



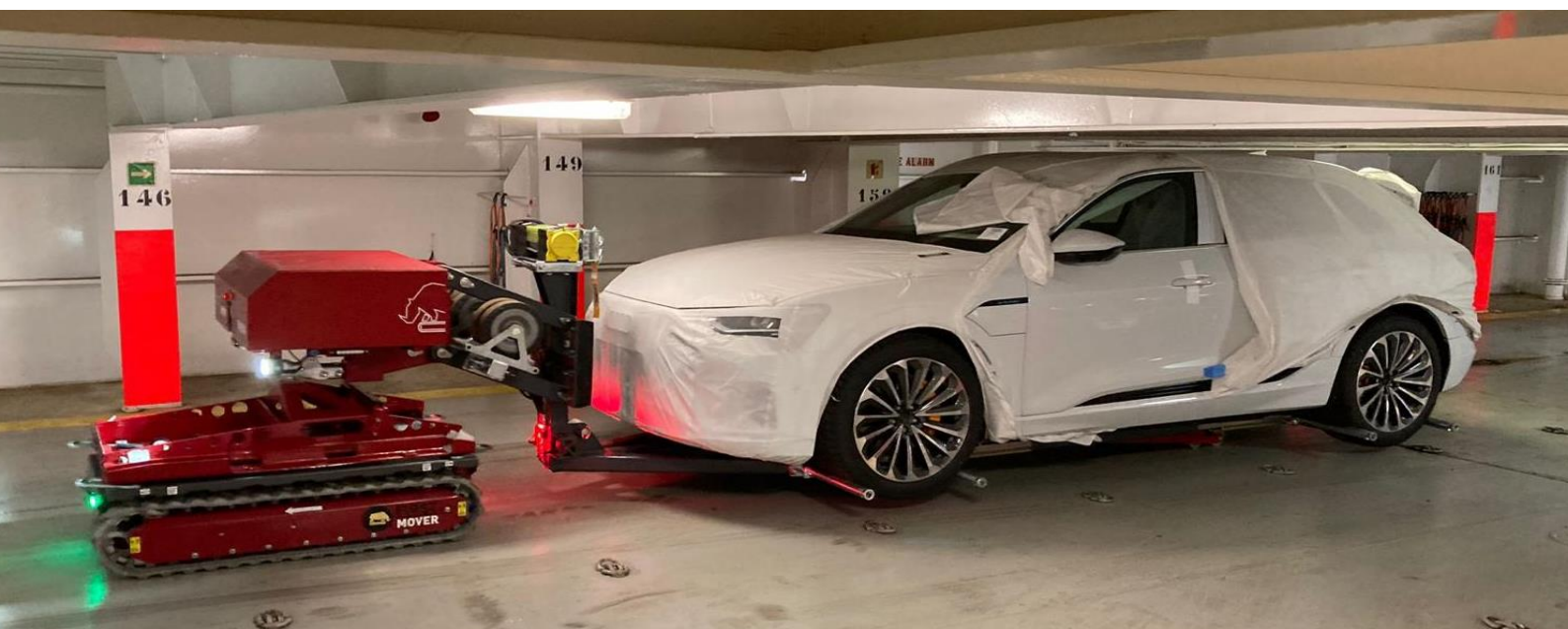
First-Mover proudly presents the new R-3500 Car mover





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FME and FMR are specially developed for safe salvage of vehicles

Patented Remote Controlled Car Mover

The FME and FMR makes it possible to safely handle tasks that will normally pose a high security risk to the staff who performs the tasks. by way of example the FME and FMR:

- Lifts 3,500 kg without any manual operation is necessary
- Easily handles vehicles in buildings where height and space conditions are limited
- Moves vehicles that are on fire or generate dangerous fumes
- Moves vehicle that is parked inappropriately i.e., in a fire lane
- Handle damaged vehicles on freeways with the operator safely placed behind the guard rail
- Easily lifts / salvages vehicles that are not completely damaged

Wherever a safe distance is necessary, or the space is tight - the FME/FMR is an invaluable help. The operator can remote control the FME/FMR and still be in full control of the operation up to 100 meters away.





FME specification.

FME (First Mover Emergency)

Function: FME is fully remote controlled. All functions can be operated by a person up to 100 meters away from the unit. The Mover-unit and Flatbed are galvanically separated, thus eliminating the risk of electric shock and ensuring the FME can safely recover EVs.

The Pickup platform can be inserted under the damaged vehicle at any angle from the FME-main unit, in other words it does not have to be in a straight line in front of or behind the damaged vehicle.

