

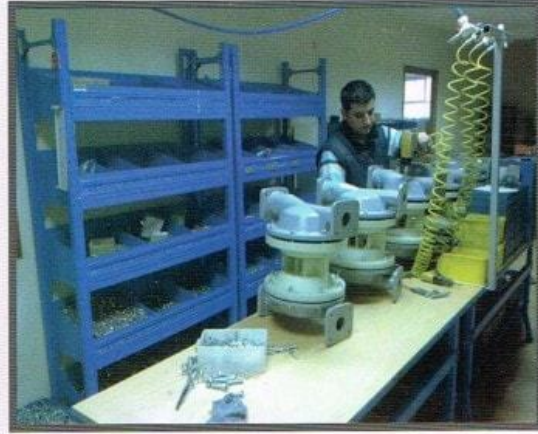


## DIAPHRAGM PUMP TECHNOLOGIES



- EM Diaphragm Pumps
- AODD Diaphragm Pumps









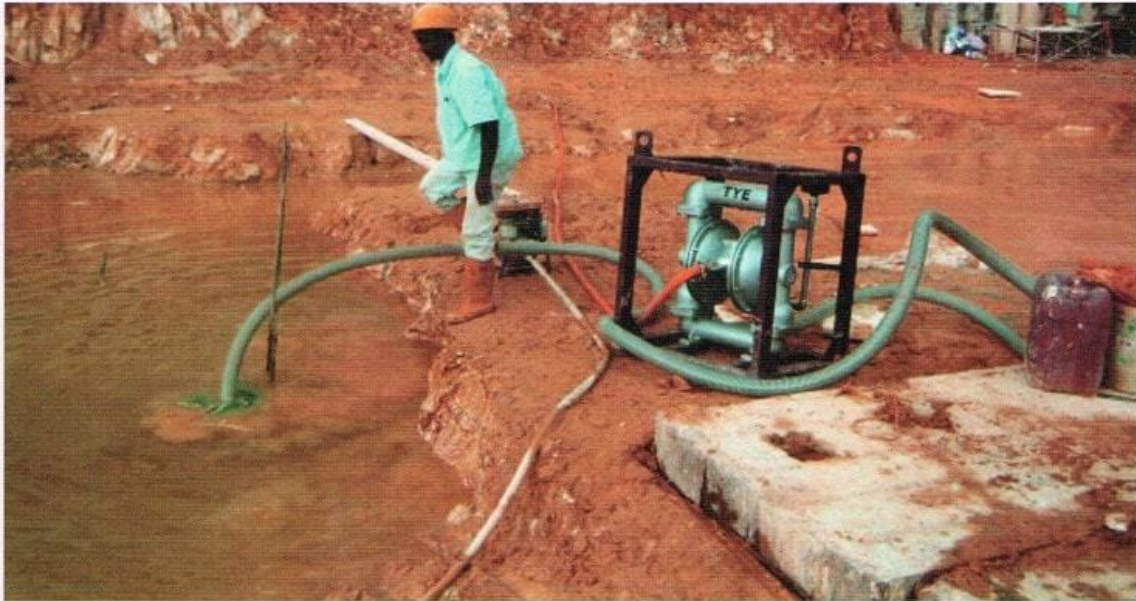
### ● About Us

The 2001 economic crisis in Turkey placed us, like many other Turkish companies, in a position where we needed to develop a new business model to ensure both survival and future growth. Manufacturing pumps was an avenue we considered pursuing for a number of years. The crisis had a positive effect in that it gave us the impetus to follow this dream. One of the main reasons was that Turkey with its large manufacturing basis did not have any company manufacturing diaphragm pumps. The coming together of different events lead to our setting up a manufacturing facility specialising in pump manufacturing with a goal to produce high quality products at competitive prices for both the local Turkish and world markets. Having survived, prospered and expanded over the past eleven challenging years, we have now become the leading company supplying the domestic market with a complete series of pneumatic and electric pumps, incorporating many new technologies. In addition our export markets have expanded to thirty countries, and we have just formed our first direct sales office in Jakarta, Indonesia, and our intention is to have new sales offices in eleven more countries over the coming months and years. Our success has resulted in us moving to a new integrated manufacturing plant of 1,500 square metres, with a work force of twenty-five employees (and growing). We are unique in the fact that we manufacture more than 90% of all components in-house using the most up to date CNC machining and moulding equipment. We have also developed the technology to manufacture our own diaphragms, including PTFE. This gives us the advantage of having more control over the quality of our parts and the final product and ensures competitive spare part prices for customers.

We wish to express our most sincere appreciation and gratitude to all that have trusted and worked with you and for us to date and look forward to a long and mutually beneficial relationship with all our customers .



● Air Operated Diaphragm Pumps



Advantages of using a RAN Air Operated Diaphragm Pump;

- Pumps high-viscosity fluids comfortably.
- Suction depth up to 6 metres without check valve.
- Pump can run from dry state.
- Pump works with air. Safe with no risk of sparking.
- Does not disturb the chemical property of sensitive liquids.
- Can pump fluids that contain solid particles.
- Maintenance and repair can be carried out quickly and easily.





