

# ALLIGHTSYKES

## SYKES SW150 SR - ALL

Technical Pack

Rev1 May2018



LIGHT



WATER



POWER

## SYKES SW150 SR – Pumpset



### Standard Inclusions

- Sykes SW150 Pump (direct drive) with mechanical seal and non return valve
- Automatic self priming system
- Perkins 1104D-44TA
- S17 Engine | Pump Control Panel, variable speed
- Heavy duty batteries inside metal protection box
- Steel 440 litres fuel pod
- Standard sled with fork lift tyne pockets
- Rated lifting frame with single lifting eye
- Pump operating range sign
- Pump suction (inlet) and discharge (outlet) pressure gauge (mechanical type)
- Manual fuel fill (lockable)

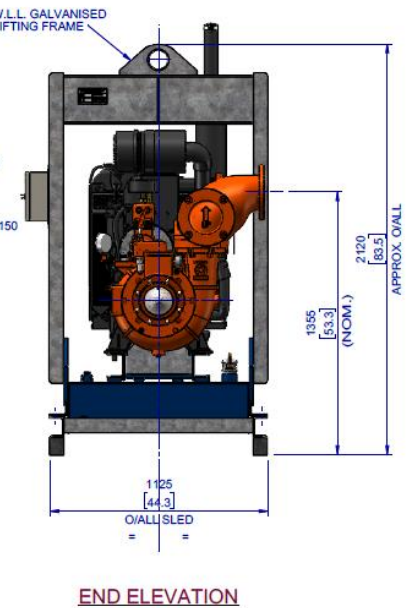
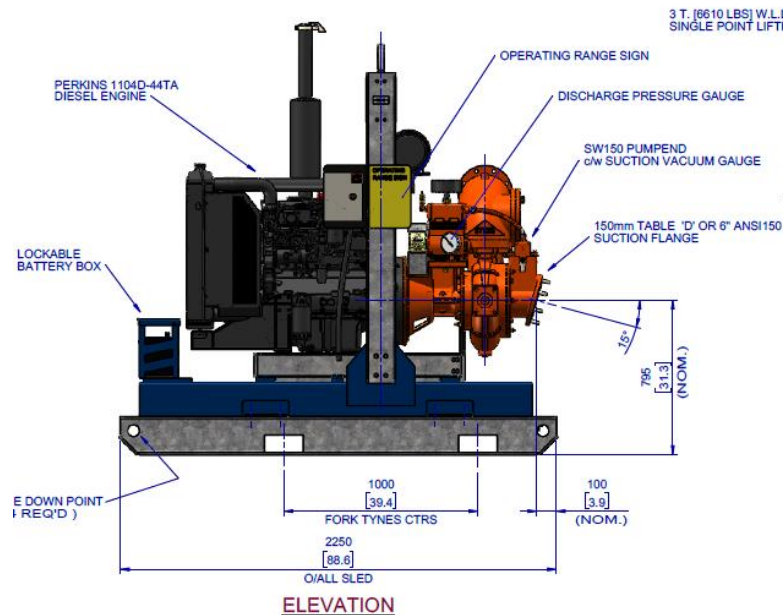
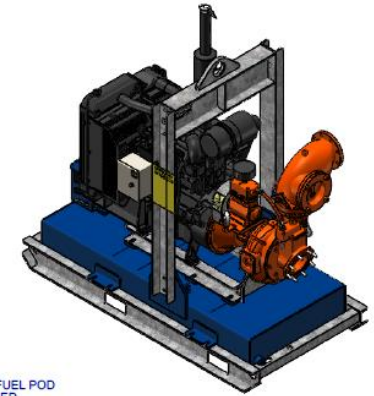
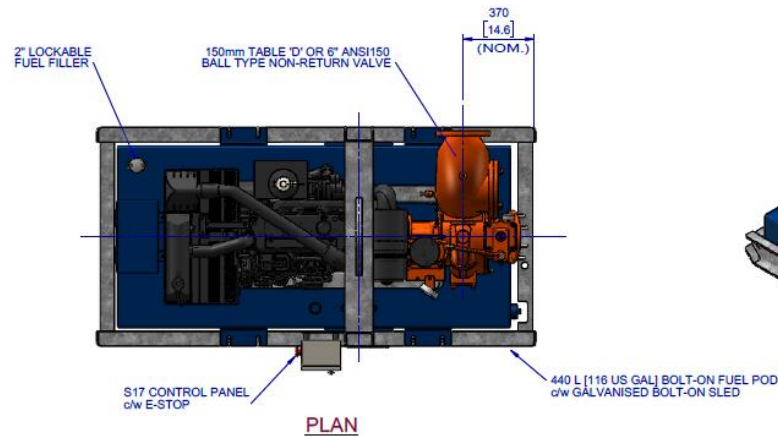
### Additional Extras

There are over 43 additional optional extras to choose from to tailor this unit to meet customer requirements.

Below are some additional extras examples;

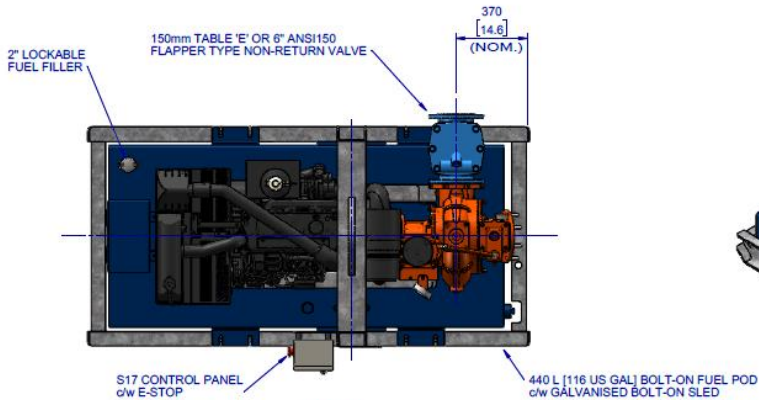
Pressure and compound transducers, remote stop/start functionality, dam level senders, jump start receptacles, battery isolators, radiator low coolant level switches, , battery solar charging options and various float, hoses and coupling choices.

## SYKES SW150 SR – Pumpset

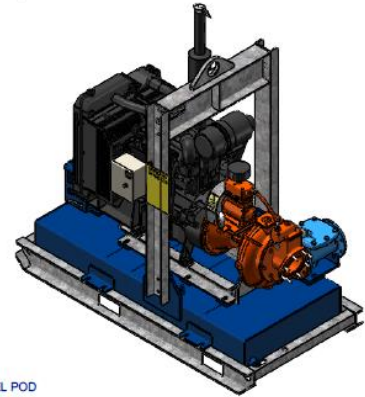


SW150 x PERKINS 1104D-44TA PUMPSET - STANDARD RANGE - 440 L [116 US GAL]

