PRODUCT CATALOGUE

BUILT TO LAST

ASCORAIL

BUILT TO LAST

WHO WE ARE

ASCO RAIL since the beginning of its activity in 1988 is considered one of the leaders on Rail sector for the Maintenance and Operation of railway vehicles.

The main activity of the company is to design, manufacture and distribute all diagnostic instruments and devices needed during the process of repair and operation of railway vehicles.
Over the 35 years of activity, Asco Rail has been involved in many projects, not only in Poland where the company is based but, in all Europe, Asia, Southeast Asia and Pacific.

The experience gained by the company and our valuable engineers over the years and comparing it with all different markets we are present, allow us to guarantee a professional and comprehensive service to all our clients based on their needs.

We design and produce devices which gives a technical support during the processes of inspections, repairs and maintenance of railway vehicles and all their components (i.e. Coil-Leaf-Air spring testing stand, Bogie test stand, Damper test stands, Pantograph testing Bench, Wheel mounting machine, Wheelset cleaning machine and many more devices).
Asco Rail is also providing a full maintenance and repairs service for all railway vehicles (such as locomotives) which covers P1 to P5.
Our involvement in Rail life and the understating of the importance in the community allow us to constantly improve our technology and service to be able to offer to the final client an Ad-hoc product.

Knowledge, Passion, Quality and Durability...this is our motto, this is what makes us unique.

CERTIFIED
ISO 9001

BUREAU VERITAS

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ASCORAIL
BUILT TO LAST

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ASCORAIL
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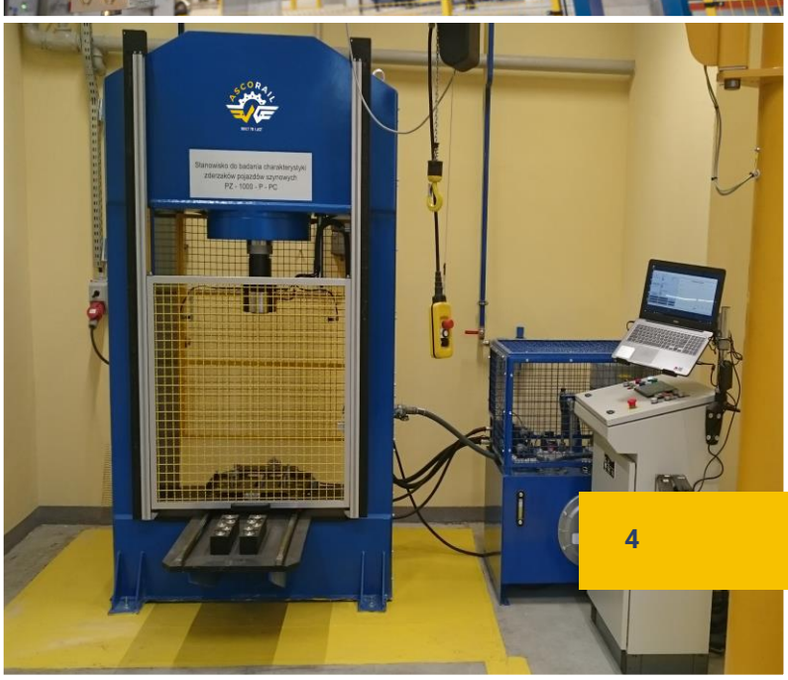
1.
TESTS AND MEASUREMENTS OF BOGIES, SPRINGS, BUFFERS, DAMPERS E.T.C.



1.1
BOGIE TEST STAND

Bogie Test Stand is designed for testing railway drive wagon bogies, trailer wagon bogies, locomotive bogies, tram drive bogies, others railway vehicle bogies. The customized software allow all functions to be controlled from the PC with touch screen. Operator of the Bogie Test Stand can program himself new test procedures, add or change bogie parameters or create test reports.

FEATURES

- Testing of the bogie in manual or automatic mode,
- Load applied, synchronous or independent,
- Measurement of each wheel load on rails, variance of the wheel load,
- Measurement of the bogie height from the top of the rail,
- Calculation of shim plates for primary suspension and secondary suspension,
- Secondary air suspension leakage test - option,
- Wheel diameter, back-to-back wheel measurement measured – option,
- Measurement reports as PDF or measurement files.

COMPONENTS

- Closed steel construction with rails (version of the test stand can be installed in a pit or leveled with the workshop floor),
- Wheel load measuring system in rails,
- Hydraulic unit,
- Electrical cabinet with control panel, PLC controller, laptop or built-in computer with a database and printer,
- Customized analysis software ASCO RAIL.

CHARACTERISTICS	DATA
Test load application	2 x 250 kN, synchronously or independent
Measurement error of applied axial load	± 0,1 kN
Measurement accuracy of vertical movement	± 0,1 mm
Accuracy of load monitoring (wheel on rail)	± 2 %

1.2
COIL SPRINGS TEST STAND

The Spring Test Stand is designed to perform a static test of conical bonded rubber spring, helical springs and springs sets. It can be manufactured with a system enabling buckling measurement. Dedicated software package allows to control the test stand, aid in test data analysis. Fully customizable by the operator with new test procedures, different springs parameters or specific test reports required by the user.

FEATURES

- Testing in manual or automatic mode,
- Measurement of height of the spring under near zero load and under set by operator load,
- Measurement of spring stiffness,
- Force/way diagram report,
- Testing of the bowing angle and force of the spring - option,
- Operator implement pre-programmed test modes, set tolerances and warning limit values of the springs,
- Collect and save measurement data, create reports as PDF or measurement files.

COMPONENTS

- Closed steel frame is designed to support of all main components,
- Load cells are built inside stainless-steel material,
- Linear position sensor are installed inside the hydraulic cylinder,
- Mobile table for easiest loading/unloading process,
- Electrical cabinet with control panel, PLC controller, laptop or built-in computer with a database and printer,
- Hydraulic unit,
- Emergency stop and safety crates.

CHARACTERISTICS	DATA
Axial test load (maximum)	180 kN
Actuator stroke	450 mm
Measurement error of applied load	0,1 kN
Measurement accuracy of vertical movement	±0,1 mm
Loading and & unloading table	650 mm

NOTE: *The test stand is designed to test springs according to VPI measurements requirements. Our test stands are Deutsche Bahn Certified.*

1.3

AIR SPRINGS TEST STAND

The Spring Test Stand is designed to perform a static test of elements of pneumatic suspension as well as a test of coil springs and rubber springs. Dedicated software package allows to control the test stand, aid in test data analysis. Fully customiseable by the operator with new test procedures, different springs parameters or specific test reports required by user.

FEATURES

- Leakage test,
- Testing in manual or automatic mode,
- Measurement of height of the spring under near zero load and under set by operator load,
- Measurement of spring stiffness,
- Force/way diagram report,
- Testing of the bowing angle and force of the spring (optional),
- The operator implemented pre-programmed test modes, set tolerances and warning limit values of the springs,
- Collecting and saving measurement data, creating reports as PDF or measurement files.

COMPONENTS

- Closed steel frame is designed to support all main components,
- Adapters dedicated to elements of pneumatic suspension,
- Load cells are built inside with stainless steel material,
- Linear position sensors are installed inside the hydraulic cylinder,
- Mobile table for easiest loading/unloading process,
- Electrical cabinet with control panel, PLC controller, laptop or built-in computer with a database and printer,
- Hydraulic unit,
- Emergency stop and safety crates.

CHARACTERISTICS	DATA
Axial test load (maximum)	200 kN
Actuator stroke	600 mm
Measurement error of applied load	± 0,1 kN
Measurement accuracy of vertical movement	± 0.1 mm
Loading and & unloading table	650 mm

NOTE: *The test stand is designed to test springs according to VPI measurements requirements. Our test stands are Deutsche Bahn Certified.*

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1.4

COIL AND LEAF SPRINGS TEST STAND

The Leaf & Coil Spring Test Stand is designed to perform static test of conical bonded rubber spring, leaf & parabolic springs, helical springs and springs sets. Purpose-written software package allow to control the test stand, aid in test data analysis. Operator of the Leaf & Coil Spring Test Stand can program himself new test procedures, add or change springs parameters or create test reports.

