Base Load Power Hub (BLPH)

PACKING, SHIPPING, HANDLING AND STORAGE PROCEDURES

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Vincent Zwaan	15/07/2024

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IMESA ELECTRICAL ENGINEERING

IMESA Doc. 231115/SD/055

HIGH VOLTAGE AND LOW VOLTAGE SWITCHBOARDS

Instructions for Handling and Lifting procedure of High Voltage and Low Voltage prefabricated units with metal enclosure



IMESA® ELECTRICAL ENGINEERING

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1 INTRODUCTION

Check that during installation, operation and maintenance, prescriptions relating to technical and safety rules at workplace are complied.

Follow meticulously the indications of this manual.

The switchboards manufactured by IMESA, are designed for different standardized system configurations. Additional technical – structural variations may however be requested by the Customer for particular system requirements.

Remember that you should always refer, not only to this manual, but also to the updated technical documentation forwarded by IMESA (operating diagram, construction drawings etc.); above all, to the instruction manuals of the equipment installed on the switchboard.

2 SHIPPING AND CHECKS ON ARRIVAL

In order to facilitate the transport, the switchboard is divided in sections consisting of one or more upright standard units, generally in lengths of no more than 3000 mm.

Each section is packaged according to the shipping and storage requirements, in compliance with the customer's requests.

In general, the switchboards are shipped complete with the mobile parts (circuit breakers, contactors, VT) inserted in the respective cells, unless otherwise agreed with the Customer. The switchboard has its earthing switches in close position while the circuit breakers in open and disconnected position.

On arrival, the compartments and accessories must be unpacked and checked as indicated in the technical documents forwarded before delivery of the switchboard.
If damage or faults (switchboard and equipment) are discovered when the material is unpacked, please inform our sales offices immediately (either directly or through your agent).
Claims for any defects, even after receipt, must show the construction number and year, which are shown on the data plate affixed to the switchboard.

3 STANDARD PACKING PROCEDURE

Each switchboard unit/section rests on its own base (not fixed on a wooden pallet).

The following steps are adopted by IMESA for a correct standard packing procedure:

1. covering the protruding parts (lamps, devices, etc.) with bubble wrap with large bubbles and securing them with rubberized paper tape.
2. covering the switchboard with bubble wrap starting from the bottom and climbing up to the top, paying attention to covering the front with at least two layers of bubble wrap.
3. fixing the bubble wrap with IMESA adhesive tape.
4. identifying the unit with the shipping mark.

4 LIFTING THE SWITCHBOARD

Each unit rests on its own base (not fixed on a wooden pallet). Since the units contain the apparatus (circuit breaker, contactor, VT service truck) it is compulsory to use proper lifting method, as mentioned in this document.

LIFTING METHOD "A": lifting by using no. 1 spreader bar and no. 2 ropes with hooks (fig. A):

- connect the lifting ropes to the spreader bar coupling points (A).
  The choice of the coupling points must be done in order that the ropes do not compress the switchboard and that lifting occurs in a balanced way.
- connect the other ends of the ropes to the lifting tools in the lower part of switchboard (B)
  Lifting must be carried out according to fig. a – b – c - d

