

NEWDOSE®

PRODUCT OVERVIEW



Ark Electric & Mechanical Co., Ltd.

A detailed 3D cutaway diagram of an electromagnetic driven metering pump. The pump is shown in a cross-section, revealing its internal components. On the left, there are two inlet ports with black flanges. The pump body is primarily grey, with a central yellow cylindrical component. A teal-colored shaft extends from the right side, connected to a motor assembly. The motor assembly consists of a teal outer housing and a grey inner core with a central shaft. The pump's internal mechanism includes a central shaft with a blue ball valve and a blue pipe leading to a chamber. The pump is mounted on a grey base with a stepped design. The text "Electromagnetic Driven Metering Pump" is overlaid in white on a teal background across the center of the image.

Electromagnetic Driven Metering Pump

Advantages and Features

01

High Efficiency

Accurate dosing, compact design: Benefiting from our independent circuit R&D ability and excellent electromagnetic design experiences, the pump realizes the output capacity the same as that of similar products by lower power and smaller volume to cut cost, and it's high efficiency.

02

Excellent Compact Structure

Adopt space technology to reinforce the strong corrosion resistance: Valve seat, made of PTFE material, has better overall tolerance of liquid contact part, not only guarantees the leakproofness but also protects the rubber ring valve seat against expansion and corrosion after longtime use, or the tightness would decrease and inaccurate dosing may be caused.

03

Optimized Pump Head Structure

Pump head, made of high modified material, full chemical compatibility: As verified in practice, the internal structure of pump head effectively avoids flash gas and cavitation inside pump head, meanwhile, optimizes the procedure of liquid flow, and drops the ultra-large shear force on liquid to maintain the conveying capacity and improve the overall efficiency of pump.



04

Ultra-low Maintenance Cost

Full pure PTFE diaphragm, five-year warranty: Diaphragm is made of full pure PTFE, with superexcellent tolerance and long service life, which will sharply cut the maintenance cost of product. Moreover, we provide five-year lifetime warranty for the diaphragm of dosing pump.

05

Idling to be Allowed

Unique idling capacity: With improved full pure PTFE diaphragm, the dosing pump can still work safely without damage upon diaphragm after quite a long time once the chemical liquid in dosing barrel is used out, and without timely feed or any misoperation occurs.



100% PTFE Diaphragm

06

Simplify Operation

Simple and visual digital display mode and clear parameter setting save time and cut cost, and guarantee the perfect connection of control process.

07

Convenient to Manage Stocking

Uniform valve group, made up of universal size one-way valves, reduces the confusion among parts and components.

08

Customizable Service

Reasonable and flexible internal design makes customization realizable. We can provide solutions for you according to user demand and special working conditions to avoid the embarrassing modification of process design upon the unsuitability of product. We stick to the principle of providing clients with more professional and quicker support all the time. Through the experience and accumulation in the past years, we have comprehended both pumps and the water treatment industry more profoundly. Our strong technical team can provide individualized products or compact dosing system centering on dosing pump for your production process according to your particular requirements.



Model Code

Code:

DFD0207MPPVA

Control Version

- DFD**----Manual Operation
- DM**----Manual & Current Signal (4-20mA)
- DP**----Manual & Pulse Operation
- DC**----Manual & RS485 Communication Protocol

Capacity

L/h

Pressure

Mpa

Model

M/HX/NX/GX/LM/X

Dosing Head Material

| | Pump Head | Diaphragm | Valve Seat | Valve Ball | Seal Ring |
|-----------------|-----------|-----------|------------|------------|-----------|
| PPV ---- | PP | PTFE | PTFE | Ceramic | FKM |
| PVT ---- | PVC | PTFE | PTFE | Ceramic | FKM |
| PTF ---- | PTFE | PTFE | PTFE | Ceramic | -- |
| SST ---- | SS316 | PTFE | SS316 | SS316 | FKM |

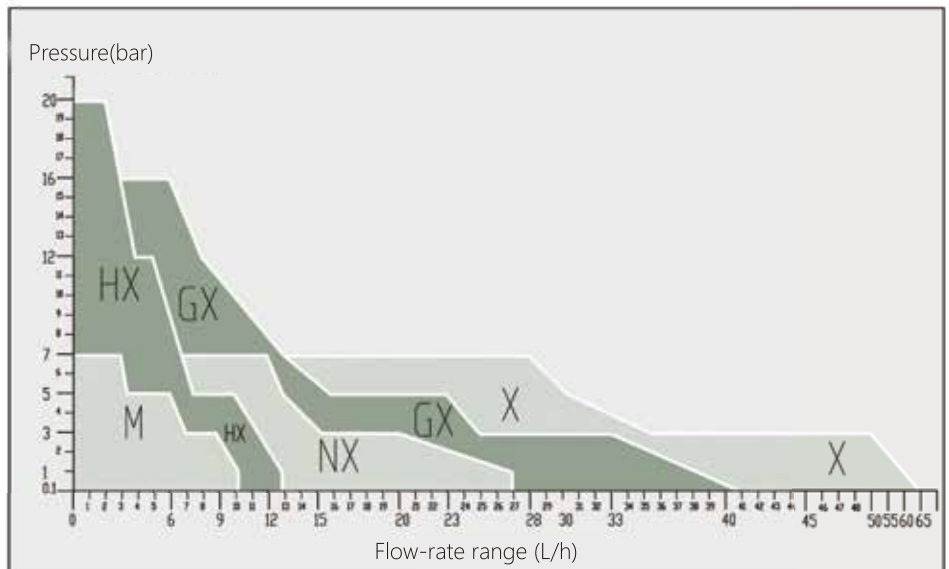
Electric Power Supply

- A**----- 1ph 220V 50/60Hz
- B**----- 1ph 110V 50/60Hz
- C**----- Special requirements, otherwise noted

*Example

Max. lift: 7kg; capacity: 12L/h, 220V 50Hz, PVC pump head, current signal control stroke frequency; no more change stroke length manually.

Selected Model:
DM-12-07-X-PVT-A



DFD Series—Manual Operation



Functional Characteristics

- Quick and simplified manual operation mode
- Buttons are used to control start and stop of the pump and set the stroke frequency (spm); setting range of stroke frequency is from 1(spm) to the maximum frequency value; whenever the pump is running or stops, the flow can be adjusted.
- Flow range is 1–55L/h, maximum pressure is 20Bar.
- Five flow stages are optional that is more accurate and controllable.
- Current working frequency is digitally displayed.
- Could be equipped with a liquid level switch interface.

DFD-M

| Model | Capacity L/h | Maximum Pressure Bar | Frequency Strokes number/1' | Power W |
|-------------|--------------|----------------------|-----------------------------|---------|
| DFD-01-07-M | 1 | 7 | 120 | 30 |
| DFD-02-07-M | 2 | 7 | 120 | 30 |
| DFD-03-07-M | 3 | 7 | 120 | 30 |
| DFD-06-05-M | 6 | 5 | 180 | 40 |
| DFD-09-03-M | 9 | 3 | 180 | 40 |

Weight:2.1Kg Suction:2m Size: A

DFD-NX

| Model | Capacity L/h | Maximum Pressure Bar | Frequency Strokes number/1' | Power W |
|--------------|--------------|----------------------|-----------------------------|---------|
| DFD-09-07-NX | 9 | 7 | 160 | 40 |
| DFD-12-07-NX | 12 | 7 | 160 | 40 |
| DFD-15-04-NX | 15 | 4 | 200 | 40 |
| DFD-20-03-NX | 20 | 3 | 200 | 40 |
| DFD-25-02-NX | 25 | 2 | 200 | 40 |

Weight:3.2Kg Suction:2m Size: B

DFD-HX

| Model | Capacity L/h | Maximum Pressure Bar | Frequency Strokes number/1' | Power W |
|--------------|--------------|----------------------|-----------------------------|---------|
| DFD-02-20-HX | 2 | 20 | 180 | 40 |
| DFD-05-12-HX | 5 | 12 | 180 | 40 |
| DFD-06-07-HX | 6 | 7 | 180 | 40 |
| DFD-10-05-HX | 10 | 5 | 200 | 40 |
| DFD-20-01-HX | 20 | 1 | 200 | 40 |

