OVERHEAD LINE STRINGING

MACHINES

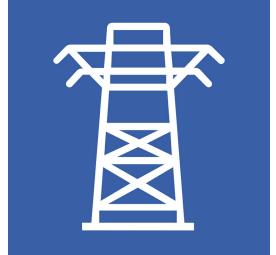












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MACHINES

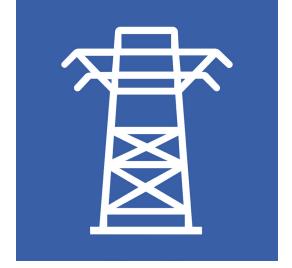












HYDRAULIC PULLERS



F265.20

max pull 20 kN



Hydraulic puller fit to pull one rope in stringing operations of overhead transmission lines and optics fibre cables.

One hydraulic circuit allows to continuously vary the speed in both directions by operating one control device.

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

	ENGINE
Feeding	gasoline
Power	20,5 hp / 15 kW
Cooling	air
Starting	electric with battery 12 V

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

	REEL
Туре	extractable self-loading

Capacity:

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

DIMENSIONS AND WEIGHT (without rope)

Dimensions 2,30x1,50x1,20 m

Weight 565 kg

CONFIGURATION

- One pair of multi-grooved steel capstans fit for stringing one steel rope
- Dynamometer and preselector of max pull force
- Mechanical metercounter
- Safety negative hydraulic brake
- Damped axle with tires and adjustable drawbar for towing at low speed in the iob-site
- Mechanical stabilisers on pull side and jack-arm with wheel on drawbar side
- Attachments for anchoring and for lifting
- Heat exchanger to cool the oil in the hydraulic circuit
- Built-in reel-winder with automatic rope-winder and extractable reel Ø750 mm

OPTIONAL DEVICES

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



F275.30

max pull 30 kN



Hydraulic puller fit to pull one rope in stringing operations of overhead transmission lines.

One hydraulic circuit allows to continuously vary the speed in both directions by operating one control device.

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

CONFIGURATION

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

OPTIONAL DEVICES

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



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

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.

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

CONFIGURATION

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

OPTIONAL DEVICES

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



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

F230.45

max pull 45 kN



Hydraulic puller fit to pull one rope in stringing operations of overhead transmission lines.

One hydraulic circuit allows to continuously vary the speed in both directions by operating one control device.

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

CONFIGURATION

- One pair of multi-grooved steel capstans fit for stringing one steel rope
- Machine control panel equipped with built-in electronic instrument DEG 4.0 featuring a 7" large graphic colour display and a USB port
- Maintenance-free load cell reading system
- Electronic instrument by-pass
- Device for pull force setting which allows to maintain the pre-set force even at speed "0"
- Safety negative hydraulic brake
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site
- Hydraulic back stabilisers and manual front stabilisers
- Attachments for anchoring and for lifting
- Heat exchanger to cool the oil in the hydraulic circuit
- Reelwinder fit for a 1600-mm-dia reel, with automatic ropewinder

OPTIONAL DEVICES

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 under-
	ground cables, predisposed to receive the telescopic bar mod. F
	276 and F277



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

F230.70

max pull 70 kN



Hydraulic puller fit to pull one rope in stringing operations of overhead transmission lines.

One hydraulic circuit allows to continuously vary the speed in both directions by operating one control device.

FEATURES		ENGINE		PULL PE	PULL PERFORMANCES	
Capstans	2 x Ø 400 mm	Feeding	diesel	Max pull	70 kN	
Capstan grooves	8	Power	74 hp / 55 kW	Speed at max pull	1,6 km/h	
Max rope diameter	18 mm		74 hp / 55 kW *		1,6 km/h *	
Max joint diameter	50 mm	Cooling	water	Max speed	4,5 km/h	
Dimensions LxWxH	3,20x1,95x2,00 m	Electric plant	12 V	Pull at max speed	28 kN	
Weight (without rope)	2400 kg				28 kN *	

CONFIGURATION

- One pair of multi-grooved steel capstans fit for stringing one steel rope
- Machine control panel equipped with built-in electronic instrument DEG 4.0 featuring a 7" large graphic colour display and a USB port
- Maintenance-free load cell reading system
- Electronic instrument by-pass
- Device for pull force setting which allows to maintain the pre-set force even at speed "0"
- Safety negative hydraulic brake
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site
- Hydraulic back stabilisers and manual front stabilisers
- Attachments for anchoring and for lifting
- Heat exchanger to cool the oil in the hydraulic circuit
- Reelwinder fit for a 1600-mm-dia reel, with automatic opewinder

OPTIONAL DEVICES

007	Chassis with damped axle, overrun brake and drawbar for towing on road (homologation excluded)
028.7	Device to start the diesel engine and the hydraulic circuit at low
	temperatures (up to -30°C)
037	Remote control by cable, with 10 m of cable
038	Radio-control (max distance 100 m)
045.2	Automatic clamp for rope
045.3	Manual clamp for rope
047	Hydraulic front stabilisers
069.5	Printer with accessories, complete with case
083.1	Rope transmission pulley, 360° revolving, fit for pulling under-
	ground cables, predisposed to receive the telescopic bar mod.
	F 276 and F277
	028.7 037 038 045.2 045.3 047 069.5



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

F245.90

max pull 90 kN



Hydraulic puller fit to pull one rope in stringing operations of overhead transmission lines.

One hydraulic circuit allows to continuously vary the speed in both directions by operating one control device.

