

# GENERAL ELECTRIC

## CATERS FOR THE INCREASING DEMAND FOR THE PRODUCTION OF INCREASINGLY LARGER COMPONENTS

Improves the key manufacturing processes for complex pieces





Jim Spark the Global Machining Leader at General Electric says:

“

Combined with our [method] of simplifying complexity and the number of piece set-ups... SORALUCE has also provided a series of additional technological characteristics that other suppliers could not do

**G**E Oil & Gas, a world leader in advanced technology equipment and services for the oil and gas industry, has invested in SORALUCE to not only ensure it can continue to provide the capacity to meet the rising demand for producing increasingly larger workpieces, but also to maintain its position as a cost-effective manufacturer of a wide range of exploration and production equipment.

At its sites in Montrose, Scotland, the company has installed, at the Brent Avenue manufacturing facility, a large-capacity SORALUCE FR-11000 travelling column, floor-type milling centre with live spindle, plus a SORALUCE KB150 boring machine.

Brent Avenue provides the company's global customer base with a wide range of solutions – for drilling (land, offshore and subsea), as well as for enhanced oil recovery, power generation, refinery, gas storage and pipeline. It was, however, to meet the increasing demand for subsea valve blocks that the large-capacity

SORALUCE FR-11000 was installed, according to Jim Spark, the company's Global Machining COE Leader for Subsea Trees Manufacturing.

He explains how manufacturing forecasts identified the pending need for increased capacity. “Combined with our desire to simplify complex set-ups, this led us towards Ward CNC, the exclusive UK agent for SORALUCE.” Our initial discussions led to a period of extensive technical reviews and meetings with both Ward CNC and Soraluce technical engineers,” says Mr Spark. “Of course, machining capacity – and accuracy – was paramount, and the 150-tool FR11000 satisfied those needs with its X, Y and Z traverses of 10,000 mm by 3,600 mm by 1,900 mm, plus a W axis (quill cross traverse) of 1,000 mm and, of course, the best-in-class linear guides (Heidenhain scales) and the innovative Dynamic Ram compensation functionality. “But we were equally impressed by the attention to detail by both Ward CNC and Soraluce, plus the crucial fact that SORALUCE could also provide a number of additional

technology features that other suppliers couldn't."

In terms of the 71/88 kW Soraluca, GE specified a range of attributes to complement the machine's impressive machining capabilities that included a fourth-/fifth-axis rotary/travelling table of 2,500 mm by 2,000 and able to accommodate loads of 40, 000 kgs.

These included a fixed pick-up station for automatic changing of the machining heads: a 2,500 revs/min H342 automatic indexing stepless head (0.001deg by 0.001deg); a 2,500 revs/min 180 mm modular quill; a long (1,050 mm) 1,500 revs/min boring head with 2.5deg rear indexing; Cogsdill adaptor and ZX900 head; and a Gerardi angular head.

Installed simultaneously, the 46 kW, 60-tool SORALUCE KB150 T-type boring machine – which features traverses of 4,000 mm (X axis), 3,200 mm (Y) and 2,000 mm (Z), plus a W axis (boring spindle) of 800 mm – also has a rotary/travelling table, of 2,000 mm by 2,500 mm and able to handle loads of 20,000 kgs.

A number of enhancements were also made to this machine's 'standard' specification, notably quill support and universal milling head and stock block system on the quill for the Sandvik ejector drilling, along with the upgraded features necessary for this - coolant/refrigeration, increased torque of 2,750 Nm, increased thrust in the W and Z axes via different ballscrews.