

[www.kytola.com](http://www.kytola.com)

**Kytola**  
INSTRUMENTS



## PRODUCT CATALOG



ORDERS:  
+1 678 701 3569  
[flow@kytola.com](mailto:flow@kytola.com)

# Welcome to Kytola Instruments

Your trusted flow measuring and monitoring provider

## WHO WE ARE

Kytola Instruments' legacy is based on long-term experience of designing and manufacturing custom-made equipment for most industrial branches. All our products are designed and precision manufactured in Muurame, Finland, using the state-of-the-art materials and testing systems. The key applications are found in pulp and paper, energy, chemical, mining, steel, water and aquaculture and food industries.

## OUR GOAL

Our goal is to help all our customers to succeed and further improve their operational reliability by providing proven, low-maintenance solutions to their process and application challenges. We do this by designing and delivering accurate, high-quality products that are made to endure and perform reliably in the demanding conditions and industrial environments.

## WHAT WE OFFER

This catalog only shows a small portion of our capabilities. If you do not find exactly what you are looking for, please do not hesitate to contact us. We are known for being agile and solution-oriented. It is our everyday business to customize our products to suit most needs and specifications.

We strive to efficiently meet our customers' demands for short product lead-time together with superior customer service. Based on your process and system needs, our skilled technical support specialists suggest instrumentation to help you with your specific application requirements. In other words: you present your needs and challenges and we provide a cost-efficient and tailored solution.

We look forward to serving you.

### USA

900 Old Roswell Lakes Parkway, Suite 120  
Roswell, GA 30076  
Tel.: +1 (678) 701-3569  
Fax: +1 (514) 448-5151

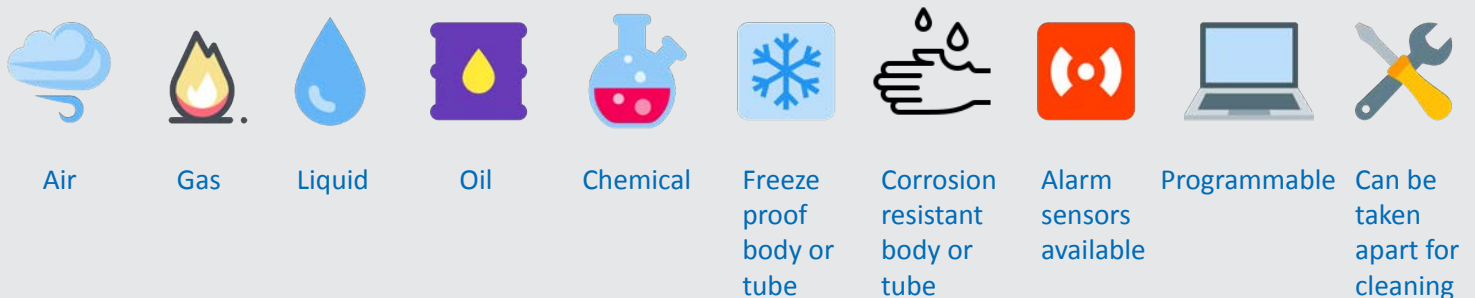
### CANADA

1321 Blanshard Street, Suite 301  
Victoria (BC) V8W 0B6  
Tel.: +1 (678) 701-3569  
Fax: +1 (514) 448-5151



[flow@kytola.com](mailto:flow@kytola.com)  
[www.kytola.com](http://www.kytola.com)

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## VARIABLE AREA FLOW METERS



Kytola flow meters are industrial quality products made in Finland. A country known for its harsh, unforgiving environment. So it's no mistake that our flow meters are sturdy, accurate and have high pressure capability.

Our flow meters come from our standard product lines and can be custom-designed to your specifications incorporating special materials of construction, connections, pressure ratings and calibration.





