



VERDERAIR

Double Diaphragm Pumps



Verderair

Double Diaphragm Pumps

The series of Verderair double diaphragm pumps are highly engineered diaphragm pumps, delivering a smooth, reliable flow for all circumstances. The new air valves design guarantees a perfect, non-stalling operation, even at low pressure. The air valves do not need any lubrication. Thanks to their unique design, the pumps are able to handle very abrasive and/or viscous products.



The Verderair pumps will run dry indefinitely without damage. Verder has selected those materials which offer the best combination of benefits to the end user. The used wetted pump part materials are Acetal, Polypropylene, Kynar, Aluminium, Cast Iron and stainless steel. For ball and/or diaphragm, Verder selected PTFE, Hytrel, Santoprene, Viton, BUNA-N, SS and Acetal.

Flow range	0.1 up to 1050 l/min
Pressure	up to 16 bar

Features and advantages

- Easy installation
- Performs on-demand in remote locations
- Extremely portable for multi-location use
- Easy to maintain
- Easy to operate
- Can run dry without pump damage
- No air lubrication necessary

Double diaphragm pumps are being used in a wide range of industrial areas:

Beverage industry

Yeast, diatomaceous earth, slurry, dregs, liquid hops, sugar syrup, wine, fruit, corn syrup.

Pharmaceutical industry

Vegetable extracts, tablet pastes, alcohols, filtering aids, ultra filtration, blood plasma.

Electronic industry

Solvents, electroplating baths, ultrapure liquids, carrier fluids for ultra-sonic washing, sulfuric nitric and acid wastes, etching acids, acetone, polishing compound.

Paint and coatings

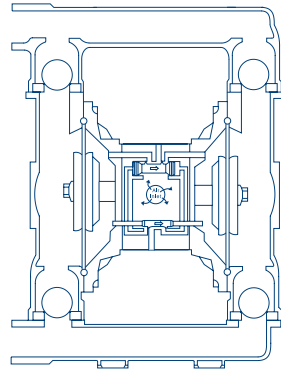
Resins, solvents, wood preservative stain, concrete paints, titanium dioxide slurry, dispersions, varnish cleaning baths.

Food

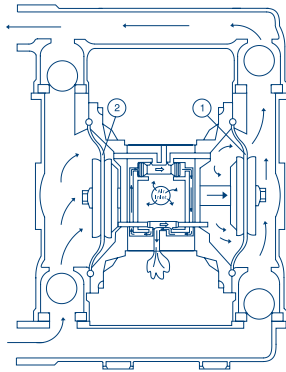
Brine, chocolate, vinegar, molasses, dog & cat food, vegetable oil, honey, animal blood.



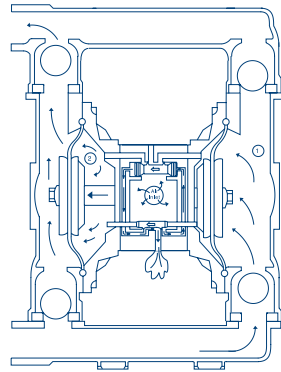
Working principle



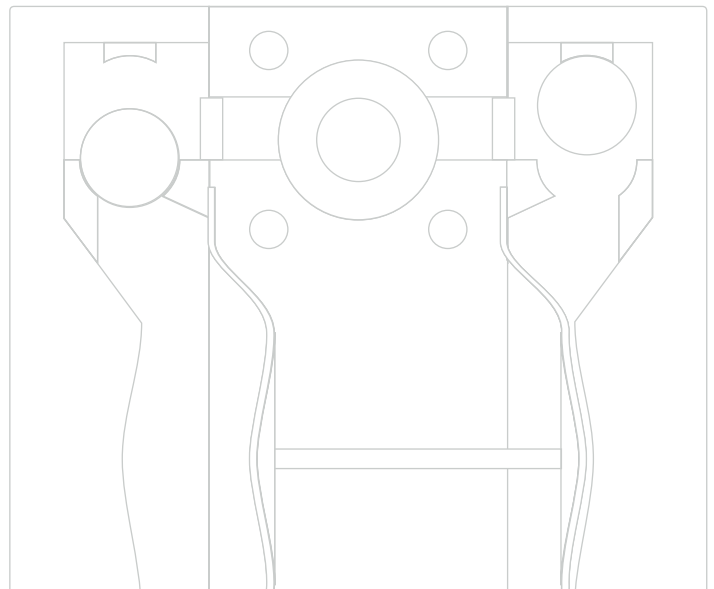
1. The air valve directs compressed air behind diaphragm 1 which is then passed directly to the liquid column. The diaphragm acts as a divide between the compressed air and the liquid. The compressed air moves the diaphragm away from the central block of the pump. The opposite diaphragm is pulled towards the central block by the connecting rod, which is connected to the diaphragm that is under pressure. Diaphragm 2 now carries out the air-expelling stroke; air from behind the diaphragm is then expelled through the discharge valve into the atmosphere. Diaphragm 2 moves in the direction of the central block of the pump. Atmospheric pressure then forces the liquid towards the inlet manifold, where the valve ball is moved from its seat. This allows liquid to flow freely past the inlet valve ball and fill the liquid chamber.



2. Once the diaphragm under pressure, diaphragm 1, has reached the limit of its outward stroke, the air valve leads compressed air behind diaphragm 2. This compressed air pushes diaphragm 2 away from the central block, resulting in diaphragm 1 being pulled towards the central block. Diaphragm 2 pushes the inlet valve ball onto its seating through the hydraulic forces that develop. The same hydraulic forces cause the discharge valve ball to be lifted from its seat, whilst the opposite discharge valve ball is forced onto its seat. The inlet valve ball is lifted from its seat, so that the liquid can be transported to fill the liquid chamber.



3. When the stroke is completed, the air valve once again brings air behind diaphragm 1 and diaphragm 2 starts on the air-expelling stroke.





Model VA standard also available in ATEX.

This pump model is an extension of the standard VA model. Materials of constructions are of conductive polypropylene, ideal for the toughest industrial applications. Also according to ISO.

Flow	max. 1060 l/min
Pressure	max. 8.4 bar

OVERVIEW OF PUMP MODELS

Model VA standard

These diaphragm pumps provide flexible, reliable flow in all circumstances. The design of the control valve guarantees perfect operation that never jams and that does not have to be lubricated even at low compressed air pressure and high backpressure. Verderair has chosen those materials that offer the end user the best combination of advantages.

Both metallic and non metallic versions are available.



Flow	max. 1060 l/min
Pressure	max. 8.4 bar

Model VA high pressure

The high pressure range has exactly the same excellent features as the standard pumps. Additionally they can lift up to 16 bar.



Flow	max. 1060 l/min
Pressure	max. 16 bar

Model VA FDA

Model FDA is the hygienic model of double diaphragm pumps. This new pump model is especially designed for the food, pharmaceutical and cosmetic industry. The FDA pumps have a quick know down system: easy to clean redesigned diaphragms increasing life time.



Flow	0-568 l/min
Pressure	max. 8 bar

Model VA hygienic

These heavy duty double diaphragm pumps are constructed according to 3-A standards. This pump delivers the highest flow rate of any air operated 3-A certified double diaphragm pump ever.



Flow	max. 565 l/min
Pressure	max. 8.4 bar



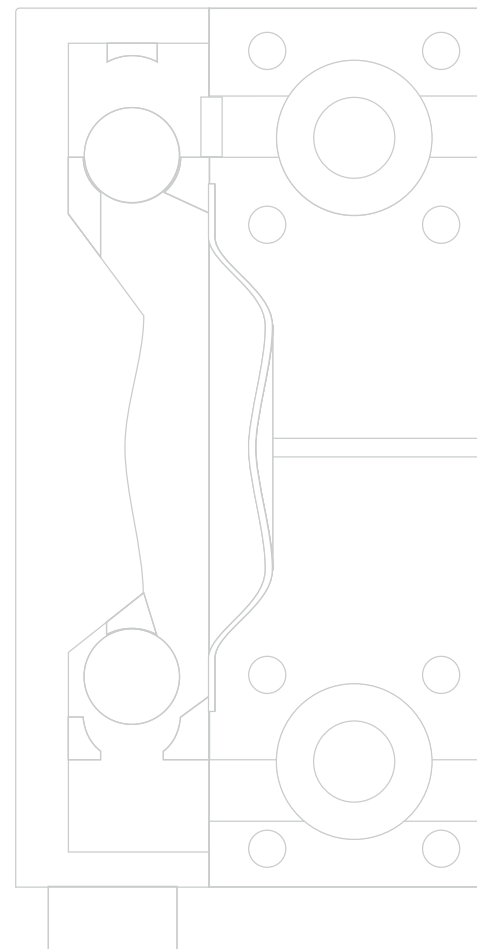
Materials of construction

	Wetted parts	Diaphragms	Ball valves	Valve Seats
Aluminium	X			
Buna-N		X	X	X
Cast Iron	X			
EPDM		X	X	X
PVDF	X			X
Polypropylene	X			X
316 St. steel	X	X	X	
Teflon		X	X	
Viton		X	X	X
Hytrel		X	X	X
Acetal	X		X	X
Santoprene		X	X	X
Geolast		X	X	X

Model	Series	Flow range	Air pressure
VA 8	non-metallic	19 l/min	7 bar
VA 10	non-metallic	26 l/min	7 bar
VA 15	non-metallic	57 l/min	7 bar
VA 20	metallic	61 l/min	7 bar
VA 25	non-metallic	151 l/min	8.4 bar
VA 25	metallic	151 l/min	8.4 bar
VA 40	non-metallic	397 l/min	8.4 bar
VA 40	metallic	397 l/min	8.4 bar
VA 50	non-metallic	568 l/min	8.4 bar
VA 50	metallic	568 l/min	8.4 bar
VA 80	metallic	1060 l/min	8.4 bar
VA 25 HP	metallic	80 l/min	16 bar
VA 40 HP	metallic	150 l/min	16 bar
VA 50 HP	metallic	275 l/min	16 bar
VA 80 HP	metallic	530 l/min	16 bar
VA FDA 25	SS 316 Ra - Ra: 3.2 µm	150 l/min	8.4 bar
VA FDA 40	SS 316 Ra - Ra: 3.2 µm	379 l/min	8.4 bar
VA FDA 50	SS 316 Ra - Ra: 3.2 µm	568 l/min	8.4 bar
VA 50 3-A	SS 316 Ra - Ra: 0.8 µm	568 l/min	8.4 bar
VA 50-SB	SS 316 Ra - Ra: 0.8 µm	568 l/min	8.4 bar
VA 50-SF	SS 316 Ra - Ra: 0.8 µm	568 l/min	8.4 bar



Suction discharge	Casing material	Max. solids size
1/4" BSP	KY/PP/AC	1.5 mm
3/8" BSP	PP/AC	1.6 mm
1/2" BSP	KY/PP/AC	2.5 mm
3/4" BSP	SS 316/ALU	2.5 mm
1" Flanged	KY/PP/AC	3.2 mm
1" BSP	SS 316/ALU	3.2 mm
1.5" Flanged	KY/PP	4.8 mm
1.5" BSP	SS 316/ALU	4.8 mm
2" Flanged	KY/PP	6.3 mm
2" BSP	SS 316/ALU	6.3 mm
3" Flanged	ALU	9.4 mm
1" BSP	SS 316/ALU	3.2 mm
1.5" BSP	SS 316/ALU	4.8 mm
2" BSP	SS 316/ALU	6.3 mm
3" Flanged	ALU	9.4 mm
1.5" TriClamp	SS 316/ALU	3.2 mm
2" TriClamp	SS 316/ALU	4.8 mm
2 1/2" TriClamp	SS 316/ALU	6.3 mm
1 1/2" - 4" TriClamp	SS 316 Ra - Ra: 0.8 µm	25.4 mm
1 1/2" - 4" TriClamp	SS 316 Ra - Ra: 0.8 µm	25.4 mm
1 1/2" - 4" TriClamp	SS 316 Ra - Ra: 0.8 µm	25.4 mm





Verderair VA standard

Verderair are highly engineered diaphragm pumps, delivering a smooth, reliable flow at all circumstances. The new air valves design guarantees a perfect, non-stalling operation, even at low pressure and does not need any lubrication. Thanks to their unique design, they are able to handle very abrasive and/or viscous products. The Verderair will run dry indefinitely without damage.

Verderair offers a complete range of air operated diaphragm pumps (including ATEX pumps) for a wide range of applications in almost all industries.

Flow range	0.1 up to 1060 l/min
Pressure	up to 8 bar

Features and advantages

- Easy installation
- Screwed chambers for safe operation
- Rugged, cast feed mounting holes keep your pump from vibrating
- Available as cover-mounted, pail-mounted or wall-mounted units
- Immersible in most situations
- Easy to adapt
- A large range of material options for fluid versatility with extended pump life
- Air powered convenience for use in a variety of installations with no electrical hazard
- Performs on-demand in remote locations
- Extremely portable for multi-location use
- Pumps move a wide variety of coatings, solvents, viscosity sealants, adhesives, inks, acids and more
- Easy to maintain
- Seal-less, leak proof design prevents fluid waste and mess
- Even in wet air, the stainless steel diaphragm rod air motor is designed for long life and corrosion resistance
- Easy to operate
- Pumps reduce or eliminate manual filling and transport
- Reduces the risk of hazardous spills and employee exposure
- Multiple dispense points throughout your plant can easily be served
- Can run dry without pump damage
- No air lubrication necessary

Applications

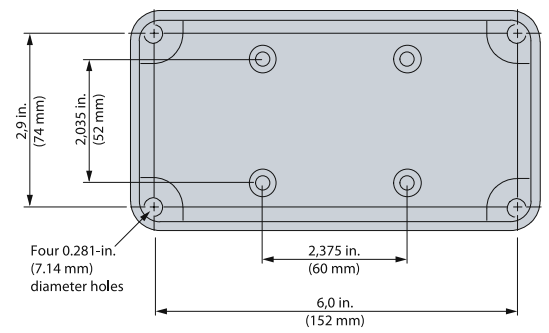
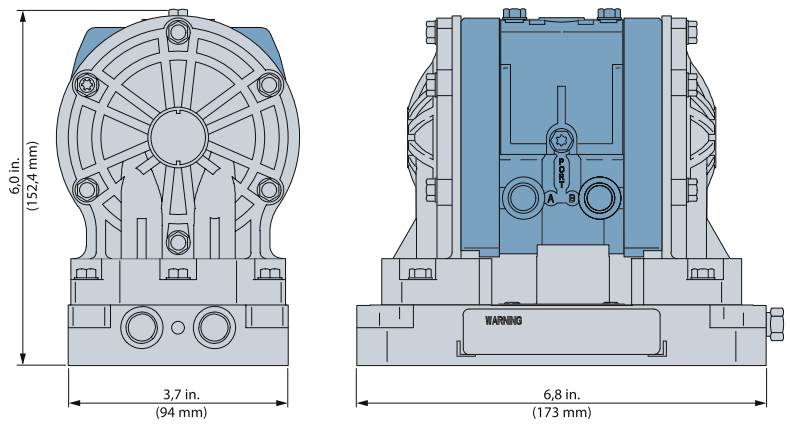
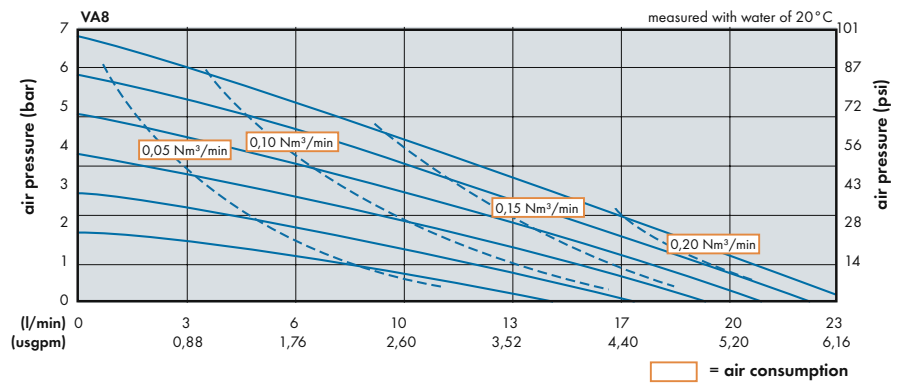
- Drum transfer
- Circulation of low/high viscosity inks, stains and dyes
- Waste fluid removal from quench tanks, sumps and spray booths
- Process transfer filling and emptying process vessels and mixing tanks
- Slurries and sludge
- Food transfer
- Ceramics
- Truck unloading

