



**MEEA**  
MOBILE ENERGY AUSTRALIA  
Specialists in vehicle mounted compressor & generator systems

# **SMAC 35DG / DWG 22HP Owner's / Operator's Manual**



**35 CFM Diesel Driven Air Compressor and  
Generator / Welder Generator**

Revision: 3  
Reviewed: 22-03-2023

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**MEA Product Registration Form**

**THE ATTACHED FORM MUST BE COMPLETED  
AND  
RETURNED WITHIN 30 DAYS OF INSTALLATION  
OR  
WARRANTY WILL BE VOID**

**ALTERNATIVELY, PLEASE GO ONLINE AND  
COMPLETE WARRANTY FORM**

[www.mobileenergyaustralia.com.au/warranty-registration](http://www.mobileenergyaustralia.com.au/warranty-registration)



CUT HERE



## MEA Product Warranty Registration Form

**This form must be completed and returned to MEA at the time of Installation. This will assist MEA in processing the product in the unlikely event that a warranty claim is needed**

### MEA Dealer Information

Company Name: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Country: \_\_\_\_\_

### MEA Installer Information

Company Name: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Country: \_\_\_\_\_

Installation Date:    \_\_\_\_ /    \_\_\_\_ /    \_\_\_\_  
                                  Day       Month       Year

### Owner Information

Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Country: \_\_\_\_\_

Postcode: \_\_\_\_\_ Phone #: \_\_\_\_\_

### Product Information

MEA Serial Number: \_\_\_\_\_

Model Number: \_\_\_\_\_

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Both the MEA Product Warranty Registration form and the Kubota Warranty Registration form must be completed and returned to MEA.

## **1. COMPRESSOR / COMPRESSED AIR SAFETY**

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### **(COMPRESSOR / COMPRESSED AIR)**

**MEA DISCLAIMS ALL LIABILITIES FOR DAMAGE OR LOSS OF EQUIPMENT AND PROPERTY, PERSONAL INJURIES (INCLUDING DEATH), AND CONSEQUENTIAL DAMAGES ARISING OUT OF ANY MEA SYSTEM NOT USED IN ACCORDANCE WITH THE OPERATOR'S MANUAL.**

**ALL UNITS ARE SHIPPED WITH A DETAILED OPERATOR'S MANUAL. THIS MANUAL CONTAINS VITAL INFORMATION FOR THE SAFE USE AND EFFICIENT OPERATION OF THE UNIT. READ THE OPERATOR'S MANUAL BEFORE STARTING THE UNIT. FAILURE TO ADHERE TO THE INSTRUCTIONS COULD RESULT IN SERIOUS BODILY INJURY OR PROPERTY DAMAGE.**

Care is required when working with an air compressor or compressed air. Compressed air is one of the many way's energy can be stored. Releasing the stored energy in an uncontrolled manner can result in catastrophic consequences. Death and permanent disability are possibilities that can occur. The following are suggested as minimum requirements to be followed when operating the MEA SMAC system. It is important that each work site shall perform a risk analysis and produce a procedure to eliminate or control the hazardous condition to minimise the risk to personnel and equipment. Health and Safety Regulations necessitate that this is a compulsory process to be carried out on each site. These, together with site specific safety procedures will help to minimize the risk to accidents, personnel injury, and loss of life. It is the responsibility of the employer to ensure that the work site is safe for all employees and that the safety procedures are followed by all employees.

#### **SAFETY WHEN OPERATING AN AIR COMPRESSOR**

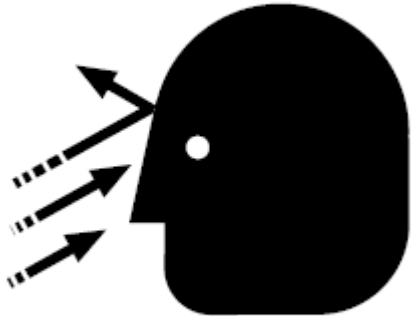
- Do not bypass or disable the oil temperature and pressure sensors – unless planning on running to failure (MEA does not recommend the practice).
- Do not expose the tank or compressor to extreme heat.
- Do not perform any service or repairs until the system has been completely relieved of air pressure.
- Maintenance and repairs on the system should only be done by qualified personnel.
- Do not operate the compressor while driving.
- Do not tamper with the pressure relief valve.
- Follow safe work practice, wear the appropriate personal protective equipment (PPE) when operating air-powered equipment, particularly eye and hearing protection.
- Avoid contact with rotating components, ensure all safety guards are in place.
- Avoid all contact with pressurized air. If it penetrates the skin, it can enter blood stream and cause death.
- Vaporized oil propelled by high pressure is an explosive mixture. To prevent compressor explosion or fire, make sure that the air entering the compressor is free of flammable vapours.
- Do not breathe the compressor air, vaporized oil is a respiratory hazard.
- Stay clear of all moving parts when the system is operating.
- Follow safety procedures for tyre service operations as set by the authority.

**⚠ WARNING**



**Read the operators manual before starting this unit. Failure to adhere to instructions can result in severe personal injury.**

**⚠ DANGER**



**HOT OIL UNDER PRESSURE!  
Will cause SEVERE PERSONAL INJURY OR DEATH. Do not remove valves, caps, plugs or piping when compressor is running or pressurized. Shut down compressor and relieve system of all pressure before removing valves, caps, plugs or piping**

**300038**

**⚠ DANGER**



**Discharge air used for breathing will cause severe injury or death consult filtration specialist for additional filtration and treatment equipment to meet occupational safety and health administration standards**

300040

**⚠ WARNING**



**Do not operate without fan guard in place.**

300041



## 2. SPECIFICATIONS

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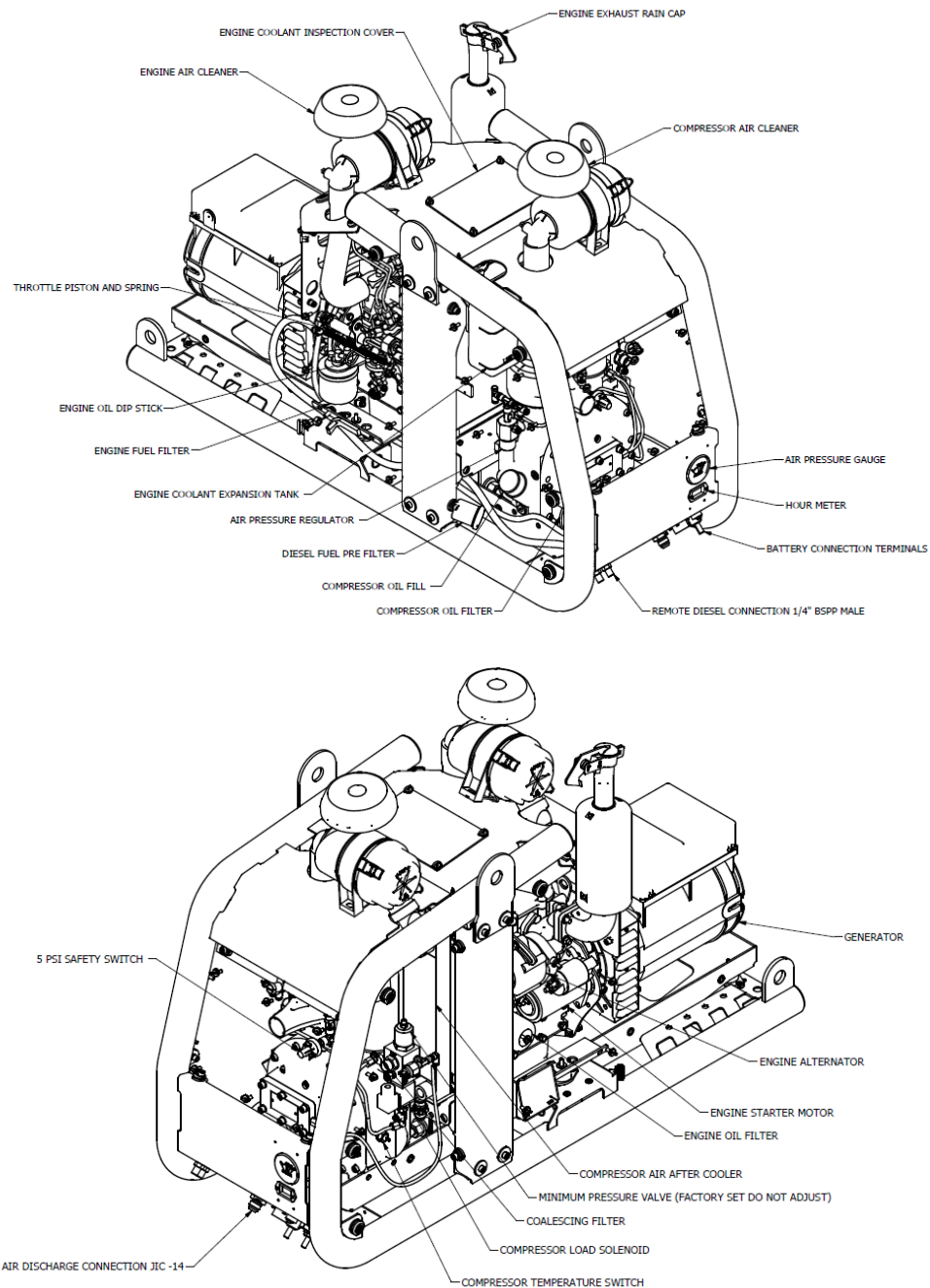
|                               |  |
|-------------------------------|--|
| <b>Compressor Type:</b>       | Oil injected rotary screw compressor   |
| <b>Drive System:</b>          | Diesel powered via direct mechanical coupling  |
| <b>Control:</b>               | Pneumatic  |
| <b>Maximum Air Delivery</b>   | 35 CFM @ 150 psi   |
| <b>Pressure Regulation:</b>   | Mechanical inlet control valve modulates flow in response to demand  |
| <b>Inlet Valve Regulation</b> | Pneumatic  |
| <b>Engine Control System:</b> | Pneumatic speed control, engine and compressor high temperature and pressure engine shutdown system  |
| <b>Safety Features</b>        | 200 PSI relief valve in compressor sump<br>Temperature safety sensor in the compressor<br>Rapid blow-down valve to discharge system pressure on shutdown   |
| <b>Lubrication:</b>           | All replacement compressor oils must be approved by MEA prior to use. Warranty will be nullified if oil has not been approved.<br>MEA certified and approved semi synthetic compressor oil<br><b>Part Number 10019 – P0002</b><br>Quantity of Compressor Oil Required – 4 Litres   |
| <b>Filters</b>                | Paper-type replaceable air filters<br>Spin-on type compressor oil filter<br>Spin-on type Coalescing filter element   |
| <b>Generator Option:</b>      | <p><b>Single or 3 Phase Generator Features</b></p> <ul style="list-style-type: none"> <li>• 2 Poles</li> <li>• Single Phase AC 5 to 8.5 kVA</li> <li>• 3 Phase AC 7.5 to 10 kVA</li> <li>• IP23</li> </ul> <p><b>Generator Welder Features</b></p> <ul style="list-style-type: none"> <li>• 2 poles brushless alternating-current rotating welders</li> <li>• Protection: IP 23</li> <li>• Weldable electrodes: rutile</li> <li>• Supplied with auto resettable thermal breaker against overload</li> <li>• Can also be used as single-phase alternator</li> </ul> |

