INFRARED MEASUREMENT MULTI-FILTER INSTRUMENT (IRPC)
INFRARED MEASUREMENT
MULTI-FILTER INSTRUMENT (IRPC)

IRPC INSTRUMENTS FROM:

- QUALITY IMPROVEMENT FOR PROCESS CONTROL
- IN-SITU (ON-LINE\OFF-LINE)
- DEVELOPMENT\PRODUCTION\CUSTOMER SERVICE

IRPC INSTRUMENTS ARE MONITORING:

- MOISTURE, FAT, AND PROTEIN CONTENT
- SOLIDS AND LIQUIDS
- OPTICAL INFRARED TECHNOLOGY
INFRARED MEASUREMENT
MULTI-FILTER INSTRUMENT (IRPC)

IRPC SENSOR TECHNOLOGY

λ (µm)

ν (Hz)

0.395 0.455 0.490 0.575 0.590 0.650 0.750

0.01 0.1 0.4 0.75 1 10 30 100


3.10^{16} 3.10^{15} 3.10^{14} 3.10^{13} 3.10^{12}

U.V.  Violet  Blue  Green  Yellow  Orange  Red  I.R.
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MULTI-FILTER INSTRUMENT (IRPC)

IRPC INSTRUMENT MEASURING SYSTEM

SENSOR

OUTPUT SIGNAL

LIGHT SOURCE

MULTI-FILTER

MEASURING SPOT

PROCESSING OF THE SIGNAL

F1  F2  F3  F4  F5  F6
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IRPC INSTRUMENT (MOISTURE\FAT\PROTEIN)

- A NEW GENERATION OF ON-LINE NEAR INFRARED REFLECTANCE
- COMPACT INSTRUMENT, MEASURES ON-LINE IN REAL-TIME (SOLIDS\LIQUIDS)
- SIMULTANEOUS MEASURING OF DISTINCT COMPONENTS
- CALIBRATION AND CONFIGURATION BY COMPUTER
- POSSIBILITY OF DATA PROCESSING BY PC
INFRARED MEASUREMENT
MULTI-FILTER INSTRUMENT (IRPC)

INSTALLATION

• FOR MEASUREMENT OF SOLIDS (ON A CONVEYOR BELT/ON A HOPPER)
• FOR MEASUREMENT OF LIQUIDS IN A PIPE
• CALIBRATION WITH A COMPUTER
• STORAGE OF MEASURED SAMPLING BY THE SENSOR
• SAMPLES WITH DIFFERENT VALUES IN THE RANGE
• CONTROLLED LAB ANALYSIS
• DETERMINATION OF THE OPTIMAL CALIBRATION CURVE BY SOFTWARE
• EASY TO CREATE A CALIBRATION CURVE
INFRARED MEASUREMENT
MULTI-FILTER INSTRUMENT (IRPC)

CALIBRATION - SAMPLING METHOD

FOR EACH SAMPLE, PUSH BUTTON ON SENSOR FOR 20 SECONDS

LABORATORY SAMPLES MEASURES

<table>
<thead>
<tr>
<th>IR DATA</th>
<th>LAB VALUES</th>
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<tbody>
<tr>
<td>1</td>
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INFRARED MEASUREMENT
MULTI-FILTER INSTRUMENT (IRPC)

CALIBRATION - SAMPLING

SAMPLES VALUES IR DATA TRANSFERT TO THE COMPUTER

SAMPLE 1
SAMPLE 2
SAMPLE 3
SAMPLE 4
SAMPLE N

AIS CALIBRATION SOFTWARE
### CALIBRATION - SAMPLING

<table>
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<tr>
<th>Sample No.</th>
<th>Product</th>
<th>Date</th>
<th>Time</th>
<th>Results of Filters 1 to 6</th>
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<td>Filtre 2</td>
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</tbody>
</table>
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SOFTWARE - CALIBRATION CURVE

REFERENCE SAMPLES

VALUES OF FILTER
INFRARED MEASUREMENT
MULTI-FILTER INSTRUMENT (IRPC)

CALIBRATION CURVE

ACCURACY

SAMPLES USED
INFRARED MEASUREMENT
MULTI-FILTER INSTRUMENT (IRPC)

IRPC COMPONENTS

WATER OR AIR COOLING

CALIBRATION PLATE

AIS SOFTWARE
INFRARED MEASUREMENT MULTI-FILTER INSTRUMENT (IRPC)

IRPC WITH COMPUTER

PORTABLE PC WITH AIS SOFTWARE FOR:

CALIBRATION

- Collected measures from sensor
- Automatic calibration curve by computer software
- Calibration curves of different products
- Configuration of the sensor
- Analog output of each channel
- Alarms
- Recipes
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IRPC WITH COMPUTER

PC NETWORK WITH AIS SOFTWARE FOR:

- Calibration of 1 to 64 sensors
- Collected measurement from sensors
- Automatic calibration curve by computer software
- Calibration curves of different products
- Configuration of the sensor
- Analog output of each channel
- Display and alarms
- Two (2) distinct components in real-time
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IRPC CONNECTIONS

- JUMPER LINK
  LEFT: RS 485
  RIGHT: RS 32

- CONNECTOR RS232C
  CABLE
  3 PINS IRP SOCKET + 9 PINS PC SUB D
  LENGTH MAX 20 M

- Power supply 24 Vac
- Data link RS485
- Input 4-20 mA
- Output Channel 1
- Output Channel 2

- Cable: 3 pins IRP socket + 9 pins PC Sub D
- Length max: 20 m
INFRARED MEASUREMENT
MULTI-FILTER INSTRUMENT (IRPC)

IRPC DIMENSIONS
INFRARED MEASUREMENT
MULTI-FILTER INSTRUMENT (IRPC)

IRPC FOR LABORATORY

- HOLDER FOR ANALYZER
- SAMPLES IN «PETRI» DISH
INFRARED MEASUREMENT
MULTI-FILTER INSTRUMENT (IRPC)

IRPC ON LIQUID IN A BYPASS ARRANGEMENT

SAPPHIRE WINDOW Q 58MM
INPUT
TÉFLON
MATERIAL: STAINLESS STEEL
MATERIAL: TÉFLON
OUTPUT
THICKNESS 0.5, 3, AND 5 MM
(ACCORDING TO APPLICATION)
INFRARED MEASUREMENT
MULTI-FILTER INSTRUMENT (IRPC)

IRPC FREE FALL

- HOLDER FOR ANALYZER
- SAMPLER ON-LINE