The pickup platform's hydraulic system can lift the damaged vehicle up to 680 mm off the surface. The FME can then maneuver the damaged vehicle freely - without using of additional personnel or equipment!

If the damaged vehicle is too low to allow the platform to driven under it (i.e., where the car has lost one or more tires) a 2,5-ton winch is fitted to the FME, which can pull the crashed vehicle up onto the pick-up platform. The winch can also be used as lashing during transport.

During maneuvering:

The FME's remote control constantly shows the slope of the mover. An acoustic warning sounds if the maximum permissible slope is exceeded. The lifting height can be adjusted individually front and rear, allowing an easy salvage from e.g., a multi-level parking garage; on ferry-ramps etc. that would otherwise make the salvage impossible.

Construction:

The frame is powder-coated and high-strength steel, All hydraulic functions are secured against hose breakage. The pick-up platform is made of 5 mm stainless steel, which is ideal for many years of extensive use. The top plate can be easily replaced. The sloping ramp make it easy loading of the vehicles.

FME Mark I - Pictures from live fire tests at Shell in Arnhem Delivery of First-Mover R-3500 to Shell Amsterdam





FMR specification.

FMR (First Mover Recovery)

R - "Recovery" - lifts the vehicle via the wheels instead of on the bottom of the vehicle as (FME).

When dismantling lifting shafts, FMR can be used for the same functions as described above in section "FME".

Maximum wheelbase length approximately 3,600 mm (i.e., Tesla Model X / Mercedes S-Class)

Minimum length of wheelbase 1,600 mm

Maximum weight 2,800 kg (700 kg per wheel shaft set)

The Mover-unit and Flatbed are galvanically separated, thus eliminating the risk of electric shock and ensuring the FME can safely recover EVs.

Functional description of FMR

FMR is fully remote controlled. All functions can be operated by a person up to 100 meters away.

FMR is inserted under the crashed vehicle without lifting the axles * mounted.

When the FMR is located under the vehicle, the lifting shafts is mounted - They can be individually adjusted i.e., to compensate for a damaged or missing wheel. After mounting the lifting shafts, a lashing can be mounted between the two lifting shafts.

The wrecked vehicle can then be lifted from its position and moved without the use of additional personnel or equipment!

Image description of features:

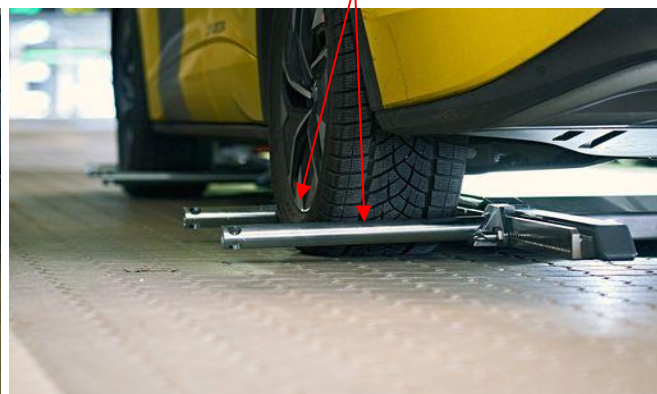
Lifting shafts system:



Storage system for lifting shafts



Lifting points-



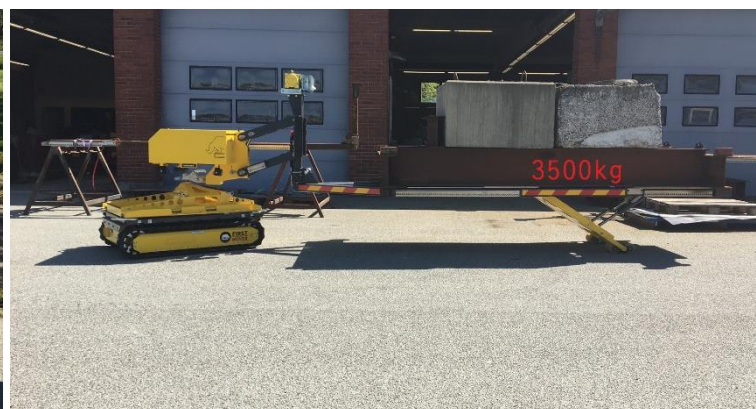


Driving on ramps increase:

FME and FMR can drive at up to 12°/18° slope and the vehicle can be hoisted 680 mm from the surface - depending on surface conditions



Functional testing of R-3500 maximum lift 3500 kg with test bench





FME - FMR Technical specifications:

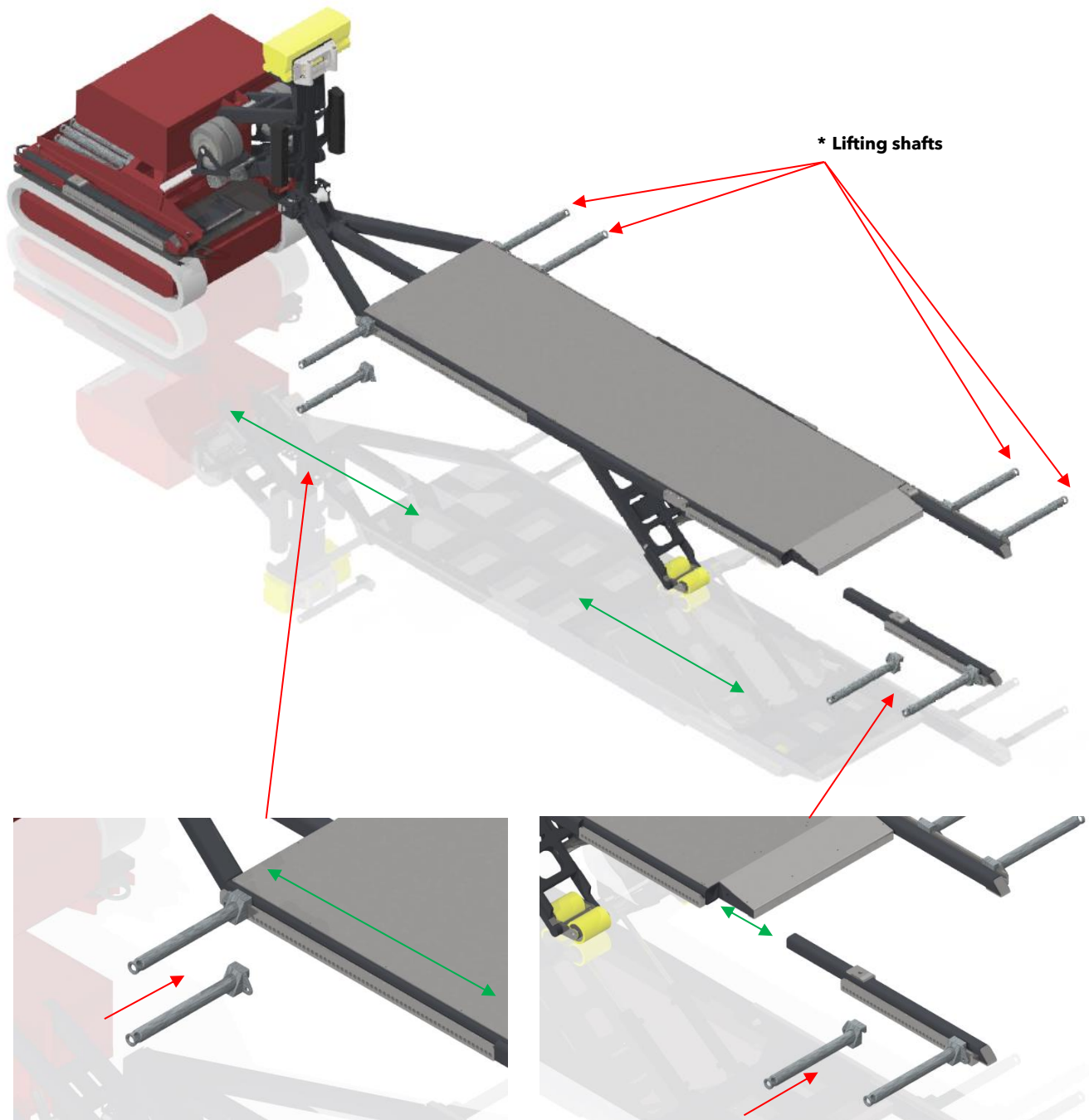
Mover:	
Speed	4 Km/h
Power (max)	3,4 kW
Load capacity (only mover)	2200kg
Net weight	500kg
Operating time. can be modulated	4-5 hours
Charging time	8-9 hours
Charge voltage	230v/10Amp.
Maximum slope	45°
Remote control for all functions.	100 meters
Power bank	Battery 24v 200 Amp.

