



In This Issue

- Volume 19, Issue No 3
- Sending Calibration Certificates on renewal
- Certificates made out to wrong company
- Who manufactured your thread gauges?
- When to install your safety device
- Pi (π) Marked Cylinders
- Changing to the new Quadrant
- Over pressurisation control of hydrostatic test rigs
- IDEST Test Centre Update

Contact Us

Website:

<http://www.idestuk.org>

<http://www.sita.org.uk/idest>

Chief Engineer:

neil@neilminto.co.uk

Webmaster:

alistair.reynolds@uwclub.net

Administration Office:

pat@patoates.co.uk

Volume 19, Issue No 3

This is a bumper issue with a range of articles that we want to bring to your attention.

Calibration certificates continue to be an issue for you and for our inspectors, so ensure you read the two items to help all parties.

The installation of a safety device into your test rig system is paramount now and advice is given a very comprehensive article by Mike Collins, one of our inspectors.

Sending Calibration Certificates on renewal

IDEST is run by volunteer inspectors who are only paid for the time spent doing actual inspections and not for any administration. We would therefore ask that when you send copies of your calibration certificates that they are scanned separately and saved with a name that indicates which thread gauge they are referring to. Receiving a file of 25 calibration certificates named 'SCAN' then takes about an hour to separate and rename individually. If you are unable to do this then admin charges may be forward to your centre for payment.

It is also important to check that the certificates you are sending have your company name on them, gauges have an ID or serial number and that they are 'in tolerance'. Certificates for gauges that are out of tolerance delay the process of arranging an inspection date. A new gauge would need to be bought and the new calibration certificate sent to us. Most calibration laboratories indicate when a gauge is measured out of tolerance by marking the reading on the certificate with an asterix.

Certificates made out to wrong company

Calibration certificates can only be accepted under the UKAS approval, if the calibration certificate is made out to your test centre. Certificates made out to a company that passed the gauge on for calibration cannot be accepted.

Please ensure that the laboratory that you are using does in fact calibrate the size of gauge you are putting forward.

There is a list of UKAS approved calibration laboratories on our website under the 'DOWNLOADS' section. The list indicates with an 'X' what items can be calibrated.

Who manufactured your thread gauges?

It has come to our attention that some manufacturers of thread gauges are not producing quality products. IDEST would like to know the manufacturer of any gauges that a calibration laboratory has failed.

Some test centres are buying on-line and probably from an overseas source. Although these products may be less expensive than buying from a reputable UK manufacturer, in the long-run it is false economy. Better to invest in good quality tools and look after them carefully so that they will last rather than to buy poor quality and have to replace after only short use.

IDEST aims to identify manufacturers that are producing failing thread gauges and contact them to discuss the issue. Please help us protect your equipment by letting us know of any issues you may have.

When to install your safety device

As you will have gathered from reading the latest ISO Standard 18119, published in October 2018, it is necessary to install a safety device that does not allow the test system to exceed a set top pressure.

It has been agreed that the installation of these devices must be done by the next IDEST inspection date. This gives test centres that are due a triennial inspection in January, four months to acquire and install such a safety device. Other test centres due their inspection later in the year will clearly have more time.

IDEST approval will not be granted unless a safety device has been installed at the time of the inspection and that the device comes up to the ISO 18119 specification.

There is an article written by Mike Collins, at the end of this newsletter, which explains in more detail the options available. Please take time to read this article.

Pi (π) Marked Cylinders

In the May issue of Torque, the following text was included:

The cylinders that are marked the Pi Symbol (π) cannot be tested by an IDEST approved test centre. They are outside of the IDEST scope of cylinders that can be inspected and tested.

These cylinders need to be inspected and tested by a DfT/VCA approved test centre only.

It has come to our attention that some IDEST test centres are in fact testing and stamping these cylinders. Since they are not in the scope of the IDEST approval, any issues arising from this work cannot be supported by IDEST.

Changing to the new Quadrant

The new Standard ISO 18119:2018 has instigated the introduction of a new IDEST quadrant sticker. This sticker is made from a material that destructs when attempts are made to remove it from a cylinder.

However, it is understood that many centres still have original quadrant stickers in stock and these need to be used before ordering the new version. It has been agreed that test centres **do not** need to immediately replace original quadrant stickers with the new ones and lose out financially.

The new quadrant stickers **must be used** once the test centre changes from the existing Standards to the new ISO 18119 Standard. This means that test centres can continue to use their existing stock. Once that stock expires then that would be an ideal opportunity to change to the new Standard and purchase the new quadrant stickers.

All centres must change over to the new Standard when the existing Standards are superseded on **1st January 2023**. So that is your deadline date.

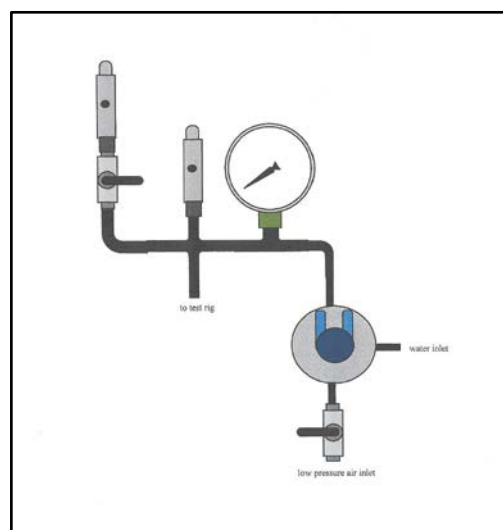
Over pressurisation control of hydrostatic test rigs

Reading new standards is never easy; you wade through wording that would baffle a saint. Having read through BS EN 1802, BS EN 1968 and the new BS EN ISO 18119, it is apparent that the wording is similar regarding the test procedure. Hindsight is a valuable thing and it was only apparent that over the years IDEST had taken a requirement for an over-pressurisation device as the burst disc in the volumetric test chamber, and had only specified a relief device for proof testing.

