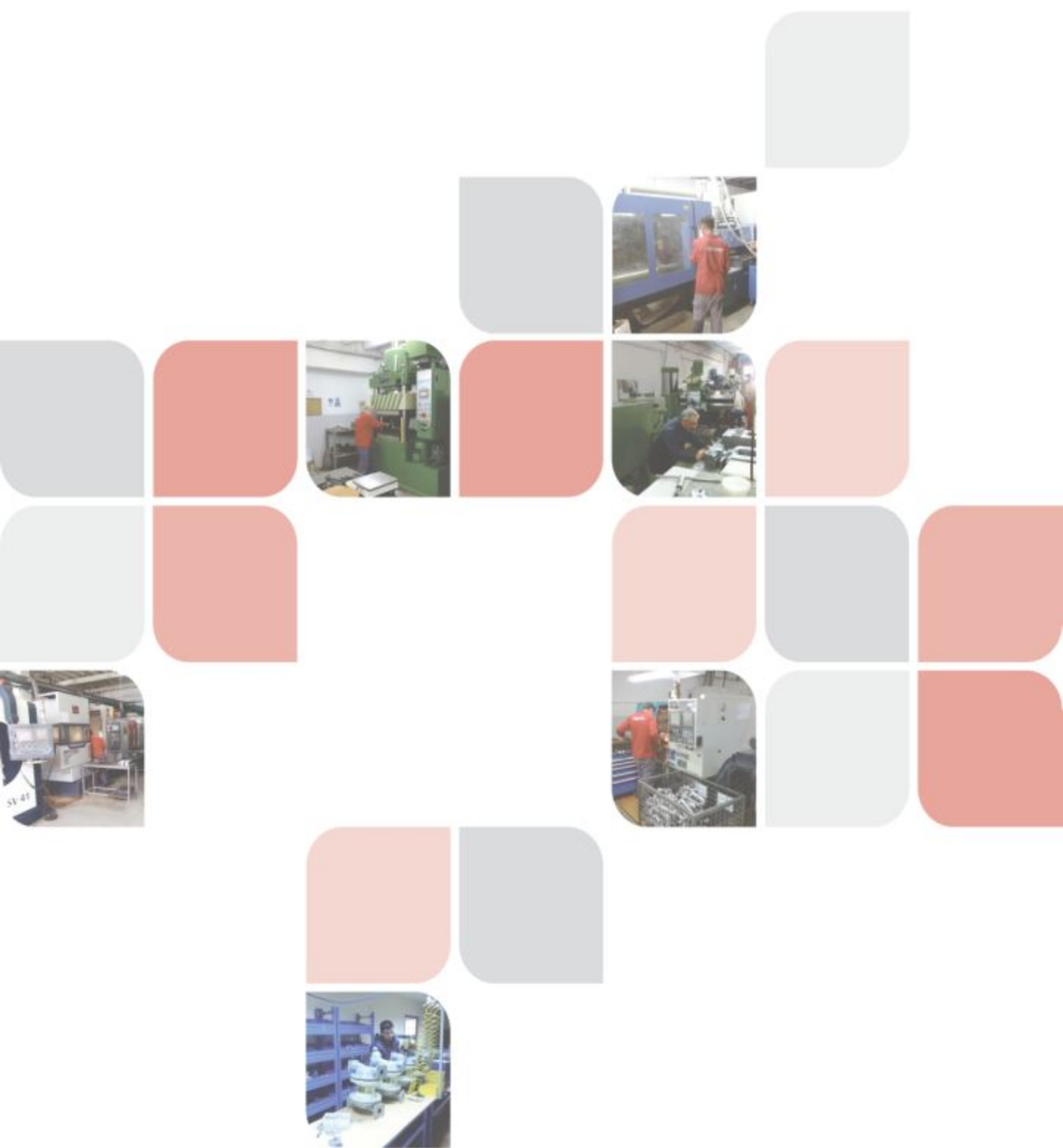


RAN[®] pump

by GİSAN



AODD Series
Technical Catalogue





About Us

Gisan has been manufacturing air operated and electromechanical diaphragm pumps since 2001. After years in, Gisan has become the unique company in the world which has completed all product range. Having being a leader in local market and subsequently exporting more than 30 countries, RAN® pump has recently established a sales and service office in Indonesia.

Manufacturing %90 of all components in-house in 1500 m² own facility, makes RAN® pump exclusive with the advantage of having more control over the quality.



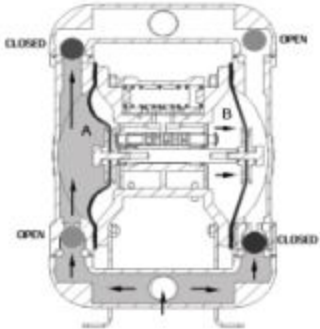
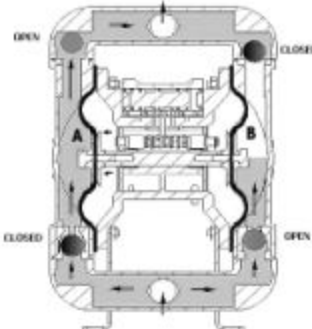
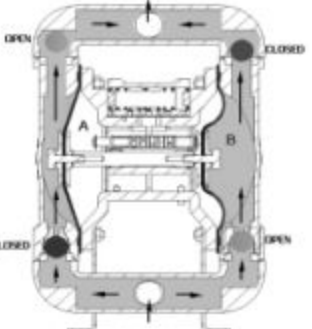
About Diaphragm Pumps

Air Operated and Electro-Mechanical Double Diaphragm Pumps are used for many different applications in many industries. In relation to the air operated pumps these are used by connecting a compressor suitable for the size and capacity requirement of the pump. For some areas of industry fire and explosion proof pumps are preferred and as air powered pumps operate without electricity and as they can be grounded they are a safe and viable option. Our air operated pumps are fitted with Ranpump designed lubrication free air valves to ensure reliable operation.

Electro-Mechanical Diaphragm Pumps are used where air is not available and where mobility is needed. The user also has the added advantage of quieter operation, greater flexibility and last but by no means least, significantly reduced running costs.

Electric pumps are increasingly being used to replace air operated pumps where there are lower fluid outlet pressure requirements and the user wishes to reduce both costs, environmental impact and carbon footprint. The body construction for our pumps use a bolted connection and sealing system capable of withstanding the pressure requirement for each pump.

Diaphragm Pump Working Mechanism

		
<p>RIGHT STROKE</p> <p>Compressed air is directed to the back side of diaphragm B by the air valve. The compressed air moves the diaphragm away from the center block. The compressed air pushes the liquid column separated by elastomeric diaphragm, forcing the fluid through the fluid outlet. At the same time, the opposite diaphragm is pulled in by the shaft connected to the pressurized diaphragm. So, diaphragm A is on its suction stroke: the air behind diaphragm A is forced out to the atmosphere through the exhaust port of the pump. The movement of diaphragm B away from the center block of the pump creates a vacuum within chamber A. The vacuum force sucks the fluid into the inlet manifold forcing the inlet valve ball off its seat. The fluid is free to move past the inlet valve ball and fill liquid chamber A.</p>	<p>MIDDLE STROKE</p> <p>When the pressurized diaphragm, diaphragm B, reaches the limit of its discharge stroke, the air valve redirects compressed air to the back side of diaphragm A. The pressurized air forces diaphragm A away from the center block while, at the same time, the connected shaft pulls diaphragm B to the center block. Diaphragm A is now on its discharge stroke. Diaphragm A forces the inlet valve ball onto its seat due to the hydraulic forces developed in the liquid chamber and manifold of the pump. These same hydraulic forces lift the discharge valve ball off its seat, while the opposite discharge valve ball is forced onto its seat, forcing the fluid to flow through the pump discharge. The movement of diaphragm B toward the center block of the pump creates a vacuum within liquid chamber B. Atmospheric pressure forces the fluid into the inlet manifold of the pump. The inlet valve ball is forced off its seat allowing the fluid being pumped to fill the liquid chamber.</p>	<p>LEFT STROKE</p> <p>At completion of the stroke, the air valve again redirects air to the back side of diaphragm B, which starts diaphragm A on its exhaust stroke. As the pump reaches its original starting point, each diaphragm has gone through one exhaust and one discharge stroke. This constitutes one complete pumping cycle. The pump may take several cycles to completely prime depending on the conditions of the application</p>



Where to Use?

Diaphragm Pumps have a wide variety of applications and uses in many industries including food, dairy, pharmaceutical and cosmetic industries, where Stainless Steel pumps are used for these hygienic requirements. Air pumps are very commonly used in the food sector as the transfer of the fluid does not disrupt the chemical properties and consistency of products such as milk, buttermilk, yogurt, cream, mustard, mayonnaise, ketchup and similar products. Other uses of AODD pumps include transfer of petroleum products, oil and sludge removal operation, transfer of many types of chemicals, including adhesives, solvents, solvent and water based glues and adhesives, paints and inks. The diaphragm pump is the preferred option for these and other types of chemicals and are widely used as they have the ability to operate safely in a flammable environment.

Air pumps are also used extensively in the ceramics industry and are used in sludge transfer and filling of the moulds as well as being used in the final glazing process where the glaze coating is applied in a circulation and spraying process.

You will find both our Electric and Air Operated pumps in ship-yards, in ship construction and repair operations. They are also used on board ships for evacuation of bilge water. Sand blasting residues and corrosive waste and chemicals are also handled. Our electric pumps are used at airports to transfer de-icing fluid to de-icing vehicle tanks as they are energy efficient and mobile.



Our pumps are used in dyeing facilities in the textile industry and in the transfer of many chemical substances, to printing machinery where a separate pump is used for each colour ink.

Mining operations are big users of AODD pumps to transfer ground water and also for pumping mine waste water with drill cuttings and other abrasive particles.

In machining operations pumps are used in the transfer of many fluids such as boron, and lubrication/cooling fluids. You will find the Ran^opump in auto service facilities, pumping products such as waste engine oil, and also in sewage and waste treatment plants including acid sludge transfer, filling and emptying sedimentation ponds, dewatering of sludge using our high pressure pump where a strong pump capable of withstanding higher than normal pressures is needed.

Animal waste transfer facilities in meat processing , fish oil production and storage facilities, and bottling operations use our air operated and electro-mechanical pumps.

Air operated pumps can be used in many environments including where the pump body is immersed and submersed in water.

How to choose a pump?

When choosing a pump you need to have the basic information such as, capacity requirement, flow, pressure, available pipe diameters, suction lift requirement, head, viscosity, fluid temperature, solid particle size, specific gravity, pH, ratio of air pressure and flow rate and compressor capacity (For air operated pumps) and other relevant details.



If you need help or assistance in choosing a pump, contact us, we are always available to advise you on your best options.

Variety of Products

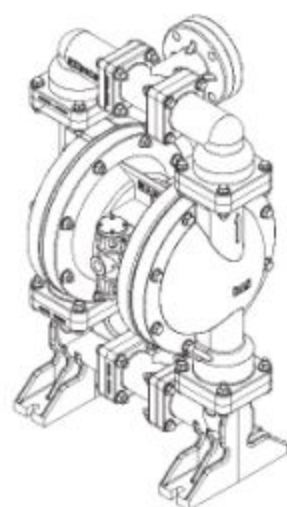
Inlet / Outlet Size			Pump Housing Options		Diaphragm Options	
MM	INCH	CODE	MATERIAL	CODE	MATERIAL	CODE
6,35	1/4"	A8	Aluminium	A	Buna-N	0
12,70	1/2"	B15	Polypropylene	P	Santoprene™	S
25,40	1"	D25	PVDF	PV	PTFE	1
38,10	1 1/2"	E40	Stainless Steel (Cast)	SC	Viton	3
50,80	2"	F50	Stainless Steel (Sheet Metal)	S		
76,20	3"	G80	Cast Iron	C		

Diaphragm pump coding system

X-XX-X



*To order Atex Certified pump, please add "EX" to the beginning.
** To order .high pressure pump, please add "H" to the beginning



AODD Serie
Data Sheets

Ran® 1/4" (6.35 mm)

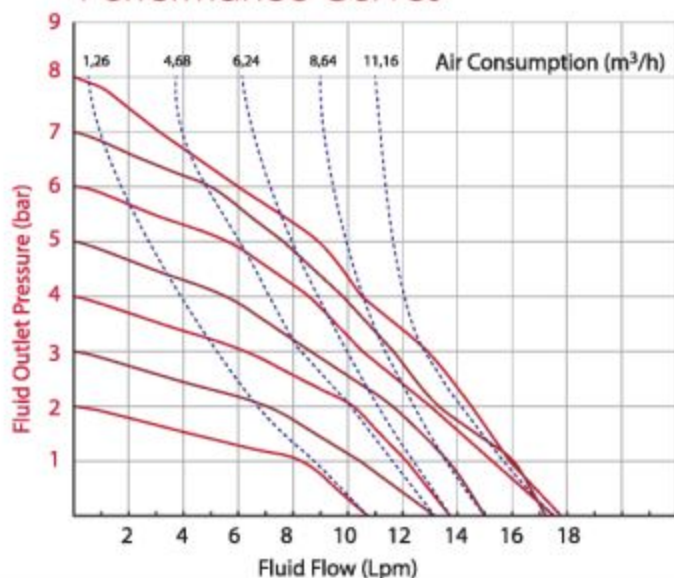
Polypropylene Body Diaphragm Pump



Technical Specifications

Pump Code	A8-PX-1	Pump Housing Material	Polypropylene
Max. Flow Rate	18 lpm	Center Section Material	Polypropylene
Max. Pump Speed	250 cpm	Max. Size Pumpable Solids	1 mm
Displacement per cycle	0.072 liter	Max. Suction Lift	2.5 m
Fluid Inlet- Outlet Size	1/4"	Max. Operating Temperature	80 °C
Air Inlet Size	1/8"	Sound Level	70 dBA (at 5 bar)
Max. Fluid Working Pressure	8 bar	Diaphragm Options	Santoprene - PTFE
Max. Air Consumption	0.24 m ³ /min	Weight	1.2 kg

Performance Curves



Test Conditions: All tests are made with using water and Santoprene diaphragm. Suction hose submerged in the fluid. Muffler not used. If using PTFE diaphragm, capacity decreases by 10%. All the values are shown are approximate and not binding.

