



## Pump model and material code

Model = MK 25 AL - PP / TF / TF / PP

Jofee brand  
MK= Morak

Pump Size:  
06=1/4 inch  
10=3/8 inch  
15=1/2 inch  
20=3/4 inch  
25=1 inch  
40=1.5 inch  
50=2 inch  
80=3 inch  
100=4 inch

Center block:  
AL=Aluminum  
PP=Polypropylene  
SS=Stainless steel

Pumpbody:  
PP=Polypropylene  
KV=PVDF  
PM=POM  
AL=Aluminum  
SS=SS304  
LL=SS316  
AC=Cast iron  
TF=Teflon

Diaphragm:  
TF=Teflon  
ST= Santoprene  
HY=Hytrel  
VT=Viton  
BN=Buna-N  
EP=EPDM  
GE=Geolast  
PU=Polyurethane

Valve ball:  
TF=Teflon  
ST= Santoprene  
HY=Hytrel  
VT=Viton  
BN=Buna-N  
EP=EPDM  
SS=SS304  
LL=SS316  
CM=Ceramic

Valve seat:  
TF=Teflon  
ST= Santoprene  
HY=Hytrel  
VT=Viton  
BN=Buna-N  
EP=EPDM  
SS=SS304  
LL=SS316  
PP=Polypropylene



## General Characteristics

- ※ Without electricity, explosion-proof, can convey flammable fluid
- ※ No dynamic seals, even dry running without damage to the pump.
- ※ No impeller, low shear, will not damage the material structure of fluid.
- ※ Submersible, mobile, flexible installation, easy maintenance
- ※ Can convey high-thick, high-viscosity fluid.
- ※ Can convey acid, alkali, strong organic solvents and other fluid.
- ※ Changing the inlet air and pressure, to adjust the flow rate and head

## MK pump Characteristics

### Manifold:

Center port design, low pulse. Three section manifold, flexible installation.

### Four bolts connection:

Good seal and excellent dry suction. No leakage.

### Fluid chamber:

Enhanced the chamber strength, has long-term durability.

### Air motor

Can supply aluminum, stainless steel and plastic air motor.

### Hardware:

Stainless steel hardware, can avoid rust and corrosion, easy maintenance.

### Valve ball

Adopt special grinding machine to process in high roundness and good seal.

### Air valve

Modular design, low air consumption, no dead spots and no need lubrication.

### Diaphragm rod

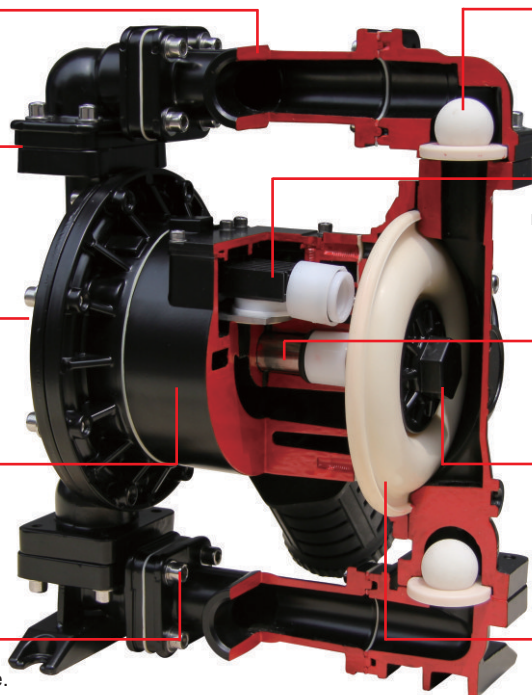
Material to be Ss321, excellent chemical resistance, wearing resistance, good self-lubricating.

### Diaphragm plate

Enhance the structural strength. One-piece design, high pressure resistance, no leakage.

### Diaphragm

Accurately calculate the diaphragm moving distance to reduce the force to diaphragm, has excellent life time.