Weight:2.4Kg Suction:2m Size: A

DFD-GX

| Model | Capacity L/h | Maximum Pressure Bar | Frequency Strokes number/1' | Power W |
|---------------|--------------|----------------------|-----------------------------|---------|
| DFD-06-16-GX | 6 | 16 | 200 | 60 |
| DFD-10-10-GX | 10 | 10 | 200 | 60 |
| DFD-23-05-GX | 23 | 5 | 200 | 60 |
| DFD-33-03-GX | 33 | 3 | 200 | 60 |
| DFD-55-0.1-GX | 55 | 0.1 | 240 | 60 |

Weight:3.8Kg Suction:2m Size:C



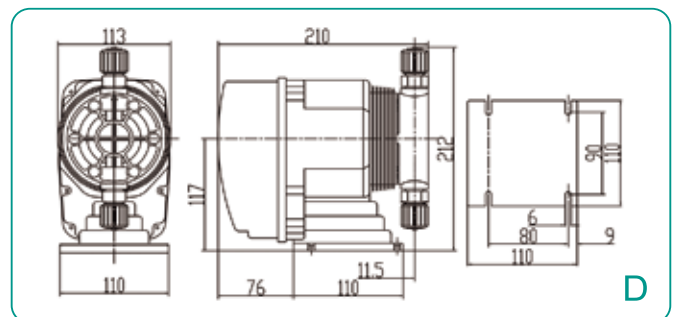
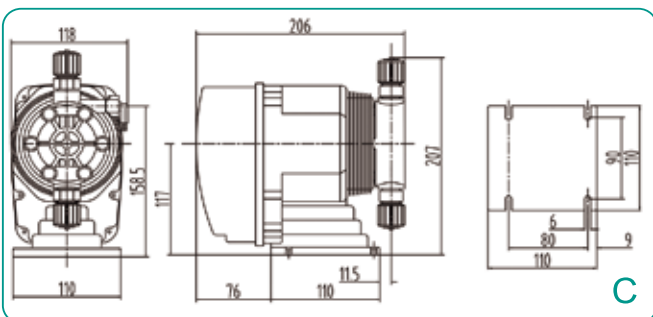
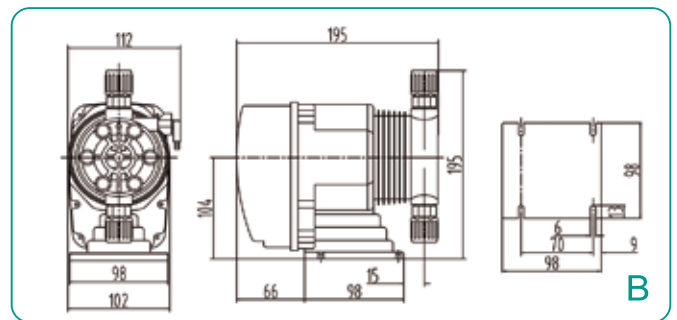
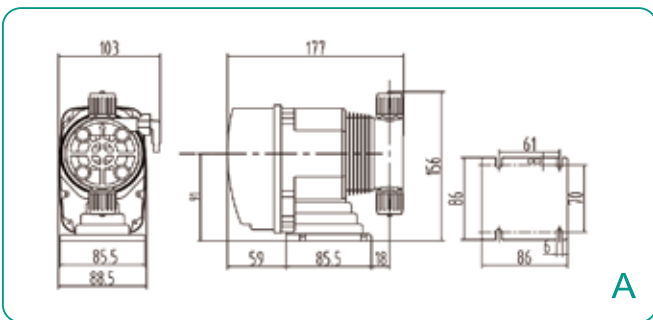
Classic Series—DFD-X

As solid as rock after years of development

After withstanding the intensive market competition in the past years, NEWDOSE-X dosing pumps, by virtue of coherent stable quality and superexcellent performance, timeproof optimal and simplest structural design and larger drive unit, guarantee the stable output while reducing the number of accessories, greatly prolong the total fatigue life, cut the maintenance cost, and promote the stable operation of batches of dosing systems day after day, wins the high praise of numerous domestic and foreign clients, and became the most credible link in user's process.

| Model | Capacity L/h | Max. Pressure Bar | Frequency Strokes number/1' | Max Sunction/m | Power W | Weight Kg | Size |
|-------------|--------------|-------------------|-----------------------------|----------------|---------|-----------|------|
| DFD-02-16-X | 2 | 16 | 120 | 2 | 65 | 3.8 | C |
| DFD-06-07-X | 6 | 7 | 120 | 2 | 65 | 3.8 | C |
| DFD-09-07-X | 9 | 7 | 120 | 2 | 65 | 3.8 | C |
| DFD-12-07-X | 12 | 7 | 120 | 2 | 65 | 3.8 | C |
| DFD-15-03-X | 15 | 3 | 120 | 2 | 65 | 3.8 | C |
| DFD-20-03-X | 20 | 3 | 160 | 2 | 65 | 3.8 | C |
| DFD-30-03-X | 30 | 3 | 160 | 2 | 65 | 3.8 | D |
| DFD-50-02-X | 50 | 2 | 240 | 2 | 65 | 3.8 | D |

Installation Dimension Drawing



DP Series—Pulse signal



Functional Characteristics

- Manual control, adjustment by Up and Down buttons
- Remote automatic control mode: Pulse signal
- Proportional dosing is adjusted by external impulse signal and optional modes are frequency division and frequency multiplication; the frequency division mode is used when input impulse frequency is greater than maximum working frequency of the dosing pump; the frequency multiplication mode is used when input impulse frequency is smaller than maximum working frequency of the dosing pump.
- Current working frequency is digitally displayed.
- Equipped with a liquid level switch interface.

Models Specifications

| Model | Capacity L/h | Max. Pressure Bar | Frequency Strokes number/1' | Suction m | Power W | Weight Kg | Size |
|-------------|--------------|-------------------|-----------------------------|-----------|---------|-----------|------|
| DP-01-07-LM | 1 | 7 | 120 | 2 | 30 | 3.2 | B |
| DP-02-07-LM | 2 | 7 | 120 | 2 | 30 | 3.2 | B |
| DP-03-07-LM | 3 | 7 | 120 | 2 | 30 | 3.2 | B |
| DP-06-05-LM | 6 | 5 | 140 | 2 | 30 | 3.2 | B |
| DP-09-03-LM | 9 | 3 | 160 | 2 | 30 | 3.2 | B |
| DP-02-16-X | 2 | 16 | 120 | 2 | 65 | 3.8 | C |
| DP-06-07-X | 6 | 7 | 120 | 2 | 65 | 3.8 | C |
| DP-09-07-X | 9 | 7 | 120 | 2 | 65 | 3.8 | C |
| DP-12-07-X | 12 | 7 | 120 | 2 | 65 | 3.8 | C |
| DP-15-03-X | 15 | 3 | 120 | 2 | 65 | 3.8 | C |
| DP-20-03-X | 20 | 3 | 160 | 2 | 65 | 3.8 | C |
| DP-30-03-X | 30 | 3 | 160 | 2 | 65 | 3.8 | D |
| DP-50-02-X | 50 | 2 | 240 | 2 | 65 | 3.8 | D |

