ASSEMBLY

1. Press new seal into bearing end of body with lip facing away from bearing bore. (12)
2. Press shaft into bearing supporting inner race of bearing. (20)
3. Fit bearing retaining ring onto shaft. (23)
4. Position slinger in body drain area. Grease seal area of shaft. Push bearing and shaft into body by pressing on outer race of bearing. (11)
5. Fit eld coil to adaptor using 3 screws. Check that center bore of eld coil ts over boss on the adaptor. (15, 16)
6. Wipe pump shaft to remove any particles and check location of key. (20, 21)
7. Slide pulley assembly onto shaft, lining up with key and secure with retaining bolt. (17, 18, 19, 20, 21)
8. Fit lip seal into body with lip facing into impeller bore. (6)
9. Fit wear-plate. (5)
10. Coat cam screw thread, top side and back of cam, with non-setting jointing compound and t into body, securing with the cam screw. (8, 9)
11. Lightly grease impeller bore and t impeller. (4)
12. Fit end cover and gasket and secure with screws. (1, 2, 3)

KEY	DESCRIPTION	QTY	KEY	DESCRIPTION	QTY
1	End cover screw	6	13	Not applicable	
2	End cover	1	14	Not applicable	
3	Gasket	1	15	Field coil	1
4	Impeller	1	16	Bolt	3
5	Wear plate	1	17	Pulley	1
6	Lip seal	1	18	Screw	1
7	Body	1	19	Washer	1
8	Cam	1	20	Shaft	1
9	Cam screw	1	21	Shaft key	1
10	Pipe plug	2	22	Bearing	1
11	Slinger	1	23	Retaining ring	1
12	Inner bearing seal	1	24		

JABSCO®

STANDARD PRODUCT RANGE

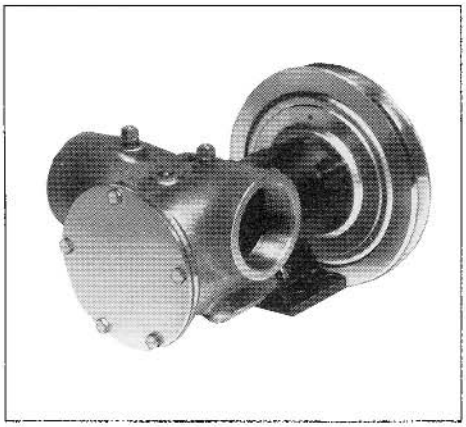
ELECTROMAGNETIC CLUTCH PUMPS - DESIGN FEATURES

50080 SERIES & 50200 SERIES

Body	Bronze
Impeller	Jabsco neoprene or nitrile compound
Shaft Seal	Lip type (50200 Series Mechanical Carbon/Ceramic)
Bearing	Ball
Shaft	Stainless steel 316 S31 to BS970
Wearplate	Replaceable
Pulley	Anodised Aluminium
Ports	1" BSP (50200 Series 1½" BSP) to BS21 (DIN2999)
Weight	5 kg (50200 Series 9.5 kg)

50220 SERIES

Body	Bronze
Impeller	Jabsco neoprene or nitrile compound
Shaft Seal	Mechanical carbon ceramic
Bearing	Ball
Shaft	Stainless steel 316 to BS970
Wearplate	Replaceable
Pulley	Anodised Aluminium
Bearing Housing	Cast iron painted protective primer
Ports	1½" Flange
Weight	11.2 kg



