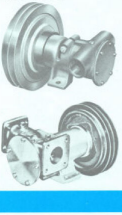
Jabsco Pumps

FLUIDHANDLING

Models 21960, 10670 & 10680



Ports 1" BSP 21960-200 with 12v dc clutch
1" BSP 21960-221 with 24v dc clutch

1½" Nominal 10670 with 12v dc clutch
1½" Nominal 10670-01 with 24v dc clutch

2" Nominal 10680 with 12v dc clutch
2" Nominal 10680-01 with 24v dc clutch

DESIGN FEATURES

Pump head	Bronze seawater resistant
Bearing housing	Cast iron painted protective primer
Pulley/ Drive	Double groove "A" section pulley
Clutch	Electromagnetic for 12 or 24v dc operation with encapsulated windings
Seal	Mechanical carbon face with ceramic seal seat
Note	Single groove "B" section pulley models available

Typical Applications

Marine
pumping bilges
washing down decks and equipment
engine cooling
emergency fire fighting and general water requirements
fish washing
Industrial
circulating and transferring liquids
velocity-mixing
transferring soap, liquors, pastes, glues, glycerine, lotions and brine
Farm
pumping water for stock and poultry houses and booster pumping
light irrigation

Special Features

Remote finger tip control – operated by switch or push button.

Vacuum switch – optional extra.

For automatic control, a vacuum cut-off switch is available as an optional extra which automatically disengages drive to pump when bilges are dry. Drive can be re-engaged by manual reset on vacuum switch or by remote push button arranged on by-pass circuit.

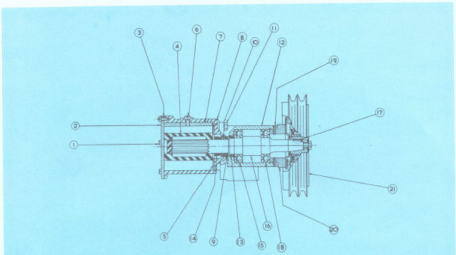
Port adaptors are available as optional extras suitable for BSP or flexible hose connections on 10670, 10680 Series.

PERFORMANCE CHART

	TOTAL HEAD WATER				500 RPM			750 RPM			1,000 RPM			1,500 RPM		
	Metres of Water	Feet of Water	kg per cm²	lb per sq. in.	HP	Litres per min	Imperial Gallons per min	HP	Litres per min	Imperial Gallons per min	HP	Litres per min	Imperial Gallons per min	HP	Litres per min	Imperial Gallons per min
21960 SERIES	3·05	10	0·3	4·3	¼	26	5·7	¼	39	8·7	⅓	53	11·7	½	80	17·7
	6·1	20	0·6	8·7	¼	24	5·3	¼	38	8·5	⅓	51	11·2	½	79	17·3
	12·2	40	1·2	17·3	¼	20	4·5	⅓	34	7·5	½	47	10·3	½	74	16·2
	18·30	60	1·8	26·0							½	41	9	¾	66	14·6
	24·4	80	2·4	34·6							¾	32	7	¾	57	12·6
10680 SERIES	3·05	10	0·3	4·3	½	86	19	¼	132	29	1	177	39	1½	268	59
	6·1	20	0·6	8·7	¾	72	16	1	118	26	1	163	36	1½	254	56
	12·2	40	1·2	17·3	1	63	14	1	104	23	1½	145	32	2	227	50
	18·3	60	1·8	26·0										2½	191	42
10670 SERIES	3·05	10	0·3	4·3	½	68	15	½	100	22	1	132	29	1½	195	43
	6·1	20	0·6	8·7	½	63	14	½	95	21	1	132	29	1½	195	43
	12·2	40	1·2	17·3	½	50	11	¾	86	19	1	118	26	1½	174	39
	18·30	60	1·8	26·0							1½	95	21	1½	150	33
	24·4	80	2·4	34·6										1½	105	23

Tables show approximate head-flow for new pump. For speeds above and below those shown and for pressures higher than indicated please consult factory for recommendations.
Performance stated is typical for a new pump pumping water at ambient temperature.