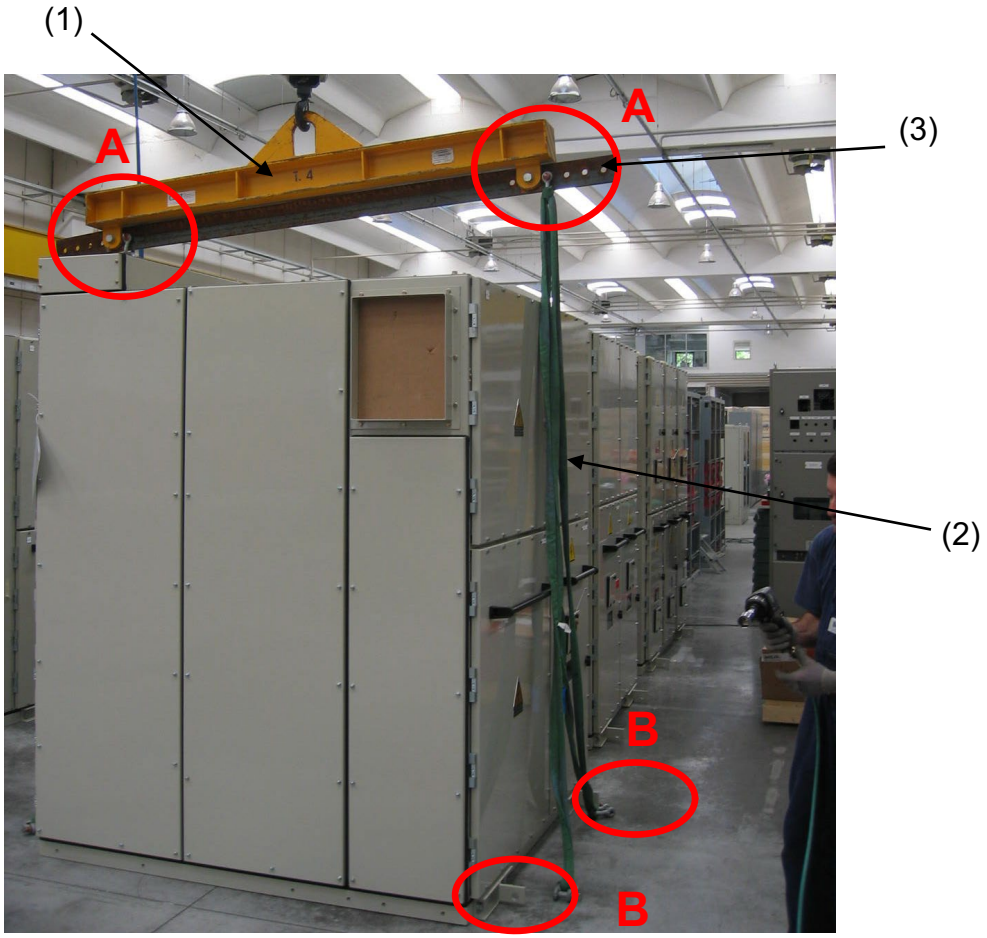


Fig. a

Items out of Swbds scope of supply (can be provided on request):
Spreader bar (1) – lifting ropes (2) – coupling crossbar (3)