|                               |   |                   |                                  |                            |                                 |                  |                                 |
|-------------------------------|---|-------------------|----------------------------------|----------------------------|---------------------------------|------------------|---------------------------------|
| <b>Engine Model:</b>          | Kubota D902   |                   |                                  |                            |                                 |                  |                                 |
| <b>Engine Type:</b>           | 3 Cylinder, water cooled, Diesel Combustion Engine  |                   |                                  |                            |                                 |                  |                                 |
| <b>Power (continuous):</b>    | 18 Kw (22 HP) @ 3600RPM   |                   |                                  |                            |                                 |                  |                                 |
| <b>Electrical System:</b>     | 12 Volts DC   |                   |                                  |                            |                                 |                  |                                 |
| <b>Maximum RPM:</b>           | 3150 max rpm in compressor and generator mode   |                   |                                  |                            |                                 |                  |                                 |
| <b>Direction of Rotation:</b> | counter clockwise (viewed from flywheel)  |                   |                                  |                            |                                 |                  |                                 |
| <b>Engine Control System:</b> | Electric push button start pneumatic speed control via air cylinder.  |                   |                                  |                            |                                 |                  |                                 |
| <b>Engine Protection:</b>     | Engine low oil pressure and high-coolant temperature sensors.   |                   |                                  |                            |                                 |                  |                                 |
| <b>Lubrication:</b>           | <p>MEA approved oil to meet strict emission control regulations, min. class “CF” or better is required. If oil does not meet the minimum requirements, all warranty will be nullified.</p> <p><b>IMPORTANT:</b></p> <p>Engine oil should be MIL-L-2104F or have properties of API classification CF grades or higher. Change the type of engine oil according to the ambient temperature.</p> <table border="0"> <tr> <td>Above 25°C (77°F)</td> <td>SAE30 or SAE10W-30 or SAE15W-40.</td> </tr> <tr> <td>0°C to 25°C (32°F to 77°F)</td> <td>SAE20 or SAE10W-30 or SAE15W-40</td> </tr> <tr> <td>Below 0°C (32°F)</td> <td>SAE10 or SAE10W-30 or SAE15W-40</td> </tr> </table> <p>Engine Oil quantity 2.5L</p> | Above 25°C (77°F) | SAE30 or SAE10W-30 or SAE15W-40. | 0°C to 25°C (32°F to 77°F) | SAE20 or SAE10W-30 or SAE15W-40 | Below 0°C (32°F) | SAE10 or SAE10W-30 or SAE15W-40 |
| Above 25°C (77°F)             | SAE30 or SAE10W-30 or SAE15W-40.  |                   |                                  |                            |                                 |                  |                                 |
| 0°C to 25°C (32°F to 77°F)    | SAE20 or SAE10W-30 or SAE15W-40   |                   |                                  |                            |                                 |                  |                                 |
| Below 0°C (32°F)              | SAE10 or SAE10W-30 or SAE15W-40   |                   |                                  |                            |                                 |                  |                                 |
| <b>Filters:</b>               | <p>Air Filter - Paper-type replaceable (Not Possible to Clean)</p> <p>Spin-on type fuel filter (Not Possible to Clean)</p> <p>Spin-on type oil filter - Spin on type (Not Possible to Clean)</p> <p>Engine fuel filter – In Line Element (Not Possible to Clean)</p>  |                   |                                  |                            |                                 |                  |                                 |

### 3. OPERATING PROCEDURES

#### PRE-START CHECK EACH DAY

1. Check the oil level in the engine.
2. Check the water level in the engine.
3. Check the oil level in the compressor
4. Check all hoses are secured and not damaged. Replace all damaged hoses before starting.
5. Check all electrical cables are secure. Secure all cables that are not tied down.
6. Check the air inlet and air filter on the engine are clear.



## STARTING / STOPPING DIESEL ENGINE AND COMPRESSOR – NEW CONTROL BOX

Note: Wiring harness has blue trace for ID. Not interchangeable to previous version i.e., key ignition starts.



### STARTING THE DIESEL ENGINE

1. Check the COMPRESSOR ROCKER SWITCH is set to the OFF position (centre position).
2. Press the ON/OFF/GLOW rocker switch to the LOWER POSITION – this is the Glow hold and it will disengage if you release. Do not hold this position for longer than 15 seconds. The system could be damaged should you extend the time beyond the 15 seconds. Releasing glow hold will leave the system in OFF position (middle position).
3. Ensure ON/OFF/GLOW Switch still in ON position (Upper position). Start the engine by depressing the START SWITCH – The engine should turn on immediately. Hold the switch for no longer than 10 seconds.
4. If the engine does not start, check the fuel tap if there is one and repeat the process described in 2 and 3 above. The maximum number of attempts should be limited to 4 and after this; the operator should seek assistance from a mechanic.
5. Allow the engine to run at no load for 2-3 minutes. This will allow the engine to warm up and lubrication system to be fully operational before the load is applied.

## STARTING THE COMPRESSOR

1. Set the COMPRESSOR SWITCH to the ON position. This will engage the compressor load solenoid. The engine speed will increase until the pre-set regulated pressure is reached.
2. Listen for air escaping from the pressurized air system. Ensure all airline taps are closed so that compressor outlet air can reach regulated pressure.
3. If the escaping air is from a broken pipe or connection, turn the COMPRESSOR SWITCH to the OFF position. Stop the diesel engine. Advise the maintenance department for their assistance.
4. The engine will reduce its RPM when the compressor reaches the pre-set regulated pressure. (It should be noted the pre-set regulated pressure can be adjusted via the regulator control valve. It is recommended that your maintenance department does this if required.)
5. The compressor is ready to use.

## STOPPING THE COMPRESSOR UNIT

1. Disengage the compressor by moving the compressor engage switch to the “Compressor Off” position.
2. The compressor will shut down and bleed off pressure. The engine will come down to idle speed.
3. It is good practice to allow the engine to run under no load for 2-3 minutes.
4. Turn the engine off by pressing the ON/OFF/GLOW rocker switch to the centre position. If you hear a slight “hissing” noise this is normal, the compressor is bleeding off excess pressure out of the system.

## OPERATING THE GENERATOR

1. Start engine as per previous instruction.
2. Plug the electrical load into the outlets and switch outlets on.
3. As soon as the device is switched on, the automatic current sensing device will unload the compressor and either increase or decrease the RPM of the engine to maintain a constant 3100rpm thus maintaining the load until the load is switched off.
4. When the load is switched off the engine will idle down in under 10 seconds.
5. When operating the welder, press down the **HYDRAULICS (OPTION)** side of the switch, this will manually rev up the engine in order to weld. When finished welding, press down the **COMPRESSOR ON** side of the switch to bring the switch back to the central position this will make the engine rev down.

### Note:

When operating the SMAC unit, only one device can operate at one time, either the compressor or the generator/welder generator. When operating the compressor, the diesel engine will increase speed until it reaches 3100rpm to deliver 35cfm. When using the generator, the compressor will be unloaded through the unloading valve. The diesel engine will maintain a constant 3100rpm to ensure consistent power regulation to the generator.

## 4. INSTALLATION

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**ENSURE THAT A WATER SEPARATOR IS MOUNTED AS FAR FROM THE COMPRESSOR AS POSSIBLE OR THAT IT HAS AT LEAST TWO METRES OF HOISING BETWEEN THE COMPRESSOR DISCHARGE AND SEPERATOR INLET.**

The compressor air intake is protected by a paper-type replaceable air filter, and a spin-on type oil filter for the oil side and a coalescing filter for final oil removal from the air.

Safety features included in the compressor are:

- 200 PSI relief valve in separation manifold.
- Blow-down valve to discharge system pressure on shutdown - will not allow compressor restart until system pressure bellow 5PSI.
- Over temperature safety sensor in the compressor oil.
- Over pressure control mounted at the minimum pressure valve.
- **Do not disable or bypass the over-temperature shutdown circuits. Failure of the shutdown system could result in equipment damage, injury, or death.**

The information in this section is very important for proper operation of the compressor. Read these requirements before beginning installation. The following is a view of the compressor/diesel engine unit.

## 1. General Consideration Mounting the Compressor Unit

The starting point for the installation is a quick overview of the requirements. Some of these points will be dealt with in more detail further on in this text. Things that should be considered now are as follows.

1. The unit should be installed in a well-ventilated area.
2. The unit will need to be installed level and any variation in the frame to be supported via washers for spacers and properly secured to the vehicle with no less than 4 high tensile fasteners 8.8 grade or higher.
3. In installation, the unit should be orientated that the sight level glass for oil level can be checked easily.
4. It should also allow for ease of servicing without having to disconnect lines or remove and reposition the unit.
5. The unit should be protected from excessive exposure to the elements and possible incidental damage from other operations.
6. The unit should be installed in an area away from heat sources such as engines, exhaust systems or other components that generate heat.
7. The unit should not be installed in a location where it will be exposed to high contamination levels or combustible gases.
8. The engine exhaust should be routed away from the compressor unit. The engine exhaust should be in an area where the exhaust CANNOT be filled up with rain (an exhaust flapper is fitted to the exhaust) however the exhaust must not face directly down to the ground.

## 2. Mounting of Compressor Unit considering Ventilation

It is not possible to make absolute recommendations regarding ventilation because of the widely differing circumstances that are possible. Duty cycle, ambient temperature and enclosure shape are some of the important variables. Ideal ventilation will provide good airflow through the unit with no restrictions. There are two ways in which the SMAC compressor can be mounted.