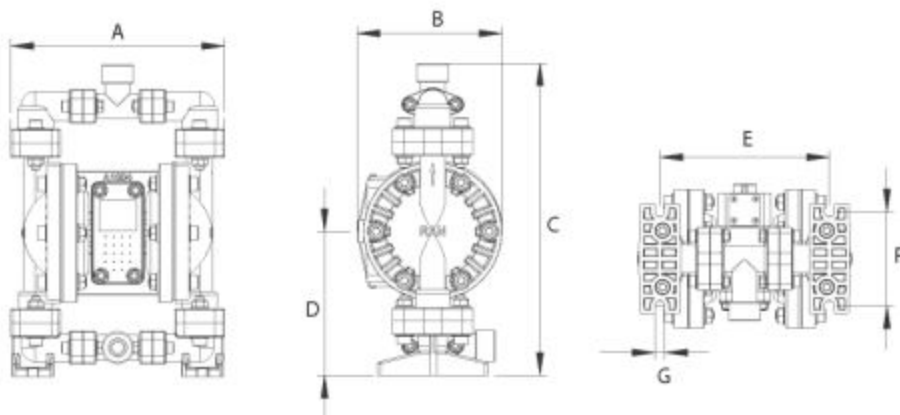
Example: To pump 10 lpm against a discharge pressure of 2 bar, requires 4 bar and 4.68 m³/h air consumption.

Fluid Flow: ———
Air Consumption: - - - - -

Dimensions

A	155
B	104
C	230
D	104.5
E	123
F	70
G	7

All dimensions are in mm.



Ran® 1/4" (6.35 mm)

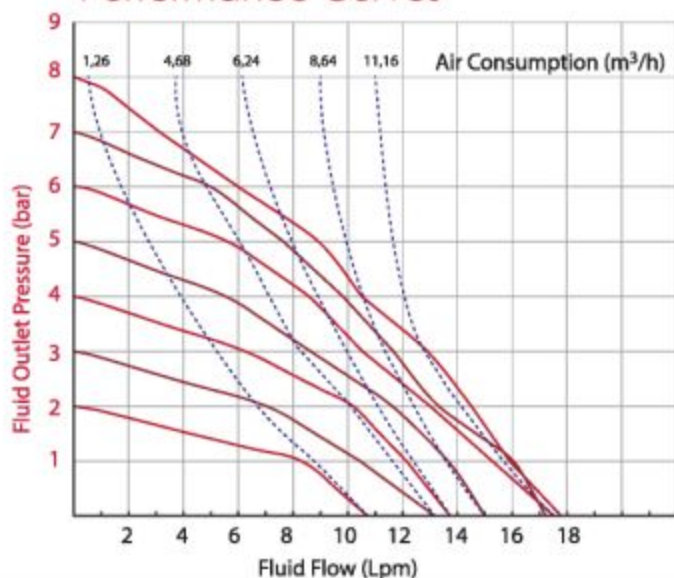
PVDF Body Diaphragm Pump



Technical Specifications

Pump Code	A8-PVX-1	Pump Housing Material	PVDF
Max. Flow Rate	18 lpm	Center Section Material	Polypropylene
Max. Pump Speed	250 cpm	Max. Size Pumpable Solids	1 mm
Displacement per cycle	0.072 liter	Max. Suction Lift	2.5 m
Fluid Inlet- Outlet Size	1/4"	Max. Operating Temperature	80 °C
Air Inlet Size	1/8"	Sound Level	70 dBA (at 5 bar)
Max. Fluid Working Pressure	8 bar	Diaphragm Options	Santoprene - PTFE
Max. Air Consumption	0.24 m ³ /min	Weight	1.2 kg

Performance Curves



Test Conditions: All tests are made with using water and Santoprene diaphragm. Suction hose submerged in the fluid. Muffler not used. If using PTFE diaphragm, capacity decreases by 10%. All the values are shown are approximate and not binding.

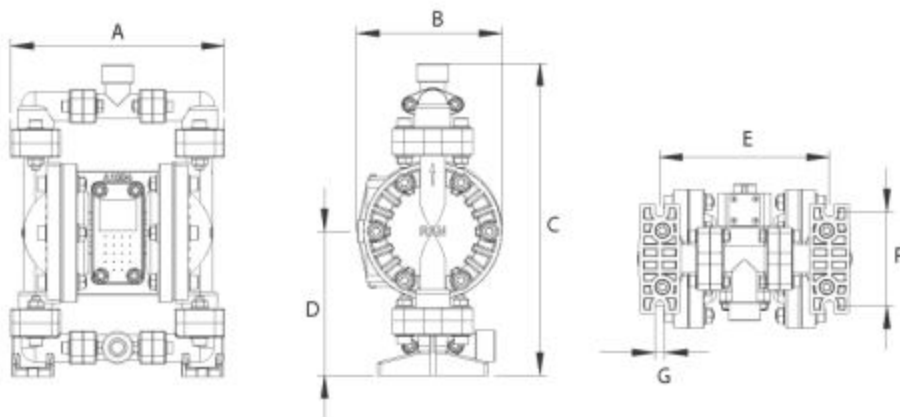
Example: To pump 10 lpm against a discharge pressure of 2 bar, requires 4 bar and 4,68 m³/h air consumption.

Fluid Flow: ———
Air Consumption: - - - - -

Dimensions

A	152
B	104
C	225
D	104.5
E	120
F	70
G	7

All dimensions are in mm.



Ran® 1/2" (12.7 mm)

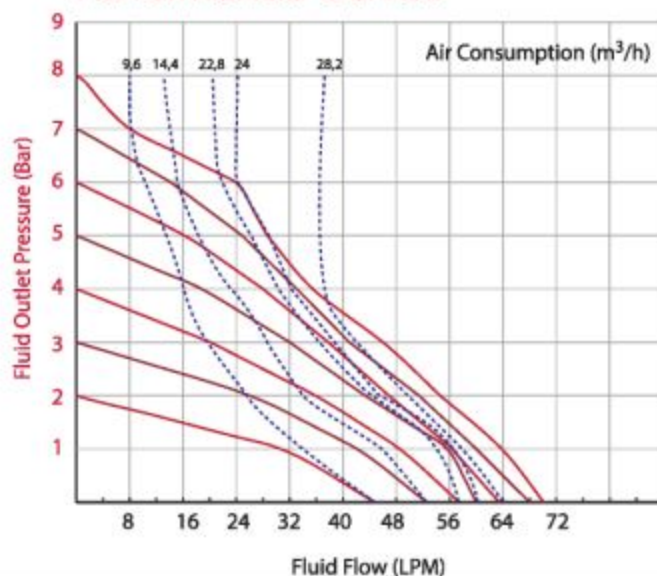
Polypropylene Body Diaphragm Pump



Technical Specifications

Pump Code	B15-PX-1	Pump Housing Material	Polypropylene
Max. Flow Rate	70.2 lpm	Center Section Material	Polypropylene
Max. Pump Speed	400 cpm	Max. Size Pumpable Solids	2 mm
Displacement per cycle	0.175 liter	Max. Suction Lift	4 m
Fluid Inlet- Outlet Size	1/2"	Max. Operating Temperature	80 °C
Air Inlet Size	1/4"	Sound Level	74 dBA (at 5 bar)
Max. Fluid Working Pressure	8 bar	Diaphragm Options	Santoprene - PTFE- BunaN- Viton
Max. Air Consumption	0.44 m ³ /min	Weight	3 kg

Performance Curves



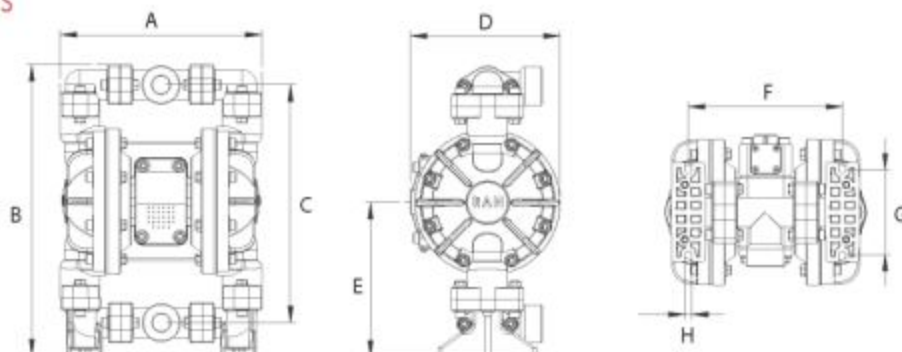
Test Conditions: All tests are made with using water and Santoprene diaphragm. Suction hose submerged in the fluid. Muffler not used. If using PTFE diaphragm, capacity decreases by 10%. All the values are shown are approximate and not binding.

Example: To pump 45lpm against a discharge pressure of 2.7 bar, requires 7 bar and 28.2 m³/h air consumption.



Dimensions

A	203
B	292
C	239
D	150.5
E	155
F	152
G	85
H	7



All dimensions are in mm.

Ran® 1/2" (12.7 mm)

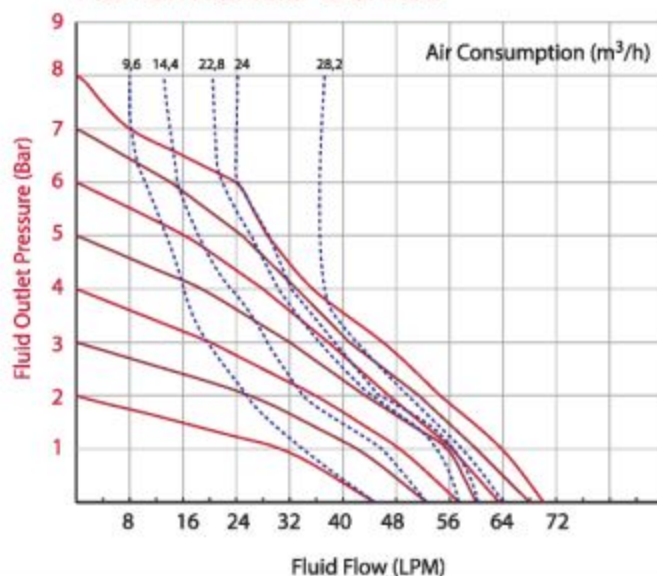
PVDF Body Diaphragm Pump



Technical Specifications

Pump Code	B15-PVX-1	Pump Housing Material	PVDF
Max. Flow Rate	70.2 lpm	Center Section Material	Polypropylene
Max. Pump Speed	400 cpm	Max. Size Pumpable Solids	2 mm
Displacement per cycle	0.175 liter	Max. Suction Lift	4 m
Fluid Inlet- Outlet Size	1/2"	Max. Operating Temperature	105 °C
Air Inlet Size	1/4"	Sound Level	74 dBa (at 5 bar)
Max. Fluid Working Pressure	8 bar	Diaphragm Options	Santoprene - PTFE- BunaN- Viton
Max. Air Consumption	0.44 m ³ /min	Weight	3.5 kg

Performance Curves



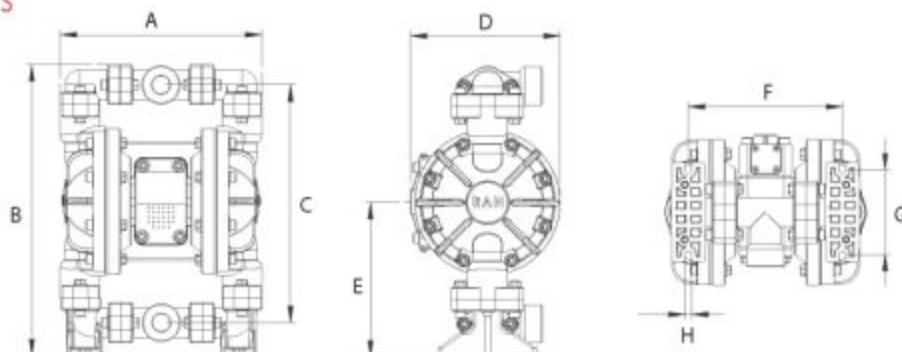
Test Conditions: All tests are made with using water and Santoprene diaphragm. Suction hose submerged in the fluid. Muffler not used. If using PTFE diaphragm, capacity decreases by 10%. All the values are shown are approximate and not binding.

Example: To pump 45lpm against a discharge pressure of 2.7 bar, requires 7 bar and 28.2 m³/h air consumption.



Dimensions

A	203
B	292
C	239
D	150.5
E	155
F	152
G	85
H	7



All dimensions are in mm.

Ran® 1/2" (12.7 mm)

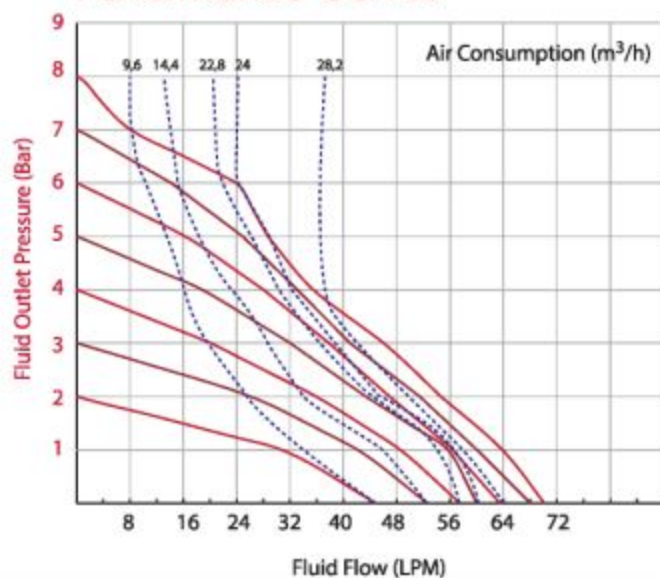
Aluminium Body Diaphragm Pump



Technical Specifications

Pump Code	B15-AX-2	Pump Housing Material	Aluminium
Max. Flow Rate	70.2 lpm	Center Section Material	Polypropylene
Max. Pump Speed	400 cpm	Max. Size Pumpable Solids	2 mm
Displacement per cycle	0.175 liter	Max. Suction Lift	4 m
Fluid Inlet- Outlet Size	1/2"	Max. Operating Temperature	105 °C
Air Inlet Size	1/4"	Sound Level	74 dBa (at 5 bar)
Max. Fluid Working Pressure	8 bar	Diaphragm Options	Santoprene - PTFE- BunaN- Viton
Max. Air Consumption	0.44 m ³ /min	Weight	3.5 kg

Performance Curves



Test Conditions: All tests are made with using water and Santoprene diaphragm. Suction hose submerged in the fluid. Muffler not used. If using PTFE diaphragm, capacity decreases by 10%. All the values are shown are approximate and not binding.

