



# Industrial Diaphragm AC Motor Pump Unit

2/99

## DA Series

### Diaphragm Pumps

#### Features

- Continuous dry running ability
- Self priming up to 4.0 metres
- Flows up to 20.0 Litres per minute
- Pressure up to 4.8 bar
- Handles mildly aggressive chemicals
- Tolerates abrasive wear.
- Non pulsating flow.
- Handles viscosities up to 250 centiPoise

#### Typical Applications

- **Industrial** : Fluid transfer for mild acids, Water based products, Light oils, Detergents. Misting and spray duties. Dosing systems. Concrete saw coolant supply pump, Filtering systems, Shower drain.
- **Agricultural** : Fill water tanks, Wash animal pens, Drinking water for livestock, Livestock cooling by spray mist, Irrigation systems.
- **Food Beverage & Dairy** : Vending machines, Refrigeration condensate pump out, Wash down equipment & floor cleaning, Brine injection.

#### Specifications

##### Elastomers :


Valves - Nitrile or Viton®  
 Diaphragm - Santoprene, Viton® or Geolast  
 Pressure switch - Textured rubbered Nylon

**Pump Head** : Glass Filled Polypropylene

**Hardware** : 304 Stainless Steel

**Ports** : NPT External thread and Hose connections supplied, 4 pole variants have 1/2" (13mm), and 2 pole variants have 3/4" (19mm).

**Weight** : 3.4 Kg.  
 3.6 Kg - with pressure switch

 **WARNING** Explosion hazard. Do not pump petrol / gasoline, solvents, thinners or other flammable liquids with flash points below 37°C (99°F). To do so can cause an explosion resulting in injury or death.



DA0X-XX1X

#### Model Selection Chart

04	1.5° Cam
06	2.0° Cam
12	3.0° Cam
15	3.5° Cam

0	Standard
3	Pressure switch

2	230V / 80W / 50-60Hz / 0.9A / 4 Pole
3	230V / 120W / 50-60Hz / 1.4A / 2 Pole
5	110V / 90W / 50-60Hz / 3.0A / 4 Pole

0	Santoprene / Viton®
3	Santoprene / Nitrile
4	Viton / Viton®
5	Geolast / Viton®


For model availability, please see back page.

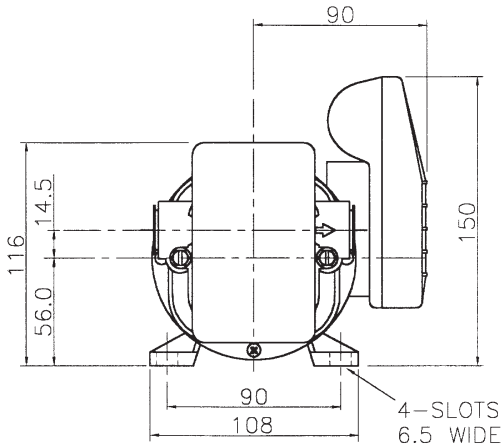
Example : DA015-3213 = 15 size pump with a pressure switch, 230V 4 pole motor and Santoprene diaphragm with Nitrile valves.

All motors are AC, Face & Foot mounting B3-B14, Enclosure IP44, frame size 56 all IEC 72 standard.

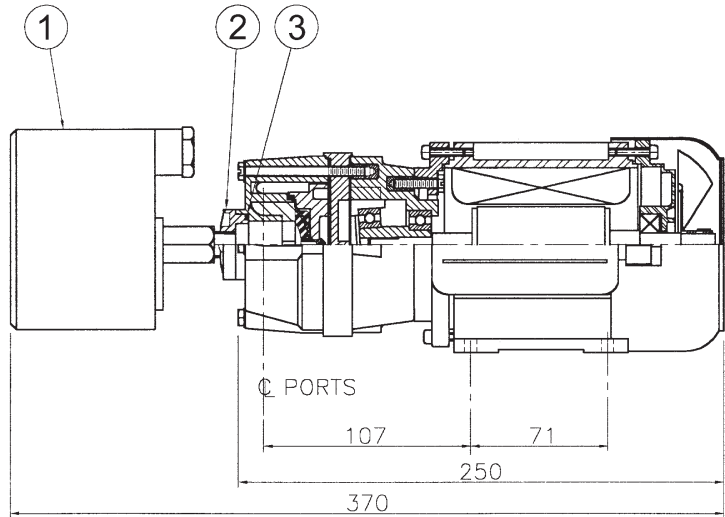
Note : priming performance can be significantly reduced when Viton® valves are fitted.

Viton is a registered trademark of DuPont Dow Elastomers

 **WARNING** Fire hazard. Wiring must comply with applicable electrical standards and include a properly sized fuse or circuit breaker. Improper wiring can cause a fire resulting in injury or death.



