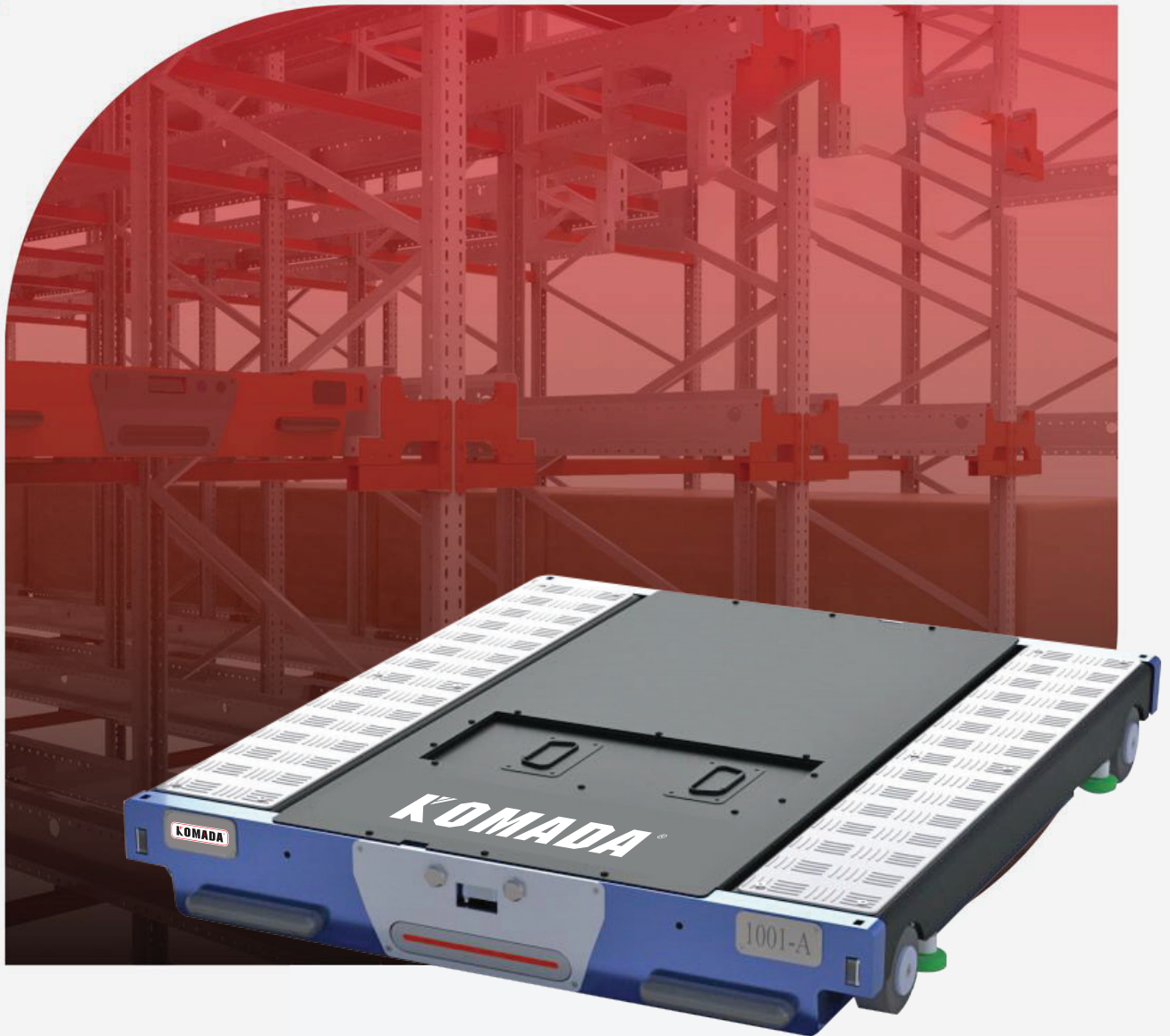




INSPIRE THE FUTURE



N SERIES PALLET SHUTTLE PRODUCT BROCHURE

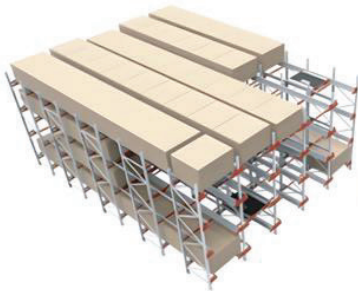
TTF MARKETING HOLDINGS SDN. BHD.

01 Strong flexibility

Ultra-thin body, high-speed shuttle, and exceptional flexibility.

- Supports flexible access to various product types through dedicated channels.
- Multiple shelf configurations offer diverse operational modes to suit different warehouse layouts.
- Adapts to the needs of various users and work intensities with both LIFO (Last-In, First-Out) and FIFO (First-In, First-Out) operation modes.

Last-in, First-out (LIFO) mode



First-in, First-out (FIFO) mode



02 Efficient space utilization

High-density storage and efficient handling — maximizing every inch of warehouse space.

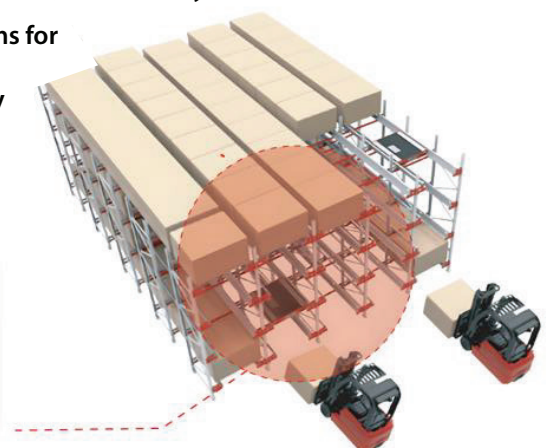
- Shelving systems can be arranged in dense configurations, allowing forklifts to operate only at the warehouse entrance.
- Shuttle cars automatically transport goods to designated positions with precision and speed.
- This setup maximizes warehouse capacity, achieving a space utilization rate of over 80%.
- Equipped with a 48V / 30AH standard battery, capable of continuous operation for 6–8 hours, ensuring consistent performance.



