



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

# SMARTPACK 180-H

## FRAMED HYDRAULIC COMPRESSOR



# Owners & Operators Manual

Revision: 1  
Date: 27/05/2022

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**MEA Product Warranty Registration Form**

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



## MEGA Product Warranty Registration Form

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**This form must be completed and returned to MEGA at the time of Installation. Warranty will be void if this form is not received by MEGA within 30 days of installation.**

### MEGA Dealer Information

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

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

### MEGA Installer Information

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

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

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

### Owner Information

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

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

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

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

### Product Information

MEGA Serial Number: \_\_\_\_\_

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

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Both the MEA Product Warranty Registration form (located at the FRONT of this Manual) and the Kohler Engine Warranty Registration form (located at the back of this manual) are to be returned to MEA.

**FAILURE TO RETURN EITHER FORM MAY RESULT IN THE PRODUCT WARRANTY BEING VOID.**

## **1. PRODUCT SAFETY**

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

**MEA DISCLAIMS ANY AND ALL LIABILITIES FOR DAMAGE OR LOSS DUE TO PERSONAL INJURIES, INCLUDING DEATH, AND/OR PROPERTY DAMAGE INCLUDING CONSEQUENTIAL DAMAGES ARISING OUT OF ANY MEA SYSTEM NOT USED IN ACCORDANCE WITH THE OPERATOR INSTRUCTIONS.**

**ALL UNITS ARE SHIPPED WITH A DETAILED OPERATOR MANUAL. THIS MANUAL CONTAINS VITAL INFORMATION FOR THE SAFE USE AND EFFICIENT OPERATION OF THIS UNIT. CAREFULLY READ THE OPERATORS 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 ways energy can be stored. Releasing the stored energy in an uncontrolled manner can result in catastrophic consequences. Death and permanent disability are all possibilities that can occur. The following are suggested as minimum precautions to be used when operating the SMARTPACK Air Compressor. It is important that each work site engages in a risk analysis of that site and produces procedures in order to minimise injury to their employees. Health and Safety Regulations today require that this is a compulsory process to be carried out on each site. These, with site specific designed safety precautions will help to reduce accidents, personal injury, and loss of life. It is the responsibility of the employer to ensure that the work site is safe for the employees.

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

- Do not bypass or disable the oil temperature sensor.
- 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.
- Run the system at idle speed and under no load conditions for 2 to 3 minutes before turning the system off to allow system cooling and lubrication to occur.
- Follow safe work practices, wear the appropriate safety equipment 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, your skin, it can enter your blood stream and cause death.
- To prevent compressor explosion or fire, make sure that the air entering the compressor is free of flammable vapors.
- Vaporized oil propelled by high pressure is an explosive mixture.
- 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.

## **PRODUCT SAFETY**

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### **HYDRAULIC SAFETY**

ALL HYDRAULIC EQUIPMENT MUST BE TREATED WITH EXTREME RESPECT AND CARE. AS THE WORKING FLUID IS UNDER EXTREME PRESSURE, UP TO 5000PSI, WITH HIGH FLOW RATES GENERATING HIGH HEAT, ALL APPROPRIATE SAFETY PRECAUTIONS MUST BE TAKEN IN TO ACCOUNT AND SAFETY EQUIPMENT MUST BE WORN IF IN CONTACT WITH THE EQUIPMENT UNDER OPERATION. ALL LEAKS, NO MATTER HOW MINOR, MUST BE RECTIFIED IMMEDIATELY AND ANY WEAR IN THE HOSES MUST BE ADDRESSED AND EQUIPMENT REPLACED. HYDRAULIC INJECTION IS DANGEROUS AND LIFE THREATENING AND EVEN A PINHOLE LEAK WILL BLANKET AN ENTIRE ENCLOSED SPACE VERY QUICKLY WITH HAZARDOUS VAPORIZED HYDRAULIC OIL MIST.

## 2. INTRODUCTION

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This MEA vehicle mounted air compressor system utilizes the available hydraulic power for the running of the installed compressor to supply compressed air at the specified flow rate and pressure.

Only those who have been properly trained and delegated to do so, and who have read and understand the operation and installation procedures should install MEA compressor systems.

This Manual contains vital information of the compressor system and its integration into the existing hydraulic system to ensure that it is operated in a safe and efficient manner.

The air is drawn via the intake filter, and then through the intake valve into the compression Chamber. In the compression chamber, the air is compressed, and oil is injected for lubrication and cooling. The oil-air mixture then enters the separating tank in which most of the oil is separated from the air. The air travels to the compressed air outlet via the air-oil separating element and the minimum pressure valve and ready to be utilized.

In the air-oil separating element, the oil is filtered out down to a residual content of < 3 mg/m<sup>3</sup> and is then conveyed back into the compressor housing via a nozzle and the non-return valve.

When the compressor module is switched off, the minimum pressure valve with a non-return function prevents backflow of the compressed air out of the system into the compression chamber.

During start up a faster pressure build-up is also ensured, which is required for optimum lubrication and oil separation.

The heat resulting during compression is dissipated via the oil-air mixture. The oil circulation also results from the pressure difference between the outlet and inlet pressure. The optimum operating temperature for the oil is adjusted by the integrated oil thermostat. Depending on the oil temperature, the oil thermostat valve routes the oil flow via the oil cooler or directly to the oil filter. The oil then flows via the oil filter to the various injection points in the compressor block.



