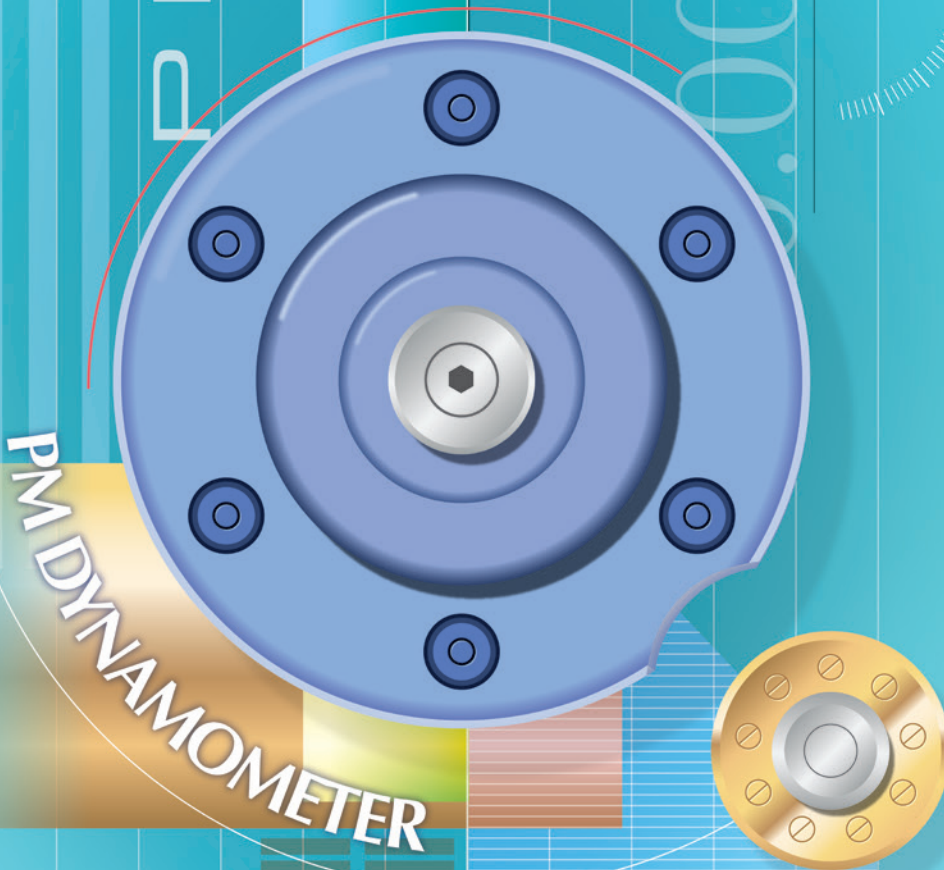


PM Dynamometer

**A Powerful Motive for
the Innovation of Development Processes**



PM Dynamometer Series

Low Inertia

The PM dynamometer is capable of verifying the development of components (Engine, transmission, trans-axle, differential gears, etc.) without a vehicle under test.

Low Noise Level

Because of the adoption of liquid cooling system, low-noise performance can be realized. As a result, the test room is kept as quiet as ordinary business offices.

High Response

Since an inverter current response of 1.5kHz is utilized, a uniquely new type of simulation can be carried out.

Compactness

The installation space has been extremely reduced and such equipment compactness results in resources saving. Finally, use of this equipment contributes to the improvement of environmental accounting.

High Efficiency

The rotor employs the internal embedding system for permanent magnets (PMs). High efficiency is assured and the effect of energy conservation is outstanding.

High Reliability

Based on many years of manufacturing achievements plus technologies and experience accumulated for a long time, high reliability is assured throughout the manufacturing processes, from designing to after-sales services.

