

**Air Operated  
Double Diaphragm Pumps**

*for marine, industrial and mining applications*

## Teryair AODD pumps



Teryair manufactures a growing programme of pneumatic equipment and tools.

The equipment boasts of cutting edge features, comparable with the worlds best technologies, and compete successfully, feature for feature, with the industry leading brands and all this at competitive pricing.

Prominent among the equipment is the lineup of Teryair pneumatic air operated double diaphragm pump range. These pumps are being currently exported to over 40 countries, both as a teryair product and under private lable arrangements.

Last year teryair produced and sold over 9000 pumps and there is an ambitious growth plan in the coming years.

In India and around the world, teryair pumps are supported by strong no nonsense warranties and a promise of quick supply of spares.



### Why Teryair AODD Pumps ?

Every pump is duration tested on a test bench at maximum load. Every pump performance parameter is recorded and traceable. This ensures unparalled pump reliability.

State of the air manufacturing under an ISO 9001:2015 enviornment.

Teryair pumps are CE and Ex certified.



### Manufacturing Facilities

#### Research and Development

Teryair employs cutting edge design software and has trained engineers. They have been consistently improving the product by listening to user feedback. And new products are being launched every year.

#### Quality Assurance

Under the environment of ISO 9001 system, Teryair ensures that customer expectations are met and exceeded.

#### Infrastructure

Teryair is located on the outskirts of Mumbai, Indias thriving hub of commerce and industry. The factories are fully equipped to produce quality pneumatic equipment. All critical components are manufactured in house and this this way a strict control on production planning, timely delivery assurance and quality control is achieved.

## Terryair AODD pumps

### Terryair diaphragm pump advantages

- Pumps variety of fluids
- Easy startups, no priming.
- No foaming or shearing of the product being pumped
- No decline in pumping efficiency over time, diaphragm replacement restores pump to original efficiency
- No damage due to running without lubrication (MaxFlo fitted pumps)
- Solid particle handling
- No damage when stalled or overloaded.
- Capable in submersible, flooded or negative suction orientations
- Explosion proof, ATEX Certified \*
- No mechanical seals to replace
- Variable flow
- Suited for fixed and portable applications.



## Diaphragm Pump Applications

Teryair pumps are versatile workhorses that can be used in a variety of pumping situations across numerous industries. Almost every type of liquid can be handled by these pumps.

Some of the typical industries are shown below



**PACKAGING**



**PAINT**



**CHEMICAL**



**CONSTRUCTION**



**OFFSHORE**



**SHIPPING**



**CERAMIC**



**PHARMACEUTICALS**



**MINING**

# How to select right diaphragm pump for your application

Follow the steps outlined here to arrive at the best match

## 1 Gather your application data first. Following data is important.

Fluid to be pumped and its physical and chemical characteristics

- Viscosity
- pH value
- Specific Gravity
- Size of suspended solids, if any
- Discharge rate required
- Head at which discharge is required
- Suction head if any
- Pipe line diameter intended/existing and no. of bends

## 2 Select the diaphragm, Terryair offers the following material choices

### Neoprene

An excellent general purpose diaphragm for use in non-aggressive applications such as water-based slurries, well water or sea water. Exhibits excellent flex life and low cost. Temperature range -18 C to +93 C (0 F to +20 F)

### Nitrile

Excellent for applications involving petroleum / oil-based fluids such as leaded gasolines, fuel oils, non-synthetic hydraulic oils, kerosene, turpentine and motor oils. Temperature range -12 C to +82 C (+100 F to +180 F)

### Viton

Excellent for use in applications requiring extremely hot temperatures. May also be used with aggressive fluids such as aromatic or chlorinated hydrocarbons and highly aggressive acids. Especially where high suction lift is important. Temperature range -40 C to +175 C (-40 F to +350 F)

### PTFE

Excellent choice when pumping highly aggressive fluids such as aromatic or chlorinated hydrocarbons, acids, caustics, ketones and acetates. Temperature range +4 C to +104 C (+40 F to +220 F)

