

TRI MO MSS



MODULAR
UNIT TRANSPORT AND STORAGE

TABLE OF CONTENT

A LOADING AND UNLOADING OF TRIMO MODULAR UNIT 4

- A.1. Handling of modular units with forklift, 4
 - A.1.1. Handling of modular units with forklift openings
 - A.1.2. Handling of modular units without forklift openings
- A.2. Handling of modular units with crane, 6

B TRANSPORT OF TRIMO MODULAR UNIT 7

- B.1. Road transport, 7
 - B.1.1. Loading / Unloading flat-packed modular units without forklift openings
- B.2. Rail transport, 11
- B.3. Overseas transport, 12
 - B.3.1. High cube freight containers 40 ft or 45 ft
 - B.3.2. Flat racks and platforms
 - B.3.3. Handling vertical flat-pack to horizontal position

C STORAGE 14

D WARNINGS 15

- D.1. Actions to be taken in the event of damaged modular unit 15



A. LOADING AND UNLOADING OF TRIMO MODULAR UNIT

Standard dimensions of Trimo modular units are adopted to meet all means of transport that are used to the transportation of ISO containers.

Assembled and/or flat-packed modular units can be handled (unloading, loading, transshipment) with a forklift (load bearing capacity of minimum 3 tons and length of fork minimum 2,450 mm) or by crane. Loading and unloading with forklift trucks that have special in-built grips (spreaders) for work with modules is also possible.

By the manipulation of modular units should you be particularly careful to avoid mechanical damage of the modular unit.

If lifting device is used for handling assembled or flat-packed unit it is necessary to use lifting bands of appropriate-load-bearing capacity. **When handling modular units without forklift openings insert protective rubber between unit and forks to prevent damages on steel frame.**

When lifting, it is necessary to ensure that the centre of gravity is situated between the forks or the lifting bands.

Only one flat-packed modular unit may be handled at a time.

When loading into truck, cargo protection foam should be placed between truck's support framework and modular unit's frame to **prevent damages on modular unit's frame.**

When unloading from the truck, the truck tarpaulin must be uncovered, and the support framework must be removed to such an extent that the **modular units cannot be damaged upon lifting.**

In case that damage to the modular unit frame occur, the damaged area must be repaired in accordance with the procedure described in **Instructions for use and maintenance.**

