



OVAL FLOWMETER

Meter Size: 28, 29, 60, 31, 32, 33
(Double Case Construction with)
(Powerful Magnetic Coupling)

GENERAL SPECIFICATION
GS.No.GBB127E-6

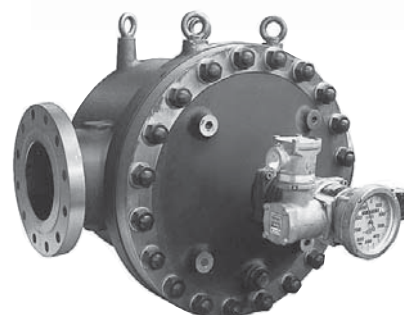
■ GENERAL

The OVAL flowmeter is a positive displacement type flowmeter comprising a pair of oval gear rotors. It is capable of metering the actual quantity of the liquid passing through it with a high degree of accuracy over a wide flow range and accepts any liquid irrespective of its chemical or physical properties.

It's accuracy, reliability, and quality has made it a highly valued industrial instrument.

■ FEATURES

1. Simple design makes this meter easy to disassemble and allows for ease in maintenance and inspection.
2. Introduction of a powerful magnetic coupling makes this meter compatible with a variety of direct-reading registers.
3. Compatible with a variety of pulse generators that allows a wide selection of remote instrumentation.
4. Can accept liquids of widely varying chemical properties by selecting appropriate meter materials.
5. Available to wide range of operating temperature and pressure.



■ GENERAL SPECIFICATIONS

● Meter Body

Item			Description					
Meter size			28	29	60	31	32	33
Nominal size mm			50 (2″)	80 (3″)	100 (4″)	▲100 (4″), 150(6″)	▲150 (6″), 200 (8″)	
Construction			Double case construction					
Applicable fluid			Water, petroleum's, chemical liquids etc.					
Flow range			See flow range table (P.2)					
Operating temp. range	Linearity	± 0.35%	0 to 120°C (FC250), -5 to +120°C (SCPH2)					
		± 0.15%	0 to 60°C (FC250), -5 to +60°C (SCPH2)					
Linearity			± 0.35% or ± 0.15%					
Repeatability			± 0.05% or ± 0.02%					
Material	Outer housing		FC250, SCPH2					
	Inner housing, Rotor		FC250, SCS13A, ▲FC250 (w/surface treatment)					
	Bearing		Carbon					
Flow direction			Right → Left (st'd.), Left → Right, Bottom → Top, Top → Bottom					
Finish			Body, Transmission Gear Box & Register Case:Munsell 2.5G 8/2 Register Frame: Munsell N 1.5					

※ : ▲ Special

Архангельск (8182)63-90-72
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Ставрополь (8652)20-65-13
Тверь (4822)63-31-35
Томск (3822)98-41-53
Тула (4872)74-02-29
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Уфа (347)229-48-12
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Ярославль (4852)69-52-93

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■ FLOW RANGE

● Table A Flow Range for Liquid in General (Linearity: $\pm 0.35\%$) (Operating temp. range: -5 to $+120^\circ\text{C}$)

