Clarke® PUMP

0703

SUBMERSIBLE WATER PUMP

Model Nos.

CSE1 - CSE1A - CSE2 - CSE2A
CSD3- -CSD3A
CSV1A - CSV2 - CSV2A - CSW1A

OPERATING & MAINTENANCE INSTRUCTIONS

Clarke INTERNATIONAL

GUARANTEE

This product is guaranteed against faults in manufacture for 12 months from purchase date. Please keep your receipt as proof of purchase.

This guarantee is invalid if the product has been abused or tampered with in any way, or not used for the purpose for which it is intended.

The reason for return must be clearly stated.

This guarantee does not affect your statutory rights.

Please note that dismantling this pump will invalidate the guarantee

SPECIFICATIONS

Model No.	CSE1 CSE1A CSW1	CSE2 CSE2A	CSV1A	CSV2 CSV2A	CSD3 CSD3A
Outlet Dia.	1¼"/32mm	1¼"/32mm	1¼"/32mm	1¼"/32mm	1"/25mm
Motor Output (Watts)	280	750	330	650	1100
Head Max. (M)	7	10	5	9	45
Max. Capacity (L/min)	135	253	118	236	101
Weight (kg)	4.0/4.3	4.3/4.6	4.6	5.3/5.6	8.0/8.3
Cable (M x mm^2)	10x0.75	10x0.75	10x0.75	10x0.75	15x1.0
Dimensions (mm)*	140x267	140x302	143x300	143x335	149x400

* Pump diameter does not include elbow

Part Numbers.

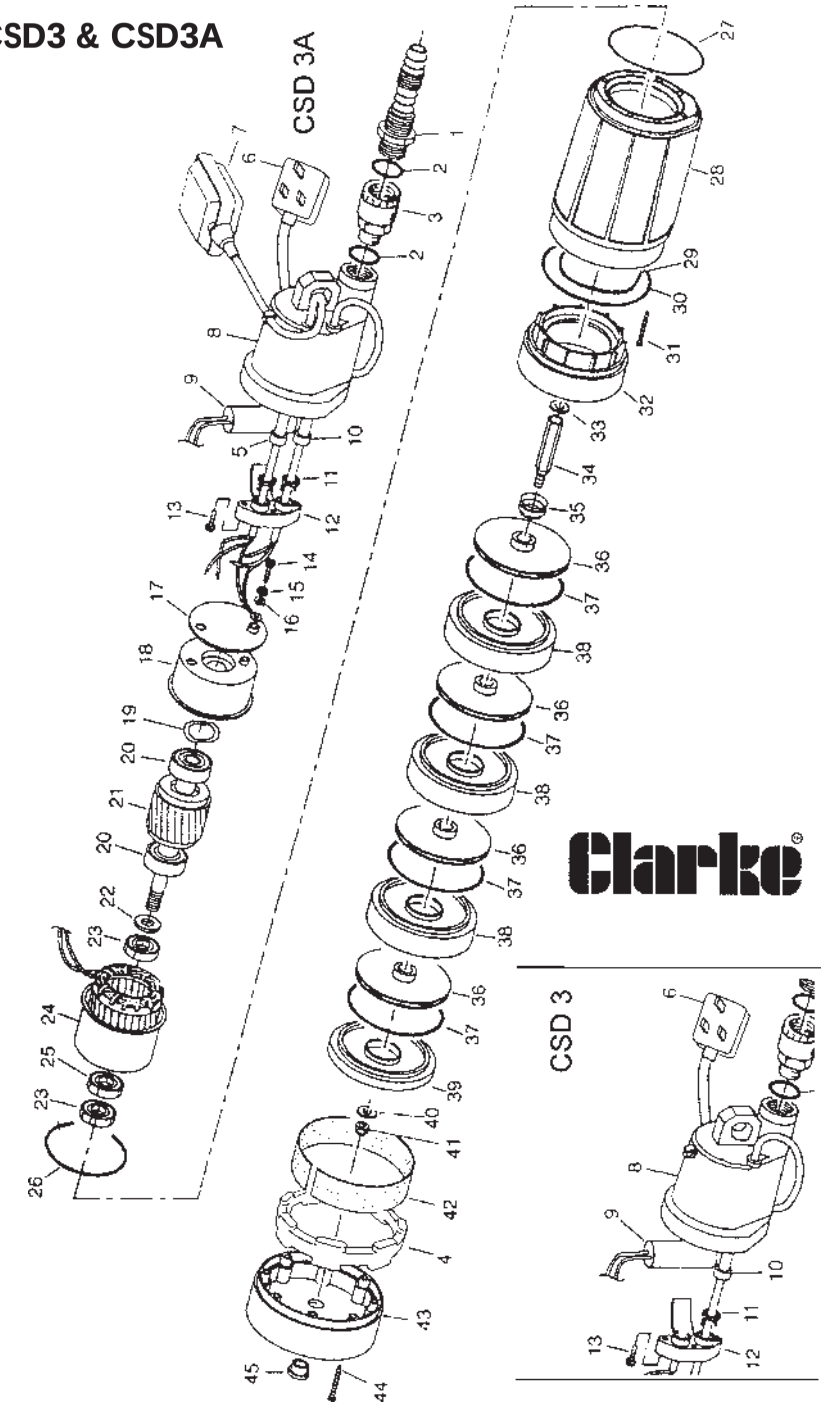
CSE1	7230540	CSE2A*	7230570	CSV2A*	7230600
CSE1A*	7230550	CSV1A*	7230580	CSD3	7230610
CSE2	7230560	CSV2	7230590	CSD3A*	7230620
		CSW1A*	7236005		

