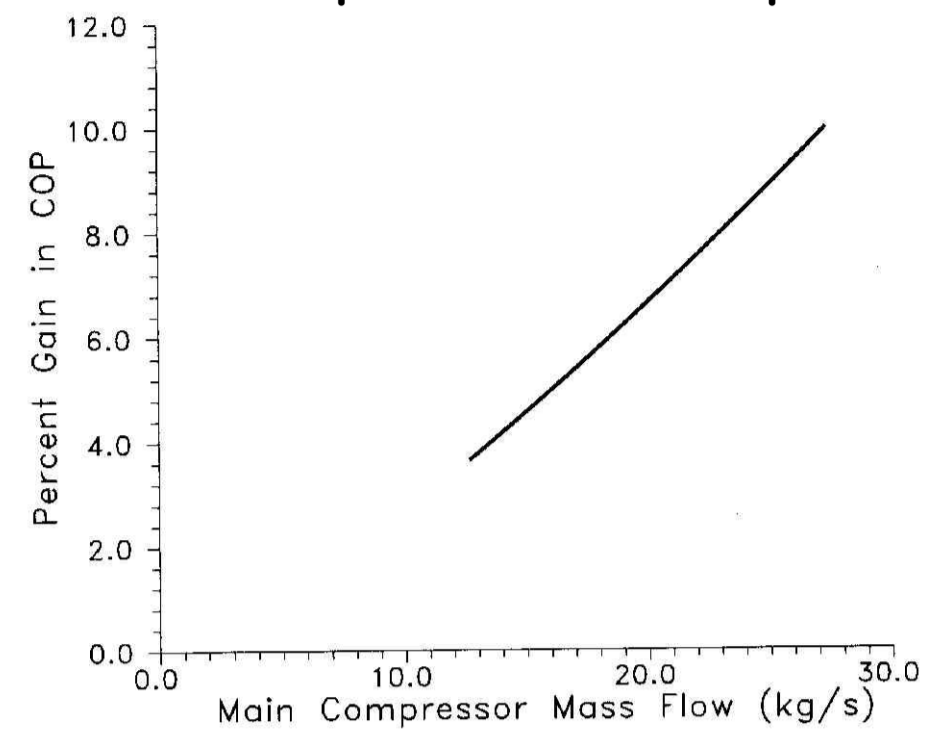
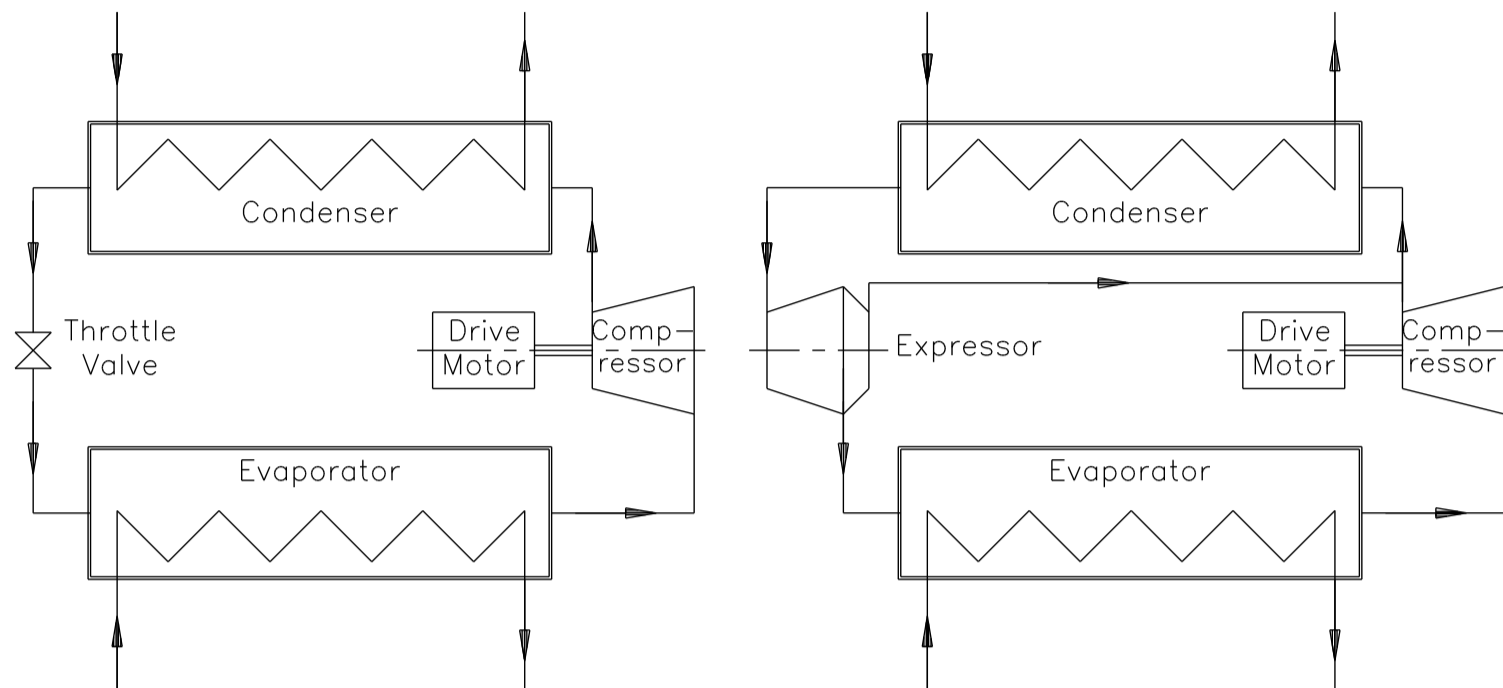


