



PRECISION
AUTOMATION



SAFE AND
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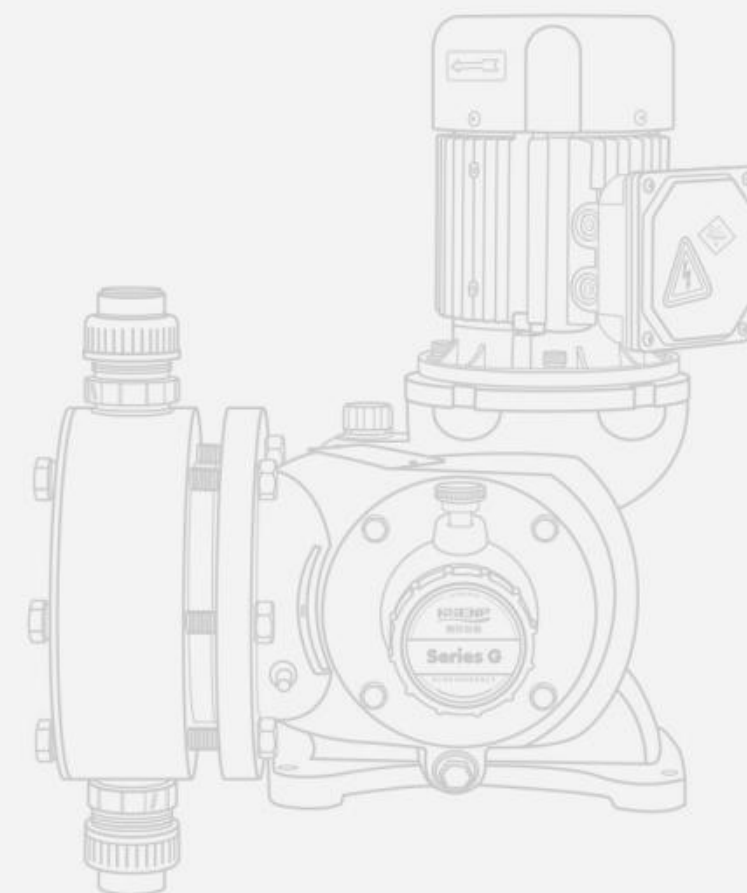
ENERGY SAVING AND
ENVIRONMENTAL PROTECTION

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MANUAL

MAKE FLUID TRANSPORTATION SMARTER



HUI SHENG METERING PUMP PRODUCT
SELECTION MANUAL

**MAKING FLUID
TRANSPORTATION
SMARTER**



OUR CONCEPT

CONTENTS



R&D/MANUFACTURING
ACCURATE MEASUREMENT/HIGH QUALITY

01 Diaphragm Metering Pump

GSS series diaphragm metering pump	01-03
GLS series diaphragm metering pump	04-05
GDS series diaphragm metering pump	06-09
GMS、GBS series diaphragm metering pump	10-13
GXS、2GXS series diaphragm metering pump	14-16

02 Hydraulic Diaphragm Metering Pump

FROYS series hydraulic diaphragm metering pump	17-20
JMXS series hydraulic diaphragm metering pump	21-24

03 Plunger Metering Pump

JWBS series plunger metering pump	25-28
---	-------

04 Metering Pump Accessories

Classic installation diagram of metering pump	29
Metering pump accessories	30-31
Anti-corrosion performance table	32

05 Complete set of dosing device

Complete set of dosing device	33-34
Phosphate reserve and dosing device	35
PAM three-chamber preparation device	36
Product display	37-38

06 Typical cases

Typical cases	39-44
---------------------	-------

The CKS series of electromagnetic diaphragm metering pump



Main performance parameters
Max flow rate 4L/h
Max discharge pressure 10bar
Adjustment range 0-100%
Maximum suction lift height of 1.5 m water column
Main features
The modular structure design of the product achieves module isolation between the liquid end module, electromagnetic power module, and electronic control module, with excellent heat dissipation.
The electromagnetic coil adopts full plastic sealing and body forming technology, with stable and reliable dynamic performance.
The PTFE+EPDM composite diaphragm made of advanced materials has superior overall toughness and weather resistance, Ensure accurate measurement process and extend the lifespan of the entire pump.
Can adapt to a wide voltage range and meet the voltage requirements of different countries.
The entire series comes standard with an LCD display screen, which is convenient for stable and precise control.
A speed frequency of 360 times/min, stable operation,
The pipeline pulsation is extremely high, and the overall vibration is extremely low.
Configure a single exhaust valve, which actually makes it convenient and efficient.
Multiple pump head materials are available, and the entire machine is made of high-quality plastic, which has a wide range of application scenario
Main application

Oil, chemicals, electricity, metallurgy, mining, shipbuilding, light industry, agriculture, water treatment, etc.

Range of pump

Code	0bar	2bar	4bar	6bar	7bar	8bar	10bar
03	5.4	3.4	3.2	3	2.9	2.7	2.3
04	6.3	5.4	5	4.5	4.4	3.7	
06	8.4	6.6	6	5.8			
12	14.5	12.2					
05	8.7	6.6	6.3	5.9	5.7	5.5	4.9
08	14.7	8.7	8.6	8.1	7.8	7.7	
16	23.6	18.8	16.4				
24	27.5	24.2					

CKS series electromagnetic diaphragm metering pump model definition

Series Flow Fluid end Connection

Series

Code	Description
CKSS	Manual control series
CKSP	Manual/digital pulse signal control series, with liquid level connection
CKSZ	Manual/4-20mA signal control series, with liquid level connection

Flow

Code	Max flow (L/h)	Max pressure (bar)	Stroke frequency (min ⁻¹)	voltage (V)	frequency (Hz)	Motor power (W)	air evacuation valve (PVC hydraulic end only)				
CKSS03	2.3	10	360	100-240AC	50/60	20	✓				
CKSP03											
CKSZ03											
CKSS04	4.4	7						20	✓		
CKSP04											
CKSZ04											
CKSS06	6	4								20	✗
CKSP06											
CKSZ06											
CKSS12	12.2	2				20	✗				
CKSP12											
CKSZ12											
CKSS05	4.9	10						24	✓		
CKSP05											
CKSZ05											
CKSS08	7.8	7								24	✓
CKSP08											
CKSZ08											
CKSS16	16.4	4				24	✗				
CKSP16											
CKSZ16											
CKSS24	24.2	2						24	✗		
CKSP24											
CKSZ24											

Material of main components of liquid end

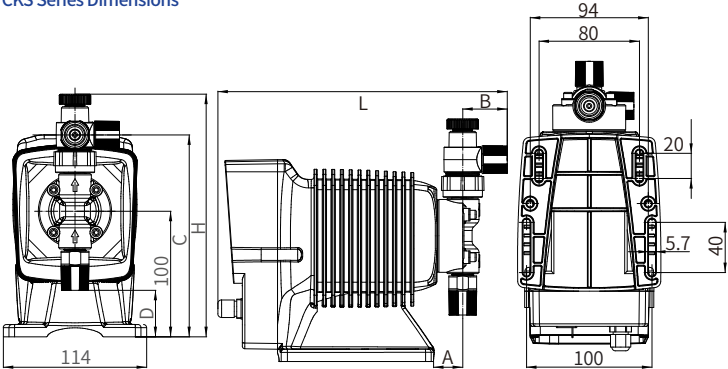
CKSS, CKSP/CKSZ								
Code	Fluid end	Valve ball	valve seat	Valve sleeve	Oring	shim	diaphragm	
P	PVC	ceramics	FPM	PVC	FPM	PTFE	PTFE+EPDM	
T	PVDF	ceramics	EPDM	PVDF	EPDM			
S	316	ceramics	PTFE	316	PTFE			

Connector

Code	Description	型号	PVC Fluid edn		PVDF Fluid end		316液力端
					进口	出口	
R	Hose interface	03-08	PVChose4x6●	Pehose4x6●	Tetrafluoro hose4x6		-----
		12-24	PVCReinforced hose8x13		Tetrafluoro hose8x10		
P	NPT thread	03-24	-----				NPT 1/4“F

- 管长各3米/根;底阀/注射阀各一套。

CKS Series Dimensions



CKS series installation dimensions

Code	H(mm)	L(mm)	A(mm)	B(mm)	C(mm)	D(mm)	Connect
03	193	230	23	35	160	37	Φ4×6
04							
05							
06							
08	182	214	25	17	-----	20	Φ8×13
12							
16							
24							

Note: This gauge is only applicable to PVC material liquid end pumps. For PVDF and 316 material external gauges, please contact our company.

GTS series mechanical diaphragm metering pump



Main performance parameters

Max flow rate:500L/h	Max suction lift height : 2M water column
Max discharge pressure : 7bar	Max ambient temperature: + 40°C
Adjustment range: 30% -100%	Max inlet pressure: 2bar
Steady-state accuracy : ± 1%	

Main features

Drive end

The stable and reliable adjustment and adjustment locking structure ensure the stability of the pump .
Enhanced structural design, suitable for harsh operating environments. Wear resistant ball bearings make operation more stable.
Oil bath lubrication, long service life of drive components.
The flow can be adjusted during shutdown or operation, and the adjustment mode can be automatic or variable frequency.

Liquid end

Mechanical drive diaphragm, material side diaphragm protection plate.
PVC,PVDF,316SS, high viscosity, slurry and other pump head materials are suitable for conveying various materials.
Clean the one-way valve structure for easy maintenance.

Control mode

The stroke speed can be adjusted by installing a variable frequency controller to receive external control signals.
Power supply: 380V/three-phase,220V/single-phase, 50/60Hz Transmission.
Switch controller, controlling three-phase motor in an "on/off" mode to regulate output flow.

Main application

Environmental protection, petrochemicals, chemicals, refining, electricity, metallurgy, pharmaceuticals, chemicals, wastewater treatment, and other fields.

Material of main components of liquid end

GTS0090-GTS0500						
Fluid end	Valve body	Valve seat	Valve ball	Diaphragm	Seal ring	Connection
PVC	PVC	PVDF	Zirconia	PTFE composition diaphragm	FPM/EPDM*/Fluororubber*	PVC
PVDF	PVDF	PVDF	Zirconia	PTFEcomposition diaphragm	FPM/EPDM*/Fluororubber*	PVDF
316SS	316SS	316SS	316SS	PTFEcomposition diaphragm	FPM/4F/EPDM*/Fluororubber*	316SS

* : Options

GTS Series Mechanical Diaphragm Metering Pumps

Series ☐ Flow ☐ Fluid end ☐ Connection ☐ Motor ☐ Base ☐

Series

Code	Description
GTS	GTS series mechanical diaphragm metering pump

Flow

Code	Max flow (L/h)	Max pressure (bar)	Stroke frequency (min ⁻¹)	Motor power (kW)
GTS0090	98	7	36	0.25
GTS0120	128		72	
GTS0170	187		72	
GTS0240	248		144	
GTS0330	322	5	180	0.37
GTS0400	403		144	
GTS0500	500		180	

- This power is used for three-phase constant speed motors.
- This power is used for single-phase ,explosion-proof,variable frequencymotors.

Liquid end

Code	Description	Code	Description
P	PVC Fluid end	F	Sodium hypochlorite application:PVC Fluid end
S	316 Fluid end	V	High viscosity application :PVC Fluid end
T	PVDF Fluid end	Z	Special material , please consult the factory

O ring:EPDM

Connector

Code	Description	GTS0090-0500		
	Fluid end	PVC	PVDF	316
P	NPT thread	1/2"	1/2"	1/2"
Q	Hard pipe intubation interface of inner pipe	DN15	-----	-----
R	Hose interface	20x28	-----	-----
X	Special interface	Please consult the factory and specify them when ording		

Note : The red text parameter part is the standard.

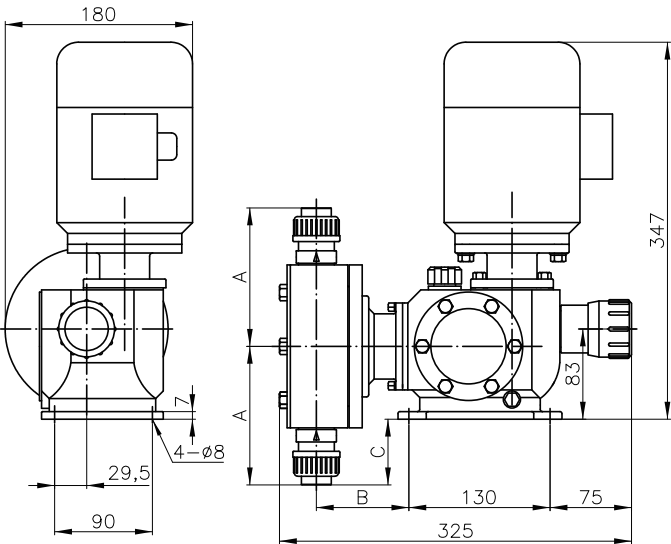
Motor

Code	Description
1	0.25kW,IEC71,three-phase380V,50Hz,1440rpm,IP55/F
2	0.37kW,IEC71,three-phase380V,50Hz,1440rpm,IP55/F
3	0.37kW,IEC71,single-phase220V,50Hz,1440rpm,IP55/F
4	0.37kW,IEC71,three-phase explosion-proof380V,50Hz,1440rpm,IP55/F,dllBT4
5	0.37kW,IEC71,three-phase380V,50Hz,1440rpm,IP55/F,IC416
6	The pump is not equipped with a motor by default, and the IEC71 interface is reserved
7	Please consult the factory for other types of motors

Base

Code	Description	Remark
N	Without base	standard configuration
Y	With base	-----

GTS Series Dimensions



GTS series installation dimensions

GTS0090-0500				
Fluid end	Code	A(mm)	B(mm)	C(mm)
PVC	P	128	86	61
	Q			
PVDF	P	133		66
316	P			

GSS Series Mechanical Diaphragm Metering Pump



GSS Series Mechanical Diaphragm Metering Pump

Main Performance Parameters

Max flow rate : 58 L/h
Max discharge pressure: 10bar
Steady- state accuracy: ±1%

Max suction lift height: 1.5m water column
Max ambient temperature: +40℃
Max inlet pressure: 1 bar

Main Features

Fluid End

Mechanical drive diaphragm and material side without diaphragm are easy for passing the materials.
Various pump head materials include PVC, PVDF, 316SS and others. They are suitable for conveying various materials.
Self-cleaning check valve structure.

GSS Series Drive End

It adopts reliable cam structure, suitable for various harsh working conditions, with lower noise, flexible disassembly, and easy maintenance. It is supported by sliding bearing, which ensures smooth, reliable and noise-free working states. And the maintenance cost is low.

Control Mode

Power supply: 380V|three-phase, 220V|single-phase, 220V|three-phase, 50Hz/60Hz
Switch controller controls three-phase motor by "on/off" mode, adjusting output flow.

Main Applications

Various water treatment process like reverse osmosis (ultra-filtration), industrial water, wastewater, swimming pools, seawater desalination and others.

