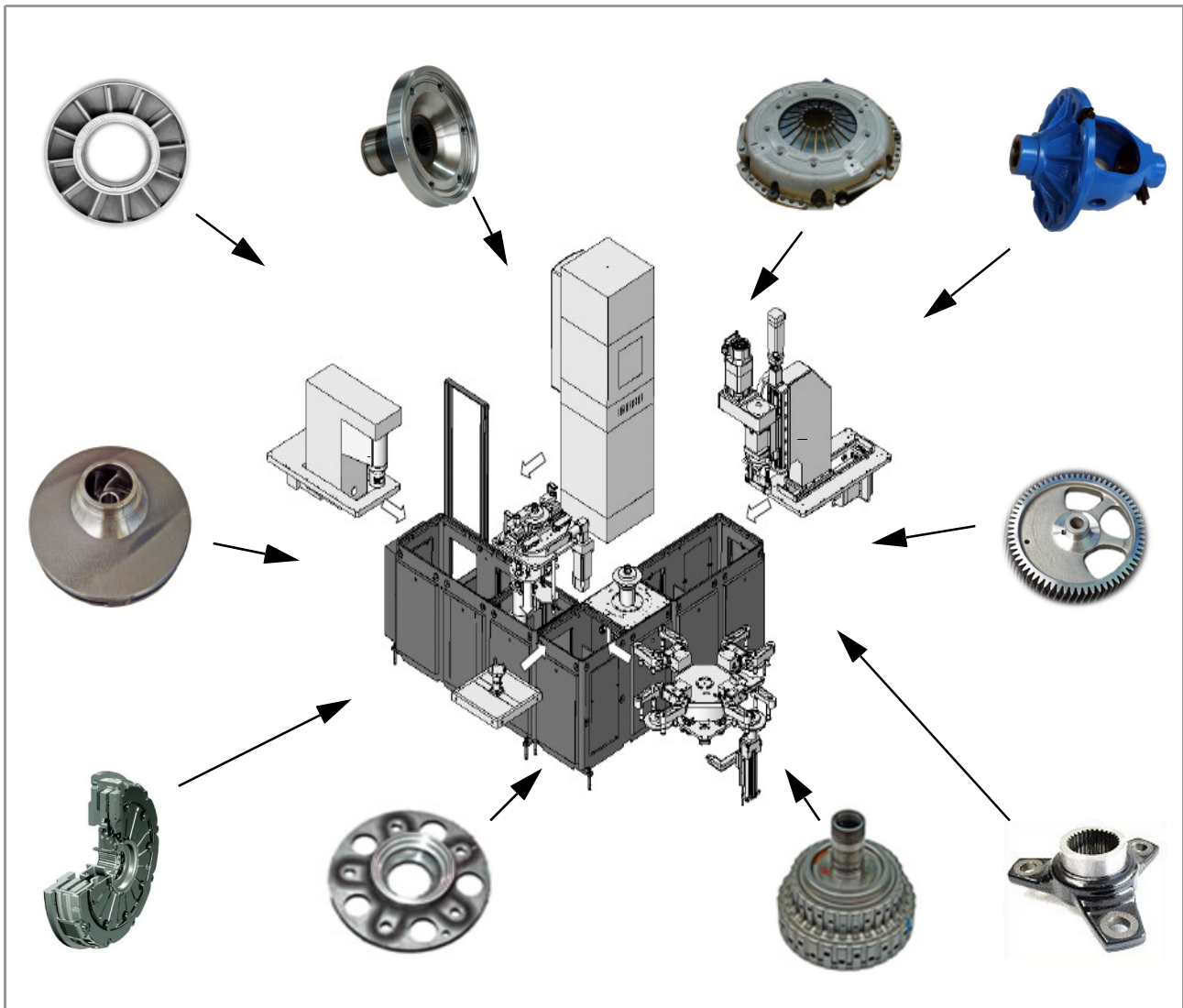# Modular Balancing Machine Concept V-Line

Advantages

- modular and compact machine concept

- maximum of flexibility

- short delivery times

- expandable at any time due to the modularity (adaptation on capactiy)

- short installation and set-up on site --> low start-up periods

Description

- balancing of disc shoped rotors in 1 plane

- soft bearing machine concept

- Automotive and automotive supply industry

- Universal configuration as:
  - manual machine
  - semi-automatic machine
  - 1-station-balancing machine
  - 2-stations-balancing machine
  - 3-stations-balancing machine

- integrable in production cell or as in-line production

Options

- automatic calibration unit

- hole pattern device

- cutting surface detection

- part detection

- tool life-time monitoring

- remote maintenance

- connection to host computer

- CAQ-connection

- further interfaces

- marking unit

- variable speed of spindle
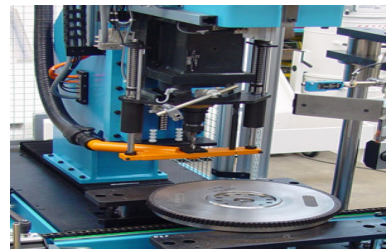
- etc.

Examples of application

- 1-station-balancing machine for gear parts
  Unbalance correction by radial milling at external teeth
  Loading by overhead indexing table (180°)
 Cycle time < 28 sec [averaged cycle time (measuring - milling -audit)]

- 1-station-balancing machine for brake discs
  Unbalance correction by circular milling at outer diameter
  Loading by overhead indexing table 180°)
  Cycle time < 30 sec (measuring - millinng - audit)
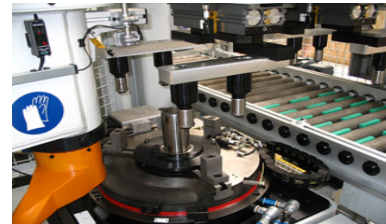
- 1-station-balancing machine for HGV-flywheels
  Unbalance correction by vertical drilling
  Loading by retractable intermediate belt
  Cycle time < 40 sec (measuring - 2 x drilling - audit)

- 3-stations-balancing machine for turbine wheels
  Unbalance correction by welding on of closure plates
  (variable length of plate)
  Loading by indexing table
  Cycle time < 30 sec (averaged cycle time)
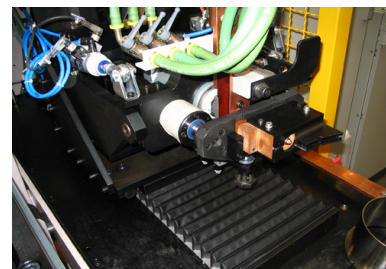
- 1-station-balancing machine for twin mass flywheels
  Unbalance correction by trace milling
  Loading by overhead indexing table with integrated 180°
  turning station
  Taktzeit < 30 sec (Messen - Fräsen - Audit)

- 3-stations-balancing machine for gear parts
  Unbalance correction by die cutting with following rivet insertion
  and rivet calking
  Loading by indexing table
  Cycle time < 30 sec (averaged cycle time with 3 weights)