## ● Metallic AODD Pumps

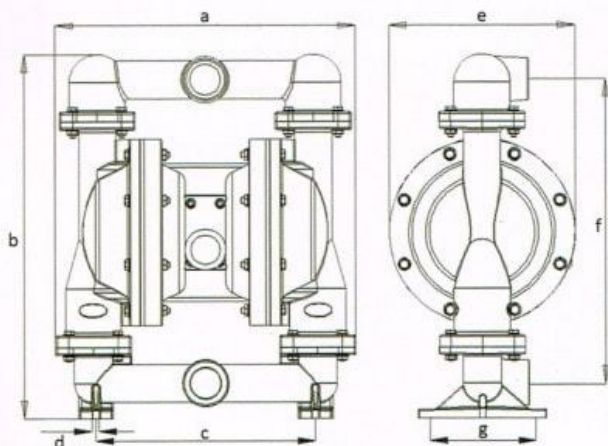
### CAST METAL SERIES: TOUGH AND RELIABLE

Manufactured from high quality Cast Aluminium and Iron these AODD pumps are suitable for a wide range of uses in many industries such as chemicals, paper/pulp, paints, waste water, ceramics, construction, mining, shipping etc. Easy to maintain and service.

### ● Technical Specifications

Pump Size	1/2"	3/4"	1"	1 1/2"	2"	3"
Product Code	B15-AX	C20-AX	D20-AX	E40-AX	F50-AX	G80-AX
Max. Capacity	60 lpm	80 lpm	150 lpm	370 lpm	550 lpm	907 lpm
Max. Air Consumption	520 lpm	500 lpm	1500 lpm	2000 lpm	2500 lpm	4700lpm
Air Inlet Size	1/4"	1/4"	1/2"	1/2"	1/2"	1/2"
Max. Working Pressure	7 bar	7 bar	7 bar	8 bar	8 bar	8 bar
Max. Suction Lift	3 m	4 m	5 m	5.2 m	5.6 m	6.3 m
Max. Size Pumpable Solids	1.5 mm	2.4 mm	3 mm	4.5 mm	6.2 mm	9.5 mm
Weight	3 kg	9 kg	6.8 kg	18 kg	31 kg	55 kg

### ● Dimensions (mm)



Pump Size	a	b	c	d	e	f	g
1/2"	195	271	143	8	146	222	105
3/4"	256	307	137	8.5	182	256	62
1"	305	505	196	10	210	375	152
1 1/2"	405	500	304	12	265	415	156
2"	480	785	347	12	320	600	212
3"	560	790	397	12	410	645	200





## ● Stainless Steel FDA Compliant AODD Pumps

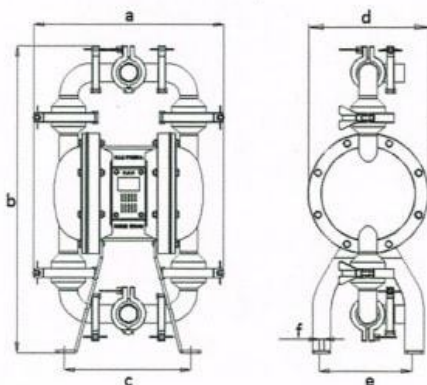
### STAINLESS STEEL SERIES: HIGHEST QUALITY AND PERFECT FINISH

Our Stainless Steel air operated pumps are made from only the best materials including high quality 316 grade cold stamped stainless steel sheet with a vastly superior finish compared to cast stainless steel. These pumps are the ultimate in high quality and innovative design. Suitable for use with food products and chemicals requiring stainless steel wet parts. All wet materials used in our stainless steel air operated and electro-mechanical pumps are FDA approved for use with food products.

### ● Technical Specifications

Pump Size	1/2"	1"	1 1/2"	2"	3"
Product Code	B15-SX	D20-SX	E40-SX	F50-SX	G80-SX
Max. Capacity	60 lpm	150 lpm	370 lpm	550 lpm	907 lpm
Max. Air Consumption	520 lpm	1500 lpm	2000 lpm	2500 lpm	4700 lpm
Air Inlet Size	1/4"	1/2"	1/2"	1/2"	1/2"
Max. Working Pressure	7 bar	7 bar	8 bar	8 bar	8 bar
Max. Suction Lift	3 m	5 m	5.2 m	5.6 m	6.3 m
Max. Size Pumpable Solids	1.5 mm	3 mm	4.5 mm	6.2 mm	9.5 mm
Weight	6.8 kg	14 kg	24 kg	55 kg	70 kg

### ● Dimensions (mm)



Pump Size	a	b	c	d	e	f
1/2"	333	363	146	148	105	8.5
1"	393	413	250	210	124	8.5
1 1/2"	410	660	273	258	200	10
2"	491	765	341	318	256	15
3"	575	1200	500	383	380	15



