

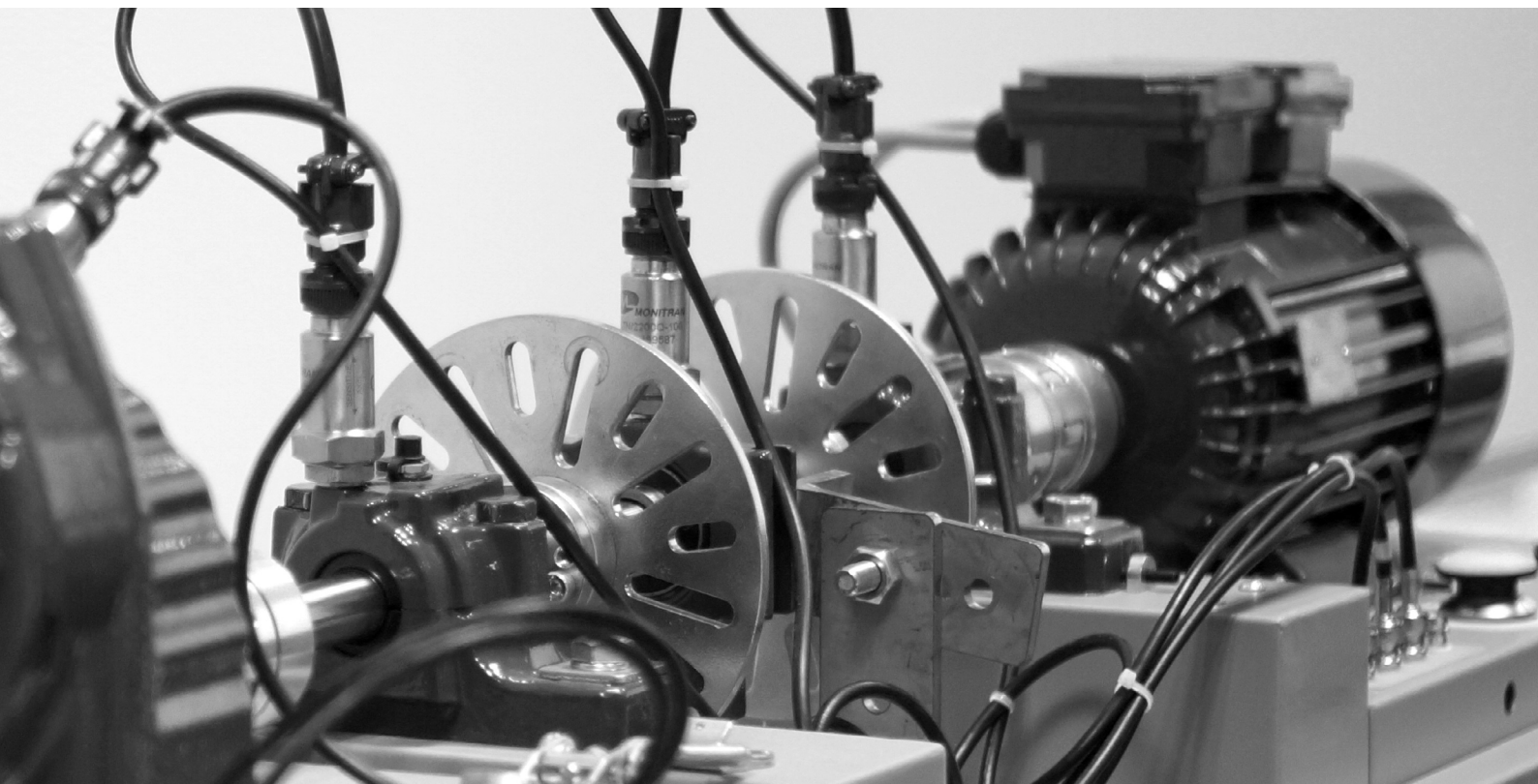


TEST BENCH

---

## AV TEST BENCH

research-educational  
test bench for rotating  
machinery diagnostics



# about the av test bench

---

## AV TEST BENCH OVERVIEW

**AV TEST BENCH** is a complete research-educational test bench for rotating machinery diagnostics. It consists of the mechanical part and the vibration based condition monitoring system.

The mechanical part, placed on a rigid support, includes:

- two three-phase asynchronous motors with frequency inverters (one of them acting as propulsion, the other one as load),
- gearbox,
- shaft supported on three roller bearings (one of which is mounted on an adjustable screw, and can be used to apply vertical force to the shaft, thus loading the bearing). Two discs with holes designed for imbalance simulation are mounted on the shaft.

The condition monitoring system consist of:

- **AVM 4000:** multichannel, high-end system dedicated for acquisition, conditioning and real-time data processing,
- **AVS 1000:** four general purpose accelerometers,
- **VIBnavigator:** software for data visualization and diagnostics with advanced signal processing algorithms.