Cross Section and Parts List



Insist on genuine Jabsco parts.
made only by the original and world's leading manufacturer of self-priming flexible neoprene impeller pumps.

MODELS 10670 – 10670-01

Key	Description	Qty.	Part No.
1	Endcover Screws	5	SP1005-04
2	Endcover 10670	1	10675
	10670-01		10675-01
3	Gasket	1	816
4	Impeller	1	836
5	Wearplate	1	2574
6	Cam Screw	1	SP1005-04
7	Cam	1	934
8	Body	1	10634-02
9	Slinger	1	3181
10	Lock Washer	4	SP1602-13
11	Bolt	4	SP1095-28
12	Bearing Housing	1	10489-01
13	Bearing Seal	1	SP2701-54
14	Seal	1	SP6080-0374
15	Ball Bearing	1	SP2601-37
16	Shaft	1	10677
17	Key	1	SP1401-10
18	Ball Bearing	1	SP2601-37
19	Roll Pin	2	SP3100-16
20	Adaptor	1	10793
21	Electro Magnetic Clutch	1	SP2300-03
	Model 10670-01	1	SP2300-0061

MODELS 10680 – 10680-01

Key	Description	Qty.	Part No.
1	Endcover Screws	5	SP1005-04
2	Endcover 10680	1	8336
	Blank 10680-011		
3	Gasket	1	816
4	Impeller	1	21676-0001
5	Wearplate	1	2574
6	Cam Screw	1	SP1005-04
7	Cam	1	6988
8	Body	1	10494-01
9	Slinger	1	3181
10	Lock Washer	4	SP1602-13
11	Bolt	4	SP1095-28
12	Bearing Housing	1	10489-01
13	Bearing Seal	1	SP2701-18
14	Seal	1	SP6080-0374
15	Ball Bearing	1	SP2601-37
16	Shaft	1	10677-01
17	Key	1	SP1401-10
18	Ball Bearing	1	SP2601-37
19	Roll Pin	2	SP3100-16
20	Adaptor	1	10793
21	Electro Magnetic Clutch	1	SP2300-03
	Model 10680-01	1	SP2300-0061

SERVICE KITS

Pump model number	Service kit number
10670	SK230
10680	SK254
21960-200	
21960-221	SK229

Service kit includes:
Impeller
Seal Assembly
Gasket
End Cover Screws

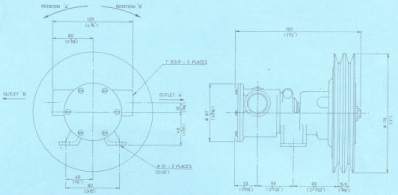
PORT ADAPTORS (optional extra) (2 kits per pump)

Models 10670 & 10670-01		Models 10680 & 10680-01	
Kit number	Description	Kit number	Description
K1–01	2" I/D Hose	K2–01	2½" I/D Hose
K1–200	1½" BSP	K2–200	2" BSP
K1	1½" NPT	K2	2" NPT

Technical Data

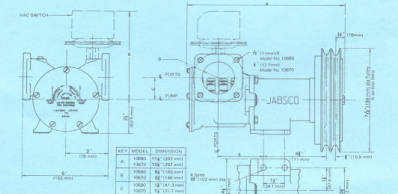
Technical Data

21960 SERIES



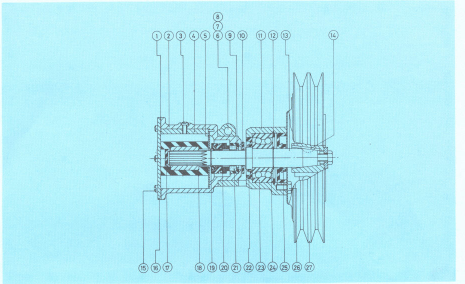
10670 & 10690 SERIES

DIMENSIONAL DRAWING



KEY	MODEL	DIMENSION
A	10680	11¾" (283 mm)
	10670	10¾" (257 mm)
B	10680	6½" (165 mm)
	10670	6½" (165 mm)
C	10690	5¾" (146 mm)
D	10670	1⅔" (51.7 mm)
E	10690	2⅔" (67 mm)
F	10670	1⅔" (41.3 mm)
G	10680	3⅛" (81 mm)
	10670	2⅜" (59.9 mm)