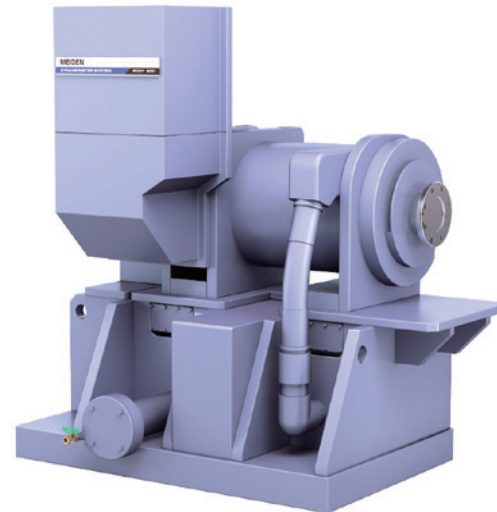
High-speed type

PCDY 500

- Large-capacity, high-speed design (Driving capacity 500kW-10,000min⁻¹)
- Minimum outer diameter in similar classes(D=φ320mm)

Specifications

Ratings	Rating	500kW for absorption, 500kW for motoring
	Overload	No overload
	Rated torque	735N·m
	Base/Max. revolving speed	6500/10,000min ⁻¹
	Inertia (J)	0.12kg·m ² (without accessories)
External dimensions	Dimensions	W715×H995×L945mm
	Center height	600mm
	Mass	Approx.1060kg



PCDY 150

- Small-capacity, high-speed design (Driving capacity 150/100kW-4000/8000/9500min⁻¹)
- Applicable to small capacity and high torque performance

Specifications

Ratings	Rating	150/100kW for absorption, 150/100kW for motoring
	Overload	No overload
	Rated torque	358N·m
	Base/Max. revolving speed	4000/8000/9500min ⁻¹
	Inertia (J)	0.07kg·m ² (without accessories)
External dimensions	Dimensions	W560×H885×L840mm
	Center height	450mm
	Mass	Approx.510kg

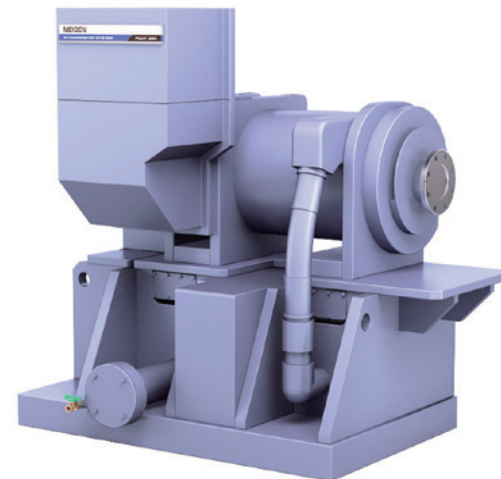


PCDY 330

- Applicable to high response characteristics and pulsation
- Applicable to engine simulation
- Realization of a minimum offset radius of 180mm

Specifications

Ratings	Rating	330kW for absorption, 330kW for motoring
	Overload	200% (30 seconds)
	Rated torque	525N·m / 1050N·m (Overload)
	Base/Max. revolving speed	6000/10,000min ⁻¹
	Inertia (J)	0.12kg·m ² (without accessories)
External dimensions	Dimensions	W710×H880×L945mm
	Center height	630mm
	Mass	Approx.1280kg

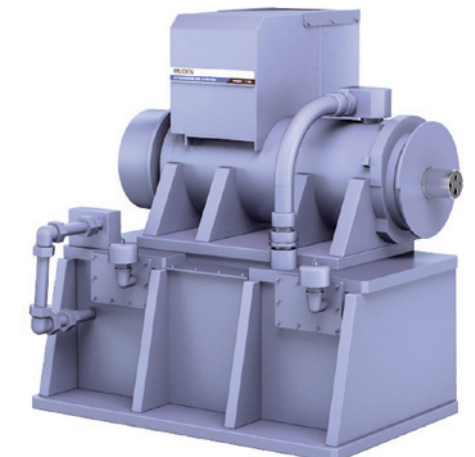


PCDY 115

- Small-capacity, high-speed design (Driving capacity 115kW-8000min⁻¹)
- Low inertia as that of a gasoline engine(J = 0.05kg·m²)

Specifications

Ratings	Rating	115kW for absorption, 115kW for motoring
	Overload	No overload
	Rated torque	200N·m
	Base/Max. revolving speed	5500/8000min ⁻¹
	Inertia (J)	0.05kg·m ² (without accessories)
External dimensions	Dimensions	W790×H780×L800mm
	Center height	500mm
	Mass	Approx.700kg



