



On-Sample Transducer System

On-sample transducers are used for small strain testing and minimize errors caused by;

- deformations of the loading system
- additional strain as the Top Cap is lowered onto the specimen
- any irregular movement of the ends of the sample caused by the friction of the Top Cap and Base Pedestal

On-Sample Transducers can be used on samples in a Standard Triaxial, Bender Triaxial or a Dynamic Triaxial Cell, however the testing must always be Static and not Dynamic. Furthermore, there must be sufficient exit ports from the cell.

Furthermore, it is important to note that On-Sample Transducer transducers used in a Dynamic System, do not require a Sample Conditioning Unit or a Data Logger.

System Information

The On-Sample transducers measure the deformation directly on the stable central section of the test specimen with high accuracy.

In order to aid in the correct positioning of the radial and axial calipers, the locations are marked out on the membrane before sample assembly.

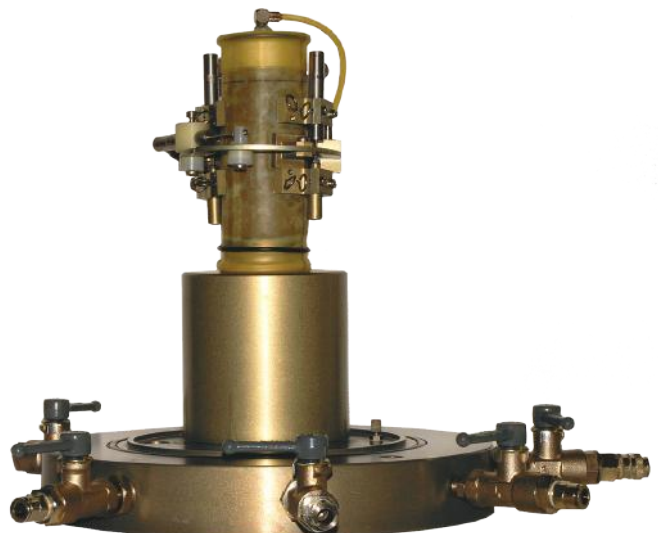
A suitable contact adhesive is applied to the back of the mounting pads before placement to eliminate water ingress into the sample and they are secured with stainless steel pins before the adhesive dries.

We make it easy for you to select the On-Sample set that is needed for your system requirements.

The following table summarizes the different options that are available:

Sample Size	50	70	100
Transducer	5 mm		10 mm
Caliper Type	Axial		Radial
Triaxial Cell Type	Static		Dynamic

Example On-Sample Setup



Ordering Information

Complete Sets (non-Dynamic Cell Systems)

A complete set consists of 2 Axial Calipers, 1 Radial caliper, 3 LVDTs fitted to the Calipers (each with with cable, cable exit port and male LEMO) & Signal Conditioning box with entry and exit cables.

VJT0277 On-Sample LVDT Set (50 mm diameter)

VJT0278 On-Sample LVDT Set (70 mm diameter)

VJT0279 On-Sample LVDT Set (100mm diameter)

The Axial and Radial Calipers are available for samples of 50, 70 or 100 mm diameter. They are fitted to the sample with holding pins which are provided.

Axial Calipers (normally 2 required for sample)

VJT0277-A-50 Axial Caliper (50 mm)

VJT0277-A-70 Axial Caliper (70 mm)

VJT0277-A-100 Axial Caliper (100 mm)

Radial Calipers (normally 1 required for sample)

VJT0277-R-50 Radial Caliper (50 mm)

VJT0277-R-70 Radial Caliper (70 mm)

VJT0277-R-100 Radial Caliper (100 mm)

The LVDT Transducers are interchangeable between the Calipers, so each one will fit all 3 sizes of Caliper. They have a cable exit port for watertight exit from the Cell and are terminated with a male LEMO connector.

LVDT Transducers

VJT0275-5 Submersible Unguided LVDT +/-2.5 mm with cable and LEMO (5 mm travel)

VJT0275-10 Submersible Unguided LVDT +/-5 mm with cable and LEMO (10 mm travel)

If a (Bender)/Triaxial Cell (with Access Ring) is being used, an LVDT Signal Conditioning box and Datalogger are required, to process and log the signals from the LVDTs. The cables to the datalogger are provided.

LVDT Signal Conditioning Box and Datalogger

VJT0277-EL3 3 Channel On-Sample Signal Conditioning Unit with associated cables to datalogger

VJT1000-P MiniScanner Pro Datalogger

If a Dynamic Triaxial Cell is being used, the signal conditioning is processed by the DSC3000. Therefore, cables with sensor plugs are required, otherwise cables with 5-Pin DIN (180 deg) Plugs are required for the LVDT Signal Conditioning Box.

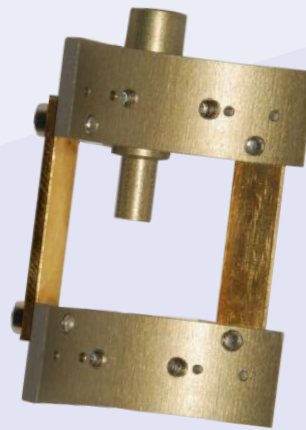
Cables from LEMO to Conditioning Box or DSC

VJT0137 Female LEMO to 5-Pin DIN (180 deg)

VJT0137-DYN-8 Female LEMO to DSC Displacement Plug cable



Radial Caliper 50 mm (for Small Strain LVDT Triaxial)



Axial Caliper 50 mm (for Small Strain LVDT Triaxial)



LVDT Transducer 5 mm with Cable Bung and LEMO

Specification

Accuracy:	0.1% FRO
Maximum Pressure:	3.5 MPa
Strain measurement:	5 or 10 mm
3-Channel Signal Conditioning Unit Dimensions:	310 x 260 x 110 mm
3-Channel Signal Conditioning Unit Weight:	4.35 Kg

Cell Considerations

It is important to check that the Cell you are using has sufficient exit ports for the cables required. Access rings with additional ports are available if required.

There must also be sufficient space in the Cell for the Calipers, Transducers and cables. A Cell of greater diameter than the sample is normally required.

Software Module

The csTriaxAdv software module provides both Triaxial and Stress Path testing

VJT-csTriaxAdv Clisp Studio Advanced Triaxial Module