

■ Standard Specifications: Measuring Unit

	FCB Type	FRL Type
Accuracy	±0.5% (±0.2%) *1	
Max. Working Pressure	1MPa	
Hydraulic Test Pressure	2MPa	
Max. Working Temperature	Size 1/4"~ -Kerosene, diesel / light oil : 80°C -A heavy oil : 120°C Size 1/2" & 1"~ -Kerosene, diesel / light oil : 80°C -A, B, C heavy oil : 120°C	Kerosene, Diesel oil, A, B, C heavy oil : 120°C
Flange Rating	JIS10K FF	
Material	Body: Steel A, FC200 (Cast iron) Rotor: S2, 1/2" & 1" : FG40 (Ductile iron) PPS resin	FC250 (Cast iron) ADC12 or ACTA (Aluminum alloy)

*1: ±0.2% is possible depending on the model and operating conditions.
*2: In case Model code is BAA type.

■ Flow Range (Accuracy: ±0.5%)

Model	Flow Range (L/h)			
	Kerosene (1.5MPa ~ s)	Diesel, Light Oil (5MPa ~ s)	A Heavy Oil (10MPa ~ s ~)	B, C Heavy Oil (50 ~ 300MPa ~ s)
FCB8423BAL	40 ~ 200	10 ~ 200	5 ~ 200	—
FCB8631BDL	100 ~ 1,200	40 ~ 1,200	20 ~ 1,200	10 ~ 1,200
FCB8836BDL	100 ~ 3,000	100 ~ 3,000	50 ~ 3,000	25 ~ 3,000

■ Standard Specifications: Indicator Unit

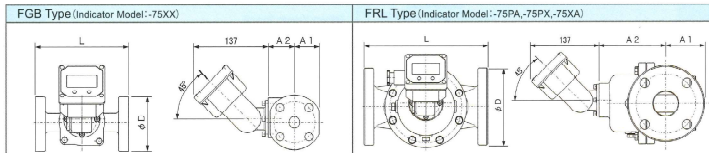
Item	Contents
Display part	Display Character Size : 14.5mm height Totalized Counter : 8 digit L, M, H, without unit Instant Counter : 8 digit L, M, H, without unit Instantaneous Flow Rate : 8 digit L, M, H Alarm Indication : *ALARM + Alarm code (01 ~ 05) blinks Display Mode Change : Press front /MODE/ button Display Angle : Variable 60° at each upward and downward at 15° steps Forward/Reverse Flow Detection : Totalized value is displayed after addition/subtraction of forward/reverse flow Low Battery Alarm : *BATT blinks
Output	Output Signal (with external Power Supply) *Open Drain (Allowable current: 50mA, Max. Voltage: 50VDC) *Pulsed Pulse (0.5ms, 10ms, 100ms, 500ms) or Alarm Output *Unifactor Pulse *Analog output : 4 ~ 20mADC
Power Supply	External Power Supply : 10 ~ 24VDC (In case Analog output is necessary) Internal Battery : Battery life : 10 years (varies depending on the operating conditions)*
Ambient Temperature	-20 ~ +60°C

*In the case of FRL1051BAA type, 10 years of battery life is applicable when it is used at flow rate of 120m³/h or less.

Model	Condition	Flow Range (m³/h)			
		Kerosene (0.5 ~ 2MPa ~ s)	Light Oil (2 ~ 5MPa ~ s)	A, B Heavy Oil (5 ~ 10MPa ~ s)	C Heavy Oil (150 ~ 300MPa ~ s)
FRL1038RAA*	Intermittent	1 ~ 6	0.8 ~ 7	0.1 ~ 7	0.1 ~ 6
	Continuous	1 ~ 4.6	0.8 ~ 6	0.1 ~ 6	0.1 ~ 4.6
FRL1054BAA	Intermittent	2 ~ 13	1.5 ~ 13	0.25 ~ 13	0.25 ~ 13
	Continuous	2 ~ 9	1.5 ~ 13	0.25 ~ 13	0.25 ~ 9
FRL1094BAA	Intermittent	5 ~ 35	3.5 ~ 40	0.6 ~ 40	0.6 ~ 35
	Continuous	5 ~ 25	3.5 ~ 35	0.6 ~ 35	0.6 ~ 25
FRL1051BAA	Intermittent	16 ~ 120	12 ~ 130	4 ~ 130	4 ~ 120
	Continuous	16 ~ 85	12 ~ 120	4 ~ 120	4 ~ 85