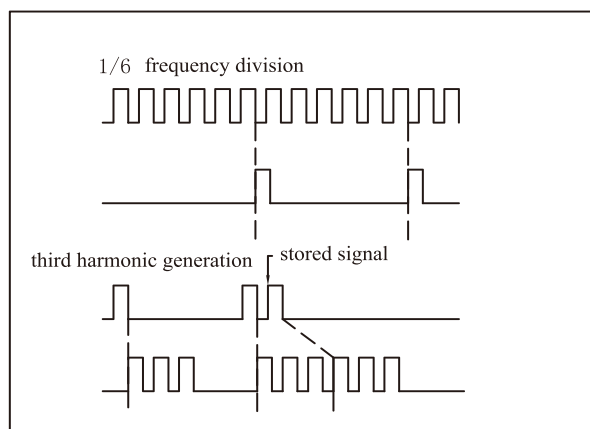
DP-GX

| Model | Capacity L/h | Maximum Pressure Bar | Frequency Strokes number/1' | Power W |
|--------------|--------------|----------------------|-----------------------------|---------|
| DP-06-16-GX | 6 | 16 | 200 | 60 |
| DP-23-05-GX | 23 | 5 | 200 | 60 |
| DP-33-03-GX | 33 | 3 | 200 | 60 |
| DP-55-0.1-GX | 55 | 0.1 | 240 | 60 |

Weight:3.8Kg; Suction:2m Size:C

Pulse signal control:

- 1.The impulse signals (square wave or dry contact signals) that any instruments directly sends out can be received.
- 2.DP pumps have both manual control and automatic control mode. In manual mode, stroke frequency of the pump can be adjusted by control buttons, no matter whether the pump is running or in stop state.
- 3.In automatic mode, two control modes can be set, named frequency division control and frequency multiplication control.
- 4.In the frequency division mode, when the input impulse number is larger than maximum working frequency, the pump should be set as the frequency division mode. According to user's set, the pump will identify and receive the impulse signal, and then dose chemical liquids in proportion.
- 5.In the frequency multiplication mode, when the input impulse number is far less than maximum working frequency of the pump, the pump should be set as the frequency multiplication mode and the pump identify and receive the impulse signal, then dose liquids in proportion depending on user's set. But when the received impulse interval is less than the interval time of the corresponding pump output, the signal received later will be stored (the pump could still work even though no signal received at this moment), the pump will not stop until it is consumed completely.



DM Series—4–20 mA Signal



Functional Characteristics

- Manual control, adjustment by Up and Down buttons
- Remote automatic control mode: analogue signal, current signal (0/4~20mA)
- Stroke frequency (spm) can be set proportionally controlled within 4~20mA and adjusted in direct and inverse proportions; analogue signals are directly connected into the dosing pump without extra control instrument.
- Current working frequency is digitally displayed.
- Equipped with a liquid level switch interface

Models Specifications

| Model | Capacity L/h | Max. Pressure Bar | Frequency Strokes number/1' | Suction m | Power W | Weight Kg | Size |
|-------------|--------------|-------------------|-----------------------------|-----------|---------|-----------|------|
| DM-01-07-LM | 1 | 7 | 120 | 2 | 30 | 3.2 | B |
| DM-02-07-LM | 2 | 7 | 120 | 2 | 30 | 3.2 | B |
| DM-03-07-LM | 3 | 7 | 120 | 2 | 30 | 3.2 | B |
| DM-06-05-LM | 6 | 5 | 140 | 2 | 30 | 3.2 | B |
| DM-09-03-LM | 9 | 3 | 160 | 2 | 30 | 3.2 | B |
| DM-02-16-X | 2 | 16 | 120 | 2 | 65 | 3.8 | C |
| DM-06-07-X | 6 | 7 | 120 | 2 | 65 | 3.8 | C |
| DM-09-07-X | 9 | 7 | 120 | 2 | 65 | 3.8 | C |
| DM-12-07-X | 12 | 7 | 120 | 2 | 65 | 3.8 | C |
| DM-15-03-X | 15 | 3 | 120 | 2 | 65 | 3.8 | C |
| DM-20-03-X | 20 | 3 | 160 | 2 | 65 | 3.8 | C |
| DM-30-03-X | 30 | 3 | 160 | 2 | 65 | 3.8 | D |
| DM-50-02-X | 50 | 2 | 240 | 2 | 65 | 3.8 | D |

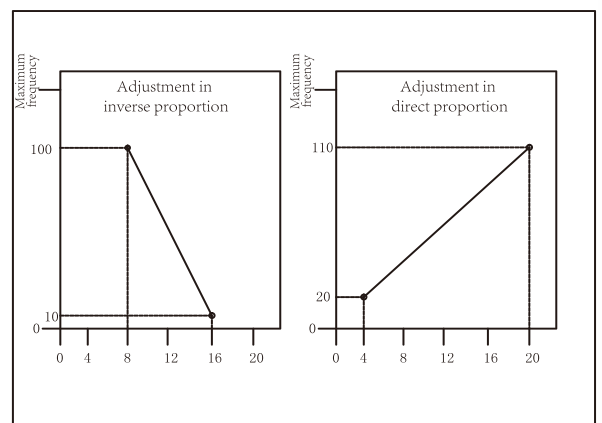
DM-GX

| Model | Capacity L/h | Maximum Pressure Bar | Frequency Strokes number/1' | Power W |
|--------------|--------------|----------------------|-----------------------------|---------|
| DM-06-16-GX | 6 | 16 | 200 | 60 |
| DM-23-05-GX | 23 | 5 | 200 | 60 |
| DM-33-03-GX | 33 | 3 | 200 | 60 |
| DM-55-0.1-GX | 55 | 0.1 | 240 | 60 |

Weight:3.8Kg Suction:2m Size:C

Current Signal Control (4–20mA):

1. Analog signal can be directly input into the dosing pump, without an extra control instrument.
2. DM pumps have both manual control and automatic control modes. In manual mode, stroke frequency of the pump can be adjusted by means of a control button, no matter whether the pump is running or in stop state.
3. Set two points and their corresponding frequency within 4–20mA, so as to control dosage.
4. The mode could be set in direct and inverse proportions adjustment. The direct proportion means impulse frequency of a pump increases with increase of current signal; adjustment in inverse proportion: impulse frequency of a pump increases with decrease of current signal.



DC Series—RS485 Communication Protocol



Functional Characteristics

- Manual control, adjusted by Up and Down buttons
- Intelligent automatic control mode: RS485 communication protocol
- The communication with the upper computer can be achieved; online start and stop and control can be achieved; the pump is suitable for the high-automation production process under centralized control.
- A controller equipped with touch screen can be provided that a simple control system can control at most 128 DC dosing pumps simultaneously, to achieve quick and simple control, without need of complicated control instruments; state parameter of dosing pump is visually displayed;
- Current working frequency is digitally displayed.
- Equipped with a liquid level switch interface

Models Specifications

| Model | Capacity L/h | Max. Pressure Bar | Frequency Strokes number/1' | Suction m | Power W | Weight Kg | Size |
|------------|--------------|-------------------|-----------------------------|-----------|---------|-----------|------|
| DC-01-07-L | 1 | 7 | 120 | 2 | 30 | 3.8 | C |
| DC-02-07-L | 2 | 7 | 120 | 2 | 30 | 3.8 | C |
| DC-03-07-L | 3 | 7 | 120 | 2 | 30 | 3.8 | C |
| DC-06-05-L | 6 | 5 | 140 | 2 | 30 | 3.8 | C |
| DC-09-03-L | 9 | 3 | 160 | 2 | 30 | 3.8 | C |
| DC-02-16-X | 2 | 16 | 120 | 2 | 65 | 3.8 | C |
| DC-06-07-X | 6 | 7 | 120 | 2 | 65 | 3.8 | C |
| DC-09-07-X | 9 | 7 | 120 | 2 | 65 | 3.8 | C |
| DC-12-07-X | 12 | 7 | 120 | 2 | 65 | 3.8 | C |
| DC-15-03-X | 15 | 3 | 120 | 2 | 65 | 3.8 | C |
| DC-20-03-X | 20 | 3 | 160 | 2 | 65 | 3.8 | C |
| DC-30-03-X | 30 | 3 | 160 | 2 | 65 | 3.8 | D |
| DC-50-02-X | 50 | 2 | 240 | 2 | 65 | 3.8 | D |

DC-GX

| Model | Capacity L/h | Maximum Pressure Bar | Frequency Strokes number/1' | Power W |
|--------------|--------------|----------------------|-----------------------------|---------|
| DC-06-16-GX | 6 | 16 | 200 | 60 |
| DC-23-05-GX | 23 | 5 | 200 | 60 |
| DC-33-03-GX | 33 | 3 | 200 | 60 |
| DC-55-0.1-GX | 55 | 0.1 | 240 | 60 |

Weight:3.8Kg; Suction: 2m Size:C

DC pumps with controller

1. Nice and decent look, easy to monitor

Display screen replaces former old enclosure, bringing full feel of technology. Both working state and stroke frequency of pumps are easy to monitor.