*Denotes Float Switch included

PARTS LIST

No.	Description	CSD3	CSD3A
1	Pipe Fitting With O-Ring	LDS3600107	LDS3600107
2	Joint O-Ring	LDP1200002	LDP1200002
3	Non-return Valve	LDS3600099	LDS3600099
4	Spacer	LDP1230003	LDP1230003
6	Cable	LDP1330011	LDP1330011
7	Floatswitch	-	LDP1380002
8	Cap	LDS3600183	LDS3600186
9	Capacitor	LDP1360003	LDP1360003
10	Grommet	LDP1230003	LDP1230003
11	Anti-tear Ring	LDS3500336	LDS3500336
12	Cable Fastener	LDS3500335	LDS3500335
13	Screw	LDP1100008	LDP1100008
14	Earth Screw	LDP1100003	LDP1100003
15	Spring Washer	LDP1120003	LDP1120003
16	Washer	LDP1120051	LDP1120051
17	Insulation Disk	LDS3500106	LDS3500106
18	Upper Flange	LDS3120005	LDS3120005
19	Waved Ring	LDP1120002	LDP1120002
20	Bearing	LDP1180001	LDP1180001
21	CeramicShaft With Bearings	LDS3101004	LDS3101004
22	Washer	LDP1120007	LDP1120007
23	Lip Seal	LDP1210001	LDP1210001
24	Stator	LDS3410014	LDS3410014
25	Twin Lip Seal	LDP1210004	LDP1210004
26	Joint O-Ring	LDP1200007	LDP1200007
27	Joint O-Ring	LDP1200012	LDP1200012
28	Pump Housing	LDS3500737	LDS3500737
29	Joint O-Ring	LDP1200020	LDP1200020
30	Joint O-Ring	LDP1200015	LDP1200015
31	Screw	LDP1100012	LDP1100012
32	Diffuser Flange	LDS3600156	LDS3600156
33	Washer	LDP1120012	LDP1120012
34	Hexagonal Shaft	LDS3100019	LDS3100019
35	V-ring	LDP1210005	LDP1210005
36	Impeller	LDS3250028	LDS3250028
37	Joint O-Ring	LDP1200014	LDP1200014
38	Diffuser	LDS3250006	LDS3250006
39	Diffuser Cap	LDS3500611	LDS3500611
40	Washer	LDP1120014	LDP1120014
41	Nut	LDP1110009	LDP1110009
42	Filter Ring	LDS3220006	LDS3220006
43	Filter Base	LDS3500743	LDS3500743
44	Screw	LDP1100017	LDP1100017
45	Cap	LDP1230006	LDP1230006

CSD3 & CSD3A



Clarke INTERNATIONAL

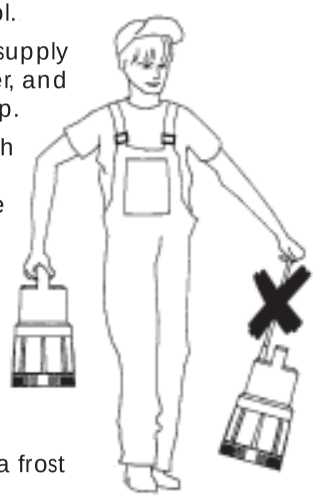
Thank you for purchasing this Clarke Submersible Pump.

These highly efficient pumps are designed for pumping clean water, or water containing solids in suspension, depending upon the model (please see Features, page 4), and are ideally suited for draining ponds, pools, sumps etc. Water temperature must not **exceed 35° C.**

Before attempting to operate your pump, please read this instruction manual thoroughly and follow all directions carefully. This is for your own safety and that of others around you, and to help you achieve long and trouble free service from your pump.