50270 SERIES

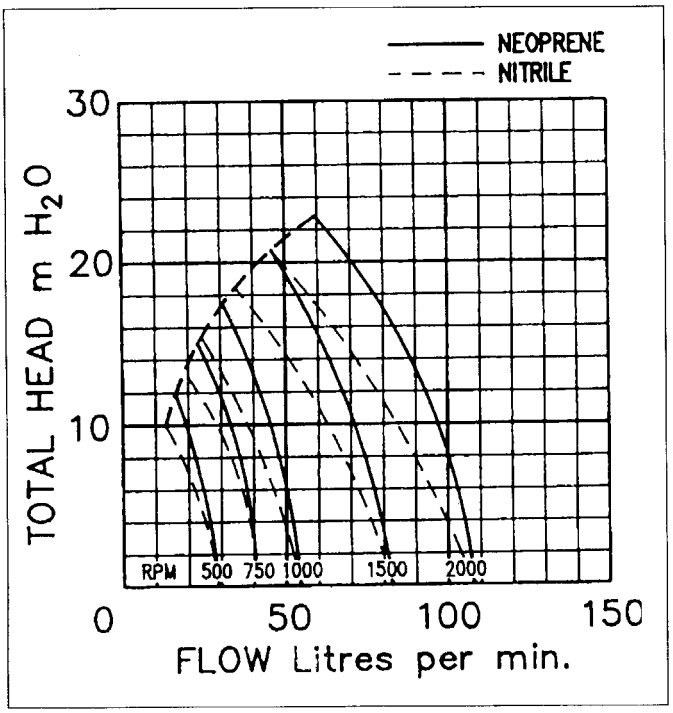
Body	Bronze
Impeller	Jabsco neoprene or nitrile compound
Shaft Seal	Mechanical carbon ceramic
Bearing	Ball
Shaft	Stainless steel 316 to BS970
Wearplate	Replaceable
Pulley	Painted cast iron
Bearing Housing	Cast iron painted protective primer
Ports	2" BSP to BS21 (DIN2999) Available with 2" Flange
Weight	12.2 kg

29870 SERIES

Body	Bronze
Impeller	Jabsco neoprene
Shaft Seal	Mechanical carbon ceramic
Bearing	Ball
Shaft	Stainless steel 316 to BS970
Wearplate	Replaceable
Pulley	Painted cast iron
Bearing Housing	Cast iron painted protective primer
Ports	2½" BSP to BS21 (DIN2999) and Flange
Other	Can be purchased without the Clutch
Weight	18 kg

PERFORMANCE

SIZE 080

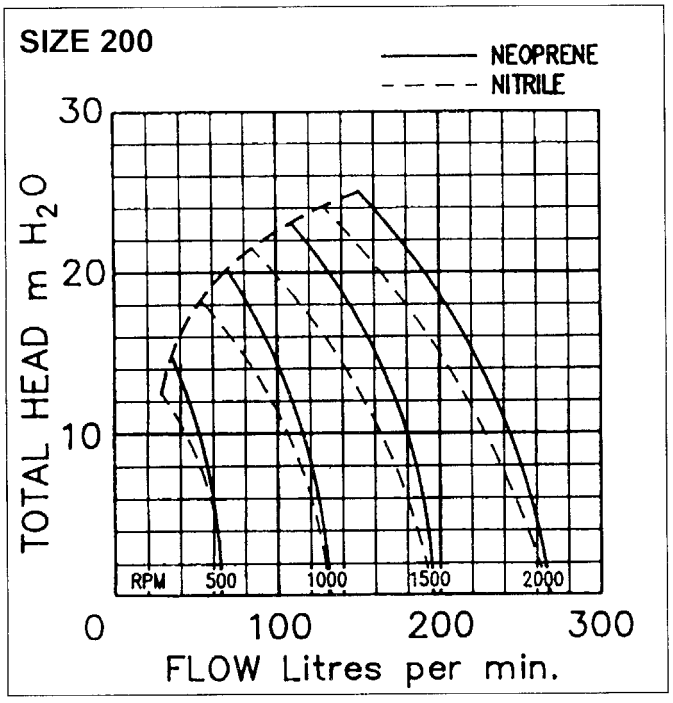


Performance Note Power (watt) figures shown are minimum recommended at pumpshaft.

Total manometric head	500 rpm	750 rpm	1000 rpm	1500 rpm	2000 rpm
	180 watt	180 watt	250 watt	550 watt	750 watt
m/H20	L/m	L/m	L/m	L/m	L/m
3	26.5	40	53	80	120.5
5	24.5	37.5	57	78	118
9	21	34.5	47.5	74	113.5
12	16.5	29	42.5	68	107
15		23	36	61	99
18			29	52.5	89.5
21				42	78
24					64.5
Suction Bore	25mm	25mm	25mm	25mm	32mm
Temp OC	Metres	Metres	Metres	Metres	Metres
20	7.2	6.9	6.2	4.1	0.5
30	7	6.7	6	3.9	0.3
40	6.6	5.3	5.6	3.5	
50	6	5.7	5	2.9	

Maximum recommended suction head in mH_2O at water temperature 20°C

SIZE 200



Performance Note Power (watt) figures shown are minimum recommended at pumpshaft.