## ● Non-Metallic AODD Pumps

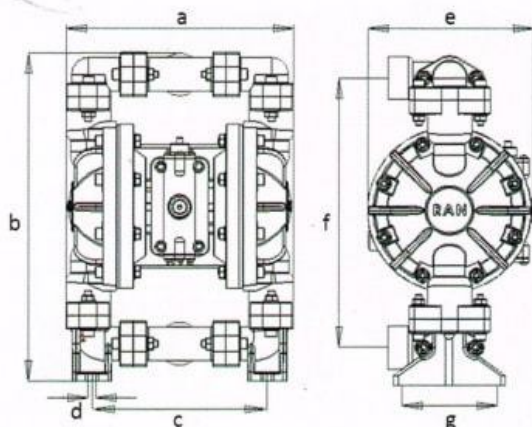
### PLASTIC SERIES: FOR SPECIAL NEEDS

Manufactured in our factory utilising the most modern injection moulding techniques available, these pumps are available in Polypropylene for solvents and general use plus PVDF for more rigorous applications.

### ● Technical Specifications

Pump Size	1/4"	1/2"	1"	1 1/2"	2"
Product Code	A8-PX	B15-PX	D20-PX	E40-PX	F50-PX
Max. Capacity	18 lpm	60 lpm	150 lpm	370 lpm	550 lpm
Max. Air Consumption	250 lpm	520 lpm	1500 lpm	2000 lpm	2500 lpm
Air Inlet Size	1/8"	1/4"	1/2"	1/2"	1/2"
Max. Working Pressure	7 bar	7 bar	7 bar	8 bar	8 bar
Max. Suction Lift	2 m	3 m	5 m	5.2 m	5.6 m
Max. Size Pumpable Solids	1 mm	1.5 mm	3 mm	4.5 mm	6.2 mm
Weight	1.2 kg	3.5 kg	8 kg	18 kg	31 kg

### ● Dimensions (mm)



Pump Size	a	b	c	d	e	f	g
1/4"	155	230	128	8	102.5	65	
1/2"	202	295	152	6	148	242	86
1"	305	505	196	10	210	375	152
1 1/2"	395	643	284	12	260	500	166
2"	480	785	347	12	320	600	212



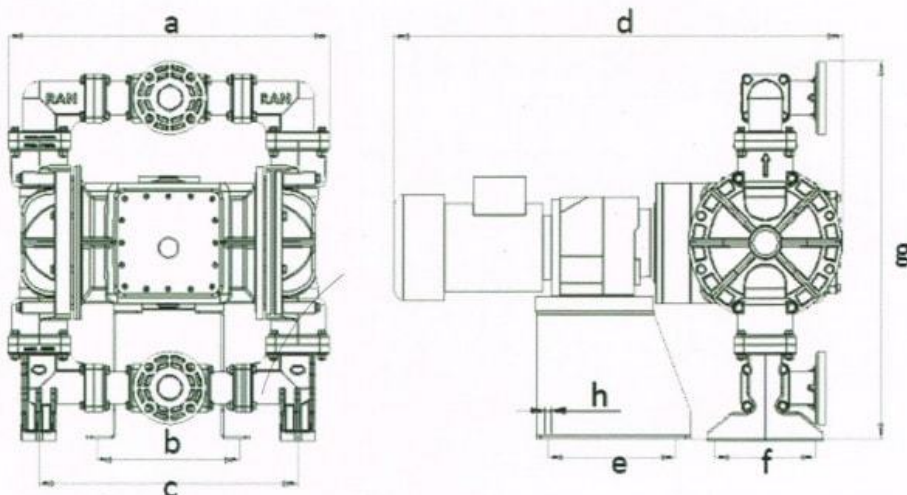


● None-Metallic EM Pumps

● Technical Specifications

	1"	1 1/2"	2"
Product Code	D25E-PX	E40E-PX	F50E-PX
Max. Capacity	83 lpm	170 lpm	333 lpm
Motor Power	1,1 kw	2,2 kw	3 kw
Max. Working Pressure	6 bar	4 bar	4 bar
Max. Suction Lift	5 m	5.2 m	5.6 m
Max. Size Pumpable Solids	3 mm	4.5 mm	6.2 mm

● Dimensions (mm)



Pump Size	a	b	c	d	e	f	g	h
1"	410	200	-	720	220	-	525	10
1 1/2"	580	230	470	870	210	170	650	12
2"	670	282	540	920	220	215	780	12



