

Aerial bundle extractors (on-shore)

Mef express

Quick hooking tube bundle puller

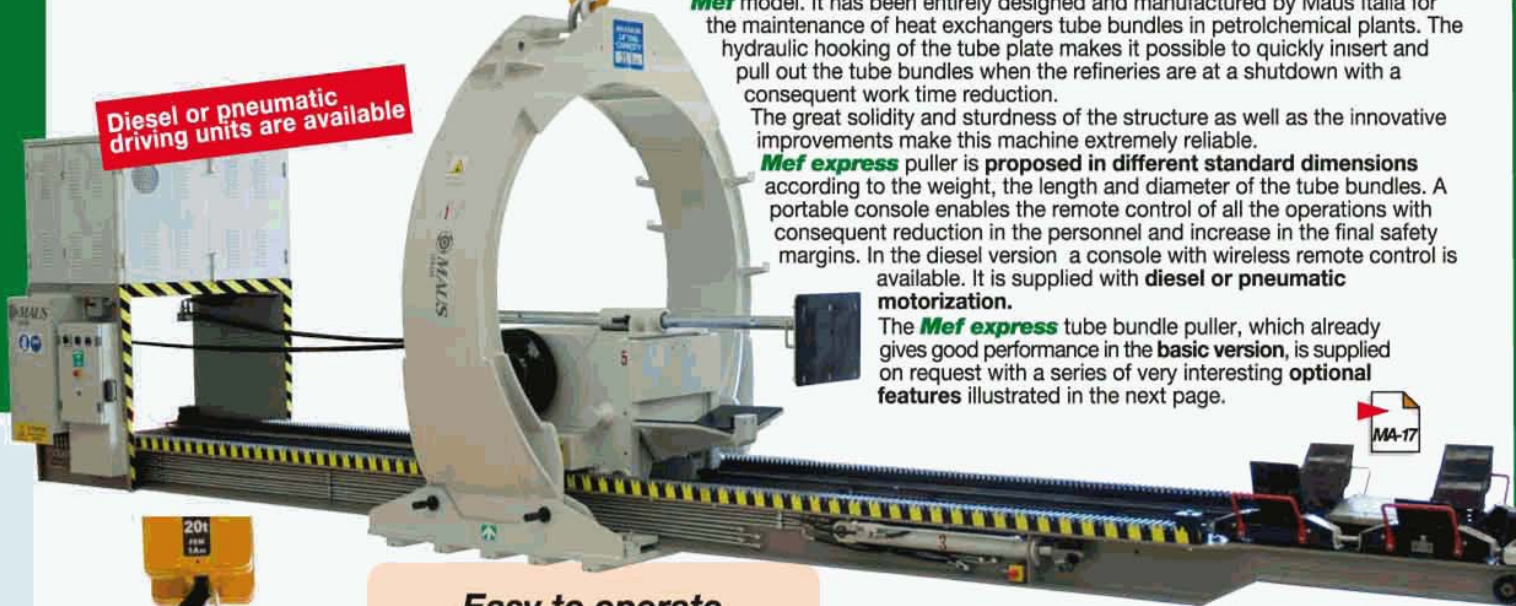
Mef express tube bundle puller is the quick hooking version of the already existing **Mef** model. It has been entirely designed and manufactured by Maus Italia for the maintenance of heat exchangers tube bundles in petrolchemical plants. The hydraulic hooking of the tube plate makes it possible to quickly insert and pull out the tube bundles when the refineries are at a shutdown with a consequent work time reduction.

The great solidity and sturdness of the structure as well as the innovative improvements make this machine extremely reliable.

Mef express puller is proposed in different standard dimensions according to the weight, the length and diameter of the tube bundles. A portable console enables the remote control of all the operations with consequent reduction in the personnel and increase in the final safety margins. In the diesel version a console with wireless remote control is available. It is supplied with **diesel or pneumatic motorization**.

The **Mef express** tube bundle puller, which already gives good performance in the **basic version**, is supplied on request with a series of very interesting **optional features** illustrated in the next page.