2. Space saving, convenient installation

The size of control unit is minimized. Only need to make holes in the enclosure of equipment and put the screen in, so the equipment installation is quick and easy.

3. Simple operation, quick control

Pump start/stop and stroke frequency can be controlled by touch screen, no need to adjust beside the pump. And the control response is quick and accurate.

DC Pumps Application Case



By one controller, the screen displays all pumps working conditions:
 Each pump's working frequency and the start-stop could be adjusted.
 The controller will be put and set on the control place, not beside the pumps.

Installation Fittings

1. Standard fittings



2m PVC inlet pipe



1.5m PE outlet pipe



Injector



Filter



Three-piece connection

2. Other optional accessories



Nonadjustable back pressure valve



Adjustable back pressure valve



Connector for DN15



High viscosity valves



Diaphragm

Spring Return
Motor Driven
Diaphragm
Metering Pump



Ultra-strong Anticorrosive Multifunctional Check Valve



Check Valve Function: Overcome the leak defect caused by the small pressure difference between gravity check valve system and pump head cavity.

Delivery High Viscosity Liquid: Check valves adopt spring return technology, so the dosing pump can maintain its displacement and linearity better when delivering high viscosity liquid.

Back Pressure Ability: The coefficient of elasticity of elastic part can be properly adjusted according to customer's requirements so that the dosing pump outlet has different back pressure values.

Safety Valve function: The coefficient of elasticity of elastic element can be properly adjusted according to pipeline system pressure to realize the safety valve function needed by the pipeline system.

Anticorrosive ElasticPart: Check valves adopt PTFE elastic components, so as to realize the optimal anticorrosive function.

Up to 3MPa(435psi)

100% PTFE Diaphragm

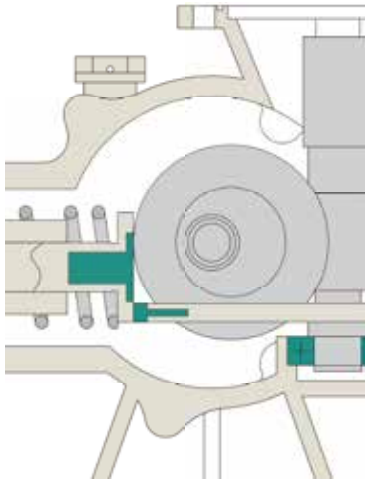
Excellent Diaphragm Assembly

The diaphragm, which is made of high quality modified PTFE material, and, work together with the matched protection assembly, greatly increase the lift of motor driven diaphragm dosing pump.

The maximum lift is up to 3.0Mpa. Thus some hydraulic diaphragm pumps would be replaced by this pump, thereby saving cost.



Spring Return Quiet and Steady



With damping stroke sliding bar, all motor pumps not only reserve the advantages of traditional spring return dosing pumps including simple structure, low failure rate and easy to maintain, but also overcome their fatal shortcomings including large pipe shock, large mechanical vibration, part damage, poor flow linearity and high noise brought by ineffective eccentric travel.

Lightweight Design

Advanced lightweight structure: For energy saving and emission reduction, the pumps adopt many high specific strength materials and smart structural design, so the pumps have very high power–displacement ratio.



Intelligent Stroke Adjuster

End the Age of Variable Frequency

Remote Control Electric Stroke Adjuster: It can receive analog signal (4–20mA) to change the stroke length of dosing pump in real time, further, accurately modify the displacement of dosing pump. The adjuster overcomes all major defects of modifying the capacity of dosing pump by variable frequency speed control.



Manual Control Electric Stroke Adjuster: The stroke length of dosing pump can be accurately set and displayed via the operation panel of the adjuster. With error compensation function, the adjuster overcomes the error between actual displacement and its set value directly caused by the random change of stroke length of dosing pump, because traditional knob adjuster doesn't have the self-lock function.

Model Code

| Code | Example | | | | | |
|-----------------------|--|---------------------------------------|-----------|------------|------------|-----------|
| Model | NDJS NDJL NDWS NDWL ND1000 ND2000 HND | | | | | |
| Capacity | L/H | | | | | |
| Pressure | MPa | | | | | |
| Dosing Head Material | | Pump Head | Diaphragm | Valve Seat | Valve Ball | Seal Ring |
| | PVT ---- | PVC | PTFE | PTFE | Ceramic | FKM |
| | PVDF --- | PVDF | PTFE | PTFE | Ceramic | FKM |
| | SST ---- | SS316 | PTFE | SS316 | SS316 | FKM |
| | PTF ---- | PTFE | PTFE | PTFE | Ceramic | --- |
| Electric power Supply | A ----- | 3ph 380V 50Hz/60Hz | | | | |
| | VF ---- | Variable Frequency Motor | | | | |
| | EX ---- | Explosion-proof Motor Exd II BT4 | | | | |
| | B ----- | 1ph 220v 50Hz/60Hz | | | | |
| | C ----- | Special requirements, otherwise noted | | | | |
| Control Version | H ----- | Manual | | | | |
| | I ----- | Electric stroke adjuster | | | | |

NDWL-410-0.6-PVT-A-H

*Example

1. Maximum lift is 6kg, Capacity is 370L/h, 380V 50Hz, PVC pump head, 3PH 380V 50Hz, adjustment mode: electric stroke adjustment.

Selected model:

NDWL-410/0.6-PVT-A-I

2. Maximum lift is 6kg, Capacity is 370L/h, 380V 50Hz, PVDF pump head, 3PH 380V 50Hz variable frequency motor adjustment mode: manual.

Selected model:

NDWL-410/0.6-PVDF-AVF-H

NDJ

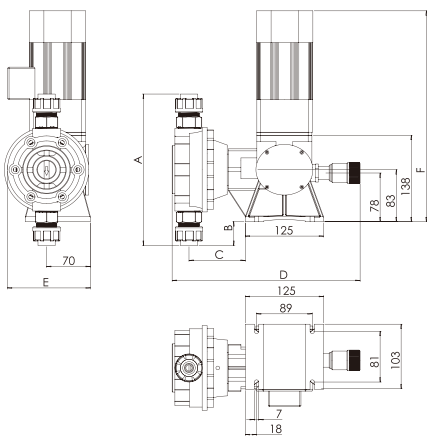
1. Eccentric shaft is supported by bearings in front and rear and the cantilever shaft structure of the most of manufacturers on the market is abandoned; the speed reducing motor does not bear axial force and only transmits torque, and this extends the service life of speed reducing motor and makes the process more stable.
2. Installation and maintenance are simple and convenient; grease is used for lubrication in the box body and grease is added conveniently, making maintenance easy.
3. Stroke length can be adjusted at will during running.
4. PVC, PVDF, PTFE and SS316 materials pump head are applicable to dose different kinds of chemical liquid.
5. The pure PTFE diaphragm that has a super-long service life guarantees the stability and safety of dosing.
6. It can be directly installed on a dosing barrel and this is economical and convenient.



