Sensitometers and densitometers work in tandem. Sensitometers imprint a standard set of exposures on a photographic or x-ray film sample. When the film sample is developed, a densitometer is used to read the optical density of the exposures and chart a profile against a known set of standards. This profile alerts you to fluctuations in processing conditions and allows you to take corrective action.

Functional Performance Specifications

396 Sensitometer

Exposure Stability
±.02 log exposure per year

Unit to Unit Repeatability
±.02 log exposure

Temperature Sensitivity
±.02 log exposure from 15° C; (59°F) to 30°C (86°F)

Power Requirement
9 volt alkaline battery (included) approx. 10,000 exposures/battery

Light Modulation
21-step Wedge, 0.15D per step

Blue Color Peak Wavelength
455nm ± 10nm

Green Color Peak Wavelength
512nm ± 10nm

Warm-Up Time
None

Exposure Time
.1 second typical regulated by light accumulation system

Recycle Time
2 seconds

Physical Dimensions
2.3" H (5.84cm)
3.75" W (9.50cm)
7.0" L (17.78cm)

Weight
.9 lbs. (410g)

Features
DIN V 6868-55

301 Densitometer

Measuring Range
0-5.0D with 2 and 3mm apertures
0-4.0D with 1mm aperture

Accuracy
±.02D

Repeatability
±.01D

Operating Temperature Range
10° - 40°C 50° - 104°F

Power Requirements
301 (Domestic): 100-130VAC,60Hz
301X (Export): 200-240VAC, 50Hz (80VA max.)

Warm-Up Time
60 seconds

Scale Factor (slope) Stability
±1% per 6 months

Null Drift
± .03D max.
± .01D typical

Options
301X – 230V,50Hz power line
301RS – RS-232 serial output – 300 baud

Physical Dimensions
5.25" H (13.3cm)
10.25" W (26.0cm)
15.0" L (38.0cm)

Weight
8.5lbs (3.9kg)

331 Densitometer

Measuring Range
0-3.5D (1mm) 0-4.0D (2mm)

Accuracy
±.02D

Repeatability
±.01D

Operating Temperature Range
10° - 40°C 50° - 104°F

Power Requirements
P/N SE30-45 (115VAC) or P/N SE30-46 (230VAC) 50-60Hz

Warm-Up Time
None

Scale Factor (slope) Stability
±1% per 6 months

Zero Stability per 8 hours
±.02D (.01 typical)

Measuring Area
1 & 2 mm

Measuring Length
5.5 inches

Power Supply
4 rechargeable AA Ni-Cad batteries and charger

Physical Dimensions
2.0" H (5.08cm)
2.9" W (7.46cm)
7.0" L (17.78cm)

Weight
1.5lbs (680g)

390/391 Densitometer

Measuring Range
0-4.5D

Accuracy
±.02D (0-3.0D) ±2% (3.0-3.4D)

Repeatability
±.01D (0-3.0D), ±1% (3.01-3.5D), ±2% (3.51-4.0D)

Operating Temperature Range
10° - 40°C 50° - 104°F

Power Requirements
12V DC, Universal 100-240VAC adapter; 50/60 Hz P/N SE30-77

Spectral Response
ANSI Visual

Reading Speed
1.2 inches per second

Accessories
Operation manual, AC adapter, cable and interface adapter.

Data Storage
12 Channels / 31 readings per channel (391)
4 Channels / 1 reading per channel (390)

Features (391 Only)
Aim Value Editor
Control Limit Editor

Physical Dimensions
2.8" H (7.1cm)
7.2" W (18.3cm)
6" L (15cm)

Weight
2.5lbs (1.14kg)

Visit xrite.com for more information

L8-022 (09/05)

Densitometers and Sensitometers for your Processor QC

Consistent Image Quality

Consistent quality images for diagnosis

Fewer retakes and less patient exposure to radiation

Progress in meeting standards requirements

In an industry that wakes up to change every morning, companies need to anticipate and exceed the expectations of hospital radiology departments, clinics, mobile units, and medical offices. X-Rite has been doing that for nearly half a century.

The X-Rite product line includes both manual spot reading and auto-scanning densitometers. Our spot reading models are perfect for field use, providing the same accuracy as larger, table-top models. Our auto-scanning densitometers perform automated calculations (including daily control parameters) and can generate daily D-log E curves. Their internal memory is capable of storing data from multiple processors. The scanning densitometers are also able to communicate data through networking software to a central database, eliminating the need for a computer at every facility.

396 Sensitometer

Performance Features
Small and convenient, the 396 Dual-Color Sensitometer provides single-sided exposures and produces repeatable 21 step exposures on film.

Easy to Use
Set the battery operated 396 to the proper exposure, place the film inside, then firmly press down on the cover. When you hear the beep, the exposure is complete.

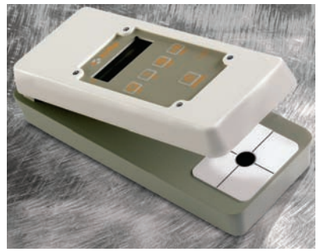
DIN Specifications
Designed and manufactured to comply with the calibration requirements described in DIN V 6868-55.

301 Densitometer

Performance Features
The 301 Densitometer provides highly repeatable and accurate measurements of black and white film densities up to 5.0 D – more subtle than can be seen by the naked eye.

An optional RS232 output allows you to connect to your current computer.

Easy to Use
Operation is as simple as "push and read," and the large LED numerals can be read easily in bright or dim light. Internal memory and the null button allow the operator to make comparative density measurements across a piece of film.



331 Densitometer

Performance Features
Though the 331 Densitometer is portable and compact, it has the same accuracy and repeatability as larger countertop units, measuring densities up to 4.0 D.

Easy to Use
The built-in light table eliminates the need for an external light source and easily accommodates film up to eleven inches wide. The 331 has push-button zeroing, an on/off switch to prevent battery drainage, a certified step wedge, a low-battery indicator, and instrument carrying case.

390 Densitometer

Performance Features
The 390 Densitometer can read and calculate a complete set of control strip data in under a minute, saving you time and virtually eliminating data-taking errors. The 390 easily interfaces with quality control software such as x-Read QC Analysis software.

Easy to Use
The 390 automatically reads, calculates, stores, and displays data. With the push of a button, you can view the measurements just taken.

391 Densitometer

Performance Features
The 391 includes all of the capabilities of the 390 and automatically establishes **aim values and control limits, calculates cross-over values, and plots monthly control charts** – freeing the technologist to focus on patient care. Thirty-one daily readings for up to twelve processors can be stored in the internal memory. Networking capabilities of the 391 enable facilities with multiple processor sites to communicate processor quality control information across phone lines.

Easy to Use
The 391 reads and stores densities in less time than it takes to measure manually. Immediately after completing a measurement, the 391 displays the 21 density readings in addition to QC parameters, such as base plus fog, speed, contrast index, average gradient, D-Max, and gamma.

x-Read QC Analysis Software

Performance Features
x-Read, from Medical Cost Containment Consultants, Inc., sets standards and user-defined high/low allowances for each processor. Create history graphs, store unlimited number of readings, and monitor an unlimited number of processors.

Specifications
Windows 95, 98, 2000, or NT compatible. Connects to X-Rite 390, 391, 380, and 381 densitometers.

Cost Saving Packages

Package 1:
390 densitometer,
396 sensitometer,
x-Read QC Analysis Software,
cable

Package 2:
390 densitometer,
x-Read QC Analysis Software,
cable