### 1. Top or Deck Mounting

This is the preferred mounting location. Placing the unit in an area where there are no restrictions on the intake of fresh air and exhausting of hot air and exhaust gases. This provides the best cooling and ensures reliability and life for the compressor / diesel engine driven unit.

### 2. Enclosed Mounting

It is important that the persons installing the unit and the manufacturer discuss if it is going to be placed in an enclosed area.

Ventilation is one of the most important things to consider when looking at installing a diesel engine driven compressor in an enclosed area.

It is important that the air intake to the compressor and the engine exhaust are located outside of the enclosed space. The unit generates a considerable amount of heat when running. Proper ventilation is vital for ideal operation and to avoid damage to components.

Ensure there is a minimum of 10" (250 mm) clearance between cooler grills on SMAC and any other components mounted on the vehicle. It is strongly recommended that the installation is tested in the event that the unit is installed in an area considered to be enclosed mounting.

The following is a method suggested for testing.

- 2.1 It is best to test the installation at the hottest expected ambient temperature.
- 2.2 Setup and run the system at 120 PSI. This can be done by installing a ball valve on the air outlet pipe and adjusting the opening of the valve so that the compressor is running continuously at 120 PSI.
- 2.3 Record the engine, compressor, and current ambient temperature for future reference.
- 2.4 Run the system at full load for at least one hour or until the temperatures stabilizes. Temperature stabilizing means there is no rise in temperature for 15 minutes when the compressor is running at the rated load.
- 2.5 Record the engine and compressor temperatures every 10 minutes.
- 2.6 If the system over-heats, the ventilation is not sufficient, review the installation, make changes as needed, and repeat the test.

### **3. Engine Exhaust consideration when installing Diesel Engine Driven Compressor**

In cases that the exhaust system needs to be ducted away from the engine assembly, the following are a minimum that should be considered

- The exhaust pipe needs to be adequate for the engine.
- There needs to be a flexible joint at the point where the extension is connected to the exhaust system of the Diesel Engine Driven Compressor Unit.
- Ensure the exhaust pipe has suitable clearance and does not contact anything.
- Ensure that if the exhaust outlet has a method to prevent water from entering the engine
- Ensure exhaust from the diesel engine is routed in a way to prevent recirculation back into the unit.

### **4. Securing the Diesel Engine Driven Compressor Unit to the body of the vehicle.**

It is important to consider maintenance needs, (daily needs), service requirements, electrical connections, air connections, location of control panel before the SMAC is secured to the body of the vehicle.

- Locate a suitable mounting position for SMAC. Place the unit and check for clearances to any other objects.
- There are four weld nuts located at the four corners of the bottom formed plate which can be used as mounting bolt locations. Holes can also be drilled through the bottom of the formed plate if alternate locations are required.
- Drill four holes in mounting surface and secure the SMAC to the truck. Use a minimum of 4 – M12 high tensile bolts, 8.8 grade minimum.



## 5. Connecting Truck Electrics to the Diesel Engine Driven Compressor Unit

Electrical connection of SMAC to the truck is very simple. The entire control system is mounted in the SMAC.

1. The SMAC needs to be connected to the truck battery. A minimum of 25mm cable is required for the connection because the SMAC is started using the truck battery. SMACD units are 12 Volt DC. If a truck is 24 Volt DC (Two of 12 Volt DC batteries are supplied in the truck), connection for the SMAC Unit will be across 1 of the batteries.
2. Start switch control box which includes the compressor load and unload switch needs to be connected to the SMAC front panel via the Deutsch plug provided at the end of the 5-metre cable of the control box. It should be noted; this switch box can be mounted in the cab of the vehicle if an extension harness is purchased or any location on the truck body.

## 6. Connection of the Diesel Engine Driven Compressor Unit to the fuel tank.

It is normal to use the trucks fuel tank for all models of the SMACD. The SMACD has as standard a fuel pump built into it. It is suggested that an additional electrical fuel pump is installed if the compressor unit is installed 20" (500 mm) above the height of the truck diesel tank. The following is the method for connecting the fuel to the compressor unit.

1. Cut the feed and return lines at the tank. Install the tees into the cut pipes.
2. Install the provided check valve at the T-Piece of the feed pipe.
3. Connect the diesel feed pipe to the compressor unit from the check valve. Connect the return line from the compressor unit to the return line tee.

**PLEASE NOTE: IF THE SMAC IS ORDERED AS A BATTERY FUEL MODULE, THEN NO CONNECTION TO THE VEHICLE IS REQUIRED**

## 7. Remote Air Intake Filter Removed for Shipping (Optional).

A label on the unit will indicate if the Air Compressor Filter has been removed for the purpose of shipping.

IT IS IMPORTANT THAT THE FILTER IS FITTED BEFORE THE COMPRESSOR IS STARTED.

The following is the instruction for fitting the filter to the compressor.

1. Remove the front access panel by pulling out the top of the panel until it is free of the rubber mounts, lift to free from bottom rubber mounts.
2. Put the hose clamp over the air hose protruding through the top panel and push the Air Intake Filter inlet tube into the hose.
3. Using the 2 off M8 x 30 bolts, flat washers, spring washers and nuts, bolt the Air Intake Filter into place.
4. Tighten the hose clamp and refit the front panel.

## 8. Completing the Installation - Before Checking the System

Make sure that the following have been completed before operating the MEA Diesel Engine Driven Compressor Unit

1. Check the compressor oil level; make sure the compressor has been filled to the correct level prior to shipping. Note that the oil is very clear, and it is difficult to see the level.
2. Check the engine coolant level.
3. Check the engine oil level.
4. Check fuel level.
5. Do a final inspection to make sure that all fasteners and connections are tight.
6. Check that all hoses and wiring are secure and protected.

## 9. Check Operation – Setup & Performance Testing of Diesel Driven Compressor.

1. The compressor is dispatched from the factory with the pressure pre-set to the customer specification. Should the customer want to alter this setting, the instruction on how to do this can be found in the compressor manual.
2. Install the ball valve on the outlet of the hose from the compressor. Set the ball valve to the closed position.
3. On starting and running, the air pressure will be found to be at the pressure specified by the customer and the engine will be at the lower speed (idle speed). The Unit has been adjusted by the factory to the customer specification.

**If the pressure is not at the specified pressure, refer to MEA before attempting any adjustments.**

4. Use a spray bottle with soapy water to check for leaks in the air line. You will see soap bubbles around any area with an air leak. Rectify any leaks you may find.
5. Keep the system running at the pre-set pressure until the compressor is up to operating temperature.
6. Using the ball valve located on the outlet of the compressor, slowly open the ball valve, and watch the pressure drop. The pressure will drop up to the point that the pressure is 20 PSI below the setting detailed in 1 above. The engine will speed up to the maximum pre-set RPM.
7. Keep the opening of the ball valve at the setting described above for about 5 minutes. The engine should continue to run at the maximum pre-set RPM.
8. Slowly close the ball valve and watch the pressure while closing. The engine will drop to the lower speed when the regulated pressure is reached.
9. Your compressor is working correctly if it is operating as per this description.

## 5. SCHEDULE MAINTENANCE

The maintenance intervals recommended are based on standard operating conditions. The intervals for inspection, lubrication and maintenance given herein are maximum intervals and it should be noted to schedule the maintenance accordingly to sites.

When the unit is being operated in a dusty environment, in high ambient temperatures or in other unusual conditions, an assessment needs to be done for shorter service interval?  
A planned program of periodic inspection and maintenance will help to avoid premature failure and costly repairs. Daily visual inspections should become routine.

| SMAC D SERVICING |             |               |                   |
|------------------|-------------|---------------|-------------------|
| ROTORCOMP        | MACHINE HRS | KUBOTA ENGINE | SEE KUBOTA ENGINE |
|                  | 50          | 50HR SERVICE  | REFER TO MANUAL   |
|                  | 200         | 200HR SERVICE | REFER TO MANUAL   |
| 400HR SERVICE    | 400         | 400HR SERVICE | REFER TO MANUAL   |
|                  | 600         | 200HR SERVICE |                   |
| 800HR SERVICE    | 800         | 800HR SERVICE | REFER TO MANUAL   |
|                  | 1000        | 200HR SERVICE |                   |
| 400HR SERVICE    | 1200        | 400HR SERVICE |                   |
|                  | 1400        | 200HR SERVICE |                   |
| 800HR SERVICE    | 1600        | 800HR SERVICE | REFER TO MANUAL   |
|                  | 1800        | 200HR SERVICE |                   |
| 400HR SERVICE    | 2000        | 400HR SERVICE |                   |
|                  | 2200        | 200HR SERVICE |                   |
| 800HR SERVICE    | 2400        | 800HR SERVICE |                   |
|                  | 2600        | 200HR SERVICE |                   |
| 400HR SERVICE    | 2800        | 400HR SERVICE |                   |
|                  | 3000        | 200HR SERVICE | REFER TO MANUAL   |
| 800HR SERVICE    | 3200        | 800HR SERVICE |                   |
|                  | 2 YEARS     |               |                   |