### Santoprene

Good abrasion resistance. Low cost. Can handle mild acids and alkalis well. Excellent low cost alternative to ptf. Excellent suction capabilities Excellent general purpose diaphragm. Temperature range -40 C to +107 C (-40 F to +225 F)

### Hytrel

Good abrasion resistance. Low cost. . Excellent suction capabilities Excellent general purpose diaphragm. Temperature range -27 C to +107 C (-40 F to +225 F)

## 3 Once the diaphragm material is chosen, select the correct material of construction of the pump. terryair offers following material of construction choices:

### Aluminium

Good for fluids having pH between 5.5 and 8.5 Temperature only limited only by diaphragm limits

### Stainless Steel 316L

Good for stronger concentrated acids and alkaline fluids. Stainless Steel is durable and rugged. Temperature only limited by diaphragm limits

### Polypropylene

Good alternative low cost choice where fluid is compatible especially chemical compatibility and temperatures. Polypropylene is good between Temperature ranges of +12 C to +107 C and +32 F to +175 F.

### Ductile Iron

Ideal for underground and overground rugged duty especially where underground duty calls for a no-aluminium construction. Economic alternative to SS in these cases.

## 4 Now establish the TOTAL Head using the below calculation.

TOTAL Head = Specific gravity X (Suction Head + Discharge head)

Now add roughly about 10 feet for each 90 degree Bend, and allow for friction within the pipe too.

## 5 Check Solids Handling Capability

Maximum slurry particle size must not be greater than the pump's solids passage capability. A strainer may be placed on the inlet line to eliminate particles larger than the pump's capability. Please refer to individual specifications for you pump's specific solids passage capabilities.

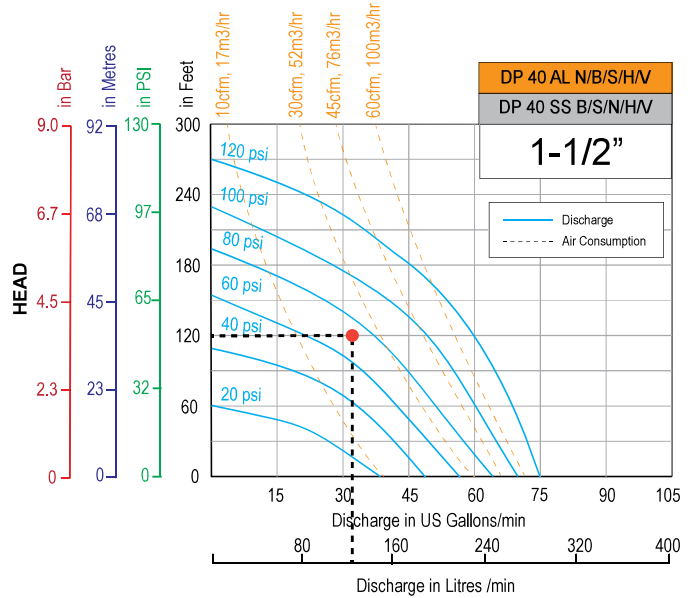
# 6

## Establish Pump Model most suited

For example

To achieve a flow of 120 liters per minute at a head of 120 feet.

If we select DP40 Pump, from its graph we see that this pump will need about 25 cfm of air at about 70 PSI supply pressure.



## Nomenclature



Air Valve Type	Pump Size	Material of Construction	Material of Diaphragm	Bolted or Clamped	Threading on Inlet and Outlet	
DP - Classic	06 - 1/4"	AL - Aluminium	B - Nitrile N - Neoprene S - Santoprene T - PTFE V - Viton H - Hytrel	B - Bolted	R - NPT	
	12 - 1/2"				G - BSPT	
ADP - Advanced	15 - 1/2"	SS - Stainless Steel 316L		C - Clamped	P - BSPP	
SDP - MaxFlo	25 - 1"	PP - Polypropylene			C - Clamped	F - Flanged
	40 - 1 - 1/2"			CI - Ductile Iron		
	50 - 2"					
	75 - 3"					
	100 - 4"					

**Notes:**

MaxFlo M : Heavy Duty Mining version of MaxFlo valve system

MaxFlo SS : MaxFlo valve system for chemical handling

## Teryair Air Distribution Valve Technology

The heart of any diaphragm pump is the air distribution valve. Teryair valves are designed to maximize air efficiencies, using less air to pump more.