FEATURES

- Testing in manual or automatic mode,
- Measurement of height of the leaf spring under near zero load and under set by operator load,
- Measurement of spring stiffness,
- Force/way diagram report,
- Testing of the springs in manual or automatic mode,
- Operator implement pre-programmed test modes, set tolerances and warning limit values of the springs,
- Collect and save measurement data, create reports as PDF or measurement files.

COMPONENTS

- Closed steel frame is designed to support of all main components,
- Load cells are built inside stainless-steel material,
- Linear position sensor are installed inside the hydraulic cylinder,
- Mobile table for easiest loading/unloading process - option,
- Electrical cabinet with control panel, PLC controller, laptop or built-in computer with a database and printer,
- Hydraulic unit,
- Emergency stop and safety crates.

CHARACTERISTICS	DATA
Axial test load (maximum)	180 kN
Actuator stroke	450 mm
Measurement error of applied load	± 0,1 kN
Measurement accuracy of vertical movement	± 0.1 mm

NOTE: *The test stand is designed to test springs according to VPI measurements requirements. Our test stands are Deutsche Bahn Certified.*

1.5
BUFFER TESTING STAND

The Buffer Test Stand is designed for to perform static test of solid elastomer and rubber buffers, ring springs buffers, hydrodynamic or hydrostatic buffers. Software allow to control the test stand, aid in test data analysis. Operator of the Buffer Test Stand can program himself new test procedures, add or change buffer parameters or create test reports.

FEATURES

- Testing in automatic mode,
- Laser measurement of free state height of the buffer,
- Measurement of preload buffer force,
- Measurement of buffer force under preset deflection,
- Measurement of the maximal deflection,
- Calculating of absorbed and dissipated energy of the buffer,
- Stability test is carried out in bumpers with a hydrodynamic or hydrostatic system - option,
- Force-stroke diagram report,
- Operator implement pre-programmed test modes, set tolerances,
- Collect and save measurement data, create reports as PDF or measurement files. Aid in data analysis.

COMPONENTS

- Closed steel frame is designed to support of all main components,
- Load cells are built inside stainless-steel material,
- Linear position sensor are installed inside the hydraulic cylinder,
- Mobile table for easiest loading/unloading process,
- Electrical cabinet with control panel, PLC controller, built in computer with a database and printer,
- Hydraulic unit,
- Emergency stop and safety crates.

CHARACTERISTICS	DATA
Axial test load (maximum)	1000 kN
Actuator stroke	450 mm
Measurement error of applied load	0,1 kN
Measurement accuracy of vertical movement	± 0,1 mm
Loading and & unloading table	available

1.6
BUFFER MOUNTING AND DEMOUNTING STAND

The Buffer Demounting Stand is designed to demount solid elastomer and rubber buffers, ring springs buffers.

COMPONENTS

- Closed steel frame is designed to support of all main components,
- Mobile table for easiest loading/unloading process,
- Electrical cabinet with control panel, PLC controller, laptop or built-in computer with a database and printer,
- Hydraulic unit,
- Emergency stop and safety crates.

CHARACTERISTICS	DATA
Axial test load (maximum)	500 kN
Actuator stroke	400 mm
Measurement error of applied load	1%
Measurement accuracy of vertical movement	±0,1 mm
Loading and & unloading table	available

1.7

DIAGNOSTIC STATION WITH WATER RESISTOR FOR DIESEL LOCOMOTIVES

Diagnostic station with water resistor manufactured by ASCO RAIL enables full diagnostics of diesel locomotives.

FEATURES:

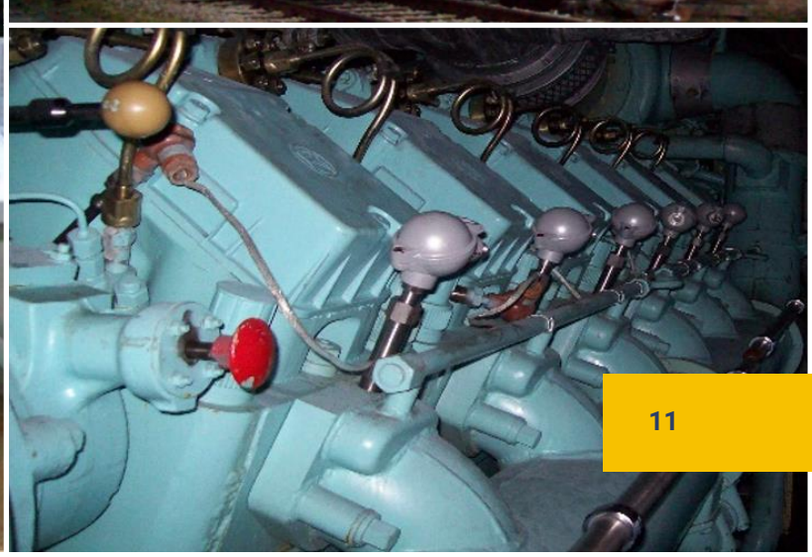
- Maximum damping force at tension,
- Isolation resistance, absorption coefficient of electrical machines, traction battery parameters, performance of power generators,
- Time and unit fuel consumption under specified states of engine performance, unit fuel consumption in transient states of engine performance, measurement of long-term fuel consumption,
- Exhaust gases analysis.

COMPONENTS:

- Steering and storage room,
- Water resistor with steering devices and suitable converters, also with signaling adapted to loading power generators,
- Computer measuring system with suitable converters,
- Device for fuel consumption measurement.

** All characteristics given in the table are only for reference, and their values can be modified according to the customer needs.*

CHARACTERISTICS	DATA
Maximum current	8500 A
Maximum voltage	1500 V
Current stabilization accuracy	5%
Dissipated power in surrounding temp. range -15°C do +20°C	Continuous power: 800 kW, hour power 1200 kW, maximum power 2600 kW



1.8
DAMPER TESTING STAND

The test bench allows for testing of various types of hydraulic dampers used in rail vehicles.
A characteristic curve is obtained that shows the dependency between the damping force on the shock absorber stroke.

FEATURES:

- Load force acting axially on the tested damper,
- Ensures required forces and speeds of the damper,
- Stroke speed adjustment,
- Adjustment of the damper to a position corresponding with rail vehicle operating conditions by means of an angular pivoting mechanism,
- Electronic control of the testing process,
- Test is fully automated,
- Measurement data are recorded, archived and can be printed out,
- Temperature compensation (operating environment simulation).

COMPONENTS:

- Rigid mechanical structure,
- Mounting clamps that do not require damper rubber components to be dismantled,
- Servomotor drives responsible for pivoting and test of a damper
- Electrical cabinet built into the device structure,
- PLC controller, computer with database.

CHARACTERISTICS	DATA
Maximum acceleration	0 – 0,3 m/s
Maximum stroke	350 mm
Maximum test force	± 30 kN
Accuracy of measured stroke	± 2%
Angle adjustment range	Up to +90
Accuracy of force measurement	<100 N

1.9
SCHARFENBERG COUPLERS TEST STAND

The purpose of the device is to ensure proper testing of Scharfenberg couplings. The device enables tensile and compressive load tests 750 kN at a speed of 0.05 m/s and allows for adequate stress (forces tension and compression) of tested couplings up to 1000 kN, maintaining this load for 2 minutes. The computer system of the device enables full analysis of measurement data and their recording.

FEATURES:

- Testing in automatic mode; the test is carried out by moving one end of the coupler at different speeds in both directions, the other end then being rigidly attached to the bench structure,
- Maximum damping force at tension,
- Maximum damping force at compression,
- Hysteresis loop damping force, working stroke of tested coupling,
- The operators implements pre-programmed test modes, sets tolerances,
- Collecting and saving measurement data, creating reports as PDF or measurement files,
- Aid in data analysis.