Flatbed:	
Load capacity Flatbed FME	3.500 kg
Load capacity lifting shaft (8pcs.) FMR	2.800 kg
Net weight (with mover)	1.500 kg
FME Total weight - (maximum load)	5.000 kg
FMR Total weight - (maximum load with Lifting shaft)	4.200 kg
Lifting system	Electro-hydraulic
Maximum slope - Forward / Backward (mover)	12°/18°
Width	1.080mm
Height of lifting platform	115 mm
Length (total module) can be modulated*	6.100 mm
Length (Flatbed-Without) can be modulated*	5.700 mm
Length (Flatbed pickup platform) (from winch and back)	4.100 mm
Length Mover-unit	1.260 mm
Lifting height (Flatbed)	680 mm
Remote control for all functions.	40/100 meters
Operating time. can be modulated (F17)	3-4 hours
Charging time	8 hours
Charge voltage	230v/10Amp.
Power bank	Battery 24v 63 Amp.
Power bank F17	Battery 24v 100Amp.



Construction drawing First Mover Mark II (F13-F18 Accessories/equipment)

Construction drawings of lifting principle (FMR):



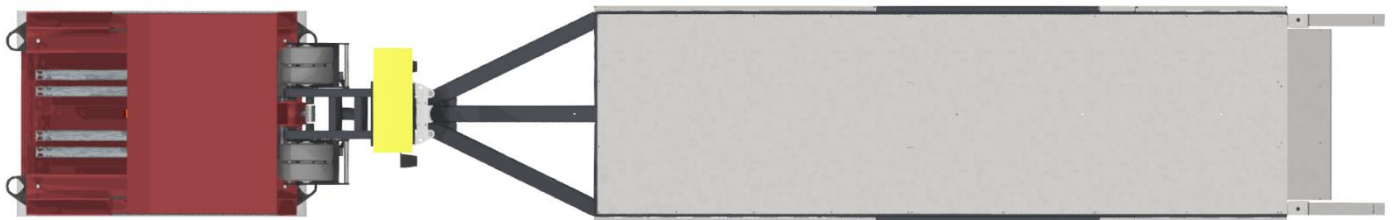
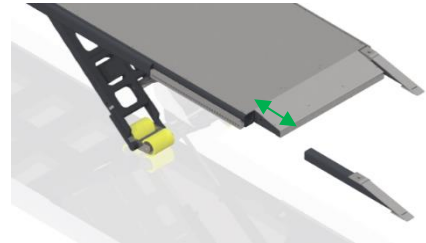
Front- Lifting shafts

Rear - Lifting shafts /Extends lifting spear



Extraction spears (FME/FMR)

Extraction spears (burning cars) FME/FMR:



Construction on mover with equipment (FME/FMR)

Lift axles location - not in use

Pull Eyes

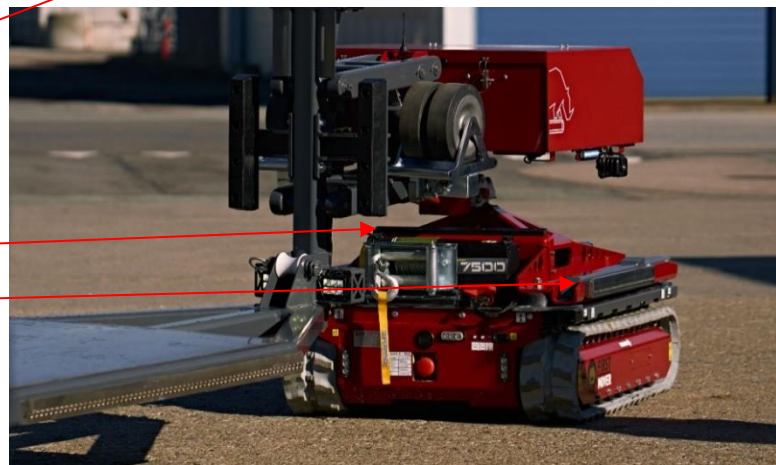
Four fixed eye are fitted - two at each end.

Room for straps

Extend spear location - storages when not in use

Safety beam at slope over 12°

Extend spear location - storages when not in use

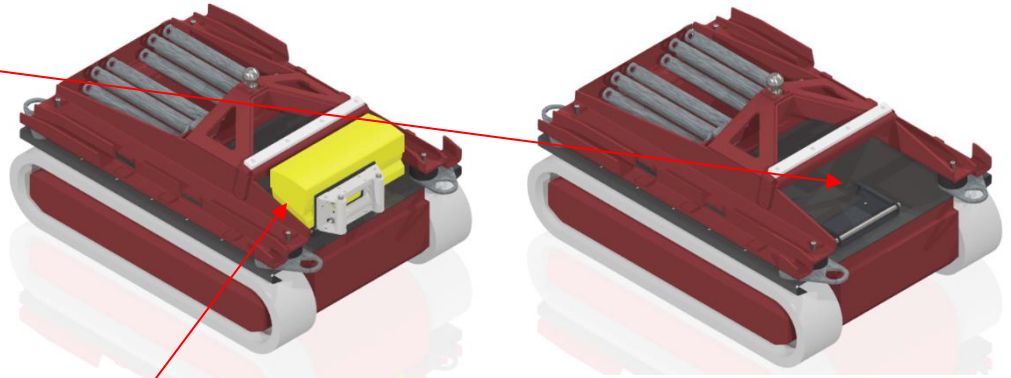




F13 - Winch (FME/FMR)