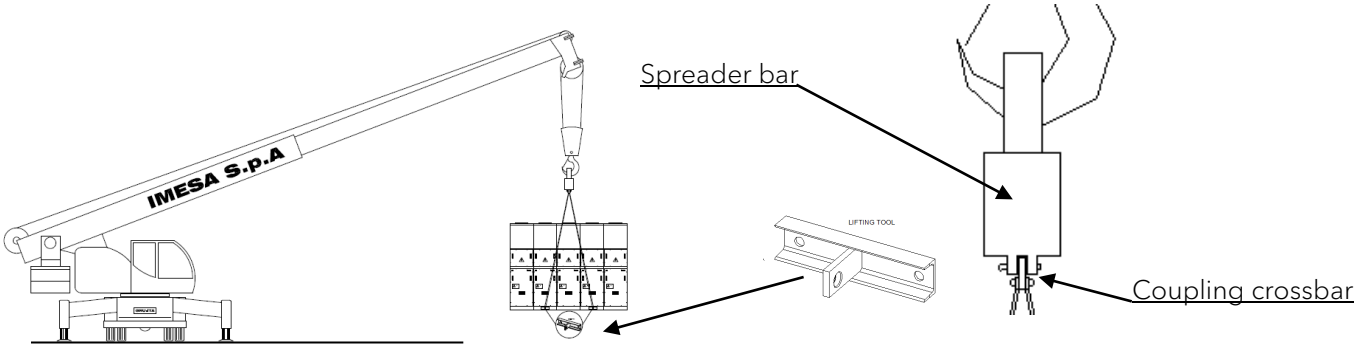


Fig. b

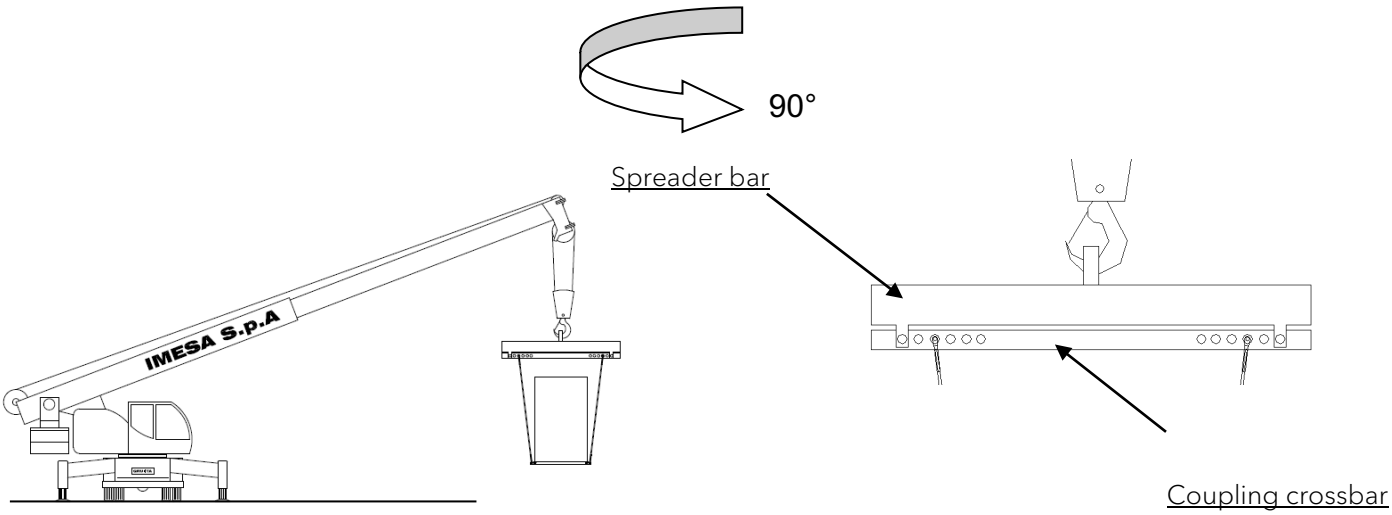


Fig. c

ADJUSTABLE POSITION OF THE COUPLING POINTS (IN CASE THE C.O.G. OF THE SWITCHBOARD IS NOT SYMMETRICAL)

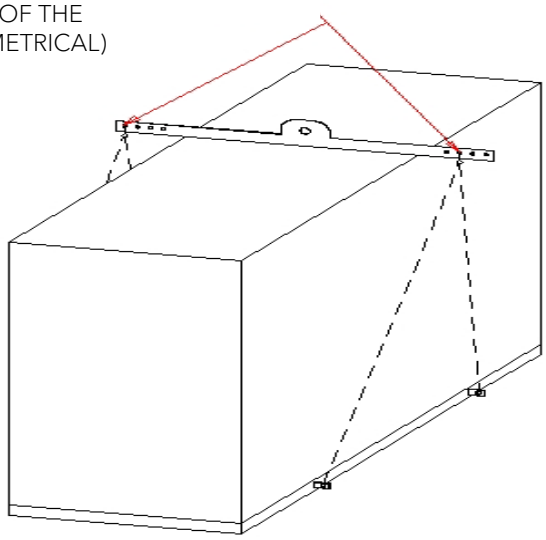


Fig. d

LIFTING METHOD "B": lifting by using no. 2 spacing crossbars bar and no. 8 ropes with hooks (fig. e – f):

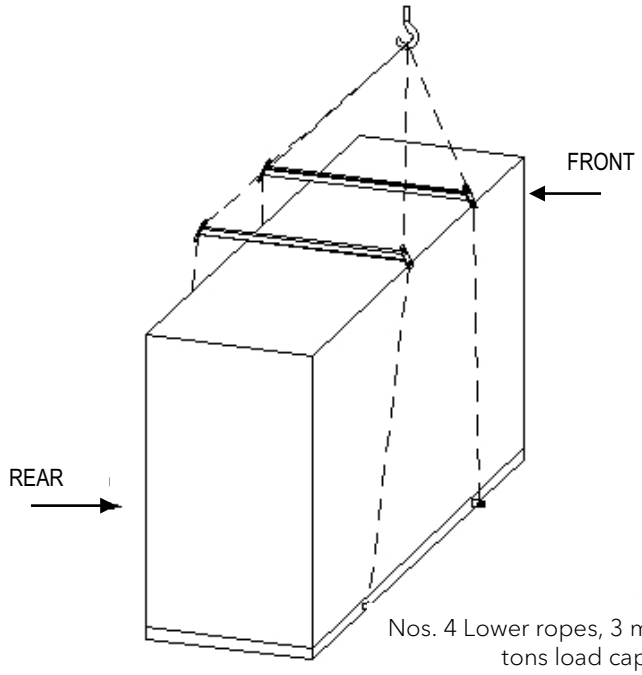
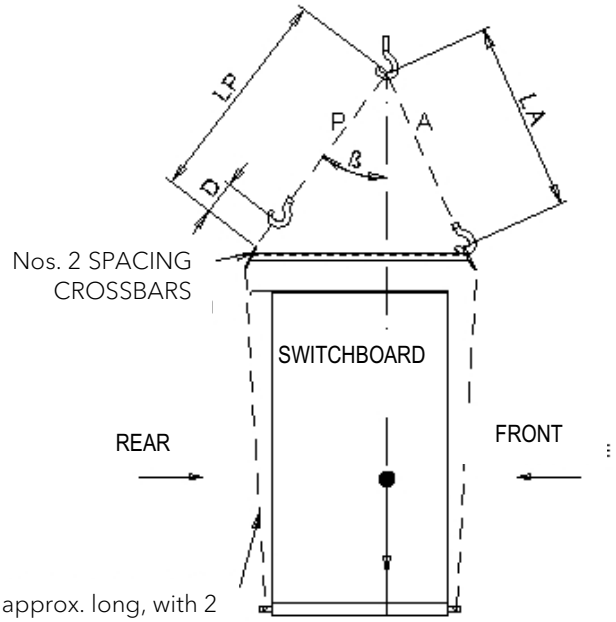


