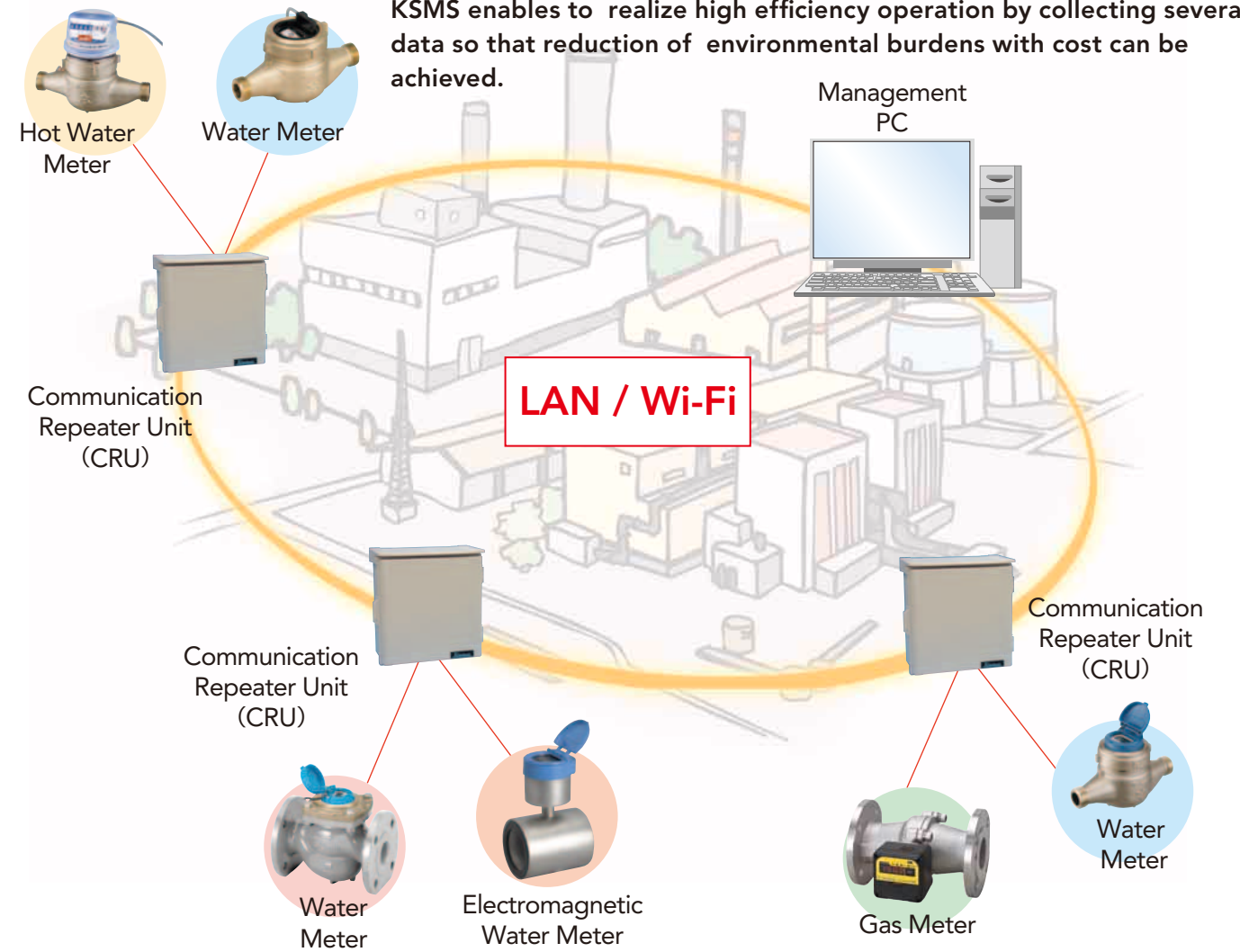
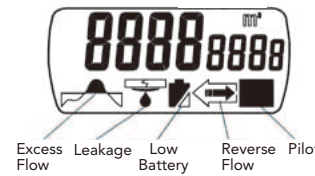


Kimmon Smart Metering System (KSMS) offers to manage gas, water, oil and caloric demand and accurate billing through Ethernet. KSMS enables to realize high efficiency operation by collecting several data so that reduction of environmental burdens with cost can be achieved.



