



Model 18220-Series

BALLAST PUPPY Wakeboard Towboat Ballast Pump FEATURES

- Pump:** Bronze
- Impeller:** Jabsco Nitrile or Polyurethane Impeller
- Seal:** Lip Type
- Ports:** 1/2" Internal Pipe Threads
1" External Hose Barb
- Motor:** Equipped with Run-Dry Protection Device (Patent Pending)
12 Volt DC
Permanent Magnet Type
Fully Enclosed
Stainless Steel Shaft
Ball Type Shaft Bearing
Reversible


Dimensions: 3-5/8" (93mm) high,
7-1/8" (182mm) long
4-3/4" (120mm) wide

Weight: 6 lb (2.7 kg)


Rating: CE

Motors meet USCG Electrical Regulation 183.410 and ISO 8846 MARINE for IGNITION PROTECTION on gasoline powered vessels.


WARNING Explosion Hazard. Do not pump gasoline, solvents, thinners or other flammable liquids. To do so can cause an explosion resulting in injury or death.



WARNING Explosion Hazard. Do not operate with rivets removed from motor case. Explosion resulting in personal injury, death or property damage can occur. Case openings must be sealed to avoid explosion and maintain ignition protected rating.



WARNING Sinking hazard. Do not exceed manufacturer's combined maximum weight capacity and persons capacity as specified in vessel's "Maximum Capacities" warning placard. To do so can cause sinking that can result in loss of property and life.



APPLICATION

The Ballast Puppy is designed to pump water into Wakeboard Liquid Ballast Tanks and when reversed will also pump water out of them. It has a flow rate of 11 gallons per minute, so it can fill most ballast tanks in about five minutes. It is equipped with a Run-Dry Protection Device (patent pending) to automatically shut-off the pump and protect the impeller from run-dry damage should the pump be mistakenly left on after the Ballast Tank is empty.



Model 18220-Series

VARIANTS

- 18220-1123 - Nitrile Impeller
- 18220-1127 - Polyurethane Compound Impeller
- 18220-X123 - OEM Variant
- 18220-X127 - OEM Variant

INSTALLATION

The pump must be mounted in a dry location – the motor is not waterproof and must not be submerged. SELECTION OF A COOL VENTILATED location will generally extend pump motor life. The unit can be mounted in any desired position. It is best to mount so that water dripping from loose port connection will not wet the motor. The pump head may be rotated 180° on the motor to change the direction of flow.


PLUMBING CONNECTIONS

Pump ports have external 1" hose barb and internal 1/2" pipe threads. Use hose that does not kink when bent and with sufficient wall thickness to prevent collapse when used on suction side of pump. Hoses should be routed so that some water will be retained in pump body to wet the impeller. Wetting the impeller aids in priming and extends impeller life. Use a strainer on the intake hose to stop trash and solids from going through the pump. All hoses must have airtight connections to enable fast priming.

PSI	Total Head		Capacity	
	Feet	Metres	GPM	LPM
2.1	5	1.5	9.0	34
4.3	10	3.0	8.5	32
6.5	15	4.6	8.0	30
8.7	20	6.1	7.5	28

Table shows approximate Head-Flow for new pump.

⚠ WARNING Explosion hazard. If pump is operated in an area containing flammable vapors, motor wire leads must be joined by insulated mechanical locking connectors. Loose or inadequate wire connections can spark resulting in an explosion. Property damage, injury or death can occur.

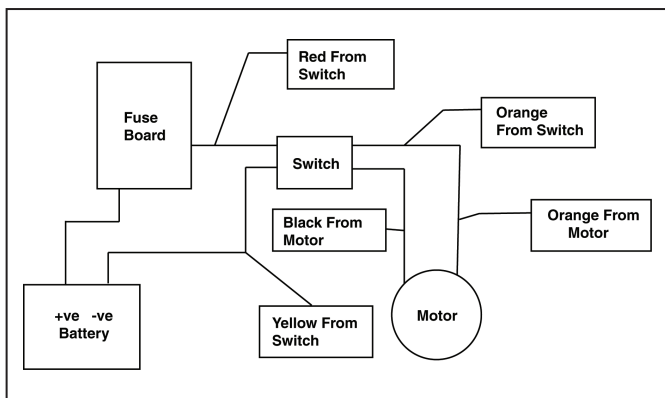


ELECTRICAL CONNECTIONS

NOTICE: To prevent motor damage, use only multi-strand copper wire in size recommended. **DO NOT** use ordinary lamp cord or other substitutes

The Ballast Puppy should be wired to the Polarity Reversing Switch (provided) through an over-current protected distribution panel fitted with a 20 amp breaker or fuse. This circuit should be dedicated to the Ballast Puppy and free of any other accessories. The Polarity Reversing Switch requires that both positive and negative conductors be run from the power source to the switch as well as both positive and negative conductors run from the pump to the switch. These conductors must be sized to match the recommended wire size in the Electrical Specification Chart for the total length of the circuit (the sum of the length of all positive and negative conductors). Use positive locking type wire connectors (crimp type butt connectors) to complete all connections at the pump and reversing switch. Use only quality marine grade multi-strand copper wire of the proper size as determined from the Electrical Specification Chart below.

