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JCB PUMP FEATURES AND OPTIONS

Engines

JCB 444 TCAE 164HP Turbocharged & Intercooled
JCB 444 TCA 114 HP Turbocharged & Intercooled
JCB 444 TCA 100 HP Turbocharged & Intercooled
JCB 444 TC 84 HP Turbocharged

Fuel Consumption

Specific fuel consumption – 100 to 164Hp – 210 to 230 g/kWh

Specific fuel consumption – 84Hp – 220 to 240 g/kWh

This compares with about 215 – 220 g/kWh on the 6 cylinder Iveco engines used until 2006 and up to 250 – 270 g/kWh on many of the old ex combine / tractor engines used on many of the old pumps still in operation.

Diesel Engine Pump Remote Start & SMS Alert System – Optional on all Briggs JCB pumps

Facility to start pump unit remotely via your mobile phone. A SIM card is located in the pump control panel and when a call is received a warning noise is activated for 10 seconds (along with an external flashing beacon), the electric primer is activated for up to 20 seconds and then as soon as priming is complete the engine starts. A call is then sent by the pump to the operator to confirm the signal has been received. Once the engine is running an 'Engine Started' text is sent to the operator. The engine will not start if priming is unsuccessful and the pump will have up to 3 attempts at priming. When the pump stops, a text is sent to the operator. To restart after a normal shutdown simply call the unit again. The operator is alerted for the following:

1. High flow (burst pipe)
2. Low flow (irrigation has finished)
3. High water pressure
4. Low water pressure
5. Timer has expired
6. Low engine oil pressure
7. High engine water temperature
8. Low radiator water level

This system therefore gives an instant indication to the operator of any problem and also saves a lot of time driving to and from the pump just to start the pump once the hoses are in place.

Automatic Variable Speed Control

All of our pump units are equipped with automatic engine throttle control which gives the following advantages over a hand throttle and reduces fuel consumption.

1. Automatic governing of engine speed according to the flow and pressure required. The engine speed is increased for higher flow and decreased for lower flow. The operator just sets the target pressure requirement on the control panel.
2. Engine warm up is automatic and ramping up to working pressure is a gradual process helping to avoid broken pipes.



The Royal Agricultural Society of England Gold Medal 1987.

BRIGGS IRRIGATION IS THE TRADING NAME OF BRIGGS (UK) LTD.

DIRECTORS: W.R. BRIGGS (NZ), A.M. COLWILL & F.M. SHERRATT. REGISTERED IN CARDIFF
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3. There is a cooldown procedure whilst stopping the engine which hugely reduces water hammer to help protect the pipe pipeline infrastructure.
4. Throttling has to be automatic in order for the pump to work with the 'Remote Start / Stop & SMS Alert system' as detailed below

Flow Detection On Diesel Engine Pump Units

Watermeter with pulse output: This is a straightforward paddle wheel water meter fitted with a pulse output sending a signal to the controller every 100 litres of water pumped. The software is programmed for minimum and maximum limits and when the flow exceeds the maximum or does not reach the minimum it will shut down. In this way we can not only detect when the last hose reel has finished but also if there is a burst main and a sudden increase in the flow rate thus avoiding potentially large water losses through burst pipes or blown seals

Priming

The main primer is a heavy duty rotary vane 12 volt priming system so that we can prime the pump in a technically correct way. e.g. Fill the pump with water and then start the engine. This system can for example prime a 6 metre x 6" diameter suction hose with a 4 metre vertical lift in 20 seconds.

All our pumps are fitted with a hand primer as a backup to any other priming device fitted.

Radiator Water Level Switch

This is a probe type sensor which is mounted directly in the back of the radiator. It has a built in override timer so that the engine does not cut out due to the 'sloshing' effect which can occur when the thermostat opens and water exchange is taking place.

In the event of a radiator hose leak or any other water loss the engine will be shut down as soon as the water level in the radiator drops by about 100mm.

There is an access hatch in the roof of the canopy for the radiator cap for water level checking and topping up.

Fuel Tank

The tank has a capacity of 1500L of diesel fuel and has 2 baffles inside to reduce the 'surging' effect when being towed.

Tanks can be made with drawbar and wheels or made on a skid base ready to bolt down to a concrete pad.

All tanks are fully bunded to fit in with site bunding regulations.

Acoustic Canopy & Noise Reduction

The canopy has been designed to allow correct airflows for cooling the range of engines being offered. This has been checked and verified by JCB's own technical department and given the all clear to an ambient temperature of 41°C

Excellent noise reduction is achieved with the use of rockwool which has better insulation characteristics than foam type products. The rockwool is encapsulated within the panels so that it cannot come free or unstuck in the long term.

Door handles / locks and hinges have been selected to offer good strength and security. The doors can be retained open so that in windy conditions operation of the unit is easier. The door catches are excellent quality Southco lockable units as used on many Caterpillar vehicles.

There is a light inside the canopy so that it is easy to see when operating the unit at night.

The canopy offers excellent access to the engine and pump with 5 large lockable doors. The only parts outside the canopy are the inlet and outlet pipes.

The acoustic canopy reduces noise levels to 70dB @ 7 metres @ 1750 RPM

On the 'super silent' canopy noise levels are reduced further to 67dB @ 7 metres @ 1750RPM

JCB Warranty

JCB have thoroughly tested the unit and have approved the installation. This means that we can offer a 1 year parts and labour warranty on the engine also backed up by the JCB network of dealers.

It is essential for the warranty to be valid that genuine parts are fitted during the warranty period and that the correct grade of lubricants are used.

Genuine parts are competitively priced and general servicing can be carried out by any competent fitter.

Wheels

Standard wheels on the unit are 11.5/80-15.3 Vredestein Flotation Plus pattern units on a 6 stud stub axle.

Suction Pipe And Storage

There is space inside the end door in front of the radiator to store fittings during transport. The radiator is protected by a steel grill cover.

Suction pipe can be stored along the side of the unit on built in storage brackets.

Suction pipe is HEAVY DUTY ribbed suction hose which has a much better resistance to sucking flat than medium duty hose - particularly in very hot conditions.

Foot valve / strainer and large thermoplastic basket strainer are part of the pump package specification

Exhaust System

From July 2010 the exhaust silencer is completely made from stainless steel eliminating the need for future costly silencer replacement.

Security

- Lockable fuel filler (inside the canopy)
- Galvanised cover over fuel filler (also lockable)
- Removable drawbar
- NATO green paint – blends in well with surroundings
- Optional door alert system – message sent to operator if door is opened