Material of main components of liquid end

GSS001–GSS002							
Fluid end	Pump head	Valve body	Valve seat	Valve ball	Diaphragm	Seal ring	Connection
PVC	PVC	PVDF	EPDM/FPM*/4F*	Zirconia	PTFE	EPDM/FPM*	PVC
PVDF	PVDF	PVDF	EPDM/FPM*/4F*	Zirconia	PTFE	EPDM/FPM*	PVDF

*: Options

GSS003–GSS060							
Fluid end	Pump head	Valve body	Valve seat	Valve ball	Diaphragm	Seal ring	Connection
PVC	PVC	PVC	PVDF	Zirconia	PTFE composite diaphragm	FPM/EPDM*/Fluororubber*	PVC
PVDF	PVDF	PVDF	PVDF	Zirconia	PTFE composite diaphragm	FPM/EPDM*/Fluororubber*	PVDF
316SS	316SS	316SS	316SS	316SS	PTFE composite diaphragm	FPM/EPDM*/Fluororubber*	316SS

*: Options

Annex

Optional annexes include filter, calibrator, pulsation damper, safety valve and back pressure valve, etc.

GSS001–GSS002 range of PVC, PVDF liquid end and pumps with port code R, are supplied with injection valve, foot valve, counterweight, hose for each inlet and outlet. (See "Interface Table" for details)

GSS003–GSS060 range of PVC liquid end and pumps with port code R, are supplied with injection valve, foot valve, counterweight and 6-meter hose. (See "Interface Table" for details)

Motor performance parameters

Power supply: 380V|three-phase, 220V|single-phase, 220V|three-phase, 50Hz/60Hz

Insulation class: Class F

IP grade: IP54

All motors shall comply with IEC or NEC standards.

GSS Series Mechanical Diaphragm Metering Pump

Model definition of GSS series mechanical diaphragm metering pump

Series ☐ Flow ☐ Fluid end ☐ Interface ☐ Motor ☐

Series

Code	Description
GSS	GSS Series Mechanical Diaphragm Metering Pump

Flow

Code	Max flow(L/h)	Stroke frequency(min ⁻¹)	Max pressure(bar)	Stroke(mm)	Diaphragm(mm)	Motor power(W)
GSS001	1.1	50	10	1.2	45	25
GSS002	2.2	100		4	60	
GSS003	4.5	20				
GSS005	6	30				
GSS010	13	50				
GSS025	24	83	7			
GSS030	30	100				
GSS035	36	120	5			
GSS045	46	150	4			
GSS055	53	166	2			
GSS060	58					

Fluid end

Code	Description	Remark	
P	PVC Fluid end	-----	
S	316 Fluid end	-----	
T	PVDF Fluid end	-----	
Z	As for special material , please consult the factory and specify them when ordering.		-----

Interface

Code	Description	GSS001–GSS002				GSS003–GSS060		
		PVC Fluid end		PVDF Fluid end		PVC Fluid end	PVD Fluid end	316 Fluid end
		Export	Export	Export	Export			
P	NPT thread	-----	-----	-----	-----	1/2°F	1/2°F	1/2°F
Q	Hard pipe intubation interface of inner pipe	-----	-----	-----	-----	DN15	-----	-----
R	Hose interface	PVC hose4x6	PE hose4X6	4F hose4x6		6x12	6.35x 9.52	-----
X	Special interface	Please consult the factory and specify them when ordering.						

Note :The parameters in red text are standard configuration.

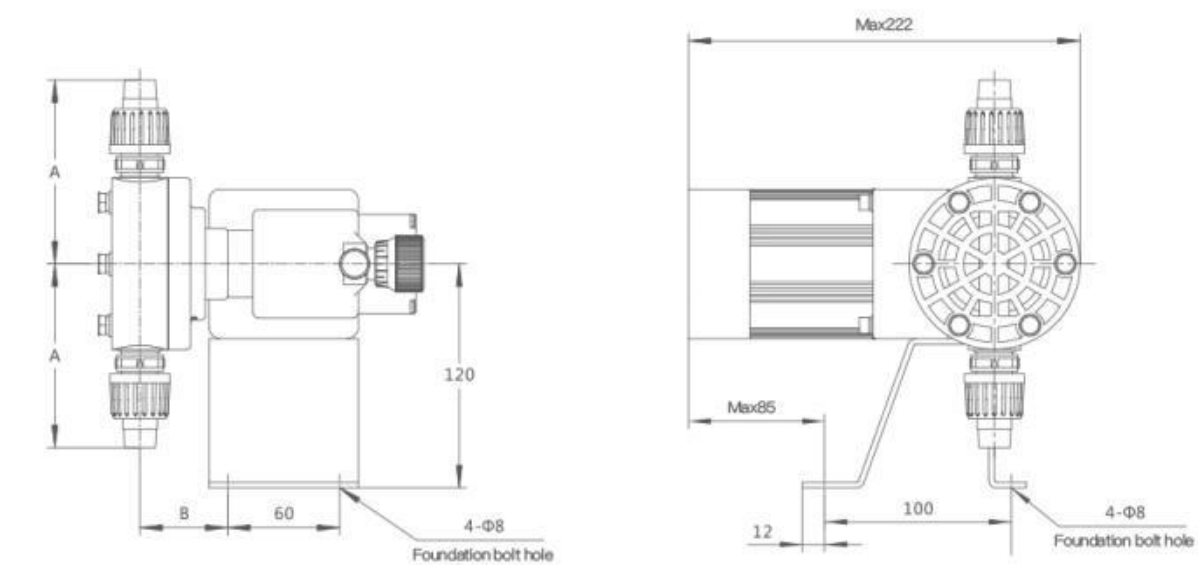
- The length of PVC hose is 3 meters/piece, and the length of PE hose is 5 meters/piece. Each of the inlet and outlet is configured with 1 hose by default.
- The length of 4F hose is 3 meters/piece, and the length of 4F hose is 5 meters/piece. Each of the inlet and outlet is configured with 1 hose by default.
- The length of PVC hose is 6 meters/piece. Factory default configuration is 1 hose.
- Injection valve, foot valve, counterweight and tetra-nitrogen hose are not configured by default, please order additionally and ask the factory for quotation.

Motor

Code	Description
1	25W, three-phase 380V , 50Hz, 1440rpm , IP54/F
2	25W, single-phase 220V, 50Hz, 1440rpm, IP54/F
3	Please consult the factory for other types of motors.

GSS Series Mechanical Diaphragm Metering Pump

GSS series dimensions



GSS series installation dimensions

GSS001–GSS002			
Pump head material	Interface code	A(mm)	B(mm)
PVC	R	83.5	2
PVDF	R	83.5	2

GSS003–GSS060			
Pump head material	Interface code	A(mm)	B(mm)
PVC	P	125	47
	Q	125	
	R	99	
PVDF	P	94	47
	R	99	
316	P	99	48

GLS Series Mechanical Diaphragm Metering Pump

Main Performance Parameters

Max flow rate : 152L/h
Max discharge pressure: 12bar
Steady- state accuracy: ±1%
Max suction lift height: 1.5m water column
Max ambient temperature: +40℃

Main Features

Fluid End
Mechanical drive diaphragm and material side without diaphragm are easy for passing the materials.
Various pump head materials include PVC, PVDF, 316SS and others. They are suitable for conveying various materials.
Self-cleaning check valve structure.

Drive End
It adopts reliable cam structure, with lower noise, flexible disassembly, and easy maintenance features, for harsh working conditions.
It is supported by sliding bearing, which ensures smooth, reliable and noise-free working states. And the maintenance cost is low.

Control Mode

Power supply: 380V/220V, 50Hz/60Hz/three-phase/single-phase
Motor controller controls three-phase motor by "on/off" mode, adjusting output flow.

Main Applications

Environmental protection, petrochemical, chemical, oil refining, electricity, metallurgy, medicine, food, water treatment and other fields.

Standard motor performance parameters

Power supply: 380V/220V– 50Hz/60Hz/three-phase/single-phase
Insulation class: Class F
IP grade: IP54
All motors shall comply with IEC or NEC standards.
When 60Hz motor is selected, the pump flow is increased by 20%.



GLS Series Mechanical Diaphragm Metering Pump

Material of main components of liquid end

Fluid end	Pump head	Valve body	Valve seat	Valve ball	Spring	Diaphragm	Seal ring
PVC	PVC	PVC	PVDF	Zirconia (Borosilicate)	-----	PTFE composite diaphragm	FPM/EPDM*/Fluororubber*
PVC High viscosity	PVC	PVC	PVDF	Zirconia (Borosilicate)	Inconel600 (Hastelloy C)	PTFE composite diaphragm	FPM/EPDM*/Fluororubber*
PVDF	PVDF	PVDF	PVDF	Zirconia (Borosilicate)	-----	PTFE composite diaphragm	FPM/EPDM*/Fluororubber*
316SS	316SS	316SS	316SS	Zirconia (Borosilicate)	-----	PTFE composite diaphragm	FPM/EPDM*/Fluororubber*

※: Options
■ The default configuration of GLS015–060 is Zirconia material, and the default configuration of GLS070–150 is Borosilicate material.
■ The default configuration of GLS015–060 is INCONEL600 material, and the default configuration of GLS070–150 is Hastelloy C material.

Model Definition of GLS Series Mechanical Diaphragm Metering Pump

Series ☐ Flow ☐ Fluid end ☐ Interface ☐ Motor ☐

Series

Code	Description
GLS	GLS Series Mechanical Diaphragm Metering Pump

Flow

Code	Max flow(L/h)	Stroke frequency(min ⁻¹)	Max pressure(bar)	Stroke(mm)	Motor power(W)
GLS150	152	165	3	6	90
GLS120	122	140	5		
GLS100	102	120	6		
GLS085	87	100	6		
GLS070	70	82	10	4	60
GLS060	60	165			
GLS040	40	120			
GLS025	24	75			
GLS015	14	41	12		

Interface

Code	Description	GLS015–GLS060			GLS070–GLS150		
		PVC	PVDF	316	PVC	PVDF	316
P	NPT thread	1/2"F	1/2"F	1/2"F	1/2"F	1/2"F	1/2"F
Q	Hard pipe intubation Interface of inner pipe	DN15	-----	-----	DN15	-----	-----
R	Hose interface	6x12	6.35x9.52	-----	-----	-----	-----
X	Special interface	Please consult the factory and specify them when ordering.					

Note :The parameters in red text are standard configuration.

■ The length of PVC hose is 6 meters/piece.Factory default configuration is 1 hose.

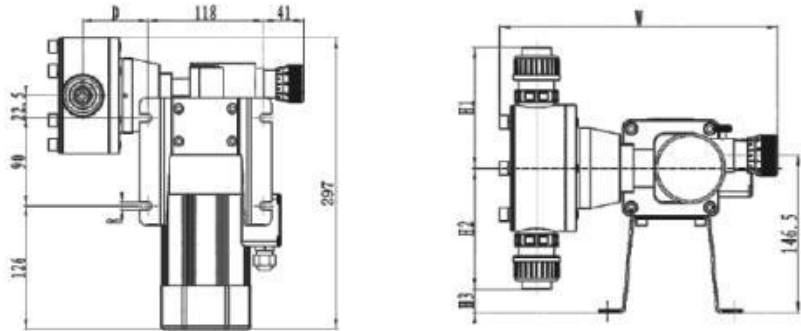
■ Injection valve, foot valve, counterweight and tetra–nitrogen hose are not configured by default, please order additionally and ask the factory for quotation.

Motor

Code	Description	Code	Description
1	90W,1440rpm,3–50Hz–380V,IP54/F/TEFC	P	PVC Fluid end
2	90W,1440rpm,1–50Hz–220V,IP54/F/TEFC	S	316 Fluid end
3	Please consult the Huisheng Pump Industry	Z	As for special material , please consult the factory and specify them when ordering.
4	60W,1440rpm,3–50Hz–380V,IP54/F/TEFC	T	PVDF Fluid end
5	60W,1440rpm,1–50Hz–220V,IP54/F/TEFC	V	High viscosity application:PVC Fluid end

Fluid end

GLS series dimensions



GLS series installation dimensions

GLS070–GLS150						GLS015–GLS060					
Material	PVC	PVC High viscosity	PVDF	316		PVC	PVC High viscosity	PVDF	316		
Interface	P	Q	P	Q	P	R	P	Q	P	Q	P
H1	112	112	138	138	112	107	132	132	132	101	102
H2	112	112	112	112	112	107	132	132	132	101	102
H3	22	22	22	22	22	28	2	2	2	33	32
L	297	297	297	297	297	292	292	292	292	292	292
D	66	66	66	66	66	52	52	52	52	52	52
W	260	260	260	260	260	244	244	244	244	244	244

GDS Series Mechanical Diaphragm Metering Pump

Main Performance Parameters

Max flow rate : 135L/h
Max discharge pressure: 10bar
Steady– state accuracy: ±1%
Max suction lift height: 2–meter water column
Max inlet pressure: 2bar
Max ambient temperature: +40℃

Main Features

Fluid End

Adopt reliable double cam structure, suitable for various harsh working conditions.
Low noise, simple disassembly and easy maintenance.
Oil bath lubrication makes for longer service life of driving components.
High–precision worm gear, worm technology, stable operation.
Flow regulation can be achieved in shutdown or running conditions.

Drive End

Mechanically driven diaphragm, the diaphragm adopts a multi–layer composite structure of PTFE and elastic rubber, which is durable and of no leakage.
There is no diaphragm guard plate on the material side, so that the material can pass through.
PVC, PVDF, 316SS and other pump head materials are optional, suitable for conveying various materials.
Self–cleaning check valve structure for easy maintenance.

Control Mode

Power supply: 380V(three– phase,220V/single– phase,220V/three– phase,50Hz/60H
Switch controller controls three–phase motor by "on/off" mode, adjusting output flow.
The stroke speed can be adjusted by receiving an external control signal by installing a variable frequency controller.
Power supply: 380V(three–phase, 220V/single–phase, 50Hz
Input signal: 4–20mA analog signal

Main Applications

Environmental protection, petrochemical, chemical, oil refining, electricity,metallurgy, medicine, food, water treatment and other fields.



GDS Series Mechanical Diaphragm Metering Pump

Material of main components of liquid end

GDS030–GDS050						
Fluid end	Valve body	Valve seat	Valve ball	Diaphragm	Seal ring	Connection
PVC	PVC	PVDF	Zirconia	PTFE composite diaphragm	FPM/EPDM*/Fluororubber*	PVC
PVDF	PVDF	PVDF	Zirconia	PTFE composite diaphragm	FPM/EPDM*/Fluororubber*	PVDF
316SS	316SS	316SS	316SS	PTFE composite diaphragm	FPM/EPDM*/Fluororubber*	316SS

*: Options

GDS Series Mechanical Diaphragm Metering Pump

Material of main components of liquid end

GDS055–GDS130						
Fluid end	Valve body	Valve seat	Valve ball	Diaphragm	Seal ring	Connection
PVC	PVC	PVDF	Zirconia	PTFE composite diaphragm	FPM/EPDM*/Fluororubber*	PVC
PVDF	PVDF	PVDF	Zirconia	PTFE composite diaphragm	FPM/EPDM*/Fluororubber*	PVDF
316SS	316SS	316SS	316SS	PTFE composite diaphragm	FPM/EPDM*/Fluororubber*	316SS

*: Options

Annex
Optional annexes include filter, calibrator, safety valve,back pressure valve and pulsation damper.Safety valve must be selected.
GDS030,GDS050 PVC liquid end pumps and pumps with port code R, are supplied with injection valve, foot valve, counterweight and 6-meter hose.