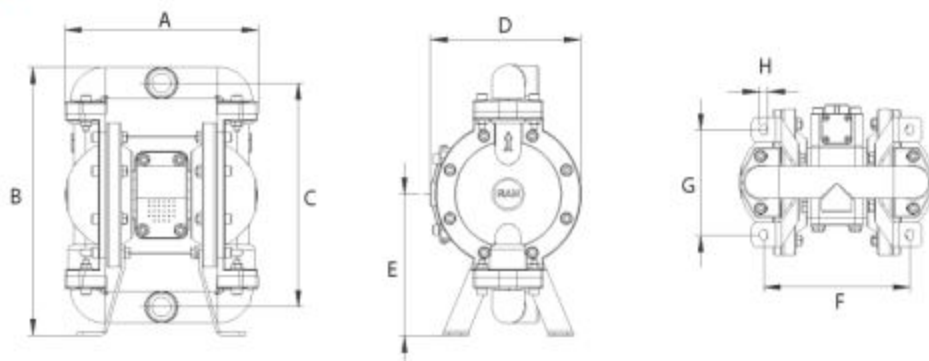
Example: To pump 45lpm against a discharge pressure of 2.7 bar, requires 7 bar and 28.2 m³/h air consumption.

Fluid Flow:	—
Air Consumption:	- - - - -

Dimensions

A	195
B	270
C	226
D	150
E	141.5
F	141
G	105
H	8.5

All dimensions are in mm.





Ran® 1/2" (12.7 mm)

Cast 316 SS Body Diaphragm Pump

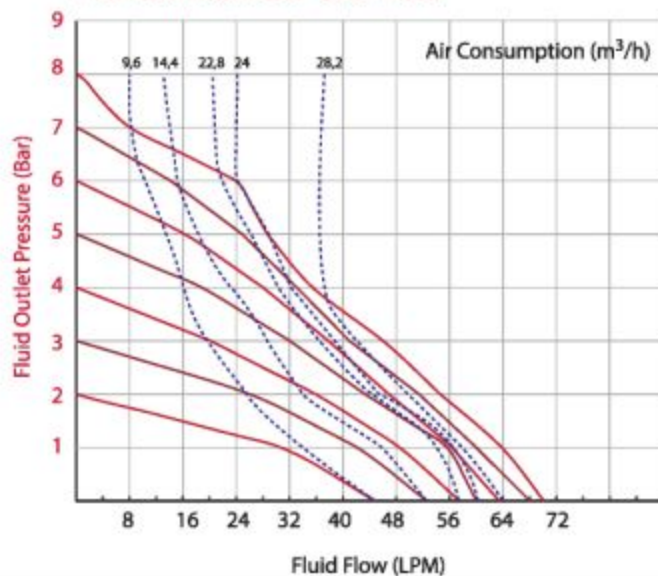


Technical Specifications

Pump Code	B15-SCX-1
Max. Flow Rate	70.2 lpm
Max. Pump Speed	400 cpm
Displacement per cycle	0.175 liter
Fluid Inlet- Outlet Size	1/2"
Air Inlet Size	1/4"
Max. Fluid Working Pressure	8 bar
Max. Air Consumption	0.44 m ³ /min

Pump Housing Material	316 Cast Stainless Steel
Center Section Material	Polypropylene
Max. Size Pumpable Solids	2 mm
Max. Suction Lift	4 m
Max. Operating Temperature	105 °C
Sound Level	74 dBA (at 5 bar)
Diaphragm Options	Santoprene - PTFE- BunaN- Viton
Weight	7 kg

Performance Curves



Test Conditions: All tests are made with using water and Santoprene diaphragm. Suction hose submerged in the fluid. Muffler not used. If using PTFE diaphragm, capacity decreases by 10%. All the values are shown are approximate and not binding.

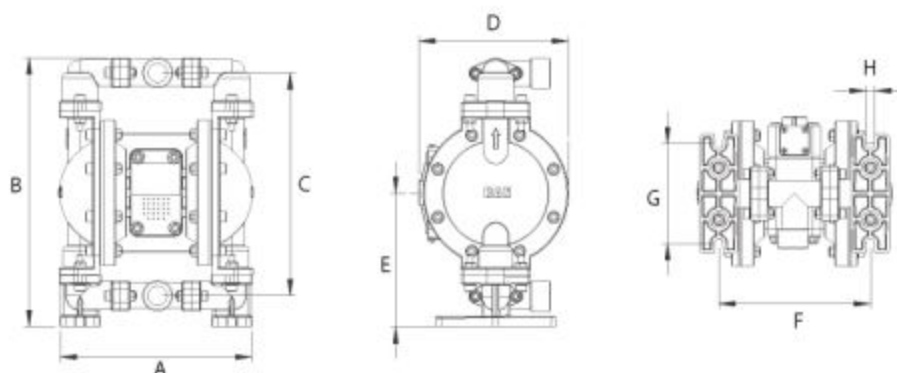
Example: To pump 45lpm against a discharge pressure of 2.7 bar, requires 7 bar and 28.2 m³/h air consumption.



Dimensions

A	192.5
B	270
C	224
D	150.5
E	135
F	152
G	100
H	9

All dimensions are in mm.



Ran® 1" (25.4 mm)

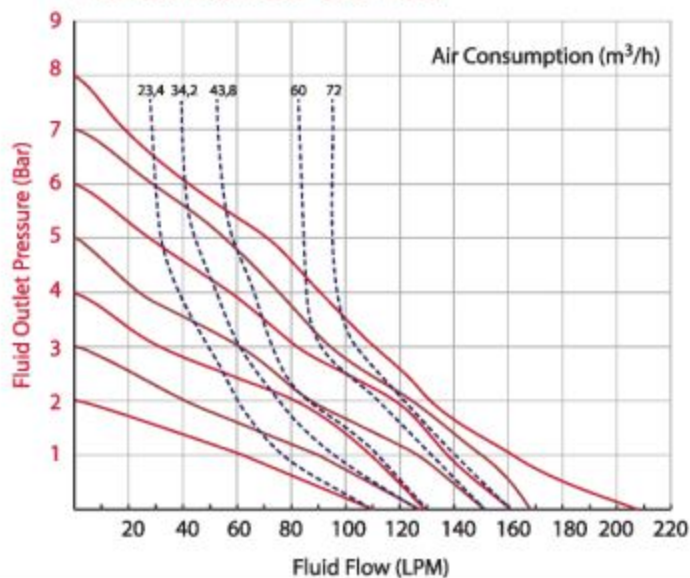
Polypropylene Body Diaphragm Pump



Technical Specifications

Pump Code	D25-PX-2	Pump Housing Material	Polypropylene
Max. Flow Rate	208.8 lpm	Center Section Material	Polypropylene
Max. Pump Speed	280 cpm	Max. Size Pumpable Solids	3 mm
Displacement per cycle	0.74 liter	Max. Suction Lift	5 m
Fluid Inlet- Outlet Size	1" ANSI Flange	Max. Operating Temperature	80 °C
Air Inlet Size	3/8"	Sound Level	78 dBa (at 5 bar)
Max. Fluid Working Pressure	8 bar	Diaphragm Options	Santoprene - PTFE- BunaN- Viton
Max. Air Consumption	1.04 m ³ /min	Weight	8 kg

Performance Curves



Test Conditions: All tests are made with using water and Santoprene diaphragm. Suction hose submerged in the fluid. Muffler not used. If using PTFE diaphragm, capacity decreases by 10%. All the values are shown are approximate and not binding.

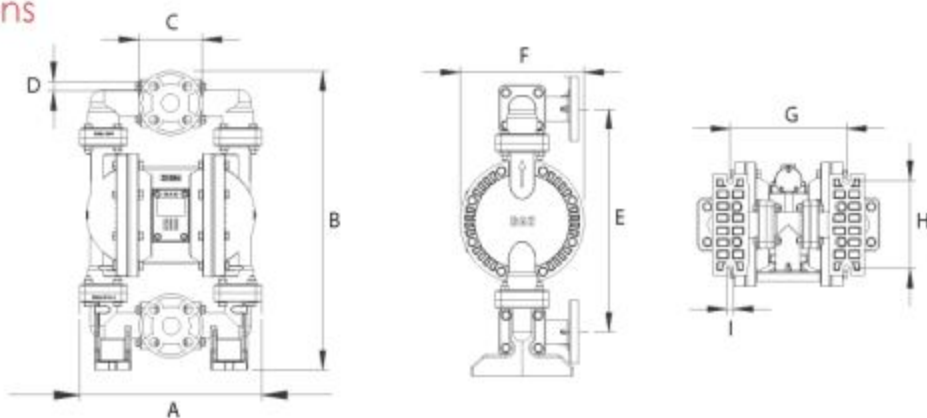
Example: To pump 120 lpm against a discharge pressure of 2.1 bar, requires 7 bar and 60 m³/h air consumption.



Dimensions

A	308
B	507
C	107
D	16
E	378
F	210
G	198
H	150
I	11

All dimensions are in mm.



Ran® 1" (25.4 mm)

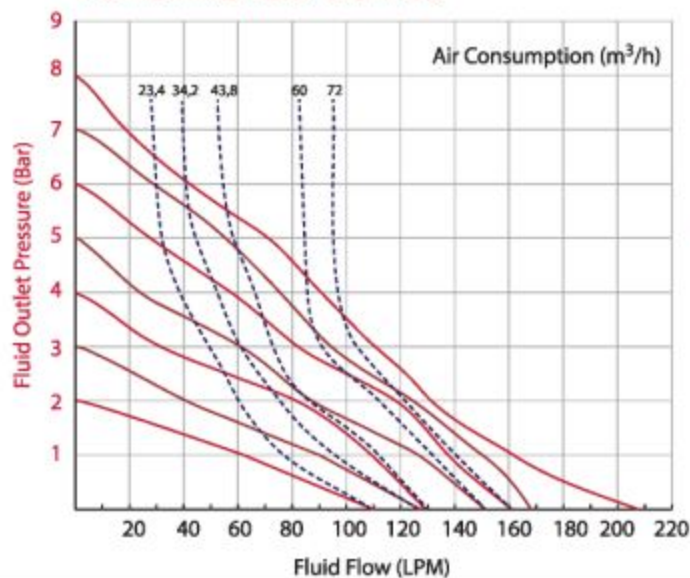
PVDF Body Diaphragm Pump



Technical Specifications

Pump Code	D25-PVX-2	Pump Housing Material	PVDF
Max. Flow Rate	208.8 lpm	Center Section Material	Polypropylene
Max. Pump Speed	280 cpm	Max. Size Pumpable Solids	3 mm
Displacement per cycle	0.74 liter	Max. Suction Lift	5 m
Fluid Inlet- Outlet Size	1" ANSI Flange	Max. Operating Temperature	105 °C
Air Inlet Size	3/8"	Sound Level	78 dBa (at 5 bar)
Max. Fluid Working Pressure	8 bar	Diaphragm Options	Santoprene - PTFE- BunaN- Viton
Max. Air Consumption	1.04 m ³ /min	Weight	11 kg

Performance Curves



Test Conditions: All tests are made with using water and Santoprene diaphragm. Suction hose submerged in the fluid. Muffler not used. If using PTFE diaphragm, capacity decreases by 10%. All the values are shown are approximate and not binding.

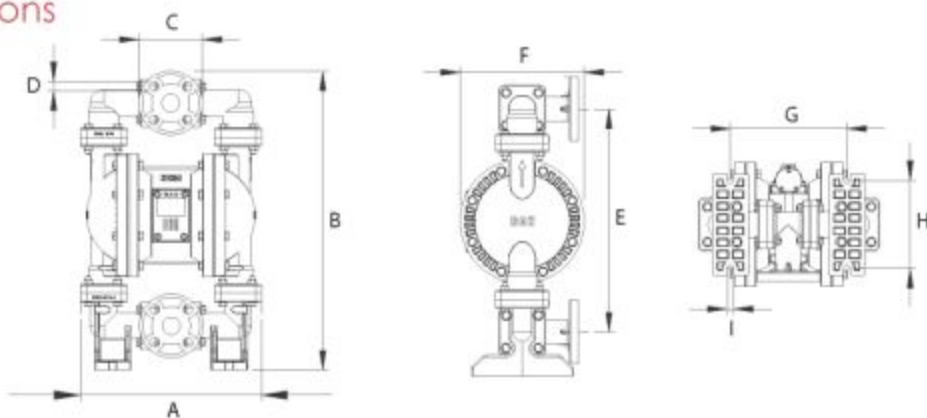
Example: To pump 120 lpm against a discharge pressure of 2.1 bar, requires 7 bar and 60 m³/h air consumption.

Fluid Flow: ———
Air Consumption: - - - - -

Dimensions

A	297
B	490
C	107
D	16
E	378
F	210
G	187
H	146
I	11

All dimensions are in mm.





Ran® 1" (25.4 mm)

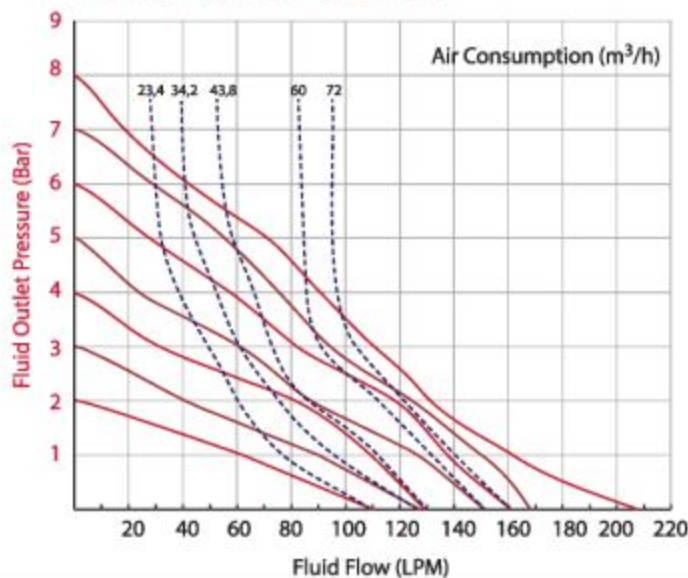
Aluminium Body Diaphragm Pump



Technical Specifications

Pump Code	D25-AX-2	Pump Housing Material	Aluminium
Max. Flow Rate	208.8 lpm	Center Section Material	Polypropylene
Max. Pump Speed	280 cpm	Max. Size Pumpable Solids	3 mm
Displacement per cycle	0.74 liter	Max. Suction Lift	5 m
Fluid Inlet- Outlet Size	1"	Max. Operating Temperature	105 °C
Air Inlet Size	3/8"	Sound Level	78 dBA (at 5 bar)
Max. Fluid Working Pressure	8 bar	Diaphragm Options	Santoprene - PTFE- BunaN- Viton
Max. Air Consumption	1.04 m ³ /min	Weight	7 kg

Performance Curves

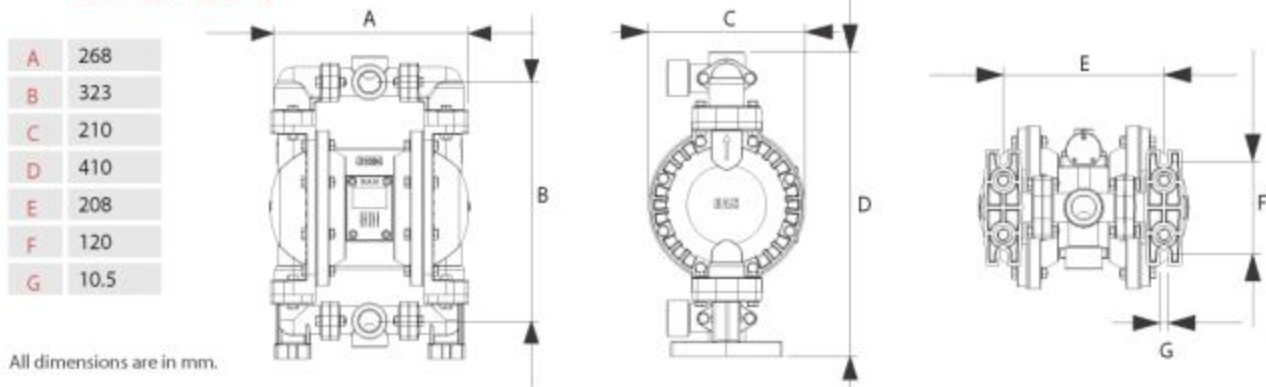


Test Conditions: All tests are made with using water and Santoprene diaphragm. Suction hose submerged in the fluid. Muffler not used. If using PTFE diaphragm, capacity decreases by 10%. All the values are shown are approximate and not binding.

