



**Novo-Haze TX –  
ASTM D1003 compliant Haze measurement made easy**

# Agenda

- **What does the Novo-Haze TX measure?**
  - Transmission and Haze according to ASTM D1003
- **Inside the Novo-Haze TX**
- **Using the Novo-Haze TX**
- **Optional accessories**





## What does the Novo Haze TX measure?

Consumers place great importance on the appearance of a product.

The Novo-Haze TX measures the optical properties Haze and Transmission of a product, e.g., in the glass, film or packaging industry

# The starting point: calibration against "air"

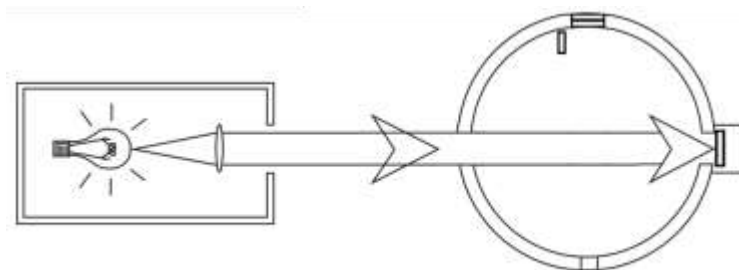


## Perception

No Haze

Perfect Transmission

- High contrast
- lively color tones
- Ideal light transmission



Tara

H=0 %

T=100 %

# Transmission



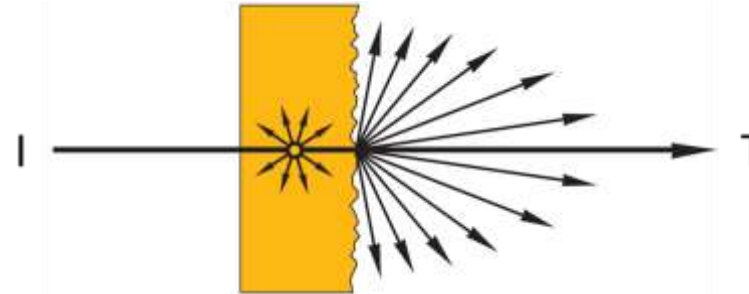
## Perception

High Transmission

- „crystal“clear view

low Transmission

- darkening



Measurement

$H=0\%$

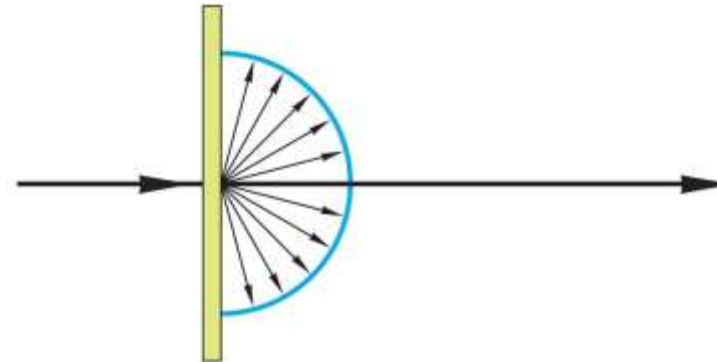
$T=30\%$

In contrast to regular transmittance (fraction of light that passes through the material without scattering), **total transmittance** is the ratio of any transmitted and forward radiation compared to complete incident radiation

# Haze



Perception	
No Haze	<ul style="list-style-type: none"><li>„Crystal“clear image</li></ul>
High Haze	<ul style="list-style-type: none"><li>Increasing milkyness / bad contrast</li></ul>