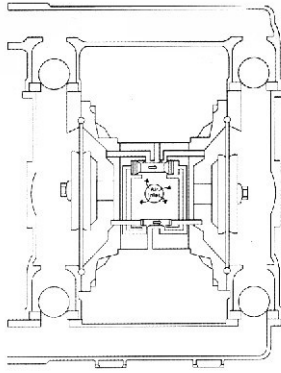
## Operating temperature limitation

Diaphragm Material	Maximum	Minimum
Viton:excellent corrosion resistance, resistance to various acids (including the medianconcentration of oxidizing acid),alkali, salt, petroleum products, hydrocarbons, etc.	350π 176.6℃	-40 π -40℃
PTFE(Teflon): excellen corrosion resistance, almost resistant to all chemical media (including concentrated nitric acid and aqua regia). Except melting of lithium, potassium,sodium, chlorine trifluoride, high-temperature oxygen trifluoride, sulfur-speed liquid fluorine.	350π 176.6℃	40π 4.4℃
Santoprene: good abrasion resistance, chemical resistance and heat resistance, suitable for general acid and alkali, not suitable solvent. Can replace the EPDM/EPR material.	220π 104.4℃	-20 π - 28.9℃
Hytel:good abrasion resistance, used in most of the neutral fluid. Can replace Buna-N materials.	220π 104.4℃	-20 π -28.9℃
EPDM:abrasion resistance, aging resistance, ozone resistance , suitable for general acid and alkali.	250π 121.6℃	-40 π 40℃
Buna-N: widely used in gasoline and other oil products. Suitable for use at room temperature.	212π 100℃	-40 π 40℃
GE: better abrasion resistance than Hytel, the same chemical resistance as Buna-N.	220π 104.4℃	-20 π -28.9℃
Pumpbody material		
PP: Medium abrasion resistance, good chemical resistance, good versatility, especially for common acid-base.	150π 65.5℃	40π 4.4℃
POM: good solvent resistance, abrasion resistance. Low friction, low moisture absorption.	150π 65.5℃	40π 4.4℃
PVDF: strong chemical resistance, crush resistance, abrasion resistance. good corrosion resistance for acid,alkali and variety of organic solvents.	200π 93.3℃	40π 4.4℃

Note: The maximum and minimum temperature is the limited operating temperature of these materials. Temperature and pressure will affect the diaphragm life. Operating under the maximum or minimum temperature, can not achieve maximum life

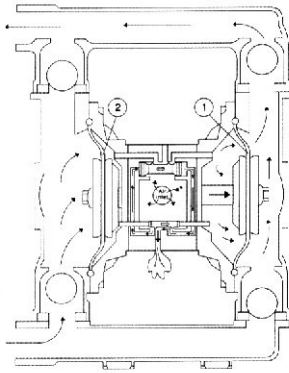
## Operating principle

1



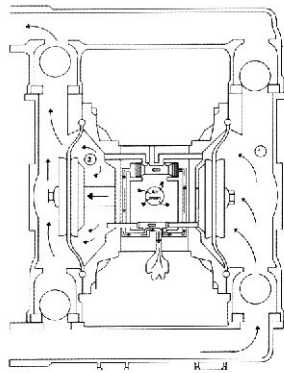
After connecting the compressed air, air valve control the compressed air impels diaphragm 1 moves toward right, meanwhile, the diaphragm 1 also extrude medium and cause it out of chamber. Diaphragm not only convey medium, also isolate compressed air and medium in the pump chamber. When one diaphragm is pushed away from the center body, another diaphragm will moves toward center body for these two diaphragms are connected by one rod. When diaphragm 2 moves toward center body, the following high pressure compressed air will be discharged out through the muffler, meanwhile, the pump inlet side will creates a vacuum, then atmospheric pressure will push the medium into suction pipeline. The pump entry valve ball will be raised and leaves the valve seat, the medium will enter into pump chamber.

