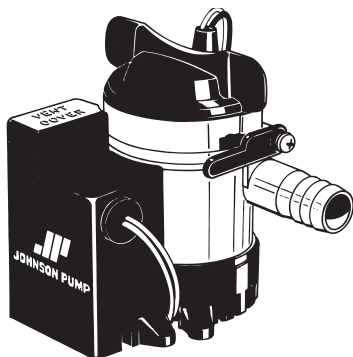


Instruction Manual

Cartridge Duo

L450 Duo, L550 Duo,

L650 Duo, L750 Duo



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Recreational Craft Directive 94/25/EEC
ISO 8849 Marine
ISO 10133

Made in USA

Garanti 3 år
Warranty 3 years
Garantie 3 Jahren

Garantie 3 ans
Garantía 3 años
Garanzia 3 anni

Submersible bilge pump with electronic switch

Submersible bilge pump for pumping bilge water in marine environment. To be installed in the keelson.

Security

- The pump may not be used for other liquid than water/bilge water.
- Always install the pump according to wiring diagram, page 16.
- Always use the fuse required, see Design features below.
- The wire connections must be sealed with a marine sealant, eg vaseline, silicone or grease.
- Insulation or cable sheathings must be placed above the highest bilge water level.
- Do not run dry.

Operation

See illustration page 15.

- When the bilge water rises the magnet float (1), it floats up and the air in the float house (2) is forced out through the vent hole (3).
- The magnet float starts the pump (4) when bilge water reaches 50 mm. The valve (5) closes and the magnet float stays in the start position due to vacuum inside the float house.
- When the bilge water has sunk to level 20 mm, air is let in through the air opening (6) in the float house. The magnet float falls down and cuts off the power.

Type designation

Pump type	L450 Duo – 12 V	L550 Duo – 12 V	L650 Duo – 12 V	L750 Duo – 12 V
Part No	32-1450D-01	32-1550D-01	32-1650D-01	32-1750D-01

Design features

	L450 Duo	L550 Duo	L650 Duo	L750 Duo
Hose size	3/4"	3/4"	3/4"	1.1/8"
Capacity, straight (13.6 V)	49 l/min/ 778 GPH	56 l/min/ 884 GPH	61 l/min/ 972 GPH	73 l/min/ 1,150 GPH
Capacity, 1 m head (13.6 V)	38 l/min/ 601 GPH	45 l/min/ 713 GPH	53 l/min/ 844 GPH	60 l/min/ 952 GPH
Voltage	12 V DC	12 V DC	12 V DC	12 V DC
Amperage	2,5 A	3 A	3,2 A	3 A
Fuse size	3 A	5 A	5 A	5 A
Height	112 mm	112 mm	112 mm	112 mm
Max dimension	75x100 mm	75x100 mm	75x100 mm	75x100 mm
Weight	0.40 kg	0.40 kg	0.40 kg	0.45 kg
Body	Thermoplastic	Thermoplastic	Thermoplastic	Thermoplastic
Shaft	Stainless steel	Stainless steel	Stainless steel	Stainless steel
Shaft seal	Lip seal	Lip seal	Lip seal	Lip seal
Wire size	0.75 mm ²	0.75 mm ²	0.75 mm ²	0.75 mm ²

Installation

Please follow the installation instructions carefully to assure maximum efficiency in your bilge pump operation.

1. Mount the pump in the lowest point of the bilge.
2. Select a point where the bilge water is to be pumped overboard as high as possible above the water line and at the shortest distance from the pump. Install a 3/4" thru-hull fitting (L750 Duo - 1.1/8").
3. Fasten a 3/4" (L750 Duo - 1.1/8") fuel resistant hose from the pump outlet to the thru-hull fitting. Avoid sharp bends or loops. Support the hose if necessary.
Note: In order to prevent air locks it is important that the hose not be allowed to dip below the pump outlet. The hose should be constantly rising.

To remove or replace the power cartridge

See page 18

1. Lift tab and rotate the two fins in a counter clockwise direction and lift out.
2. To reinstall, first make sure that the seal is properly located. Coat the seal with a light film of vegetable oil or mineral oil, then align the two cams on either side of the power cartridge with the two slots in the outer housing. Press down and twist in a clockwise rotation. To ensure that the power cartridge is properly located, twist fins in a counter clock-wise direction without lifting tab.
Cartridge should stay in place.