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

CONFIGURATION

- One pair of multi-grooved steel capstans fit for stringing one steel rope
- Machine control panel equipped with built-in electronic instrument DEG 4.0 featuring a 7" large graphic colour display and a USB port
- Maintenance-free load cell reading system
- Electronic instrument by-pass
- Device for pull force setting which allows to maintain the pre-set force even at speed "0"
- Safety negative hydraulic brake
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site
- Hydraulic back stabilisers and manual front stabilisers
- Attachments for 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

800	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

 $[\]mbox{\ensuremath{^{\circ}}}$ According to the EC directive 97/68/CE with subsequent amendments and additions.



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.

FEATU	JRES		ENGINE	PULL PE	RFORMANCES
Capstans	2 x Ø 600 mm	Feeding	diesel	Max pull	140 kN
Capstan grooves	10	Power	176 hp / 130 kW	Speed at max pull	1,8 km/h
Max rope diameter	24 mm		176 hp / 130 kW *		1,8 km/h *
Max joint diameter	60 mm	Cooling	water	Max speed	4,5 km/h
Dimensions LxWxH	3,95x2,30x2,20 m	Electric plant	12 V	Pull at max speed	55 kN
Weight (without rope)	4900 kg				55 kN *

CONFIGURATION

- One pair of multi-grooved steel capstans fit for stringing one steel rope
- Machine control panel equipped with built-in electronic instrument DEG 4.0 featuring a 7" large graphic colour display and a LISB 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)

 $[\]ensuremath{^{*}}$ According to the EC directive 97/68/CE with subsequent amendments and additions.



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			
Capstan grooves	10			
Max rope diameter	24 mm			
Max joint diameter	60 mm			
Dimensions LxWxH	4,10x2,30x2,30 m			
Weight (without rope)	5200 kg			

	ENGINE
Feeding	diesel
Power	278 hp / 205 kW 278 hp / 205 kW *
Cooling	water
Electric plant	24 V

PULL PE	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 DEG 4.0 featuring a 7" large graphic colour display and a USB port
- Maintenance-free load cell reading system
- Electronic instrument by-pass
- Device for pull force setting which allows to maintain the pre-set force even at speed "0"
- Safety negative hydraulic brake
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site
- Hydraulic back stabilisers and manual front stabilisers
- Attachments for anchoring and for lifting
- Heat exchanger to cool the oil in the hydraulic circuit
- Reelwinder fit for a 1600-mm-dia reel, with automatic ropewinder

OPTIONAL DEVICES

800

000	Take With real spring suspensions, arawban, pricamatic
	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)

Axle with leaf spring suspensions, drawbar, pneumatic

* 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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F375.240

max pull 240 kN



Hydraulic puller fit to pull one rope in stringing operations of overhead transmission lines.

One hydraulic circuit allows to continuously vary the speed in both directions by operating one control device.

FEATURES		ENGINE		PULL PE	PULL PERFORMANCES	
Capstans	2 x Ø 800 mm	Feeding	diesel	Max pull	240 kN	
Capstan grooves	10	Power	380 hp / 280 kW	Speed at max pull	2,5 km/h	
Max rope diameter	32 mm		380 hp / 280 kW *		2,5 km/h *	
Max joint diameter	80 mm	Cooling	water	Max speed	5 km/h	
Dimensions LxWxH	5,10x2,50x3,00 m	Electric plant	24 V	Pull at max speed	130 kN	
Weight (without rope)	9500 kg				130 kN *	

CONFIGURATION

- One pair of multi-grooved steel capstans fit for stringing one steel rope
- Machine control panel equipped with built-in electronic instrument DEG 4.0 featuring a 7" large graphic colour display and a USB port
- Maintenance-free load cell reading system
- Electronic instrument by-pass
- Device for pull force setting which allows to maintain the pre-set force even at speed "0"
- Safety negative hydraulic brake
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site
- Hydraulic back and front stabilisers
- Attachments for anchoring and for lifting
- Heat exchanger to cool the oil in the hydraulic circuit
- Reelwinder fit for a 1900-mm-dia reel, with automatic ropewinder

OPTIONAL DEVICES

005.1	Chassis with tandem axle, drawbar, suspensions, air braking
	system, tires and lights for towing on the road
	(homologation excluded)
800	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

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



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

F250.280

max pull 280 kN



Hydraulic puller fit to pull one rope in stringing operations of overhead transmission lines.

One hydraulic circuit allows to continuously vary the speed in both directions by operating one control device.

FEATURES		ENGINE		PULL PE	PULL PERFORMANCES	
Capstans	2 x Ø 960 mm	Feeding	diesel	Max pull	280 kN	
Capstan grooves	12	Power	407 hp / 300 kW	Speed at max pull	2,2 km/h	
Max rope diameter	38 mm		407 hp / 300 kW *		2,2 km/h *	
Max joint diameter	80 mm	Cooling	water	Max speed	5 km/h	
Dimensions LxWxH	5,40x2,50x3,15 m	Electric plant	24 V	Pull at max speed	120 kN	
Weight (without rope)	13000 kg				120 kN *	

CONFIGURATION

- One pair of multi-grooved steel capstans fit for stringing one steel rope
- Machine control panel equipped with built-in electronic instrument DEG 4.0 featuring a 7" large graphic colour display and a USB port
- Maintenance-free load cell reading system
- Electronic instrument by-pass
- Device for pull force setting which allows to maintain the pre-set force even at speed "0"
- Safety negative hydraulic brake
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site
- Hydraulic back and front stabilisers
- Attachments for anchoring and for lifting
- Heat exchanger to cool the oil in the hydraulic circuit
- Reelwinder fit for a 1900-mm-dia reel, with automatic ropewinder

OPTIONAL DEVICES

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

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



F260.150.22

max pull 150 kN (2 x 75 kN)