Model Definition of GDS Series Mechanical Diaphragm Metering Pump

Series ☐ Flow ☐ Fluid end ☐ Interface ☐ Motor ☐ Base ☐

Series

Code	Description
GDS	GDS Series Mechanical Diaphragm Metering Pump

Flow

Code	Max flow(L/h)	Stroke frequency(min ⁻¹)	Max pressure(bar)	Stroke(mm)	Motor power(W)
GDS030	34	96	10	4	200
GDS050	44	116			
GDS055	59	96			
GDS070	71	116			
GDS085	91	80	8	6	
GDS100	101	96			
GDS130	135	116			

Liquid end

Code	Description	Remarks
P	PVC Fluid end	-----
S	316 Fluid end	-----
T	PVDF Fluid end	-----
Z	As for special material , please consult the factory and specify them when ordering.	-----

GDS Series Mechanical Diaphragm Metering Pump

Interface

Code	Description	GDS030–GDS050			GDS055–GDS130		
		PVC	PVDF	316	PVC	PVDF	316
P	NPT thread	1/2°F	1/2°F	1/2°F	1/2°F	1/2°F	1/2°F
Q	Hard pipe intubation Interface of inner pipe	DN15	-----	-----	DN15	-----	-----
R	Hose interface	6x12	6.35x9.52	-----	20x28	-----	-----
X	Special interface	Please consult the factory and specify them when ordering.					

Note :The red parameters are standard configuration.
■ The length of PVC hose is 6 meters/piece.Factory default configuration is 1 hose.
■ Injection valve, foot valve, counterweight and tetra–nitrogen hose are not configured by default, please order additionally and ask the factory for quotation.
• Hose is not configured by default, please order additionally and ask the factory for quotation.

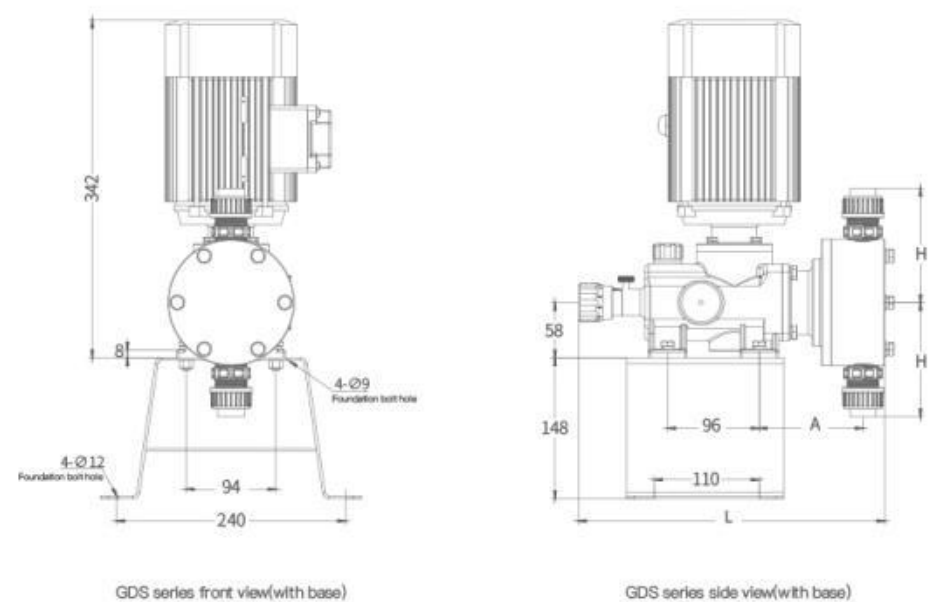
Motor

Code	Description
1	200W,three–phase 380V,50Hz,1440rpm,IP55/F
2	200W,single–phase 220V,50Hz,1440rpm,IP55/F
3	Please consult the factory for other types of motors.
4	200W,three–phase,frequency–variable 380V,50Hz,1440rpm,IP55/F,IC416

Base

Code	Description
N	Without base
Y	With base

GDS Series Mechanical Diaphragm Metering Pump



GDS series installation dimensions

GDS030-GDS050				
Pump head material	Interface code	H(mm)	A(mm)	L(mm)
PVC	P	133	94.5	301
	Q	133		
	R	108		
PVDF	P	101	94.5	301
	Q	-----		
	R	108		
316	P	108	94.5	301
	Q	-----		
	R	-----		

GDS055-GDS130				
Pump head material	Interface code	H(mm)	A(mm)	L(mm)
PVC	P	120	109	325
	Q	120		
	R	-----		
PVDF	P	120	109	325
	Q	-----		
	R	-----		
316	P	123	109	325
	Q	-----		
	R	-----		

GMS GBS Series Mechanical Diaphragm Metering Pump



GMS Series Mechanical Diaphragm Metering Pump



GBS Series Mechanical Diaphragm Metering Pump

Main Performance Parameters

Max flow rate : 2040L/h
Max discharge pressure: 12bar
Adjusting range: 30%~100% ,steady- state accuracy: ±1%
Max suction lift height: 3-meter water column
Max ambient temperature: +40℃
Max inlet pressure: 2bar

Main Features

Fluid End
Mechanically driven diaphragm,there is no diaphragm guard plate on the material side, so that the material can pass through.
PVC, PVDF, 316SS and other pump head materials are optional, suitable for conveying various materials.
Self-cleaning check valve structure for easy maintenance.

Drive End
Variable eccentric mechanism adjustment ensures smooth flow pulsation changes.
Enhanced structural design, suitable for harsh operating environments.
Wear-resistant ball bearings make for more stable operation.
Oil bath lubrication makes for longer service life of driving components.
The flow can be adjusted in shutdown or running state, and the adjustment method can be manual, electric or frequency conversion.

Control Mode

Electric stroke controller can accept external control signal to adjust stroke length
Power supply: 220V/single- phase,50Hz
Input signal: 4~20mA analog signal
Output signal: 4~20mA/1~5V analog signal,for record display and control system

The stroke speed can be adjusted by receiving an external control signal by installing a variable frequency controller.
Power supply: 380V/three-phase,220V/single- phase,50Hz
Input signal: 4~20mA analog signal
Switch controller controls three-phase motor by "on/off" mode, adjusting output flow.

Main Applications

Environmental protection, petrochemical, chemical, oil refining, electricity,metallurgy, medicine, food, water treatment and other fields.

Annex

Optional annexes include filter, calibrator, safety valve,back pressure valve and pulsation damper.Safety valve must be selected.
GMS0002-GMS050 PVC liquid end pumps, are supplied with injection valve, foot valve, counterweight and 6-meter hose,in addition to pump head of high viscosity.

Standard motor performance parameters

Power supply: 380V/three-phase,220V/single-phase, 50Hz
Insulation class: Class F
IP grade: IP55
All motors shall comply with IEC or NEC standards.

Optional items

Double diaphragm pump head
Stroke counting sensor
Double diaphragm rupture pressure gauge detection and pressure switch detection
PNP output / NPN output / Relay output

Material of main components of liquid end

GMS0002–GMS0500								
Fluid end	Valve body	Valve seat	Valve ball	Diaphragm	Seal ring	Connection		
PVC	PVC	PVDF	Zirconia	PTFE	FPM/EPDM*/Fluororubber*	PVC		
PVDF	PVDF	PVDF	Zirconia	PTFE	FPM/EPDM*/Fluororubber*	PVDF		
316SS	316SS	316SS	316SS	PTFE	FPM/EPDM*/Fluororubber*	316SS		
*: Options								
GBS0080–GBS1200								
Fluid end	Valve body	Valve seat	Valve ball	Diaphragm	Seal ring	Connection		
PVC	PVC	PVDF	Zirconia	PTFE	FPM/EPDM*/Fluororubber*	PVC		
PVDF	PVDF	PVDF	Zirconia	PTFE	FPM/EPDM*/Fluororubber*	PVDF		
316SS	316SS	316SS	316SS	PTFE	FPM/4F/EPDM*/Fluororubber*	316SS		
*: Options								
GBS1500–GBS2000								
Fluid end	Valve body	Valve cover	Valve seat	Valve plate	Spring	Diaphragm	Seal ring	Connection
PVC	PVC	PVC	PVDF	PVC	HastelloyC–276	PTFE	FPM/EPDM*	PVC
PVDF	PVDF	PVDF	PVDF	PVDF	HastelloyC–276	PTFE	FPM/EPDM*	PVDF
316SS	316SS	316SS	316SS	316SS	HastelloyC–276	PTFE	4F	316SS

Series

GMS, GBS Series Mechanical Diaphragm Metering Pumps

Series ☐ Flow ☐ Fluid end ☐ Interface ☐ Motor ☐ Regulate ☐ Base ☐ Option ☐

Series

Code	Description	Code	Description
GMS	GMS Series Mechanical Diaphragm Metering Pump	GBS	GBS Series Mechanical Diaphragm Metering Pump

Flow

Code	Max flow (L/h)	Max pressure(bar)	Stroke frequency(min ⁻¹)	Motor power(kW)
GMS0002	2.25	12	36	0.25 ■ 0.37 ■
GMS0005	4.5		36	
GMS0010	9		36	
GMS0025	25		72	
GMS0050	50	10	144	
GMS0090	85		72	
GMS0120	115		72	
GMS0170	170		144	
GMS0240	235	7	144	0.55 ● 0.75 ●
GMS0330	315		144	
GMS0400	400		144	
GMS0500	500		180	
GBS0080	82	10	36	
GBS0180	167		72	
GBS0250	237		102	
GBS0350	334		144	
GBS0450	416	7	180	
GBS0500	464		144	
GBS0600	583		180	
GBS0700	656	3.5	102	0.75
GBS1000	946		144	
GBS1200	1200		180	
GBS1500	1500		180	
GBS1800	1800	3	206	
GBS2000	2040		206	

■ This power is used for three-phase constant speed motors. ● This power is used for three-phase constant speed, explosion-proof motors.
■ This power is used for single-phase, explosion-proof, variable frequency motors. ● This power is used for single-phase, variable frequency motors.

Fluid end

Code	Description	Code	Description
P	PVC Fluid end	V	High viscosity application:PVC Fluid end
S	316 Fluid end	K	Sizing material application:GMS0025–0500 316 Fluid end; GBS PVC Fluid end
T	PVDF Fluid end	M	Mixture application, GMS : PVDF Fluid end
F	Sodium hypochlorite application:PVC Fluid end ■	Z	As for special material , please consult the factory and specify them when ordering.

■ GMS,GBS Series: EPDM O ring

Interface

Code	Description	GMS0002–0050	GMS0090–0500	GBS0080–0450	GBS0500–1200	GBS1500–2000
		PVC PVDF 316	PVC PVDF 316	PVC PVDF 316	PVC PVDF 316	PVC PVDF 316
P	NPT thread	1/2"F	1/2"F 1/2"F	1/2"F 1/2"F 1/2"F	1"F 1"F 1"M	1-1/2"F 1-1/2"F 1-1/2"M
Q	Hard pipe intubation interface of inner pipe	DN15	DN15	DN15	DN25	DN40
R	Hose interface	6x12 ■ 6.35x9.52 ■				
H	GMS hose for high viscosity application	12x18	20x28			
X	Special interface	Please consult the factory and specify them when ordering.				

Note: The red text parameter part is the standard configuration, V means high viscosity pump head , K means slurry pump head and M means mixture pump head. If there is no special option, the interface will be selected according to the liquid end material.

■ The length of PVC hose is 6 meters/piece.Factory default configuration is 1 hose.
■ Injection valve, foot valve, counterweight and tetra–nitrogen hose are not configured by default, please order additionally and ask the factory for quotation.

Motor

Code	Description GMS	Description GBS
1	0.25kW,IEC71,three–phase380V,50Hz,1440rpm,IP55/F	0.55kW,IEC80,three–phase 380V,50Hz,1440rpm,IP55/F
2	-----	-----
3	0.37kW,IEC71,three–phase,explosion–proof 380V, 50Hz,1440rpm,IP55/F,dIBT4	0.55kW,IEC80,three–phase,explosion–proof380V, 50Hz,1440rpm,IP55/F,dIBT4
4	0.37kW,IEC71,three–phase 380V,50Hz,1440rpm,IP55/F	0.75kW,IEC80,three–phase 380V,50Hz,1440rpm,IP55/F
5	0.25kW,IEC71,single–phase 220V,50Hz,1440rpm,IP55/F	0.75kW,IEC80,three–phase,explosion–proof 380V, 50Hz,1440rpm,IP55/F,dIBT4
6	0.25kW,IEC71,three–phase,frequency–variable 380V, 50Hz,1440rpm,IP55/F,IC416	0.55kW,IEC80,single–phase 220V,50Hz,1440rpm,IP55/F
7	0.37kW,IEC71,three–phase,frequency–variable 380V, 50Hz,1440rpm,IP55/F,IC416	0.75kW,IEC80,single–phase 220V,50Hz,1440rpm,IP55/F
8	-----	-----
9(5)	The pump is not equipped with a motor by default, and the IEC71 interface is reserved.	The pump is not equipped with a motor by default, and the IEC71 interface is reserved.
9(6)	0.37kW,IEC71,single–phase220V,50Hz,1440rpm,IP55/F	-----
9(8)	-----	The pump is not equipped with a motor by default, and the IEC80 interface is reserved.
9	Please consult the factory for other types of motors.	Please consult the factory for other types of motors.

Note: Single–phase motors cannot be used simultaneously with switch controllers.

Regulate

Code	Description GMS	Description GBS	Remark
M	Manual stroke adjustment	Manual stroke adjustment	Standard configuration
N	Electric stroke adjustment,4–20mA,1PH–50Hz–220V	Electric stroke adjustment,4–20mA,1PH–50Hz–220V	-----
E	-----	Electric stroke adjustment,4–20mA,1PH–50Hz–220V,Ex.Proof	-----
F	Frequency Control	Frequency Control	-----

Pedestal

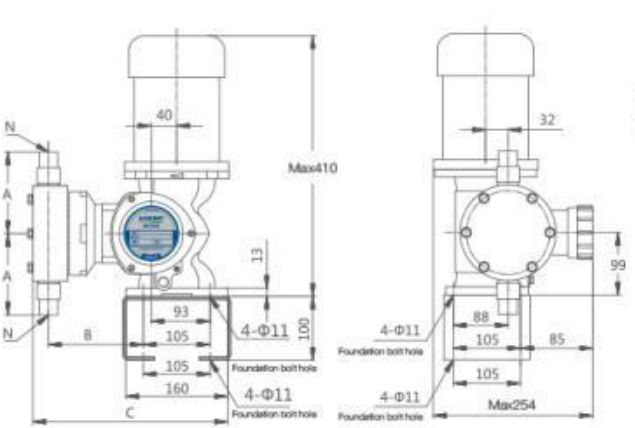
Code	Description GMS	Description GBS	Remark
N	Without base	Without base	Standard configuration
Y	With base	With base	-----

Options

Code	Description GMS	Description GBS	Remark
N	No options	No options	-----
B	Diaphragm rupture detection and pressure gauge	Diaphragm rupture detection and pressure gauge	-----
C	Diaphragm rupture detection and pressure gauge, pressure switch	Diaphragm rupture detection and pressure gauge, pressure switch	With non-explosion-proof pressure switch and pressure gauge, including base
D	Diaphragm rupture detection and pressure gauge, explosion-proof pressure switch	Diaphragm rupture detection and pressure gauge, explosion-proof pressure switch	Explosion-proof pressure switch and pressure gauge, including base
X	As for others, please consult the factory		Please specify special configuration in the contract.