Technical Specifications

| Type | Model | Capacity (L/H) | Maximum Pressure (bar) | Stroke Length (mm) | Diaphragm Diameter (mm) | Pump Speed (SPM) | Single-stroke Flow (ml/stroke) | Motor Power (W) |
|------|---------------|----------------|------------------------|--------------------|-------------------------|------------------|--------------------------------|-----------------|
| NDJ | NDJS- 40/1.0 | 40 | 10 | 5 | 90 | 87 | 9.7 | 60 |
| | NDJS- 60/0.5 | 60 | 5 | 5 | 90 | 104 | 9.7 | 60 |
| | NDJS- 75/0.5 | 75 | 5 | 5 | 90 | 130 | 9.7 | 60 |
| | NDJS- 100/0.5 | 100 | 5 | 8 | 90 | 104 | 16.5 | 60 |
| | NDJS- 130/0.5 | 130 | 5 | 8 | 90 | 130 | 16.5 | 60 |
| | NDJS- 150/0.3 | 150 | 3 | 5 | 105 | 130 | 19.2 | 60 |
| | NDJL- 70/1.0 | 70 | 10 | 8 | 90 | 87 | 13.4 | 90 |
| | NDJL- 80/0.7 | 80 | 7 | 5 | 90 | 130 | 10.3 | 90 |
| | NDJL- 105/0.7 | 105 | 7 | 8 | 90 | 104 | 16.8 | 90 |
| | NDJL- 150/0.5 | 150 | 5 | 5 | 105 | 130 | 19.2 | 90 |

Dimensional Drawing



Pump Head Material and Size

| Model | Material | A | B | C | D | E | F | Interface Size | |
|---------------------|----------|-----|----|----|-----|-----|-----|----------------|------------------|
| | | | | | | | | Thread Size | Socket Pipe Size |
| NDJS-40/1.0~130/0.5 | PVC | 224 | 29 | 90 | 300 | 130 | 310 | G1' | G1/2"-DN15 |
| | PVDF | 224 | 29 | 90 | 300 | 130 | 310 | G1' | G1/2"-DN15 |
| | PTFE | 178 | 6 | 90 | 300 | 130 | 310 | G1' | -- |
| | SS316 | 178 | 6 | 97 | 302 | 130 | 310 | G1' | -- |
| NDJS-150/0.3 | PVC | 239 | 42 | 90 | 300 | 137 | 310 | G1' | G1/2"-DN15 |
| | PVDF | 224 | 29 | 90 | 300 | 130 | 310 | G1' | G1/2"-DN15 |
| | PTFE | 193 | 14 | 90 | 300 | 137 | 310 | G1' | -- |
| | SS316 | 193 | 14 | 97 | 302 | 137 | 310 | G1' | -- |
| NDJL 70/1.0~105/0.7 | PVC | 224 | 29 | 90 | 300 | 130 | 325 | G1' | G1/2"-DN15 |
| | PVDF | 224 | 29 | 90 | 300 | 130 | 310 | G1' | G1/2"-DN15 |
| | PTFE | 178 | 6 | 90 | 300 | 130 | 325 | G1' | G1/2"-DN15 |
| | SS316 | 178 | 6 | 97 | 302 | 130 | 325 | G1' | -- |
| NDJL 150/0.5 | PVC | 239 | 42 | 90 | 300 | 137 | 325 | G1' | G1/2"-DN15 |
| | PVDF | 224 | 29 | 90 | 300 | 130 | 310 | G1' | G1/2"-DN15 |
| | PTFE | 193 | 14 | 90 | 300 | 137 | 325 | G1' | -- |
| | SS316 | 193 | 14 | 97 | 302 | 137 | 325 | G1' | -- |

NDWS

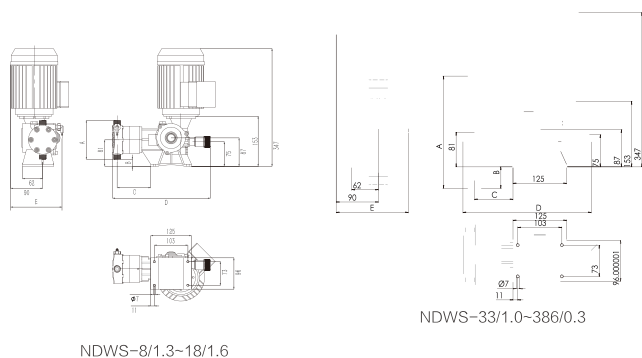
1. It is equipped with low pressure die-casting aluminum box with high strength, which ensures solidness and firmness, reduces the mass of the dosing pump and the weight of the overall equipment of later stage.
2. The precise worm gear can make the transmission efficiency increase significantly, gain the same pressure displacement, make the motor power smaller and more energy-saving.
3. High quality modified PTFE diaphragm manufacturing process can make the maximum pressure of mechanical diaphragm dosing pump reach 30 kg, and make the cost of dosing pump under 12-30 kg pressure system substantially decline.
4. The pump head of PVC, PVDF, PTFE, SS316 materials complete series of is suitable for conveying various acids, alkali and salt solutions; non-leakage overflow structure can make sure that the process is stable and orderly.
5. Can be equipped with electric stroke adjuster (4-20mA).
6. Variable frequency motor and explosion-proof motor are optional.



Technical Specifications

| Type | Model | Capacity (L/H) | Maximum Pressure (bar) | Stroke Length (mm) | Diaphragm Diameter (mm) | Pump Speed (SPM) | Single-stroke Flow (ml/stroke) | Motor Power (W) |
|---------------|---------------|----------------|------------------------|--------------------|-------------------------|------------------|--------------------------------|-----------------|
| NDWS | NDWS- 8/1.6 | 8 | 16 | 2 | 48 | 118 | 1.13 | 180 |
| | NDWS- 12/1.6 | 12 | 16 | 2 | 48 | 177 | 1.13 | 180 |
| | NDWS- 18/1.6 | 18 | 16 | 2 | 60 | 118 | 2.54 | 180 |
| | NDWS- 24/1.6 | 24 | 16 | 2 | 60 | 177 | 2.3 | 180 |
| | NDWS- 33/1.0 | 33 | 10 | 4 | 90 | 118 | 4.7 | 180 |
| | NDWS- 68/1.0 | 68 | 10 | 6 | 90 | 118 | 9.6 | 180 |
| | NDWS- 120/0.7 | 120 | 7 | 4 | 105 | 177 | 11 | 180 |
| | NDWS- 143/0.6 | 143 | 6 | 6 | 105 | 118 | 20.1 | 180 |
| | NDWS- 213/0.5 | 213 | 5 | 6 | 105 | 177 | 20.1 | 180 |
| | NDWS- 258/0.4 | 258 | 4 | 10 | 105 | 118 | 36.4 | 180 |
| NDWS- 386/0.3 | 386 | 3 | 10 | 105 | 177 | 36.4 | 180 | |

Dimensional Drawing



Pump Head Material and Size

| Model | Material | A | B | C | D | E | Interface size | |
|----------------------|----------|-----|----|----|-----|-------|------------------------------------|--------------------------|
| | | | | | | | Thread Size | Socket Pipe Size |
| NDWS-8/1.6-18/1.6 | PVC | 95 | 5 | 70 | 290 | 150 | Flexible tube φ6*9 or φ10*14 | Hard tube connections |
| | PVDF | 105 | 10 | 75 | 285 | 150 | | |
| | PTFE | 105 | 10 | 75 | 285 | 150 | | |
| | SS316 | 105 | 10 | 75 | 285 | 150 | | |
| NDWS-33/1.0-68/1.0 | PVC | 224 | 31 | 90 | 310 | 150 | G1' | G1/2"-DN15 |
| | PVDF | 224 | 31 | 90 | 310 | 150 | G1' | G1/2"-DN15 |
| | PTFE | 178 | 8 | 90 | 310 | 150 | G1' | -- |
| | SS316 | 178 | 8 | 97 | 310 | 150 | G1' | -- |
| NDWS-120/0.7-386/0.3 | PVC | 239 | 38 | 90 | 310 | 157.5 | G1' | G1/2"-DN15 |
| | PVDF | 224 | 31 | 90 | 310 | 150 | G1' | G1/2"-DN15 |
| | PTFE | 193 | 18 | 90 | 310 | 157.5 | G1' | -- |
| | SS316 | 193 | 18 | 97 | 310 | 157.5 | G1' | -- |

NDWL

1. Eccentric shaft is supported by bearings in front and rear and the cantilever shaft structure of the most of manufacturers on the market is abandoned; the speed reducing motor does not bear axial force and only transmits torque, and this extends the service life of speed reducing motor and makes the process more stable.
2. Installation and maintenance are simple and convenient; grease is used for lubrication in the box body and grease is added conveniently, making maintenance easy.
3. Stroke length can be adjusted at will during running.
4. PVC, PVDF, PTFE and SS316 materials pump head are applicable to dosing of different kinds of chemical liquid.
5. The pure PTFE diaphragm that has a super-long service life guarantees the stability and safety of dosing.
6. Can be equipped with electric stroke adjuster (4-20mA).
7. Variable frequency motor and explosion-proof motor are optional.