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

CONFIGURATION

- Two pairs of multi-grooved steel capstans fit for stringing two steel ropes
- Machine control panel equipped with built-in electronic instrument DEG 4.0 featuring a 7" large graphic colour display and a USB port
- Maintenance-free load cell reading system
- Electronic instrument by-pass
- Two devices for pull force setting which allows to maintain the pre-set force even at speed "0"
- Two safety negative hydraulic brakes
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site
- Hydraulic back and front stabilisers
- Attachments for anchorage and for lifting
- Heat exchanger to cool the oil in the hydraulic circuit
- Devices for coupling the two pairs of capstans, fit to obtain the max force of 15000 daN stringing one rope
- Two reelwinders fit for 1400-mm-dia reels, with automatic ropewinder

OPTIONAL DEVICES

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



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

F260.180.22

max pull 180 kN (2 x 90 kN)



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

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

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

CONFIGURATION

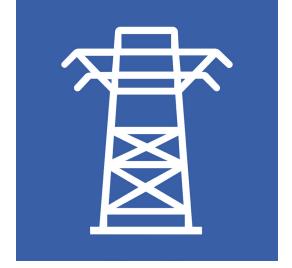
- Two pairs of multi-grooved steel capstans fit for stringing two steel ropes
- Machine control panel equipped with built-in electronic instrument DEG 4.0 featuring a 7" large graphic colour display and a USB port
- Maintenance-free load cell reading system
- Electronic instrument by-pass
- Two devices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

OPTIONAL DEVICES

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



 $^{^{}st}$ According to the EC directive 97/68/CE with subsequent amendments and additions.



HYDRAULIC TENSIONERS



F120.30

max tension 30 kN



Hydraulic tensioner fit to string one conductor or fiber optic cable.

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

Equipped with engine for pull-back performances.

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

SINE	TENSION PE	RFORMANCES
diesel	Max tension force	30 kN
35 hp / 26 kW	Min tension force	1,5 kN
25,5 hp / 18,8 kW *	Max speed	5 km/h
water		
12 V		
	diesel 35 hp / 26 kW 25,5 hp / 18,8 kW * water	diesel Max tension force 35 hp / 26 kW Min tension force 25,5 hp / 18,8 kW * Max speed water

		ORMAN	

Max pull 30 kN

Max speed 1,5 km/h

1,1 km/h *

CONFIGURATION

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

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

OPTIONAL DEVICES

ΛΛΩ

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

Dampad ayla air braka drawbar and lights



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

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.

FEATURE	-c
FEATURI	-5
Capstans	2 x Ø 1500 mm
Capstan grooves	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 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
0,8 km/h*

ALSO AVAILABLE VERSION WITH Ø1800 mm CAPSTANS

CONFIGURATION

- One pair of steel capstans lined with multi-grooved nylon sectors
- Machine control panel equipped with built-in electronic instrument DEG 4.0 featuring a 7" large graphic colour display and a USB port
- Maintenance-free load cell reading system
- Electronic instrument by-pass
- Device to control low-force tensions (2-15 kN), specially fit for optical fibers
- Self-recovery device for sagging operations
- Freewheeling disconnection (neutral) of capstans
- Safety negative hydraulic brake
- Two back fix conductor-drivers with nylon rollers
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site
- Mechanical front plough and back stabilisers
- Attachments for anchoring and for lifting
- Heat exchanger to cool the oil in the hydraulic circuit
- Auxiliary hydraulic circuit for controlling 1 or 2 reel-stands (not independent)
- Grounding connection point

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

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

OPTIONAL DEVICES

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



F120.75.2

max tension 75 kN



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

Equipped with engine for pull-back performances.

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

E	NGINE
Feeding	diesel
Power	35 hp / 26 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

 1 km/h*
 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 DEG 4.0 featuring a 7" large graphic colour display and a USB port
- Maintenance-free load cell reading system
- Electronic instrument by-pass
- Device to control low-force tensions (2-25 kN), specially fit for fibre-optic cables
- Freewheeling disconnection (neutral) of capstans
- Self-recovery device for sagging operations
- Safety negative hydraulic brake
- Two back fix conductor-drivers with nylon rollers
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site
- Mechanical front plough and back stabilisers
- Attachments for anchoring and for lifting
- Heat exchanger to cool the oil in the hydraulic circuit
- Auxiliary hydraulic circuit for controlling 1 or 2 reel-stands (not independent)
- Grounding connection point

OPTIONAL DEVICES

008

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

Damped axle, air brake, drawbar and lights



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

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		
Capstan grooves	10		
Max conductor diameter	2 x 42 mm		
Dimensions LxWxH	4,00x2,10x2,30 m		
Weight	4100 kg		

	ENGINE
Feeding	diesel
Power	47 hp / 35 kW 47 hp / 35 kW *
Cooling	water
Electric plant	12 V

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

DIII	I_BACK	(PERF	DMA	NCES
PUL	L-DACI	/ PEKF	URIMA	NCES

 Max pull
 90 kN

 Max speed
 0,8 km/h

0,8 km/h*

ALSO AVAILABLE VERSION WITH Ø1800 mm CAPSTANS

CONFIGURATION

- One pair of steel capstans lined with multi-grooved nylon sectors
- Machine control panel equipped with built-in electronic instrument DEG 4.0 featuring a 7" large graphic colour display and a USB port
- Maintenance-free load cell reading system
- Electronic instrument by-pass
- Device to control low-force tensions (4-30 kN), specially fit for fibre-optic cables
- Freewheeling disconnection (neutral) of capstans
- Self-recovery device for sagging operations
- Safety negative hydraulic brake
- Two back fix conductor-drivers with nylon rollers
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site
- Mechanical front plough and back stabilisers
- Attachments for anchoring and for lifting
- Heat exchanger to cool the oil in the hydraulic circuit
- Auxiliary hydraulic circuit for controlling 1 or 2 reel-stands (not independent)
- Grounding connection point

OPTIONAL DEVICES

008

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

Damped axle, air brake, drawbar and lights



 $[\]ensuremath{^{\circ}}$ According to the EC directive 97/68/CE with subsequent amendments and additions.