**IMPORTANT: PLEASE CONTACT MOBILE ENERGY AUSTRALIA FOR MORE INFORMATION IF YOU HAVE ANY QUESTIONS REGARDING THE SETUP AND OPERATION OF THE SMAC RANGE OF PRODUCTS.**

| Interval  | Compressor  | Diesel Engine   |
|---|---|---|
| Action to be taken  |   |   |
| Periodically During Operation   | Observe all gauge readings. Note any change from the normal reading and determine the cause. Have the necessary repairs made? (Note: "Normal" is the usual gauge reading when operating at similar conditions on a day-to-day basis.) |   |
| Every 10 Hours or Daily   | Check the compressor oil level.   | Check engine oil level  |
|   | Check air filter/s and connecting hose and clamps   |   |
|   | Check for oil and air system, including hoses, for leaks  |   |
|   |   | Check water level   |
| Weekly Check  |   | Check Cone locks on Exhaust Manifold are tight*                           |
| Every 25 Hours or Monthly   | Drain water from Compressor and check oil level   |   |
| After first 50 hours of operation (7201-K0017)                                  |   | Change engine oil filter cartridge  |
|   | Check system for oil and/or air leaks   | Check all fuel hoses and clamping bands                                   |
|   | Check engine/compressor/generator mounts for excessive wear and fastener torque.  |   |
|   | Check shaft couplings for movements on shafts   |   |
| Every 100 Hours   | Check engine/compressor/generator mounts for excessive wear and fastener torque.  |   |
|   | Check shaft couplings for movements on shafts. Check grub screws and bolts for tightness. If fasteners have loose removed them, apply thread locking compound and retighten to required torque.                                       |   |
|   | Check compressor oil level  | Change engine oil (see system specifications, diesel engine, lubrication) |
|   | Check system for oil and/or air leaks   |   |
|   |   | Clean air cleaner element   |
|   | Check fan belt tension  |   |
| Every 200 Hours of Operation or 6 months  |   | Check radiator hoses and clamping bands                                   |
|   |   | Change engine oil filter cartridge  |
|   |   | Change engine oil (see system specifications, diesel engine, lubrication) |
|   |   | Change engine air intake filter if necessary                              |
| Every 400 Hours of operation or 9 months Engine compressor see Service Kit List | Change compressor oil 3L  | Change Engine oil   |
|   | Change compressor oil filter  | Change engine oil filter  |
|   | Change compressor air filter  | Replace in-line fuel filter element                                       |
|   |   | Check engine fan belt   |
|   |   | Check drive coupling  |
|   |   | Check fuel filter if necessary  |
|   |   | Check engine mounts   |
| 800 Hours / 18 months   | Change compressor oil filter  | Replace engine air filter and service as per 400 hrs service              |
|   | Change compressor coalescing filter   |   |
|   | Change compressor air filter  |   |
| Periodically or as required   | Inspect and replace spin-on coalescing element if necessary   | Inspect and clean oil cooler fins   |

## 6. SPARE PARTS AND SERVICE KITS

---

(SEE SERVICING SCHEDULE IN PREVIOUS SECTION)

### SERVICE KITS FOR CURRENT SPECIFICATION OF SMAC

| Code        | Description  |
|-------------|--|
| 7201-KB0017 | SERVICE KIT SMAC D/G 50HR – ENGINE ONLY                |
| 7201-KB0015 | SERVICE KIT SMAC D/G 200HR – ENGINE ONLY               |
| 7201-KB0013 | SERVICE KIT SMAC D/G 400HR – MINOR ENGINE & COMPRESSOR |
| 7201-KB0028 | SERVICE KIT SMAC D/G 800HR - MAJOR ENGINE & COMPRESSOR |

### SPARE PARTS FOR ALL SMAC MACHINES

| Code        | Description                               |
|-------------|---|
| 4000-P0004  | Compressor Shaft Seal                     |
| 4000-P0001  | Thermal Bypass Valve                      |
| 7201-KB0001 | Regulator/Blow Down Exchange Assembly Kit |
| 20001-P0001 | Temperature Sensor                        |
| 10012-P0001 | 200 PSI Safety Valve                      |
| 20001-P0002 | Over Pressure Switch                      |
| 10004-P0002 | Compressor Drive Coupling                 |
| 10001-P0043 | Alternator                                |
| 10001-P0033 | Starter Motor                             |
| 10005-P0001 | Air Throttle Spring                       |
| 10016-P0001 | Throttle Cylinder                         |
| 10025-P0001 | Exhaust Flapper                           |
| 20010-P0001 | Engine Idle Up Controller                 |

**IMPORTANT: PLEASE CONTACT MOBILE ENERGY AUSTRALIA FOR MORE INFORMATION IF YOU HAVE ANY QUESTIONS REGARDING THE SETUP AND OPERATION OF THE SMAC RANGE OF PRODUCTS.**

## 7. TROUBLESHOOTING

SMAC DIAGNOSTIC CHART

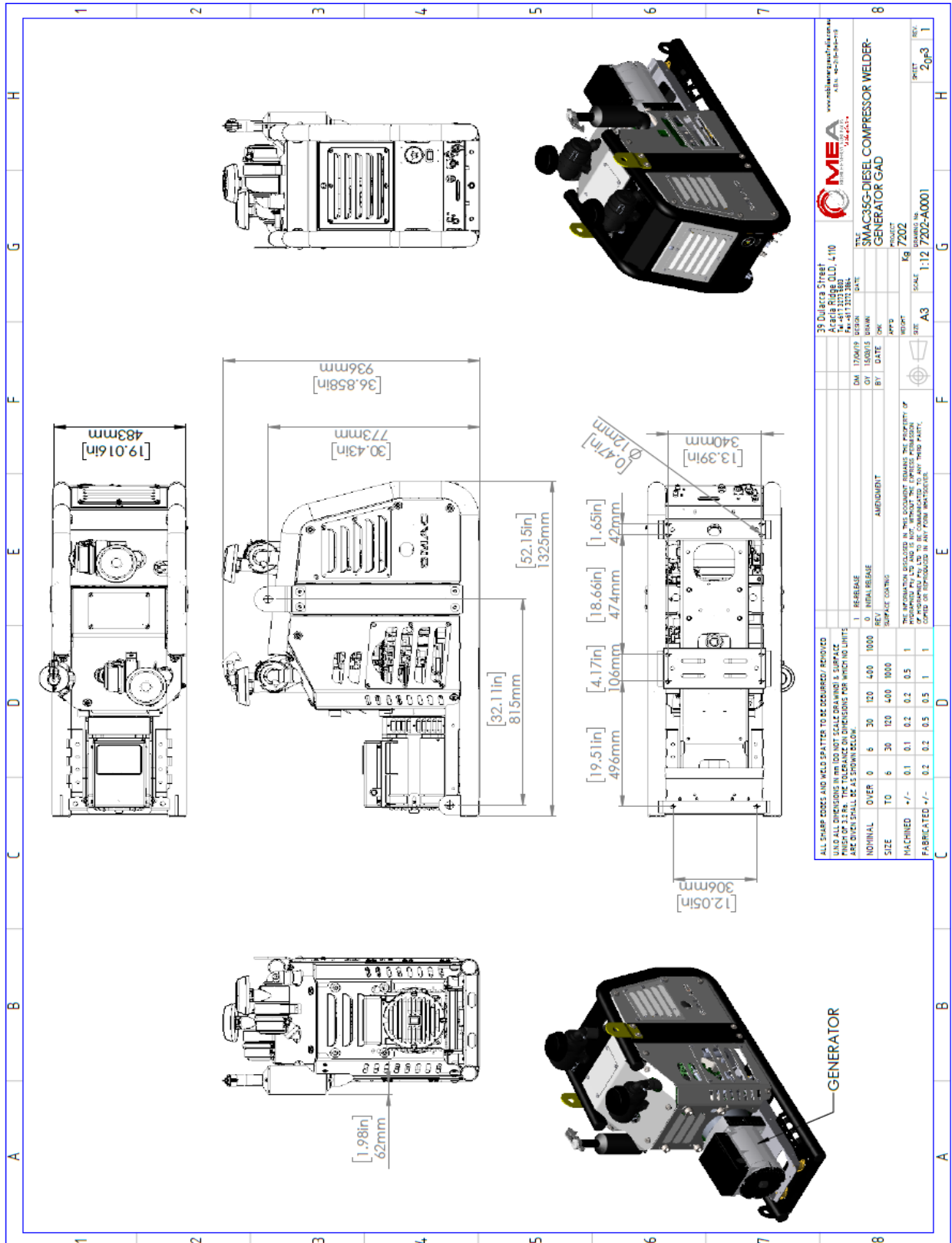
| SMAC 40D                                       |   |  |
|--|---|--|
| Symptom  | Cause   | Remedy   |
| Engine not starting                            | Fuel pump working   | Bleed fuel lines at filter, injectors                                  |
|  | Does system have fuel/ dirty fuel                               | IS Check valve fitted in fuel lines                                    |
|  | Fuel getting to injectors?                                      | Is fuel lift greater than 500mm, fit lift pump as close to fuel supply |
|  | 12VDC supplied to unit  |  |
|  | Starter motor not working                                       | Replace Starter motor, check fuel supply                               |
| Will not make Pressure                         | Does MAC valve have power                                       | Check fuses  |
|  | Adjust pressure regulator                                       | Check for debris internal of pressure reg                              |
|  | Does air bypass pressure regulator                              | Check blowdown shuttle valve/MAC/control lines                         |
| System shuts down un expectantly               | What pressure does system fail at                               | Check over pressure switch   |
|  | Is it over temp of compressor                                   | Check oil level of compressor  |
|  | Does Stop solenoid activate                                     | Check over temp of engine  |
|  | Starving of fuel in filter                                      | Check oil pressure of engine   |
|  | Shut down timer relay failure                                   | Bleed fuel lines/Lift pump/Check valve                                 |
| Engine does not shut down when key turned off. | Does Stop solenoid activate                                     | Check power circuit  |
|  | Loose connection in loom  | Check 15A fuse in loom   |
|  |   | Check duetsch plug for loose wire                                      |
| High moisture out of air outlet                | High humidity area  | Check loom connections   |
|  | Check water separator internals                                 | Fit after cooler for air line  |
| Water in compressor oil                        | Drain / Syphone water from oil                                  | Check float inside filter bowl   |
|  |   | Run unit for longer periods to get to working temps                    |
| Engine not going to high speed                 | Is spring fitted to throttle cylinder                           | Replace spring   |
|  | Check cylinder for movement                                     |  |
|  | Does air bypass pressure regulator                              | Check blowdown shuttle valve/MAC/control lines                         |
| Harness burnt                                  | Earth connection from SMAC to Earth connection point on vehicle | Make good earth connection   |
|  | Check voltage supply  | Make correct connection  |
| Hour meter not working                         | Replace meter and record last know reading                      |  |
| Oil found in air outlet                        | Has separator been damaged / due for service                    | Replace separator / coalescer  |
|  | Check sealing copper ring at base of separator                  |  |
| unit over heating                              | check unit ventilation  | Reposition unit  |
|  |   | Fit ventilation fans   |

SMAC DIAGNOSTIC CHART

| SMAC 35 WG                 |   |                      |
|----------------------------|---|----------------------|
| Symptom                    | Check these                                     | Try these            |
| Will not produce 240VAC    | Check toggle switch is in <i>GEN</i> mode       | Call MEA for support |
|                            | Check left hand solenoid valve is energised     |                      |
|                            | Check AVR, Capacitor, Brush set                 |                      |
| Will not make air pressure | Make sure nothing is plugged into elec outlet   | Call MEA for Support |
|                            | Check left hand solenoid is off                 |                      |
|                            | Check current sensing device for faulty reading |                      |