Example: To pump 120 lpm against a discharge pressure of 2.1 bar, requires 7 bar and 60 m³/h air consumption.

Fluid Flow: ———
Air Consumption: - - - - -

Dimensions





Ran® 1" (25.4 mm)

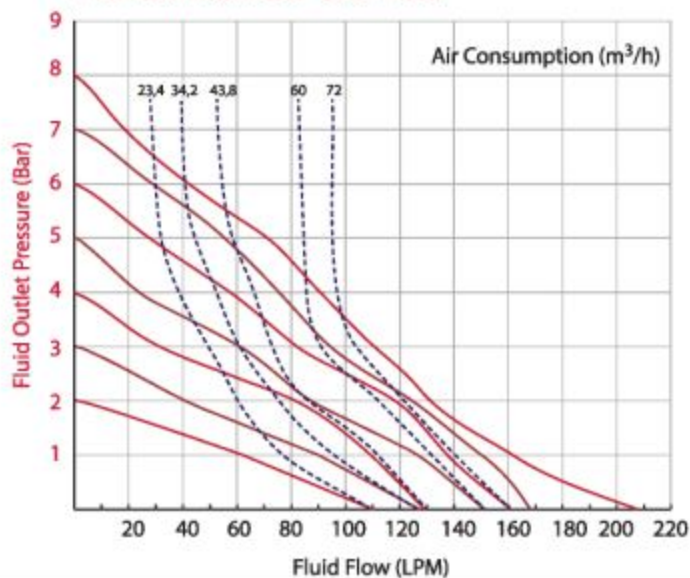
Cast 316 SS Body Diaphragm Pump



Technical Specifications

Pump Code	D25-SCX-2	Pump Housing Material	316 Stainless Steel
Max. Flow Rate	208.8 lpm	Center Section Material	Polypropylene
Max. Pump Speed	280 cpm	Max. Size Pumpable Solids	3 mm
Displacement per cycle	0.74 liter	Max. Suction Lift	5 m
Fluid Inlet- Outlet Size	1"	Max. Operating Temperature	105 °C
Air Inlet Size	3/8"	Sound Level	78 dBA (at 5 bar)
Max. Fluid Working Pressure	8 bar	Diaphragm Options	Santoprene - PTFE- BunaN- Viton
Max. Air Consumption	1.04 m ³ /min	Weight	18 kg

Performance Curves



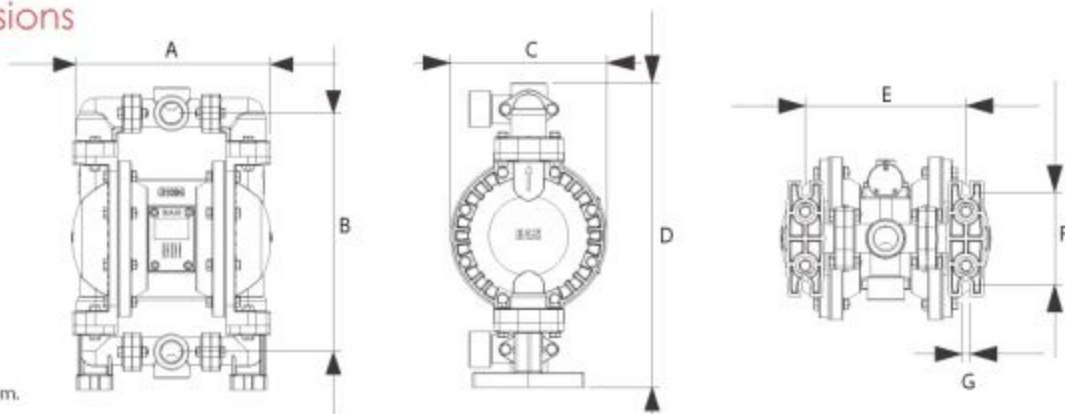
Test Conditions: All tests are made with using water and Santoprene diaphragm. Suction hose submerged in the fluid. Muffler not used. If using PTFE diaphragm, capacity decreases by 10%. All the values are shown are approximate and not binding.

Example: To pump 120 lpm against a discharge pressure of 2.1 bar, requires 7 bar and 60 m³/h air consumption.



Dimensions

A	268
B	323
C	210
D	410
E	208
F	120
G	10.5



All dimensions are in mm.

Ran® 1" (25.4 mm)

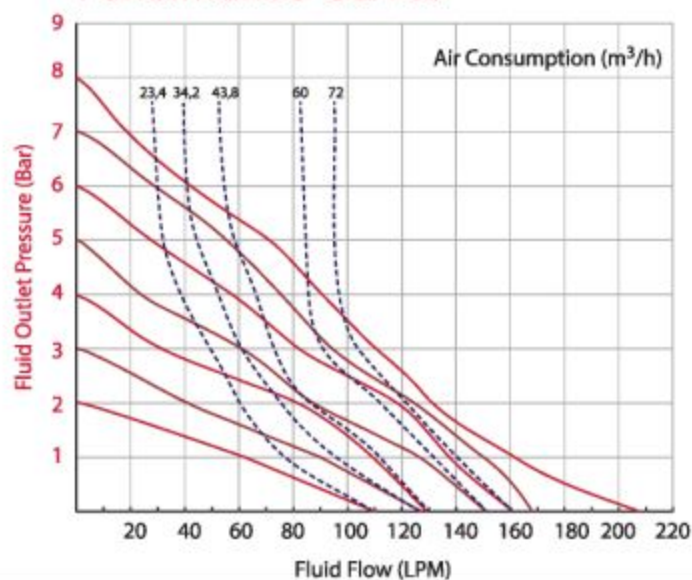
AISI 316 SS Sheet Metal Body
Diaphragm Pump



Technical Specifications

Pump Code	D25-SX-2	Pump Housing Material	316 Stainless Steel
Max. Flow Rate	208.8 lpm	Center Section Material	Polypropylene
Max. Pump Speed	280 cpm	Max. Size Pumpable Solids	3 mm
Displacement per cycle	0.74 liter	Max. Suction Lift	5 m
Fluid Inlet- Outlet Size	1"	Max. Operating Temperature	105 °C
Air Inlet Size	3/8"	Sound Level	78 dBA (at 5 bar)
Max. Fluid Working Pressure	8 bar	Diaphragm Options	Santoprene - PTFE- BunaN- Viton
Max. Air Consumption	1.04 m ³ /min	Weight	14 kg

Performance Curves



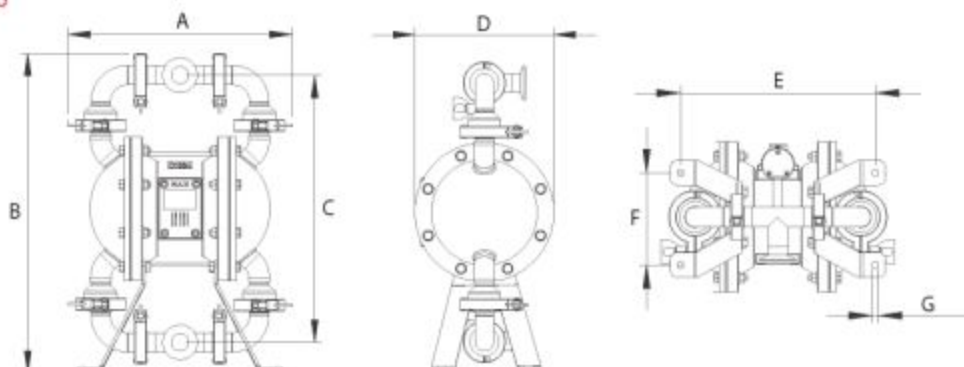
Test Conditions: All tests are made with using water and Santoprene diaphragm. Suction hose submerged in the fluid. Muffler not used. If using PTFE diaphragm, capacity decreases by 10%. All the values are shown are approximate and not binding.

Example: To pump 120 lpm against a discharge pressure of 2.1 bar, requires 7 bar and 60 m³/h air consumption.

Fluid Flow: ———
Air Consumption: - - - - -

Dimensions

A	328
B	466
C	390.5
D	210
E	272
F	128
G	8.5



All dimensions are in mm.

Ran® 1 1/2" (38.1mm)

Polypropylene Body Diaphragm Pump

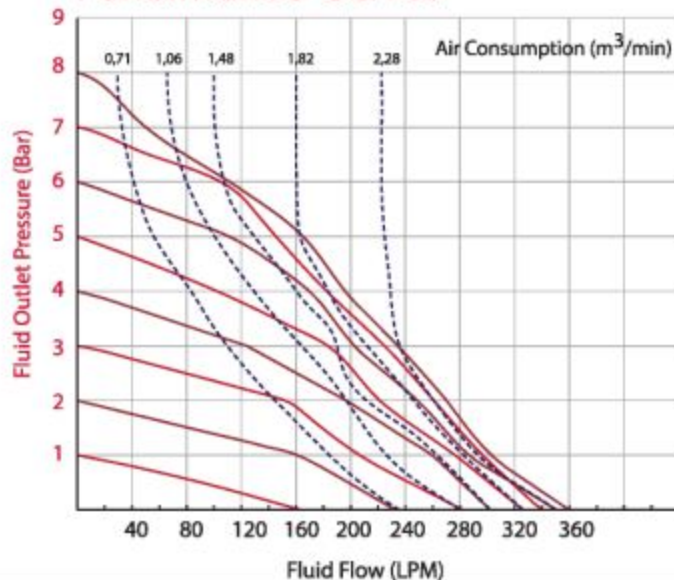


Technical Specifications

Pump Code	E40-PX-1
Max. Flow Rate	360 lpm
Max. Pump Speed	200 cpm
Displacement per cycle	1.8 liter
Fluid Inlet- Outlet Size	1 1/2" ANSI Flange
Air Inlet Size	1/2"
Max. Fluid Working Pressure	8 bar
Max. Air Consumption	2.68 m ³ /min

Pump Housing Material	Polypropylene
Center Section Material	Polypropylene
Max. Size Pumpable Solids	4.5 mm
Max. Suction Lift	5 m
Max. Operating Temperature	80 °C
Sound Level	78 dBA (at 5 bar)
Diaphragm Options	Santoprene - PTFE- BunaN- Viton
Weight	15.6 kg

Performance Curves



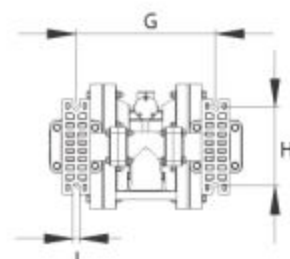
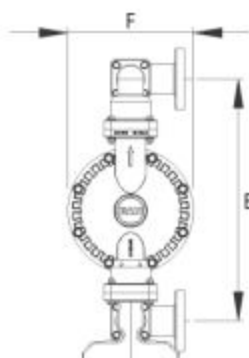
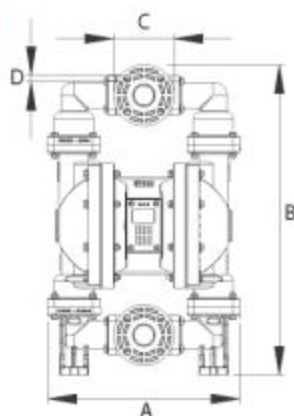
Test Conditions: All tests are made with using water and Santoprene diaphragm. Suction hose submerged in the fluid. Muffler not used. If using PTFE diaphragm, capacity decreases by 10%. All the values are shown are approximate and not binding.

Example: To pump 187 lpm against a discharge pressure of 4 bar, requires 7 bar and 1.82 m³/min air consumption.



Dimensions

A	402
B	650
C	127
D	13
E	502
F	260
G	292
H	164
I	12.5



All dimensions are in mm.

Ran® 1 1/2" (38.1 mm) PVDF Body Diaphragm Pump

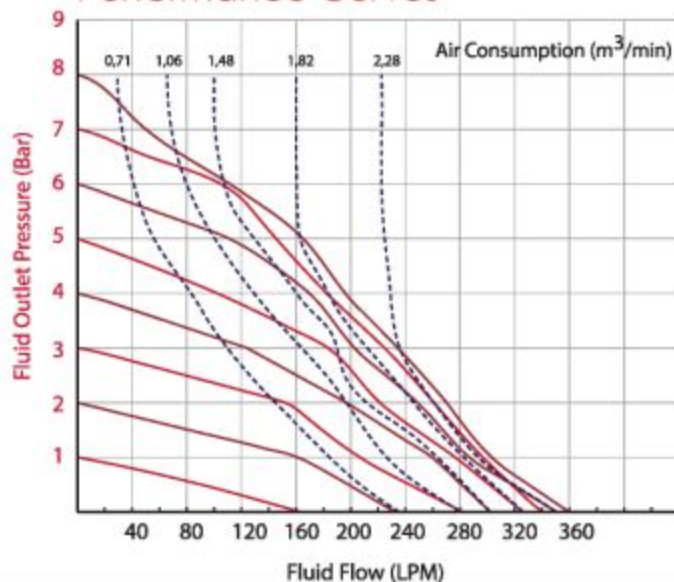


Technical Specifications

Pump Code	E40-PVX-1
Max. Flow Rate	360 lpm
Max. Pump Speed	200 cpm
Displacement per cycle	1.8 liter
Fluid Inlet- Outlet Size	1 1/2" ANSI Flange
Air Inlet Size	1/2"
Max. Fluid Working Pressure	8 bar
Max. Air Consumption	2.68 m ³ /min

Pump Housing Material	PVDF
Center Section Material	Polypropylene
Max. Size Pumpable Solids	4.5 mm
Max. Suction Lift	5 m
Max. Operating Temperature	80 °C
Sound Level	78 dBa (at 5 bar)
Diaphragm Options	Santoprene - PTFE- BunaN- Viton
Weight	18 kg

Performance Curves



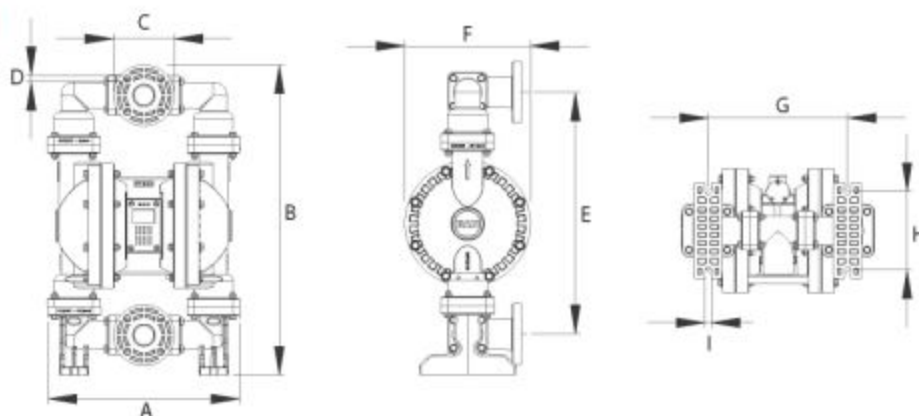
Test Conditions: All tests are made with using water and Santoprene diaphragm. Suction hose submerged in the fluid. Muffler not used. If using PTFE diaphragm, capacity decreases by 10%. All the values are shown are approximate and not binding.

