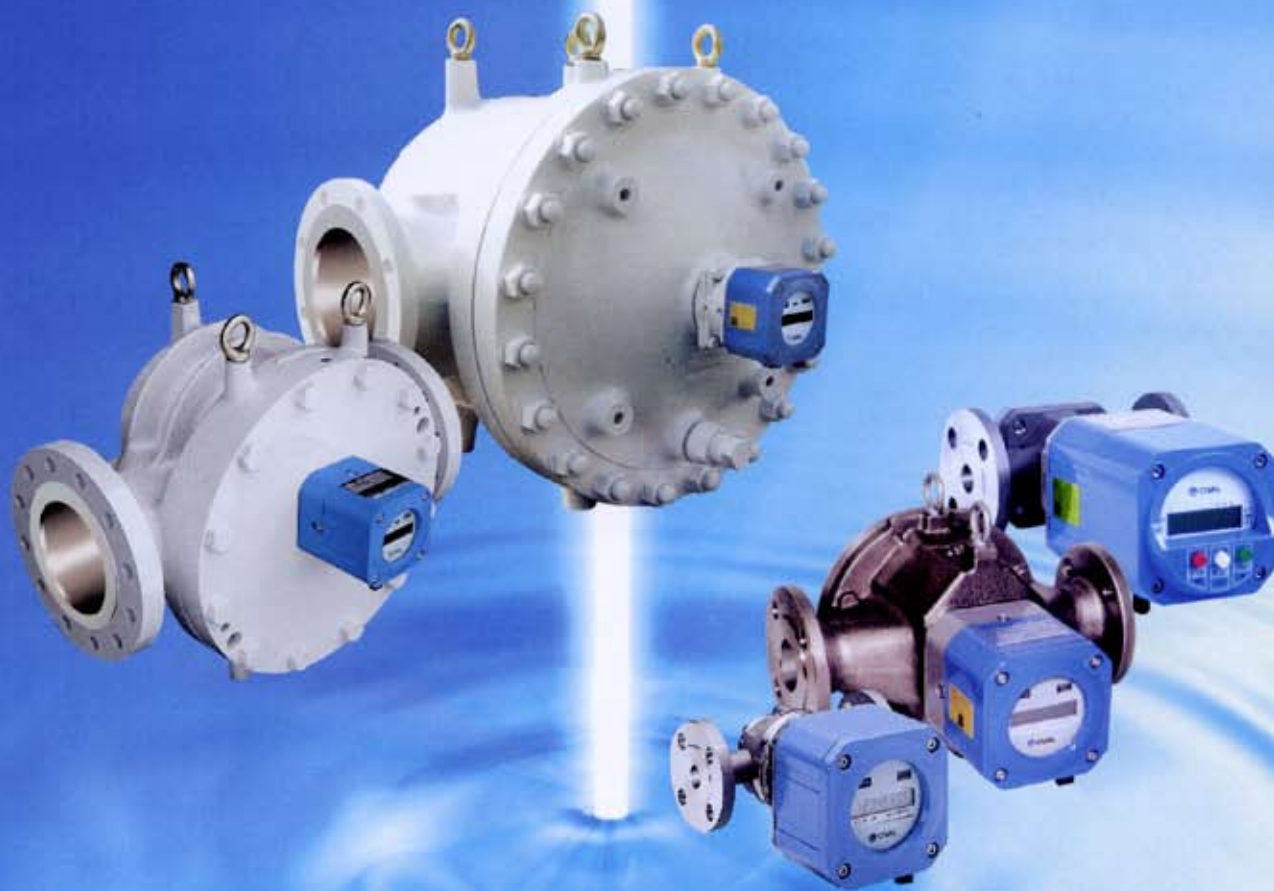




OVAL FLOWMETER

ULTRA OVAL SERIES



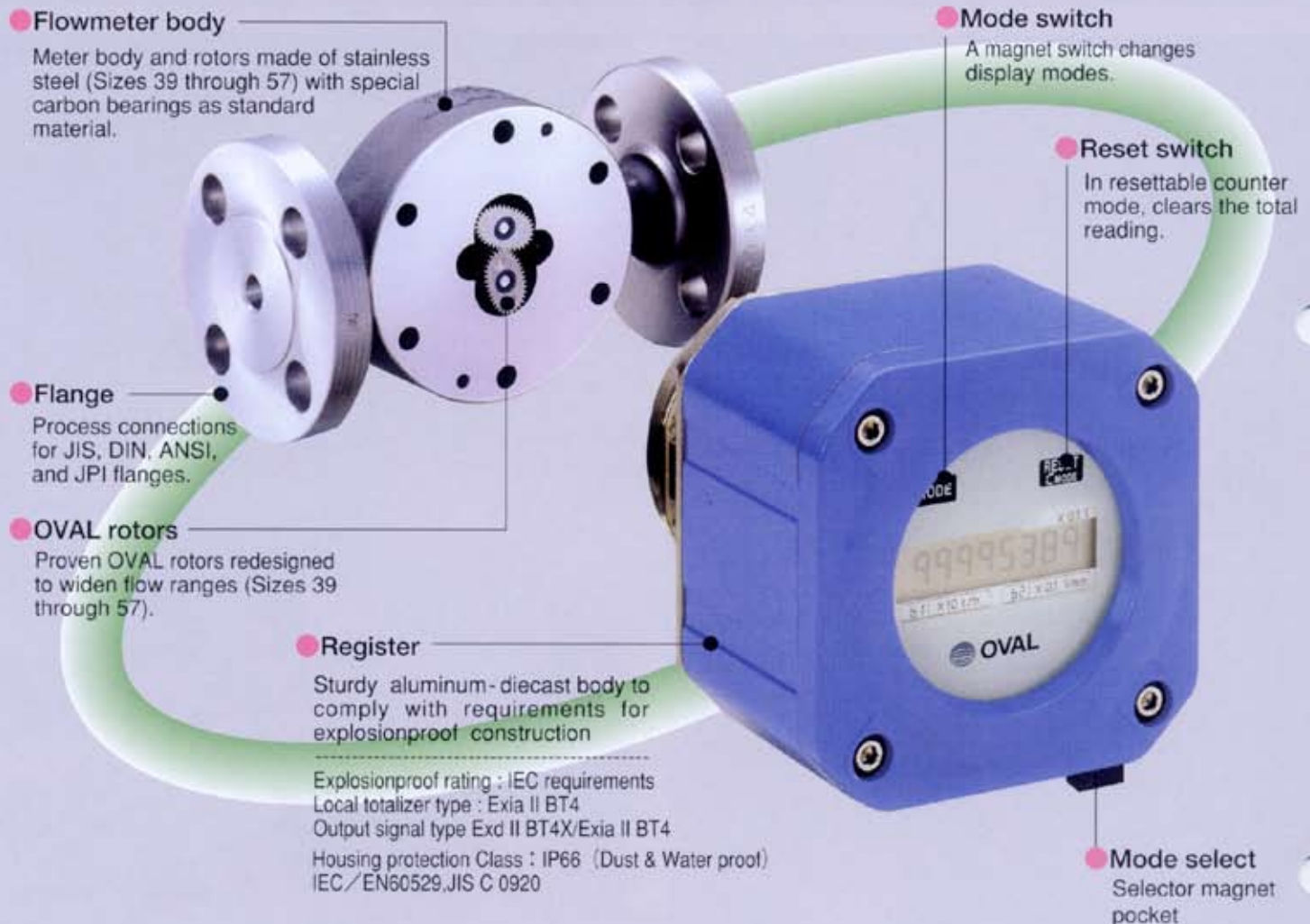
FEATURES

- ① Flow range expanded by 40 to 90% over previously offered models. It means that physical size has shrunk one size down (Meter sizes 39 through 57).
- ② Pressure loss reduced by 30% with greater energy cost saving.
- ③ A magnetic sensor has expanded acceptable operating temperature range (-60 to +350°C).
- ④ Register shows accumulated total, resettable total, and instantaneous flowrate on the LCD.
- ⑤ Simplified meter body design and new materials improved life expectancy. Jacketed meters also available.
- ⑥ For use with a pneumatic actuator equipped valve, we can also supply sophisticated batch counters (LW74E / LW76E) suitable for batch loading, clearance, or blending applications of liquids at the point of measurement.
- ⑦ A complete line of Smart models with communication interface.

You can select the exact one from a wide variety ...