## AV TEST BENCH DESCRIPTION

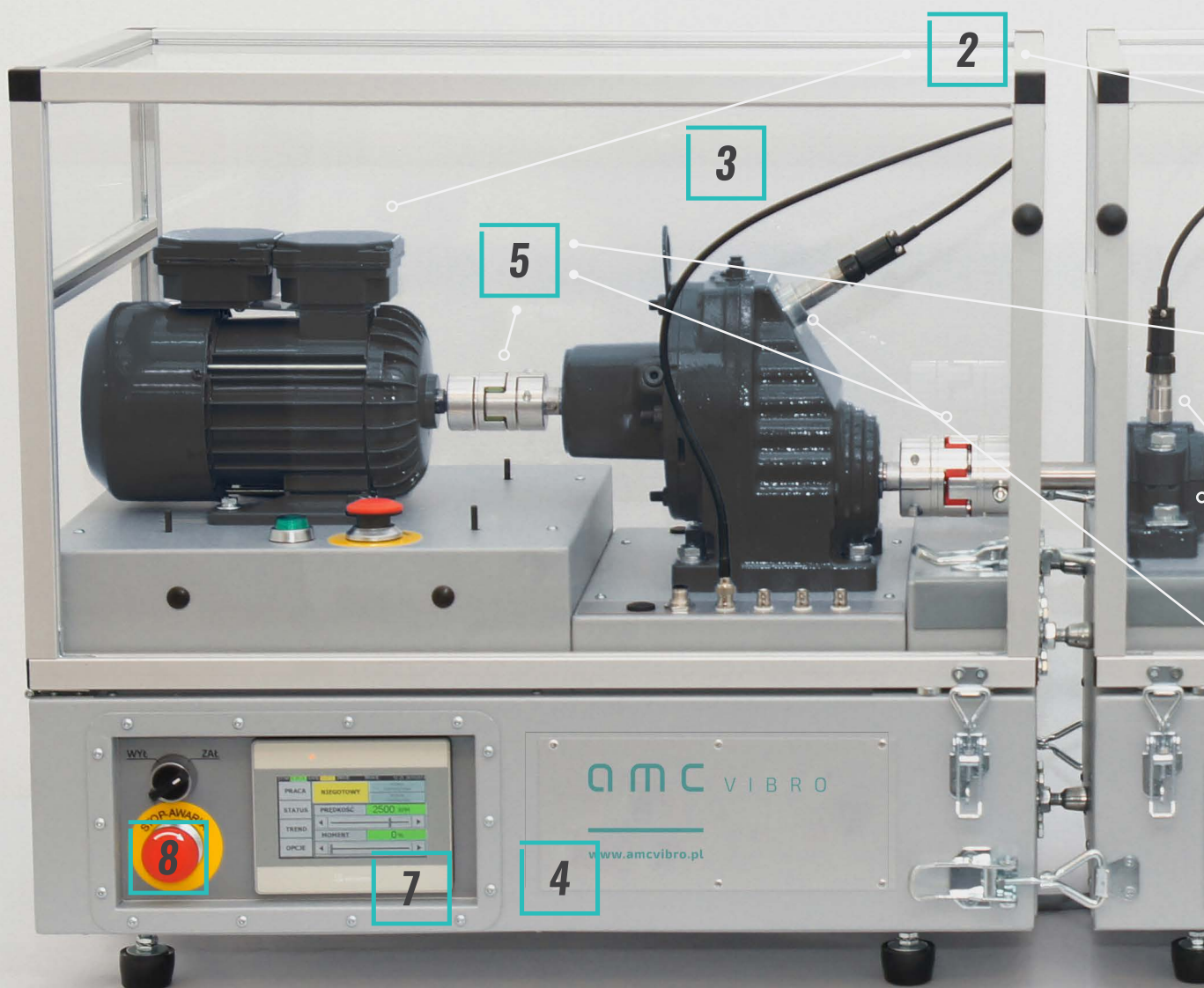
The system may include up to eight vibration inputs and up to four phase marker inputs. In the default configuration the test bench comes with four piezoelectric accelerometers and one rotational speed sensor. The sensors can be mounted in one of the prepared holes or with a magnet, in order to measure vibrations in a selected plane in selected construction nodes.

The **AV TEST BENCH** allows full data acquisition and condition diagnostics with numerous charts (time view, frequency spectrum, frequency order spectrum, envelope analysis, trend diagram, synoptic view, and alarm list). The signals can be also easily connected to third party acquisition hardware through prepared BNC outputs.

**AV TEST BENCH** gives the opportunity to conduct academic research studies, and carry out a professional rotating machinery condition monitoring and diagnostics training.