Unit in m^3/h

Meter Size	Nom. size mm	Type of Liquid Temp. Viscosity Range Operating Condition	Water		Liquids other than water (Unit in $\text{mPa}\cdot\text{s}$)						
			60°C max.	$60^\circ\text{C to }12^\circ\text{C}$	less than 0.3	0.3 to 0.8	0.8 to 2	2 to 5	5 to 1000	1000 to 1500	1500 to 2000
28	50	Continuous	5 to 25	6 to 20	10 to 30	6 to 30	5 to 30	3 to 40	2 to 40	2 to 34	2 to 30
		Intermittent	5 to 35	6 to 25	10 to 40	6 to 40	5 to 40	3 to 50	2 to 50	2 to 43	2 to 35
		A.I.F.	45	30	50	50	50	50	50	43	35
29	80	Continuous	8 to 40	10 to 35	15 to 50	10 to 50	8 to 50	6 to 70	4 to 70	4 to 60	4 to 54
		Intermittent	8 to 60	10 to 40	15 to 70	10 to 70	8 to 70	6 to 90	4 to 90	4 to 77	4 to 70
		A.I.F.	80	50	90	90	90	90	90	77	70
60	100	Continuous	15 to 75	20 to 60	30 to 85	20 to 85	15 to 85	8 to 120	5 to 120	5 to 103	5 to 93
		Intermittent	15 to 110	20 to 75	30 to 125	20 to 125	15 to 125	8 to 150	5 to 150	5 to 125	5 to 115
		A.I.F.	130	90	150	150	150	150	150	125	115
31	150 ▲100	Continuous	25 to 110	30 to 90	40 to 130	30 to 130	25 to 130	16 to 180	10 to 180	10 to 150	15 to 140
		Intermittent	25 to 160	30 to 110	40 to 190	30 to 190	25 to 190	16 to 230	10 to 230	10 to 195	15 to 175
		A.I.F.	200	140	230	230	230	230	230	195	175
32	200 ▲150	Continuous	35 to 160	40 to 130	60 to 180	40 to 180	30 to 180	25 to 260	15 to 260	15 to 220	15 to 200
		Intermittent	35 to 240	40 to 160	60 to 270	40 to 270	30 to 270	25 to 320	15 to 320	15 to 275	15 to 245
		A.I.F.	300	200	320	320	320	320	320	275	245
33	200 ▲150	Continuous	40 to 210	50 to 180	80 to 250	50 to 250	40 to 250	30 to 360	20 to 360	20 to 305	20 to 280
		Intermittent	40 to 320	50 to 220	80 to 380	50 to 380	40 to 380	30 to 450	20 to 450	20 to 385	20 to 350
		A.I.F.	400	270	450	450	450	450	450	385	350

● Table B Flow Range for Liquid in General (Linearity: $\pm 0.15\%$) (Operating temp. range: -5 to $+60^\circ\text{C}$)

Unit in m^3/h

Meter Size	Nom. size mm	Type of Liquid Temp. Viscosity Range Operating Condition	Water		Liquids other than water (Unit in $\text{mPa}\cdot\text{s}$)					
			60°C max.	less than 0.3	0.3 to 0.8	0.8 to 2	2 to 5	5 to 1000	1000 to 1500	1500 to 2000
28	50	Continuous	8 to 25	15 to 30	10 to 30	7 to 30	5 to 40	3 to 40	3 to 34	3 to 30
		Intermittent	8 to 35	15 to 40	10 to 40	7 to 40	5 to 50	3 to 50	3 to 43	3 to 35
		A.I.F.	45	50	50	50	50	50	43	35
29	80	Continuous	15 to 40	22 to 50	15 to 50	13 to 50	9 to 70	6 to 70	6 to 60	6 to 54
		Intermittent	15 to 60	22 to 70	15 to 70	13 to 70	9 to 90	6 to 90	6 to 77	6 to 70
		A.I.F.	80	90	90	90	90	90	77	70
60	100	Continuous	25 to 75	45 to 85	30 to 85	25 to 85	12 to 120	8 to 120	8 to 103	8 to 93
		Intermittent	25 to 110	45 to 125	30 to 125	25 to 125	12 to 150	8 to 150	8 to 125	8 to 115
		A.I.F.	130	150	150	150	150	150	125	115
31	150 ▲100	Continuous	40 to 110	60 to 130	40 to 130	35 to 130	25 to 180	15 to 180	15 to 150	15 to 140
		Intermittent	40 to 160	60 to 190	40 to 190	35 to 190	25 to 230	15 to 230	15 to 195	15 to 175
		A.I.F.	200	230	230	230	230	230	195	175
32	200 ▲150	Continuous	50 to 160	90 to 180	60 to 180	50 to 180	35 to 260	20 to 260	20 to 220	20 to 200
		Intermittent	55 to 240	90 to 270	60 to 270	50 to 270	35 to 320	20 to 320	20 to 275	20 to 245
		A.I.F.	300	320	320	320	320	320	275	245
33	200 ▲150	Continuous	60 to 210	120 to 250	80 to 250	70 to 250	50 to 360	30 to 360	30 to 305	30 to 280
		Intermittent	60 to 320	120 to 380	80 to 380	70 to 380	50 to 450	30 to 450	30 to 385	30 to 350
		A.I.F.	400	450	450	450	450	450	385	350

※ : In the Operating Condition column "Continuous" means continuous operation; "Intermittent" means no more than 8 hours operating a day, and "A.I.F." indicates allowable instantaneous flow rate.

※ : Flow range should be selected within the Continuous or Intermittent range specified.