PM DYNAMOMETER

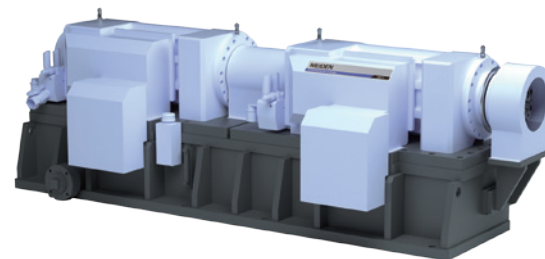
High-oscillation type

PCDY IV

- For torque pulse simulation of real high torque engines
- Winner of the 2018 JEMA(Japan Electrical Manufacturers' Association) Award
- Save energy by replacing real engine with a dynamometer

Specifications

Ratings	Rating	520kW for absorption/motoring
	Overload	200% (for 15 sec.)
	Rated torque	1504Nm/3008Nm(Overload)
	Base/Max. revolving speed	3300/5500min ⁻¹
	Inertia (J)	0.25kgm ² (without couplings)
External dimensions	Dimensions	W660×H730×L2138mm
	Center height	550mm
	Mass	2350kg

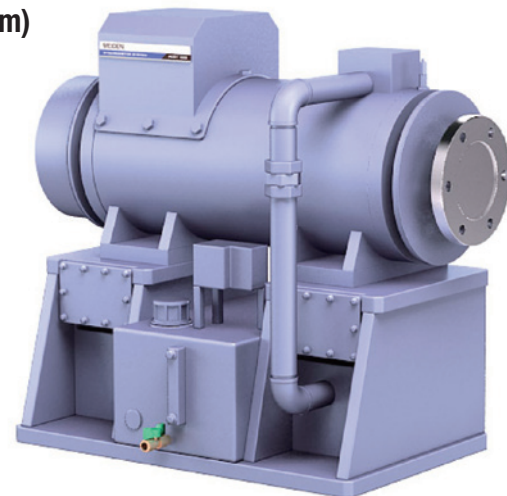


PCDY 450

- Design to pursue large capacities with high torque(Absorption capacity: 450kW)
- Minimum outer diameter in similar classes(D=φ320mm)

Specifications

Ratings	Rating	450kW for absorption, 370kW for motoring
	Overload	No overload
	Rated torque	859N·m
	Base/Max. revolving speed	5000/8000min ⁻¹
	Inertia (J)	0.27kg·m ² (without accessories)
External dimensions	Dimensions	W730×H775×L1070mm
	Center height	490mm
	Mass	Approx.800kg



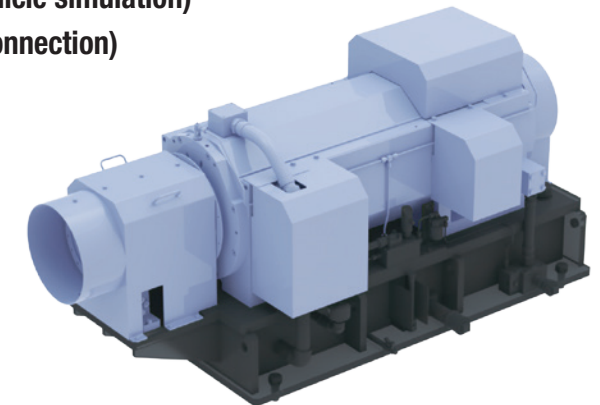
Low-speed type

PMDY LV300

- Fast response (acceleration/deceleration performance: 53,700rpm/s)
- Capable of virtual testing (road/track simulation, vehicle simulation)
- Performance evaluation of each wheel (direct hub connection)

Specifications

Ratings	Rating	300kW for absorption/motoring
	Overload	150% (for 60 sec.)
	Rated torque	3000Nm/4500Nm(Overload)
	Base/Max. revolving speed	955/3000min ⁻¹
	Inertia (J)	0.8kgm ² (without couplings)
External dimensions	Dimensions	W770×H880×L1460mm
	Center height	500mm
	Mass	1700kg

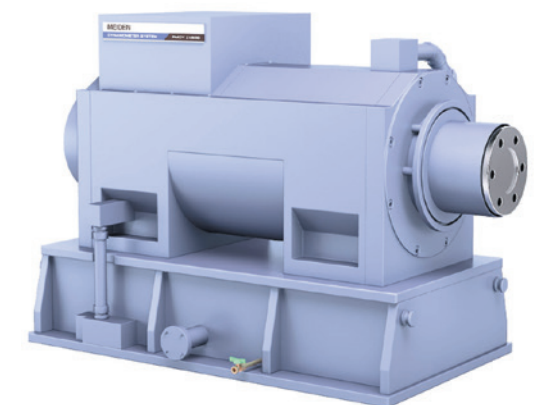


PMDY LV500

- Design to pursue large capacities(Absorption capacity: 500kW)
- Design for high torques(Max.3979N·m for absorption)

