

TEM News

ATL Anlagentechnik Luhden GmbH - Machines for Thermal Deburring

Wind Energy Industry Counts on TEM Machine

iTEM400/600 enables thermal deburring of large hydraulic manifolds for wind turbines

For many years, the Danish company Dansk Afgratningsteknik A/S has been using thermal deburring (TEM) to process metal components. With the purchase of an *iTEM400/600* from ATL Anlagentechnik Luhden GmbH, the contract deburrer has not only expanded its machinery.

Dansk Afgratningsteknik A/S is a subsidiary of Hydra-Grene A/S, another Danish company, which is specialized in trading and production of hydraulic systems for wind turbines.

The requirements concerning "Green Technology" are rising continuously, and hence also for every workpiece. Especially in the area of hydraulic systems, deburring with high accuracy is of great importance. A small dissolved burr or chip could disable a hydraulic aggregate.



The acquisition of the machine enables Dansk Afgratningsteknik A/S to thermally deburr large hydraulic manifolds up to a maximum component size of 275 x 275 x 580 mm. Thereby the machine reaches an optimal result of cleanliness and freedom from chips as well as high accuracy regarding removal of burrs.

In addition to large hydraulic manifolds, hydraulic oil-filter housings made of aluminium can now be thermally deburred as well. Both are workpieces from Hydra-Grene A/S, particularly for use in wind turbines.



Previously, the large hydraulic manifolds needed to be manually deburred, which was very time-consuming - the thermal deburring process only needs 1 - 2 minutes per component. The maximum gas filling pressure of an *iTEM400/600* is - unlike other TEM machines - 16 bar. It is the first machine of this magnitude on the market which is designed for such a pressure.

Mass flow meters on the *iTEM400/600* enable a very high repeatability of the process. Constant and high-quality results can therefore be ensured.

„The continuous expansion of our know-how enables us to meet the growing requirements of our customers concerning the TEM process with competent advice - not only in the area of wind energy“, said Jörn Struckmann, CEO of ATL Anlagentechnik Luhden GmbH.

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iTEM - Worldwide References

Owing to the continuous development of our proficiency, the TEM process has proved its worth in very many areas of application. Our customers from various industries benefit from the reliable and high-quality results of this method.

Industry	Construction machinery
Workpiece	Hydraulic manifold
Requirement	Complete removal of all burrs and loose swarf/chips
Replaced process	High pressure water-jet deburring, manual deburring
ATL improvement	<i>iTEM400</i> , double shot, cycle time 150 sec



Industry	Hydraulic system (forklift truck)
Workpiece	Valve block
Requirement	Complete removal of all burrs
Replaced process	Manual deburring, duration approx. 1.5 h/workpiece
ATL improvement	<i>iTEM400</i> , double shot, cycle time 150 sec

Industry	Wind energy
Workpiece	Hydraulic oil-filter housing made of aluminium
Requirement	Workpiece cleaning prior to assembly
Replaced process	Manual deburring, duration approx. 1 h/workpiece
ATL improvement	<i>iTEM400/600</i> , double shot, cycle time 150 sec



Industry	Truck engines
Workpiece	Rocker arm
Requirement	Removal of all burrs (in-/outside)
Replaced process	Deburring by robot, manual deburring
ATL improvement	<i>iTEM320 SC</i> , cycle time approx. 11 sec/workpiece



Industry	Truck engines
Workpiece	Shaft for rocker arms
Requirement	Accurate and repeatable removal of detachable burrs
Replaced process	Manual deburring
ATL improvement	<i>iTEM Long Chamber</i> (special design) deburring chamber Ø 200 x H 1,200 mm



Industry	Automotive industry (fuel injection)
Workpiece	Extruded aluminium
Requirement	Complete removal of all burrs and loose swarf/chips
Replaced process	High pressure water-jet deburring, ECM deburring
ATL improvement	<i>iTEM250 SC</i> , cycle time 120 sec/8 workpieces