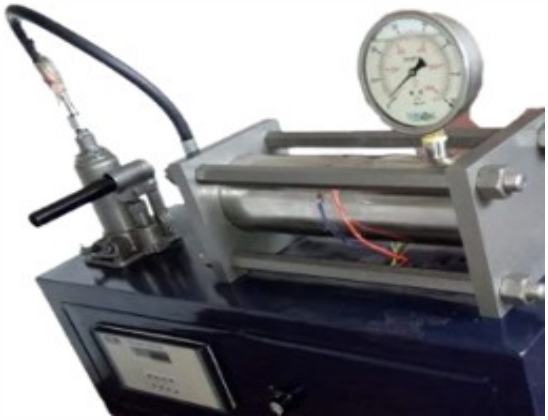

DESCRIPTION:

- The experimental unit is used to investigate stresses and strains in a thin-walled cylinder subjected to internal pressure.
- The oil-filled cylinder is closed at one end and a movable piston at the other end. This conveniently permits the unit to be either open or closed ended.
- A hand wheel with a threaded spindle is used to move the piston.
- Two load cases are represented: biaxial stress state of a closed cylinder, such as a boiler tank, and uniaxial stress state of an open vessel, such as a pipe.

EXPERIMENTATION :

- measure strains with strain gauges
- determine the principal stresses: axial and circumferential stresses by magnitude and direction in an open vessel (pipe)
- in a closed vessel (boiler)
- comparison of open/closed vessels
- determine Poisson's ratio

TECHNICAL DETAILS :

Aluminum cylinder	:	
Length of cylinder	:	400 mm
Diameter	:	75 mm
Wall thickness	:	2 mm
Internal pressure	:	up to 3.5 N/mm^2 (35 bar)
Strain gauge apparatus		:
5 strain gauge	:	half-bridges,350 Ohm
Angle of vessel axis	:	0^0,30^0,45^0,60^0,90^0
Gauge factor	:	2.00 ±1%

Note: Specifications are subject to change, Photos shown above are Indicative, Actual Product can Vary.