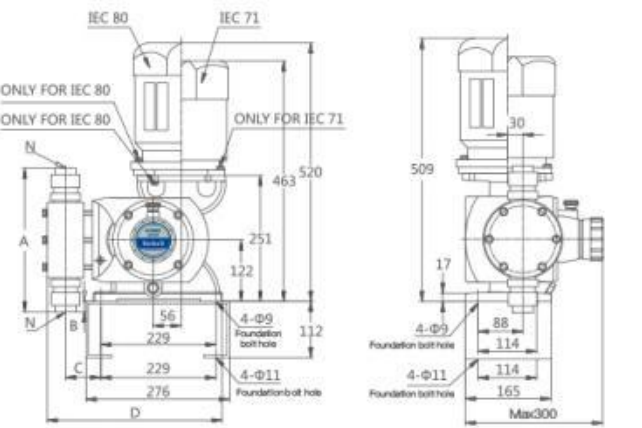
■ When selecting GMS,GBS series equipped with double-diaphragm and pressure switch, the default is with a base, and the option of the base part should be "Y".

GMS Series Dimensions



GMS Series Dimensions(with base)

GBS Series Dimensions



GBS Series Dimensions(with base)

GBS Series Dimensions(with base)

GMS series installation dimensions

GMS0002-GMS0050					GMS0090-GMS0500				
Pump head material	Interface code	A(mm)	B(mm)	C(mm)	Pump head material	Interface code	A(mm)	B(mm)	C(mm)
PVC	R	100			PVC	P	127		
PVDF	P	100	102	250	PVDF	P	131	150	307
316	P	101			316	P	131		

GBS series installation dimensions

Model	GBS0080-0450		GBS0500-0600		GBS0700-1200		GBS1500-2000	
size	Plastics	Metal	Plastics	Metal	Plastics	Metal	Plastics	Metal
A	256	264	286	348	362	423	419	458
B	6	10	21	52	59	89.5	87.5	107
C	71	65	71	79	96	100	96	100
D	350	332	350	350	373	370	373	370
N	1/2"F NPT	1/2"F NPT	1"F NPT	1"M NPT	1"F NPT	1"M NPT	1-1/2"F NPT	1-1/2"M NPT
	DN15 (PVC pump head only)	DN25 (PVC pump head only)	DN25 (PVC pump head only)	DN25 (PVC pump head only)	DN25 (PVC pump head only)	DN25 (PVC pump head only)	DN40 (PVC pump head only)	DN40 (PVC pump head only)

GXS 2GXS Series Mechanical Diaphragm Metering Pump



GXS series mechanical diaphragm metering pump



2GXS series two-head mechanical diaphragm metering pump

Main Performance Parameters

Max flow rate of single head : 2400L/h
Max flow rate of double head : 4800L/h
Max discharge pressure: 8bar
Adjusting range: 30%-100% ,steady- state accuracy: ±1 %
Max suction lift height: 2.5-meter water column
Max ambient temperature: +40℃

Main Features

Mechanically driven diaphragm, there is no diaphragm guard plate on the material side, so that the material can pass through.
PVC, PVDF, 316SS and other pump head materials are optional, suitable for conveying various materials.
Variable eccentric mechanism adjustment to ensure smooth changes in flow pulsation.
Suitable for various harsh working conditions.
Self-cleaning check valve structure for easy maintenance.
Flow regulation can be realized in shutdown or running state.
Oil bath lubrication makes for longer service life of driving components.
When 2GXS series is selected, one or two different media can be conveyed at the same time.
The double-head flow can be adjusted separately, and the adjustment range is larger.
Compared with the single-head pump, the pulse can be reduced by 50%.
The conveying is smoother, the motor utilization rate is higher, and the cost performance is higher.

Control Mode

Power supply: 380V/three- phase,220V/single- phase,220V/three- phase,50Hz/60H
The stroke speed can be adjusted by receiving an external control signal by installing a variable frequency controller.
Input signal: 4-20mA analog signal
Switch controller controls three-phase motor by "on/off" mode, adjusting output flow.

Main Applications

Environmental protection, petrochemical, chemical, oil refining, electricity,metallurgy, medicine, food, water treatment and other fields.

Material of main components of liquid end

Fluid end	Pump head	Valve body	Valve seat/Spring	Valve ball/Valve plate	Diaphragm	Seal ring	Connection
PVC ■	PVC	PVC	PVDF/Hastelloy C-276	Zirconia/PVC	PTFE	FPM/EPDM*	PVC
PP	PP	PVC	PVDF/Hastelloy C-276	Zirconia/PVC	PTFE	FPM/EPDM*	PVC
PVDF	PVDF	PVDF	PVDF/Hastelloy C-276	Zirconia/PVDF	PTFE	FPM/EPDM*	PVDF
316SS	316SS	316SS	316SS/Hastelloy C-276	316SS	PTFE	4F	316SS

■ When choosing 2GXS series, the PVC pump head is not optional.

*: Options

Model definition of GXS, 2GXS series mechanical diaphragm metering pump

Series ☐ Flow/Pressure ☐ Fluid end ☐ Interface ☐ Motor ☐ Detection ☐

Series

Code	Description	Code	Description
GXS	GXS series mechanical diaphragm metering pump	2GXS	2GXS series two-head mechanical diaphragm metering pump

Flow / Pressure

Code	Max flow (L/h)	Max pressure(Mpa)	Stroke frequency(min ⁻¹)	Motor(kw)	Weight(kg)
GXS900	910	0.6(PVC/PVDF)	89	1.5	75±20
	910	0.8(316SS)			
GXS1350	1350	0.6(PVC/PVDF)	130		
	1350	0.8(316SS)			
GXS1800	1820	0.6	178		
GXS2100	2100	0.6	203		
GXS2400	2400	0.5			
2GXS1800	1820	0.6(PP/PVDF)	89		
	1820	0.8(316SS)			
2GXS2700	2700	0.6(PP/PVDF)	130		
	2700	0.8(316SS)			
2GXS3600	3640	0.6	178		
2GXS4200	4200	0.6	203		
2GXS4800	4800	0.5			

Fluid end

Code	Description	Remark	
P	PVC Fluid end	-----	
T	PVDF Fluid end	-----	
S	316SS Fluid end	-----	
Z	As for special material , please consult the factory and specify them when ordering.		-----

Interface

Code	Description	GXS900			GXS1350/1800/2100/2400		
		PVC	PVDF	316SS	PVC	PVDF	316SS
P	NPT thread	1*F	1*F	1*M	1-1/2*F	1-1/2*F	1-1/2*M
Q	Hard pipe intubation interface of inner pipe	DN25	-----	-----	DN40	-----	-----
X	Special interface	Please consult the factory and specify them when ordering.					

Code	Description	2GXS1800			2GXS2700/3600/4200/4800		
		PP	PVDF	316SS	PP	PVDF	316SS
P	NPT thread	1*F	1*F	1*M	1-1/2*F	1-1/2*F	1-1/2*M
Q	Hard pipe intubation interface of inner pipe	DN25	-----	-----	DN40	-----	-----
X	Special interface	Please consult the factory and specify them when ordering.					

Note: Parameters in red text are stand configuration.

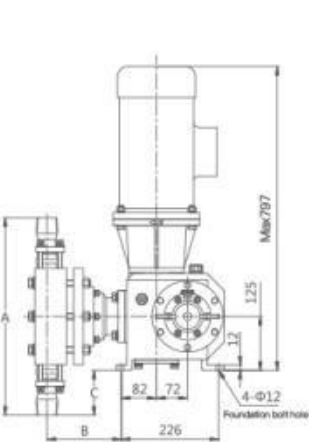
Motor

Code	Description
1	three-phase 380V,50Hz,1440rpm,IP55/F
2	single-phase 220V,50Hz,1440rpm,IP55/F
3	three-phase,explosion-proof 380V, 50Hz,1440rpm,IP55/F,dIBT4
4	three-phase,frequency-variable 380V, 50Hz,1440rpm,IP55/F,JC416
5	The pump is not equipped with a motor by default, and the IEC90 interface is reserved.
6	Please consult the factory for other types of motors.

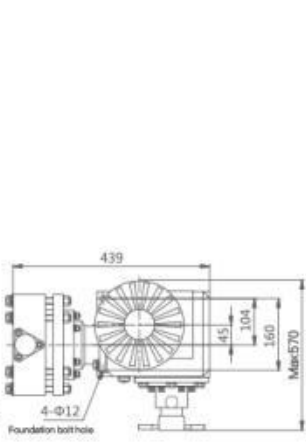
Discover

Code	Description
No	Single diaphragm pump
B	Diaphragm rupture detection and pressure gauge
C	Diaphragm rupture detection and pressure gauge, pressure switch
D	Diaphragm rupture detection and pressure gauge, explosion-proof pressure switch

GXS Series Dimensions

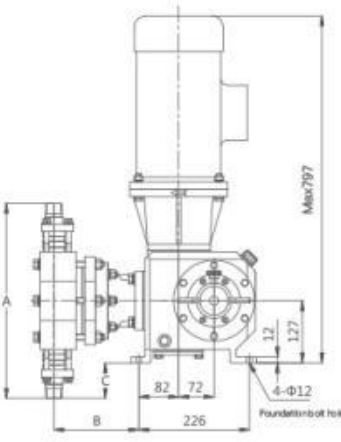


Side view of the GXS series

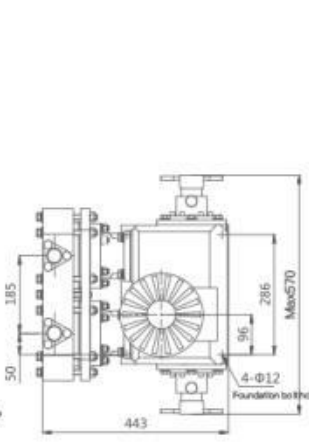


Top view of the GXS series

2GXS Series Dimensions



2GXS series side view



Top view of 2GXS series

GXS series installation dimensions

GXS900				
Pump head material	Interface code	A(mm)	B(mm)	C(mm)
PVC	P	362	165.5	56
	Q	362	165.5	56
PVDF	P	362	165.5	56
	Q	362	165.5	56
316	P	433	172.5	91.5

GXS1350/1800/2100/2400				
Pump head material	Interface code	A(mm)	B(mm)	C(mm)
PVC	P	420	165.5	85
	Q	420	165.5	85
PVDF	P	420	165.5	85
	Q	420	165.5	85
316	P	462	172.5	106

2GXS series installation dimensions

2GXS1800				
Pump head material	Interface code	A(mm)	B(mm)	C(mm)
PP	P	336	166.5	41
	Q	336	166.5	41
PVDF	P	336	166.5	41
	Q	336	166.5	41
316	P	399	173.5	72.5

2GXS2700/3600/4200/4800				
Pump head material	Interface code	A(mm)	B(mm)	C(mm)
PP	P	394	166.5	70
	Q	394	166.5	70
PVDF	P	394	166.5	70
	Q	394	166.5	70
316	P	437	173.5	91.5

FROY Series Hydraulic Diaphragm Metering Pump

RAS, RHS, RPS, RTS
Series Hydraulic Diaphragm Metering PumpRBS, RWS
Series Hydraulic Diaphragm Metering Pump

Main Performance Parameters

Max flow rate : 329L/h
 Max discharge pressure: 211bar
 Adjusting range: 30%~100%
 steady-state accuracy: $\pm 1\%$
 Max suction lift height: 3-meter water column

Main Features

Drive End

Unique eccentric worm gear one-piece structure featured with compact mechanism, precise stroke and small installation space.
 Wear-resistant ball bearings make for more stable operation.
 Oil bath lubrication makes for longer service life of driving components.
 The flow can be adjusted in shutdown or running state,
 and the adjustment method can be manual or frequency conversion.

Fluid End

It adopts bypass oil replenishment, hydraulically actuated diaphragm for longer service life.
 The built-in adjustable safety valve can automatically protect the diaphragm and pump head from overpressure damage.
 The high-precision one-way valve structure ensures accurate dosing of materials.
 PVC, PVDF, 316SS, Hastelloy20, Hastelloy and other pump head materials are all available, suitable for conveying various materials.
 Optional pressure-type double diaphragm detection (local/remote) and alarm.

Main Applications

Environmental protection, petrochemical, chemical, oil refining, electricity, metallurgy, medicine, food, water treatment and other fields.

Material of main components of liquid end

Fluid end	Pump head	Valve body	Valve seat	Valve ball	Diaphragm	Seal ring	Spring
PVC	PVC	PVC	PVDF	Zirconia	PTFE	FPM/EPDM*/Perfluoroether*	-----
PVDF	PVDF	PVDF	PVDF	Zirconia	PTFE	FPM/EPDM*/Perfluoroether*	-----
316SS	316SS	316SS	316SS	Zirconia	PTFE	FPM/EPDM*/Perfluoroether*	Hastelloy C276
Hastelloy C22	Hastelloy C22	Hastelloy C22	Hastelloy C22	Hastelloy C22	PTFE	FPM/EPDM*/Perfluoroether*	Hastelloy C276

*: Options

Annex

Optional annexes include filter, pulsation damper, safety valve, back pressure valve.