## VARIABLE AREA FLOW METERS

## SINGLE TUBE



Machined acrylic block

### A

- Flow rate water up to 1.7 USGPM (6.5 LPM)
- Flow rate air up to 8.5 SCFM (220 NLPM)

### C

- Flow rate water up to 8.5 USGPM (30 LPM)
- Flow rate air up to 36 SCFM (1,000 NLPM)

### D

- Flow rate water up to 28 USGPM (100 LPM)
- Flow rate air up to 100 SCFM (2,500 NLPM)

Applications: liquid and gas flow measurement, water treatment, sealing water measurements



### BA

- High quality acrylic flow meter with a flow adjustment valve and rapid fittings for plastic hose.
- Flow rate air up to 16 SCFH (7.5 NLPM)

Applications: gas purging

For low gas flow rates



Adjustable flow alarm

### E, EA

- Flow rate water up to 40 USGPH (2.5 LPM)
- Flow rate air up to 200 SCFH (90 NLPM)

Applications: heat treatment ovens and automatic welding lines, purging and shield gas



### L

- Flow rate water up to 55 USGPH (3.5 LPM)
- Flow rate air up to 260 SCFH (110 NLPM)
- CRN approved

Applications: air purging, sealing water measurements

Many options



Tube cleaner

### KPM

- Excellent corrosion, heat and freeze resistance
- Flow rate water up to 50 USGPH (3 LPM)

Applications: water purging, contaminated water



## VARIABLE AREA FLOW METERS

## SINGLE TUBE



### H

- Flow rate water up to 100 USGPM (375 LPM)
- Flow rate air up to 550 SCFM (14,000 NLPM)

Applications: process industry, chemical industry, water treatment plants, flow measurement in PVC piping.



### K

- Flow rate water up to 27.5 USGPM (120 LPM)
- Flow rate air up to 120 SCFM (3,000 NLPM)

Applications: sealing water measurements for vacuum pumps, lubrication oil measurements, gas flow measurements, flush water



### V

- Flow rate water up to 8.5 USGPM (32.5 LPM)
- Flow rate air up to 45 SCFM (1,100 NLPM)
- CRN approved

Applications: sealing and cooling water measurements, lubrication oil measurements, gas flow measurements, flush water





## KLFH

- Flow rate water up to 27.5 USGPM (120 LPM)
- Flow rate air up to 120 SCFM (3,000 NLPM)



## VLFH

- Flow rate water up to 8.0 USGPM (30 LPM)
- Flow rate air up to 35 SCFM (900 NLPM)

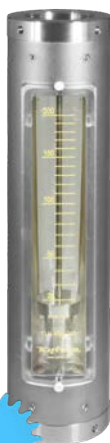


## TLFH

- Flow rate water up to 105 USGPM (400 LPM)
- Flow rate air up to 450 SCFM (12 Nm<sup>3</sup>/min)



Optional DN or ANSI flanges available in models KLFH, VLFH and TLFH.



## TL

- Flow rate water up to 105 USGPM (400 LPM)
- Flow rate air up to 450 SCFM (12 Nm<sup>3</sup>/min)





## VARIABLE AREA FLOW METERS

## MULTI-TUBE



2 – 12 tubes

### ExK

- Flow rate water up to 40 USGPH (2.5 LPM)
- Flow rate air up to 200 SCFH (90 NLPM)

Applications: water and air purging, shield gas measurements, other gas and liquid measurements



Max 7 tubes

### VEx

- Flow rate water up to 8.0 USGPM (30 LPM)
- Flow rate air up to 27.5 SCFM (700 NLPM)
- CRN approved

Applications: sealing and cooling water, lubrication oil and gas flow measurements







Large  
flow rates

## ML

- Flow rate water up to 260 USGPM (60,000 LPH)

Applications: liquid flow measurement in high pressure and temperature



Max pressure  
3,400 psi

## MP

- Flow rate water up to 110 USGPH (400 LPH)
- Flow rate air up to 450 SCFH (12,000 NLPH)

Applications: liquid and gas flow measurement of aggressive media in high pressure and temperature



Panel  
installation

## MP WITH VALVE

Available with flanges up to DN 15 / ANSI 1/2"



## CONSTANT FLOW REGULATORS

Constant flow regulators provide constant flow of liquids or gases regardless of pressure variations within a distribution system.

