



SERVICE PROGRAMME



We are on the move



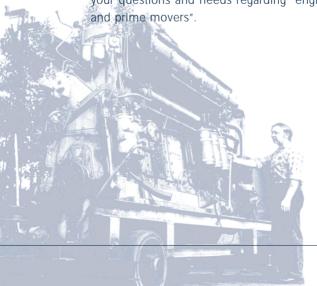
#### We are on the move ...

... everywhere you need us. Fast, flexible and reliable. STORM offers you complete service-packages for different applications and sectors.

As one of the largest European OEM-independent service companies for combustion engines and their components we offer technical quality as well as comprehensive and professional consulting services.

# Our experience in the field of engine service for over 70 years stands for this.

On the following pages we present a tour through our multifunctional service programme. Our Service Centers will answer all your questions and needs regarding "engines and prime movers".





# The STORM spectrum of services:

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# The STORM Quality Management

The high quality installations of our customers require a preventive maintenance. Shutdowns and downtimes have to be avoided. Therefore, we are on the move.

We continuously work based on highest quality requirements in compliance with legal occupational safety regulations in all operating areas.

Our certifications according to ISO 9001: 2008 and SCC\*\* (Safety Certificate Contractors) guarantee manufacturer independent quality of the highest level.

You will find an overview of the extensive STORM service packages on the following pages.











# Service Center **Stationary Power and Energy Systems**

Services for all stationary power and energy systems driven by combustion engines

#### Competent support

- In all areas of operation and maintenance
- In questions regarding the economic efficiency of your power systems
- · In all areas of project management
- Extensive documentation

#### Individualized maintenance contracts

- Manufacturer independent for all common types of engines
- Need-oriented, flexible contract structures

- Comprehensive ECOS® overhaul programm for cylinder heads
- · Minor and major engine revisions on site and in our plant
- ECOS® cylinder-head in exchange
- ECOS® exchange engine / ECOS® short block as a fast available economic alternative
- · Modification of engines and systems to reduce emissions and improve efficiency
- Overhaul of all common turbochargers
- · Status-related service and maintenance according to ISO 9001: 2008





# Service Center Stationary Power and Energy Systems

#### Services for biogas plants

- Competent problem solving based on longterm experience with sewage gas, landfill gas, coal mine gas and special gases
- · Independent advice and support
- · Flexibility and around-the-clock contact
- · Project management

#### Your advantages

- Customized and optimized service schedules
- Direct contact with our supervisors and service technicians
- Short response time
- Cost savings through maintenance work carried out by operator
- Especially trained service staff
- Fast and reliable supply of spare parts





## Service Center FLECTRO and UNO

Services in all areas regarding the peripheral assemblies (control systems. electrical engineering, hydraulics)

#### Our services

- Upgrading
- reNewal
- · Optimization of

#### · Switch gears

Modernization and fabrication of switch gears and control gears

#### · Control Systems

Optimization and modernization of standard control choices of the engine and the periphery

#### · Engine monitoring/checks

- Network protection checks
- Performance of VBG4 checks
- Alternator checks
- Performance of power measurements and long term measurements
- Thermography

#### Trouble shooting

#### Other services

- Optimization of all kinds of ignition systems, including spark plugs
- Optimization of systems for exhaust cleaning systems
- Overhaul of AC/DC alternators





## Service Center Mobile and Marine Power Systems

# Services for diesel engines in Mobile and Marine Power Systems

#### Comprehensive support and service

- · Engine overhaul
- · Individualized maintenance advice
- Performance of preventive and corrective maintenance worldwide
- Repowering, upgrading and optimization
- Thorough and immediate damage and cost analysis
- Extensive advice concerning financing and insurance questions

#### Mechanical production and machining

- Overhaul of all engine components
- Mobile equipment for crankshaft grinding, drilling of main bearing grooves and the milling of cylinder liner seats – worldwide and on site.

- Reconditioned, certified exchange spare parts and replacement engines in stock
- Overhaul, spare part production and service for industrial and feed pumps
- Overhaul of marine gears and all makes of common turbochargers
- Inspection and reconditioning of injection pumps and injectors
- · Own production of slide bearings





# **Service Center** International **Projects**

#### Reliable, individual maintenance service for combustion engines of all common engine types worldwide

- · Comprehensive project management
- · Optimization and maintenance
- Support of highly skilled engineers
- Technical support
- · Project documentation

- Mobile equipments
- · Service, repair and overhaul of Mobile and Marine Powersystems and stationary power generators
- · Mechanical Machining of engines and prime movers
- · Comprehensive spare part service

# Service is a dynamic discipline for us











## Service Center Mechanical Machining

# Services for the overhaul and production of machines and engine components

#### Performance and services

- Extensive capacities for the mechanical machining of components
- Reconditioning of engine blocks and bed plates
- Reconditioning of cylinder liner seats with L and Z rings
- Reconditioning of cylinder heads, valves, valve seats, cylinder sleeves and pistons
- Laser measurement of main bearing grooves
- Drilling of main bearing grooves

