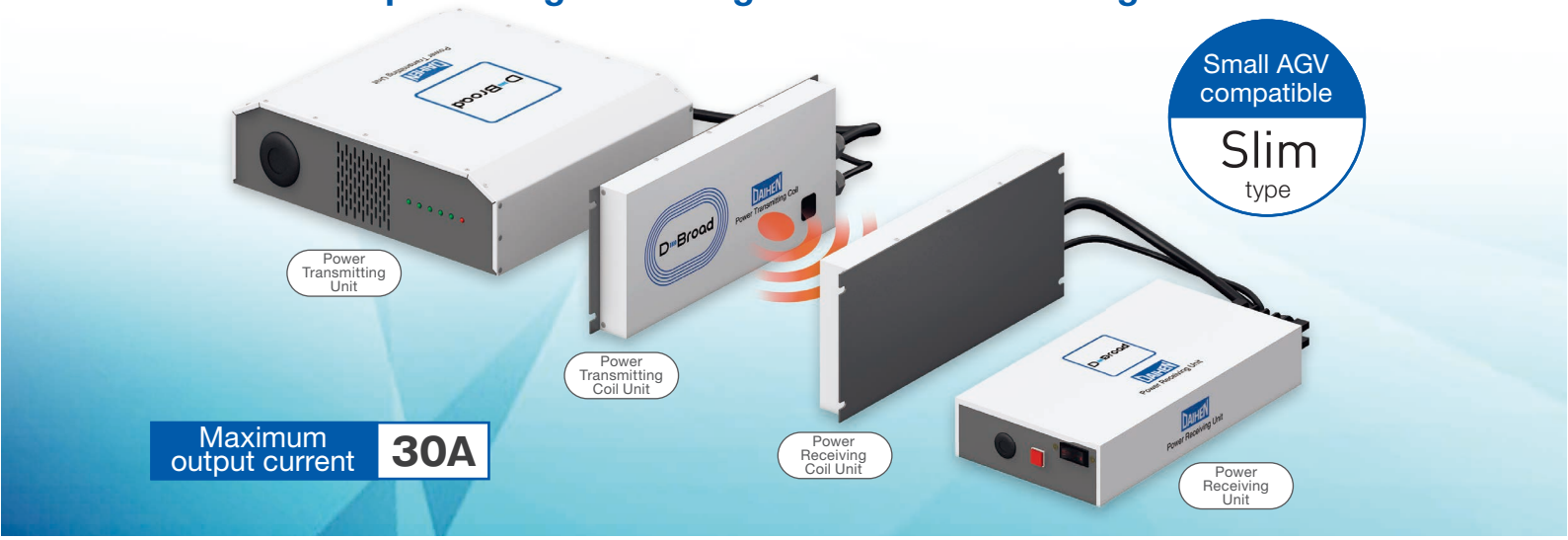
DAIHEN

D Broad

Wireless Power Transfer System for AGVs

The D-Broad Series combines two significant advantages: compact design and a high tolerance for misalignment.

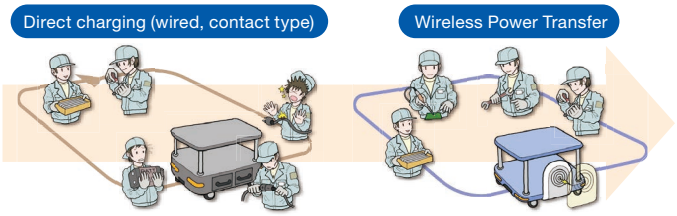


Easily retrofitted to a small AGV

Installation example ❶

Installation example ❷

Benefits



- No need for time-consuming charging or replacement of storage batteries
- No battery storage area required

→ Improved productivity & reduced labor costs

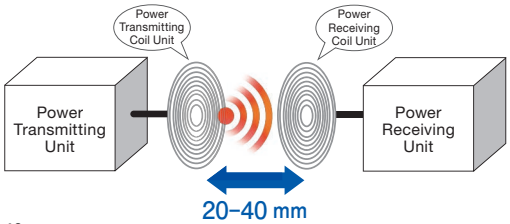
- No risk of electric shock during charging
- Reduced deterioration of cables and terminals and the like

