

Competence in Spring Testing



« Nencki spring testing machine NST

INCREASED REQUIREMENTS FOR THE SAFETY, REDUCTION OF NOISE, WEAR AND COSTS

The primary spring suspension of a bogie is an important component, essential for the derailing safety and travelling comfort. Faster speeds and heavy loads require the use of perfect spring components.

Springs, which are tested properly and paired accordingly influence the geometry of the bogie and save a repeated dismantling of the bogie.

Furthermore, tested and correctly mounted springs on the bogie, contribute significantly to the reduction of wear on wheels and rails. The noise emissions can be remarkably lowered.



More than 90 % of tested, used springs still fulfil the test values specified by the manufacturer, even after a long period. They can be reused after a test took place.

The Nencki spring test press is used for checking the quality and condition of new and used railway springs. The test ensures that the springs are in a perfect condition and conform with the specified safety regulations.

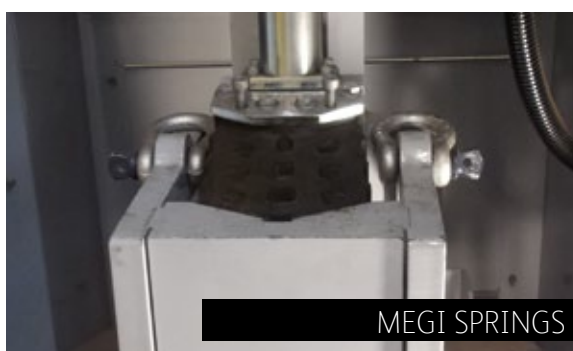
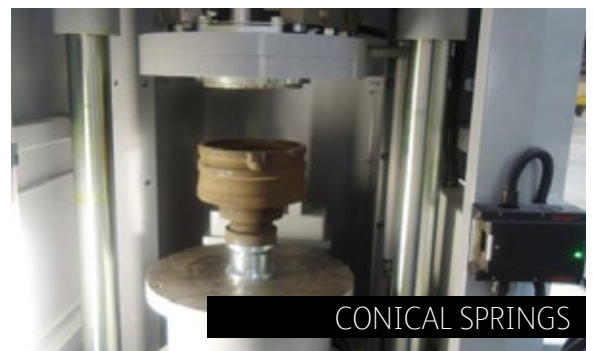
NENCKI, THE LEADING SUPPLIER OF SPRING TEST PRESSES.

For years, Nencki Railway Technology has supplied numerous spring testing machines to locomotive, railway and metro workshops on several continents. Much value is placed to the fact of progression of test functions and machine types.

« The following features distinguish the Nencki spring testing machine:

SWISS TECHNOLOGY

- « developed for the testing of springs, used on railway bogies
- « rigid construction
- « minimum space requirement
- « user-friendly control surface
- « test processes can be programmed easily with computer blocks by the operator
- « all functions and measurements are controlled by an industrial PC with integrated PLC control, installed fix in an electrical cabinet
- « maintenance-friendly
- « prepared for tele-maintenance



Format parts for different spring types and dimensions are quickly exchangeable and upgradeable.



« Test functions

AXIAL AND TRANSVERSAL

The spring test press NST from Nencki is able to determine axial (vertical) as well as transversal (horizontal) spring stiffness.

Lateral stiffness and bowing test

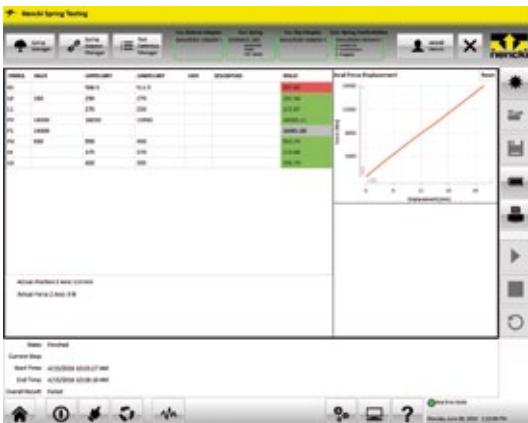
The Nencki test press NST can, depending on the desired type, be used to measure bowing angle and deflection in X and Y-direction.

