

LORRIC

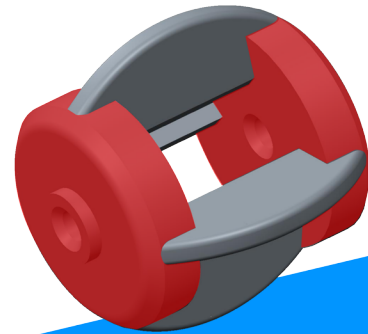
FP-AS510 Paddle Wheel Flowmeter

FP-AS510



Product Features

AxleSense



Double the measuring range of similar products on the market

Two-directional flow detection function

Immediate detection of paddle disappearance to mitigate zero-flow problems

● LORRIC exclusive patent - The AxleSense Technology

- A wider flowrate detection range (0.15 m/s~10m/s)-- LORRIC's patented AxleSense technology shifts the direction of flowrate detection, which means that even under low flow speeds, any paddle movement will be accurately sensed, as well as maintaining a low margin of error for flowrate monitoring.

- Actively detects any paddle abnormalities and offers clear information for the on-site manager to see, and will not simply display a passive "zero-flow" notice.

- Bidirectional flow detection - AxleSense uses the paddle's direction to detect the flow's fundamentals, while at the same time supplies direct information about the flow direction inside the pipelines. This in conjunction with integration with the factory's management system, makes on-site management more convenient.

**Exclusive LCD/
LED double screen
design, double
screen monitoring
which makes work
equivalent to
1+1>2**



- Exclusive LCD/LED double screen design, double screen monitoring which makes work equivalent to 1+1>2

- Double screen display: LED-5 digits LED/LCD 16x3 LCD backlight display

- Large bright LED digits display screen for flow observation: LED's brightness is best suited for long-distance monitoring.

- LCD screen best suited for the display of more complex text-based details



- Green, orange and red indicator lights: Red – Major abnormality; Green – Normal operation; Orange – Non-urgent data display.

- Daily Accumulation of positive/negative/net flow volume in the past 14 days.

- The screen can change direction according to the pipes' alignment.

■ Comparison with flowmeters with other various principles

	Variable area flowmeter	Paddle wheel flowmeters	LORRIC's Paddle wheel flowmeter	Electromagnetic flowmeter	Ultrasonic flowmeters
Pipeline loss	Low	Low	Low	No	No
Non-invasive install	No	No	No	No	Yes
Precision	Middle	Middle	Middle	High	High
Bidirectional flow detectable	No	No	Yes	Yes	Yes
Blockages	Possible	Possible	Possible	Not possible	Not possible
Applicable fluid	Air / Liquid	Liquid	Liquid	Conductive liquid	Liquid
Cost	Lowest-costs in small diameter pipe, cost increases with pipe diameter	Low-costs, cost increases with pipe diameter	Low-costs, cost increases with pipe diameter	High-costs, cost increases with pipe diameter	Middle-costs Cost does not increase with pipe diameter

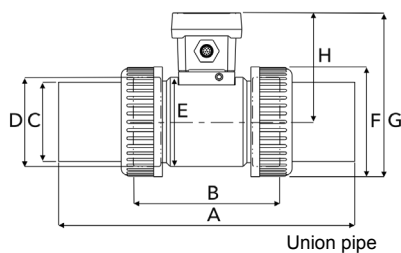
Specifications

Mechanism Specs		Measurement Specs	
Installation method	in-line (Pipe segment)	Applicable fluid maximum dynamic viscosity	300cSt
Fluid in pipes temperature	0~50 °C (32~122°F)	Applicable fluid	Clear, oil or chemicals with less impurities (<1%)
Device working environment temperature	-25~70(-13~158°F)	Linearity	± 0.5 % FS (>0.3m/s)
Union Adaptor Types	PVC gluing adaptors(ASTM, JIS, DIN),PVC internal and external thread Connector (BSPT and NPT)	Reproducibility	± 0.4 %
		OR tolerance	± 2.5 % OR
Paddle material	PVDF with embedded magnet + ceramic bearing and shaft	Measuring principle	Paddle wheel
Tee pipe material	UPVC	Flow rate range	±0.3 ~10 m/s Can extend to ±0.15 ~10 m/s
Power supply	DC 12V to 36V 100mA	Tee pipe diameter (mm)	DN20-50 (¾" to 2")
Response time	< 0.5 second	Transient data	Instantaneous flow and flow rate
Waterproof level	IP65	Cumulative data	Positive and negative net flow accumulation, past 14 days and long time accumulative net flow