Total manometric head	500 rpm	1000 rpm	1500 rpm	2000 rpm
250 watt	750 watt	1100 watt	1800 watt	
m/H20	L/m	L/m	L/m	L/m
3	64.5	130	195	261
5	60.5	126	191	256
9	54	118.5	183.5	248
12	45	109	173	236.5
15	33.5	96.5	159	222
18	-	81	142.5	204
21	-	63	123	183
24	-	-	100	159
Suction Bore	40mm	40mm	40mm	40mm
Temp 0C	Metres	Metres	Metres	Metres
20	7	5.8	3.6	1
30	6.8	5.6	3.4	0.9
40	6.4	5.2	3	0.5
50	5.8	4.6	2.4	

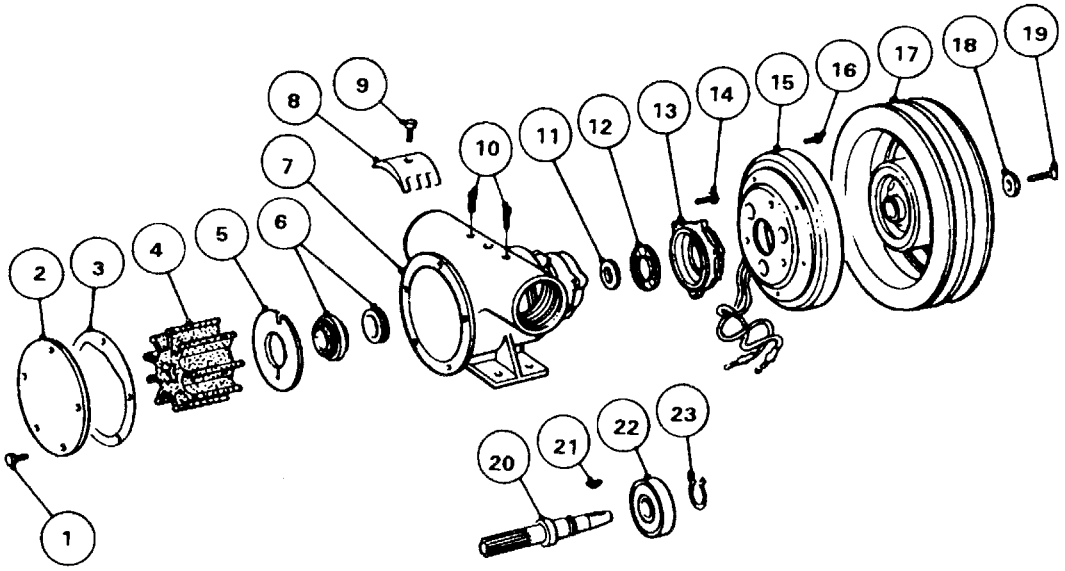
Maximum recommended suction head in mH_2O at water temperature 20°C

Pump Selection Tables and Graphs show approximate performance for new pumps with neoprene impeller pumping water (specific gravity 1.00) at 20°C, but note that performance can be affected if water temperature and suction head are higher than shown in above table. If in doubt consult your local Jabsco distributor or factory for application assistance.