FROYS series hydraulic diaphragm metering pump model definition

Series ☐ Flow ☐ Fluid end ☐ Pressure ☐ Motor ☐ Interface ☐ Regulate ☐ Detection ☐ Base ☐

Flow

Series	Plunger diameter(mm)	Stroke length	Model	Speed ratio	Stroke frequency (min ⁻¹)	Max. viscosity cp	Metal pump head(L/h)						Plastic pump head(L/h)		Motor
							7bar	14bar	20bar	24bar				7bar	
RAS	7/16" (Φ11.1mm)	20.8 mm	RAS002	1:48	30	1760	2.3	2.2	2.1	2.0			2.2	2.0	0.25kW is standard configuration.
			RAS008	2:30	96	310	7.9	7.7	7.3	7.2			7.7	7.5	
	5/8"(Φ15.9mm)		RAS005	1:48	30	1760	5.0	4.7	4.5	4.4			4.7	4.5	
	1-1/16" (Φ27.0mm)		RAS020	1:48	30	150	19	19	18	17			18	18	0.37kW is optional for single-phase explosion-proof motor speed adjustment.
			RAS040	2:48	60	75	39	38	36	36			36	35	
			RAS060	2:30	96	40	61	60	58	57			57	57	
			RAS090	4:38	152	35	94	91	-----	-----			92	91	
			RAS120	4:32	178	30	116	112	-----	-----			114	112	
						7bar	17bar	24bar	28bar	67bar	103bar	7bar	10bar		
RBS	19/32" (Φ15.1mm)	40.6 mm	RBS020	2:50	60	102	22	22	21	21	19	18	-----	-----	0.75kW is standard configuration.
			RBS030	2:38	80	74	30	29	28	28	22	22	-----	-----	
			RBS040	4:50	120	44	42	40	40	40	38	36	-----	-----	
	7/8" (Φ22.2mm)		RBS050	4:38	152	38	55	54	53	53	49	47	-----	-----	1.1kW is optional for motor speed adjustment.
			RBS070	2:38	80	169	66	64	62	61	50	-----	66	66	
			RBS090	4:50	120	114	96	94	92	91	80	-----	96	95	
			RBS120	4:38	152	88	125	122	120	119	105	-----	125	124	
	1-7/16" (Φ36.5mm)		RBS180	2:38	80	58	179	171	166	160	-----	-----	179	176	
			RBS270	4:50	120	34	267	259	254	248	-----	-----	267	264	
			RBS330	4:38	152	26	329	318	310	303	-----	-----	329	326	
						7bar	28bar	55bar	83bar	103bar	124bar				
RHS	7/16" (Φ11.1mm)	20.8 mm	RHS002	1:77	19	2660	1.8	1.7	1.6	1.4	1.4	1.2			0.25kW
			RHS003	1:48	30	1760	2.5	2.2	1.9	1.9	1.9	1.9			
			RHS005	2:48	60	720	5.3	5.0	4.7	4.4	4.1	3.8			
			RHS009	2:30	96	310	8.8	8.2	7.9	7.2	6.6	6.3			
			RHS014	4:38	152	210	14.0	12.9	12.6	11.4	10.4	9.7			
			RHS015	4:32	178	180	17.0	15.8	15.4	13.9	12.7	12.0			
						7bar	14bar	20bar	24bar						
RPS High viscosity application	7/16" (Φ11.1mm)	20.8 mm	RPS001	1:77	19	12200	1.6	1.6	1.5	1.5					0.25kW
			RPS002	1:48	30	7500	2.3	2.2	2.1	2.0					
			RPS008	2:30	96	2000	7.9	7.7	7.3	7.2					
	5/8" (Φ15.9mm)		RPS005	1:48	30	5000	5.0	4.7	4.5	4.4					
			RPS011	2:48	60	2500	11.0	10.7	10.3	10.0					
			RPS015	2:30	96	1250	17.6	17.0	16.7	16.0					
			RPS020	4:50	120	600	21.9	21.1	20.7	19.9					
	1-1/16" (Φ27.0mm)		RPS035	2:48	60	1000	34.6	33.9	32.1	31.1					
			RPS050	2:30	96	500	55.0	54.4	52.2	50.9					
			RPS070	4:50	120	300	68.4	67.6	64.9	63.3					
							140bar	175bar	211bar						
RTS	11/32" (Φ8.7mm)	20.8 mm	RTS001	1:48	30	1760	1.4	1.3	1.2						0.55kW
			RTS002	2:48	60	700	2.8	2.5	2.3						
			RTS004	2:30	96	337	4.3	4.0	3.8						
			RTS006	4:38	152	143	6.8	6.4	6.0						
			RTS007	4:32	180	95	8.1	7.6	7.1						
RWS	1/2" (Φ12.7mm)	40.6 mm	RWS008	1:38	40	650	8.8	8.4	7.8						1.1kW
			RWS012	2:50	60	285	13.5	12.6	11.9						
			RWS015	2:38	80	160	18.3	17.0	15.8						
			RWS025	4:50	120	43	29.0	27.1	25.2					1.5kW	
			RWS030	4:38	152	41	34.1	31.9	29.7						

Note 1: Speed ratio listed in the table refers to the nominal speed ratio.

Note 2: As for green text in the table, flow refers to the rated flow.

Fluid end

Code	Description	Series					
		RAS	RBS	RHS	RPS	RTS	RWS
S	316SS	Y	Y	Y	Y	Y	Y
A	Alloy20	Y	Y	Y	Y	----	----
B	Alloy22	Y	----	----	----	----	----
P	PVC	Y■	Y■	----	----	----	----
T	PVDF	Y■	Y■	----	----	----	----
Z	As for special material , please consult the factory and specify them when ordering.						

■ Max. bearing pressure for plastic fluid end is 10bar. Y: Standard configuration

Pressure

Code	007	010	014	017	020	024	028	055	067	083	103	124	140	175	211
Describe	7bar	10bar	14bar	17bar	20bar	24bar	28bar	55bar	67bar	83bar	103bar	124bar	140bar	175bar	211bar

Motor

Code	Description	Code	Description	RAS	RBS	RHS	RPS	RTS	RWS	Remark
Ordinary motor	A Direct connection,IEC71,0.25kW	Explosion-proof motor	S Direct connection,IEC71,0.37kW,ExdIIBT4	Y	---	Y	Y	---	---	3-50-380V 1425rpm IP55/F TEFC B5
	P Direct connection,IEC71,0.37kW		G Direct connection,IEC71,0.25kW,ExdIIBT4	Y	---	Y	Y	---	---	
	B API flange,IEC71,0.25kW		H API flange ,IEC71,0.25kW,ExdIIBT4	Y	---	Y	Y	---	---	
	Q API flange ,IEC71,0.37kW		T API flange ,IEC71,0.37kW,ExdIIBT4	Y	---	Y	Y	---	---	
	C API flange ,IEC80,0.55kW		J API flange ,IEC80,0.55kW,ExdIIBT4	---	Y	---	---	Y	---	
	D API flange ,IEC80,0.75kW		K API flange ,IEC80,0.75kW,ExdIIBT4	---	Y	---	---	---	---	
	E API flange ,IEC90,1.1kW		L API flange ,IEC90,1.1kW,ExdIIBT4	---	Y	---	---	---	Y	
F	API flange ,IEC90,1.5kW	M	API flange ,IEC90,1.5kW,ExdIIBT4	---	---	---	---	---	Y	
X	Please consult the factory for other types of motors.									Special motor

Y: Standard configuration

Interface

Code	Description	RAS	RBS	RHS	RPS	RTS	RWS	Remark
1	Inlet: NPT1/2" internal thread; Outlet: NPT1/4" internal thread for RAS020-120, RBS020-050, RWS: NPT3/8" internal thread for RBS070-330.	Y	Y	Y	Y	Y	Y	Metal pump head
2	Inlet:ANSI 150# RF1/2"Socket weld flange;Outlet:ANSI 150# RF1/2"Socket weld flange	Y	Y	Y	Y	----	----	
3	Inlet:ANSI 150# RF1/2"Socket weld flange;Outlet:ANSI 300# RF1/2"Socket weld flange	Y	Y	Y	Y	----	----	
4	Inlet:ANSI 150# RF1/2"Socket weld flange;Outlet:ANSI 600# RF1/2"Socket weld flange	----	Y	Y	----	----	----	
5	Inlet:ANSI 150# RF1/2"Socket weld flange;Outlet:ANSI 900# RF1/2"Socket weld flange	----	----	Y	----	Y	Y	
6	Inlet:ANSI 150# RF1/2"Socket weld flange;Outlet:ANSI 1500# RF1/2"Socket weld flange	----	----	----	----	Y	Y	
7	Inlet:NPT1/2"internal thread;Outlet:NPT3/8"internal thread	Y	Y	----	----	----	----	Plastic pump head
8	RAS002-008;Inlet:NPT1/4"internal thread;Outlet:NPT1/4"internal thread	Y	----	Y	----	Y	----	Metal pump head
9	Please consult the factory and specify when ordering.							Special interface

Y: Standard configuration

Regulate

Code	Description	RAS	RBS	RHS	RPS	RTS	RWS
M	Manual stroke adjustment-2A12	Y	Y	Y	Y	Y	Y
S	Manual stroke adjustment-316SS	Y	Y	Y	Y	Y	Y
V	Electric frequency conversion speed regulation 4-20mA	Y	Y	Y	Y	Y	Y

Y: Standard configuration

Find

Code	Description	RAS	RBS	RHS	RPS	RTS	RWS	Remark
N	No	Y	Y	Y	Y	Y	Y	Non-metal pump head has no detection selection.
B	Diaphragm rupture detection and pressure gauge	Y	Y	★	Y	----	----	
C	Diaphragm rupture detection and pressure gauge, pressure switch(with base)	Y	Y	★	Y	----	----	
D	Diaphragm rupture detection and pressure gauge, explosion-proof pressure switch(with base)	Y	Y	★	Y	----	----	

* RAS005,009,014,015 can choose diaphragm rupture detection with 10% flow decrease. Y: Standard configuration

Find

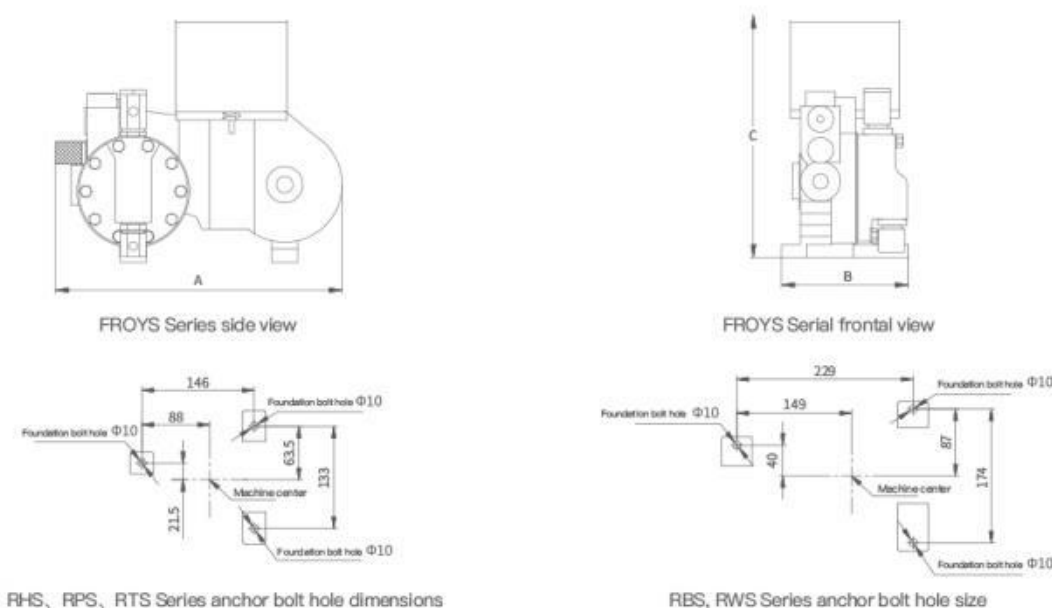
Code	Description	RAS	RBS	RHS	RPS	RTS	RWS
N	Without base	Y	Y	Y	Y	Y	Y
Y	With base	Y	Y	Y	Y	----	----

Y: Standard configuration

Series

Code	Description
RAS	7/16",5/8",1-1/16"plunger, low pressure, max flow rate:116L/h, max pressure:24bar
RBS	19/32",7/8", 1-7/16"plunger, max flow rate:329L/h, max pressure:103bar
RHS	7/16"plunger, high pressure, max flow rate:17L/h, max pressure:124bar
RPS	7/16",5/8",1-1/16"plunger, high viscosity applications,max flow rate:68L/h, max pressure:24bar
RTS	11/32"plunger, max flow rate: 7.1L/h, max pressure:211bar
RWS	1/2" plunger, max flow rate: 30L/h, max pressure:211bar

FROYS Series Dimensions



FROYS series installation dimensions

Series	A(mm)	B(mm)	C(mm)
RAS, RHS, RPS, RTS	304	174	392
RBS	481	195	610
RWS	481	195	667

JMXS Series Hydraulic Diaphragm Metering Pump



JMXS Series Hydraulic Diaphragm Metering Pump

Main Performance Parameters

Max flow rate : 1600L/h
 Max discharge pressure: 28.2bar
 Adjusting range: 30%~100% ,steady- state accuracy: ±1%
 Max suction lift height: 2-meter water column
 Medium temperature: -10°C ~ 100°C
 Max ambient temperature: +40°C

Main Features

With rugged and compact design and no dynamic seal, its sealing performance is better than plunger-type pump.
 Variable eccentric mechanism adjustment ensures smooth fluctuation in flow pulsation.
 The new adjustment mechanism makes the adjustment more accurate and reasonable.
 Built-in limit oil filling valve ensures balanced hydraulic oil replenishment.
 Built-in adjustable safety valve fully protects the hydraulic end components, avoid rupture of the diaphragm and damage to other components caused by excessive pressure in the hydraulic chamber.
 When transporting corrosive pulp, flammable, explosive and other dangerous chemicals, double diaphragm with diaphragm rupture alarm device is recommended.

Control Mode

Power supply: 380V(three- phase, 220V(single- phase, 220V(three- phase, 50Hz/60Hz)
 The stroke speed can be adjusted by receiving an external control signal by installing a variable frequency controller.
 Input signal: 4-20mA analog signal
 Switch controller controls three-phase motor by "on/off" mode, adjusting output flow.

Main Applications

Environmental protection, petrochemical, chemical, oil refining, electricity, metallurgy, medicine, food, water treatment and other fields, especially in the fields with high precision, high pressure and high temperature.