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.

FEATUR	ES
Capstans	4 x Ø 1500 mm
Capstan grooves	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
	57 hp / 42 kW *
Cooling	water
Electric plant	12 V

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

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 built-in electronic instrument DEG 4.0 featuring a 7" large graphic colour display and a USB port
- Maintenance-free load cell reading system
- Electronic instrument by-pass
- Self-recovery device for sagging operations
- Two safety negative hydraulic brakes
- Back fix conductor-drivers with nylon rollers
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site
- Hydraulic front plough and back stabilisers
- Attachments for anchoring and for lifting
- Heat exchanger to cool the oil in the hydraulic circuit
- Device for coupling the two pairs of capstans
- Two auxiliary hydraulic circuits for controlling 1 or 2 reel-stands independently
- Grounding connection point

OPTIONAL DEVICES

005.1

	and lights
800	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)

Chassis with 2 damped axles (tandem), air braking system



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

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	
Capstan grooves	12	
Max conductor diameter	2 x 46 mm	
Dimensions LxWxH	4,50x2,25x2,80 m	
Weight	7700 kg	

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

TENSION F	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 0,9 km/h*

CONFIGURATION

- Two pairs of steel capstans lined with multi-grooved nylon sectors
- Machine control panel equipped with built-in electronic instrument DEG 4.0 featuring a 7" large graphic colour display and a USB port
- Maintenance-free load cell reading system
- Electronic instrument by-pass
- Self-recovery device for sagging operations
- Two safety negative hydraulic brakes
- Back fix conductor-drivers with nylon rollers
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site
- Hydraulic front plough and back stabilisers
- Attachments for anchoring and for lifting
- Heat exchanger to cool the oil in the hydraulic circuit
- Devices for coupling the two pairs of capstans
- Two auxiliary hydraulic circuits for controlling 1 or 2 reel-stands independently
- Grounding connection point

OPTIONAL DEVICES

005.1

	and lights
800	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)

Chassis with 2 damped axles (tandem), air braking system



 $[\]ensuremath{^{\circ}}$ According to the EC directive 97/68/CE with subsequent amendments and additions.

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.

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

PULL-BACK PERFORMANCES

Max pull	150 kN
Max speed	1 km/h
	1 km/h ³

CONFIGURATION

- One pair of steel capstans lined with multi-grooved nylon sectors
- Machine control panel equipped with built-in electronic instrument DEG 4.0 featuring a 7" large graphic colour display and a USB port
- Maintenance-free load cell reading system
- Electronic instrument by-pass
- Self-recovery device for sagging operations
- Safety negative hydraulic brakes
- Back fix conductor-driven with nylon rollers for 4 cond.
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site
- Hydraulic front plough and back stabilisers
- Attachments for anchoring and for lifting
- Heat exchanger to cool the oil in the hydraulic circuit
- Two auxiliary hydraulic circuits for controlling up to 4 reel-stands (not independent)
- Grounding connection point

OPTIONAL DEVICES

005.1

	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)

Chassis with 2 damped axles (tandem), air braking system and



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

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		TENSIO	TENSION PERFORMANCES		
Feeding	diesel	Max tension force	$150 \text{ kN} = 2 \times 75 \text{ kN}$		
Power	75 hp / 55 kW 75 hp / 55 kW *	Max tension per conductor	37,5 kN		
Cooling	water	Max speed	5 km/h		
Electric plant	12 V				

PULL-BACK PERFORMANCES

Max pull 150 kN = 2 x 75 kN

Max speed 1 km/h

1 km/h*

ALSO AVAILABLE VERSION WITH Ø1800 mm CAPSTANS

CONFIGURATION

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

OPTIONAL DEVICES

005.1

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

Chassis with 2 damped axles (tandem), air braking system



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

x 140 kN

F110.280.42

max tension 280 kN (2 x 140 kN)



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

Two hydraulic circuits allow to tension at constant force even varying the speed of stringing. The two circuits can be used independently or simultaneously, with 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	TENSION F	PERFORMANCE
Feeding	diesel	Max tension force	280 kN = 2 :
Power	135 hp / 100 kW 135 hp / 100 kW *	Max speed	5 km/h
Cooling	water		
Electric plant	24 V		

PULL-BACK PERFORMANCES

Max pull $280 \text{ kN} = 2 \times 140 \text{ kN}$

Max speed 1 km/h

1 km/h*

CONFIGURATION

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

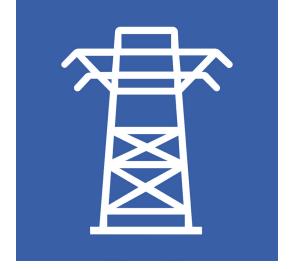
* According to the EC directive 97/68/CE with subsequent amendments and additions.

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

OPTIONAL DEVICES

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





HYDRAULIC PULLER-TENSIONERS



F120.AF.30

max pull-tension 30 kN



Hydraulic machine designed to operate both as a tensioner and as puller, fit to string one rope or conductor.

One hydraulic circuit allows to tension at constant force even varying the speed of stringing. In puller mode, one hydraulic circuit allows to continuously vary the speed in both directions.