THE EXPRESSOR

An efficiency boost to vapour compression systems by the generation and utilisation of power recovered from the throttling process

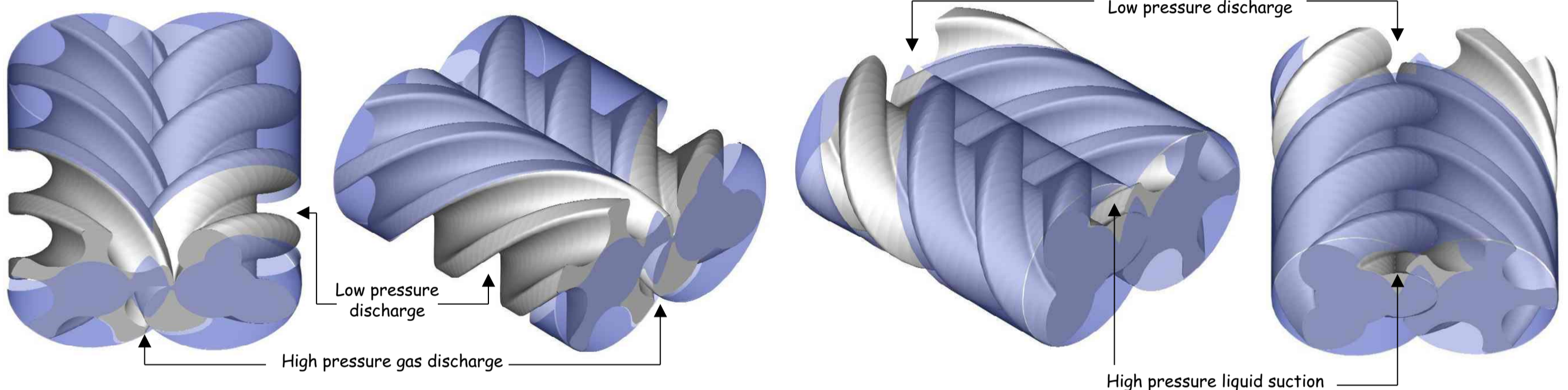
in a single unit

More liquid after the expansion and reduced external power demand due to internal recompression of the expanded vapour.



Replacement of the throttle valve by a single twin-screw unit which expands the liquid and recompresses the residual gas simultaneously.