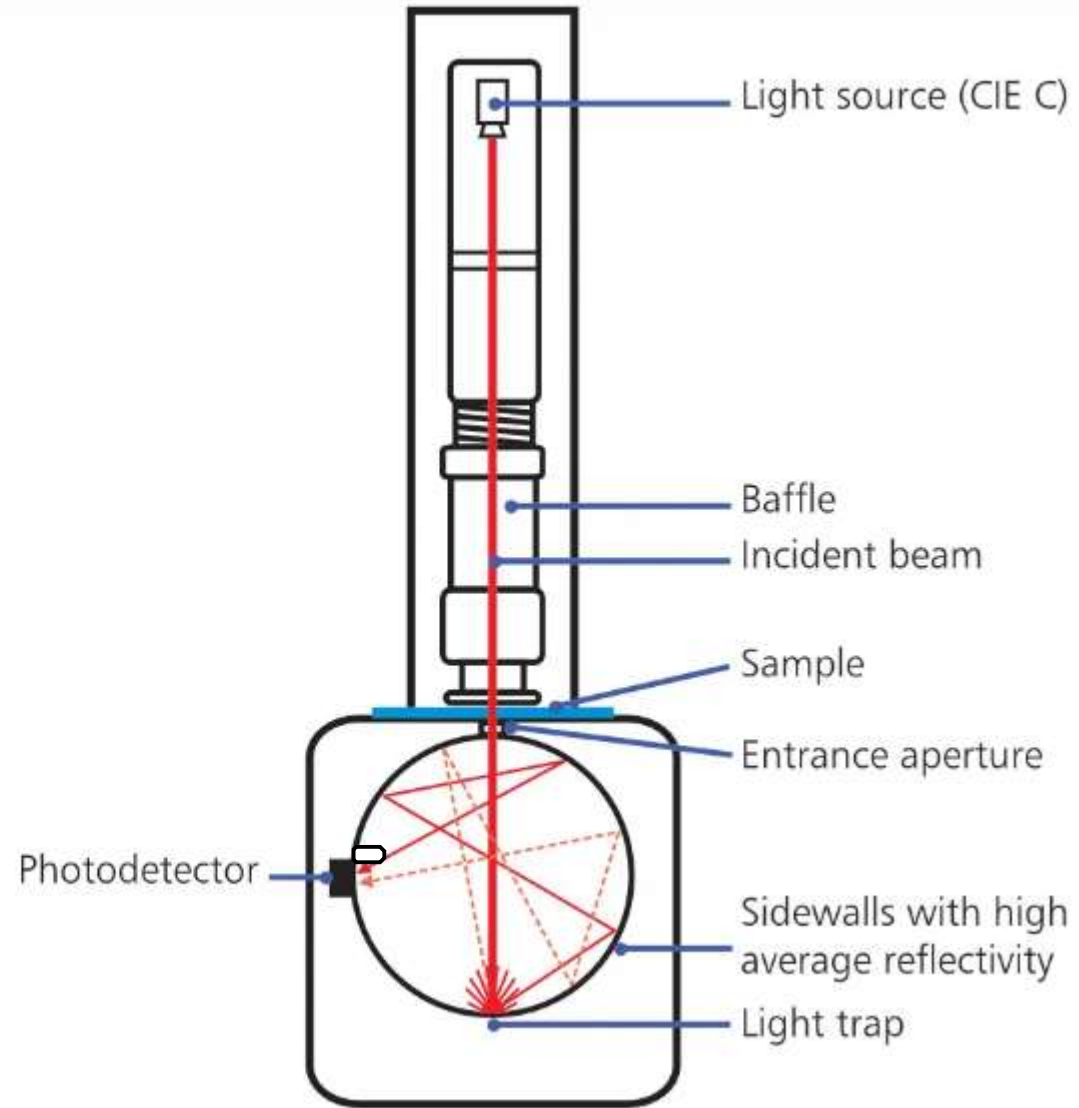
Measurement
H=10 %
T=92 %

Small irregularities cause scattering of light in all directions.  
This scattering  $>2.5^\circ$  from the normal is called "wide angle scattering".