SAFETY PRECAUTIONS

1. These pumps are designed to pump **WATER ONLY.** Never use for pumping flammable liquids or chemicals.
2. Never run the pump dry.
3. An approved Residual Current Device (RCD) **MUST** be used when pumping from ponds or swimming pools.
4. Your submersible pump may **ONLY** be used for pumping water from a swimming pool when there is no person or animal in the pool.
5. Always disconnect the pump from the electrical supply before placing it into, or removing it from the water, and before any cleaning or maintenance of the pump.
6. Always use the moulded handle (or lifting eye), with a rope or cord attached when lifting the pump. **NEVER** lift the pump by the mains cable, or, where fitted, the float switch cable.
7. **DO NOT** run the pump with the body exposed for longer than 10 minutes.
8. **DO NOT** install the pump on sand, or ground which is likely to shift.
9. Do not use the pump if the water is liable to freeze, as this can cause damage to the pump. Remove the pump from the water and store it in a frost free location.
10. If the pump is to be used where there may be silt or mud (for example, garden ponds), keep the pump clear of any sediment by standing it on a platform or brick.



ELECTRICAL CONNECTIONS

All models should have their mains lead connected to a standard 230Volt (50Hz) electrical supply through an approved plug or a suitably fused isolator switch. We recommend that these pumps be fitted with a Residual Current Device (RCD).

NOTE: This is mandatory when pump is used for pumping swimming pools and ponds

If the pump is to be connected to an outdoor electrical supply, make sure that both the plug and the socket are of a BS approved waterproof design.

In the event that the pump is hard wired into the electrical system, it must be carried out in accordance with IEE regulations.

If used for draining swimming pools or ponds, the pump MUST be fitted with a Residual Current Device (RCD), with a rated residual operating current of no greater than 30mA.

WARNING: THIS APPLIANCE MUST BE EARTHED

IMPORTANT: The wires in the mains lead are coloured in accordance with the following code:

Green & Yellow	-	Earth
Blue	-	Neutral
Brown	-	Live

As the colours of the flexible cord of this appliance may not correspond with the coloured markings identifying terminals in your plug proceed as follows:

- Connect GREEN & YELLOW cord to plug terminal marked with a letter “E” or Earth symbol “⏚” or coloured GREEN or GREEN & YELLOW.
- Connect BROWN cord to plug terminal marked with a letter “L” or coloured RED
- Connect BLUE cord to plug terminal marked with a letter “N” or coloured BLACK

FUSE RATING

The fuse in the plug must be replaced with one of the same rating (**13 amps**) and this replacement must be ASTA approved to BS1362.

If this appliance is fitted with a plug which is moulded onto the electric cable (i.e. non-rewirable) please note:

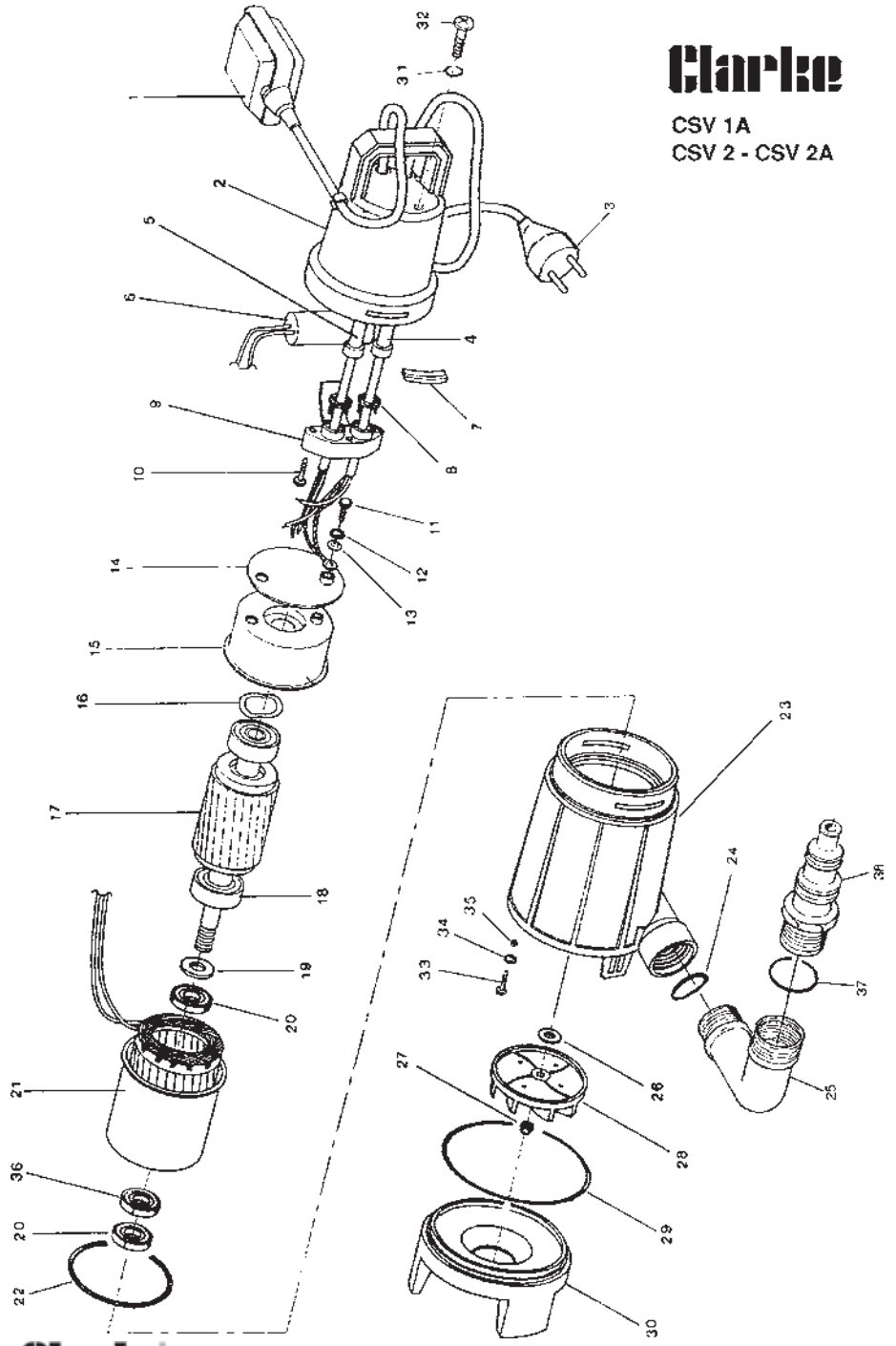
1. The plug must be thrown away if it is cut from the electric cable. There is a danger of electric shock if it is subsequently inserted into a socket outlet.
2. Never use the plug without the fuse cover fitted.
3. Should you wish to replace a detachable fuse carrier, ensure that the correct replacement is used (as indicated by marking or colour code).
4. Replacement fuse covers can be obtained from your local dealer or most electrical outlets

