

VERDERAIR VA15/VA20

Drum Pump Kits

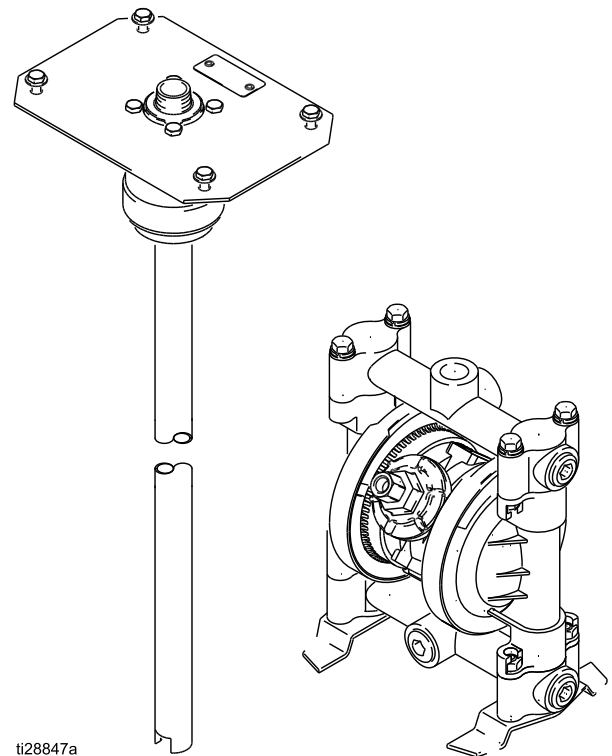
819.0777
Rev.C
EN

Important Safety Instructions



Important Safety Instructions

Read all warnings and instructions in this manual. **Save these instructions.**



ti28847a

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Related Manuals







Manual Number	Title
819.6900	Air-Operated Diaphragm Pumps

Warnings

The following warnings are for the setup, use, grounding, maintenance, and repair of this equipment. The exclamation point symbol alerts you to a general warning and the hazard symbols refer to procedure-specific risks. When these symbols appear in the body of this manual or on warning labels, refer back to these Warnings. Product-specific hazard symbols and warnings not covered in this section may appear throughout the body of this manual where applicable.

 <h1 style="margin: 0;">WARNING</h1>	
      	<p>FIRE AND EXPLOSION HAZARD</p> <p>Flammable fumes, such as solvent and paint fumes, in work area can ignite or explode. Paint or solvent flowing through the equipment can cause static sparking. To help prevent fire and explosion:</p> <ul style="list-style-type: none"> • Use equipment only in well ventilated area. • Eliminate all ignition sources; such as pilot lights, cigarettes, portable electric lamps, and plastic drop cloths (potential static arc). • Ground all equipment in the work area. See Grounding instructions. • Keep work area free of debris, including solvent, rags and gasoline. • Do not plug or unplug power cords, or turn power or light switches on or off when flammable fumes are present. • Use only grounded hoses. • Stop operation immediately if static sparking occurs or you feel a shock. Do not use equipment until you identify and correct the problem. • Keep a working fire extinguisher in the work area. • Route exhaust away from all ignition sources. If diaphragm ruptures, fluid may be exhausted with air. <p>Static charge may build up on plastic parts during cleaning and could discharge and ignite flammable vapors. To help prevent fire and explosion:</p> <ul style="list-style-type: none"> • Clean plastic parts only in well ventilated area. • Do not clean with a dry cloth. • Do not operate electrostatic guns in equipment work area.

