

# KYTOLA OIL LUBRICATION FLOW MONITORING SOLUTIONS

100 % INDUSTRIAL QUALITY

## OVAL D2 MEASURING STATION

up to 64 measuring  
channels

100% CORRECT FLOW RATE

## OVAL GEAR FLOW METERS

single or  
multi-channel blocks

STAINLESS STEEL

## OVAL FLOW INSTALLATION PANEL

with or without inlet  
manifold

# THE COMPLETE OIL LUBRICATION FLOW MONITORING SOLUTION

SR OVAL GEAR FLOW METERS



1.

KLD SMART TOUCHSCREEN DISPLAYS



2.

OVAL D2 MEASURING STATIONS



3.

OVAL FLOW INSTALLATION PANELS



4.

**1. SR OVAL GEAR FLOW METERS**

- Single or multi-channel models
- Viscosity and temperature independent
- Secured lubrication in all situations

**2. KLD SMART TOUCHSCREEN DISPLAY**

- Single or multi-channel models
- Flow rate, totalizer and batching
- 4-20 mA output
- Modbus RTU/Modbus TCP (Ethernet)

**3. OVAL D2 MEASURING STATION**

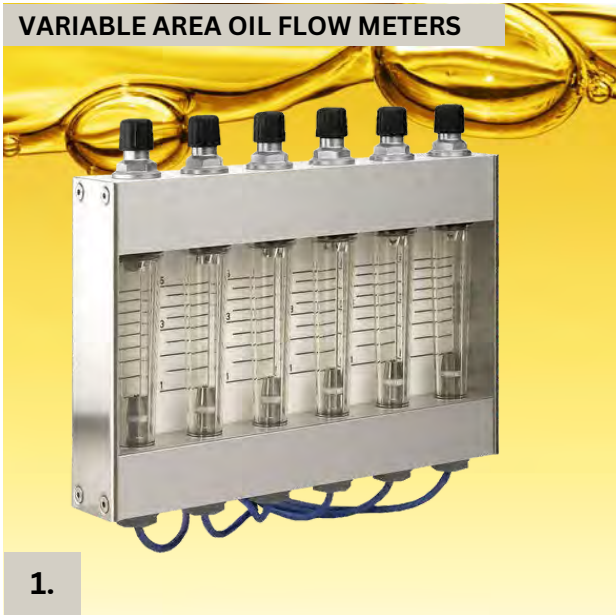
- Up to 64 measuring channels
- Flow-rate and multiple flow alarms
- Modbus RTU communication

**4. OVAL FLOW PANEL STAINLESS STEEL**

- With or without plexiglass door
- Mounted on a hood wall or floor stand
- Oil supply manifold

# THE COMPLETE OIL LUBRICATION FLOW MONITORING SOLUTION

VARIABLE AREA OIL FLOW METERS



1.

FLOW ALARM MONITORING SYSTEMS



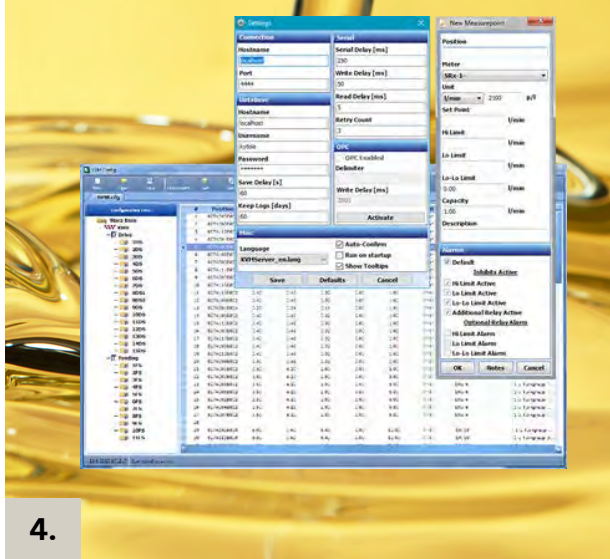
2.

OILCOL OIL COLOUR ANALYZERS



3.

