



LUBRICATED OR OIL FREE?

DIGESTER GAS MIXING COMPRESSORS

The Utile Engineering Company Ltd, based in central Northamptonshire, has recently been awarded a number of new contracts for biogas mixing compressors in both the home and export markets.

Gas mixing requires a reliable gas compressor to work in conjunction with the most efficient and effective mixing systems. Utile are the only UK company that designs, manufactures and installs the whole package. For many years, Severn Trent have recognised that continuous unconfined gas mixing, using very efficient sliding vane gas compressors, provides the best results for both reliability and whole life cost.



16 Utile Gas Compressors installed at Minworth STW, replacing oil free machines.

With power usage coming under ever increasing scrutiny, it has been shown that an oil free compressor, such as the "Hook and Claw type", absorbs almost twice as much power as a sliding vane machine for the same duty point.

The introduction of a small, metered amount of oil to the gas compressors may therefore be seen to be a small price to pay for the longer life,

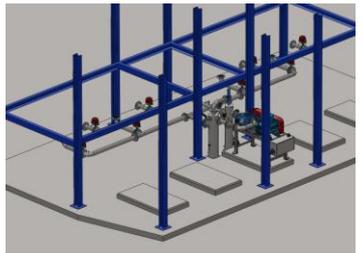
reduced maintenance, power consumption, noise levels and downtime that result. All of these factors contributing to a considerably lower whole life cost.

Several sites have recognised that significant savings in running costs have been achieved by changing the noisy, expensive to run and maintain, oil free gas compressors to lubricated sliding vane machines.

With the advent of CHP, the reduced power absorbed by a sliding vane machine results in huge increases in available power that can be exported from the site to provide a significant income. Under "Pay to Save" schemes, payback for removing compressors of the oil free "Hook and Claw" type and installing sliding vane machines can be achieved in a matter of months.

One water company is currently in the process of removing five, 45kw each "Hook and Claw type" compressors, and installing one Utile sliding vane machine with a 22.0 kW motor, in their place.

Thames Water has been using sliding vane compressors on many sites for many years. Now that the original machines are no longer supported by their supplier, Thames has recently replaced several of these with more efficient Utile manufactured machines incorporating mechanical shaft seals in their construction. The benefit to Thames is that they are now supported by the UK manufacturer who has a proven track record for a very reliable system with excellent power consumption and low capital cost.



Wanlip STW scheme to replace 5 "hook and claw" type with 1No. Utile oil lubricated unit



Redundant oil free compressor – replaced with oil lubricated at Loughborough STW



Utile oil lubricated compressors replacing oil free at Barston STW

GAS COMPRESSORS / BOOSTERS • GAS & AIR MIXING SYSTEMS • AIR BLOWERS & VACUUM PUMPS

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It is logical to select robust and reliable equipment which requires the least amount of maintenance. This is one of the reasons why several water companies have now issued instructions during the last few months for Utile to remove over eight "Hook and Claw type" gas compressors and replace them with sliding vane machines.

The sliding vane gas compressor uses a simple, well proven design to compress the gas inside the heavy duty Ductile Iron cylinder. This results in a quiet machine that delivers pulsation free gas. This is in contrast to a "Hook and Claw" type that relies on the pipe work to act as the compression chamber, making them very noisy. Pulsating compressors result in damage occurring to critical safety equipment such as non return valves and safety switches.

The use of oil is still necessary in the gear boxes associated with oil free compressors, however the oil free chamber is subject to corrosion and build up from the moisture and acids found in biogas. This results in frequent failure and costly repairs. The sliding vane gas compressors flush these contaminants through the machine.



Hartshill STW operating 2No. Duty standby air-cooled oil lubricated Utile Model L240HP Gas compressors that replaced "hook and claw" type.



Stoke Bardolph STW operating 4No. Utile gas compressors and mixing systems

Maintenance routines for the Utile sliding vane gas compressors on site typically require the refill period to be less than once every two months. Checking of blades for wear is annual and can be carried out without having to dismantle the machine; a simple removal of an eyebolt is all that is needed.

Utile also manufacture oil free sliding vane compressors for those applications where one is suitable. We have a team of engineers to complement the manufacture and installation service. We will commission and maintain gas compressors and offer service contracts to ensure longevity of compressors, boosters, mixing systems and gas holders. All of our engineers are suitably qualified and certificated for working in Zoned areas on gas systems.

All Utile equipment for use in association with biogas, including gas boosters, is built in accordance with DSEAR and ATEX. With a proven track record for the manufacture and design of complete systems, it is no wonder that people are turning to Utile for all their latest requirements.

In conclusion, it is important to consider, not only the short term capital cost, but both the direct and indirect whole life cost. Utile are able to demonstrate a comparative whole life cost analysis to show that Utile are still the best biogas digester mixing compressor manufacturer on the market today.

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