*BAA is the standard type with FC200 rotors

■ Dimensions



Model	Measuring Unit	Model Number		Connection Size	Dimensions (mm)				Approx. Weight (kg)	
		without Output	with Output*		mm	Inch	φ D	L		A1
FCB Type	FCB8423BAL	-75XX	-75PA	15	1/2	95	130	42	46	3
	FCB8631BDL	-75XX	-75PX	20	3/4	100	170	46	49	4
	FCB8836BDL	-75XX	-75XA	25	1	125	200	55	56	6
	FRL0438BAA	-75XX	-75PA	40	1 1/2	140	200	45	116	13
FRL Type	FRL0410BAA	-75XX	-75PA	50	2	155	250	50	135	15.5
	FRL0845BAA	-75XX	-75PX	80	3	185	300	80	163	42
	FRL1051BAA	-75XX	-75XA	100	4	210	450	180	273	100

* -75XX with Pulse/Analog Output
-75PX with Pulse Output
-75XA with Analog Output

Contact

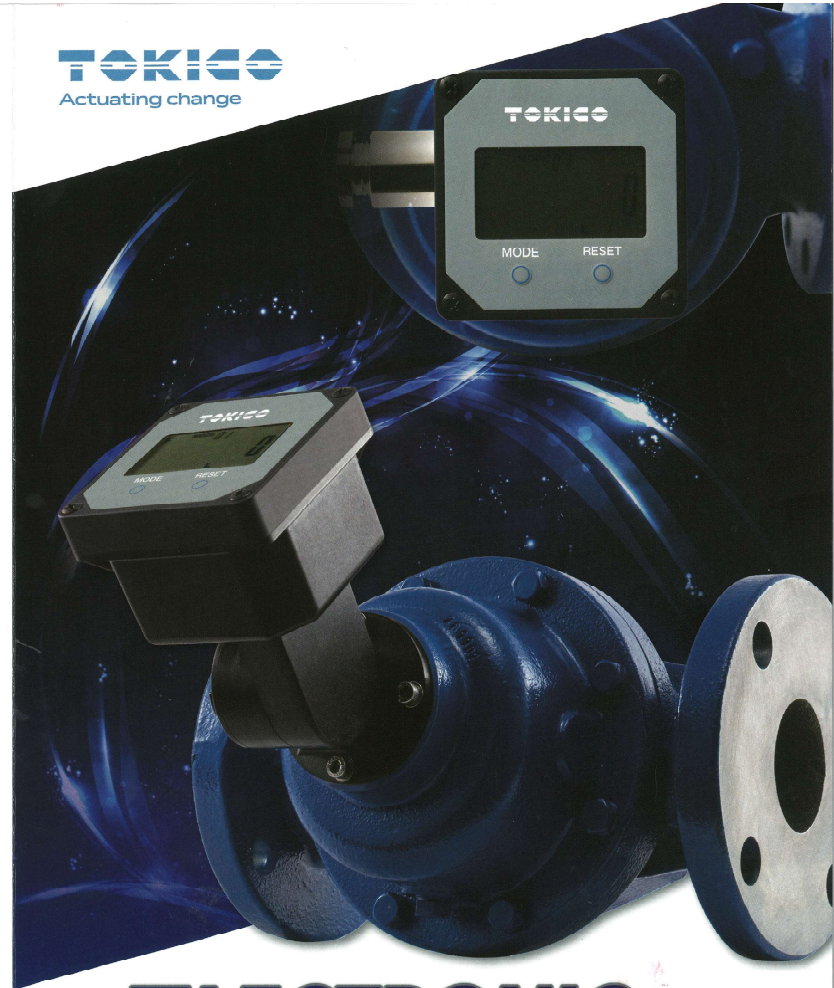
Please note that specifications are subject to change without prior notice.

