TESTRESOURCES

Instron® Model 3340 Series Compared to TestResources 220Q Series

Electromechanical test machines have been around for almost 70 years but it wasn't until the developments in materials and manufacturing technology and software development that has made them truly affordable while retaining their inherent flexible nature as 'universal' test machines.

Instron 3300 Series universal test machines evolved to become their 'most affordable' test machines. That is because their 3300 is significantly less expensive than the Instron 5900 Series, which features a similar frame with a more expensive version of their Bluehill controller.

TestResources manufactures a wide selection of standard electromechanical test machines with over 500 test accessories for tension and compression test applications. In any solution comparison between Instron and TestResources, TestResources solution is truly affordable, typically costing HALF PRICE of a comparable Instron.

Beginning in the late 1990's, TestResources products, including almost 100 test machines and over 500 test fixtures and accessories, were made to be much more affordable because of our new Smart Design approach to manufacturing. The key to our Smart Design philosophy was to design products for their most common applications, not for outlier or marginal applications that push requirements and manufacturing costs higher and higher. We were able to meet the vast majority of customers needs by delivering a pragmatic mainstream solution.

In our experience, first time test machine buyers need to perform a few known and relatively standard test applications and so they need an affordable turnkey solution so that they can economically justify the purchase of a machine. Generally speaking, for these users, the test machine must perform **your tests** efficiently, accurately and inexpensively.

Contact us now to confirm your application is served by our Smartly Designed 200 or 300 Series line of universal test machines.

TestResources the best choice for Electromechanical Test Machines

	Price	Travel	Force	Software
Instron 3343	$$$$$	36 in	1000 N	BlueHill Light
TestResources 220Q	$$$	38 in	5000 N	XYLive

TestResources took a new approach to test machine design. We cleverly call it SMART DESIGN. Our process begins by gathering test applications information to identify the machine design requirements for each universal test machine. Typically each machine performs over 1000 ASTM, ISO, EN, DIN and JEDEC industry standard test methods. These requirements became our baseline expectations for test machine performance.

The 220Q design follows the **95/50 RULE** which means that TestResources 200Q and 300Q Series Test machines target 95% of all the applications served by Instron's 3300 Series at 50% of the price of Instron. Our business strategy has been to deliver machines that are optimized to common static test applications, including those that require cycling between load and position limits. The 5% that are not covered tend to be associated with tests that require more than two segments of machine control. Those applications are served by our 200R and 300R test machines that are slightly higher in price.

Compare TestResources 220Q to Instron 3340 Series

Manufacturer	Instron®	Instron®	Instron®	Instron®	**TestResources**
Model Reference	3342	3343	3344	3345	**220Q1125**
Baseline Price Comparison	$$$	$$$$	$$$$	$$$$$	**$$**

Load Frame Specifications

Load Capacity	kN	0.5	1	2	5	**5**
	lbf	112.5	225	450	1125	**1125**
Maximum Speed	mm/min	1000	1000	1000	1000	**1000**
	in/ min	40	40	40	40	**40**
Minimum Speed	mm/min	0.05	0.05	0.05	0.05	**0.05**
	in/ min	0.002	0.002	0.002	0.002	**0.002**
Maximum Force at Max Speed	kN	0.5	1	2	5	**5**
	lbf	112.5	225	450	1125	**1125**
Maximum Speed at Max Load	mm/min	1000	1000	1000	1000	**1000**
	in/min	40	40	40	40	**40**
Crosshead Return Speed	mm/min	1500	1500	1500	1000	**1000**
	in/min	60	60	60	40	**40**
Position Control Resolution	um	NA	NA	NA	NA	**0.03**
	uin	NA	NA	NA	NA	**1.18**
Frame Axial Stiffness	kn/mm	NA	NA	NA	NA	**250**
	lb/in	NA	NA	NA	NA	**14250**
Vertical Test Space	mm	651	1067	1067	1123	**1050**
	in	25.6	42	42	44.2	**42**
Total Crosshead Travel	mm	482	898	898	885	**950**
	in	19	35.4	35.4	34.8	**37.4**
Column Spacing	mm	100	100	100	100	**80**
	in	3.9	3.9	3.9	3.9	**3.15**
Total Height	mm	900	1300	1300	1358	**1443**
	in	35.4	51.2	51.2	53.5	**56.8**
Total Width	mm	382	382	382	382	**560**
	in	15	15	15	15	**22**
Total Depth	mm	500	500	500	500	**560**
	in	19.7	19.7	19.7	19.7	**22**
Weight	kg	38	42	42	52	**85**

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	lbf	83	94	94	112	**183**
Maximum Power	VA	170	200	240	300	**400**

Controller Specifications

Software Model	Bluehill Lite	**XYLIve**
Standalone Mode	No (PC is required)	**Yes (PC is optional)**
Control Type	PID Tuning	**PID Tuning**
Machine Control	Constant Speed or Load Rate	**onstant Speed or Load Rate**
Data Acquisition Rate	1000 Samples/Sec	**1000 Samples/Sec**
Transducer ID	Automatic	**Automatic**
Strain Channel	Optional (2)	**Optional (1)**
ASTM E83, ISO 9513	Meets or surpasses	**Meets or surpasses**
Calculated Analyses	Included	**Included**
Test Report Template	Included	**Included**
Stress Strain Plotting	Live	**Live**
Load Measurement Accuracy:	±0.5% of reading to 1/100 of load cell rating	**±0.5% of reading 1/100 of load cell rating**
ASTM E4, ISO 7500-1	Meets or surpasses	**Meets or surpasses**

Accessories & Options

Furnaces	Available	**Available**
Hot/Cold Temperature Chambers	Available	**Available**
Biomedical Bathes	Available	**Available**
Wedge Grips	Available	**Available**
Bending Fixtures	Available	**Available**
Compression Platens	Available	**Available**
Pneumatic Grips	Available	**Available**
Safety Screens	Available	**Available**
Wider Frame Column Clearance	Available	**Available**
Increased Frame Daylight	Available	**Available**
Extensometers	Available	**Available**

Customer Technical Support

Warranty Period	12 months	**12 months**
Installation Services	Included	**Optional**
Internet Based Real Time Support	Optional	**Included**
Technical phone and E-mail support	Included	**Included**
Field Service Support	Available	**Available**

Notes

1. Extra high or wide load frames and extra high or low speed drive systems are available.
2. Specifications for TestResources products were developed in accordance with TestResources procedures and are subject to change without notice.
3. Specifications for Instron products were estimates developed from a variety of sources. They are estimates only - check with Instron for confirmation.
4. TestResources offers multiple alternative models that compete with the Instron models listed. Contact an applications engineer to select the best one for your applications.
5. Instron® and Bluehill® are registered trademarks of Instron.
6. Data last updated December 2014