IMPORTANT:

If you are in any doubt regarding electrical installation, you should consult a qualified electrician.

PARTS LIST

No.	Description	CSV1A	CSV2	CSV2A
1	Floatswitch	LDP1380002	-	LDP1380002
2	Cap	LDS3600170	LDS3600169	LDS3600170
3	Cable 10m.	LDP1320016	LDP1320016	LDP1320016
4	Grommet	-	LDP1230002	-
5	Grommet	LDP1230003	-	LDP1230003
6	Capacitor	LDP1360030	LDP1360030	LDP1360030
7	Lock	LDS3500011	LDS3500011	LDS3500011
8	Anti-tear ring	LDS3500336	LDS3500336	LDS3500336
9	Cable fastener	LDS3500335	LDS3500335	LDS3500335
10	Screw	LDP1100008	LDP1100008	LDP1100008
11	Earth screw	LDP1100003	LDP1100003	LDP1100003
12	Spring-washer	LDP1120003	LDP1120003	LDP1120003
13	Washer	LDP1120051	LDP1120051	LDP1120051
14	Insulation disk	LDS3500106	LDS3500106	LDS3500106
15	Upper flange	LDS3120005	LDS3120005	LDS3120005
16	Waved ring	LDP1120002	LDP1120002	LDP1120002
17	Ceramiic shaft with bearings	LDS3101001	LDS3101002	LDS3101002
18	Bearing	LDP1180001	LDP1180001	LDP1180001
19	Washer	LDP1120007	LDP1120007	LDP1120007
20	Lip seal	LDP1210001	LDP1210001	LDP1210001
21	Stator	LDS3410004	LDS3410017	LDS3410017
22	Joint O-Ring	LDP1200007	LDP1200007	LDP1200007
23	Pump housing	LDS3500206	LDS3500207	LDS3500207
24	Joint O-Ring	LDP1200009	LDP1200009	LDP1200009
25	Elbow with O-Ring	LDS3600111	LDS3600111	LDS3600111
26	Washer	LDP1120006	LDP1120006	LDP1120006
27	Nut	LDP1110005	LDP1110005	LDP1110005
28	Impeller	LDS3500013	LDS3500014	LDS3500014
29	Joint O-Ring	LDP1200008	LDP1200008	LDP1200008
30	Pedestal	LDS3500018	LDS3500018	LDS3500018
31	Joint O-Ring	LDP1200033	LDP1200033	LDP1200033
32	Screw	LDP1100090	LDP1100090	LDP1100090
33	Screw	LDP1100014	LDP1100014	LDP1100014
34	Washer	LDP1120017	LDP1120017	LDP1120017
35	Sphere	LDP1180003	LDP1180003	LDP1180003
36	Twin lip seal	LDP1210004	LDP1210004	LDP1210004
37	Joint O-Ring	LDP1200002	LDP1200002	LDP1200002
38	Fitting 3 step with O-Ring	LDS3600162	LDS3600162	LDS3600162



FEATURES

The pumps are of rugged and durable construction, designed for long lasting continuous operation, and the motor is provided with a built in overload protector.