2



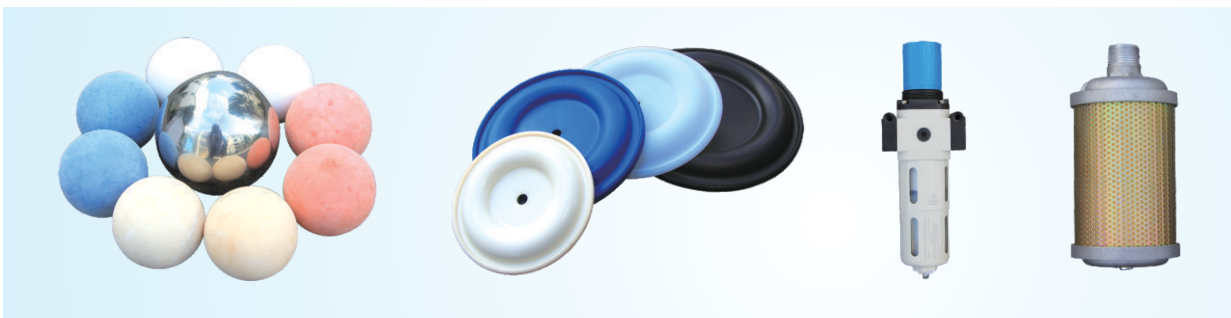
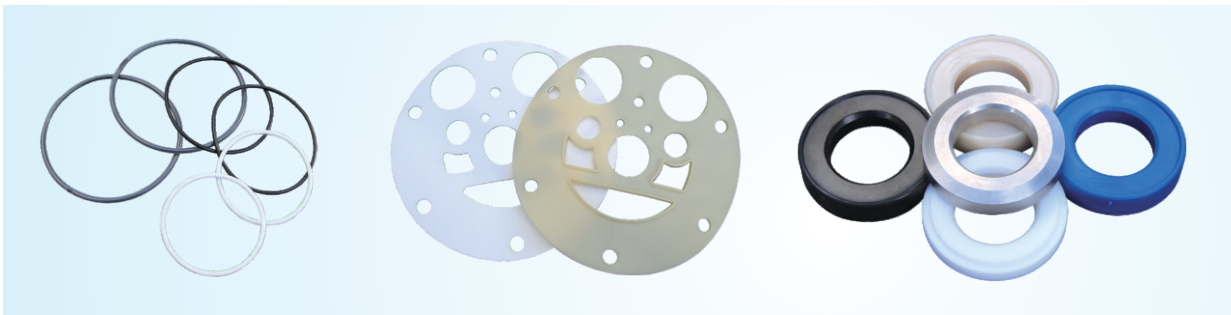
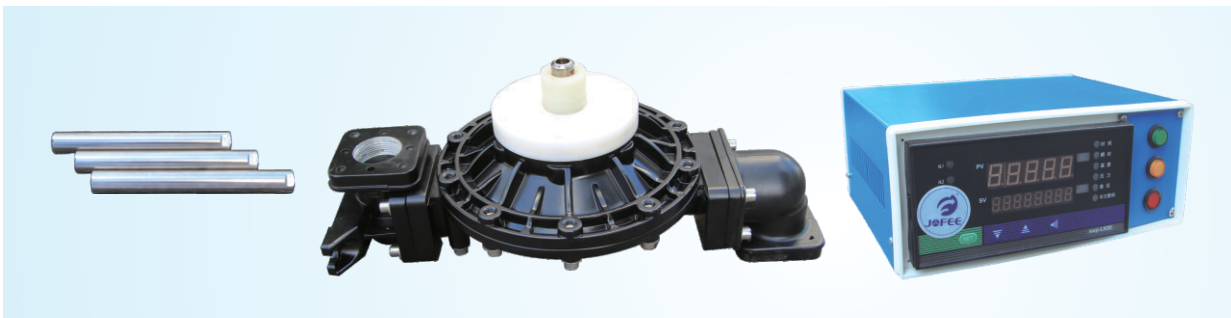
When the diaphragm 1 under high pressure, will slowly move to maximum position of the stroke. Meanwhile, the compressed air will slowly enter into diaphragm 2 following space and impels the diaphragm 2 away the center body. The diaphragm 1 also will moves toward center body for these two diaphragms are connected by one rod. The diaphragm 2 will extrude the medium and function on entry valve ball and seal up the suction pipeline through the water power. The water power also will function on exit valve ball and open the discharge pipeline. Meanwhile, exit valve ball of pump another side will shut down for pressure function, entry valve ball will open, then the medium will enter into the pump chamber.