Accessories

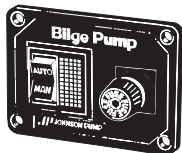
Panel 12 or 24 V

Part No	12 V	24 V
	34-1224	34-1225

The Johnson Pump panel combined with the Duo Cartridge gives you an excellent installation for your boat.

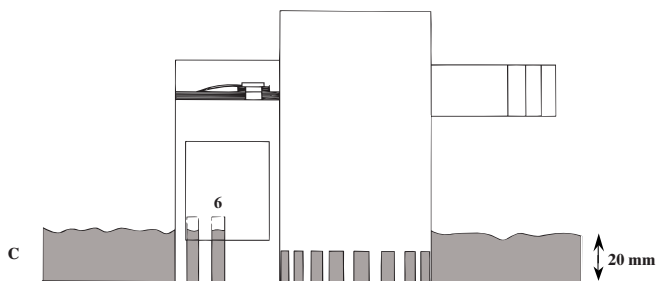
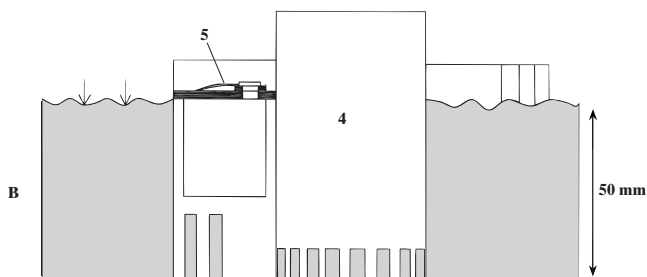
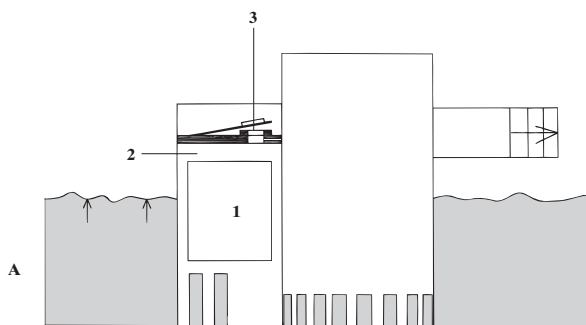
The panel switch has 3 positions: OFF, MAN (on manual), and AUTO (on automatic). It also includes a fuse holder and a pilot lamp. Fuses are included. The panel is delivered in matt black finish.

Size: 76 x 55 mm, 40 mm depth.



Electrical installation with the Johnson Pump panel

1. Always install according to the wiring diagram on page 16.
2. With the switch in AUTO-position, the pump will now start when the bilge water reaches 50 mm and stops when it comes down to 20 mm. You can also run the pump "manually". Note: When running the pump in "Manual"- position, it must not run dry. When the pump is running, the pilot lamp will be lit.
3. The size of the fuse should be chosen according to the specifications of each pump size.
4. Important: All electrical wiring must be clamped with the connections well above the bilge water level. Do not remove the insulation more than necessarily. All wiring connections should be sealed with a marine sealant to avoid oxidation.



Elektrisk installation med Johnson Pump panel

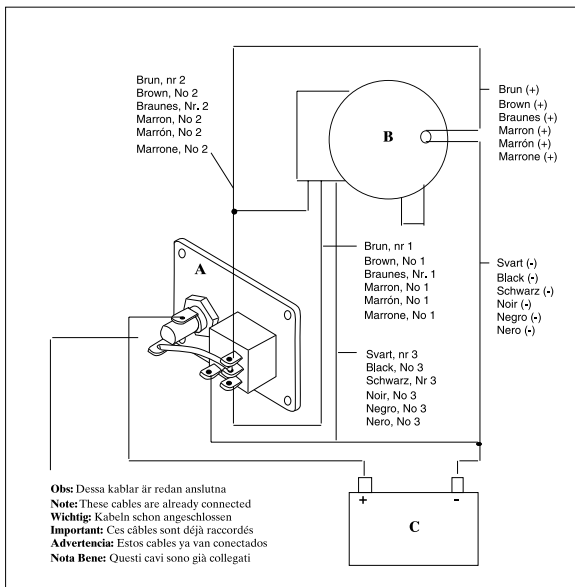
Electrical installation with Johnson Pump Panel

