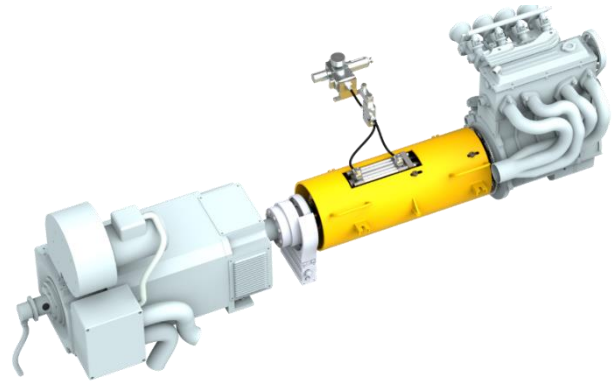
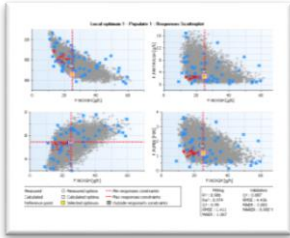


# Engine Testing Service

## Introducing Engine Performance Testing Service

We offer engine performance testing service by business collaboration with TYK CORPORATION and F.E.T. Powercraft. As a test system supplier, we, together with business partners, build optimum test bed including engine testing items discussion and test requirement definition based on customer needs.



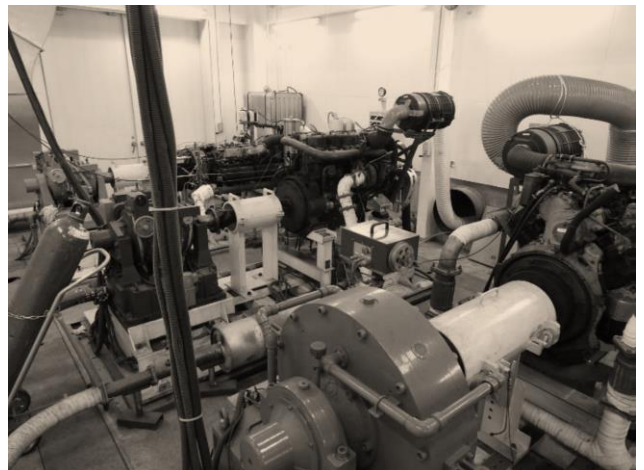
Engine testing technique, high reliable test systems, and testbed engineering know-how are available to engine test.

### ○ Main testing services

- Engine performance evaluation
- Engine durability performance evaluation
- Catalyst (TWC) durability performance evaluation
- Catalyst (TWC) performance evaluation
- Catalyst degradation evaluation
- DPF sedimentation testing
- DPF performance evaluation
- Running simulations

...

\* To be discussed separately.



**Partner: F.E.T Powercraft**

Test cell address:  
855-1 Suganuma, Oyama-cho,  
Sunto-gun, Shizuoka-pref.



**Facilities**

- No. of test cell: 5
- Engine
  - NISSAN FE-6 Engine 7L...
- Engine Test bed
  - Eddy-current dynamometer: 220 to 750kW
  - \* 2.2 to 750 kW also available according to customer's request.
  - DC Dynamometer x 1
  - HORIBA MEXA1500D
  - AVL micro tunnel x 2
  - AVL weighing chamber x 1
- Fuel
  - Regular gasoline
  - diesel fuel
- Chassis dynamometer test cell x 2
  - For 2WD
  - For 4WD (Bosch simplified type)
  - Hydraulic car lift

**Workshop**



**Facilities**

- Machining work
  - 5-axis control machining center x 2
  - 6-axis control horizontal boring and milling machine operating range: 2000 x 1500 x 1400
  - Crankshaft balancer and general purpose lathe
  - Pipe bender x 5 (φ80 to φ38)
  - Shearing cutting capability x 2 (13t x 1200)
  - Plate bending press-brake x 2
  - ...
- Other facilities
  - Engine assembly/disassembly room
  - Welder, plasma cutting and argon welder
  - Hardness measurement, surface roughness, roundness and digital projection display
  - Tool measuring instrument and electron microscope
  - Fuel combustion tester by heater
  - ...

**Partner: TYK CORPORATION**

**Facilities**

Test cell address:  
3-1 Obata-cho, Tajimi-city, Gifu pref.



- No. of test cell: 1
- Engine
  - Nissan QD32 diesel
  - Total engine displacement: 3.153 L
  - Type, No. of cylinders: OHV water cooled in-line 4-cylinder
  - Max. output: 72kW (98PS) 3600min<sup>-1</sup>
  - Max. torque: 216Nm (22.0kgm) 2000min<sup>-1</sup>
  - Fuel supply device: Bosch fuel injection pump
- Engine Test bed
  - Eddy-current dynamometer: 150kW
  - PM number concentration distribution measuring device (EEPS)
- Analyzer
  - Grain size distribution measuring device (micro track)
  - Crystal identifying device (powder X-ray diffraction)
  - Composition analyzer (fluorescence X-ray)
  - Specific surface area measurement (N2-BET)
  - Electron microscope (SEM)
  - Thermal expansion meter
  - Differential thermal analyzer (TG-DTA)
  - Thin hole distribution measuring device (mercury porosimeter)...

