

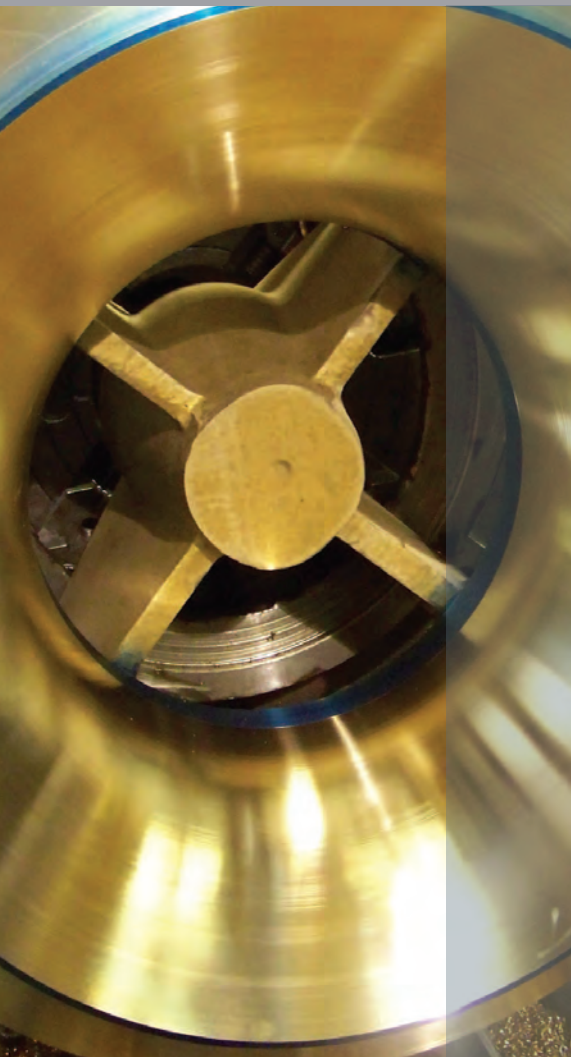


ITT



Performance Engineered Replacement Parts for Industrial Pumps and Rotating Equipment

Pulp & Paper | Chemical | Power Generation | Oil & Gas | Mining & Minerals | Municipal



Engineered for life

ProCast



Performance Engineered Replacement Parts for Industrial Pumps and Rotating Equipment

Established in 1977, ProCast developed and maintained a reputation for providing the highest quality foundry and machining services available. Today, the combined resources of ProCast and ITT allow us to provide real solutions to pump and rotating equipment replacement parts needs that are focused on reducing our customer's cost of ownership. Our association with ITT Goulds gives us resources and access to engineering, design and hydraulic technology that others in the parts replicating business **simply do not have**. We offer rapid production of current and obsolete replacement parts (and complete units) for both **pump** and **non-pump** rotating equipment as direct replacements or re-engineered / upgrades that exceed OEM specifications.

An innovative array of solutions is offered to improve your rotating equipment performance. We utilize our in-house reverse engineering, metallurgical and machining expertise, combined with extensive knowledge across many other ITT divisions that include full design, re-engineering and mechanical / hydraulic expertise. Solutions may be as simple as material upgrades or a completely re-engineered component or complete unit.

3D laser scanning and digital imaging is employed by ProCast to reverse engineer complex cast components with precision. 3D solid models also allow for quick,

easy re-engineering and redesign of components when required.

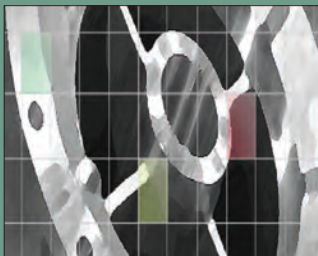
Capabilities:

- Highest quality industrial replacement pump and rotating equipment parts for current and obsolete components that meet or exceed OEM standards
- In-house engineering resources available to re-engineer and upgrade your parts or complete units to improve reliability and life cycle
- Large and growing database of over 20,000 parts
- Inventory for many major OEMs
- Rapid in-house response capability, as a fully integrated manufacturer, for emergency breakdown requirements
- State-of-the-art production machine shop, pattern shop, and alloy foundry
- Latest reverse engineering technology to ensure precision reproduction of parts
- Laser measuring resources for reverse engineering parts available in strategic locations **world wide**
- Standard leadtimes are 4 weeks for cast parts and 2 weeks for turned parts
- Quality controlled to ISO requirements
- 100% dimensional inspection is performed and documented on all parts produced