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TOKICO
Actuating change



**ELECTRONIC
OIL FLOWMETER**

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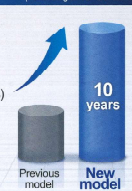
Battery Replacement Needless for 10 years
(According to our test conditions)

- New lithium battery adopted
- Low power consumption by the advanced power saving design
(Compared to our previous model : approx.50%)
- Easy installation without external power supply
- Battery replacement time is noticed by the Alarm display

Long Life 10years

Easy Battery Replacement

No External Power Supply Required




Easy-to-see New Display Unit

- Visibility is greatly improved by the large-sized display

Display of Alarm Code

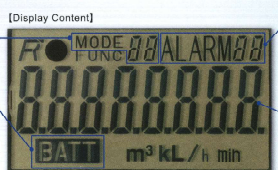
5 different alarm codes are blinked when the flow conditions meet the Alarm conditions.

Large LCD Character

Large-sized character is adopted to achieve better visibility
(Compared to our previous model : approx.200%)

Battery Alarm

「BATT」is blinked when the battery becomes low to notice battery replacement time



Large LCD Character

Large-sized character is adopted to achieve better visibility
(Compared to our previous model : approx.200%)

Display Mode

Display mode can be switched over to accumulated total value, instantaneous flow rate and resettable total value by pressing the front 「MODE」 button.

Accumulated Total Value

Accumulated total value from the beginning of use is displayed

Instantaneous Flow Rate (L/h)

Instantaneous flow rate per hour is displayed

Instantaneous Flow Rate (L/min)

Instantaneous flow rate per minute is displayed

Resettable Total Value

Total value is reset to "0 (zero)" and counting of total value is newly started by pressing the front 「MODE」 button.

Easily Adjustable Display Angle

■ Display angle can be easily adjusted at 15°steps over 180°range in accordance with the different installation conditions.



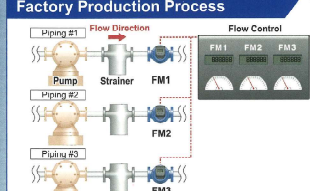
Even at the narrow space with complex piping, display angle can be adjusted properly.

Feasible to Connect with Various External Devices

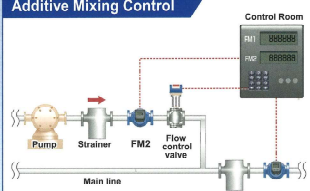
- Output Signal : Pulse output / Analog output / Alarm output
(External power supply 12~24VDC is required)
- Improvement in efficiency for production control and process

Example of connection with external devices

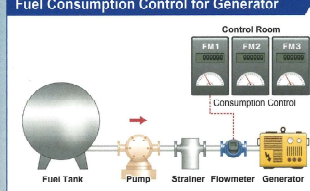
Factory Production Process



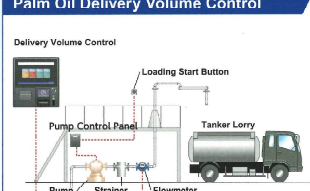
Additive Mixing Control



Fuel Consumption Control for Generator

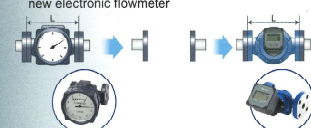


Palm Oil Delivery Volume Control



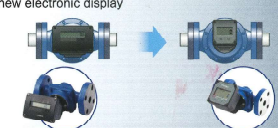
Compatible with Previous Model

- Replacement from conventional mechanical type to new electronic flowmeter



Replacement from mechanical type to new electronic type is easy without modification of piping, because the length between flange to flange (L) is the same.
*It's not possible to replace the display part only

- Replacement from previous electronic display to new electronic display



Previous electronic display can be replaced with new electronic display directly onto flowmeter body.