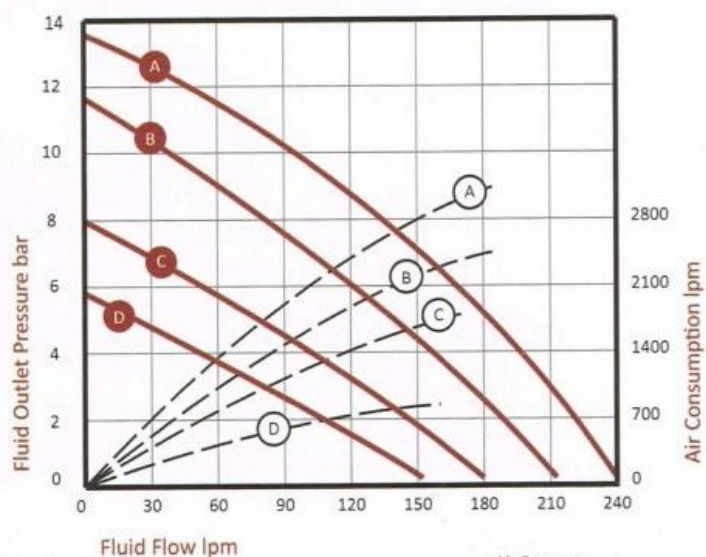


## ● High Pressure AODD Pumps

### ● Technical Specifications

Pump Size	<b>2"</b>
Product Code	F50H-CX
Max. Capacity	240 lpm
Max. Air Consumption	2500 lpm
Air Inlet Size	1/2"
Max. Working Pressure	14 bar
Max. Suction Lift	5.6 m
Max. Size Pumpable Solids	6.2 mm
Weight	31 kg

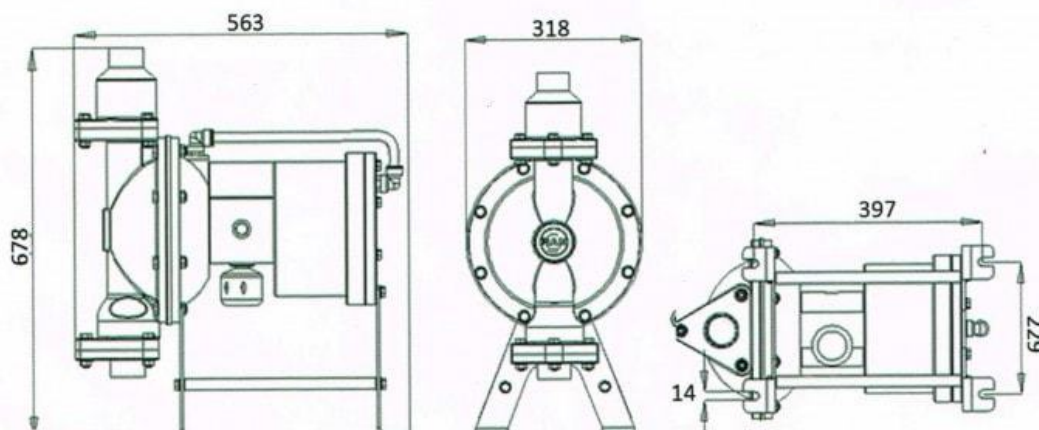
Performance Curves



Air Pressure

A: 7 bar (100 psi)  
B: 4.8 bar (70 psi)  
C: 2.8 bar (40 psi)  
D: 1.4 bar (20 psi)

### ● Dimensions (mm)



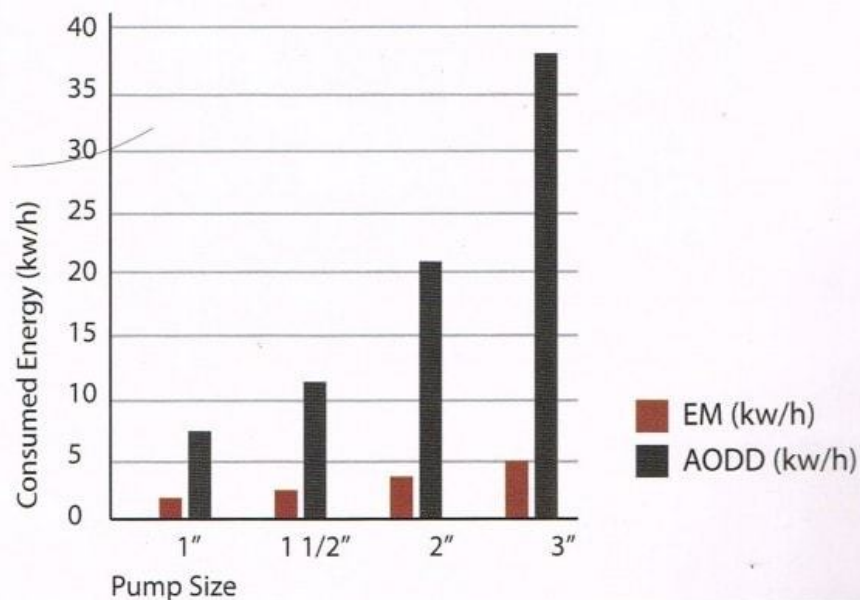
● Electro-Mechanical Diaphragm Pumps



Advantages of using a RAN Electro-Mechanical Diaphragm Pump;

- No need for compressed air, offering a level of energy efficiency that is good for your business and good for the environment.
- Does not use hydraulic oil and is suited to low pressure applications.
- Solidly built and designed for ease of use and maintenance
- Noise levels are far lower than comparable sized AODD pumps.
- Fitted with Frequency Inverter, Rupture Sensor and Safety Bypass Valve.
- Available in Plastic and Metal bodies in sizes from 1" to 3".
- Can also be fitted with ATEX approved motors if required.