KVM SUITE CONTROL ROOM SOFTWARE



4.

**1. OIL FLOW METERS**  
VARIABLE AREA MEASUREMENT

- Single or multi-tube models
- Relative scales 20-100% or direct reading scale in required flow unit
- Low flow alarms

**2. ALARM I/O & NK**  
FLOW ALARM MONITORING

- 1-48 / 1-30 low flow alarm sensors
- Individual flow alarms/group alarm
- Modbus RTU communication / Relay output

**3. OILCOL**  
OIL COLOUR ANALYZER

- Online colour measurement
- ASTM D1500 scale (0.5 - 8.0)
- 4-20 mA output

**4. KVM SUITE**  
CONTROL ROOM SOFTWARE

- Online flow and alarm information
- Displays alarm history
- Flow trend of all measuring points



# WHY KYTOLA FLOW MONITORING SOLUTIONS

It is estimated that 40-60% of bearing failures are caused by insufficient lubrication and lubricant contamination.

Kytola helps you keep your processes up and running. Save time and money with Kytola oil flow monitoring solutions.

WE DELIVER  
**24/7/365**  
RELIABILITY

# TYPICAL APPLICATIONS

- Lubrication oil flow monitoring
- Industrial flow monitoring
- Process control
- Pulp & Paper mills
- Steel mills
- Mining

**SECURED, OPTIMIZED AND RELIABLE OPERATION AT ALL TIMES, IN ALL CIRCUMSTANCES**

**Avoiding one bearing failure can reimburse the cost of a Kytola lubrication monitoring system**

# KYTOLA SR

## OVAL GEAR FLOW METERS

Kytola SR Oval gear flow meters measure oil flow rates with 100% reliability. The SR meter is a true positive displacement meter that always shows the correct flow rate on the whole measurement range, regardless of oil temperature and viscosity changes.

The SR Oval gear flow meters have a by-pass valve that enables service on the run without need for downtime. They are superior in continuously lubricating the bearing, even if gears jam.

## FEATURES

Several flow ranges from 0.1 - 1 L/min up to 200 L/min

Multi-channel models for flow ranges of up to 6 L/min

Viscosity and temperature independent

Flow adjustment valve

Service valve

Fail-safe coil sensor

Low pressure drop

Secured lubrication in failure situation



# KLD SMART

## TOUCH SCREEN DISPLAY

The Kytola KLD Smart touchscreen display is designed to monitor and display flow rates and flow alarms measured by Kytola SR oval gear meters or other flow meters with pulse outputs.

KLD Smart is conveniently operated using a touchscreen, which enables easy monitoring of flow rates and alarms, and management of settings.

## FEATURES

1 or 8 channel models

Flow measurement

Totalizer counter and batching

Pulse or mA input

Alarm relay

Multiple flow units

Multiple flow alarm levels

Visible indication of alarm type

4-20 mA output

Modbus RTU or Modbus TCP  
(Ethernet) communication



# OVAL D2

## MEASURING STATION

Kytola Oval D2 Measuring station is designed to monitor oil flow rates measured by SR oval gear flow meters in circulation lubrication systems.

The Oval D2 measuring station operates as an independent station and it can be connected to Kytola KVM Suite monitoring software or to customer's PLC or DCS via Modbus RTU protocol.

## FEATURES

16, 32, 48 or 64 measuring channels

In excess of 100 measuring stations and thousands of measuring points in one serial communication line.

Modbus RTU (RS-485 or RS-422) communication

USB port for local configuration

Display for flow rate, set point, alarms, position number etc.

Multiple flow alarms (zero/very low, low and high alarm)

Four alarm relays, one for each alarm type and one programmable relay

Versatile alarm handling and alarm inhibits





# PANELS

The Oval Flow panels with Oval D2 measuring stations and Kytola SR oval gear flow meters are ideal for oil flow monitoring in large processes where multiple, or even thousands, of lubrication points are used.

The panel has a sturdy stainless steel construction, especially designed to withstand the harsh conditions in process industry.