Specifications

Ratings	Rating	500/400kW for absorption, 420/336kW for motoring
	Overload	No overload
	Rated torque	3979N·m
	Base/Max. revolving speed	1200/2500/3000min ⁻¹
	Inertia (J)	1.51kg·m ² (without accessories)
External dimensions	Dimensions	W680×H920×L1280mm
	Center height	550mm
	Mass	Approx.1700kg

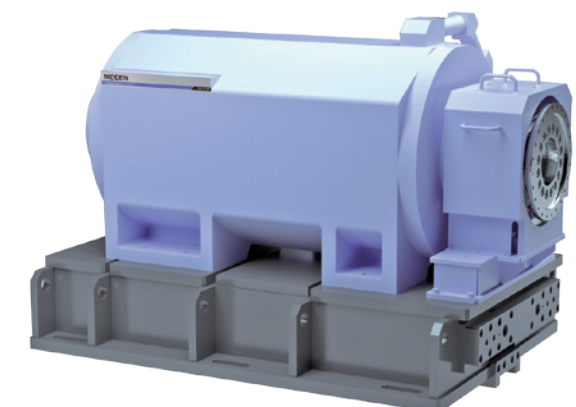


PMDY LV1000

- Ultra high torque (14,006Nm maximum absorption)
- Capable of vehicle simulation of heavy-duty trucks

Specifications

Ratings	Rating	300kW for absorption/motoring
	Overload	140% (for 30 sec.)
	Rated torque	10,004Nm/14,006Nm(Overload)
	Base/Max. revolving speed	315/2000min ⁻¹
	Inertia (J)	8.6kgm ² (without couplings)
External dimensions	Dimensions	W1050×H1035×L1500mm
	Center height	700mm
	Mass	4500kg



High-voltage type

PCDY 600

- Large capacity, low inertia, and high response characteristics
- Applicable to pulsation
- Low inertia ($J = 0.23\text{kg} \cdot \text{m}^2$)

Specifications

Ratings	Rating	600kW for absorption, 600kW for motoring
	Overload	No overload
	Rated torque	1145N·m
	Base/Max. revolving speed	5000/8000min ⁻¹
	Inertia (J)	0.23kg·m ² (without accessories)
External dimensions	Dimensions	W1325×H1050×L1030mm
	Center height	700mm
	Mass	Approx.3200kg

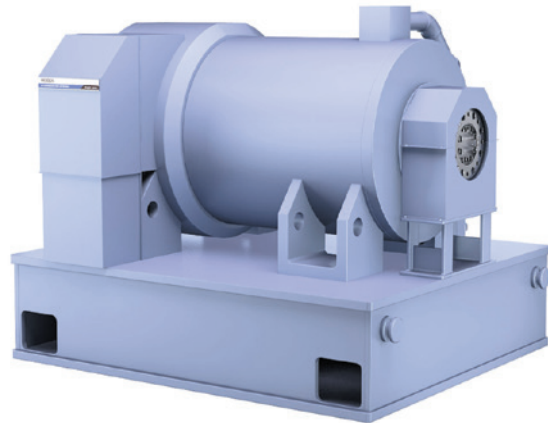


PMDY 600

- Applicable to large capacity and high torque performance
- Low inertia ($J = 2.0\text{kg} \cdot \text{m}^2$)

Specifications

Ratings	Rating	600kW for absorption, 550kW for motoring
	Overload	No overload
	Rated torque	4982N·m
	Base/Max. revolving speed	1150/7000min ⁻¹
	Inertia (J)	2.0kg·m ² (without accessories)
External dimensions	Dimensions	W1580×H1400×L1870mm
	Center height	800mm
	Mass	Approx.6200kg



Notes)

PMDY : Generic name of the dynamometers which is used the permanent magnets

PCDY : PM dynamometers with extremely low inertia and small diameters, used mainly for driving

LV : Low-speed type

EVDY : Dynamometers for EV motors



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