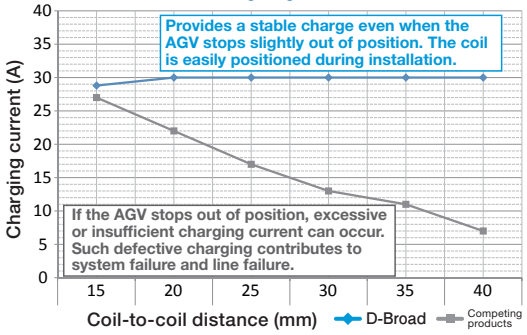
→ Improved safety

Features

High tolerance for misalignment

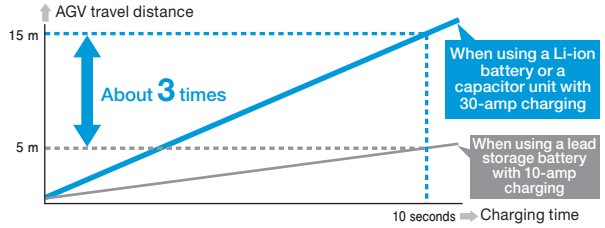
A constant current of 30 amps can be supplied across a 20-mm to 40-mm distance between power transmitting and receiving coils. This allows for stable charging even if the AGV stops slightly out of position.





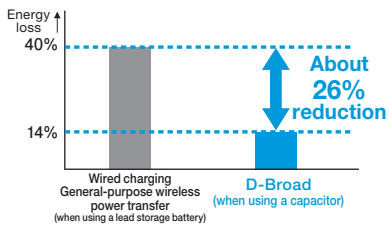
Compatible with various power storage devices. Accommodates fast charging.

This system can accommodate lead storage batteries as well as a variety of power storage devices such as capacitors and lithium-ion (Li-ion) batteries. Providing up to 30 amps of current, it can charge such devices quickly.



Energy efficiency

Use of an optional Capacitor Unit as a power storage device results in a roughly 26% reduction in energy loss.



D Broad Slim type Wireless Power Transfer System for AGVs

Configuration

- Power Transmitting Unit ---- 1
- Power Transmitting Coil Unit (Includes 1-m cable for connecting to Power Transmitting Unit) ---- 1
- Power Receiving Coil Unit (Includes 1-m cable for connecting to Power Receiving Unit) ---- 1
- Power Receiving Unit ---- 1
- Capacitor Unit (optional) ---- 1

Specifications

Common to all units

Distance between Power Transmitting and Receiving Coil Units	・30 mm ±10 mm ・Charging current remains constant even as the distance changes.
Permissible tolerance for misalignment of AGV stop position (direction of travel)	Charging current remains constant even if the stop position deviates by ±10 mm.

Operating temperature range	0–40°C
Operating humidity range	20–80% (No condensation)
Storage temperature range	-20–55°C
Storage humidity range	20–80% (No condensation)

Power Transmitting Unit

Number of phases	3-phase
Rated input frequency	50/60 Hz
Rated input voltage	200 V ±10%
Rated input power	2 kW
Required power supply capacity	2.3 kVA
Rated power factor	0.9 or higher
Weight	6 kg
Dimensions (W × D × H)	343 × 421 × 130 mm (Excluding projections)

Power Receiving Unit

Output voltage range	12–52.5 V
Maximum output current	30 A
Weight	2.5 kg
Dimensions (W × D × H)	350 × 180 × 60 mm (Excluding projections)

Power Transmitting Coil Unit

Weight	2.5 kg
Dimensions (W × D × H)	380 × 38 × 150 mm (Excluding projections)

Power Receiving Coil Unit

Weight	2.5 kg
Dimensions (W × D × H)	380 × 38 × 150 mm (Excluding projections)

Optional

57F Capacitor Unit

Capacity	57F
Output voltage range	24 V ±10% or 48 V ±10%
Maximum output current	67.2 A (24 VDC), 33.6 A (48 VDC)
Weight	20 kg
Dimensions (W × D × H)	260 × 346 × 284 mm (Excluding projections)

171F Capacitor Unit

Capacity	171F
Output voltage range	24 V ±10% or 48 V ±10%
Maximum output current	67.2 A (24 VDC), 33.6 A (48 VDC)
Weight	40 kg
Dimensions (W × D × H)	398 × 500 × 359 mm (Excluding projections)

Precautions for Use

- Use only in a dry location.
- Do not use in a location exposed to direct sunlight.
- Never place metallic objects between power transmitting and receiving coils.
- Use this system as a complete set. (Never combine with components from another manufacturer's wireless power transfer system.)
- During wireless power transfer, remain outside a 50-cm radius of the Power Transmitting Coil Unit.
- Before installation, obtain a permit for use of high-frequency equipment.

Product specifications and designs are subject to change without notice.

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