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

TENSION PERFORMANCES

Max tension force 30 kN Max speed 5 km/h

CONFIGURATION

- One pair of steel capstans lined with multi-grooved nylon sectors
- Machine control panel equipped with built-in electronic instrument DEG 4.0 featuring a 7" large graphic colour display and a USB port
- · Maintenance-free load cell reading system
- Electronic instrument by-pass
- Self-recovery device for sagging operations
- Freewheeling disconnection (neutral) of capstans
- Safety negative hydraulic brake
- Back fix conductor-driver with nylon rollers
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site
- Mechanical front plough and back stabilisers
- Attachments for anchoring and for lifting
- Oil cooling system
- Auxiliary hydraulic circuit for additional equipment (one reel-stand or reel-winder)
- Grounding connection point

OPTIONAL DEVICES

800	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



 $[\]ensuremath{^{+}}$ According to the EC directive 97/68/CE with subsequent amendments and additions.

F120.AF.45.2

max pull-tension 45 kN



Hydraulic machine designed to operate both as a tensioner and as puller, fit to string one or two ropes or conductors.

One hydraulic circuit allows to tension at constant force even varying the speed of stringing. In puller mode, one hydraulic circuit allows to continuously vary the speed in both directions.

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

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

PULL PI	RFORMANCES
Max pull	45 kN
Speed at max pull	2,3 km/h 2,3 km/h *
Max speed	5 km/h
Pull at max speed	22 kN
	22 kN *

TENSION PERFORMANCES

Max tension force 45 kN Max speed 5 km/h ALSO AVAILABLE VERSION WITH Ø1200 Ø1800 mm CAPSTANS

CONFIGURATION

- One pair of steel capstans lined with multi-grooved nylon sectors
- Machine control panel equipped with built-in electronic instrument DEG 4.0 featuring a 7" large graphic colour display and a USB port
- Maintenance-free load cell reading system
- Electronic instrument by-pass
- Self-recovery device for sagging operations
- In puller mode, device for pull-force setting, which allows to maintain the pre-set force even at speed "0"
- Device to control low-force tensions (2-15 kN), fit for OPGW
- Freewheeling disconnection (neutral) of capstans
- Safety negative hydraulic brake
- Back fix conductor-driver with nylon rollers for 2 cond
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site
- Hydraulic front plough and back stabilisers
- Attachments for anchoring and for lifting
- Oil cooling system
- Two auxiliary hydraulic circuits for additional equipment (1 or 2 reel-winders or reel-stands)
- Grounding connection point
- * According to the EC directive 97/68/CE with subsequent amendments and additions.

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

OPTIONAL DEVICES

008

000	barriped dxie, air braking system, drawbar aria 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

Damped axle, air braking system, drawbar and lights



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	
Capstan grooves	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 PER	RFORMANCES
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 *

Damped axle, air braking system, drawbar and lights.

Hydraulic circuit to feed a press for high pressure joints (max.

Device to start the diesel engine and the hydraulic circuit at

Arrangement of the chassis for circulation on road

Reel-winder arm fit for a 1600-mm-dia. reel

Remote control by cable, with 10 m of cable

Printer for the electronic recorder, with accessories

Synchronising device for the connection of 2 machines,

Capstans with steel grooves chemically treated

complete with remote control by cable (20 m)

Automatic clamp for 2 ropes/conductors

Manual clamp for 2 ropes/conductors

(homologation excluded)

low temperatures (up to -30°C)

Radio-control (max distance 100 m)

TENSION PERFORMANCES

75 kN Max tension force 5 km/h Max speed

ALSO AVAILABLE VERSION WITH **Ø1200 Ø1800 mm CAPSTANS**

OPTIONAL DEVICES

700 bar)

800

006.4

012

014

028.7

037

038

045.2

045.3

069.5

119

174.2

CONFIGURATION

- One pair of steel capstans lined with multi-grooved nylon sectors
- Machine control panel equipped with built-in electronic instrument DEG 4.0 featuring a 7" large graphic colour display and a
- Maintenance-free load cell reading system
- **Electronic instrument by-pass**
- Self-recovery device for sagging operations
- Device to control low-force tensions (2-25 kN), fit for OPGW
- In puller mode, device for pull-force setting, which allows to maintain the pre-set force even at speed "0"
- Freewheeling disconnection (neutral) of capstans
- Safety negative hydraulic brake.
- Back fix conductor-driver with nylon rollers for 2 cond
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site
- Hydraulic front plough and back stabilisers
- Attachments for anchoring and for lifting
- Oil cooling system
- Two auxiliary hydraulic circuits for additional equipment (1 or 2 reel-winders or reel-stands)
- Grounding connection point
- * According to the EC directive 97/68/CE with subsequent amendments and additions.



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.

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

TENSION PERFORMANCES

Max tension force 90 kN Max speed 5 km/h ALSO AVAILABLE VERSION WITH Ø1800 mm CAPSTANS

CONFIGURATION

- One pair of steel capstans lined with multi-grooved nylon sectors
- Machine control panel equipped with built-in electronic instrument DEG 4.0 featuring a 7" large graphic colour display and a LISB 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

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



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

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	

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

PULI	PERFORMANCES
Max pull	1 x 90 kN
	or 2 x 45 kN
Speed at max pu	II 2,4 km/h
	2,4 km/h *
Max speed	5 km/h
Pull at max speed	d 45 kN
	45 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 built-in electronic instrument DEG 4.0 featuring a 7" large graphic colour display and a USB port
- Maintenance-free load cell reading system
- Electronic instrument by-pass
- Self-recovery device for sagging operations
- In puller mode, device for pull-force setting, which allows to maintain the pre-set force even at speed "0"
- Freewheeling disconnection (neutral) of capstans
- Two safety negative hydraulic brakes
- Back fix conductor-driver with nylon rollers for 2 cond
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site
- Hydraulic front plough and back stabilisers
- Attachments for anchoring and for lifting
- Oil cooling system
- Devices for coupling the two pairs of capstans
- Two auxiliary hydraulic circuits for additional equipment (1 or 2 reel-winders or reel-stands)
- Grounding connection point