2,5 ton winch on mover:

Bracket for Winch



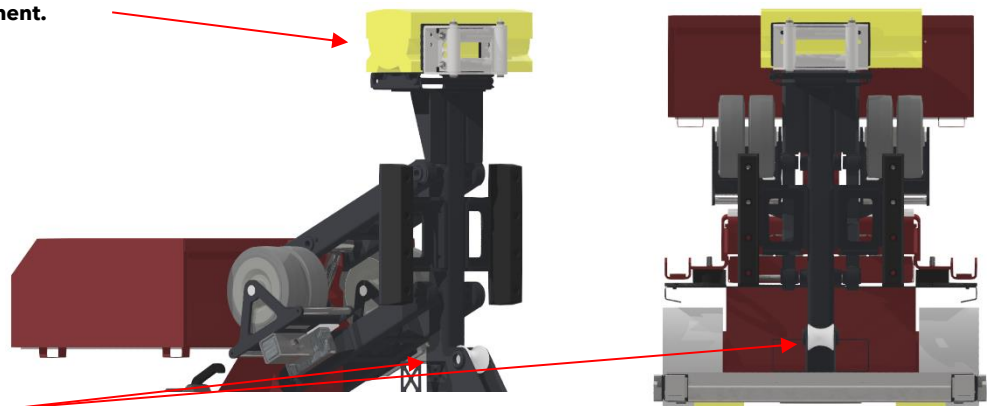
Winch location (on Mover)

Controlled by mover. (In and out by remote control)

Winch on Flatbed:



Click bracket for quick replacement.

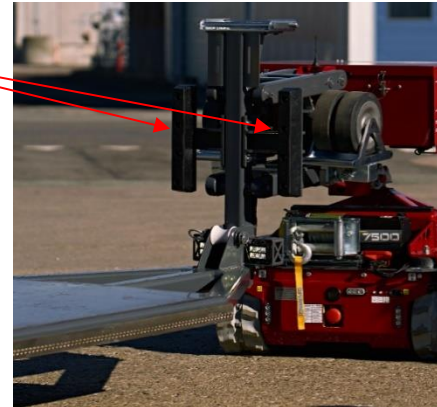


Steel rolls for low draft



Rubber blocks (standard)

Rubber fender for protection of the vehicle is placed on the front of the flatbed



Control box (standard)

Top shield - which can tilt open for maintenance and service.

Prepared for 100Ah battery package

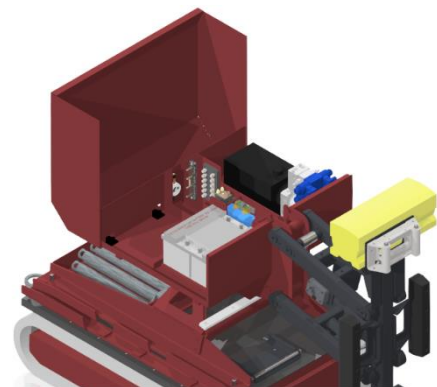
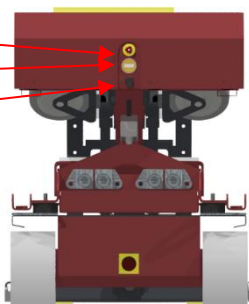
Prepared for compressor

Emergency stop

Voltmeter (indication battery capacity)

Charging point for 230V

Charger for remote control battery



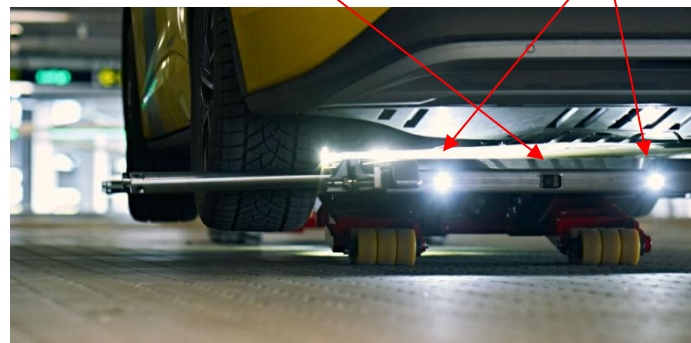
F14 - Remote control with LCD screen and camera on flatbed (FME/FMR)