 <h1 style="margin: 0;">WARNING</h1>	
  	<p>PRESSURIZED EQUIPMENT HAZARD</p> <p>Fluid from the equipment, leaks, or ruptured components can splash in the eyes or on skin and cause serious injury.</p> <ul style="list-style-type: none"> • Follow the Pressure Relief Procedure when you stop spraying/dispensing and before cleaning, checking, or servicing equipment. • Tighten all fluid connections before operating the equipment. • Check hoses, tubes, and couplings daily. Replace worn or damaged parts immediately.
 	<p>EQUIPMENT MISUSE HAZARD</p> <p>Misuse can cause death or serious injury.</p> <ul style="list-style-type: none"> • Do not operate the unit when fatigued or under the influence of drugs or alcohol. • Do not exceed the maximum working pressure or temperature rating of the lowest rated system component. See Technical Data in all equipment manuals. • Use fluids and solvents that are compatible with equipment wetted parts. See Technical Data in all equipment manuals. Read fluid and solvent manufacturer's warnings. For complete information about your material, request Safety Data Sheet (SDS) from distributor or retailer. • Turn off all equipment and follow the Pressure Relief Procedure when equipment is not in use. • Check equipment daily. Repair or replace worn or damaged parts immediately with genuine manufacturer's replacement parts only. • Do not alter or modify equipment. Alterations or modifications may void agency approvals and create safety hazards. • Make sure all equipment is rated and approved for the environment in which you are using it. • Use equipment only for its intended purpose. Call your distributor for information. • Route hoses and cables away from traffic areas, sharp edges, moving parts, and hot surfaces. • Do not kink or over bend hoses or use hoses to pull equipment. • Keep children and animals away from work area. • Comply with all applicable safety regulations.
	<p>PRESSURIZED ALUMINUM PARTS HAZARD</p> <p>Use of fluids that are incompatible with aluminum in pressurized equipment can cause serious chemical reaction and equipment rupture. Failure to follow this warning can result in death, serious injury, or property damage.</p> <ul style="list-style-type: none"> • Do not use 1,1,1-trichloroethane, methylene chloride, other halogenated hydrocarbon solvents or fluids containing such solvents. • Do not use chlorine bleach. • Many other fluids may contain chemicals that can react with aluminum. Contact your material supplier for compatibility.

 <h1 style="margin: 0;">WARNING</h1>	
	<p>THERMAL EXPANSION HAZARD</p> <p>Fluids subjected to heat in confined spaces, including hoses, can create a rapid rise in pressure due to the thermal expansion. Over-pressurization can result in equipment rupture and serious injury.</p> <ul style="list-style-type: none"> • Open a valve to relieve the fluid expansion during heating. • Replace hoses proactively at regular intervals based on your operating conditions.
	<p>PLASTIC PARTS CLEANING SOLVENT HAZARD</p> <p>Many solvents can degrade plastic parts and cause them to fail, which could cause serious injury or property damage.</p> <ul style="list-style-type: none"> • Use only compatible water-based solvents to clean plastic structural or pressure-containing parts. • See Technical Data in this and all other equipment instruction manuals. Read fluid and solvent manufacturer's Safety Data Sheet (SDS) and recommendations.
	<p>TOXIC FLUID OR FUMES HAZARD</p> <p>Toxic fluids or fumes can cause serious injury or death if splashed in the eyes or on skin, inhaled, or swallowed.</p> <ul style="list-style-type: none"> • Read Safety Data Sheet (SDS) to know the specific hazards of the fluids you are using. • Route exhaust away from work area. If diaphragm ruptures, fluid may be exhausted into the air. • Store hazardous fluid in approved containers, and dispose of it according to applicable guidelines.
	<p>BURN HAZARD</p> <p>Equipment surfaces and fluid that's heated can become very hot during operation. To avoid severe burns:</p> <ul style="list-style-type: none"> • Do not touch hot fluid or equipment.
	<p>PERSONAL PROTECTIVE EQUIPMENT</p> <p>Wear appropriate protective equipment when in the work area to help prevent serious injury, including eye injury, hearing loss, inhalation of toxic fumes, and burns. This protective equipment includes but is not limited to:</p> <ul style="list-style-type: none"> • Protective eyewear, and hearing protection. • Respirators, protective clothing, and gloves as recommended by the fluid and solvent manufacturer.