Wiring Instructions Pump Model 18220-1123



- 1.) Please note wiring recommendations in the data sheet.
- 2.) Please note the fuse requirements in the datasheet
- 3.) To reverse pump/switch for filling and emptying, swap the orange and black from motor to orange and black from switch.

ELECTRICAL SPECIFICATIONS AND MINIMUM WIRE SIZE

VOLTAGE	AMP DRAW	FUSE SIZE	WIRE SIZE PER FEET OF RUN*				
			0'-10' (0 M-3 M)	10'-15' (3 M-4.6 M)	15'-25' (4.6 M-7.6 M)	25'-40' (7.6 M-12.2 M)	40'-60' (12.2 M-18.3 M)
12V DC	12	20	#16 (1.5 mm ²)	#14 (2.5 mm ²)	#12 (4 mm ²)	#10 (6 mm ²)	#8 (10 mm ²)

* Length of run is total distance from power source to pump and back to ground. Wire sizes listed are SAE gauge and metric millimetres².

OPERATION

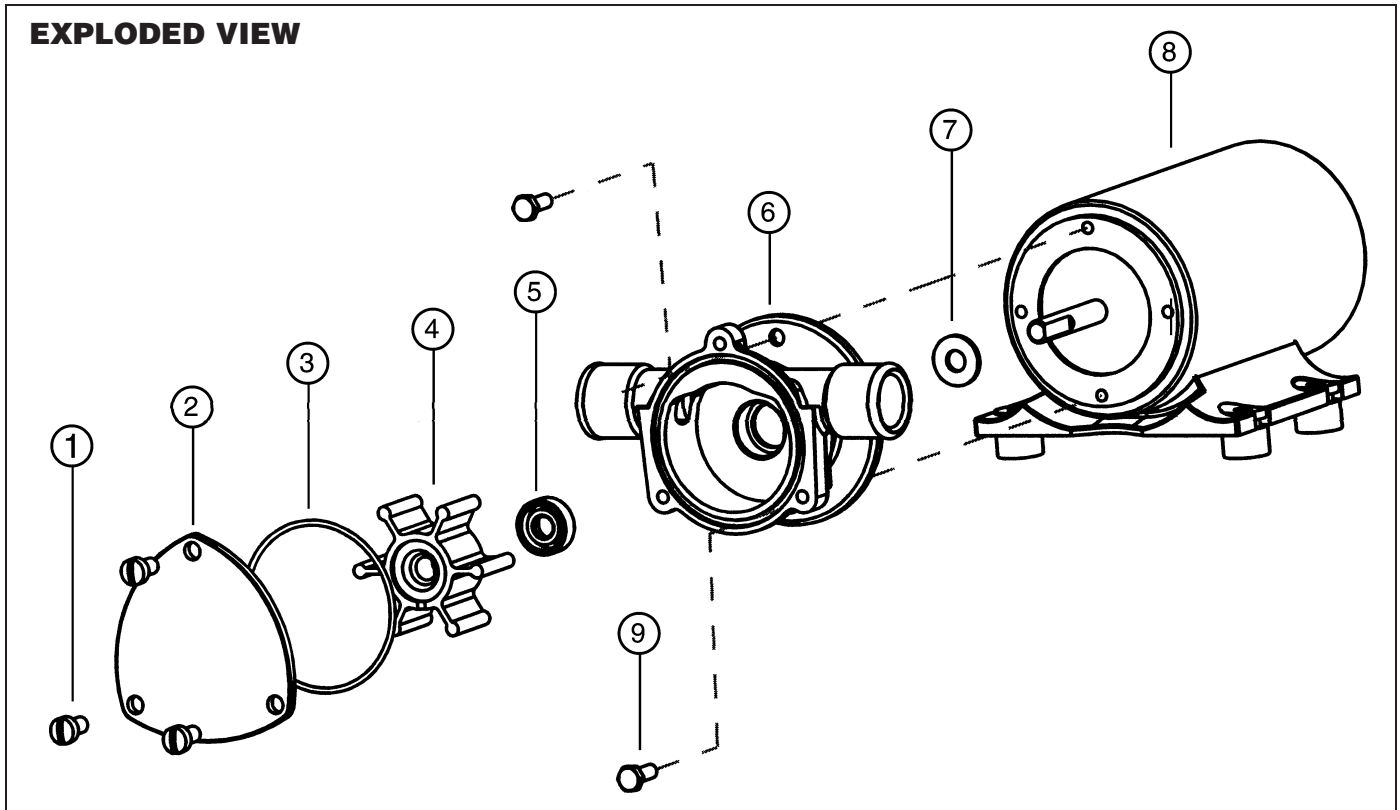
The Ballast Puppy is reversible so it can both add liquid ballast and then pump it back overboard when ready to lighten the load. The stylish double throw reversing switch (provided) is intended to be mounted in a convenient, easily accessible location for quick and easy ballast control. The pump can fill a typical forty gallon tank in about 5 – 6 minutes.

