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Ligao Pump Technology Co., Ltd.
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LIGAO



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LI GAO METERING PUMP
DIGITAL SOLUTIONS

Digital Metering Pump



Summary

Digital metering pump innovative use of stepper motor vector drive, advanced MCU (micro control unit) and software program customization optimization, to achieve a wide range of accurate metering. Digital metering pump machine has simple structure, easy installation and maintenance, the fusion many kinds of intelligent design, manual/automatic, remote/local mode optional, combined with the flow, liquid level, pressure, time, security alarm monitoring and control, through the integrated microprocessor automatic operation and feedback, and support the Modbus RTU two-way communication protocols, Friendly man-machine interface system (HMI/LCD) makes operation more convenient.

Technical parameter

Flow range: mechanical diaphragm Qmax=4000L/H, plunger, hydraulic diaphragm Qmax=45m³/H
 Pressure range: mechanical diaphragm Pmax= 1.2mpa, plunger, hydraulic diaphragm Pmax=70Mpa
 Electrical parameters: AC220/380V, single-phase/three-phase, 50/60Hz, optional explosion-proof
 Flow end material: PVC, PVDF, 304/316L, 904, 2205, Ti, Hastelloy C, etc
 Optional configuration: integrated monitoring and control of pressure and liquid level, double diaphragm safety protection, etc

Features

Innovation-driven structure has excellent performance, precision and reliability
 Measurement accuracy ±1%, flow regulation ratio 1000:1
 Modular design, suitable for diaphragm, plunger, hydraulic diaphragm pump
 Modular design, suitable for explosion-proof occasions
 Support pressure, liquid level control, diaphragm rupture alarm
 Support timing, quantitative, cyclic batch adding
 Pulse, analog signal control, Modbus RTU bidirectional communication

DM/JM series overview

DM series: HMI man-machine interface, can integrate pressure, liquid level, time module, high degree of automation
 JM series: LCD+ button, simple operation, suitable for explosion-proof occasions, a wide range of applications

Digital Metering Pump Performance Parameter

DMA/JMA Parameter

Model	Flow L/h	Pressure Mpa	Diaphragm m	Power W	Connection		
					PVC	PVDF/PTFE*	304/316
DMA/JMA7.5/1.2	7.5	1.2	60	80	6*9 mm PE hose	6*9 mm PE hose	8*14 union for welding
DMA/JMA15/1.0	15	1.0					
DMA/JMA25/1.0	25	1.0					
DMA/JMA50/1.0	50	0.7	84	80	DN15 union	Rc1/2"F Thread	10*16 union for welding
DMA/JMA80/0.7	80						
DMA/JMA100/0.7	100						
DMA/JMA120/0.7	120	0.5					
DMA/JMA150/0.5	150	0.3					
DMA/JMA200/0.3	200						

DMB/JMB Parameter

Model	Flow L/h	Pressure Mpa	Diaphragm m	Power Kw	Connection		
					PVC	PVDF/PTFE*	304/316
DMB/JMB170/0.7	170	0.7	112	0.4	DN15 union	Rc3/4"F Thread	15x22 union for welding
DMB/JMB240/0.5	240	0.5					
DMB/JMB330/0.5	330	0.5					
DMB/JMB400/0.5	400	0.5					
DMB/JMB500/0.5	500	0.5					
DMB/JMB600/0.4	600	0.4			DN25 union	Rc1"F Thread	Rc1" F Thread

DMC/JMC Parameter

Model	Flow L/h	Pressure Mpa	Diaphragm m	Power Kw	Connection		
					PVC	PVDF/PTFE*	304/316
DMC/JMC240/1.0	240	1.0	148	0.75	DN25 union	DN25 Flange	Rc1" F Thread
DMC/JMC320/1.0	320	1.0	148				
DMC/JMC500/1.0	500	1.0	148				
DMC/JMC680/0.7	680	0.7	148				
DMC/JMC760/0.5	760	0.5	148				
DMC/JMC1000/0.4	1000	0.4	148	1.1	DN40 union	DN40 Flange	Rc1½" F Thread
DMC/JMC1200/0.4	1200	0.4	185				
DMC/JMC1600/0.3	1600	0.3	185				
DMC/JMC2000/0.3	2000	0.3	185				