Diesel or pneumatic driving units are available



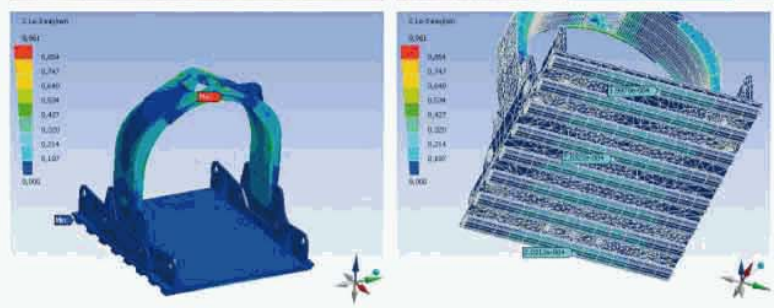
Easy to operate

Performing and reliable

Affordable prices

Tested solidity
(lifting test)

Advanced design



Motorization

Bundle extractors can be supplied with **Diesel engines** or **air motors**. Motors executions suitable for hazzardous classified working area are available on request (complete with **Atex conformity declaration**).

Customized executions

Maus (**ISO 9001 certified**) can supply also customized bundle pullers to meet special requirements from the customer (submitting all necessary docs / drawings / calculations).

On request,
SPECIAL VERSION
for low temperatures

Technical features



Shipping by container



Bundle dimensions		1300		1600		1700		2000		2000		2200*		2500*			
		65		65 75		65 75		65 75		100		75 100		100 125			
Tube sheet O.D.	D	mm		1300		1600		1700		2000		2000		2200		2500	
Length		mm		6500		6500 7500		6500 7500		10000		7500 10000		10000 12500			
**	Max lifting capacity	T		10 (15)		15 (22,5)		22 (33,3)		35 (52,5)		35 (52,5)		45 (67,5)		65 (97,5)	

Mef dimensions		1300		1600		1700		2000		2000		2200*		2500*			
		65		65 75		65 75		65 75		100		75 100		100 125			
Width	I	mm		1600		2000		2050		2300		2300		2900		3000	
Height	H	mm		2000		2500		2600		2800		3000		3300		3650	
Length	L	mm		7800		8100 9100		8100 9100		11600		9100 11600		11600 14100			
Height (motor)	HM	mm		2150		2250		2250		2250		2250		2250		2250	
Weight		Kg		4850		6200 6400		6500 6700		8250 8600		10800		12000 14000		16000 18500	
**	Pulling max speed	m/min		2,5		2,5		2,5		2,0		2,0		2,0		1,5	
	Pulling force	T		20		30		35		50		50		65		90	



Bundle dimensions		1300		1600		1700		2000		2000		2200*		2500*			
		65		65 75		65 75		65 75		100		75 100		100 125			
Tube sheet O.D.	D	"		51		63		67		78		78		87		98	
Length		Ft		21		21 24		21 24		32		24 32		32 41			
**	Max lifting capacity	Lb		22000 (33000)		33000 (49500)		48500 (72750)		77100 (115650)		77100 (115650)		99200 (148800)		143300 (214950)	

Mef dimensions		1300		1600		1700		2000		2000		2200*		2500*			
		65		65 75		65 75		65 75		100		75 100		100 125			
Width	I	Ft		5.3		6.6		6.8		7.6		7.6		9.5		9.9	
Height	H	Ft		6.6		8.2		8.6		9.2		9.8		10,8		12.0	
Length	L	Ft		25.6		27 30		27 30		38		30 38		38 46.3			
Height (motor)	HM	Ft		7.0		7.4		7.4		7.4		7.4		7.4		7.4	
Weight		Lb		10700		13700 14100		14400 14800		18200 19000		23800		26500 30900		35300 40800	
**	Pulling max speed	Ft/min		8.2		8.2		8.2		6.6		6.6		6.6		4.9	
	Pulling force	Lb		44000		66100		77100		110200		110200		143300		198400	