***Minimum nominal recommended bore. Note: Suction Head = Vertical Suction Height + Pipe Losses.**

50080/50200 SERIES

EXPLODED VIEW



50080 SERIES

KEY	DESCRIPTION	QTY	PART No
1	Endcover Screw*	6	X3001-147F
2	Endcover	1	3993
3	Gasket*	1	890
4	Neoprene Impeller* or Nitrile Impeller**	1	17937-0001/0003
5	Wearplate	1	4156
6	Lip Seal (not shown)*	1	SP2700-1027
7	Body	1	50084-2000
8	Cam	1	934
9	Cam Screw	1	SP1004-09
10	Pipe Plug	2	SP2650-07
11	Slinger	1	3180
12	Inner Bearing Seal	1	SP2700-48
13	(Not Applicable)		
14	(Not Applicable)		
15	Field Coil (12v model)	1	SP2300-0063FC
	Field Coil (24v model)	1	SP2300-0064FC
16	Bolt	3	X3001-176F
17	Pulley (2A)	1	SP2300-0061RA
	Pulley (1B)	1	SP2300-0063RA
18	Screw	1	Supplied with
19	Washer	1	clutch
20	Shaft	1	50087-0000
21	Key	1	SP1401-10
22	Bearing	1	SP2600-06
23	Retaining Ring	1	SP1700-247

Service Kit SK406-0001 contains parts marked*
Service Kit SK406-0003 contains parts marked* plus ** in place of 17937-0001

50200 SERIES

KEY	DESCRIPTION	QTY	PART No
1	Endcover Screw*	5	X3001-176F
2	Endcover	1	9336
3	Gasket*	1	816
4	Neoprene Impeller* or Nitrile Impeller**	1	17935-0001/836-0003
5	Wearplate	1	2574
6	Seal Assembly*	1	21849
7	Body	1	50204-2000
8	Cam	1	834
9	Cam Screw	1	SP1005-04
10	Pipe Plug	2	SP2650-07
11	Slinger	1	3181
12	Inner Bearing Seal	1	SP2700-50
13	Clutch Adaptor	1	52201-1000
14	Bolts	3	X3001-180F
15	Field Coil (12v model)	1	SP2300-0063FC
	Field Coil (24v model)	1	SP2300-0064FC
16	Bolt	3	X3001-174F
17	Pulley (2A)	1	SP2300-0061RA
	Pulley (1B)	1	SP2300-0063RA
18	Screw	1	Supplied with
19	Washer	1	clutch
20	Shaft	1	50207-0000
21	Key	1	SP1401-10
22	Bearing	1	SP2600-04
23	Retaining ring	1	SP1700-245

Service Kit SK407-0011 contains parts marked*
Service Kit SK407-0003 contains parts marked* plus ** in place of 17935-0001

Refer to Operating Instructions on page 17.

50080/50200 SERIES

Inspect all parts for wear or damage and replace if necessary.

50080 SERIES

DIS-ASSEMBLY

1. Remove end cover screws, end cover and gasket.
2. Remove impeller.
3. Loosen cam screw and remove cam.
4. Remove wearplate.
5. Remove lip seal from body.
6. Remove bolt from end of shaft. Screw 5/8 UNC bolt into the hub of the pulley assembly in order to draw the pulley from the pump shaft.
7. Remove the 3 screws holding the field coil onto the housing adaptor.
8. Remove field coil.
9. Remove fixing bolts and rear housing adaptor from body.
10. Press shaft on impeller drive end to remove shaft and bearing from pump.
11. Remove bearing retaining ring from shaft.
12. Press shaft out of bearing supporting bearing inner race.
13. Remove inner bearing seal if it needs replacing.

ASSEMBLY

1. Press new seal into bearing end of body with lip facing away from bearing bore.
2. Press shaft into bearing supporting inner race of bearing. Fit bearing retaining ring onto shaft.
3. Position slinger in body drain area. Grease seal area of shaft. Push bearing and shaft into body by pressing on outer race of bearing.
4. Fit housing adaptor to pump with 3 bolts.
5. Fit field coil to adaptor using 3 screws. Check that centre bore of field coil fits over boss on the adaptor.
6. Wipe pump shaft to remove any particles and check location of key.
7. Slide pulley assembly onto shaft, lining up with key and secure with retaining bolt.
8. Fit lip seal into body with lip facing into impeller bore.
9. Fit wearplate.
10. Coat cam screw thread, top side and back of cam, with non setting jointing compound and fit into body, securing with the cam screw.
11. Lightly grease impeller bore and fit impeller.
12. Fit end cover and gasket and secure with screws.

