN
Speed at max pull	17 m/min
Max speed	32 m/min

CONFIGURATION

- Steel drum.
- Automatic rope winder with idle device for manual operation.
- Safety hydraulic negative brake.
- Rigid axle with tires and drawbar fit for towing at low speed in the job-site.
- Fittings for anchoring the machine.
- Rope-driver rollers fit for vertical and horizontal pull.

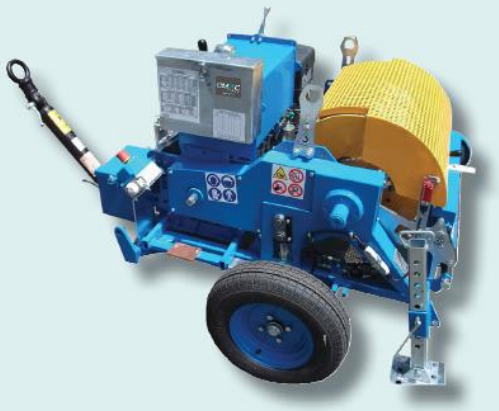
OPTIONAL DEVICES

028.2	Diesel engine with rope starting.
034	Engine electric starting with battery 12 V.
053	Dynamometer for reading the pull force.
035	Preselector of max pull force to stop the engine in case of overpull.
045.5	Manual holdfast for locking the wire. It can be used with optional capstan (see opt. 058.1)
058.1	Large groove capstan to be mounted on the motorised hydraulic group (instead 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.

F206.10

max pull 10 kN



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

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

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

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

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

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

CONFIGURATION

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

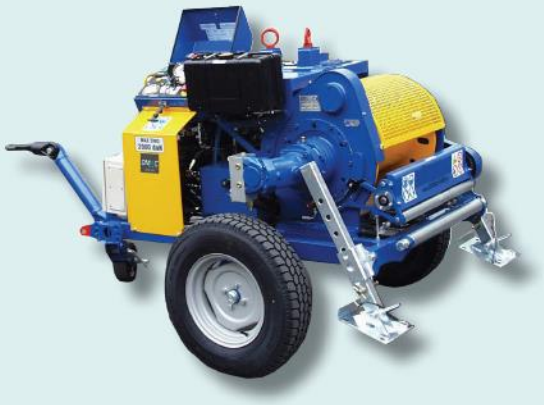
OPTIONAL DEVICES

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

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

F207.30

max pull 30 kN



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

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

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

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

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

CONFIGURATION

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

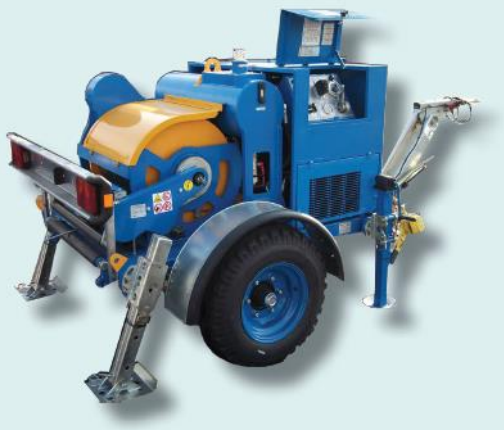
OPTIONAL DEVICES

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

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

F210.50

max pull 50 kN



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

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

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

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

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

CONFIGURATION

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

OPTIONAL DEVICES

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

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

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