# Water Meters

### Indicator



### Function

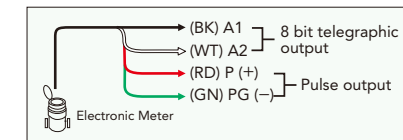
Scheduled Reading	Store reading value at scheduled date & time
Random Reading	Reading available anytime
Instantaneous Flowrate	Detect instantaneous flow continuously
Leakage Detection	Detect unusual micro amount
Excess Flowrate	Detect unusual inatantaneous flow
Reverse Flow	Notice reverse installation
Scheduled Data Delivery	Send reading value at scheduled time and date
Load Survey	Correct loading data
Alarm Transmission	Indicate at site and send alarm to Control Center
Battery Check	Check continuoustry battery voltage
Zero Flow Detection	Available for watching solitary death
Supply Failure Detection	When inside is not full

### Example of Indication

Item	Description	Indication
Cummulative Amount	123456.78m <sup>3</sup>	123456 m <sup>3</sup>
Instantaneous Flowrate	12.00m <sup>3</sup> /h	12 m <sup>3</sup> /h
Alarm	Battery Failure	123456 m <sup>3</sup>
	Leakage	123456 m <sup>3</sup>
	Excess Flow	123456 m <sup>3</sup>
	Reverse Flow	123456 m <sup>3</sup>

### Signal Output

Output cable configuration of Pulse / 8 bit multi-function electronic water meter

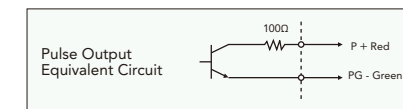


\*8bit telegraphic is used for wired or wireless network system  
 \*Standard pulse is no unit output based on actual rotation of wheel. When order, pulse rate is selectable from 4 kind of output.

#### [Pulse Output Specification]

Configuration ----- Open drain (Equivalent to Open collector)  
 Allowable Voltage ----- DC24V  
 Allowable Ampacity ----- DC10mA (Mind 100Ω internal Resistor)  
 Output Unit :  
 • 13~40mm (No unit, \*1L, 10L, 100L, 1m<sup>3</sup>)  
 \*Available below 3.6m<sup>3</sup>/h flowrate  
 • 50~100mm (No unit, \*10L, 100L, 1m<sup>3</sup>, 10m<sup>3</sup>)  
 \*Available below 36m<sup>3</sup>/h flowrate  
 (Note) Selection of pulse unit not relevant to indication on body and centralized reading panel.





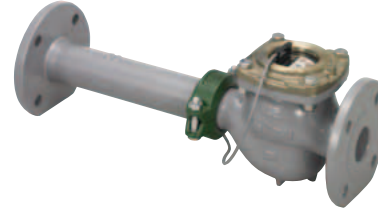











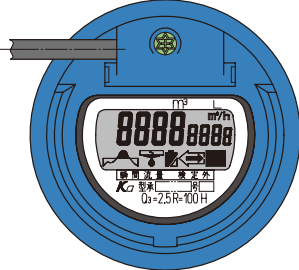
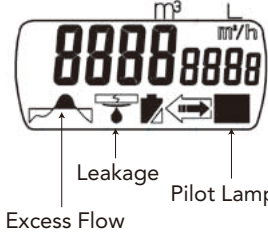
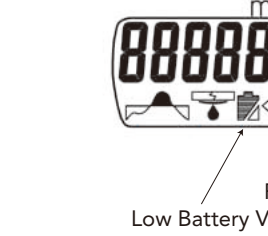
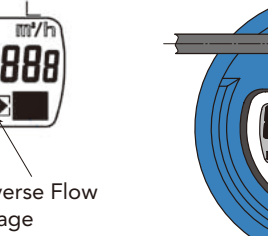
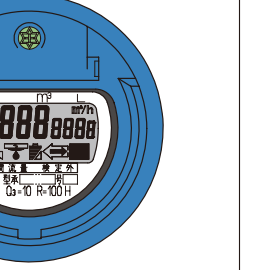





Width of pulse : No unit ----- indeterminate  
 Unit pulse ----- Approx. 0.5sec.