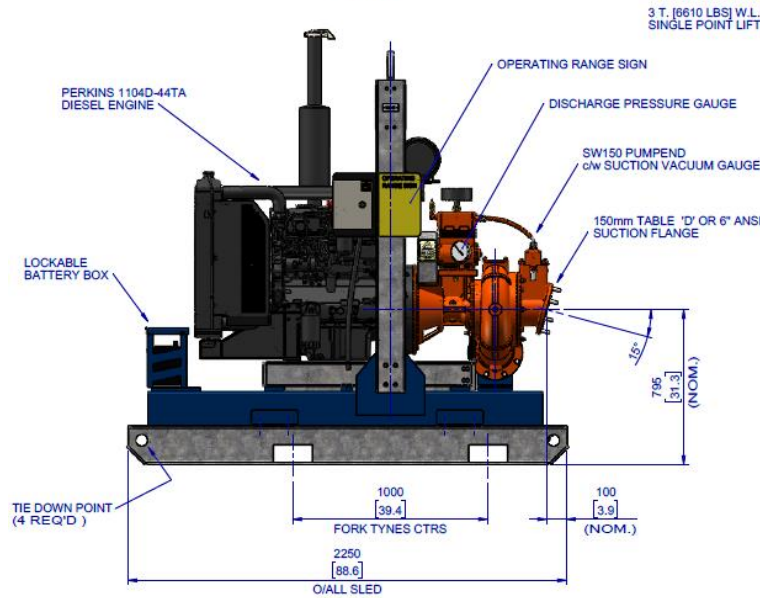
## SYKES SW150 SR – Pumpset



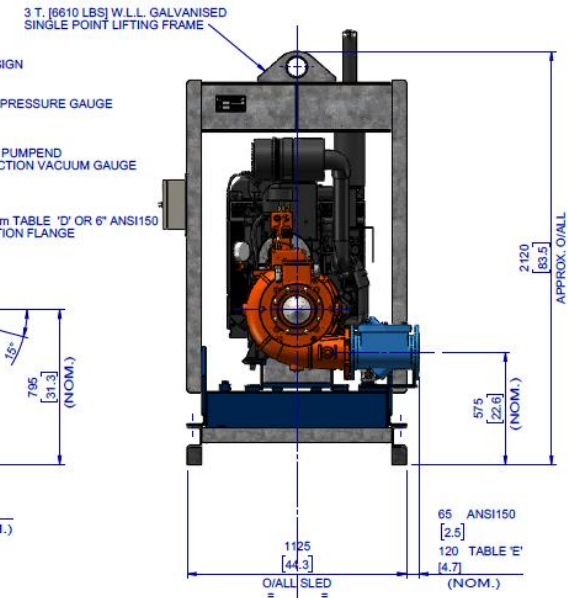
PLAN



ISOMETRIC VIEW



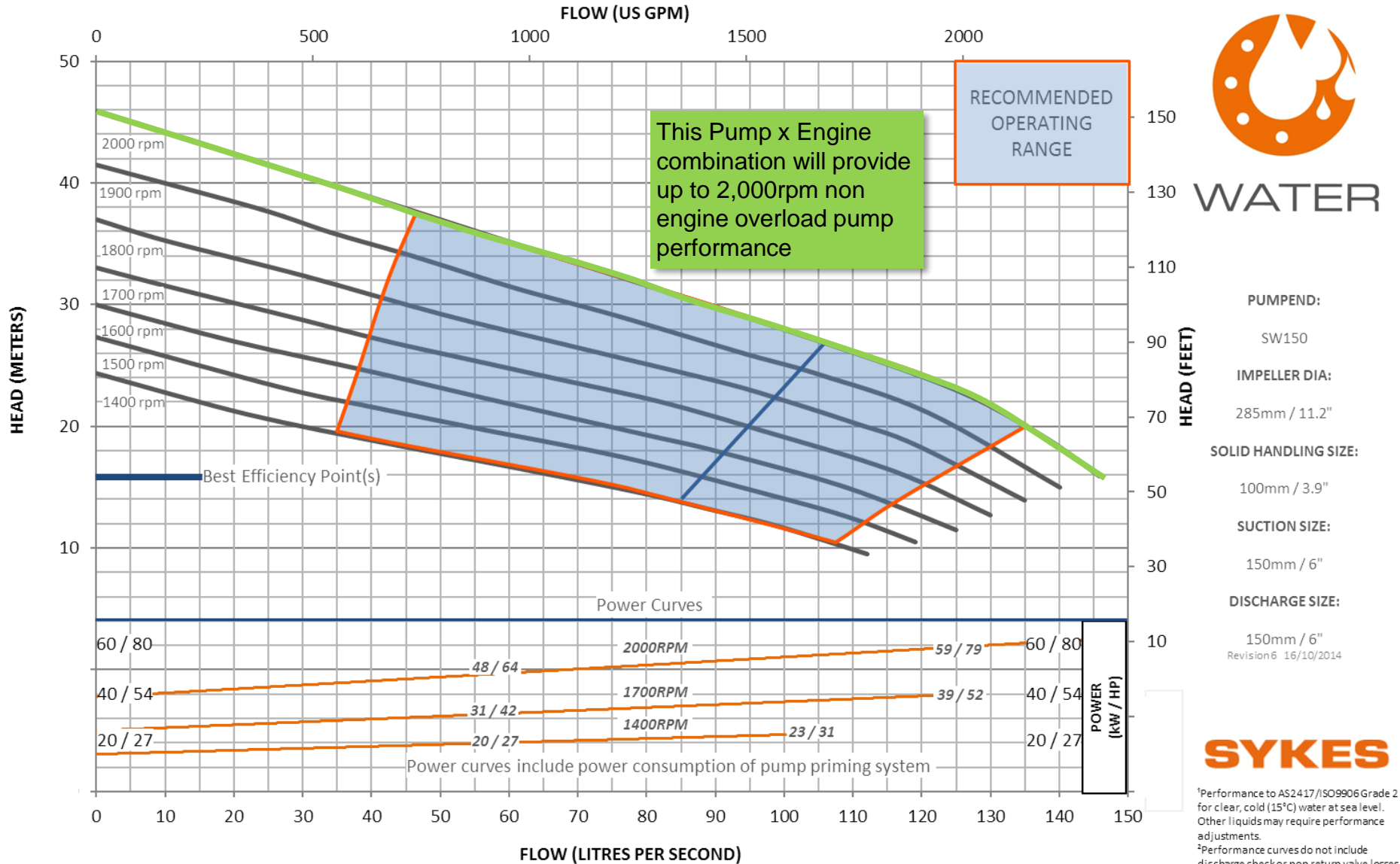
ELEVATION



END ELEVATION

SYKES SW150 x PERKINS 1104D-44TA PUMPSET - STANDARD RANGE - 440 L [116 US GAL]

## SW150 Performance Curve



**WATER**

**PUMPEND:**

SW150

**IMPELLER DIA:**

285mm / 11.2"

**SOLID HANDLING SIZE:**

100mm / 3.9"

**SUCTION SIZE:**

150mm / 6"

**DISCHARGE SIZE:**

150mm / 6"

Revision 6 16/10/2014

**SYKES**

<sup>1</sup>Performance to AS2417/ISO9906 Grade 2 for clear, cold (15°C) water at sea level. Other liquids may require performance adjustments.  
<sup>2</sup>Performance curves do not include discharge check or non return valve losses.

## Design Details

Single Stage, End Suction type, 2 vane open impeller, single volute, centrifugal pump

Suction Flange	150 6	mm Inch
Delivery Flange	150 6	mm Inch
Solids Handling Size	100 4	mm Inch
Maximum Head	46 151	m Ft
Maximum Capacity	146 2,313	L/sec USPM
Engine Adaptor	SAE	#4
Shaft Diameter	40 1.58	mm Inch
Fuel Rate @ BEP 2,000rpm Duty	14.5 3.83	L/hr USGAL/hr

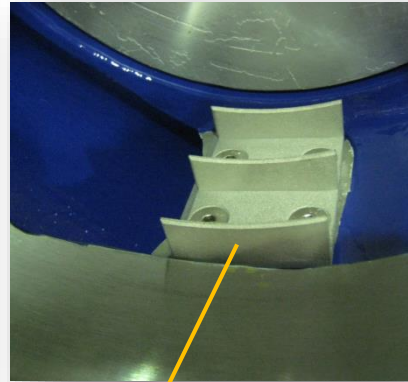
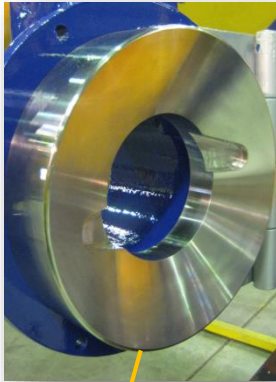
## Material Data

Standards		AUSTRALIAN		AMERICAN	
Materials of Construction	Material	Grade	AS	Grade	ASTM
Tee Piece	SG IRON	400/12	1831	65-45-12	A536
Front Adaptor Plate	N/A				
Pump Casing (Volute)	SG IRON	400/12	1831	65-45-12	A536
Front Wear Plate	Stainless	316/H6B	2074	CF8M	A351
Impeller	Stainless	316/H6B	2074	CF8M	A351
Rear Wear Plate	Stainless	316/H6B	2074	CF8M	A351
Rear Adaptor Plate	N/A				
Pump Shaft	Stainless	431	2837	431	A276-98b
Bearing Bracket	SG IRON	400/12	1831	65-45-12	A536
Bearing Covers	SG IRON	400/12	1831	65-45-12	A536
Mechanical Seal	Multi spring balanced mechanical seal assembly with silicon carbide /silicon carbide mechanical seal faces, in self contained oil reservoir				

## SW Range of Technical features

Access cover to allow easy access to volute chamber to dislodge blockages

Cutting Claw and Pockets designed to cut 'stringy' items wrapped around the impeller