There are other features that are desirable depending on the application. Stall free, lubrication free or corrosion resistant.

Teryair has carefully combined correct valves with aluminium, SS or PP pump materials and has pre selected valve+pump combinations that are fine tuned for applications.

For example Teryair matches popular combinations of aluminium with classic valves for the rough and ready portable use for marine applicaitons.

To know more about teryair valve technology, read below

### Classic Valve

Rugged bronze construction and internal spools also are hard anodized metal. Specifically designed for rough outdoor and portable use. Interchangeable with other popular brands.



Classic valves have a standard Generic Interface

### Advanced Valve

Best matched with Teryair PP pumps, they have a precision shift mechanism and a PTFE and viton seal. They are lubrication free and constructed from high density advanced plastics.



### MaxFlo Valve

Teryair's most advanced valve. Very efficient usage of air, high output of fluid. Available in aluminium and SS. PTFE and Viton sealing. Lurication free and stall free. These valves have a long service life. Interchangeable with other popular brands.



MaxFlo valves have a standard Generic Interface

## Aluminium Pumps

Aluminium Pumps are lightweight and easy to move about.

These aluminium constructed pumps are commonly combined with Neoprene, Nitile or Santoprene elastomers. With these elastomers they are ideal for pumping of water and water based fluids, non aggressive fluids, oily fluids and fluids having low acidic or alkali concentrations. Aluminium Pumps offer a relatively low cost solution to many pumping applicaitons. For this purpose the main industries that choose Aluminium pumps are; Paints, Marine, Mining, Ceramic and Waste Water/Pollution mangement.



