Yamatake-Honeywell **Specification**

MagneW 3000
Electromagnetic Flowmeter Converters
Model KIC20B

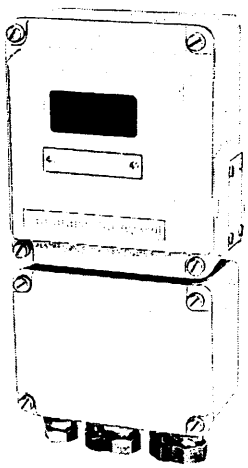
Introduction

The MagneW3000 Electromagnetic Flowmeters are extremely compact and light and can lay claim to being a new generation instrument. They render high measuring accuracy and stability.

Features of Electromagnetic Flowmeters

The features of electromagnetic flowmeters in general (quoted from JIS Z8764) are as follows:

1) Volumetric measurement of a liquid flow can be done without being influenced by changes in temperature, pressure, density, or viscosity of the liquid being measured.
2) Measurement is not affected by conductivity change, provided that conductivity is above a minimum level. Therefore, irrespective of the type of liquid measured, calibration can be done with the actual flow of water at normal temperature.
3) Liquids which contain solid suspensions can also be measured.
4) Pressure loss caused by measurement is practically zero.
5) The output signal is linearly proportional to the actual flow, starting from zero flow.
6) Only a short length of straight pipe is required at the upstream side of the detector as compared with those required by other types of flowmeters.
7) Structure without moving parts assures fast response.



Features of the MagneW3000

The outstanding features of the MagneW3000 are as follows:

1) The MagneW3000 employs a squarewave excitation system, thereby providing excellent zero-point stability and eliminating zero-point shift that could be caused by stain of electrodes.
2) The practical measuring range accuracy is ±0.5% of rate.
3) The converters employ hybrid IC's and they are compact, light, and reliable.
4) The compact and light detectors are very convenient for installation and maintenance.
5) The MagneW3000 is available either in an integral type or remote type. Conversion between the two is possible.

Measurable Liquids

Any liquids, provided that their electical conductivity is 3μS/cm or higher, can be measured irrespective of their properties or states (viscosity, temperature, pressure, or slurry).

Water:	Potable, sewage, industrial, irrigation, sea, or drain water
Chemical:	Acidic, alkaline, or corrosive liquids
Slurries:	Cement, lime, alumina, latex, and other slurries
Suspensions:	Pulp, drain, mud, or filthy liquids
Foods:	Beer, milk, juice, and sauce
Viscous liquids:	Jam, paste, etc.

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Instrument Specifications

Item	Specifications
Power requirement	100, 110, 120, 200, 220, 240V AC±10%, 50/60Hz±2Hz 24V DC±10%
Power consumption	14W (22VA) (Including detector and converter)
Output signal	Current output: 4 – 20mA DC (Load: 0 – 600 ohms) Pulse output: •Mercury relay contact pulse output 0 – 17Hz (Ext. power supply 30V DC max., 300mA, pulse width 30ms) •Counter drive pulse output, 0 – 17Hz (24V DC, external coil load 210 ohms, 30ms) •Open-collector pulse output, 0 – 1,700Hz (Ext. power supply 30V DC max., 100mA, pulse width selectable for 0.3ms or 30ms) •High-speed voltage pulse output, 0 – 1,700Hz, external load 5k ohms or over (15V DC, pulse width selectable for 0.3ms or 30ms) Flowrate indicator: 3.5 digits, 7-segment LED
Flow velocity ranges	0 – 0.3m/s to 0 – 9.999m/s (Can be set with 4-digital switch)
Damping time constant	1 – 10 sec. (Continuously variable)
Low flow cut-off (Drop out)	0 – 10%FS (Continuously variable)
Accuracy (As used in conjunction with KID Detector)	Span (Vs) / Flow rate≧25% / Flow rate≦25% Vs = 1.0 to 10m/s / ±0.5% of rate / ±0.125% FS Vs = 0.3 to less than 1.0m/s / $\pm\left(\frac{0.25}{Vs}+0.25\right)$% of rate / $\pm\frac{1}{4}\left(\frac{0.25}{Vs}+0.25\right)$% FS
Ambient temperature	–10 to +50°C
Relative humidity	10 to 90%RH
Cables (Between detector and converter)	Signal cable: 2-core individually double-shielded cable (Yamatake-Honeywell standard KIW, 0.75mm², outside dia. 11.4mm), or equivalent cable (CVVS, CEEV, etc.) Cable for excitation current: Chloroprene cabtire cable 2RNCT, JIS C3327 (2mm², outside dia. 11.4mm) or equivalent cable (Vinyl sheathed cable CVV, JIS C3401, etc.)
Cable length	Up to 300 meters (Cable length is limited by detector size and electrical conductivity of measured liquid. For details, refer to the specification sheet for the dedicated cables for MagneW3000 SS2-5662-0100.)
Installation	Wall or 2″ pipe mounting
Ground	JIS Class 3 ground (Ground resistance not greater than 100 ohms)
Case – **Materials**	Aluminium alloy
Case – **Structure**	JIS C0920 water-proof type
Case – **Finish**	Acryl paint
Case – **Finish color**	Light beige (Munsell 4Y7.2/1.3)
Electrical conduit connection	G1/2, CM20, 1/2NPT internal thread