COMPONENTS:

- Body with hydraulic drive (S) with force converter (Ps) and distance converter (Pd),
- Hydraulic drive with steering system and equipment,
- Steering system and electrical power supply,
- Electrical cabinet with control panel, PLC controller,
- Emergency stop.

CHARACTERISTICS	DATA
Maximum load	1000 kN
Dimensions	3 500 x 1 200 x 1 000 mm
Weight	3000 kg

1.10
PANTOGRAPH TEST BENCH

Test stand is intended to test current collectors (pantographs) of the railway vehicles.

THE COMPUTER SYSTEM ENABLES THE REGISTRATION OF MEASUREMENT DATA, INCLUDING:

- Time of collector lifting to the nominal height,
- Fall time of the collector from the nominal height,
- The height of the pantograph head in a folded state from the level of the insulator bracket,
- Static contact force in the operating range,
- Contact force,
- Lowering force,
- Freedom of rotation of the pantograph head,
- Holding force in the folded position,
- Checking the correct functional operation and tightness of the pneumatic system,
- Lateral deviation,
- Tilt of pantograph head,
- Measuring the wear of slider pad,
- Measurement of insulation resistance,
- The dielectric strength test.

** All characteristics given in the table are only for reference, and their values can be modified according to the customer needs.*

CHARACTERISTICS	DATA
Supply voltage	3 x 400V + 10%, -15% L1 + L2 + L3 + N + PE
Frequency of the supply voltage	50Hz ± 10%,
Installed capacity	≤ 1kW
Stroke of the height measurement module	nominal 1300 mm
Stroke of the bowing measurement module	280 mm
Measurement accuracy	1 mm
Pantograph contact force measurement	± 40 KG (392,4 N)
Pantograph bowing force measurement	± 50 KG (490,5 N)
Measurement accuracy	1 N
Speed of the measuring module	adjustable 10 – 62 mm/s

2.
WAGON AND BOGIE FRAME MAINTENANCE

2.1
PORTABLE STATIC/DINAMIC WAGON WEIGHING SYSTEM

Portable Wagon Weighing system is designed for weighing different types of rolling stock such as locomotives, tractive units, wagons, undergrounds and trams. The system is a modular one and can be designed for static or in move weighting of the rolling stock.

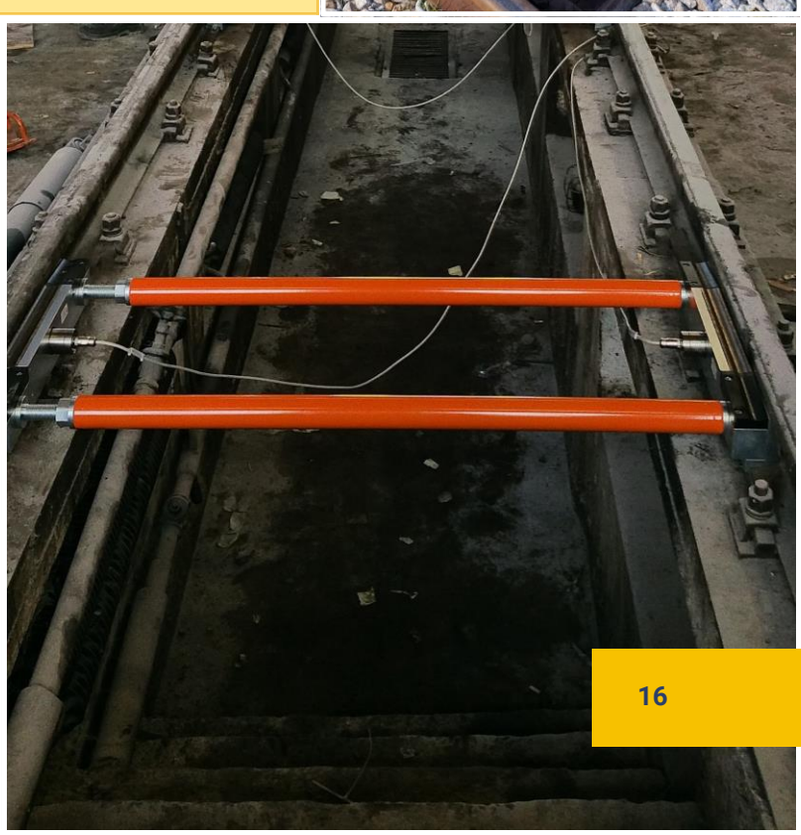
FEATURES:

- Complex type: portable system can be transported and installed at different measuring locations,
- Measurement of weight of each wheel,
- Measurement of weight of each axle,
- Measurement of weight of wagon,
- Wheel load variance measurement,
- Data transfer format.

COMPONENTS:

- Modular measuring system equipped with sensors for each axle,
- Industrial PC for data processing,
- Analysis software ASCO RAIL.

CHARACTERISTICS	DATA
Maximum wheel load	150 kN
Speed of the passing rolling stock	up to 5 km/h
Measuring cell length	120 mm
Measuring direction	both
Measurement accuracy	+/- 0,5% w zakresie 30 mm od osi celi obciążenia +/- 1,0% w zakresie 30-60 mm od osi czujnika tensometrycznego
Rail profile type	all
Power supply	built in batteries, 8 hours of continuous work



2.2
BOGIE FRAME GEOMETRY DIMENSIONS MEASURING STAND

The Bogie Frame Geometry Dimensions Measuring Stand is a universal stand that allows for the measurement and assessment of the technical condition of the bogie frame, both for freight and passenger wagons. Additionally, it makes it possible to measure three-axle bogies. The measurements are made with special measuring instruments (Please ref: 2.4, 2.5). Their types and numbers depend on the measuring lists used by the client.

TESTING BENCH ALLOWS FOR THE MEASUREMENTS OF:

- Bogie frame curvature,
- Distortion and side deformations,
- Back-to-back distance of the axle bearing embrasure.

CHARACTERISTICS	DATA
Height of the stand with supports	1 280 mm
Length of the stand	4 500 mm
Width of the stand	2 800 mm

2.3
BOGIE FRAME MEASURING INSTRUMENT

THE INSTRUMENT IS DESIGNED FOR:

- Measuring the longitudinal and transverse spacing of axle box,
- Cross measurements of bogie frames,
- Determine the difference between two measurements,
- Measuring the distance between two points, edges, faces.

FEATURES:

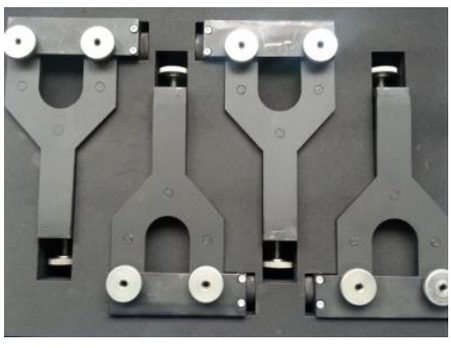
- Handy,
- Accurate,
- Light,
- Readable and large display,
- Possibility of calibration by the user.

CHARACTERISTICS	DATA	COMPLETE SET TO BE DELIVERED INCLUDE	QUANTITY
Measurement range	1600 – 3000 mm	Measuring instrument	1
Measurement accuracy	0.1 mm	Check pattern	1
Resolution	0.1 mm	Positioning tips for point-to-point measurement	2
Weight	5 kg	Case	1

2.4
POSITIONING BASES FOR BOGIE FRAME MEASUREMENT

The bases are designed for determining the center of the axle box shape of the bogie 1XT. It is necessary for carrying out the cross measurements of a frame of the wagon bogies.

CHARACTERISTICS	DATA	COMPLETE SET TO BE DELIVERED INCLUDE	QUANTITY
Positioning	Hot axle box opening	Positioning bases	4
Weight	4 kg	Case	1



2.5
CENTRE PIVOT POSITIONING MEASURING INSTRUMENT

The measuring instrument is used for establishing the position of centre pivot. This instrument is designed for measurements of the length of the bogie frame, frame's width and longitudinal and transversal displacement of the centre pivot.

