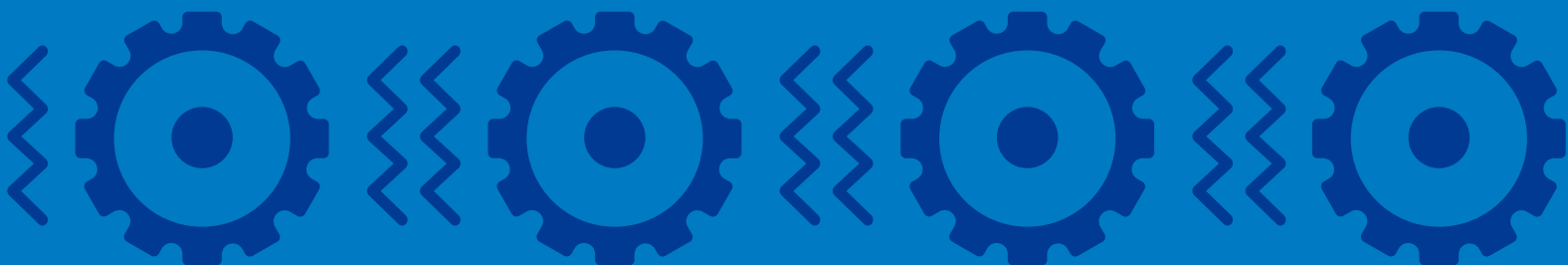


MARPOSS

NVHGEAR

THE LEADING-EDGE TECHNOLOGY
FOR GEAR SINGLE FLANK
AND NVH ANALYSIS





GENERAL MACHINE SPECIFICATIONS

PARAMETER	VALUE
Motor Nominal Power	5.7 kW
Power Supply	50 Hz – 400 V (3 + N)
Standard Machine Footprint	1900 mm (L) x 1850 mm (W) x 2050 mm (H)
Measuring Sensors	2 Incremental Encoders 1 Torsional Accelerometer (TAC)
Test Driving Torque (Peak Torque)	0 – 25 Nm (33 Nm)
Part Rotating Speed	0 – 2000 rpm
Center Distance Adjustable Range	120 - 185 mm
Max Shaft Part Length	400 mm
Max Gear Face Width	70 mm
Part Load	Manual and/or Automatic

MODEL

NVH GEAR

NVH GEAR Double Slide (for Intermediate shaft sequential inspection)

NVH GEAR for Wheels (without upper tailstock group)



Read more about
**SINGLE FLANK &
NVH ANALYSIS**

See how
NVH works





SINGLE FLANK TEST & NVH ANALYSIS



PRODUCT DESCRIPTION

Drivetrains of hybrid (HEV) and full electric vehicles (EV) have increased requirements for Noise Vibration Harshness (NVH) analysis in either individual gears or assemblies.

Marposs NVH G-EAR test is able to detect macro-geometry (nicks, runout etc.) and micro-geometry (gear mesh excitation, ghost orders) defects that are responsible for gear whine and noise phenomena.

Marposs NVH G-EAR tester works on the Single Flank (SF) testing principle of one master gear meshing with the component under inspection and elaborates the SF Transmission Error and NVH Order Spectrum