Shredder

Cutter

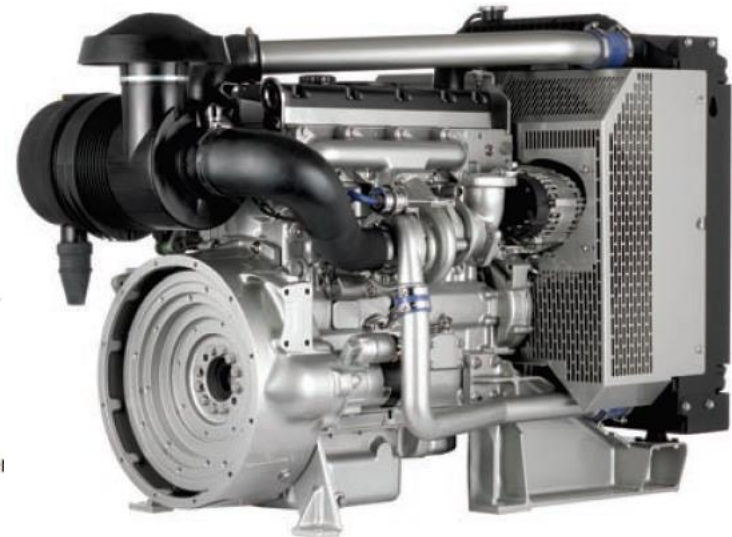
Inspection

## 1104D-44TA Industrial Diesel Engine

68-83 kW (91.2-111.3 hp) @ 2200-2400 rpm

EU Stage IIIA/U.S. EPA Tier 3 equivalent

Whatever your application, there's an 1104 engine for you. Part of the Perkins 1100 Series, the range's 4 cylinder, 4.4 litre engines are smooth and quiet in operation. Designed to meet EU Stage II/IIIA and U.S. EPA Tier 2/Tier 3 equivalent emissions standards, the 1104 range offer a choice of mechanical or electronically controlled common rail engines. Electronically controlled engines deliver the right fuel injection for the load applied to the engine. Common front and rear ends, connection points and components across the range, making it easy to install a different 1100 Series engine in your application. Turbocharged aftercooled engine designed to meet EU Stage IIIA/U.S. EPA Tier 3 equivalent emissions standards for off-road machines.



### Specifications

Power Rating		
Minimum Power	68 kW	91.2 HP
Maximum Power	83 kW	111.3 HP
Maximum Torque	418 Nm @ 1400 rpm	308 lb-ft @ 1400 rpm
Rated Speed	2200-2400 rpm	

### Emission Standards

Emissions	EU Stage IIIA/U.S. EPA Tier 3 equivalent
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General		
Bore	105 mm	4.13 in
Stroke	127 mm	5 in
Displacement	4.4 l	269 in <sup>3</sup>
Aspiration	Turbocharged (air-to-air charge cooled)	
Rotation from Flywheel End	Anti-clockwise	
Combustion System	Direct injection	
Compression Ratio	18.2:1	
Cooling System	Liquid	
Cycle	4 stroke	
Number of Cylinders	4 inline	

## Features and Benefits

### Designed for lesser regulated territories

The 1100 Series range of engines have been specifically designed for use in territories with Stage II/IIIA and Tier 2/3 equivalent emissions standards, using the best technologies to ensure a reliable and easy to maintain machine. With a choice of naturally aspirated, turbocharged and turbocharged aftercooled it offers the best combination of power delivery and response.

### Ease of maintenance

All of the engines have 500 hour service intervals. And single side service components, for ease of end user servicing.

### Easy to upgrade

Common front and rear ends, connection points and components across the range mean that you can easily install a different 1100 Series engine in your application.

### Expertise whenever you need it

With our network of distributors, you will find all the advice you need to ensure you get the right engine. By building strong relationships with you, we make sure you have access to the full power of the Perkins brand and expertise. Our fully trained experts deliver total service support 24/7, 365 days of the year. Whether you need technical information, parts identification or ordering, our distribution network is there to make sure your Perkins engine keeps on running at peak performance.

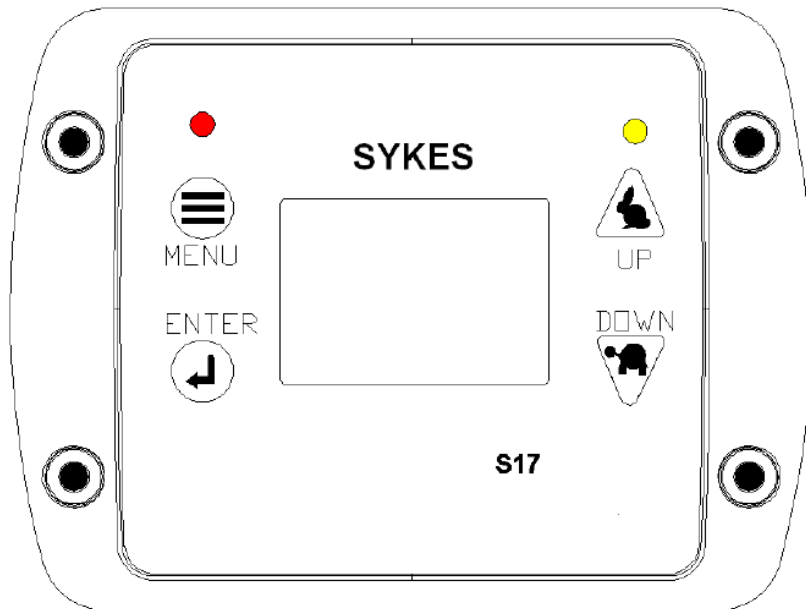
### Oil and fuel filtration

The high quality oil and fuel filtration on our 1100 Series range produces an engine that is reliable and durable. Ecoplus fuel filtration is available to boost its clean running qualities and the engine is capable of running on a wide range of global fuels including biodiesel.