※ : For high viscosity liquid more than $2000\text{mPa}\cdot\text{s}$, consult OVAL for the flow rate.

※ : Regarding liquid ammonia, consult OVAL.

※ : ▲ Special

■ REGISTERS AND UNIT REGISTRATION

Register Model	Dial and Pointer		Total Counter	
	Volume per Point Rev. (L)	Min. Reading (L)	Max. Readout (L)	LSD Drum (L)
Direct-reading Register (LW11)	10	0.1	9 999 990	10
	100	1	99 999 900	100
	1000	10	999 999 000	1000
Direct-reading Register w/Reset Counter (LW15)	10	0.1	9 999 998	2
	100	1	99 999 980	20
	1000	10	999 999 800	200
Resettable Register (LW42)	(Output Shaft) 100	1	999 999 990	10
	(Output Shaft) 1000	10	9 999 999 900	100
Resettable Register w/Printer Combination (LW43)	(Output Shaft) 100	1	999 999 990	10
	(Output Shaft) 1000	10	9 999 999 900	100

As to general specifications of registers, refer to individual General Specification Sheets.

(LSD: Least Significant Digit)

● Unit of Factored Pulse Generated

● Unit of Unfactored Pulse Generation

Meter Size	Pulse Unit Generator Signal Unit Volume Per Pointer Rev. L/rev.	PG20EP-PG30SEP				PG30EP-PG30DEP				Max. Flow rate m³/h	PG30SEP Nominal Meter Factor (mL/P)	
		1P/rev.		10P/rev.		100P/rev.		1000P/rev.			Less than Full Scale (m³/h)	More than Full Scale (m³/h)
		Pulse Unit (L/P)	Freq. at Max. Flow rate (Hz)	Pulse Unit (L/P)	Freq. at Max. Flow rate (Hz)	Pulse Unit (L/P)	Freq. at Max. Flow rate (Hz)	Pulse Unit (L/P)	Freq. at Max. Flow rate (Hz)			
28	10	—	—	—	—	0.1	138.9	0.01	100 (Q=36)	50	81.09 (5.5)	162.19 (5.6)
	★100	100	0.1	10	1.4	1	13.9	0.1	138.9			
29	10	—	—	—	—	0.1	250	0.01	1000 (Q=36)	90	119.17 (8.5)	238.3 (8.6)
	★100	100	0.3	10	2.5	1	25	0.1	250			
60	★100	100	0.4	10	4.2	1	41.7	0.1	417	150	203.3 (14)	406.7 (15)
	1000	1000	0.04	100	0.4	10	4.2	1	41.7			
31	100	—	—	—	—	1	63.9	0.1	639	230	377.7 (29)	755.4 (30)
	★1000	1000	0.06	100	0.6	10	6.4	1	63.9			
32	100	—	—	—	—	1	88.9	0.1	889	320	595.6 (47)	1191.2 (48)
	★1000	1000	0.09	100	0.9	10	8.9	1	88.9			
33	100	—	—	—	—	1	125	0.1	1000 (Q=36)	450	894.4 (70)	1788.8 (71)
	★1000	1000	0.1	100	1.3	10	12.5	1	125			