Example: To pump 187 lpm against a discharge pressure of 4 bar, requires 7 bar and 1.82 m³/min air consumption.



Dimensions

A	385
B	628
C	125
D	13
E	485
F	260
G	275
H	160
I	12.5



All dimensions are in mm.

Ran® 1 1/2" (38.1mm)

Aluminium Body Diaphragm Pump

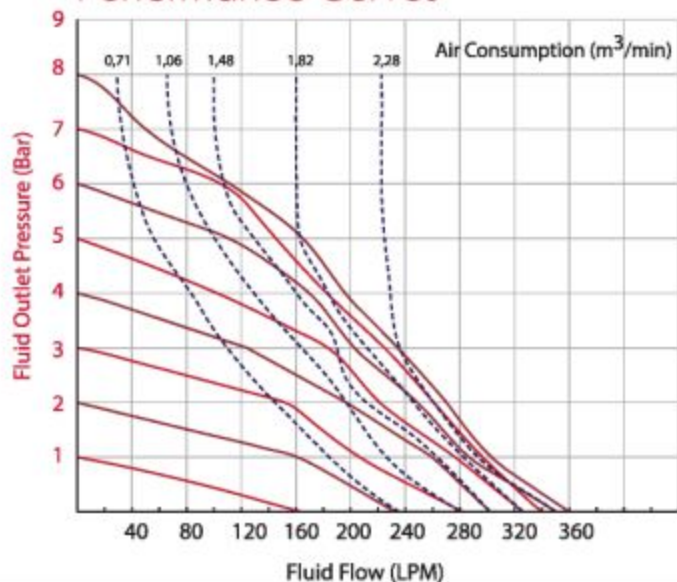


Technical Specifications

Pump Code	E40-AX-1
Max. Flow Rate	360 lpm
Max. Pump Speed	200 cpm
Displacement per cycle	1.8 liter
Fluid Inlet- Outlet Size	1 1/2"
Air Inlet Size	1/2"
Max. Fluid Working Pressure	8 bar
Max. Air Consumption	2.68 m ³ /min

Pump Housing Material	Aluminium
Center Section Material	Polypropylene
Max. Size Pumpable Solids	4.5 mm
Max. Suction Lift	5 m
Max. Operating Temperature	105 °C
Sound Level	78 dBA (at 5 bar)
Diaphragm Options	Santoprene - PTFE- BunaN- Viton
Weight	18.5 kg

Performance Curves



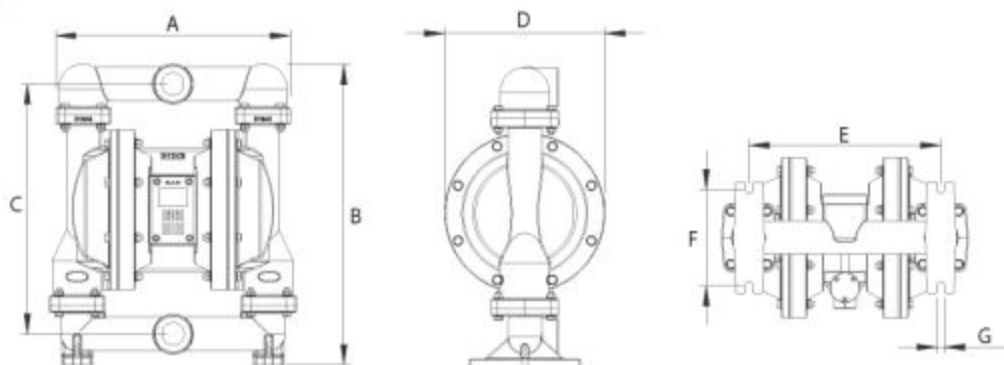
Test Conditions: All tests are made with using water and Santoprene diaphragm. Suction hose submerged in the fluid. Muffler not used. If using PTFE diaphragm, capacity decreases by 10%. All the values are shown are approximate and not binding.

Example: To pump 187 lpm against a discharge pressure of 4 bar, requires 7 bar and 1.82 m³/min air consumption.

Fluid Flow: ———
Air Consumption: - - - - -

Dimensions

A	382
B	489
C	407
D	260.5
E	312
F	156
G	12



All dimensions are in mm.

Ran® 1 1/2" (38.1mm)

AISI 316 SS Sheet Metal Body
Diaphragm Pump

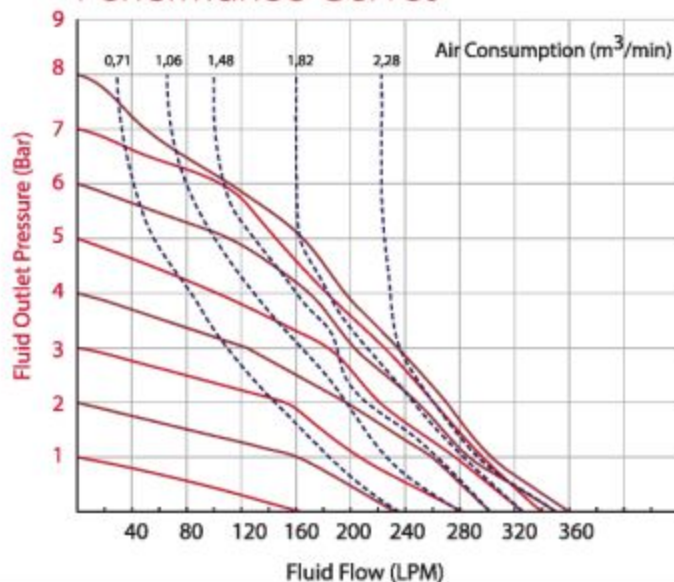


Technical Specifications

Pump Code	E40-SX
Max. Flow Rate	360 lpm
Max. Pump Speed	200 cpm
Displacement per cycle	1.8 liter
Fluid Inlet- Outlet Size	1 1/2"
Air Inlet Size	1/2"
Max. Fluid Working Pressure	8 bar
Max. Air Consumption	2.68 m ³ /min

Pump Housing Material	316 Stainless Steel
Center Section Material	Polypropylene
Max. Size Pumpable Solids	4.5 mm
Max. Suction Lift	5 m
Max. Operating Temperature	105 °C
Sound Level	78 dBA (at 5 bar)
Diaphragm Options	Santoprene - PTFE- BunaN- Viton
Weight	26 kg

Performance Curves



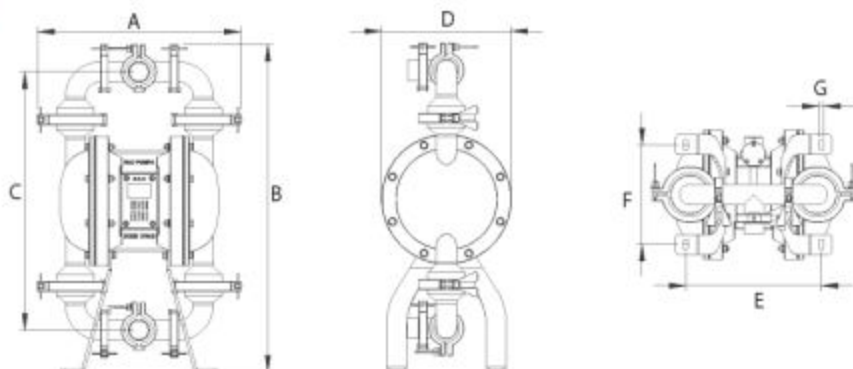
Test Conditions: All tests are made with using water and Santoprene diaphragm. Suction hose submerged in the fluid. Muffler not used. If using PTFE diaphragm, capacity decreases by 10%. All the values are shown are approximate and not binding.

Example: To pump 187 lpm against a discharge pressure of 4 bar, requires 7 bar and 1.82 m³/min air consumption.



Dimensions

A	408
B	658
C	518
D	260.5
E	272
F	200
G	11



All dimensions are in mm.

Ran® 1 1/2" (38.1mm)

Cast Iron Body Diaphragm Pump

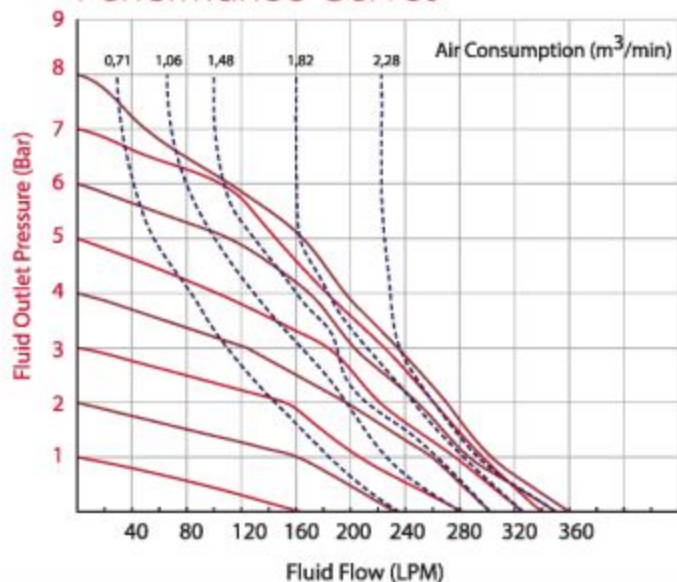


Technical Specifications

Pump Code	E40-CX-1
Max. Flow Rate	360 lpm
Max. Pump Speed	200 cpm
Displacement per cycle	1.8 liter
Fluid Inlet- Outlet Size	1 1/2"
Air Inlet Size	1/2"
Max. Fluid Working Pressure	8 bar
Max. Air Consumption	2.68 m ³ /min

Pump Housing Material	Cast Iron
Center Section Material	Polypropylene
Max. Size Pumpable Solids	4.5 mm
Max. Suction Lift	5 m
Max. Operating Temperature	105 °C
Sound Level	78 dBA (at 5 bar)
Diaphragm Options	Santoprene - PTFE- BunaN- Viton
Weight	37 kg

Performance Curves



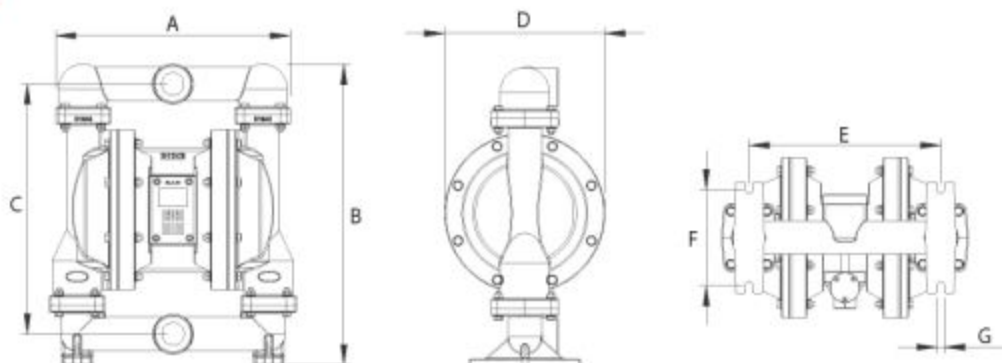
Test Conditions: All tests are made with using water and Santoprene diaphragm. Suction hose submerged in the fluid. Muffler not used. If using PTFE diaphragm, capacity decreases by 10%. All the values are shown are approximate and not binding.

Example: To pump 187 lpm against a discharge pressure of 4 bar, requires 7 bar and 1.82 m³/min air consumption.



Dimensions

A	382
B	489
C	407
D	260.5
E	312
F	156
G	12



All dimensions are in mm.