# av test bench configuration

- 1** sensors connector
- 2** 2 three-phase asynchronous motors
- 3** one stage parallel gearbox (i=2.91)
- 4** 2 frequency inverters
- 5** 3 clutches
- 6** 3 bearings with housings (1 mounted on adjustable screw)



7

LCD panel (AVTB management)

8

safety switch

9

steel shaft

10

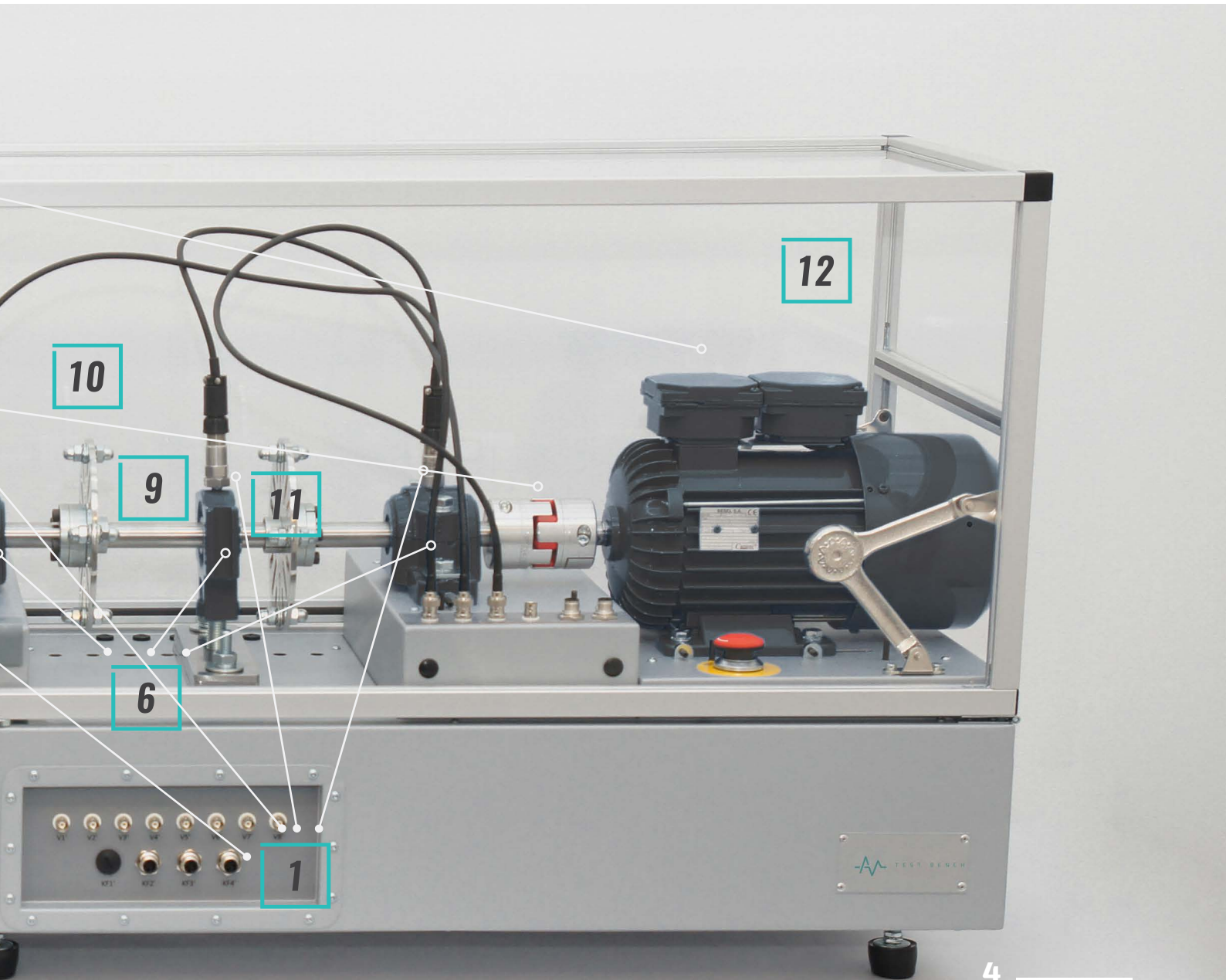
2 discs with holes used for weights mounting

11

set of threaded weights for imbalance simulation

12

housing made of organic glass



# av test bench features

## AV TEST BENCH ENABLES:

- analysis of real machine - induced vibration signals
- study of diagnostic system design and configuration
- programmable rotational speed and load
- introduction of bearing load and faults
- introduction of imbalance
- introduction of misalignment
- introduction of gear faults
- study of structural vibrations (supporting base and bearing casings)

## COMPLETE SET INCLUDES:



### AVS 1000x4

general purpose industrial accelerometer with isolated AC output



### AVM 4000

multichannel (max. 24 channels) system dedicated for advanced diagnostics of rotating machines



### VIBnavigator

software for data viewing and analysis, AVM configuration and administration

## THEY TRUSTED US:



**65+**

UNITS SOLD

**14+**

COUNTRIES

**3**

CONTINENTS



---

**amc VIBRO Sp. z o.o.**  
Pilotow 2e  
31-462 Krakow, Poland

**Phone:**  
T: +48 (12) 362 97 60

**Sales:**  
T: +48 (12) 362 97 63

info@amcvibro.com  
[www.amcvibro.com](http://www.amcvibro.com)