## S17

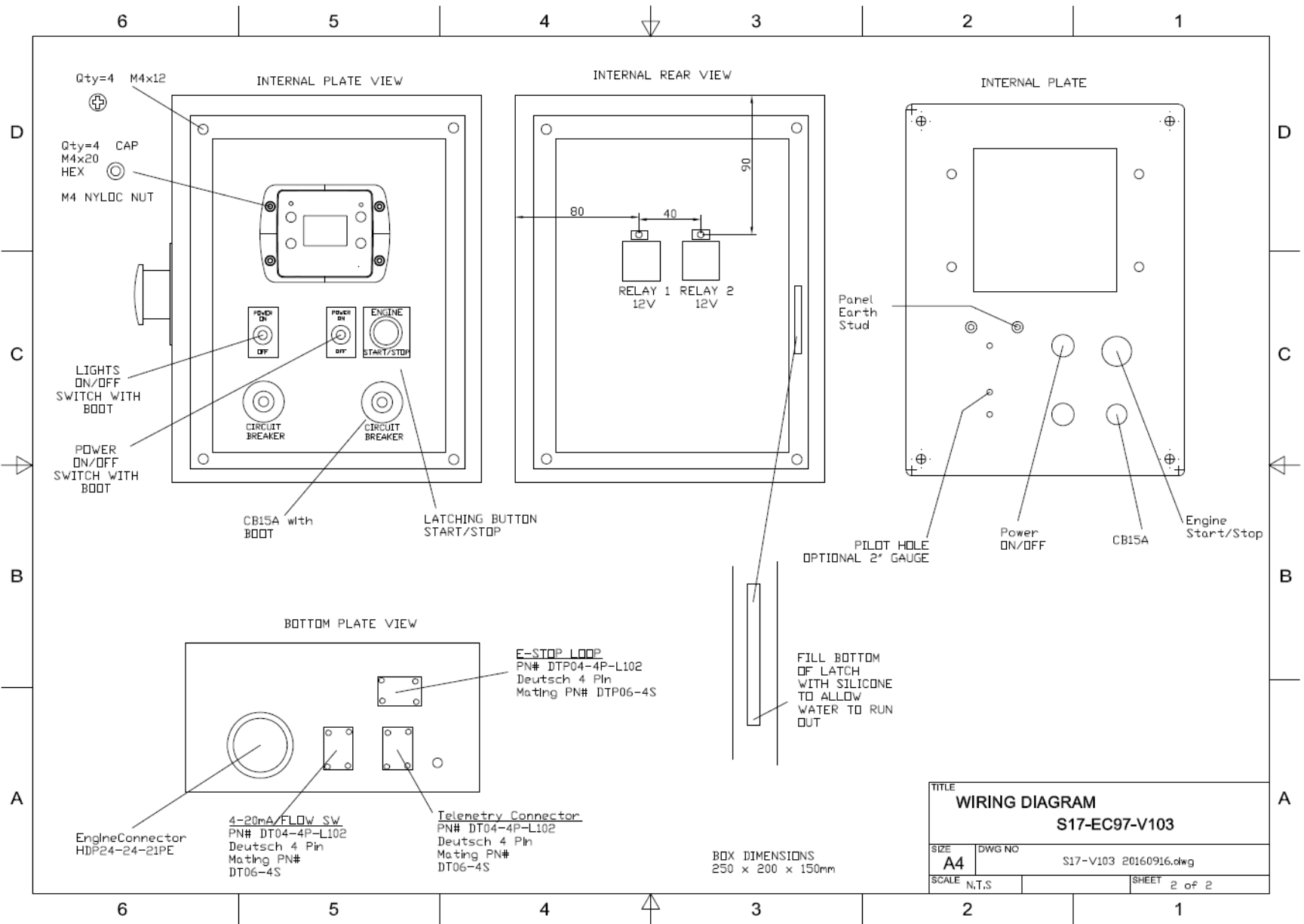
## USER MANUAL

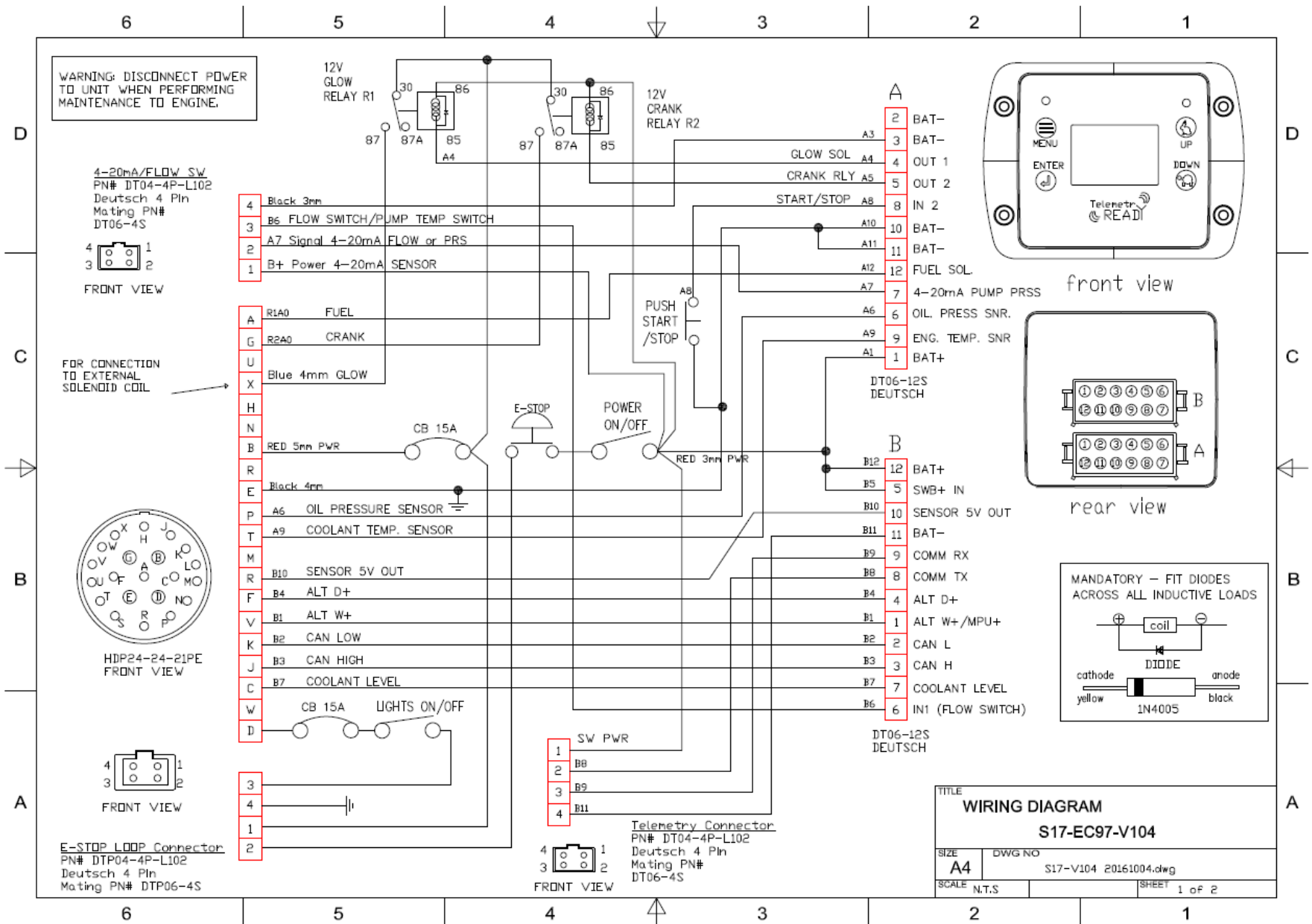
FOR USE ON MEHCANICAL AND ELECTRONIC  
DIESEL ENGINES



Displayed data is indicative only,  
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and are confirmed at time of order

<b>S17 Control Panel Functions</b>	<b>Function</b>
Enclosure 250mm x 200mm x 150mm Standard Powder Coated Box ( NO Window)	YES
Work Lights - Switch and Circuit Breaker	YES
Automotive Wiring PVC sheath copper conductor	YES
Vibration Mounts	YES
Dual 12/24 DC Voltage Compatible	*VS
First Out Indicator on Graphical LCD Display	YES
Engine Oil Pressure Reading and Protection	YES
Engine Coolant Temperature Reading and Protection	YES
Radiator Low Coolant Level Protection	YES
Engine Battery Voltage /Charge Indication	YES
Engine Hours (total engine run hour meter)	YES
Tachometer (engine speed RPM)	YES
CANBUS J1939 Monitoring & Display	YES
Red/Wait-to-Stat/Warning Lamps J1939	YES
View Active Diagnostic Codes (J1939 SPN, FMI)	YES
Engine Emergency Stop Button	YES
Control Panel Engine 21pin Deutsch Connector	YES
Control Panel Combination Deutsch Connector of User I/O	3
Pump Pressure Transducer Input (0 – 25 Bar) for pump protection	YES
Pump Pressure Low / High Shutdowns & Faults	YES
Flow Switch (No Flow Shutdown/Fault)	YES
100hour Run Timer	YES
Auto Start/Stop via Mobile phone or Hand Held Remote FOB	Opt**
MODBUS Comms over RS232 or RS485(SCADA/PLC)	Opt**
Engine/Pump Last Fault Indication	YES
Engine/Pump Fault History	YES

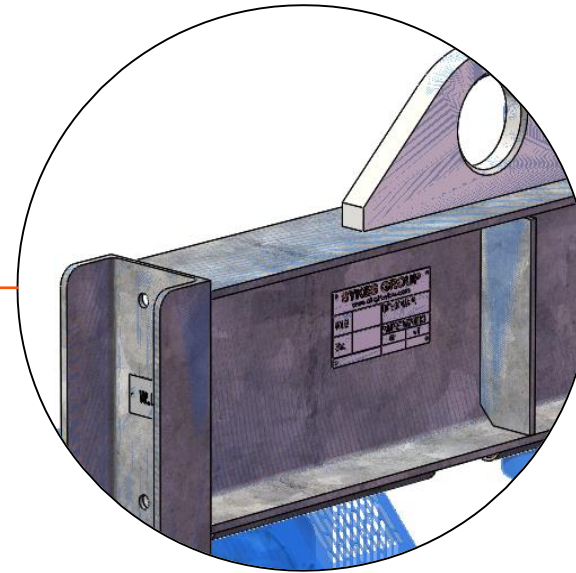
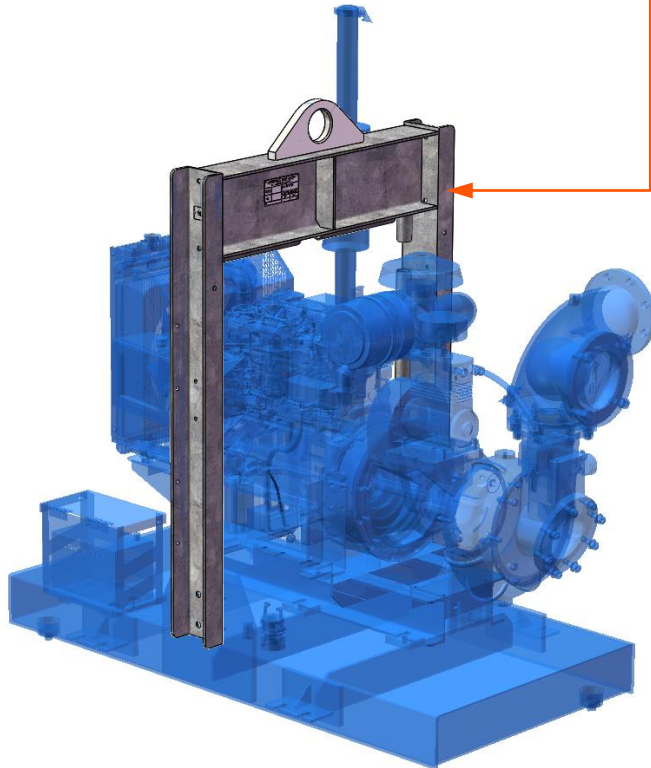




