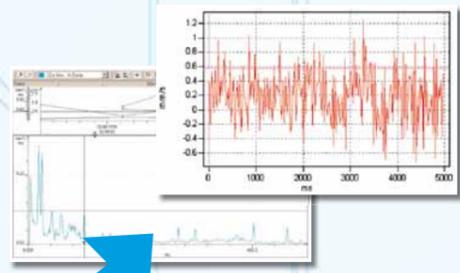


# PT 500 - MACHINERY DIAGNOSTIC SYSTEM



The purpose of modern-day Machinery diagnosis is to carry out needs-based maintenance or repair and to minimise the repair and other servicing downtimes of a machine. The aim is to detect damage as it occurs.

The condition of a machine or of machine components can be accurately diagnosed from the nature and extent of its vibration. Accordingly, vibrations are measured, recorded and evaluated using sensors and recording equipment.

Correct interpretation of the measurement signals requires a thorough understanding of the mechanisms at work and a degree of experience.

The GUNT PT 500 machinery fault trainer is a modular system which deals with this complex and highly topical issue in technical tuition, developing it through experimentation.

A thorough treatment of the subject requires an engineer's know-how. However, skilled tradesmen and maintenance fitters can use the training system to familiarise themselves with this field of technology at a more practice-oriented level.

The PT 500 machinery fault trainer can be used to selectively simulate, measure and evaluate vibration signals generated by typical malfunctions and damage, thus allowing thorough interpretation of the measurement signals to be carried out.

Professional measuring equipment enables the experience gained to be transferred to everyday working practice.

## BASE UNIT



A range of training exercises relating to machinery diagnosis and monitoring can be carried out using just the PT 500 base unit together with the PT 500.02 instrumentation set.

As well as the exercises in the measurement of the vibration (amplitude, velocity and acceleration in the time or frequency range), field balancing of rigid rotors and alignment of shafting can also be practised.

The base unit includes a vibration-damped workholder plate, a speed-controlled drive motor with a tachometer, a shaft with two mass discs and two bearing units, a coupling and balancing weights.

A wide range of accessories enables almost any subject area relating to machinery diagnosis to be covered.

## ACCESSORY SETS OPTIONALLY COUPLED TO THE BASE UNIT

<p><b>PT 500.10 Elastic Shaft</b></p> <p>Unbalanced mass vibration of a flexurally elastic shaft; resonance, critical rotation speed, balancing</p>	<p><b>PT 500.15 Damages to Gears</b></p> <p>Identification of gear damage from the vibration signal, influence of tooth type and lubrication</p>
<p><b>PT 500.11 Crack Detection in Rotating Shaft</b></p> <p>Vibration behaviour of a cracked shaft, identification of the crack from the vibration signal</p>	<p><b>PT 500.16 Crank Mechanism</b></p> <p>Vibration in crank drives, free inertia forces, bumps and jolts resulting from bearing play and wear</p>
<p><b>PT 500.12 Roller Bearing Faults</b></p> <p>Identification of bearing damage from running noise. Various pre-damaged roller bearings</p>	<p><b>PT 500.17 Cavitation in Pumps</b></p> <p>Noise and damage resulting from cavitation, conditions for cavitation inception</p>
<p><b>PT 500.13 Couplings</b></p> <p>Properties of different coupling types, influence of eccentricity, wobble and pitch fault on vibration behaviour</p>	<p><b>PT 500.18 Vibrations in Fans</b></p> <p>Vibration in fans, demonstration of vibration excitation by blade passage, influence of centrifugal force</p>
<p><b>PT 500.14 Belt Drive</b></p> <p>Vibration in belt drives, resonance and critical rotation speeds, influence of belt tension, eccentricity and misalignment</p>	<p><b>PT 500.19 Electromechanical Vibrations</b></p> <p>Interaction of electromagnetic/mechanical elements of system, influence of load, gap geometry and electrical asymmetry</p>