3



When one stroke finish. The compressed air will enter into diaphragm 1 following space again through reversing valve. simultaneously the diaphragm 2 following compressed air will discharge out through muffler.

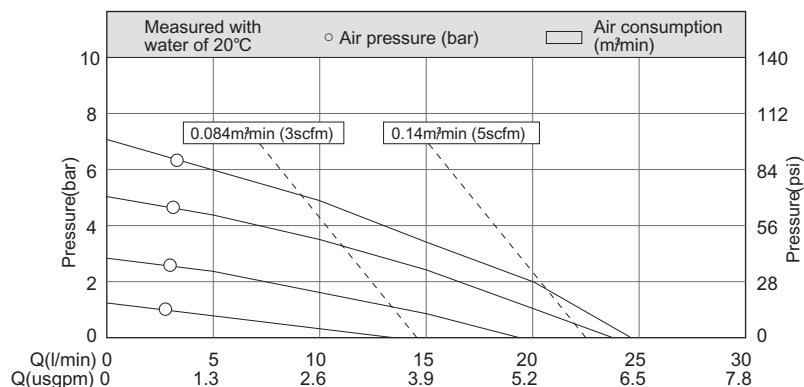




# MK06/10 Plastic pump



Performance curve



## Technical parameters

Suction lift[mwc]	dry	2.1
	wet	3.7~6.4
Max particle diameter[mm]		1.6
Suction and discharge size[in]	1/4 3/8	
Air inlet size[in]	1/4	
Max flow[l/min]	27	
Max head[m]	70	
Max air inlet pressure[bar]	7	

