



One-Touch Operation

Instron's is committed to simplifying testing equipment and making even complex tests and applications accessible to all technicians. Low cycle fatigue is an application which brings with it some significant challenges one of which is achieving Class 5 alignment to ASTM E1012. When used in conjunction with our hydraulic reverse stress pull rods (3117-501) this electric micro-pump will smoothly pressurise your grips and achieve Class 5 alignment repeatedly between operators and specimens at the touch of a button. This improves user confidence and efficiency.

Digital Precision and Repeatability

As a modern alternative to using a hand pump and a dial gage this drive unit offers digital precision and simplicity. The system has an ergonomically placed digital display of gripping pressure located directly next to the system grip controls. This ensures that it is easy and convenient to accurately read the gripping pressure without the ambiguity or inconvenience of reading a dial gage located on the side of the frame. In addition you can digitally set the desired gripping pressure before clamping to ensure that specimen preload is achieved.

Consistent Results Between Users

The most significant benefit of the integrated micro pump is the improved repeatability of pressurisation and alignment between users. This powerful add-on removes the reliance on user training in how fast or slow to pump a hand pump or in the correct way to read a dial gage. The system is simple to use and delivers highly repeatable and smooth pressurisation to a set pressure which in turn contributes to superb alignment which any technician in your lab can achieve.

Pressure, Preload & Alignment

In order to load a specimen in both tension and compression the specimen ends must be under some preload to remove backlash in the loadstring as the specimen goes from being under tensile and into compressive load. The preload may change depending on the specimen geometry or the test forces involved. To adjust the preload need to change the clamping pressure. In order to achieve precise and repeatable Class 5 Alignment the clamping pressure should be applied smoothly and in a controlled and repeatable manner.

Digitally Adjust Pressure

Adjust clamping pressure in 1Bar intervals before activating grips and see a digital display of clamping pressure ergonomically located next to the grip controls.



Integrated Grip Controls

When used with the electric micro-pump the grip controls are integrated to the 8800MT control panel. Close and open grips at the touch of a button and easily see the grip status with status lights.



Clear Digital Display

Setting & Reading Pressure

As a technician you want to be able to precisely set the preload on a specimen and achieve it time and time again. Whilst the technology to achieve this has been around for a long term, Instron is the first to utilise it in this application in simplifying and improving the quality of Low Cycle fatigue testing. It really is as simple as it sounds, set a pressure and push to close. Remove an unnecessary manual step in your test procedures and with it remove the need for expert training and the variability between technicians.