VERDERAIR VA 8



Technical data		
Weight [kg]	Acetal	1.1
	PP	0.9
	Kynar	1.3
Suction lift [mwc]	Dry	2.5
	Wet	4.4
Temperature [°C]	Acetal	82
	PP	82
	Kynar	82
Max. particle size [mm]		1.5
Non wetted material, centre section	PP	

- codes VA 8**
no.2 no.3 no.4
- no.2 material of casing
 AC = Acetal
 PP = Polypropylene
 KY = Kynar
- no.3 material of valve
 AC = Acetal
 PP = Polypropylene
 KY = Kynar
- no.4 material of diaphragm
 TF = Teflon
 SP = Santoprene



VERDERAIR VA 10



Technical data

Weight [kg]	Acetal	2.4
	PP	2.2
Suction lift [mwc]	Dry	2.1* / 3.7
	Wet	3.7* / 6.4
Temperature [°C]	Acetal	4.5 - 65
	PP	4.5 - 65
Max. particle size [mm]		1.6
Non wetted material, centre section	Polyester	

* with Teflon balls

codes VA 10

no.2 no.3 no.4 no.5

no.2 material of casing

AC = Acetal
PP = Polypropylene

no.3 material of seat

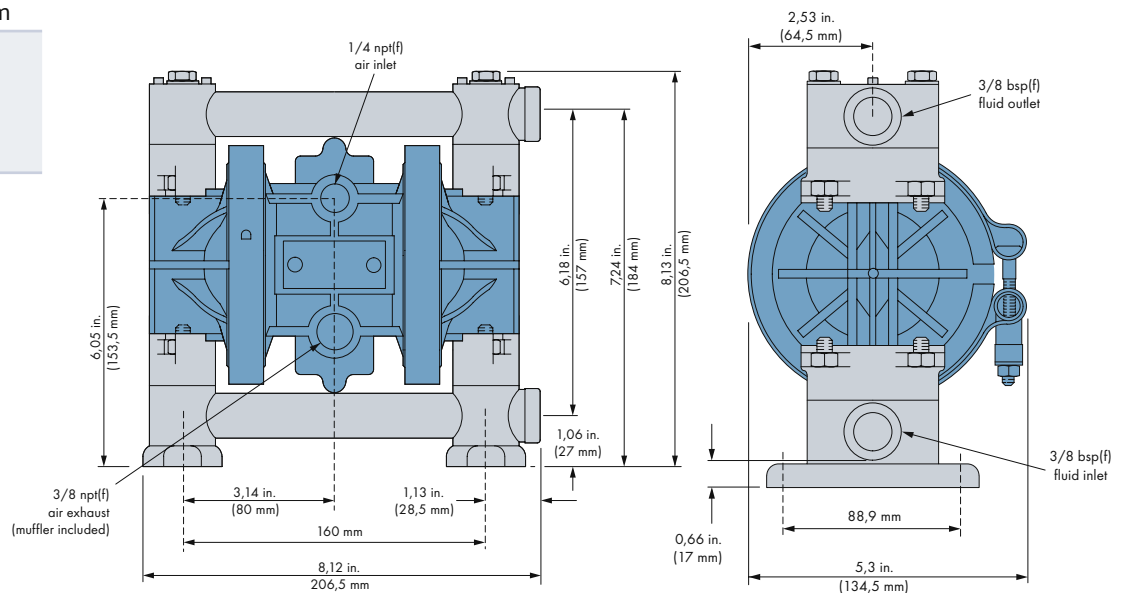
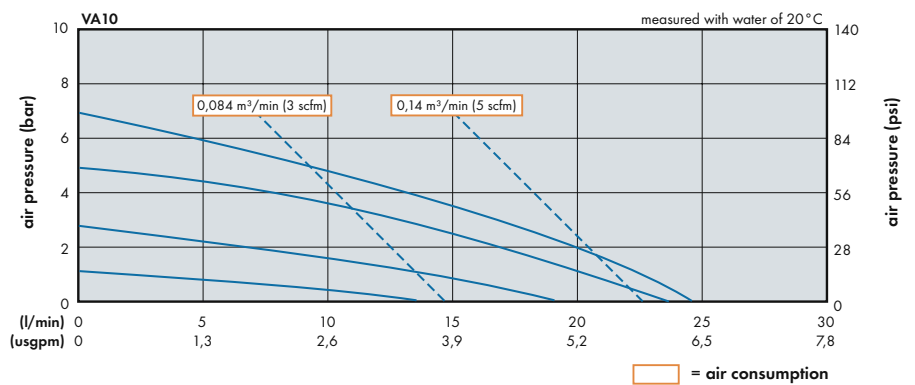
AC = Acetal
PP = Polypropylene
SS = Stainless Steel

no.4 material of valve

TF = Teflon
HY = Hytrel
SS = Stainless Steel
BN = Buna N
SP = Santoprene

no.5 material of diaphragm

TF = Teflon
HY = Hytrel
BN = Buna N
SP = Santoprene



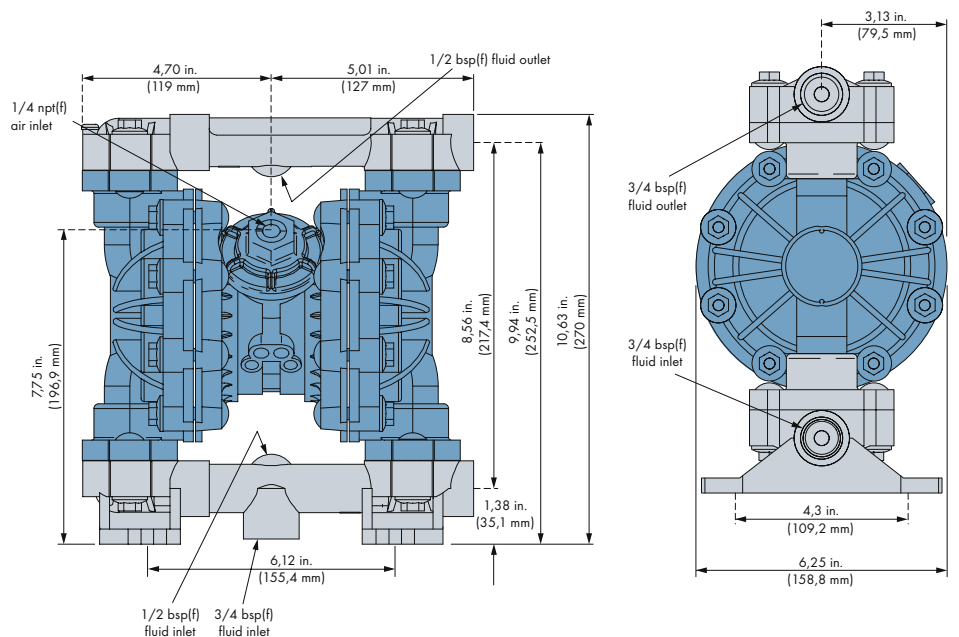
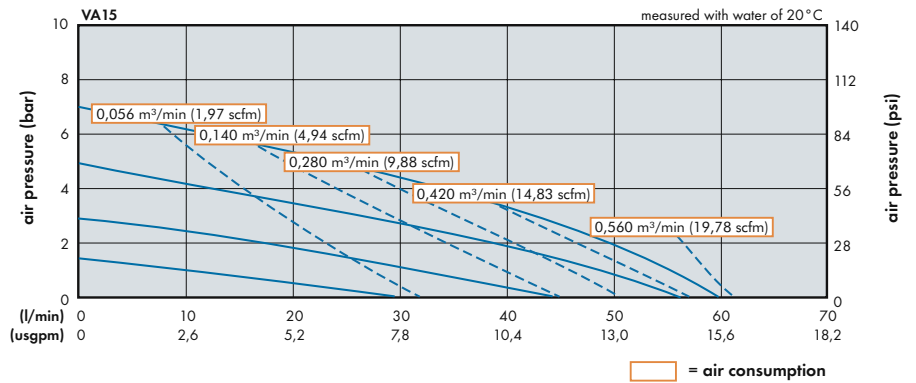
VERDERAIR VA 15



Technical data		
Weight [kg]	Acetal	3.5
	PP	2.9
	Kynar	3.9
Suction lift [mwc]	Dry	2.1*** / 3.7
	Wet	3.7*** / 6.4
Temperature [°C]	Acetal	5 - 65*
	PP	5 - 65
	Kynar	5 - 65**
Max. particle size [mm]		2.5
Non wetted material, centre section	Polyester	

* 82°C with Teflon diaphragms ** 107°C with Teflon diaphragms *** with Teflon balls

codes VA 15	
no.2	material of casing
	AC = Acetal
	PP = Polypropylene
	KY = Kynar
no.3	material of seat
	AC = Acetal
	PP = Polypropylene
	KY = Kynar
	SS = Stainless Steel
no.4	material of valve
	TF = Teflon
	SP = Santoprene
	SS = Stainless Steel
	HY = Hytrel
	BN = Buna N
	VT = Viton
no.5	material of diaphragm
	TF = Teflon
	SP = Santoprene
	BN = Buna N
	VT = Viton
	HY = Hytrel



VERDERAIR VA 20



Technical data

Weight [kg]	Aluminum	3.9
	Stainless Steel	8.2
Suction lift [mwc]	Dry	2.1** / 3.7
	Wet	3.7** / 6.4
Temperature [°C]	Aluminium	5 - 65*
	Stainless Steel	5 - 65*
Max. particle size [mm]		2.5
Non wetted material, centre section	Epoxy coated Aluminium	

* 107°C with Teflon diaphragms ** with Teflon balls

codes VA 20

no.2 no.3 no.4 no.5

no.2 material of casing

- AL = Aluminium
- SS = Stainless Steel

no.3 material of seat

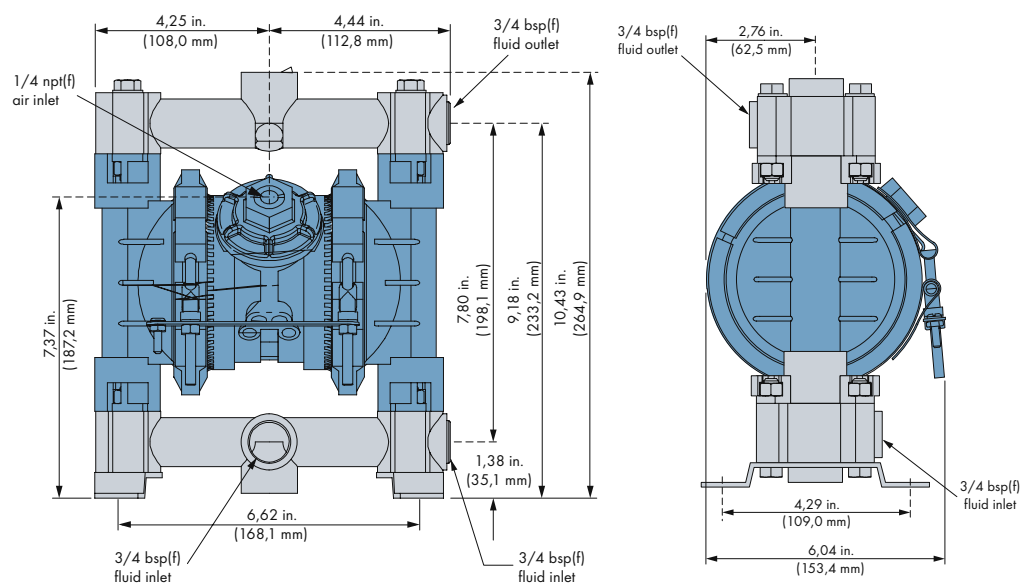
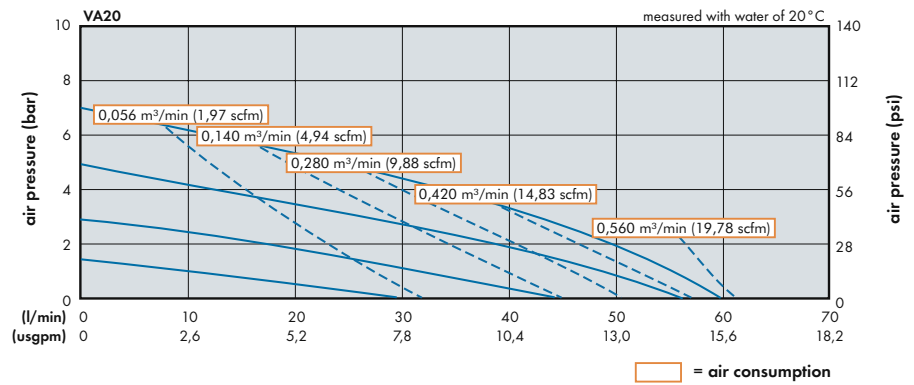
- AC = Acetal
- PP = Polypropylene
- KY = Kynar
- SS = Stainless Steel

no.4 material of valve

- TF = Teflon
- HY = Hytrel
- SP = Santoprene
- SS = Stainless Steel
- BN = Buna N
- VT = Viton

no.5 material of diaphragm

- TF = Teflon
- HY = Hytrel
- SP = Santoprene
- BN = Buna N
- VT = Viton



VERDERAIR VA 25 metallic



Technical data		
Weight [kg]	Aluminium with Aluminium centre section	8.2
	Stainless Steel with Aluminium centre section	15
	Stainless Steel with Stainless Steel centre section	22
Suction lift [mwc]	Dry	2.1** / 3.7
	Wet	3.7** / 6.4
Temperature [°C]	Aluminium	5 - 65*
	Stainless Steel	5 - 65*
Max. particle size [mm]		3.2
Non wetted material, centre section	Epoxy coated Aluminium/Stainless Steel	