DMCS/JMCS Parameter

Model	Flow L/h	Pressure Mpa	Diaphragm m	Power Kw	Connection		
					PVC	PVDF/PTFE*	304/316
DMCS/JMCS1360/0.7	1360	0.7	148	1.1	DN25 union	DN25 Flange	Rc1" F Thread
DMCS/JMCS1500/0.5	1500	0.5	148				
DMCS/JMCS2000/0.4	2000	0.4	148				
DMCS/JMCS2400/0.4	2400	0.4	185	1.1	DN40 union	DN40 Flange	Rc1½" F Thread
DMCS/JMCS3200/0.3	3200	0.3	185				
DMCS/JMCS4000/0.3	4000	0.3	185				

Note: * is optional configuration.

DM/JM Series Technical Parameter



			DM	JM
Mechanical Parameter	Max Flow@Pressur	[L/h Bar]	4000L/h @3Bar	4000L/h @3Bar
	Adjustment Scale		1000:1	1000:1
	Max Pressure	[Bar]	12Bar	12Bar
	Connection Size		DN6—DN40	DN6—DN40
	Head Material		PVDF/PVC/316/304	PVDF/PVC/316/304
	Diaphragm Material		Composite PTFE	Composite PTFE
	Max Suction height on working	[m]	6	6
	Max Suction height	[m]	2	2
	Max Viscosity	[mPa·s]	2000	2000
	Liquid Temperature Range	[°C]	-10 — 80	-10 — 80
	Ambient Temperature Range	[°C]	0 — 50	0 — 50
	Stability Accuracy	[%]	±1	±1
	Repeatability Accuracy	[%]	±1	±1
Electrical Parameter	Voltage	[VAC]	220V , 50/60Hz	220V , 50/60Hz
	Rated Power	[W]	80//400/750/1100	80//400/750/1100
	Cable Plug Type		Aviation plug*2	Aviation plug*2
	Protection Class		IP65	IP65
Control Parameter	Control box		HMI (Touch Screen)	LCD+Key
	Run Mode		Remote / Local,Manual / Automatic	Remote / Local,Manual / Automatic
	Flow Calibration		Yes	Yes
	Analog Input and Output		4-20mA	4-20mA
	4-20mA revse		Yes	Yes
	4-20mA Linear Control		Yes	Yes
	Pulse Signal Input		Yes	Yes
	External Start-stop Control		Yes	Yes
	Timer Dosing		Yes	No
	Timed Periodic Dosing		Yes	No
	Quantitative Dosing		Yes	Yes
	Level Indication		Analog / Switch	No
	Low level Stop Pump, Alarm		Yes	No
	Pressure monitoring (min / max)		4-20mA	No
Communication Protocol		Modbus RTU	Modbus RTU	
Options	Liquid end - Modular		Mechanical Diaphragm / Plunger / Hydraulic Diaphragm	Mechanical Diaphragm / Plunger / Hydraulic Diaphragm
	Double Diaphragm		Yes	Yes
	Diaphragm Rupture Monitoring Alarm		Yes	Yes
	Explosion Proof - Modular		No	Yes

JMP/JMYP

Plunger/Hydraulic Diaphragm Digital Metering Pump



Summary

DM/JM series digital metering pump its digital control software and hardware adopts modular design, can be applied to the full series of mechanical diaphragm plunger hydraulic diaphragm metering pump products, and can meet the requirements of explosion-proof its mechanical structure is simple, convenient installation and maintenance, integration of a variety of intelligent design in one, a wide range of application JM series metering pump adopts large screen HD backlight LCD with key operation,DM series adopts touch HMI, the operation is more convenient, and on the basis of JM series can realize pressure level monitoring and alarm, can also realize the mode of timing cycle and other high-precision metering.