A.1. HANDLING OF MODULAR UNITS WITH FORKLIFT

A.1.1 MODULAR UNITS WITH FORKLIFT OPENINGS



Modular units with forklift openings

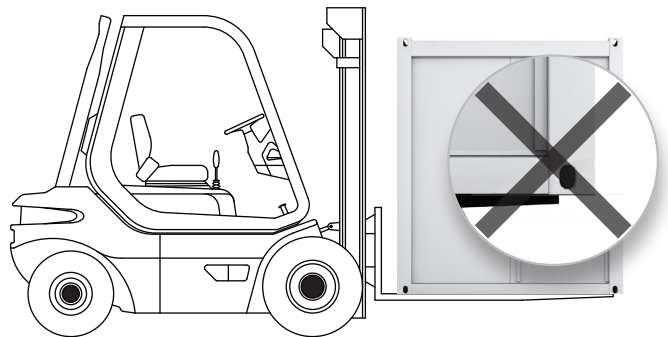
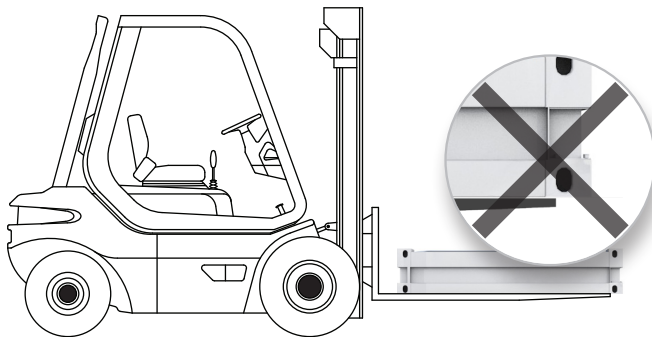
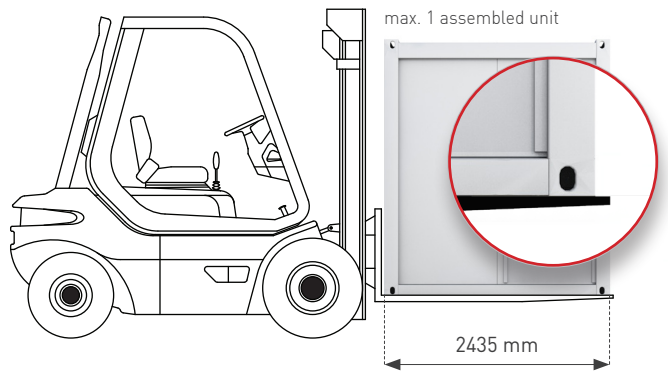
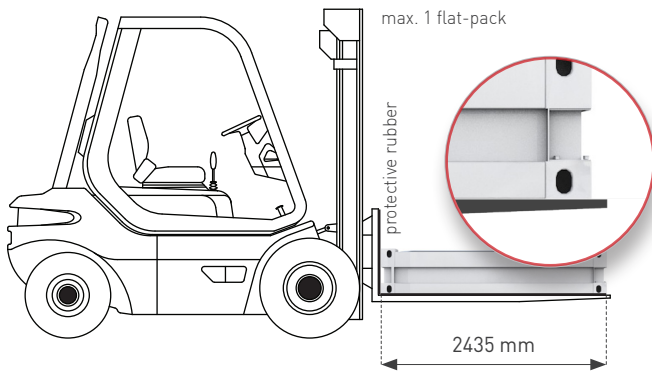


Protective rubber between unit and forks must be inserted to prevent damages on steel frame.

A.1.2 MODULAR UNITS WITHOUT FORKLIFT OPENINGS



Modular units without forklift openings



Handling of modular units without forklift openings.*

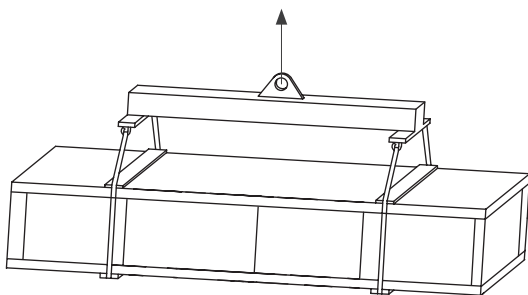
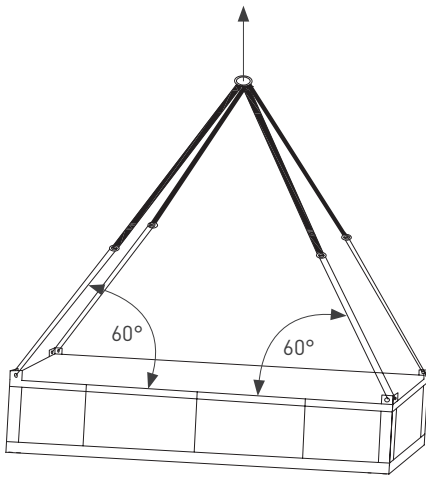
!

Forks must be long enough to exceed the forklift frame from both sides completely!

* The image presented is of illustrative nature.

A.2. HANDLING OF MODULAR UNITS WITH CRANE

When unloading with a crane, care must be taken to properly position the lifting bands. **In case of handling with a crane, four lifting bands must be used, which has to be attached to the ceiling or floor corner elements of the assembled modular unit or flat-pack.**



Handling of modular units with crane



Only one package may be lifted at a time!

B.

TRANSPORT OF TRIMO MODULAR UNIT

The transport of Trimo modular units is conducted using trucks adjusted to modular unit transport, though partially by wagons or ship and air transport as well. Modular units can be delivered flat-packed or factory assembled.