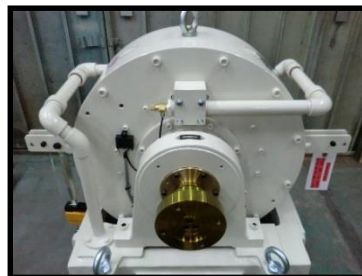
**○ Dynamometer**

We, as a dynamometer manufacturer, provide a wide range of dynamometers of 2.2 to 750kW range, high torque and high speed to testing service test cell according to customers test requirements.



Tanaka's hydraulic dynamometer

- For large diesel engine
- Durability test and steady state performance test



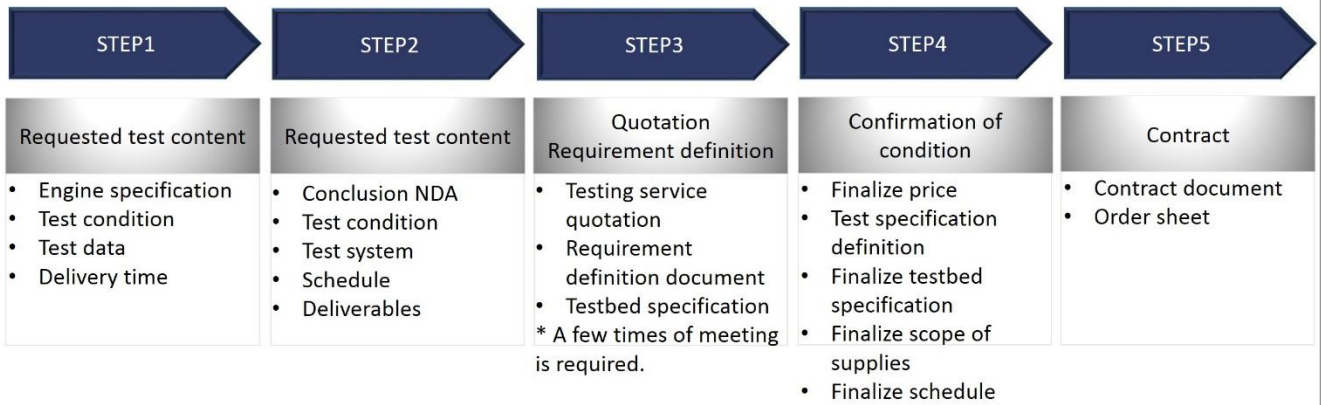
Eddie Current Dynamometer

- For off-road engine
- Durability test, steady state performance test and NRTC test...
- For off-road engine production line

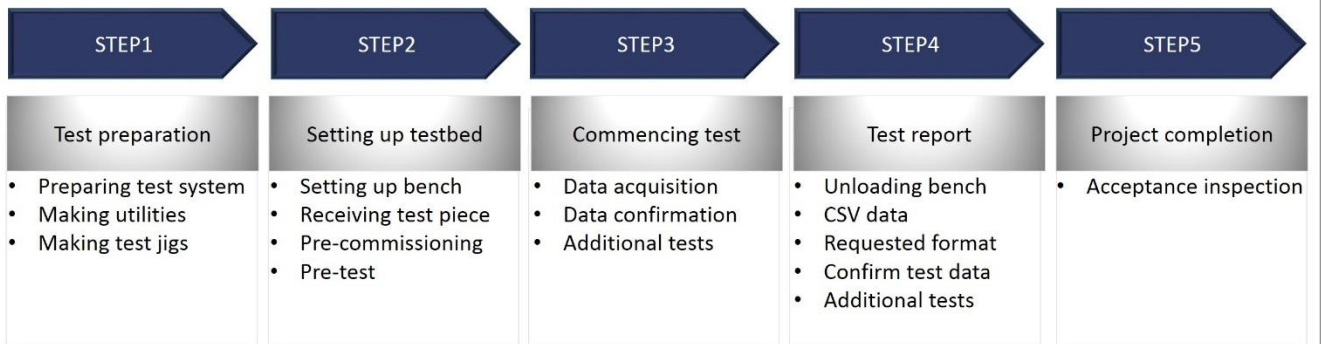
**○ Drive shaft for testing**

Able to manage output range, high torque, and high speed specification and reduce vibration.

## ■ Inquiry to Contract



## ■ Placing order to project completion



We are responsible for handling customer information and inquiry contents as confidential.

### 【Contact】

Sales Group, Tokyo Plant Co., Ltd.

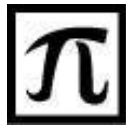
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