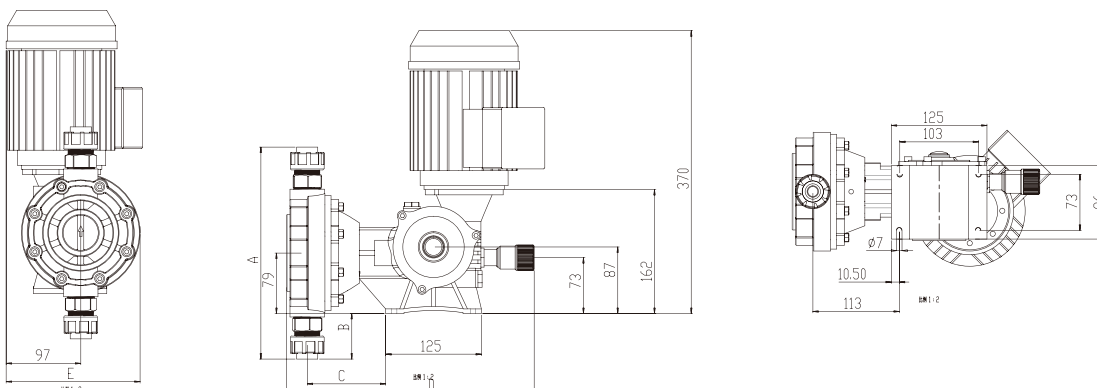
Technical Specifications

| Type | Model | | Capacity (L/H) | Maximum Pressure (bar) | Stroke Length (mm) | Diaphragm Diameter (mm) | Pump Speed (SPM) | Single-stroke Flow (ml/stroke) | Motor Power (W) |
|------|-------|----------|----------------|------------------------|--------------------|-------------------------|------------------|--------------------------------|-----------------|
| NDWL | NDWL- | 90/1.2 | 90 | 12 | 8 | 105 | 118 | 12.8 | 370 |
| | NDWL- | 120/1.2 | 120 | 12 | 8 | 105 | 118 | 17.1 | 370 |
| | NDWL- | 180/1.0 | 180 | 10 | 8 | 105 | 177 | 25.5 | 370 |
| | NDWL- | 275/0.7 | 275 | 7 | 8 | 120 | 118 | 38.7 | 370 |
| | NDWL- | 355/0.7 | 355 | 7 | 10 | 120 | 118 | 50 | 370 |
| | NDWL- | 410/0.6 | 410 | 6 | 8 | 120 | 177 | 38.7 | 370 |
| | NDWL- | 530/0.45 | 530 | 4.5 | 10 | 120 | 177 | 50 | 370 |

Pump Head Material and Size

| Model | Material | A | B | C | D | E | Interface Size | |
|-----------------------|----------|-----|----|-------|-----|-----|----------------|------------------|
| | | | | | | | Thread Size | Socket Pipe Size |
| NDWL-275/0.7-530/0.45 | PVC | 259 | 51 | 102.5 | 340 | 175 | G1" | G1/2"-DN15 |
| | PVDF | 259 | 51 | 102.5 | 340 | 175 | G1" | G1/2"-DN15 |
| | PTFE | 213 | 28 | 102.5 | 340 | 175 | G1" | -- |
| | SS316 | 213 | 28 | 110 | 340 | 175 | G1" | -- |

Dimensional Drawing



ND1000

1. Motor-driven diaphragm assembly is of simple operation and easy maintenance that the pump head won't leak.
2. The operation is smooth and steady, and the noise is much low.
3. The high precision and high strength transmission components can make the dosing pump efficiently output, at the same time, its maintenance cost is ultra-low.
4. High quality modified PTFE diaphragm assembly can greatly improve the life span of the diaphragm, making it not easy to become a wearing part.
5. PVC, PVDF, PTFE and SS316 materials pump head are applicable to dose different kinds of chemical liquids.
6. Can be equipped with electric stroke adjuster (4-20mA).
7. Variable frequency motor and explosion-proof motor are optional.



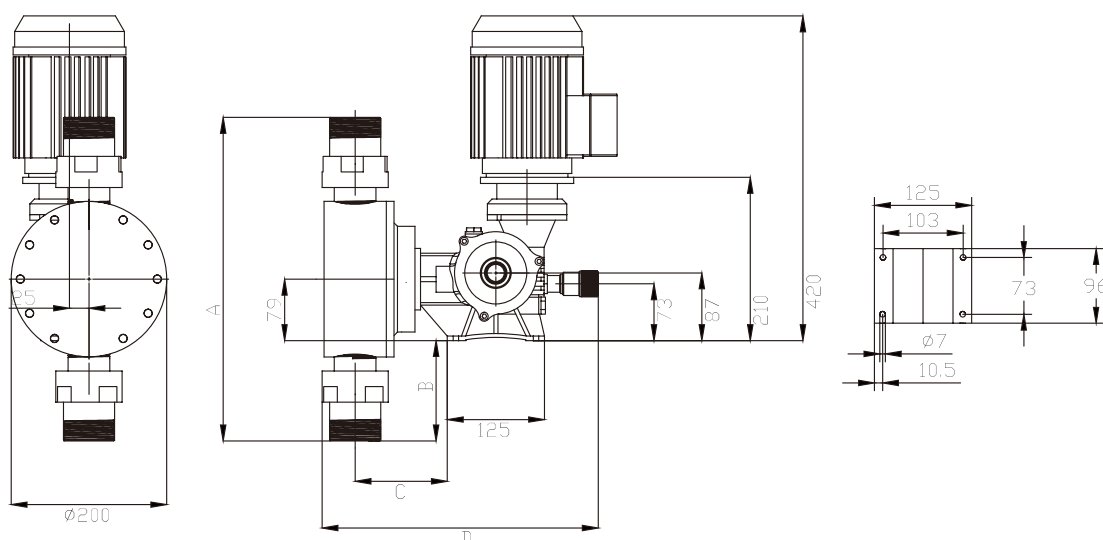
Technical Specifications

| Type | Model | | Capacity (L/H) | Maximum Pressure (bar) | Stroke Length (mm) | Diaphragm Diameter (mm) | Pump Speed (SPM) | Single-stroke Flow (ml/stroke) | Motor Power (W) |
|--------|--------|----------|----------------|------------------------|--------------------|-------------------------|------------------|--------------------------------|-----------------|
| ND1000 | ND1000 | 660/0.5 | 660 | 5 | 10 | 160 | 118 | 93 | 750 |
| | ND1000 | 1000/0.4 | 1000 | 4 | 10 | 160 | 177 | 93 | 750 |
| | ND1000 | 1200/0.3 | 1200 | 3 | 12 | 160 | 177 | 113 | 750 |

Pump Head Material and Size

| Model | Material | A | B | C | D | E | Interface size |
|-------------------------|----------|-----|----|-----|-----|-----|----------------|
| ND1000-660/0.5-1200/0.3 | PVC | 340 | 90 | 120 | 370 | 197 | G2-1/4' DN40 |
| | PVDF | 340 | 90 | 120 | 370 | 197 | G2-1/4' DN40 |
| | PTFE | 340 | 90 | 120 | 370 | 197 | G2-1/4' DN40 |
| | SS316 | 340 | 95 | 125 | 370 | 197 | G2-1/4' DN40 |

Dimensional Drawings



ND2000

1. The high-strength casting aluminum box body is used and it is sturdy and durable, and moreover, total weight is reduced greatly.
2. The motor directly drives the eccentric shaft and the spring return structure is used; the structure is simple and stable and easy to maintain.
3. The damping sliding bar structure is applied to overcome the vital shortcomings: large pipe shock, excessive mechanical vibration, parts damage, poor flow linearity and high noise, arising from invalid eccentric travel.
4. High-quality modified PTFE diaphragm assembly is durable and the lift of dosing pump is greatly increased.
5. PVC, PVDF, PTFE and SS316 materials pump head are applicable to dose different kinds of chemical liquids.
6. Can be equipped with electric stroke adjuster (4-20mA).
7. Variable frequency motor and explosion-proof motor are optional.