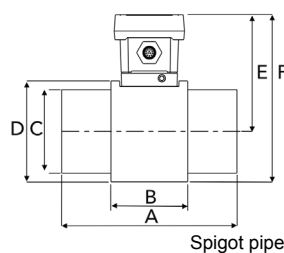
User Interface

Language	English, Traditional Chinese, Simple Chinese (Others customizable)	Operation buttons	4 Key touch buttons
Unit	Metric : Litre, cubic meters, meters Time : second, minute, hour, day Imperial : foot, cubic foot, Uk gallon, US gallon	Wired communication	Analog output 4-20mA (External Power Supply Required) Modbus RTU RS485 Two-line OCT switch signal (ship with 2 meter cable)
Display	Double screen display :Large 5-Digit LED, 16x3 3-Color backlit LCD display	Calendar function battery	CR2032
Display digits	LED 5 digits, LCD 10 digits		

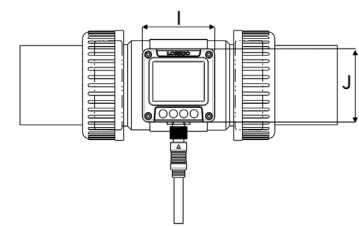
Size



Union pipe



Spigot pipe



Device

UPVC pipe - union diameter size(mm)

	A	B	C	D	E	F	G	H
¾"	168	100	32.6	41.9	60	50.5	115.7	85.7
1"	168	100	40.6	50	60	60	115.7	85.7
1¼"	210	114	50.2	59.6	65	75.6	127	89.2
1½"	218	120	56	65.7	70	83	134	92.5
2"	269.5	133.3	72	81	81	99.7	148.8	99

UPVC pipe - spigot pipe diameter size(mm)

	A	B	C	D	E	F	G	H
2½"	160	70	76	92	106.5	152.5	115.7	85.7

Device size(mm)