Comparison of the Energy Used





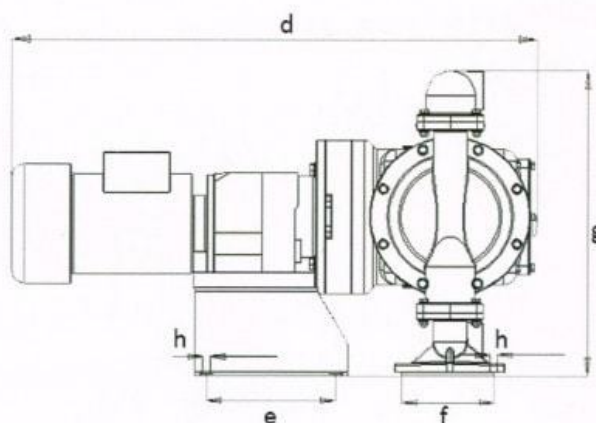
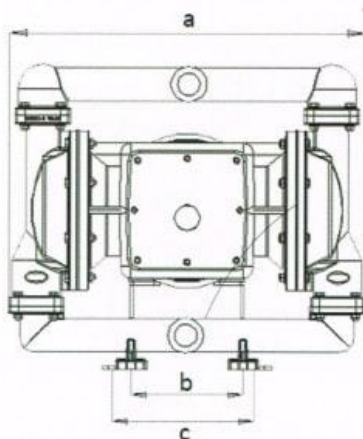


● Metallic EM Pump

## ● Technical Specifications

Pump Size	1"	1 1/2"	2"	3"
Product Code	D25E-AX	E40E-AX	F50E-AX	G80E-AX
Max. Capacity	83 lpm	170 lpm	333 lpm	500 lpm
Motor Power	1,1 kw	2,2 kw	3 kw	4 kw
Max. Working Pressure	6 bar	4 bar	4 bar	4 bar
Max. Suction Lift	5 m	5.2 m	5.6 m	6.3 m
Max. Size Pumpable Solids	3 mm	4.5 mm	6.2 mm	9.5 mm

## ● Dimensions (mm)



Pump Size	a	b	c	d	e	f	g	h
<b>1"</b>	345	-	200	720	220	-	440	10
<b>1 1/2"</b>	580	298	490	855	235	156	505	12
<b>2"</b>	705	300	338	930	288	215	658	12
<b>3"</b>	785	385	430	1100	288	190	750	12



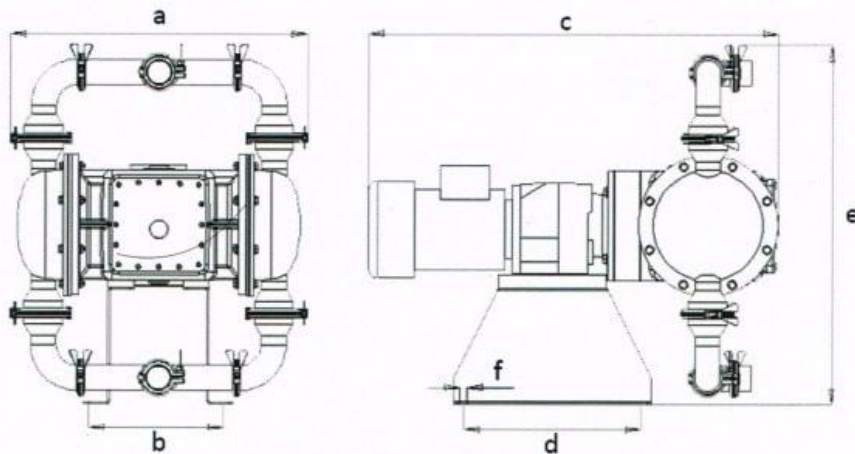
● Stainless Steel FDA Compliant EM Pumps

● Technical Specifications

All wet materials used in our stainless steel air operated and electro-mechanical pumps are FDA compatible for use with food products.

Pump Size	1"	1 1/2"	2"	3"
Product Code	D25E-SX	E40E-SX	F50E-SX	G80E-SX
Max. Capacity	83 lpm	170 lpm	333 lpm	500 lpm
Motor Power	1,1 kw	2,2 kw	3 kw	4 kw
Max. Working Pressure	6 bar	4 bar	4 bar	4 bar
Max. Suction Lift	5 m	5.2 m	5.6 m	6.3 m
Max. Pumpable Solids	3 mm	4.5 mm	6.2 mm	9.5 mm

● Dimensions (mm)



Pump Size	a	b	c	d	e	f
1"	500	200	720	220	510	10
1 1/2"	588	271	870	460	666	12
2"	675	307	930	402	813	12
3"	810	385	1110	350	1010	12



## ● Hydraulic Piston Diaphragm Pump



### RAN ELECTRIC DRIVEN HYDRAULIC PISTON DIAPHRAGM PUMP.

We manufacture these pumps to customer specification in either 2 chamber or 4 chamber versions Pumping action provided by an electrically powered hydraulic piston system.