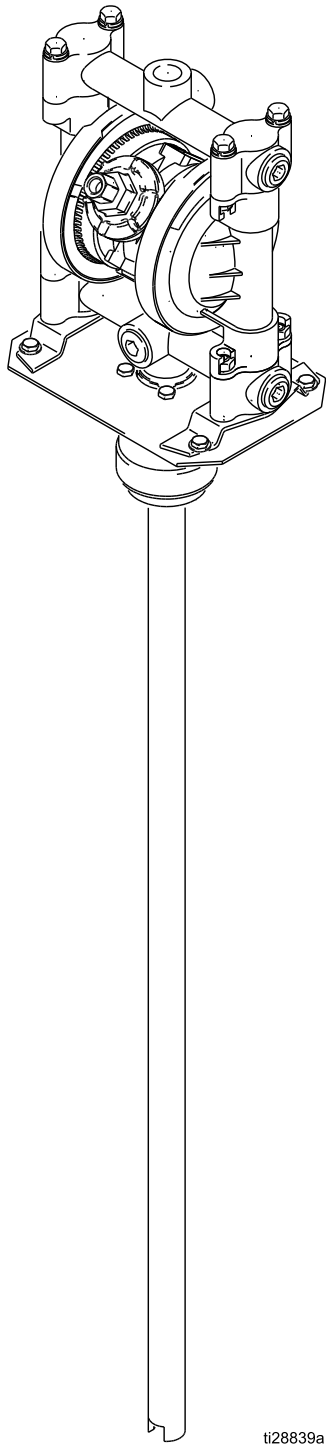
Drum Package

A drum package consists of a pump, a base kit and a tube. Ensure that each is appropriate for the materials and thread pattern of your system. When ordering, make sure to include a pump, a base kit, and a tube.

Table 1 Recommended combinations

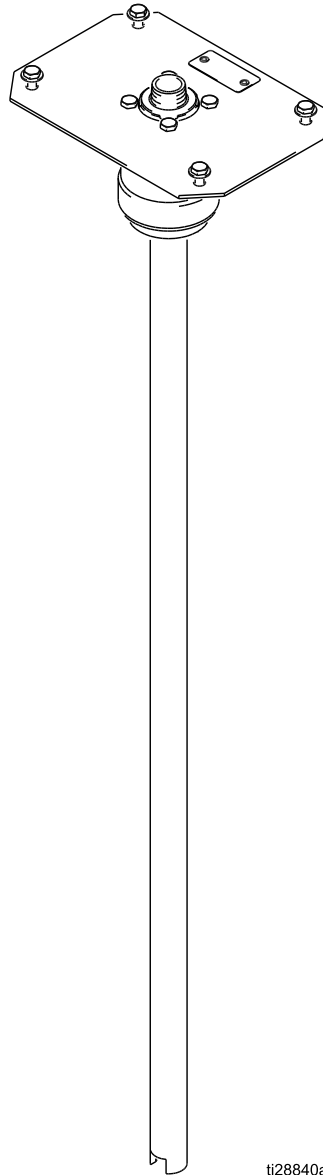
Suggested combinations	Pump		Base Kit		Tube (all npt)		Approvals
	Part No.	Identification	Part No.	Material	Part No.	Material	
VA15, Poly, NPT	810.0875	VA15PP-PP TF TF TN OD	819.0750	Poly	819.0756	Poly	CE
VA15, Poly, BSPT	810.0880	VA15PP-PP TF TF TB OD	819.0750	Poly	819.0756	Poly	
VA15, Acetal, NPT	810.0876	VA15DP-AC TF TF TN OD	819.0751	Acetal	819.0754	SST	CE Ex II 2 G
VA15, Acetal, BSPT	810.0881	VA15DP-AC TF TF TB OD	819.0751	Acetal	819.0754	SST	
VA15, Acetal, NPT	810.0876	VA15DP-AC TF TF TN OD	819.0751	Acetal	819.0755	Aluminum	
VA15, Acetal, BSPT	810.0881	VA15DP-AC TF TF TB OD	819.0751	Acetal	819.0755	Aluminum	
VA20, Aluminum, NPT	810.0877	VA20AP-AC SP SP TN OD	819.0751	Acetal	819.0755	Aluminum	
VA20, Aluminum, BSPT	810.0882	VA20AP-AC SP SP TB OD	819.0751	Acetal	819.0755	Aluminum	
VA20, Aluminum, NPT	810.0878	VA20AP-AC BN BN TN OD	819.0751	Acetal	819.0755	Aluminum	
VA20, Aluminum, BSPT	810.0883	VA20AP-AC BN BN TB OD	819.0751	Acetal	819.0755	Aluminum	
VA20, Aluminum, NPT	810.0879	VA20AP-AC TF TF TN OD	819.0751	Acetal	819.0755	Aluminum	
VA20, Aluminum, BSPT	810.0884	VA20AP-AC TF TF TB OD	819.0751	Acetal	819.0755	Aluminum	
VA20, SST, NPT	810.6855	VA20SP-SS TF TF TN OO	819.0752	SST	819.0754	SST	
VA20, SST, BSPT	810.0885	VA20SP-SS TF TF TB OD	819.0752	SST	819.0754	SST	