## FEATURES

Stainless steel

With or without plexiglass door

Mounting on a hood wall or floor mounting stand

## OIL SUPPLY MANIFOLD FEATURES

Stainless steel

Connections, shut-off valve, flushing etc. according to customer's requirements



## VARIABLE AREA **FLOW METERS**

Kytola variable area flow meters are cost-efficient flow meters made to withstand harsh industrial conditions.

The flow meters provide a visual local flow indication and can be provided with flow alarm sensors.

The flow meters come with relative scales 20-100% or direct reading scales in required flow unit.

## **FEATURES**

Single or multi-channel models with up to 7 flow tubes

With or without flow adjustment valve

No electric power needed

Quick-change tube (selected models)

Flow alarm-ready

Easy to read even with dark oils

Sturdy construction with impact resistant flow tubes



# ALARM I/O SUBSTATION

The Kytola Alarm I/O is a substation which is designed to transmit individual low flow alarms from Kytola variable area oil flow meters to control room.

## FEATURES

For Kytola industrial variable area oil flow meter models VExA, KA and TLA

For 1-48 low flow alarm sensors

In excess of 100 substations and thousands of measuring points in one serial line

Communication with upper level systems

Modbus RTU protocol

# NK

## GROUP ALARM AMPLIFIER

The Kytola NK alarm amplifier has a common relay output, which is activated and transmits an alarm signal to control room if one or more Kytola variable area flow meters have a flow alarm.

## FEATURES

For 1-30 low flow alarm sensors

Group alarm if one or more sensors cause a flow alarm

Relay output



# OILCOL

## OIL COLOUR ANALYZER

Kytola Oilcol Oil colour analyzer is an online instrument based on visible light absorbance (transmittance) to indicate the ASTM D1500 color value of oil.

As the measurement is performed online, the response is continuous and fast, which can be crucial in order to detect sudden changes in oil quality and further to be able to react before any failures of the oil using equipment occur.

Timeconsuming and expensive sampling and laboratory analyses are also avoided.

## FEATURES

Online oil colour analyzer

ASTM D1500 scale from 0.5 to 8.0

Display resolution 0.1

Accuracy  $\pm 0.3$  (as the ASTM scale step is 0.5)

Online measurement

Easy to install

Sturdy construction

4 – 20 mA output

Modbus RTU communication



## INDUSTRIES

Wherever it is essential to know changes in oil colour and the ASTM D1500 colour value

Petrochemical industry

Offshore and marine

Pulp and paper

Steel mills

Mining

Power plants

# KVM SUITE

## CONTROL ROOM SOFTWARE

The KVM Suite monitoring program is an online application for Kytola oil lubrication monitoring systems. It provides online flow and alarm information from Kytola's SR oval gear flow meters or alarm indication for Kytola's variable area flow meters.

It is easy to install and offers reliable user-friendly operation. Ideally the KVM application is used to complete Kytola's comprehensive oil flow lubrication product line for full control of real-time lubrication performance at a factory or in a mill.

The KVM Suite consists of three applications:

- KVM Config: system and alarm configuration
- KVM Control: visual flow and alarm monitoring
- KVM Server: communication