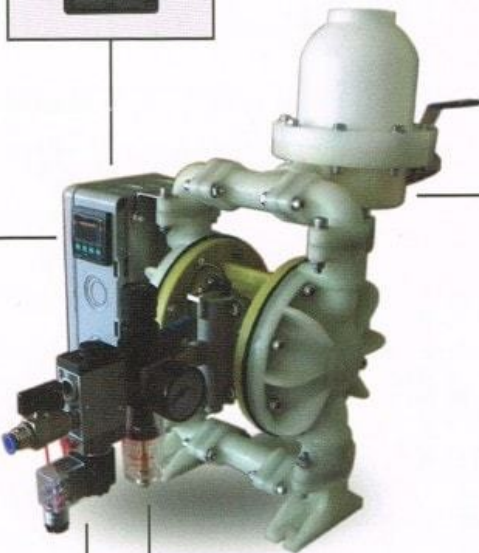
#### **Main Details:**

- PUMPS made to customer specifications.
- Available in 2 or 4 chamber versions.
- Utilising highly efficient electrically powered hydraulic piston system.
- Available in Cast Iron and Stainless Steel
- Triple Diaphragm protection against leaks.
- Many uses including ceramic slurry, aggressive fluids, filter press etc.
- Capacity of up to 50 m<sup>3</sup>/h (833 ltr/pm)
- Up to 16 bar (232 p.s.i) fluid outlet pressure
- Fluid Temperatures of up to 100°C.

## ● The Accessories



**Rupture Sensor Systems:** To warn of a ruptured diaphragm and allow for swift pump shut down.



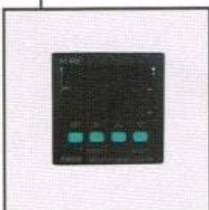
**Pulsation Dampeners:** Will ensure a smooth flow for your fluid and particularly useful for use with shear sensitive fluids such as Paints, Polymers, Latex Solutions, Sauces, Slurries, Shampoo etc.



**Air Filter Regulators:** To control your air pressure and clean your air supply to give you trouble free efficient performance.



**On/Off Air Control Valve**



**Fluid Output Counter Systems:** Accurately measure your fluid per cycle and quantity per minute.



## OUR DIAPHRAGMS: STRONG AND LONG LASTING

Gisan Machine Co. is one of the very few pump companies that manufacture its own pump diaphragms, check valves, seats etc. As a result we have more control over the quality of these components and can supply at more competitive prices. In particular, we are unique in that we have mastered the difficult process of moulding PTFE diaphragms. All our diaphragms and components are made from the highest quality raw materials sourced from world class suppliers.



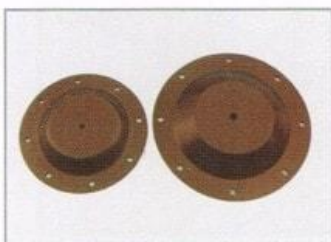
**PTFE (Teflon<sup>®</sup>)** is a smooth plastic material that has high temperature resistance of upto 105°C. It has excellent chemical resistance and is low friction. It is used where high chemical resistance is of extreme importance and is also approved for use with food products.



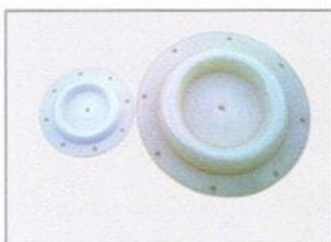
**Buna-N<sup>®</sup> (Nitrile/NBR)** is suitable for use with oils, minerals, vegetable oils, animal oils. It has good mechanical strength, and withstands deformation.  
**Neoprene:** Resistance to atmospheric ageing, alcohols, weak acids and bases, salt based fluids and some motor oils. High resistance to cracking caused by flexing.



**Santoprene<sup>®</sup>** is a Thermoplastic Elastomer with resistance to acids, liquids with oil content, greases etc.  
**Geolast<sup>®</sup>** This is a thermoplastic rubber with enhanced oil resistance and usable at low and high temperatures and excellent elongation retention.

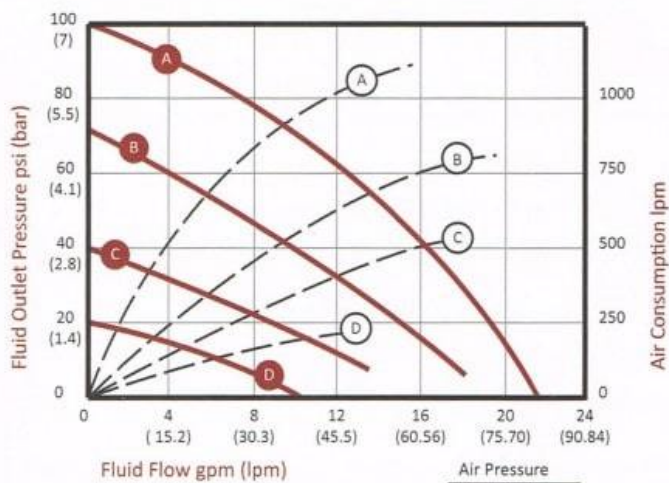


**Viton<sup>®</sup>:** This material is suitable for use at higher temperatures of up to 175°C and resistant to synthetic hydraulic oil, fuel oils, and mineral oils.