TITLE	
<b>WIRING DIAGRAM</b>	
<b>S17-EC97-V104</b>	
SIZE	DWG NO
<b>A4</b>	S17-V104 20161004.dwg
SCALE	SHEET
N.T.S	1 of 2

## Lifting Frame

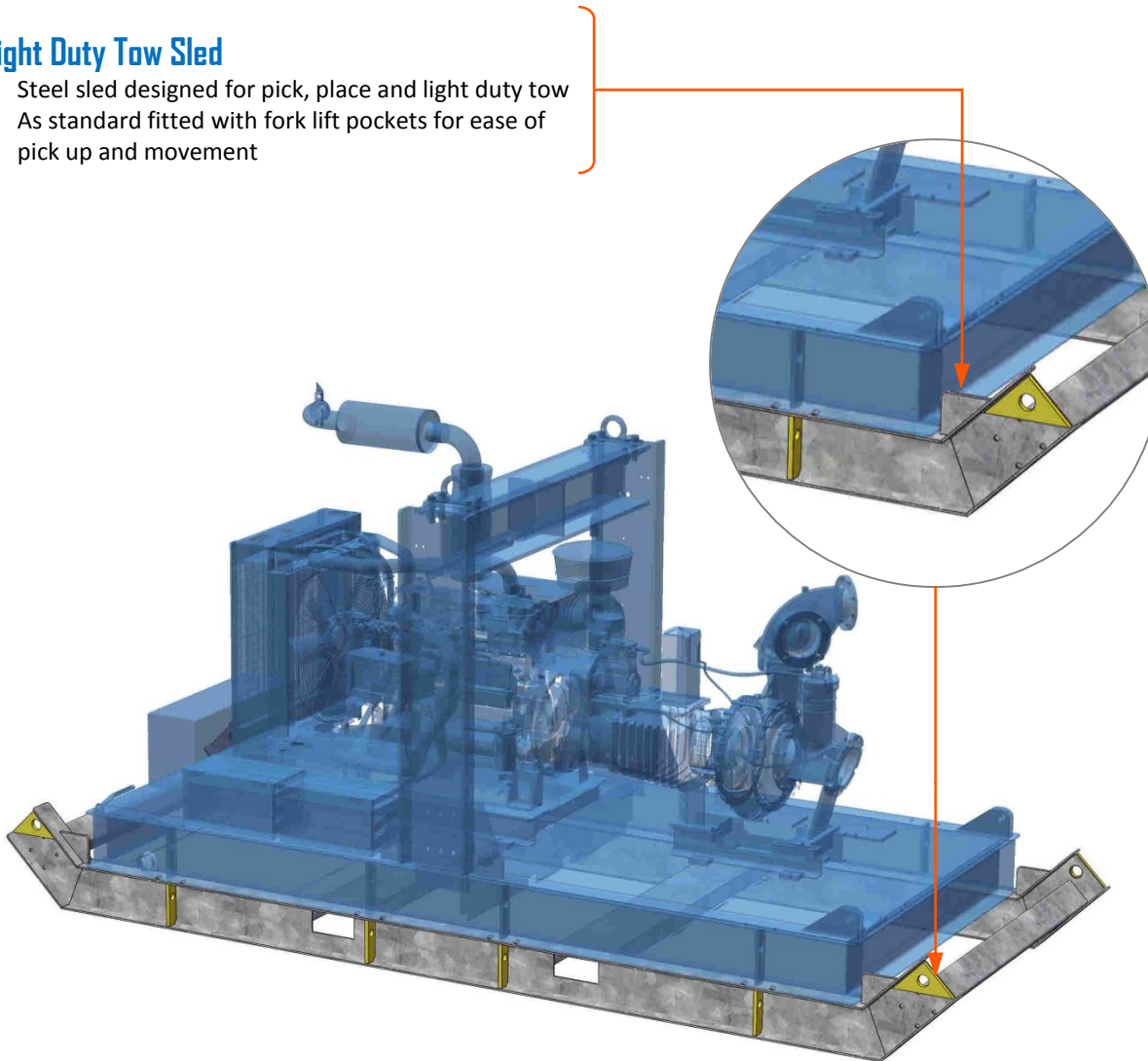
- Heavy duty WWL certified galvanised steel lifting frame
- Dual lifting allowing for easy access to multi directional lifting eyes without the need for harness protection during lifting eye crane hook attachment process
- Fitted with grab rails to ensure 3 points of contact while accessing pump unit
- Lifting frame placement and dual lifting set up allows for sturdy, steady and balanced lift of unit



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## Light Duty Tow Sled

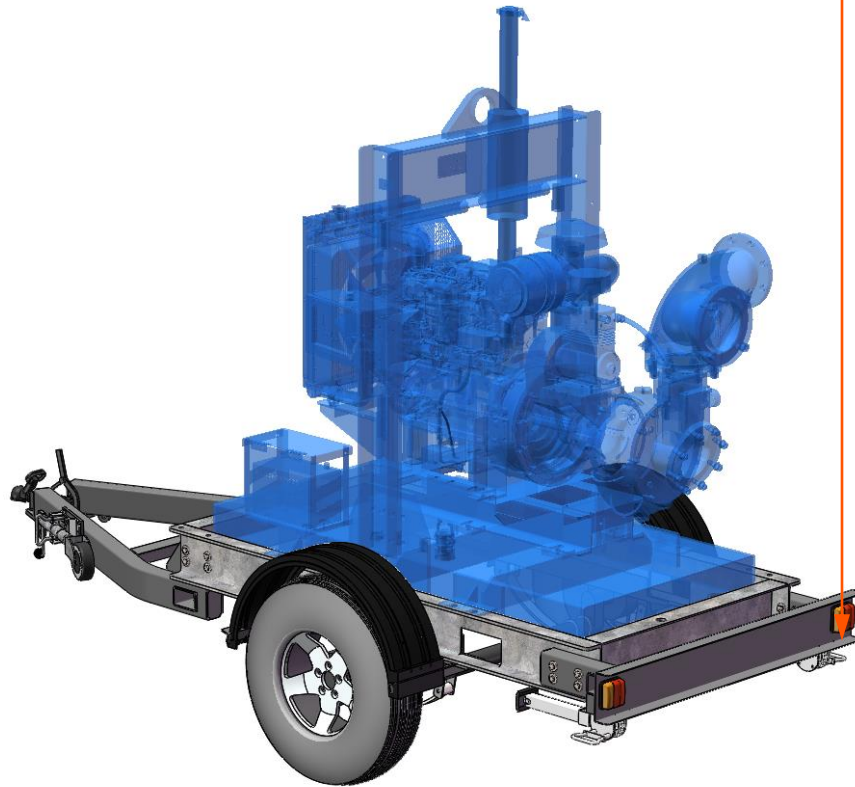
- Steel sled designed for pick, place and light duty tow
- As standard fitted with fork lift pockets for ease of pick up and movement



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## Trailers

Available in various configurations; road registerable, site, single or dual axle and hose racks.



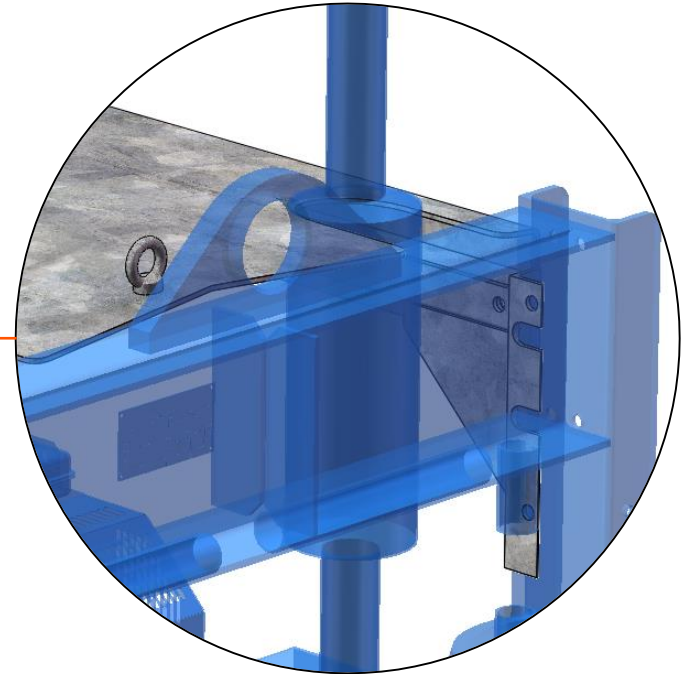
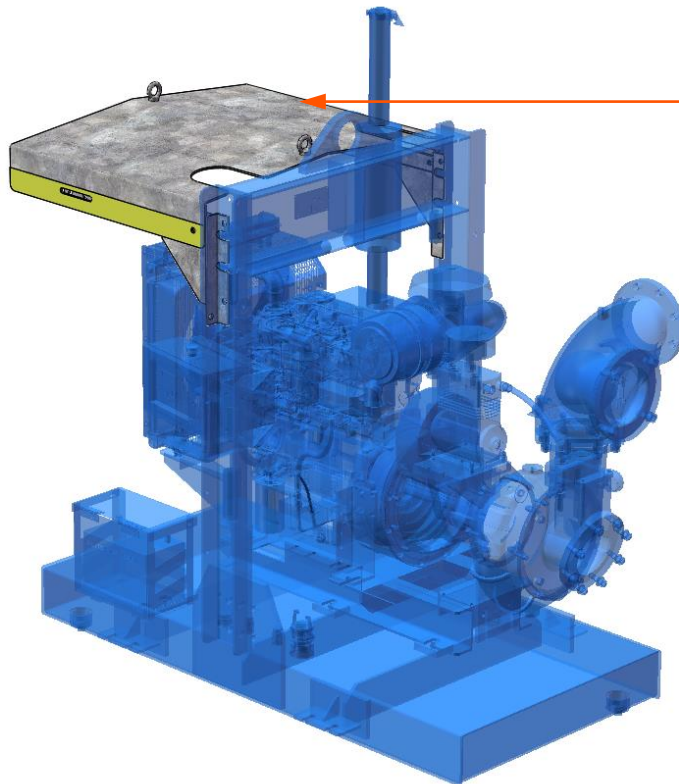
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Please note that the trailer is an Optional Extra