Improved Oval rotors, the heart of the OVAL flowmeters, field proven for accuracy and long life.

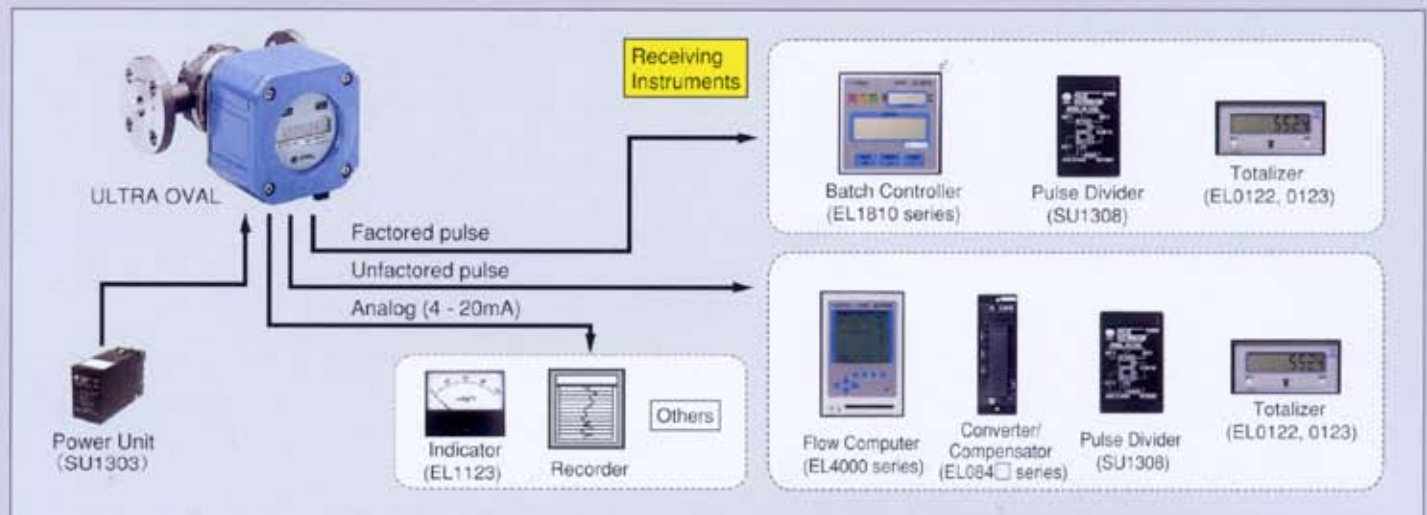
Redesigned register uses the state-of-the-art electronic technology throughout. A total of 17 models from Sizes 39 through 65 completes the line.



Receiving Instruments Hookup

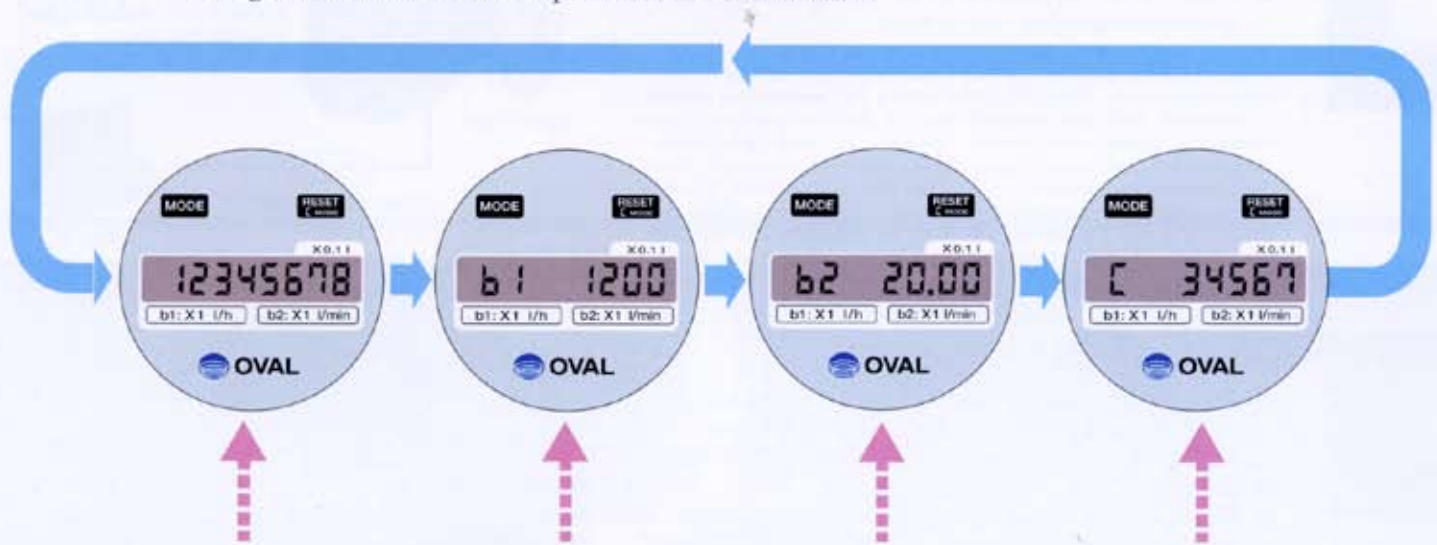
The ULTRA OVAL in standard configuration comes in 10 models, including battery powered LCD type (without remote output) and those with analog/pulse outputs.