Pump Parts for Most Major Manufacturers



All Types of Rotating Equipment



3D Laser Scanning – high speed laser probes capture over 100,000 points per second to generate large numbers of data coordinates and powerful engineering software is then used to create a 3D virtual record of a sample part. The resulting 3D model is used to accurately program sophisticated CNC routers for pattern creation, robotic CNC sand milling cells and CNC machining centers for maximum confidence in part geometry, accuracy and hydraulic performance.



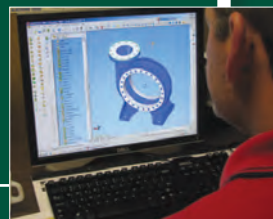
Laser Scanning of Sample Casting



5-Axis CNC Router for Fast, Accurate and Less Costly Pattern Making



CNC Robotic Sand Milling Cell. Patternless Molding. Faster turnaround time than conventional tooling requirements.



3D Solid Model Created For Programming of CNC Machining

CNC machining instructions generated from 3D model

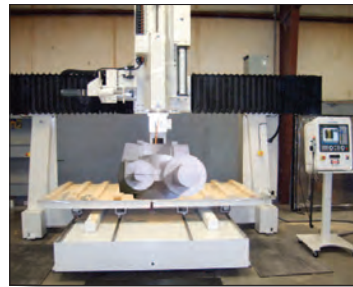


CNC Machining Center

Foundry and Pattern Shop

A highly flexible steel alloy foundry geared to rapid casting technology that few foundries can equal.

- Integrated Pattern Shop Utilizing 5 Axis CNC Router and Digitized Patterning Process, Reducing Pattern Making Cycle Time and Cost
- Robotic CNC Sand Milling Cell eliminating the need for patterns as well as associated time and cost
- Offering a Wide Range of Stainless Steel, Duplex Steel and Other Corrosion Resistant Nickel Based Alloys
- Electric Induction Furnaces
- In-House Metallurgical Engineer
- Thousands of patterns crafted of wood and metal



Precision Machining

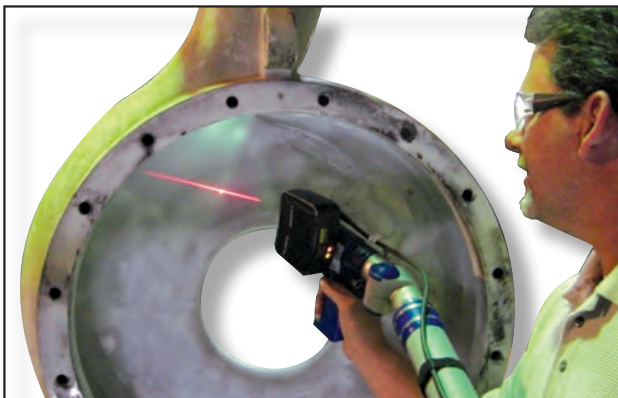
Our well-staffed machine shop is dedicated to producing exact tolerance machine parts using the latest state-of-the-art machine tool technology.

- Tool path programming of CNC machining centers using 3D models
- Capability to replicate from original parts using digital technology
- Highly skilled machinists with many years of experience machining pump and rotating equipment parts



Data Acquisition Team

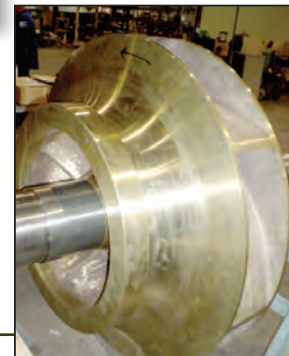
ProCast's Data Acquisition Team is available to travel to your location worldwide for laser scanning of your critical parts. Laser scanners and engineering technicians are strategically located throughout the world for fast response.



Old

Obsolete Part? Old Part? No Problem!

