

Electric dredge

**VORTEX**  
DREDGE SYSTEMS

PATENTS PENDING

*Worlds most powerful 3, 4 and 6-inch dredges*

[www.vortexdredge.com](http://www.vortexdredge.com)

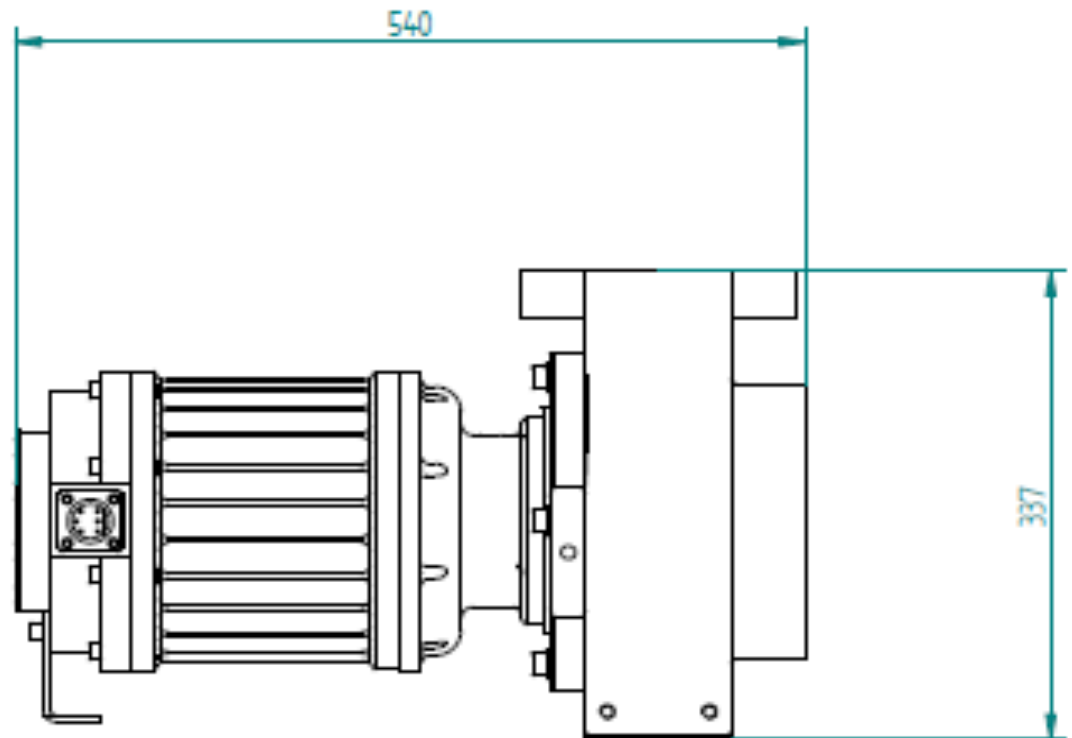
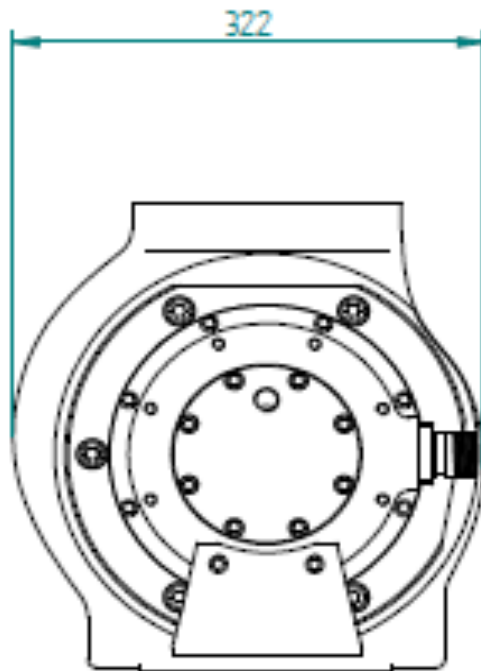


