

# SDP01 Series Mechanical Diaphragm Smart Pump



## Main Technical Characteristics

- Flowrate up to 1800L/H
- Pressure up to 10 bar
- Accuracy:  $\pm 1\%$  of rated flow from 1% to 100%
- Maximum temperature of liquid allowable: 60°C
- Suction lift: up to 2 m water
- Maximum suction pressure: 2 bar (A)
- Turndown Ratio: 1000:1

## Features & Benefits

### Smart control

- Various intelligent control through touch screen and remote control
- Automatic flow adjustment by setting up target flow in controller
- High adjustment accuracy and energy efficiency ratio with Permanent Magnet Synchronous(PMSM) E-motor
- Double control methods(E-motor frequency adjustment and stroke length adjustment) ensure a steady-state accuracy of  $\pm 1\%$  between 1% and 100% flow rate
- Accurate feedback by stroke length displacement transducer
- Automatic adjustment or via received external signals with electrical capacity controller ACC
- Control by external analog signals or pulse signals
- Automatic running mode for automatic switch between different flows in different time periods
- Automatic alarm and remote transmission for diaphragm rupture/material shortage/E-motor failure etc.
- Remote control and real-time display with standard offering Modbus RS485 and optional Profibus
- Data storage and export with Removal Storage Disk

### Liquid end

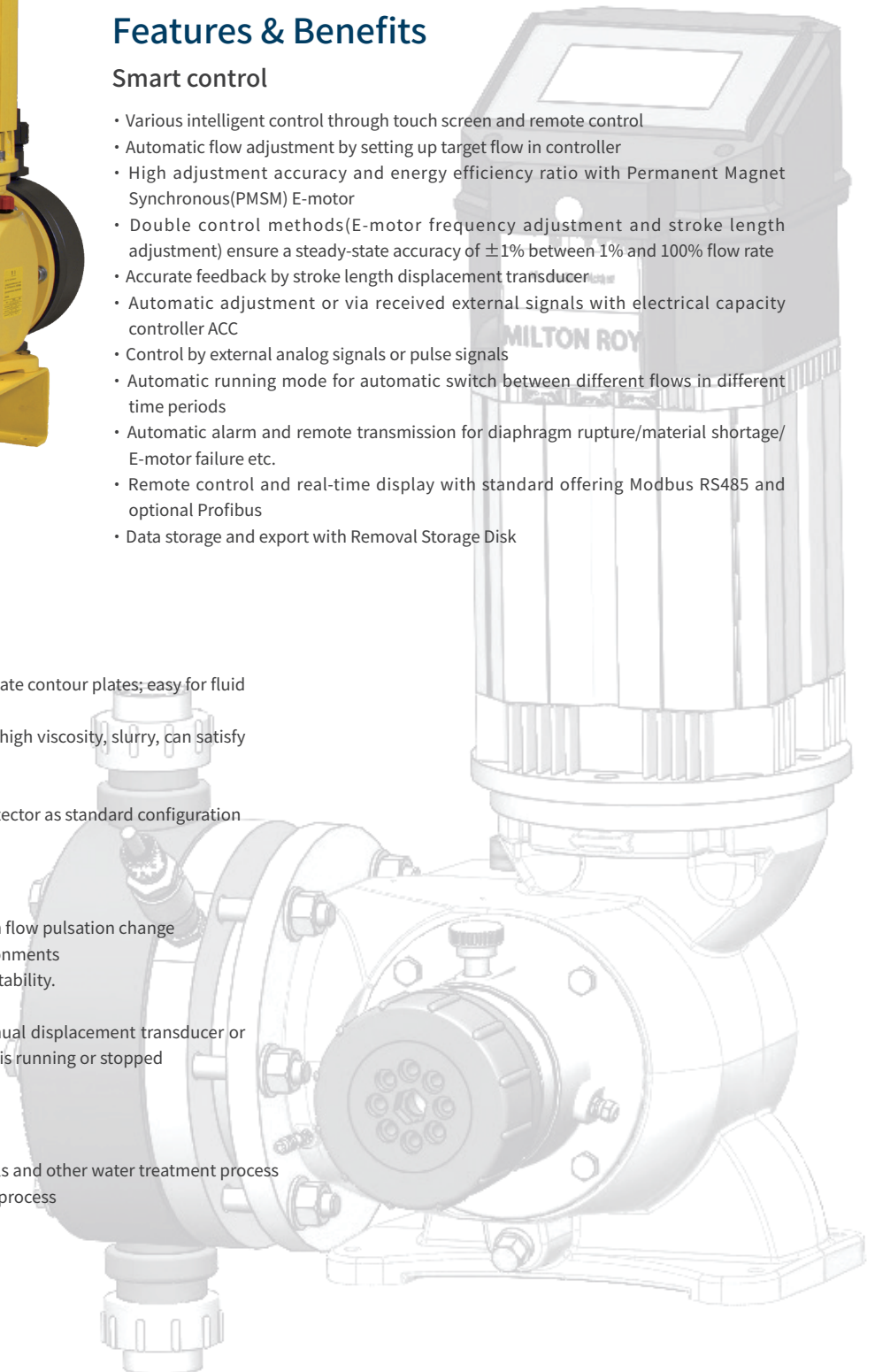
- Mechanical actuated diaphragm design; eliminate contour plates; easy for fluid pass
- Various material liquid end as PVC, PVDF, 316, high viscosity, slurry, can satisfy different liquid injection and transportation
- Self-cleaning suction/discharge check valve
- Double diaphragm with diaphragm rupture detector as standard configuration

