

2810 Series Flexure Fixture

Catalog Number 2810-200

Features

- Rated capacity: 250 kN (25000 kgf, 56250 lbf)
- Three-point flexure fixture with an optional conversion kit for four-point loading
- Conforms to ISO, ASTM, DIN, and many other standards
- Fully adjustable span distance to suit a wide range of specimen sizes
- Rollers free to rotate
- Interchangeable rollers for different specimen types
- Deflectometer plunger assembly
- Rugged design for minimum maintenance
- Temperature Range: -10 °C to +100 °C (+14 °F to +212 °F)
- Anti-rotation included

Description

The flexure fixture allows a variety of flexural and fracture toughness tests to be performed, including determination of flexural modulus, flexural strength, and flexural yield strength. Easy-to-install, the three-point fixture can be modified with the optional conversion kit to provide a four-point bending conversion.

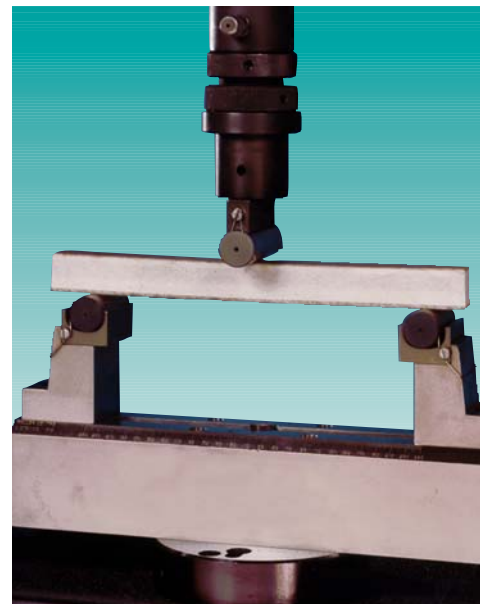
The fixture includes a 100 mm (4 in) diameter upper anvil and two 50 mm (2 in) diameter lower anvils which are adjustable to accommodate specimens of different spans. Deflection of the specimen can be measured either through crosshead displacement, or for more precise measurement use the mid span direct measurement deflectometer plunger with a clip-on extensometer.

Principle of Operation

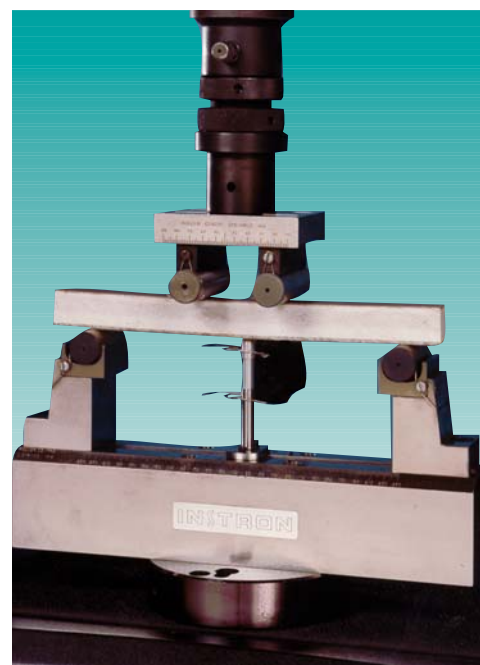
The specimen is supported on two precision machined fixed anvils of a defined radius. The force is applied either centrally (three-point) or at a defined distance either side of the center (four-point). The support beam is graduated lengthways in metric units for accurate positioning of the anvils equally spaced relative to the center line. This feature also applies to the four-point loading beam and anvils. Adjustable specimen stops are provided so that the specimen may be quickly and accurately positioned on the lower anvils.

Application Range

- Type of loading: Static flexure, cyclic flexural fatigue testing.
- Specimen materials: Plastic, metals, alloys, composites, ceramics, construction materials and other materials.
- Specimen shapes: Strip, bar, components



▲ Three-point flexure fixture - three-point loading



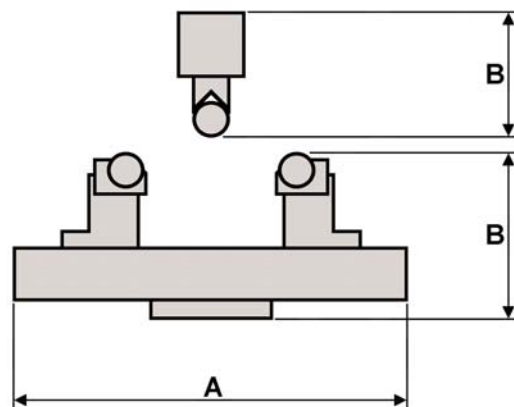
▲ Four-point loading using mid point deflectometer

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Specifications

Catalog Number	2810-200
Maximum Dynamic Capacity	250 kN (25,000 kgf, 56,250 lbf)
Roller Diameters	
Lower Support Roller	50 mm (2 in) diameter
Upper Support Roller	100 mm (4 in) diameter
Span Distance (Adjustable)	100 mm to 600 mm (3.94 in to 23.6 in)
Maximum Specimen Width	100 mm (4 in)
Mechanical Connection	
Upper	M48 x 2 RH female
Lower	M 48 x 2 RH female
Overall Width (A)	900 mm (35.43 in)
Overall Height (B)	Upper: 190 mm (7.48 in)
(Effective Length)	Lower: 290 mm (11.42 in)
Overall Depth	170 mm (6.7 in)
Weight	130 kg (286 lb)



▲ Flexure fixture dimensions

Accessories

Catalog Number	Description
2810-201	Conversion kit - three-point to four-point with 50 mm (1.97 in) diameter
2810-202	Adapt three-point upper roller to 50 mm (1.97 in) diameter (125 kN capacity)
2810-203	Adapt three-point upper roller to 25 mm (0.98 in) diameter (62.5 kN capacity)
2810-204	Adapt three-point lower roller to 25 mm (0.98 in) diameter (125 kN capacity) (one pair)
2810-205	Adapt four-point upper roller to 25 mm diameter (125 kN capacity) (one pair)



▲ Deflectometer using clip-on extensometer



Corporate Headquarters
825 University Avenue, Norwood, Massachusetts 02062-2643, USA
Tel: +1 800 564 8378 or +1 781 575 5000 Fax: +1 781 575 5725

Instron Industrial Products
900 Liberty Street, Grove City, PA 16127-9969, USA
Tel: +1 724 458 9610 Fax: +1 724 478 9614

European Headquarters
Coronation Road, High Wycombe, Bucks HP12 3SY, United Kingdom
Tel: +44 1494 456815 Fax: +44 1494 456814

www.instron.com

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