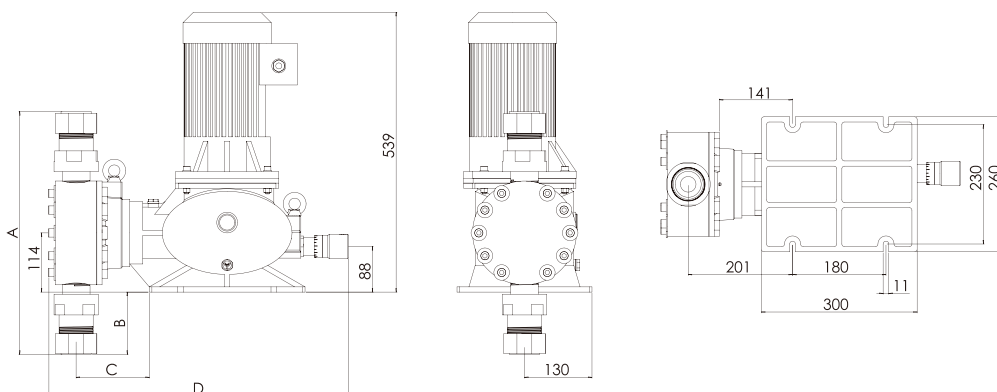
Technical Specifications

| Type | Model | | Capacity (L/H) | Maximum Pressure (bar) | Stroke Length (mm) | Diaphragm Diameter (mm) | Pump Speed (SPM) | Single-stroke Flow (ml/stroke) | Motor Power (W) |
|--------|--------|----------|----------------|------------------------|--------------------|-------------------------|------------------|--------------------------------|-----------------|
| ND2000 | ND2000 | 500/1.0 | 500 | 10 | 8 | 155 | 200 | 42 | 750 |
| | ND2000 | 700/0.9 | 700 | 9 | 10 | 155 | 200 | 58 | 750 |
| | ND2000 | 1000/0.6 | 1000 | 6 | 12 | 160 | 200 | 83 | 750 |
| | ND2000 | 1300/0.4 | 1300 | 4 | 14 | 160 | 200 | 108 | 750 |
| | ND2000 | 1600/0.3 | 1600 | 3 | 15 | 160 | 200 | 135 | 750 |
| | ND2000 | 2000/0.3 | 2000 | 3 | 16 | 160 | 200 | 166 | 750 |

Pump Head Material and Size

| Model | Material | A | B | C | D | Interface size |
|--------------------------|----------|-----|-----|-------|-----|----------------|
| ND2000-500/1.0-1000/0.6 | PVC | 340 | 51 | 102.5 | 340 | G2-1/4' DN40 |
| | PVDF | 340 | 51 | 102.5 | 340 | G2-1/4' DN40 |
| | PTFE | 340 | 28 | 102.5 | 340 | G2-1/4' DN40 |
| | SS316 | 340 | 28 | 110 | 340 | G2-1/4' DN40 |
| ND2000-1300/0.4-2000/0.3 | PVC | 460 | 120 | 140 | 580 | G2-1/4' DN40 |
| | PVDF | 460 | 120 | 140 | 580 | G2-1/4' DN40 |
| | PTFE | 460 | 120 | 140 | 580 | G2-1/4' DN40 |
| | SS316 | 460 | 90 | 147 | 580 | G2-1/4' DN40 |

Dimensional Drawings



HND

1. The diaphragm is mechanically driven and spring returned, and the structure is simple and easy to maintain.
2. High-quality modified diaphragm assembly with maximum pressure of 30 Bar can replace low pressure hydraulic diaphragm dosing pumps in a part of application places, greatly reducing the user's initial input cost.
3. In the post-maintenance, because there is no hydraulic oil chamber and other hydraulic assemblies, the maintenance become very simple. As the high-quality modified PTFE diaphragm assembly is applied, extending the service life of the diaphragm and reducing the post-maintenance cost greatly.
4. Application of damping sliding bar makes the dosing pump run smoothly, with extremely low noise.
5. PTFE elastic component and one-way valve are optional and the high-viscosity corrosive liquid can be conveyed; outlet end has back pressure.
6. It can be matched with electric stroke adjuster (4-20mA).
7. Variable frequency motor and explosion-proof motor are optional.



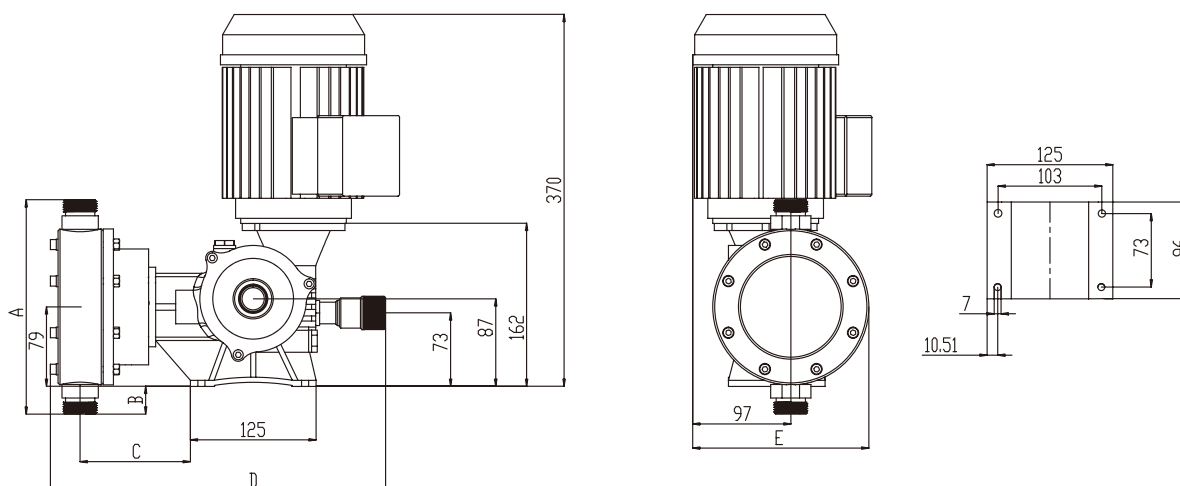
Technical Specifications

| Type | Model | Capacity (L/H) | Maximum Pressure (bar) | Stroke Length (mm) | Diaphragm Diameter (mm) | Pump Speed (SPM) | Single-stroke Flow (ml/stroke) | Motor Power (W) |
|------|-------------|----------------|------------------------|--------------------|-------------------------|------------------|--------------------------------|-----------------|
| HND | HND 47/3.0 | 47 | 30 | 4 | 90 | 118 | 6.6 | 370 |
| | HND 70/2.0 | 70 | 20 | 4 | 90 | 177 | 6.6 | 370 |
| | HND 115/1.8 | 115 | 18 | 6 | 105 | 118 | 16.2 | 550 |
| | HND 135/1.6 | 135 | 16 | 7 | 105 | 118 | 19 | 550 |
| | HND 160/1.2 | 160 | 12 | 8 | 105 | 118 | 22.6 | 550 |
| | HND 330/1.0 | 330 | 10 | 7 | 90 | 118 | 31.1 | 750 |
| | HND 400/0.8 | 400 | 8 | 7 | 90 | 118 | 37.7 | 750 |

