

Product Information

RetroLine testControl II for Instron testing machines

CTA: 66834 91648



Modernized Instron 4204 (50kN) with modern ZwickRoell accessories



Instron 4505 (100 kN) with new testControl II electronics

Modernization

Even though older testing machines may have given faithful service over many decades thanks to their robust construction, the demands and requirements of today's technology can no longer be met using outdated equipment. Precision and reproducibility are key criteria in materials testing today, as is the observance of current safety regulations. The needs of the markets can best be served with innovative products and sophisticated technology.

The modular design of ZwickRoell testing machines means that retrofit sets are available for all types, regardless of nominal force rating. Just as with our own machine ranges, modernizing machines from other manufacturers presents no difficulty for ZwickRoell. We have already converted 40 different makes of machine to ZwickRoell technology, acquiring a great deal of knowledge in the process.

Advantages and features

- over 20 years' experience in modernizing materials testing machines
- warranty for newly installed components, as with new machines
- renewed long-term service and support
- rapid assistance via Hotline and in the event of repairs
- testControl II measurement and control electronics satisfy the most demanding safety requirements
- enables validation of the testing machine in accordance with the latest quality standards
- intelligent testXpert III testing software
- re-use of expensive components such as extensometers and specimen grips
- existing load cells converted and re-calibrated
- Modern drive technology, achieved by installing a new, energy-efficient AC motor, with greatly improved control and positioning accuracy

Product Information

RetroLine testControl II for Instron testing machines

CTA: 78777 78778



Instron Type 5566 table-top testing machine (10 kN) with testControl II



Modernized Instron 4482 (100kN) with ZwickRoell technology

testControl II - innovative machine electronics

The new testControl II measurement and control electronics provide the ideal basis for precise, reproducible test results. As well as setting new standards in accuracy, control and acquisition rate, testControl II is laying down a benchmark for drive speed. The machines feature high positioning and return speeds, while the additional fast return ensures short cycle times. Impressive features include new drive technology, high measured-value acquisition rates, modular design and high safety standards. The combination of powerful, flexible control technology plus an innovative operating concept guarantees an optimum solution for testing applications, from the simplest to the most demanding.

Flexible connection options

The provision of up to 6 slots allows additional sensors and measuring equipment to be connected to testControl II whenever required. The system's modular design allows it to adapt to current testing requirements via plug-in modules such as the digital measured-value acquisition card, USC module and 2,000 Hz online measured-value transmission.

Made by ZwickRoell

testControl II control technology is truly 'Made by ZwickRoell'. Development and production take place entirely in Ulm, allowing optimum matching of all components and enabling ZwickRoell to offer

outstanding support. In developing testControl II ZwickRoell was able to draw on the experience gained from over 12,000 installations of testControl machine electronics.

Load cell

With Xforce load cells, parasitic influences such as temperature and transverse forces have significantly less impact on test results than with other comparable load cells. Xforce load cells are also very robust and more resistant to factors such as transverse forces during compression and flexure tests, while temperature compensation makes measurement largely independent of the prevailing ambient temperature.

This all takes place in a very large measurement range within Accuracy Classes 0.5 or 1. Load cells in the Xforce HP/K ranges typically achieve a display deviation of better than $\pm 1\%$, starting from as little as 0.1% of their nominal load.

testXpert III testing software

Intuitive and workflow-based right from the start!

testXpert III is the result of close cooperation with software users in the materials testing industry and the experience of over 30,000 successful testXpert installations. From the very start, testXpert III uses a workflow that is based on your lab processes to guide

Product Information

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you step by step through your test. Get to know testXpert III and experience how easy it is to use.

Customized software adaptations

Do you have special new testing software requirements? Our specialists will be happy to help you implement them. Why not take advantage of our

software engineers' years of experience in implementing customer-specific (not to mention industry-specific) solutions? They will help you to use the testing software to best advantage. Customized solutions often result in significant gains in profitability during subsequent testing operations.

Description	Value
Machine electronics	
Number of available slots for measurement and control modules:	
Synchronized module bus slots	2 (expandable to 5) ¹⁾
Synchronized PCIe slots	1
Force measurement	Class 0.5/1, depending on load cell, compliant to DIN EN ISO 7500-1, ASTM E4
Measurement range	Up to 165% of Fmax
Calculated resolution (e.g., load cell in tensile/compression direction)	24 bit
Effective resolution in tensile/compression direction:	
DCSC module	19 bits (corresponds to ±524,000 points)
USC module	20 bits (corresponds to ±1,000,000 points)
Measured value recording rate	400 kHz
Measurement value transmission rate to PC	500 (optional 2000) Hz
Zero-point correction	Automatic, at start of measurement
Measurement signal, runtime correction	Yes
Interface to PC	Ethernet
Eco mode	Yes, automatic switch off of power section (time can be set)
CE conformity	Yes, according to Machinery Directive 2006/42/EG

1) A DCSC module is included in the scope of delivery (occupies one module slot).

Power input specifications				
Version	1	4	9	kW
Power supply	230	400	400	V
Phases	1Ph/N/E	3Ph/N/PE	3Ph/N/PE	
Permissible voltage fluctuation	± 10	±10	±10	%
Power consumption (full load), approx.	2.3	6	11	kVA
Power frequency	50/60	50/60	50/60	Hz

ZwickRoell modernization packages for Instron testing machines

Description	Item number
Nominal load 5 kN	
4465 with V= 1000 mm/min and test-area height 1135 mm	1030962
5565 with V= 600 mm/min and test-area height 1135 mm	1030016
5565 with V= 1000 mm/min and test-area height 1135 mm	1030963
Nominal load 10 kN	
4466 with V= 500 mm/min and test-area height 1135 mm	1030965

Product Information

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Description	Item number
5566 with V= 500 mm/min and test-area height 1135 mm	1030967
5566 with V= 600 mm/min and test-area height 1135 mm	1012325
5566 with V= 1000 mm/min and test-area height 1135 mm	1012326
Nominal load 30 kN	
4467 with V= 500 mm/min and test-area height 1135 mm	1030970
5567 with V= 500 mm/min and test-area height 1135 mm	1030971
Nominal load 50 kN	
4204 with V= 500 mm/min and test-area height 1200 mm	1012318
Nominal load 100 kN	
1185 with V= 1000 mm/min and test-area height 1700 mm	1017247
4482 with V= 600 mm/min and test-area height 1220 mm	1012319
4505 with V= 500 mm/min and test-area height 1520 mm	1020398
5982 with V= 750 mm/min and test-area height 1430 mm	1026559
6025 with V= 500 mm/min and test-area height 1200 mm	1023729
Nominal load 150 kN	
4206 with V= 500 mm/min and test-area height 1220 mm	1000404
4483 with V= 500 mm/min and test-area height 1311 mm	1022380
5584 with V= 750 mm/min and test-area height 1256 mm	1017028
Nominal load 200 kN	
4507 with V= 400 mm/min and test-area height 1336 mm	1012060
4507 with V= 500 mm/min and test-area height 1336 mm	1012320
Nominal load 250 kN	
1196 with V= 250 mm/min and test-area height 1450 mm	1011473
Nominal load 300 kN	
5586 with V= 250 mm/min and test-area height 1133 mm	1026523
Nominal load 600 kN	
4210 with V= 250 mm/min and test-area height 1371 mm	1029434

Additional modernization packages available on application.