Overview



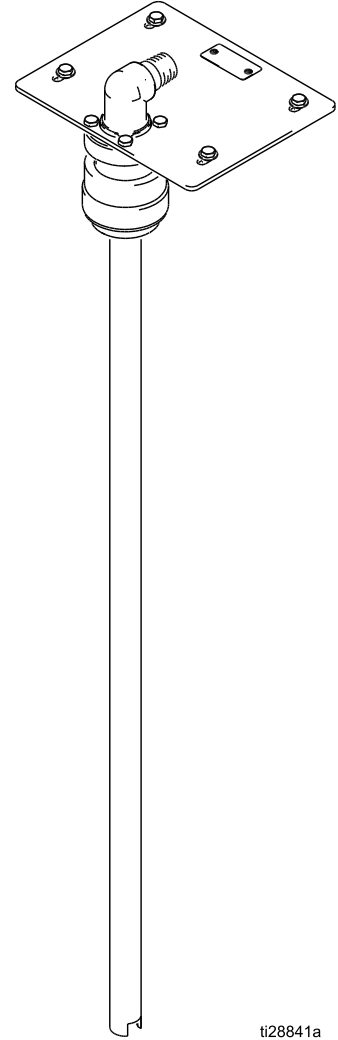
ti28839a

Representative package with pump mounted



ti28840a

Base kit and tube with standard mounting plate (plastic or aluminum)



ti28841a

Base kit and tube with offset mounting plate (SST only)

Installation

General Information

Reference numbers in the text, for example (5), refer to the callouts in the figures and part lists.

1. Remove the knurled bung adapter (5) and the bung gasket (2) from the bung adaptor base assembly and install it onto the 200-liter (55-gallon) drum.
2. Tighten 1/4 turn past hand-tight to ensure that the bung gasket (2) engages the drum cover.
3. If an air-tight seal is required, place the white foam gasket (9) in the recess on top of the bung adaptor (8).
4. Loosely attach the pump to the mounting plate with the 4 washers (4) and 4 screws (1) provided.
5. Apply sealant to the threads of the suction tube (101).
6. Insert the threaded end of the suction tube (101) through the bottom of the bung adaptor base assembly and tighten it into the inlet manifold of the pump.
7. Tighten the 4 screws (1) that attach the pump to the mounting plate (7).
8. Insert the assembly into the drum through the bung adaptor (5) installed on the drum.



When mounting the stainless steel pump, ensure that the offset mounting plate (7) is positioned so that the pump is mounted over the drum to prevent tipping when the fluid level in the drum is low.

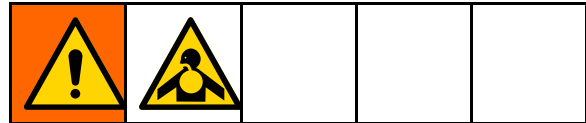
These units should be used **only** on drums positioned on flat, level surface. Uneven or slanted surfaces could cause the drum to tip over.

Do not relocate a drum with the unit mounted in the bung hole. When the unit is mounted, the center of gravity is too high for stability when moving the drum.

NOTICE





The bung adaptor (8) has 63 mm (2.5 in) of adjustment to accommodate slight variances in drum size. To ensure that the bung adaptor does not come out of the retainer, do not allow the bottom of the larger diameter of the bung adaptor to extend more than 63 mm (2.5 in) from the retainer (6).

9. Tighten the retainer (6) 1/4 turn past hand-tight to ensure the PTFE o-ring (3) seals against the bung adaptor base assembly.
10. Ground the pump and the system. Refer to instruction manual 819.6900.



11. Follow the installation procedure in instruction manual 819.6900 to complete the installation of the air and fluid lines to and from the pump.
12. Open the second hole in the drum cover to introduce make-up air or inert gas. The bung adaptor and bung adaptor base seal against the drum. Failure to provide make-up air or inert gas could cause the drum to collapse. If necessary, take applicable steps to ensure the make-up air is dry and that dangerous gases do not escape from the drum.
13. To operate the pump, follow the procedures in instruction manual 819.6900.