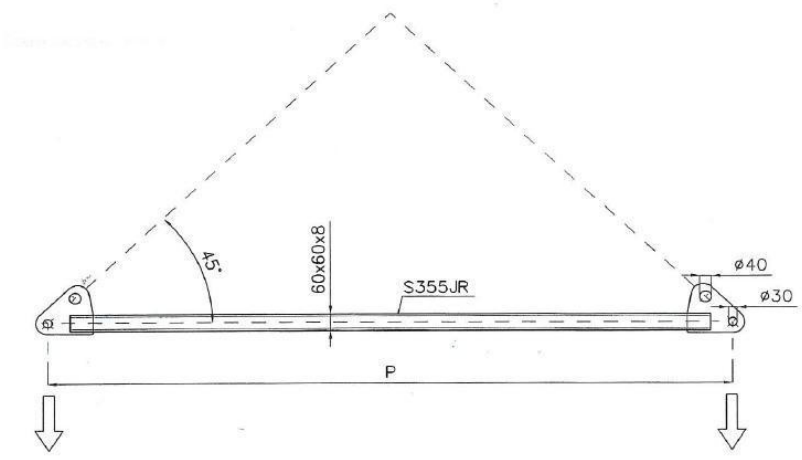
Fig. e



Nos. 4 Lower ropes, 3 m approx. long, with 2 tons load capacity/each
(not included in the Swbds scope of supply)

Fig. f

β = 45° max
A = no. 2 front straps or chains, with one or more closing U-hooks. Load capacity 3 tons each (not included in the Swbds scope of supply)
P = no. 2 rear straps or chains, with one or more closing U-hooks. Load capacity 3 tons each (not included in the Swbds scope of supply)
D = difference between LP and LA, to be defined through a lifting test (min. 50 – max 200 mm)



Spacing Crossbar out of scope of supply (can be provided on request)

LIFTING METHOD "C": lifting the unit using eyebolts and ropes with hooks (fig. G):

Connect the lifting ropes to the 4 eyebolts highlighted in red and lift the switchboard by means of equipments suitable to support the switchboard weight.