03 Safe and reliable

Dual-sensor positioning and intelligent safety control ensure operational reliability.

- Equipped with laser and photoelectric dual positioning systems for accurate and stable movement.
- Forklifts and personnel are not required to enter aisles, greatly enhancing the safety of both operators and goods.
- Compared to drive-in or drive-through racking systems, the structure offers superior stability and a higher safety factor.



04 Simple operation

Remote control operation, simple and convenient
Easily switch between manual and automatic modes
to improve operational flexibility



05 Independently developed

The self-developed industrial-grade controller is built with advanced ARM chips and supports multiple communication interfaces, including LoRa wireless, Ethernet, CAN, and IO-Link.

Running on a real-time operating system, the controller delivers powerful functionality, stable performance, and precise control. Compared to traditional PLC solutions, it offers a higher level of integration, enhanced protection rating, and superior reliability for complex industrial environments.

PRODUCT PARAMETERS

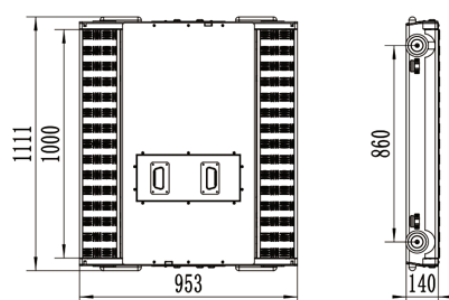
Model	N1210	N1212	N1412	Customized
Dimensions	1111*953*140	1311*953*140	1311*953*140	All parameters can be customized according to requirements, and all models can be customized with cold storage versions.
Weight	260kg	280kg	300kg	
Rated load	1.5T	1.5T	1.5T	
Lifting height	45mm	45mm	45mm	
Drive wheel size	100mm	100mm	100mm	
Drive wheel spacing	859mm	1059mm	1059mm	
Guide wheel size	50mm	50mm	50mm	
Laser ranging distance	0.03~10m	0.03~10m	0.03~10m	
Applicable tray size	1200×1000mm	1200×1200mm	1400×1200mm	
Applicable tray types	Chuan-shaped; Tian-shaped	Chuan-shaped; Tian-shaped	Chuan-shaped; Tian-shaped	
Ambient Temperature	-10~50℃	-10~50℃	-10~50℃	
Ambient humidity	≤85% No condensation	≤85% No condensation	≤85% No condensation	
Track adaptation	All sizes of tracks	All sizes of tracks	All sizes of tracks	
Storage spacing	5-25cm adjustable	5-25cm adjustable	5-25cm adjustable	
Speed control mode	Flexible motion control	Flexible motion control	Flexible motion control	
Operating noise	≤70db	≤70db	≤70db	

Basic parameters

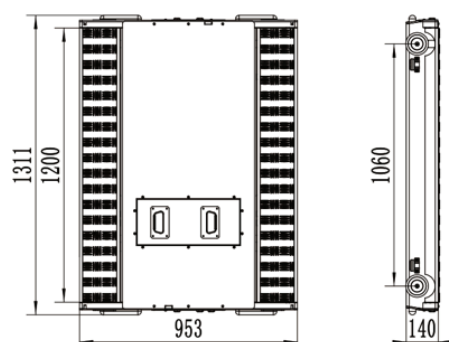
Model	N1210	N1212	N1412	Customized
Motion performance	Full load moving speed	0.9m/s	0.9m/s	0.9m/s
	No load moving speed	1.2m/s	1.2m/s	1.2m/s
	Motion positioning method	Laser	Laser	Laser
	Tray positioning method	Laser and Optoelectronics	Laser and Optoelectronics	Laser and Optoelectronics
	Lifting positioning method	Proximity switch	Proximity switch	Proximity switch
	Repeatability	≤5mm	≤5mm	≤5mm
Battery performance	Battery type	Lithium Iron Phosphate	Lithium Iron Phosphate	Lithium Iron Phosphate
	Rated voltage	48V	48V	48V
	Battery capacity	30AH	30AH	30AH
	Rechargeable times	2000	2000	2000
	Full power working time	8H	8H	8H
	Charging time	3-4h	3-4h	3-4h
Safety protection	Charging method	Independent battery charge	Independent battery charge	Independent battery charge
	Automatic avoid-obstacle	√	√	√
	Anti-collision stripes	√	√	√
	Remote emergency stop	√	√	√
	Tray in place detection	√	√	√
	Fault warning light	√	√	√

All parameters can be customized according to requirements, and all models can be customized with cold storage versions.

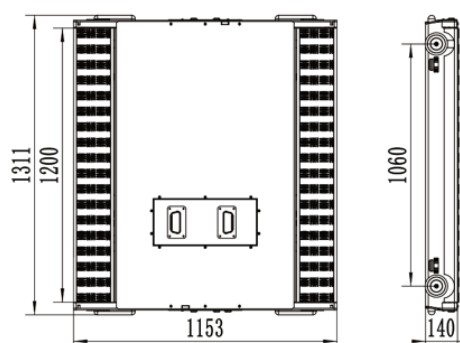
2D DRAWING



N1210



N1212



N1412



N SERIES PALLET SHUTTLE

SMART | EFFICIENT | RELIABLE

Engineered to redefine modern warehousing with precision and intelligence.