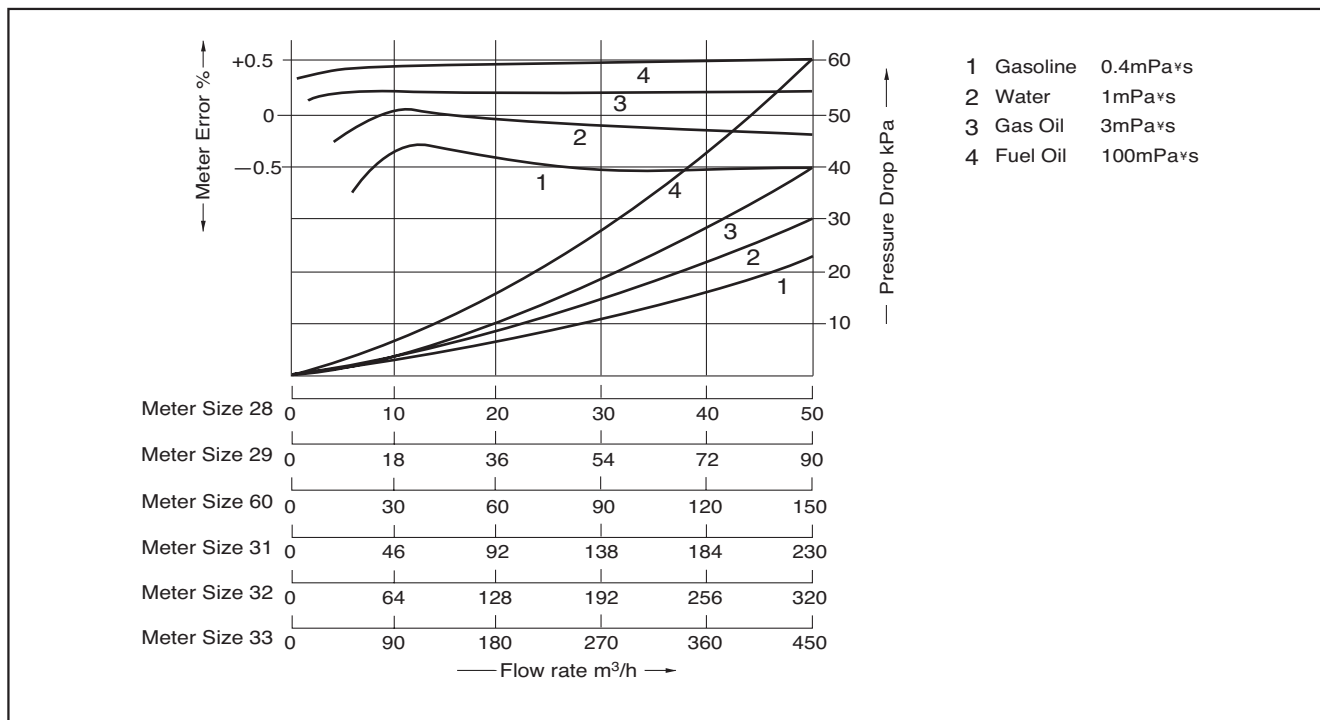
★: Standard; ●: Max. frequency is 1000Hz and "Q=" in bracket is limit flow.

For detailed pulse generator specifications, see individual General Specification Sheets.

● Full Scale for Flow rate Indicator or Recorder

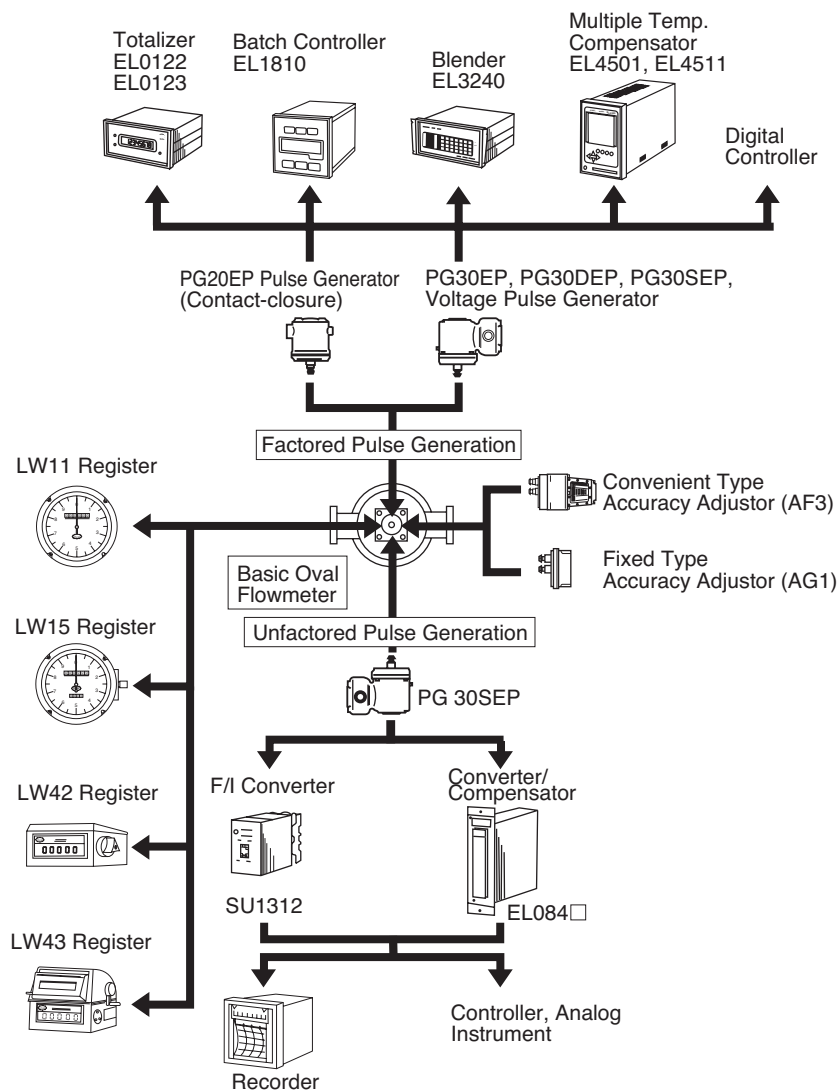
Meter Size	Full Scale m ³ /h						Full Scale L/min.						
28	15	20	30	40	50	—	250	300	400	500	600	800	1000
29	20	30	40	60	80	100	400	500	600	800	1000	1500	—
60	30	40	60	80	100	150	500	600	800	1000	1500	2000	2500
31	60	80	100	150	200	300	1000	1500	2000	2500	3000	4000	5000
32	100	150	200	300	400	500	1500	2000	2500	3000	4000	5000	6000
33	200	300	400	500	800	—	3000	4000	5000	6000	8000	10000	—

