

# BRADKEN

## MANUFACTURING FACILITIES



Large steel turbine housing



Highly Engineered Energy Component



Molding/core making  
(complex pump housing)

### Bradken - Atlas

One of the premier foundries in North America, Atlas has been producing high integrity steel castings for customers around the world for more than a century. Bradken - Atlas has a rich history in the Energy market possessing the technical tools and infrastructure to manufacture the most challenging steel and stainless steel castings under the most intense specifications. Bradken - Atlas is one of only a few foundries left in North America that is qualified to make castings for Nuclear applications. State-of-the-art technology is employed to produce complicated components with stringent metallurgical and quality requirements. Our Washington facilities are not just foundries; we have evolved into a manufacturer of major metal components and value added offerings.

### Manufacturing Capabilities (Overview)

- Each Bradken business unit makes use of continuous improvement programs utilizing lean manufacturing and six sigma and maintains specialists at the business unit and corporate levels to drive improvements and efficiencies
  - Off-shore oil & gas certified by numerous OEM's and countries with material qualified to EN 10225 and API RP2Z
  - Nuclear certified by ASME as a certified material manufacturer QSC certificate No. 204
  - In house ASTN level III non-destructive testing specialists in Ultrasonic, Magnetic particle, Visual, Dye penetrant, Radiography and Linatron X-Ray capabilities for wall thicknesses beyond 6.5"
  - Navy nuclear qualified to NAVSEA 250-1500
  - ISO 9001 certified world-class foundry
  - DNV approved manufacturer of steel castings
  - Casting weight range: 200 to 45,000 lbs in a variety of steels and specialty stainless steels
  - Approved manufacturer of HY-80 and HY-100 castings by the department of the navy
  - Two electric arc furnaces and two 10 ton AOD systems can be operated individually or in concert to produce heat sizes from 1,500 to 95,000 pounds
  - Captive machining and heavy fabrication facility (formerly Ideal Machine & Manufacturing) provides: machining, fabrication, horizontal milling, vertical boring, drilling and tapping
- ### Key Differentiators:
- Highly engineered complex steel and stainless steel castings with intensive specifications
  - AOD Capable: Full range of 130 high, low alloy & duplex/stainless steel casting alloys
  - Linatron X-Ray capabilities to 20" section thickness
  - Pro/ENGINEER and CAD/CAM Software Tools
  - Solidification Modelling/Assisted Engineering
  - Fabrication, cast/fabrication and hydro testing
  - Rough machining, final machining/assembly

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## MANUFACTURING FACILITIES



Linatron Radiography for Heavy Sectioned Castings



Turning/Machining  
(Off-shore Oil Platform Riser Basket)



Heavy fabrications using weld positioners

### Facility Information

500,000 sq ft Mfg.  
640 employees

**In Business**  
Since 1899

**Capabilities**  
Casting  
Machine Shop  
Fabrication  
Assembly

**Metals Cast**  
Cast Steels  
Austenitic-Ferritic Duplex  
200 to 45,000 lbs.  
Carbon Steels  
200 to 45,000 lbs.  
Corrosion Resistant Steels  
200 to 45,000 lbs.  
Heat Resistant Steels  
200 to 45,000 lbs.  
Low Alloy Steels  
200 to 45,000 lbs.  
Other Nonferrous Alloys  
Nickel-Base  
200 to 45,000 lbs.

Molding or casting process used  
Air-Set/Nobake  
200 to 45,000 lbs.

Flask sizes  
Minimum 28" X 28"  
Maximum 192" X 192"  
or 144" x 268"

Specialized casting capabilities  
AOD refining  
Magmosoft  
Simulation

**In-house Heat Treating**  
Furnaces Multiple

Furnace Sizes  
Minimum 44" X 144" X 96"  
Maximum 168" X 240" X 108"

Type of Heat Treating  
Normalization  
Stress Relieving  
Annealing  
Quench and Temper

Other  
Heat Soak  
Stabilization  
Water quenched to 50 tons

### Quality and Process

**Controls**  
Hardness  
Dimensional Layout  
Microstructure  
Radiography  
Charpy Impact Testing  
Magnetic Particle Examination  
Liquid Penetrant Examination  
Chemical Analysis  
Sand Control  
Ultrasonic Examination  
Mechanical Testing  
Lean Manufacturing & Six Sigma  
Certified Welding Standards:  
ASME Section IX, AWS  
D1.1, MIL-STD-248D, NAVSEA  
250-1500-1

### Machine Shop Capability

**Company Owned: Large Fabrication & Machining Facilities**

**Maximum Lifting Capacity**  
80,000 lbs.

### Turning – Vertical

up to 254" swing  
118" Table  
102" Height

### Turning – Horizontal

Boring 240" HT  
Milling 80" VT

### Horizontal

CNC Machining Centre  
Maximum Length  
100" Horizontal Travel  
Maximum Width  
30" Reach  
Maximum Height  
60" Vertical Travel  
Maximum Part Weight  
40,000 lbs. (centered wt.)

Willing to accept responsibility for materials & provide turn-key parts

### Fabrication Capability

**Maximum Lifting Capacity**  
80,000 lbs.

### Welding Capabilities

FCAW  
GMAW SAW  
GTAW SMAW  
Fabrications to 80,000 lbs

Capabilities include robotic production welding, large jobbing work, mechanical assembly, Rig up, assembly, hydrostatic testing and paint capabilities

Welders certified ASME, Sec IX, AWS D1.1, FCAW, GMAW, SAW, GTAW, SMAW

### Quality Assurance Program

ISO  
ISO 9001  
API  
API 610, 8C and 2SC  
ABS  
Marine Steel Castings  
MMPS No. 5165  
ASME  
QSC-204 Exp.  
Date Sept. 23, 2010  
ASTM  
NACE  
MR0103, MR0175  
DNV  
Certificate No. AMM-2617  
Other  
NAVSEA Qualification for HY-80 and HY-100 Materials  
Lloyds Register Certificate  
No. MD00/3366/0001/2

For more information contact Bradken at [EngProd@bradken.com](mailto:EngProd@bradken.com)

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