### 3. SPECIFICATIONS

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**Compressor Model:** SMARTPACK 180H

**Compressor Type:** Oil flooded rotary screw compressor

**Hydraulic Motor Type:** 62cc Gear Motor

**Control:** 24V/12V Electronic Control

**Maximum Air Delivery:** 180cfm @ 150psi

**Oil Flow Requirements:** 138 LPM

**Oil Pressure (Nominal):** 200 Bar

**Drive coupling speed:** 2230 rpm

**Pressure Regulation:** Mechanical Inlet control valve modulates flow in response to demand

**Safety Features:** 200 PSI relief valve in compressor sump  
Temperature safety sensor in compressor  
Rapid blow-down valve to discharge system pressure on shutdown

**Lubrication:** MEA Certified and Approved Oil

**Filters:** Paper-type replaceable air filter  
Spin-on type oil filter  
Coalescing separator element

## 4. OPERATING PROCEDURE

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**WARNING**

**CAREFULLY READ THE OPERATING INSTRUCTIONS BELOW.  
FAILURE TO ADHERE TO THE FOLLOWING COMPRESSOR  
OPERATING INSTRUCTION COULD RESULT IN SERIOUS INJURY.**

1. Check Oil Level.
2. Check Hoses and fittings for leaks.
3. Check and make sure hydraulic (P) supply / (T) return / case drain (if applicable) are installed correctly.  
**FAILURE TO DO THIS WILL VOID WARRANTY ON COMPRESSOR**
4. Check Air Filter for Blockage.
5. Check the Safety circuit switch operation (Reset Switch).
6. Switch on the vehicle and activate the vehicle flow control (turn PTO on).
7. Turn on the compressor either at the control box or in the cab, ensure it is in the unloaded state (check load/unload switch).
8. Turn the unload/load switch to load and check the compressor builds pressure to the regulated pressure setting.
9. Plug an air tool into the air outlet and operate checking that the compressor works as required.
10. When finished using the compressor for the job, switch to unload.
11. Switch off at either the control box or in Cab and switch off the vehicle.
12. It is good practice to check for any visible signs of hydraulic fluid leakage and or compressor fluid leakage after each use.

## COMPRESSOR INFORMATION

Type of machine	Oil-injected rotary screw compressor			
Drive	Direct or belt			
Rotor dimension: Outside main diameter	111.3	mm	4.4	in
Rotor dimension: • L/D	1.55			
Air capacity (ISO 1217 annex B 2009)	0.86-6	m <sup>3</sup> /min	38.8-211.8	cfm
Max Working Pressure	13	bar g	188.5	psi g
Min Working Pressure	5	bar g	72.5	psi g
Oil injected quantity	50-70	l/min	13.2-18.5	gal/min
Max input Power	37	kW	49.6	hp
Max main rotor speed	6700	rpm	6700	rpm
Min main rotor speed	1450	rpm	1450	rpm
Max outlet air/oil temperature	105	°C	221	°F
Environment max. Temperature	45	°C	113	°F
Environment min. Temperature *	0	°C	32	°F
Thermostatic temperature	55-71-83	°C	131-159.8-181.4	°F
Gear transmission	0.95	min	2.55	max
Oil nipple size	¾ Gas - ¾ 16UNF – 1" 12UNF			
Separator nipple	M24x195mm – M22x115mm			
Operating pressure	8bar – 10bar – 13bar			
Materials	Air-end body: cast iron; Body valve: Aluminium; Internal parts: Aluminium galvanized, stainless steel, PTFE, viton, Xylan			
Weight	112	Kg	246.91	lb

## 5. INSTALLATION

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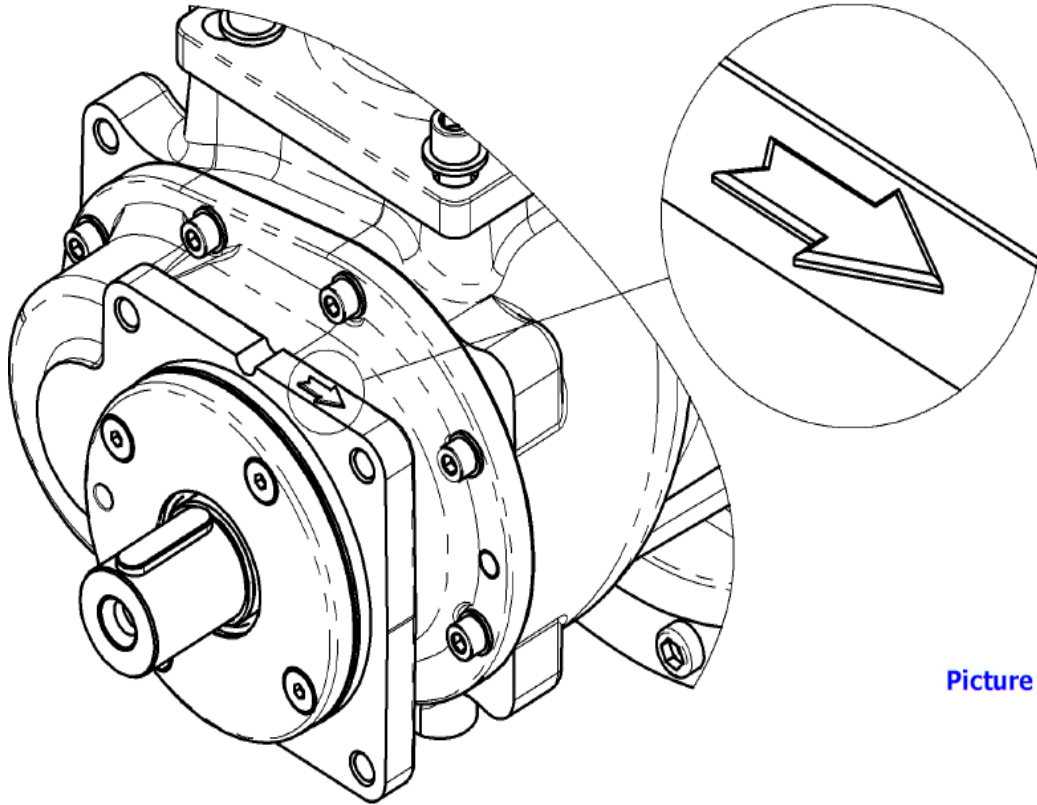
The SMARTPACK 180H is designed as an integrated compressor system for connection to an existing hydraulic system. The following table can be used as a reference when setting up the compressor Hydraulic Oil Flow required.