For your information, the charts on page 9 illustrate the flow rate at various heads for each pump. (HEAD is the distance, or height, from the pump outlet to the point of discharge)

The pumps are designed to pump water at various degrees of cleanliness depending upon the model as follows:

CSD Models may pump **CLEAN WATER ONLY**, and are provided with a metal strainer to prevent large particles from entering the pump. These are multi stage pumps, and are designed to work at heads up to 45 Metres.

CSE Models are designed for pumping **CLEAN WATER ONLY** and will pump down to a water level of 20mm.

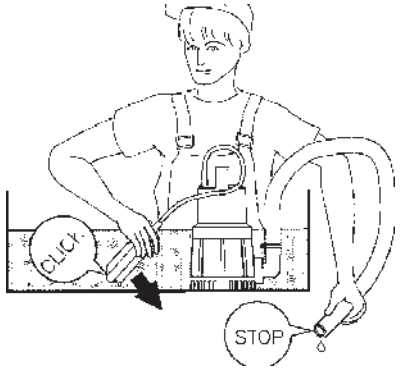
CSV Models may pump **DIRTY WATER:** That is, water containing solids in suspension, **NOT** for pumping slurry, sludge, mud or heavily polluted water. These models have the ability to pump solids as large as 30mm, however, the outlet elbow and delivery pipe diameter will restrict this accordingly (see outlet adapters - Installation, page 6).

CSW Models are salt water pumps for pumping **CLEAN**, salt water.

Automatic Pumps, i.e. those fitted with a Float Switch, denoted by an 'A' suffix to their model number, are suitable for permanent or semi-permanent installations, eg. installations where it is necessary to maintain a water at a particular level.

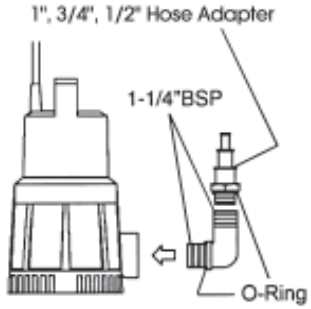
As the water level rises, the switch will float, and start the pump. As the water level falls, so will the float switch, until it stops the pump.

Float switches are factory set to provide the correct ON-OFF switching mode, however, you can adjust the level at which the pump cuts out by sliding the float switch cable, in its clip attached to the handle, to either shorten or lengthen it as the case may be. The shorter it is, the earlier it will cut out and therefore, the deeper will be the water at this point.



INSTALLATION

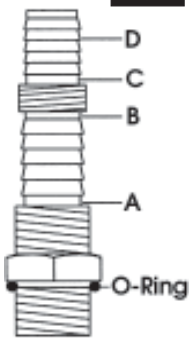
The CSE, CSV and CSW Models are provided with an Elbow Outlet with a 1-1/4"BSP thread at each end as shown in the diagram opposite. Ensure the end provided with an O-Ring is screwed into the pump outlet. Screwed into the other end of the elbow, is a multi hose connector capable of accepting 1", 3/4" or 1/2" hose. Simply attach a suitable hose to your preferred connector with a worm drive clip.



If the pump is to be used for drainage purposes, or in situations that demand maximum efficiency, we strongly recommend that you connect a 1" dia. hose to the multi hose adapter, preferably cutting off the other two stages at the groove at the end of the 1" dia. step.

Alternatively, you may remove the multi adapter altogether, and screw on a 1-1/4" BSP hose adapter as shown in fig.2.

Fig. 1



The CSD Models are provided with a Multi Hose Adapter for the outlet, which screws into the top of the unit, and is illustrated in Fig. 1.

If you wish to use a 1"BSP hose adapter, cut the multi hose adapter at point A.

If you wish to use a 3/4"BSP hose adapter, cut the multi hose adapter at point C.

If you wish to connect a 1" hose, cut the multi hose adapter at point B, and finally, if you wish to use a 3/4" hose, simply attach it to the end of the multi hose adapter (point D), with a suitable worm drive clip.

We strongly recommend that you connect the outlet to the 1" diameter hose, as any restrictions will reduce capacity, and put additional strain on the motor.

NOTE:

Please bear in mind that a hose adapter requires the use of a rubber washer, as shown in fig 2, and the point at which the multi hose adapter is cut (points A and C, fig. 1), must be perfectly clean and square.

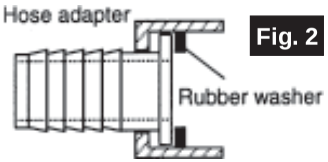


Fig. 2

The pumps are completely submersible, and should be placed in a vertical position, on a solid flat surface. If this is not available, sit the pump a solid surface, eg. house bricks, but ensure they are not likely to shift.