The use of a constant flow regulator can save machinery wear and money depending on the type of application. Kytola Instruments constant flow regulators are membrane type differential pressure controllers, which are easy to take apart for cleaning or maintenance.



## CONSTANT FLOW REGULATORS



Stainless steel construction

### 2851

- Flow rate water up to 45 USGPH (3.0 LPM)
- Flow rate air up to 260 SCFH (110 NLPM)
- Usually supplied with flow meter model L

Applications: control of seal waters, control of flush waters, water purging and air purging



High pressure

### 2914

- Maximum flow water 5.3 USGPM (20 LPM)
- Nominal flow water 3.7 USGPM (14 LPM)
- Usually supplied with flow meter model VL

Applications: control of seal waters, control of flush waters, batching of liquids and water purging



3630

3631



Adjustable alarm

### 3630 / 3631

- Maximum flow rate water up to 24 USGPH (1.5 LPM)
- Maximum flow rate air up to 127 SCFH (60 NLPM)

Applications: water purging for instruments, gas purging in  $\Delta p$  measurements and hydrostatic density measurements



## SEAL WATER FLOW METERS



Cooling and lubrication is essential for any type of seal. The SLM is designed for applications on pumps and mechanical seals where an uninterrupted seal water flow is required.

It has been proven that proper adjustment of flow and pressure will result in water and energy savings. The SLM is compatible with all seal types.





## SEAL WATER FLOW METERS



### SLM

- Min 0.25 – 6 USGPH (0.025 – 0.4 LPM)
- Max 0.25 – 3.5 USGPM (1 – 13 LPM)

Applications: single and double mechanical seals, gland packings, flushing and purge water applications;  
SLMx-2: double mechanical seals



### SLMx-2

- Min 1 – 15 USGPH (0.05 – 1 LPM)
- Max 0.1 – 2 USGPM (0.5 – 8.0 LPM)



## OVAL GEAR FLOW METERS

Kytola SR oval gear flow meters show the correct flow on the whole measurement range, even if oil temperature or viscosity changes. They are designed and developed for lubrication oil measurement in demanding industrial environments. They are superior in continuous lubrication even if the gears jam.

SR oval gear flow meters have:

- 5-year warranty
- By-pass valve for service on the run
- Fail safe pulse sensor
- Aluminium body with customizable block size
- Choice of gear material
- Variety of sensor types



## OVAL GEAR FLOW METERS



### SR1 SINGLE

- Min 0.25 USGPM (1 LPM)
- Max 32 USGPM (120 LPM)

Viscosity independent



### SR1 SINGLE WITH SERVICE VALVE

- Min 0.2 PPM (0.1 LPM)
- Max 12 PPM (6 LPM)

Service valve

### SRx MULTI-CHANNEL



Choice of block size

- Min 0.2 PPM (0.1 LPM)
- Max 12 PPM (6 LPM)
- Multi-block 4, 6 or 8 channels
- Panel mounting option



High flow rate

### SRO

- Min 2.6 USGPM (10 LPM)
- Max 53 USGPM (200 LPM)
- Transparent cover for ease of monitoring



SR1, SRx, SRO and 2950 applications: lubrication oil monitoring, industrial oil flow monitoring, and process control



### 2950

- Min 0.2 PPM (0.1 LPM)
- Max 18 USGPM (70 LPM)

Alternative sensors



### 6210P

- Min 0.2 PPM (0.1 LPM)
- Max 8 USGPM (30 LPM)

Applications: chemical dosing, industrial flow monitoring, process control

Corrosion resistant





## DISPLAYS

Model OVAL D2 measuring station is designed to monitor oil flow rates measured by Model SR oval gear meters in oil lubrication systems.