OPTIONAL DEVICES

005.1

	lights
800	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)

Chassis with 2 damped axles (tandem), air braking system and



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

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		
Capstan grooves	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	176 hp / 130 kW
	176 hp / 130 kW *
Cooling	water
Electric plant	12 V

PERFORMANCE
140 kN
l 1,8 km/h 1,8 km/h
4 km/h
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 DEG 4.0 featuring a 7" large graphic colour display and a USB port
- Maintenance-free load cell reading system
- Electronic instrument by-pass
- Self-recovery device for sagging operations
- In puller mode, device for pull-force setting, which allows to maintain the pre-set force even at speed "0"
- Safety negative hydraulic brake
- Back fix conductor-drivers with nylon rollers for 4 cond
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site
- Hydraulic front plough and back stabilisers
- Attachments for anchoring and for lifting
- Oil cooling system
- Four auxiliary hydraulic circuits for additional equipment (4 reel-winders or 4 reel-stands)
- Grounding connection point

OPTIONAL DEVICES

	3.,
	lights
800	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)

Chassis with 2 damped axles (tandem), air braking system and



 $[\]mbox{\ensuremath{^{\circ}}}$ According to the EC directive 97/68/CE with subsequent amendments and additions.

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		
Capstan grooves	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	176 hp / 130 kW
	176 hp / 130 kW *
Cooling	water
Electric plant	24 V

PULL PE	RFORMANCES
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	70 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 instrument DEG 4.0 featuring a 7" large graphic colour display and a USB port
- Maintenance-free load cell reading system
- Electronic instrument by-pass
- Self-recovery device for sagging operations
- In puller mode, device for pull-force setting, which allows to maintain the pre-set force even at speed "0"
- Freewheeling disconnection (neutral) of capstans
- Two safety negative hydraulic brakes
- Back fix conductor-driver with nylon rollers for 2 cond
- Chassis with rigid axle, manual brake and detachable drawbar for towing at low speed in job-site
- Hydraulic front plough and back stabilisers
- Attachments for anchoring and for lifting
- Oil cooling system

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- 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
800	Damped axle, air braking system, drawbar and lights
006.4	Arrangement of the chassis for circulation on road
	(homologation excluded)
012	Hydraulic circuit to feed a press for high pressure joints (max.
	700 bar)
014	Reel-winder arm fit for a 1600-mm-dia. reel (1 or 2)
028.7	Device to start the diesel engine and the hydraulic circuit at
	low temperatures (up to -30°C)
037	Remote control by cable, with 10 m of cable
038	Radio-control (max distance 100 m)
045.2	Automatic clamp for 2 ropes/conductors
045.3	Manual clamp for 2 ropes/conductors
069.5	Printer for the electronic recorder, with accessories
119	Capstans with steel grooves chemically treated
174.2	Synchronising device for the connection of 2 machines,
	complete with remote control by cable (20 m)

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

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

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 $^{^{\}pm}$ According to the EC directive 97/68/CE with subsequent amendments and additions.

F120.AF.180.42

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



Hydraulic machine designed to operate both as a tensioner and as puller, fit to string 1, 2, 3 or 4 ropes or conductors.

Two hydraulic circuits allow to tension at constant force even varying the speed of stringing. The two circuits can be used independently or simultaneously, with automatic forces partition. In puller mode, 2 closed hydraulic circuits allow to vary the speed in both directions, allowing to use one of the hydraulic circuits or both of them matched.

FEATURES		ENGINE		PULL PERFORMANCES	
Capstans	4 x Ø 1500 mm	Feeding	diesel	Max pull	1 x 180 kN
Max conductor diameter	4 x 45 mm	Power	278 hp / 205 kW		or 2 x 90 kN
Max rope diameter	30 mm		278 hp / 205 kW *	Speed at max pull	2,1 km/h
Dimensions LxWxH	6,00x2,50x3,15 m	Cooling	water		2,1 km/h *
Weight	13200 kg	Electric plant	24 V	Max speed	5 km/h
Weight	13200 kg				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 DEG 4.0 featuring a 7" large graphic colour display and a USB port
- · Maintenance-free load cell reading system
- Electronic instrument by-pass
- Self-recovery device for sagging operations
- In puller mode, device for pull-force setting, which allows to maintain the pre-set force even at speed "0"
- Two safety negative hydraulic brakes
- Back conductor-drivers with nylon rollers for 4 cond
- Frame with two axles, steering-one with drawbar, leaf spring suspensions and tires, fit for towing at low speed in job-site
- Hydraulic front plough
- Attachments for anchoring and for lifting
- Oil cooling system
- Four auxiliary hydraulic circuits for additional equipment (4 reel-winders or 4 reel-stands)
- Grounding connection point

OPTIONAL DEVICES

006.4	Arrangement of the chassis for circulation on road (homologation excluded)
012	Hydraulic circuit to feed a press for high pressure joints (max. 700 bar)
014	Reel-winder arm fit for a 1600-mm-dia. reel (1 or 2)
028.7	Device to start the diesel engine and the hydraulic circuit at
	low temperatures (up to -30°C)
037	Remote control by cable, with 10 m of cable
038	Radio-control (max distance 100 m)
045.2	Automatic clamp for 4 ropes/conductors
045.3	Manual clamp for 4 ropes/conductors
069.5	Printer for the electronic recorder, with accessories



 $[\]mbox{$^{\circ}$}$ According to the EC directive 97/68/CE with subsequent amendments and additions.

