

Approval Date: 6<sup>th</sup>, October 1999

Reviewed on : 23 October 2007

Version: 2

### Purpose

The theodolite will be used for general topographic surveying application and in particular for position fixing during discharge measurements on rivers and canals from boats.

### Conditions & Requirements

- The instrument must be of reliable and simple design, adequate for the application.
- An operator's manual shall be part of the delivery.
- The theodolite shall generally comply with IS 2976-1964.
- The tripod shall generally comply with IS 8330-1997.

### Specifications

image	erect
magnification	30 x
effective diameter of objective	≥ 40 mm
field of view	1°30' to 1°40'
shortest focussing distance	2.0 m
resolving power	±2.5 to 3.0 sec
minimum focussing distance	≤ 2.0 m
stadia ratio	1:100
• stadia multiplier	100
• stadia addition	0
optical plummet	
• magnification	≥ 2.3 x
• focussing range	≤ 0.5 m
sensitivity of level plate	20 sec per 2 mm run
tribarch circular bubble	8 min per 2 mm run
vertical circle level	1 sec per 2 mm run
graduation error	
horizontal circle	1 sec (least count of micrometer)
vertical circle	1 sec (least count of micrometer)
instrument life time	>5 years of continuous operation
temperature range	0 to 60°C
housing	splash waterproof

### Accessories

diagonal eye-piece	two (one for telescope, one for micrometer)
dark glasses	dark green, light green, light blue
water proof cover	made of durable plastic material
plumb bob; adopter plug	one unit
tool-set	spanner, tommy pins, screw driver, etc. – one set
lens cover set	one set
cleaning brush	one unit

<b>oil bottle</b>	one unit
<b>electrical illuminating unit</b>	Two units
<b>re-usable desiccating material that may be reactivated</b>	one packet 200 mg, e.g. silica gel
<b>Telescopic 4.0 m levelling staffs and accessories</b>	2 nos., complying with IS 11961-1986
<b>instrument manual</b>	one
<b>carrying case</b>	one unit made of light fibre plastic wood or metal having sufficient strength to bear normal shocks and with receptacles for holding accessories with handle, carrying shoulder strap etc.
<b>tripod</b>	1600 mm well seasoned wood or light & strong alloy telescopic with mounting for battery, illumination unit & clamping arrangement for the instrument
<b>centering provision</b>	30 to 50 mm

Approval Date: 6<sup>th</sup>, October 1999

Version: 2

**Purpose**

The theodolite will be used for general topographic surveying application and in particular for position fixing during discharge measurements on rivers and canals from boats.

**Conditions & Requirements**

- The instrument must be of reliable and simple design, adequate for the application.
- An operator's manual shall be part of the delivery.
- The theodolite shall generally comply with IS 2976-1964.
- The tripod shall generally comply with IS 8330-1997.

**Specifications**

image	erect
magnification	30 x
effective diameter of objective	≥ 40 mm
field of view	1°30' to 1°40'
shortest focussing distance	2.0 m
resolving power	±2.5 to 3.0 sec
minimum focussing distance	≤ 2.0 m
stadia ratio	1:100
• stadia multiplier	100
• stadia addition	0
optical plummet	
• magnification	≥ 2.3 x
• focussing range	≤ 0.5 m
sensitivity of level plate	20 sec per 2 mm run
tribarch circular bubble	8 min per 2 mm run
vertical circle level	1 sec per 2 mm run
graduation error	
horizontal circle	1 sec (least count of micrometer)
vertical circle	1 sec (least count of micrometer)
instrument life time	>5 years of continuous operation
temperature range	0 to 60°C
housing	splash waterproof

**Accessories**

diagonal eye-piece	two (one for telescope, one for micrometer)
dark glasses	dark green, light green, light blue
water proof cover	made of durable plastic material
plumb bob; adopter plug	one unit
tool-set	spanner, tommy pins, screw driver, etc. – one set
lens cover set	one set
cleaning brush	one unit
oil bottle	one unit

<b>electrical illuminating unit</b>	Two units
<b>re-usable desiccating material that may be reactivated</b>	one packet 200 mg, e.g. silica gel
<b>Telescopic 4.0 m levelling staffs and accessories</b>	2 nos., complying with IS 11961-1986
<b>instrument manual</b>	one
<b>carrying case</b>	one unit made of light fibre plastic wood or metal having sufficient strength to bear normal shocks and with receptacles for holding accessories with handle, carrying shoulder strap etc.
<b>tripod</b>	1600 mm well seasoned wood or light & strong alloy telescopic with mounting for battery, illumination unit & clamping arrangement for the instrument
<b>centering provision</b>	30 to 50 mm