* 93°C with Teflon diaphragms ** with Teflon balls

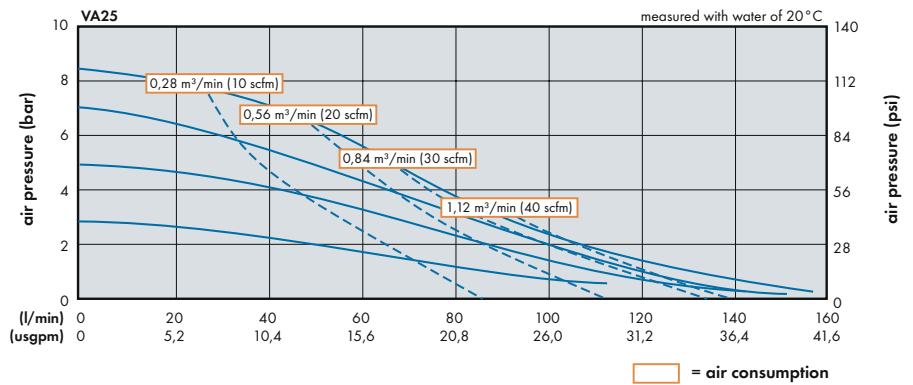
codes VA 25 no.2 no.3 no.4 no.5

no.2 material of casing
AL = Aluminium
SS = Stainless Steel

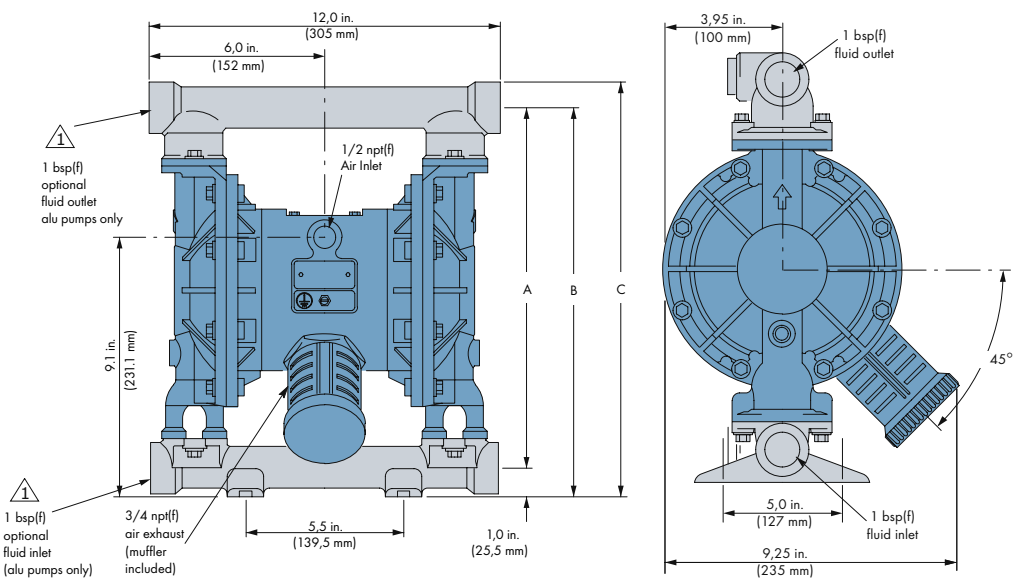
no.3 material of seat
AC = Acetal
PP = Polypropylene
KY = Kynar
SS = Stainless Steel
HS = Hardened Steel
HY = Hytrel
SP = Santoprene
VT = Viton
BN = Buna N
GE = Geolast

no.4 material of valve
TF = Teflon
HS = Hardened Steel
HY = Hytrel
SP = Santoprene
BN = Buna N
VT = Viton
GE = Geolast
AC = Acetal
SS = Stainless Steel

no.5 material of diaphragm
TF = Teflon
HY = Hytrel
SP = Santoprene
BN = Buna N
VT = Viton
GE = Geolast



	Dimensions Aluminum pumps	Dimensions SST pumps
A	319.5 mm	312.7 mm
B	345.0 mm	338.1 mm
C	367.8 mm	360.9 mm



VERDERAIR VA 25 non-metallic



Technical data

Weight [kg]	Acetal	10
	PP with Aluminium centre section	8.6
	PP with Stainless Steel centre section	14,6
	Kynar with Aluminium centre section	11.3
	Kynar with Stainless Steel centre section	16
Suction lift [mwc]	Dry	2.1** / 3.7
	Wet	3.7** / 6.4
Temperature [°C]	Acetal	5 - 65
	PP	5 - 65
	Kynar	5 - 65*
Max. particle size [mm]		3.2
Non wetted material, centre section	Epoxy coated Aluminium/Stainless Steel	

* 93°C with Teflon diaphragms ** with Teflon balls

codes VA 25

no.2 no.3 no.4 no.5

no.2 material of casing

AC = Acetal
PP = Polypropylene
KY = Kynar

no.3 material of seat

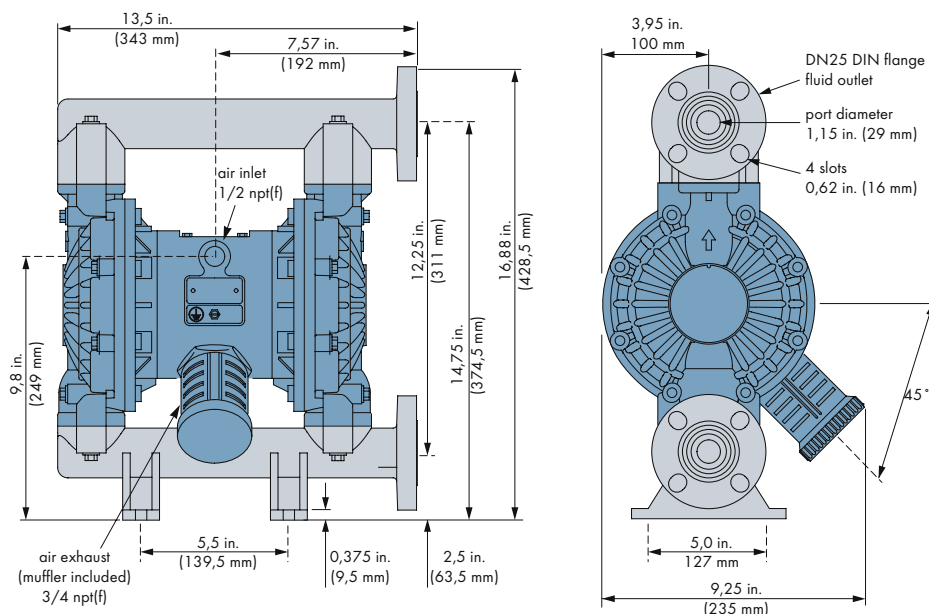
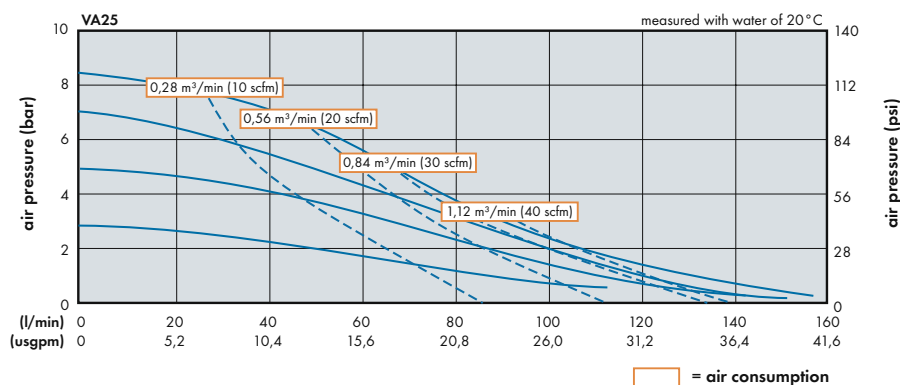
AC = Acetal
PP = Polypropylene
HY = Hytrel
KY = Kynar
SS = Stainless Steel
SP = Santoprene
VT = Viton
HS = Hardened Steel
BN = Buna N

no.4 material of valve

AC = Acetal
TF = Teflon
HS = Hardened Steel
HY = Hytrel
SP = Santoprene
BN = Buna N
VT = Viton
GE = Geolast
SS = Stainless Steel

no.5 material of diaphragm

TF = Teflon
SP = Santoprene
HY = Hytrel
BN = Buna N
VT = Viton
GE = Geolast



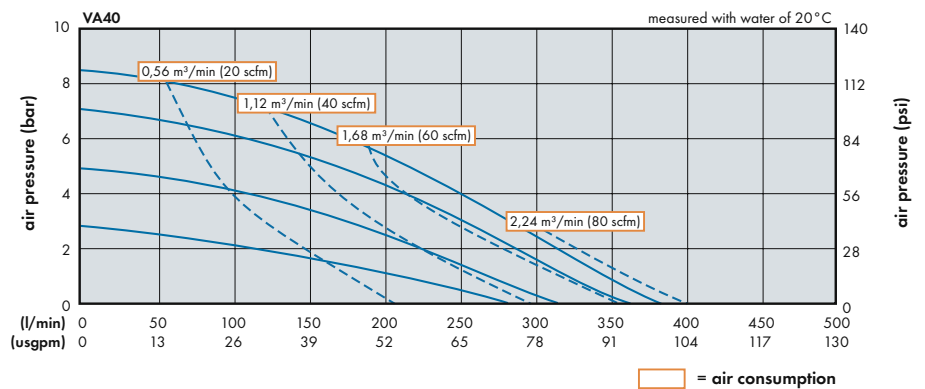
VERDERAIR VA 40 metallic



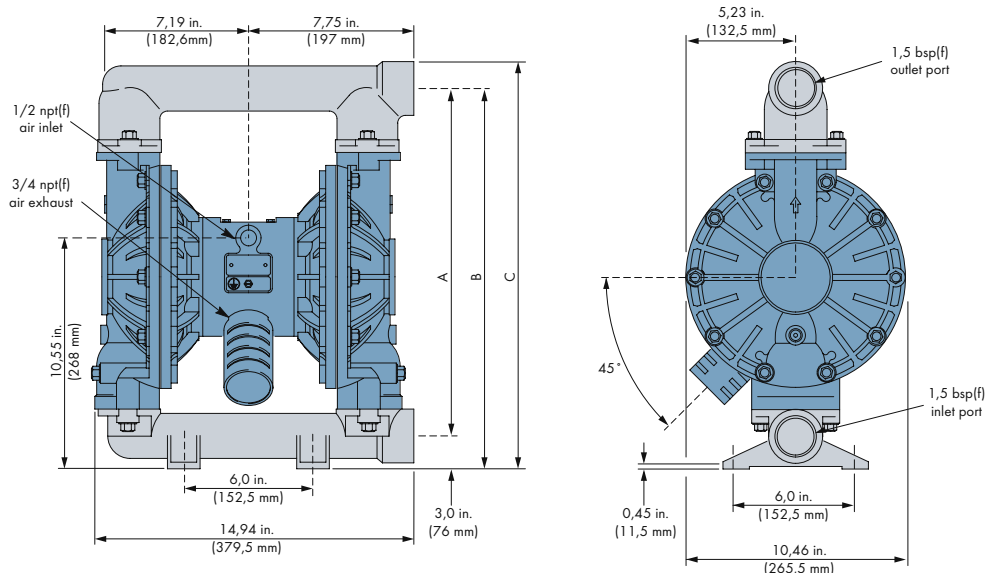
Technical data		
Weight [kg]	Aluminium with Aluminium centre section	15
	Stainless Steel with Aluminium centre section	32.7
	Stainless Steel with Stainless Steel centre section	40
Suction lift [mwc]	Dry	3** / 3.7
	Wet	5.5** / 6.4
Temperature [°C]	Aluminium	5 - 65*
	Stainless Steel	5 - 65*
Max. particle size [mm]		4.8
Non wetted material, centre section	Epoxy coated Aluminium/Stainless Steel	

* 93°C with Teflon diaphragms ** with Teflon balls

- codes VA 40**
no.2 no.3 no.4 no.5
- no.2 material of casing
 AL = Aluminium
 SS = Stainless Steel
- no.3 material of seat
 PP = Polypropylene
 KY = Kynar
 SS = Stainless Steel
 HS = Hardened Steel
 HY = Hytrel
 SP = Santoprene
 GE = Geolast
 VT = Viton
 BN = Buna N
- no.4 material of valve
 AC = Acetal
 GE = Geolast
 HS = Hardened Steel
 HY = Hytrel
 SP = Santoprene
 TF = Teflon
 VT = Viton
 BN = Buna N
- no.5 material of diaphragm
 TF = Teflon
 HY = Hytrel
 SP = Santoprene
 VT = Viton
 GE = Geolast
 BN = Buna N



	Dimensions Aluminum pumps	Dimensions SST pumps
A	427 mm	412.5 mm
B	465 mm	451 mm
C	497 mm	482.5 mm



VERDERAIR VA 40 non-metallic



Technical data

Weight [kg]	PP with Aluminium centre section	16
	PP with Stainless Steel centre section	23
	Kynar with Aluminium centre section	23
	Kynar with Stainless Steel centre section	30
Suction lift [mwc]	Dry	3** / 3.7
	Wet	5.5** / 6.4
Temperature [°C]	PP	5 - 65
	Kynar	5 - 65*
Max. particle size [mm]		4.8
Non wetted material, centre section	Epoxy coated Aluminium/Stainless Steel	

* 93°C with Teflon diaphragms ** with Teflon balls

codes VA 40

no.2 no.3 no.4 no.5

no.2 material of casing

PP = Polypropylene
KY = Kynar

no.3 material of seat

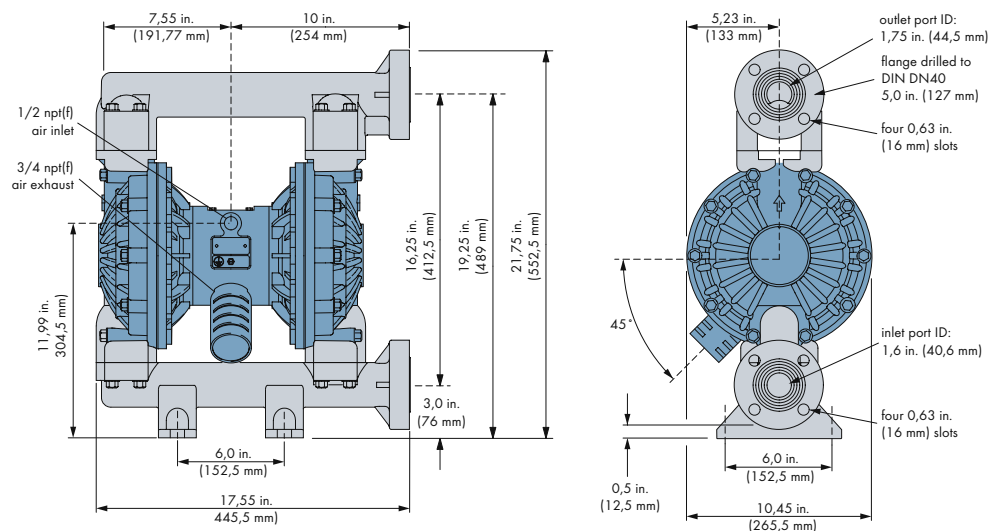
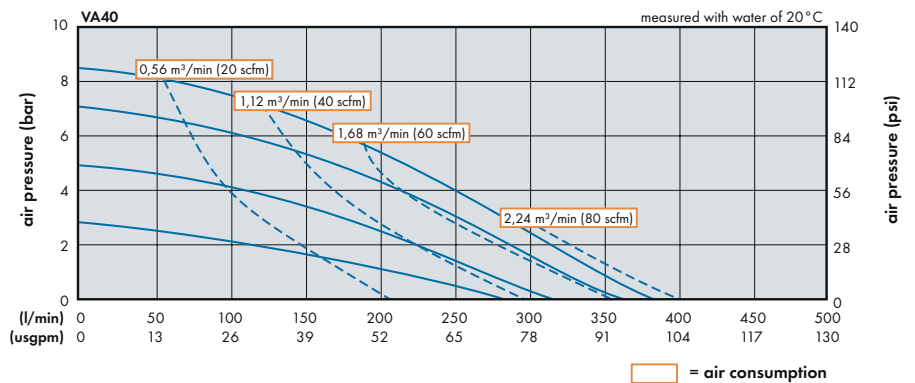
PP = Polypropylene
KY = Kynar
SS = Stainless Steel
HS = Hardened Steel
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SP = Santoprene
GE = Geolast
VT = Viton
BN = Buna N

no.4 material of valve

AC = Acetal
GE = Geolast
HS = Hardened Steel
HY = Hytrel
SP = Santoprene
TF = Teflon
VT = Viton
BN = Buna N

no.5 material of diaphragm

TF = Teflon
HY = Hytrel
SP = Santoprene
VT = Viton
GE = Geolast
BN = Buna N



VERDERAIR VA 50 metallic



Technical data		
Weight [kg]	Aluminium with Aluminium centre section	26
	Stainless Steel with Aluminium centre section	50
	Cast iron with Aluminium centre section	48
	Stainless Steel with Stainless Steel centre section	61
	Cast iron with Stainless Steel centre section	59
Suction lift [mwc]	Dry	2.1** / 3.7
	Wet	3.7** / 6.4
Temperature [°C]	Aluminium	5 - 65*
	Stainless Steel	5 - 65*
	Cast Iron	5 - 65*
Max. particle size [mm]		6.3
Non wetted material, centre section	Epoxy coated Aluminium/Stainless Steel	

