

360°REPAIR SERVICE 360° PREVENTIVE SERVICE 360° RETROFIT Quality 380°REPAIR SERVICE **V**tilidelisvA 360° [RAII] 360°SPARE PART SERVICE

>> Overview of Repair Services



Overview and Index

360° REPAIR SERVICE – fast, reliable, professional

The operational life of machines and systems can often be significantly extended by upgrading various components cost-effectively. The 360°REPAIR SERVICE offers competent and certified repair of varied machine components and a wide range of components on a hire basis at attractive prices. This changes nothing in the performance, which remains as perfect as ever.



On the following pages, you will find an overview of our repair portfolio. In addition, a listing of repairs for different products is provided. Fixed or guide prices are available on request.

All prices are on an "ex-works" basis (Incoterms 2010).

>> Pump repairs Page 03

- Axial piston metering pumps
- In-line piston pumps
- Gear pumps
- Hydraulic pumps
- Screw spindle pumps

>> Mixhead repairs Page 04

- High-pressure mixheads of series MT, MN, MX, MQ, MD, ML and MXL
- Low-pressure stirrer mixheads of series MEL, MSL and MNR (Baynat® control block)

>> Injector repairs Page 05

- Balanced-pressure injectors
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- Throttle valves
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- Control units

>> Further repair services

- Repair of mixhead control box
- · Repair of other components
- Replacement parts
- Hire of mixheads

Pump Repair – Overview and Scope of Services

>> The repair service is available for the following pumps and pump series:

- Axial piston metering pumps
 (e.g. Hennecke HQ, Hennecke HL and Hennecke HP as well as REXROTH, HYDROMATIK, ROTARY-POWER)
- In-line piston pumps (e.g. BOSCH)
- Gear pumps (e.g. BEINLICH, BAMAG, KRACHT)
- Hydraulic pumps (e.g. PARKER)
- Screw spindle pumps (e.g. ALLWEILER, KRAL)

>>> The 360°REPAIR SERVICE for in-line piston pumps, gear pumps and hydraulic pumps includes the following services:

- All pumps are disassembled, cleaned, mounted, checked for correct functioning and subjected to a performance test
- Replacement of all seals (completely new seals on the pump unit)
- Exchange of the complete drive unit (rotor, piston, sliding block holder, cradle, bearing, valve plate, actuator shaft) including the replacement of the control plate [if axial piston pumps are repaired]



We only use high-quality **original spare parts** for the repair! After the repair, each pump is suitable for polyol or isocyanate.



As agreed by contract, the repair of an axial piston pump is ensured simply by sending your pump to Hennecke. **No** cost estimate will be made because the repair prices of axial piston pumps are **fixed prices**.



If in-line piston pumps, gear pumps, hydraulic pumps and screw spindle pumps are sent in for repair, a cost estimate including the delivery time will be submitted to you. After your approval of the cost estimate, the repair will be released and carried out.



On principle, we reserve the right to charge a lump-sum fee for inspection and/or disposal in the amount of 380.-- EUR.



When sending in pumps, please dismount all add-on parts such as magnetic couplings e.g.. Otherwise we request you to make a corresponding note on our Accompanying Document. For the disassembly / assembly of add-on parts we will charge an additional amount of 365.-- EUR.

Mixhead Repair — Overview and Scope of Services

- >> The repair service is available for high and low pressure mixheads of the following types:
 - MT, MN, MX, MQ, MD, ML und MXL
 - MEL, MSL and MNR (Baynat® control block)
- >> The 360°REPAIR SERVICE includes the following services:
 - · Disassembly and cleaning
 - Assessment & measurement of the parts by the Hennecke Quality Management (QM)
 - Fitting of a new control piston and / or ejector, if required and available in the type series
 - Completion of the parts, if necessary, in order to finish a repair and restore the original scope of delivery of the mixhead
 - Replacement of all seals and various small parts
 - Hydraulic function check



When the inspection results are available, we will prepare an individual cost estimate for all mixhead repairs, including the delivery time. If major damage is detected during the inspection, the repair price will be communicated to you in the form of a cost estimate.



In general, we reserve the right to charge a lump-sum fee for inspection and / or disposal. If a new part is purchased, this fee will be waived by our repair department:

- Disposal of mixhead and proportionate costs for inspection and assessment: 380.-- EUR
- Return of unrepaired mixhead (inspection and shipping costs): ca. 430.-- EUR



Within the scope of the mixhead repair, we also offer mixheads for hire (see page 07).

