RHOPOINT
INSTRUMENTS







www.rhopointinstruments.com

RHOPOINT Q FLEX 20

- 20° GLOSSMETER
- DOI METER
- HAZE METER
- GONIOPHOTOMETER

Rhopoint Instruments Limited
is a member of the
Rhopoint Group

RHOPOINT IQ FLEX 20



The Rhopoint IQ GLOSS-HAZE-DOI-GONIOPHOTOMETER has been established as the reference instrument for measuring reflective appearance.

In a single fast measurement it captures information about the gloss and texture on a sample surface.

Combined gloss, haze and orange peel (DOI/RIQ values) information has made the IQ essential for controlling appearance finish in the paints and coatings sector, particularly for automotive and marine coatings.

The **Rhopoint IQ *FLEX 20*** brings this technology to a new format specifically designed for **curved surfaces • small & delicate parts • In-line measurement**.







Designed for curved surfaces

Conventional gloss instruments are best suited to large flat areas and test panels, as curved surfaces cause measurement errors. The small footprint of the **IQ *FLEX 20*** makes it much more effective on curved surfaces than a conventional glossmeter; its compact size and shape also allows access to difficult to reach areas.



Easy customisation for every application

The **Rhopoint IQ *FLEX 20*** can be customised with magnetically attached adaptor plates. These can be easily interchanged for different applications:

- Reduced measurement spot sizes (4 & 2mm) for small parts and curved surfaces.
- Bespoke 3D printed adaptor jigs for repeatable control of small parts, buttons and controls.
- Non-contact plates for in-line applications.
- Alternative rubber, felt or plastic adaptors can be specified for delicate surfaces.

In-line Applications

Non-contact adaptor plates allow the measurement head to be fixed above moving products on line or robotised.

USB or Bluetooth remote control allows easy integration with production systems.



RHOPOINT IQ FLEX 20

THE RHOPOINT IQ *FLEX 20* QUANTIFIES SURFACE QUALITY PROBLEMS THAT ARE INVISIBLE TO A STANDARD GLOSSMETER

The **Rhopoint IQ *FLEX 20*** measures reflected image quality; it is the only hand held instrument that profiles *how* light is reflected from a surface. Glossmeters are usually used to measure the shininess of a surface but are not sensitive to common effects which reduce appearance quality.



Orange peel dramatically reduces appearance quality without affecting gloss readings. These two test panels measure identically with a standard glossmeter.

The Rhopoint IQ FLEX 20 with RIQ/DOI measurement can quantify the differences.



Haze is a common problem associated with coatings and polished materials. Surfaces with haze have a milky finish with a shallow reflected image. This important characteristic is directly measured with the Rhopoint IQ Flex 20.

THE RHOPOINT IQ *FLEX 20* MEASURES

20° GLOSS • RSPEC • REFLECTANCE HAZE
REFLECTED IMAGE QUALITY • DISTINCTNESS OF IMAGE
GONIOPHOTOMETRIC CURVES

REFLECTANCE HAZE – An optical effect caused by microscopic texture or residue on a surface.

Visible symptoms: A milky finish is apparent on the surface with a loss of reflected contrast. Halos and patterns can be seen around reflections of high intensity light sources.

Causes: Poor dispersion, raw material incompatibility, additive migration, vehicle quality, stoving/drying/curing conditions, polishing marks, fine scratches, ageing, oxidisation, poor cleanliness/surface residue.

REFLECTANCE HAZE COMPENSATION – The instrument compensates for reflection from within the coating for highly reflective pigments, metallic coatings and speciality pigments, allowing the haze of **any** painted surface to be measured.

REFLECTED IMAGE QUALITY (RIQ) – RIQ is used to quantify effects such as orange peel and surface waviness. This new parameter gives higher resolution results compared to Distinctness of Image (DOI) measurement and better mimics human perception of surface texture, especially on high quality finishes such as automotive.
Symptoms of poor RIQ: Orange peel, brush marks, waviness or other structures visible on the surface. Reflected images are distorted.

Causes: Application problems, incorrect coating flow, coating viscosity too high/low, sag or flow of coating before curing, incorrect particle size/distribution, overspray, improper flash/recoat time, inter coat compatibility, incorrect cure times and cure temperature.