- Own production of slide bearings
- Crack testing of components and material
   Service for injection pumps and industrial pumps
- Reconditioning of spindle pumps
- Overhaul of components from industrial plants and compressors in our factory as well as on-site



## Performance data of our mechanical capabilities

#### Crankshaft grinding

- stroke up to 350/700 mm
- · length up to 8.000 mm
- · oscillation circuit up to 1.750 mm
- · capacity up to 12 t

#### Surface grinding

- · length up to 250 mm
- · width up to 800 mm

#### Internal grinding

- · diameter up to 250 mm
- · length up to 250 mm

#### Cylindrical grinding

- · length up to 2.200 mm
- · diameter up to 480 mm

#### Honing

- · stroke up to 3.000 mm
- · diameter up to 700 mm
- · min. diameter of 8 mm

#### CNC boring mills and milling machines

- x-axle up to 3.500 mm
- y-axle up to 2.000 mm
- · z-axle up to 1.250 mm

#### CNC milling with C-axle

- · x-axle up to 700 mm
- · y-axle up to 500 mm
- · z-axle up to 600 mm

#### Lathing

man operated

- · length up to 8.000 mm
- · diameter up to 500 mm CNC operated
- · length up to 2.000 mm
- · diameter up to 700 mm

#### Milling

conventional

- x-axle up to 900 mm
- · y-axle up to 370 mm
- · z-axle up to 250 mm

#### Metal spraying

- · crankshafts up to a length of stroke of 350/700 mm
- · length up to 8.000 mm
- · diameter up to 1.000 mm

#### Crack testing

- · magneto-flux process
- · ultrasound testing of components and material

If you have questions apart from the performance data given above, just give us a call, we will be pleased to help you.







# Service Center Compressor Systems

Services covering all aspects of reciprocating piston compressor systems

# Full service for reciprocating piston compressor systems

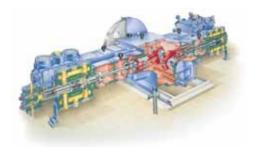
- Maintenance (service, repair and overhaul) in accordance with the PRODIS® service plan with qualified service technicians on-site or in our work shop
- Customized, manufacturer-independent maintenance for all conventional reciprocating piston compressor models in the natural gas and petro-chemical industries

#### Retrofitting and optimizing

Solutions matched to customers requirements for the optimization of the availability and economic efficiency of existing reciprocating piston compressor systems in the following areas:

Technical consulting with respect to the optimization of the operating life und uptime, e.g. in the case of

- Combination of material between cylinder liners and piston rings and rider rings
- Combination of material between piston rods and compression packings





#### Supply of spare parts

#### Overhaul of components

- · Compression packings, suction and discharge valves
- · Crossheads, cylinders and cylinder liners
- Piston rods with a new coating technology

#### Overhaul of crankcases and cylinders

At our customers' site and also in our work shop

· Line boring of main bearing pockets and crosshead channels

#### Additional services

- · New production of piston rods, cylinder liners, crossheads and plain bearings
- Valve service
- Reconstruction of base plates
- Measurement using laser technology
- · In-house department for measurement and control engineering





# Service Center **Engine Spare Parts**

Service for the fast and reliable supply of spare parts and spare part kits

#### Spare part packages for all maintenance levels

- · Complete spare part kits for minor and major ECOS® engine revisions for all common engine types
- · Individualized maintenance packages with all required gasket sets, filters and spark plugs according to the customers demands
- Fast, flexible (overnight) shipment
- Price advantage over individual orders

#### Gasket sets for cylinder heads

 Gasket sets for all common engine types, series and maintenance interval available from stock

#### Special service for spark plugs

- Spark plugs and spark plug sealing rings available from stock
- · Complete documentation and adjusting instructions available for all spark plug types
- · Shipment of special tools and measuring instruments
- ECOS® spark plugs for gas engines





# Service Center **Reconditioned Engines** and Components

#### Service and consulting for sourcing of all engine parts and components

#### Reconditioned certified engine components

· Large stock of exchange parts such as cylinder blocks, oil coolers, water pumps, turbochargers, cylinder heads, camshafts, injection pumps, pistons, etc. for diesel and gas engines for brands like Deutz. MWM, MAN, MAK, Jenbacher, Cummins, Scania, Waukesha and others.

#### Reconditioned engines

Different makes and power ratings

- For ocean and inland shipping
- · For stationary power systems
- · For rail vehicles
- · For other prime movers and power units

#### Certified crankshafts

- · Large selection of reconditioned crankshafts
- · Delivery with a classification certificate, e.g. GL, LRS, DNN, ABS, etc.

#### Best quality through ISO 9001: 2008

• In our company all engine components are reconditioned professionally and precisely according to the manufacturer's specifications.



# Our branches and service branches



www.a-storm.com



## Service around-the-clock

In our network of branches and service branches STORM's experienced teams are available for technical advice and support - around-the-clock.

We offer you a complete service system which includes all areas of safety, operation and maintenance of engines and energy systems.

In case of need you can reach our Service Centers with 24/7 service under:



## Service telephone

+49 172 2188655

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We look forward to your visit.