* 93°C with Teflon diaphragms ** with Teflon balls

codes VA 50 no.2 no.3 no.4

no.2 material of casing

AL = Aluminium
SS = Stainless Steel
CI = Cast Iron

no.3 material of seat

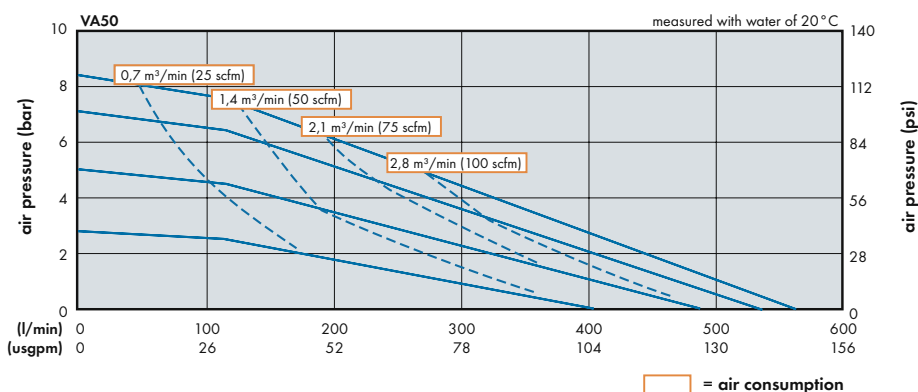
PP = Polypropylene
SS = Stainless Steel
HS = Hardened Steel
VT = Viton
HY = Hytrel
SP = Santoprene
GE = Geolast
BN = Buna N

no.4 material of valve

TF = Teflon
HY = Hytrel
HS = Hardened Steel
SP = Santoprene
VT = Viton
GE = Geolast
AC = Acetal
BN = Buna N

no.5 material of diaphragm

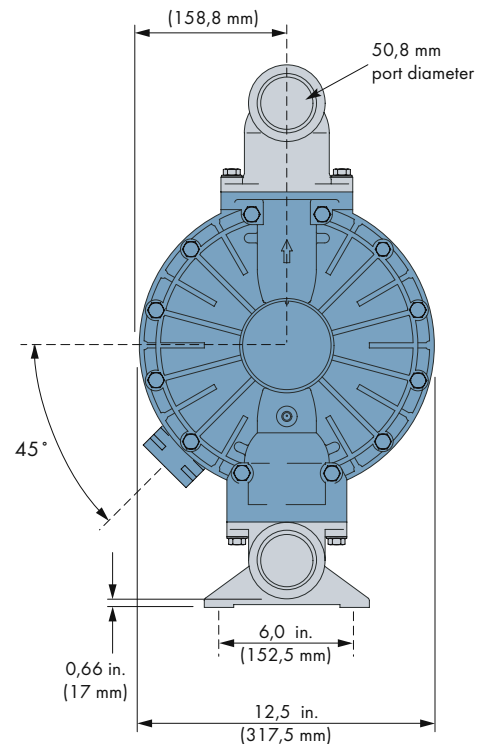
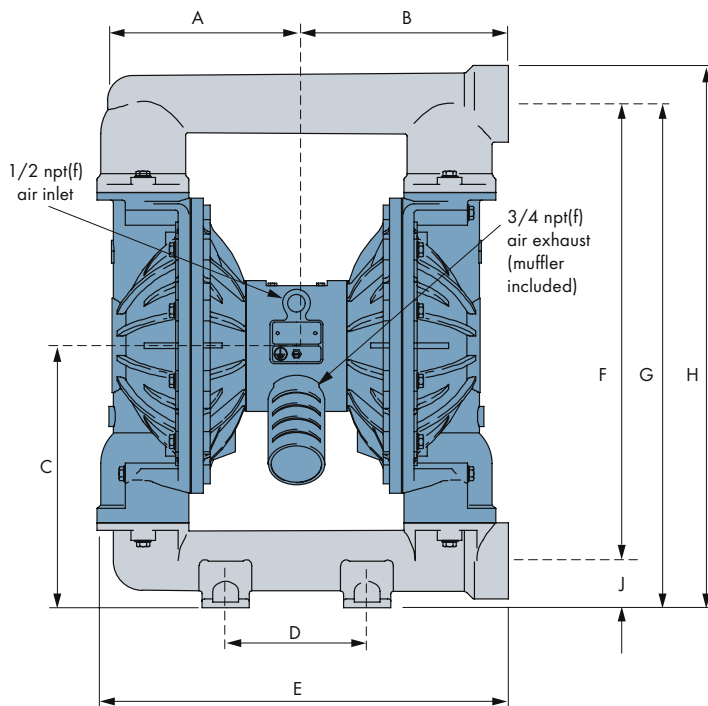
TF = Teflon
HY = Hytrel
SP = Santoprene
VT = Viton
GE = Geolast
BN = Buna N





Dimensions				
	Stainless Steel	Ductile Iron	Aluminium	Aluminium Extension *
A	227.7 mm	213.1 mm	213.1 mm	213.1 mm
B	239.0 mm	230.1 mm	230.1 mm	230.1 mm
C	393.7 mm	312.4 mm	312.4 mm	328.2 mm
D	165.1 mm	152.4 mm	152.4 mm	152.4 mm
E	458.9 mm	443.2 mm	443.2 mm	443.2 mm
F	565.7 mm	492.0 mm	505.5 mm	579.1 mm
G	625.8 mm	542.8 mm	556.3 mm	631.9 mm
H	668.0 mm	584.2 mm	597.7 mm	673.3 mm
J	60.2 mm	50.8 mm	50.8 mm	50.8 mm
K	24.1 mm	9.7 mm	9.7 mm	9.7 mm

* Aluminium extended pump matches the inlet to outlet dimensions of Wilden and Aro aluminium pumps.
This will help for ease of installation during upgrades.



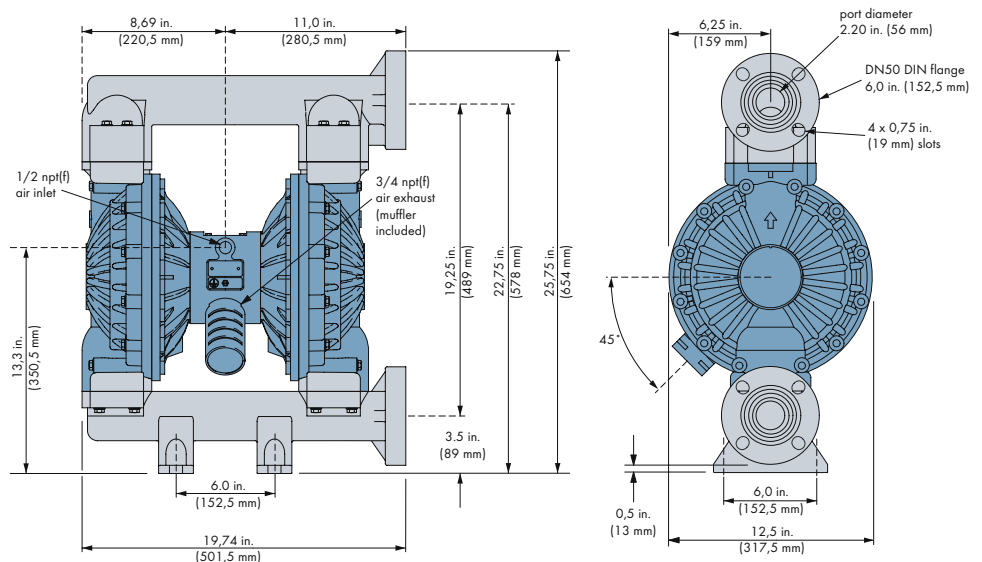
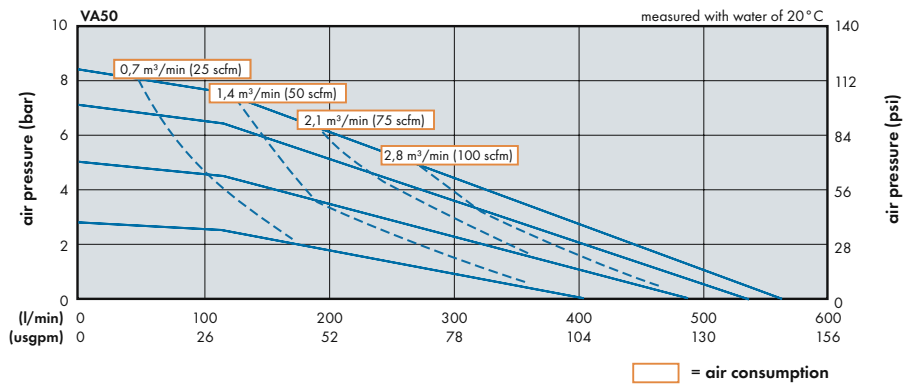
VERDERAIR VA 50 non-metallic



Technical data		
Weight [kg]	PP with Aluminium centre section	22
	PP with Stainless Steel centre section	32
	Kynar with Aluminium centre section	31
	Kynar with Stainless Steel centre section	41
Suction lift [mwc]	Dry	2.1** / 3.7
	Wet	3.7** / 6.4
Temperature [°C]	PP	5 - 65
	Kynar	5 - 65*
Max. particle size [mm]		6.3
Non wetted material, centre section	Epoxy coated Aluminium/Stainless Steel	

* 93°C with Teflon diaphragms ** with Teflon balls

- codes VA 50**
no.2 no.3 no.4 no.5
- no.2 material of casing
 PP = Polypropylene
 KY = Kynar
- no.3 material of seat
 PP = Polypropylene
 HY = Hytrel
 SS = Stainless Steel
 GE = Geolast
 HS = Hardened Steel
 KY = Kynar
 SP = Santoprene
- no.4 material of valve
 TF = Teflon
 HY = Hytrel
 HS = Hardened Steel
 AC = Acetal
 SP = Santoprene
 VT = Viton
 GE = Geolast
- no.5 material of diaphragm
 TF = Teflon
 HY = Hytrel
 SP = Santoprene
 VT = Viton
 GE = Geolast



VERDERAIR VA 80



Technical data

Weight [kg]	Aluminium	68
Suction lift [mwc]	Dry	2.1* / 3.7
	Wet	3.7* / 6.4
Temperature [°C]	Aluminium	5 - 65
Max. particle size [mm]		9.4
Non wetted material, centre section	Epoxy coated Aluminium	

* with Teflon balls

codes VA 80

no.2 no.3 no.4 no.5

no.2 material of casing

AL = Aluminium

no.3 material of seat

SS = Stainless Steel

SP = Santoprene

GE = Geolast

HY = Hytrel

no.4 material of valve

TF = Teflon

SP = Santoprene

GE = Geolast

AC = Acetal

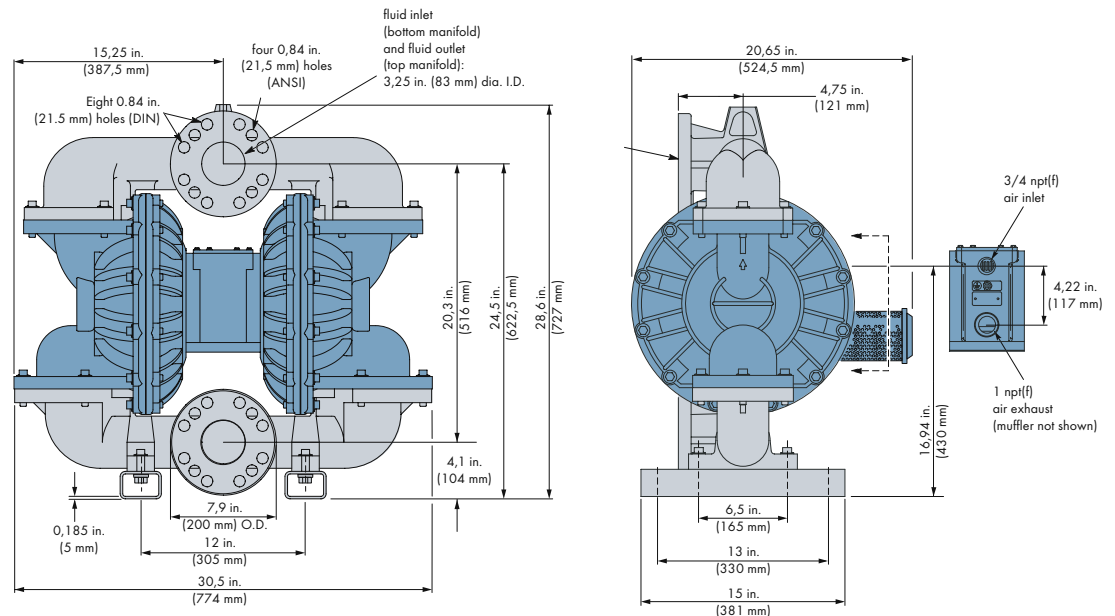
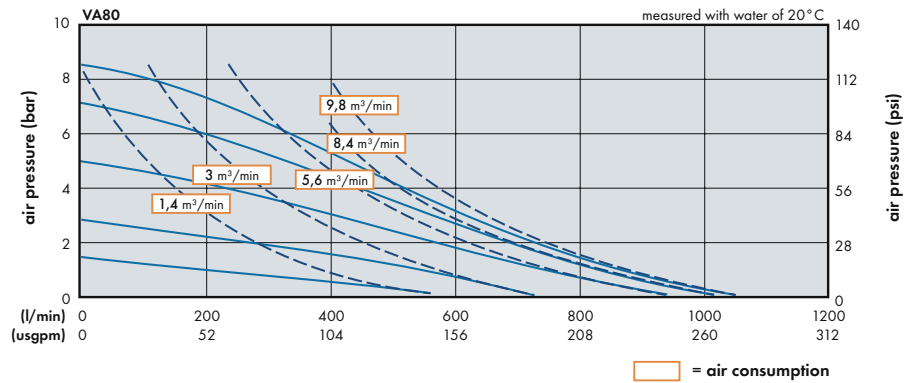
no.5 material of diaphragm

TF = Teflon

HY = Hytrel

SP = Santoprene

GE = Geolast





Verderair VA high pressure

All common double diaphragm pump series have a maximum air pressure rating of 8.4 bar. Verderair now offers a high pressure series of pumps, with the same reliable benefits and features as the VA series of pumps.