IMPORTANT:

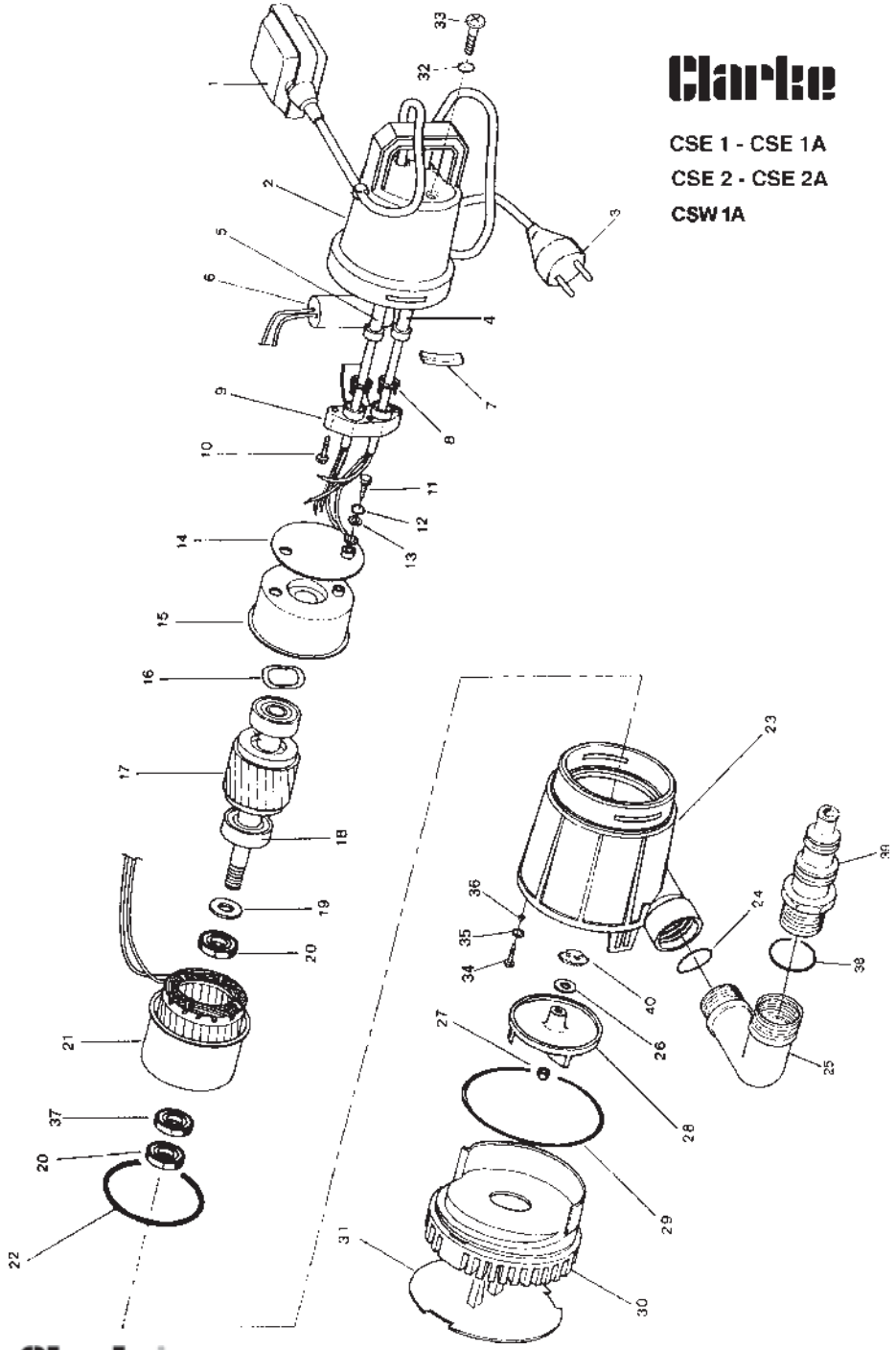
ALWAYS raise and lower the pump using a rope attached to the lifting eye, where fitted, or to the lifting handle, **NEVER** by the power cable.

Automatic versions should be placed in a sump which has adequate dimensions so as not to restrict the movement of the float switch.

Please note that the symbol ▽10M on the pumps' Rating Plate, denotes the **MAXIMUM** depth to which the pump may be submerged, in metres

