ISAT

semi-auto

cassioli
INTRALOGISTICS DIVISION

cassioli
AUTOMATIC MATERIAL HANDLING

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 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

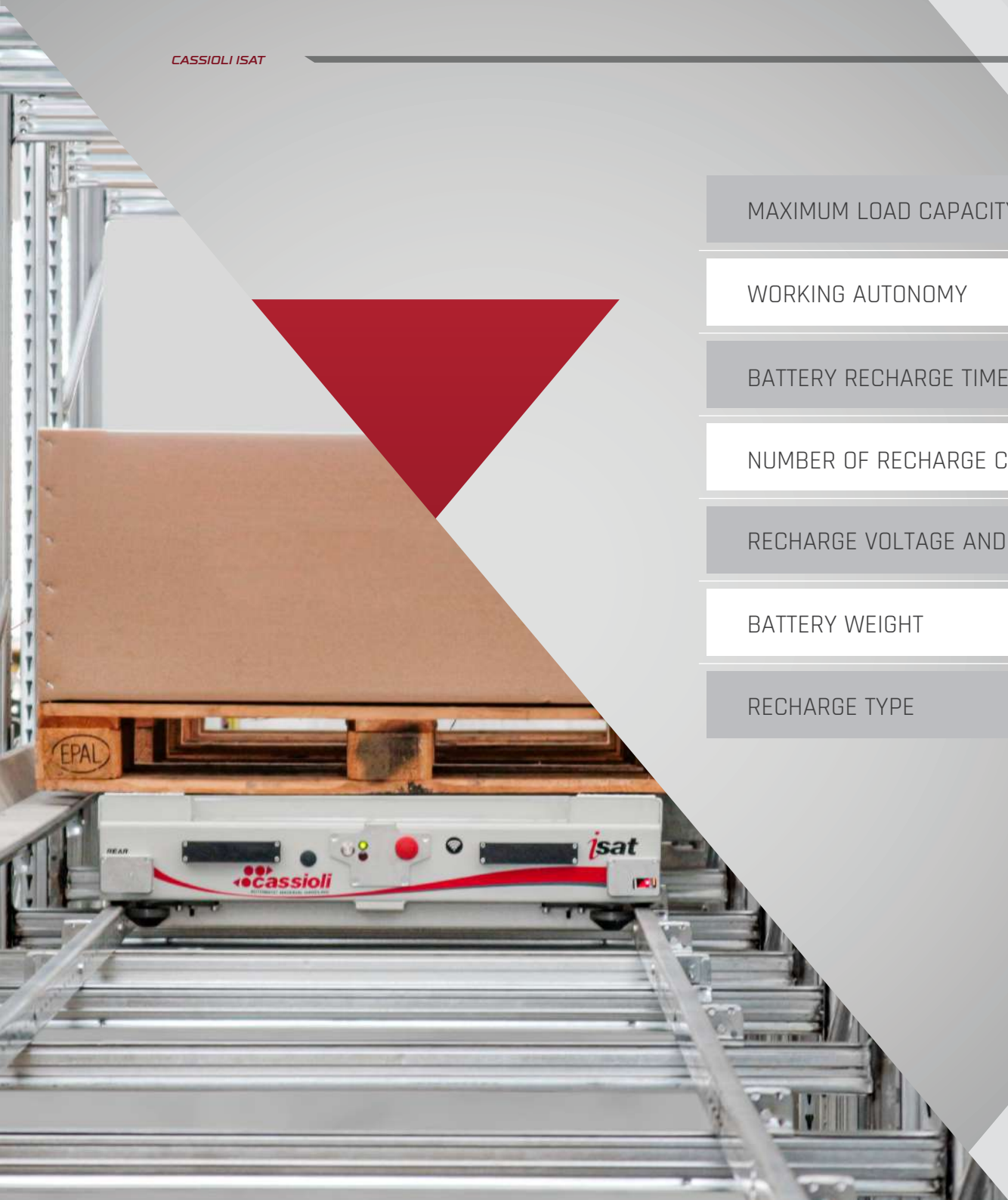
- MAXIMUM STORAGE CAPACITY IN A REDUCED SPACE
- WORKING CAPACITY EVEN IN ENVIRONMENTS UP TO -30°C
- OPTIMISATION OF SPACES AND REDUCED WAREHOUSE MANAGEMENT COSTS
- LOWER RISK OF ACCIDENTS AND DAMAGED GOODS
- MAXIMUM ADAPTABILITY TO EXISTENT DRIVE-IN STRUCTURES
- POSSIBILITY OF OPERATION IN LIFO AND FIFO CONDITIONS
- CAPABLE OF HANDLING DIFFERENT SIZES OF PALLETS
- POSSIBILITY OF STORING DIFFERENT LOADS IN THE SAME LANE
- HIGH OPERATING SPEED