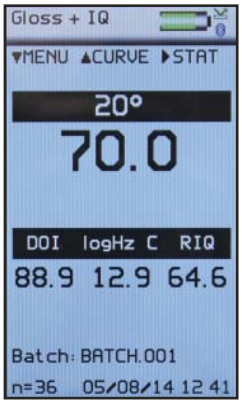
DISTINCTNESS OF IMAGE (DOI) – A measure of how clearly a reflected image will appear in a reflective surface.

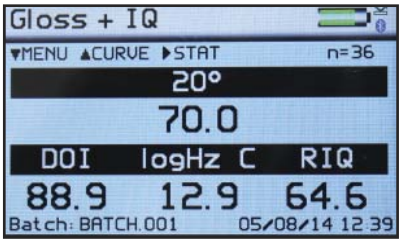


RHOPOINT Q FLEX 20

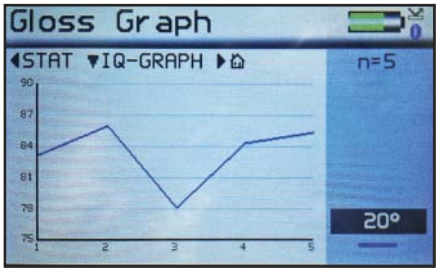
Measurement

Fast measurement of all parameters. Full on-board statistics with graphical trend analysis and reporting.

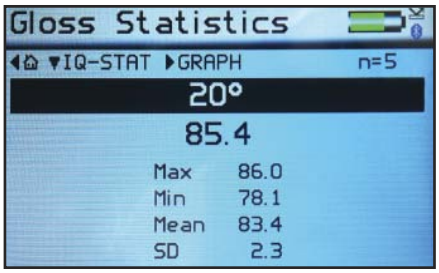


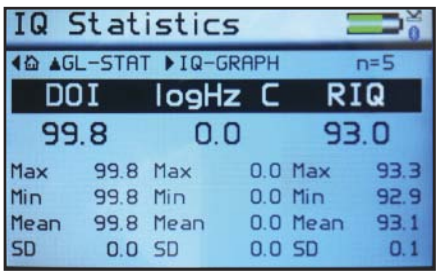


Auto rotating measuring screen for ease of use in all environments



Graphical reporting for quick trend analysis.





Displays full statistics for the number of readings in the current batch.

Goniophotometric Curves

Different types of surface textures produce identifiably shaped reflectance profile. This goniophotometric data can be downloaded to PC for further analysis and comparison via the USB cable or Bluetooth Data Widget.

Easy Batching

User definable batch names and batch sizes for quicker and more efficient reporting.

Rapid data transfer

Software-free data transfer.

USB connection to PC instantly recognises the device as a drive location which facilitates the quick transfer of files using Windows Explorer or similar.

Direct data input via Bluetooth

Instantly transmit measured readings directly to programs such as MS Excel on your PC / tablet / smartphone to greatly simplify the reporting process.

	1	2	3	4	5	6
DATE	05/10/2012	05/10/2012	05/10/2012	05/10/2012	05/10/2012	05/10/2012
TIME	11:52:20	11:52:25	11:52:30	11:52:36	11:52:41	11:52:47
20°	87.2	87.3	87.1	87.1	87.2	87.2
60°	92.6	92.6	92.6	92.6	92.6	92.5
85°	98.1	98.1	98	98.1	98	98
HAZE	0	0	0	0	0	0
LogHaze	0	0.6	0	0	0.6	0.1
DOI/RIQ*	99.8	99.8	99.8	99.8	99.8	99.8
RSPEC	87.2	87.3	87.1	87.1	87.2	87.2
CDiode	250	250	250	250	250	250
Calibrated	05/10/2012	05/10/2012	05/10/2012	05/10/2012	05/10/2012	05/10/2012
Serviced	12/09/2012	12/09/2012	12/09/2012	12/09/2012	12/09/2012	12/09/2012
S/N	1002322	1002322	1002322	1002322	1002322	1002322

Power

20,000+ readings per charge. The instrument is rechargeable via USB/PC or mains.