PARTS LIST

No.	Description	CSW1	CSE1	CSE2
1	Floatswitch	LDP1380033	LDP1380002	LDP1380002
2	Cap (Auto version)	LDS3600170	LDS3600170	LDS3600170
2	Cap	-	LDS3600169	LDS3600169
3	Cable 10m	LDP1320031	LDP1320016	LDP1320016
4	Grommet	LDP1230002	LDP1230002	LDP1230002
5	Grommet	LDP1230003	LDP1230003	LDP1230003
6	Capacitor	LDP1360030	LDP1360030	LDP1360030
7	Lock	LDS3500011	LDS3500011	LDS3500011
8	Anti-tear ring	LDS3500336	LDS3500336	LDS3500336
9	Cable fastener	LDS3500335	LDS3500335	LDS3500335
10	Screw	LDP1100008	LDP1100008	LDP1100008
11	Earth screw	LDP1100003	LDP1100003	LDP1100003
12	Spring-washer	LDP1120003	LDP1120003	LDP1120003
13	Washer	LDP1120051	LDP1120051	LDP1120051
14	Insulation disk	LDS3500106	LDS3500106	LDS3500106
15	Upper flange	LDS3120005	LDS3120005	LDS3120005
16	Waved-ring	LDP1120002	LDP1120002	LDP1120002
17	Ceramic shaft w/bearings	LDS3101018	LDS3101001	LDS3101002
18	Bearing	LDP1180001	LDP1180001	LDP1180001
19	Washer	LDP1120007	LDP1120007	LDP1120007
20	Lip seal	LDP1210010	LDP1210001	LDP1210001
21	Stator	LDS3410174	LDS3410003	LDS3410017
22	Joint O-Ring	LDP1200007	LDP1200007	LDP1200007
23	Pump housing	LDS3600348	LDS3600073	LDS3600075
24	Joint O-Ring	LDP1200009	LDP1200009	LDP1200009
25	Elbow with O-Ring	LDS3600111	LDS3600111	LDS3600111
26	Washer	LDP1120006	LDP1120006	LDP1120006
27	Nut	LDP1110025	LDP1110005	LDP1110005
28	Impeller	LDS3500528	LDS3500528	LDS3500559
29	Joint O-Ring	LDP1200008	LDP1200008	LDP1200008
30	Filter	LDS3500017	LDS3500017	LDS3500017
31	Filter base	LDS3500107	LDS3500107	LDS3500107
32	Joint O-Ring	LDP1200033	LDP1200033	LDP1200033
33	Screw	LDP1100090	LDP1100090	LDP1100090
34	Screw	LDP1100014	LDP1100014	LDP1100014
35	Washer	LDP1120017	LDP1120017	LDP1120017
36	Sphere	LDP1180003	LDP1180003	LDP1180003
37	Twin lip seal	LDP1210011	LDP1210004	LDP1210004
38	Joint -.Ring	LDP1200002	LDP1200002	LDP1200002
39	Fitting 3 step with O-Ring	LDS3600162	LDS3600162	LDS3600162
40	'V' Ring joint	LDP1210002	LDP1210002	LDP1210002



CSE 1 - CSE 1A
CSE 2 - CSE 2A
CSW 1A

Take all necessary precautions as described on page 3 before plugging in, and switching ON.

SUITABLE HOSE, and SPARE/REPLACEMENT MULTI HOSE ADAPTERS ARE AVAILABLE FROM YOUR CLARKE DEALER

MAINTENANCE

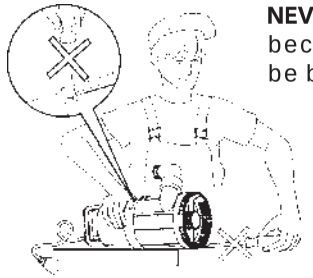
WARNING

Before checking the condition of the pump, ensure it is unplugged from the mains supply. If the unit is hard wired, ensure the circuit breaker is open.

Check the pump installation regularly to ensure the base inlet is clear of leaves or other debris.

Note that these pumps are fitted with automatic thermal overload protection. If the pump overheats due to an obstruction in the pump, or pumping warm water for example, it will shut off automatically. Switch the pump OFF and disconnect from the mains supply. Check for blockages and allow the motor to cool (at least 5 minutes) before attempting to restart.

These pumps should require no maintenance other than regular cleaning. If the pump starts to show signs of wear or damage, contact your CLARKE dealer for advice. Do not use the pump if there is any damage to the mains supply cable, or to the float switch or its cable. Do not attempt to repair the pump yourself, as you may damage the waterproof seal and invalidate your guarantee. Repairs must be carried out by your CLARKE dealer, or contact the CLARKE Service Department, on 020 8988 7400



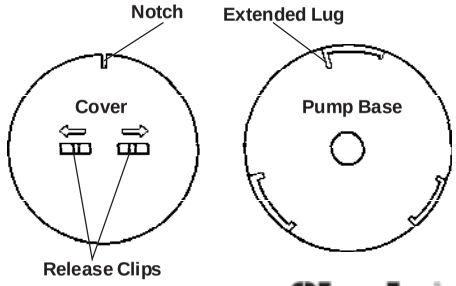
NEVER remove the strainer from **CSD** models. Should it become necessary to clean the pump chamber, it should be backflushed via the outlet port.

In addition, **CSD** models are provided with a rubber plug in its' base, which, when removed, allows access to the impeller, which may be turned with a screwdriver in order to free it, should it become blocked.

