

Objective testing of gear pairings – HURTH ZP 320 RB.

Numerous application options:

The HURTH ZP 320RB gear testing machine is used to carry out noise tests and tooth pattern checks. It is suitable for conducting one-off tests as well as for use in series production.

Test procedure:

The gear to be tested is inserted in the machine together with a gauge gear (master gear) or a mating gear.

Clearance and centre distance should conform with the operating conditions in the gear unit.

Testing speed and torque are preselected and saved in the memory.

By reversing the direction of rotation, the gear is tested for its noise characteristic on both tooth flanks and assessed accordingly.

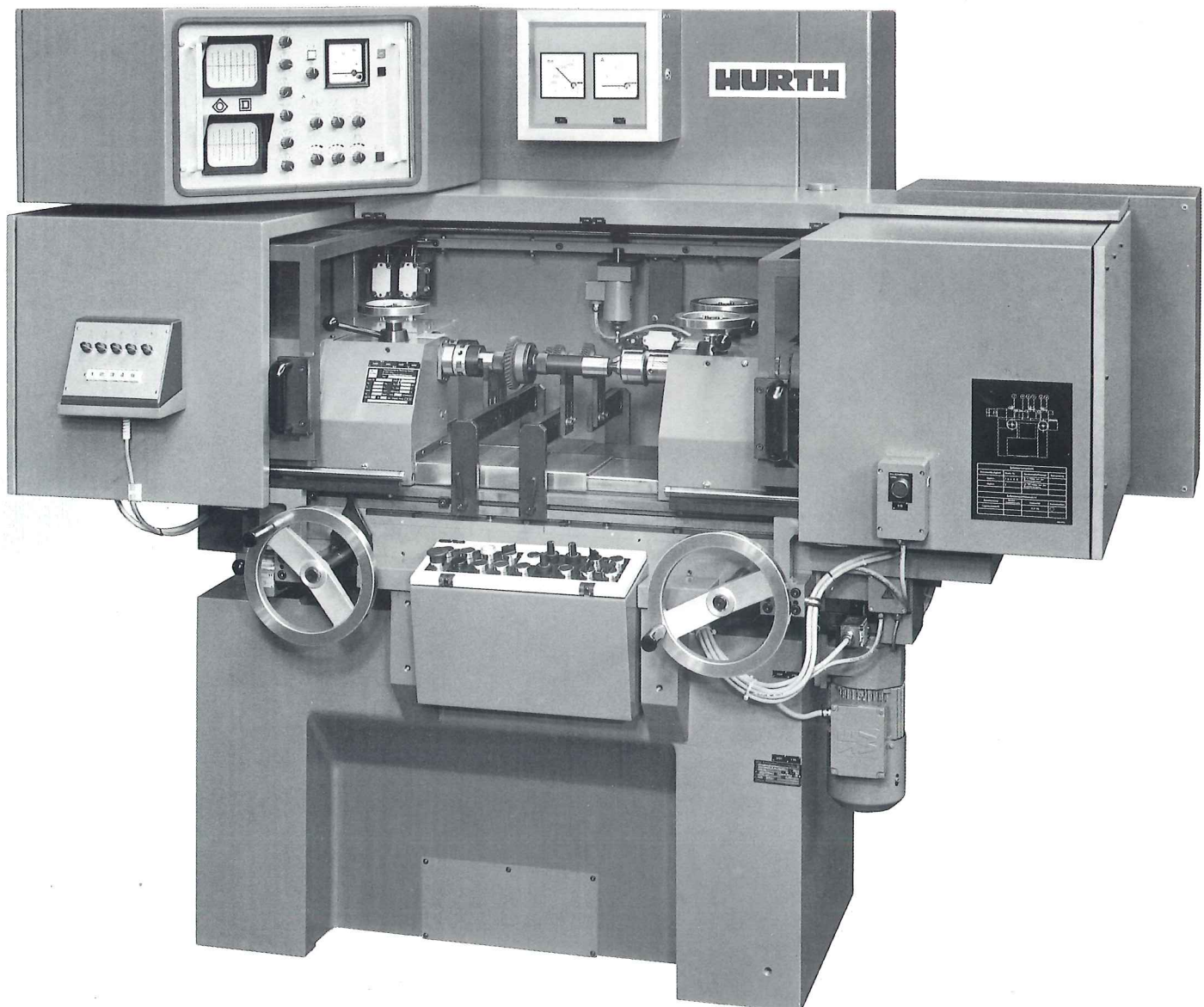
Design features:

The machine comes with variable speed control by way of servomotors with a direct-coupled tacho-generator. To enable genuine comparisons to be drawn for whole series of workpieces, the selected speed is retained during the braking as well.

The machine can be run at inching speed in jogging mode in order to locate damaged teeth.

Constant braking torque over the entire speed range:

The machine is also equipped with a braking motor. The torque setting is infinitely variable and can be read off a pointer-type instrument for replication. The set torque remains constant over the entire speed range.



HURTH PLSO Accelerometer Noise Tester (Klingenberg System):

A measuring method must produce reliable results and must be reproducible at any time.

After many years of development and meticulous trials, tangential acceleration measurement is establishing itself more and more as the preferred choice for final acceptance tests. Once the limiting quality is set subjectively, this noise testing method guarantees objective results. Ambient influences are not registered, so the reliability of the test is increased. With noise-insulated rooms being unnecessary, the instrument can be employed at any point in the production chain.

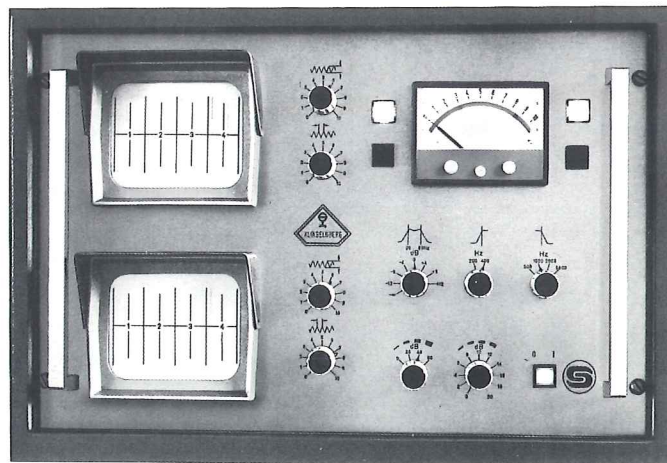
Easy-to-read displays and a scale enable the testing operator to assess workpieces quickly and positively.

Locating damage:

It is possible for gear teeth to suffer damage along the material flow line during production.

With the Accelerometer Noise Tester, the damage can be

located quickly and reliably. It is an easy matter to localise the damaged tooth by means of a numerical scale on the display. The gear and pinion can be tested simultaneously by means of two displays.



HURTH PLSO Accelerometer Noise Tester

Checking the tooth contact pattern by inking:

Normal tooth contact pattern



Theoretical tooth contact pattern of two master gears.



Crowned lead, good tooth contact pattern, large contact area ratio, favourable noise characteristic.

Non-conforming tooth contact patterns



Tip contact pattern
Cause: profile angle error.



Variable tooth contact
Cause: gear with axial runout. Bore hole eccentric to teeth.



Crossed corner contact pattern
Cause: lead angle error.



Root contact pattern
Cause: profile angle error.



Corner contact pattern
Cause: conical teeth.