When ready to add ballast, simply flip the switch to the fill position and watch for indicators that the tank is full, then switch the pump off. To reduce the ballast load, flip the switch to the drain position and the pump will reverse itself to pump liquid ballast back overboard. To fully empty tank, just leave the pump in the drain position and monitor the tank level so that the pump can be turned off when the tank is empty. Alternatively, simply pay attention to the sound made by the pump and when the frequency changes (higher pitch) and it gets louder, that is an indication the tank is empty and the pump should be turned off. However, if for some reason attendants become distracted and do not notice the change in pump sound or that the tank is empty, the Jabsco Ballast Puppy is equipped with an exclusive Run-Dry Protection Device (patent pending) to prevent serious impeller damage. This Run-Dry Protection Device senses the absence of water and after a short period of sustained run-dry operation will shut-off the pump before the impeller is badly damaged. The delay in run-dry operation before pump shutdown provides adequate time for initial pump priming when filling the ballast tank.

The Ballast Puppy is designed for intermittent duty cycles only. It is capable of filling most ballast tanks in about 5 – 6 minutes and can be immediately reversed to empty the tank if urgent de-ballasting is required. However, after about twenty minutes of continuous running the Run-Dry Protection Device will interrupt power to the pump and cause the pump to shutdown. The pump would then need to cool off for about twenty minutes before normal operation will resume.

The pump cannot run against a closed outlet as may be encountered when installed in systems with valves to regulate flow. Pressure for normal operation should not exceed 20 feet of head (8.7 psi).

EXPLODED VIEW



MAINTENANCE

Check wires and connections to be sure corrosion is not adding additional resistance to the motor circuit and causing a low voltage condition at the motor. Low voltage can inhibit motor from starting and/or reversing and cause fuse to blow. Full voltage should be available to prevent motor damage.

NOTICE: If pump is idle for extended periods, the impeller may stick to the pump body, preventing motor rotation and causing blown fuses. To correct, remove end cover and impeller, clean body and impeller, then lubricate with water or small amounts of non-petroleum-based grease before assembly.

If pump is to be in freezing temperatures, drain by loosening end cover screws.

A Service Kit, or at least spare impellers, should be carried aboard to be assured of pumping capability.

DISASSEMBLY

1. Remove end cover screws, end cover and O-ring.
2. Withdraw impeller.
3. Loosen and remove two slotted hex screws, which attach body to motor.
4. Tap body lightly between ports and remove body from motor.
5. With a 1/2" diameter dowel, push against the shaft seal from back (motor) side of the body to dislodge it from the seal bore.

NOTE: Do not tamper with or disassemble motor.

PARTS LIST

Key	Description	Qty.	Part Number
1	Screw Kit (End Cover) (3 screws per kit)	1	91004-0090
2	End Cover	1	18647-0000
3	O-Ring*	1	18753-0660
4	Impeller* - Black (Nitrile)	1	6303-0023
	Impeller* - Yellow (Polyurethane)	1	6303-0007
5	Seal*	1	18753-0384
6	Body	1	18645-0000
7	Slinger	1	6342-0000
8	Motor	1	18753-0696
9	Screw, Pump to Motor (3/kit)	2	98019-0020
	Rocker Switch†	1	18753-0095
	Service Kit* - Black (Nitrile)	1	90061-0006
	Service Kit* - Yellow (Polyurethane)	1	90061-0007