■ METER ERROR and PRESSURE LOSS

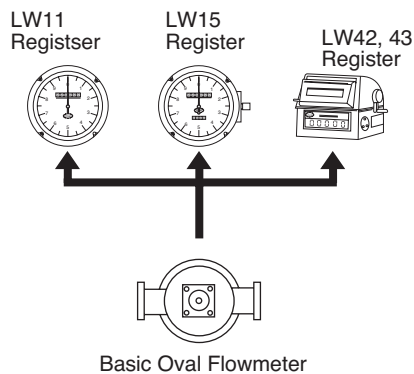


■ REGISTERS AND REMOTE INSTRUMENTATION SYSTEMS

● Direct-coupled Registers and Remote Instrumentation System with Pulse Generator Equipped



● Direct-coupled Registers without Pulse Generator



- NOTES: 1. For details of the direct-coupled registers, pulse generators, receiving instruments, etc., see individual General Specification sheets.
2. Explosionproof construction of pulse generators are available.

MODEL CODE NUMBER

	1st Group					2nd Group			
	Basic Meter					Register			
Item	Code No.								Description
	①	②	③	④	⑤	⑥	⑦	⑧	
Application	L								Liquid service flowmeter
Material of Metering Element (※)	B								FC250
	C								SCS13A
	Q								FC250 (w/surface treatment)
Meter Size									Large Size
	2	8							Small Size
	2	9							Nominal size 50mm
	6	0							Nominal size 100mm
	3	1							Nominal size 150mm
	3	2							Nominal size 200mm
	3	3							Nominal size 200mm
Meter Configuration and Flange Bore	1	—							Double case configuration (Small Size)
	2	—							Double case configuration (Large Size)
Direction-coupled Register						1	1		Direct-reading register (LW11)
						1	5		Direct-reading register w/reset counter (LW15)
						4	2		Resettable register (LW42)
						4	3		Resettable register/printer combination (LW43), Accumulative type
Accuracy Adjustor and Mounting Adaptor						1			Fixed type adjustor AG1 or AG2 provided
						2			Convenient type adjustor AF3 provided (Linearity: ± 0.15%)
						3			Angle adaptor + Fixed type adjustor AG1 or AG2 provided
						4			Angle adaptor + Convenient type adjustor AF3 provided (Linearity: ±0.15%)
						5			Cooling fin + Fixed type adjustor AG1 or AG2 provided
						6			Cooling fin + Convenient type adjustor AF3 provided (Linearity: ±0.15%)
						9			Other

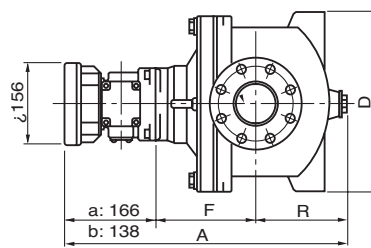
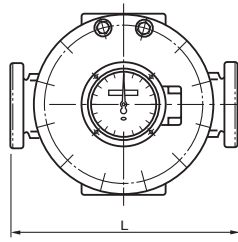
(※1) : For applications where water-related fluid is measured, select major parts material code "C"