### CRU Specification

Modem No.		IPNCU-G
Modem Port	Terminal No.	1
	Device	Packet
Ethernet Port	Terminal No.	1 (AC100V)
	Device	Ethernet
8 bits Port	Terminal No.	2
Port	Device	KFH300 8bit output
	Supply	AC100V or Battery
Power Enclosure	Protection Class	IP33
	Dimension	300W x 300H x 140D

# Water Meter Lineup

Diameter	13mm		20mm	25mm	30mm	40mm	50mm		65mm	75mm	100mm	
Type	Single Jet Wheel		Double Jet Wheel				Waltman					
Connectin	NPT Screw				Flange JIS10K							
Model No.	GKDA	GKDL	GKDA	GKDL	GKDA	GKDS	GKDA	GKDS	GKDA	GKDS	GKDS	
	EKDA	EKDL	EKDA	EKDL	EKDA	EKDS	EFDT	EFDT	EFDT	EFDT	EFDT	
	NKDA	NKDL	NKDA	NKDL	NKDA	NKDS	NFDT	NFDT	NFDT	NFDT	NFDT	
Pulse Signal <sup>(*1)</sup>												
Electronic <sup>(*2)</sup>												
Direct Reading <sup>(*1)</sup>												
R=Q3/Q1 (Planed Ratio)						100						
Q1 (Min. Flow Rate) (m <sup>3</sup> /h)	0.025		0.04	0.063	0.1	0.1	0.16	0.4	0.63	0.63	1	
Q2 (Change Over Flow Rate) (m <sup>3</sup> /h)	0.04		0.064	0.1008	0.16	0.16	0.256	0.64	1	1	1.6	
Q3 (Permanent Flow) (m <sup>3</sup> /h)	2.5		4	6.3	10	10	16	40	63	63	100	
Q4 (Max. Flow Rate) (m <sup>3</sup> /h)	3.125		5	7.875	12.5	12.5	20	50	78.75	78.75	125	
Allowable Max. Working Pressure (MPa)						1						
Allowable Max. Working Temperature (°C)						30						
<sup>(*1)</sup> Min. Scale(L)						1						
<sup>(*1)</sup> Max. Total Flow(m <sup>3</sup> )	9999.9				99,999.9			999,999.9				
<sup>(*2)</sup> Min. Scale(L)					0.1			1				
<sup>(*2)</sup> Max. Total Flow(m <sup>3</sup> )	9,999.9999				99,999.9999			999,999.999				
Body Material	Lead Free Copper Alloy CAC804 w/o Coating						Ductile Cast Iron w/Powder Coating					
	Small Bore				LCD			Big Bore				
	Mechanical		LCD				LCD			Mechanical		
Indicator												
Standard	JIS B 8570-2 (Compliance with OIML/Relevant ISO)											
Period of Re-Calibration by Law <sup>(*3)</sup>	8 Years											
Desigh Duration of Life Time = <sup>(*3)</sup> x 1.5	12 years											

# MGB12A

50 mm 65 mm 75 mm 100 mm 125 mm 150 mm 200 mm



## Battery Operated Electromagnetic Flow

### Specification

Diameter (mm)		50	65	75	100	125	150	200
R=Q3/Q1	Ratio	200						
Q1	Minimum Flow Rate (m <sup>3</sup> /h)	0.315	0.5	0.5	0.8	1.25	2	3.15
Q2	Change-over Flow Rate (m <sup>3</sup> /h)	0.504	0.8	0.8	1.28	2	3.2	5.04
Q3	Maximum Flow Rate (m <sup>3</sup> /h)	63	100	100	160	250	400	630
Q4	Limit Flow Rate (m <sup>3</sup> /h)	78.75	125	125	200	312.5	500	787.5
Min. Scale	(L)	1			10			
Max. Total Flow	(m <sup>3</sup> )	999,999.999			9,999,999.99			
Instantaneous Flow Rate	(m <sup>3</sup> /h)	999.9			9999			

