Machine Specifications

Specification of the machine

Maximum Weight Capacity	4kg
Maximum Housing Flange outer size	Φ150mm
Maximum Measured Rotation	250,000min^{-1}
Standard Center Height	1.000mm(from the floor to the center of rotation)
Measurement Time	Unbalance Measurement approx. 20 sec. Tracking Measurement approx. 30 sec. (40,000min^{-1}～190,000min^{-1}) ※The measurement time depends on the specification of the rotor and above measurement time is for small turbine charger, for reference.
Air Pressure Supply	0.7Mpa At Drive Air Supply Rc3/4 At Control Air Supply Rc3/8
Rotational Speed, Coordinate Detection	Color marking detection by fiber sensor

Measurement Circuit MMi-FLEX

Functions

- □ Measurement for unbalance amount and tracking available
- □ One and two plane measurement are available
- □ Residual vibration value calculation and result display
- □ Unbalance measurement at two speed
- □ Correction analysis with vector and least square methods
- □ Line and polar coordinate graphs for tracking measurement data
- □ Unbalance measurement based on tracking measurement data
- □ Tracking data can be saved on external storage via USB port

Flowchart for Machine Selection

Measurement for a variety of products | Made to order machines for mass production line

Standard Machines

Products with journal and can be support horizontaly on bearing roller

Standard Horizontal Balancing Machine

- Single rotor measurement for larger target (approx. 1kg or over) → **Hard Type Balancing Machine** NH~ Type
- A small rotor for high speed or assembly rotor → **Soft Type Balancing Machine** NR~ Type

Products without journal and better to operate vertically

Standard Vertical Balancing Machine

- Static measurement with disc shape rotor → **Static (single plane)** CNA~ Type
- Dynamic measurement for D/H 3 or more → **Dynamic (two plane)** CNB~ Type

Custom Made Machines

Automatic / Manual Loading
Automatic Milling / Drilling Correction

Products with journal and can be support horizontaly on bearing roller

For Horizontal Measurement

- □Crankshaft
- □Motor Rotor
- □Propeller Shaft(no jurnal)

Products without journal and better to operate vertically

For Vertical Measurement

- □Tire/Wheel/Tire Wheel Assy
- □Turbine Charger (Turbine/Impeller)
- □Torque Converter Parts (Stater/Turbine/Damper)
- □Axle Parts

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※The latest information are shown on our website.

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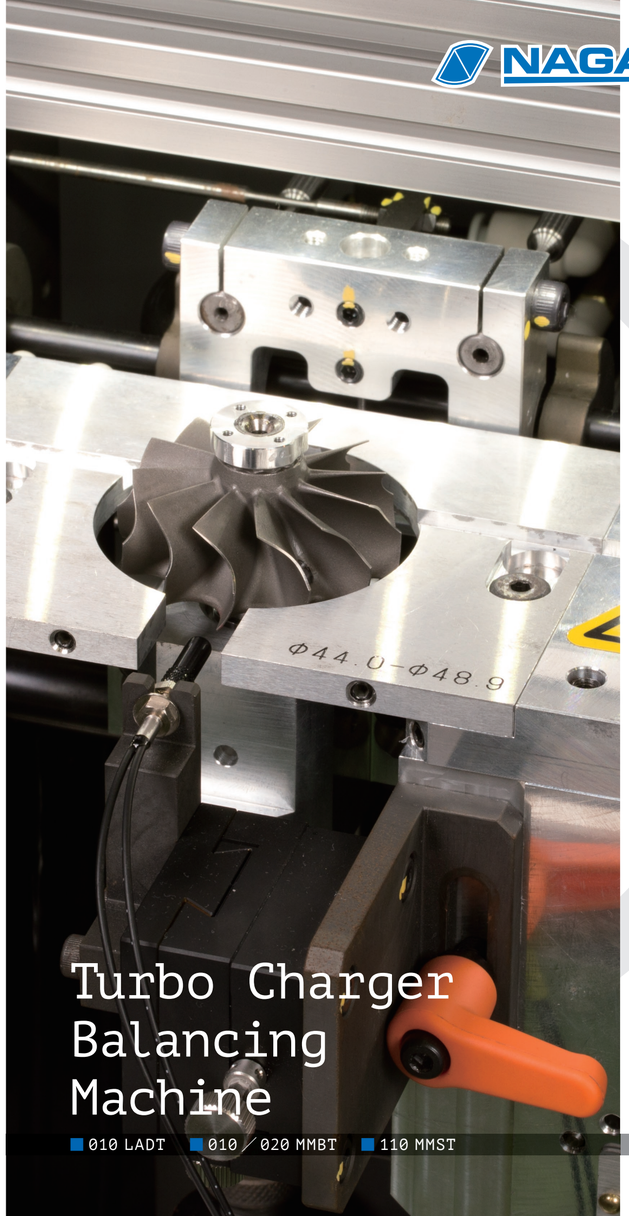
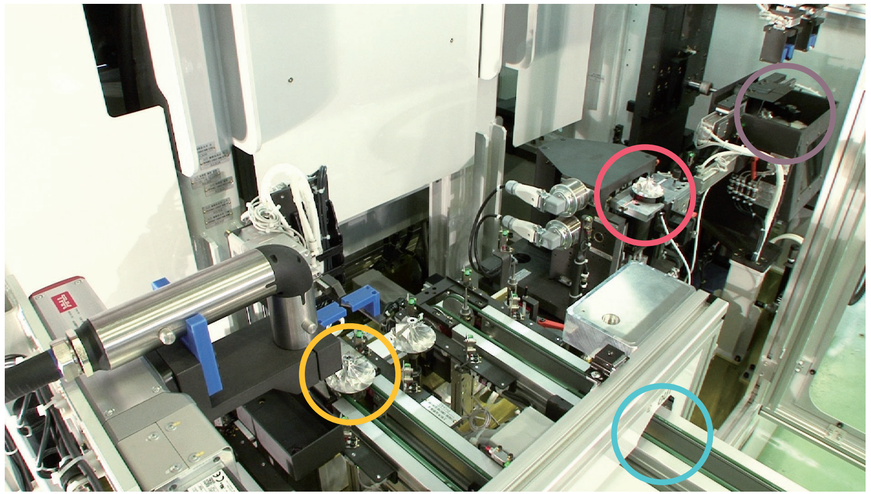