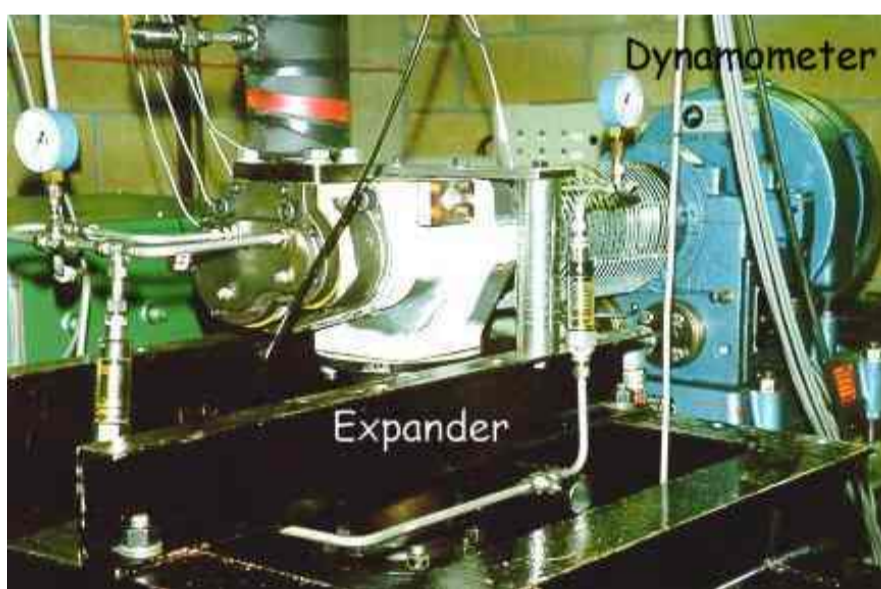
Gain in COP induced by the expressor vs main compressor mass flow.



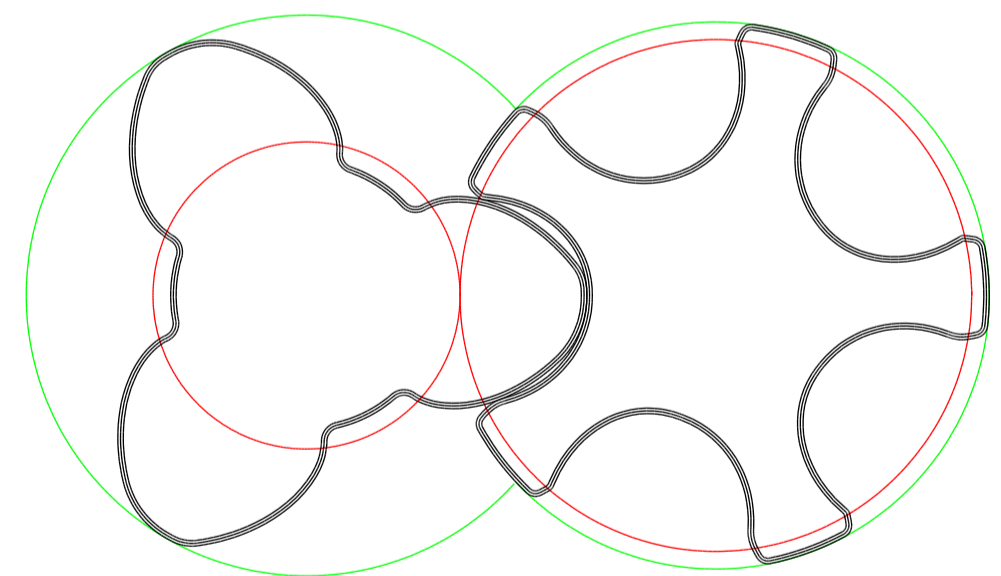
Principle of operation:

Saturated or subcooled liquid is expanded on one side of the rotors, while a part of the expanded gas is recompressed to the condenser pressure on the other.