Grounding

				
<p>The equipment must be grounded to reduce the risk of static sparking and electric shock. Electric or static sparking can cause fumes to ignite or explode. Improper grounding can cause electric shock. Grounding provides an escape wire for the electric current.</p> <ul style="list-style-type: none">• Always ground the entire fluid system as described below.• Pumps with Polypropylene fluid sections are not conductive. Never use a nonconductive polypropylene pump with flammable fluids.• Follow your local fire codes.				

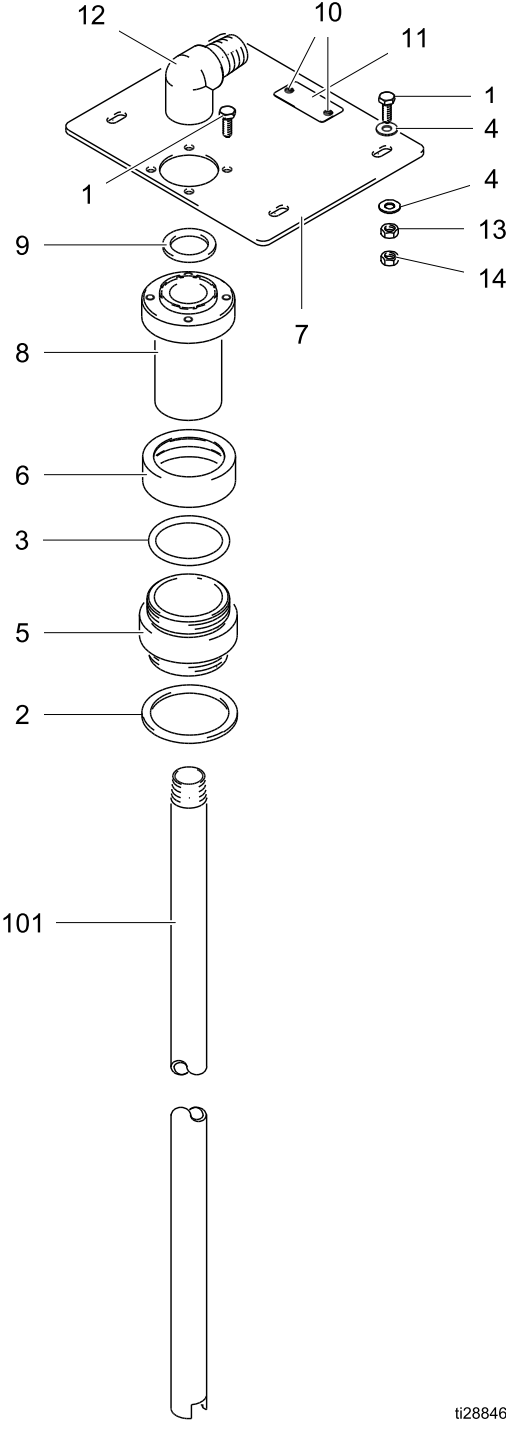
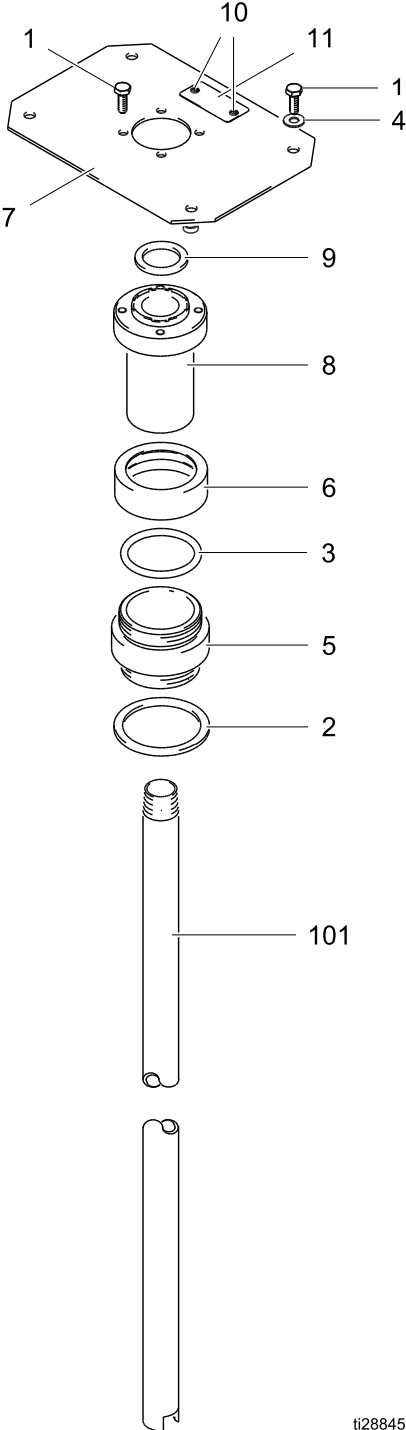
Parts Lists