ISAT

TECHNICAL CHARACTERISTICS

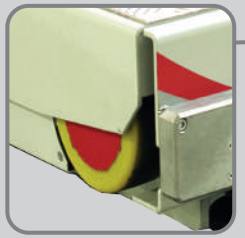
ISAT MAXIMUM SPEED (EMPTY)	up to 1.22 m/s
ISAT MAXIMUM SPEED (LOADED)	up to 0.62 m/s
ISAT WEIGHT (WITHOUT BATTERY)	250 kg
DRIVE WHEELS	4
DATA COMMUNICATION	WI-FI
OPERATING TEMPERATURE	from 0°c to 45°C and from -30° to 0° *

*see page 16 - 17 for ISAT Cold Temperature



MAXIMUM LOAD CAPACITY	1500 KG (upon request up to 2000 KG)
WORKING AUTONOMY	from 8 to 10 hours
BATTERY RECHARGE TIME	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

ISAT
OVERVIEW



AWDS
(ALL WHEEL DRIVE SYSTEM)
TECHNOLOGY

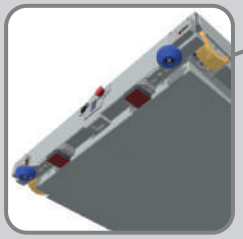
Possibility to control up to a maximum of 8 satellites with a remote control

REMOTE
CONTROL

QR CODE
READER*

CONTROL PANEL EQUIPPED
WITH FRONT OPTICAL SENSOR
AND EMERGENCY BUTTON

TRANSPORT
PACKAGING



FALL PREVENTION MAGNETS*

*Optional

FELIPO4 48V 33A
REMOVABLE BATTERY

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

PLC
ON BOARD

WI-FI
COMMUNICATION

Ability to establish a interface with the customer's WMS

VIRTUAL BUMPER

HOOK DEVICE
FOR SHUTTLE RECOVERY
FROM STORAGE CHANNEL*

CUSTOMISATION
(STICKERS AND PAINT)*

STANDARD EQUIPMENT

- BATTERY CHARGER (220v-50Hz or 110V-60Hz)
- REMOTE CONTROL, RECHARGING STATION, TWO ADDITIONAL 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

