

# TSUBAKI AUTRAN VANGUARD Mark II

# Run at height



Selectable color variations



## Decreased Installation Time

**NEW** Unitized structure enables quicker installation.

## Provides high-efficiency transfer

**NEW** Wireless LAN and barcodes enables optimum train distribution.

## Enhances maintainability and operability

**NEW** All types of information are consolidated into one tablet.  
Wireless LAN supports IoT.



## Units constituting the system

### 1 Transfer station

The station can be loaded easily on the ground level.



### 2 Train and hanger unit

The hanger unit is designed for easy transfer of objects.



### 9 High-frequency power source unit

A power panel can be installed to provide wireless power and eliminate the need for buss bars.



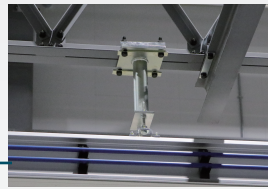
### 8 System controller unit

A single operation panel can be used to control the entire Vanguard system.



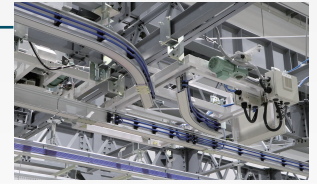
### 3 Rail and power feeder unit/rail suspension unit

Either the trolley power feeding type (buss bar) or the noncontact power feeding type (wireless) can be chosen.



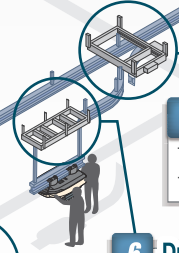
### 4 Automatic branching/joining unit

The 45-degree (right and left) type and the Y-shaped type are available.



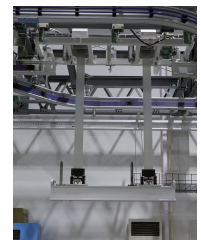
### 5 Branching unit for maintenance

The rails can be switched with the manual operation pendant.



### 6 Drop lift for maintenance

A lift is used to remove and load a train during maintenance.



### 7 Tablet for maintenance

It can display detailed train and maintenance information and is used during manual operation.



## NEW Basic train specifications

Model number	VGN070M2		
Transferring mass (Reference)	70kg *1		
	30 kg or less	50 kg or less	70 kg or less
Travel velocity (Maximum)	220m/min	200m/min	120m/min
Lifting/lowering velocity (Maximum)	70m/min	50m/min	30m/min
Lifting/lowering stroke (Maximum)	4000mm		
Travel stop accuracy	+/- 2 mm		
Lifting/lowering stop accuracy	+/- 2 mm		
Minimum turning radius	1,000 mm		
Outer dimension	730 mm (W) x 1,110 mm (L) x 400 mm (H)		
Control method	Autonomous travel control method		
Power feeding method	Trolley power feeding and non-contact power feeding (IPF) *2		
Position recognition system	Optical linear distance sensor and BC label		
Wireless LAN	Wi-Fi (2.4 GHz)		
Remote controller for tablet	Seven-inch WXGA liquid crystal Windows model		



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## Basic rail specifications

Material	Aluminum extrusion product (with alumite treatment), silver
Shape	100 mm (W) x 160 mm (L) x standard length of 5 m
Horizontal curve rail	1,000 mm in radius, 15°, 30°, 45°, 90°
Rail suspension pitch*3	Within 2.5 m (Straight section)
	Three points (Curved section)
Rail mass	10 kg/m (including suspension hardware)
Rail suspension method	Auxiliary beam, stand-alone mount, ceiling mold bar

\*1 For a lightweight hanger, such as a comb-tooth hanger, a mass of up to 100 kg can be transferred.

\*2 Noncontact power feeding (IPF) supports the cleanliness of Class 100 to 1,000/0.3 μ.

\*3 The rail suspension pitch varies depending on the transferred mass, number of trains, etc.

**The trains of the conventional model can be replaced by the new type Mark II trains on the existing lines in a minimal timeframe!!**