# Electric dredge Introduction:

- Performance: (using power factor of 0.86)
- Using **2 inch** Venturi, 620 VAC, 60Hz, 6.0 amp running current = **73 kPa inlet suction**. = **5.5 Kw**
- Using **2 1/2 inch** Venturi, 620 VAC, 60Hz, 6.3 amp running current = **50 kPa inlet suction**. = **5.8 kw**
- Using **3 inch** Venturi, 620 VAC, 60Hz, 6.7 amp running current = **37 kPa inlet suction**. = **6.1 Kw**
- This dredge is **Mk 1** and designed specifically for the electric ROV market where currently no options exists for an electric dredge.
- Due to the various ROV and power supplies on the market, the tool presented here is **NOT** as it would be in its final form as we have built a generic tool put into the market for client evaluation, from which point we can optimize motor and water pump size to suit particular ROV capabilities. **Motor oil balance tube will also be built into the motor.**
- Vortex also has a custom made water pump which will be fitted soon to further decrease physical size and increase suction performance.
- Vortex has provided a 2 inch, 2 1/2 inch and 3 inch Venturi for our client to conduct field trials on their particular ROV so we can optimize the product considering ROV size, power supply and Venturi size.

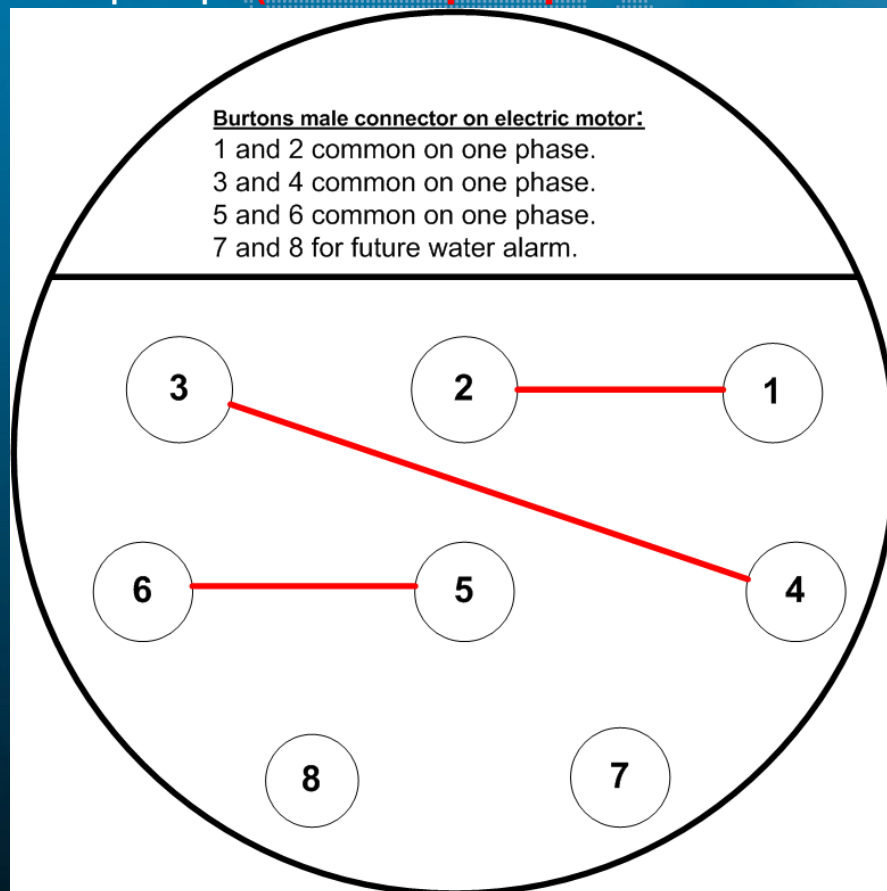
# Electric dredge Specifications.