SAMPLE APPLICATIONS



Automotive - Body



Yacht Manufacturers



Automotive Interior



Metal Polishers

RHOPOINT FLEX 20

SAMPLE APPLICATIONS



Mobile Phones



Tablet PC



Jig



Automotive Re-finish



Paints and Coatings



Automotive Coatings



Curved Surfaces



Plastics Industry

SPECIFICATIONS

GLOSS

20° Improved accuracy and resolution on high gloss & metallic samples (>70GU when measured at 60°)

Resolution 0.1GU • Repeatability ±0.2GU
Reproducibility ±0.5GU

Measurement range: 20°: 0-2000GU

RSPEC

Peak Specular Reflectance: 20° ±0.09905°
Measurement range: 0-2000GU

HAZE

Near Specular Reflectance measured at 17-19°, 21-23°

Switchable between Haze Units (HU) and Log Haze Units (LogHU)

Resolution 0.1HU • Repeatability ±0.2HU
Reproducibility ±1.5HU

STANDARDS: ASTM E430, ISO 13803

RIQ

Resolution 0.1 • Repeatability ±0.2 • Reproducibility ±0.5
Measurement range: 0-100

DOI

Resolution 0.1 • Repeatability ±0.2 • Reproducibility ±0.5
Measurement range: 0-100

STANDARD: ASTM D5767

GLOSS CALIBRATION STANDARD

Traceability: BAM Traceable

Uncertainty: 0.4GU

RHOPOINT FLEX 20

INSTRUMENT SPECIFICATION

Operation
- Full colour easy to read screen
- Auto-rotating measurement screen
- Adjustable brightness
- 6 button touch sensitive interface

Construction
- All aluminium construction – enclosure, optics, standard holder

Measurement
- Single button push to measure all parameters
- Fast measurement
- Results batching with user definable names

Statistical Analysis
- Max, min, mean, SD
- All measured parameters

Graphical Analysis
- On board trend analysis
- Gloss and IQ values

Power
- Rechargeable lithium ion
- 17+ hours operation
- 20,000+ readings per charge

Recharge Time
- Mains charger: 4hrs

Memory
- 8 MB = 999 readings
- User definable alphanumeric batching

Data Transfer
- PC compatible
- USB connection, no software install required

Measurement Area - remote control via USB / Bluetooth
- 20° = 6mm x 6mm

Options
- 2 or 4mm adaptor heads available

Dimensions & Weight
- 150mm x 79mm x 34mm (without head) (H x W x D)
- 550g
- Packed weight approx: 1.5kg
- Commodity code: 9027 5000

Languages

BCF Associate
BRITISH COATINGS FEDERATION

INCLUDED ACCESSORIES

- Instrument with Flex head 20°
- Calibration tile with holder
- USB data cable
- Mini CD
  - Instruction manual
  - Bluetooth data app
  - Example Excel spreadsheets
- Instructional videos

OPTIONAL EXTRAS

Reduced spot size adaptor plate: 2 or 4mm

Bespoke 3D adaptor jigs, designed and printed to suit customer application

In-line fixing kit

EXTRAS

FREE EXTENDED WARRANTY
Guaranteed for the life of the instrument

CALIBRATION AND SERVICE
Fast and economical service via our global network of accredited calibration and service centres, please visit www.rhopointinstruments.com/support for detailed information.

ASTM INTERNATIONAL ORGANIZATIONAL MEMBER

bsi. UKAS MANAGEMENT SYSTEMS
Certificate no: FM 29741
ISO 9001:2008

PRA PAINT RESEARCH ASSOCIATION MEMBER

LOCAL AGENT

novasys
novasys group pty ltd
po box 1150 mountain gate 3156
tel: +61 3 9752 3766 fax: +61 3 9752 3977
website: www.novasys.com.au e-mail: info@novasys.com.au

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RHOPOINT INSTRUMENTS

Rhopoint Instruments Limited • Rhopoint House
Enviro 21 Park • Queensway Avenue South • St Leonards-on-Sea
East Sussex • TN38 9AG • UK • Tel: +44 (0) 1424 739622
sales@rhopointinstruments.com • www.rhopointinstruments.com

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