Verderair VA high pressure series of diaphragm pumps are especially suitable for charging filter presses. The higher the pressure that is achieved, the dryer and therefore lighter the filter cake will be.

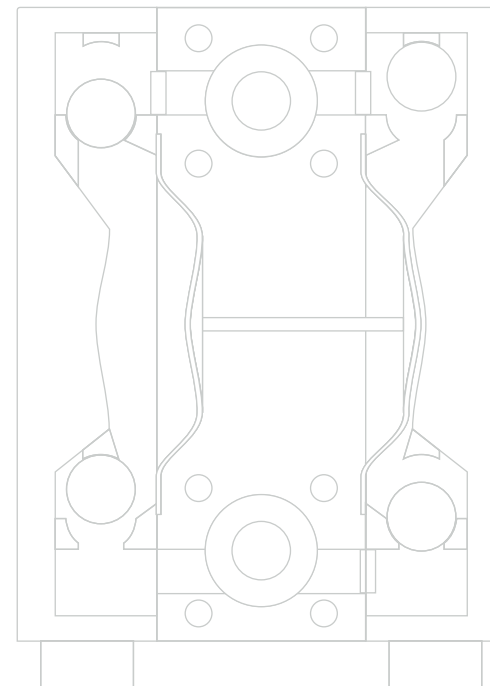
Flow range	0.1 up to 530 l/min
Pressure	up to 16 bar

Features and advantages

- Automatic pressure/volume adjustment for filter press feeding
- Safe dry running
- Safe over pressure
- No drives, no rotating parts, no shaft seals
- Self-priming
- Very compact dimensions
- Easy start-up

Applications

- Charging of filter presses
- Milk or lime
- Thin slurry
- Effluents
- Chemicals
- Polymer
- Waste water



VERDERAIR VA 25 high pressure



Technical data

Weight [kg]	Aluminium with Aluminium centre section	8.2
	Stainless Steel with Aluminium centre section	15
	Stainless Steel with Stainless Steel centre section	22
Suction lift [mwc]	Dry	2.5
	Wet	5.5
Temperature [°C]	Aluminium	5 - 65*
	Stainless Steel	5 - 65*
Max. particle size [mm]		3.2
Non wetted material, centre section	Epoxy coated Aluminium/Stainless Steel	

* 93°C with Teflon diaphragms

codes VA 25

no.2 no.3 no.4 no.5

no.2 material of casing

AL = Aluminium
SS = Stainless Steel

no.3 material of seat

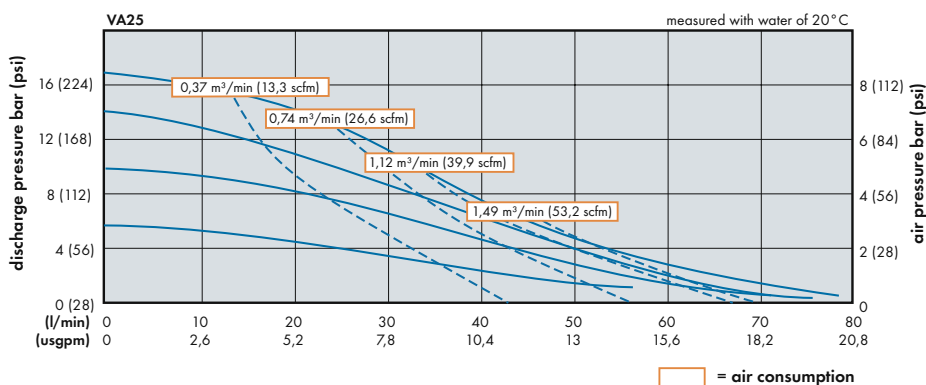
AC = Acetal
PP = Polypropylene
KY = Kynar
SS = Stainless Steel
HS = Hardened Steel
HY = Hytrel
SP = Santoprene
VT = Viton
BN = Buna N
GE = Geolast

no.4 material of valve

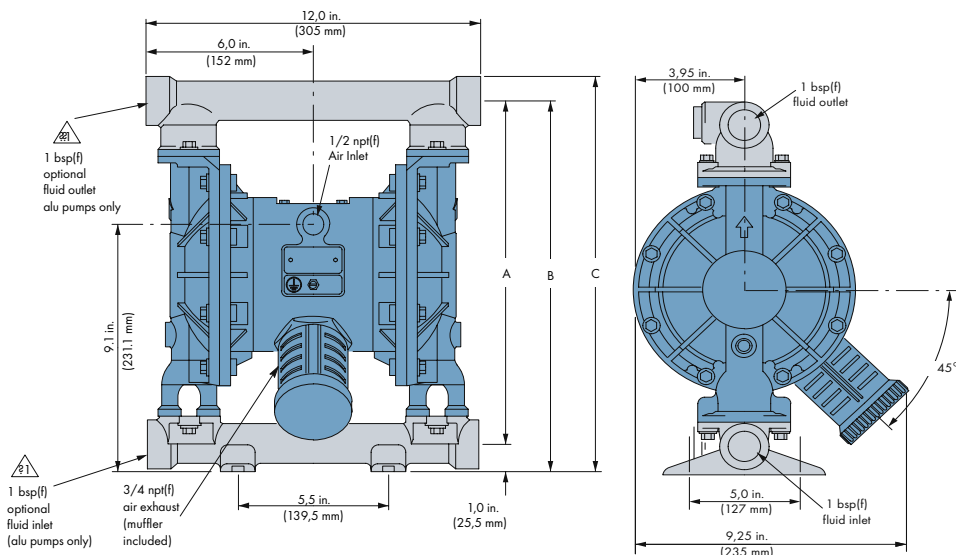
TF = Teflon
HS = Hardened Steel
HY = Hytrel
SP = Santoprene
BN = Buna N
VT = Viton
GE = Geolast
AC = Acetal
SS = Stainless Steel

no.5 material of diaphragm

TF = Teflon
HY = Hytrel
SP = Santoprene
VT = Viton
GE = Geolast



	Dimensions Aluminum pumps	Dimensions SST pumps
A	319.5 mm	312.7 mm
B	345.0 mm	312.7 mm
C	367.8 mm	360.9 mm



VERDERAIR VA 40 high pressure



Technical data		
Weight [kg]	Aluminium with Aluminium centre section	15
	Stainless Steel with Aluminium centre section	32.7
	Stainless Steel with Stainless Steel centre section	40
Suction lift [mwc]	Dry	2.5
	Wet	5.5
Temperature [°C]	Aluminium	5 - 65*
	Stainless Steel	5 - 65*
Max. particle size [mm]		4.8
Non wetted material, centre section	Epoxy coated Aluminium/Stainless Steel	

* 93°C with Teflon diaphragms

codes VA 40 no.2 no.3 no.4 no.5

no.2 material of casing

AL = Aluminium
SS = Stainless Steel

no.3 material of seat

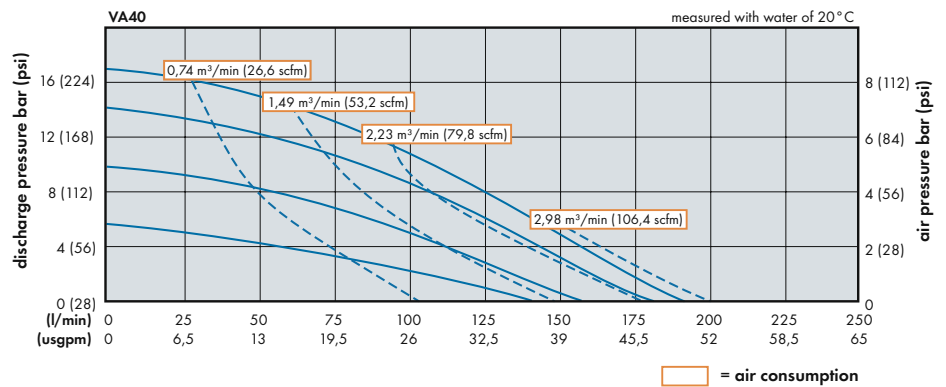
PP = Polypropylene
KY = Kynar
SS = Stainless Steel
HS = Hardened Steel
HY = Hytrel
SP = Santoprene
VT = Viton
BN = Buna N
GE = Geolast

no.4 material of valve

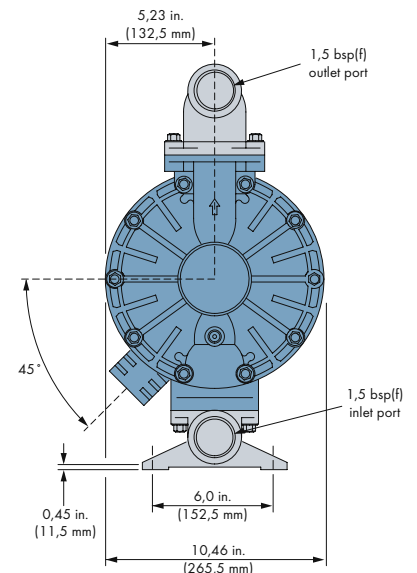
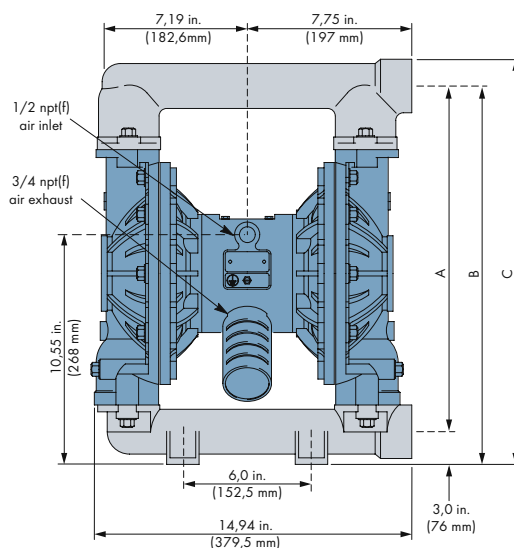
AC = Acetal
GE = Geolast
HS = Hardened Steel
HY = Hytrel
SP = Santoprene
TF = Teflon
VT = Viton

no.5 material of diaphragm

TF = Teflon
HY = Hytrel
SP = Santoprene
VT = Viton
GE = Geolast



	Dimensions Aluminum pumps	Dimensions SST pumps
A	427 mm	412.5 mm
B	465 mm	451.0 mm
C	497 mm	482.5 mm



VERDERAIR VA 50 high pressure



Technical data

Weight [kg]	Aluminium with Aluminium centre section	26
	Stainless Steel with Aluminium centre section	50
	Cast iron with Aluminium centre section	48
	Stainless Steel with Stainless Steel centre section	61
	Cast iron with Stainless Steel centre section	59
Suction lift [mwc]	Dry	2.5
	Wet	5.5
Temperature [°C]	Aluminium	5 - 65*
	Stainless Steel	5 - 65*
	Cast Iron	5 - 65*
Max. particle size [mm]		6.3
Non wetted material, centre section	Epoxy coated Aluminium/Stainless Steel	

* 93°C with Teflon diaphragms

codes VA 50

no.2 no.3 no.4 no.5

no.2 material of casing

AL = Aluminium
SS = Stainless Steel
CI = Cast Iron

no.3 material of seat

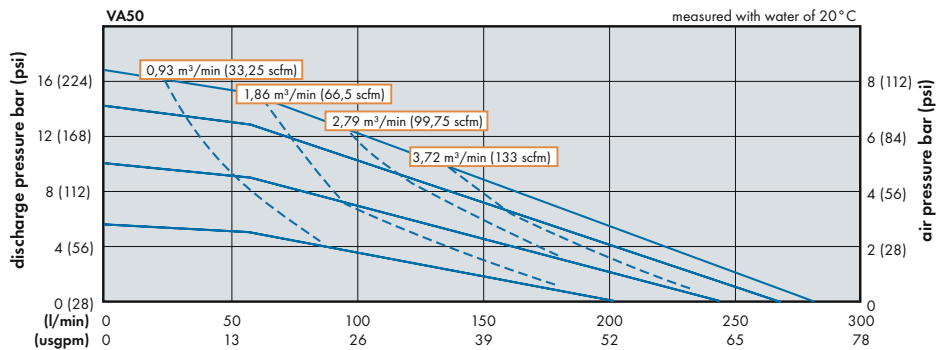
PP = Polypropylene
SS = Stainless Steel
HS = Hardened Steel
VT = Viton
HY = Hytrel
SP = Santoprene
GE = Geolast
BN = Buna N

no.4 material of valve

TF = Teflon
HY = Hytrel
HS = Hardened Steel
SP = Santoprene
VT = Viton
GE = Geolast
AC = Acetal
BN = Buna N

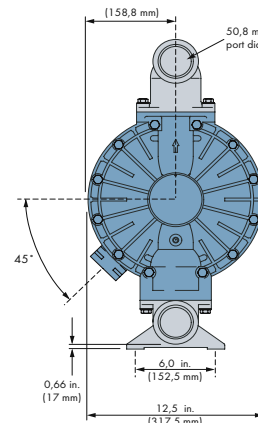
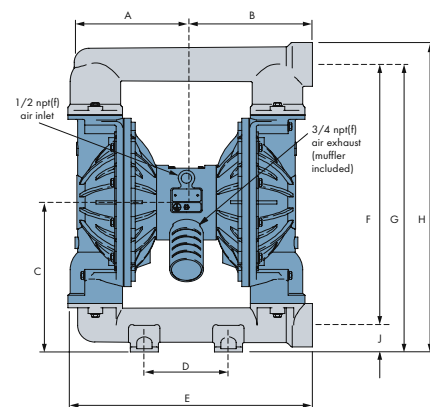
no.5 material of diaphragm

TF = Teflon
HY = Hytrel
SP = Santoprene
VT = Viton
GE = Geolast



□ = air consumption

	Dimensions in mm		
	SS	DI	AL
A	227.7	213.1	213.1
B	239.0	230.1	230.1
C	393.7	312.4	312.4
D	165.1	152.4	152.4
E	458.9	443.2	443.2
F	565.7	492.0	505.5
G	625.8	542.8	556.3
H	668.0	584.2	597.7
J	60.2	50.8	50.8
K	24.1	9.7	9.7