F14 Option: Remote control with LCD screen



Camera

2x LED Lights





F15 - Road wheels (FME/FMR) Maximum Payload 3500kg

Position before the road wheels are mounted:

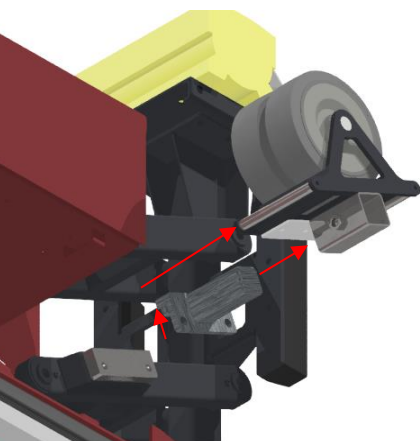


Position with mounted Road wheels:

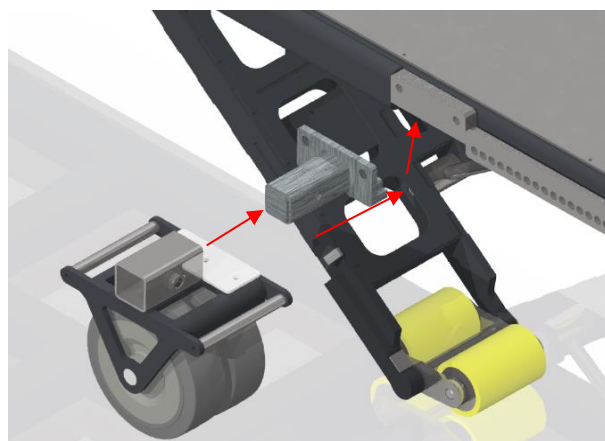


1. lift the flatbed approx. 300mm from surface with the hydraulic system (vehicle on the flatbed)
2. Road wheels are removed from the bracket in the front (Road wheels + lifting bracket) *(No tools)*
3. The lifting bracket is mounted on the flatbed. *(No tools)*
4. Then the road wheel is moved over the axle and locked with a spring lock *(No tools)*
4. Lower flatbed down to O-position - Ready for transport

(2) Front:



(3-4) Rear wheels lift:



Fully assembled:





F15 - Road wheels (FME/FMR) Maximum Payload 3500kg

Pictures from Road wheels in different situations





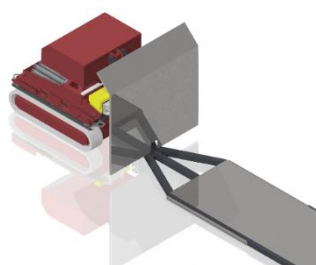
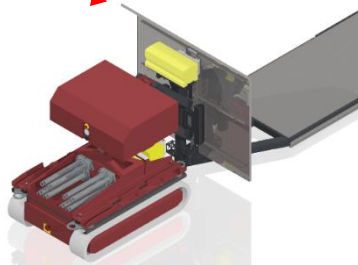
F16 - Heat shield (FME/FMR)

The protective heat shield is made of two stainless steel plates separated by 25 mm ceramic fiber carpet - it can resist temperatures up to 1260°

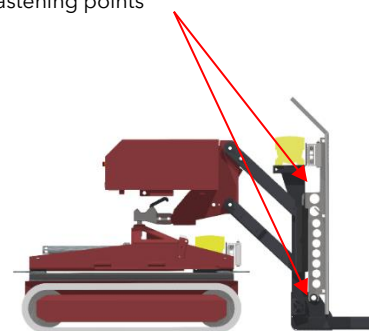
Can be mounted on all FME/FMR units, Total weight is 50 kg.

Low pull snatch block for the winch can still be used with an attached heat shield. Light on the front cannot be used with a heat shield fitted.

Heat shield



Fastening points



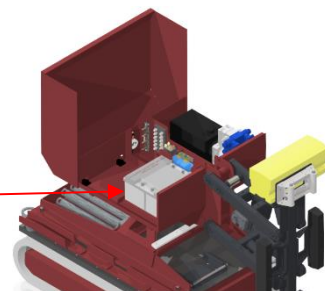
F17 - 100Ah 24v battery pack

The FME /FMR comes with a

GEL 63Ah 24v battery pack as standard

On the Mark II, it is possible to upgrade

to a GEL 100Ah 24v battery pack



F18 - Compressor

Performance:

24v Max. 10,34 bar

Without load: 87.2 l / min.

