

## Round Robin for Air Compressors

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MvW

EMSA has initiated the project ‘Guide to air compressor energy efficiency measurement method and small-scale Round Robin for air compressors’. The available ISO1217 standard (compressor acceptance test) is a general test standard which covers a very wide range of gas compressors. The standard does show some shortfalls e.g. in the specification of warming up and stable operation, the test set up and acceptable tolerances, which makes it difficult for test labs to provide closely aligned results no matter where in the world the measurements are made. Compressors might therefore not achieve the ratings given in their data sheets.

The main project tasks are:

- 1) Perform a round-robin-type exercise involving the exchange of two small-packaged compressor units,
- 2) Generate a ‘Guide to the measurement of packaged air-compressor isentropic efficiency’, based on ISO1217 and any other methods which are under current discussion, and
- 3) Produce a standard spread-sheet calculator, into which measured compressor performance data can be entered, to provide a final isentropic efficiency figure.

The guide could allow a competent laboratory, anywhere in the world, to obtain a single efficiency value, which would closely align with that obtained by any other laboratory, using measuring equipment which is readily available and not unduly expensive. The project will aim to incorporate the final guide into ISO1217 or perhaps a new standard.

### Test laboratories involved

Australia: CalTest, Port Elliot SA 5212, Australia

Denmark: Danish Technological Institute (DTI), 2630 Taastrup, Denmark

Germany: University of Stuttgart, Institute for Energy Economics and Rational Use of Energy (IER), Stuttgart, Germany

**Industry contact** group: the project team has invited for review and feedback on the project’s intermediate and final results ISO TC 118, Pneurop/EU and CAGI/US.

**Timeline:** Q3/2022 – Q2/2024

### Contact:

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