## material quality

Pumpbody : PP, PVDF, POM

Diaphragm : Santoprene, Hytrel, Teflon, Viton, EPDM, Buna-N

Check valve: PP, PVDF, POM

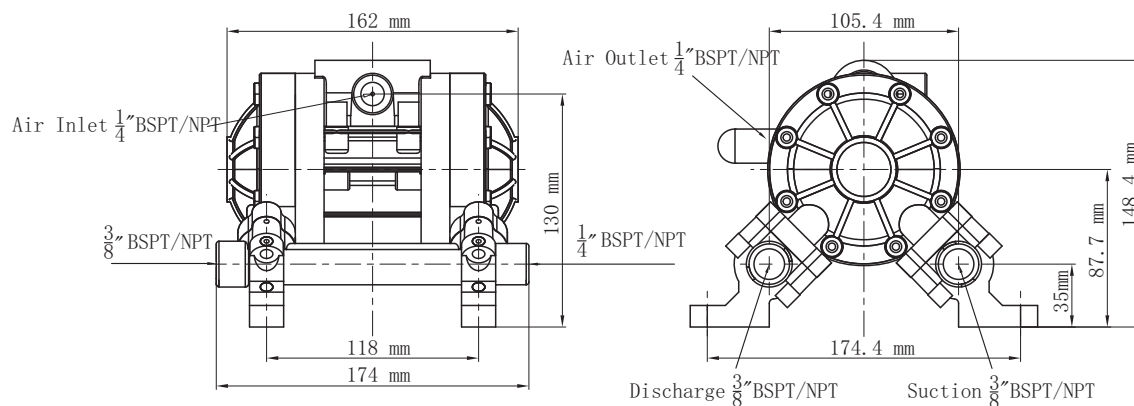
Center block: PP

## Weight

PP Pump / POM pump: 1.5 Kgs

PVDF pump: 2 Kgs

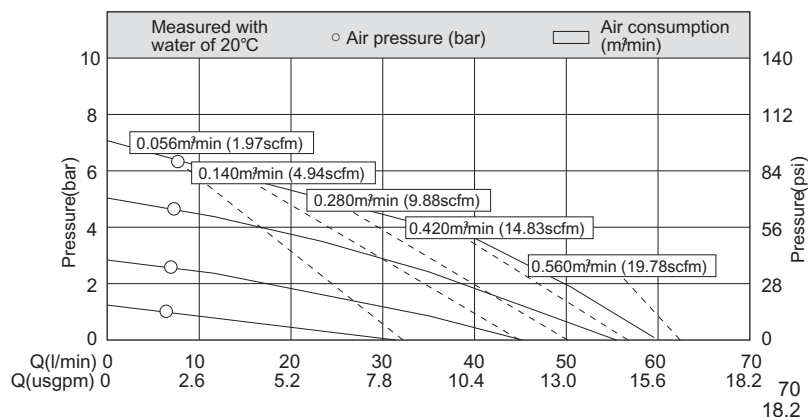
## Installation size



# MK15 Plastic pump



Performance curve



## Technical parameters

Suction lift[mwc]	dry	4
	wet	7.6
Max particle diameter[mm]	2.5	
Suction and discharge size[in]	1/2	3/4
Air inlet size[in]	3/8	
Max flow[l/min]	57	
Max head[m]	84	
Max air inlet pressure[bar]	8.4	

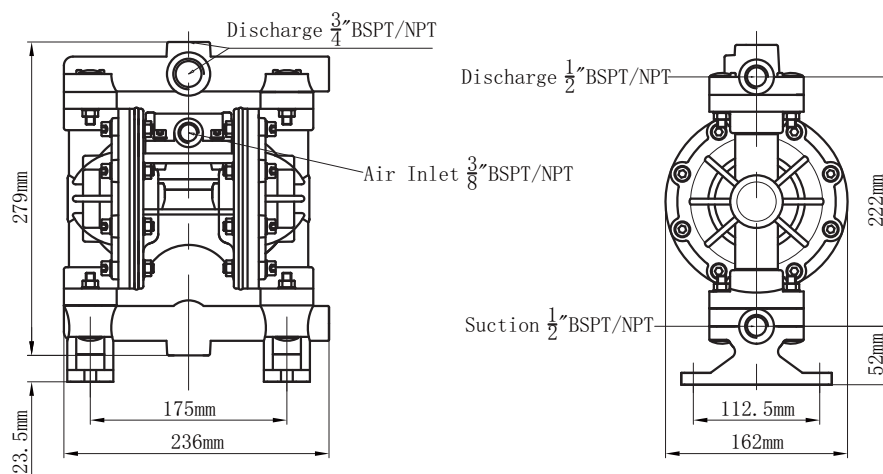
## material quality

Pumpbody: PP, PVDF, POM  
 Diaphragm: Santoprene, Hytrel, Teflon, Viton, EPDM, Buna-N  
 Valve ball: Teflon, Stainless steel, Santoprene  
 Valve seat: PP, PVDF, POM  
 Center block: PP