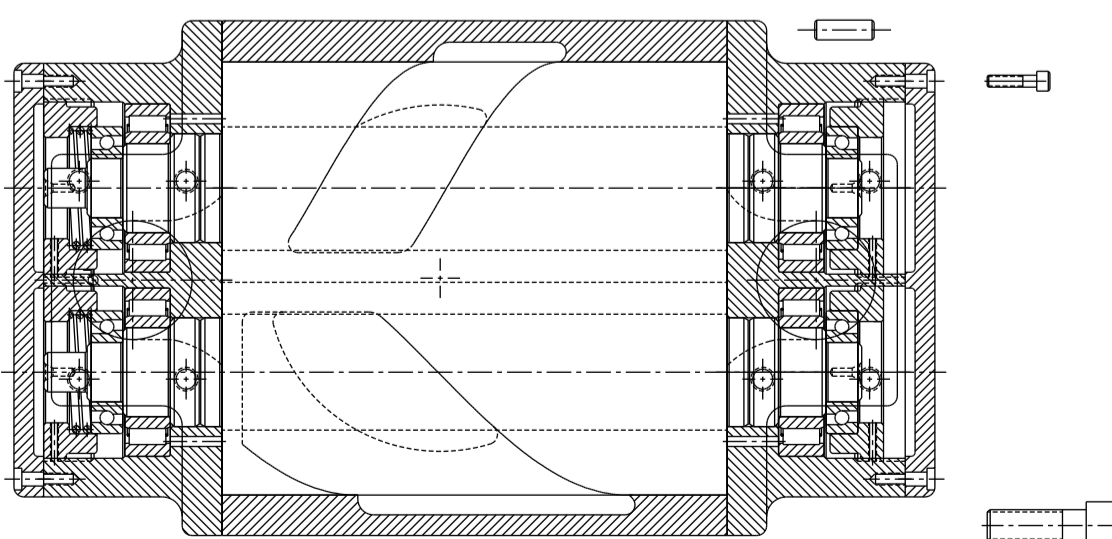
Ten year R&D project **Carrier** with **City University London**



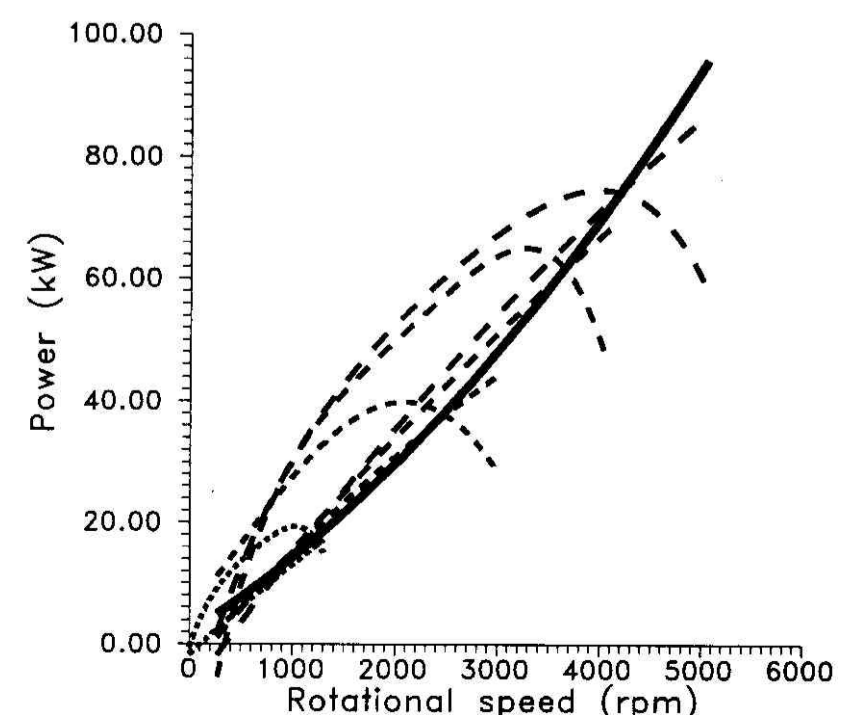
1997-1998 Build and testing of the screw expander



Double side asymmetric "N" profile screw rotors designed specially for simultaneous expansion and compression



1999-2000 Build and testing of the expressor



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E-mail: N.Stosic@city.ac.uk www.city.ac.uk/~sj376/intro.htm

Matched expander-compressor performance characteristics