* For heavier bundles please contact us

** With Diesel driving unit

** Designed to support (under testing condition) a static load of 1,5 times the nominal load capacity

* Available in disassemblable rocker arm version

Nominal capacity (Static load for testing)

Aerial bundle extractors (on-shore)

Mef express

Standard supply

Diesel version

Diesel engine
(air cooled)



Pneumatic version

Air motor



Manual local command
on back side



Manual local command
on back side



Electric Portable
remote control

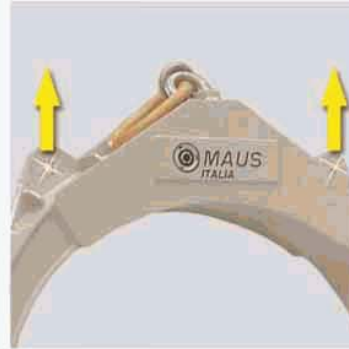


Pneumatic portable
remote control

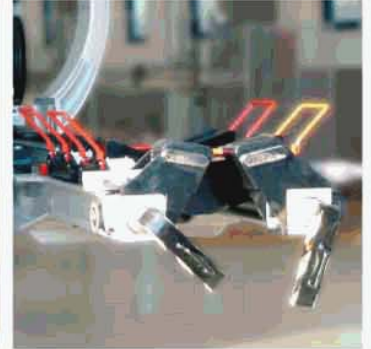


MA-16 MAUS ITALIA

Lifting point
alternative system



Hydraulic vices
for shell flange clamping



Main carriage
for continuous
pulling/pushing



Two hydraulic cylinder
for balancing action



Large base
of rocker arm
for balancing



* Disassemblable rocker
arm in 3 pieces for trans-
port also by container



* Only for 2200
and 2500 models.

MA-15

New bundle supports
with manual
adjustment

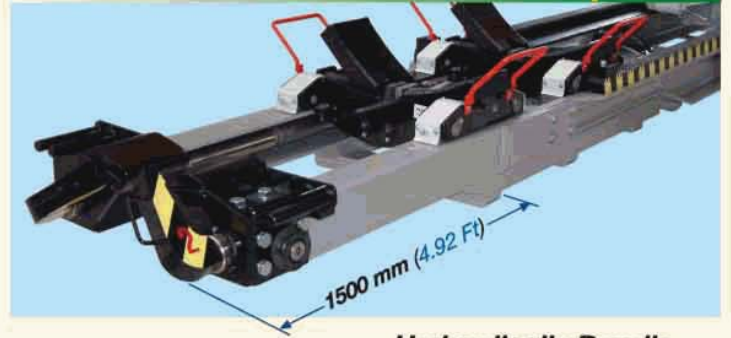


Mef express

Optionals

Removable Extension
1500 mm (4.92 Ft) long

Optional



Water cooled
diesel engine

Optional



Portable wireless
remote control

Optional



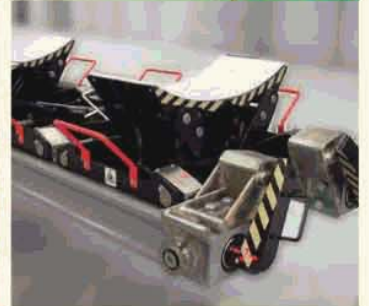
Adapters for small
diameter tube bundles

Optional



Hydraulically Bundle
supports with cust.
shape
(buffle-rod bundle)