Ran® 2" (50.8 mm)

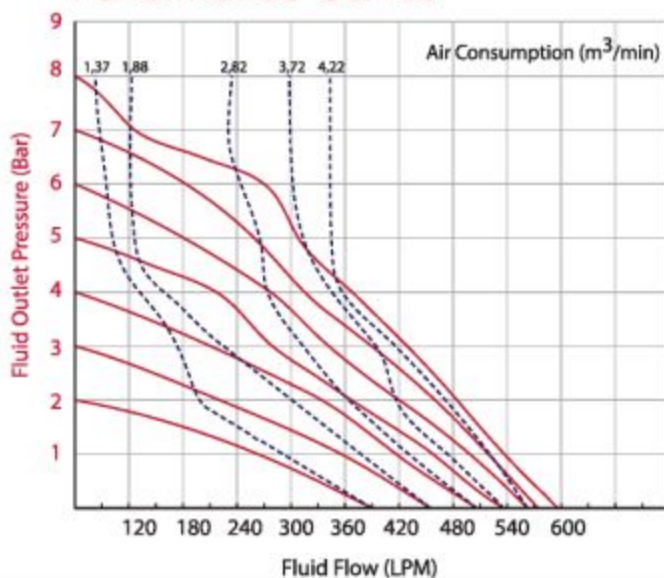
Polypropylene Body Diaphragm Pump



Technical Specifications

Pump Code	F50-PX-2	Pump Housing Material	Polypropylene
Max. Flow Rate	596 lpm	Center Section Material	Polypropylene
Max. Pump Speed	145 cpm	Max. Size Pumpable Solids	6.2 mm
Displacement per cycle	4.11 liter	Max. Suction Lift	5 m
Fluid Inlet- Outlet Size	2" ANSI Flange	Max. Operating Temperature	80 °C
Air Inlet Size	1/2"	Sound Level	78 dBA (at 5 bar)
Max. Fluid Working Pressure	8 bar	Diaphragm Options	Santoprene - PTFE- BunaN- Viton
Max. Air Consumption	6 m ³ /min	Weight	28.5 kg

Performance Curves



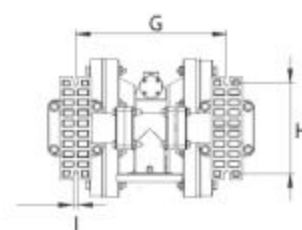
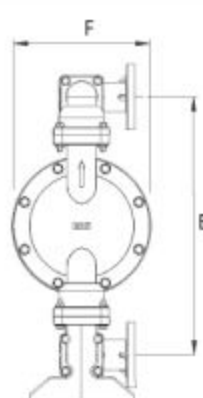
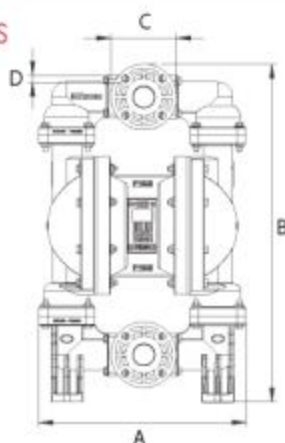
Test Conditions: All tests are made with using water and Santoprene diaphragm. Suction hose submerged in the fluid. Muffler not used. If using PTFE diaphragm, capacity decreases by 10%. All the values are shown are approximate and not binding.

Example: To pump 392 lpm against a discharge pressure of 3 bar, requires 7 bar and 3.72 m³/min air consumption.



Dimensions

A	475
B	780
C	152
D	16
E	595
F	317
G	344
H	210
I	14



All dimensions are in mm.

Ran® 2" (50.8 mm)

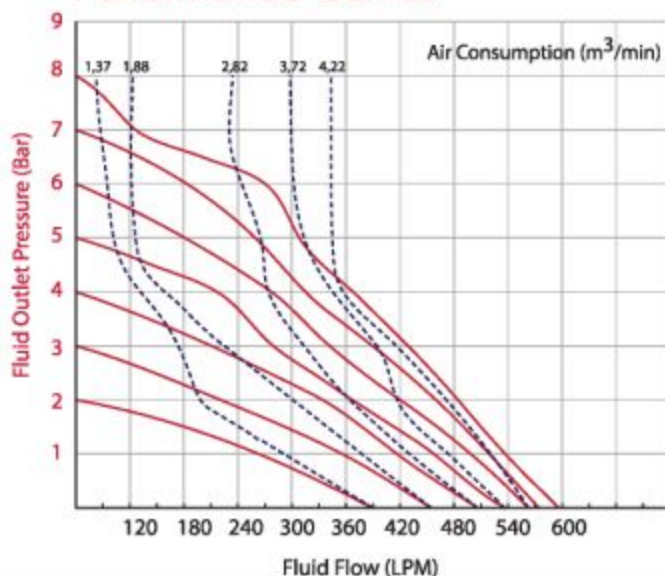
PVDF Body Diaphragm Pump



Technical Specifications

Pump Code	F50-PVX-2	Pump Housing Material	PVDF
Max. Flow Rate	596 lpm	Center Section Material	Polypropylene
Max. Pump Speed	145 cpm	Max. Size Pumpable Solids	6.2 mm
Displacement per cycle	4.11 liter	Max. Suction Lift	5 m
Fluid Inlet- Outlet Size	2" ANSI Flange	Max. Operating Temperature	105 °C
Air Inlet Size	1/2"	Sound Level	78 dBA (at 5 bar)
Max. Fluid Working Pressure	8 bar	Diaphragm Options	Santoprene - PTFE- BunaN- Viton
Max. Air Consumption	6 m ³ /min	Weight	30 kg

Performance Curves



Test Conditions: All tests are made with using water and Santoprene diaphragm. Suction hose submerged in the fluid. Muffler not used. If using PTFE diaphragm, capacity decreases by 10%. All the values are shown are approximate and not binding.

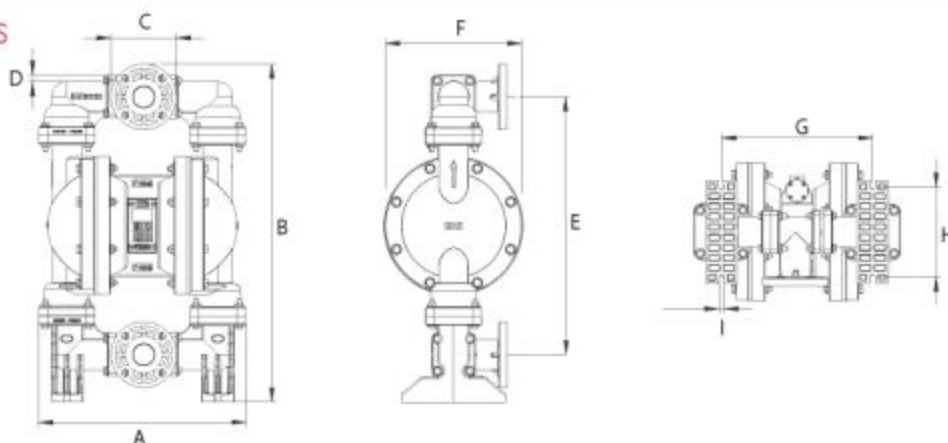
Example: To pump 392 lpm against a discharge pressure of 3 bar, requires 7 bar and 3,72 m³/min air consumption.

Fluid Flow: ———
Air Consumption: - - - - -

Dimensions

A	460
B	766
C	152
D	16
E	582
F	317
G	332
H	203
I	14

All dimensions are in mm.



Ran® 2" (50.8 mm)

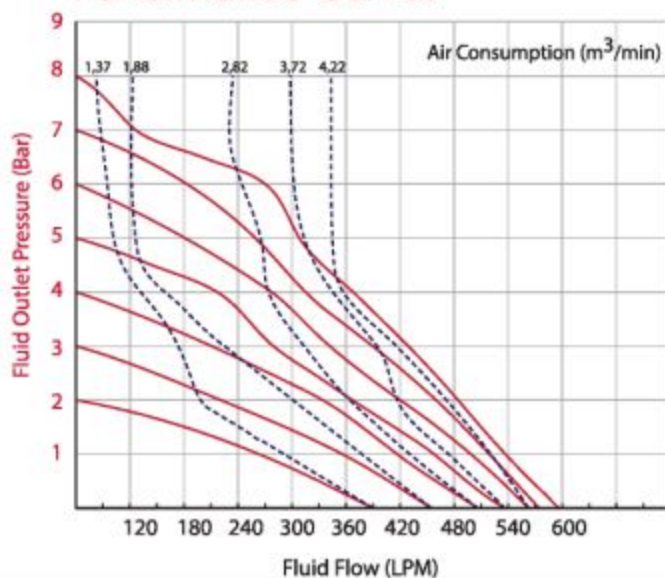
Aluminium Body Diaphragm Pump



Technical Specifications

Pump Code	F50-AX-2	Pump Housing Material	Aluminium
Max. Flow Rate	596 lpm	Center Section Material	Polypropylene
Max. Pump Speed	145 cpm	Max. Size Pumpable Solids	6.2 mm
Displacement per cycle	4.11 liter	Max. Suction Lift	5 m
Fluid Inlet- Outlet Size	2"	Max. Operating Temperature	105 °C
Air Inlet Size	1/2"	Sound Level	78 dBA (at 5 bar)
Max. Fluid Working Pressure	8 bar	Diaphragm Options	Santoprene - PTFE- BunaN- Viton
Max. Air Consumption	6 m ³ /min	Weight	31.5 kg

Performance Curves



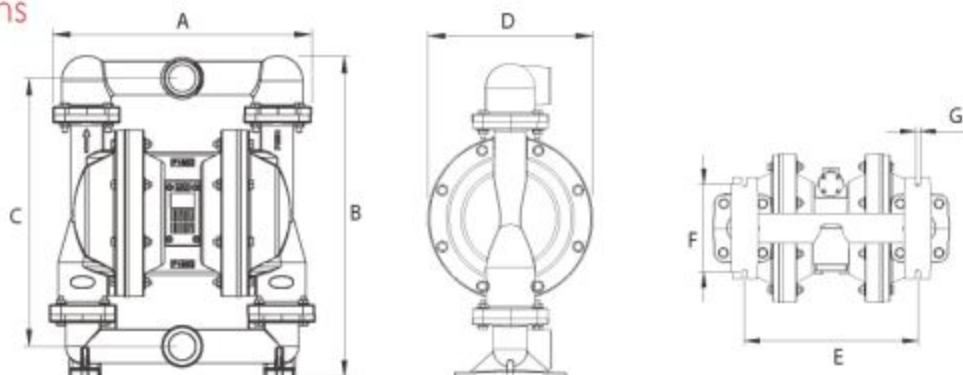
Test Conditions: All tests are made with using water and Santoprene diaphragm. Suction hose submerged in the fluid. Muffler not used. If using PTFE diaphragm, capacity decreases by 10%. All the values are shown are approximate and not binding.

Example: To pump 392 lpm against a discharge pressure of 3 bar, requires 7 bar and 3,72 m³/min air consumption.



Dimensions

A	499
B	622
C	520
D	322.5
E	375
F	192
G	12



All dimensions are in mm.

Ran® 2" (50.8 mm)

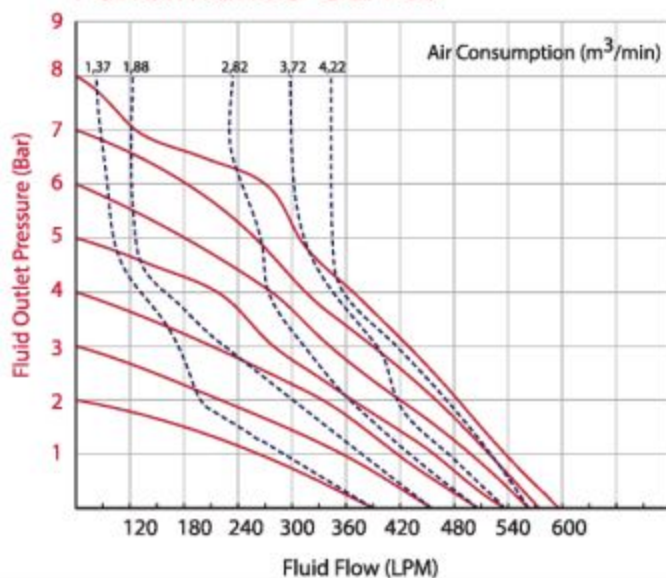
AISI 316 SS Sheet Metal Body
Diaphragm Pump



Technical Specifications

Pump Code	F50-SX	Pump Housing Material	316 Stainless Steel
Max. Flow Rate	596 lpm	Center Section Material	Polypropylene
Max. Pump Speed	145 cpm	Max. Size Pumpable Solids	6.2 mm
Displacement per cycle	4.11 liter	Max. Suction Lift	5 m
Fluid Inlet- Outlet Size	2"	Max. Operating Temperature	105 °C
Air Inlet Size	1/2"	Sound Level	78 dBA (at 5 bar)
Max. Fluid Working Pressure	8 bar	Diaphragm Options	Santoprene - PTFE- BunaN- Viton
Max. Air Consumption	6 m ³ /min	Weight	55 kg

Performance Curves



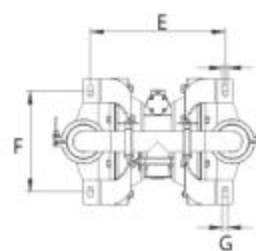
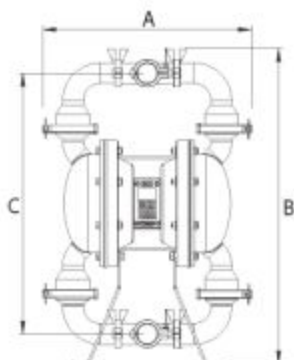
Test Conditions: All tests are made with using water and Santoprene diaphragm. Suction hose submerged in the fluid. Muffler not used. If using PTFE diaphragm, capacity decreases by 10%. All the values are shown are approximate and not binding.

Example: To pump 392 lpm against a discharge pressure of 3 bar, requires 7 bar and 3,72 m³/min air consumption.

Fluid Flow: ———
Air Consumption: - - - - -

Dimensions

A	528
B	798
C	660
D	322.5
E	340
F	256
G	13



All dimensions are in mm.

Ran® 2" (50.8 mm)

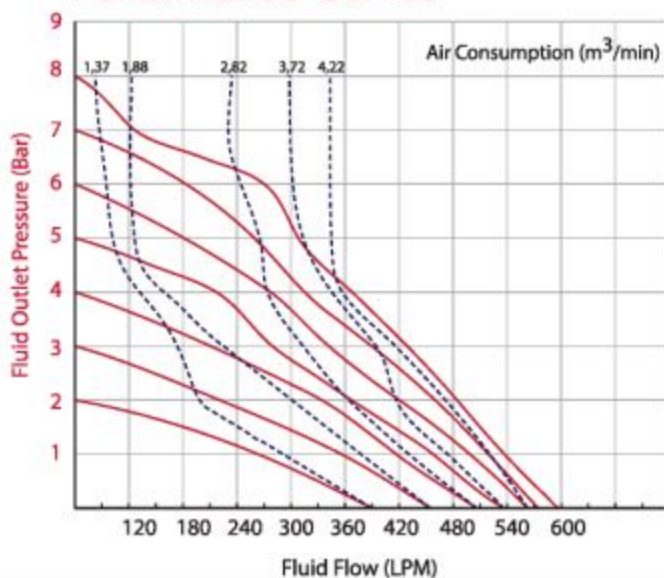
Cast Iron Body Diaphragm Pump



Technical Specifications

Pump Code	F50-AX-2	Pump Housing Material	Cast Iron
Max. Flow Rate	596 lpm	Center Section Material	Polypropylene
Max. Pump Speed	145 cpm	Max. Size Pumpable Solids	6.2 mm
Displacement per cycle	4.11 liter	Max. Suction Lift	5 m
Fluid Inlet- Outlet Size	2"	Max. Operating Temperature	105 °C
Air Inlet Size	1/2"	Sound Level	78 dBA (at 5 bar)
Max. Fluid Working Pressure	8 bar	Diaphragm Options	Santoprene - PTFE- BunaN- Viton
Max. Air Consumption	6 m ³ /min	Weight	62 kg

Performance Curves



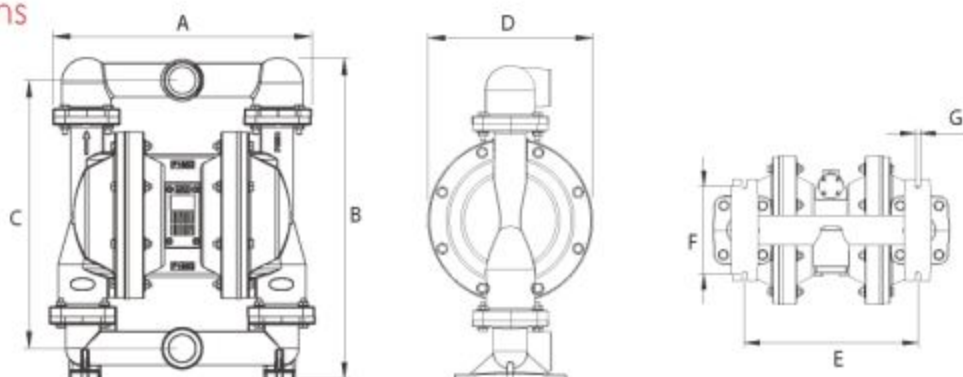
Test Conditions: All tests are made with using water and Santoprene diaphragm. Suction hose submerged in the fluid. Muffler not used. If using PTFE diaphragm, capacity decreases by 10%. All the values are shown are approximate and not binding.