50200 SERIES

DIS-ASSEMBLY

1. Remove end cover screws, end cover and gasket.
2. Remove impeller.
3. Loosen cam screw and remove cam.
4. Remove wearplate.
5. Remove seal assembly from shaft and from body.
6. Remove bolt from end of shaft. Screw 5/8 UNC bolt into the hub of the pulley assembly in order to draw the pulley from the pump shaft.
7. Remove the 3 screws holding the field coil onto the housing adaptor.
8. Remove field coil.
9. Remove fixing bolts and rear housing adaptor from body.
10. Press shaft on impeller drive end to remove shaft and bearing from pump.
11. Remove bearing retaining ring from shaft.
12. Press shaft out of bearing supporting bearing inner race.
13. Remove inner bearing seal if it needs replacing.

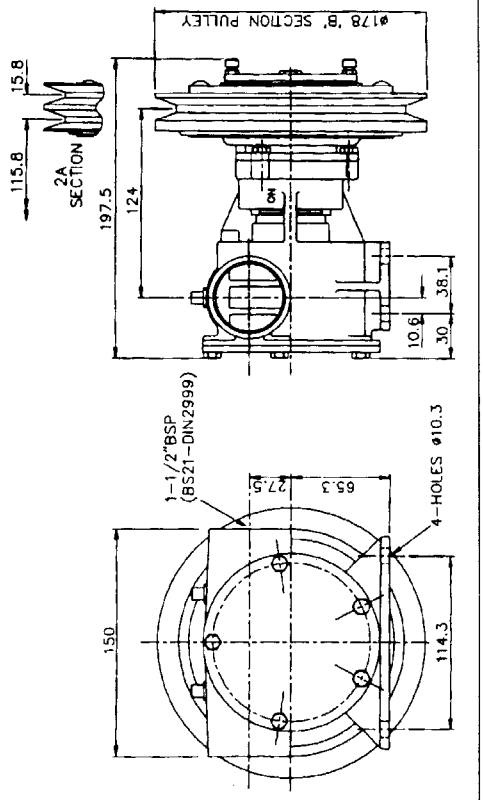
ASSEMBLY

1. Press new seal into bearing end of body with lip facing away from bearing bore.
2. Press shaft into bearing supporting inner race of bearing. Fit bearing retaining ring onto shaft.
3. Position slinger in body drain area. Grease seal area of shaft. Push bearing and shaft into body by pressing on outer race of bearing.
4. Fit housing adaptor to pump with 3 bolts.
5. Fit field coil to adaptor using 3 screws. Check that centre bore of field coil fits over boss on the adaptor.
6. Wipe pump shaft to remove any particles and check location of key.
7. Slide pulley assembly onto shaft, lining up with key and secure with retaining bolt.
8. Take new seal seat (cup rubber and seal seat), lightly grease the outside edge of cup rubber and press into cavity in pump body with ceramic facing towards impeller bore. Slide mechanical seal sub assembly over shaft until it engages against ceramic face of stationary seal.
9. Fit wearplate.
10. Coat cam screw threads, top side and back of cam, with non setting jointing compound and fit into body securing with the cam screw.
11. Lightly grease impeller bore and fit impeller.
12. Fit end over and gasket and secure with screws.

Refer to Operating Instructions on page 17.