The "Smart" type has two outputs-pulse and analog signal; communications are superimposed over the analog signal.



LCD Counter Displays (standard ULTRA OVAL flowmeter)

Holding a selector magnet near the label "Mode" scrolls through available variables and parameters as shown below:



① Accumulated total flow

An accumulated total flow of 1234567.8L is shown here.

② Instantaneous flowrate (b1)

With "b1" shown at left, the hourly flowrate appears. The display shows an hourly flowrate of 12000L/h here.

③ Instantaneous flowrate (b2)

With "b2" shown at left, the flowrate per minute appears. The display shows a flowrate per minute of 200L/min here.

④ Resettable counter

With "C" shown at left, the display reads in the resettable total count mode. Holding the selector magnet near the label "RESET" resets the reading to zero, permitting the counter to restart from 0. However, irrespective of reset operation in this mode, the accumulated total count is retained. Here, the display shows, after a reset, a total flow of 3456.7L.

Meter Specifications

| Item Meter size | Nom. Size mm | Linearity | Flow range m ³ /h ※1 | Meter factor mL/P ※2 | Material | | | Connection | Max. operating press. | Max. operating press. range | | | |
|--------------------|-----------------|-----------------------|------------------------------------|-------------------------|----------------------------------|----------------------------------|---|--|--------------------------------|--|---|----------------------------|-------------------------|
| | | | | | Body | Rotor | Bearing | | | | | | |
| 39 | 10 | ±0.35% · ±0.15% | 0.2 ~ 12L/h | 0.09838 | Stainless steel | Stainless steel | Special carbon | JIS or ANSI/JPI Flange connection | 0.98MPa or 2.94MPa | St'd. : -10~+120°C | | | |
| 41 | | | 1 ~ 60L/h | 0.4896 | | | | | | | | | |
| 45 | | | 5 ~ 420L/h | 1.2339 | | | | | | | | | |
| 50 | 20 | | 0.03 ~ 2 | 4.968 | | | | | | | | | |
| 52 | 25 | | 0.08 ~ 3.8 | 9.664 | | | | | | | | | |
| 53 | | | 0.15 ~ 6.4 | 17.513 | | | | | | | | | |
| 55 | | | 40 | 0.26 ~ 14 | | | | | | | 23.07 | | |
| 56 | 50 | | 0.6 ~ 24 | 37.33 | | | | | | | | | |
| 57 | | | 1.2 ~ 44 | 98.04 | | | | | | | | | |
| 28 | 50 | ±0.35% · ±0.15% | 2 ~ 50 | 135.16 | Single case : Stainless steel | Single case : Stainless steel | Single case : Special carbon · Ceramic | JIS or ANSI/JPI Flange connection | Depends on flange rating | Single case Accuracy ±0.15% : -10~+60°C ±0.35% : -10~+120°C Double case Accuracy ±0.15% : -5~+60°C ±0.35% : -5~+120°C | | | |
| 29 | 80 | | 4 ~ 90 | 198.62 | | | | | | | | | |
| 60 | 100 | | 5 ~ 150 | 338.9 | | | | | | | | | |
| 31 | 100 150 | | 10 ~ 230 | 629.5 | | | | | | | Double case : Cast iron | Double case : Cast iron | Double case : carbon |
| 32 | 150 200 | | 15 ~ 320 | 992.7 | | | | | | | | | |
| 33 | 150 200 | | 20 ~ 450 | 1490.7 | | | | | | | Steel casting (Single case only for Models 28, 34 and 65.) | Stainless steel | |
| 34 | 250 | | 30 ~ 700 | 3250 | | | | | | | | | |
| 65 | 300 350 | | 50 ~ 1000 | 4623 | | | | | | | | | |