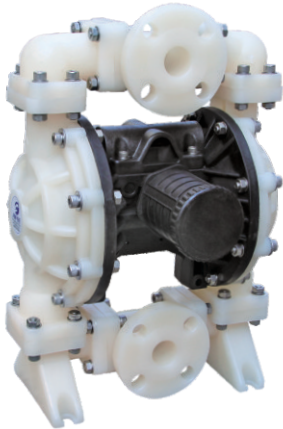
## Weight

PP pump / POM pump: 3.5 Kgs  
 PVDF pump: 4.5 Kgs

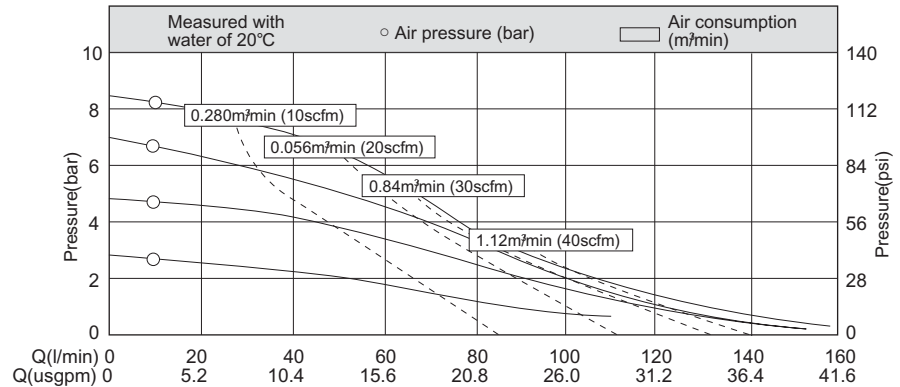
## Installation size



# MK25 Plastic pump



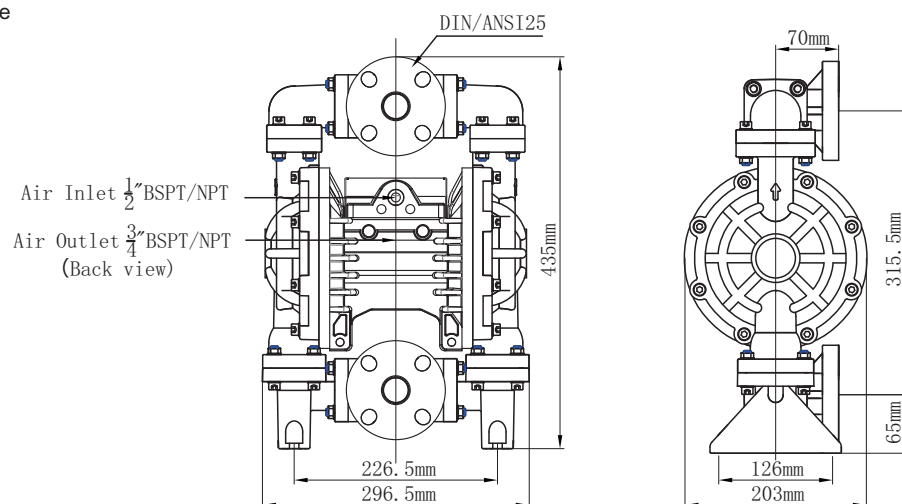
Performance curve



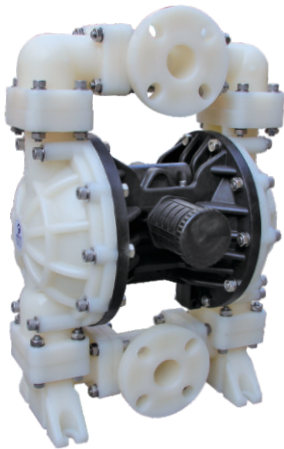
Technical parameters			
Suction lift[mwc]	dry		4
	wet		8
Max particle diameter[mm]			4
Suction and discharge size[in]			1
Air inlet size[in]			1/2
Max flow[l/min]			157
Max head[m]			84
Max air inlet pressure[bar]			8.4

material quality	
Pumpbody:	PP, PVDF, POM
Diaphragm:	Santoprene, Hytrel, Teflon, Viton, EPDM, Buna-N
Valve ball:	Teflon, Stainless steel, Santoprene, Hytrel, Viton, Ceramic
Valve seat:	Teflon, Santoprene, Hytrel, Viton, PP
Center block:	PP, Aluminum, Stainless steel
Weight	
PP pump / POM pump:	9 Kgs
PVDF pump:	12 Kgs