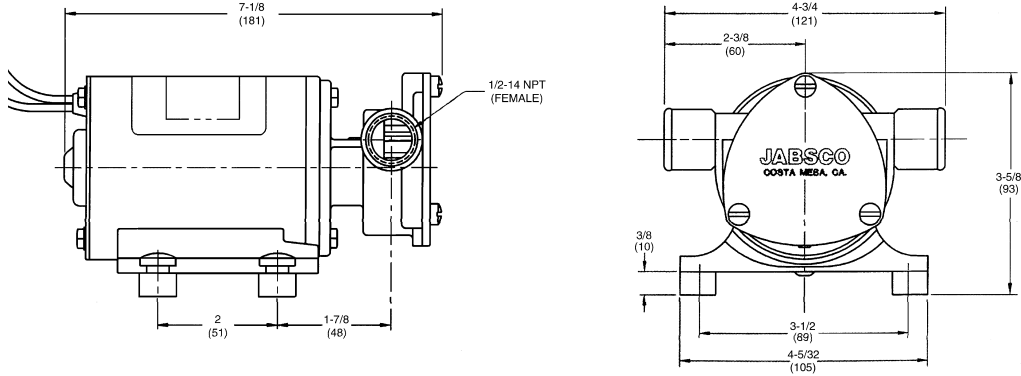
* Parts Contained in Service Kit.

† Rocker Switch (18753-0095) not shown

ASSEMBLY

1. Lubricate seal with water and position it in seal bore with lip, or hollowed-out side of seal, pointing towards the impeller bore. With a 1/2" diameter dowel, push the shaft seal into its bore until it contacts the bottom.
2. Lubricate motor shaft and install body on motor.
3. Lubricate impeller bore and, aligning flat in impeller with flat on motor shaft, install impeller with a rotary motion.
4. Install O-ring, end cover and screws.

DIMENSIONAL DRAWING
Inches (Millimetres)



ONE YEAR LIMITED WARRANTY

A. LIMITED WARRANTY:

Jabsco warrants that at the time of shipment, the products manufactured by Jabsco and sold hereunder shall be in conformity with applicable written specifications and descriptions referred to or set forth herein, free from defects in material and workmanship, merchantable, and suitable for a particular purpose, provided such is implied by State law under the circumstances of this sale.

B. WARRANTY ADJUSTMENT:

1. Jabsco agrees to repair or furnish a replacement for, but not to remove or install, any product or component thereof which, within one (1) year from date of purchase, shall upon test and examination by Jabsco prove defective within the above warranty. Receipt verifying purchase date is required to obtain adjustment.
2. Buyer shall notify Jabsco of any defect within this warranty no later than ninety (90) days after the defect is discovered.
3. No product will be accepted for return or replacement without the prior written authorization of Jabsco. Upon such authorization, and in accordance with instructions from Jabsco, the product will be returned to Jabsco, shipping charges prepaid by Buyer. Products returned to Jabsco will be addressed as follows:

JABSCO
Cape Ann Industrial Park
Gloucester, MA 01930

Or to such alternate locations as may be designated on the product, its container, or this sheet.

Repair or replacement made under this warranty will be shipped prepaid to Buyer.

C. EXCLUSIONS FROM WARRANTY AND LIMITATION OF LIABILITY:

1. The foregoing warranty is limited solely as set forth herein and applies only for the period designated above.

2. ITT SHALL NOT BE LIABLE FOR ANY LOSS, DAMAGE, SPECIAL OR CONSEQUENTIAL DAMAGE OF ANY KIND, WHETHER BASED UPON WARRANTY, CONTRACT, NEGLIGENCE, OR STRICT LIABILITY ARISING IN CONNECTION WITH THE SALE, USE, OR REPAIR OF THE PRODUCT.
3. THE MAXIMUM LIABILITY OF ITT IN CONNECTION WITH THIS WARRANTY SHALL NOT IN ANY CASE EXCEED THE CONTRACT PRICE FOR THE PRODUCT CLAIMED TO BE DEFECTIVE OR UNSUITABLE.
4. This warranty does not extend to any product manufactured by Jabsco which has been subjected to misuse, neglect, accident, improper installation, or use in violation of instructions furnished by Jabsco.
5. This warranty does not extend to or apply to any unit which has been repaired or altered at any place other than Jabsco's factory, or by persons not expressly approved by Jabsco, nor to any unit the serial number, model number, or identification of which has been removed, defaced or changed.
6. Components manufactured by any supplier other than Jabsco shall bear only that warranty made by the manufacturer of that product.
7. This warranty applies to products defined as "consumer products" by the Consumer Product Warranties Act as from time to time amended.

D. CONSUMER RIGHTS:

This warranty gives you specific legal rights, and you may have other rights which vary from state to state. Some states do not allow exclusion or limitation of damages.

STANDARD WARRANTY: If the products manufactured and sold hereunder are not Consumer Products, the warranty extended to Buyer shall be as set forth in subparagraphs (A), (B), and (C), **EXCEPT THAT ALL EXPRESS OR IMPLIED WARRANTIES OR MERCHANTABILITY OR SUITABILITY FOR ANY PARTICULAR PURPOSE ARE EXCLUDED.**



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