

ISAT

semi-auto



ISAT SEMI-AUTO



INTENSIVE STORAGE WITH PALLET SHUTTLE

ISAT pallet shuttles by Cassioli are specifically designed for high density pallet storage.

ISAT allows storage of a large quantity of pallets, with a depth of over to 40 metres from the loading front, enabling optimisation of warehouse space and offering the possibility of storing pallets with different depths sizes in the same channel.

The ISAT system works in semi-automatic mode, using a remote control directly managed by the operator.

Operating conditions can be checked in real time from the remote control display.

The LED signal lights help the operator to locate the exact position of the shuttle in the warehouse.

“
INNOVATION
BORN
FROM A SOLID
EXPERIENCE

”

ISAT: STANDARD DIMENSIONS

Model	Pallets size	Isat size	Max capacity
ISAT 0812	800 x 1.200 mm	D 884 x L 955 x H 178 mm	1.500 Kg
ISAT 1012	≤ 1.000* x 1.200 mm	D 1084 x L 955 x H 178 mm	1.500 Kg
ISAT 1112	≤ 1.100* x 1.200 mm	D 1184 x L 955 x H 178 mm	1.500 Kg
ISAT 1212	≤ 1.200* x 1.200 mm	D 1284 x L 955 x H 178 mm	1.500 Kg

*It is possible to manage pallets of different sizes in the same channel



PALLET SHUTTLE BENEFITS

MAXIMUM STORAGE CAPACITY IN A REDUCED SPACE

HIGH OPERATING SPEED

OPTIMISATION OF SPACES AND REDUCED WAREHOUSE MANAGEMENT COSTS

LOWER RISK OF ACCIDENTS AND DAMAGED GOODS

MAXIMUM ADAPTABILITY TO EXISTENT DRIVE-IN STRUCTURES

POSSIBILITY OF OPERATION IN LIFO AND FIFO CONDITIONS

CAPABLE OF HANDLING DIFFERENT SIZES OF PALLETS

POSSIBILITY OF STORING DIFFERENT LOADS IN THE SAME LANE

WORKING CAPACITY EVEN IN ENVIRONMENTS UP TO -30°C *

*see page 16 - 17 for Special ISAT Cold Temperature

ISAT

TECHNICAL CHARACTERISTICS

ISAT MAXIMUM SPEED (EMPTY)	up to 1.22 m/s
ISAT MAXIMUM SPEED (LOADED)	up to 0.62 m/s
ISAT WEIGHT (WITHOUT BATTERY)	250 kg
DRIVE WHEELS	4
DATA COMMUNICATION	WI-FI
OPERATING TEMPERATURE	from 0°C to 45°C or from -30° to 0° *

*see page 16 - 17 for Special ISAT Cold Temperature

MAXIMUM LOAD CAPACITY

1500 KG (upon request up to 2000 KG)

WORKING AUTONOMY

up to 10 hours*

BATTERY RECHARGE TIME

up to 2 hours 30 min

NUMBER OF RECHARGE CYCLES

1200 cycles (FELIPO4 48V 33A)