Old worn impellers and other used parts reverse engineered and reproduced to original dimensions, restoring hydraulic performance. Material upgrades and hydraulic modifications also available.



New

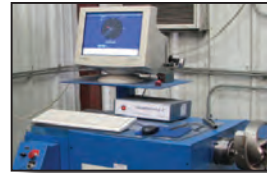
Quality



ProCast Quality Assurance ISO 9001: 2008 Certification

Highest quality industrial replacement pump parts and rotating equipment parts that meet or exceed OEM standards.

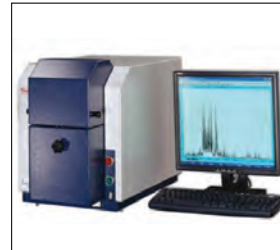
- Optical Emissions Spectrometer
- All instruments calibrated and certified
- Impellers dynamically balanced
- QA - All parts inspected
- Documentation
- Hydro Test



All impellers and rotating elements dynamically balanced



Quality Assurance - all parts inspected and documented



Optical Emissions Spectrometer to ensure all materials chemical compositions comply with ASTM standards

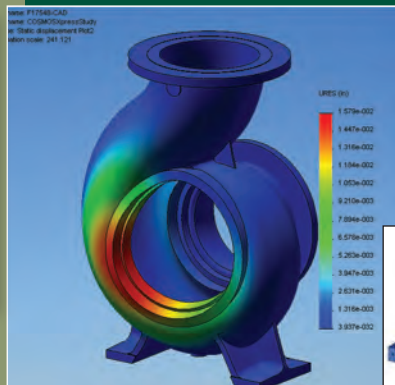
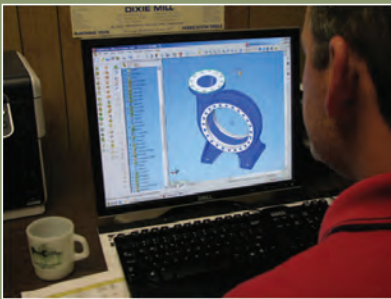


Hydro Test performed as standard on all pressure containing components

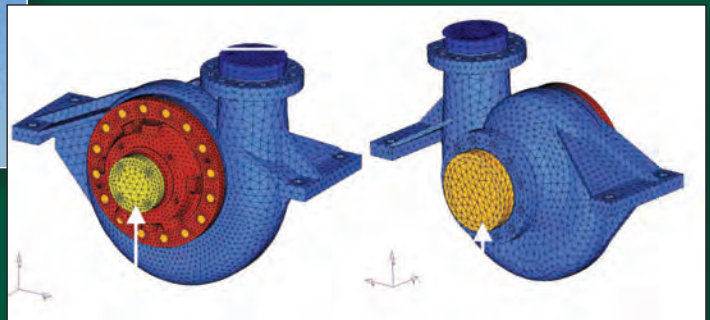
Engineering Services

Improve the performance of your old pumping equipment without the expensive changes to your foundation or piping. ProCast offers an innovative array of solutions to improve the performance of your rotating equipment to include simple material upgrades, hydraulic modifications or a completely re-engineered component or complete unit.

We will perform all the necessary engineering services to ensure the safety and performance of your upgraded or redesigned equipment.



Finite Element Stress/Deformation Analysis



Oil & Gas

Material Upgrades for your Wetted Parts

- Finite Element Analysis performed, when required, to determine requirements for casing wall thickness and pressure containment capability of all new materials



Old - Hastelloy C



New - Zirconium

Seawater Lift Pumps and other Offshore Services

- Many parts available for your vertical turbine pumps
- All makes and models
- Nickel aluminum bronze and superduplex materials



Nickel Aluminum Bronze and Super Duplex Materials

Upgrade Your Old Pumps to API 10th Edition Spec

- Avoid having to modify piping and foundations

Hydraulic Re-Rates – Drop-In Replacements

- Hydraulic modifications improves performance and extends life cycle of pumps



Resulting 3D model from a scan of an old pump at a customer's location.



