

Product Information

RetroLine testControl II Vibrophore

CTA: 131228



Old becomes new again – ZwickRoell modernization with new drive, testControl II measurement and control electronics and testXpert® R testing software

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thanks to their robust construction, the demands and requirements of today's technology can no longer be met using outdated equipment.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 market can best be served with innovative products and sophisticated technology.

In a modernization, the static drive is replaced by a modern and energy-saving AC motor with greatly improved control and positioning accuracy. The load cell is adapted, recalibrated, and combined with a new accelerometer. Alternately, a new Xforce Dynamic load cell with integrated accelerometer can be used. With a combination of testControl II measurement and control electronics and intelligent testXpert Research testing software, the machine reflects the latest technology in the market.

In the case of machines modernized on-site, ZwickRoell will issue a new Declaration of Conformity as per the EC Machinery Directive following verification of intended use and co-ordination of the necessary operator safety measures.

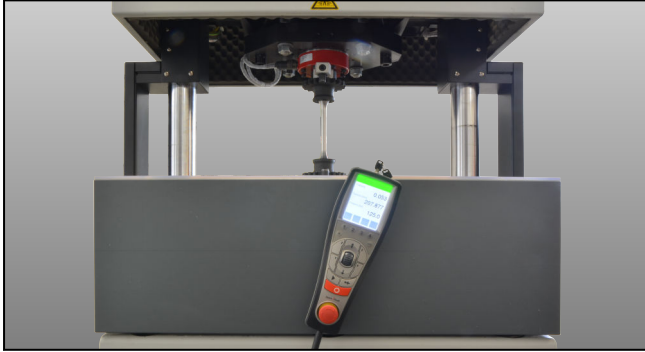
Advantages and features

- 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
- Re-use of high-value components such as sensors and test tools
- Modern drive technology, achieved by installing a new, energy-efficient AC motor, with greatly improved control and positioning accuracy
- Continuously controlled servo motor for fast, accurate mean force control
- testControl II digital measurement and control electronics with 10kHz control frequency and 24-bit resolution
- Pulse-width modulation for high control stability and reliability
- Possible expansion with universal measurement amplifier for connecting sensors
- Possible expansion with analog or digital inputs, outputs

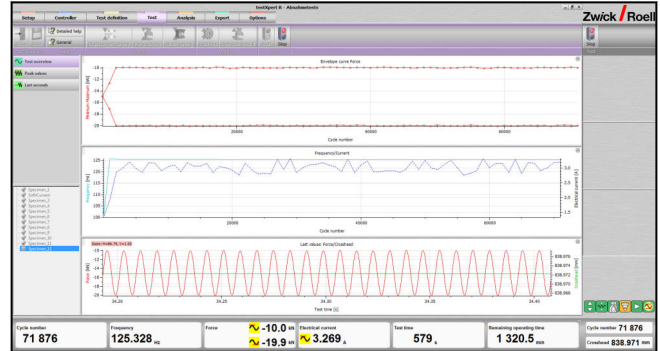
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CTA: 132483 131585



Remote control with display



testXpert® R test program for single-stage fatigue test

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.

Display-equipped remote control

Also new is the high-quality display-equipped remote control unit which shows measurement channels and machine and test status. This simplifies the set-up procedure and enables accurate positioning of the oscillating crosshead without direct use of the PC.

The result is enhanced operator convenience, particularly when PC and testing machine are installed separately, for example in an acoustic booth. The rocker switch with integral thumbwheel allows fast, highly precise positioning of the crosshead and mean load.

The Emergency STOP switch incorporated into the remote control unit ensures maximum safety. Also integrated into the remote control is a key switch for changing between 'Test' and 'Setup' modes, safeguarding operator and machine alike.

The information shown in the display is freely selectable and can therefore be tailored to suit widely differing testing requirements. The remote control is connected directly to testControl II, with no additional module required.

testXpert Research test program: Single-stage Fatigue Test for Vibrophores

This test program is first choice for fatigue tests at constant load. It allows highly operator-friendly fatigue

testing, for example to DIN 50100 (S-N curve), with tensile, compression, pulsating and alternating loads. Test force application takes place in consecutive test stages; the pre-load (mean force) is applied first, followed by an initial force amplitude, then finally the required test force amplitude.

The individual test stages in detail:

- Raise mean force: mean force is applied via an adjustable ramp.
- Settling time: dwell at attained mean force for an adjustable period.
- Dynamic pre-load: zero-balancing dynamic force measurement, application of initial force amplitude for safe, reliable, overshoot-free Vibrophore run-up.
- Raise dynamic force: force amplitude is increased to the required value using an adjustable ramp.
- Test: the required forces have been attained and the actual test begins.
- During the test: if a previously defined tolerance limit is exceeded or undershot, one or more defined events (e.g. warning messages) will be triggered. This will not cause the test to be ended, however. The real-time display allows the operator to observe the test and adjust the test parameters if necessary. The end of the test is defined by the exceeding or undershooting of defined limit values for load change, frequency change, mean force or force amplitude. The end-of-test criteria are monitored and terminate the test.
- End of test: The reason for ending the test is logged. The machine can remain in a control type freely selected by the operator or travel to a defined cross-head position.

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testControl II measurement and control electronics		
Control frequency	10 kHz	
Measured-value acquisition	10 kHz, 24 bits, arithmetical	
Slots	5 x module bus (of which 2 are assigned in the standard configuration)	
PC interface	GigaBit Ethernet	
Integrated safety concept	2-channel specification for maximum safety Interface for interlocked safety doors Interface for emergency stop link	
Display-equipped remote control	Set-up or testing mode <Emergency stop> button Key switch for switching between setup and testing modes	
Dimensions, testControl II measurement and control electronics		
H1 - Height without tabletop	1000	mm
B1 – Width	600	mm
Weight, approx.	135	kg
Length of cable between vibrophore & testControl II	3	m

Installation conditions		
Operating temperature	+10 to +35	°C
Storage temperature	-25 to +50	°C
Humidity (non-condensing)	20 to 90	%
Electrical connection		
Mains voltage 3 Ph/N/PE	400	V
Power frequency	50 / 60	Hz
Back-up fuse	16	A

Modernization packages

For vibrophore type	Column extension [mm]	Test area height without load cell [mm]	Item No.
5100 HFP 20	-	650	1040886
	+ 150	800	1048238
	+ 300	950	1048239
5100 HFP 30	-	650	1075348
	+ 150	800	1048242
	+ 300	950	1048245
5100 HFP 50	-	660	1040888
	+ 150	810	1048246
	+ 250	910	1048247
	+ 350	1010	1048249
5100 HFP 50 Special USA version, without transformer	+ 150	810	1064838
5100 HFP 100	-	660	1040889
	+ 150	810	1048257

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For vibrophore type	Column extension [mm]	Test area height without load cell [mm]	Item No.
	+ 250	910	1048261
	+ 350	1010	1048264
	-	660	1040794
5100 HFP 150	+ 150	810	1048265
	+ 250	910	1048267
	+ 350	1010	1048269
5100 HFP 200	+ 350	1010	1048270
	-	660	1040893
5100 HFP 250	+ 150	810	1048273
	+ 250	910	1048275
	+ 350	1010	1048276