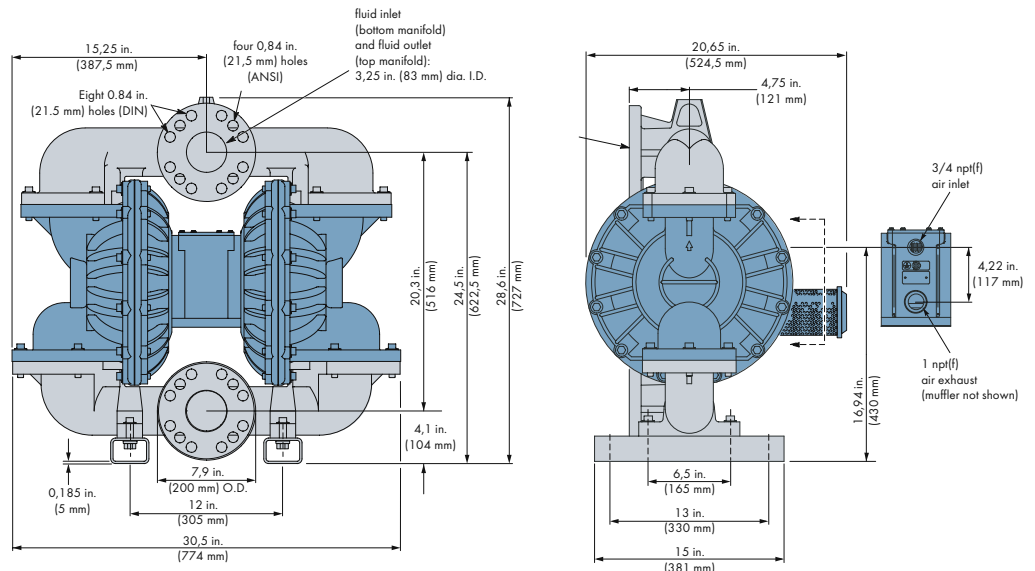
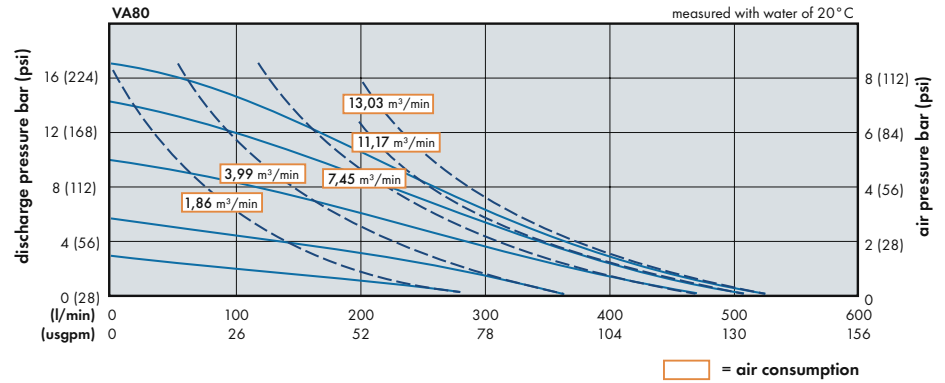


VERDERAIR VA 80 high pressure



Technical data		
Weight [kg]	Aluminium	68
Suction lift [mwc]	Dry	2.5
	Wet	5.5
Temperature [°C]	Aluminium	5 - 65
Max. particle size [mm]		9.4
Non wetted material, centre section	Epoxy coated Aluminium	

- codes VA 80**
no.2 no.3 no.4 no.5
- no.2 material of casing
 AL = Aluminium
- no.3 material of seat
 SS = Stainless Steel
 SP = Santoprene
 GE = Geolast
 HY = Hytrel
- no.4 material of valve
 TF = Teflon
 SP = Santoprene
 GE = Geolast
 AC = Acetal
- no.5 material of diaphragm
 TF = Teflon
 HY = Hytrel
 SP = Santoprene
 GE = Geolast





Verderair VA FDA

Verderair diaphragm pumps series model FDA are specially constructed for processing applications in the food industry. Wetted materials are made of SS 316 Ra polish, 3.2 µm (standard for FDA applications).

More-over, the pumps are standard executed with sanitary inlet and outlet connections (Tri-Clamp). The center section is available in EnDura Guard coated Aluminium or in SS316. Seats, balls and diaphragms are in Teflon, Buna-N, Santoprene or Viton. All wetted parts are therefore FDA compliant.

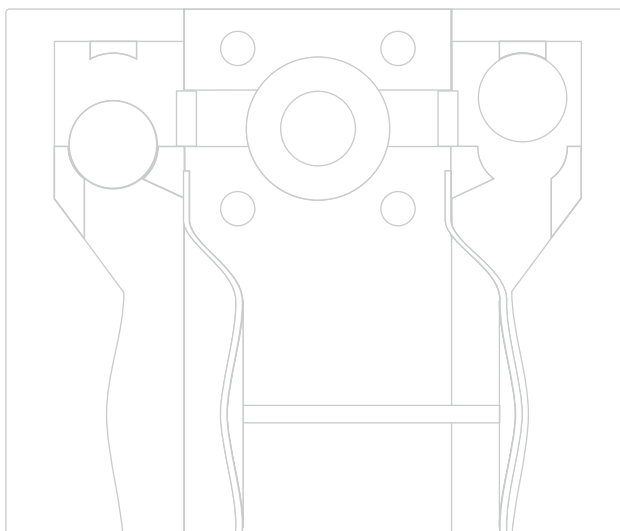
Flow range	up to 565 l/min
Pressure	up to 8.4 bar

Features and advantages

- All fluid contact materials are FDA-Compliant
- All Santoprene®, Buna-N, Viton® and Teflon elastomers are food-grade
- FDA pumps offer flow rates up to 25% higher than many competitive pumps with Teflon diaphragms
- All models come standard with our patented dual cup air valve – one of the most reliable, oil free air valves in the market
- Available in standard or remote execution
- Longest warranty in the industry

Applications

- Evacuation of food process mixing kettles
- Transferring of ingredients from original container to mixing tanks
- High volume evacuation of liquid concentrates from shipping tankers to holding vessels
- Repackaging of fluids from original container to smaller receptacles
- Pumping hand and massage lotions for the pharmaceutical industry



VERDERAIR FDA 25



Technical data		
Weight [kg]	with Aluminium centre section	16
	with Stainless Steel centre section	22
Max Suction lift [mwc]	Dry	2.5
	Wet	5.5
Temperature [°C]	Diaphragm, balls, seat — Teflon	104
	Santoprene	82
	Buna-N	82
	Viton	121
	Wetted materials	SS 316 - Ra: 3.2 µm
Non wetted materials, centre section	Aluminium/SS 316 - Ra: 3.2 µm	

codes FDA 25

no.2 no.3 no.4 no.5

no.2 material of casing

SS = Stainless Steel

no.3 material of seat

SP = Santoprene

BN = Buna N

VT = Viton

SS = Stainless Steel

no.4 material of balls

SP = Santoprene

BN = Buna N

VT = Viton

TF = Teflon

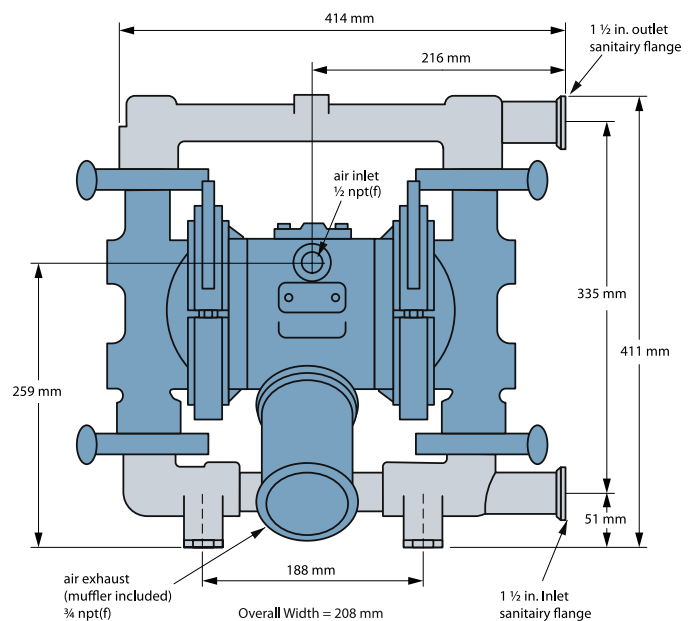
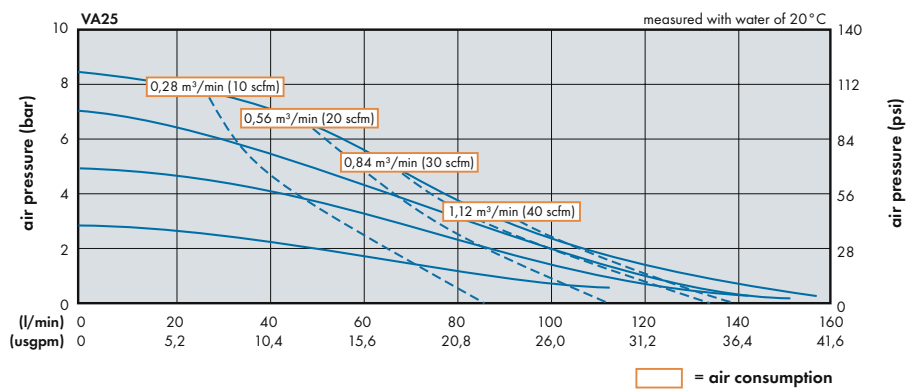
no.5 material of diaphragms

SP = Santoprene

BN = Buna N

VT = Viton

TF = Teflon



Ratings

Max. free flow delivery	150 l/min
Max. pump speed	275 cpm
Displacement per cycle	0.57 liter
Max. solids pumping	3.2 mm
Sound level at 50 cpm	78 dBa
Max. air consumption	1.7 m³/min
Fluid inlet & outlet size (Tri-Clamp)	1 1/2"

VERDERAIR FDA 40



Technical data

Weight [kg]	with Aluminium centre section	32.7
	with Stainless Steel centre section	40
Max Suction lift [mwc]	Dry	2.5
	Wet	5.5
Temperature [°C]	Diaphragm, balls, seat — Teflon	104
	Santoprene	82
	Buna-N	82
	Viton	121
	Wetted materials	SS 316 - Ra: 3.2 µm
Non wetted materials, centre section	Aluminium/SS 316 - Ra: 3.2 µm	

codes FDA 40

no.2 no.3 no.4 no.5

no.2 material of casing

SS = Stainless Steel

no.3 material of seat

SP = Santoprene

BN = Buna N

VT = Viton

SS = Stainless Steel

no.4 material of balls

SP = Santoprene

BN = Buna N

VT = Viton

TF = Teflon

no.5 material of diaphragms

SP = Santoprene

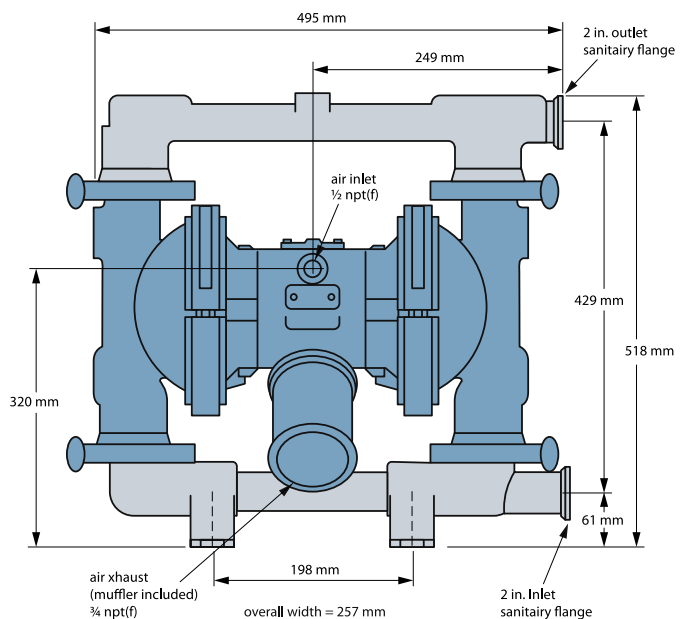
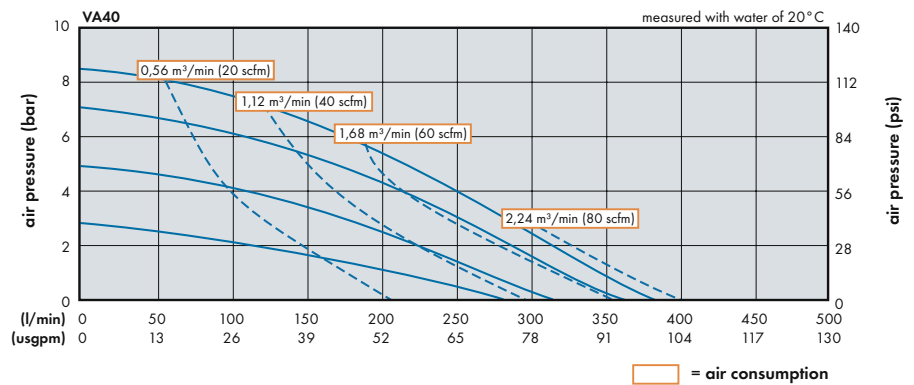
BN = Buna N

VT = Viton

TF = Teflon

Ratings

Max. free flow delivery	378 l/min
Max. pump speed	200 cpm
Displacement per cycle	1.96 liter
Max. solids pumping	4.8 mm
Sound level at 50 cpm	72 dBa
Max. air consumption	3.5 m ³ /min
Fluid inlet & outlet size (Tri-Clamp)	2"



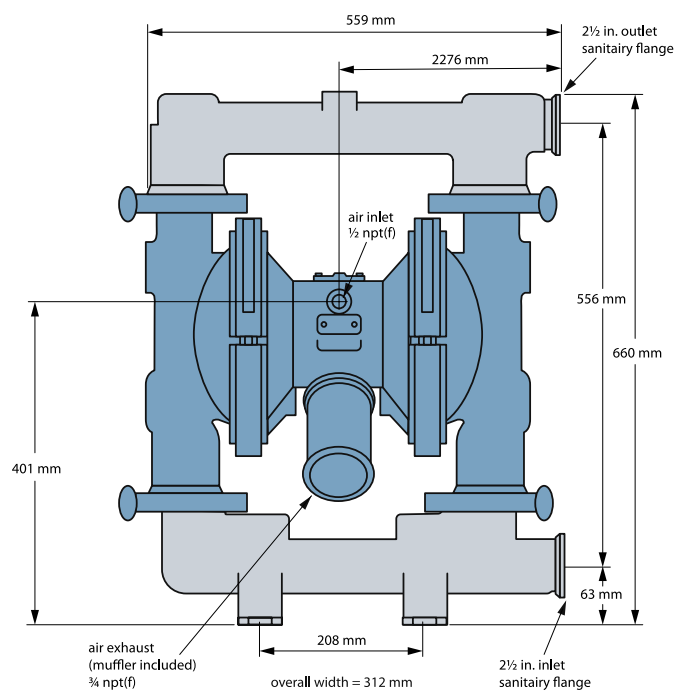
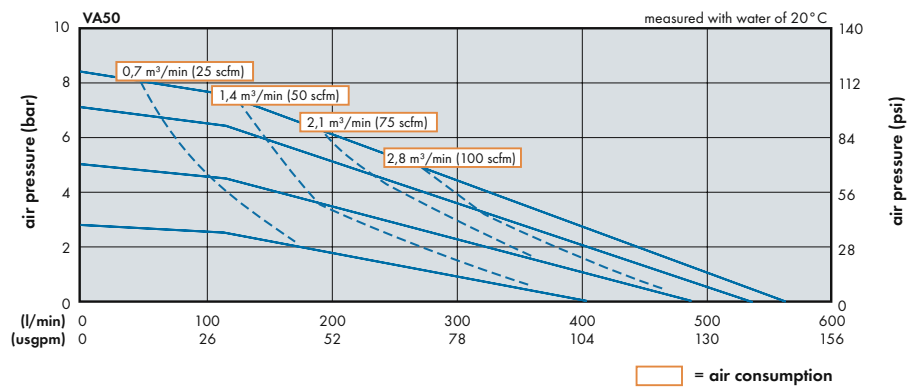
VERDERAIR FDA 50