**WARNING When setting up the Compressor unit, ensure there is a safety mechanism in place to prevent any excessive flow or pressure into the compressor hydraulic circuit. MEA will not warrant any damage caused to the compressor and will void warranty due to inadequate safety protection of the existing hydraulic system.**

1. Install SMARTPACK 180H into position on the vehicle using 6 x min. M12 x 1.75 Grade 8.8 Fasteners.
2. Install the hydraulic lines **“P” pressure line “T” tank/return line “D” case drain if required.** This is to ensure compressor rotation is correct.
3. If purchasing the Frameless version only; install the cooler and connect the compressor cooler lines to both the cooler and the compressor.
4. Connect the electrical control box to the vehicle; be sure to place an in-line weatherproof fuse (30A – 12V and 20A – 24V) within 300mm of the vehicle battery. Ensure the control box is compatible with your vehicle’s voltage rating.
5. Connect the pressure gauge line to the SMARTPACK 180H, see circuit diagram.
6. Connect the terminals of the electrical loom as per the circuit diagram relevant to your vehicle to both the vehicle and the SMARTPACK 180H.
7. Check the level of oil in the compressor.
8. Switch on the vehicle, turn on the compressor at the control box and test the hydraulic solenoid for operation.
9. Turn the unload/load switch to load and check the compressor builds pressure to the regulated pressure setting.
10. Plug an air tool into the air outlet and operate checking that the compressor works as required, run for 10mins.
11. Unload the compressor, switch off the control box, switch off the vehicle and check for any visible signs of hydraulic fluid leakage.
12. When cool (safe to touch), and switched off, re-check compressor oil level.

## INSTALLATION – Continued

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Picture 5

COMPRESSOR ROTATION

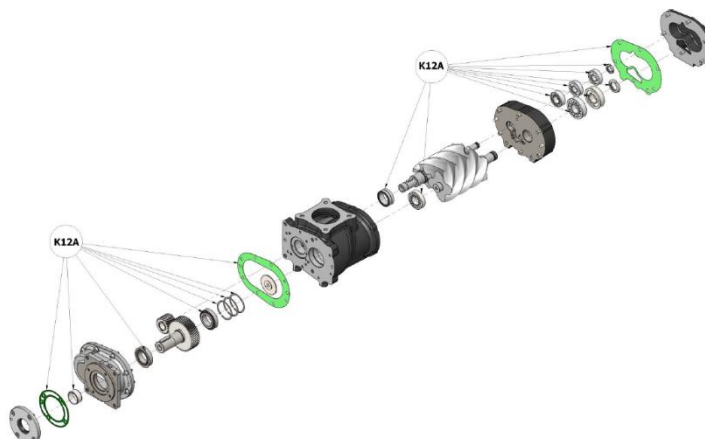
## 6. SERVICE INTERVALS

Interval	Compressor
<b>ACTION TO BE TAKEN</b>	
Periodically During Operation	Observe all gauge readings. Note any change from the normal readings 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.)
Periodically or as required	Inspect and replace spin-on coalescing element if necessary.
	Inspect and clean oil cooler fins.
	Check system for oil and/or air leaks.
Every 10 Hours or Daily	Check the compressor oil level.
	Check air filter/s and connecting hose and clamps.
	Check for oil and air system, including hoses, for leaks.
Every 25 Hours or Monthly	Drain water from tank and check Compressor oil level.
After first 50 hours of operation	Check system for oil and/or air leaks.
	Check engine/compressor mounts fastener torque.
	Check belt and pulleys for signs of wear - note that belt normally gives off blue particles until it runs in.
Every 100 Hours	Check compressor oil level.
	Clean air cleaner element.
	Check engine/compressor/generator mounts for excessive wear and fastener torque.
Every 400 Hours of operation or 9 months (See Service Kit List)	Change compressor oil approx. 7L.
	Change compressor oil filter.
	Change compressor air filter.
	Check belt and pulleys for signs of wear.
	Check valve clearance.
800 Hours / 18 months	Change compressor coalescing filter.