Material of main components of liquid end

Fluid end	Pump head, valve body	Valve seat	Valve ball	Diaphragm	Plunger	Packing	Seal ring
304SS	304SS	316SS	304SS/Zirconia	PTFE	304+Ceramic	Carbon-graphite fibre	FPM/4F/PVDF/EPDM*/Fluororubber*
316SS	316SS	316SS	304SS/Zirconia	PTFE	304+Ceramic	Carbon-graphite fibre	FPM/4F/PVDF/EPDM*/Fluororubber*
PVC	PVC	PVDF	Zirconia	PTFE	304+Ceramic	Carbon-graphite fibre	FPM/EPDM*/Fluororubber*
PVDF	PVDF	PVDF	Zirconia	PTFE	304+Ceramic	Carbon-graphite fibre	FPM/EPDM*/Fluororubber*

*: Options

Model Definition of JMXS Series Hydraulic Diaphragm Metering Pump

Series ☐ Flow/Pressure ☐ Fluid end ☐ Interface ☐ Motor ☐ Option ☐

Series

Code	Description	Remark
JMXS	JMXS Series Hydraulic Diaphragm Metering Pump	-----
J2MXS	J2MXS series hydraulic double diaphragm metering pumps	-----

Flow/Pressure

Code	Max flow(L/h)	Max pressure(Mpa)	Plunger diameter(mm)	Motor power(kW)	Stroke frequency(min ⁻¹)	Stroke length(mm)
JMXS1600/0.5	1600	0.5	100	1.5	184	
JMXS1450/0.5	1450	0.5	95	1.5	184	
JMXS1300/0.5	1300	0.5	90	1.5	184	
JMXS1200/0.9	1200	0.9	85	1.5	184	
JMXS1100/0.5		0.5		1.5		
JMXS1100/0.3	1100	0.3	100	1.1	130	
JMXS1100/0.2		0.2		0.75		
JMXS1050/1.0	1050	1.0	80	1.5	184	
JMXS1000/0.7		0.7		1.5		
JMXS1000/0.5	1000	0.5	95	1.1	130	
JMXS1000/0.3		0.3		0.75		
JMXS950/1.1	950	1.1	75	1.5	184	
JMXS940/0.9		0.9		1.5		
JMXS940/0.7	940	0.7	90	1.1	130	
JMXS940/0.5		0.5		0.75		
JMXS840/1.1		1.1		1.5		
JMXS840/0.7	840	0.7	85	1.1	130	
JMXS840/0.5		0.5		0.75		
JMXS830/1.3	930	1.3	70	1.5	184	
JMXS740/1.2		1.2		1.5		
JMXS740/0.9	740	0.9	80	1.1	130	
JMXS740/0.6		0.6		0.75		
JMXS720/1.5	720	1.5	65	1.5	184	
JMXS650/1.4		1.4		1.5		
JMXS650/1.0	650	1.0	75	1.1	130	
JMXS650/0.7		0.7		0.75		
JMXS610/1.7	610	1.7	60	1.5	184	
JMXS570/1.6		1.6		1.5		
JMXS570/1.1	570	1.1	70	1.1	130	
JMXS570/0.8		0.8		0.75		
JMXS530/2.0	530	2.0	56	1.5	184	
JMXS490/1.8		1.8		1.5		
JMXS490/1.3	490	1.3	65	1.1	130	
JMXS490/0.9		0.9		0.75		
JMXS420/2.5	420	2.5	50	1.5	184	
JMXS410/2.1		2.1		1.5		
JMXS410/1.6	410	1.6	60	1.1	130	
JMXS410/1.1		1.1		0.75		
JMXS360/2.4		2.4		1.5		
JMXS360/1.8	360	1.8	56	1.1	130	
JMXS360/1.2		1.2		0.75		
JMXS340/3.1	340	3.1	45	1.5	184	
JMXS280/3.1		3.1		1.5		
JMXS280/2.2	280	2.2	50	1.1	130	
JMXS280/1.5		1.5		0.75		
JMXS270/4.0	270	4.0	40	1.5	184	
JMXS230/3.8		3.8		1.5		
JMXS230/2.8	230	2.8	45	1.1	130	
JMXS230/1.9		1.9		0.75		
JMXS200/5.1	200	5.1	35	1.5	184	
JMXS180/4.8		4.8		1.5		
JMXS180/3.5	180	3.5	40	1.1	130	
JMXS180/2.4		2.4		0.75		
JMXS145/7.0	145	7.0	30	1.5	184	
JMXS140/6.2		6.2		1.5		
JMXS140/4.6	140	4.6	35	1.1	130	
JMXS140/3.1		3.1		0.75		
JMXS100/10.1	100	10.1	25	1.5	184	
JMXS100/8.5		8.5		1.5		
JMXS100/6.2	100	6.2	30	1.1	130	
JMXS100/4.2		4.2		0.75		
JMXS70/13.1	70	13.1	22	1.5	184	
JMXS70/12.0		12.0		1.5		
JMXS70/8.8	70	8.8	25	1.1	130	
JMXS70/6.0		6.0		0.75		
JMXS55/15.9	56	15.9	20	1.5	184	
JMXS55/15.8	51	15.8		1.5		
JMXS55/11.7	53	11.7	22	1.1	130	
JMXS55/8.0	55	8.0		0.75		
JMXS45/19.6	44	19.6	18	1.5	184	
JMXS45/19.0	39	19.0		1.5		
JMXS45/13.9	40	13.9	20	1.1	130	
JMXS45/9.5	43	9.5		0.75		
JMXS30/28.2	28	28.2	15	1.5	184	

Fluid end

Code	Description	Remark	Code	Description	Remark
S	304SS	-----	P	PVC	The maximum bearing pressure of the plastic liquid end is 0.8 Mpa, only suitable for pump types at and below this pressure.
L	316SS	-----	T	PVDF	
Z	As for special material, please consult the factory and specify them when ordering.				

Interface/ Stroke frequency:130(min⁻¹)

Code	Description	JMXS45-55	JMXS70-490	JMXS570-1100	
				Metal fluid end	Plastic fluid end
P	NPT thread	1/2"M	1/2"F	1"M	1"F
F	Flange interface	DN15	DN20		DN25
K	Tube fittings	DN15	-----		-----
X	Special interface	Please consult the factory and specify them when ordering.			

Note: Parameters in red text are stand configuration.

Stroke frequency:184(min⁻¹)

Code	Description	JMXS30-70	JMXS100-420	JMXS530-1200	JMXS1300-1600	
					Metal fluid end	Plastic fluid end
P	NPT thread	1/2"M	1/2"F	1"M	1-1/2"M	1-1/2"F
F	Flange interface	DN15	DN20	DN25		DN40
K	Tube fittings	DN15	-----	-----		-----
X	Special interface	Please consult the factory and specify them when ordering.				

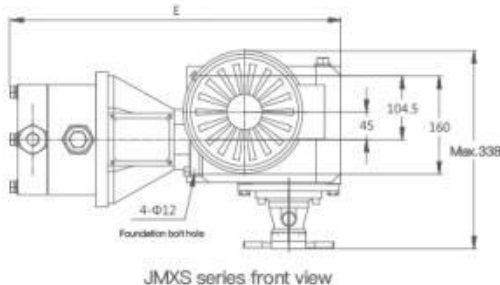
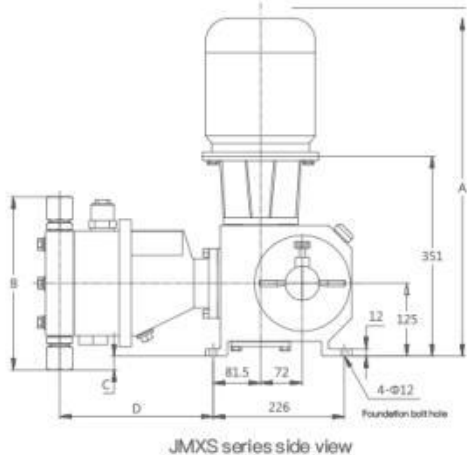
Note: Parameters in red text are stand configuration.

Motor

Code	Description	Code	Description	Remark
1	three-phase 380V,50Hz,1440rpm,IP55/F	N	No Option	-----
2	single-phase 220V,50Hz,1440rpm,IP55/F	B	 Diaphragm rupture detection and pressure gauge	With pressure gauge
3	three-phase,explosion-proof 380V,50Hz,1440rpm,IP55/F,IIIBT4	C	 Diaphragm rupture detection and pressure gauge, pressure switch	With pressure gauge and non-explosion-proof pressure switch
4	 three-phase,frequency-variable 380V,50Hz,1440rpm,IP55/F,IC416	D	 Diaphragm rupture detection and pressure gauge, explosion-proof pressure switch	With pressure gauge and explosion-proof pressure switch
5	 The pump is not equipped with a motor by default, and the IEC interface is reserved.	 When selecting double diaphragm rupture detection, the flow attenuation is about 5%.		
6	 Please consult the factory for other types of motors.			

■ When selecting the variable frequency motor, the power should be one level larger.

JMXS Series Dimensions



JMXS series installation dimensions

Code	Motor power (kW)	Stroke frequency (min ⁻¹)	A (mm)	B(mm)		C(mm)		D(mm)		E(mm)	
				Metal pump head	Plastic pump head	Metal pump head	Plastic pump head	Metal pump head	Plastic pump head	Metal pump head	Plastic pump head
JMXS1600/0.5	1.5	184	666	453	414	101	82		278.5		565
JMXS1450/0.5	1.5	184	666								
JMXS1300/0.5	1.5	184	666								
JMXS1200/0.9	1.5	184	666	418	356	84	53	266.5	278.5	563	565
JMXS1100/0.5	1.5		666								
JMXS1100/0.3	1.1	130	666								
JMXS1100/0.2	0.75		609								
JMXS1050/1.0	1.5	184	666								
JMXS1000/0.7	1.5		666								
JMXS1000/0.5	1.1	130	666								
JMXS1000/0.3	0.75		609								
JMXS950/1.1	1.5	184	666								
JMXS940/0.9	1.5		666								
JMXS940/0.7	1.1	130	666								
JMXS940/0.5	0.75		609								
JMXS840/1.1	1.5		666	378	356	64	53	264.5	278.5	540	565
JMXS840/0.7	1.1	130	666								
JMXS840/0.5	0.75		609								
JMXS830/1.3	1.5	184	666								
JMXS740/1.2	1.5		666								
JMXS740/0.9	1.1	130	666								
JMXS740/0.6	0.75		609								
JMXS720/1.5	1.5	184	666								
JMXS650/1.4	1.5		666								
JMXS650/1.0	1.1	130	666								
JMXS650/0.7	0.75		609								
JMXS610/1.7	1.5	184	666	298	356	64	53	266.5	278.5	563	565
JMXS570/1.6	1.5		666								
JMXS570/1.1	1.1	130	666								
JMXS570/0.8	0.75		609								
JMXS530/2.0	1.5	184	666								
JMXS490/1.8	1.5		666								
JMXS490/1.3	1.1	130	666								
JMXS490/0.9	0.75		609								
JMXS420/2.5	1.5	184	666								
JMXS410/2.1	1.5		666								
JMXS410/1.6	1.1	130	666								
JMXS410/1.1	0.75		609								
JMXS360/2.4	1.5		666	278	356	14	53	264.5	278.5	540	565
JMXS360/1.8	1.1	130	666								
JMXS360/1.2	0.75		609								
JMXS340/3.1	1.5	184	666								
JMXS280/3.1	1.5		666								
JMXS280/2.2	1.1	130	666								
JMXS280/1.5	0.75		609								
JMXS270/4.0	1.5	184	666								
JMXS230/3.8	1.5		666								
JMXS230/2.8	1.1	130	666								
JMXS230/1.9	0.75		609	332	356	41	53	264.5	278.5	540	565
JMXS200/5.1	1.5	184	666								
JMXS180/4.8	1.5		666								
JMXS180/3.5	1.1	130	666								
JMXS180/2.4	0.75		609								
JMXS145/7.0	1.5	184	666								
JMXS140/6.2	1.5		666								
JMXS140/4.6	1.1	130	666								
JMXS140/3.1	0.75		609								
JMXS100/10.1	1.5	184	666								
JMXS100/8.5	1.5		666	278	356	14	53	264.5	278.5	540	565
JMXS100/6.2	1.1	130	666								
JMXS100/4.2	0.75		609								
JMXS70/13.1	1.5	184	666								
JMXS70/12.0	1.5		666								
JMXS70/8.8	1.1	130	666								
JMXS70/6.0	0.75		609								
JMXS55/15.9	1.5	184	666								
JMXS55/15.8	1.5		666								
JMXS55/11.7	1.1	130	666								
JMXS55/8.0	0.75		609	332	356	41	53	264.5	278.5	540	565
JMXS45/19.6	1.5	184	666								
JMXS45/19.0	1.5		666								
JMXS45/13.9	1.1	130	666								
JMXS45/9.5	0.75		609								
JMXS30/28.2	1.5	184	666								

JWBS Series Hydraulic Diaphragm Metering Pump



JWBS Series Hydraulic Diaphragm Metering Pump

Main Performance Parameters

Max flow rate : 500L/h
Max discharge pressure: 36Mpa
Adjusting range: 10%~100% ,steady- state accuracy: ±1%
Max suction lift height: 2.5-meter water column
Medium temperature: -10℃~ 100℃
Max ambient temperature: +40℃

Main Features

Rugged and compact design,small pump head,optimized connections.
The plunger contacts compressed medium directly with high volumetric efficiency.The transmission loss is lower at high pressure.
It is suitable for high pressure environment, suitable for conveying medium without solid particles.
It can transport high viscosity medium and general corrosive or toxic medium.
It is not recommended to use for corrosive pulp and flammable,explosive,dangerous chemicals!
Variable eccentric mechanism adjustment ensures flow adjustment accuracy and smooth fluctuation in flow pulsation.
It adopts the multi-channel combined sealing structure of "Graphite fiber + GSJ" with excellent wear resistance and corrosion resistance,in which GSJ can fully protect the graphite fiber while generating the seal itself, greatly extending the life of the packing, and making the sealing performance of plunger pump more superior.

Control Mode

Power supply: 380V(three- phase,220V[single- phase,220V(three- phase,50Hz/60H
The stroke speed can be adjusted by receiving an external control signal by installing a variable frequency controller.
Input signal: 4~20mA analog signal
Switch controller controls three-phase motor by "on/off" mode, adjusting output flow.
Electric stroke controller accepts external control signal and adjusts stroke length.

Main Applications

Petrochemical, chemical,electricity,metallurgy,especially in the fields with high precision,high pressure and high temperature.

Material of main components of liquid end

Fluid end	Pump head	Valve body/Valve seat	Valve ball	Plunger	Packing	Seal ring
304SS	304SS	304SS	304SS/Zirconia	304+Ceramic	Graphite fiber+GSJ	FPM/PVDF/EPDM*/Fluororubber*
316SS	316SS	316SS	304SS/Zirconia	316+Ceramic	Graphite fiber+GSJ	FPM/PVDF/EPDM*/Fluororubber*

*: Options

Model Definition of JWBS Series Piston Metering Pump

Series ☐ Flow/Pressure ☐ Fluid end ☐ Interface ☐ Motor ☐ Regulate ☐ Base ☐

Series

Code	Description	Remark
JWBS	JWBS Series Hydraulic Diaphragm Metering Pump	-----

Flow/Pressure

Code	Max flow(L/h)	Max pressure(Mpa)	Plunger diameter(mm)	Motor power(kW)	Stroke frequency(min ⁻¹)	Stroke length(mm)
JWBS500/0.8	500	0.8	70	0.75	144	16
JWBS500/0.5		0.5		0.55		
JWBS430/0.9	430	0.9	65	0.75		
JWBS430/0.6		0.6		0.55		
JWBS360/1.0	360	1.0	60	0.75		
JWBS360/0.7		0.7		0.55		
JWBS320/1.2	320	1.2	56	0.75		
JWBS320/0.8		0.8		0.55		
JWBS250/1.5	250	1.5	50	0.75		
JWBS250/1.0		1.0		0.55		
JWBS200/1.8	200	1.8	45	0.75		
JWBS200/1.2		1.2		0.55		
JWBS160/2.3	160	2.3	40	0.75		
JWBS160/1.6		1.6		0.55		
JWBS120/3.0	120	3.0	35	0.75		
JWBS120/2.0		2.0		0.55		
JWBS90/4.1	90	4.1	30	0.75		
JWBS90/2.8		2.8		0.55		
JWBS60/5.9	60	5.9	25	0.75		
JWBS60/4.0		4.0		0.55		
JWBS45/7.6	45	7.6	22	0.75		
JWBS45/5.2		5.2		0.55		
JWBS38/9.2	38	9.2	20	0.75		
JWBS38/6.3		6.3		0.55		
JWBS30/11.3	30	11.3	18	0.75		
JWBS30/7.8		7.8		0.55		
JWBS20/16.4	20	16.4	15	0.75		
JWBS20/11.0		11.0		0.55		
JWBS11/25.0	11	25.0	12	0.75		
JWBS11/17.0	13	17.0		0.55		
JWBS7/36.0	7	36.0	10	0.75		
JWBS7/25.0	8	25.0		0.55		

Note: Single-phase and frequency conversion motor is selected for 0.75kW

Fluid end

Code	Description
S	304SS
L	316SS
Z	As for special material , please consult the factory and specify them when ordering.

