



AS SAFE AS ON DAY ONE.

The GEA repair process for separator bowls
and decanter scrolls

ORIGINAL MANUFACTURER EXPERTISE

Optimally coordinated service throughout the entire life cycle of your centrifuge

The statistics of our repair workshops worldwide confirm the longevity of our separators and decanters: The average age of a GEA centrifuge at its first repair is 13 years, but machines from the 1980s and 1990s are more the norm for our workshops than the exception. GEA's separation technology expertise comprises more than 3,500 different processes and manifests itself in 2,500 products for use in the dairy, food and beverage, marine, oil and gas, energy, chemical, pharmaceutical, and environmental industries. Accordingly, our machine portfolio is diverse.

All necessary steps of a high-quality and efficient repair are carried out in our certified and continuously audited repair workshops and can be traced in detail: from the goods receipt notification to diagnosis and the actual repair process, to the final quality inspection and comprehensive documentation, and the seaworthy packaging for return shipment to you.



EXPERTS FOR CENTRIFUGE SAFETY

Safety first – with specially trained experts

For each of our repair workshops, a Product Safety Officer is required, who has specific technical understanding and extensive experience to assess the safety of machine operation at all times and to decide whether a repair is necessary or production can continue.

The training of the Product Safety Officers is conducted by specially trained experts from various specialist departments and concludes with an examination.



The process on your side

To send a bowl or scroll to one of our workshops, certain documents are mandatory.

Please always include the following with your shipment:

- QR code-based delivery note
- Completed product hazard declaration
- Return good authorization

Your local GEA service contact will provide you with these documents.

Please note

If customs clearance of your shipment is required, it may take additional time until the centrifuge is released for inspection in our repair workshop.

From inspection to offer

Order preparation



- Return goods authorization
- Product hazard declaration
- Safety data sheet and technical release
- Customs clearance
- Order creation
- Machine card, test card, drawings
- Disassembly

Cleaning



- Result: bare metal surface
- Cleaning at 75 °C with caustic soda
- Rinsing with deionized water

Dye penetration test



(Non-destructive examination)

- Dechroming required before dye penetration test
- 20 minutes red color dye penetration
- 20 minutes white color development
- Indication of possible cracks, corrosion, erosion and cavitation
- Inspection by in-house materials laboratory or Product Safety Officer

Inspection



- Assessment of the corrosion progress through visual assessment and rotation as needed
- Detailed inspection and measurement of the individual parts
- Time estimates for repair including procurement time for necessary spare parts

Repair quotation



- Offer creation
- Creation of the damage report or optional commissioned special inspection report

OUR RANGE OF REPAIRS

| | |
|--|---|
| Manual milling: Worn key grooves are reworked with milling | Tin plating: Individual parts are re-tinned, if technically required |
| X-ray inspection | Dynamic balancing of individual parts |
| Re-machining of washed-out grooves in the bowl shells | Discharge ports CNC milling, valve and nozzle bores bushing or re-milling |
| Outside and flank hard facing as wear protection for aggressive or erosive products | Functional check with water and discharge measurement |
| Stainless steel blasting: Restoring of the required surface quality | Wet safety run in case off extensive re-machining or replacement of major bowl parts |
| Sandblasting: Tin coatings and paints are sandblasted | Coating: A special hard metal coating is applied on surfaces that are heavily stressed by the product |
| Replacing of tiles: Renew wear and tear protection | Welding: Re-machining of erosion and wear |
| Balancing: Balancing is required after every repair to avoid imbalances | Rolling in: Linings and claddings are rolled in to restore size and dimensions |
| Modification: Improvements in function or design to enhance product specifications or to align with changing of product parameters | Conversion: Change in the design (e.g. self-control) and function to meet various requirements (e.g. hard metal protection, wear liner, wear protection, or special sealing combinations) |
| Turning: Re-machining of diameter, threads and seats | Restoration of the guiding diameters with linings |
| Hard chroming: The chrome protection applied to specific surfaces and provides increased wear resistance | Polishing: High quality standard with grinding and polishing |
| Heat treatment: Heat treatment can be performed in a vacuum oven to remove hard spots on major bowl parts | Painting according to machine card |

Milling

of the lock ring grooves for the tool to open the bowl.



Before



After

Re-machining

by polishing into the required surface quality with or without paste.



Before



After

DID YOU KNOW ...

... that we have a wide range of other repair products on offer for you?

- Rental bowls to avoid downtimes during the repair time and ensure production
- Bowl audit – regular inspection of the bowls in our workshops
- Exchange parts – old for new or factory-rebuilt parts
- GEA Fast Lane Service – fast repairs with short delivery times for higher system availability
- Cause analysis – analysis of the cause of damage
- Inspection reports – detailed status report
- Internal repair apps – employee support to optimize and accelerate repairs
- Internal repair training courses – regular training of employees



... that an imbalance of 100 g results in a force of 1,000 kg?