Pump Head Material and Size

| Model | Material | A | B | C | D | E | Interface size |
|---------------------|----------|-----|----|-----|-----|-----|----------------|
| HND-47/3.0-70/2.0 | SS316 | 178 | 10 | 105 | 334 | 157 | G1" |
| HND-115/1.8-400/0.8 | SS316 | 193 | 18 | 105 | 335 | 166 | G1" |

Dimensional Drawings



Electric Stroke Adjuster

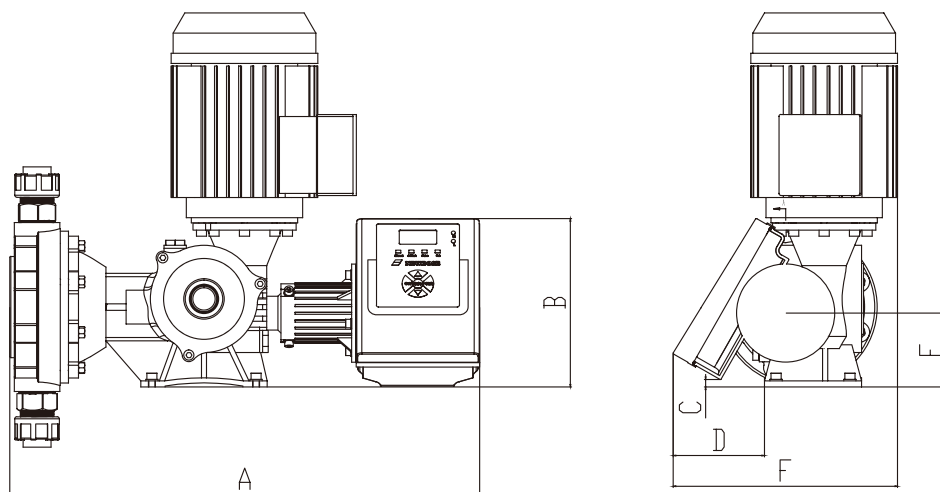
1. The adjuster can be both manual operation and current signal control.
2. In manual mode, stroke length of dosing pump can be accurately set and displayed via the operation panel of the adjuster. With error compensation function, the adjuster overcomes the error between actual displacement and its set value directly caused by the random change of stroke length of dosing pump because traditional knob adjuster doesn't have the self-lock function.
3. The return-to-zero operation in the functions, simply and effectively calibrates the accuracy of electric stroke adjuster, making dosing more accurate.
4. In the analog signal (4-20mA) control mode, dosing in direct proportion or in inverse proportion can be achieved according to the user requirements. And the stroke length of dosing pump could be adjusted in real time, further, accurately modify the displacement of dosing pump.
5. Modular interface design can customize a linkage to change the dosing pumps that only allow variable frequency adjustment into the dosing pumps of which stroke length can be adjusted intelligently.



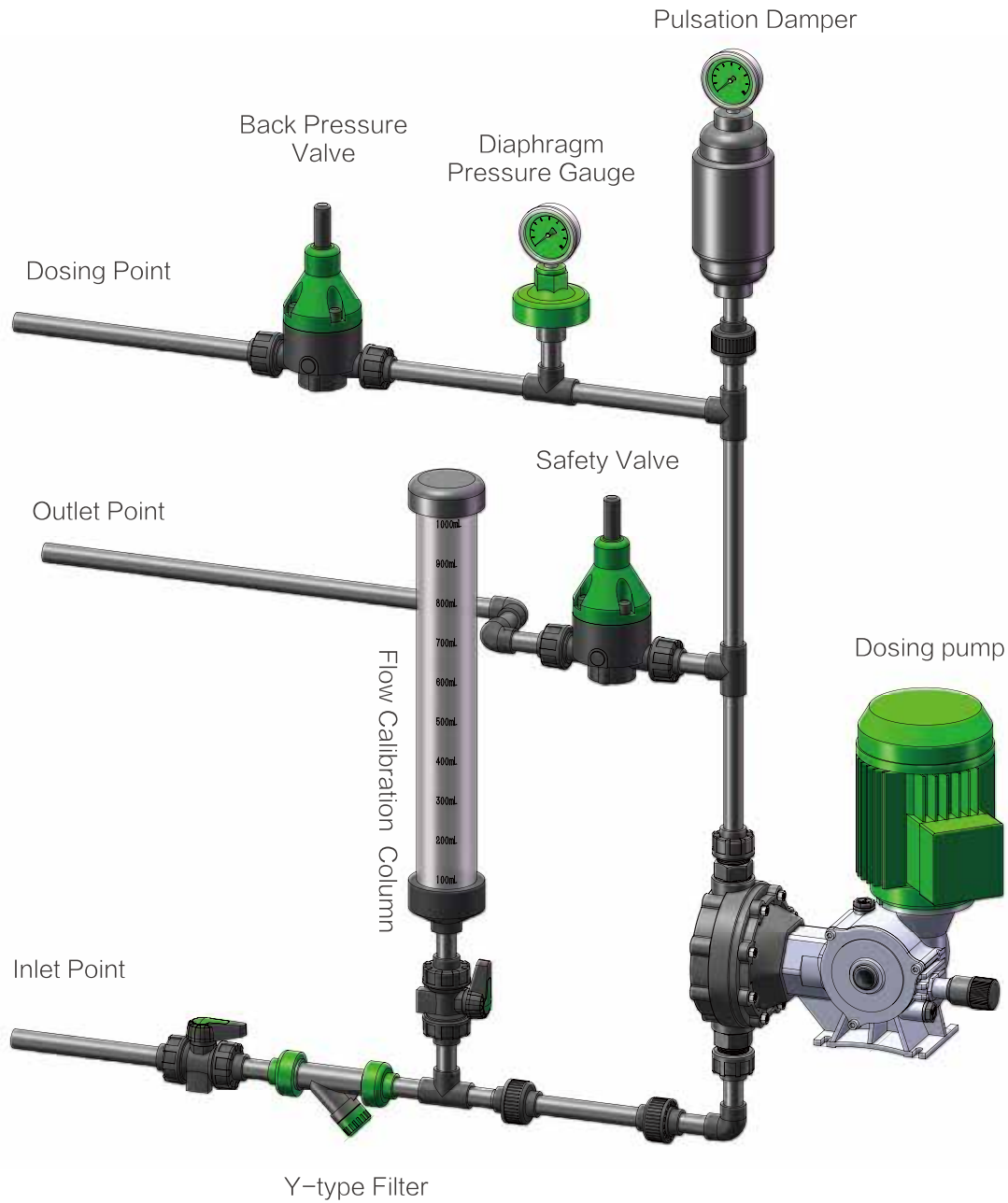
Pumps and Adjuster Size

| Model | A | B | C | D | E | F |
|-------------------------|-----|-----|----|----|----|-----|
| NDWS-33/1.0-68/1.0 | 445 | 170 | 8 | 90 | 73 | 205 |
| NDWS-117/0.7-386/0.3 | 455 | 170 | 8 | 90 | 73 | 205 |
| NDWL-90/1.2-530/0.45 | 470 | 170 | 8 | 90 | 73 | 222 |
| ND1000-660/0.5-1200/0.3 | 515 | 170 | 8 | 90 | 73 | 273 |
| ND2000-500/1.0-2000/0.3 | 702 | 182 | 16 | 2 | 88 | 262 |
| HND-47/3.0-70/2.0 | 470 | 170 | 8 | 90 | 73 | 222 |
| HND-115/1.8-400/0.8 | 490 | 170 | 8 | 90 | 73 | 245 |

Dimensional Drawings



Typical Installation Diagram



Company File

IN 2001

Ark Electric and Mechanical Co., Ltd. was founded.

IN 2004

NEWDOSE brand was founded, the first electromagnetic dosing pump formally came into China market.

IN 2005

R&D of solenoid pumps DP (pulse signal) and DM (4-20mA signal) series succeeded.

IN 2006

R&D of solenoid pumps big capacity 50Lph succeeded.

IN 2015

Whole series of electromagnetic pump went through upgraded and updated by continuous technological renovation.

IN 2016

R&D of motor driven diaphragm metering pump succeeded and came out.



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