

Of a Survey on Section.....T.....R.....E. of the 4 P. M. in.....Township

Rock County, Wisconsin, made.....the.....19

I hereby certify that the following is a correct record of said survey as made by me.

COUNTY BUILDING
CITY OF JANESVILLE

County Surveyor.

FROM 1975 TO SEPTEMBER 23, 1991 THE COUNTY SURVEYOR'S OFFICE USED A HP 3805A DISTANCE METER AND A ZEISS TH 42 THEODOLITE. MONEY COLLECTED FROM THE LAND RECORDS FUND ENABLED THE OFFICE TO REPLACE THAT EQUIPMENT WITH A ZEISS ELTA 3. THE SPECIFICATIONS ARE ENCLOSED.



Th 42 in case

Fields of application

The Th 42 and Th 43 engineers' theodolites are advanced designs with a reading microscope, that are suitable for practically any kind of work, for example:
 Lot surveys
 Reverse surveys
 Border triangulation
 Building-site surveys
 Site marking
 Topographical tacheometry
 Ground-control work
 Trigonometric leveling.

Outstanding features

Ball base for particularly quick and simple rough leveling. Alpha membrane for torsionally rigid connection between tripod and instrument. Optical plummet in alidade for easy checking and easy centering of instrument even in windy weather. Combined coarse-fine focusing motion allows full use to be made of the excellent image quality. Parallel axes of clamps and slow-motion screws form easy operation. Large graduation intervals for convenient reading and estimation. Automatic vertical-circle indexing for simplified measurement of vertical angles. Long compensator for favorable stabilization characteristics.

Parallel-motion device between tripod and instrument for centration without disturbing the level position of the instrument. Two smoothly operating knobs for precise leveling. Sighting collimator for rapid and convenient coarse pointing. Simultaneous viewing of Hz and V-circles. Different color of Hz and V-circle images to avoid confusion. Adjustable horizontal circle. Telescope plunging through objective and eyepiece ends. Apochromatic telescope for precise sighting. **Under the designation Th 43, the instrument is available with a doubly graduated horizontal circle.** The second graduation is figured counterclockwise, as is general practice in North America, to facilitate site marking. The Th 43/360° has an additional 20" graduation for simplified reading.

Technical data

Telescope type	anallactic, apochromatic with flat-field eyepiece, erect image
Magnification	30x
Aperture	40 mm
Length of telescope	155 mm
Field of view	24 m at 1000 m
Shortest focusing distance	1.6 m
Stadia constant	100.0
Addition constant negligible beyond	2.5 m
Diameter of Hz-circle	98 mm
Diameter of V-circle	85 mm
Direct reading to	20" or 1° (1 cgon)
Reading by estimation to	10" or 0.2° (0.2 cgon)
Microscope magnification	70x
Sensitivity of circular level	10' per 2 mm
Sensitivity of plate level	30" per 2 mm
Working range of vertical index compensator	± 2'
Repetition accuracy	± 1"
Available zenith angles without accessories	36 to 150°
Constrained centering	ZEISS center spigot (DIN 18 719)
Focusing range of optical plummet	0.55 m to ∞
Magnification of optical plummet	2x
Weight of instrument	4.7 kg
Weight of case	4.2 kg
Nominal accuracy	± 3" or ± 10 ^{cc} (± 1 mgon)

Ordering data

	Cat No.	Weight kg
Th 42, engineer's theodolite with reading microscope, including ball base, in plastic case, with S-22 tripod with 360° division	70 22 45	13.7
with 400° (400 gon) division	70 22 44	13.7
Th 43, engineer's theodolite with reading microscope, including ball base, in plastic case, without tripod	70 22 52	8.9