



Do you need a user friendly color and whiteness measuring instrument for your production control? Are you looking for a reliable instrument which despite its simplicity can be used for a wide range of materials and products?

**Vibrochrom 400** was developed out of Lenzing AGs long time experience in measuring whiteness and color difference. Therefore operating has been reduced to basic steps, which are simple and easily understandable. In this way casual mistakes

are avoided and the results are accurate and reliable, as required for production control in the everyday routines in the laboratory.

**Vibrochrom 400** is a flexible instrument for reliable and quick determination of whiteness, color difference and fluorescence, which can be used for staple fibers and filament yarns as well as for fabrics, paper, granules, paints and powder etc. The software offers flexible evaluation of your the results, with a wide range of formulas and parameters at your disposition.

### Scope:

Userfriendly, flexible instrument for the easy determination of color difference, whiteness, yellowness and fluorescence of different materials (fiber, filament, granules, powder, etc.)

### Method:

**Vibrochrom 400** is a tristimulus colorimeter with dual beam principle, which measures according to ISO 2469 and DIN 5033. The sample is illuminated by flashlights and the reflection is measured and evaluated.

### Results\*

are calculated by the computer and given as follows (shown below)

### Illumination:

CIE standard source D65 flash light (without ultraviolet radiant energy). As an option, a second flash light emitting ultraviolet light for determination of fluorescence is offered.

### Calibration:

With black (velvet coated cup) and white (teflon or ceramic) working standards for 0 - 100 %. The calibration is referenced to absolute values based on BaSO<sub>4</sub>-powder.

### Repeatability:

± 0.2 % with white standard

### Specimen dimensions:

Any width  
max. depth: 130 mm  
max. height: 115 mm  
measuring aperture: 30 mm Ø

### Power supply:

230 / 115 VAC ± 10 %,  
50 / 60 Hz, 50 W

### Evaluation software:

Included

### Interface:

RS232 included

### Dimensions:

Height: 460 mm  
Width: 320 mm  
Depth: 380 mm  
Weight: 25 kg

### \*Results:

Indexes x, y, z		Whiteness	according to different standards and formulas like Berger, Ganz, Hunter, Hunter2, Cores, Stensby, Taube
x	red		
y	green		
z	blue		
Remission under visual light		Tappi (Optional)	Diffuse brightness of pulp (d/0° at a wavelength of 457mm)
Rx	Remission of red color range		
Ry	Remission of green color range		
Rz	Remission of blue color range	G	Yellowness
Remission under ultraviolet light only (less 380 nm)		AI	Dyeability index (according to Lenzing standard)
dfRx	Remission of red color range		
dfRy	Remission of green color range		
dfRz	Remission of blue color range	L*, a*, b*, ΔE	definition of color according to CIELAB diagram; L: lightness, a: green-red axis, b: blue-yellow axis, ΔE: color difference
Remission under visual and ultraviolet light			
fRx	Remission of red color range		
fRy	Remission of green color range		
fRz	Remission of blue color range	L*, u*, v*	definition of color according to CIELUV diagram
df, dfRz	Fluorescence (df = Berger <sub>WITH UV</sub> - Berger <sub>WITHOUT UV</sub> )	C, H	Chroma, Hue
X, Y, Z	standard color values acc. to CIE	x, y	x=X/(X+Y+Z); y=Y/(X+Y+Z)

Technical data and pictures are subject to change!

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