



GEPPERT
HYDRO

SERVICE PACKAGES

INSPECTION, MAINTENANCE & SPARE PARTS MANAGEMENT
AT A FIXED RATE

GEPPERT SERVICE PACKAGES



Geppert experts inspect and maintain your power plant, thus ensuring long-term operational reliability and the highest possible annual production of the plant. With constant annual rates, the included activities of the respective service package are completely covered.



YOUR ADVANTAGES WHEN CONCLUDING A SERVICE PACKAGE

- ▷ Inspection, maintenance and spare parts management at a fixed price
- ▷ Planning reliability & calculable costs through forward planning of service activities
- ▷ Rapid execution of service activities by experts in turbine construction - to keep turbine downtimes as short as possible
- ▷ Included initial inspection to evaluate the current status of the turbine
- ▷ Complete overview of the system status and the service activities carried out through service manual and protocols
- ▷ Included consumables in refill quantities

SERVICE PACKAGES AT A FIXED RATE

The requirements of each energy producer are individual. In order to enable the best possible support, we have tailor-made service packages to choose from. The operator can choose the ideal solution for his system. We offer Basic, Standard and Premium packages.

▷ **Basic package**

The ideal package for a regular inspection of the hydropower plant so that the system can be operated safely for years to come.

▷ **Standard package**

The optimal package for safety and efficiency. Additionally to the basic package, activities for predictive plant operation are included in order to be able to continue to operate the plant with maximum efficiency.

▷ **Premium package**

The perfect package for maximum certainty, safety and maximum efficiency by inspecting all operationally relevant components of the hydroelectric turbine, including the generator and auxiliary drives.



OUR SCOPE OF SERVICE

Task	Basic	Standard	Premium
Corrosion protection Visual control, layer thickness measurements (if necessary), (Measure recommendations)	X	X	X
Security covers Assessment according to the Machinery Directive, check for tight fit, Measure recommendations	X	X	X
Runner functional check Control of operating times, opening and closing of the rotor blades in dry and wet operation	X	X	X
Jet deflector system functional check Control of operating times, opening and closing in dry and wet operation	X	X	X
Jet deflector system tightness control Check for leakage	X	X	X
Turbine bearing condition check Check temperature, vibrations, operating noise	X	X	X
Wicket gate functional check Control of positioning times, opening and closing of the wicket gate in dry and wet operation	X	X	X
Guide vane tightness check Check for leakage	X	X	X
Main inlet valve function check Control of operating times, opening and closing in dry and wet operation	X	X	X
Main inlet valve tightness check Visual tightness check	X	X	X
Turbine bypass tightness and functional check Visual check of tightness, control of operating times, opening and closing of the fittings	X	X	X
Hydraulic hoses Visual check of tightness, documentation of date of manufacture	X	X	X
Hydraulic system Visual check of the tightness, function of the valves	X	X	X
Bladder accumulator function check Check the preload pressure, refill if necessary, check the test date	X	X	X
Coupling Visual check of the clutch shoes	X	X	X
Dive belt Visual check of belts, check of belt tension, tighten if necessary	X	X	X
Spare parts storage / spare parts recommendation Elaboration of spare parts recommendation. Scope of delivery in coordination with operator ¹		X	X
Operating materials in the powerhouse Checking the availability of operating materials (oils, greases), handover if necessary for storage		X	X
Runner condition check Visual check for cavitation, wear, corrosion. Check bearing play		X	X
Mouthpiece condition check Visual check of mouthpieces, measure recommendations		X	X
Nozzle assemblies / nozzle needles condition assessment Visual check of nozzle assembly and nozzle needle for water and oil leakage		X	X

Task	Basic	Standard	Premium
Jet deflector system status control Visual inspection of the jet deflector for wear, corrosion, inspection bearing clearance		X	X
Wicket gate condition control Visual inspection of the guide vanes for wear, corrosion, bearing clearance		X	X
Bypass tightness and functional check Visual check of tightness, control of operating times, opening and closing of the fittings		X	X
Oil filter Check for contamination, clean if necessary		X	X
Rotary feedthrough Visual check of tightness, check function, vibrations, temperature		X	X
Mechanical turbine governor Oil level check, function check, oil change with Geppert special regulator oil		X	X
Bearing grease Empty the grease collection cup or outlet, check the grease level		X	X
Mechanical seal Visual tightness check			X
Turbine cover protection wall condition control Visual control of the protection walls			X
Oil and grease control Check oil levels and regreasing points, oil extraction and analysis, Fat sampling & analysis			X
Runner PT test Crack test with dye penetrant method by certified tester, Measure recommendations			X
Hydraulic cylinder tightness and functional check Visual check of tightness, control of operating times, opening and closing in dry and wet operation			X
Generator cooling circuit Check the pressure in the cooling circuit, top up if necessary, check the freezing point			X
Gap ring seal Checking the leakage, measuring the gap size			X
Bearing temperature Control of temperature trend ²			X
Generator winding Control of temperature trend ²			X
Bearing vibration Control of vibration trend ² , if necessary measurement directly at the bearing			X
Labyrinth seal Check the leakage, adjust the seal if necessary			X
Remote maintenance Trend observation 2x / year, control of system parameters			X
Crane Organization of the crane test, execution of the test by a certified test institute ¹			X
Cain hoists and slings Implementation of the recurring inspection by a certified crane operator			X

¹ Costs incurred will be passed on; ² if trend recording is available

We are here for you!
Our service team will be happy to advise you!
You can reach us under:

service@geppert-hydro.com | +43 699 15778877



GEPPERT
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Geppert Hydro GmbH

Geppertstrasse 6 | 6060 Hall in Tirol | Austria | T +43 660 8156089
www.geppert-hydro.com | office@geppert-hydro.com



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