CSE & **CSW** Models have screwless fittings at their base, allowing the removal of the plastic cover by prising the two release clips apart in the direction of the arrows. This provides for better cleaning, should the cavity at the bottom of the pump become badly clogged. Flush the cavity and the Impeller housing with clean water

To replace the cover, ensure the notch in its periphery engages with the extended lug on one of the clip attachments on the base of the pump, (as shown in the diagram opposite), and press the cover home.

Do not attempt to strip the pump further as this will invalidate the guarantee



TROUBLE SHOOTING

A. PUMP WILL NOT START

1. Manual type (i.e. without float switch)

1.1 Check to ensure Power is switched on.

1.2 Check fuse (consult an electrician if in doubt).

1.3 If extension lead is fitted, check connections (consult an electrician if in doubt).

1.4 Internal thermal cut-out has not reset. Leave for 5 minutes and try again.

1.5 The Impeller may be jammed. Disconnect from the mains supply, remove the bottom strainer, and remove any objects that may be obstructing the impeller. Replace the strainer and try again.

If the pump still fails to start, consult your CLARKE dealer for advice.

2. Automatic Type (with float switch)

2.1 Check all above.

2.2 Float switch may be jammed against side wall, or prevented from moving.

2.3 Water level too low - float switch in OFF position - Lift float to check switch.

B. PUMP WILL START BUT NOT PUMP

1. Water level too low - below the minimum suction level (Manual type).
2. Check to ensure strainer is not blocked.
3. Discharge tube clogged or obstructed.
4. The head may be too great, i.e. you are trying to lift the water too great a distance for the pump to cope with. (See specification chart page 9).
5. Air bubble in the pump, produced during the plunge. Plunge the pump again, at an angle, and shake it whilst lowering to remove any air trapped in the system.
6. Impeller may be damaged - Consult your CLARKE dealer

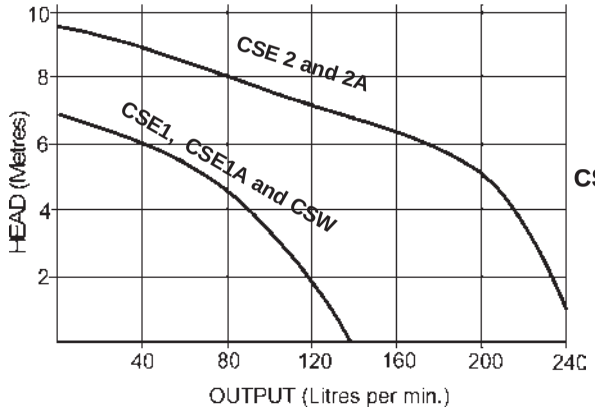
C. AUTOMATIC PUMP WILL NOT STOP

1. Float switch may be prevented from moving to the fully down position.
2. Float switch may be faulty. Consult your CLARKE dealer for advice.

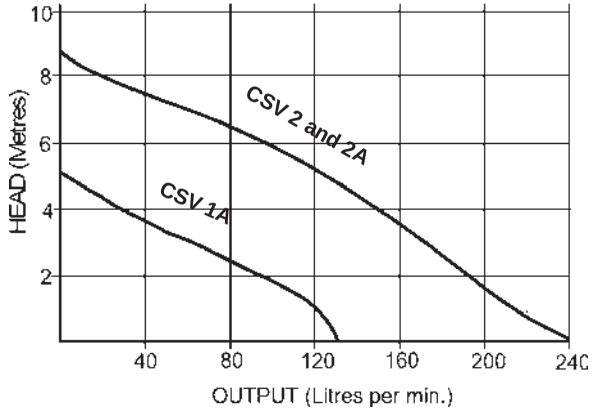
D. PUMP STOPS RUNNING

1. Thermal overload has operated. If this condition persists, investigate the cause. Are you attempting to pump liquid which is too heavy for the pump (mud, slurry etc.)
2. Pump has run dry, or float switch has cut in.
3. A foreign object has jammed the impeller.

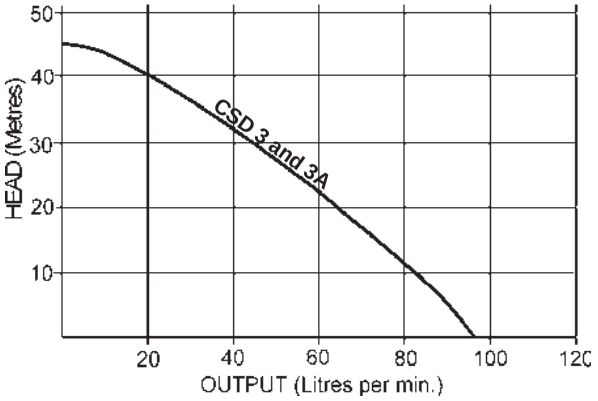
PUMP PERFORMANCE DATA



CSE & CSW Pumps



CSV Pumps



CSD Pumps