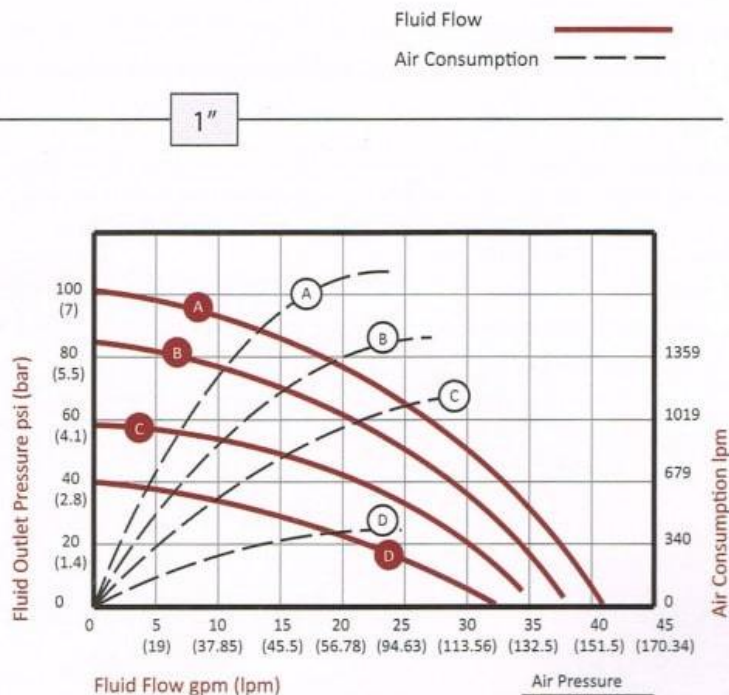


**Polyurethane:** Properties of Polyurethane include very high tensile strength and resistance to wear making it very suitable for use in High Pressure Pumping applications.

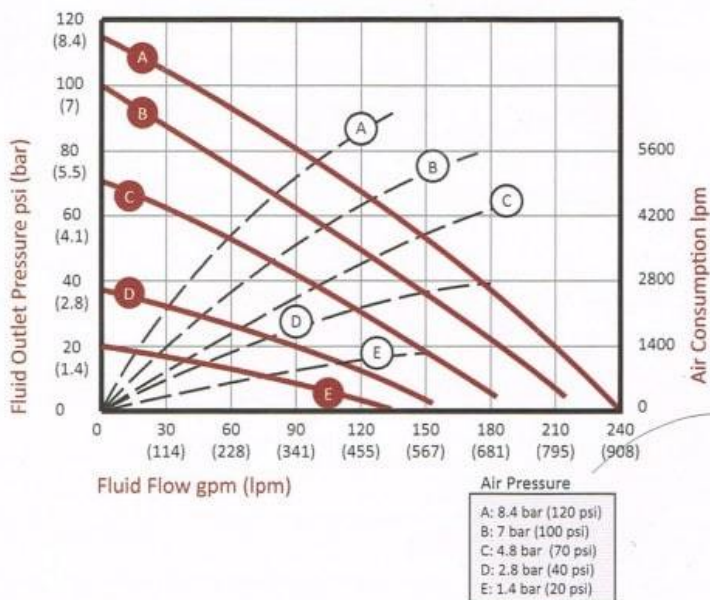
3/4"



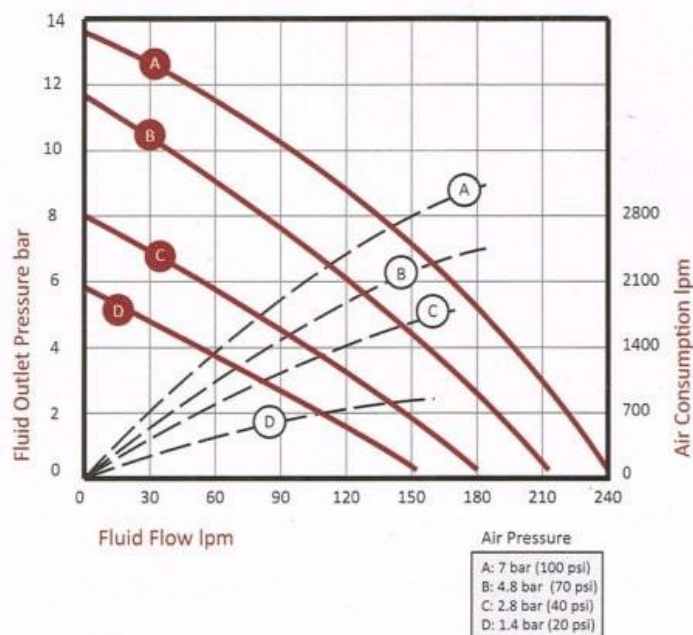
1"



3"



2"