Example: To pump 392 lpm against a discharge pressure of 3 bar, requires 7 bar and 3,72 m³/min air consumption.



Dimensions

A	499
B	622
C	520
D	322.5
E	375
F	192
G	12



All dimensions are in mm.

Ran® 2" (50.8 mm)

Cast Iron Body High Pressure Diaphragm Pump

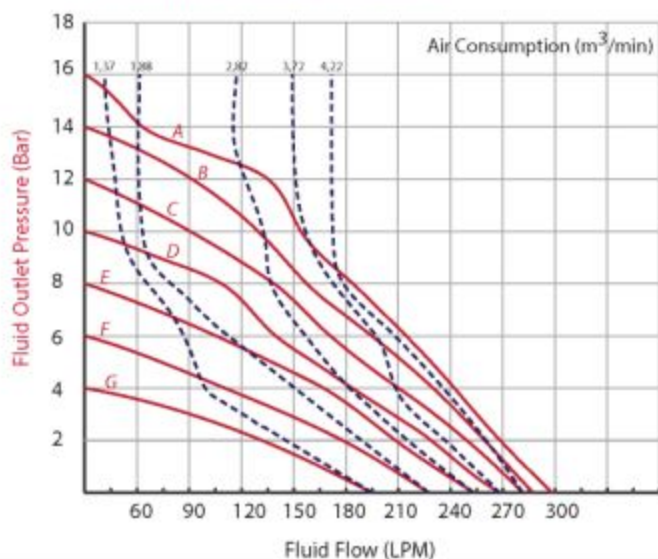


Technical Specifications

Pump Code	HF50-CX
Max. Flow Rate	295 lpm
Max. Pump Speed	145 cpm
Displacement per cycle	2.03 liter
Fluid Inlet- Outlet Size	2"
Air Inlet Size	1/2"
Max. Fluid Working Pressure	16 bar
Max. Air Consumption	6 m ³ /min

Pump Housing Material	Cast Iron
Max. Size Pumpable Solids	6.2 mm
Max. Suction Lift	5 m
Max. Operating Temperature	105 °C
Sound Level	78 dBa (at 5 bar)
Diaphragm Options	Santoprene - PTFE- BunaN- Viton
Weight	62 kg

Performance Curves



Test Conditions: All tests are made with using water and Santoprene diaphragm. Suction hose submerged in the fluid. Muffler not used. If using PTFE diaphragm, capacity decreases by 10%. All the values are shown are approximate and not binding.

Example: To pump 196 lpm against a discharge pressure of 6 bar, requires 7 bar and 3,72 m³/min air consumption.

Air Pressure :

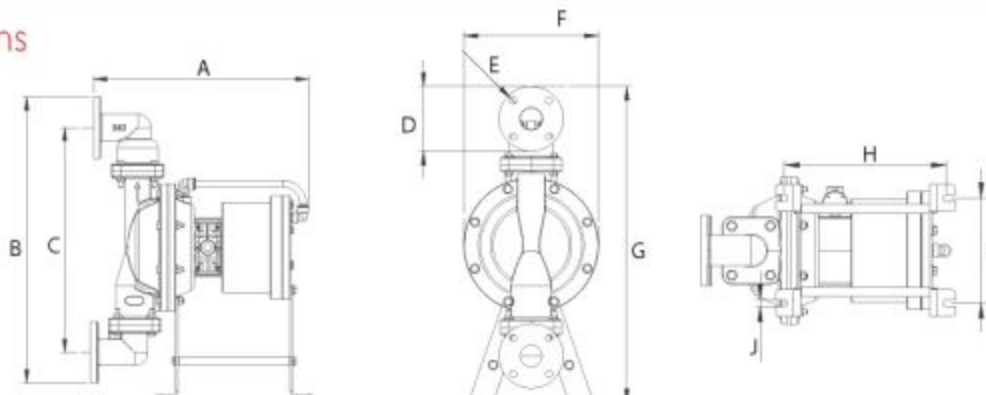
- A 8 bar
- B 7 bar
- C 6 bar
- D 5 bar
- E 4 bar
- F 3 bar
- G 2 bar

Fluid Flow: ———

Air Consumption: - - - - -

Dimensions

A	538
B	713
C	561
D	152
E	16
F	318
G	749
H	352
I	228
J	14



Ran® 3" (76.2 mm)

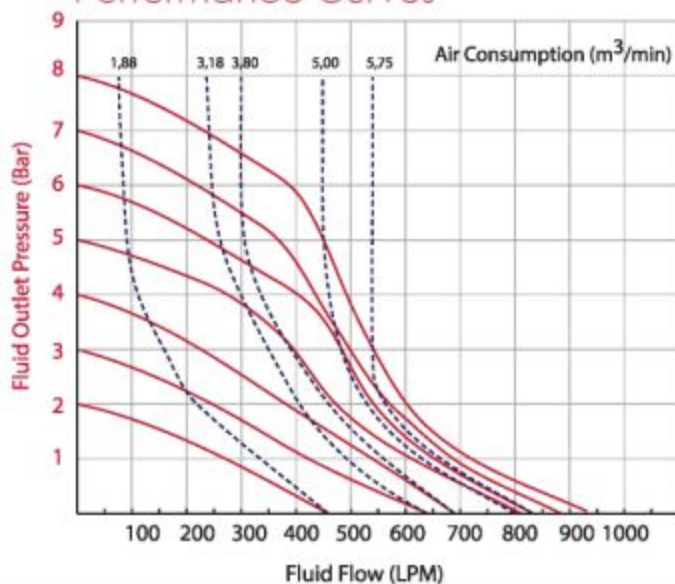
Aluminium Body Diaphragm Pump



Technical Specifications

Pump Code	G80-AX-1	Pump Housing Material	Aluminium
Max. Flow Rate	930 lpm	Center Section Material	Aluminium
Max. Pump Speed	135 cpm	Max. Size Pumpable Solids	9.5 mm
Displacement per cycle	6.88 liter	Max. Suction Lift	6 m
Fluid Inlet- Outlet Size	3"	Max. Operating Temperature	105 °C
Air Inlet Size	1"	Sound Level	79 dBa (at 5 bar)
Max. Fluid Working Pressure	8 bar	Diaphragm Options	Santoprene - PTFE- BunaN- Viton
Max. Air Consumption	6.5 m ³ /min	Weight	50.2 kg

Performance Curves



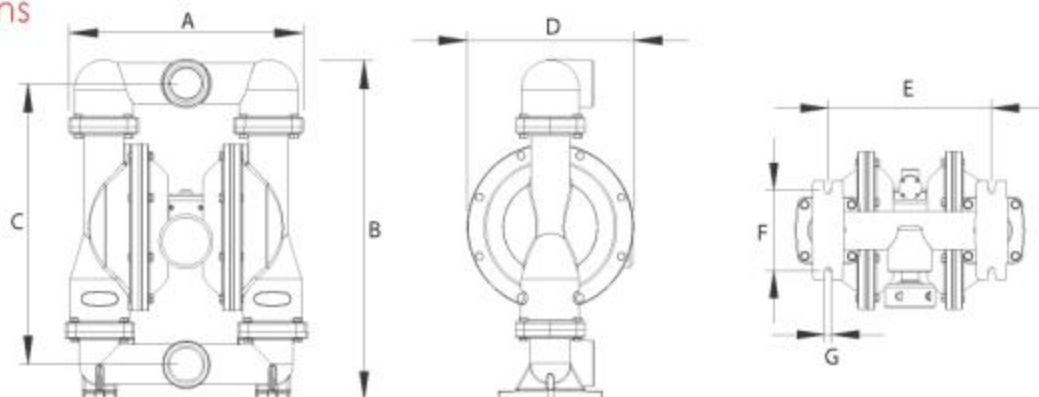
Test Conditions: All tests are made with using water and Santoprene diaphragm. Suction hose submerged in the fluid. Muffler not used. If using PTFE diaphragm, capacity decreases by 10%. All the values are shown are approximate and not binding.

Example: To pump 483 lpm against a discharge pressure of 3 bar, requires 6 bar and 5 m³/min air consumption.



Dimensions

A	538
B	782
C	645
D	383.5
E	397
F	200
G	12



Ran® 3" (76.2 mm)

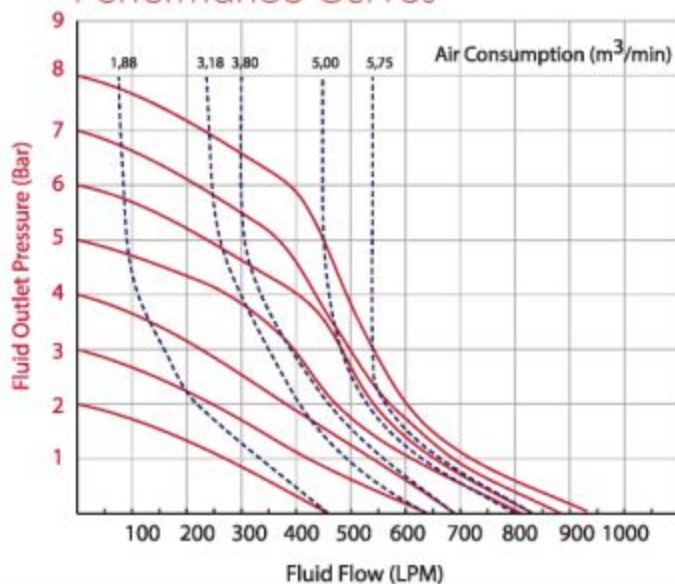
AISI 316 SS Sheet Metal Body
Diaphragm Pump



Technical Specifications

Pump Code	G80-SX	Pump Housing Material	316 Stainless Steel
Max. Flow Rate	930 lpm	Center Section Material	Aluminium
Max. Pump Speed	135 cpm	Max. Size Pumpable Solids	9.5 mm
Displacement per cycle	6.88 liter	Max. Suction Lift	6 m
Fluid Inlet- Outlet Size	3"	Max. Operating Temperature	105 °C
Air Inlet Size	1"	Sound Level	79 dBa (at 5 bar)
Max. Fluid Working Pressure	8 bar	Diaphragm Options	Santoprene - PTFE- BunaN- Viton
Max. Air Consumption	6.5 m ³ /min	Weight	72kg

Performance Curves



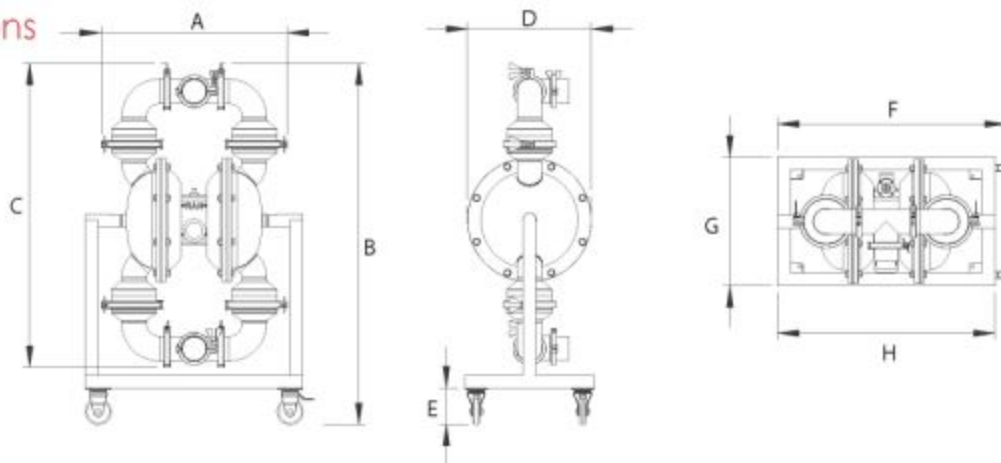
Test Conditions: All tests are made with using water and Santoprene diaphragm. Suction hose submerged in the fluid. Muffler not used. If using PTFE diaphragm, capacity decreases by 10%. All the values are shown are approximate and not binding.

Example: To pump 483 lpm against a discharge pressure of 3 bar, requires 6 bar and 5 m³/min air consumption.