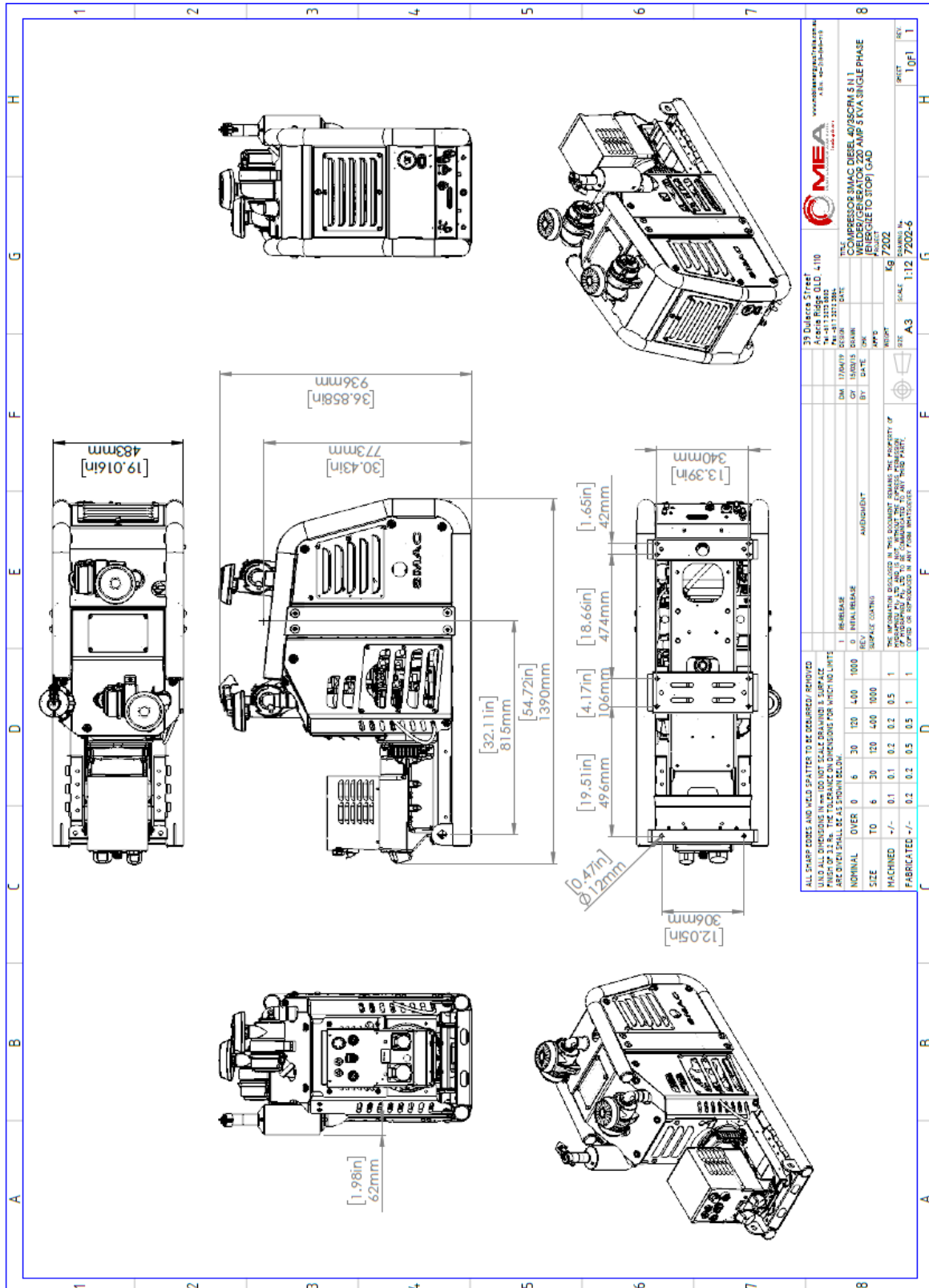
## 8. DRAWINGS & ILLUSTRATIONS

### GENERAL ARRANGEMENT DRAWING - SMAC GENERATOR



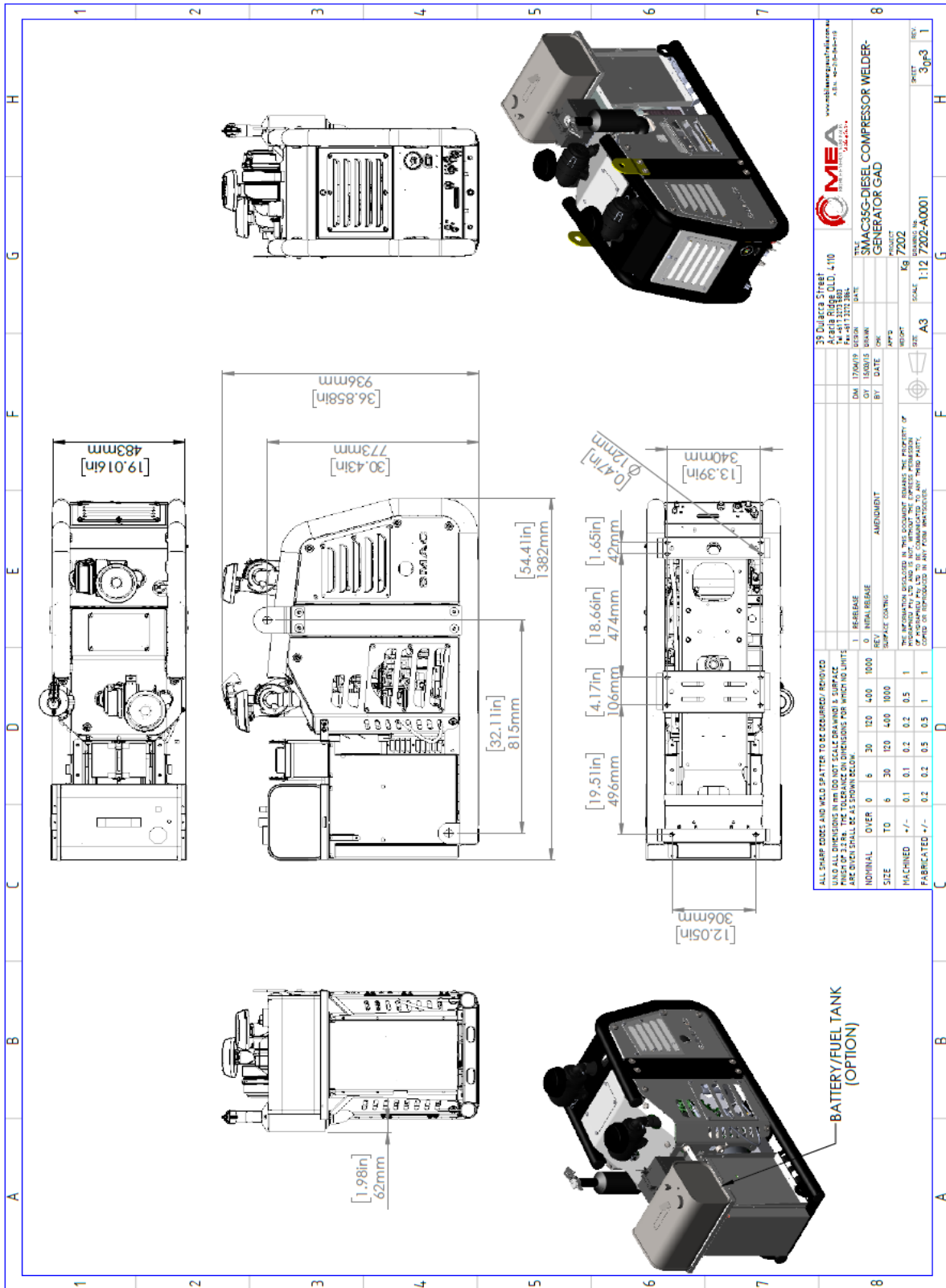


**DRAWINGS AND ILLUSTRATIONS**  
**GENERAL ARRANGEMENT DRAWING - SMAC WELDER GENERATOR**



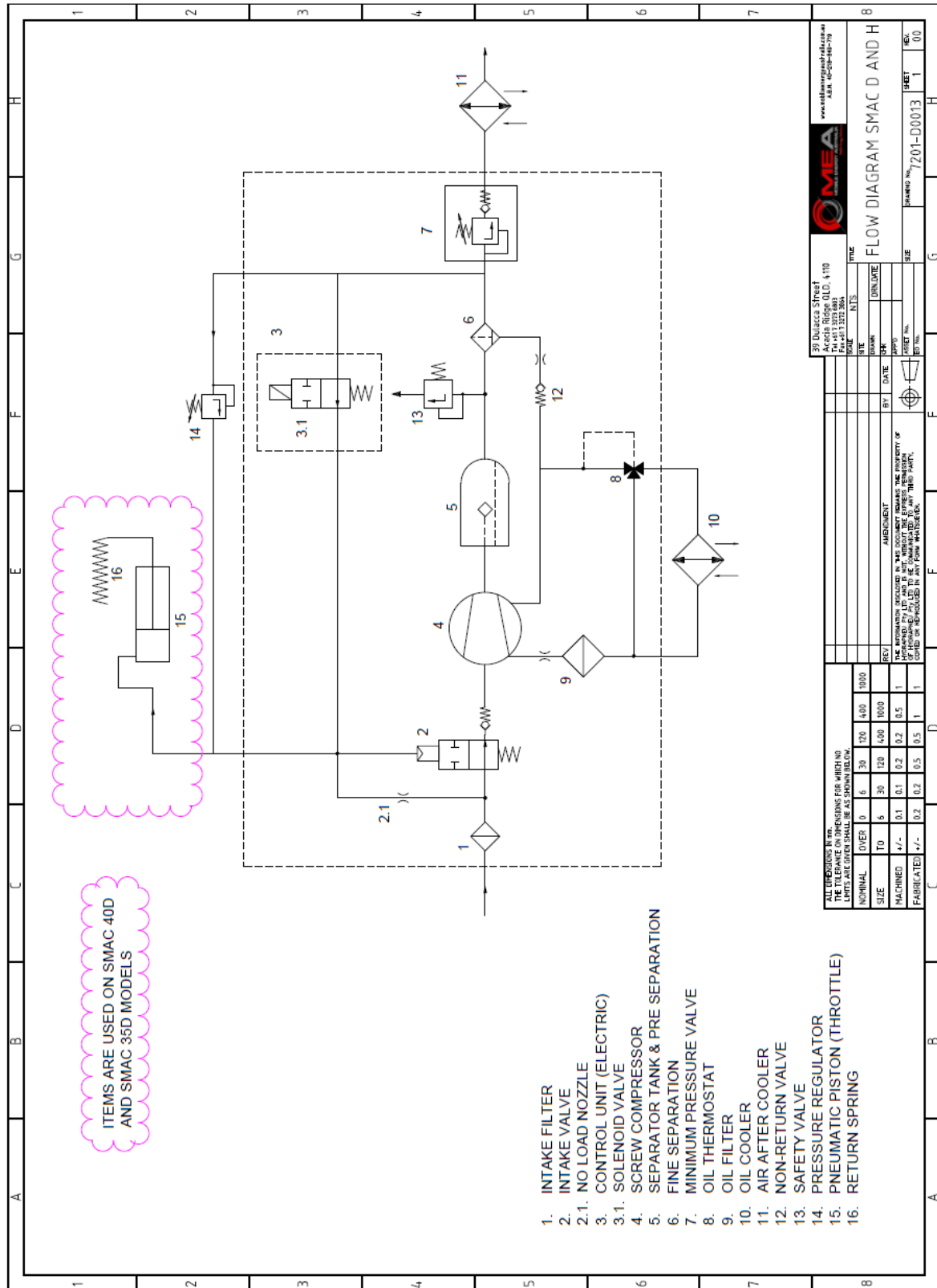
**DRAWINGS AND ILLUSTRATIONS**

**GENERAL ARRANGEMENT DRAWING - GENERATOR CW BATTERY AND FUEL TANK**



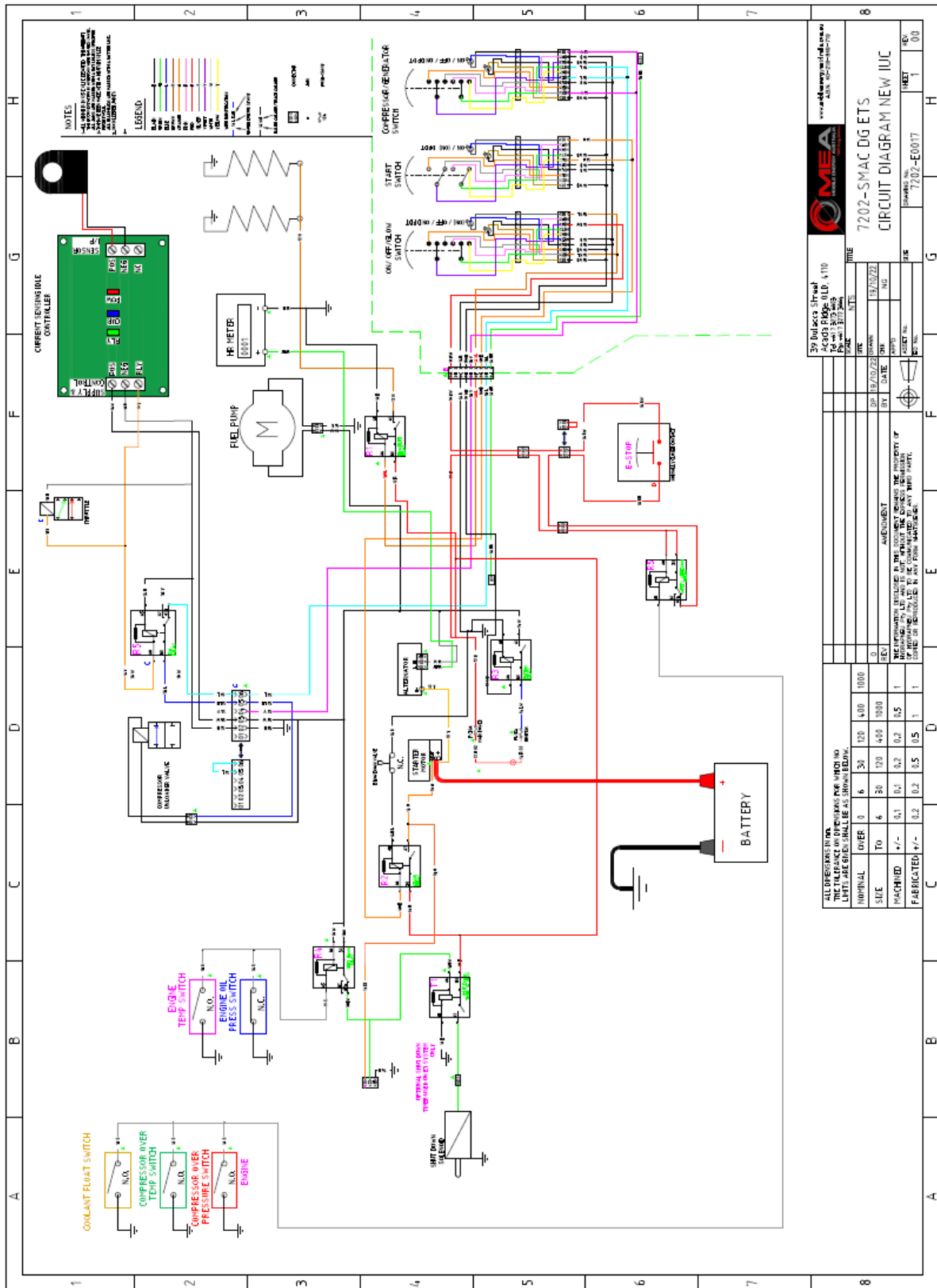
# DRAWINGS & ILLUSTRATIONS

## HYDRAULIC/PNEUMATIC DIAGRAM



# DRAWINGS & ILLUSTRATIONS

## SMAC GENERATOR WIRING DIAGRAM ETS



|  |          |             |          |
|--|----------|-------------|----------|
| 39 Dulacca Street<br>Acacia Ridge QLD 4110<br>Ph: +61 7 3273 6803<br>Fax: +61 7 3273 6803                                      |          | MEASUREMENT |          |
