

GenTest

# CoGenTest

Test benches for groups  
of cogeneration



### Container test room (20 ft)

- Standard 20 ft ISO container
- 1 double window with bars (1045 x 2100 mm)
- 2 windows on each long side with bars
- 1 semi-glazed pedestrian door with bars
- 1 blind window that opens outwards
- 3 light points and 3 wall sockets
- 2 x 1500W wall-mounted fan heaters
- 1 predisposition for split A/C + 1 split mounted
- Panel with 6 kW main switch and protections

### PC station

- Notebook 15.6" FHD, 2.7GHz, 500 GB HDD, 2 GB Video
- Software: MS Office 2010, AutoCAD LT 2013, PC Schematic
- Accessories: optical mouse, 26" Full HD external monitor
- HP CP5225DN USB/NET A3 laser printer

### Data acquisition and control system (DAQ)

- Rack 19" standard RAL7035 – 600x2100 mm
- National Instruments CompactDAQ 8 ENET slots
- Modules included: AI  $\pm 300V$ , 4-20 mA, TC, RTD, DO, DI, etc.
- Industrial rack mounting kit, 240V power supply

### Resistive load 2 MW (RH2000)

- Resistance: 2000 kW – 3 phase – IP23 – 10 ft container
- Voltage: 400V 3ph 50Hz – Steps: 1kW
- Horizontal axial ventilation
- Internal copper bars for group connection
- FeCrAl resistors – coefficient 150ppm, accuracy 5%
- Protection: overtemperature, fuses, differential pressure switch
- Local controls: general ON/OFF, fans, load, status lights

### Flow instruments (liquids and gases)

- 4 x Coriolis Promass 80F15 DN15 – IP67 – PN40
- 316L stainless steel – 2-line display – 4-20mA HART output + freq
- Accuracy: 0.15%, 0.0005g/cc – Power supply 85-260VAC

### Auxiliary sensors

- 15 x Pt100 SUB 3 wires, 4m cable, class A IEC 751
- 15 x Thermocouple J – 25mm – range 50-400°C
- 1 x Fluke 568 USB IR Thermometer (-40 °C to 800 °C)
- 1 x PTX5072 0-3 bar G (liquids), 1 x PTX5072 0-100 mbar G (gas)

### Gas analysis

- ENOX II: continuous NOx measurement (max 1500 ppm)
- ENOX II Plus: O2 and CO (max 500 ppm)
- METHOX: CO2 – accuracy 10%
- Interfacing with CogenTEST LabVIEW and NI 9203

### Knock engine detection

- PARAUT detonation sensor
- Knock-SW Software in LabVIEW
- NI 9234 – 4ch,  $\pm 5$  V, 51.2 kS/s, 24-bit IEPE

### Environmental conditions and painting

- Storage temperature: -10°C to 60°C
- Outdoor operation: -20°C to 40°C
- Container painting: primer and finish RAL 7035 + RAL 9010, 150  $\mu$ m
- Humidity protection with internal heaters
- RINA recertification required (CSC tags for boarding)

### Software and automation

- CogenTEST Custom Software on LabVIEW
- Remote and local control
- Test archive and automatic reporting

### Notes and exclusions

- Certifications: Bureau Veritas / Lloyd's / RINA at the customer's expense
- Structural design, documentation and authorization costs excluded
- Internal load distribution to be defined in the design phase
- Anything not expressly indicated is excluded from the supply.