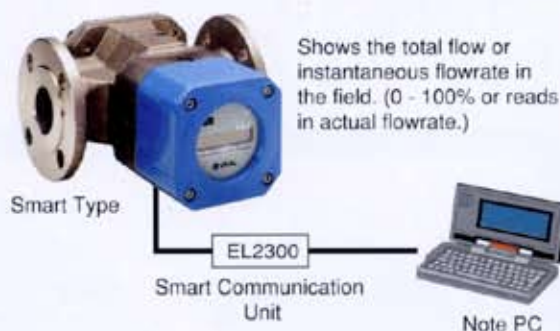
※1. Accurate to ±0.5%

※2. Standard model. For models for high and low temperature service and jacketed models, see respective General Specification sheets.

Smart Series

- For more sophisticated processes with communication interface

In addition to reading the measurement information, the Smart Ultra OVAL, when combined with our Smart Communication Unit (EL2300) and a PC, simplifies access to available variables and parameters, such as instantaneous flowrate, span, and meter factor, as well as setup, diagnostics, and other operations for maintenance, from the instrument room located far from the field. What's more, using an optionally available multidrop feature, a maximum of 15 transmitters may be connected to the host computer over two-wire cables to streamline field wiring.



Shows the total flow or instantaneous flowrate in the field. (0 - 100% or reads in actual flowrate.)

Batch Counters

- Performs batch processes automatically! The latest batch counters for liquid service at the point of measurement

■ Features

- Top-of-the-line PD flowmeter, the ULTRA OVAL, is combined with batch control capability. When used in conjunction with an automatic ON/OFF valve, you can readily build a high price/performance local batch system.
- All pneumatic (the batch counter operates on a built-in battery.)
- You can choose between an LW74E that opens and closes the valve in a single step, or, for more precise batch processes, LW76E that opens and closes the valve in two steps.



■ Specifications

| | LW74E | LW76E |
|-------------------------|---|--|
| Companion flowmeter | Sizes 39 thru 57 | Sizes 28 thru 65 |
| Valve control | Pneumatic single-step open/shutoff | Pneumatic 2-step open/2-step shutoff (May be single-step mode by initial setup.) |
| Programming | Pushbuttons (6-digit LCD counter) | |
| Counter capacity (cum.) | 8-digit total LCD counter | |
| Alarm | Low battery, overmeasurement, missing pulse (on LCD) | |
| Backup | Total flow, target batch setpoint (EEPROM retains them.) | |
| Construction | Intrinsically safe explosionproof Exia II BT4, weatheright (IP65) | |
| Ambient temperature | -20 to +60° C | |
| Power | Dedicated lithium battery (good for 7 years) | |

Auto Temperature Compensator Equipped ULTRA Register

ULTRA Register finds extensive use in transactions of petroleum products, or elsewhere where flow measurement under given reference temperature is required. It calculates the flow information of process material at the process temperature corrected for the reference temperature. Can mount on any ULTRA OVAL and ULTRA UF-II flowmeters.

■ Specifications

| | |
|----------------------------|--|
| Flowmeters | ULTRA OVAL, Meter sizes: 53~65 |
| Temp. Input | Platinum thermometer resistance (Pt-100Ω) |
| Temp. Range for Correction | -10 ~ +150°C |
| Display | 8-digit LCD |
| Output | 2 outputs selectable from various pulse/analog signals |
| Calculation | Based on JIS K 2249 or JIS K 2240, and 3 α correction |
| Computing Accuracy | ±0.1% or better |



Principle of Operation



Specifications and design are subject to change without notice.



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