

TEKEDGE

DV55-18VDC

COLT 18V A2L/A3

BATTERY VACUUM PUMP

Safety Instructions & Operation Manual

Thank you for purchasing the COLT 18V A2L/A3 Battery Vacuum Pump.

Please read this operation manual carefully before use.
Only suitably qualified personnel should operate this equipment.

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1.0 APPLICATION

The TEKEDGE COLT 18v Battery Vacuum Pump is a two-stage oil sealed rotary vane vacuum pump. This piece of equipment can be used to evacuate domestic, automotive and light commercial refrigeration and AC equipment. It’s suitable for use with HFC, HCFC, HFC, A2L and A3 compatible refrigerants.

2.0 FEATURES

Anti-oil-returning design

Special air passage is designed to prevent pump oil from returning to contaminate vacuum vessel and pipeline after the pump stops.

Environment protection design

The product has a built-in device to eliminate oil mist plus an oil-gas separator at the air exhaust outlet designed to reduce oil contamination.

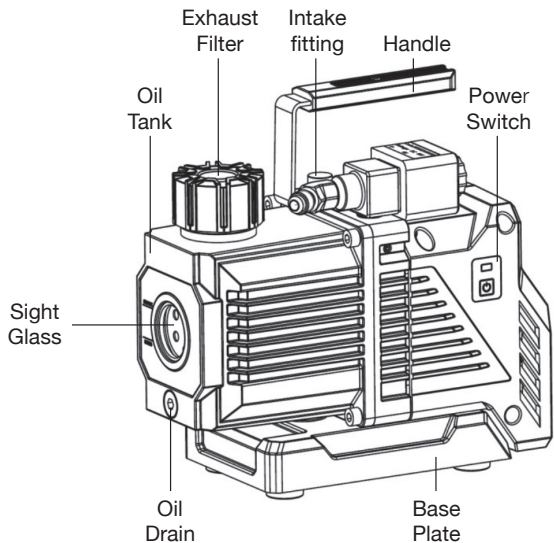
18V BRUSHLESS DC Motor

The TEKEDGE COLT 18v Battery Vacuum Pump has a brushless DC Motor, and runs with an 5.0Ah 18V battery. This product is especially designed for low temperature conditions to guarantee normal starting in winter (≥5°C temperature).

Oil circulation design

The product runs with extremely high ultimate vacuum and low noise.

3.0 PUMP COMPONENTS



4.0 SPECIFICATIONS

MODEL	DV55-18VDC
VOLTAGE	18v, 5.0Ah Battery Powered
FREE AIR DISPLACEMENT	2.0 CFM
	55 l/min
ULTIMATE VACUUM	30 Microns
POWER	90W
MOTOR SPEED	4000 r/m
OIL CAPACITY	140 ml
DIMENSIONS	190 × 105 × 192 mm
NET WEIGHT	3.1 Kg
INTAKE FITTINGS	1/4" SAE and 3/8" SAE

5.0 OPERATION

Check oil level prior to operation. Ensure the oil level is always above the minimum on the sight glass markings. Fill using the oil supplied, or top up with vacuum pump oil taking care not to overfill past the maximum mark.

The TEKEDGE Battery Vacuum pump is specifically designed for use with a 18v 5Ah Lithium Ion battery (not supplied).

Select the correct adapter plate to match battery to be used and slide fully into position in the battery slot. Remove the inlet cap and connect to the system to be evacuated via a suitable hose. Ensure the hose is short and the connection is fully sealed.

Use the power switch to start and stop the pump as required.

When the power is low, the voltage of the battery will decrease, the pump will sound a warning alarm (buzzer) as a warning so that battery can be charged or replaced prior to the pump stopping.

6.0 PRECAUTIONS

Ensure the oil level is maintained to the correct level. Low oil level or poor quality oil will result in premature wear and reduced performance.

Install the pump on a flat, firm surface with adequate ventilation, allowing at least 5cm of space on all sides of the pump.

CAUTION:

- Do not use if combustible, explosive, poisonous or reactive/corrosive gases are present in the atmosphere or still contained/present in the system to be evacuated.
- Do not allow dust particles to enter the pump.
- Do not allow the pump to run to open air / atmosphere for more than 3 minutes.
- Do allow the inlet temperature of gases to exceed 80°C. Do not use in environments over 50°C.
- Not suitable for use as a compressor, transfer pump or recovery pump.
- Do not operate without oil.
- Pump surface may be hot.
- Do not block air outlet when pump is in use.
- Do not operate the TEKEDGE Battery vacuum pump in adverse weather conditions, i.e Raining, please keep under cover.