SDP 50 ALN

Nominal Size	Model Number	Maximum Discharge, Litres/min (gpm)	Suction Head Dry, mtrs (feet)	Suction Head Wet, mtrs (feet)	Pump Weight, Kgs (Lbs)	Maximum Solid Handling Dia, mm (inches)	Air Dis-tribution system	Bolted or Clamped	Perfor-mance graphs, see page Number
1/4"	SDP 06 AL N/B/S/H*	18 (5)	4 (13)	9 (30)	1.9 (4.2)	0.4 (1/64")	MaxFlo	Bolted	15
	SDP 06 ALT*	18 (5)	4 (13)	9 (30)	1.9 (4.2)	0.4 (1/64")	MaxFlo	Bolted	16
1/2"	SDP 12 AL N/B/S/H*	58 (15)	6 (18)	9 (30)	5.1 (9.4)	1.6 (1/16")	MaxFlo	Clamped	15
	SDP 12 ALT*	54 (14)	3 (10)	8.5 (28)	5.1 (9.4)	1.6 (1/16")	MaxFlo	Clamped	16
	DP 12 AL N/B	27 (6.5)	5.5(18)	9.5(31)	4.4 (9.7)	1.6 (1/16")	Classic	Bolted	13
	DP 12 ALT	25 (6)	2.7 (9)	9.5(31)	4.4 (9.7)	1.6 (1/16")	Classic	Bolted	14
1"	DP 25 AL N/B/S/H/V	122 (32)	5.5(18)	9.5(31)	9.1 (20)	3.2(1/8")	Classic	Clamped	13
	DP 25 ALT	95 (25)	2.7 (9)	9.5(31)	9.1 (20)	3.2(1/8")	Classic	Clamped	14
	SDP 25 AL N/B/S/H/V*	160 (40)	6 (18)	8.5 (28)	6.2 (13.6)	3.2(1/8")	MaxFlo	Clamped	15
	SDP 25 ALT*	130 (35)	3 (10)	8.5 (28)	6.2 (13.6)	3.2(1/8")	MaxFlo	Clamped	16
1-1/2"	DP 40 AL N/B/S/H/V	266 (75)	5.5(18)	8.5 (28)	15 (33)	4.8 (3/16")	Classic	Clamped	13
	DP 40 ALT	235(62)	2.7 (9)	8.5 (28)	15.5 (34)	4.8 (3/16")	Classic	Clamped	14
	SDP 40 AL N/B/S/H/V	266 (70)	6 (18)	8.5 (28)	17 (37)	4.8 (3/16")	MaxFlo	Clamped	15
	SDP 40 ALT	285 (75)	3.5 (12)	8.5 (28)	17.5 (38.5)	4.8 (3/16")	MaxFlo	Clamped	16
2"	DP 50 AL N/B/S/H/V	591 (155)	6.4 (21)	8.5 (28)	26.5 (58)	6.4 (1/4")	Classic	Clamped	13
	DP 50 ALT	534 (141)	3.5 (13)	8.5 (28)	26 (57)	6.4 (1/4")	Classic	Clamped	14
	SDP 50 AL N/B/S/H/V	591 (155)	7 (24)	9.5 (31)	29 (64)	6.4 (1/4")	MaxFlo	Clamped	15
	SDP 50 ALT	496 (131)	4.6 (15)	9.5 (31)	29 (64)	6.4 (1/4")	MaxFlo	Clamped	16
3"	DP 75 AL N/B/S/H/V	878 (232)	5.5 (18)	9.5 (31)	52.5 (115.5)	9.5mm (3/8")	Classic	Clamped	13
	DP 75 ALT	704 (186)	3.5 (13)	8.5 (28)	52 (114)	9.5mm (3/8")	Classic	Clamped	14
	SDP 75 AL N/B/S/H/V	875	5.5 (18)	9.5 (31)	54 (118)	9.5mm (3/8")	MaxFlo	Clamped	15
	SDP 75 ALT	700	4.6(15)	9.5 (31)	54 (118)	9.5mm (3/8")	MaxFlo	Clamped	16

### Notes

1. N/B/S/H/V in Model Number indicates choice of N-Neoprene , B-Nitrile, S-Santoprene, H - Hytrel or V - Viton with matching seals
2. T in Model Number indicates PTFE with aluminium seats
3. All above mentioned pumps have aluminium wetted parts
4. PTFE models have a metal seal and PTFE sealing rings.
5. All above models are available with either BSPT, NPT or BSPP Threading, see Nomenclature.
6. Dimension Drawings are available, STEP files also available
7. MaxFlo valves are constructed from Aluminium, Acetal and CFT sealing rings
8. Classic valves are constructed from Bronze and Hard Anodized Aluminium.
9. \* indicates Models shipping from August 2020.



## Aluminium Pumps



SDP06 ALN



SDP12 ALN



DP12 ALB



DP25 ALT



SDP25 ALN



DP40 ALB



SDP40 ALT



DP50 ALN



SDP50 ALN



DP75

## Stainless Steel 316LPumps

Stainless Steel constructed pumps are used in applications which demand high pumping performance, combinations of hot and corrosive fluids, both acidic and alkali. They are the ultimate choice for durable long life performance.

These pumps are usually combined with highly capable and corrosion resistant diaphragms, mainly PTFE and often Viton and Santoprene.

With these elastomers they are ideal for pumping of fluids like benzyl diacetone, phosphoric acid, ferric sulfate, isopropyl chloride, transformer oils and many other similar fluids. Excellent choice when pumping highly aggressive fluids such as aromatic or chlorinated hydrocarbons, acids, caustics, ketone and acetates.

These pumps find wide applications across industries, some popular industries are Chemicals, Pharma, Food/Beverage and Electronic manufacturing.