		3rd Group					4th Group			Description
		Basic Meter					Generator			
Item	Code No.									
	⑨	⑩	⑪	⑫	—	⑬	⑭	⑮		
Housing	B								FC250 (cast iron)	
Material	F								SCPH2 (steel casting)	
Pressure Rating	1								B1 Nominal pressure 10K (JIS 10K; ANSI 150)	
	3								F3 Nominal pressure 20K (JIS 16K, JIS 20K, JIS 30K, ANSI 150, ANSI 300)	
	6								F6 Nominal pressure 63K (JIS 40K, JIS 63K, ANSI 600)	
Bearings	1								Carbon plain bearings	
Transmission System	4	—							Magnetic coupling	
Unfactored Pulse Generation						0			Where pulse generator is not required.	
						7			PG30SEP (flameproof configuration) non contact current pulse (12 VDC, 2 wires)	
						D			PG30DEP (flameproof configuration) non contact current pulse (24 VDC, 2 wires)	
						9			Others	
Factored Pulse Generation						0			Where pulse generator is not required.	
						5			PG30EP (flameproof configuration) non contact voltage pulse (12 VDC, 3 wires)	
						7			PG30SEP (flameproof configuration) non contact current pulse (12 VDC, 2 wires)	
						B			PG20EP (flameproof configuration) contact pulse (Dry read switch)	
						D			PG30DEP (flameproof configuration) non contact current pulse (24 VDC, 2 wires)	
						9			Others	
						0			Always "0"	

DIMENSIONS (Unit in mm)

● Meter Size 28, 29

(LW11 Register Installed)

a. Transmission Gear Box w/External Accuracy Adjustor (GB1-0¹/₅)

b. Transmission Gear Box w/Built-in Accuracy Adjustor (GB1-21)

Pres. Rating	Meter Size	28						29					
	Symbol	F	R	D	A		Weight kg	F	R	D	A		Weight kg
					a	b					a	b	
10K		206	175	344	547	688	89.5	265	205	344	636	608	112.5
30K		205	163	364	534	506	120	234	184	364	584	556	140
▲63K		324	180	420	670	642	180	352	210	420	728	700	240

1. In case of cooling fin coupled, add 145 mm to dim of "F" above.

2. In case of type 2 coupling system add 30 mm to dim of "F" above.

● Flange-to-Flange Dimensions (L)

Meter Size	Nominal size mm (inch)	Pres. Rating		10K	30K	▲63K
		Flange ratings	Body Material	FC250	SCPH2	SCPH2
28	50 (2")	JIS 5K FF		432	—	—
		JIS 10K RF, FF		440	468	—
		JIS 16K RF, FF		—	468	—
		JIS 20K RF		—	472	—
		JIS 30K RF		—	480	—
		JIS 40K RF		—	—	554
		JIS 63K RF		—	—	570
		ANSI 125 FF		432	—	—
		ANSI 150 RF		439	474	—
		ANSI 300 RF		—	480	482
		ANSI 600 RF		—	—	566

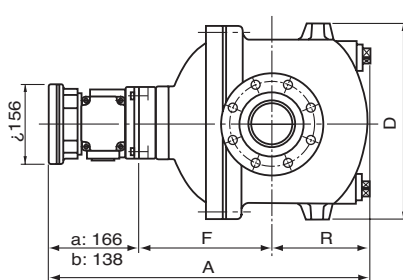
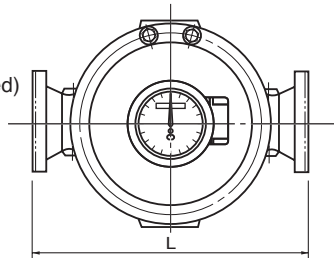
▲ Special

Meter Size	Nominal size mm (inch)	Pres. Rating		10K	30K	▲63K
		Flange ratings	Body Material	FC250	SCPH2	SCPH2
29	80 (3")	JIS 5K FF		432	—	—
		JIS 10K RF, FF		440	480	—
		JIS 16K RF, FF		—	484	—
		JIS 20K RF		—	488	—
		JIS 30K RF		—	500	—
		JIS 40K RF		—	—	554
		JIS 63K RF		—	—	570
		ANSI 125 FF		435	—	—
		ANSI 150 RF		444	492	—
		ANSI 300 RF		—	500	—
		ANSI 600 RF		—	—	566