Under load: (at 200 kPa/2 Bar) 65.9 l / min.



F19 – Trailer T1

Description of trailer: 3 axle galvanized trailer. 2 pcs. Loading ramps. – Bottom waterproof plywood.

Sheet length: approx. 5950mm

Total length trailer: approx. 7840mm

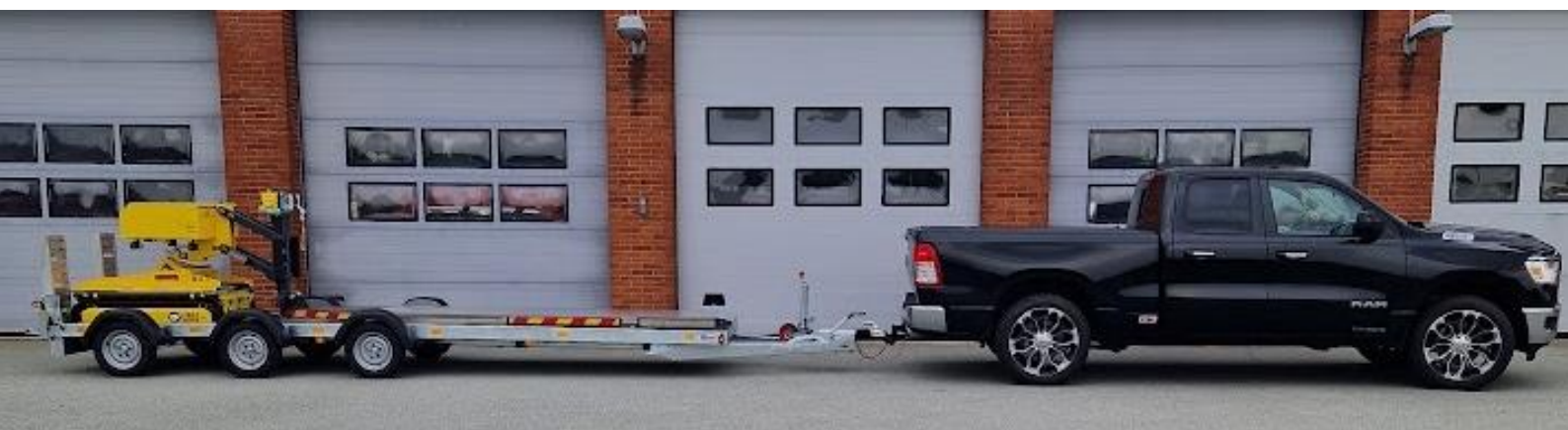
Width: 1920mm

Weight:

Trailer weight 680kg

Trailer total weight (Can be weighed down to (R-3500+trailer)= 2200kg)*

Loading capacity trailer 2320kg





FME - First Mover Emergency Mark II - Standard Types

- 1- Mover Pro 2200
- 1- FME (First Mover Emergency)
 - Pickup platform FME
 - Maximum lift on flatbed 3,500 kg.
 - Storage system on the mover
- 2- Extraction spears (FME)
 - 1- Color: (red RAL 3003) (grey RAL 7024) (Option to purchase your own color)
- 1- Remote control:
 - All functions can be operated by a person up to 100 meters away
 - Continuously shows the slope of the platform. An acoustic warning sounds if the maximum permissible slope is exceeded.
 - The lifting height can be adjusted individually front and rear.
 - Visible operating functions in the dark
 - 2 batteries incl. battery charger which is mounted on the flatbed. (Charge together with flatbed 220/230v)
- 1- LED light package (2 front light - 2 work lamps - 2 work lamps rear flatbed - 3 Blue or yellow flash) Activated on remote control
- 1- 63Ah 24v battery
 - 1- Warning horn - standard installation (controlled via remote control)
 - 1- Green light forward and red light Standard mounting
- 2- Charging cables 5m 220/230v (mover and flatbed have a built-in maintenance battery charger)
- 1- F12- Road wheel set ø250mm bracket on lifting frame (prepared for upgrade)
- 1- Operating manual/wiring diagram - English
- 1- Training program (2 hours) for super users in Aarhus, Denmark