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





## OVAL GEAR FLOW METERS AND DISPLAYS



Multi-level  
configuration

### OVAL D2 MEASURING STATION

- Your perfect solution to monitor our SR oval gear flow meter rates in a centralized lubrication system
- The Oval D2 is 100% reliable for bearing lubrication; the control station monitors the oil flow accurately under all conditions, including start-up.
- In excess of 100 measuring stations and thousands of measuring points in one serial line
- Can be connected to Kytola KVM Control monitoring software or to customer's PLC or DCS
- Suitable for harshest conditions

Applications: lubrication oil monitoring, industrial oil flow monitoring, and process control



Easy-to-use  
touchscreen

### KLD SMART TOUCHSCREEN DISPLAY

- Convenient user interface
- Easy monitoring of flow rates and alarms, and management of settings
- Totalizer counter or batching
- Single or multi-channel models
- Attached on SRx block or separately
- Alarm relay, mA output, mA input

Applications: lubrication oil monitoring, industrial flow monitoring, process control, totalizer counter, batching



## OIL LUBRICATION FLOW MONITORING SYSTEMS

### 24/7/365 Reliability

Bearing failures are caused by lubrication issues. The issues can range from the result of poor lubrication, the wrong type of lubricant or contamination of the lubricant by water, air, dirt or particles. The right lubrication solution provides the opportunity to increase profitability by reducing costs to operate machinery, improve reliability and extend service intervals while optimizing manpower resources.

Kytola Instruments provides a full range of lubrication solution services including design and installation of automatic lubrication systems, servicing of existing systems, lubricant analysis, testing and training.

We can assist you in determining optimum lubrication. Our knowledge and team of specialists can help your decision making process to ensure that you receive the best turnkey lubrication system for your application.



## OIL LUBRICATION FLOW MONITORING SYSTEMS

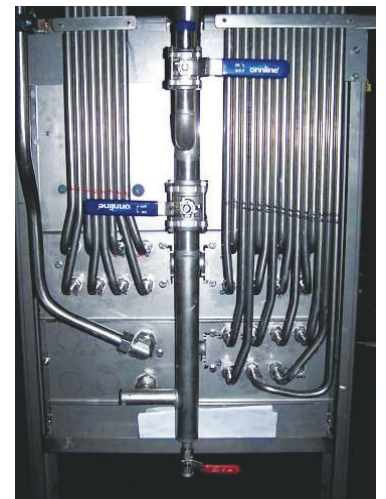


### INSTALLATION PANELS

- The Oval Flow panels with OVAL D2 measuring station and SR oval gear flow meters are ideal for oil flow monitoring in large processes where hundreds 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.
- Stainless steel
- With or without plexiglass door
- Mounting on hood wall or floor mounting stand
- Connections, shut-off valves, flushing etc., according to customer's requirements



Front view



Rear view



### KVM CONTROL ROOM SOFTWARE

- The KVM Control monitoring program is an online application for the Kytola oil lubrication monitoring system. It provides online flow and alarm information from model SR oval gear flow meters.
- In excess of 100 measuring stations can be connected to the host computer via a serial communication line.
- Easy on-site start-up and commissioning
- User-friendly operation
- Reliable operation and runtime control

## OIL LUBRICATION FLOW MONITORING SYSTEMS



### KLD SMART TOUCHSCREEN DISPLAY

- Designed to monitor and display flow rates and flow alarms measured by Kytola oval gear meters or other flow meters with pulse output
- Easy management of settings
- Pulse or mA input
- Alarm relay, mA output
- Operates stand-alone or connected to Kytola monitoring software or 3rd party system
- Modbus RTU (RS-485) or Modbus TCP (Ethernet) communication
- Robust steel enclosure, IP65

Applications: lubrication oil monitoring, industrial flow monitoring, process control, totalizer, batching



### SRV UPGRADE BLOCK

- SRV Oval Gear Meters offer a fast track to further improve the user advantages of installed Kytola variable area flow meters of model V. The upgrade is easy and cost-effective since it does not require any changes to the existing piping.
- Single or multi-channel (max 7) models
- Independent of oil viscosity changes



## OIL LUBRICATION FLOW MONITORING SYSTEMS

### VExA FLOW METER



- Sturdy, industrial flow meter with protected flow tubes
- Large selection of flow ranges
- Flow adjustment valves on outlet
- Alarm-ready
- High visibility float
- Variety of alarm types