I	J
63	63

■ Pipe model

Phase 1 (specs in black) : already available for purchase

Phase 2 (specs in red) : will be available for purchase by the end of January

Phase 3 (specs in blue) : will be available for purchase by the end of March

Pipe Size	Pipe Spec	Serial Number	Description
3/4"	JIS	FP-P020CJV	3/4" PVC T-connector,3/4" JIS Welding fitting,Viton oring + FP-W010CFV
		FP-P020CJE	3/4" PVC T-connector,3/4" JIS Welding fitting,EPDM oring + FP-W010CFE
	ANSI/ASTM	FP-P020CAV	3/4" PVC T-connector,3/4" ANSI/ASTM Welding fitting,Viton oring + FP-W010CFV
		FP-P020CAE	3/4" PVC T-connector,3/4" ANSI/ASTM Welding fitting,EPDM oring + FP-W010CFE
	DIN	FP-P020CEV	3/4" PVC T-connector,3/4" DIN Welding fitting,Viton oring + FP-W010CFV
		FP-P020CEE	3/4" PVC T-connector,3/4" DIN Welding fitting,EPDM oring + FP-W010CFE
	CNS	FP-P020CTV	3/4" PVC T-connector,3/4" CNS Welding fitting,Viton oring + FP-W010CFV
		FP-P020CTE	3/4" PVC T-connector,3/4" CNS Welding fitting,EPDM oring + FP-W010CFE
	China	FP-P020CNV	3/4" PVC T-connector,3/4" CN Welding fitting,Viton oring + FP-W010CFV
		FP-P020CNE	3/4" PVC T-connector,3/4" CN Welding fitting,EPDM oring + FP-W010CFE
	Female Thread	FP-P020CFV	3/4" PVC T-connector,3/4" female thread fitting,Viton oring + FP-W010CFV
		FP-P020CFE	3/4" PVC T-connector,3/4" female thread fitting,EPDM oring + FP-W010CFE
	Male Thread	FP-P020CMV	3/4" PVC T-connector,3/4" male thread fitting,Viton oring + FP-W010CFV
		FP-P020CME	3/4" PVC T-connector,3/4" male thread fitting,EPDM oring + FP-W010CFE
	NPT Female Thread	FP-P020CRV	3/4" PVC T-connector,3/4" NPT female thread fitting,Viton oring + FP-W010CFV
		FP-P020CRE	3/4" PVC T-connector,3/4" NPT female thread fitting,EPDM oring + FP-W010CFE
NPT Male Thread	FP-P020CQV	3/4" PVC T-connector,3/4" NPT male thread fitting,Viton oring + FP-W010CFV	
	FP-P020CQE	3/4" PVC T-connector,3/4" NPT male thread fitting,EPDM oring + FP-W010CFE	
1"	JIS	FP-P025CJV	1" PVC T-connector,1" JIS Welding fitting,Viton oring + FP-W010CFV
		FP-P025CJE	1" PVC T-connector,1" JIS Welding fitting,EPDM oring + FP-W010CFE
	ANSI/ASTM	FP-P025CAV	1" PVC T-connector,1" ANSI/ASTM Welding fitting,Viton oring + FP-W010CFV
		FP-P025CAE	1" PVC T-connector,1" ANSI/ASTM Welding fitting,EPDM oring + FP-W010CFE
	DIN	FP-P025CEV	1" PVC T-connector,1" DIN Welding fitting,Viton oring + FP-W010CFV
		FP-P025CEE	1" PVC T-connector,1" DIN Welding fitting,EPDM oring + FP-W010CFE
	Female Thread	FP-P025CFV	1" PVC T-connector,1" female thread fitting,Viton oring + FP-W010CFV
		FP-P025CFE	1" PVC T-connector,1" female thread fitting,EPDM oring + FP-W010CFE
	Male Thread	FP-P025CMV	1" PVC T-connector,1" male thread fitting,Viton oring + FP-W010CFV
		FP-P025CME	1" PVC T-connector,1" male thread fitting,EPDM oring + FP-W010CFE
	NPT Female Thread	FP-P025CRV	1" PVC T-connector,1" NPT female thread fitting,Viton oring + FP-W010CFV
		FP-P025CRE	1" PVC T-connector,1" NPT female thread fitting,EPDM oring + FP-W010CFE
NPT Male Thread	FP-P025CQV	1" PVC T-connector,1" NPT male thread fitting,Viton oring + FP-W010CFV	
	FP-P025CQE	1" PVC T-connector,1" NPT male thread fitting,EPDM oring + FP-W010CFE	
1-1/4"	JIS	FP-P032CJV	1-1/4" PVC T-connector,1-1/4" JIS Welding fitting,Viton oring + FP-W010CFV
		FP-P032CJE	1-1/4" PVC T-connector,1-1/4" JIS Welding fitting,EPDM oring + FP-W010CFE
	ANSI/ASTM	FP-P032CAV	1-1/4" PVC T-connector,1-1/4" ANSI/ASTM Welding fitting,Viton oring + FP-W010CFV
		FP-P032CAE	1-1/4" PVC T-connector,1-1/4" ANSI/ASTM Welding fitting,EPDM oring + FP-W010CFE
	DIN	FP-P032CEV	1-1/4" PVC T-connector,1-1/4" DIN Welding fitting,Viton oring + FP-W010CFV
		FP-P032CEE	1-1/4" PVC T-connector,1-1/4" DIN Welding fitting,EPDM oring + FP-W010CFE
	Female Thread	FP-P032CFV	1-1/4" PVC T-connector,1-1/4" female thread fitting,Viton oring + FP-W010CFV
		FP-P032CFE	1-1/4" PVC T-connector,1-1/4" female thread fitting,EPDM oring + FP-W010CFE
	Male Thread	FP-P032CMV	1-1/4" PVC T-connector,1-1/4" male thread fitting,Viton oring + FP-W010CFV
		FP-P032CME	1-1/4" PVC T-connector,1-1/4" male thread fitting,EPDM oring + FP-W010CFE
	NPT Female Thread	FP-P032CRV	1-1/4" PVC T-connector,1-1/4" NPT female thread fitting,Viton oring + FP-W010CFV
		FP-P032CRE	1-1/4" PVC T-connector,1-1/4" NPT female thread fitting,EPDM oring + FP-W010CFE
	NPT Male Thread	FP-P032CQV	1-1/4" PVC T-connector,1-1/4" NPT male thread fitting,Viton oring + FP-W010CFV
		FP-P032CQE	1-1/4" PVC T-connector,1-1/4" NPT male thread fitting,EPDM oring + FP-W010CFE

