

TROUBLESHOOTING

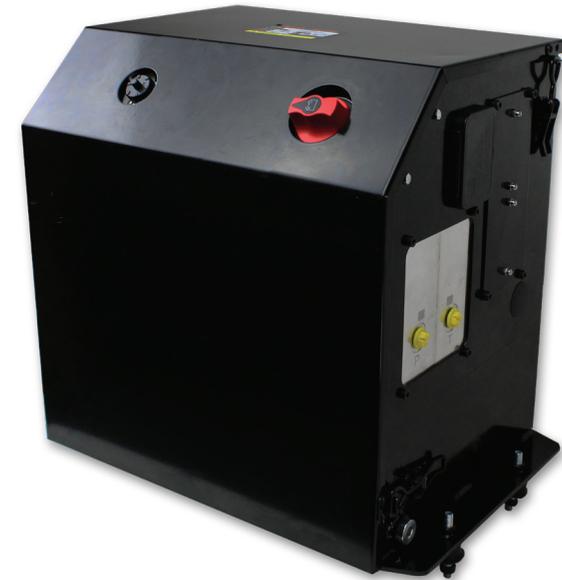
Symptom	Possible Cause	Remedy
Motor will not run	Faulty electrical connections	Check all electrical connections as per instructions
	Insufficient battery power	Check with volt meter and charge or replace battery - voltage must read under load
Motor runs but cylinders do not move or are slow	Low voltage	Check battery charge/ functionality under load
	Poor ground	Check wiring and connections
	Solenoid coil	Check coil for damage/operation
	Solenoid damage	Clean or replace
	Insufficient relief valve pressure	Set to correct pressure
	Low oil supply	Fill to proper level
	Leakage through solenoid valve	Clean or replace
	Cylinder internal leakage	Rebuild or replace
	Load too heavy	Set RV to correct pressure with gauge
Air trapped in cylinder	Purge trapped air	



Failure, improper selection or improper use of the products and/or systems described herein (or related items) can cause death, personal injury and property damage.

Hydraulics Network

ETB SERIES POWER UNIT Installation Instructions



12 & 24v DC

P+T, Single Acting & Double Acting Configurations

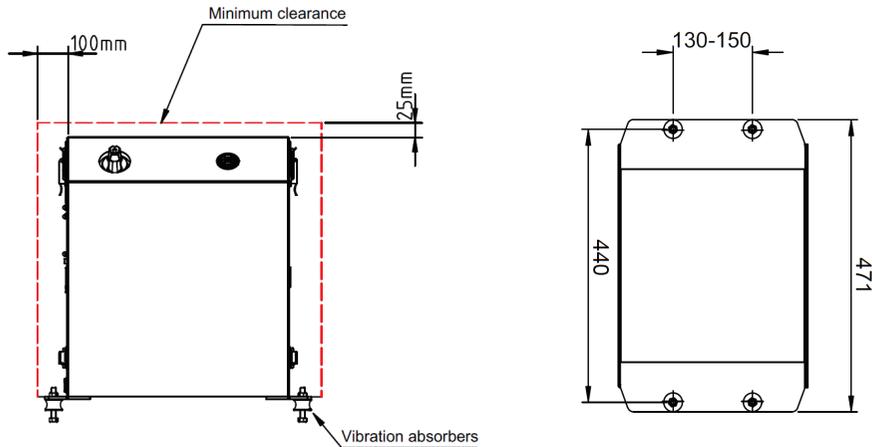
MOUNTING

The enclosure must be:

- mounted with a clearance of 100mm on each side, and 25mm from the top
- mounted on a solid and level surface
- mounted on vibration absorbers supplied with the ETB System and secured with nyloc nuts

Working ports (A&B)(P+T): 9/16" UNO

Tank plug and breather: 3/4" NPT



OIL RECOMMENDATIONS

ATF, 32 or 46 or other hydraulic oil with a viscosity of 150 to 300 SUS @ 38°C is acceptable. If another type of fluid is needed, please contact your local Hydraulics Network representative.

FILLING AND BLEEDING AIR FROM THE SYSTEM

1. Make sure the reservoir is free of dirt and debris before you begin to add oil.
2. Begin to add oil to the reservoir until it has been completely filled.
3. Jog the electric motor to prime the pump.
4. Initial startup should be done under a no-load condition until all lines and cylinders have been properly filled. In most cases, the pressure line(s) may need to be loosened to allow additional air (foamy oil) to be purged.
5. Purge the system until a clear stream of oil is seen. Use care when doing this to avoid contact with any oil spray.
6. Catch all oil in a container and dispose of properly.
7. Jog the electric motor during this process and continually check the oil level in the reservoir, refilling as needed. Short cylinder strokes, followed by longer strokes while checking fluid level, work best.

RELIEF VALVE

Setting the relief valve is critical for operational and safety reasons. After purging the system, but prior to operation, set the relief valve to the desired maximum limit (the relief valve has been preset to 2500psi). This is best done using a pressure gauge connected to the pressure line. Do not operate against the relief valve setting for extended periods of time.

MAINTENANCE

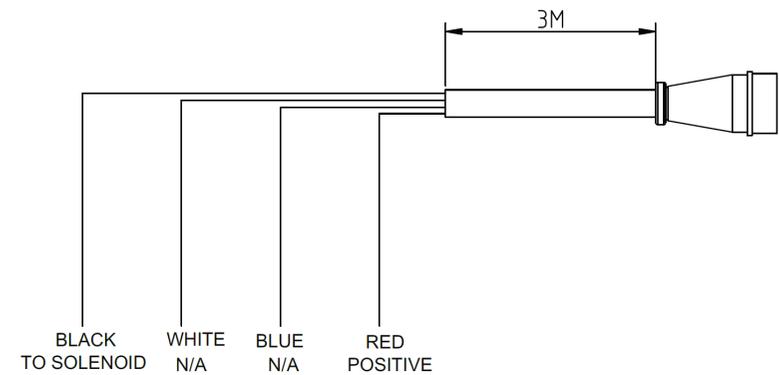
- Keep the unit clean and dry, look for any leaks and repair if needed.
- Do not pressure wash.
- Check the wiring for corrosion and for sound connections. Clean and tighten as necessary.
- Check oil level and top off as needed.
- Change annually (or as needed) and use the same type of oil previously used with the powerpack.

ELECTRICAL CIRCUIT & PENDANT CONTROLLER

The ETB series are fitted with a battery isolator switch which isolates the power to the hydraulic power pack. The isolator switch *must* be returned to the OFF position once the hydraulic operation is completed, or during transport of the implement.

Single acting & double acting power packs are supplied with a KCB pendant controller fitted with a quick connection plug. This plug must be disconnected from the enclosure once the hydraulic operation is completed, or during transport of the implement.

P&T configurations are not supplied with KCB Pendant but are instead supplied with a quick connect 3 metre lead for connection to an external command.



BATTERY CABLE KIT

ETB Battery cable kits are purchased separately.

All ETB battery cables must be secured to the battery: RED cable connect to the + and black cable connect to the -. The circuit breaker must be secured to a solid surface.

All ETB battery cables are fitted with a circuit breaker - ensure the circuit breaker is sized accordingly using the table below:

Power	Voltage	AMP Rating
1.6 kW	12v	235 amp
2.2 kW	24v	120 amp
2.5 kW	12v	295 amp
2.8 kW	24v	200 amp