Dimensions in mm



### Parts List

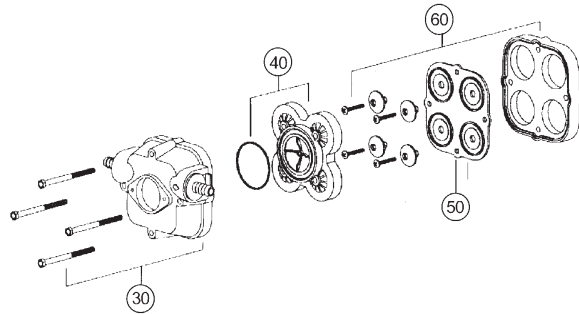
Key	Description	Qty	Part Number
1	Pressure switch	1	SP8022-2325
2	Nipple	1	X5000-002C
3	Adaptor Pressure switch	1	50162-0000

### Spares Kits

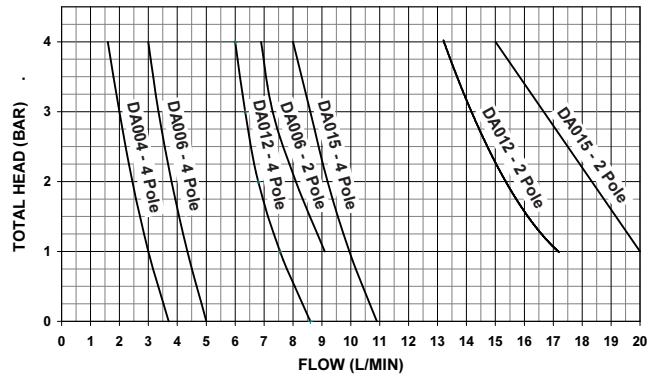
Key	Description	Qty	Part Number
30	Body Kit	1	30608-1001
40	Valve Kit	Nitrile	1 30613-1001
		Viton	1 30613-2004
50	Diaphragm Kit	Santoprene	1 30617-1000
		Geolast	1 30617-1001
		Viton	1 Check Availability
60	Plate/Piston Kit	1	30682-1000

### Accessories

Port Kit (2) (Viton®)	1/2" NPT	1	30649-1004
	1/2" Hose	1	30654-1004
	1/2" X 90° Hose	1	30651-1004
Pumpgard® 16 mesh	1/2" NPT	1	36400-7111
	1/2" Hose	1	36400-0020
	3/4" Hose	1	36200-0000
Pumpgard® 50 mesh	1/2" NPT	1	36400-1000
	1/2" Hose	1	36400-0000
	3/4" Hose	1	36220-0000



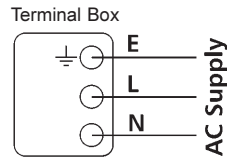
### Performance



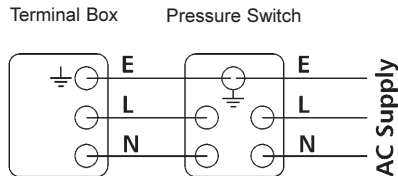
### Priming Ability (Wetted)

Size	004	006	012	012	015	015
Poles	4	4	4	2	4	2
m/H <sub>2</sub> O	1.5	2.0	2.3	3.5	3.0	4.0

We reserve the right to use more than one motor supplier, therefore overall dimensions may vary



Standard pump



Pump fitted with a pressure switch

Refer to wiring diagram inside motor terminal box

## Operating Instructions

**MOUNTING** - JABSCO diaphragm pumps are self-priming and may be located in a dry location above or below the fluid supply. If mounted horizontally ensure drain holes in wobbleplate housing are at the bottom. The body can be rotated 90° or 180° by removing the four body screws, rotating and replacing screws. If vertically mounted the motor should be uppermost. Place pump on a solid surface and secure with four mounting screws.

**PLUMBING** - Port adaptors supplied are 13mm (1/2") diameter hose barb and 1/2" NP threaded. Use hose clips for hose connection and PTFE tape for thread connection. **Flexible hose is recommended.** NOTE: Intake hose should be at least 13mm (1/2") ID reinforced hose. A "Pumpgard®" (strainer) is recommended if there is any risk of debris entering the pump. Ensure connections are leak proof and hoses are not kinked. Remember to periodically clean "Pumpgard®" screens if fitted.

**WIRING AC MODELS** - All wiring should be connected and installed by a competent electrician. Refer to the wiring diagram herewith, (also inside terminal box). Check motor plate for correct supply and maximum current draw. Ensure motor and pressure switch (if fitted) are earthed.

**SELF-PRIMING** - Pump is self-priming, from wetted condition, see table on front page. NOTE priming ability will be reduced if discharge is restricted.