FMR - First Mover Recovery Mark II - Standard Types

- 1- Mover Pro 2200
- 1- FMR - "Recovery" - lifts the vehicle on the wheels instead of on the bottom of the vehicle as (FME). When dismantling lifting shafts, FMR can be used for the same functions as described above in section "FME". Maximum wheelbase length 3,200 mm. Minimum length of wheelbase 2,300 mm The FME can maneuver the vehicle easy - without using of additional personnel or equipment!
Maximum lift 2,800 kg with Lifting shafts (8 pcs.) (700 kg pr. set)
Maximum lift on flatbed without lift shafts 3,500 kg (FME)
Storage system on the mover for extending spears / lifting spears
- 2- Extended lifting spear (FMR)
- 2- Extraction spears (FME)
- 1- Color: (red RAL 3003) (grey RAL 7024) (Option to purchase your own color)
- 1- Remote control:
All functions can be operated by a person up to 100 meters away
Continuously shows the slope of the platform. An acoustic warning sounds if the maximum permissible slope is exceeded.
The lifting height can be adjusted individually front and rear.
Visible operating functions in the dark
2 batteries incl. battery charger which is mounted on the flatbed. (Charges together with flatbed 220/230v)
- 1- LED light package (2 front light - 2 work lamps - 2 work lamps rear flatbed - 3 Blue or yellow flash) Activated on remote control
- 1- 63Ah 24v Battery
- 1- Warning horn - standard installation (controlled via remote control)
- 1- Green light forward and redlight (Standard mounting)
- 2- Charging cables 5m 220/230v (mover and flatbed have a built-in maintenance battery charger)
- 1- F12- Road wheel set ø250mm bracket on lifting frame (prepared for upgrade)
- 1- Operating manual/wiring diagram - English
- 1- Training of 2 hours for super users in Aarhus





**FIRST
MOVER**



FME / FMR Accessories/equipment

F13 -	Winch 2,5ton 16,8 Meter steel wire Warn 2,5 Ton 24v winch with 20meter steel wire Mounted with brackets for two possible locations (can be operated on mover and flatbed) Detachable wire guide Pom-c eye Controlled with FME / FMR units' remote control	(FME/FMR)
F14 -	Remote control with LCD screen and camera on flatbed	(FME/FMR)
F15 -	Road wheels Two sets of auxiliary wheels with two wheels on each axle - Makes it possible to drive on stones or poor surfaces Price 2 Pcs including storage bracket	(FME/FMR)
F16 -	Heat shield The protective heat shield is made of two stainless steel plates separated by 25 mm ceramic fiber carpet - it can resist temperatures up to 1260° Weight 50kg. Snatch block for low pull on the winch can be used with an attached heat shield Light on the front cannot be used with a heat shield fitted	(FME/FMR)
F17 -	100Ah 24v battery pack The FME /FMR comes with a GEL 63Ah 24v battery pack as standard - On the Mark II, it is possible to upgrade to a GEL 100Ah 24v battery pack - Approx. 60% increased battery capacity. That gives a continuous operating time of 2-3 hours Recommended with optional compressor or winch	(FME/FMR)
F18 -	Compressor Performance: 24v 10,34 bar Without load: 87.2 l / min. Under load: (at 200 kPa/2 Bar) 65.9 l / min The air outlet is placed under the front module. Start/stop is placed in front of the module.	(FME/FMR)



Warranty:

24-month warranty. Wearing parts are excluded.

Annual inspection is a requirement for a 24-month warranty.

Annual statutory inspection

Service includes:

Thorough testing of the unit - transport and lubrication.

Interval of 12 months depending on use. *The annual Inspection must be completed to maintain 24 months warranty.*

Technical info:

FME / FMR is CE-Certified in accordance with the Machinery Directive.

FME / FMR is a patented system.





Contact information

Manufacturing industries

BS Engineering ApS

Samsøvej 2

8382 Hinnerup

Denmark

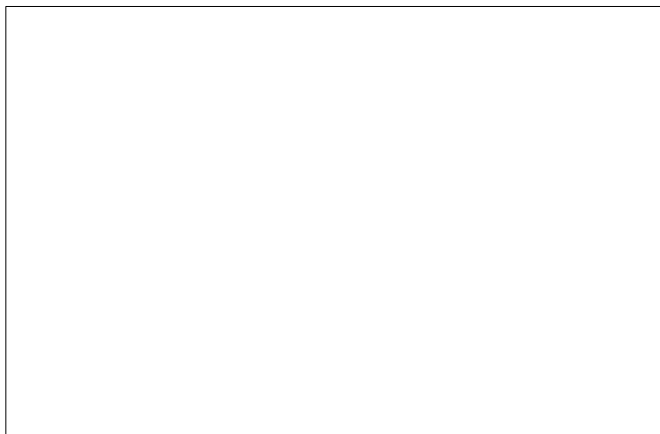
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