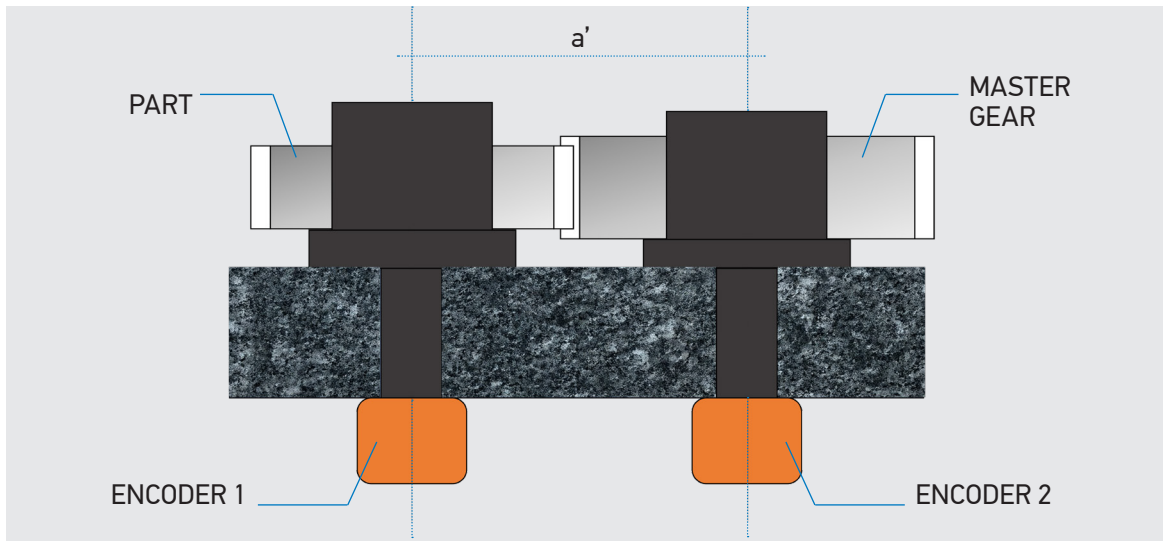
MACHINE FEATURES

- ▶ A robust granite base frame to become non-sensitive to external interferences and to enhance the performances of the NVH analysis
- ▶ Highly configurable software makes Marposs NVH gear tester at the forefront of technology in the sector, capable of correlating data with the End Of Line test unit
- ▶ Quick measurement time suitable for 100% inspection with automatic & robot loaded solution



SINGLE FLANK ANALYSIS

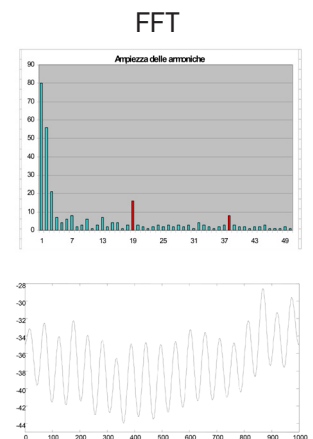
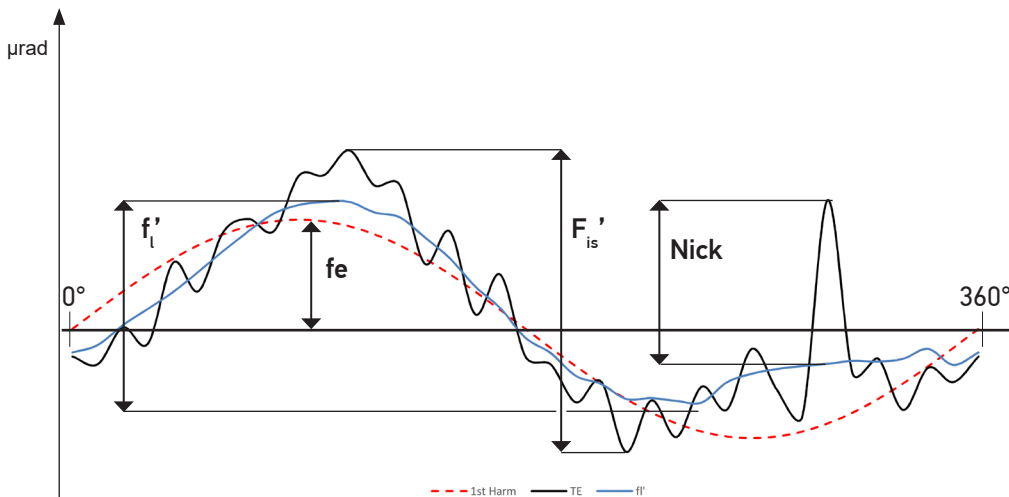
Single Flank gear test with Encoder (TE test)



Testing condition: Single Flank TE test is performed at **low** speed condition applying a constant resisting torque.

Single Flank measures as reported in the international standard DIN 3960:

- ▶ F_{is} Total Single Flank composite Deviation
- ▶ f'_i Tooth to tooth Single Flank composite Deviation
- ▶ f_{is} Single Flank short wave component
- ▶ f'_l Single Flank long wave component
- ▶ **Backlash**
- ▶ **OBD (MdK)**
- ▶ **Nick**
- ▶ **Circularity, f_e (Concentricity)**
- ▶ **FFT**