Optional



Stainless steel guards
for sliding parts

Optional



Hydraulic telescopic
extended arm for bundle
insertion

Optional



Hydraulically controlled
bundle supports

Optional

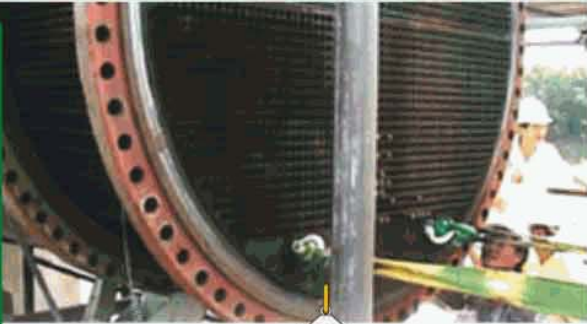


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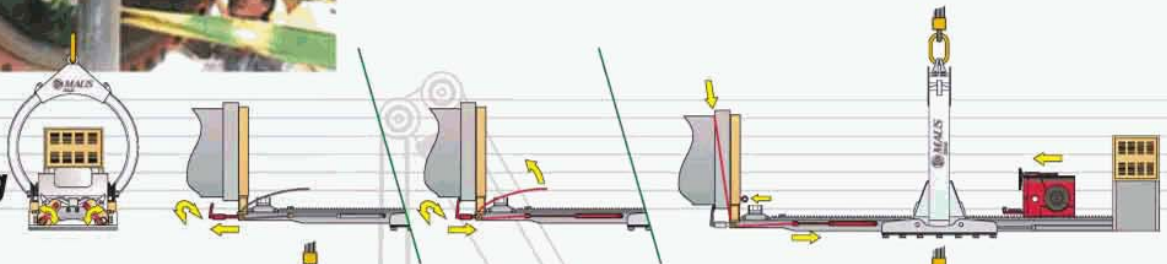
Mef express

Extraction sequence

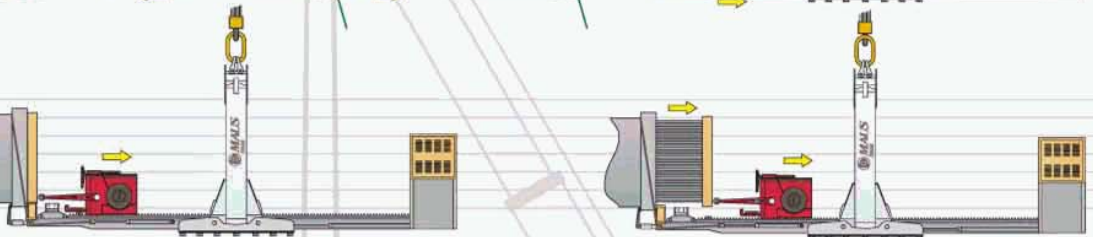
The main operations are shown below in sequence.