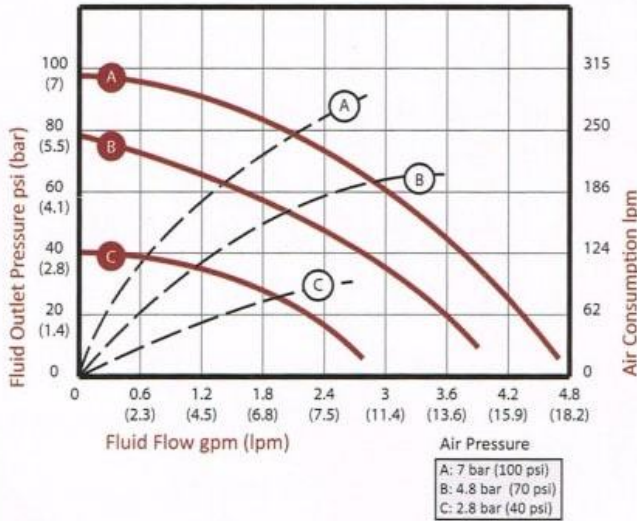
-All the values shown are approximate and not binding.



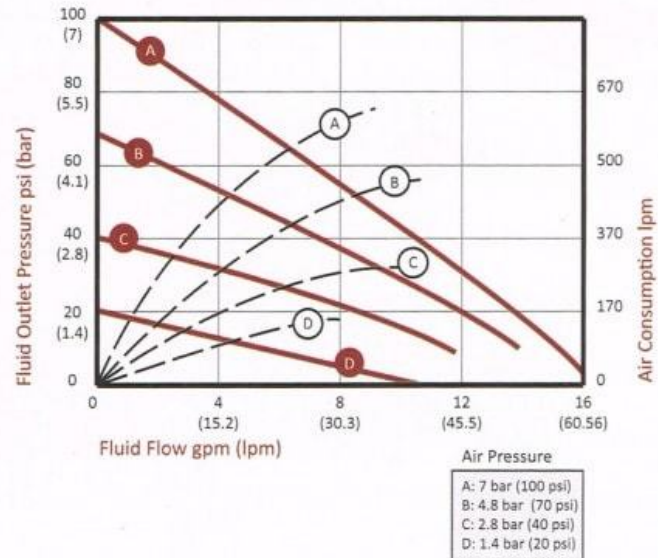
## ● The Performance Curves of AODD Pumps

Fluid Flow ———  
Air Consumption - - -

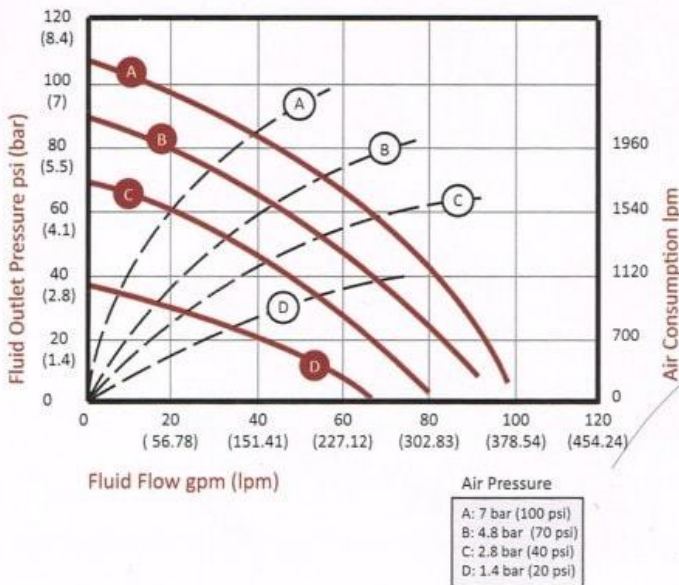
1/4"



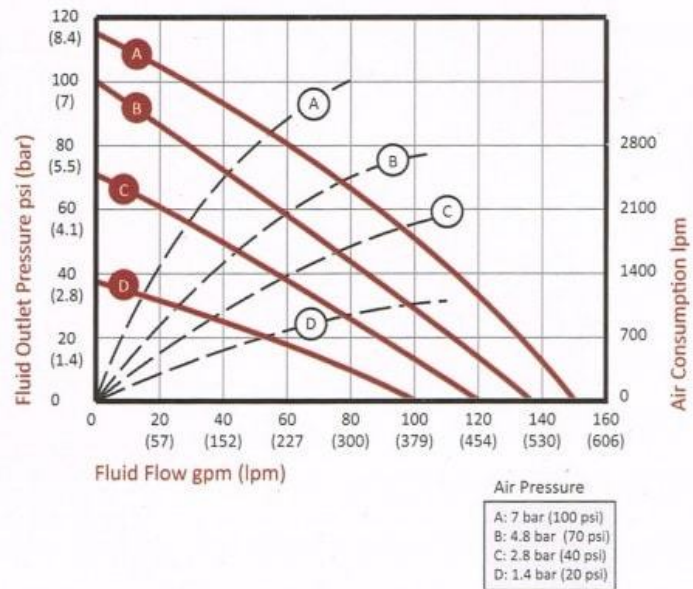
1/2"



1 1/2"



2"



### Test Conditions:

- Pump tested with water with inlet submerged using Buna-N diaphragm.
- If using PTFE diaphragm, capacity decreases by %20.