Semi-sandard Specification

Corrosion-resistant finish (Y138)	Corrosion-resistant finish (Y138A): Baked acryl finish Corrosion-proof finish (Y138B): Baked epoxy finish

Model Number Table

Ex: KIC20B-A1DO1SV-X

Basic model No.	Selections								Description	
	Power supply	Output signal: Analog	Output signal: Indicator	Output signal: Pulse	Terminal box/ Lightning arrester	Installation	Conduit connection	Options		
	I	II	III	IV	V	VI	VII	VIII		
KIC 20B									General type converter	
	-A								100V AC, 50/60Hz	
	-C								110V AC, 50/60Hz	
	-E								120V AC, 50/60Hz	
	-G								200V AC, 50/60Hz	
	-I								220V AC, 50/60Hz	
	-K								240V AC, 50/60Hz	
	-M								24V DC	
		X							None	
		1							4 to 20mA DC	
			X						None	
			D						4 to 20mA DC	
				X					None	
				O					Flow rate display (%)	
				P					Open-collector pulse output	
				Q					Counter drive pulse output	
				R					Mercury relay contact pulse output	
					1				High speed voltage pulse output	
					2				With terminal box, with lightning arrester	
						S			Wall mounting	
						T			2" pipe mounting	
							V		G 1/2 internal thread	
							W		CM20 internal thread	Water-tight gland is not available.
							Y		1/2 NPT internal thread	Water-tight gland is not available.
								-X	Without water-tight gland	
								-1	With brass (Ni-plated) water-tight gland	
								-2	With plastic water-tight gland	

Note) Specify no arrester for instrument used on liquid whose electrical conductivity is less than 100μS/cm.