Quick-change tube



### KA FLOW METER



- Sturdy, industrial flow meter with protected flow tube
- Large selection of flow ranges
- Flow adjustment valve on outlet
- 1" NPT (G) connections

Alarm-ready



### TLA FLOW METER



- Sturdy, industrial flow meter with protected flow tube
- Large selection of flow ranges
- 2" NPT (G) or DN 50 / ANSI 2" flange connections
- Variety of alarm types

High flow rate



### NK ALARM AMPLIFIER



- Designed for use with inductive proximity sensors according to EN 60947 (NAMUR)
- 24 VDC, 115 VAC or 230 VAC
- Output: one change over switch, 230 VAC, 5 A
- For max 30 sensors

Indicator LEDs

### OCU FLOW CONTROLLER



- Controls and monitors flow rates of up to four lube points
- Single point model flow rate  
2.1 PPM (1 LPM) to 63.4 PPM (30 LPM)
- Multipoint model flow rate  
min 2.1 PPM (1 LPM) to max 13 PPM (6 LPM)

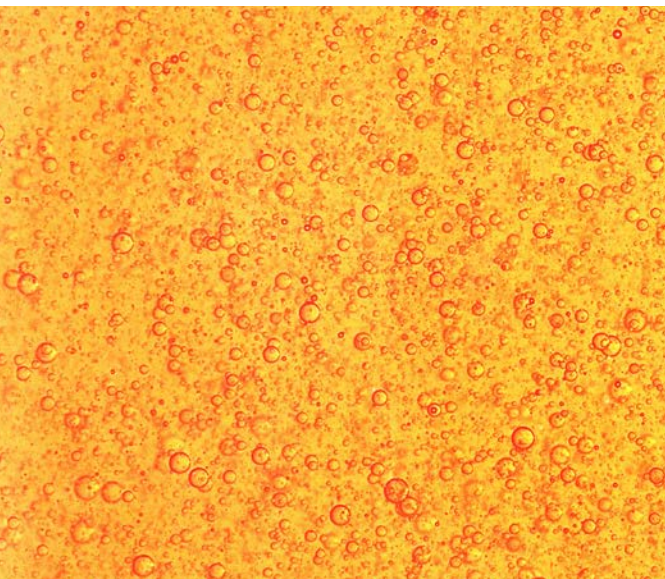
Modbus RTU



## OIL ANALYZER

Oilcol oil color 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, which can be crucial in order to detect sudden changes in oil quality and to react before failure of equipment occurs.



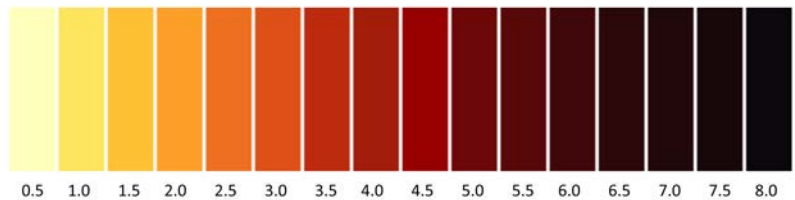
## OIL ANALYZER



### OILCOL OIL COLOR ANALYZER

- Online measurement
- ASTM D1500 scale from 0.5 to 8.0
- Accuracy  $\pm 0.3$  (as the ASTM scale step is 0.5)
- Serial communication, 4–20 mA output
- Suitable for liquid petroleum products: lubricating, heating, diesel fuel, mineral insulating and hydraulic oils

Applications: petrochemical industry, offshore and marine, pulp and paper, steel mills, mining, and power plants



## DIFFERENTIAL PRESSURE METERS



### DPA

- Clear and easy to read
- Acrylic body
- Red metering liquid provides good contrast
- Robust construction
- Metering liquid does not blow out or evaporate during overloads

### DPP

- Clear and easy to read
- Acrylic body
- Red metering liquid provides good contrast
- Robust construction



Applications: air conditioning strainers, blowers, dust filters, pressurized enclosures, laboratories, flow rate and velocity measurement, annealing furnaces