- Power supply requirement:
- 620 to 690 VAC, 60Hz, 4 to 6.5 amp running current:
- Depth limitations: None.
- Weight of tool = 60 kg in air  
Weight of tool = 40 kg in fresh water

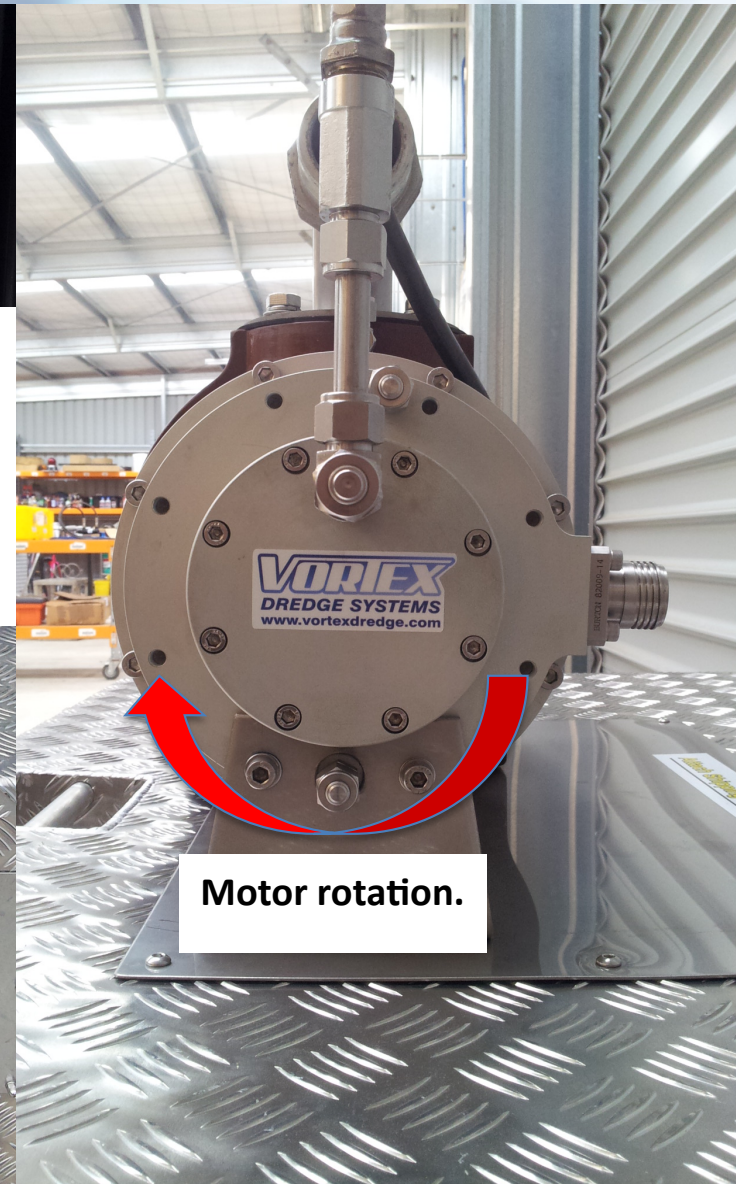
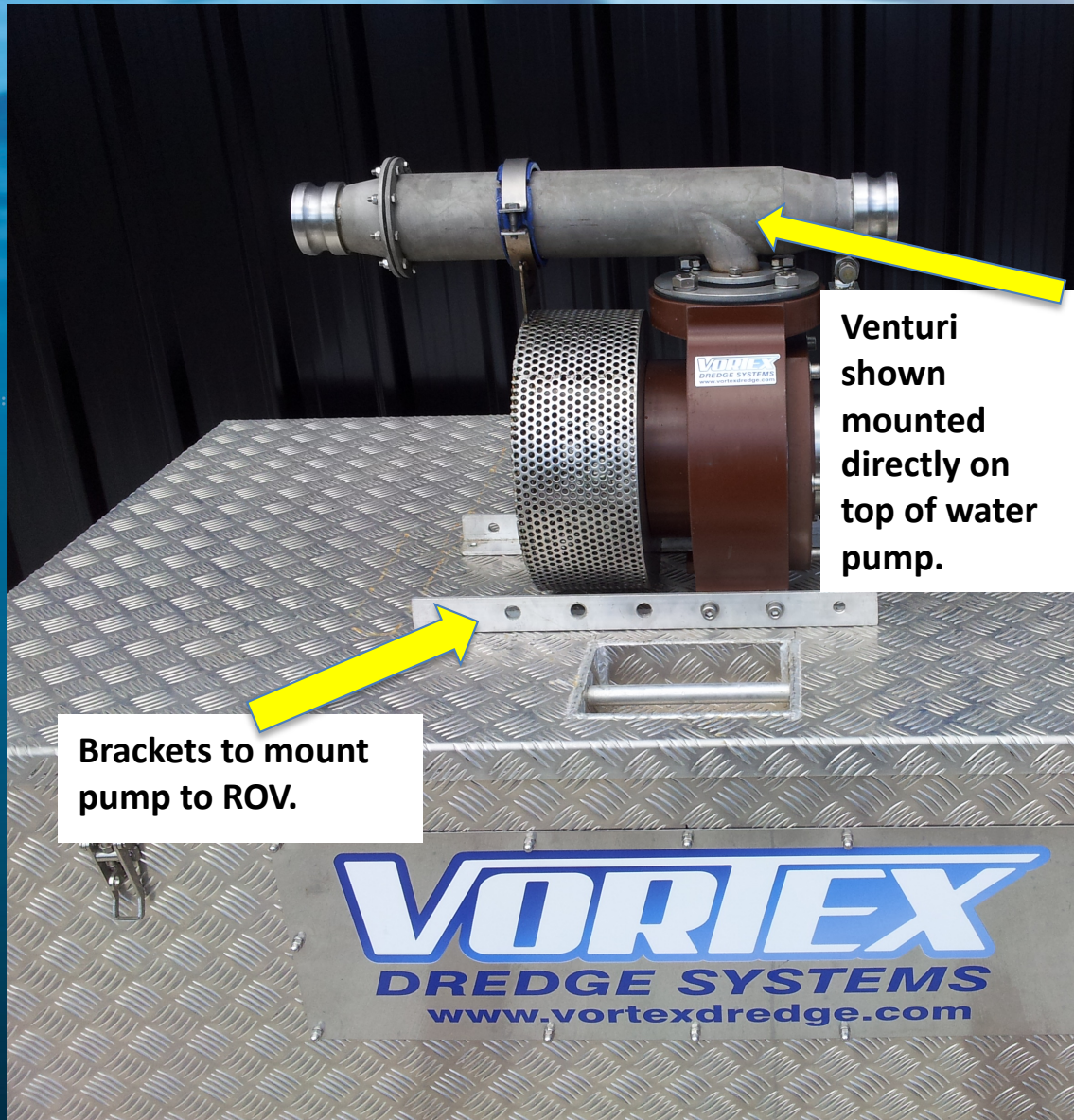