Turbo Charger Balancing Machine

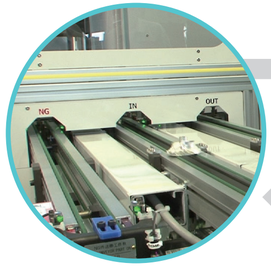
■ 010 LADT ■ 010／020 MMBT ■ 110 MMST

Fully Automatic Turbocharger Balancing Machine 010 LADT

Recent downsizing in engines has also affected the size of turbochargers to become more compact. The smaller turbocharger uses the compressor wheel that requires high precision balancing.
010 LADT is designed for automobile turbochargers that can measure with fully automatic balancing with three work stations which comprises loading and unloading, unbalance measurement, and milling correction parts. The work station has two arm type loading device which enables fully automatic loading to each station. The work has data matrix recorded which enables traceability on the production line.

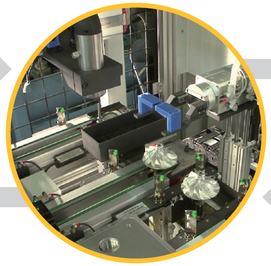


Loading / Unloading



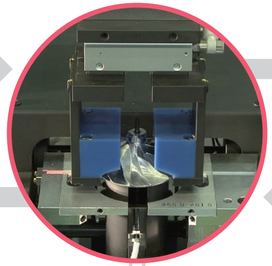
When the pre-measured compressor wheel is loaded, after measurement and correction it is unloaded separately from the ones that did not pass the test.

Marking Station



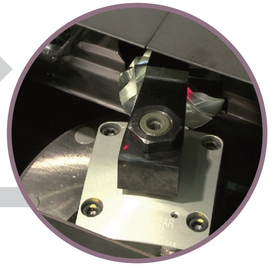
Pre-measured reference marking and the ones that passed the test after correction would be marked with the data matrix and dates.

Measurement Station



The measurement of unbalance can be done within as little as 12 seconds with our new light-weight vibration frame. The compressor wheel is held down with the air pressure from the mandrel, which has very little friction and greatly improves durability.

Correction Station



Automatic milling correction is done according to the unbalance data from the measurement station. High precision balancing is achieved by 2 plane correction. Scattering of milled chips are prevented by suction system.

OK

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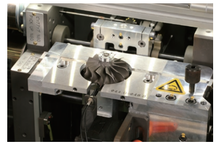
Balancing Machine Specifically Designed for Turbocharger 010/020 MMBT

The turbocharger has become more compact due to the reduced size of engines. For balancing the smaller turbocharger it requires the high precision balancing machine.
010/020MMBT was developed to meet the needs for more compact turbochargers in higher precision measurement, meeting flexible production line and less cost.

New Light-weight Vibration Frame



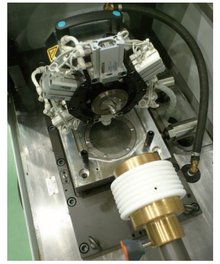
Work Target	Axial turbine/ compressor wheel
Work Weight	10-200g
Rotor Diameter	Φ30-65mm
Measured Rotation	4000min^{-1}

- Improved measurement accuracy (30% increase from our previous models)
- Simple step replacement compatible with axial turbine and compressor wheel
- New ceramic model bearing for axial turbine achieves machine longevity and cost reduction
- Lifting device can be installed for compressor wheel size 38mm or more.

Balancing Machine for High-speed Turbocharger Core-assembly 110 MMST

Axial turbine and compressor wheel separately can maintain the balance, but when assembled together the fitting joint bias, axial swing or deflection and nut imbalance can cause vibration and noise at high speed. In order to meet the demand for reduced vibration and noise due to high functioning turbocharger, the balancing machines must also be high precision.

New Light-weight Vibration Frame



- Work components are in a compact all-in-one system
- Compatibility by changing attachment for different work
- Unbalance and tracking measurement is available
- One and two plane measurement as well as different types of correction analysis are available