Repair of Injectors – Overview and Scope of Services

>> The repair service is available for the following injector types:

- Balanced-pressure injectors
- Recirculation nozzles (servo injectors)
- Multifunctional injectors
- · Diaphragm nozzles
- Constant pressure injectors

>> The 360°REPAIR SERVICE for injectors includes the following services:

- · Disassembly and cleaning
- · Assessment and measurement of the parts by our specialist staff
- Replacement of all seals
- Replacement of seal bushing [if constant pressure injectors are repaired]
- Replacement of rod seal [if multifunctional injectors are repaired]
- Replacement of diaphragm [if diaphragm nozzles are repaired]
- · Adjustment or replacement of the injector needle or injector needle insert (pin) and injector plate resp. injector cap
- Function check / leak test



As agreed by contract, the repair of injectors is ensured simply by sending your unit to Hennecke. If further damages are detected during the inspection and assessment, we will prepare an individual cost estimate, including the delivery time. The repair will not be released and carried out until the cost estimate has been approved by you.



In general, we reserve the right to charge a lump-sum fee for inspection and / or disposal. If a new part is purchased, this fee will be waived by our repair department:

- Disposal of injector and proportionate costs for inspection and assessment: 180.-- EUR
- Return of unrepaired injector (inspection and shipping costs): ca. 220.-- EUR

Valve Repair – Overview and Scope of Services

>> The repair service is available for the following valves:

- Throttle valves
- Low pressure valves
- · High pressure and low pressure switching valves
- Control units

>> The 360°REPAIR SERVICE for valves includes the following services:

- · Disassembly and cleaning
- · Assessment & measurement of the parts by our specialist staff
- · Fitting of the valve needle into the valve seat in accordance with the part
- Replacement of the throttle valve [if switching valves are repaired]
- Replacement of all seals
- Hydraulic function check
- Replacement of the piston rod [optional for control units]



As agreed by contract, the repair of valve blocks is ensured simply by sending your unit to Hennecke. If further damages are detected during the inspection and assessment, we will prepare an individual cost estimate, including the delivery time. The repair will not be released and carried out until the cost estimate has been approved by you.



In general, we reserve the right to charge a lump-sum fee for inspection and/or disposal. If a new part is purchased, this fee will be waived by our repair department:

- Disposal of valve, switching and/or control unit and proportionate costs for inspection and assessment: 180.-- Euros
- Return of unrepaired valve, switching and/or control unit (inspection and shipping costs): ca. 240.-- EUR

Further Repair Services

>> Repair of mixhead control box:

. The repair service includes e.g. the replacement of printed circuit boards and the keyboard foil.

>> Repair of other components:

- This includes touchscreen panels, computers, density balances etc.
- Please send a separate inquiry to our contact person. A corresponding offer will be submitted to you
 after your request has been checked.

>> Replacement parts:

- Mixhead control box
- · Pressure controller
- 4/3-way control valves

>> Hire of mixheads:

- The hire price per month or part thereof amounts to 1,100.-- EUR, regardless of the type and size.
- Return freight as well as cleaning and replacement of the seals or repair of the hire mixhead will be at your expense.
- . The maximum hire period is three months.

General Information



All deliveries have to be rinsed and cleaned. Otherwise, we reserve the right to charge a cleaning fee (depending on the degree of contamination).



You are requested to reply within four weeks after receipt of our cost estimate.



In general, we reserve the right to charge a lump-sum fee for inspection and disposal which is not raised in the case of a new purchase.



When sending your parts to Hennecke, please complete our Accompanying Document and add it to the consignment (the Accompanying Document is also available online at www.hennecke.com/services /360/repair).



Your point of contact for all services provided by the 360°REPAIR SERVICE:

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Your Shipment

| Hennecke GmbH · Birlinghovener Straße 30 · D-53757 Sankt Augustin | | | | | | |
|---|--------------------------|------------------------------|--|---|--|--|
| Client | | | | | Date | |
| Contac | t at your company | | | | | |
| Email | | | | | | |
| Order r | number (A0100 - xxxxx) | | | | | |
| | Mixhead | Injector | Pump | Valve | Others | |
| Туре | | | | | | |
| S/N | | | | | | |
| □ Rep | | lease tick as appropriat | te) | | | |
| <u> </u> | devices including all at | ttachment parts except for t | s that are subject to the cor he component-carrying pip and a safety data sheet is e | mplaint are returned as com elines. For reasons of health enclosed. | plete, not disassembled and safety at work, it is | |
| Failure | description | | | | | |
| | | | | | | |





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