CHARACTERISTICS	DATA	COMPLETE SET TO BE DELIVERED INCLUDE	QUANTITY
Measurement range	1600 – 3000 mm	Measuring instrument	1
Measurement accuracy	0.1 mm		
Weight	5 kg		

2.6
WEAR GAUGE FOR CENTRE PIVOT/BOLSTER BOWL

The measuring instrument is used for checking the wear of the bolster bowl.

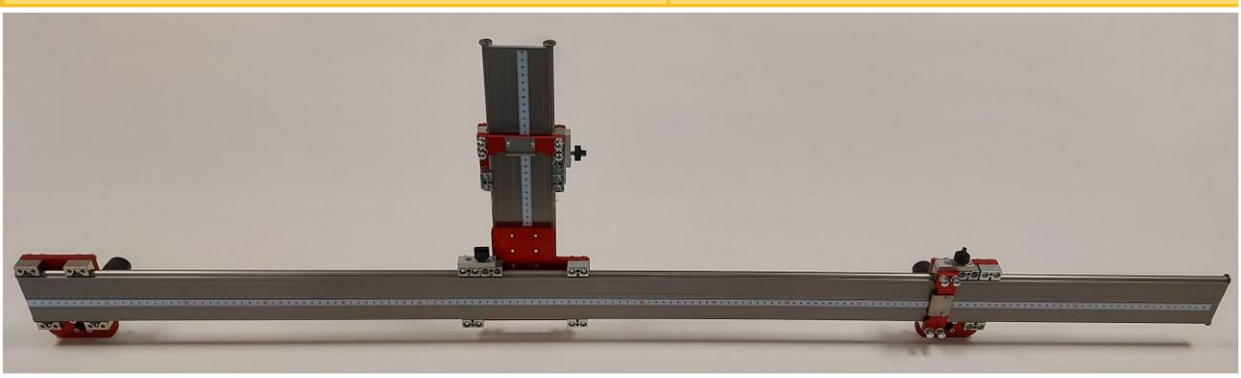
CHARACTERISTICS	DATA	COMPLETE SET TO BE DELIVERED INCLUDE	QUANTITY
Instrument material	stainless steel	Measuring instrument	1
Weight	0.5 kg		

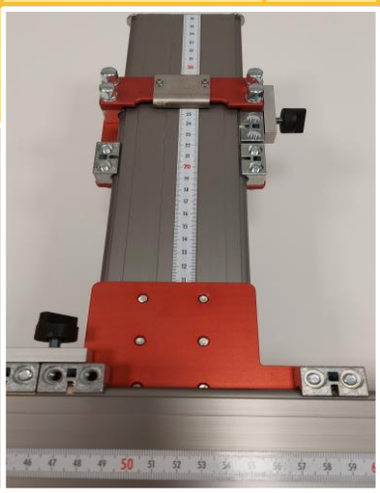
2.7
LEAF SPRINGS MEASURING INSTRUMENT

The device is designed for measuring the height and spacing of the gaps of a wagon leaf spring and can also be used for checking the symmetry of the spring.

PARAMETR	WARTOŚĆ
Zakres pomiarowy rozstawu otworów	1100 – 1400 mm
Zakres pomiarowy wysokości resora	160 – 330 mm
Dokładność pomiaru	1 mm
Waga	5 kg

ZESTAW ZAWIERA	ILOŚĆ
Przyrząd pomiarowy	1





2.8
BUFFER PLATE WEAR MEASURING INSTRUMENT

The device is designed for:
- Wear measurements of convex buffer's shield with curvature radius Ru = 1500 mm and Ru = 2750 mm,
- Wear measurements of buffer's shield: round, truncated, rectangular.

CHARACTERISTICS	DATA
Measurement range of convex buffer	375 – 560 mm
Measurement range of rectangular buffer	400 x 560 mm
Measurement accuracy	0.1 mm
Weight	1 kg

COMPLETE SET TO BE DELIVERED INCLUDE	QUANTITY
Measuring instrument	1

2.9
BUFFER HEIGHT MEASURING INSTRUMENT

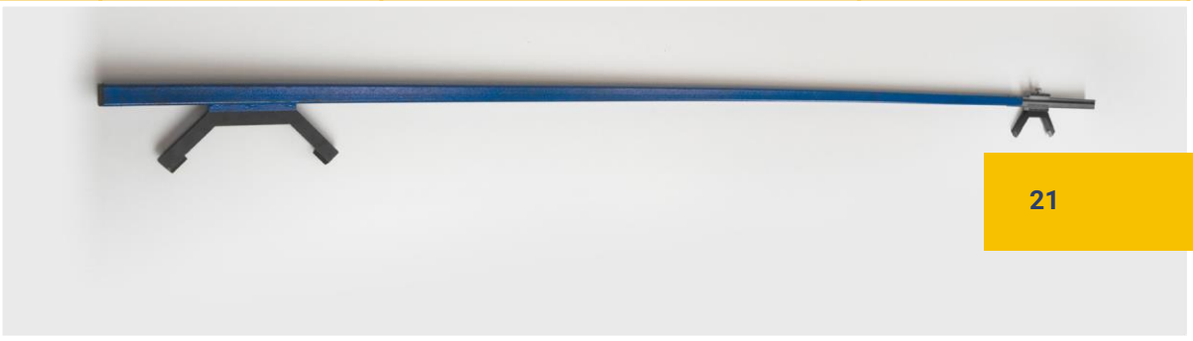
The instrument is designed for measuring the distance between the buffer axis and the upper surface of the rail head.

CHARACTERISTICS	DATA	COMPLETE SET TO BE DELIVERED INCLUDE	QUANTITY
Measurement range	920 – 1100 mm	Measuring instrument	1
Measurement accuracy	0.1 mm		
Weight	2.5 kg		

2.10
BUFFER TO BUFFER DISTANCE MEASURING INSTRUMENT

The instrument is designed for measuring the distance between the buffers' axis. The instrument is based on the top of the buffers' bushing.

CHARACTERISTICS	DATA	COMPLETE SET TO BE DELIVERED INCLUDE	QUANTITY
Measurement range	1700 – 1780 mm	Measuring instrument	1
Measurement accuracy	1 mm		
Weight	3.5 kg		



2.11
INSTRUMENT FOR SCHARFENBERG COUPLER TO RAIL HEAD DISTANCE MEASUREMENT

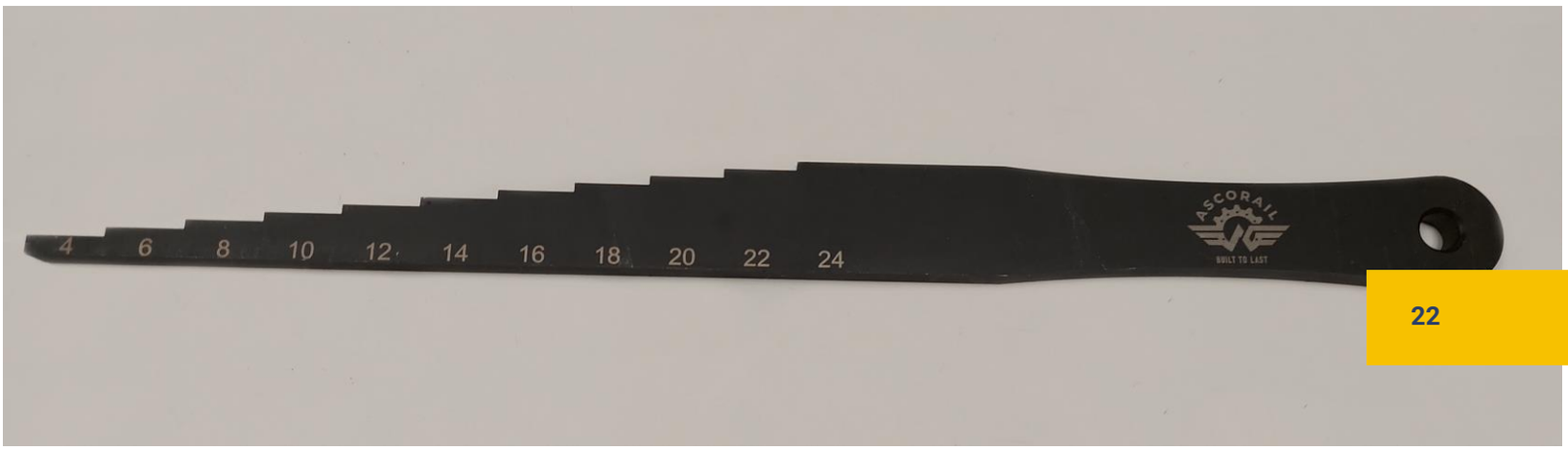
The instrument is designed for measuring the distance between the top of the rail head and Scharfenberg coupler.