Elektrischer Anschluss mit Johnson Pump Schalttafel

Schéma de raccordement avec le tableau de commande Johnson Pump

Instalación eléctrica con panel Johnson Pump

Schema collegamento elettrico con pannello di controllo Johnson Pump



A Panel
Panel
Schalttafel
Tableau de commande
Panel
Pannello

B Länspump
Bilge pump
Bilgenpumpe
Pompe de cale
Bomba de sentina
Pompa di sentina

C Batteri
DC supply
DC-Versorgung
Batterie
Bateria
Batteria

Elektrisk intallation utan panel

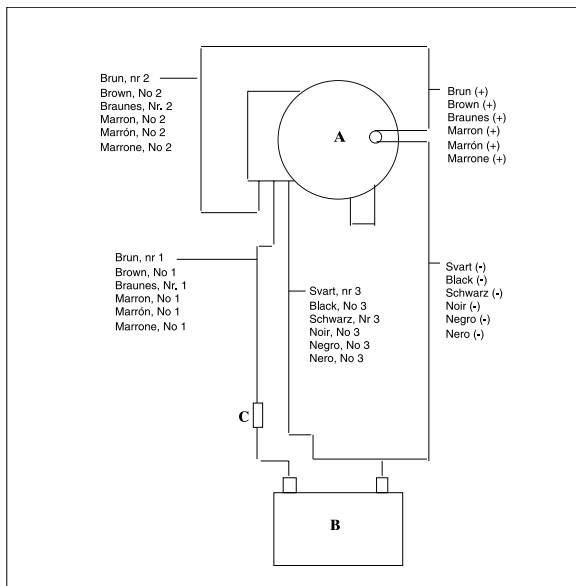
Electrical installation without panel

Elektrischer Anschluss ohne Schalttafel

Schéma de raccordement sans tableau de commande

Instalación eléctrica sin panel

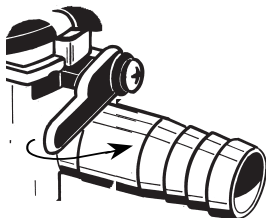
Schema collegamento elettrico senza pannello di controllo



A Länspump
Bilge pump
Bilgenpumpe
Pompe de cale
Bomba de sentina
Pompa di sentina

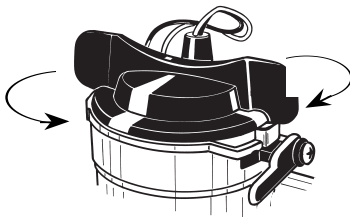
B Batteri
DC supply
DC-Versorgung
Batterie
Batería
Batteria

C Säkring
Fuse
Sicherung
Fusible
Fusibile
Fusibile



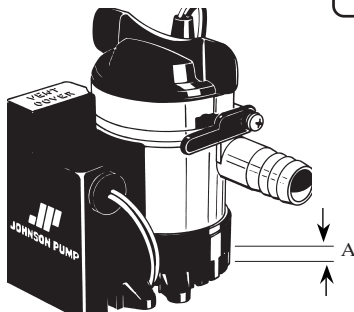
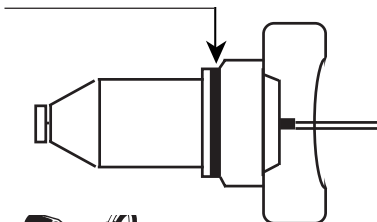
Lyft läshaken
Lift tab
Die Zunge heben
Soulever la languette
Levantat la lengüeta
Levare la linguetta

Demontera
Remove
Entfernen
Enlever
Quitar
Rimuovere



Montera
Reinstall
Montieren
Remonter
Montrar
Rimontare

Tätning
Seal
Dichtung
Joint
Junta
Guarnizione



Lägsta sugnivå, mått "A"
Lowest level for suction, measure "A"
Niedrigste Ansaughöhe, Abmessung "A"
Plus bas niveau pour la succion, mesure "A"
Altura mínima de aspiración, medida "A"
Livello più basso per aspirazione, misura "A"

L450 Duo – 8 mm
L550 Duo – 8 mm
L650 Duo – 8 mm
L750 Duo – 8 mm



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