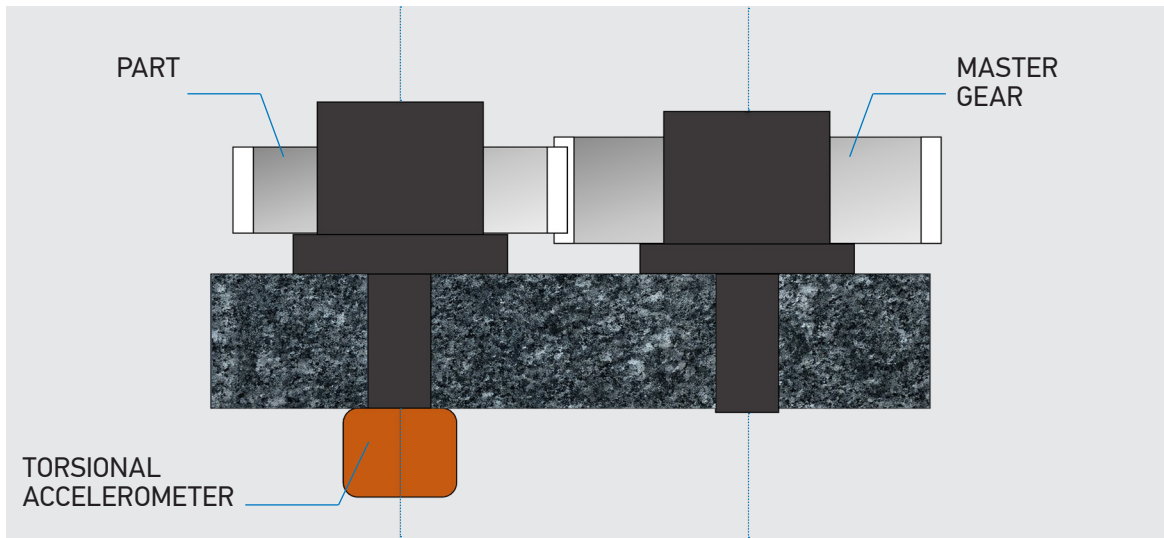


Sensor: the sensors are two **Angular Encoders** & Marposso elaborates angular displacement (μrad) parameters. These encoders are capable of reading 1.256 μrad to guarantee an accurate Transmission Error and order analysis.



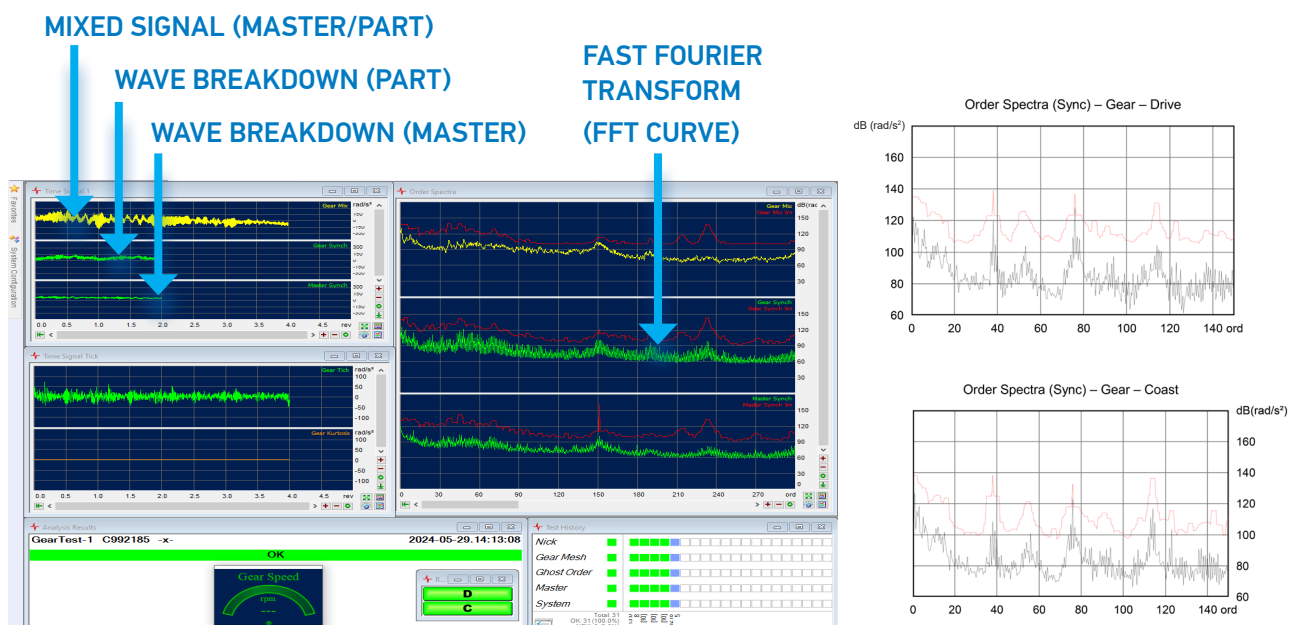
NVH ANALYSIS

NVH gear test with Torsional Accelerometer (TA test)



Testing condition: NVH test is performed at **high** speed (400 - 2000 rpm) and **high** torque condition (up to 25 Nm).
NVH cycle options:

- ▶ NVH measurement at constant speed & constant torque
- ▶ NVH measurement at ramp speed and constant torque



Sensor: the sensor is a [Torsional Acceleration Sensor](#) & Marposh elaborates angular acceleration (rad/s^2) parameters. This torsional accelerometer has an order resolution of 0.125 (configurable parameter).



For a full list of address locations, please consult the Marposs official website

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