| DATE   | 19/05/22 | NO.         | 0        |
| BY   | NS       | REVISED BY  | NS       |
| CHECKED BY   | NS       | DATE        | 19/05/22 |
| ALL DIMENSIONS IN MM UNLESS OTHERWISE SPECIFIED<br>TOLERANCES ON DIMENSIONS PER ASME Y14.5M<br>LIMITS ARE SHOWN AS SHOWN BELOW |          |             |          |
| NOMINAL  | OVER     | 0           | 6        |
| SIZE   | To       | 6           | 30       |
| FINISHED   | +/-      | 0.1         | 0.2      |
| FABRICATED   | +/-      | 0.2         | 0.5      |

7202-SMAC DG ETS  
CIRCUIT DIAGRAM NEW IUC

39 Dulacca Street  
Acacia Ridge QLD 4110  
Ph: +61 7 3273 6803  
Fax: +61 7 3273 6803

DATE: 19/05/22  
BY: NS  
CHECKED BY: NS

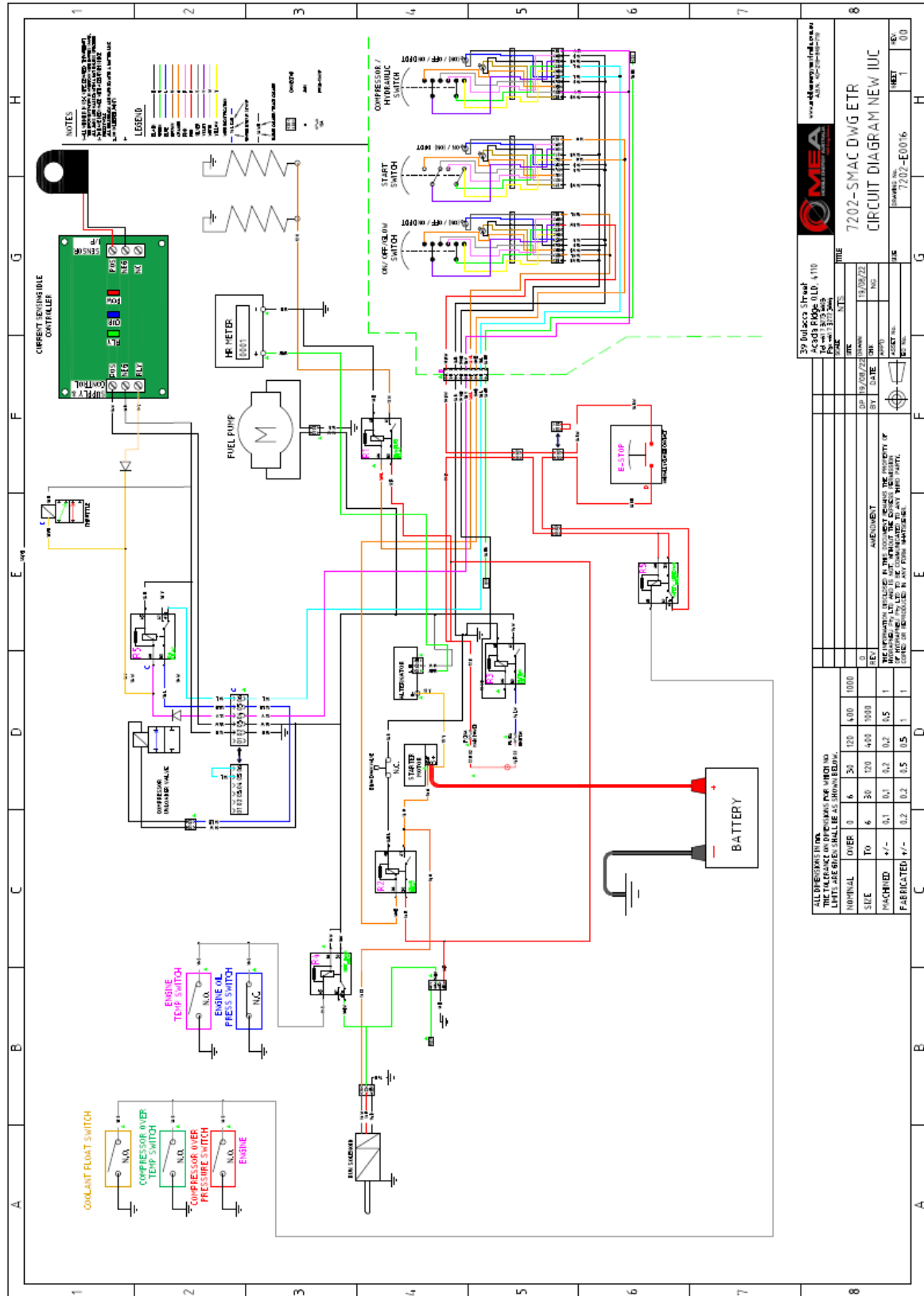
MEASUREMENT NO. 0  
REVISED BY NS  
DATE 19/05/22

