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Telescope and target test equipment

Description

This equipment is intended for testing spherical, astigmatic and prismatic powers of plano individual lenses and complete eye protection.

A focussing telescope is used for measurement against an illuminated target. The specimen can be supported in front of the telescope. A headform may be used to enable complete eye protectors to be placed in an as-worn position.

Our telescope has a magnification of approximately x20, making it suitable for the EN, ECE, AS/NZS and ISO standards and more sensitive than that specified by in the American and Canadian standards. It is available with targets, headforms and eyewear supports for use with all of these standards as specified below.



Method Standard	Telescope and stand[1]	Headform[2]	Eyewear support	Rotating target[3]	Fixed target[4]
ANSI Z87.1:2020	x		x		x
AS/NZS 1067.2:2016	x	x		x	
AS/NZS 1337.1:2010	x	x		x	
CSA Z94.3-20	x				x
ECE Reg 22.06	x		x	x	
EN 167:2001	x	x		x	
ISO 12311:2013	x	x		x	
ISO 18526-1:2020	x	x		x	

Notes

1. Intended to be placed on a bench so that the telescope is at the eye level of the operator. Having focussed the telescope, a digital display provides readings to enable calculation of the spherical and astigmatic powers.
2. The equipment is not supplied with a test headform, but several headform options are available to order separately. Options include the European headform (medium or small) and the ISO headform (1-M or other sizes). The headforms include holes 30mm at each eye position with spacing corresponding to the given pupillary separation.
3. The illuminated, optical target may be rotated to align the principal axis of the oculars. The controls for the motorised rotation, and for the brightness of the illumination, are located at the operator position by the telescope, when the target is positioned at the required distance from the target. The target is bright enough to be able to test up to shade 9 welding filters.
4. ANSI Z87.1 requires complete eye protectors to be tested as worn. To facilitate this a support is provided when the ANSI accessory option is selected. This option includes an optical mirror so that the optical path (10.67m) can be folded.
   With this accessory option, the telescope will still accommodate the headforms.

Please contact us for a quotation 2TT.2603

Telescope & target test equipment (continued)

Services required

110/230 volts AC, 50/60Hz, mains electricity
Bench for the telescope -approximate dimensions 0.90m height and 0.75m depth, but we recommend that the bench has an approximate width of 1.8m to provide sufficient area on which to place test samples.
Support for Rotating target/ANSI mirror - shelf approximately 0.3m x 0.3m.
Support for ANSI target

The rig is designed to operate in the conditions specified by the relevant standards listed below. Storage conditions should be restricted to 5 to 35°C and <85%RH.

Optional items

ANSI accessory kit (includes sunburst & high contrast test patterns, and mirror)
EN headforms (medium or small size)
ISO headforms (1-M or other sizes)
Calibration lenses (set of six)
Stands to replace the need for a bench.

This equipment does not allow testing of prismatic imbalance. For such equipment, please consider our product 2PD.

Approximate dimensions and weight

Item	Width (mm)	Depth (mm)	Height (mm)	Weight (kg)
Telescope	460	580	900	22.0
Telescope Display Unit	130	180	150	
European Target Control Box	110	65	55	0.3
European Target	200	240	240	3.8

Relevant standards

AS/NZS 1067.1:2016
AS/NZS 1067.2:2016 and other standards that refer to this method
AS/NZS 1337.1:2010
AS/NZS 1338.1/.2/.3:2012
CSA Z94.3-20
ECE Reg 22.06
EN 166:2001
EN 167:2001 and other standards that refer to this method
EN 13178:2000
ISO 12311:2013 and other standards that refer to this method
ISO 12312-1:2022
ISO 16321-1:2021
ISO 18526-1:2020 and other standards that refer to this method
ISO 18527-1:2022
ISO 18527-2:2021

The equipment also complies with the requirements of the following standards apart from the magnification used for the telescope:

ANSI Z87.1:2020 (optional)