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	285 hp / 210 kW	
	305 hp / 225 kW *	
Cooling	water	
Electric plant	24 V	

PULL PER	RFORMANCES
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 5 km/h ALSO AVAILABLE VERSION WITH Ø1800 mm CAPSTANS

CONFIGURATION

Max speed

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

OPTIONAL DEVICES

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

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



CABLE REMOTE CONTROL



037

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

The control is complete with:

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

OPTIONAL DEVICES

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

RADIO REMOTE CONTROL



038.1

Radio remote control fit for "puller" machines.

Max operational distance: up to 100 m.

The radio-control is complete with:

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

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



038

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

Max operational distance: up to 100 m.

The radio-control is complete with:

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

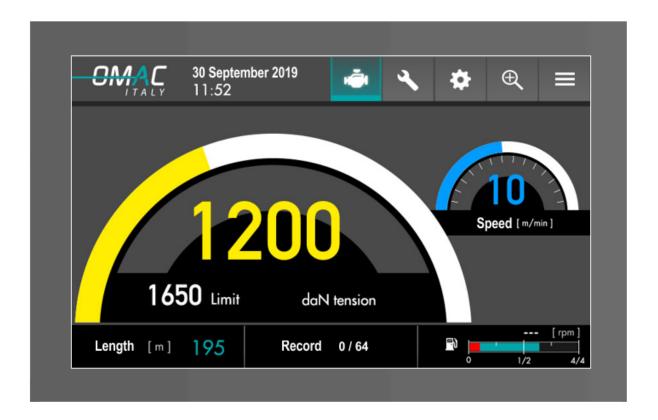
OPTIONAL DEVICES

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

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



DEG EVOLUTION 4.0



DEG FEATURES

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

DEG FUNCTIONS

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

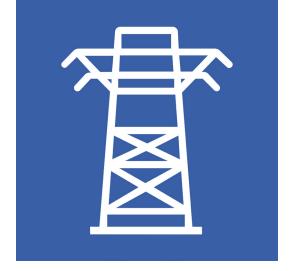
OPTIONAL 069.5

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



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





HYDRAULIC SERVICE WINCHES



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.

FE	ATURES
Dimensions LxWxH	1,65x1,25x1,10 m

Weight	(without	rone)	430 ka

	RUM
Internal diameter	240 mm
External diameter	500 mm
Width	480 mm
Capacity of rope:	
Ø8mm	500 m
Ø 6 mm	800 m
ALSO AVAI	LABLE F206.20

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

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

ALSO AVAILABLE F206.20		
Max pull	20 kN	
Speed at max pull	1 km/h	
Max speed	3 km/h	
Pull at max speed	6 kN	
Power	20 hp / 15 kW	

CONFIGURATION

- Automatic swinging rope-winder with idle position for manual opera-
- Dynamometer for reading the pull force
- Safety hydraulic negative brake
- Rigid axle with tires and drawbar fit for towing at low speed in the job-site
- Stabilisers and attachments for anchoring
- Rope-driver rollers fit for vertical and horizontal pull

OPTIONAL DEVICES

003	Axle with independent torsion bar suspensions and tires for towing on the road at 60 km/h, with mechanical parking brake
026	PVC cloth cover
028.2	Diesel engine with electric starting
034	Engine electric starting with battery 12 V
035	Preselector of max pull force to stop the engine in case of over-
	pull
090	Monophase electric motor 220 V
090.1	Three-phase electric motor
080	Heat exchanger to cool the oil in the hydraulic circuit
127.3	Device for lifting material applications
001.2	Freewheeling of the drum



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 laving.

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 ka		

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

	ENGINE
Feeding	diesel
Power	35 hp / 26 kW 26 hp / 18.8 kW *
Cooling	water
Starting	12 V

PULL PERFORMANCES

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

CONFIGURATION

- Automatic swinging rope-winder with idle position for manual operation
- Machine control panel with dynamometer and preselector of max pull force
- Safety hydraulic negative brake
- Rigid axle with tires and drawbar fit for towing at low speed in the iob-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

	1 ,
	(homologation excluded)
026	PVC cloth cover
027	Metallic coverage with doors
037	Remote control by cable, with 10 m of cable
038	Radio-control for remote control (max distance 100 m)
046.3	Rope-presser roller on the drum
058	Service winch with large-groove capstan (Ø 160 or 200 mm) fed
	by the hydraulic circuit of the puller.
	Max pulling force 500 kg.
064	Device to control the load descent in case of diesel engine
	breakdown
090.1	Three-phase electric motor
127.3	Device for lifting material applications
001.2	Freewheeling of the drum

Damped axle, overrun brake and drawbar for towing on the road



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

F208.50

max pull 50 kN



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

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

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

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

PULL PERFORMANCES			
Max pull	50 kN		
Speed at max pull	1,3 km/h		
Max speed	6 km/h		
Pull at max speed	10,5 kN		

CONFIGURATION

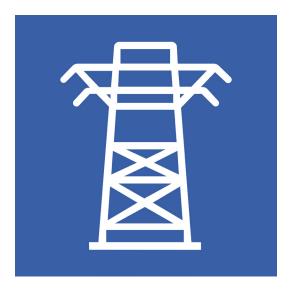
- Steel drum
- Automatic swinging rope-winder
- Machine control panel with dynamometer and preselector of max pull force
- Safety hydraulic negative brake
- Rigid axle with tires and drawbar fit for towing at low speed in the job-site
- Anchoring points
- Mechanical back and front stabilizers
- Heat exchanger to cool the oil in the hydraulic circuit
- Metallic coverage with doors