ALL DIMENSIONS IN MM UNLESS OTHERWISE SPECIFIED  
TOLERANCES ON DIMENSIONS PER ASME Y14.5M  
LIMITS ARE SHOWN AS SHOWN BELOW

NOMINAL OVER 0 6  
SIZE To 6 30  
FINISHED +/- 0.1 0.2  
FABRICATED +/- 0.2 0.5

# DRAWINGS & ILLUSTRATIONS

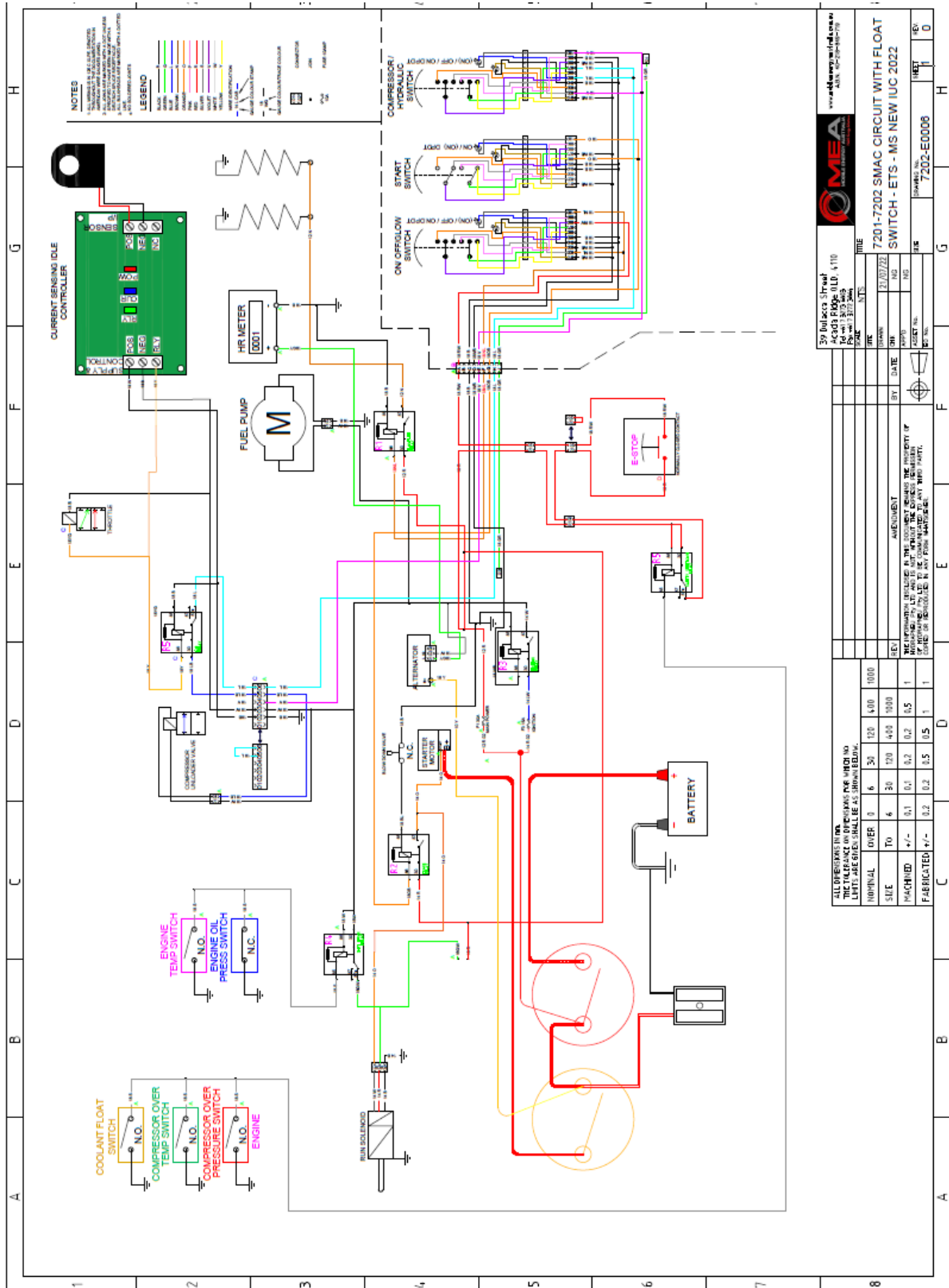
## SMAC WELDER GENERATOR WIRING DIAGRAM ETR



|   |            |
|---|------------|
| 39 Dulacca Street<br>Acacia Ridge QLD 4110<br>Australia<br>Phone: +61 7 3273 6803<br>Fax: +61 7 3273 6803<br>www.mobileenergyaustralia.com.au |            |
| DATE  | 13/08/23   |
| BY  | ST/1/DO/BE |
| CHECKED BY  | ST/1/DO/BE |
| SCALE   | 1:1        |
| DRAWING NO.   | 7202-E006  |
| REV.  | 00         |
| 7202-SMAC DWG ETR<br>CIRCUIT DIAGRAM NEW IUC  |            |

## DRAWINGS & ILLUSTRATIONS

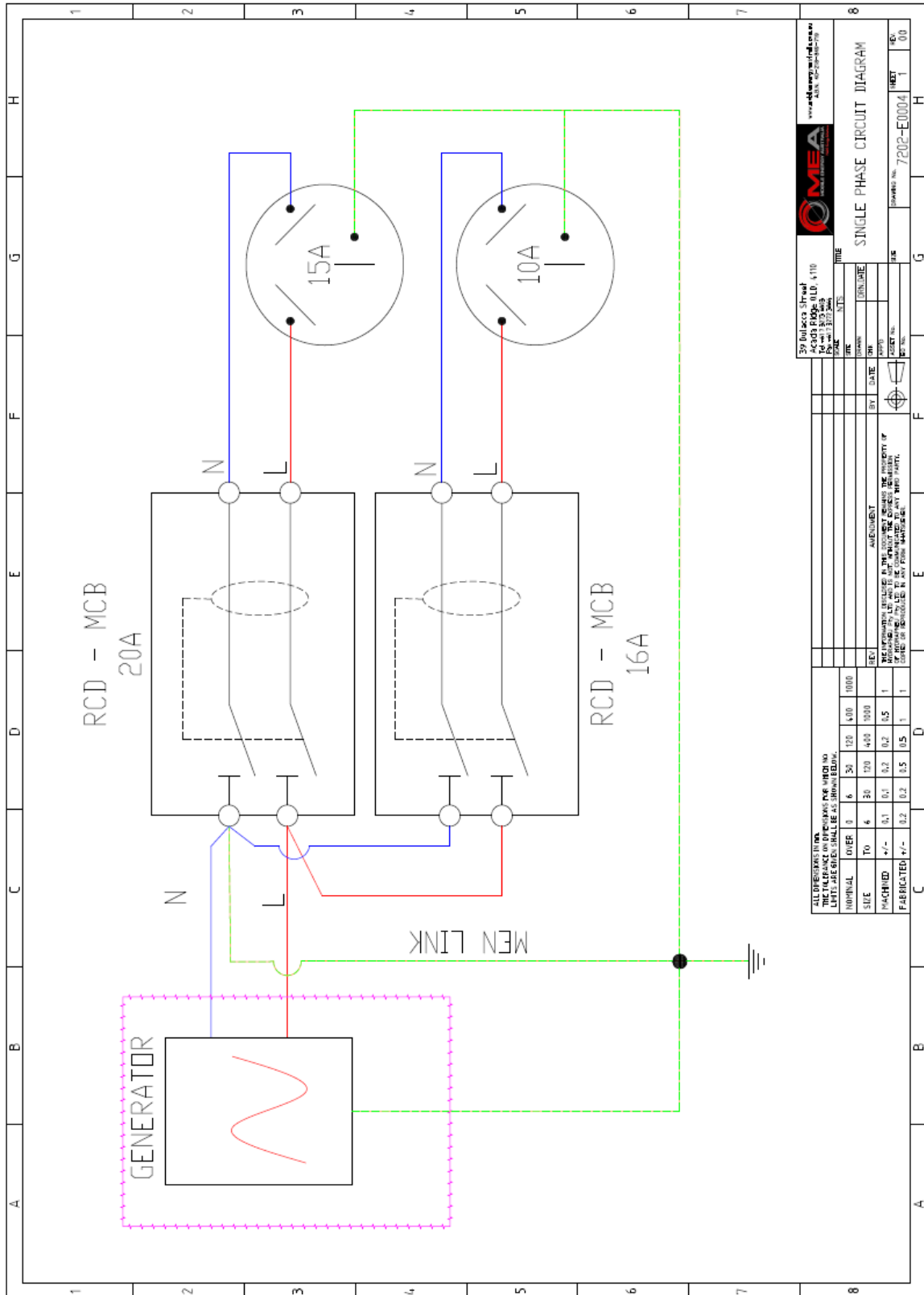
### SMAC GENERATOR WIRING DIAGRAM MINE SPEC ETR