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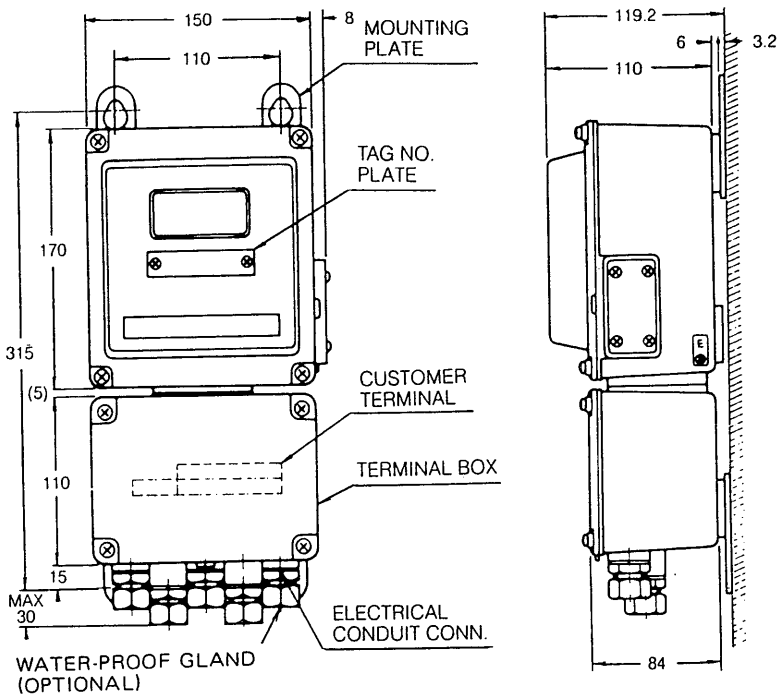
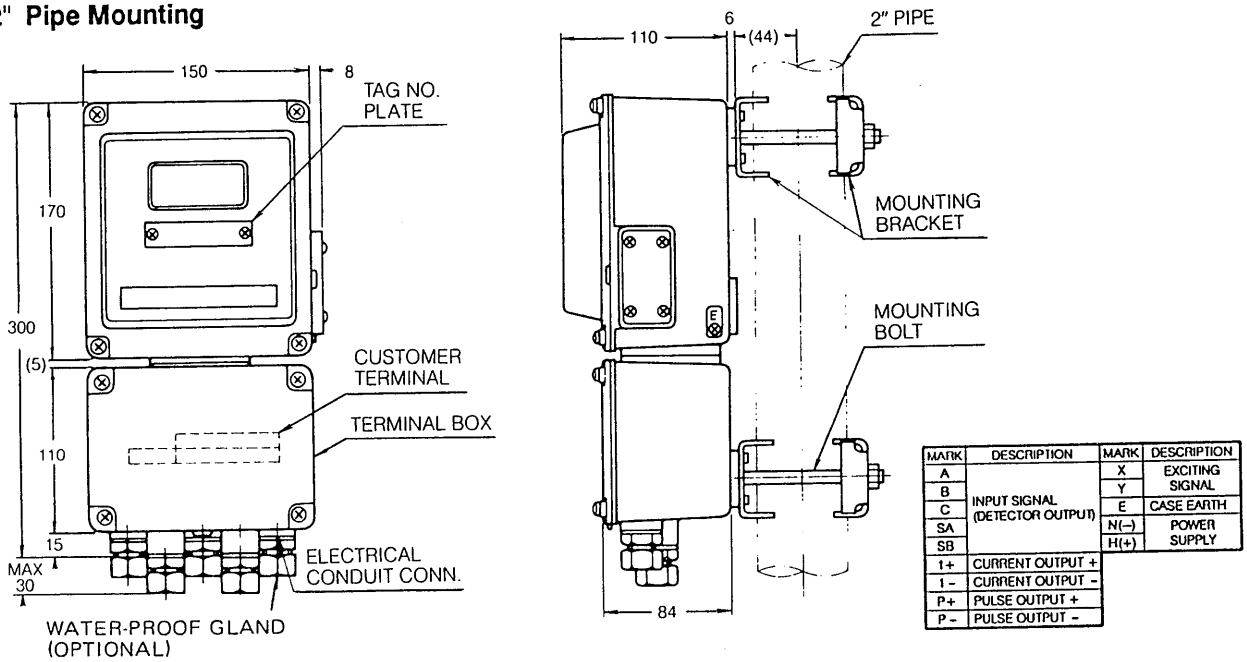
Dimension Drawings

(Unit: mm)

Wall Mounting



2" Pipe Mounting



MARK	DESCRIPTION	MARK	DESCRIPTION
A	INPUT SIGNAL (DETECTOR OUTPUT)	X	EXCITING SIGNAL
B		Y	
C		E	CASE EARTH
SA		N(–)	POWER SUPPLY
SB		H(+)	
1+	CURRENT OUTPUT +		
1–	CURRENT OUTPUT –		
P+	PULSE OUTPUT +		
P–	PULSE OUTPUT –		

Ordering Information

When ordering, please specify:

1) Model number
2) Flow span
   - Flow velocity m/s or Flowrate m^3/h
3) For pulse output
   - Pulse width and weight

Specifications are subject to change without notice.