### Drive End

- Variable eccentric drive mechanism for smooth flow pulsation change
- Rugged construction designed for tough environments
- Wear-resistant ball bearings for performance stability.
- Oil bath lubrication for long-life of drive parts
- Stroke length can be adjusted, whatever manual displacement transducer or electrical capacity controller ACC, while pump is running or stopped

## Applications

Municipal water and wastewater, swimming pools and other water treatment process  
Industrial park water and wastewater treatment process  
General Industry process



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## Standard characteristics

- Double diaphragm
- Double diaphragm with pressure switch
- Remote communication interface  
Modbus RS485
- Removal storage disk  
32G U disk
- Manual adjustment with displacement transducer for feedback of stroke length

## Options

- Data transmission signal cable with aviation plug
- ProfiBus communication module
- Actuate capacity controller(ACC)



## Material of liquid end

SDP01-05 / SDP01-07 / SDP01-10

End	Head	Valve body	Valve seat	Ball	Diaphragm	Connectors
PVC	PVC	PVC	PVC	Ceramis	PTFE	PVC
PVDF	PVDF	PVDF	PVDF	Ceramis	PTFE	PVDF
316SS	316SS	316SS	316SS	316SS	PTFE	316SS
316L	316L	316L	316L	316L	PTFE	316L

SDP01-12

End	Head	Valve body / bushing	Valve plate / Limiting plate	Spring	Diaphragm	Connectors
PVC	PVC	PVC/PVC	PVC/PVC	Hastelloy C	PTFE	PVC
PVDF	PVDF	PVDF/PVDF	PVDF/PVDF	Hastelloy C	PTFE	PVDF
316SS	316SS	316SS/316SS	316SS/316SS	Hastelloy C	PTFE	316SS
316L	316L	316L/316L	316L/316L	Hastelloy C	PTFE	316L

## Accessories

System accessories: filter, calibration column, pulsation dampener, safety valve and back pressure valve. Safety valve is the necessary option.

## Standard rare earth permanent magnet variable frequency motor characteristics

Power supply: 340~460V/50~60Hz, three phase

Enclosure of protection: IP55 for motor

Insulation: class F

The motor meets 3C certification and energy efficiency grade certification

Rated speed: 1500 rpm

Variable frequency speed range: 150~1500 rpm

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Code    **Series**    **Power supply code**    **Control options**    **Motor power**    **Capacity**    **Stroke adjustment**    **Liquid end material**    **Pipe connectors**

**O-ring material - flow passage component**    **Double diaphragm rupture detection**    **Base plate**    **Language**    **Option**

Series	Code	Description	Power supply code	Code	Description
	SDP01	Mechanical Diaphragm Smart Metering Pump Series SDP		A	340~460VAC, 3 phrase, 4 core wire

Control options	Code	Description	Motor power	Code	Description
	1	Manual control		D	0.55Kw
	9	Enhanced control, 4~20mA and pulse input		E	0.75Kw
	M	Enhanced control, ModBus communication		Z	Others, Consult with factory
	P	Enhanced control, ProfiBus communication			

Capacity	Code	LPH@Pmax	Motor power
	05	416LPH@10Bar	0.55kw
	07	583LPH@7Bar	0.75Kw
	10	1200LPH@3.5Bar	0.75Kw
	12	1800LPH@3Bar	

Stroke adjustment	Code	Description	Remark
	B	Manual adjustment with displacement transducer	Standard characteristics
	W	ACC electrical capacity controller, Waterproof; 24VDC; 110V-230V-1Ph 50/60HZ	
	X	ACC electrical capacity controller, Ex-proof; 24VDC; 110V-230V-1Ph 50/60HZ	
	I	ACC electrical capacity controller, Waterproof; 24VDC; 110V-230V-1Ph 50/60HZ (with customized color)	
	J	ACC electrical capacity controller, Ex-proof; 24VDC; 110V-230V-1Ph 50/60HZ (with customized color)	

Liquid end material	Code	Description	Code	Description
	P	PVC liquid end	V	High viscosity
	S	316SS liquid end	K	Slurry
	L	316L liquid end	F	Sodium hypochlorite
	T	PVDF liquid end	Z	Special material liquid end (Consult with factory)

Pipe connectors	Code	Description	05			07			10			12		
			PVC	PVDF	316	PVC	PVDF	316	PVC	PVDF	316	PVC	PVDF	316
	P	NPT suction	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	1-1/2"F	1-1/2"F	1-1/2"M
		NPT discharge	1/2"F	1/2"F	1/2"F	1"F	1"F	1"M	1"F	1"F	1"M	1-1/2"F	1-1/2"F	1-1/2"M
	Z	Others	Consult with factory											

