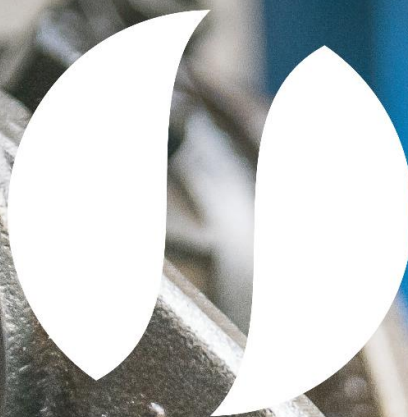
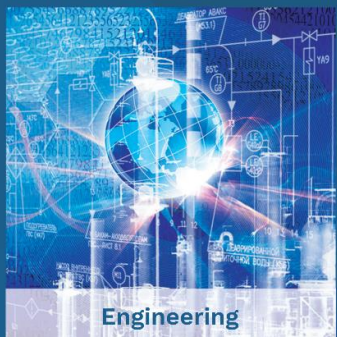




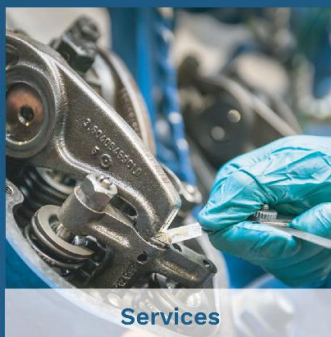
Generator Sets



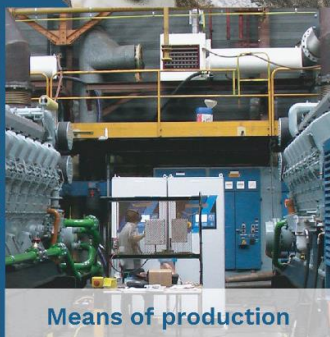
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Engineering



Services



Means of production



Equipment

Flipo-Richir provides the entire range of mechanical, electrical, and automation services for your Generator Sets.

1. Sale and installation of industrial generator sets

ENGINEERING AND NEW CONSTRUCTIONS

Determination of the most suitable equipment and implementation solution:

- Comparative studies of different technical options
- Power study
- Location study and consideration of environmental constraints
- Electrical, acoustic, and ventilation pre-study.
- Automation solutions: development of "open" automation systems, adaptable to specific customer requirements

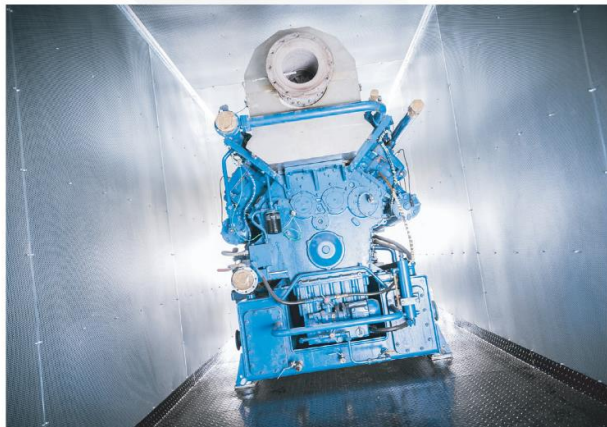
- Specific functionality: redundant automation, degraded operation
- Project preparation:
 - 2D and 3D projects of the location
 - Acoustic study

Electrical studies:

- Drafting of calculation notes and the implementation documentation
- Definition of test procedures on the platform
- Definition of commissioning procedures

INSTALLATION OF INDUSTRIAL GENERATOR SETS

- Handling
- Exhaust
- Fuel circuit
- Cooling circuit
- Soundproofing
- Ventilation
- Electrical installation (high and low voltage)