1. Warning:

- 1) **Do not touch the hot surface of Vacuum pump when operating to avoid potential burns.**
- 2) **Do not block air outlet when pump is in operation.**
- 3) **Keep pump away from heat sources when operating.**
- 4) **Keep the battery away from moist environments.**
- 5) **Do not work in the environment with explosive gas or gas leakage.**

7.0 A3 OPERATION

Vacuum Equipment and preparation

1. 3 metre safety exclusion zone barriers.
 2. Dry powder fire extinguisher.
 3. A3 Certified leak detector.
 4. CareAir EX N rated fan or similar with 5 metre power lead.
 5. A personal A3 Gas monitor.
 6. TEKEDGE A2L (A3) Rated Vacuum pump.
- Before the Vacuum pump is operated use an A3/ATEX Rated Leak detector around the pipework and system to be evacuated to test for any Hydrocarbon refrigerants present.
 - Using barriers create a 3m exclusion zone.
 - A Personal A3 Gas monitor should be worn at all times.
 - If Hydrocarbons are detected do not operate the vacuum pump.
 - If the area is completely clear of Hydrocarbons or any flammable gasses please proceed with the following Evacuation process.
 - It is essential that Oxygen free nitrogen is purged through the Pipework and exhausted to outdoor area before the vacuum pump is connected clearing the pipework of any potential Flammable gasses.
 - It is essential that throughout the full evacuation process the CareAir EX N Fan or similar is within the 3m Exclusion Zone and turned on to circulate fresh air and disperse any potential flammable gases in the atmosphere.
 - Connect the Vacuum pump to the System via a 1/4 or 3/8th Suitable Vacuum hose and step outside of the 3m exclusion Zone.
 - Locate the vacuum pump inside the 3 metre safety zone.
 - Switch the vacuum pump ON at the pump.
 - After evacuation and prior to re-charging the system with HFO, electrically isolate the vacuum pump
 - Remove the pump from the 3 metre safety zone.

***The TEKEDGE Range of A2L (A3) Vacuum pumps must only be used by qualified technicians.**

8.0 TROUBLESHOOTING

PROBLEM	CAUSE	ACTION
POOR VACUUM	4.1 Oil insufficient	Add oil to centre line of oil scale
	4.2 Pump oil emulsified, not clean	Replace with new oil
	4.3 Oil inlet blocked or oil feeding inadequate	Clean oil inlet and filtering screen
	4.4 Pump hose or vessel leak	Check hose and vessel for leakage and repair
	4.5 Improper pump chosen	Pump too small – use larger pump
	4.6 Worn components	Repair or replace with a new pump
OIL LEAKAGE	4.7 Oil seal damaged	Replace with a new oil seal
	4.8 Oil casing gasket loose	Tighten screws or replace O-type ring
OIL DISCHARGE	4.9 Too much oil	Drain oil to oil base line on sight glass
	4.10 Inlet pressure too high	Use recovery pump to remove pressure
OVER-HEATING	4.11 Temperature below +5C	Allow temperature to rise
	4.12 Motor overloaded	Wait 5 minutes, re start, or press motor reset if installed
	4.13 Foreign matter falling in the pump	Check and eliminate the foreign matter
DIFFICULT STARTING	4.14 Low voltage	Check the power on your battery and change if required
	4.15 Overheated	Check fan, ventilation and repair
	4.16 Safety if in any doubt	Consult Aspen Pumps Asia Pacific

9.0 MAINTENANCE AND SERVICE

Ensure all surfaces are kept clean, and avoid allowing dust or debris from entering the pump.

Check the oil regularly to ensure it is topped up to the recommended level, and never run the pump with low or without oil.

If the oil becomes contaminated, dirty or cloudy it must be drained and replaced, as vacuum will be reduced.

When replacing the oil first run the pump for 5 minutes to thin the oil, before stopping the pump and fully draining by removing the drain plug.

Run the pump for a few minutes with the air inlet open, adding oil to flush the pump cavity. When the oil is running clear, stop the pump, replace the drain plug and refill with new oil to the recommended level.

When the pump is not being used fit the air outlet caps to avoid any contamination.

10.0 GUARANTEE

If your product incurs a fault or a warranty issue, please register your claim to sales@apsenpumps.com.au. Our technical service team will then issue next steps pending the outcome of the claim review.

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