Dimensions in inches and millimetres



* MODELS 21960 & 21960-221			
Key	Description	Quantity	Part No.
1	Gasket	1	890-
2	Body	1	10329-200
3	Cam Screw	1	SP-1004-09
4	Cam	1	934
5	Wearplate	1	4156
6	Bolt	1	SP1095-09
7	Washer	1	SP1602-06
8	Nut	1	SP1105-03
9	Seal Seat Cup Rubber	1	9722
10	Slinger	1	3180
1	Bearing Housing	1	21964
12	Retaining Ring	1	SP1700-206
13	Shaft	1	21960
14	Key	1	SP1401-10
15	Endcover Screws	6	SP1003-09
16	Endcover 21960-200 / -221 Blank	1	3893
17	Spline Seal	1	4345
18	Impeller	1	920-0001
19	Retaining Ring	1	SP1700-62
20	Seal	1	SP6080-0374
21	Seal Seat	1	SP8022-07
22	Bearing Seal	1	SP2700-48
23	Ball Bearing	1	SP2601-42
24	Retaining Ring	1	SP1700-247
25	Bearing Seal	1	SP2701-87
26	Screw	3	SP1095-92
27	Clutch model 21960-200	1	SP2300-0030
	model 21960-221	1	SP2300-0610

DISASSEMBLY

1 Remove endcover screws, endcover and gasket.

2 Remove impeller using water pump pliers, or alternatively use two pieces of rod roundel at ends and lever out impeller.

3 Loosen off cam screw, remove cam and cam screw cleaning off any old jointing compound using a solvent, e.g. petrol.

4 Remove wear plate.

5 21960 Series only – remove seal retaining ring on shaft.

6 Remove pump body from bearing housing by removing bearing pedestal "Pinch Bolt", or screws.

7 Remove seal assembly from pump body.

8 Slide slinger off shaft.

9 Remove captivating screw from end of shaft. Screw ⅝" UNC screw into the hub of the pulley assembly in order to draw the pulley assembly from the pump shaft.

10 Remove the three screws holding the field coil on to the bearing pedestal.

11 Remove the field coil.

12 21960 Series only – insert a screwdriver between the OD of the outer bearing seal and bearing pedestal bore and pry out seal.

13 10670 & 10680 Series only – Press the two roll pins through into the adaptor.

(a) Remove adaptor from bearing housing. Remove roll pins from adaptor.

14 Remove bearing to body retaining ring.

15 Press on impeller drive end of shaft to remove shaft bearing assembly.

16 21960 Series only – Remove shaft retaining ring.

17 Support inner race(s) and press shaft through bearing(s).

18 If inner bearing seal does not require replacement, DO NOT REMOVE ASSEMBLY.

ASSEMBLY

1 If inner bearing seal has been removed, lubricate seal lip with a good quality water pump grease and press into bearing housing with seal spring facing towards impeller.

2 Support inner race(s) of bearing(s) and press shaft through bearing(s) until stopped by shoulder.

(a) 21960 Series only – Replace retaining ring on shaft.

3 Fill bearing(s) with good quality water pump grease ⅔rds full.

4 Insert splined end of shaft into bearing housing, press shaft and bearing assembly into bore until bearing contacts body.

(a) 21960 Series only – Replace bearing to body retaining ring.

5 10670 & 10680 Series only – Insert adaptor and press roll pins in to secure.

6 21960 Series only – Lubricate with good quality pump grease lip of bearing seal and press into bearing pedestal with seal spring facing away from impeller.