However, if you read the words, they differ from the diagram. The words say in current standards *'a device for preventing the test pressure from being exceeded is required.'* The diagrams show a burst disc for jacket testing, which confusingly is listed as a relief device. It is a relief device but the wrong type. So currently we should have this device fitted at present.

So how can test centres meet the requirements? Having looked at a number of exotic, very expensive methods, the conclusion is that there are 3 reasonably cost-effective ways of meeting this requirement.

Method 1: This method is the cheapest, but can only be used where a test

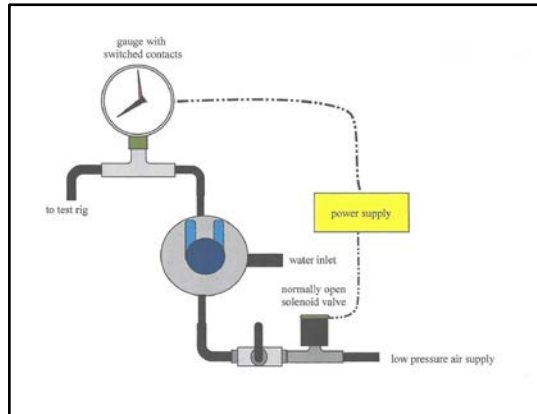


centre only tests cylinders of one working pressure i.e. 232 bar.

This method uses a pressure relief valve set to 358 bar installed downstream of the pump and working gauge. If desired, this could be fitted with a shut-off valve and a second pressure relief set to 460 bar. This would allow 300 bar cylinders to be tested, however, a strict discipline of checking which valve was on line would need to be followed. Calibration of the working gauge would need the PRVs to be blanked off to achieve the

maximum gauge pressures, both master and working.

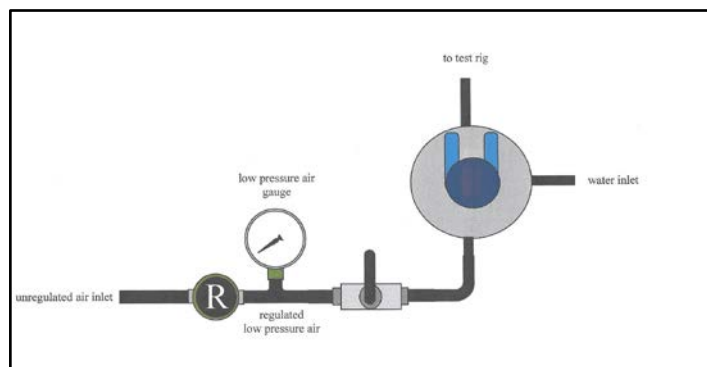
Method 2: This method may require cylinders to be batched so that the over-pressurisation device does not need to be adjusted repeatedly.



This method uses a working gauge fitted with switch contacts, which can be either mechanical or digital. The system requires a power supply and a normally open solenoid valve. The switch contacts are set to the test pressure plus 3% or 10 bar whichever is lower and the test started.

On reaching the over-pressure limit, the gauge contacts close energising the solenoid valve to close the low-pressure air supply, which then shuts off the pump. Once the system is de-pressurised the system re-sets and is ready for use again. Gauges with switch contacts are readily available from the usual suppliers of both analogue and digital gauges, low voltage solenoid valves are available from suppliers such as RS Components, who can also supply the power supply.

Method 3: This method works on the principle that the pump operates by using differential pressure.



This method uses the fact that the input air pressure is proportional to the output water pressure. The ratio, say 1:100, means that the pump will supply up to

100 bar for an inlet pressure of 1 bar, but will stall at that point. If you regulate the input pressure to the pump to 3.5 bar then it will stall at 350 bar. The equipment that you will need is an adjustable regulator. Many test centres, using air from a high-pressure source to drive the pump, already have this facility. Also needed is a reasonably precise low-pressure (10-15 bar) gauge to set the input pressure. An initial set-up procedure will be needed to calibrate inlet pressure to outlet pressure and you would need to fit a shut-off valve to assist in setting the input pressure.

Once the initial calibration has been done, a chart showing the input pressure values, for each test pressure needs to be readily visible so that the correct value of input air pressure can be set prior to test.

IDEST is not recommending any of these methods as they all have their pros and cons, but maybe this will help you to decide how you meet the requirements of the standards.

Mike Collins

IDEST Test Centre Update

We have had the following changes to the IDEST Test Centre listing since the last issue of Torque in May

Returning centres

None

New centres

Revolution Air Services (9J), Tewkesbury, Gloucestershire

Orca Scuba Diving Academy (9R), Basildon, Essex

NCL Scuba Servicing (9U), Kings Lynn, Norfolk

Leaving centres

None