## Engine Canopy

- Heavy duty galvanised canopy fitted with lifting eyes as standard for ease of removal and installation
- Protect the engine from weather and possible small to medium rock falls
- Supports horizontal or vertical mounted engine exhaust set up
- Canopy legs are fitted with grab rails to ensure 3 points of contact while accessing pump unit deck
- Fitted with safety reflective tape as standard

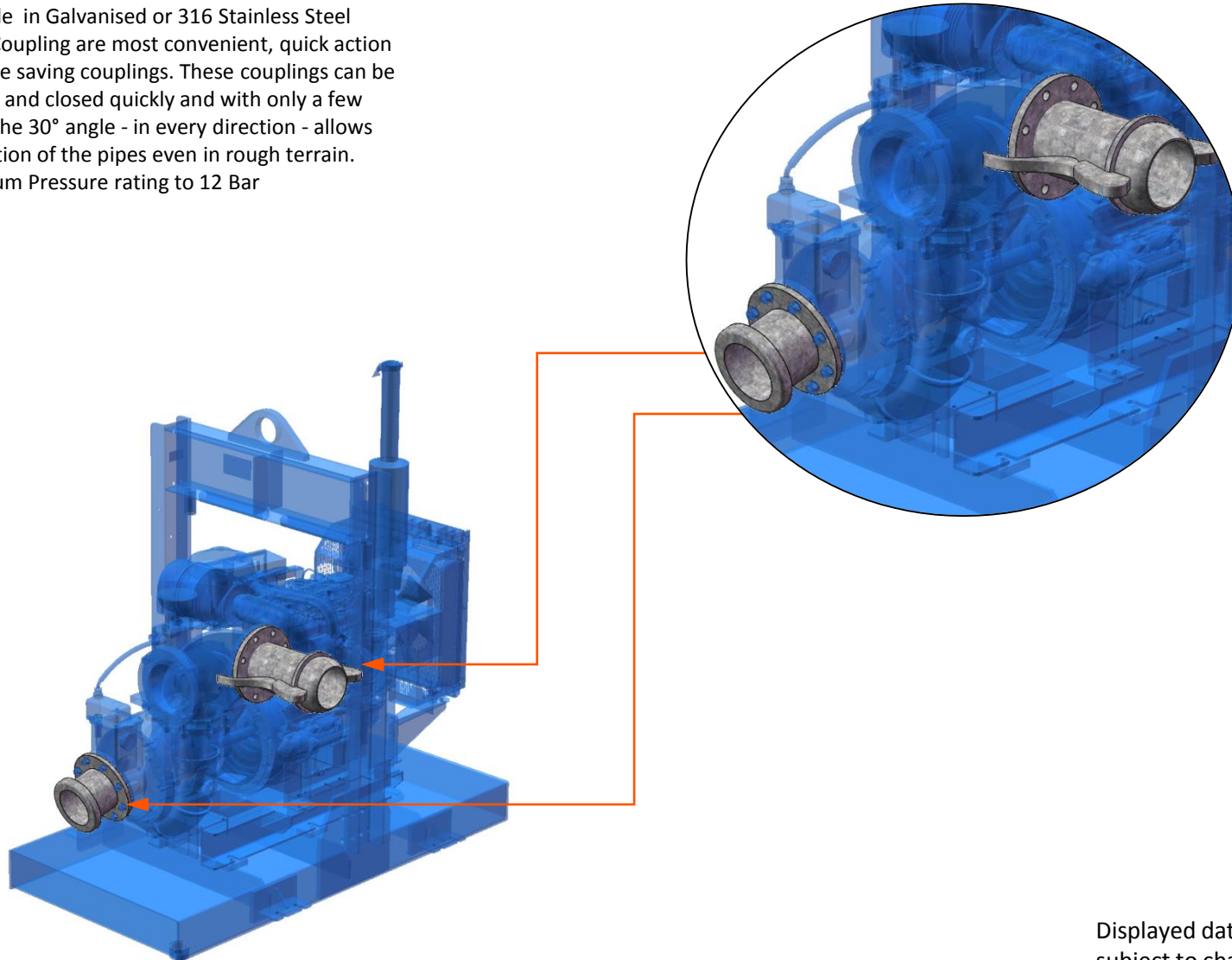


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Please note that the additional Engine canopy is an Optional Extra

## Bauer Couplings

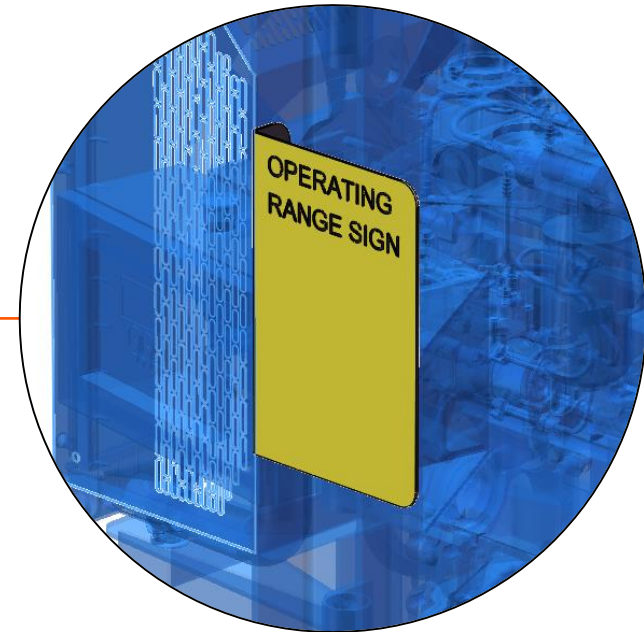
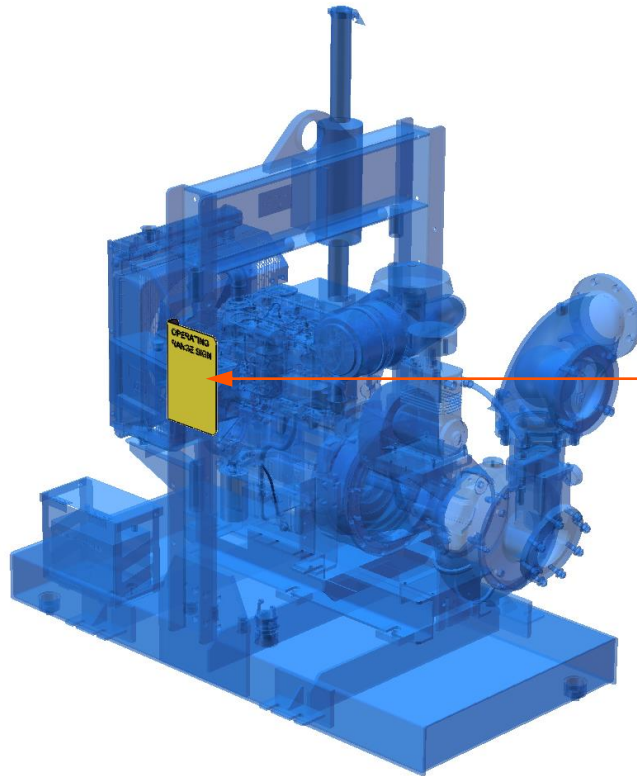
- Available in Galvanised or 316 Stainless Steel
- Bauer Couplings are most convenient, quick action and time saving couplings. These couplings can be opened and closed quickly and with only a few steps. The 30° angle - in every direction - allows installation of the pipes even in rough terrain.
- Maximum Pressure rating to 12 Bar