Technical data		
Weight [kg]	with Aluminium centre section	50.8
	with Stainless Steel centre section	61
Max Suction lift [mwc]	Dry	2.5
	Wet	5.5
Temperature [°C]	Diaphragm, balls, seat – Teflon	104
	Santoprene	82
	Buna-N	82
	Viton	121
	Wetted materials	SS 316 - Ra: 3.2 µm
Non wetted materials, centre section	Aluminium/ SS 316 - Ra: 3.2 µm	

codes FDA 50	
no.2	material of casing
	SS = Stainless Steel
no.3	material of seat
	SP = Santoprene
	BN = Buna N
	VT = Viton
	SS = Stainless Steel
no.4	material of balls
	SP = Santoprene
	BN = Buna N
	VT = Viton
	TF = Teflon
no.5	material of diaphragms
	SP = Santoprene
	BN = Buna N
	VT = Viton
	TF = Teflon

Ratings	
Max. free flow delivery	568 l/min
Max. pump speed	145 cpm
Displacement per cycle	3.9 liter
Max. solids pumping	6.3 mm
Sound level at 50 cpm	85 dBa
Max. air consumption	4.9 m ³ /min
Fluid inlet & outlet size (Tri-Clamp)	2½"





Verderair VA Hygienic

3A-Dairy was founded in 1920's by three dairy related associations in the USA in the interest of creating sanitary standards and practices for equipment and systems used to process milk and milk products, and other perishable foods. Today, the 3-A Sanitary Standards Committee are composed of representatives from many government agencies and industries.

The Verderair hygienic pump series have a quick knock down system for CIP and SIP in process or in sanitary applications (milk/dairy). All wetted AND non wetted parts are FDA 3A compliant and are made of SS 316 Ra polish, 0.8 µm. The pumps are available in ball (3A or SB) and flapper (SF) designs, and easily converts from one to the other with optional kit.

Flow range	up to 568 l/min
Pressure	up to 8.4 bar

OVERVIEW OF PUMP MODELS

Model 50 3-A

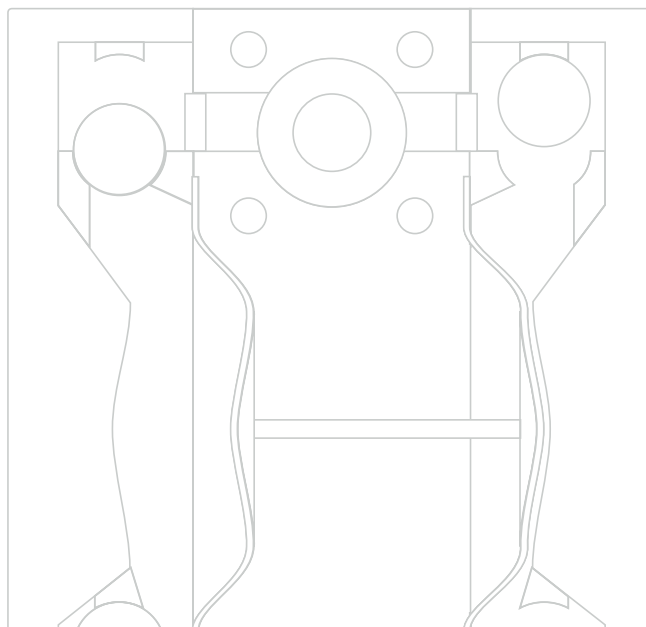
This pump has the highest flow capacity of any air-operated double diaphragm pump certified by 3-A CIP possibilities.

Model 50 SB

This pump has ball valves for ease of disassembly of the fluid ends, large porting and high flow capacity.

Model 50 SF

This pump has flap valves to avoid clogging when pumping large solids or chunks.





Features and advantages

- Ideal for applications that benefit from the convenience of quick knock down design
- Stainless steel fluid ends can be disassembled in 5 minutes or less
- Over-molded EPDM, Santoprene, Viton and Buna-N food-grade elastomers
- 3A available with 1.5 inch, 2 inch, 3 inch and 4 inch Tri-Clamp connections
- Electronic leak detector is available for all models, but comes standard on the 3A pump
- Stainless steel fluid ends, meet or exceed a 0,8 μm Ra finish and can be disassembled in 5 minutes or less
- All models are available as stand-mounted or in 200 liter or 1000 liter unloader packages
- Electronic leak detector is standard on the 3-A model and is optional on the SB or SF models
- All models covered by 3 years warranty

Applications

- Milk and dairy
- Evacuation of food process mixing kettles
- Transferring of ingredients from original container to mixing tanks
- High volume evacuation of liquid concentrates from shipping tankers to holding vessels
- Repackaging of fluids from original container to smaller receptacles
- Pumping hand and massage lotions for the pharmaceutical industry

VERDERAIR VA 50 3-A



Technical data

Weight [kg]		66
Max Suction lift [mwc]	Dry	2.75
	Wet	5.5
Temperature [°C]	Diaphragm, balls — Buna-N	82
	EPDM	134
Wetted materials		SS 316 - Ra: 0.8 µm
Non wetted materials		SS 316 - Ra: 0.8 µm

codes VA 50 3-A no.2 no.3 no.4 no.5 no.6

no.2 size connections

- 40 = 1½"
- 50 = 2"
- 80 = 3"
- 100 = 4"

no.3 material casing

SS = Stainless Steel 316

no.4 material diaphragm

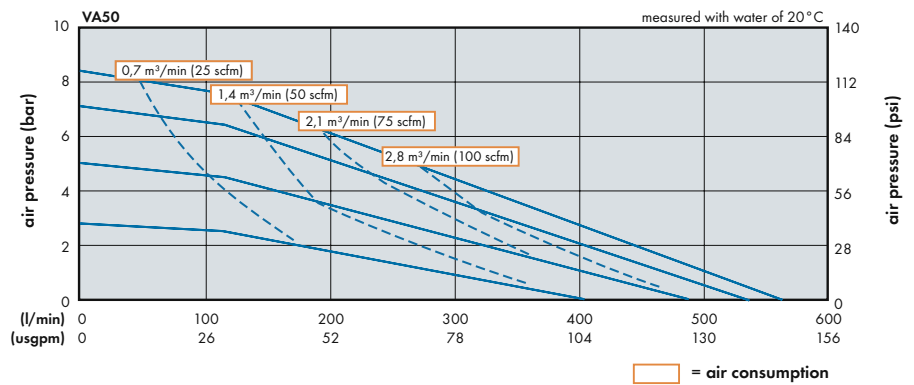
EP = EPDM (3A)

no.5 material balls

BN = Buna N

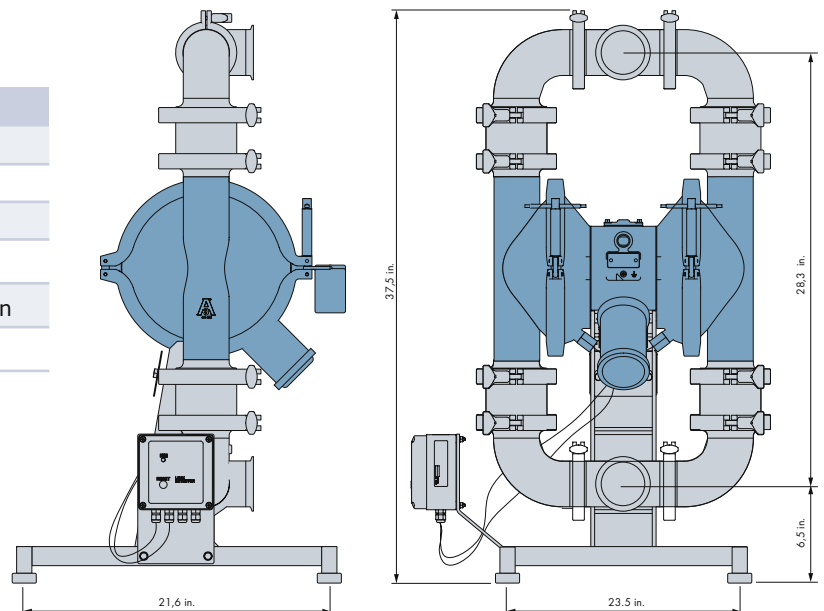
no.6 options

- A = leak detection + pump stand
- 1 = pump stand



Ratings

Max. free flow delivery	568 l/min
Max. pump speed	145 cpm
Max. solids pumping	25.4 mm
Sound level at 50 cpm	85 dBa
Max. air consumption	4.9 m³/min
Fluid inlet & outlet size (Tri-Clamp)	1½ — 4"



VERDERAIR VA 50 SB



Technical data		
Weight [kg]		66
Max Suction lift [mwc]	Dry	2.75
	Wet	5.5
Temperature [°C]	Diaphragm, balls, seat — Teflon	104
	Santoprene	82
	Buna-N	82
	Viton	121
Wetted materials		SS 316 - Ra: 0.8 µm
Non wetted materials		SS 316 - Ra: 0.8 µm

codes VA 50 SB no.2 no.3 no.4 no.5 no.6

no.2 size connections

- 40 = 1½"
- 50 = 2"
- 80 = 3"
- 100 = 4"

no.3 material casing

SS = Stainless Steel 316

no.4 material of diaphragms

- SP = Santoprene
- BN = Buna N
- VT = Viton
- TF = PTFE

no.5 material of balls

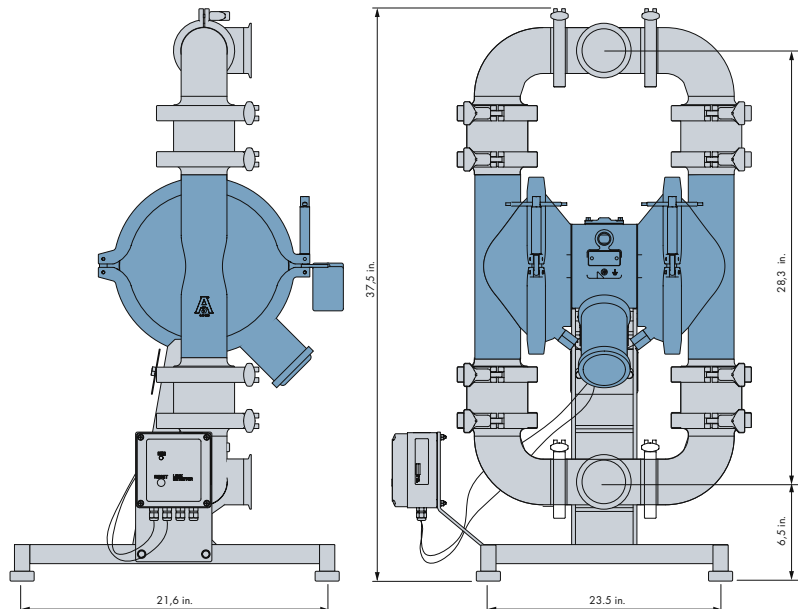
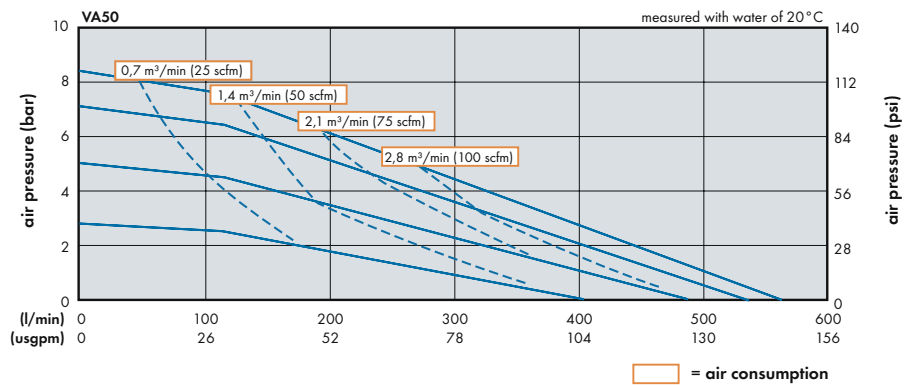
- SP = Santoprene
- BN = Buna N
- VT = Viton
- TF = PTFE

no.6 options

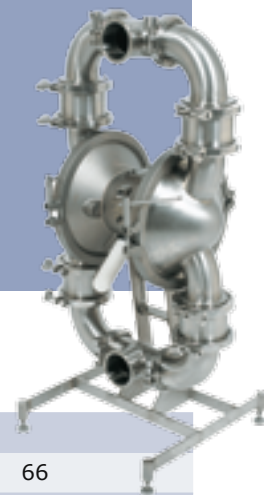
- A = leak detection + pump stand
- 1 = pump stand

Ratings

Max. free flow delivery	568 l/min
Max. pump speed	145 cpm
Max. solids pumping	25.4 mm
Sound level at 50 cpm	85 dBA
Max. air consumption	4.9 m³/min
Fluid inlet & outlet size (Tri-Clamp)	1½ — 4"



VERDERAIR VA 50 SF



Technical data

Weight [kg]		66
Max Suction lift [mwc]	Dry	1.75
	Wet	3.5
Temperature [°C]	Diaphragm — Teflon	104
	Santoprene	82
	Buna-N	82
	Viton	121
Wetted materials		SS 316 - Ra: 0.8 µm
Non wetted materials		SS 316 - Ra: 0.8 µm

codes VA 50 SF

no.2 no.3 no.4 no.5 no.6

no.2 size connections

80 = 3"