Old single volute design and newly redesigned pump with dual volute design

Current and Obsolete Replacement Parts for:

- | | | |
|-----------|----------------|-----------------|
| Flowserve | Ingersoll-Rand | Worthington |
| United | Sulzer | Pacific |
| Bingham | Union | and many others |



Mining & Minerals

High Quality Replacement Parts for Warman® Pumps

- Offering complete range of Warman replacement parts to fit pump models AH, HH and SP
- Materials available in high chrome iron, natural rubber, urethane and others
- Availability – ProCast currently stocks many Warman replacement parts for immediate shipment (North America, Australia and South Africa)
- Local inventory stocking programs available
- All pressure containing components hydrotested – tested to more rigid standards than the OEM
- OEM equivalent warranty
- Global sales and service from sales engineers who know pumps, pumping systems and the slurry pump industry
- Significant cost savings without sacrificing quality, service, or availability



Power Generation



Giving New Life to Your Old Pumping Equipment

ProCast replacement parts for current and obsolete:

- Flowserve
- I-R
- Worthington
- Peerless
- Johnston
- Byron Jackson
- Foster Wheeler
- Fairbanks Morris
- Baldwin Hamilton Lema
- Union
- ...and many others



Old worn impeller



New impeller upgraded to CD4 material



○ Broken Impeller Vanes



Broken Impeller is laser scanned to create a 3D model; missing vane is reconstructed.

ProCast Will Restore Performance and Improve the Life Cycle of Your Old Pumping Equipment

ProCast has the experience and knowledge using our in-house reverse engineering skills, combined with our extensive hydraulic expertise, to make you a new impeller and restore or improve your original performance. We can also extend the life cycle of your pump by suggesting material and/or design upgrades.

Chemical

ProCast replacement parts for current and obsolete:

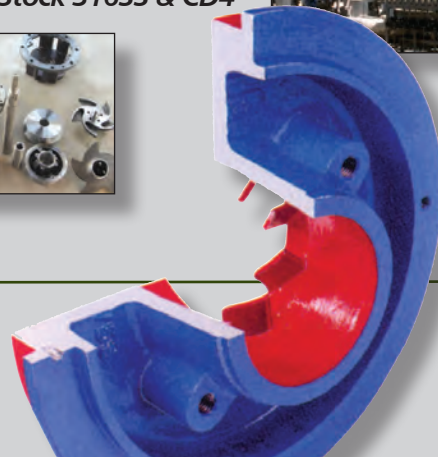
- Durco Mark II and Mark III
- Ingersoll-Rand
- Lawrence Pump
- Lightnin Mixers
- Compressors, Rotary Valves
- Elbows and props
- Blades, stuffing boxes, shafts, sleeves
- ...and many others



Axial Flow



Durco In-Stock 316SS & CD4



ITT's patented TaperBore™ PLUS seal chamber is available for Durco Mark III ANSI pumps to solve seal problems. This upgrade has a quick ROI so you can redirect assets elsewhere!

Pulp & Paper

ProCast replacement pump parts for current and obsolete:

- Sulzer/Ahlstrom
 - APT / APP - Complete Line, Large Inventory
 - Other Sulzer / Ahlstrom Parts Available:
 - MCA, MCP, MCV
 - LRS
 - LST
 - ZPP
 - EPT / EPP
 - NPT / NPP

- Worthington
- Warren
- Bingham
- KSB
- Black Clawson
- Ingersoll-Rand
- Peerless
- Johnston
- Durco

Non-pump replacement parts:

- Agitators
- Hydraflakers
- Sorters
- Defibrators
- Mizers
- Paper Machines
- Refiners
- Pulpers
- Fiberlizers



Orphaned Equipment

Individual Components or Complete Assemblies for Obsolete Equipment...



Fairbanks Morse - 50 year old obsolete pump replaced and performance restored. No expensive modifications to piping or foundations required.



Rotary Valves



Pumps - Large and Small



We deliver high quality parts, cast in your choice of materials, and machined to original manufacturer's specifications.



Global Sales and Service

Whether you are in the southeastern USA or southeast Asia, ITT ProCast has a worldwide network to care for your replacement parts needs.

Visit ProCast On-Line at www.Procastparts.com and www.Procastfoundry.com

1-800-543-6263

email: procast@itt.com

phone: 225-654-8071

fax: 225-654-5803

www.procast.net