Interface

Code	Description	JWBS7-60	JWBS90-360	JWBS430-500
P	NPT thread	1/2"M	1/2"F	1"M
F	Flange interface	DN15	DN20	DN25
K	Tube fittings	DN15	---	---
X	Special interface	Please consult the factory and specify them when ordering.		

Note: Parameters in red text are stand configuration.

Motor

Code	Description	Remark
1	three-phase 380V,50Hz,1440rpm,IP55/F	---
2	single-phase 220V,50Hz,1440rpm,IP55/F	---
3	three-phase,explosion-proof 380V,50Hz,1440rpm,IP55/F,dllBT 4	---
4	three-phase,frequency-variable 380V,50Hz,1440rpm,IP55/F,IC416	---
5	The pump is not equipped with a motor by default,and the IEC71 interface is reserved.	---
6	The pump is not equipped with a motor by default,and the IEC80 interface is reserved.	---
7	Please consult the factory for other types of motors.	---

Note: Single-phase motor cannot be used with motor switch controller at the same time.

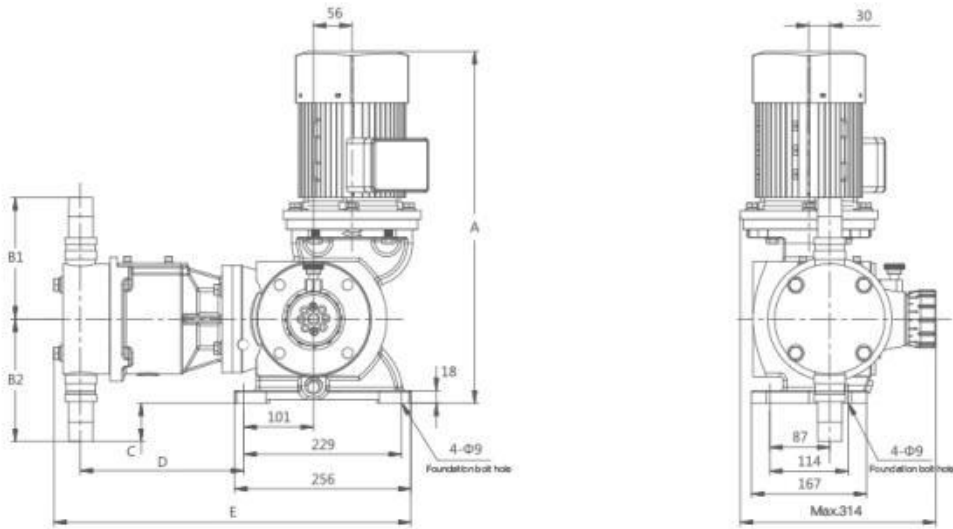
Regulate

Code	Description	Remark
M	Manual stroke adjustment	Standard configuration
N	Electric stroke adjustment,4-20mA,220VAC-1Ph	---

Base

Code	Description	Remark
N	Without base	Standard configuration
Y	With base	---

JWBS series dimension drawing



Side view of JWBS series

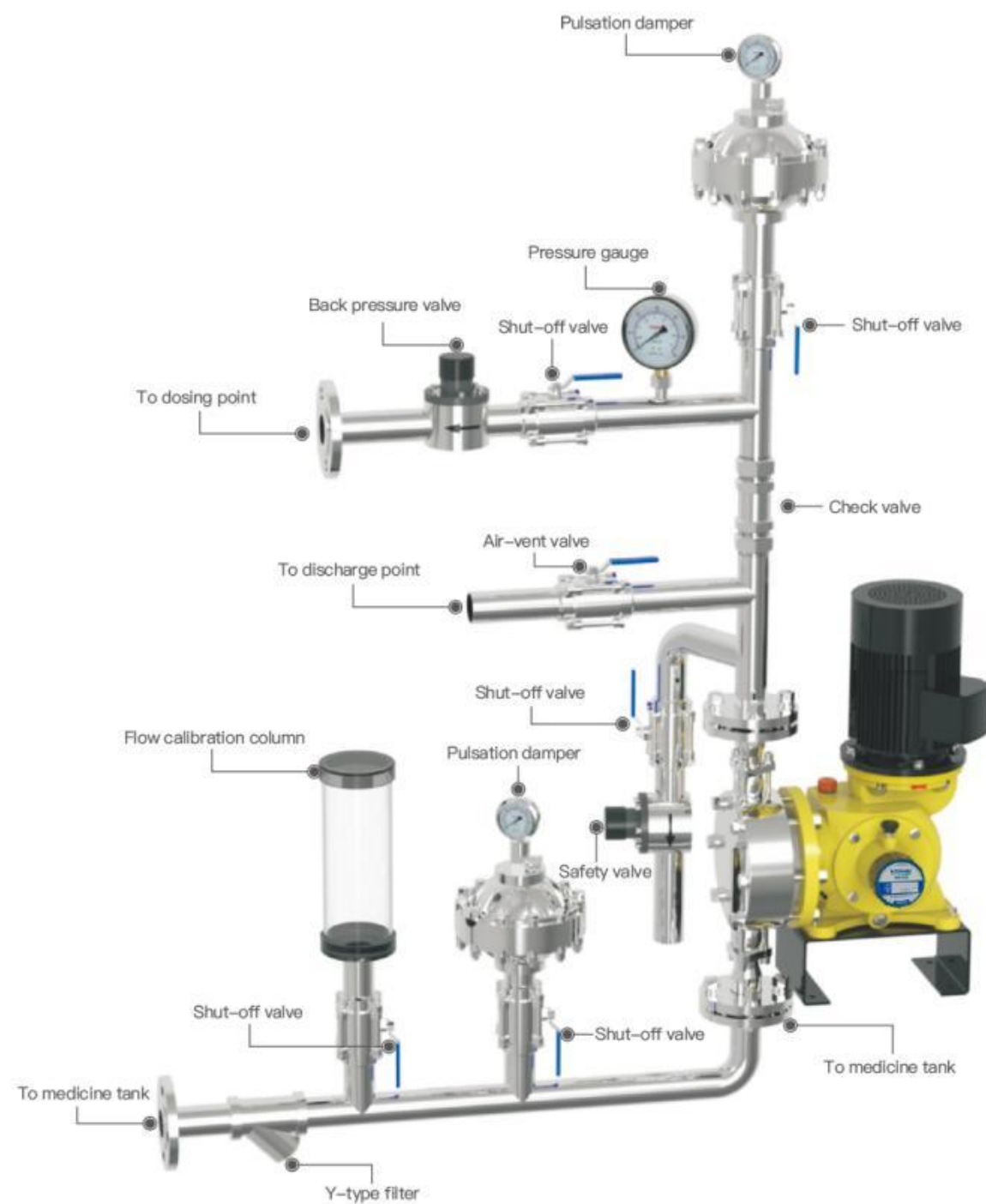
JWBS series frontal view

JWBS series installation dimensions

Code	Motor(kW)	A(mm)	B1(mm)	B2(mm)	C(mm)	D(mm)	E(mm)	Weight(kg)
JWBS500/0.8	0.75	520	178	178	56	237	519	50±5
JWBS500/0.5	0.55	463						
JWBS430/0.9	0.75	520						
JWBS430/0.6	0.55	463						
JWBS360/1.0	0.75	520	112	112	-10	239	505	
JWBS360/0.7	0.55	463						
JWBS320/1.2	0.75	520	110	110	-12			
JWBS320/0.8	0.55	463						
JWBS250/1.5	0.75	520	107	107	-15			
JWBS250/1.0	0.55	463						
JWBS200/1.8	0.75	520	105	105	-17			
JWBS200/1.2	0.55	463						
JWBS160/2.3	0.75	520	102	102	-20			
JWBS160/1.6	0.55	463						
JWBS120/3.0	0.75	520	100	100	-22			
JWBS120/2.0	0.55	463						
JWBS90/4.1	0.75	520	97	97	-25			
JWBS90/2.8	0.55	463						
JWBS60/5.9	0.75	520	135	137	15	250	516	
JWBS60/4.0	0.55	463						
JWBS45/7.6	0.75	520						
JWBS45/5.2	0.55	463						
JWBS38/9.2	0.75	520	133	135	13			
JWBS38/6.3	0.55	463						
JWBS30/11.3	0.75	520	135	137	15			
JWBS30/7.8	0.55	463						
JWBS20/16.4	0.75	520						
JWBS20/11.0	0.55	463						
JWBS11/25.0	0.75	520						
JWBS11/17.0	0.55	463						
JWBS7/36.0	0.75	520						
JWBS7/25.0	0.55	463						

Classical installation diagram of metering pump/pneumatic pump

Classic installation diagram



Metering Pump Accessories

Pulsation damper

Also known as the buffer, it is used to slow down the pulse vibration caused by discharging media of metering pump, and slow down the pulse impact on the pipeline and system. When it integrates with back pressure valve, system piping pressure fluctuation shall be reduced. The damper is equipped with a pressure gauge, which can display the dosing pipe pressure. It should be installed vertically, upward above the metering pump outlet, as close as possible to the outlet.



Y-type filter

Filter the impurities in the pump inlet.



Back pressure valve, safety valve

Back pressure valve is used to keep the constant pressure at the outlet during pump working state, so as to stabilize the pump flow and prevent liquid siphoning and self-venting flow under gravity. When used with the pulsating damper, it can reduce system piping pressure fluctuations and protects the pipelines, elbows and joints from the impact of pressure fluctuations. It should be installed at the end of the dosing pipe. Safe valve is used to protect system pipeline and pump from over-pressure damage.



Flow calibration column

Calibrate the output flow of metering pump, improve the metering accuracy.



Float flow-meter

Display output flow of the metering pump.



Metering pump fittings

PTFE Diaphragms



PTFE Composite diaphragm



One-way valve



Keep the liquid dosing in the forward direction to ensure that the liquid in the pipeline does not flow back.

Anti-corrosion performance table

Medium	Concentration	PVC		Fluoroplastic			304SS/316SS			FPM			EPDM		
		25℃	60℃	25℃	50℃	100℃	25℃	50℃	100℃	25℃	50℃	100℃	25℃	50℃	100℃
Ammonia hydroxide	S	V	V	V	V	V	≈	≈	≈	O	O	x	V	V	V
Ammonia hydroxide+Sulfuric acid	10%	V	V	V	V	V	V	O	x	x	x	x	V	V	V
Aniline	100%	x	x	V	V	V	≈	≈	≈	V	O	x	O	O	x
Phenyl hydrazine	100%	x	x	V	V	V	≈	≈	≈	V	V	O	x	O	x
Propionic acid	25%	V	V	V	V	V	V	V	V	O	O	x	V	V	V
Propionic acid	80%	O	O	V	V	V	V	V	V	O	O	x	V	V	O
Propionic acid	S	x	x	V	V	V	≈	≈	≈	x	x	x	O	O	x
Oxalic acid	S	V	V	V	V	V	V	O	x	V	V	O	V	V	V
Acetic acid	S	V	V	V	V	V	V	V	V	O	x	x	O	x	x
Ammonium acetate	S	V	V	V	V	V	≈	≈	≈	O	O	x	V	V	V
Xylene	100%	x	x	V	V	V	≈	≈	≈	O	O	x	x	x	x
Methylbenzene	100%	x	x	V	V	V	≈	≈	≈	O	O	x	x	x	x
Glycerol	100%	V	O	V	V	V	≈	≈	≈	V	V	V	V	O	O
Methanol	100%	V	O	V	V	V	≈	≈	≈	x	x	x	O	O	O
Formaldehyde	S	V	Θ	V	V	V	≈	≈	≈	Θ	Θ	x	V	V	V
Urea	S	V	V	V	V	V	V	x	x	V	V	Θ	V	V	V
Citric acid	50%	V	V	V	V	V	≈	≈	≈	V	V	V	V	V	V
Citric acid	100%	V	V	V	V	V	V	x	x	V	V	V	V	V	O
Petrol	100%	V	x	V	V	V	≈	≈	≈	V	V	V	x	x	x
Ethanol	100%	V	V	V	V	V	≈	≈	≈	V	V	V	O	O	O
Ethylene glycol	100%	V	V	V	V	V	≈	≈	≈	V	V	V	V	V	V
Hypochlorous acid	S	V	V	V	V	V	x	x	x	V	V	V	V	V	V
Calcium hypochlorite	10%	V	V	V	V	V	≈	≈	≈	O	O	O	V	V	V
Calcium hypochlorite	20%	V	V	V	V	V	V	x	x	O	O	O	V	V	V
Sodium Hypochlorite+Sodium Chloride	10%	V	V	V	V	V	x	x	x	O	O	O	V	V	V
Potassium permanganate	10%	V	V	V	V	V	V	V	V	O	O	Θ	V	V	V
Silicic acid	S	V	V	V	V	V	V	V	V	V	V	O	O	O	O
Sodium peroxide	10%	V	O	V	V	V	≈	≈	≈	V	V	O	V	V	V
Hydrogen peroxide	90%	V	V	V	V	V	V	V	V	V	V	V	V	V	V
Phosphoric acid	85%	V	V	V	V	V	≈	V	V	V	V	V	V	V	V
Aluminum Phosphate	S	V	V	V	V	V	≈	≈	≈	V	V	V	V	V	V
Trisodium phosphate	S	V	V	V	V	V	≈	≈	≈	V	V	V	V	V	V
Ferric phosphate	S	V	V	V	V	V	≈	V	V	V	V	V	V	V	V
Sulfuric acid	50%	V	V	V	V	V	O	x	x	V	V	V	O	x	x
Sulfuric acid	98%	Θ	x	V	V	V	V	O	O	V	V	O	x	x	x
Ammonium sulfate	S	V	V	V	V	V	V	V	V	V	V	V	V	V	V
Aluminum sulfate	S	V	V	V	V	V	x	x	x	V	V	V	V	V	V
Sodium bisulfate	S	V	V	V	V	V	≈	x	x	V	V	V	V	V	V
Ferric sulfate	S	V	V	V	V	V	≈	x	x	V	V	V	V	V	V
Cupric sulfate	S	V	V	V	V	V	≈	≈	≈	V	V	V	V	V	V
Ferrous sulfate	S	V	V	V	V	V	O	x	x	V	V	V	V	V	V
Trichloromethane	100%	x	x	V	V	V	V	V	O	O	O	O	x	x	x
Aluminum chloride	S	V	V	V	V	V	x	x	x	V	V	V	V	V	V
Ferric chloride	S	V	V	V	V	V	x	x	x	V	V	V	V	V	V
Ferrous chloride	S	V	V	V	V	V	x	x	x	V	V	V	V	V	V
Chlorine	S	O	Θ	V	V	V	x	x	x	V	V	V	V	V	V
Chloric acid heptahydrate	10%	V	V	V	V	V	x	x	x	V	V	V	V	V	V
Chloric acid heptahydrate	20%	V	O	V	V	V	x	x	x	V	V	V	V	V	V
Sodium chlorate	S	V	V	V	V	V	x	x	x	V	V	V	V	V	V
Boric acid	S	V	V	V	V	V	V	V	V	V	V	V	V	V	V
Sodium chlorate	S	V	V	V	V	V	≈	≈	≈	O	x	x	V	V	V
Carbonic acid	S	V	V	V	V	V	≈	≈	≈	V	V	V	V	V	V
Ammonium carbonate	40%	V	V	V	V	V	≈	V	V	V	V	V	V	V	V
Sodium carbonate	S	V	V	V	V	V	≈	V	V	V	V	V	V	V	V
Ammonium bicarbonate	S	V	V	V	V	V	V	V	V	V	V	V	V	V	V
Sodium bicarbonate	S	V	V	V	V	V	≈	≈	≈	V	V	V	V	V	V
Aqua regia	100%	x	x	V	V	V	x	x	x	O	O	Θ	x	x	x
Nitric acid	50%	V	Θ	V	V	V	≈	V	V	V	V	V	O	O	Θ
Nitric acid	95%	x	x	V	V	V	≈	x	x	x	x	x	x	x	x
Sulfurous acid	S	V	V	V	V	V	≈	V	V	V	V	O	x	x	x
Sodium sulfite	S	V	V	V	V	V	≈	V	V	V	V	O	V	V	V
Sodium hydrogen sulfite	S	V	V	V	V	V	≈	O	O	V	V	O	V	V	V
Sodium nitrite	S	V	V	V	V	V	≈	≈	≈	V	V	O	V	V	V
Salt water	S	V	V	V	V	V	x	x	x	V	V	V	V	V	V
Hydrochloric acid	30%	V	V	V	V	V	x	x	x	V	V	O	O	Θ	Θ
Hydrochloric acid	38%	V	V	V	V	V	x	x	x	O	O	O	Θ	Θ	Θ

Note: “≈” means the effect is excellent, “V” means the effect is good with light corrosion; “O” means qualified but with obvious corrosion, “Θ” means that similar materials may have different corrosion resistance due to different formulas, so be careful when choosing. “x” means can not use, thecorrosion is serious.
The above table is for reference only. If the conveying medium is not in the table or if there’s any questions about material selection, please contact us in time.