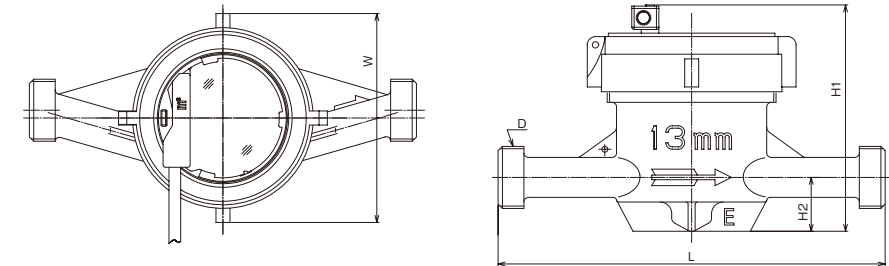
Certified Model No.	L101(50~125mm) L102(150mm) L1123(200mm)	
Use	Transaction for water flow measurement	
Design	All in one component	
Measurement Principle	Battery operated electromagnetic detection	
Indicator	Type	LCD with back light / Inversionable
	Indication	Cumulative / Instantaneous Flowrate / Pilot / Alarms
	Alarm Function	Leakage / Excess Flow / Low Battery Voltage Reverse Flow / Empty
	Cumulative Flow Rate	99999.999
Instantaneous Flow Rate	999.9	
Permissible Error	Over Q1 Under Q2:±5% Over Q2 Less than Q4:±2% As per JIS B8570-2	
Protection Class	IP68	
Operating Condition	Pressure	0.03~1MPa
	Fluid Temperature	0.1~30°C
	Fluid Electroconductivity	50~1000μS/cm
	Ambient Temperature	5~50°C
	Ambient Humidity	0~100RH at 40°C Ambient Temperature
Output Signal (Option)	Pulse	Open Drain
	Pulse Rate	100L/P (50~125mm only)·1000L/P
	Digital	8bits
Installation	Position	Horizontal / Vertical
	Connection	Wafer Flanged
Power	Internal Lithium Battery	
Material	Cover Plate	Epoxy-acrylic Resin
	Body	Stainless Steel
	Electrode	Stainless Steel

### Model Selection

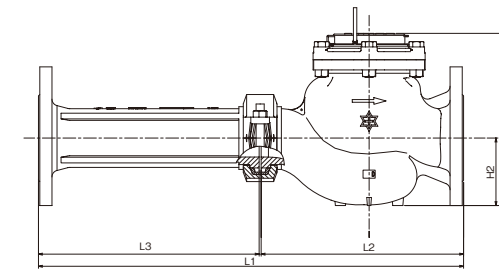
Diameter	Model	
	50mm	050
65mm	065	
75mm	075	
100mm	100	
125mm	125	
150mm	150	
200mm	200	
Selection Table	—	— K
	—	— X
	—	— 0
	Signal Output	No 00 w / 5m cable 05 w / 10m cable 15
Connection	JIS10K	1
	JWWA 7.5K	5
Pulse Rate	100L	A
	1000L	B
—	—	01
Accessories	Bolt / Nut	No X Carbon Steel 1 SUS304 2
	Extension Pipe	No X
		Yes A
Addition	No X	
	Documentation	Test Report T Traceability Certificate & Test Report Y

### Pulse Output Model Dimension

Dia	Model	(L) mm	(H1) mm	(H2) mm	(W) mm	Weight Kg
13mm	GKDA	100	97	23	89	0.9
	GKDL	165	97	23	89	1.0
20mm	GKDA	190	112	35	98	1.7
25mm	GKDL	225	112	35	98	2.0
30mm	GKDA	230	115	40	108	2.6
40mm	GKDA	245	120	45	108	2.9
50mm	GKDS	245	152	55	128	4.3