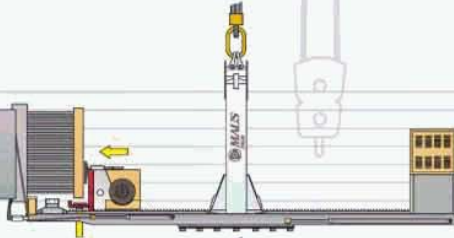
Shell blocking



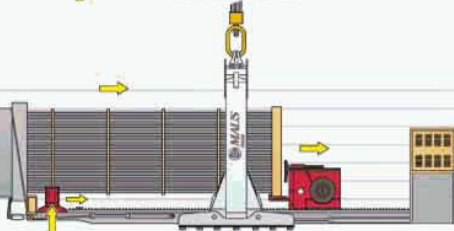
Pull with cable



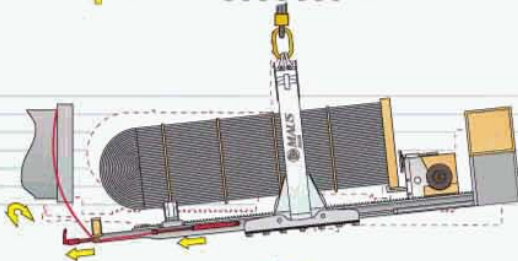
Hooking
Start of pulling



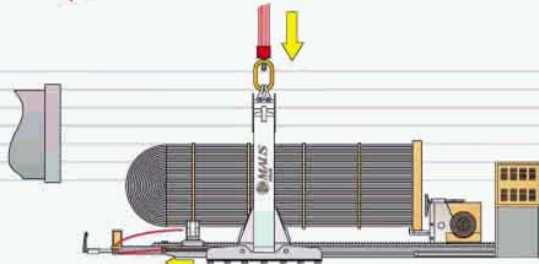
Pulling
Holding

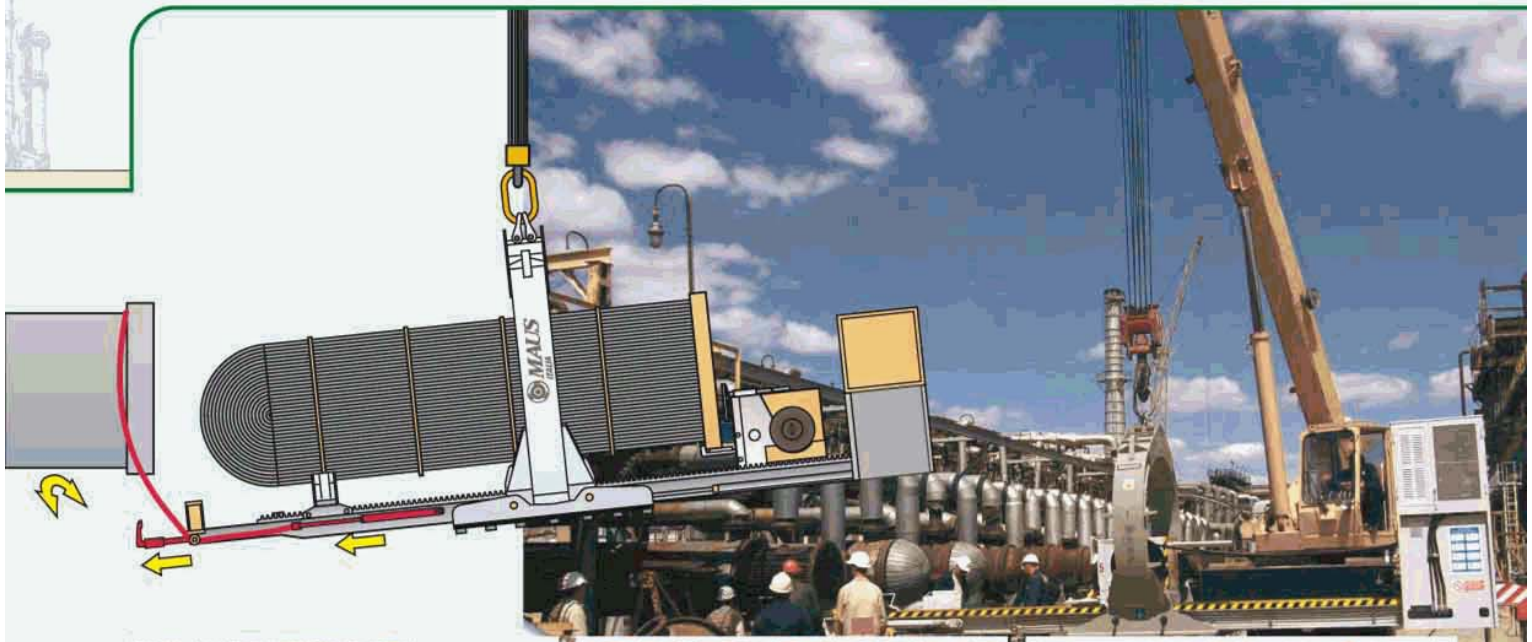


End of pulling
Balancing



Release
Shifting
Unloading





Aerial bundle extractors (off-shore)

Mef express NAVY

Quick hooking tube bundle puller



This special version of the **Mef express** unit has been produced to meet the need for extraction of tube bundles on petroleum platforms and installations at sea on large vessels known as FPSO. The machine consists of a **Mef express NAVY** operative part, produced for this purpose following the most rigid standards concerning shipbuilding. There are many similarities with the **Mef express ON SHORE** as a rapid extraction system, however it is equipped with a special device that blocks any oscillations of the bundle due to sea swell. It is very compact and light, suitable for handling in **small spaces**, powered by a mobile power unit called **Van Motor NAVY**. In view of the unusual nature of the off-shore application, the dimensional details of the **Mef express NAVY** are based on the design specifications of the installation provided by the final client or engineer in charge of the project in a spirit of the closest collaboration.