CHARACTERISTICS	DATA	COMPLETE SET TO BE DELIVERED INCLUDE	QUANTITY
Measurement range	500 – 1090 mm	Measuring instrument	1
Measurement accuracy	0.1 mm	Check pattern	1
Weight	6.2 kg	Case	1

2.12
TAPER GAUGE

The instrument is designed for measuring the gaps of the side bearer.

CHARACTERISTICS	DATA	COMPLETE SET TO BE DELIVERED INCLUDE	QUANTITY
Measurement range	4 – 24 mm	Measuring instrument	1
Measurement accuracy	0.1 mm		
Measuring step	2 mm		
Weight	0.5 kg		

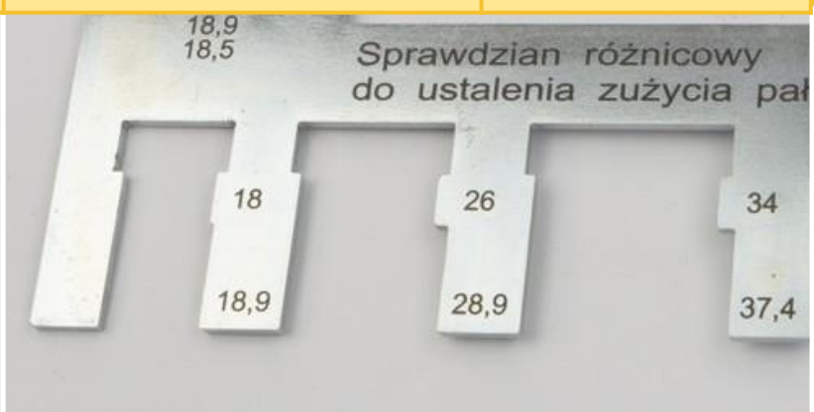


2.13

COUPLER SHACKLE WEAR GAUGE

The instrument is designed for checking the dimensions of the coupler shackle.

CHARACTERISTICS	DATA	COMPLETE SET TO BE DELIVERED INCLUDE	QUANTITY
Diameter limit value	According to client's requirement	Measuring instrument	1
Gauge material	Stainless steel		
Weight	0.2 kg		

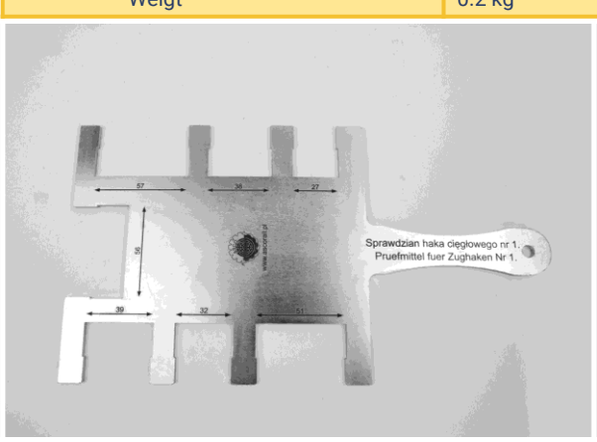


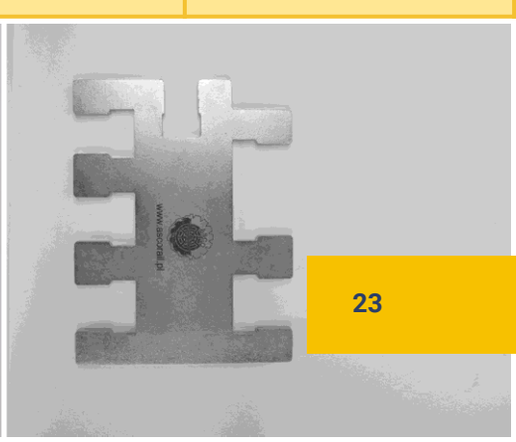
2.14

COUPLING HOOK WEAR GAUGE

The instrument is designed for checking the dimensions of the coupler hook.

CHARACTERISTICS	DATA	COMPLETE SET TO BE DELIVERED INCLUDE	QUANTITY
Dimension limit value	According to client's requirement	Measuring instrument	1
Gauge material	Stainless steel		
Weigt	0.2 kg		





2.15
COUPLER LINK WEAR GAUGE

The instrument is designed for checking the dimensions of the coupler links.

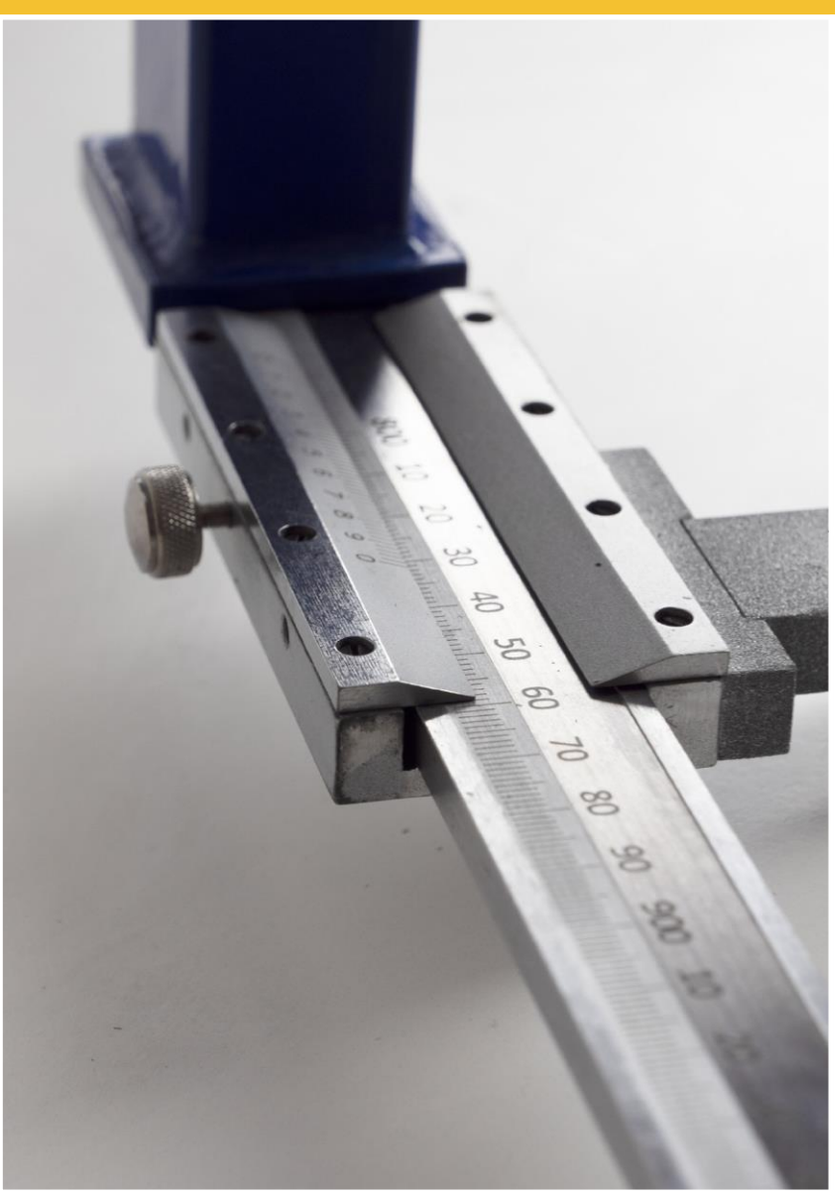
CHARACTERISTICS	DATA
Dimension limit value	According to client's requirement
Gauge material	Stainless steel
Weight	0.1 kg
COMPLETE SET TO BE DELIVERED INCLUDE	
Measuring instrument	1

2.16
INSTRUMENT FOR AXLEBOX MEASUREMENT

The instrument is designed for measuring the dimensions C and H of the hot axle boxes of the bogies 1XT and 1XTa.