B.1. ROAD TRANSPORT

When transport is performed with trucks, modular units must be appropriately fastened to the means of transport using textile bands so that any movement of a unit is prevented. The local laws for load securing must be adhered to. During transport, the driver must occasionally (at least every 300 km) check the stability of the cargo on the truck, as well as the firmness of the bonds. If the bonds are loose, it is necessary to appropriately tighten them again.

When the loading or unloading of the truck is not done by crane or modular units do not have forklift openings, 10 cm wooden beams are putted under modular units and should be considered in total transport height of the cargo.



Truck transport



Truck transport of flat-packed/assembled modular units without forklift openings*



Truck transport of flat-packed/assembled modular units with forklift openings*

DIMENSIONS OF CARGO (W x H x L) (m)	MODULAR UNIT PACKING TYPE	TRUCK TYPE	NOTE
up to 2.45 x 2.60 x 12.60	Flat-packed/assembled	Standard semi-trailer	Loading from side, back-side or top. Unloading from side or top.
up to 2.45 x 2.90 x 12.60	Flat-packed/assembled	Mega semi-trailer	Loading from side, back-side or top. Unloading from side or top.
up to 2.45 x 2.90 x 6.3 + 7.1 or 2.45 x 2.90 x 6.7 + 6.7	Flat-packed/assembled	Mega trailer (swap body)	Loading and unloading from side and top.
up to 2.45 x 2.90 x 7.1 + 8.1 or 2.45 x 2.90 x 7.6 + 7.6	Assembled	Mega trailer (swap body)	Loading from side, back-side or top. Unloading from side or top.
up to 3.00 x 3.20 x 13.60	Flat-packed/assembled	Special open semi-trailer	/



CO
N
Z



B.1.1 LOADING/UNLOADING FLAT-PACKED MODULAR UNITS WITHOUT FORKLIFT OPENINGS

Unloading handling steps are:

- 1.**
Top flat-pack is lifted from one side 2 wooden beams are inserted under the corners.
- 2.**
Top flat pack is lifted from the other side, additional 2 wooden beams are inserted under the corners (in total 4 wooden beams under the corners of the flat-pack).
- 3.**
Top flat-pack is then lifted out of the truck.
- 4.**
Once the top flat-pack is unloaded, the same unloading procedure is required for other flat-packs.
- 5.**
The bottom flat-pack is loaded on 4 wooden beams and needs only be lifted out of the truck.
- 6.**
Care must be taken to prevent any possible damage and tilting the packages. (use a reverse procedure for loading)



B.2. RAIL TRANSPORT

Usually rail transport is combined with truck transport, therefore cargo is handled as for truck transport see chapter B.1.



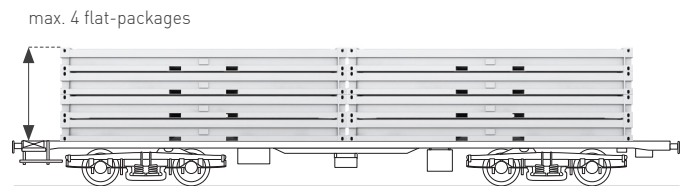
Prepared packages for rail transport



Rail transport of assembled modular units*



Modular units needs to be fixed with metal profiles to prevent modular units from sliding.



Rail transport of flat-packed modular units*

* The image presented is of illustrative nature.

B.3. OVERSEAS TRANSPORT

B.3.1 HIGH CUBE FREIGHT CONTAINERS 40ft OR 45ft

Transport of flat-packs in HC 40ft or HC 45ft is possible for packages up to 8' (2.435 m) width. Vertically orientated packages up to 2.435 m width are pushed in / drawn out of a HC Freight container on adjusted pallets (sledge).



Container loading

B.3.2 FLAT RACKS AND PLATFORMS

Transportation on flat racks and platforms is also possible. For securing against sliding, modular units needs to be secured with lashings.