**RUNNING DRY** - Pump can run dry indefinitely without damage.

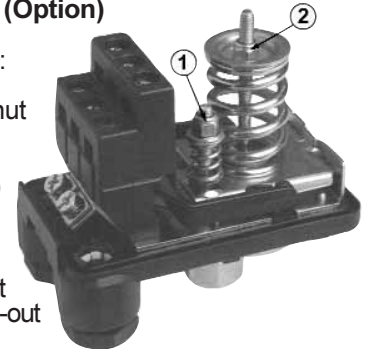
**FLUID COMPATIBILITY** - Most fluids including mild acids and bases are compatible with the materials of construction used in this pump (please note, pressure switch elastomers may not be compatible. If in doubt, consult the factory). If corrosive chemicals are handled, pump life will be prolonged if pump is flushed with a neutralising solution after each use or working day.

**PRESSURE** - Maximum discharge pressure is 4.8 bar (70 psi). If there is any risk of exceeding this due to restricted discharge, a pressure switch set to this maximum, should be fitted.

### PRESSURE SWITCH (Option)

To set pressure switch:

- i, Loosen differential nut (1) completely.
- ii, Adjust range nut (2) to desired cut-in pressure.
- iii, Tighten differential nut (1) to the desired cut-out pressure.



**TEMPERATURE** - The operating temperature limits are 70°C (158°F) maximum and 7°C 45°F minimum.

**PARTICLE SIZE** - Maximum particle (in suspension) size is 1 mm (0.04") in diameter.

**VISCOSITY** - The maximum pumped fluid viscosity is 250 centipoise.

**DUTY CYCLE** - Motor and pump are designed for continuous operation in a 21° C (70° F) environment while pumping against 4.2 bar (60 psi) discharge pressure. Beyond these parameters, an intermitted duty cycle is recommended to maximise pump life. In normal operation, motor case will get hot. Prolonged contact with motor could cause a burn on human skin.

**START-UP AND OPERATION** - Check level of fluid in supply tank. Open all valves in system. Switch pump electrical circuit to "on" position. Flow will become steady as air is bled from system. For pumps equipped with pressure switch, close discharge valve after flow becomes steady fluid stream. Pump should shut off soon after closing valve. Pump is now ready for automatic operation. pump will start when valve is opened and stop upon closure of valve. If pump is to be inoperative for a considerable period of time, flush pump with water, turn off electrical circuit to pump, and bleed system pressure by opening discharge valve. NOTE Priming the pump from a drained condition against a restricted discharge may entrap air, to release this air open any discharge restriction to purge the system. Other options to minimise trapped air are, 1) mount pump with the axis vertical and motor uppermost, 2) fit a check valve on the inlet side of the pump.

## Troubleshooting

### Pulsating Flow - Pump Cycles on and off (pumps fitted with pressure switch):

Restricted pump delivery. Check discharge lines, fittings and valves for undersizing or clogging.

### Failure to prime - Motor operates, but pump fails to discharge

Restricted suction or discharge line.  
Air leak on suction line.  
Punctured pump diaphragm.  
Debris under flapper valves.  
Crack in pump housing.

### Low flow and pressure

Air leak in suction line.  
Debris in pump or plumbing.  
Worn pump bearing (excessive noise).  
Punctured diaphragm.  
Defective motor.  
Entrapped air in pump - Purge system and follow recommendations under the 'Start-up and Operation' section.

## Safety

- 1) **Do not pump petrol / gasoline, solvents, thinners or other flammable liquids with flash points below 37° C (99° F). Motor is not flame proof, explosion and death can occur.**
- 2) **Earthing (ground) lead should always be securely fitted.**
- 3) **Motor pump units should be used in conjunction with a RCD circuit breaker.**
- 4) **Do not exceed the maximum recommended pressure.**
- 5) **Always read the motor rating plate for correct supply voltage and full load current.**

## Model Availability

**For other model variants please consult your Distributor or the Jabsco factory**

Pump	Motor	Elastomer	004	006	012	015
Standard	230V/50Hz/4P	Santoprene/Viton	DA004-0210	DA006-0210	DA012-0210	DA015-0210
Standard	230V/50Hz/4P	Santoprene/Nitrile	DA004-0213	DA006-0213	DA012-0213	DA015-0213
Standard	230V/50Hz/4P	Geolast/Viton		DA006-0215		
Standard	230V/50Hz/2P	Santoprene/Viton			DA012-0310	DA015-0310
Standard	230V/50Hz/2P	Geolast/Viton		DA006-0315		
Standard	110V/50Hz/4P	Santoprene/Nitrile			DA012-0513	
Press Switch	230V/50Hz/4P	Santoprene/Viton		DA006-3210		DA015-3210
Press Switch	230V/50Hz/4P	Santoprene/Nitrile	DA004-3213	DA006-3213	DA012-3213	DA015-3213
Press Switch	230V/50Hz/2P	Santoprene/Viton			DA012-3310	

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