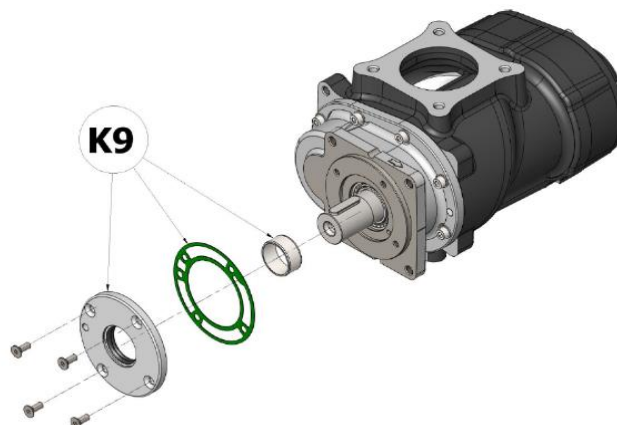
## 7. TROUBLESHOOTING

SYMPTOMS	PROBABLE CAUSE	CORRECTIVE ACTION
The compressor does not load.	1-The intake valve remains closed.	1-Check the valve. If necessary, replace the damaged parts with the spare parts kit.
	2-The solenoid valve does not work accurately	2-Check the solenoid valve. If necessary, replace it.
	3-Losses on the pressure line.	3-Check pipes and cables. If necessary, replace them.
During idling phase, the compressor does not discharge pressure from separator tank	1-The solenoid valve does not work accurately.	1-Check the solenoid valve. If necessary, replace it.
	2-The calibrated nozzle is clogged.	2-Remove the calibrated nozzle. Clean or replace it.
Compressor capacity or pressure lower than usual standard.	1-The air filter is clogged.	1-Remove the air filter. Clean or replace it.
	2-The intake valve does not open.	2-Check the valve. If necessary, replace the damaged parts with the spare parts kit.
	3-Air loss from safety valve.	3-Replace the valve.
Compressor keeps on loading over working pressure: safety valve opens	1-The solenoid valve does not work accurately.	1-Check the solenoid valve. If necessary, replace it.
	2-Clogged separator filter.	2-Replace the separator filter.
Compressor overheating.	1-Insufficient cooling.	1-Check the cooling system. Check coolant level on tank.
	2-Dirty oil	2-Replace it with new oil.
	3-Oil level is too low.	3-Check coolant level on tank and if necessary, add oil.
	4-Clogged-up cooler or pipe connection	4-Clean cooler and pipes.
	5-The thermostatic valve does not work correctly.	5-Check the thermostatic valve. If necessary, replace the damaged parts with K13 spare parts kit (Contact MEA for parts required)
		6-Clogged oil filter
During unloading phase, pressure increases up to safety valve opening	1-The intake valve remains open.	1-Check the valve. If necessary, replace the damaged parts with spare parts kit.
	2-The calibrated nozzle is clogged.	2-Remove the calibrated nozzle. Clean or replace it.
Oil leakage from intake valve only when the machine is switched off: oil soaked-up air filter	1-The intake valve does not work properly (does not close)	1-Check the valve. If necessary, replace the damaged parts with spare parts kit.
	2-The no-return valve of intake valve does not work correctly.	2-Check it and clean it.
Oil soaked-up air filter during unloading phase	1-Too high level of oil in the tank	1-Check oil level on separator tank.
	2- Clogged separator filter	2- Replace the separator filter.
	3-The recovery oil viewer is dirty or does not work appropriately.	3 -Clean it or if necessary, replace the damaged parts with K11 spare parts kit. If separator filter is clogged up, replace it.
The compressor remains under loading phase.	1-The intake valve does not work properly (does not close)	1-Check the valve. If necessary, replace the damaged parts with spare parts kit.
Rotor seizure	1-Unknown particles inside.	1-Call MEA technical support.
	2-Insufficient lubrication.	2-Call MEA technical support.
Presence of oil in the outlet of minimum pressure valve	1-Separator filter damaged.	1-Replace the separator filter.
	2-Oil recovery viewer obstructed.	2-Clean the oil recovery viewer.
	3-Separator nipple with O-rings damaged.	3-Replace K1 spare parts kit.

## 8. SPARE PARTS



⚠ Extraordinary maintenance kits and their part numbers with all the instructions needed to carry out an appropriate maintenance are included in the technical specifications of the air-end requested and are available on demand.



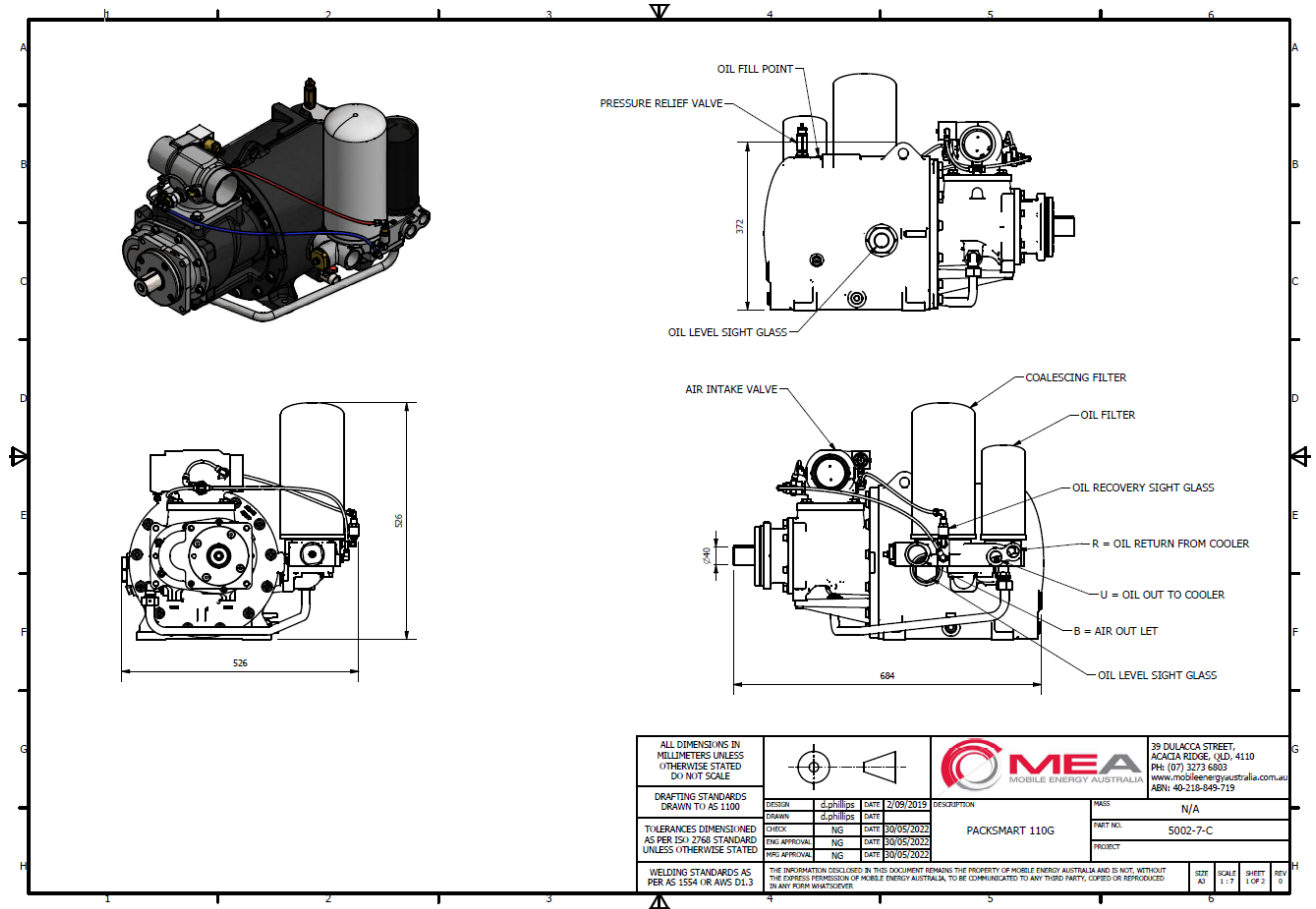
⚠ Extraordinary maintenance kits and their part numbers with all the instructions needed to carry out an appropriate maintenance are included in the technical specifications of the air-end requested and are available on demand.