RECHARGE VOLTAGE AND FREQUENCY

220 V (50/60 HZ) - 110 V (60HZ)

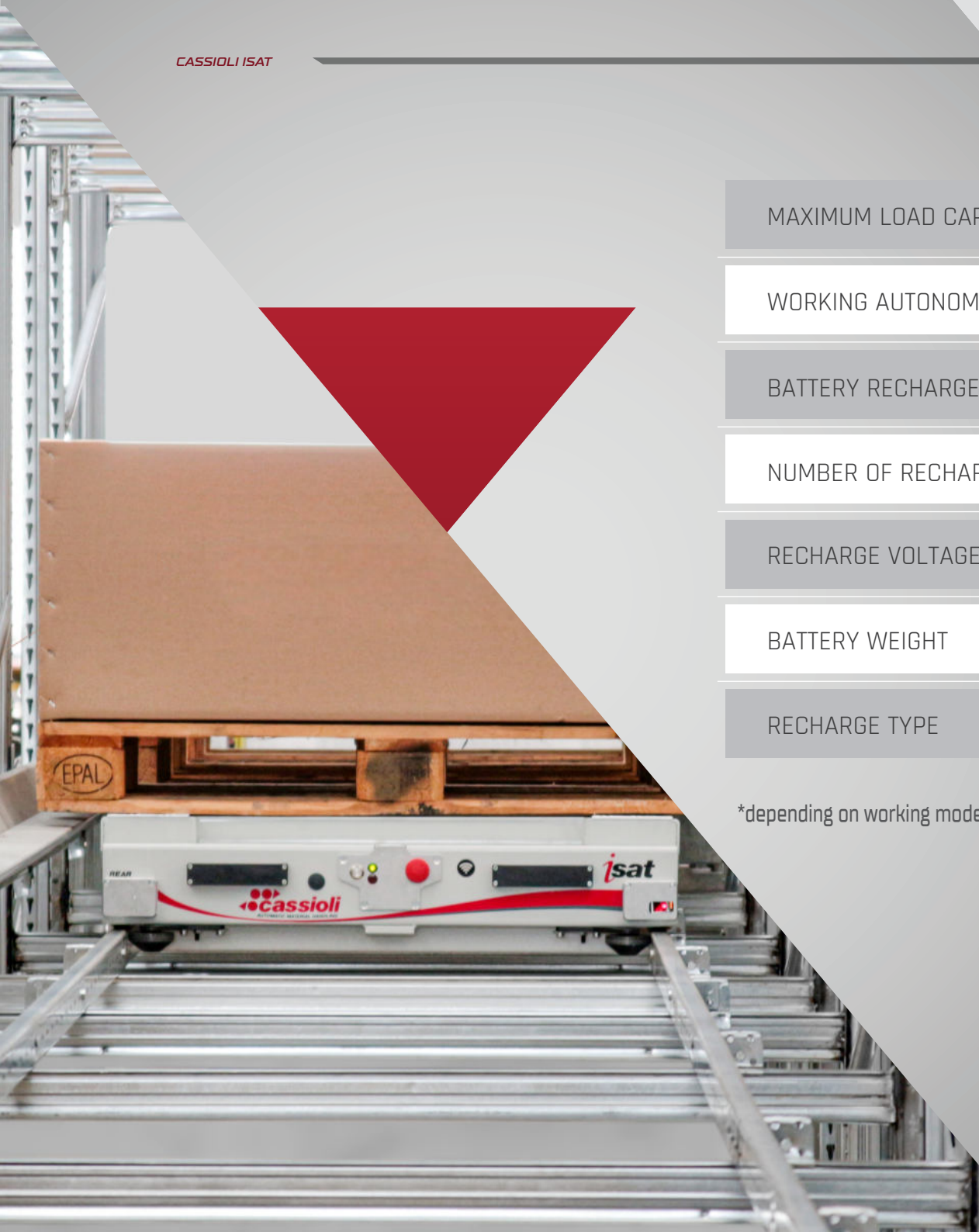
BATTERY WEIGHT

16.5 kg

RECHARGE TYPE

removable battery

*depending on working mode and environment



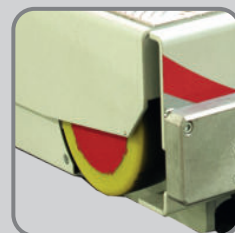
ISAT

OVERVIEW

Possibility to control up to a maximum of 8 satellites with one remote control



REMOTE CONTROL



AWDS
(ALL WHEEL DRIVE SYSTEM)
TECHNOLOGY



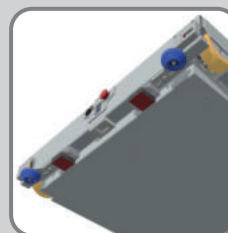
QR CODE
READER*



CONTROL PANEL EQUIPPED
WITH FRONT OPTICAL SENSOR
AND EMERGENCY BUTTON

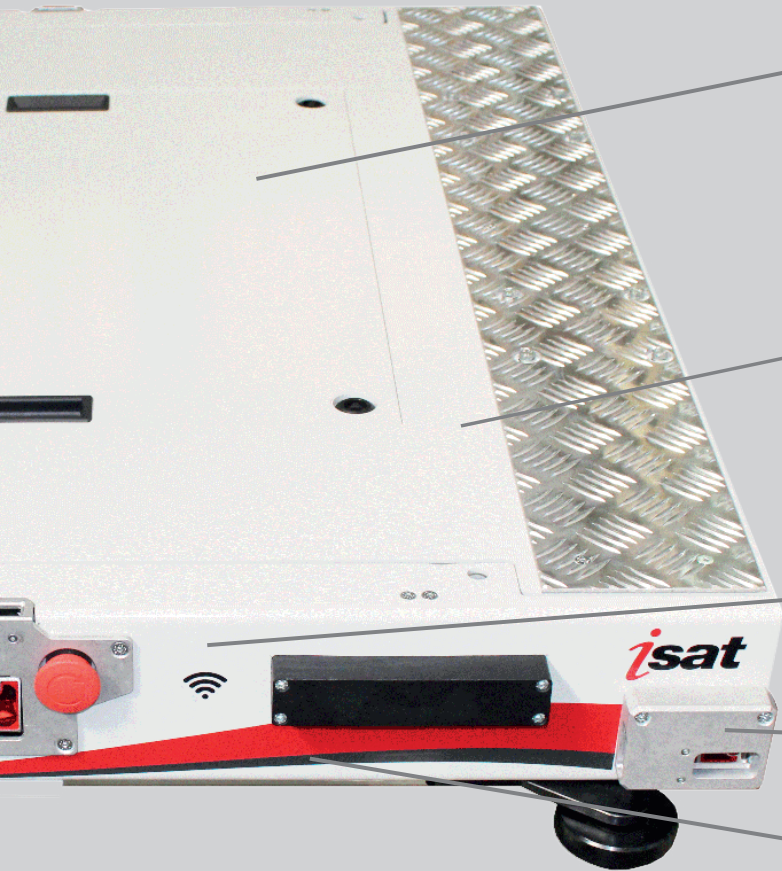


TRANSPORT
PACKAGING



FALL PREVENTION MAGNETS*





FELIPO4 48V 33A
REMOVABLE BATTERY



With the dedicated mobile application (available for android devices) it is possible to unlock/lock the battery to allow air freight transport and monitor the battery status in real time

PLC
ON BOARD



WI-FI
COMMUNICATION

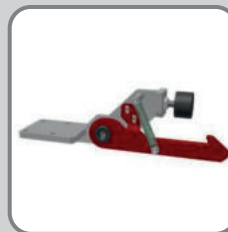


Ability to be integrated with the customer's WMS

VIRTUAL BUMPER



HOOK DEVICE
FOR SHUTTLE RECOVERY
FROM STORAGE CHANNEL*



CUSTOMISATION
(STICKERS AND PAINT)*



STANDARD EQUIPMENT

ISAT BATTERY CHARGER (220v-50Hz or 110V-60Hz)