Motorization

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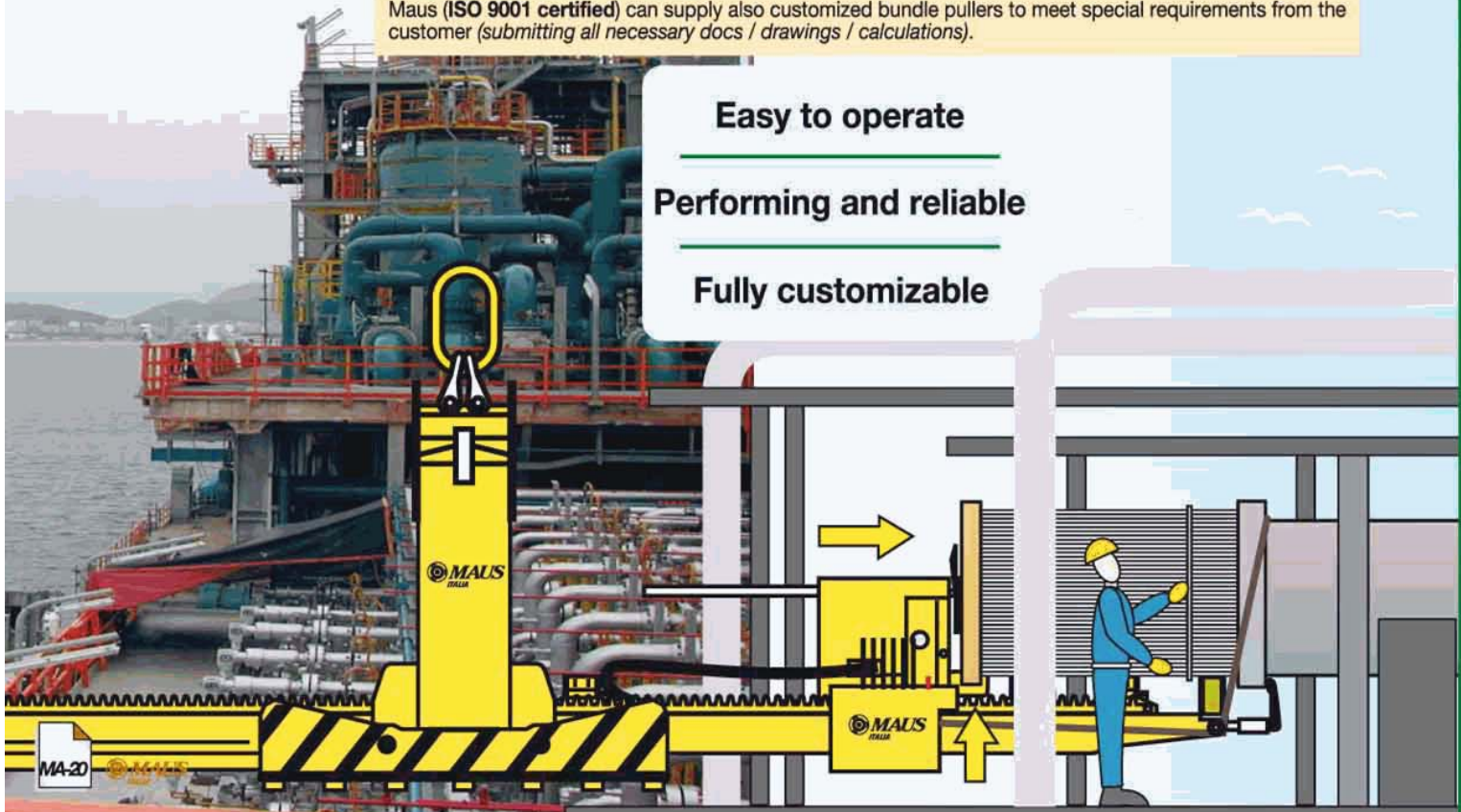
Customized executions

Maus (**ISO 9001 certified**) can supply also customized bundle pullers to meet special requirements from the customer (*submitting all necessary docs / drawings / calculations*).