Use this table as a quick reference for the list of parts and in which kits they appear.

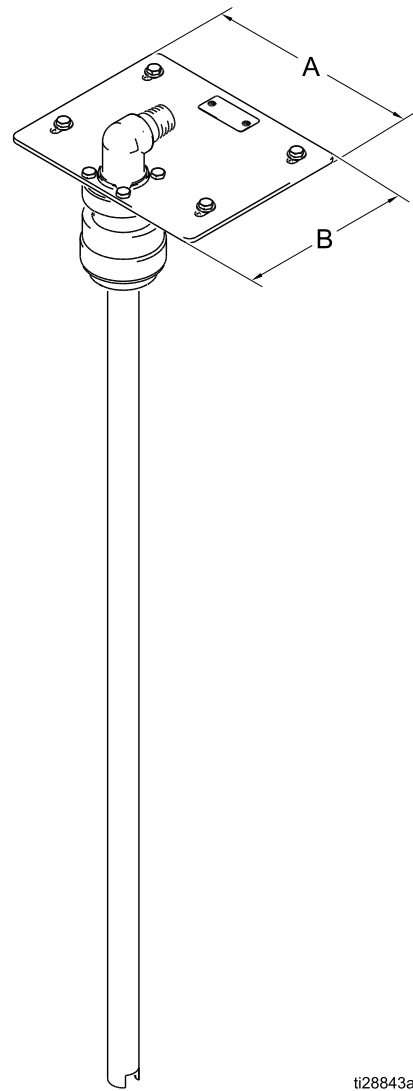
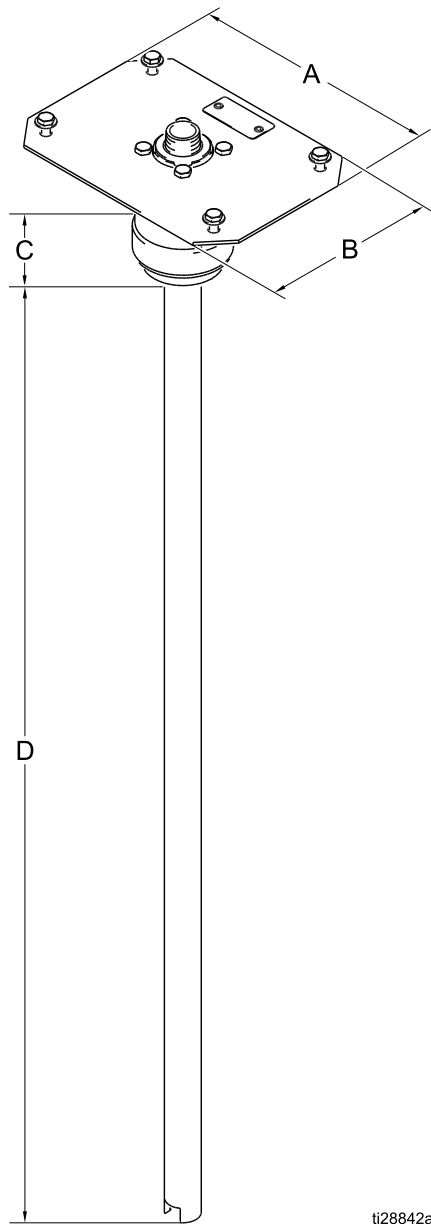
Ref.	Description	Base Kits		
		819.0750	819.0751	819.0752
Base Kit Parts (kit numbers are listed in table 1)				
1	SCREW, cap	8	8	8
2	GASKET, bung	1	1	1
3	PACKING, o-ring	1	1	1
4	WASHER, flat, SST	4	4	8
5	ADAPTOR, bung	1	1	1
6	RETAINER, o-ring	1	1	1
7	PLATE, mounting, offset			1
	PLATE, mounting	1	1	
8	ADAPTOR, bung, polypropylene	1		
	ADAPTOR, bung, acetal		1	
	ADAPTOR, bung, stainless steel			1
9	GASKET	1	1	1
10	RIVET, pop	2	2	2
11	PLATE, designation	1	1	1
12	FITTING, street elbow, npt			1
13	NUT, hex, jam			4
14	NUT, full, hex, regular			4