Standard accessories

- 2 mandrel gauges
- control plate for checking the height parallelism of the pair of centres
- high-pressure grease gun
- set of operating tools
- operating instructions

Special accessories

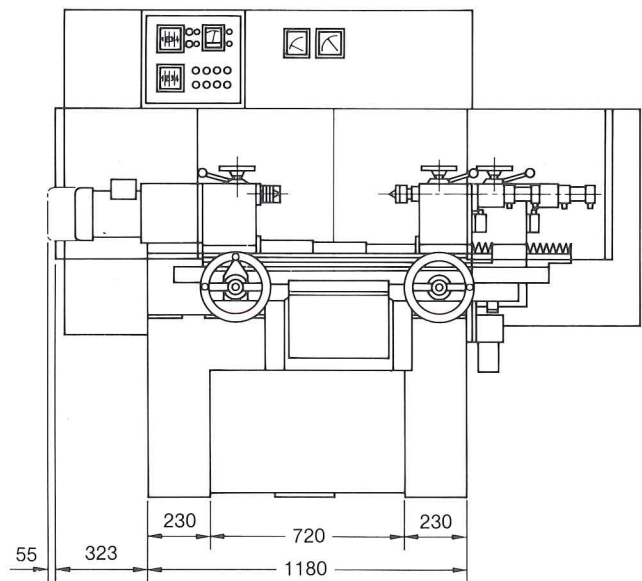
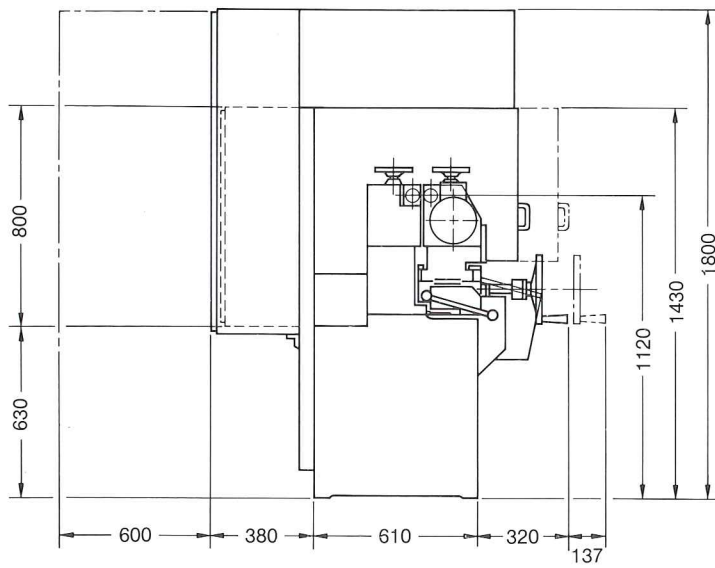
- pair of centres for small centre distances (additional centres, minimum distance approx. 30 mm) complete with holder and cone clamp.
- brake block for manual operation, necessary when using a pair of centres for small centre distances.

Technical data

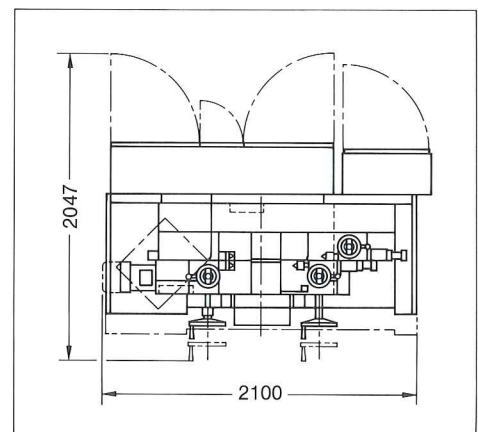
Diameter of workpiece	mm	320	Adjustment of front bridge	mm	200
Length of workpiece	mm	400/600	Spindle centre distance with revolving centre min./max.	mm	63/200
Weight of workpiece incl. mandrel	kg	25	Spindle centre distance with additional centre + min./max.	mm	30/150*
Noise testing speed min./max.	rpm	250/3000	Centre distance on front tailstock max.	mm	400
Inching speed min./max.	rpm	30	Centre distance on rear tailstock max.	mm	600
Total power consumption	kVA	8			
Length x width x height	m	2.0 x 1.4 x 1.8			
Weight of machine	kg	1900			

* The PLSO Accelerometer Noise Tester cannot be used.

Machine dimensions and space requirement.



All dimensions in mm



Scale: 1:50

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