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## Operating Range Sign

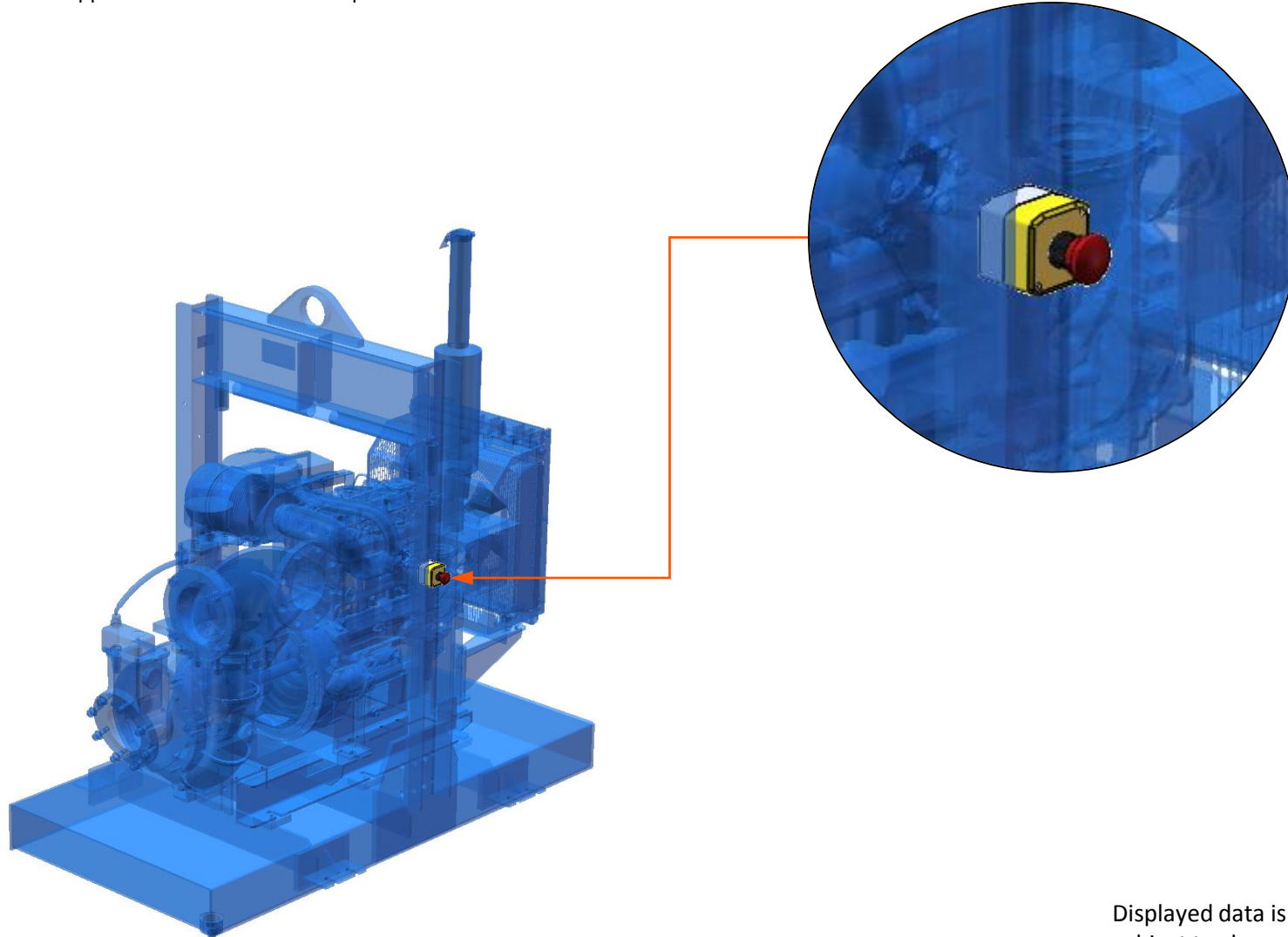
- Pump operating sign contains the maximum, best efficiency point, minimum pump speeds, vacuums, pressures and flow rates data to ensure the pump is operated within its recommended pump operating zone to obtain optimum pump life and reliability.



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## Additional Emergency Stop

- Easy access opposite other side to control panel E stop

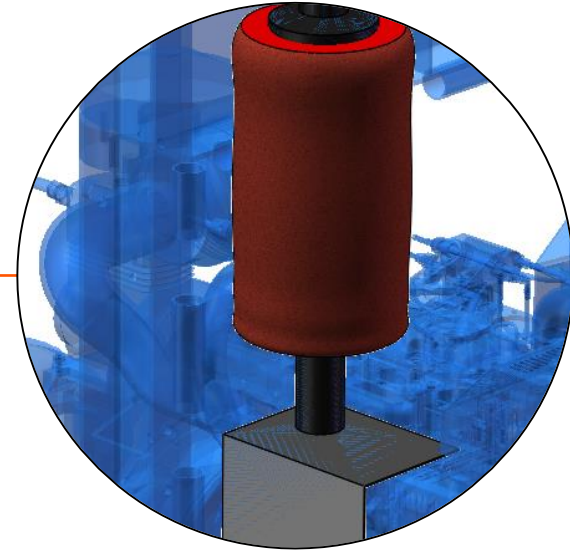
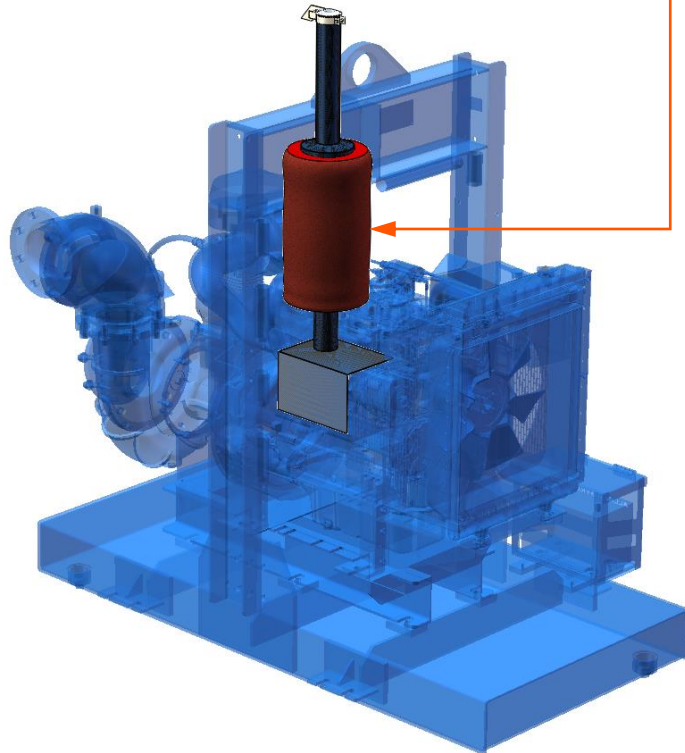


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Please note that the Additional Emergency Stop is an Optional Extra

## Exhaust Cover & Heat Shield

- Heavy duty shield (guard) and muffler system exhaust blanket to ensure the engine exhaust system is protected to prevent accidental touching of engine exhaust system