POSSIBLE TESTS AND EVALUATIONS

- « reference length of spring
- « axial spring stiffness or rate
- « force-/way-diagram (axial and lateral)
- « Lateral stiffness or rate
- « lateral excursion (bowing) in X and Y
- « bowing force
- « bowing or deflecting angle

APPLIED TEST STANDARDS




- « helical springs EN 13298
- « conical springs EN 13913
- « leaf springs EN 14200
- « others on request



TEST PROTOCOL AND TRACEABILITY

- « Test protocol with all relevant data storable in a PDF-file
- « all test results and parameters are always callable and traceable.
- « interface with the Nencki bogie data integration module.
- « integration into a paramount system possible

« Overview of the Nencki spring test presses NST

TYPE	NST 250	NST 200/250	NST LIGHT
			
Typical field of application	Loco-manufacturers and maintenance workshops	maintenance workshops	maintenance workshops for trams and metro
MACHINE DATA			
Load application	hydraulic	by spindle	by spindle
Maximum load	250 kN	200/250 kN	75/100 kN
Stroke of load application	800 mm	1000 mm	700 mm
Max. spring height incl. support	900 mm	1000 mm	600 mm
Loading space width incl. support	480 mm	4600 mm	400 mm
Load application precision	+/- 100 N	+/- 100 N	+/- 100 N
TEST FUNCTIONS			
Vertical stiffness	■	■	■
Horizontal stiffness	▲	▲	▲
Bowing angle	▲	▲	▲
Lateral stiffness	▲	▲	▲
ACCESSORIES			
Crane for feeding the machine	▲	▲	▲
Roller conveyor for feeding the machine	▲	▲	▲
Calibration tools	▲	▲	▲
Laser printer for protocol	▲	▲	▲
Label printer	▲	▲	▲
SPRING TYPES TO BE TESTED			
Individual or sets of helical springs	■	■	■
Conical springs	■	■	■
MEGI springs (Chevron)	■ ¹	■ ¹	■ ¹
Barrel springs	■	■	■
Leaf springs	■ ¹	■	■
Special spring sets	■ ¹	■ ¹	■ ¹

NST = Nencki spring test

■ belongs to basic equipment

■¹ special format parts required

▲ Option

« Calibration and certification

The spring test press represents a measuring machine, which has to be calibrated annually or after repairs according to ISO directions.

Nencki spring test presses are equipped with a standard software module for calibration, and the relevant calibration tools including the training are available as an option.

The load calibration is based on the ISO standard 7500-1.
If desired, authorized third parties can be engaged for the calibration.