Ref.	Description	Tubes		
		819.0756	819.0755	819.0754
Tube (part numbers are listed in table 1)				
101	TUBE, suction, stainless steel, npt			1
	TUBE, suction, aluminum, npt		1	
	TUBE, suction, polypropylene, npt	1		

Offset mounting plate and street elbow for use with stainless steel pump only.



Dimensions



A	216 mm (8.5 in)	A	216 mm (8.5 in)
B	152 mm (6.0 in)	B	175 mm (6.9 in)
C	Adjustable from 66 mm (2.6 in) to 130 mm (5.1 in)		
D	Adjustable from 800 mm (31.5 in) to 864 mm (34.0 in)		

Technical Data

	US	Metric
VERDERAIR VA15/VA20 Double Diaphragm Pump		
Maximum fluid working pressure	100 psi	0.7 MPa, 7 bar
Air pressure operating range	30-100 psi	0.2-0.7 MPa, 2-7 bar
Weight		
Polypropylene base and tube	4.0 lb	1.8 kg
Acetal base and aluminum tube	4.5 lb	2.0 kg
Acetal base and SST tube	6.5 lb	2.9 kg
SST base and tube	9.5 lb	4.3 kg
VA15 polypropylene pump	6.5 lb	2.9 kg
VA15 acetal pump	7.8 lb	3.5 kg
VA20 aluminum pump	8.5 lb	3.9 kg
VA20 SST pump	18.0 lb	8.2 kg
Wetted Parts Noted in item descriptions		
Non-wetted parts (materials vary depending on kit)		
epoxy-coated steel, stainless steel, PTFE, nickel-plated steel, polyethylene, polypropylene, aluminum, zinc-plated steel		

For additional technical data specific to the pump, refer to instruction manual 819.6900.

Notes

Customer Services/Guarantee

CUSTOMER SERVICES

If you require spare parts, please contact your local distributor, providing the following details:

- Pump Model
- Type
- Serial Number, and
- Date of First Order.

GUARANTEE

All VERDER pumps are warranted to the original user against defects in workmanship or materials under normal use (rental use excluded) for two years after purchase date. This warranty does not cover failure of parts or components due to normal wear, damage or failure which in the judgement of VERDER arises from misuse.

Parts determined by VERDER to be defective in material or workmanship will be repaired or replaced.

LIMITATION OF LIABILITY

To the extent allowable under applicable law, VERDER's liability for consequential damages is expressly disclaimed. VERDER's liability in all events is limited and shall not exceed the purchase price.

WARRANTY DISCLAIMER

VERDER has made an effort to illustrate and describe the products in the enclosed brochure accurately; however, such illustrations and descriptions are for the sole purpose of identification and do not express or imply a warranty that the products are merchantable, or fit for a particular purpose, or that the products will necessarily conform to the illustration or descriptions.

PRODUCT SUITABILITY

Many regions, states and localities have codes and regulations governing the sale, construction, installation and/or use of products for certain purposes, which may vary from those in neighboring areas. While VERDER attempts to assure that its products comply with such codes, it cannot guarantee compliance, and cannot be responsible for how the product is installed or used. Before purchasing and using a product, please review the product application as well as the national and local codes and regulations, and be sure that product, installation, and use complies with them.

Original instructions. This manual contains English.

Revision C, August 2016

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