## Inside the Novo-Haze TX



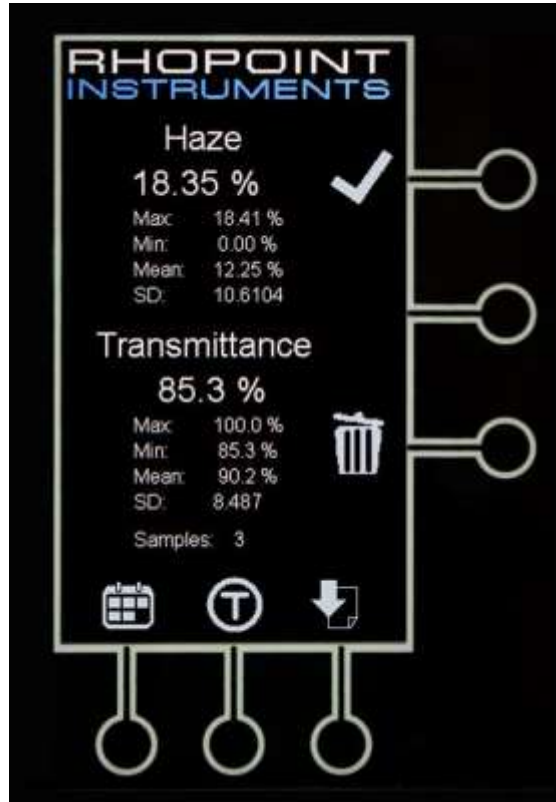
# Inside the Novo-Haze TX



## Using the Novo-Haze TX



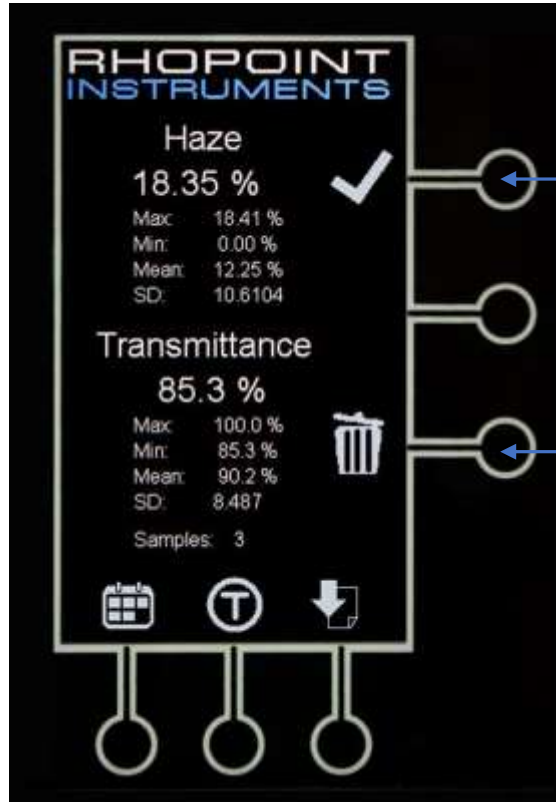
# Using the Novo-Haze TX



The user screen is extremely simple in design and is operated via touch keys.

Current and statistical measurement data are clearly displayed.

# Using the Novo-Haze TX



Trigger measurement

Continuous measurement: press until 2<sup>nd</sup> beep occurs

Delete measurement

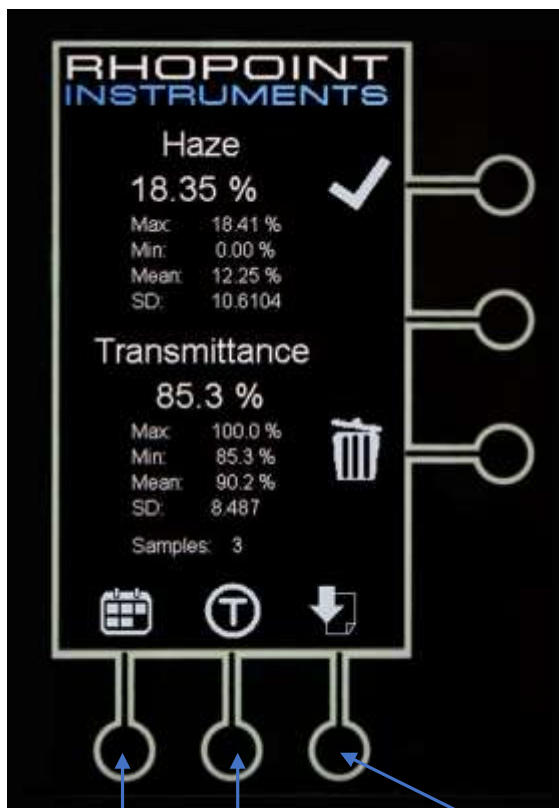
Delete all measurements: press until 2<sup>nd</sup> beep occurs

Note: maximum measurable material thickness: 25mm  
(with enclosed larger light shield)

# Using the Novo-Haze TX



# Using the Novo-Haze TX



Date/Time

Tara / Calibration

Data export (with connected USB stick)

## Exported CSV- file

Date	Time	Serial No	Samples	Haze	Haze Max	Haze Min	Haze Mean	Haze SD	Transmittance	Transmittance Max	Transmittance Min	Transmittance Mean	Transmittance SD
Jan 18 2017	16:50:00	RTX123456A	1	0.02	0.02	0.02	0.02	0	47.4	47.4	47.4	47.4	0
Jan 18 2017	16:50:00	RTX123456A	2	0.02	0.02	0.02	0.02	0.0006	47.4	47.4	47.4	47.4	0.052
Jan 18 2017	16:50:00	RTX123456A	3	0.02	0.02	0.02	0.02	0.0005	47.5	47.5	47.4	47.5	0.092





Optional accessory

# Optional accessory



**Label-Printer**

<b>RHOPOINT</b> INSTRUMENTS www.rhopointinstruments.com (+44)1424739622	
<b>Transmission Hazemeter</b>	
Instrument SN:	TH04190016
Last Certified:	04/03/2016
Test Date:	Oct 04 2016
Test Time:	Mon 09:40:42
<b>Haze: 18.41 %</b>	
Max: 18.41	Min: 0.00
Mean: 9.21	SD: 13.0180
<b>Transmittance: 85.3 %</b>	
Max: 100.0	Min: 85.3
Mean: 92.6	SD: 10.425
Samples: 2	



**Foot-Switch**



## Haze checking standards

The Rhopoint Novo-Haze TX comes with a Haze checking standard, including certificates.

Each standard is valid for 6 months after opening.

# Rhopoint Novo-Haze TX – Uncomplicated ASTM D1003 compliant Haze measurements



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