ASSEMBLY AND INSTALLATION OF SPECIAL INDUSTRIAL GENERATOR SETS

- Assembly of special generator sets for all types of applications (industry, oil and gas, data centres, tertiary sector, production plants)
- Assembly and installation of industrial generator sets with remote cooling or heat recovery system
- Assembly and installation of industrial generator sets with 2 alternators on the shaft line (lining procedures)
- High power generator sets with slow motors (750 rpm) (laser alignment, stress measurements between crankshaft counterweights)
- Installation of the engine instrumentation
- Platform tests at our premises in Seclin

CUSTOM MADE CONTAINERS AND ENCLOSURES

Installation of industrial generator sets in a container according to user's specifications :

- Location and constraints study (acoustics, fire resistance, ventilation, environment, thermal insulation ...)
- Provision of plans in 2D and 3D
- Standard containers (20 feet, 40 feet, high cube)
- Custom-made containers (recut shipping container, container completely fabricated with ISO corners)
- Containerisation of any type of third party equipment (transformers and HV cells, LV switchboards, inverters, dynamic inverters, compressors, special machines)
- Adaptation of the container to the usage environment: tropical countries, containers for very cold conditions



PLATFORM TESTS

Possibility of platform tests and acceptance in our premises in Seclin :

- For diesel or gas sets
- Possibility of grid simulation for testing coupling sequences
- Possibility of grid coupling tests at 20kV
- Possibility of coupling tests between sets
- Load tests on resistive benches
- Capacitive or inductive load banks can be used for tests, depending on the application
- Endurance tests

MEANS OF PRODUCTION

The platform is equipped with :

- Diesel tanks
- A natural gas inlet
- Air coolers for unit testing of generator sets up to 3550 kVA
- Exhaust outlets and adapted silencers
- Electrical protection circuit breakers
- Coupling devices between sets
- Load banks



COMMISSIONING

Commissioning and installation of industrial generator sets :

- Commissioning procedures and checkpoints of engine manufacturers
- Adjustment of coupling and load sharing systems
- Load tests
- Capacitive or inductive load bank tests

Training

- Usage and operation
- Maintenance

2. Maintenance

MAINTENANCE AGREEMENT: A PRIVILEGED RELATIONSHIP

- Preventive maintenance of diesel engines, gas engines, multi-brand alternators
- Conditional maintenance based on manufacturers' recommendations
- On-site load bank tests
- Monitoring engine wear by oil analysis
- On-call 24 hours a day, 7 days a week
- Engine and alternator control upgrades
- Replacement of automation cabinets (functional obsolescence or changes)
- CMMS – Putting documents online: All monitoring documents are accessible online according to the hierarchy of access conditions for the various users:
 - Intervention reports
 - Analysis results
 - Maintenance plan
 - Nomenclature
 - Quotation in progress





MAINTENANCE AND RENOVATION

- Reconstruction of chassis and canopies
- Engine repair of all brands on site or at our premises
- Re-engineering of equipment
- Requalification of thermal engines
- Alternator repair (rewinding)
- Engine and alternator control upgrades
- Replacement of automation cabinets (functional obsolescence or changes)

INDUSTRIAL GENERATOR SET : PRODUCTS

For each customer problem, there is an appropriate answer to ensure that your generator set best meets your needs and capacities.

INDUSTRIAL DIESEL GENERATOR SET :

Industrial diesel generator sets of all brands, from 3 to 4500 kVA, in chassis, in soundproofed canopies, in containers.

All brands: answer with the best adapted generator set product for the application

INDUSTRIAL GAS GENERATOR SET :

All powers, for electricity production or cogeneration plants

INDUSTRIAL BIO GAS GENERATOR SET :

Operating on gas from anaerobic digestion, mainly for livestock farms or sewage treatment plants

OTHER APPLICATIONS

- Motor pumps
- Compressor units
- Traction



• FLIPO-RICHIR OPERATES IN ALL SECTORS OF ACTIVITIES AND IN PARTICULAR :

DATA CENTRE – MASS DISTRIBUTION – HEALTH SECTOR – INDUSTRIES

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