COMPLETE SET OF DOSING DEVICE

Overview

JY series dosing equipment aims to meet the needs of the market and customers, to satisfy the production automation requirements in several fields like petroleum, chemical, oil refining, natural gas, water supply, thermal power, pharmaceutical, food and others. It adopts advanced process and production technology of the US, Germany, Japan, etc., in strict accordance with the requirements of the process specifications, and combined with China's actual situation.

JY series dosing device has the characteristics of complete set, advanced technology, high degree of automation, convenient operation, easy maintenance, and can meet the needs of different working conditions. Unconventional products can also be designed and produced according to the special needs of users.

JY series dosing devices are widely used in boiler-water dosing (ammonia, hydrazine, phosphate), raw water dosing (flocculant, coagulant, acid, alkali, etc.), circulating water dosing (inhibitor, corrosion inhibitors, fungicides, concentrated sulfuric acid, lye, etc.), chemical additives in oil and gas fields, wastewater and sewage treatment, and other working conditions.

JY series dosing device is composed of solution tank, stirrer, liquid level gauge, metering pump, filter, buffer, safety valve, various valves, electrical control part, public base of platform escalator and pipeline fittings.



One-way valve

Complete set of dosing devices includes the following three categories: simple dosing device, integrated dosing device, splitting dosing device.

Simple dosing device

The simple dosing device is equipped with the small dosing pump, stirrer, level switch and other accessories. They all are directly installed in the dosing barrel. With flexible allocation, small space occupation, high cost-effectiveness, it is very suitable for the small dosage. Other optional accessories: injection valve, pulse damper, back pressure valve, control cabinet and so on.

Integrated dosing device

Integrated dosing device refers to integrated installation, that is, solution tank, stirrer, level gauge, dosing pump, control cabinet, platform escalator and other supporting accessories (such as safety valves, dampers, check valves, etc.) all are installed on a channel base.

According to the combination of dosing device, it covers various kinds, such as "one tank-one pump", "one tank-two pumps", "two tanks-two pumps", "two tanks-three pumps", "two tanks-four pumps", and multi-tank with pumps, etc.

According to the control mode, it includes basic type and smart type. The basic type is an open-rack dosing control system. The necessary accessories can be selected to meet the more accurate dosing requirements.

Smart dosing control system refers to open-loop control of achieving a fixed proportion. It can also realize closed-loop automatic control based on a given parameter signal, and communicate with the host computer. The advantages of integrated dosing device are as follows.

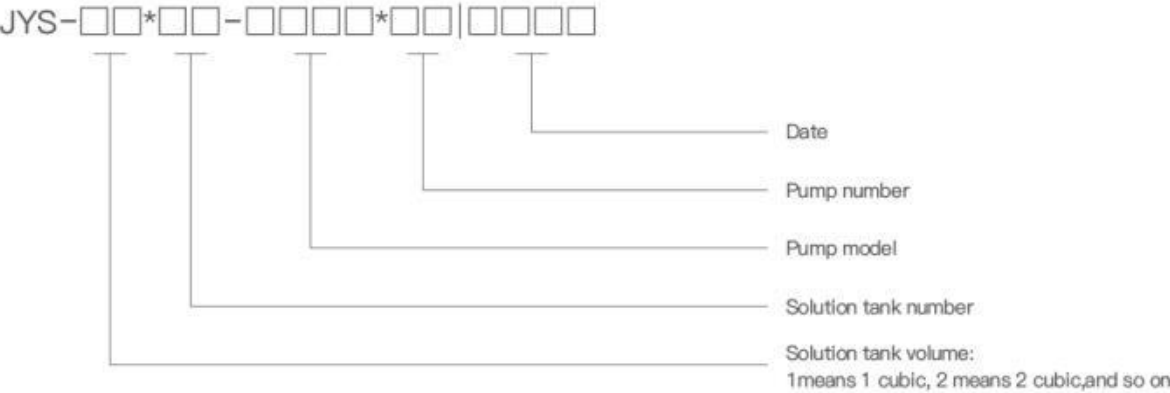
- 1、Beautiful appearance, diverse structure and flexible configuration.
- 2、Stable performance, compact structure, and small occupation.
- 3、Convenient operation and strong combination ability.
- 4、Powerful function, wide range of accessories, and flexible function extension.
- 5、Specific dosing system can be designed based on users' requirements.

Splitting dosing device

Splitting dosing device is used in some special conditions, such as large dosage amount, special dosing medium, at this time, it is not convenient to integrate the solution box with the dosing pump. If the customer has a large solution tank, the dosing pump block shall be mounted separately from the solution tank, then connect its inlet with the outlet of solution tank by pipe. This device is called splitting dosing device. The solution tank can be a large PE cans, stainless steel cans or cement ponds etc. The dosing pump block is decided by the number of dosing points, generally the single pump type, double-pump type (one for use-one for backup), three-pump type (two for use-one for backup), four-pump type (two for use-two for backup). Dosing pump block base is made of high intensive channel. Pipeline is fixed by a bracket, with small occupation and reasonable structure.

COMPLETE SET OF DOSING DEVICE

Device Model Description



Customer selection form

Client name				
Device name			Qty.(set)	
Operating parameters				
Medium name			Medium temperature(°C)	
Concentration(%)			Solution density(kg/m³)	
Dosing point			Dosing flow rate(L/h)	
Back pressure of dosing point(Mpa)			Dosing distance(m)	
Work state	☐ Intermittent ☐ Continuous			
Installation location	☐ Indoor ☐ Outdoor ☐ Open area ☐ Shelter			
Structural parameters				
Solution tank volume(m³)			Solution tank quantity(pcs)	
Material	☐ Stainless steel ☐ Carbon steel ☐ Carbon steel foil ☐ Nonmetal ☐ Others			
Metering pump type	☐ Mechanical diaphragm ☐ Hydraulic diaphragm ☐ Plunger-type pump		Quantity:	pcs
Metering pump rate(L/h)			Metering pump pressure(Mpa)	
Control mode	☐ Manual adjustment ☐ Automatic adjustment			
Pipe material	☐ Stainless steel ☐ Carbon steel ☐ UPVC ☐ Others			
Other requirements				

Note: 1. This table shall be filled in detail by the user 1n the purchase of equipment.
2. If the user has special requirements in following aspects, such as accessories brand, device material, control mode, system color, please specify in "Others" column, or directly communicate with sales staff and technical personnel of our company.

PHOSPHATE RESERVING AND DOSING DEVICE



Main Parameters

Complete and special sets of dosing devices have various models, including one tank-one pump type, one tank-two pump type, two tank-three pump type, three tank-three pump type, multitank-multipump type. The system configuration is decided by the number and outlet of metering pumps. Users can choose specific process and products, even tailor-made products according to their needs.

Main features

The device mainly includes four parts: chemical dissolution system, dosing system, safety system and control system.

After pouring solid phosphate into chemical dissolution tank, add desalted water or condensate in proportion for stirring and dissolving, then add it into the boiler steam drum through the dosing system.

The dosing control is alternative, manually or follow-up control, the latter enables automatic dosing based on the host system output control signal.

It has the following features:

- Stable performance, large chemical dissolution tank, and low energy consumption
- Attractive appearance, compact structure and small occupation
- Convenient operation and strong combination ability

Main Process

Generally, calcium and magnesium hardness in boiler feed water will occur chemical react in high temperature, or the concentration will crystallize, resulting in insoluble scale, which is firmly attached to the heating surface of the boiler. This kind of scale is a non-conductor of heat, which will hinder heat conduction, and even bring about boiler tube explosion in severe cases. More seriously, it will induce and exacerbate the chemical corrosion of the scale metal, which is quite harmful. Although the boiler condensate and feed water have undergone strict softening and desalination treatment, there is still a small amount of calcium and magnesium hardness entering the boiler water. If this hardness is not treated, scaling will also threaten the safe operation of the boiler. At present, adding phosphate into boiler water is the most proper treatment method.

The reaction as follows:



Hydroxyapatite is a soft water residue, easy to exclude with the boiler sewage, so it will not convert scale.

Main Applications

Municipal water supply, sewage treatment, firepower electricity raw water pretreatment, wastewater treatment, water treatment in a drum boiler with high pressure and higher parameters.

PAM THREE-CHAMBER PREPARATION DEVICE



Main Performance Parameters

Preparation: 1000L/h, 1500L/h, 2000L/h, 2500L/h, 3000L/h, 3500L/h, 4000L/h, 5000L/h.

Note: preparation device smaller than 3000 L (excluding 3000 L) is equipped with two agitators.

Main structure

PLC automatic control system, dry powder box, dry powder accurate dosing device, moisture-proof heating device, stirrer and tank.

Main features

The three-chamber preparation device, as a dissolving preparation device, mainly aims for polymer polyacrylamide (PAM). It is mainly used for flocculation treatment in industrial wastewater and sludge dewatering process, for drinking water purification and wastewater treatment in chemical, paper-making and other industries. It is also used for standard dilution concentration (0.3–5g/L) solution by processing latex-like cation, anionic or ionomer-free polymers.

Main Characteristics

- Highly integrated device, fully automatic control function.
- Small device size, simple operation, and easy installation; the water and power supply only are required in site.
- Liquid mixer with stainless steel reaches 100% dissolving efficiency.
- Safe and reliable working state, stable performance.
- Good corrosion resistance, all medium contacting parts are made of engineering plastics and stainless steel.
- It is suitable for powder, fiber, and materials with limited dissolution capacity, strong caking ability, higher dosing requirements, also suitable for preparation and dosing of liquid material.
- It is used for G value stainless steel, as the efficient deceleration mixer, which can avoid macromolecular chain breakage.

Main process

The polymer solution preparation is achieved through processing each solution tank. The solution tanks are separated from each other to ensure the best curing time and a constant concentration within each solution tank. The device is controlled automatically by the control box. Once the liquid level of the solution tank reaches "low", which will trigger the electric inlet valve, then dry feeder starts functioning, its dry dosage size is determined by the water amount, so as to obtain the precise concentration. On the contrary, when it reaches "high", the cycle process stops functioning while the mixer is still working properly.

PRODUCT DISPLAY OF
COMPLETE SETS OF DOSING DEVICE



Explosion-proof ammonia dosing device



Dosing device



Dosing device



Dosing device



Dosing device



Phosphate dosing device



Dosing device



PAM three-chamber flocculation device



Dosing device



Dosing device



Two tank-three pump dosing device



Dosing device



Petrochemical industry



Zhejiang Petrochemical Co., Ltd.
40 million tons/year refining-chemical project



Wuxi Honghui New Material Technology Co., Ltd.
60,000 tons of emulsion project



Sinopec Zhoushan Petroleum Co., Ltd.
Construction operation department gas desulfurization projects



Liaoyang Ruixing Chemical Co., Ltd.

Coal chemical industry



Hubei Sanning Chemical Co., Ltd.
Synthetic ammonia raw material structure adjustment
and 600,000 tons/year ethylene glycol project



Shanxi Coke Group Longyuan (Jiexiu) Park



Shaanxi Shengbang Chemical
Technology Co., Ltd.



Shaanxi Shenmu Tianyuan
Chemical Co., Ltd.



Shandong Haitian
Biochemical Co., Ltd.



China SEDIN Ningbo
Engineering Co., Ltd.

TYPICAL CASES

Fluorine chemical, titanium industry



JUHUA Group Corporation



PANGANG Group Co., Ltd.

Food and medicine industry



HUADONG Medicine



Shanghai Hutchison Pharmaceuticals



LUZHOU LAOJIAO Co., Ltd.

Water treatment industry



Wuxi High-tech Water Co., Ltd. Yingcun Water Treatment Plant
The design scale is 210,000 cubic meters per day, and the initial daily processing scale reaches 50,000 cubic meters per day



Capital Aihua (Tianjin) Municipal Environmental Engineering Co., Ltd.
Aihua Zaozhuang High-tech Zone Sewage Treatment Plant (60,000 cubic meters of sewage per day)
Anhui Yingshang Sewage Treatment Plant (20,000 cubic meters of sewage per day)
Liangshan County Sewage Treatment Plant (50,000 cubic meters of sewage per day)



Wangjiangjing Town Xinqiao
Domestic Sewage Treatment Station



Hohhot Xinxinban Sewage Treatment Plant
Expansion, upgrading and renovation project, with a processing scale of 200,000 tons per day



Fujian Shanghang County Jiabo
Sewage Treatment Co., Ltd.



Electric power smelting industry



Ningbo Zhongke Green Power Co., Ltd.



Harbin Investment Co., Ltd. Thermal Power Plant



China Huadian Group Co., Ltd.



Hangzhou Hanglian Thermal Power



Jilin Everbright Power Equipment Co., Ltd.

Design Institute



Sinopec Engineering Construction Co., Ltd.
Ningxia Baofeng Energy Group Co., Ltd. Ningxia Lipeng Shenhua Ningxia Coal



China United Engineering Co., Ltd.
Dongguan Futian Oasis Heating Co., Ltd. | Ningxia Tiansheng High-tech Industry Co., Ltd.
Zhejiang Petrochemical Co., Ltd.



Northwest Chemical Research Institute
Xi'an Yuanchuang Chemical Technology Co., Ltd.



China Coal Xi'an Design Engineering Company



Shaanxi Coal Industry Chemical
Technology Research Institute