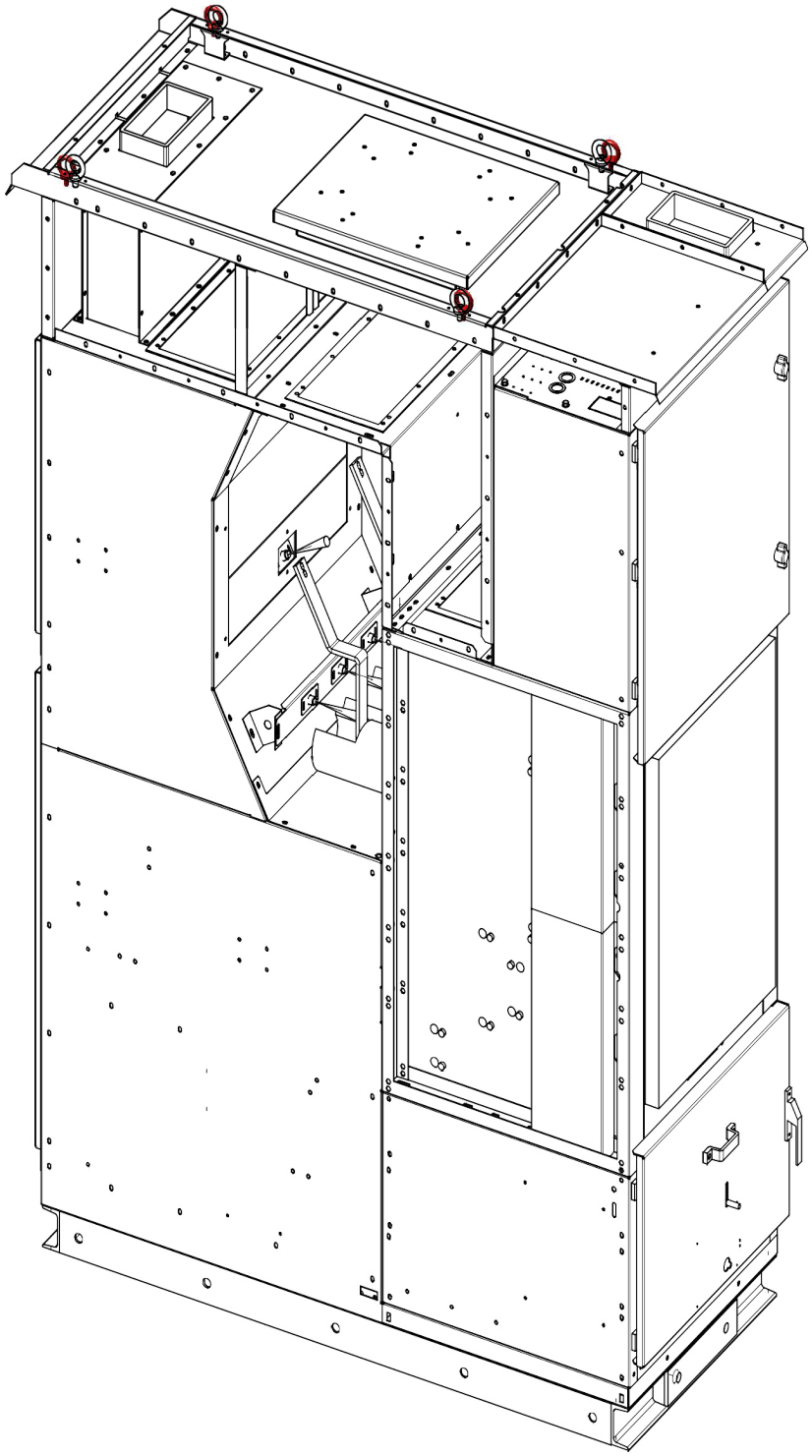


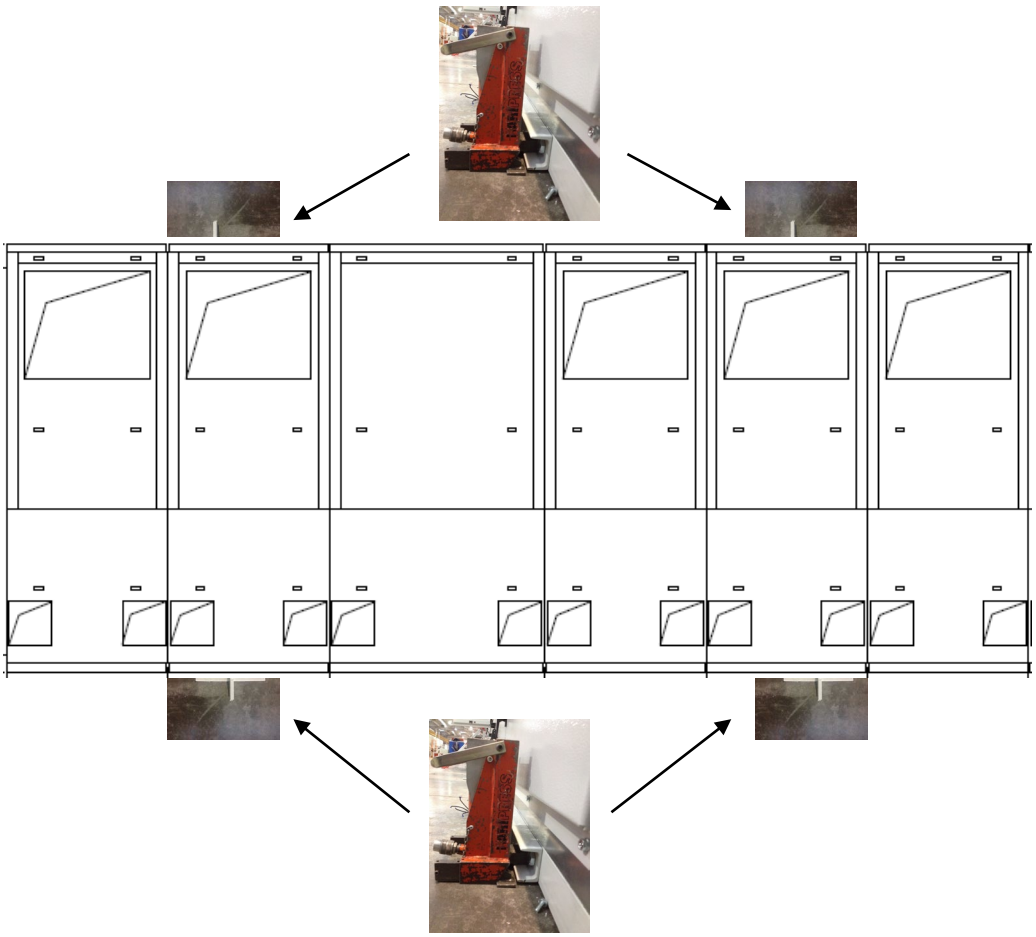
Fig. G

5 HANDLING THE SWITCHBOARD

The floor on which the roller slides or machinery skates move shall be completely levelled.

Place no. 4 hydraulic jacks to lift the unit for placing the rollers or the machinery skates and place the panel at the installation location.

Hydraulic Jack-1/2

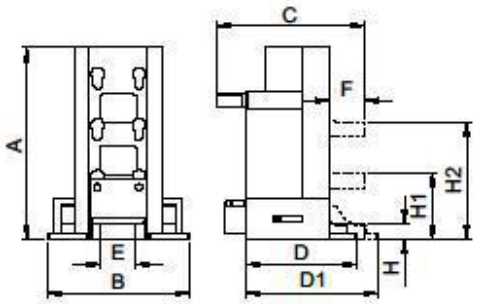


Hydraulic Jack-3/4

5.1 Hydraulic Jack (Example)

UJ

EUROJACK HEAD AND TOE LIFTING JACK



- Force 10 - 25 t
- Stroke 150 mm
- Max Working Pressure: 700 bar



HYDRAULIC TOOLS

FEATURES

Power jack with adjustable lifting toe designed to lift large loads from very low positions.
They are provided with extendable bases for maximum stability. The lifting toe can be positioned at three different levels with only 25 mm minimum clearance needed. The head of the jack may also be used to lift vertically, or if the jack is turned onto its side it can be used for pushing.

