

City University London

Centre for Positive Displacement Compressor Technology

The Centre for Positive Displacement Compressor Technology is established as an interdisciplinary institution incorporating not only thermodynamic and fluid flow studies, but also improved mechanical design, stress analysis, vibration, lubrication, shaft sealing, control and whole system development.



Professors Smith and Stošić together with a team of designers, researchers and experimental officers, carry out advisory work, investigations and design on compressors and their associated equipment for companies throughout the world.

Services offered are: Preliminary project evaluation, Software development, Fault investigation, Thermodynamic and fluid flow studies, Stress analysis, Instrumentation and control, Noise prevention and elimination, Full product design and development, Performance and endurance measurements.

Starting with these, or any other rotor profile types, the Centre can perform accurate performance predictions followed by complete detail design of compressors for any application.

Using software developed in the Centre, full performance estimates can be carried out on new designs of these and any other type of positive displacement machines. Product evaluation can thereby be completed before proceeding to manufacture and testing.

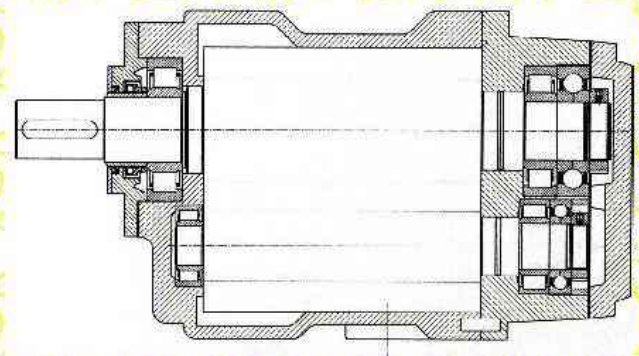
Located in the Centre's laboratories, a twin screw machine is set up for testing as a two-phase expander of flashing organic fluids. Machines of up to 50kW output can be tested on this rig.

The laboratories also contain rigs for testing refrigeration and air compressors of up to 100 kW power input.

The rotors, compressor body and layout of the 4/5 "N" screw compressor are presented in the figures.



"N" rotor profiles for screw compressors, based on a patented rack generation procedure, offer greater flow area, less leakage, smaller internal friction and greater tooth strength than any other known rotor profile.



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