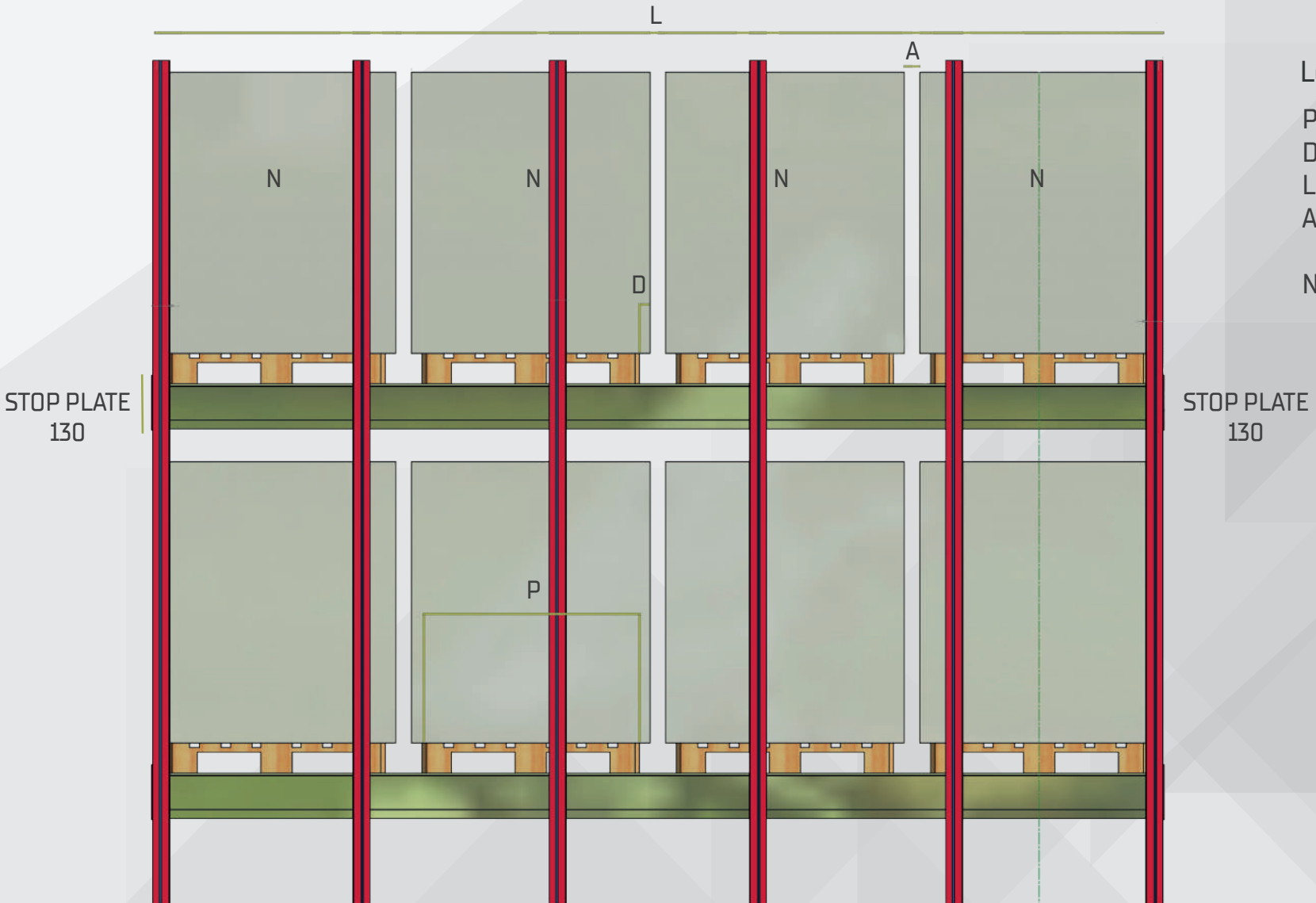
QR READER TO IDENTIFY POSITION PALLET CODE

CUSTOMISABLE DECALS AND PAINT

INSTALLATION AND TRAINING

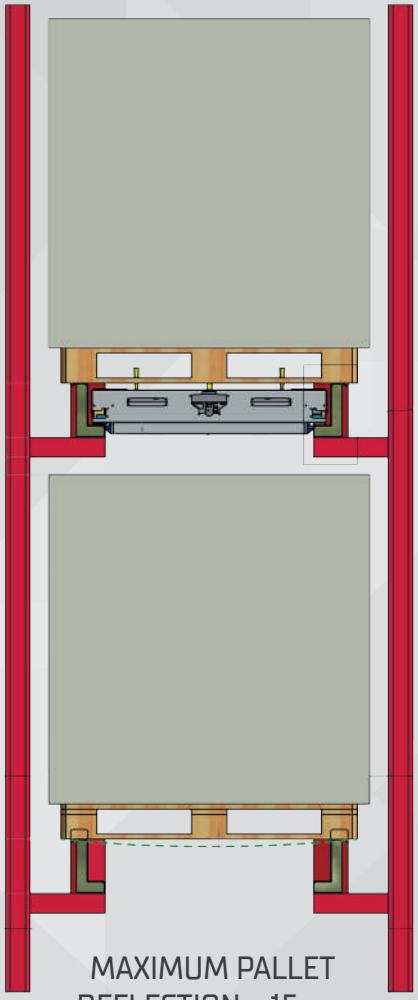
TECHNICAL INFORMATION

Example L = 260 - 2D - A + [(A + P + 2 D) X N]