SDP40 SST

Nominal Size	Model Number	Maximum Discharge, Litres/min (gpm)	Suction Head Dry, mtrs (feet)	Suction Head Wet, mtrs (feet)	Pump Weight, Kgs (Lbs)	Maximum Solid Handling Dia, mm (inches)	Air Distribution system	Bolted or Clamped	Performance graphs, See page Number	Centre section Material
1/4"	SDP 06 SS B/S/N/H*	18 (5)	4 (13)	9 (30)	4.5 (10)	0.4 (1/64")	MaxFlo-SS	Bolted	15	SS
	SDP 06 SST*	18 (5)	4 (13)	9 (30)	4.5 (10)	0.4 (1/64")	MaxFlo-SS	Bolted	16	SS
1/2"	SDP 12 SS B/S/N/H*	58 (15)	6 (18)	9 (30)	10 (22)	1.6 (1/16")	MaxFlo-SS	Clamped	15	SS
	SDP 12 SST*	54 (14)	3 (10)	8.5 (28)	10 (22)	1.6 (1/16")	MaxFlo-SS	Clamped	16	SS
1"	DP 25 SS B/S/N/H/V	122 (32)	5.5(18)	9.5(31)	13.6 (30)	3.2(1/8")	Classic	Clamped	13	Aluminium
	DP 25 SST	95 (25)	2.7 (9)	9.5(31)	13.6 (30)	3.2(1/8")	Classic	Clamped	14	Aluminium
	SDP 25 SS B/S/N/H/V*	160 (40)	6 (18)	8.5 (28)	18 (40)	3.2(1/8")	MaxFlo-SS	Clamped	15	Aluminium
	SDP 25 SST*	130 (35)	3 (10)	8.5 (28)	18 (40)	3.2(1/8")	MaxFlo-SS	Clamped	16	Aluminium
1-1/2"	DP 40 SS B/S/N/H/V	266 (70)	5.5(18)	8.5 (28)	23.2 (51)	4.8 (3/16")	Classic	Clamped	13	Aluminium
	DP 40 SST	235(62)	2.7 (9)	8.5 (28)	23.2 (51)	4.8 (3/16")	Classic	Clamped	14	Aluminium
	SDP 40 SS B/S/N/H/V	266 (70)	6 (18)	8.5 (28)	28.5 (63)	4.8 (3/16")	MaxFlo	Clamped	15	Aluminium
	SDP 40 SST	285 (75)	3.5 (12)	8.5 (28)	28.5 (63)	4.8 (3/16")	MaxFlo	Clamped	16	Aluminium
2"	DP 50 SS B/S/N/H/V	591 (155)	6.4 (21)	8.5 (28)	42 (92)	6.4 (1/4")	Classic	Clamped	13	Aluminium
	DP 50 SST	496 (131)	3.5 (13)	8.5 (28)	42 (92)	6.4 (1/4")	Classic	Clamped	14	Aluminium
	SDP 50 SS B/S/N/H/V	591 (155)	7 (24)	9.5 (31)	48 (105)	6.4 (1/4")	MaxFlo	Clamped	15	Aluminium
	SDP 50 SST	496 (131)	4.6 (15)	9.5 (31)	48 (105)	6.4 (1/4")	MaxFlo	Clamped	16	Aluminium

### Notes

1. B/S/N/H/V indicates choice of B-Nitrile, S-Santoprene, N-Neoprene, H-Hytrell and V-Viton with matching seals
2. T indicates PTFE with SS seats
3. All above mentioned pumps have SS316L wetted parts
4. PTFE models have a metal seal and PTFE sealing rings.
5. All above models are available with either BSPT, NPT or BSPP Threading, see nomenclature
6. Dimension Drawings are available, STEP files also available
7. MaxFlo valves are constructed from Aluminium or SS316L, Acetal and CFT sealing rings
8. Classic valves are constructed from Bronze and Hard Anodized Aluminium.
9. MaxFlo valves on SS models are SS-HDPP-CFT for corrosion resistance.
10. \* indicates Models shipping from August 2020