

Yanmar 4TNV98 Pumps Water For Crop Research

The Hermitage Research Facility situated on the outskirts of Warwick (Qld) is the leading centre in breeding technologies for crops as diverse as sorghum, barley, sweet corn or mung bean. A Yanmar 4TNV98 is playing a key role in watering the crops by driving a large capacity centrifugal pump at the property.



With the Hermitage Research Facility located alongside the Swan Creek, the Yanmar driven pump has been installed to pump water from the creek to an off-stream storage dam. When in use it involves pumping water over a 2000 m run and at the same time lifting it 20m up the hill into the dam.



To compound matters, periodic flooding at the pumping station is an annual event. To protect the pumping station from flood damage, local Yanmar Dealer Bob Dover of Dover and Sons, constructed a sturdy elevated platform from galvanised steel.

With the platform elevated some 2m above the ground, flood waters have reached the walkway but no further, exactly as designed.



The pumping station is capable of pumping up to 180,000 litres per hour (40,000 gph).

A single Yanmar 4TNV98 irrigation pack was supplied to Dover and Sons from the Australian Yanmar Distributor, Power Equipment. This complete package comprises the Yanmar 4TNV98 engine mounted to a galvanised steel skid, ready to accept the pump as specified for each application.

“The appeal of the irrigation pack from Power Equipment is that it is a complete unit,” Bob Dover said.

“The irrigation pack is delivered to our workshop completely assembled with radiator, exhaust, stub shaft, all electrics and the Power Equipment EC150 Engine Protection System all wired up. All we need to do is supply the battery, hook up the fuel, bolt up and align the pump and it’s ready to start work.”

The Yanmar 4TNV98 diesel engine is a four cylinder model which develops 68.5 mhp at 2500 rpm. Two inlet and two exhaust valves per cylinder improve air flow for greater efficiency. This is a quiet running, fuel efficient, low emission engine which is designed to operate for extended periods in commercial applications.

Power Equipment's TNV-EC150 Engine Protection System (EPS) monitors engine performance and is programmed to shut down the engine in the event of overheating, belt breakage or lack of oil pressure. In addition to its safety functionality, the EPS also has a series of on-board engine management features.

The system installed by Dover and Sons at the Hermitage Research Facility at Warwick includes a Southern Cross Centrifugal pump. The inlet diameter of the pump is 125mm and the outlet diameter is 100 mm. Ancillary equipment includes a small bank of solar panels which charge the 12 volt starting battery.

The pumping station has a 600 litre diesel fuel tank which feeds fuel to the Yanmar 4TNV98 engine. Typically the Yanmar operates at 1800 rpm and when called on to pump water up to the holding dam, the engine will run non-stop for a week to ten days at a time. In the 24 months since commissioning, the Yanmar has logged up 672 trouble free engine hours.

"This is a variable speed diesel system which is designed to operate according to demand, anywhere from 1500 rpm to 2200 rpm," said Bob Dover.

Relevant web links:

Power Equipment

www.powerequipment.com.au

Yanmar 4TNV98

<http://www.powerequipment.com.au/products/industrial-engines/tnv-series-13-3-83-8hp/4tnv98t-83-8hp/>

Dover & Sons

<http://www.doverandsons.com.au/>

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