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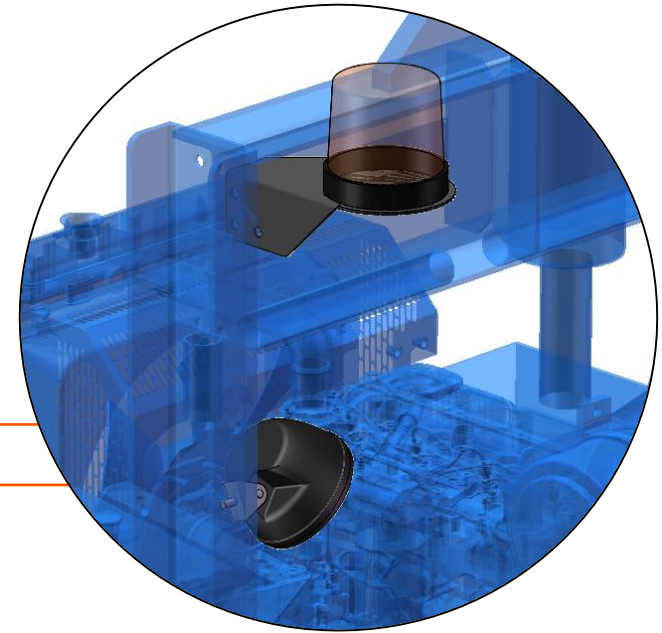
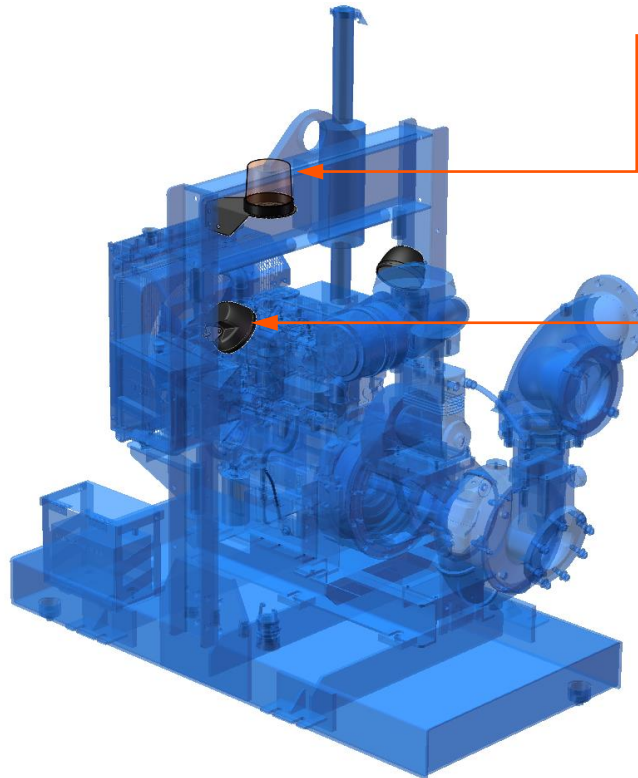
Please note that the Exhaust Cover& Heat Shield are Optional Extras

## LED Flashing Light

- Strategically, easily seen, located on top of pumpset to indicate pump running / not running scenarios.
- Wired into pump/engine control panel automatically turn ON/OFF when pump starts or stops.

## LED Work Lights x2

- Ability to operate without the need to turn power source on
- ON/OFF Switch is located on engine/pump control panel as standard
- Located on either side (swivel bracket) of the pump unit and effectively lights these areas to ensure safe work area during periods of darkness

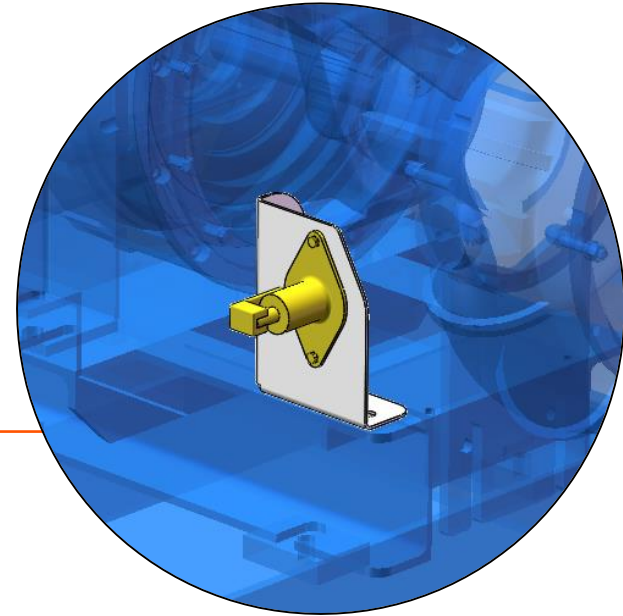
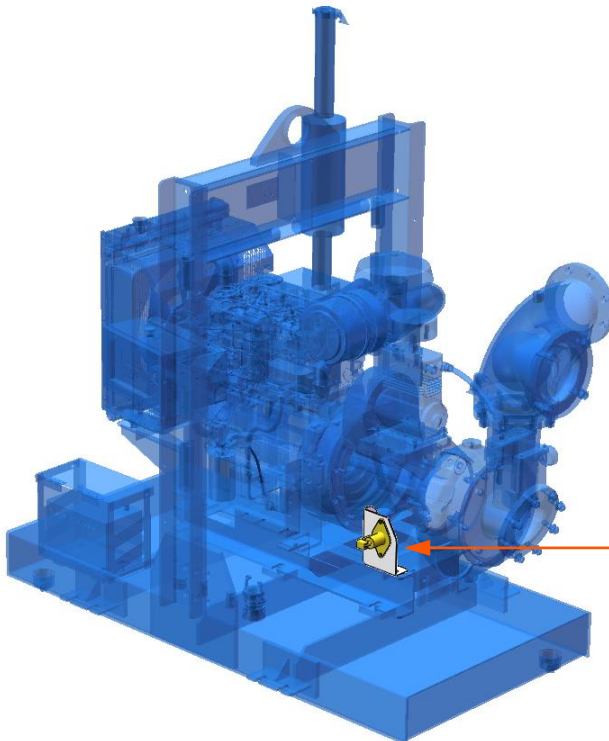


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Please note that LED Work Lights & Flashing are Optional Extras

## Starter Isolator - Bosch Yellow

- Secondary Isolation Point
- Robust, HSE compliant, simple and effective method of isolating battery power to able to safely maintain, service, repair and work on unit without the engine accidentally being activated.
- Decreases possibility of battery drain when not in use



Please note that Starter Isolator is an Optional Extra

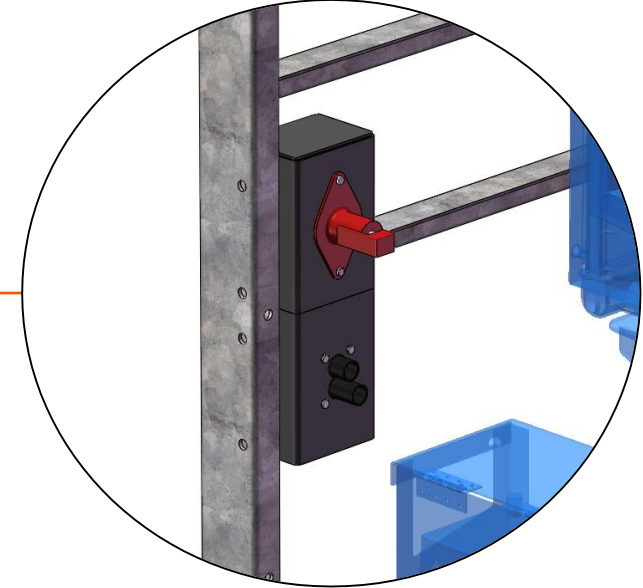
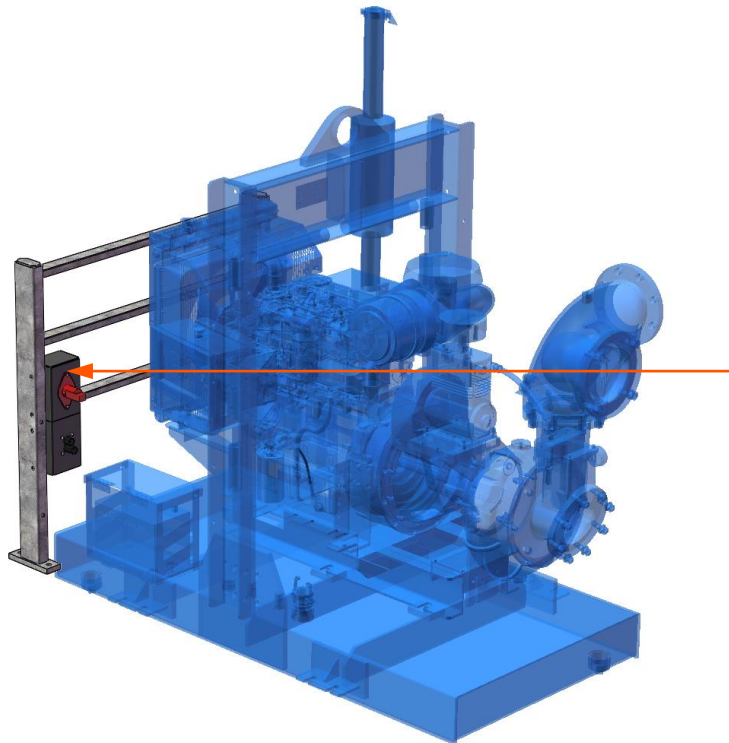
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## Battery Isolator – Bosch Red

- Robust, HSE compliant, simple and effective method of isolating battery power to able to safely maintain, service, repair and work on unit without the engine accidentally being activated.
- Decreases possibility of battery drain when not in use

## Jump Start Receptacle

- Ability to safely and effectively jump start engine
- Minimises the risk of a possible battery explosion



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END



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WATER



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