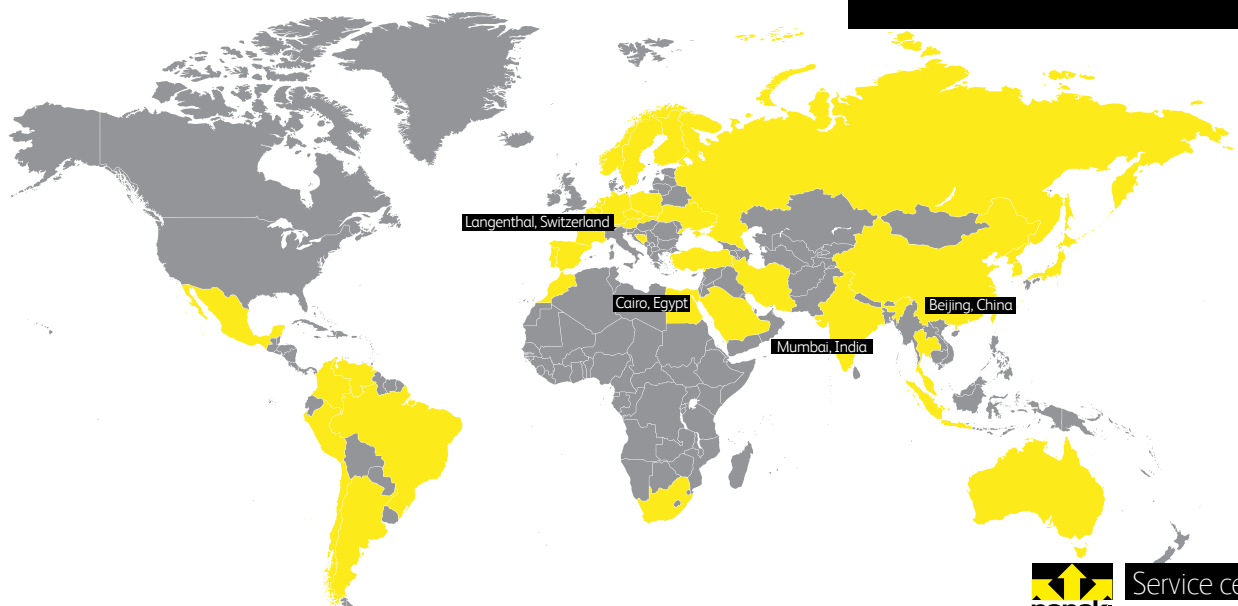
« Nencki support

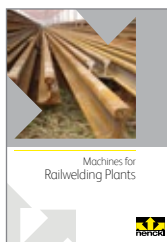
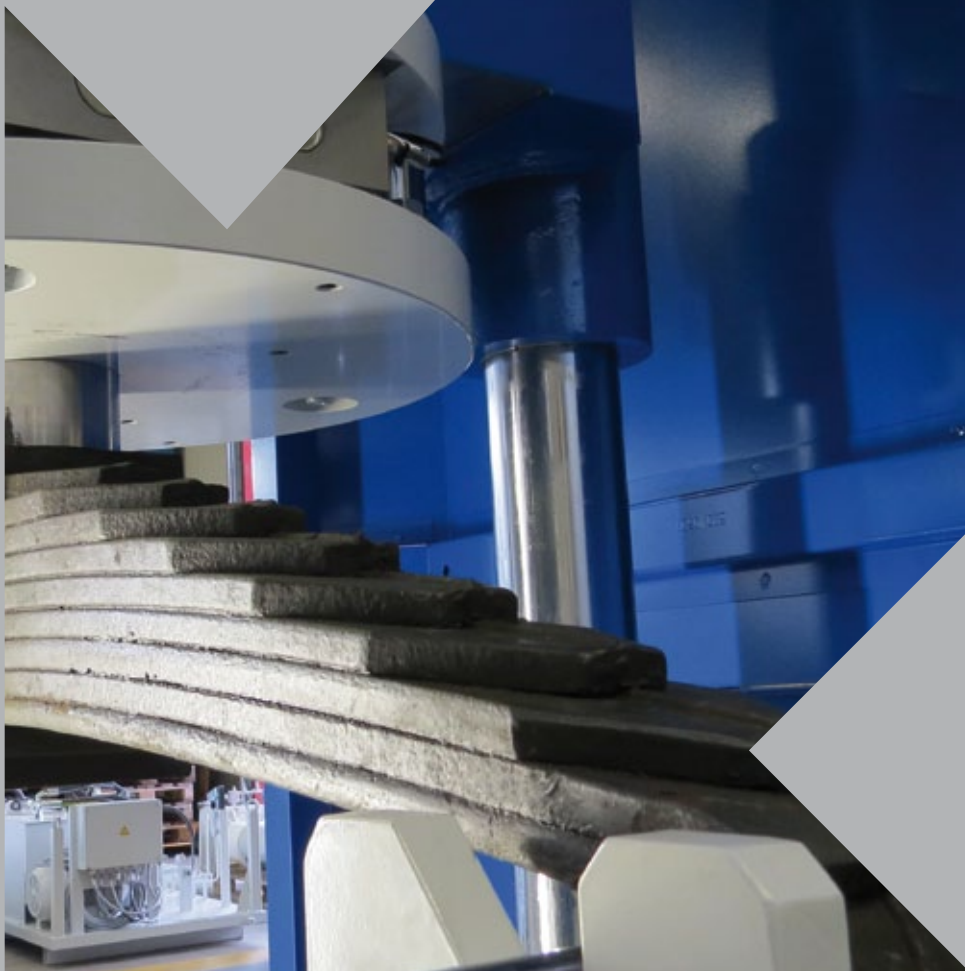
BEFORE AND AFTER THE SALE

In collaboration with local partners in the most important markets, Nencki Railway Technology is able to offer full support already in the evaluation phase.

The international service department with worldwide agencies of Nencki Railway Technology guarantees maximum machine availability. Very well educated and multilingual service engineers carry out an optimum support during the entire lifetime of a machine. Our services include:

- « Installation and commissioning
- « Training
- « Calibration
- « Tele-maintenance
- « Service contracts
- « Spare parts
- « Upgrades





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