CODE	DESCRIPTION	PACK SMART	PACK SMART	PACK SMART	WORKING TIME
		V110 55°	V110 71°	V110 83°	
K1	270.0595	SEPARATOR NIPPLE M32-39 SPARE PARTS KIT			after 8000 hours
K9	920.0249	V110 SHAFT SEAL SPARE PARTS KIT			after 8000 hours
K12A	920.0148	V110G BEARINGS SPARE PARTS KIT			after 20000 hours
K14	220.1250	MINIMUM PRESSURE VALVE G35-36 SPARE PARTS KIT			after 20000 hours
K15	220.1800	VRO19 OIL RECOVERY VIEWER			Corrective Maintenance
K16	723.0070	PACK SMART V110 OIL RECOVERY FITTING SPARE PARTS KIT			Corrective Maintenance
K17	270.1390	VT-VTFT25/27-55° SPARE PARTS KIT			after 8000 hours
	270.1380	VT-VTFT25/27-71° SPARE PARTS KIT			
	270.1385	VT-VTFT25/27-83° SPARE PARTS KIT			
K18	723.0090	PACK SMART BASE FLANGE O-RING SPARE PARTS KIT			Corrective Maintenance



## SPARE PARTS – Continued

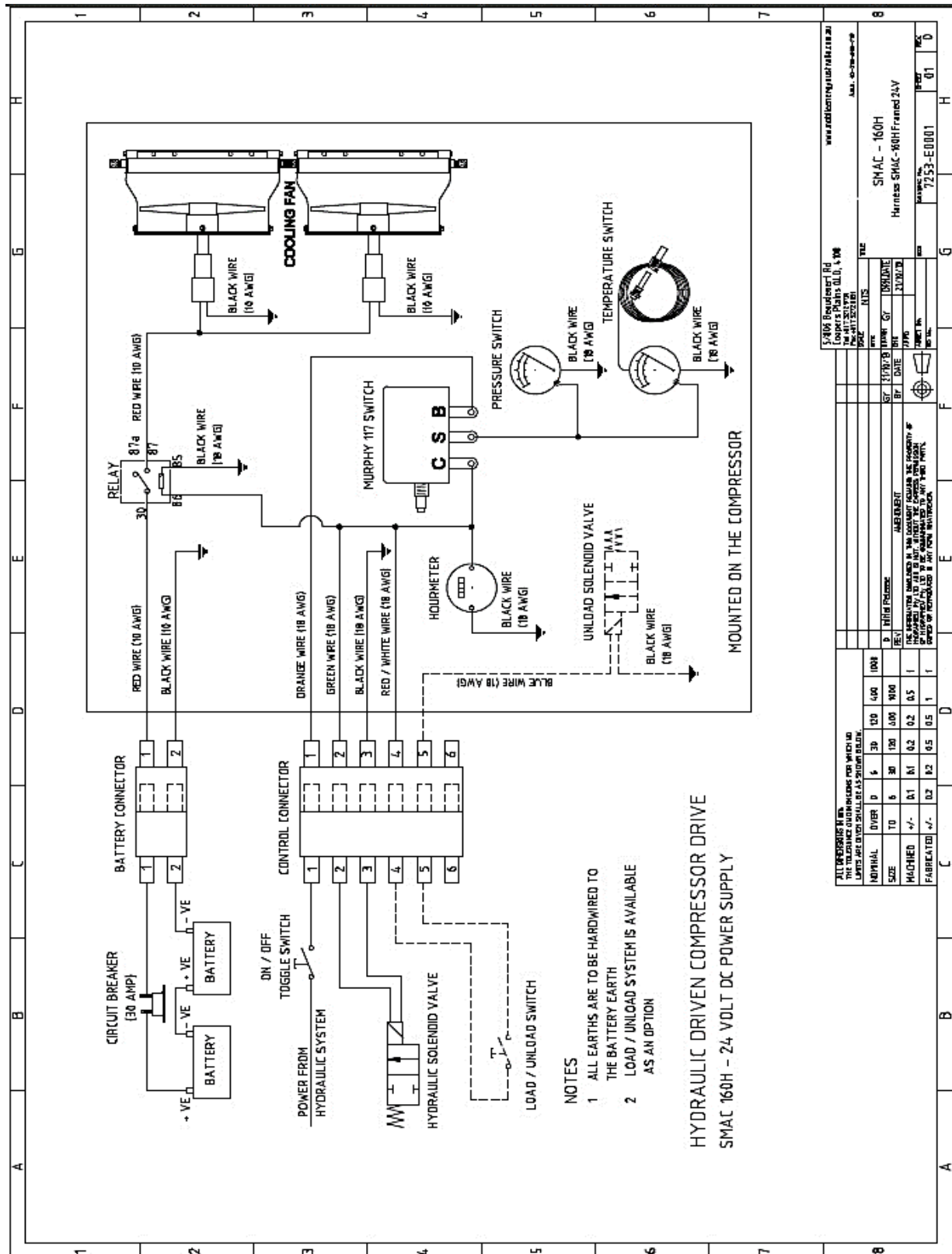
Part Number	Description
<b>10008-P0024</b>	<b>AIR FILTER ELEMENT</b>
<b>10008-P0029</b>	<b>SPIN ON COALESCER</b>
<b>10008-P0078</b>	<b>OIL FILTER</b>
<b>10019-K0005</b>	<b>5 LITRE SEMI SYNTHETIC OIL</b>