APPLICATIONS

Particularly suitable for lifting, moving and levelling of machinery and heavy equipment from a very low starting height.

Hand Pump model **PL131** is the recommended pump to operate the power jack **UJ** model.





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SELECTION CHART

Pushing force	Stroke	Oil volume	MODEL	Dimensions mm										Weight
t / kN	mm	cm³		A	B	C	D	D1	E	F	H	H1	H2	kg
10 / 111	150	238	UJ10	280	206	215	160	190	50	50	25	100	175	22
25 / 232	150	498	UJ20	314	271	290	230	265	70	70	30	110	190	45

EURO PRESS PACK - Via M. Disma, 87 - 16042 Carasco (GE) ITALY
Tel. 0039 0185 35 271 - Fax 0039 0185 35 11 38

5.2 Unit on the skates (Example)



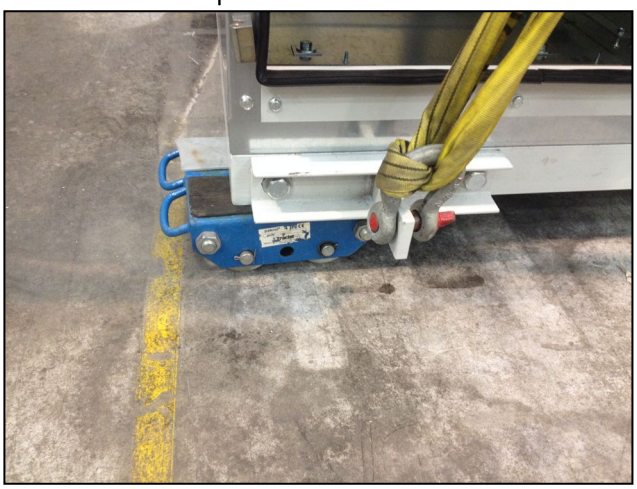
picture 1A



picture 2A



picture 3A



picture 4A



picture 5A



picture6A

SKATES (PAKROL™)

LIFTING & HANDLING EQUIPMENT

1 OVERVIEW

The PAKROL™ range has been designed to handle and move heavy and rigid loads manually on a flat and resistant floor.