OPTIONAL DEVICES

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



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

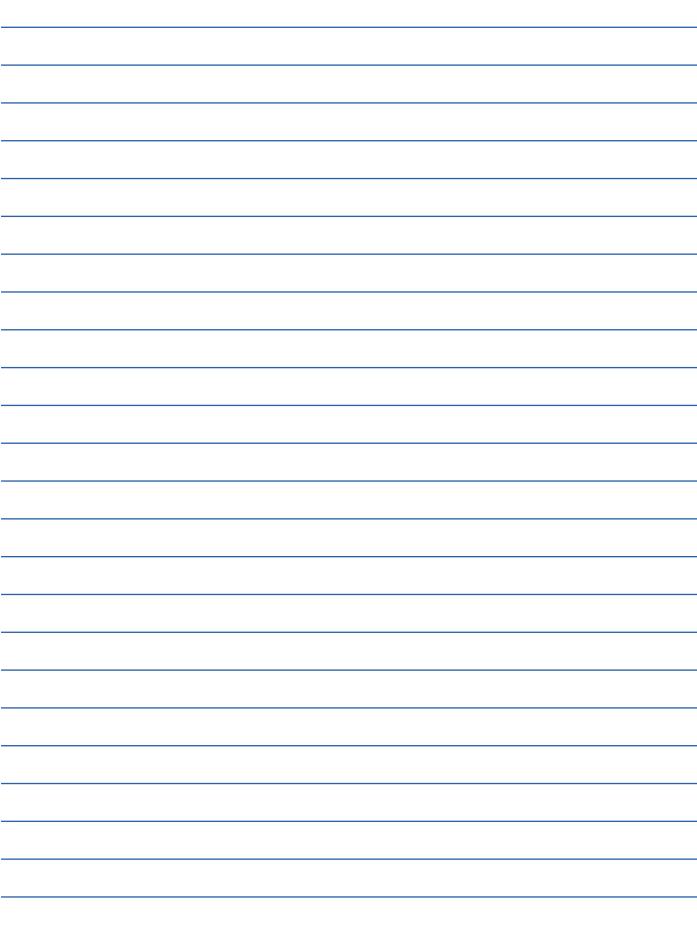


NOTES

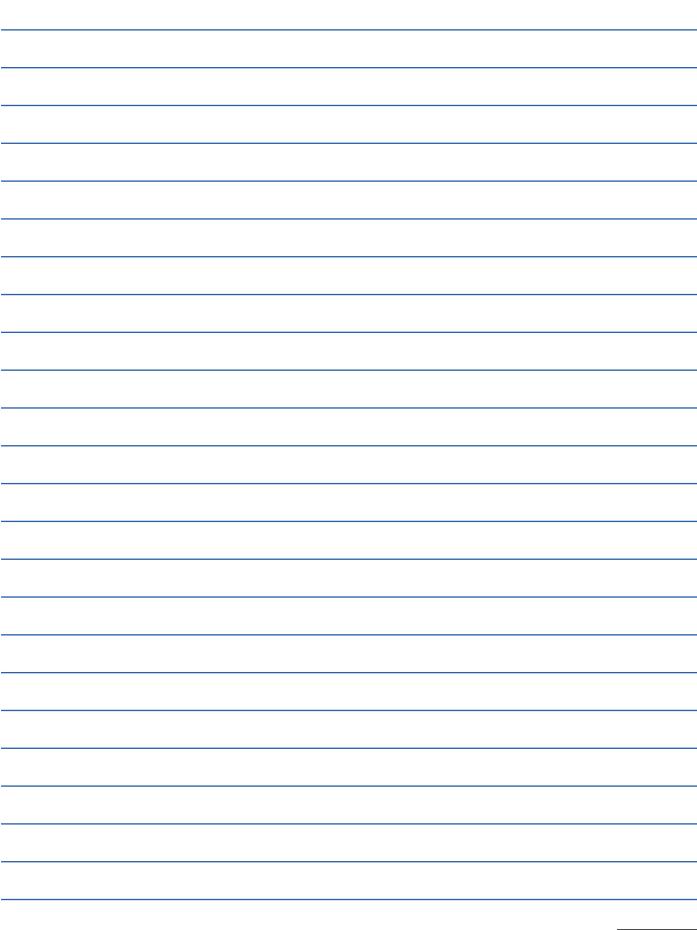




















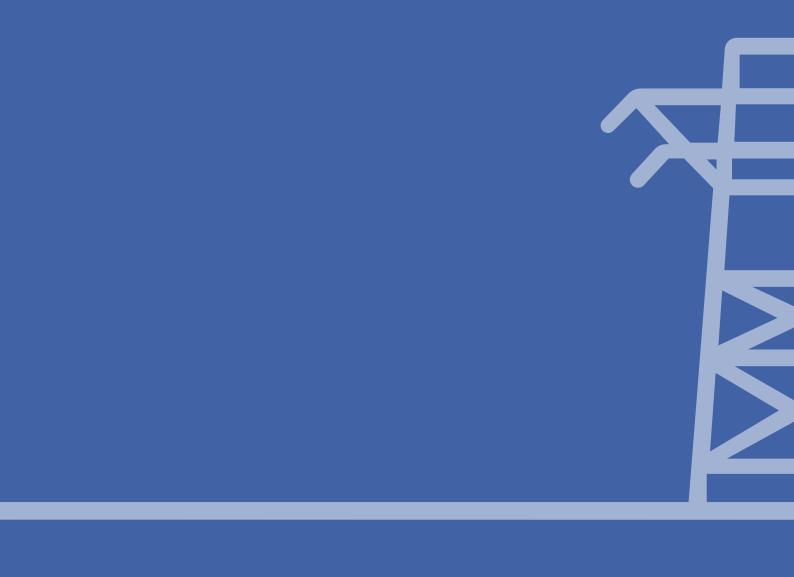












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