REMOTE CONTROL WITH RECHARGING STATION AND SPARE BATTERIES

WI-FI DATA COMMUNICATION

USER MANUAL AND REMOTE CONTROL WITH CUSTOMIZABLE LANGUAGE

PACKAGING ON WOODEN CRATE

DOUBLE SIDE SET-UP OPERATION

OVERHANG PERMITTED ON MOVEMENT SIDE (mm) - MAX 100

DISTANCE BETWEEN TWO PALLETS (mm) - FROM 30 TO 300



STANDARD FUNCTIONS

DISTANCE SETTING BETWEEN PALLETS

INVENTORY

SINGLE STORING/SINGLE RETRIEVING

CONTINUOUS RETRIEVING

COMPACTING TOWARDS AISLE START/END STATION

MISSIONS COUNTER

MANUAL COMMANDS

OPTIONAL EQUIPMENT

FELIPO4 48V 33A ADDITIONAL BATTERY

ADDITIONAL REMOTE CONTROL WITH CHARGING STATION

INCREASE MAXIMUM LOAD CAPACITY TO 2000 KILOS

EMERGENCY HOOK DEVICE

ISAT SUPPORT STAND

CART FOR ISAT MANUAL TRANSPORT

RECOMMENDED SPARES KIT

KIT FOR USE ON SYSTEMS WITH AUTOMATIC ISAT

OPERATOR CART FOR ACCESS IN LANE





FALL PREVENTION MAGNETS

SAFETY SENSORS FOR USE IN PRESENCE OF OPERATORS

WMS INTEGRATION

QR READER TO IDENTIFY CHANNEL CODE

QR READER TO IDENTIFY ABSOLUTE POSITION ON CHANNEL

CUSTOMISABLE DECALS AND PAINT

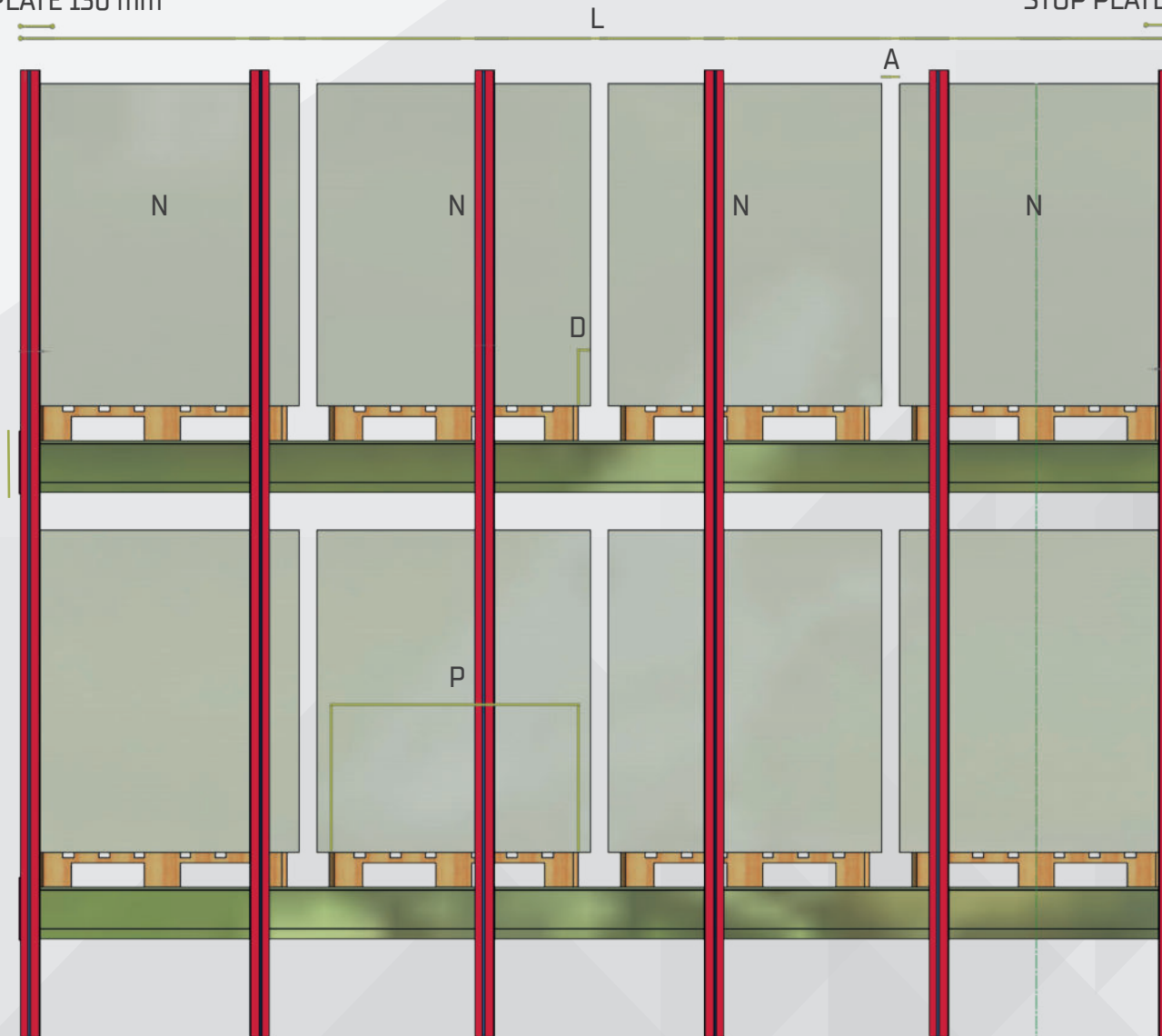
INSTALLATION AND TRAINING

TECHNICAL INFORMATION

Example $L \text{ min (mm)} = 260 - 2D - A + [(A + P + 2 D) \times N]$

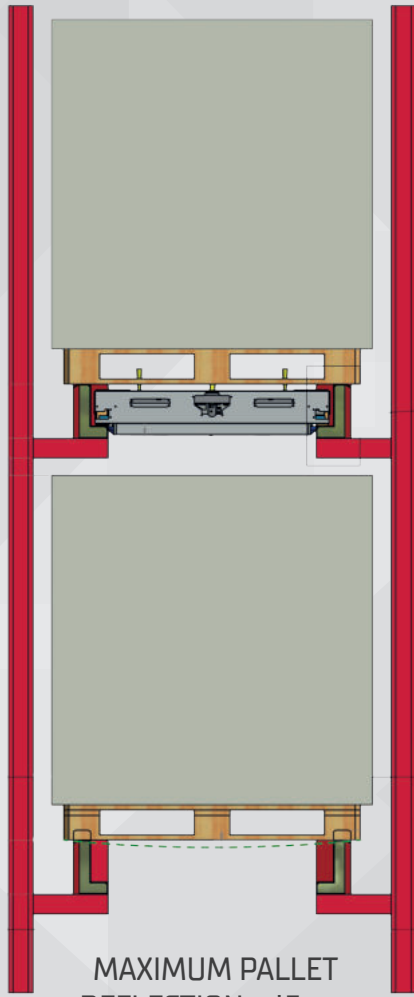
STOP PLATE 130 mm

STOP PLATE 130 mm min



Legend:

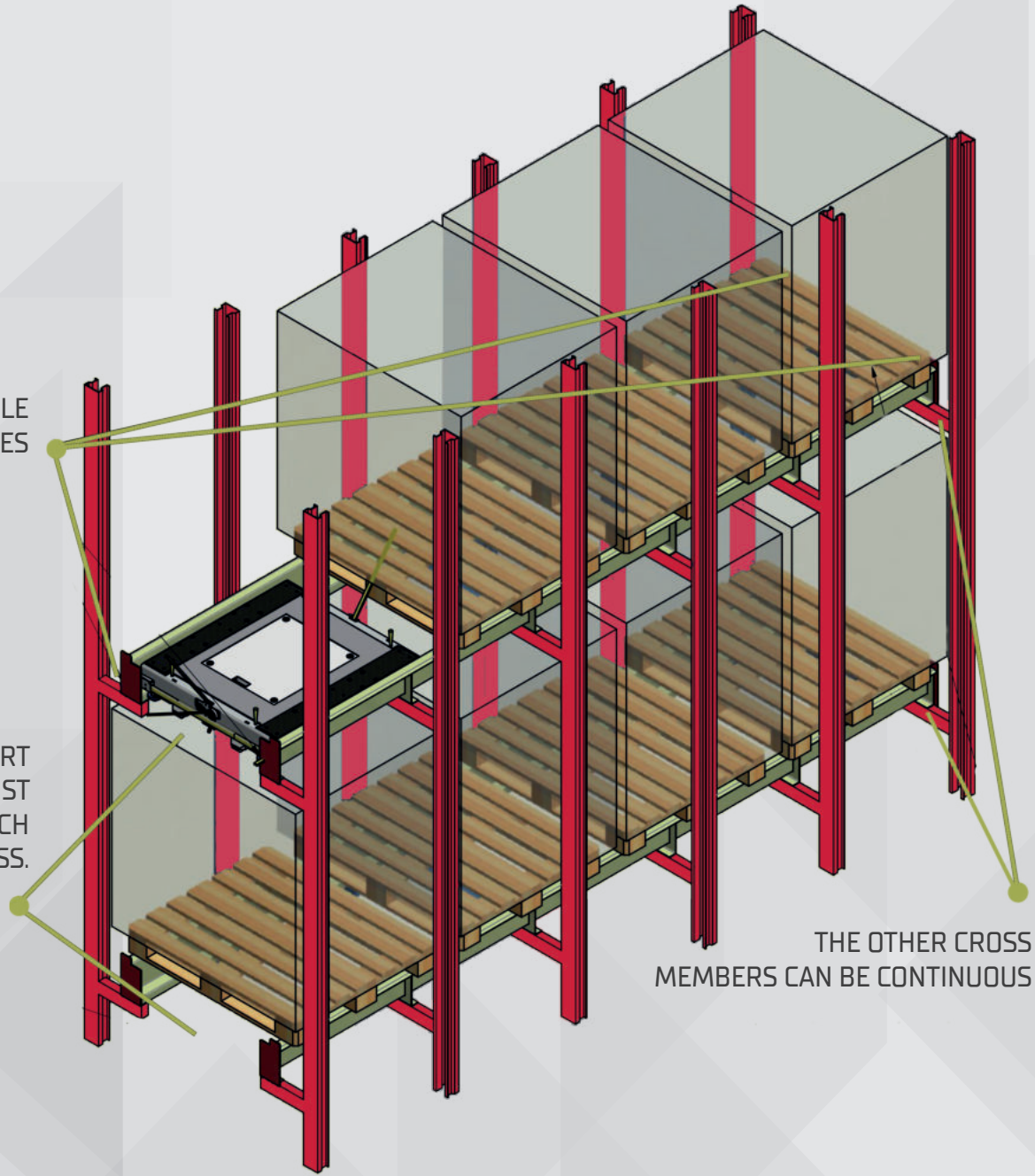
- P = Pallet (Max Depth)
- D = Overhang (Max 100 mm)
- L = Aisle length
- A = Distance between load units
(Min 30 mm - Max 300 mm)
- N = Number of pallet