Fluid Flow: ———
Air Consumption: - - - - -

Dimensions

A	577
B	1118
C	940
D	383.5
E	113
F	77
G	400
H	673.5



Ran® 3" (76.2 mm)

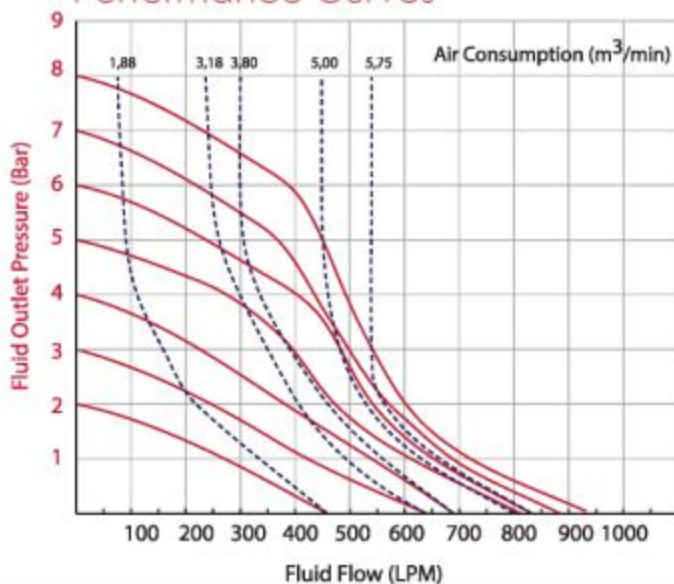
Cast Iron Body Diaphragm Pump



Technical Specifications

Pump Code	G80-CX-1	Pump Housing Material	Cast Iron
Max. Flow Rate	930 lpm	Center Section Material	Aluminium
Max. Pump Speed	135 cpm	Max. Size Pumpable Solids	9.5 mm
Displacement per cycle	6.88 liter	Max. Suction Lift	6 m
Fluid Inlet- Outlet Size	3"	Max. Operating Temperature	105 °C
Air Inlet Size	1"	Sound Level	79 dBA (at 5 bar)
Max. Fluid Working Pressure	8 bar	Diaphragm Options	Santoprene - PTFE- BunaN- Viton
Max. Air Consumption	6.5 m ³ /min	Weight	102 kg

Performance Curves



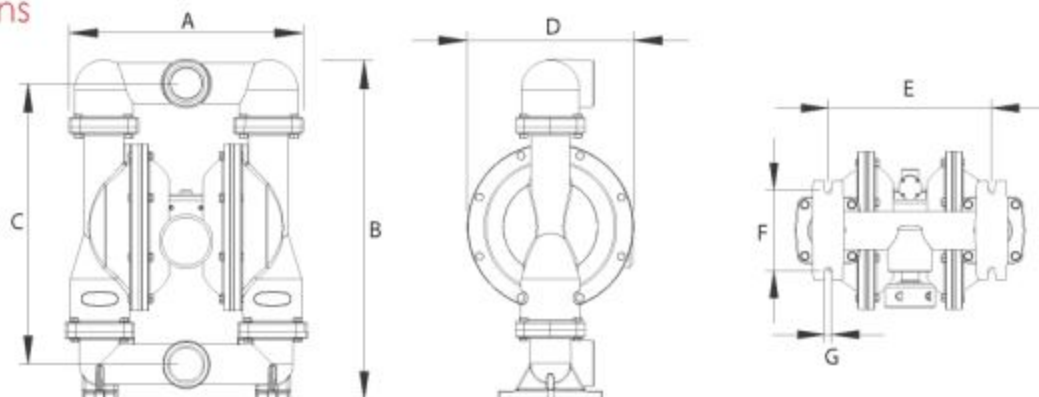
Test Conditions: All tests are made with using water and Santoprene diaphragm. Suction hose submerged in the fluid. Muffler not used. If using PTFE diaphragm, capacity decreases by 10%. All the values are shown are approximate and not binding.

Example: To pump 483 lpm against a discharge pressure of 3 bar, requires 6 bar and 5 m³/min air consumption.



Dimensions

A	538
B	782
C	645
D	383.5
E	397
F	200
G	12



Ran® ATEX Certified Conductive Pumps



ATEX (Atmosphères Explosibles) describes what equipment and work environment is allowed in an environment with an explosive atmosphere. This standard is set by the European Parliament & Council of the European Union.



Our pumps are: 40% Glass-Filled Polypropylene with carbon added to achieve the specified conductivity level.

Thus they are:

- Fully groundable.
- No static electricity build-up.
- Eliminates the risk of sparking in explosive atmospheres.

You may choose our ATEX certified pumps confidently, if you want to eliminate the explosion risk in hazardous work environments.

ATEX COMPLIANT MODELS

II 2 G D C IIB T135°C

Plastic Pumps

Polypropylene from 1/4" up to 2"

Metal Pumps

Aluminium Pumps from 1/2" up to 3"

Cast Iron Pumps from 1 1/2" up to 3"

Cast 316 SS Pumps 1/2" and 1"

Accessories



Pulsation Dampers; Will ensure a smooth flow for your fluid and particularly useful for use with shear sensitive fluids such as paints, polymers, latex solutions, sauces, slurries etc.



Diaphragm Rupture Sensor; is used to warn of a ruptured diaphragm and allow for swift pump shut down



Pump Cycle Counter; accurately measures your fluid per cycle and quantity per minute.



Air Filter Regulator; is used to control your air pressure and clean your air supply to give you trouble free efficient performance.



On/Off (solenoid) Valve; is an electromechanically operated valve, its tasks are to shut off, release, dose, distribute or mix fluids.

Diaphragms



Buna-N (Nitrile/NBR) is suitable for use with oils, minerals, vegetable oils, animal oils. It has good mechanical strength, and withstands deformation. Temperature Limits: -12.2°C to +82.2°C (+10°F to +180°F)



Santoprene™ is a Thermoplastic Elastomer with resistance to acids, liquids with oil content, greases etc. Temperature Limits: -60°C to 105°C (-76°F to 221°F)

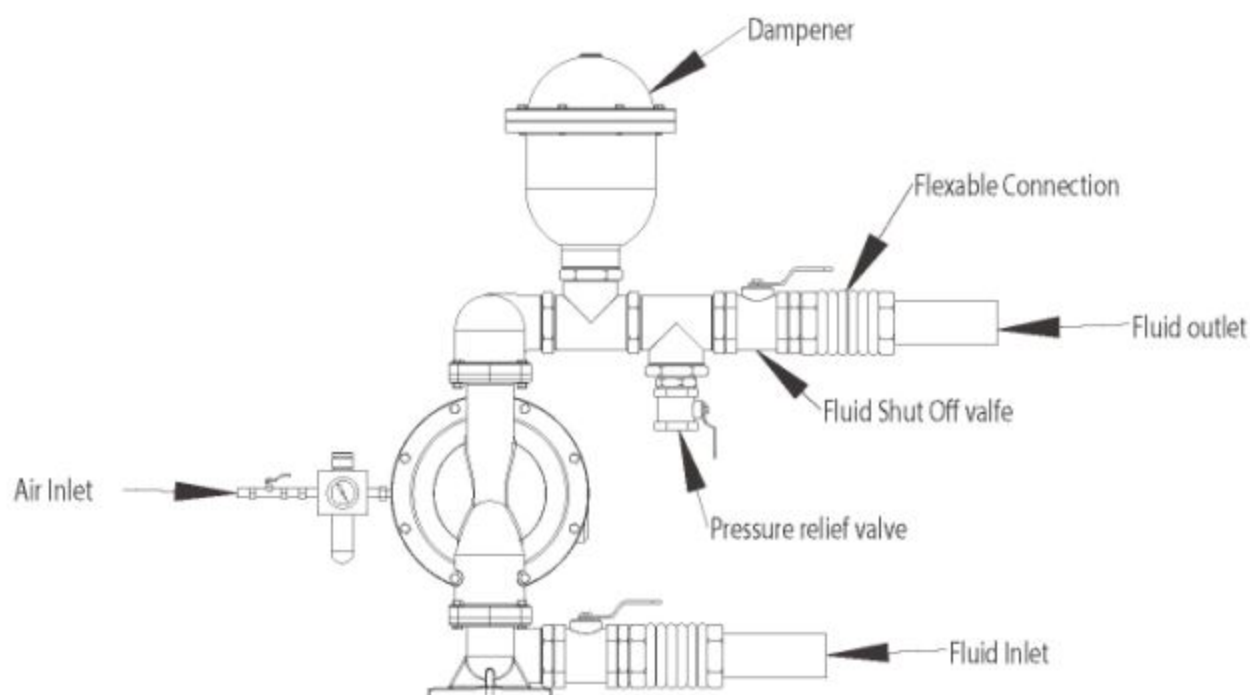


PTFE is a smooth plastic material that has high temperature resistance of upto 105°C. It has excellent chemical resistance and is low friction. It is used where high chemical resistance is of extreme importance and is also approved for use with food products. Temperature Limits: +4.4°C to +104.4°C (+40°F to +220°F)



Viton is suitable for use at higher temperatures of up to 175°C and resistant to synthetic hydraulic oil, fuel oils, and mineral oils. Temperature Limits: -40 to +177°C

Typical Installation



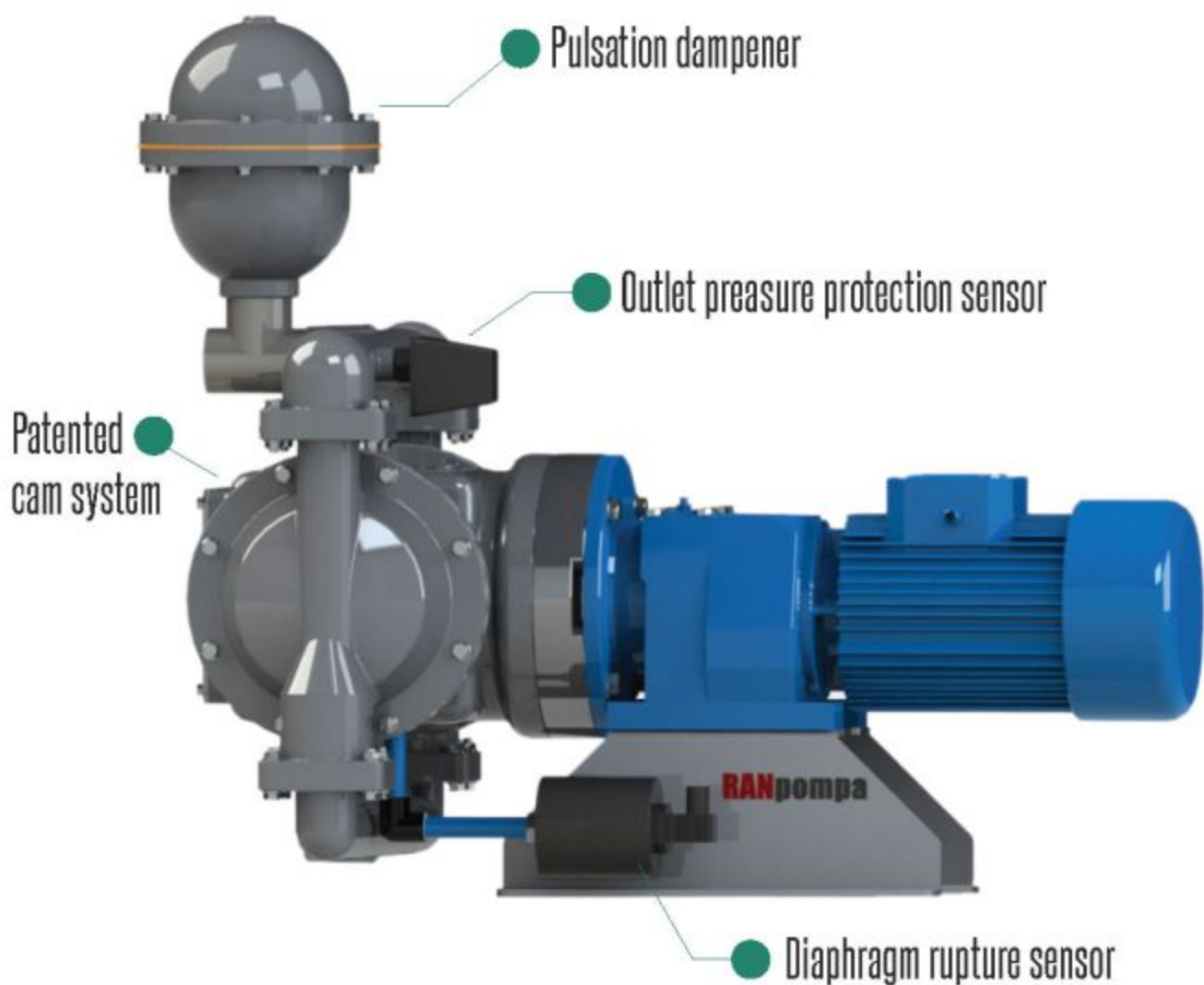
Package Sizes

<i>Inlet/Outlet Size</i>	<i>Housing Material</i>	<i>Package Size</i>	<i>Package Weight</i>
1/4"	PP, PVDF	16x11x24 cm	180 gr
1/2"	Alm, PP, PVDF, SC	21x16x32 cm	300 gr
1"	Alm, SC	29x23x35 cm	550 gr
1"	PP, PVDF, SS	32x23x55 cm	1.050 gr
1 1/2"	Alm, C	41x27x55 cm	1.300 gr
1 1/2"	PP, PVDF	41x27x70 cm	1.650 gr
2"	Alm, C	57x34x76 cm	2.200 gr
2"	PP, PVDF	50x34x82 cm	1.710 gr
3"	Alm, C	57x41x83 cm	2.800 gr



PROBLEM	CAUSE	SOLUTION
1- Pump cycles at stall or fails to hold pressure	Worn check valve balls, seats or o-rings.	Replace.
2- Pump will not cycle, or cycles once and stops.	Air valve is stuck or dirty.	Disassemble and clean air valve. Use ONLY filtered air.
	Check valve ball severely worn and wedged in seat or manifold.	Replace ball and seat.
	Check valve ball is wedged into seat, due to	Install a pressure relief valve.
	Dispensing valve is clogged.	Relieve pressure and clean valve.
3- Pump operates erratically.	Suction line is clogged.	Inspect; clean.
	Sticky or leaking check valve balls.	Clean or replace.
	Diaphragm is ruptured.	Replace.
	Pump is sucking air.	Check inlet hose and inlet manifold o-rings.
	Restricted exhaust.	Remove restriction.
4- Air bubbles in fluid.	Suction line is loose.	Tighten.
	Diaphragm is ruptured.	Replace.
	Loose inlet manifold, damaged seal between manifold and seat, or damaged o-rings.	Tighten manifold bolts, or replace seats or o-rings.
	Loose diaphragm shaft bolt.	Tighten or replace.
	Damaged o-ring.	Replace.
5- Fluid in exhaust air.	Diaphragm is ruptured.	Replace.
	Loose diaphragm shaft bolt.	Tighten or replace.
	Damaged o-ring.	Replace.
6- Pump frequently stops running.	Insufficient hose diameter.	Get a larger diameter hose.
	Too much hose length.	Use a shorter hose.
7- Pump stops working and exhausts air.	Air valve is stuck or dirty.	Disassemble and clean air valve. Use filtered air.
	Air valve z-rings are worn.	Disassemble and replace z-rings.
	Pilot valve o-rings are worn.	Disassemble and replace o-rings.
	Air inlet pressure and flow are not enough.	Rise the pressure and flow.
8- Pump leaks fluid externally from manifold body connects.	Loose manifolds, damaged o-ring between manifold and seat.	Replace o-rings, tighten manifold bolts.
9- Diaphragm moves to inside of the pump, and fluid leaks from the openings.	Fluid outlet is clogged or outlet valve is closed when the pump is under pressure.	Clean the outlet line or open the fluid outlet valve.
	Max. air pressure is exceeded.	Lower the air pressure.
	The fluid temperature is above the working limits. Adjust the	Lower the air pressure.

SEE ALSO... Electromechanical Diaphragm Pumps



● **7 times less energy** consumption compared to the AODD pumps.

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