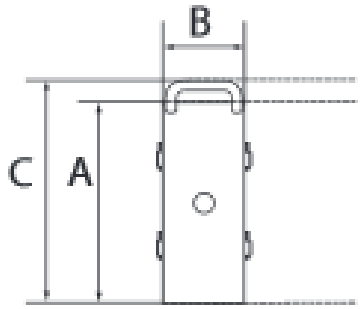


2 FEATURES

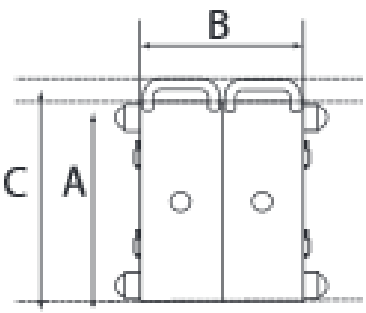
- Unit Consisting Of Steering Handle and Trolley Combinations from 8 to 20 Tons
- A Modular Line to Steer and Move Loads
- Robust Construction
- Trolley Skates Have Turntables
- Skates Can Be Joined Together To Increase Capacity
- Nylon or PU Rollers with Ball Bearings

3 PRODUCT SPECIFICATIONS

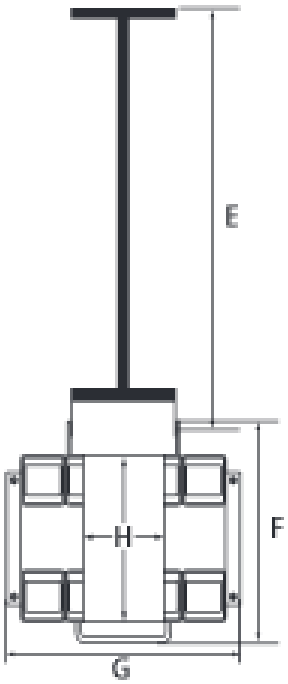


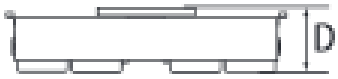


WEIGHT LOAD LIMIT		2t (Skate)
WEIGHT (kg)		5
OPERATING TEMPERATURE RANGE (°C)		-10à + 30°
DIMENSIONS (mm)	A	270
	B	108
	C	308
	D	110



WEIGHT LOAD LIMIT		4t (Skate)
WEIGHT (kg)		11
OPERATING TEMPERATURE RANGE (° C)		-10à + 30°
DIMENSIONS (mm)	A	270
	B	232
	C	308
	D	110





WEIGHT LOAD LIMIT		6/8t (Trolley Skate)
WEIGHT (kg)		50
OPERATING TEMPERATURE RANGE (° C)		-10à + 30°
DIMENSIONS (mm)	D	110
	E	1200
	F	530
	G	840
	H	400 x 220

6 STORAGE OF SWITCHBOARD

6.1 Primary considerations

Proper storage must protect items from moisture, environmental contamination and physical damage. This protection must be achieved with adequate:

A. ventilation
B. heat
C. support stand

Storage temperature and humidity ranges are to be considered as follows:

- Maximum environmental temperature: + 40 °C
- Minimum environmental temperature: - 5 °C
- Relative humidity: 85 % max.

6.2 Ventilation

To avoid condensation of humidity, the air must be free to circulate through and around the switchboard and on any exhaust ducts:

- The switchgear grids must be free for air circulation.
- Protective covers and shipping packaging must be ventilated to allow air to circulate freely from below through the top of the enclosure.
- Where applicable to guarantee proper covering protection, the electrical panels must be covered with heavy duty polyethylene sheets; taking care that ventilation is anyway adequately assured.
- Enclosed storage areas such as buildings, warehouses, sheds, temporary shelters and similar must be well ventilated.