Flat-rack / platform transport

B.3.3 HANDLING VERTICAL FLAT-PACK TO HORIZONTAL POSITION



Handling vertical flat-pack to horizontal position

🏠 C. STORAGE

When storing Trimo modular units, it is necessary to observe the following:

- Units are stored on dry, straight and clean surface, protected against strong gusts of wind, on a solid and fixed wooden pads that are lifted due to water and frost protection. At least 4 wooden pads are needed to support 10' units and 6 wooden pads to support 16' or 20' units. 24' and 30' modular unit must be placed on 8 wooden pads provided on site. (Fig. 1 and Fig. 2).
- Maximum 3 assembled modular units (Fig 1) and maximum 4 flat-packed units (Fig. 2) can be stacked on top of each other.
- Flat-packs are intended primarily for transport and not for storage. When flat packs are stored outdoor longer than one month it is necessary to store them under the covered place. It has to be ensured that water does not penetrate into flat packs during storing!
- In case modular units are stored on top of each other a fixation element should be placed in a joint among the bottom and upper unit. Such element prevents sliding of units.
- Assembled open frame modular units must have properly closed openings due to weather conditions until the end of the installation. In case they are stored longer than one month it is also necessary to store them under the covered place.



Fig. 1: Stack of assembled modular unit

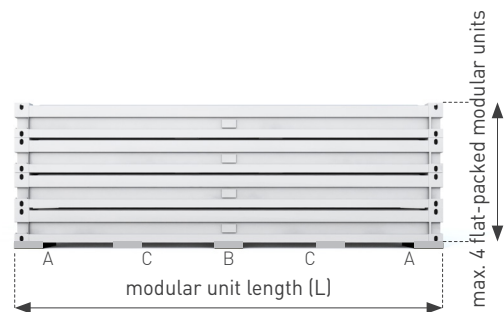


Fig. 2: Stack of flat-packed modular unit

A - for length 8" (2435 mm), 10" (2989 mm)
 A and B - for length 16" (4880 mm), 20" (6055 mm)
 A and C - for length 24" (7325 mm), 30" (9125 mm)



D.

WARNINGS

D.1. ACTIONS TO BE TAKEN IN THE EVENT OF DAMAGED MODULAR UNIT

Delivered goods has to be checked for any possible damage caused during transport before unloading. A recipient shall write down its name legibly on a delivery note or CMR. A recipient has to write down any visible damage in delivery note and take the picture of damaged goods before unloading, when they are still on a truck.

Complaints for visible defects that are submitted contrary to the instructions stated above shall not be dealt with. The units complained about, have to be available until the complaint is resolved.



HEADQUARTERS

TRIMO MSS D.O.O.

PRIJATELJEVA CESTA 12,
8210 TREBNJE, SLOVENIA

T: +386 (0)7 34 83 500

TRIMO.MSS@TRIMO-GROUP.COM

WWW.TRIMO-MSS.COM



Trimo Group holds full copyrights on the information and details provided in this document, therefore any unauthorised reproduction and distribution is strictly prohibited. Professional Care has been taken to ensure that the information/details are accurate, correct, complete and not misleading. However, Trimo, including its subsidiaries, does not accept responsibility or liability for errors or information, which is found to be misleading. Information/details in this document are for general purposes only. It is the user's responsibility to check compliance with local laws. Any deviations in details and project solutions are the user's responsibility. Under no circumstances, will we be liable for any loss or damage including without limitation, indirect or consequential loss or damage, or any loss or damage whatsoever arising from lost profits as a result of or in connection with the use of this document. All information issued by Trimo Group is subject to continuous development and information/details contained in this document were current on the date of issue. It is the user's responsibility to obtain the most up-to-date information from Trimo when information/details are used for a project.

The latest version of the document is available at www.trimo-group.com. The latest version of the published document in English prevails over other translated documents.

For information about the delivery of panels see Trimo's General conditions (<https://trimo-group.com/en/trimo/general-conditions-of-sale>).