100 = 4"

no.3 material casing

SS = Stainless Steel 316

no.4 material of diaphragms

SP = Santoprene

BN = Buna N

VT = Viton

TF = PTFE

no.4 material of diaphragms

SP = Santoprene

BN = Buna N

VT = Viton

TF = PTFE

no.5 material flap valve

SS = Stainless Steel 316

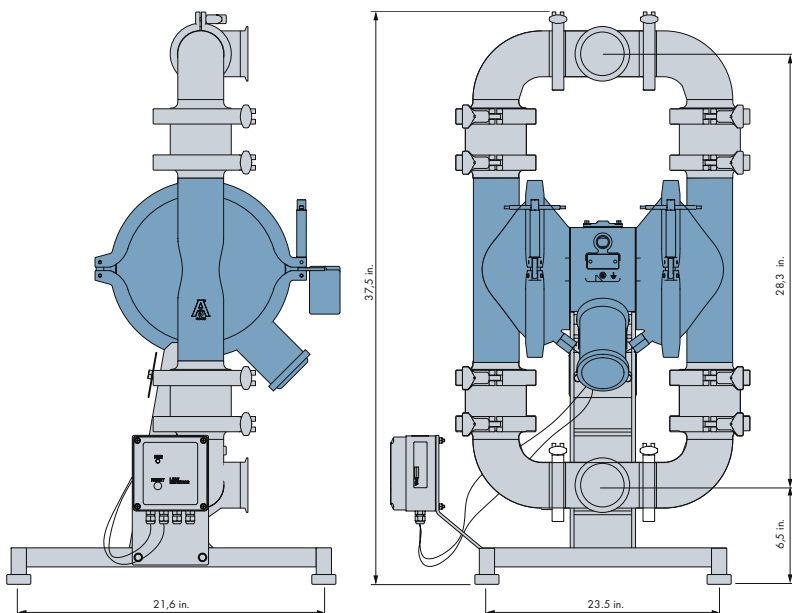
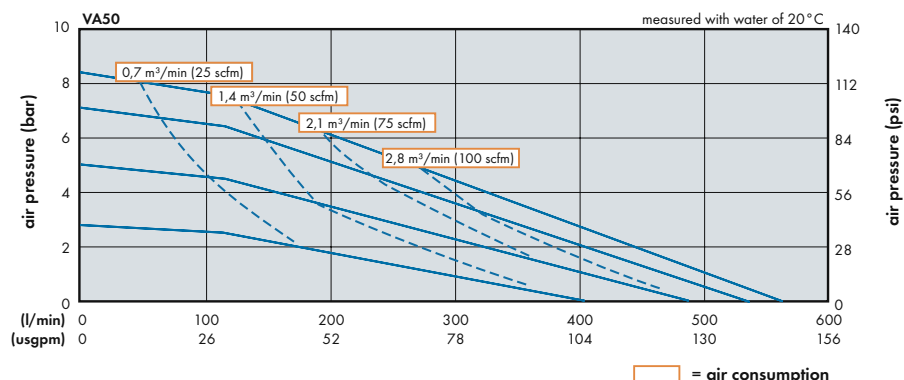
no.6 options

A = leak detection + pump stand

1 = pump stand

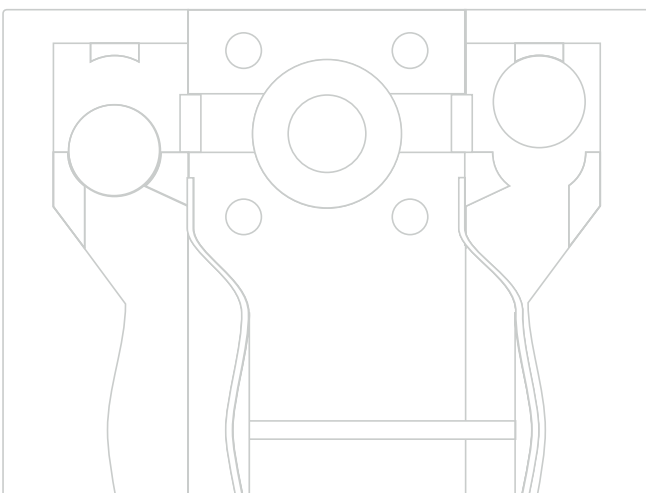
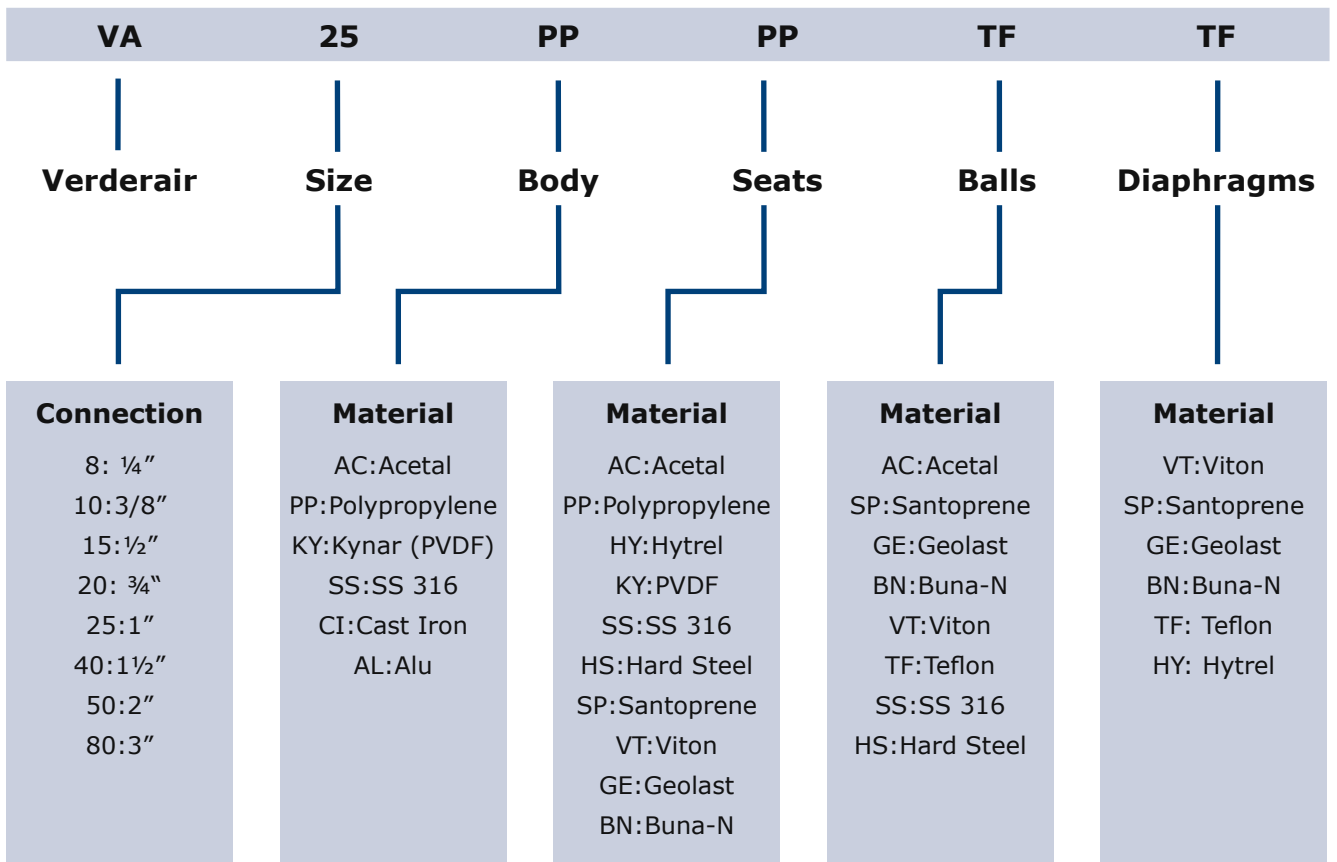
Ratings

Max. free flow delivery	568 l/min
Max. pump speed	145 cpm
Max. solids pumping	25.4 mm
Sound level at 50 cpm	85 dBa
Max. air consumption	4.9 m ³ /min
Fluid inlet & outlet size (Tri-Clamp)	3 — 4"





Pump Coding System



Applications

Automotive industry

Grinding emulsion
Oil
Coolant
Hydraulic fluid
Sulphuric acid
Automotive primer
Soluble oil
Varnish disposal
Varnish additives
Degreasing baths
Cutting oil
Ware and glycol mixture
Paint

Aviation

Aircraft fuelling and drainage
Satellite refueling
Solid rocket propellant
Missile silo's

Beverages

Yeast
Diatomaceous earth
Slurry
Dregs
Hot pulp
Liquid hops
Sugar syrup
Concentrates
Gas-liquid mixtures
Wine
Fruit pulp
Fruit juice
Corn syrup

Ceramics

Slip
Glaze
Enamel slip
Effluent
Clay
Clay slurry
Jime slurry
Kaolin slurry

Chemical industry

Acids
Alkaline
Solvents
Suspensions

Dispersions
Magnesium hydroxide
Varnishes
Sump water
Resins
Latex
Adhesives
Effluent sludge
Stabilizers
Filter press
Electrolyte

Construction industry

Sump and pit drainage
Cement slurry
Ceramic tiles adhesive
Rock slurry
Ceiling coating paints
Texture spray

Cosmetics

Lotions
Creams
Shampoos
Emulsions
Hand creams
Surfactants
Hair permanents
Soaps

Electronic industry

Solvents
Electroplating baths
Ultrapure liquids
Carrier fluids for ultrasonic washing
Sulfuric
Nitric and acid wastes
Etching acids
Mek
Acetone
Polishing compounds

Food

Brine
Chocolate
Vinegar
Molasses
Dog food
Vegetable oil
Soy bean oil

Honey
Cat food
Hci
Animal blood
Sour cream
Ice cream
Milk
Yoghurt
Light viscosity cheeses
Pharmaceutical lotions
Concentrated fruit juices
Tomato paste
Wine
Oils
Jams & jellies
Sauces, pastes and starches
Corn syrup
Mineral oil
Lanolin alcohol
Glycol
Animal blood

Furniture industry

Adhesives
Varnishes
Dispersions
Solvents
Stains
Elmers glue
White wood glue
Solvents
Glue
(5-6000 cps) Epoxy
Starch adhesives
Spray packages

Mining

Sump gallery drainage
Sewer cleaning
Coal sludge and rock
Slurry
Cement slurry
Grouting mortar
Oil transfer
Explosive slurry
Adhesives
Lube oil
Foaming

Municipalities

Tank and sump drainage
Sewer cleaning chemicals
Contaminated surface water
Emergency pumping
Spill clean-up
Waste-oil
Oil / water separators

Paint and coatings

Resins
Solvents
Acrylic
Wood preservative stain
Concrete paints
Varnishes
Titanium dioxide slurry
Primers
Stains
Dispersions
Varnish cleaning baths
Alkaloid resin

Pharmaceutical industry

Vegetable extracts
Tablet pastes
Ointments
Alcohols
Filtering aids
Ultra filtration
Blood plasma
Waste solvents
Sump waste

Plating

Anodic sludge
Electroplating baths
Varnishes
Enamels
Solvents
Cleaning baths
Filtering

Pulp/paper/packaging

Latex
Adhesives
Paints
Resins
Printing inks
Dispersions
Tio2 slurry
Kaolin clay
Hydrogen peroxide

Refineries

Tank roof drainage
Oil sludge
Tank cleaning
Tank moat drainage
Portable pumping

Road tanker trucksloading and draining of tank by means of pump on vehicle

Tank vehicle washing facilities
Acid spraying
Foaming

Shipbuilding

Tank and bilge drainage
Ship cleaning
Stripping
Oil skimming
Seawater smelters
Foundries and dye casting
Metal slurry
Hydroxide and carbide slurry
Dust scrubbing slurry
Back wash for flushing of cores
Mould release

Textile and carpet

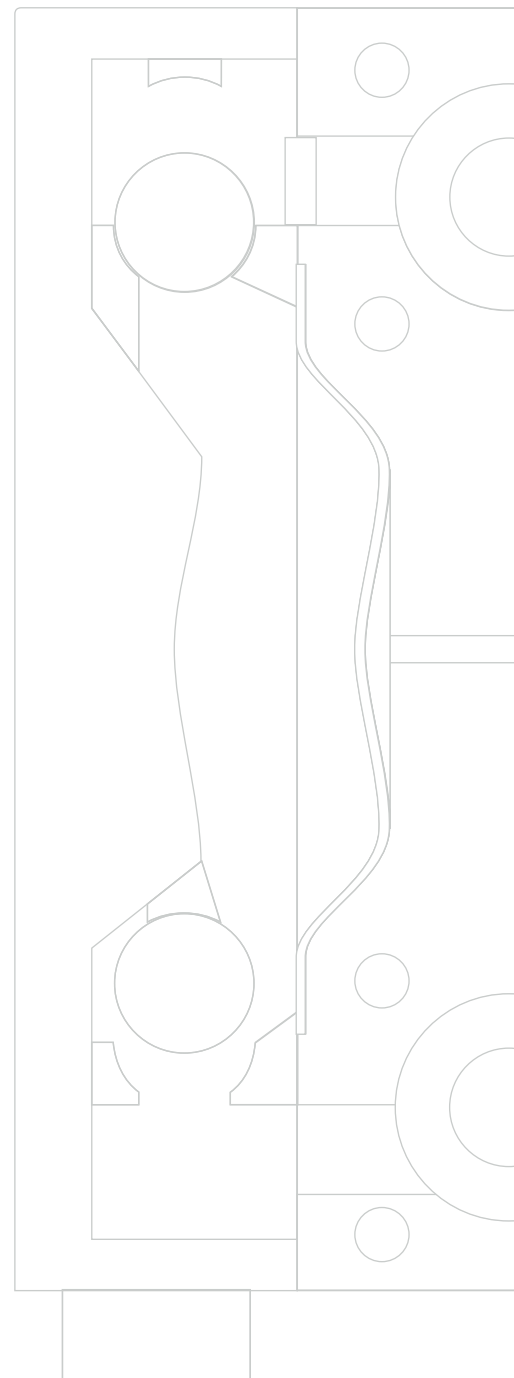
Dyeing chemical
Scotchgard*
Starch and sizing
Resins
Dyes

Water and sewage treatment

Milk of lime
Thin slurry
Effluents
Chemicals
Charging of filter presses
Polymer
Waste water

Utility contaminated

Liquids
Charging of scrubbers
Milk of lime
Transformer oil
Resins



* official trademark of 3M



The Verder Group

Passion for pumps

Liquids handling is the original passion of the Verder Group. Its liquids handling companies supply a wide range of first-class pumps for a variety of industrial purposes.

Verder Liquids is active in many industrial sectors: chemical and process industry, food, pharmaceutical, water treatment, and environmental industries.

Within these industries pump requirements vary enormously and applications and needs change frequently. In order to ensure we provide the best solutions. We analyse and monitor industrial trends as well as maintaining close relationships with our customers.

International presence

The Verder Group Liquids division has affiliates in:
Austria - Belgium - China - Czech Republic - France - Germany
Great Britain - Hungary - The Netherlands - Poland - Romania
Slovakia - South Africa.

Your advantages

The advantages of working with us are clear, we offer you:

- single-source solutions: Verder's wide and complementary range of pumps allows you to source your entire pumping needs from one company, reducing your costs;
- expertise: years of providing pumping solutions to industry have given us valuable expertise and knowledge which we are able to use to supply the most appropriate and reliable pumps;
- international affiliated company: our size gives you the confidence that you are dealing with a powerful international pump company and if your project involves overseas work then you can profit from our international network of companies.

Contact Verder

If you would like to know more about our pumping solutions then please visit our website www.verder.com/liquidshandling. You will find the full range of our pump ranges as well as application stories, latest news and the contact details of our local specialist.



Any questions? You may still have questions and/or comments after reading this brochure. Please feel free to contact us on +31 (0)30 677 92 11. You can also respond via email to info@verder.com. For more information about Verderair please visit our website www.verder.com/liquidshandling

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