The bowls and scrolls in our separators and decanters have to handle g-forces between 8,000 g and 15,000 g. To put this into perspective: if a car is driving at 50 km/h and crashes into a wall, this would be about 20 g. And you can imagine how the car would look after this impact and the resulting forces. Nevertheless, our separators and decanters typically run for at least one to two decades before any repairs are necessary, and in many applications, they run 24/7. That's why balancing is required after every bowl repair.

- The residual imbalance is less than 5 grams upon delivery. This is equivalent to the weight of a maximum of 3 sugar cubes.
- A wet over-speed run (safety run) is required for new supporting bowl parts (+ 20 % above nominal speed).

OUR WORLDWIDE REPAIR NETWORK: SERVING OUR CUSTOMERS



Do you require a repair? The procedure in a nutshell

Register your repair requirements with us

Notify your local GEA contact by phone or email that your centrifuge requires service, quoting the serial number.



Order registration

We enter your order in our system and create your individual return documents (Return Goods Authorization (RGA), Product Hazard Declaration (PHD)).



Return Goods Authorization & Product Hazard Declaration

Please complete the return documents consisting of Return Goods Authorization (RGA) and Product Hazard Declaration (PHD). Then, please submit both documents to us before returning the goods.



Shipping preparation

When preparing for shipment, please include the RGA and return form with your shipment.



This procedure enables us to optimize the planning of incoming repairs and to reduce the processing times in our company, as planning for this can already take place before the repair arrives.

Workshop capabilities for separators:

| Region | Workshop | Balancing test frame / Bunker | Diameter mm | Speed rpm max. | Safety run | Factory-rebuilt | Test run | Teroblab coating | De- and rechroming | Passivation and certification | Tinplating |
|------------------------|-------------------|-------------------------------|-------------|----------------|------------|-----------------|----------|------------------|--------------------|-------------------------------|------------|
| Dach & EE | Oelde | TG 1/2 | < 1,100 | < 20,000 | x | x | x | x | x | x | x |
| NCE & WEMEA | Cuijk | TG 2 | < 540 | > 10,000 | x | x | x | | x | | |
| | Granollers | | | | | x | | | | | |
| | Izmir | TG 1 | > 540 | < 10,000 | x | x | | | x | | x |
| APAC | Singapore | TG 2 | | | | x | x | x | x | | x |
| | Medan | x* | | | | | | | | | |
| | Tianjin | TG 1/2 | < 1,100 | < 20,000 | x | x | | x | x | x | x |
| LAM & NAM | Northvale | TG 1/2 | < 1,100 | < 20,000 | x | x | x | x | x | x | x |
| | Patterson | TG 1/2 | < 1,100 | < 20,000 | x | x | x | x | x | x | x |
| | Buenos Aires | TG 1 | > 540 | < 10,000 | | x | x | | | | x |
| | Santiago de Chile | | | | | x | x | | | | |
| | Campinas | TG 1/2 | < 1,100 | < 20,000 | x | x | x | x | x | x | x |
| | Mexico | | | | | x | x | | | | |

* In frame

Workshop capabilities for decanters:

| Region | Workshop | Balancing test frame / Bunker | Diameter mm | Speed rpm max. | Safety run | Factory-rebuilt | Test run | Flame Spray | PTA | HVOF Coatings | Laser welding |
|------------------------|-------------------|-------------------------------|-------------|----------------|------------|-----------------|----------|-------------|-----|---------------|---------------|
| Dach & EE | Niederahr | TGH | > 1,000 | < 5,000 | x | x | x | x | x | x | x |
| NCE & WEMEA | Ubeda | TGH | > 750 | < 5,000 | x | x | x | x | x | x | x |
| | Granollers | | | | | x | x | | | | |
| | Izmir | TGH | > 750 | < 5,000 | x | x | x | | x | x | x |
| | Milton Keynes | TGH Lean | > 750 | < 5,000 | x | x | x | | x | x** | |
| APAC | Singapore | TGH | < 750 | < 5,000 | x | x | x | x | x | x** | x** |
| | Tianjin | TGH | < 750 | < 5,000 | x | x | x | x | x | x | x |
| | Bangalore | x* | | | | x | x | x | x | x | x |
| LAM & NAM | Northvale | TGH | < 750 | < 5,000 | x | x | x | x | x | x | x |
| | Patterson | TGH | < 750 | < 5,000 | x | x | x | x | x | x | x |
| | Buenos Aires | x** | | | | x | x | | | | |
| | Santiago de Chile | x** | | | | x | x | | | | |
| | Campinas | TGH | < 750 | < 5,000 | x | x | x | x | x | x | |
| | Mexico | x** | | | | x | x | | | | |

* In frame

** Sub-supplier

17

workshops in our international repair network

5,000+

repairs annually

30,000

m² repair workshop area

150+

employees for repair business

450+

rental bowls and scrolls in stock

300+

exchange bowls and scrolls in stock

To minimize downtime, we have a comprehensive network of repair workshops that is constantly growing. Currently, more workshops are undergoing the stringent GEA certification process, which will expand our network to include approximately 30 repair workshops in the future.





Learn more
on our website

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