# Electric dredge installation.

- Mount motor / pump to ROV in a safe and secure location. Connect compensator to motor. Ensure compensator is charged to **40psi** when fitted to motor.
- If Venturi not fitted to top of dredge, fit dredge Venturi in safe and secure location on ROV, connect water pump to Venturi hose.
- Connect wiring as shown in following picture. Test phase rotation. Pump direction shown on pump. **(remove pump inlet screen and look at impeller)**. Pump impeller will **not** spin off if



# Electric dredge installation continued.



# Electric dredge installation continued.

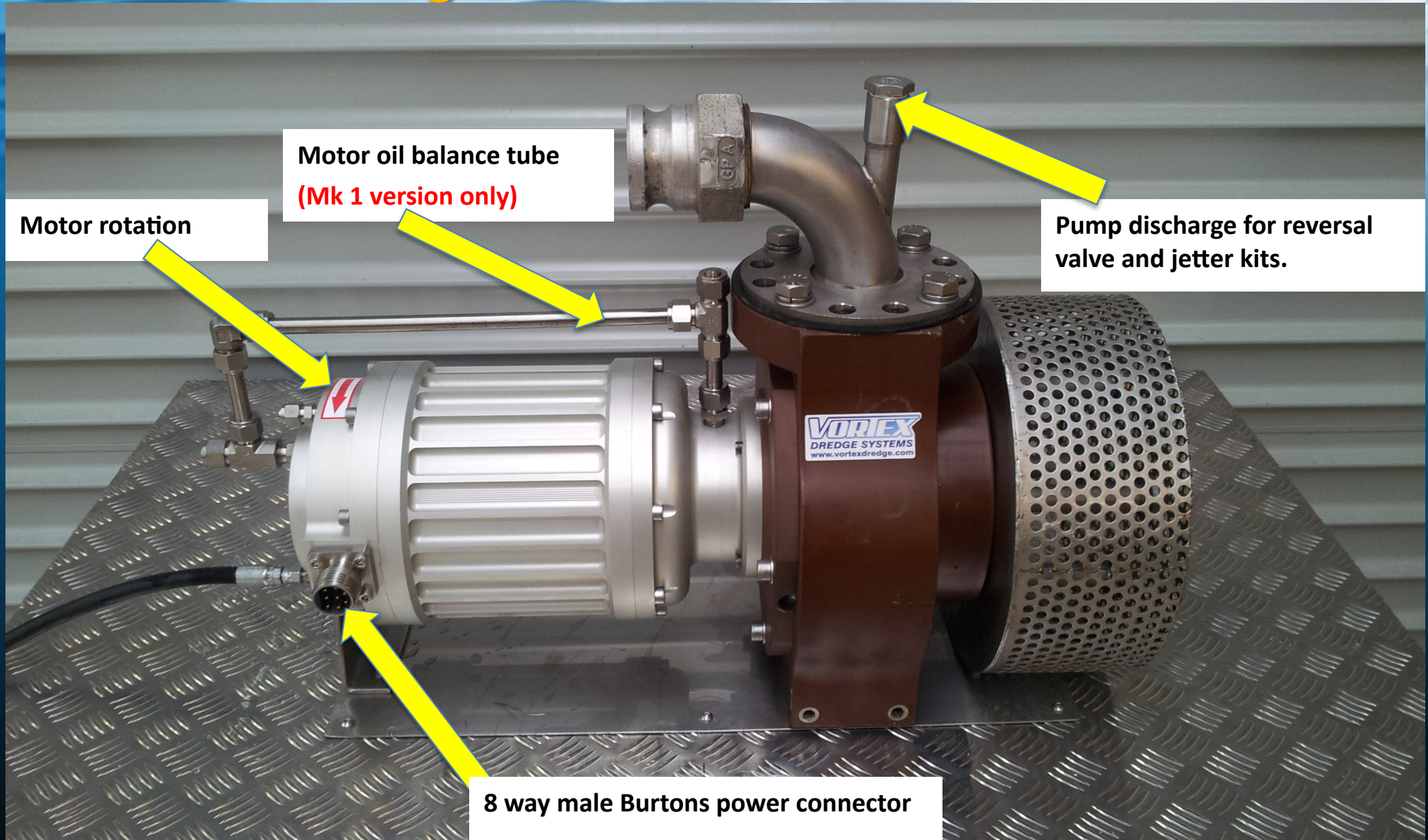


Venturi shown  
mounted remotely  
from water pump.

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# Electric dredge installation.



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# Electric dredge installation.

Motor drain point / Oil Line to compensator.

**ALWAYS BLEED MOTOR AND LINES BEFORE OPERATION.**

Motor drain point / Oil Line to compensator

Motor mounting bracket (stays permanently on motor)

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# Electric dredge inventory.

- 2 inch Venturi
- 2 ½ inch Venturi
- 3 inch Venturi
- Inlet and exhaust hoses to suit each Venturi.
- Consumables to be replaced at clients cost:
  - Water hoses
  - Electrical cable to motor
- Servicing:
  - Ensure entire assembly is washed down with fresh water after each dive.

# Contacts:

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