Technical Parameter

Flow range: plunger, hydraulic diaphragm Qmax=45m³/h
 Pressure range: plunger Pmax=50Mpa, hydraulic diaphragm Pmax=70Mpa
 Electrical parameters: AC220/380V, single-phase/three-phase, 50/60Hz, optional explosion-proof grade
 Flow end material: 304/316L, PVDF, 904, 2205, TA, Hastelloy C, etc

Features

Innovation-driven structure has excellent performance, precision and reliability
 Material pump head optional: PVDF/PVC/316/304
 Modular design, suitable for diaphragm, plunger, hydraulic diaphragm pump
 Modular design, suitable for explosion-proof occasions
 Stability accuracy and reproducibility accuracy are up to ±1%
 Flow regulation ratio 1000:1, high linear accuracy of flow
 Adjust analog signal 4-20mA input and output
 Pulse signal control regulation
 Manual/automatic, remote/local control mode
 Flow calibration
 External pressure and liquid level input control protection
 Timing, quantitative add batch processing
 Multiple universal serial ports, supporting Modbus RTU communication
 Man-machine interface: touch screen HMI/ backlit HD LCD
 Modular design, suitable for diaphragm, plunger, hydraulic diaphragm pump
 Modular design, suitable for explosion-proof occasions

Metering Pump Stroke Controller



Metering Pump Stroke Controller

Metering pump stroke controller can achieve 0-100% manual/automatic metering pump stroke length locally/remotely, through the percentage of manual input or received control signal, automatically adjust the stroke position to adjust the metering pump stroke length, and finally adjust the metering pump output flow, to achieve the purpose of automatic control. Stroke controller with local percentage and analog flow (based on calibrated flow conversion) display, control adjustment and maintenance is easy.

Main Advantages

- Adjustment range: 0-100%
- No external auxiliary control equipment is required
- Automatic stroke adjustment does not affect pump pulse
- High adjustment precision, and provide flow calibration function
- Highly integrated, saving operation and maintenance costs
- Automatic and manual mode conversion can be realized
- Automatic position feedback after adjustment
- Stroke position automatically locks in case of unexpected power failure
- Large LCD - Set percentage, actual percentage, analog flow display
- Modular design, suitable for the full range of metering pump products

Technical Parameters

- Rated voltage: AC220V±10%, 50/60Hz
- Power: 25 w
- Hold torque: 9Nm
- Adjusting speed: 0-100% (10 laps -100sec)
- Control signal: 4-20mA
- Feedback signal: 4-20mA
- Large SCREEN LCD: Set percentage, actual percentage, simulated flow
- Output accuracy: ±0.5%F.S
- Flow value display accuracy :± 1.5% (100% at full scale)
- Protection level: IP65
- Insulation grade: F
- Operating temperature :-20 -- 50 C
- Relative humidity: 90% (at 25 C)
- Weight: 3.5 Kg

Metering Pump Cloud Platform



Metering Pump Cloud Platform

Metering pump cloud platform, with metering pump digital products as the core, relying on 5G communication technology, remote server, standard communication protocol to achieve digital management of fluid metering. The system has a high degree of intelligence, compatibility and scalability, friendly man-machine interface can achieve cross-platform (DCS, PC, Pad, mobile phone, etc.) seamless docking, cloud platform data statistics, analysis can assist decision-making, further reduce costs and increase efficiency for customers.

Communication Port

- ICS、DCS
- PC
- Pad
- Mobile phone

Support Unit

- Frequency conversion unit
- Industrial control unit DCS, PLC, etc
- Electromagnetic diaphragm metering pump
- Digital metering pump
- Automatic stroke controller