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

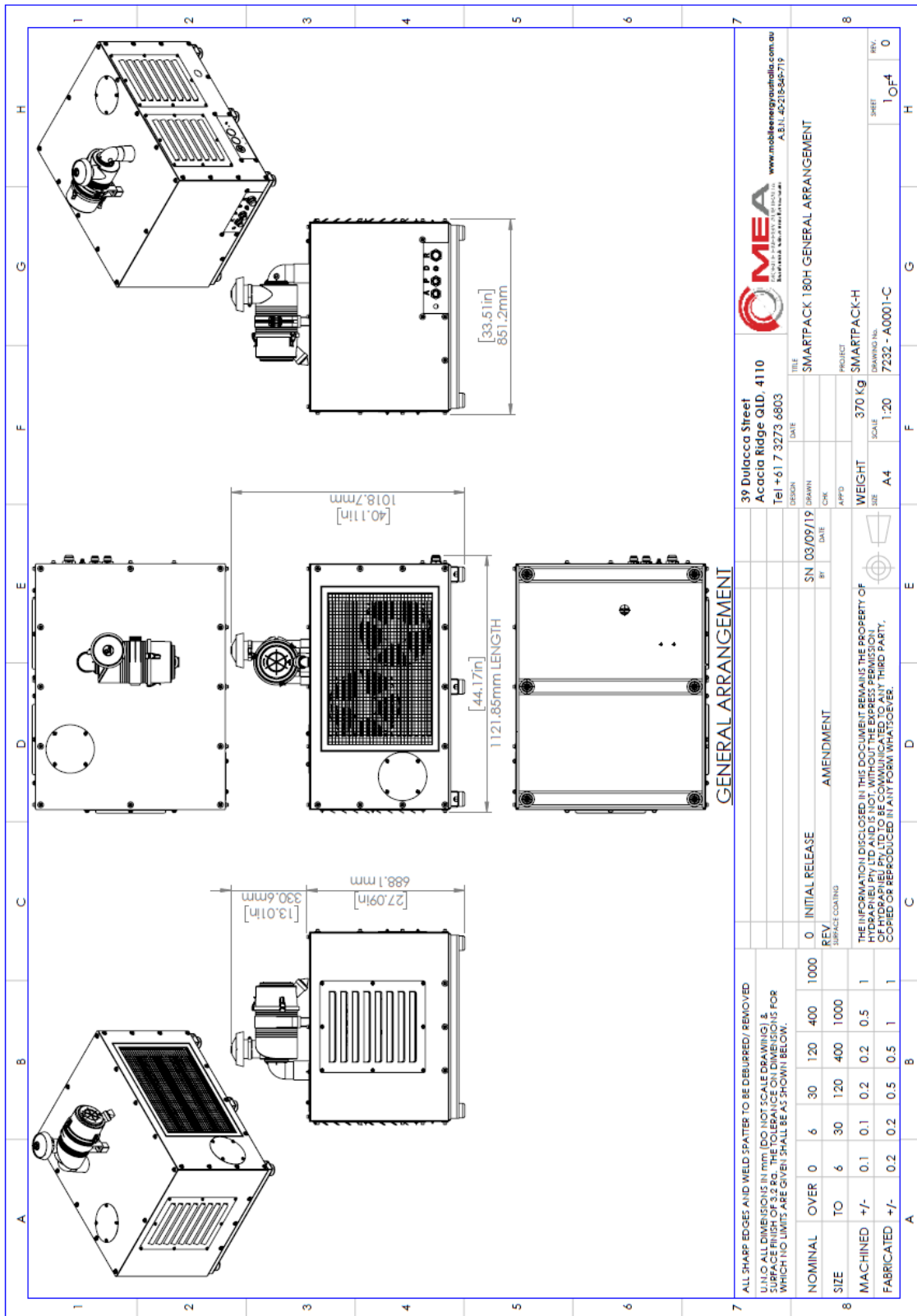
## 9. DRAWINGS & ILLUSTRATIONS

### Wiring diagram

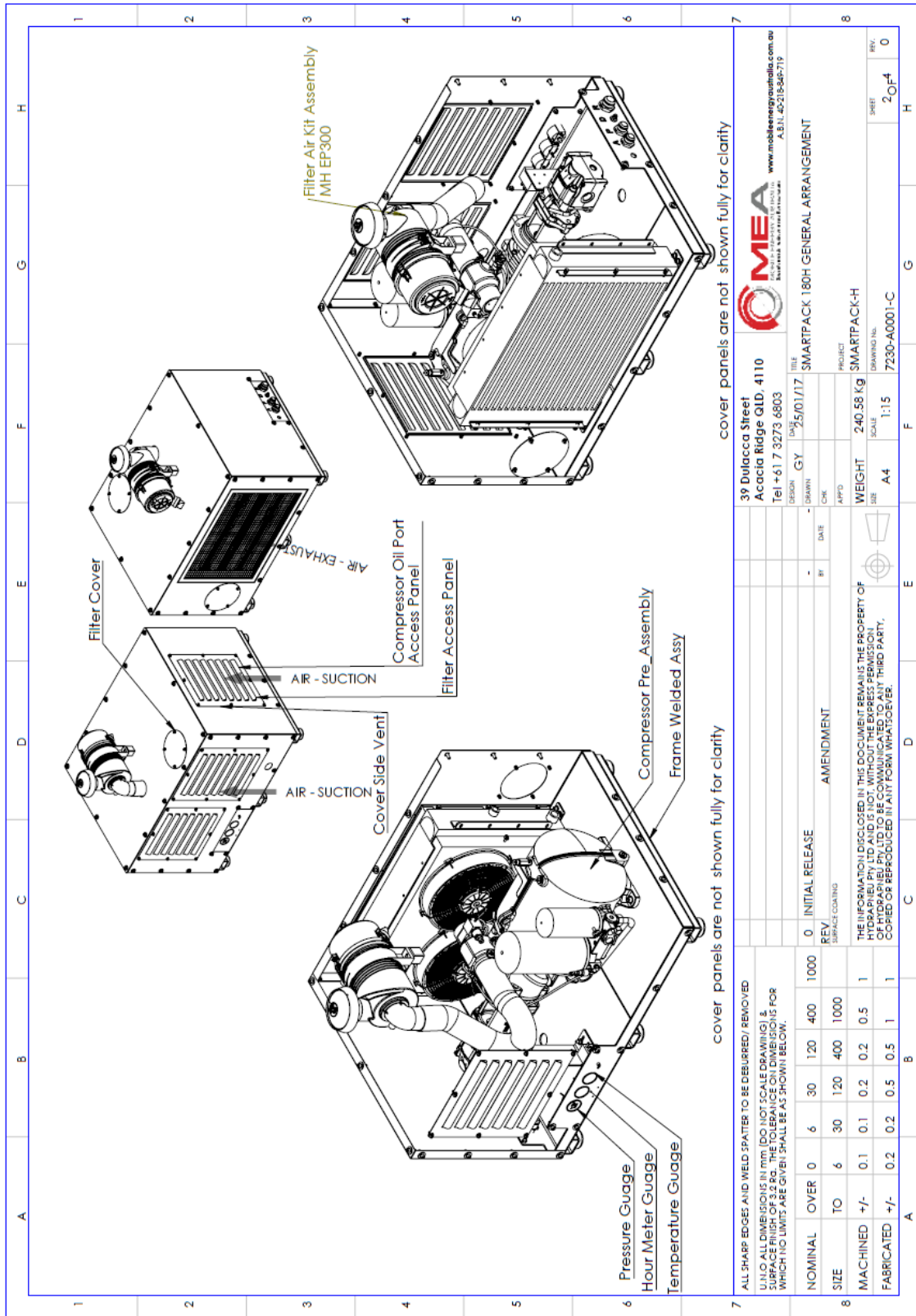


## DRAWINGS & ILLUSTRATIONS - Continued

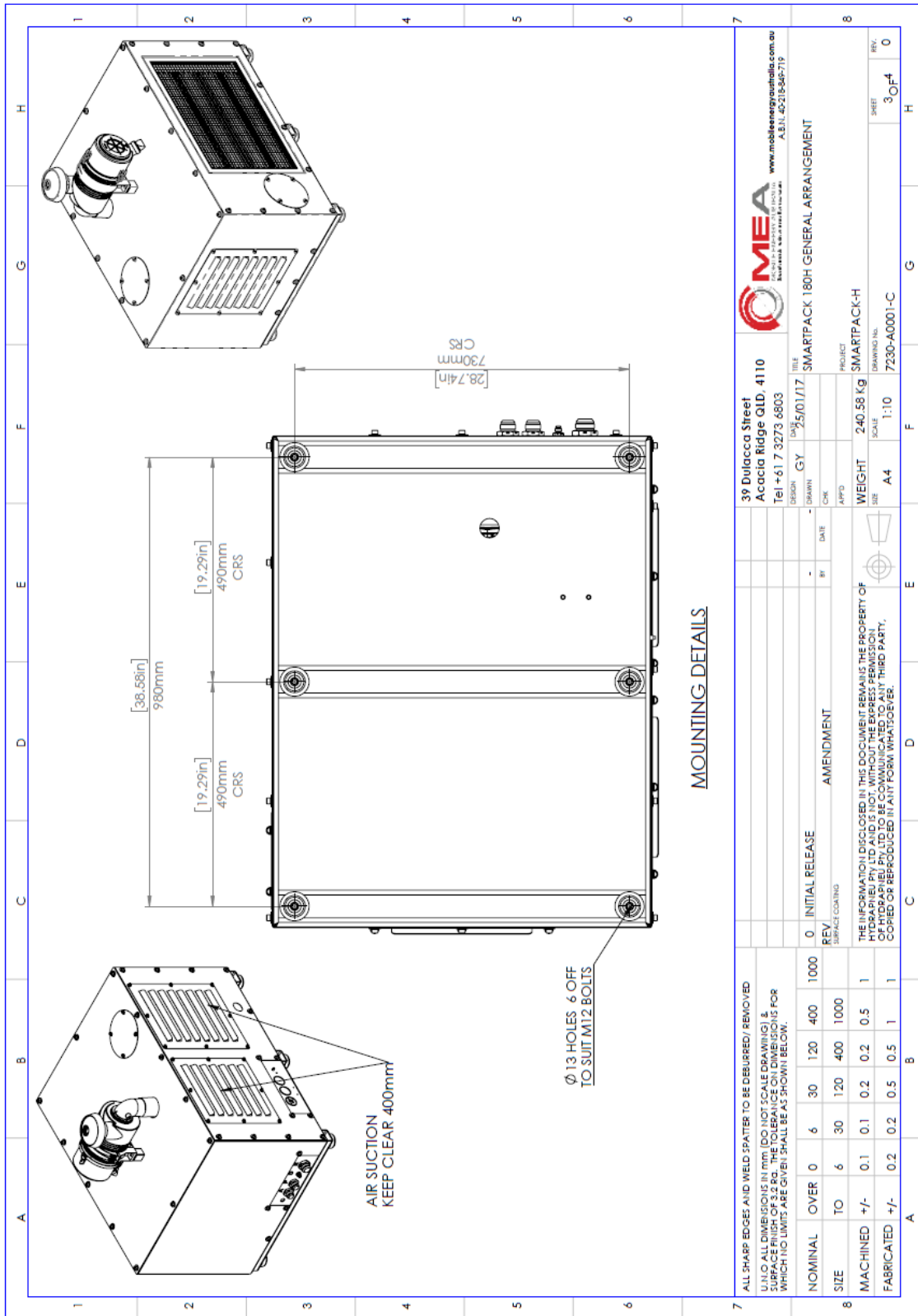
GA drawings



**DRAWINGS & ILLUSTRATIONS - Continued**

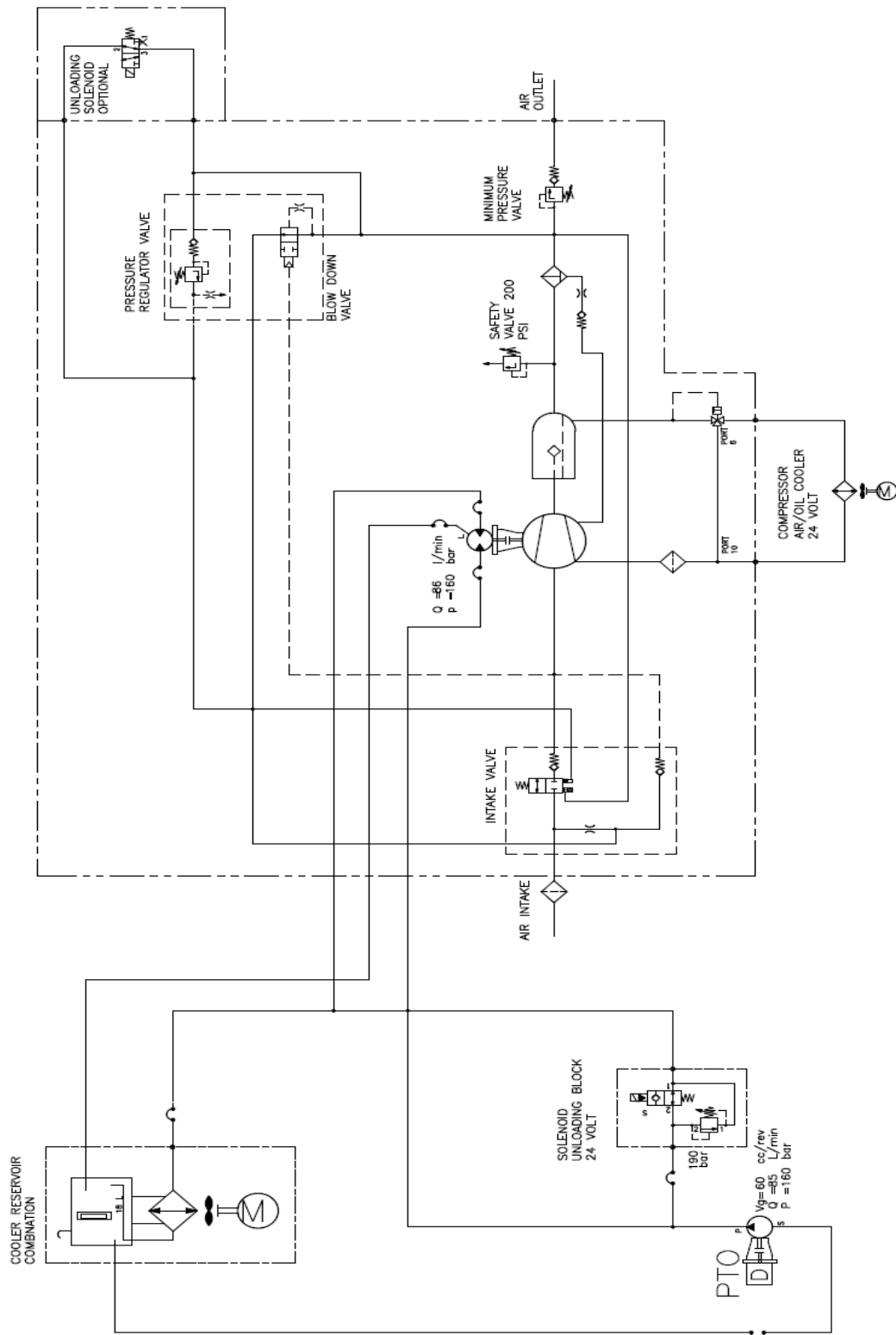


**DRAWINGS & ILLUSTRATIONS - Continued**



## DRAWINGS & ILLUSTRATIONS - Continued

### Hydraulic circuit



## 10. 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.

## **WARRANTY (continued)**

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### **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 labor costs claimed more than MEA's set rate and/or times are not provided by this warranty. If applicable, any labor costs more than MEA rate schedules caused by, but not limited to, location or inaccessibility of the equipment, travel time or labor 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.**



## 11. MOBILE ENERGY AUSTRALIA - CONTACTS

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### **Sales**

Office: 07 3273 6803

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

### **Spare Parts**

Office: 07 3273 6803

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

### **Service**

Office: 07 3273 6803

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