INSTALLATION DETAILS

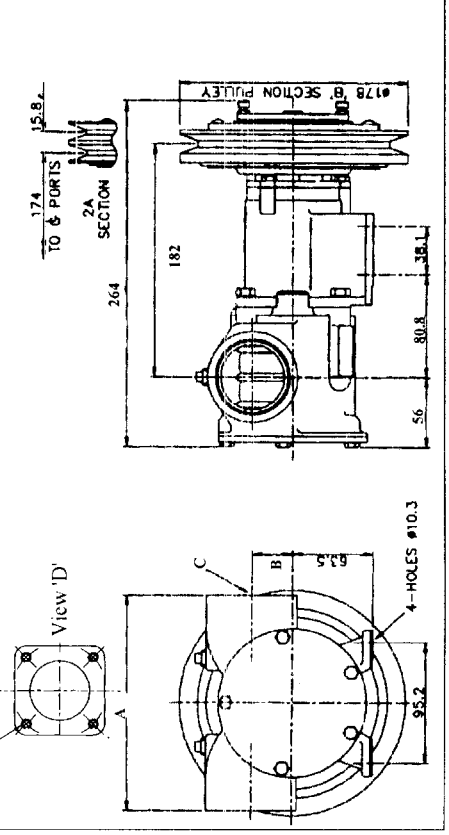
50200 SERIES



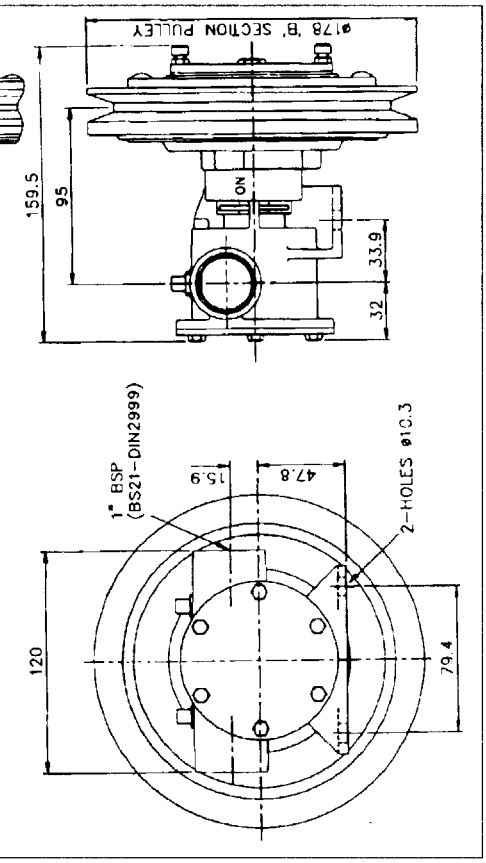
50270 SERIES

	A	B	C
50270 - 'O' Series	152.4	41.3	See View 'D'
50270 - '2' Series	170	32	2" BSP (BS21 - DIN2999)

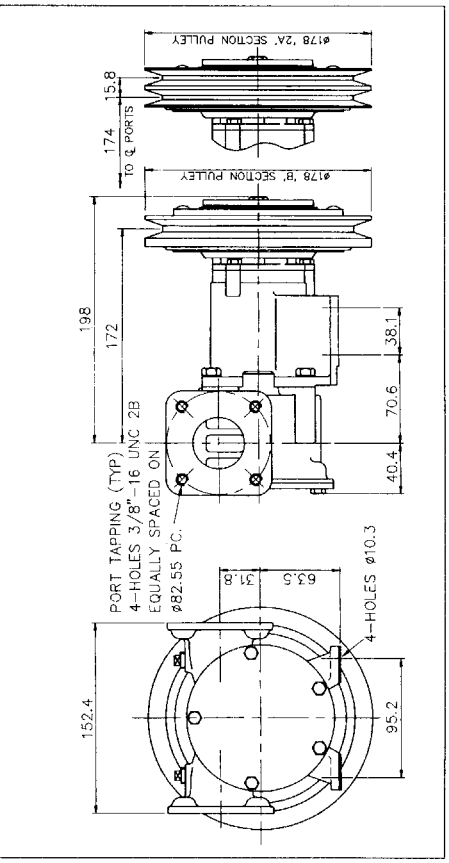
PORT TAPPING (TYP)
4 - HOLES 3/8"- 16 UNC 2B
EQUALLY SPACED ON
Ø90.47 ±0.2 PC.



50080 SERIES



50220 SERIES (Flanged Ports)



JABSCO® INSTALLATION /OPERATION & SAFETY ADVICE

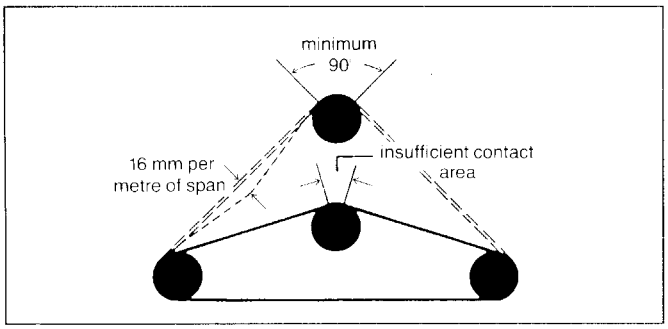
PUMP MAY BE MOUNTED in any position. When installed vertically motor must be above the pump.