Legend:

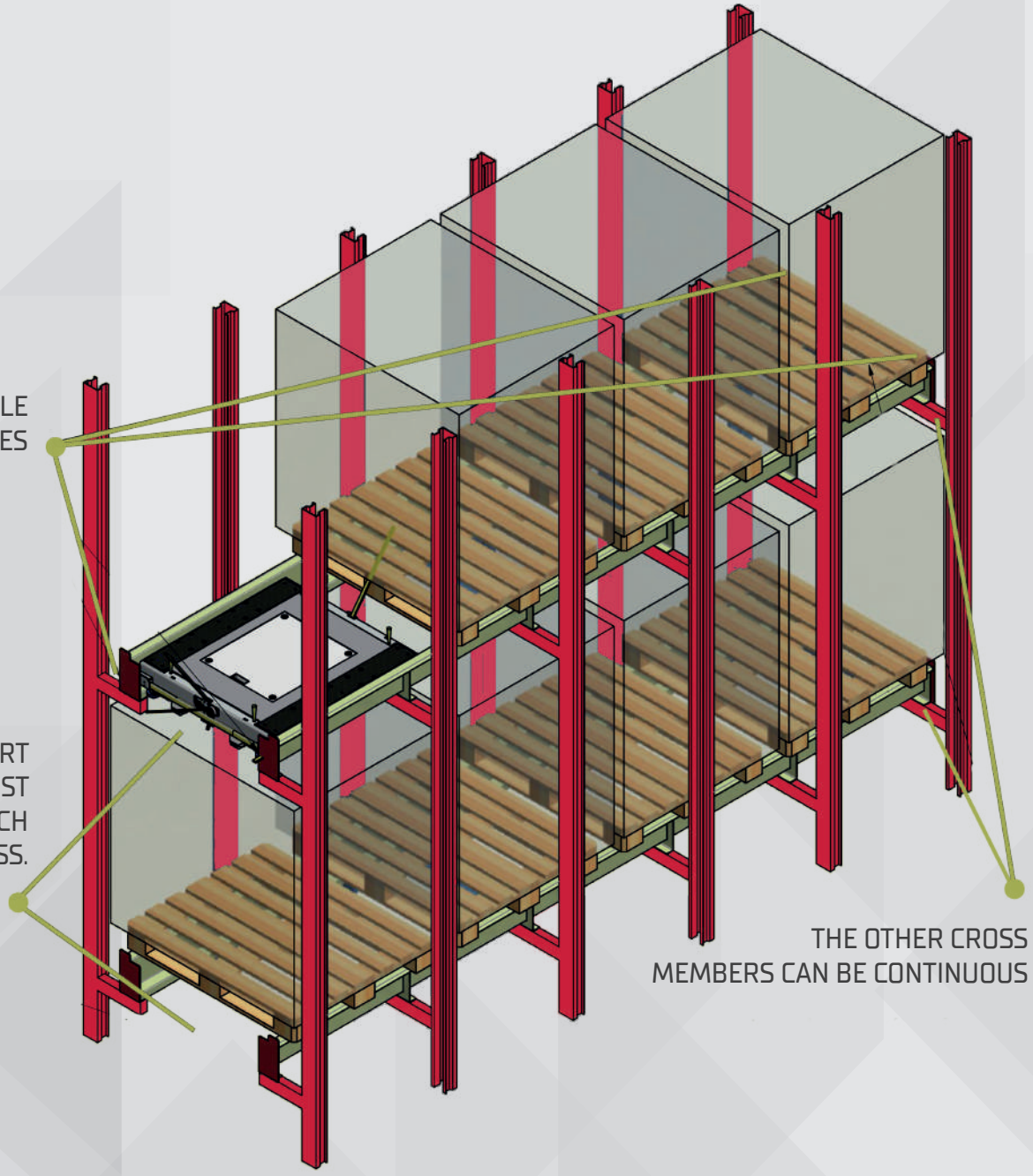
P = Pallet
D = Overhang (Max 100 mm)
L = Aisle length
A = Distance between load units
(Min 30 mm - Max 300 mm)
N = Number of pallet



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:

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:

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

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