CHARACTERISTICS	DATA
Measurement range	C: 55 – 75 mm, H: 140 – 160 mm
Measurement accuracy	0.1 mm
Gauge material	chrome plated
Weight	1,5 kg
COMPLETE SET TO BE DELIVERED INCLUDE	
Measuring instrument	1

3.
WHEELSETS MEASUREMENT



3.1
WHEEL PRESS STAND MOUNTING/DEMOUNTING

Wheelset Mounting And Demounting Press is designed for cold mounting and dismounting of axle components, including wheel discs, brake discs, gears on shaft axle of the wheelset.

FEATURES
THE PRESS IS FURNISHED WITH:

- Control box for press with programmable controller (PLC) with touch screen that enables the control of machine functions (selection of force, speed, piston stroke),
- Industrial computer with IT system (integrated with control box) that enables entering of necessary data (operator, wheel's serial number, date, pressing parameters), as well as registration and archiving of technological processes (force/distance diagram to be compared with nominal diagram),
- Set of converters for the execution of necessary measurements,
- Hydraulic station with servo-motor,
- Overhead crane for wheel set transport to and out of the press,
- Set of accessories necessary for transport and hoisting of sub-assemblies,
- High pressure pump with accessories for support of wheel disassembly process,
- Main switch, overload protection, phase control system, emergency stop buttons.

CHARACTERISTICS	DATA
Piston Force	2500 kN
Stroke	500 mm
Working speed	1 – 5 mm/s
Distance between main column and resistance column (adjustable)	500 – 2250 mm
Measurement error of applied axial load	± 0.1 kN
Measurement accuracy of vertical movement	± 0.1 mm
Nominal voltage	415 V ± 10%, 3-phase, 4-wire, 50 Hz
Installed power	Approx. 7 kW

3.2
INDUCTION HEATING UNIT

The Induction Heating Unit is designed for the thermal assembly and dismantling of bearing rings, support rings axle of the wagon, small gears of traction motors and rotors and degaussing of the axle and sleeve after the thermal assembly process (with additional equipment: degaussing system).

FEATURES:

- Short heating times,
- The possibility to charge heating to high temperatures,
- High efficiency of the device – energy transmission to charge directly by inductor, no useless thermal insulations reducing efficiency,
- Energy saving,
- Downsizing of inductor by using device of high-frequency operating.

CHARACTERISTICS	DATA
Power supply	400/230 V, ± 10%, 50 Hz
Maximum power consumption	35.0 kW
Heated part diameter Ø:	140 do 250 mm
The cooling system of the control cabinet	air ventilators
The cooling system of the coils	compressed air
Maximum range of temperature control:	200°C
Temperature sensor	yes
Display	control panel with a keypad
Time control:	0 – 500 s
Degaussing module	optional
Dimensions	580 x 510 x 840 mm

COMPLETE SET TO BE DELIVERED INCLUDE	QUANTITY
Induction heating unit	1
Coils (inductors)	2
Temperature sensor	1
Transport case	1

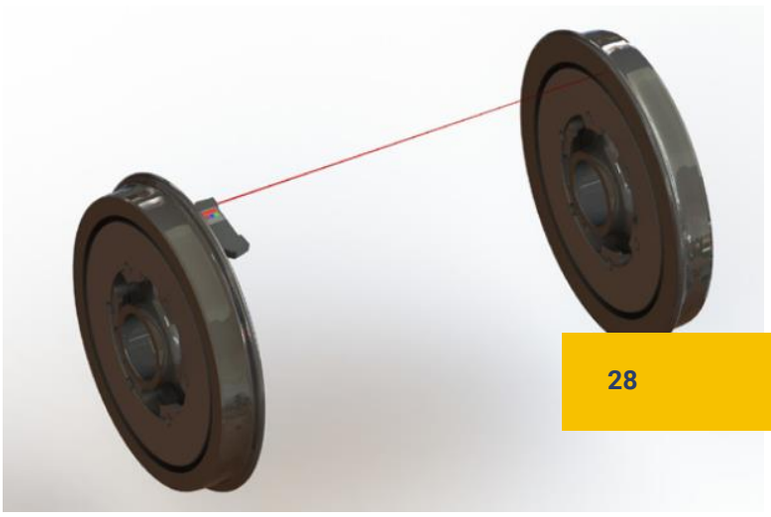
3.3
BACK-TO-BACK WHEEL DISTANCE MEASURING INSTRUMENT ELECTRONIC DISPLAY

The device is designed for measuring the distance of the inner wheel faces of the wheelsets.

FEATURES:

- Measurement of the wheel inner face distance,
- Calculating the average of the measurements,
- Measuring the differences between measured values and characteristics defined by a manufacturer,
- Saving the measuring data to the memory,
- Mechanical measurement with electronic display of the results.

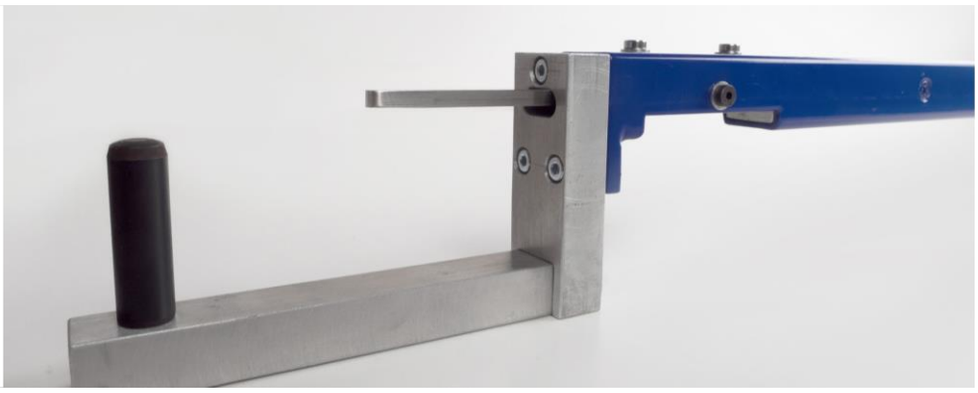
CHARACTERISTICS	DATA	COMPLETE SET TO BE DELIVERED INCLUDE	QUANTITY
Measurement range	1360 ± 15 mm (or other at client's request)	Measuring instrument	1
Measurement accuracy	0.3 mm	Smartphone to visualization and record the measurement results (wireless connection with instrument) - optional	1
Resolution	0.01 mm	Charger	1
Battery	rechargeable battery 4 x AA 1,2V	Cable for computer connection - optional	1
Weight	0.85 kg	Case	1



3.4
BACK-TO-BACK WHEEL DISTANCE MEASURING INSTRUMENT

The instrument is designed to perform manual, mechanical measurement of the distance of the inner wheel faces of the wheelsets.