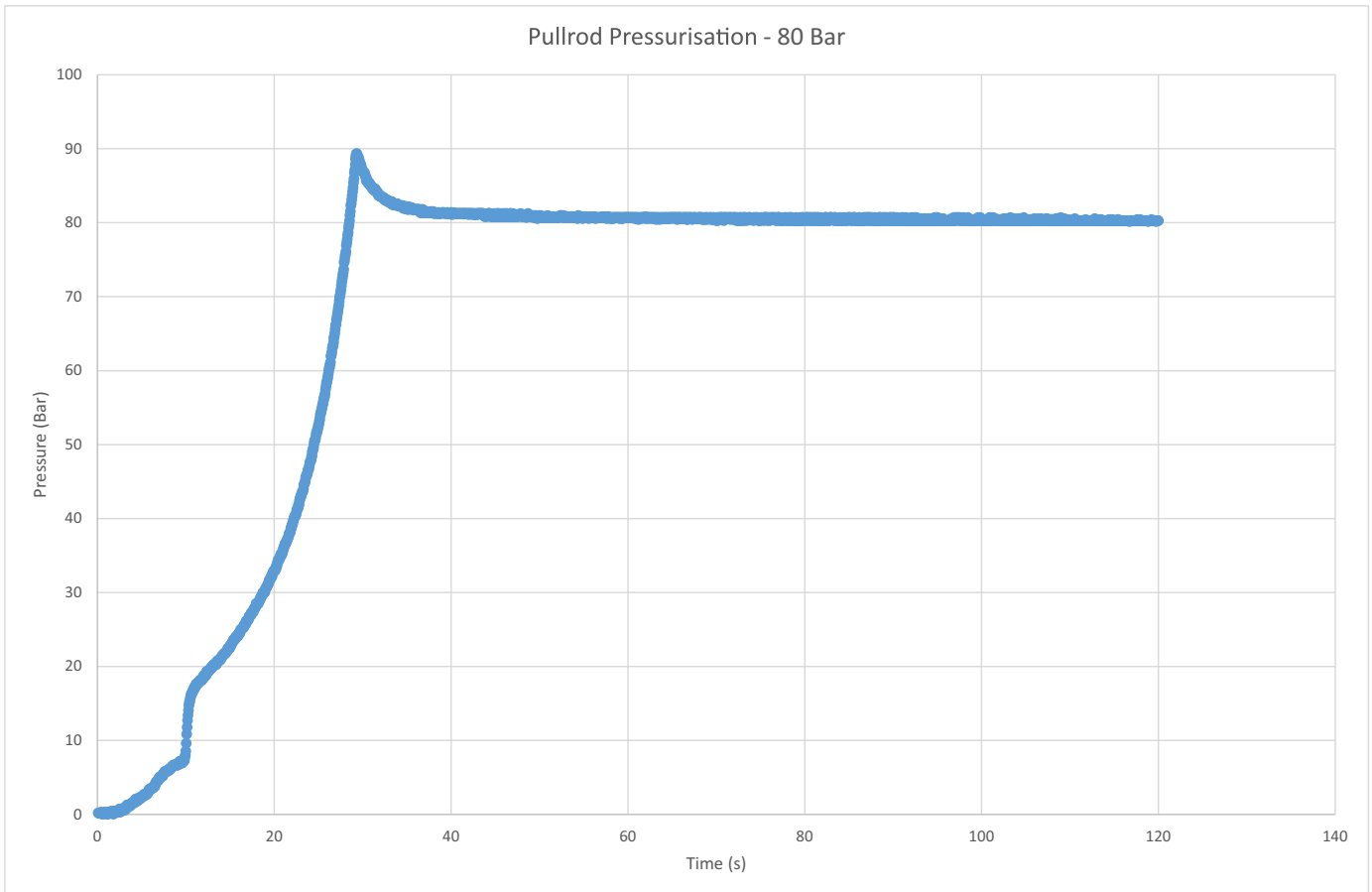
Integrated Grip Controls

Interlocked One-Touch Operation

With the electric micro-pump, grip control is integrated with the 8800MT frame control panel and not a stand-alone manual unit. As a result of that integration technicians will benefit from operator security features which prevent accidental grip opening under load control or in test mode. As well as easily being able to see and change the grip status, users are protected by these system features which prevent the machine from being unloaded during a test, damaging the specimen unexpectedly or going out of control.

Repeatable Pressurisation & Preload

Data collected from 10x pressurisation runs to show smooth and repeatable pressurisation that results form one-touch operation with electric micro-pump.



Flame-out Oil

This unit is a self-contained electric pump which has an integrated reservoir of oil separate from the hydraulic power pack which will supply your test system if it has a hydraulic actuator. Due to the high temperatures used in Low Cycle Applications this micro-pump is filled with a special self-extinguishing hydraulic oil known as 'Flame Out' oil. This ensures that in the unlikely event of an incident the oil will extinguish as soon as the energy source is removed.

Instron LCF Solution

Catalogue Number	Description
3117-501	High temperature reverse stress pullrods
3117-503	Electrically operated pump unit with one-touch operation
3117-505	Manually operated hand pump unit
3117-301	Low Cycle Fatigue Furnace Controller



Self-Contained Electric Pump

Specifications

Dimensions	mm	150 x 265 x 340
	in	5.91 x 10.4 x 13.4
Weight	kg	11
	lb	24.25
Time to Maximum Pressure	s	38
Pressure Display Resolution	bar	1
Pressure Adjust Resolution	bar	1
Maximum Pressure	bar	120
Oil Type		Fire Resistant Hydraulic Fluid
Reservoir Size	l	0.5
Accumulator Size	l	0.16
Noise	dbA	61
Electrical Supply		24V DC
Requires		3117-501 Reverse Stress Hydraulic Pullrods

Related High Temperature Solutions



3117-501 LCF Pullrods



3117-301 Furnace Controller



AN EXPERT TASK

Precision tuning of temperature control is an art.

It takes us between 1-2 days and full week to perfect our performance.

Colin Small, CEO SMaRT,
Swansea Materials and Research Testing

Find out more
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