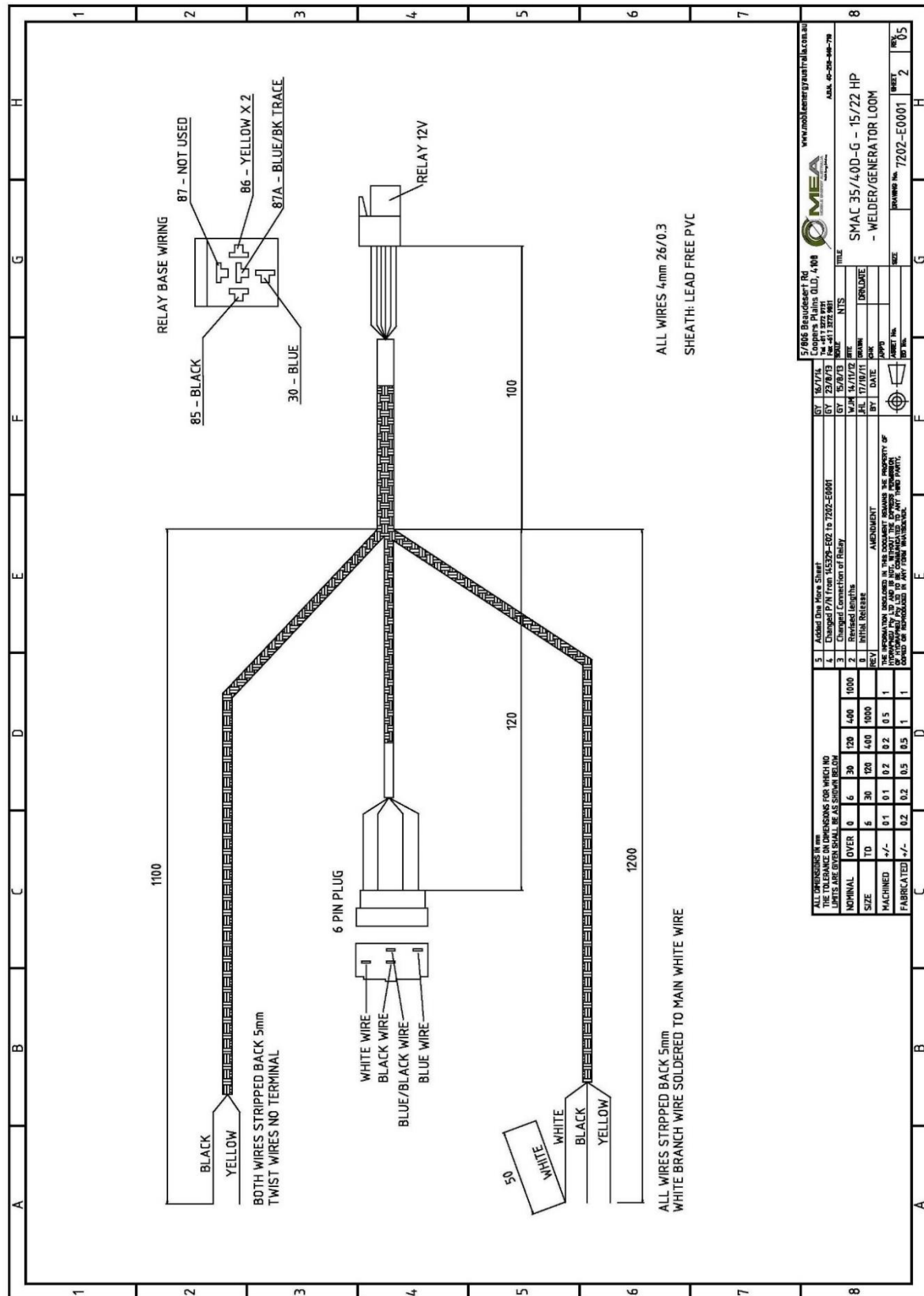
|   |          |  |    |
|---|----------|--|----|
| 39 Dulacca Street<br>Acacia Ridge QLD 4110<br>Australia<br>Tel: +61 7 3273 6803<br>Fax: +61 7 3273 6803<br>www.mobileenergyaustralia.com.au |          | 7201-7202 SMAC CIRCUIT WITH FLOAT SWITCH - ETS - MS NEW IUC 2022 |    |
| DATE  | 13/07/22 | BY   | MS |
| CHKD  | MS       | DATE   | MS |
| REV   | 01       | DATE   | MS |
| REV   | 02       | DATE   | MS |
| REV   | 03       | DATE   | MS |
| REV   | 04       | DATE   | MS |
| REV   | 05       | DATE   | MS |
| REV   | 06       | DATE   | MS |
| REV   | 07       | DATE   | MS |
| REV   | 08       | DATE   | MS |
| REV   | 09       | DATE   | MS |
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| REV   | 38       | DATE   | MS |
| REV   | 39       | DATE   | MS |
| REV   | 40       | DATE   | MS |
| REV   | 41       | DATE   | MS |
| REV   | 42       | DATE   | MS |
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| REV   | 97       | DATE   | MS |
| REV   | 98       | DATE   | MS |
| REV   | 99       | DATE   | MS |
| REV   | 100      | DATE   | MS |

## DRAWINGS & ILLUSTRATIONS

### Single Phase Electrical Outlet Circuit Diagram



## DRAWINGS & ILLUSTRATIONS





## 9. WARRANTY

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### 1 GENERAL PROVISIONS AND LIMITATIONS

- 1.1 Mobile Energy Australia (hereafter "MEA") warrants to each original retail purchaser (hereafter "Buyer") that such product(s) are, at the time of delivery to the buyer, free of manufacture ring defects in material and workmanship.

### 2 NO WARRANTY IS MADE WITH RESPECT TO

- 2.1 Any product(s) which in the judgment of MEA has been subject to negligence, accident, improper storage, improper installation, improper application, improper operation, or maintenance or has been repaired or altered by others without the written authority of MEA.
- 2.2 Components or accessories manufactured, warranted, and serviced by others.
- 2.3 Damages caused by the lack of normal maintenance, service, and repairs such as the replacement and service of filters and seals.
- 2.4 Damages caused by the lack of normal minimum action, such as adjustments and inspections, replacement of items, such as service filters, seals, and service kits.
- 2.5 Consequential damages caused by product(s) failure.
- 2.6 Any product(s) if other than MEA's genuine components are used in the product(s).
- 2.7 Normal wear and tear of product(s).

### 3 WARRANTY PERIOD

- 3.1 The warranty period will commence upon installation of the product(s). The returned registration form marks the date of installation. If the registration form is not received, the warranty period will be deemed to commence 30 days from date of shipment from MEA.
- 3.2 The Product(s) is warranted against manufacturer defects in materials and workmanship for a period of 12 months.
- 3.3 The compressor air end is warranted to be free from defects in material and workmanship for a period of two (2) years from the date of installation.
- 3.4 Components supplied under warranty shall be warranted for the remainder of the original warranty period.
- 3.5 MEA factory rebuilt components shall be warranted for a period of 6 months from date of shipment.

### 4 MEA OBLIGATIONS

- 4.1 The obligation of MEA is limited to repairing or replacing parts, during normal business hours, at an authorized service facility, any component, that in the judgment of MEA are defective.
- 4.2 The obligation of MEA is limited to replacement of faulty parts. No liability is accepted for any freight costs, consequential damages, injuries, or expenses directly or indirectly related to the Product(s) failure.

## **5 BUYER OBLIGATIONS**

- 5.1 Buyer shall notify MEA of the alleged defect within 10 days of initial discovery and return the allegedly defective component(s) within 30 days of initial discovery.
- 5.2 The Buyer must prepay all costs associated with the warranty.
- 5.3 The Buyer must return components claimed under this warranty to a facility designated by MEA for evaluation, to establish a claim under this warranty.
- 5.4 Buyer shall maintain and service MEA Product(s) in accordance with the MEA Product(s) Owner's

## **6 WARRANTY REGISTRATION VALIDATION**

- 6.1 A registration form is provided to the Buyer with the product(s). The form must be fully completed by the Buyer and returned to MEA upon completion of the installation of the product(s) to validate the warranty. No warranty claims will be processed unless MEA has received a fully completed warranty registration form.

## **7 DISCLAIMER AND WARRANTY SERVICE**

- 7.1 Any labour costs claimed more than MEA's set rate and/or times are not provided by this warranty. If applicable, any labour costs more than MEA rate schedules caused by, but not limited to, location or inaccessibility of the equipment, travel time or labour provided by unauthorized service personnel are not provided by this warranty.
- 7.2 This warranty is in lieu of all other warranties or obligations expressed or implied. MEA expressly disclaims all implied warranties of merchantability or fitness for a particular purpose.
- 7.3 Warranty claims must be pre-authorized by MEA, and the components returned via prepaid freight using the designated "Returned Merchandise Authorization" number and form.

### **PLEASE NOTE:**

Both the MEA Product Registration Form and the Kubota Engine Warranty Registration Form MUST be returned to MEA in the stamped, self-addressed envelope.

## **WARNING!!!**

**Failure to return PRODUCT WARRANTY REGISTRATION FORMS detailed above may result in the delayed processing of warranty claims.**

## 10. MOBILE ENERGY AUSTRALIA - CONTACTS

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### **Sales**

BH Office: 07 3273 6803

Email: [sales@mobileenergyaustralia.com.au](mailto:sales@mobileenergyaustralia.com.au)

### **Spare Parts**

BH Office: 07 3273 6803

Email: [sales@mobileenergyaustralia.com.au](mailto:sales@mobileenergyaustralia.com.au)

### **Service**

BH Office: 07 3273 6803

Email: [workshop@mobileenergyaustralia.com.au](mailto:workshop@mobileenergyaustralia.com.au)

## 11. APPENDIX A – DESIGN REGISTRATION

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[www.mobileenergyaustralia.com.au](http://www.mobileenergyaustralia.com.au)

TRHC Pty Ltd ATF for the ThoroughClean Trust  
ABN 98 674 578 946

07 November 2022

To whom it may concern

### SMAC35DG Design Registration

The SMAC35DG design has been assessed against the requirements of the Work Health & Safety Act 2011 and Australian Standard 4343:2014. The SMAC35DG has been found to comply with the requirements of AS4343:2014 Hazard Level E and as such does not require design registration.

Regards



**Nicholas Groothoff**  
Engineering Manager  
Mobile Energy Australia

## 12. APPENDIX B – FLUIDS & MATERIAL SAFETY DATA SHEETS

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| FLUID TYPE  | DESCRIPTION                         | PART NUMBER |
|---|-------------------------------------|-------------|
| Compressor Oil                                    | Semi Synthetic<br>Compressor Oil 68 | 10019-P0002 |
| Engine Oil  | Diesel Engine Oil<br>15W40          | 10019-P0007 |
| Engine / Compressor<br>Coolant (Shared<br>System) | Organic Coolant 50%<br>Green        | 10019-P0008 |

Please use QR code to link you to relevant MSDS