CHARACTERISTICS	DATA	COMPLETE SET TO BE DELIVERED INCLUDE	QUANTITY
Measurement range	1345 – 1375 mm (or other at client's request)	Measuring instrument	1
Measurement accuracy	± 0.1 mm		
Weight	3 kg		



3.5
WHEEL DIAMETER MEASURING INSTRUMENT

The instrument is designed to perform manual, mechanical measurement of the wheel diameter.

The device is available in two versions:
1) with metre scale,
2) with digital display.

CHARACTERISTICS	DATA	COMPLETE SET TO BE DELIVERED INCLUDE	QUANTITY
Measurement range	A) 600 – 800 mm B) 800 – 1050 mm C) 1050 – 1270 mm	Measuring instrument	1
Measurement accuracy	± 0.1 mm		
Reading of results	metre scale or digital display		
Weight	3.5 kg		

3.6

ELECTRONIC WHEEL DIAMETER MEASURING INSTRUMENT

The instrument is designed for measuring wheel rolling circle diameter (amount of wear) of railway, metro and tram in the course of checkup, examination, repair and formation of wheelsets. Measurements are made directly on rolling stock without wheel set roll-out.

FEATURES:

- Measurement of the wheel rolling diameter without need of wheel set roll-out,
- Calculating the average of the measurements,
- Verification, registration and identification of measured wheels (optionally with tablet),
- Saving the measuring data to the memory (optionally with PDA).

CHARACTERISTICS	DATA
Measurement range	A) 400 – 750 mm B) 400 – 950 mm C) 600 – 1400 mm
Measurement accuracy	0.2 mm
Battery	2 x AA
Resolution	0.01 mm
Internal memory capacity	up to 1000 measurements
Weight	2 kg

COMPLETE SET TO BE DELIVERED INCLUDE	QUANTITY
Measuring device	1
Calibration set - optional	1
Charger set	1
Software – optional	1
Smartphone to visualization and record the measurement results (wireless connection with instrument) - optional	1
Case	1

3.7
WHEEL FLAT SPOTS MEASURING INSTRUMENT

The instrument is designed for measuring the depth of the holes, flat spots and buildup on the wheel treads.
Wheel tread defects are measured via the dial indicator with 0.01 accuracy.

CHARACTERISTICS	DATA	COMPLETE SET INCLUDE	QUANTITY
Measurement range	0 – 10 mm	Measuring instrument	1
Measurement accuracy	0.01 mm		
Measurement base	wheel roll surface		
Distance between the basis point on the wheel	100 mm		
Weight	0.8 kg		

3.8
DIMENSION CHECK GAUGE

The instrument is designed for checking the qR dimension of the wheel flange.
The instrument is go/no go type.

CHARACTERISTICS	DATA
qR parameter limit value	6,5 mm
Gauge material	Stainless steel
Weight	0.1 kg

COMPLETE SET INCLUDE	QUANTITY
Gauge GO / NO GO type	1

3.9
WHEEL THREAD GAUGE & CHECK PATTERN

The instrument is designed for checking the external outline of wheel flange.
The instrument is go/no go type.

CHARACTERISTICS	DATA
Wheel parameters	S1002/h28/e32,5/6,7%, other on request
Gauge material	Stainless steel
Weight	0.4 kg

COMPLETE SET INCLUDE	QUANTITY
Gauge GO / NO GO type	1
Check pattern for the gauge	1

NOTE: *The instruments are design to suit VPI measurements requirements*

3.10

LASER WHEEL PROFILE MEASURING INSTRUMENT

THE MEASURING INSTRUMENT IS DESIGNED FOR THE MEASURING OF:

- Wheel flange height,
- Wheel flange thickness,
- Wheel flange slope,
- Full profile scanning and analyze of wheel rolling surface,
- Maintaining of electronic wear data base,
- Control of tolerances and sorting in the course of checkup, examination, repair and formation of railway wheel sets.

CHARACTERISTICS	DATA
Measurement range	
Flange height Ow (Sh)	20 -45 mm
Flange thickness Og (Sd)	20 -50 mm
Flange slope qR	1 -15 mm
Measurement accuracy	
Flange height Ow (Sh)	±0,1 mm
Flange thickness Og (Sd)	±0,1 mm
Flange slope qR	±0,2 mm
The number of measurements that can be taken before battery recharge is not less than	5000 for Standard IKP and 2200 for Short and Super-short
Profilometer dimensions	Standard: 214 x 156 x 54 mm Short: 201 x 114 x 54 mm Super-short: 213,5 x 90 x 54 mm
Resolution	0,01 mm
Weight	0,6 kg
Power supply (laser scanning module)	3,7V, Li-ion rechargeable battery 5400 mAh for standard IKP and 2400 mAh for Short and SShort

COMPLETE SET INCLUDE	QUANTITY
Measuring device	1
Calibration set - optional	1
Software	1
Smartphone to visualization and record the measurement results (wireless connection with profilometer)	1
Charger set	1
Cables for computer or connection	1
Case	1

3.11

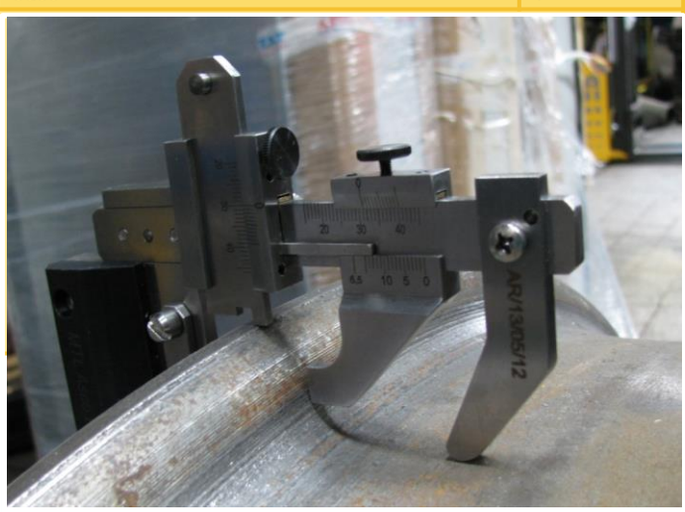
CALIPER FOR RAILWAY WHEELS PROFILE MEASUREMENT

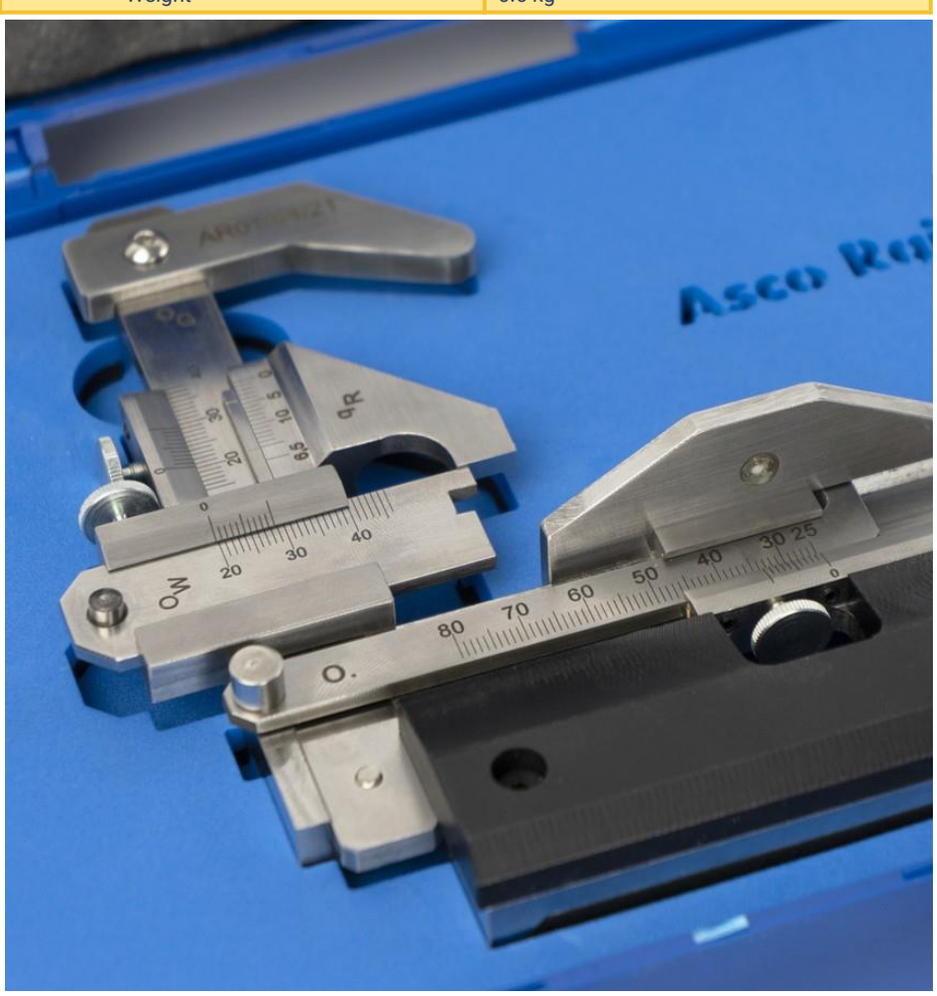
The instrument is designed for measuring the parameters of external profile of railway wheel:

- Flange height Ow (Sh),
- Flange thickness Og (Sd),
- Flange slope qR,
- Rim thickness O (optional).

CHARACTERISTICS	DATA
Measurement range	
Flange height Ow (Sh)	20 – 36 mm
Flange thickness Og (Sd)	15 – 36 mm
Flange slope qR	0 – 13 mm
Rim thickness O	25 – 80 mm
Measurement accuracy	
Flange height Ow (Sh)	0.1 mm
Flange thickness Og (Sd)	0.1 mm
Flange slope qR	0.5 mm
Rim thickness O	0.1 mm
Weight	0.6 kg

COMPLETE SET TO BE DELIVERED INCLUDE	QUANTITY
Measuring instrument	1
Case	1





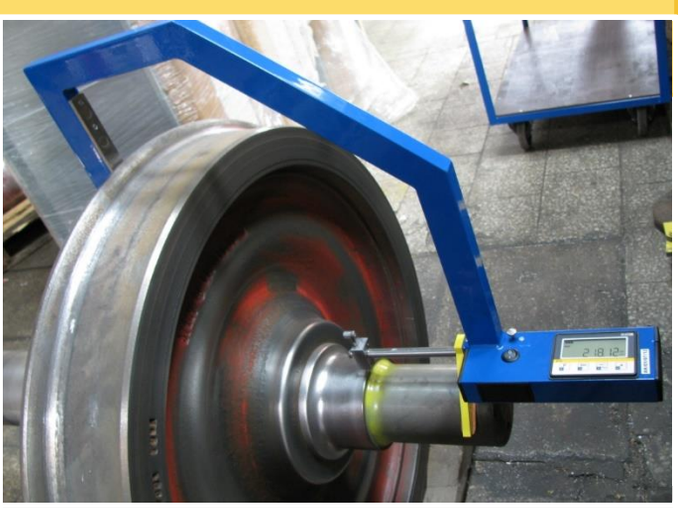
3.12
WHEEL SYMMETRY MEASURING INSTRUMENT

An electronic device is designed for the measuring of:

- Measuring the distance between wheels inner surface and axle toe C-C',
- Measuring the difference in this distance for both wheel set.

CHARACTERISTICS	DATA
Measurement range	185 – 265 mm (or other at client's request)
Wheel diameter range	800 – 1200 mm
Measurement accuracy	0.1 mm
Battery	2 x AA
Internal memory capacity	up to 2000 measurements
Weight	4 kg

COMPLETE SET TO BE DELIVERED INCLUDE	QUANTITY
Measuring instrument	1
Calibration set	1
Case	1



4.
TECHNOLOGICAL EQUIPMENT USED IN THE REPAIR OF MECHANICAL COMPONENTS OF RAIL VEHICLES

4.1
BUFFER HANDLING TROLLEY

The trolley is designed for disassembly, assembly and transport of wagon's buffers. The trolley consists of a two-wheeled construction, hydraulic system for bumpers lifting and lowering and mobile bumper gripper.

The device is powered by a hydraulic pomp, which allows for an easier lifting of the buffers. This solution enables managing the passengers and freight wagons' buffers by one person.
In comparison to the earlier versions, this trolley is characterized by a simpler lifting process and a better ergonomic design and, as a result, faster assembling and disassembling process

CHARACTERICS	DATA
Maximum lift weight	150 kg
Lifting height (from ground till buffer support point)	1500 mm
Dimensions (length, width, height)	1495 x 600 x 1825 mm
Weight	80 kg

4.1

4.2

4.2
LEAF SPRING HANDLING TROLLEY

The trolley is designed for disassembly, assembly and transport of wagon's leaf springs. The device allows for performing the operation by one person, while maintaining the maximum of safety. The trolley consists of a frame with wheels, handle, gripper and a hydraulic pomp. The lifting process is based on a hydraulic pomp, which allows for an easier lifting of the springs. In comparison to the earlier versions, this trolley is characterized by a simpler lifting process and better ergonomic design and, as a result, faster assembling and disassembling process.

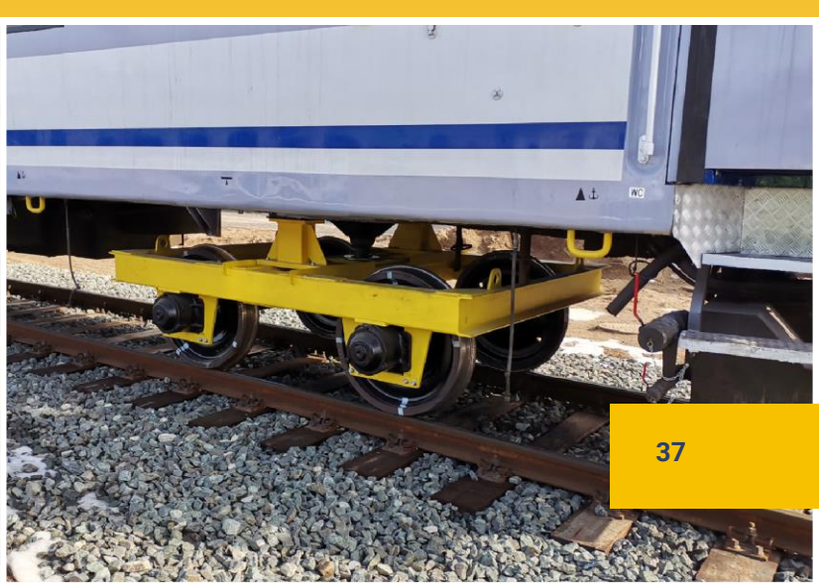
CHARACTERICS	DATA
Maximum lift weight	150 kg
Lifting height (from ground till springs support point)	980 mm
Dimensions (length, width, height)	1720 x 720 x 1510 mm
Weight	80 kg

4.3
BOGIE STORAGE SYSTEM

The system allows storage of bogies frames or complete bogies. The configuration and dimensions of the system components corresponds to the customer requirements.

4.4
BOGIES REPLACEMENT

Bogie replacement during maintenace.



4.5
WHEELSET STORAGE SYSTEM

The system allows storage of wheelsets. The configuration and dimensions of the system components corresponds to the customer requirements.

4.6
LIFTING COLUMNS

- The columns have a microprocessor control which ensures full synchronization of the set and safety,
- The lifts have several electrical protections, including incorrect connection of the columns and the operation of the lift,
- The configuration and dimensions are adjusted to the customer's requirements,
- There is a possibility of retrofitting the device with other lifting attachments,
- The control column has a main control panel containing all control options,
- Large and solid bases for maximum stability under load,
- Steel transport wheels.

CONTACT

For more detailed information about the entire product range
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