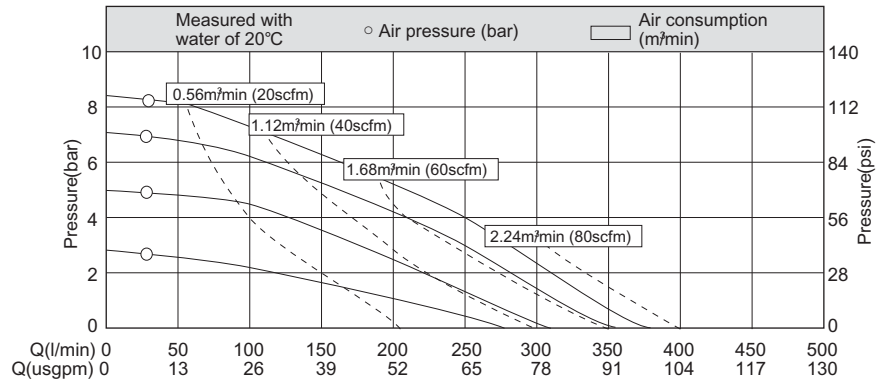
Installation size



# MK40 Plastic pump



Performance curve



## Technical parameters

Suction lift[mwc]	dry	5
	wet	8
Max particle diameter[mm]		5
Suction and discharge size[in]		1 1/2
Air inlet size[in]		1/2
Max flow[l/min]		358
Max head[m]		84
Max air inlet pressure[bar]		8.4

## material quality

Pumpbody: PP, PVDF

Diaphragm: Santoprene, Hytrel, Teflon, Viton, EPDM, Buna-N

Valve ball: Teflon, Stainless steel, Santoprene, Hytrel, Viton, Ceramic

Valve seat: Teflon, Santoprene, Hytrel, Viton, PP

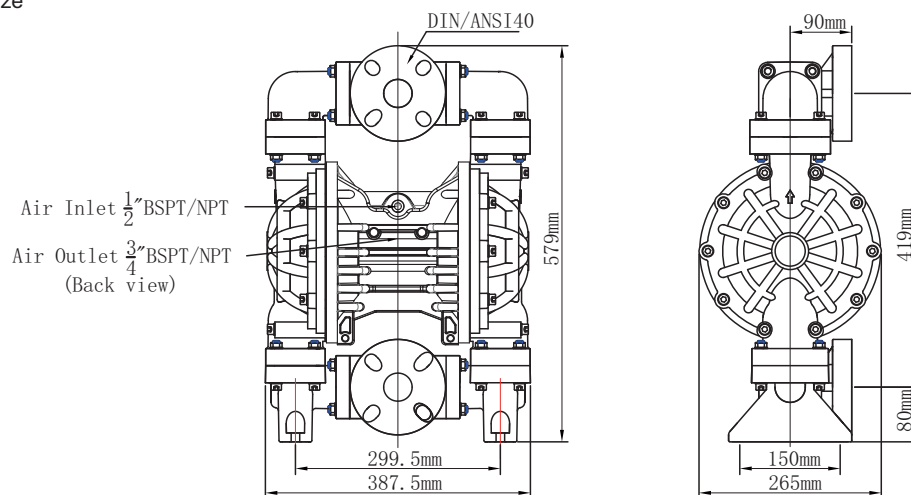
Center block: PP, Aluminum, Stainless steel

## Weight

PP pump: 17 Kgs

PVDF pump: 24 Kgs

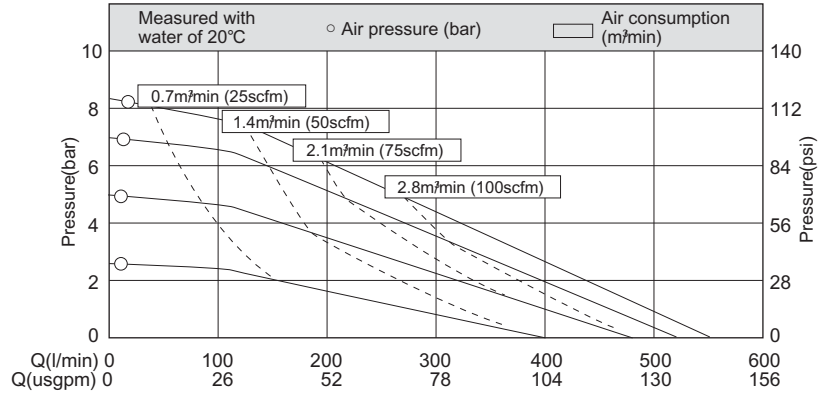
## Installation size



# MK50 Plastic pump



Performance curve



## Technical parameters

Suction lift[mwc]	dry	5
	wet	8
Max particle diameter[mm]		6
Suction and discharge size[in]		2
Air inlet size[in]		1/2
Max flow[l/min]		587
Max head[m]		84
Max air inlet pressure[bar]		8.4