O-ring material-flow passage component	Code	Description	Remark	Double diaphragm	Code	LPH@Pmax	Remark
	F	Viton	Standard characteristics		C	Double Diaphragm With Pressure Switch - Ashcroft	Standard characteristics
	E	EPDM			Z	Others, consult with factory	
	T	Teflex					
	Z	Others, consult with factory					

Baseplate	Code	Description	Remark	Language	Code	Description	Remark
	N	N/A	Standard characteristics		ZH	Chinese	Standard characteristics
	1	N/A (Pump with customized color)			EN	English	
	Y	YES					
	9	YES (Pump with customized color)					

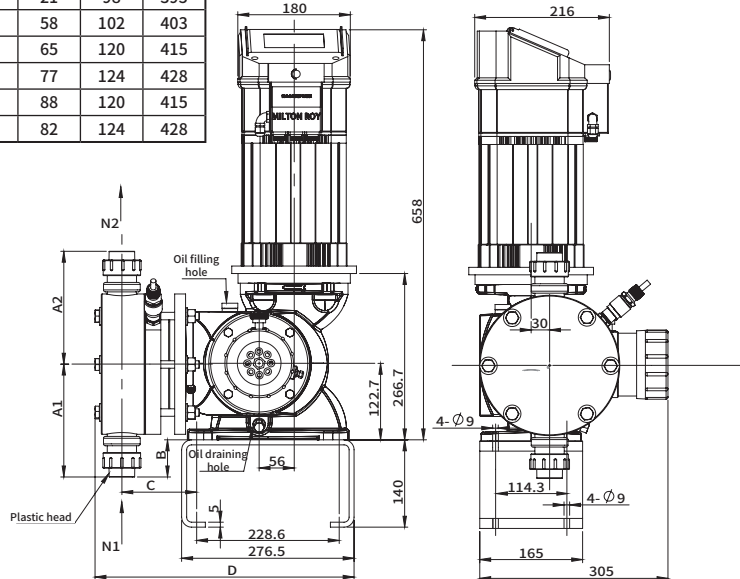
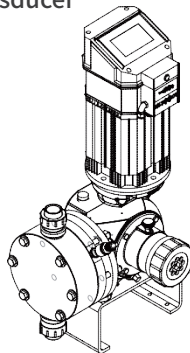
Series	Code	Description	Remark
	N	Standard option	Standard characteristics
	Z	Special option	

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## GA Drawing

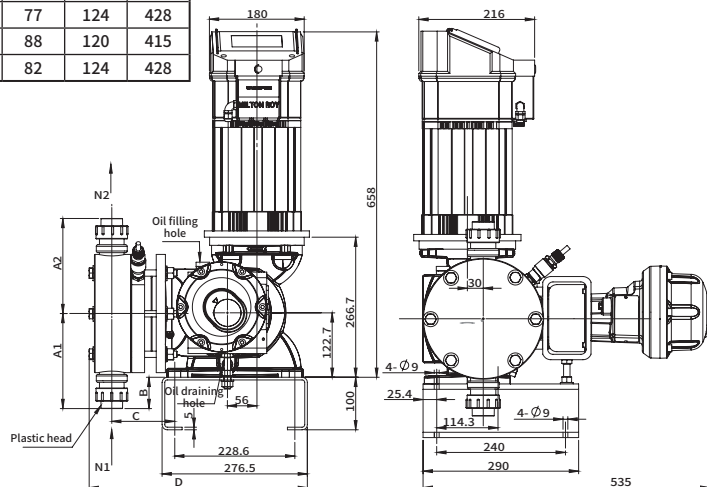
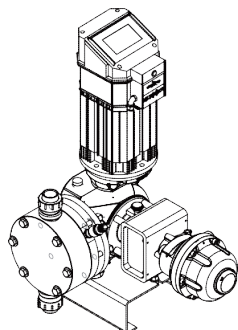
Model	LE Material	Connection code	N1	A1	N2	A2	B	C	D
05	Plastic	P	1/2"F	125	1/2"F	125	2	100	375
	Metallic	P		130		130	8	100	375
07	Plastic	P	1"F	144	1"F	144	21	98	395
	Metallic	P	1"M	181	1"M	181	58	102	403
10	Plastic	P	1-1/2"F	188	1"F	182	65	120	415
	Metallic	P	1-1/2"M	200	1"M	188	77	124	428
12	Plastic	P	1-1/2"F	211	1-1/2"F	211	88	120	415
	Metallic	P	1-1/2"M	205	1-1/2"M	205	82	124	428

SDP manual adjustment with displacement transducer



Model	LE Material	Connection code	N1	A1	N2	A2	B	C	D
05	Plastic	P	1/2"F	125	1/2"F	125	2	100	375
	Metallic	P		130		130	8	100	375
07	Plastic	P	1"F	144	1"F	144	21	98	395
	Metallic	P	1"M	181	1"M	181	58	102	403
10	Plastic	P	1-1/2"F	188	1"F	182	65	120	415
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SDP with electrical capacity controller



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