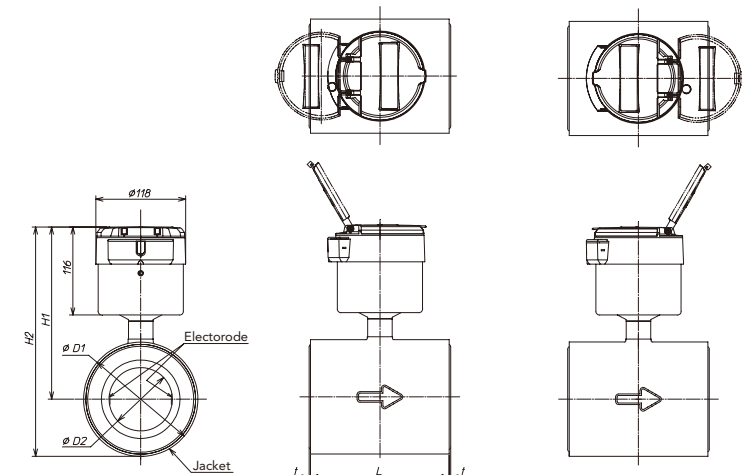


Dia	Model	(L1) mm	(L2) mm	(L3) mm	(t) mm	(H1) mm	(H2) mm	(W) mm	Weight Kg
50mm	GFDW	560	245	312	3	217	80	189	24
65mm	GFDW	575	270	302	3	267	100	186	26
75mm	GFDW	630	300	327	3	267	100	211	29
100mm	GFDW	750	350	397	3	309	120	238	41



### MGB12A Model Dimension

Dia	Model	(L) mm	(D1) mm	(D2) mm	(H1) mm	(H2) mm	(t) mm	Weight Kg
50	MGB12A	120	96	44.8	194.5	242	1	3
65	MGB12A	140	115	59.5	204.0	262	1	3.8
75	MGB12A	160	128	70.3	210.5	275	1	4.5
100	MGB12A	180	150	83.1	226.5	302	1	6.3
125	MGB12A	200	180	108.3	241.5	331	1	8.3
150	MGB12A	229	210	138.8	266.5	372	1	11.1
200	MGB12A	300	265	189	293.0	426	1	25.8

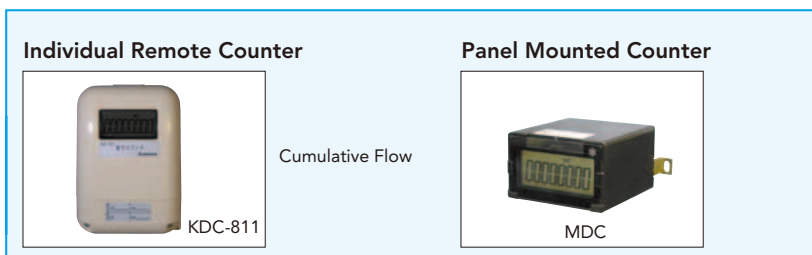
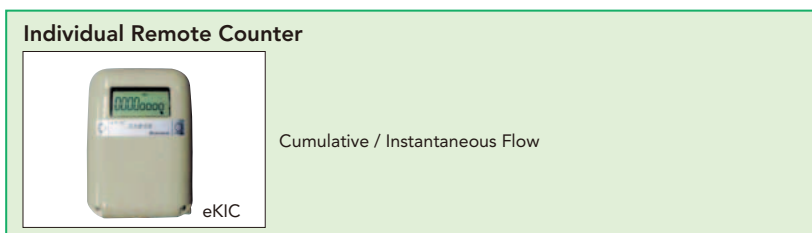
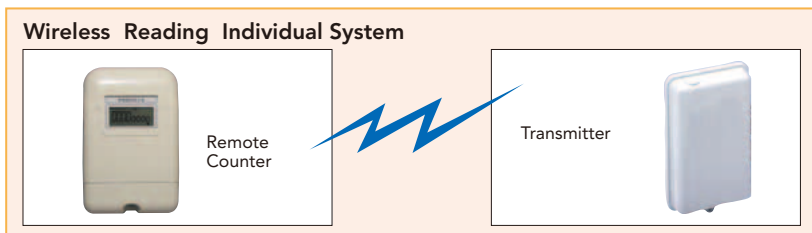
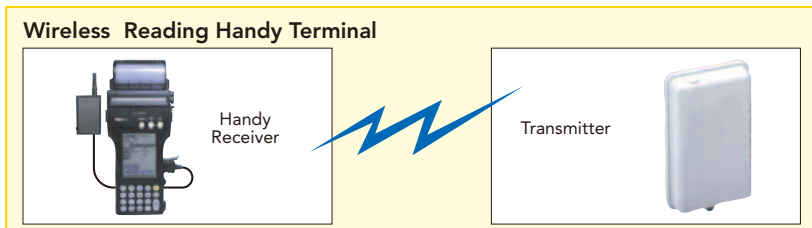
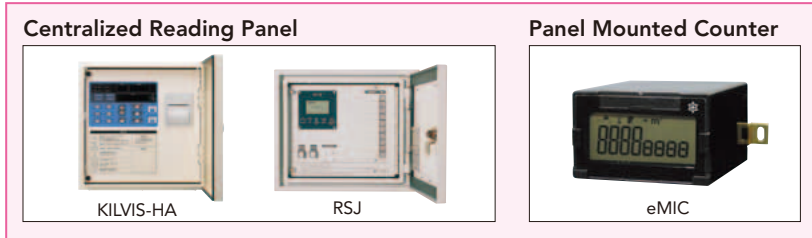
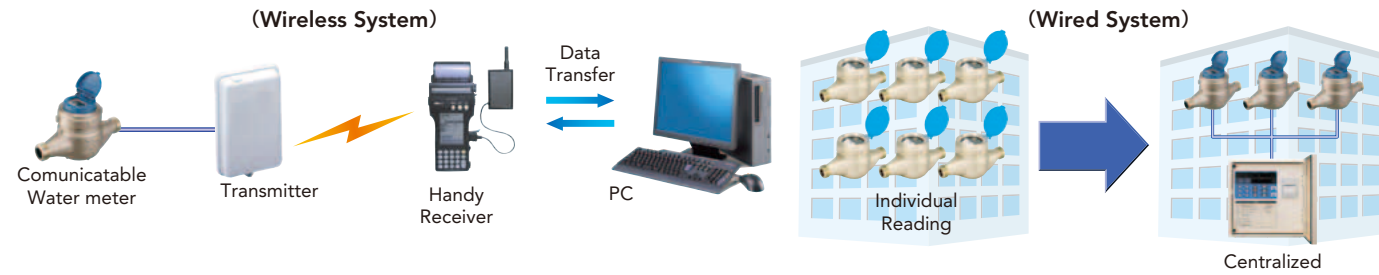