Easy to operate

Performing and reliable

Fully customizable



Hydraulic commands



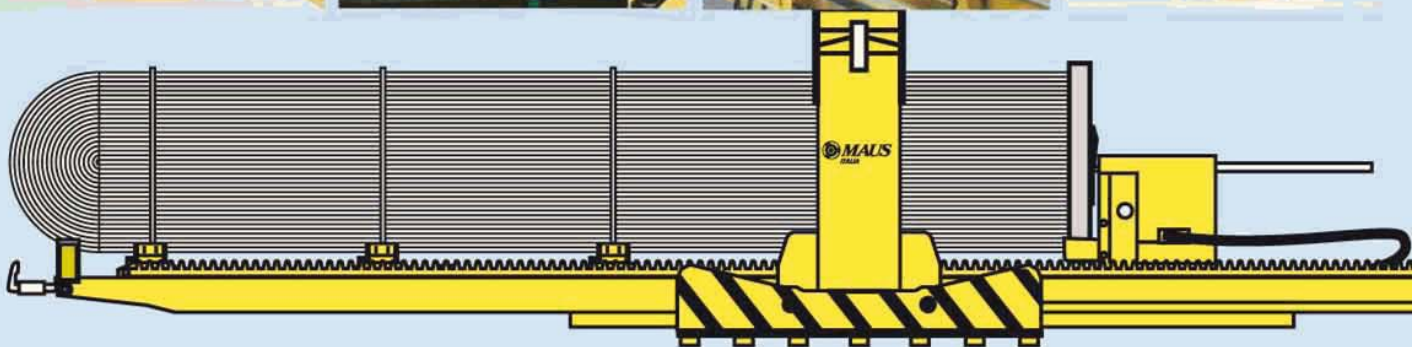
Main carriage with bundle blocking system



Circular rocker arm for lifting



Hydraulic vice



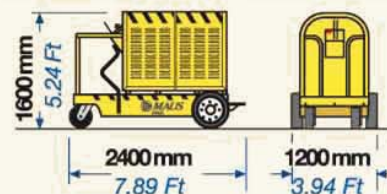
Van Motor NAVY

The separate drive unit complete with motor and hydraulic unit



Van Motor NAVY is a self-propelled trolley consisting of a hydraulic unit powered by a diesel motor converted into an **explosion proof version**. The hydraulic unit is connected to hydraulic hoses, wound on reels, which power the operative machinery.

With the **Van Motor NAVY** it is possible to operate both the **Mef express NAVY** and the **Mef mobil NAVY**. This system reduces the weights and dimensions of the operating machines making it possible to access points in the plant that would otherwise be inaccessible. These machines are designed to be able to work in force 10 sea conditions.



Sturdy

High safety

Complete **trasformation** of the Diesel I.C.E., electrical, starter, battery and relevant control panel (close to the motor) according to:

- ATEX 94/9/CE (DPR n.126 of 28.03.1998) relative to machines and equipments used in dangerous area ZONE 2 Cat. 3G IIB T3 200°C (392°F)
- EN11834-1 relative to the "Safety requirements" for designing and construction of I.C.E. to be used in atmosphere explosive.

Certification: **Explosion proof CE** declaration will be released according to the specification mentioned in the **ATEX 94/9/CE** for the 3G Category transformation.

Technical Specifications

- Trolley with two front driving wheels c/w self braking system and two rear self braking wheels.
- Footboard for driver
- Water cooled diesel motor model Lombardini LDW 2204, 35,5 Kw at 3000 rpm complete with spark arrestor
- Oil tank 200 Lt (53 US Gal) capacity
- Quick hydraulic connection
- Winding wheels for hydraulic hoses
- Electrical control panel for I.C.E control only for safe area operation
- Estimated weight: 750 Kg (1653 Lb)