■ Pipe model

Pipe Size	Pipe Spec	Serial Number	Description
1-1/2"	JIS	FP-P040CJV	1-1/2" PVC T-connector,1-1/2" JIS Welding fitting,Viton oring + FP-W010CFV
		FP-P040CJE	1-1/2" PVC T-connector,1-1/2" JIS Welding fitting,EPDM oring + FP-W010CFE
	ANSI/ASTM	FP-P040CAV	1-1/2" PVC T-connector,1-1/2" ANSI/ASTM Welding fitting,Viton oring + FP-W010CFV
		FP-P040CAE	1-1/2" PVC T-connector,1-1/2" ANSI/ASTM Welding fitting,EPDM oring + FP-W010CFE
	DIN	FP-P040CEV	1-1/2" PVC T-connector,1-1/2" DIN Welding fitting,Viton oring + FP-W010CFV
		FP-P040CEE	1-1/2" PVC T-connector,1-1/2" DIN Welding fitting,EPDM oring + FP-W010CFE
	CNS	FP-P040CTV	1-1/2" PVC T-connector,1-1/2" CNS Welding fitting,Viton oring + FP-W010CFV
		FP-P040CTE	1-1/2" PVC T-connector,1-1/2" CNS Welding fitting,EPDM oring + FP-W010CFE
	Female Thread	FP-P040CFV	1-1/2" PVC T-connector,1-1/2" female thread fitting,Viton oring + FP-W010CFV
		FP-P040CFE	1-1/2" PVC T-connector,1-1/2" female thread fitting,EPDM oring + FP-W010CFE
	Male Thread	FP-P040CMV	1-1/2" PVC T-connector,1-1/2" male thread fitting,Viton oring + FP-W010CFV
		FP-P040CME	1-1/2" PVC T-connector,1-1/2" male thread fitting,EPDM oring + FP-W010CFE
	NPT Female Thread	FP-P040CRV	1-1/2" PVC T-connector,1-1/2" NPT female thread fitting,Viton oring + FP-W010CFV
		FP-P040CRE	1-1/2" PVC T-connector,1-1/2" NPT female thread fitting,EPDM oring + FP-W010CFE
	NPT Male Thread	FP-P040CQV	1-1/2" PVC T-connector,1-1/2" NPT male thread fitting,Viton oring + FP-W010CFV
		FP-P040CQE	1-1/2" PVC T-connector,1-1/2" NPT male thread fitting,EPDM oring + FP-W010CFE
2"	JIS	FP-P050CJV	2" PVC T-connector,2" JIS Welding fitting,Viton oring + FP-W010CFV
		FP-P050CJE	2" PVC T-connector,2" JIS Welding fitting,EPDM oring + FP-W010CFE
	ANSI/ASTM	FP-P050CAV	2" PVC T-connector,2" ANSI/ASTM Welding fitting,Viton oring + FP-W010CFV
		FP-P050CAE	2" PVC T-connector,2" ANSI/ASTM Welding fitting,EPDM oring + FP-W010CFE
	DIN	FP-P050CEV	2" PVC T-connector,2" DIN Welding fitting,Viton oring + FP-W010CFV
		FP-P050CEE	2" PVC T-connector,2" DIN Welding fitting,EPDM oring + FP-W010CFE
	CNS	FP-P050CTV	2" PVC T-connector,2" CNS Welding fitting,Viton oring + FP-W010CFV
		FP-P050CTE	2" PVC T-connector,2" CNS Welding fitting,EPDM oring + FP-W010CFE
	JIS Flange	FP-P050CG	2" PVC JIS T-connector,Flange fitting + FP-W010CFV
		FP-P050CFV	2" PVC T-connector,2" female thread fitting,Viton oring + FP-W010CFV
	Female Thread	FP-P050CFE	2" PVC T-connector,2" female thread fitting,EPDM oring + FP-W010CFE
		FP-P050CMV	2" PVC T-connector,2" male thread fitting,Viton oring + FP-W010CFV
	Male Thread	FP-P050CME	2" PVC T-connector,2" male thread fitting,EPDM oring + FP-W010CFE
		FP-P050CRV	2" PVC T-connector,2" NPT female thread fitting,Viton oring + FP-W010CFV
	NPT Female Thread	FP-P050CRE	2" PVC T-connector,2" NPT female thread fitting,EPDM oring + FP-W010CFE
		FP-P050CQV	2" PVC T-connector,2" NPT male thread fitting,Viton oring + FP-W010CFV
NPT Male Thread	FP-P050CQE	2" PVC T-connector,2" NPT male thread fitting,EPDM oring + FP-W010CFE	
	FP-P065CSA	2-1/2" PVC ANSI/ASTM T-connector,Spigot fitting + FP-W010CFV (Viton oring)	
2-1/2"	spigot ANSI/ASTM	FP-P065CSAE	2-1/2" PVC ANSI/ASTM T-connector,Spigot fitting + FP-W010CFE (EPDM oring)
		FP-P065CSN	2-1/2" PVC CN T-connector,Spigot fitting + FP-W010CFV (Viton oring)
	spigot CN	FP-P065CSNE	2-1/2" PVC CN T-connector,Spigot fitting + FP-W010CFE (EPDM oring)
		FP-P065CSJ	2-1/2" PVC JIS T-connector,Spigot fitting + FP-W010CFV (Viton oring)
	spigot JIS	FP-P065CSJE	2-1/2" PVC JIS T-connector,Spigot fitting + FP-W010CFE (EPDM oring)
		FP-P065CSE	2-1/2" PVC DIN T-connector,Spigot fitting + FP-W010CFV (Viton oring)
	spigot DIN	FP-P065CSEE	2-1/2" PVC DIN T-connector,Spigot fitting + FP-W010CFE (EPDM oring)
		FP-P065CST	2-1/2" PVC CNS T-connector,Spigot fitting + FP-W010CFV (Viton oring)
	spigot CNS	FP-P065CSTE	2-1/2" PVC CNS T-connector,Spigot fitting + FP-W010CFE (EPDM oring)