6.3 Heat

To prevent moisture condensation, heating may be required depending upon the warehouse room rate and extremes of temperature change, humidity, etc.
When in doubt, it is recommended to re-heat, by means of the provided space heaters.

Closed storage areas provided with heating system are generally satisfactory, where the temperature of the area is kept at least ten degrees above the outside temperature.

6.4 Supporting stand

To prevent distortions and stresses to the switchboards frame structure, the flooring of the storage area must be true and flat.

6.5 Internal preservation

The electrical panels of the switchboard are packed and protected in accordance to the Packing Procedure.
All packing materials are of the non-hygroscopic type.

During storage, the equipment must be kept dry, free of dust and protected from mechanical shocks.

6.6 Checks on arrival

The switchboard is shipped and delivered with removable parts (HV circuit breakers, HV contactors, VT trolley) racked in, in the respective compartment and with the earthing switches in closed position.

On arrival, the panels must be unpacked and checked, to immediately advise and highlight any possible damage found out.

7 STORAGE OF LOOSE MATERIAL AND EQUIPMENT

7.1 HV Circuit Breakers / HV Contactors

In case immediate installation is not allowed / not foreseen, the equipment is to be stored kept in the original packaging provided by the manufacturer and warehoused as per instructions further detailed at following par. 3, at a range of ambient air temperature between – 5 °C and + 40 °C.

The switching apparatus is to be left in OFF position and with discharged stored-energy spring mechanism (the latter is applicable to circuit breakers only).

It is to be avoided positioning of the items in risky location, in terms of accidental mechanical impacts or stresses to the structure of the apparatus.

7.2 Protection relays

If relays are not to be installed immediately, they shall be stored in a place free from dust and moisture in their original cartons. Where de-humidifier bags have been included in the packing, they should be retained. The action of the de-humidifier crystals will be impaired if the bag has been exposed to ambient conditions and may be restored by gently heating the bag for about an hour, prior to replacing it in the carton.

Dust which collects on a carton may, on subsequent unpacking, find its way into the relay; in damp conditions the carton and packing may become impregnated with moisture and the dehumidifier will lose its efficiency.

Storage temperature: –25°C to +70°C

7.3 Current and Voltage Measuring Transformers

In case measuring transformers are not intended for immediate installation, they shall be stored and protected against direct sunshine and rain.

Storage temperature: –5°C to +40°C

8 PRESCRIPTIONS

The following prescriptions refer to the equipment, material or switchboard panels stored on site before installation.

- To store the items in closed, weather protected, controlled temperature areas; accessible to authorized personnel, only.
- To keep the equipment, the material and the electrical panels in their original packaging.
- To protect the items from extreme temperatures, humidity and dew accumulation.

Remove packing just before the installation.

- To carefully open the package, in order to avoid any damage to the contents.
- To pay particular attention to corrosion and dirt protection requirements of the equipment.
- To check the status of the protective measures of the panels every 12 months (e.g.: paint, grease, covers, etc.) and, in case found it necessary, to renew them.
- Where necessary, to take additional precautions, based on the local site actual conditions, to avoid damage to the equipment.
- Observe load capacity of cases when piling them up (where applicable)

The equipment, material and switchboard panels, stored as per indications in the present document up to 12 months, can be kept in their original packaging without further storage requirements; where storage temperature and humidity level are maintained as per vendor recommendations.

Packing, boxes and wraps containing loose material must be stored in a closed, covered and unheated location (warehouse), after having checked the integrity of the contents and restored the protection provided by the original packaging.

When a long period of storage in the warehouse of the electrical panels is foreseen (beyond 12 months), the following requirements must be applied:

- to keep the electrical panel in its original packaging and periodically check its preservation.
- to lubricate with non-aggressive lube, grease or protective film, all the unprotected metal parts.

  This is required to prevent corrosion.

9 PRESERVATION OF SWITCHBOARD AFTER INSTALLATION

The following prescriptions refer to the switchboard panels preservation, after installation into the electrical room.

- To keep closed/locked all the panels and doors, when the works are not on going.
- To keep thoroughly cleaned the switchboard compartments (e.g. by means of vacuum cleaner), in order to keep the same free from dust and dirt.
- All sensitive items located on the panel doors (e.g.: equipment having glass/plastic panels) shall be mechanically protected by covering with cardboard or polythene sheet and bubble wrap.
- All opening/entries shall be kept closed/sealed to prevent rats or other animals entering within the panels enclosure.