# Centralized Remote Reading Solution



**High Efficiency  
Less Human Error  
Less Violation to Privacy  
High Cost Effectiveness**



**Specification Electronic Meter Output**

(Digital) →  
GN BK .....A1  
WT .....A2  
Spec. : 8 bits

(Pulse) →  
GN BK ..... +  
WT ..... -  
Spec. : Open Drain



Digital 8bit Telegraphic

Pulse

## Company Profile

Initiation	Y 1904 as Kimmon Trading Co., Ltd.
Establishment	Y 1948 as Kimmon Manufacturing Co., Ltd.
Headquarter	1-14-3 Kita-Otsuka, Toshima-ku, Tokyo 170-0004, Japan Otsuka Asami Building
Regional Branch	Sapporo, Sendai, Kiryu, Tokyo, Shizuoka, Osaka, Hiroshima, Fukuoka
Sales Branch	Kushiro, Morioka, Aomori, Fukushima, Akita, Niigata, Nagano, Chiba, Atsugi, Nagoya, Kanazawa, Okoayama, Takamatsu, Kagoshima, Okonawa
R & D Center	Kawagoe
Calibration & Certification Agency ( Gas )	Fukuoka, Fukushima, Karatsu
Calibration & Certification Agency ( Water )	Aomori ( in Aomori Factory as subsidiary )
Manufacturing Hub	Aomori, Fukushima, Wakayama, Karatsu
Capital	315,750,000 JPY ( Approx. 4 M-US\$ at 80JPY = 1 US\$ )
Permanent Employee	Approx. 440
Product Lineup	City Gas Meter, LPG Meter, Water Meter, Oil Meter, Cumulative Calorimeter, Flow Meter, Instruments, Gas Regulator, Household Gas Detector, Water Leakage Detector
Average Sales	Approx. 25.3 B-JPY ( Approx. 32 M-US\$ )

### Azbil Kimmon Co., Ltd.

1-14-3 Kita-Otsuka, Toshima-ku, Tokyo 170-0004, Japan  
Global Business Division  
Direct Phone : +81-3-5980-3735 Fax : +81-3-5980-3754  
<http://azbil.com>  
<http://ak.azbil.com>