## material quality

Pumpbody: PP, PVDF

Diaphragm: Santoprene, Hytrel, Teflon, Viton, EPDM, Buna-N

Valve ball: Teflon, Stainless steel, Santoprene, Hytrel, Viton, Ceramic

Valve seat: Teflon, Santoprene, Hytrel, Viton, PP

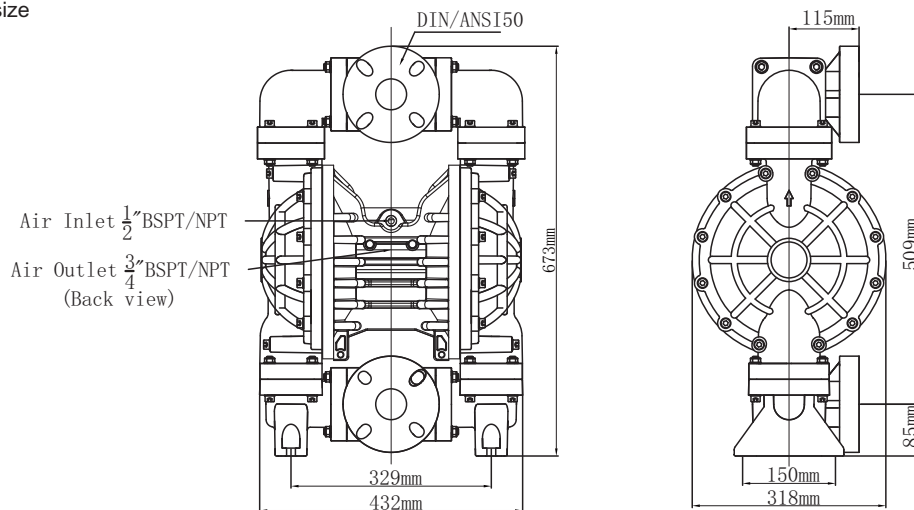
Center block: PP, Aluminum, Stainless steel

## Weight

PP pump: 25 Kgs

PVDF pump: 34 Kgs

## Installation size



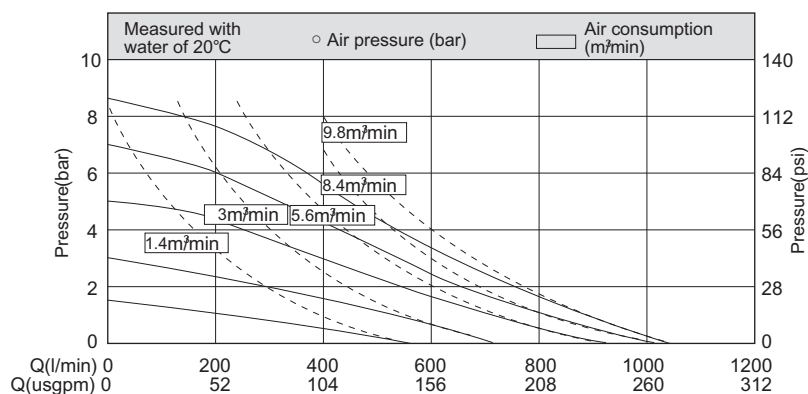




# MK80 Plastic pump



Performance curve



## Technical parameters

Suction lift[mwc]	dry	5
	wet	8
Max particle diameter[mm]	9.4	
Suction and discharge size[in]	3	
Air inlet size[in]	3/4	
Max flow[l/min]	1060	
Max head[m]	84	
Max air inlet pressure[bar]	8.4	

## material quality

Pumpbody: PP, PVDF

Diaphragm: Santoprene, Hytrel, Teflon, Viton, EPDM, Buna-N

Valve ball: Teflon, Stainless steel, Santoprene, Hytrel, Viton, Ceramic

Valve seat: Teflon, Santoprene, Hytrel, Viton, PP

Center block: PP, Aluminum, Stainless steel

## Weight

PP pump: 50 Kgs

PVDF pump: 90 Kgs

## Installation size