MAXIMUM PALLET DEFLECTION = 15 mm

END OF AISLE PLATES ON BOTH SIDES

THE ISAT RAIL SUPPORT ON THE END LOCATIONS MUST BE CANTILEVERED FROM EACH SIDE FOR FORKLIFT ACCESS.



THE OTHER CROSS MEMBERS CAN BE CONTINUOUS

ISAT COLD TEMPERATURE

In particular sectors such as Food and Beverage or Pharma, it becomes essential to have satellites that work at sub-zero temperatures in cold storage rooms or warehouses at freeze temperatures. Continuous research and the use of new technologies have led to Cassioli developing specific satellites for sub-zero temperatures, ideal for frozen products, capable of handling and storing pallets, greatly improving operational efficiency in prohibitive environments.

INDIRECT CHARGING

The battery is recharged inside a compensation chamber (an environment set at a temperature of -4°C) in which it is possible to recharge the battery, to store it in case of inactivity and to do the ISAT maintenance operations.

Inside the compensation chamber, the battery is recharged by removing it from the shuttle, as per the standard ISAT.



+ **PLUS**

HAVE THE SHUTTLE ALWAYS ON
IF THERE ARE TWO BATTERIES

SUITABLE AREA FOR MAINTENANCE

MINUS **-**

NEED TO HAVE A COMPENSATION CHAMBER

ISAT COLD TEMPERATURE

COLD ISATs are the ideal solution for the management of multi-depth systems, in production plants characterized by a high number of warehouse items and a high flow of deposits and withdrawals, even for highly perishable products.

INTEGRATED CHARGING



The shuttle is equipped with a specific connection allowing recharging to be done without having to remove the battery from the shuttle. By inserting the snap-hook in the socket, the following functions automatically start:

- Power supply to the heaters inside the battery compartment;
- Increase the temperature to +1°C of the battery compartment to start the recharging phase (a specific thermostat, placed inside the battery, does not allow recharging if this is at a negative temperature);
- Battery recharge;
- Maintenance of the power supply in the event of non-use.

 **PLUS**

**NO NEED TO HAVE A COMPENSATION CHAMBER,
BUT ONLY A DEDICATED SPACE INSIDE THE CELL**

MINUS 

**IMPOSSIBLE TO USE THE PALLET SHUTTLE
DURING THE RECHARGING PHASE**

In a sub-zero environment the battery life is limited by the fact that it must provide for the heating of the circuitry.



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