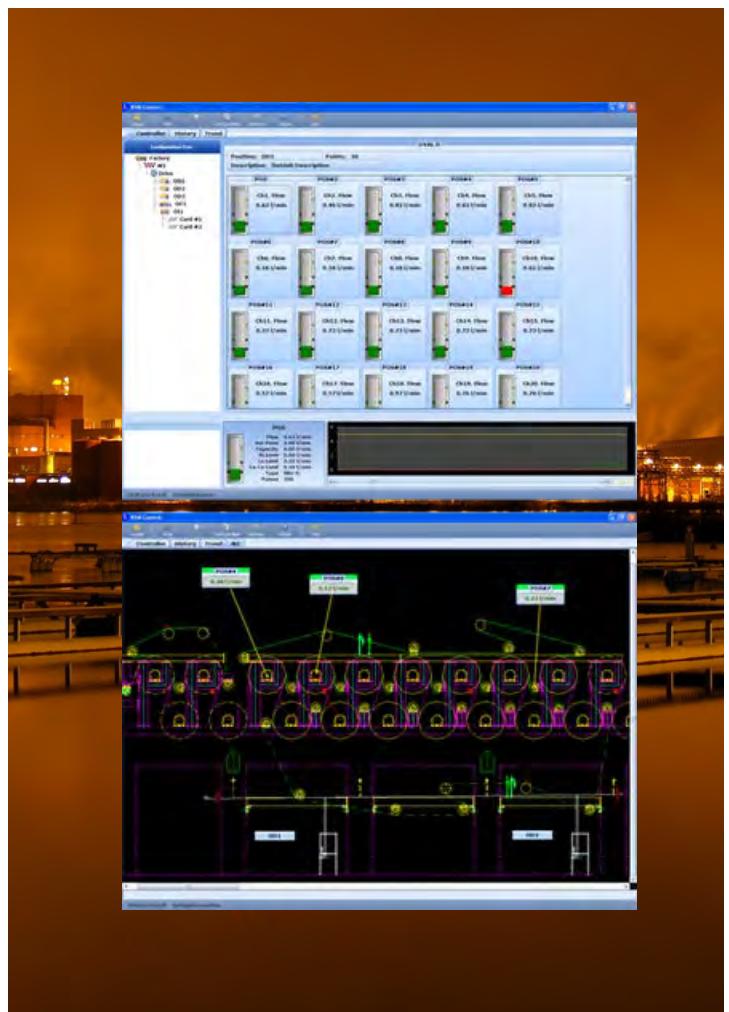
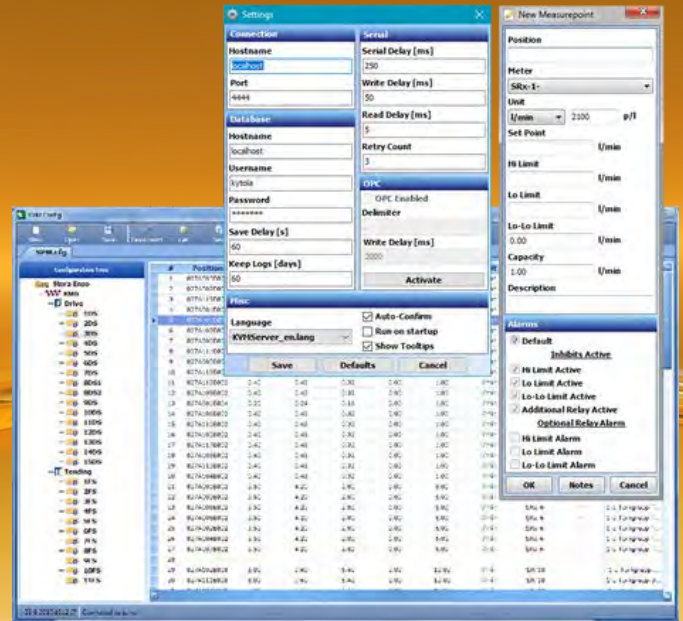
## FEATURES

In excess of 100 measuring stations can be connected to the host computer via a serial communication line.

All the data read by Oval D2 measuring stations or Alarm I/O sub stations is available in KVM Suite. In addition, the program displays

- Alarm history
- Flow trend of all measuring points, both momentary and history for SR oval gear flow meters

OPC server available, enables connection to customer's DCS.



# START-UP ASSISTANCE

Kytola offers a comprehensive commissioning and start-up package with in-depth training to operators.

Kytola assistance ensures a smooth start up and efficient use of the delivered Kytola oil flow lubrication monitoring system from the very first moment.

AT YOUR SERVICE  
**WORLDWIDE**

# MAINTENANCE AND SERVICE AGREEMENT

At Kytola Instruments, we are dedicated to contribute to the maximum runnability of our customer's machinery.

By signing a Maintenance and Service agreement with Kytola, one ensures best possible operation of their Kytola products and systems.

## FAST AND TRUSTED SERVICE



# KYTOLA INSTRUMENTS

## PRECISION MEETS QUALITY

[WWW.KYTOLA.COM](http://WWW.KYTOLA.COM)



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INSTRUMENTS