THE ROTATION OF THE PUMP SHAFT determines the location of the pump inlet/outlet ports: refer to installation drawing.

BEFORE INSTALLING rotate pump shaft and impeller in the direction of the required operation.

ALL PUMP PIPEWORK must be adequately supported to avoid stress on pump and pump components and consequential leakage.

BELT DRIVEN PUMPS excessive drive belt tension will cause rapid belt wear and may result in premature bearing failure. It should be possible to deflect a correctly tensioned belt between pulleys about 16mm per metre of span by applying finger pressure. Ideally, the contact area should be about 120° but not less than 90°.



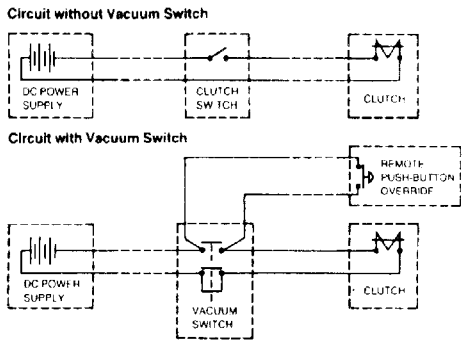
OPERATION

Pump should not be opeated above its published performance without referring to distributor.

D.C. CLUTCHES

Inadequate supply voltage at DC terminals (not less than 20% below rated voltage at full load) due to partly discharged battery or voltage loss through long or small size electric wire may cause fuses to blow or pump starting problems. If fuse fails repeatedly, identify and solve the fault. (DO NOT under any circumstances fit a heavier fuse or bridge fuse terminals).
Connect black wire or negative (-) battery terminal.
Red wire should run via a suitably rated switch and fuse to a positive (+) battery terminal. The pump should be installed where it will always remain dry. Ensure battery capacity is adequate for ALL electrical equipment (pumps, radio, TV, refrigerator, navigational instruments). Observe installation instructions of instruments likely to be affected by close proximity of a magnetic field such as navigational instruments.

WIRING DIAGRAM



Electrical installation must take into account the minimum wire size recommended.

12v Clutches need 5 amp fuse with 1.5mm² wiring.
24v Clutches need 2.5 amp fuse with 1.0mm² wiring.

TEMPERATURE: Operating range

Neoprene Impellers	4-80°C
Oil Resistant Impellers	10-90°C

PUMPS: are dry self-priming i.e. do not require to be filled with liquid start up.

RUNNING DRY: Unit depends on liquid pumped for lubrication. A dry running period of up to 30 seconds is generally a safe length of time. If pump has not been primed after 30 seconds, stop and check for air leaks in pipework, and impeller, seal or gasket damage.

SAFETY ADVICE

Ensure that all moving parts are adequately guarded to prevent accidental contact. Leakage from mechanical seal or gland could cause hazard. If liquids being pumped are toxic or corrosive, use of a drip tray is recommended.

DO NOT USE for Petrol, Toluene, Benzene or light fraction petroleum products such as solvent, thinners or other liquids with flashpoint below 37°C.

FREEZING Temperatures - do not permit liquid to freeze in pump body. Drain pump by loosening end cover.

IT IS A REQUIREMENT OF COSHH(1988) REGULATIONS THAT THE MANUFACTURER'S INSTRUCTIONS IN THE HANDLING OF HAZARDOUS SUBSTANCES MUST BE OBSERVED AT ALL TIMES.

To conform with the Health and Safety and COSHH Regulations, ITT Jabsco will require that any pump or part of a pump that is returned to this company for repair or examination, or for any reason whatsoever, will be accompanied by a letter stating what the pump/part has been pumping.

If the liquid or product is hazardous or in any way dangerous, this must be stated and the chemical make-up of it must be stated in detail.

Unless this procedure is observed then the unit will not be accepted on our company premises. The only exception to this rule is if the pump returned is new and unused.