7 Attach field coil to bearing pedestal with three screws.

8 Wipe pump shaft to remove any particles and check location of key.

9 Slide pulley assembly on to shaft, over key and secure with captivating screw.

10 Place slinger on to shaft.

11 21960 Series only – Replace seal seat and cup rubber in pump body with seal seat face towards impeller.

12 Replace pump body, secure to bearing pedestal with bolt, washer and nuts.

13 10670 & 10680 Series only – Take new seal sub-assembly, lightly grease outside diameter of the cup rubber with water pump grease and press into cavity in pump body with polished surface facing impeller bore. Take care not to damage seating. Lightly grease pump shaft between end of splines and seal seat. Slide seal sub-assembly over shaft until polished surface of carbon ring engages with polished surface of seal seat. Slide marcel washer over shaft and rotate it until it engages with the drive slots in the seal sub-assembly through the rubber backing. Avoid grease on polished surface.

(a) 21960 Series only – Grease rubber seat of seal and slide seal on to shaft with carbon face towards face of seal seat. Replace seal retaining ring on to shaft.

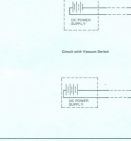
14 Install wearplate, lining up slot with pin in body.

15 Coat cam and cam screw with a non setting jointing compound and install in body.

16 Lubricate impeller bore with a light coat of good quality water pump grease and start impeller into bore with a rotary rotation until spline engages, then push into bore.

17 Replace spline seal, gasket and endcover, secure with endcover screws.

WIRING DIAGRAMS



OPERATING INSTRUCTIONS

1 Installation: Pump may be mounted in any position. The rotation of the pump shaft determines the location of the pump's intake and discharge ports, refer to dimensional drawing.

2 Drive: Pulley double groove "A" section vee belt. Do not overtighten belt.
Clutch: Electro-magnetic for dc operation only.

3 Speeds: 100 rpm to max. shown in the performance table. For higher speeds consult nearest dealer.

4 Pump is self priming over a wide speed range with a suction lift of 4·5 m (15 feet) 7·6 m (22 feet, when primed). Intake air lines must be air-tight to ensure self priming.
Note: Pump will prime when impeller is dry, but suction lift of 4·5 m (15 feet) is only obtainable when the impeller is greased or lubricated with liquid being pumped. Priming performances stated are for water at ambient temperature and at 1500 rpm.

5 Running dry: Unit depends on liquid pumped for lubrication. Do not run dry for more than 30 seconds. Lack of liquid will burn the impeller.

6 Caution: Do not pump petroleum derivatives, solvents, thinners, highly concentrated or organic acids. If corrosive fluids are handled, pump life will be prolonged, if flushed with water after each use of after each work day.

7 Pressures: For continuous operation pressure should not exceed 1·8 Kg/cm² (25 psi) for the standard model.

8 Temperatures: Fluid temperature should be within 7°–82°C (45°–180°F) range.

9 Freezing weather: Drain unit by loosening end cover. Most methyl alcohol (methanol) based anti-freeze solutions can be used. Do not use petroleum base anti-freeze compounds or rust inhibitors.

10 Gasket: Use standard pump part. A thicker gasket will reduce priming ability. A thinner gasket will cause impeller to bind.

11 Spare Parts: A Jabsco service kit should be kept on hand to rebuild all but the most badly worn pumps.

FUSE SIZES

Models (12v dc)		Models (24v dc)	
21960		21960-221	
10670	5 amp	10670-01	2·5 amp
10680		10680-01	

RECOMMENDED WIRE SIZES

Models (12v dc)		Models (24v dc)	
21960		21960-221	
10670	1·5 mm²	10670-01	1·0 mm²
10680		10680-01	

Note:–
Cables with single and multistrand conductors may be used. Maximum total length of conductors (positive + and negative −) in the circuit = 15 metres.
If circuit is longer, use cables with larger conductors.
All cable covering to comply with regulations. If in doubt consult qualified electrician.

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