



Identification of the installation/facility :

Country: Sweden
Location (city):Bromma (Stockholm)
Name of the facility:STARCS Compressor Test Facility
Date of construction or of acquisition or of main refurbishment:2006
Owner:STARCS
Contact point:Mikael Tjernlund
Internet site:www.starcs.se

Technical characteristics:

1 - Type of infrastructure

Wind tunnel	<input type="checkbox"/>
Propulsion bench	<input type="checkbox"/>
Structures facility	<input type="checkbox"/>
Material facility	<input type="checkbox"/>
Simulator (ex. Flight simulator, tower, ...)	<input type="checkbox"/>
Flight test bed (aircraft, embedded facilities, ...)	<input type="checkbox"/>
Supercomputers	<input type="checkbox"/>
Other	<input checked="" type="checkbox"/>

2 - Main technical characteristics

Test bed for turbo compressors. Motor power 4.2 MW continuous with variable frequency drive, two gear boxes for 0 - 5600 rpm and 0 - 25 000 rpm respectively. Air intake system with pressure regulation in the sub atmospheric regime and flow correction measures. Exhaust system with back pressure regulation 20 - 600 kPa with ejector support for sub atmospheric conditions, maximum mass flow 50 kg / s.

3 - Research domains which can be addressed (refer to ACARE taxonomy <http://www.acare4europe.com/docs/ASD-Annex-final-211004-out-asd.pdf>)

3.Propulsion

Performance

Increased turbo machinery efficiencies and stall margins

Variable pitch for fan blades to achieve high thrust at low speeds

Air-breathing propulsion

Geared fan engine

4 - Main (or specific) associated measurement techniques

Data collection for several hundred channels of strain gauges, pressure taps, thermo couples, accelerometers. Tip clearance probes etc. Complete system for on the fly compressor monitoring in combination with automatic pre defined actions in case alarm levels are exceeded.

5 - Operational status

Fully operational



Financial elements:

Replacement cost (M€uros)

Less than 10

10 to 30

30 to 60

60 to 100

More than 100

Practices concerning:

Access policy (contract, voucher, free access for research, etc...)
Commercial customers, Research at reduced price.

Support (regional, national, European, private, ...)
No external support at present.

Origin of information ('signature'): author and date

Per Davidsson 2011-01-17