▲ Special

● Meter Size 60

(LW11 Register Installed)

a. Transmission Gear Box w/External Accuracy Adjustor (GB1-0¹/₅)

b. Transmission Gear Box w/Built-in Accuracy Adjustor (GB1-21)

Pres. Rating	Meter Size	60					
	Symbol	F	R	D	A		Weight kg
					a	b	
10K		221	197	430	584	556	120
30K		247	202	430	615	587	170
▲63K		377	200	510	743	715	364

In case of cooling fin coupled, add a 145 mm to "F" above.

▲ Special

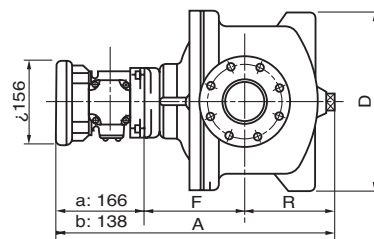
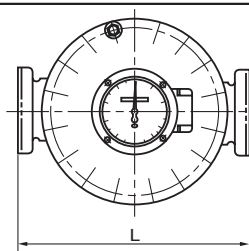
● Flange-to-Flange Dimensions (L)

Meter Size	Nominal size mm	Pres. rating		10K	30K	63K
		Flange ratings	Body Material	FC250	SCPH2	SCPH2
60	100 (4")	JIS 10K RF, FF		550	522	—
		JIS 16K RF, FF		—	530	—
		JIS 20K RF		—	534	—
		JIS 30K RF		—	550	—
		JIS 40K RF		—	—	684
		JIS 63K RF		—	—	700
		ANSI/JPI 125 FF		550	—	—
		ANSI/JPI 150 RF		550	534	—
		ANSI/JPI 300 RF		—	550	—
		ANSI/JPI 600 RF		—	—	702

DIMENSIONS (Unit in mm)

Meter Size 31

(LW11 Register Installed)



a: Transmission Gear Box w/External Accuracy Adjustor (GB1-0¹₅)
 b: Transmission Gear Box w/Built-in Accuracy Adjustor (GB1-21)

Meter Size		31					
Pres. Rating	Symbol	R	R	D	A		Approx. Weight kg
					a	b	
10K		274	270	480	710	682	249
30K		276	275	515	717	689	361
▲63K		386	295	640	847	819	500

* In case of a meter with cooling fin, add 145 mm to dim "F" above.

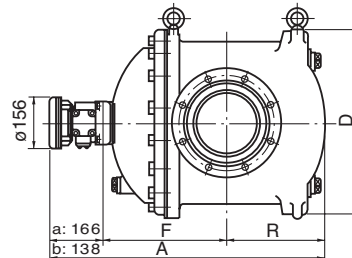
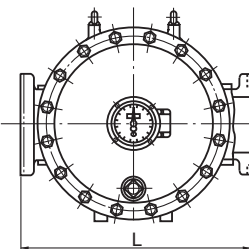
Flange-to-Flange Dimensions (L)

Meter Size	Nominal size mm (inch)	Pres. Rating	10K	30K	63K
		Body Material	FC250	SCPH2	SCPH2
31	▲100 (4")	JIS 10K RF, FF	600 (FF only)	662	—
		JIS 16K RF, FF	—	670	—
		JIS 20K RF	—	674	—
		JIS 30K RF	—	690	—
		JIS 40K RF	—	—	784
		JIS 63K RF	—	—	800
		ANSI 150 RF	600	674	—
		ANSI 300 RF	—	690	—
	150 (6")	ANSI 600 RF	—	—	800
		JIS 10K RF, FF	600 (FF only)	658	—
		JIS 16K RF, FF	—	662	—
		JIS 20K RF	—	670	—
		JIS 30K RF	—	690	—
		JIS 40K RF	—	—	780
		JIS 63K RF	—	—	800
		ANSI 150 RF	599	665	—
		ANSI 300 RF	—	687	—
		ANSI 600 RF	—	—	800

▲ Special

Meter Size 32, 33

(LW11 Register Installed)



a: Transmission Gear Box w/External Accuracy Adjustor (GB1-0¹₅)
 b: Transmission Gear Box w/Built-in Accuracy Adjustor (GB1-21)

Meter Size		32						33					
Pres. Rating	Symbol	F	R	D	A		Approx. Weight kg	F	R	D	A		Approx. Weight kg
					a	b					a	b	
10K		363	305	600	834	806	425	384	330	680	880	852	585
30K		364	313	660	743	815	630	384	340	720	890	862	980
▲63K		436	370	720	972	944		487	390	790	1043	1015	1300

In case of a meter with cooling fin, add 145 mm to Dim. "F" above.

