TORQUE CONTROL FOR MANUFACTURING LARGE GAS ENGINES

alkitronic® CASE STUDY

A manufacturer of large industrial gas engines had a torque application for fastening an industrial engine block in a washing chamber after the milling process. The large gas engines are designed and built for demanding applications in wastewater treatment plants, power plants, oil & gas fields and other energy applications all over the world.

INITIAL SITUATION

The engineers were using impact wrenches for the fastening application, but the impact tools were damaging the threads in the engine block due to the lack of proper torque control. An impact wrench is destructive by nature with its "hammering" design. These tools are not ergonomically friendly to an operator and require a high maintenance budget. A hydraulic wrench was the next tool that the engineers tried using for the fastening application, but it was increasing the manufacturing time significantly and increasing costs. Hydraulic wrenches are notorious for their heavy ratchets, bulky compressors and laborious operation. Hydraulic tools operate through a hydraulic ram that extends and retracts, ratcheting the head. This is a long and tedious process that requires the operator to activate and stand by the pump with a hand-held controller.

Figure 1: Large gas engine

SOLUTION

The engineers contacted alkitronic and inquired about other cost effective torque control solutions that were available to resolve their fastening application. The alkitronic representative of Mountz Inc. demonstrated the CLD pneumatic torque multiplier as an option to resolve their critical torque application issue. The CLD torque multiplier shuts-off when the pre-set torque is achieved. It's a non-impacting tool and operates at a smooth, continuous rotation. The engineers approved the torque multiplier for their application.

The CLD convices with speed and precision

The CLD torque multiplier is ergonomically safer than the harmful hammering of impact wrenches and it eliminated the frequent costly repairs of the impact wrenches for the manufacturer. The torque multiplier increased the speed and productivity for the gas engine manufacturer, as it was faster than the hydraulic wrench and is less expensive. The CLD eliminated the cumbersome set up time and slow ratcheting process of hydraulic wrenches.

FURTHER INFORMATION

alkitronic torque multipliers provide precision torque control, making it easier and often safer to assemble and service threaded fasteners while reducing application problems and tool costs. The industrial gas engine manufacturer increased their production time and eliminated the costly engine rework associated with their old process by selecting the CLD torque multiplier.

Figure 2: alkitronic® CLD/L

TECHNICAL DATA OF THE CLD

- ✓ Simple 1-finger operation for right/left rotation, optional facility to enable the reaction to be locked in one position
- ✓ Robust motor housing from cast aluminium with proven pneumatic drive
- ✓ Proven high-performance gears, produced in a chip-free high-precision process to produce high loads with low wear
- ✓ On demand with optional silencer levels to reduce the noise from the motor exhaust