## CHECK VALVES



### 2680A

- Opening pressure 2.2—3.6 psi
- Connections:  
G 1/4"—G 1"  
male inlet, female outlet



### 2680B

- Opening pressure 2.2—3.6 psi
- Connections:  
G 1/4"—G 1"  
female inlet and outlet

#### Check valve features:

- Robust stainless steel construction
- Protects measurement equipment
- Closes if flow stops or reverses
- Can be mounted in any position
- Easily removed
- Withstands corrosive media

Applications: liquid feed lines, gas feed lines, pressurized sealing water systems



### CV

- Opening pressure 3.6 psi
- Connections:  
inlet for 10 mm hose, outlet G 1/4"—1/2"  
(inlet for 3/8" hose, outlet NPT 1/4"—1/2")

## COMPLIMENTARY PRODUCT LINES

### EUROSWITCH PRESSURE SWITCHES, LEVEL AND TEMPERATURE SENSORS

Euroswitch's main strength is its capability and creativity in developing a new product each time, made to the customer's exact specifications. Their success is their innovative approach in facing up to new challenges, optimizing production standards and increasing the competitiveness of the whole system.

Euroswitch's know-how is expressed in its range of catalogue products – level, pressure, temperature, rotation and flow sensors, pressure switches, vacuum switches, thermostats, thermal contacts and flow meters – and in the development of sensors and other components, such as differential transducers and pressure switches, for special applications. Extensive knowledge of the technology and applications of pressure switches have enabled Euroswitch to achieve a higher standard of excellence than other companies in the industry.

An ISO 9001 manufacturer belonging to the MONT.EL Group located in Italy means that each new project can be analysed as a whole and by coordinating all the available resources, converted rapidly into a finished product.



Level Pressure Switches



Model 41 with cable



IMDX Electromagnetic Level Sensor



P31 Electromagnetic Level Sensor

## COMPLIMENTARY PRODUCT LINES

### KLAY INSTRUMENTS PROCESS TRANSMITTERS

Klay Instruments is a Dutch manufacturer of process instrumentation. Founded in 1978, Klay has built up a history in development, production and sales of process instrumentation. Their company is ISO 9001 certified.

Klay produces a wide range of pressure and level transmitters in “all stainless steel” design. Both “analog” and “Intelligent” series are available with HART Protocol and Profibus PA. Many certificates are available, such as ATEX Ex, EHEDG food approvals, marine type approvals such as DNV, RINA and Lloyds. All industrial process connections are available, more than 50.



Model 2000

Besides their pressure and level transmitters they also produce level switches, such as the all “stainless steel” tuning fork, level switch, “Vibraswitch”. Also a range of pressure switches and PT-100 temperature sensors are produced. All instruments are designed and produced in their factory in the Netherlands.



Model 2000 Valve



Model 8000 PMC



Model 8000 W33

## 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 Oval Flow lubrication monitoring system from the very first moment.

## Maintenance and Service Agreement

Kytola is dedicated to contribute to the maximum runnability of its customer's machinery.

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



**Kytola**  
INSTRUMENTS

[www.kytola.com](http://www.kytola.com)

### Global Headquarters, Finland

Kytola Instruments Oy  
Olli Kytölän tie 1  
FI-40950 Muurame  
Finland  
Tel. +358 20 779 0690  
[info@kytola.com](mailto:info@kytola.com)

### Sales office, US

Kytola Instruments Inc  
900 Old Roswell Lakes Parkway  
Suite 120  
Roswell, GA 30076  
USA  
Tel. +1 678 701 3569  
Fax +1 514 448 5151  
[flow@kytola.com](mailto:flow@kytola.com)  
[www.kytola.com](http://www.kytola.com)

### Sales office, Canada

Kytola Instruments Ltd  
1321 Blanshard Street  
Suite 301  
Victoria, BC V8W 0B6  
Canada  
Tel. +1 678 701 3569  
Fax +1 514 448 5151  
[flow@kytola.com](mailto:flow@kytola.com)  
[www.kytola.ca](http://www.kytola.ca)