▲ Special

Flange-to-Flange Dimensions (L)

Meter Size	Nominal size mm (inch)	Pres. Rating	10K	30K	▲63K
		Body Material	FC250	SCPH2	SCPH2
32	▲150 (6)	Flange ratings			
		JIS 10K RF, FF	700	768	—
		JIS 16K RF, FF	—	772	—
		JIS 20K RF	—	780	—
		JIS 30K RF	—	800	—
		ANSI 125 FF	699	—	—
		ANSI 150 RF	699	775	—
	200 (8)	ANSI 300 RF	—	800	—
		JIS 10K RF, FF	700	760	—
		JIS 16K RF, FF	—	768	—
		JIS 20K RF, FF	—	776	—
		JIS 30K RF, FF	—	800	—
		JIS 40K RF, FF	—	—	940
		JIS 63K RF, FF	—	—	960
		ANSI 125 FF	705	—	—
		ANSI 150 RF	705	773	—
		ANSI 300 RF	—	800	—
		ANSI 600 RF	—	—	964

▲ Special

Meter Size	Nominal size mm (inch)	Pres. Rating		10K	30K	▲63K
		Body Material				
		Flange ratings		FC250	SCPH2	SCPH2
33	▲150 (6)	JIS 10K RF, FF		800	888	—
		JIS 16K RF, FF		—	892	—
		JIS 20K RF		—	900	—
		JIS 30K RF		—	920	—
		ANSI 125 FF		799	—	—
		ANSI 150 RF		799	895	—
	200 (8)	ANSI 300 RF		—	920	—
		JIS 10K RF, FF		800	880	—
		JIS 16K RF, FF		—	888	—
		JIS 20K RF, FF		—	896	—
		JIS 30K RF, FF		—	920	—
		JIS 40K RF, FF		—	—	1030
		JIS 63K RF, FF		—	—	1050
		ANSI 125 FF		805	—	—
		ANSI 150 RF		805	893	—
		ANSI 300 RF		—	920	—
		ANSI 600 RF		—	—	1054

▲ Special

■ When making inquiries, please state following information :

Please fill out the following specifications when making inquiries.

1. Model	L _____
2. Fluid to be measured	Name _____ Viscosity _____ mPa·s Specific gravity _____
3. Flow rate (m³/h)	Maximum _____ Normal _____ Minimum _____
4. Fluid temperature (°C)	Maximum _____ Normal _____ Minimum _____
5. Ambient temperature (°C)	Maximum _____ Normal _____ Minimum _____
6. Pressure (MPa)	Maximum _____ Normal _____ Minimum _____
7. Flow direction	Right ⇄ Left, Bottom ⇄ Top
8. Flange connection	Nominal diameter _____ mm, Flange rating _____
9. Required accuracy (Linearity)	± _____ %
10. Explosion-proof construction	☐ Required class _____ ☐ Not required
11. Accessories	☐ Strainer, ☐ Air eliminator, ☐ Companion flange
12. Quantity	Including accessories _____
13. Receiving device	Type, manufacturer, model, specifications (input, output, power supply, etc.)
14. Distance between the flow meter and the receiving device	_____ m

● Remote Instrumentation

1	Signal type and application (totalizer, indicator, recorder, controller, computer input, data logger input, batch, blend)
2	Pulse generator type and signal unit
3	Full scale and unit
4	Flowmeter to receiving instrument distance
5	Power source, voltage, frequency
6	Receiving instrument

● Automatic Batching

1	Quantity per batch, preset full scale
2	Time required for each batch
3	Daily total number of batch
4	Allowable error in each batch
5	Operating air pressure, power source, voltage, frequency
6	Valve used and accessories

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 Брянск (4832)59-03-52
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 Волгоград (844)278-03-48
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 Тула (4872)74-02-29
 Тюмень (3452)66-21-18
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 Череповец (8202)49-02-64
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