GAS TURBINE SPARE PARTS

COMPLETE IN-HOUSE DESIGN & PRODUCTION

PBS GROUP

pbs.cz

INVESTMENT CASTING

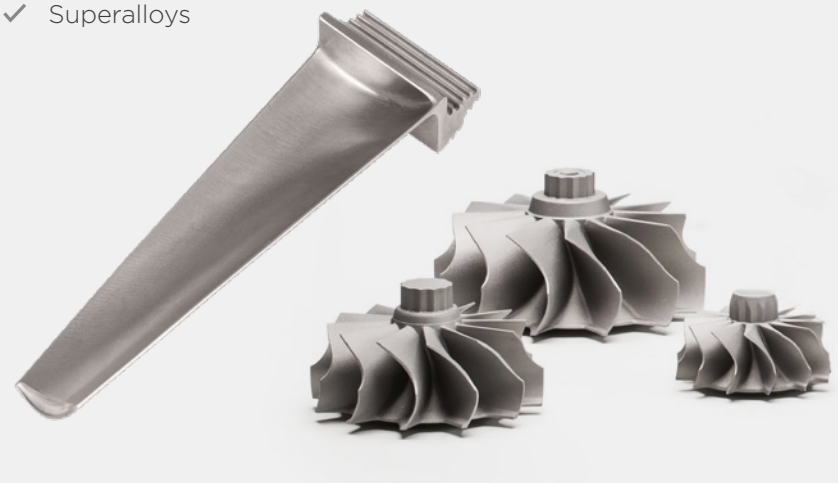
PBS, a Czech company with a 200-year history, has been specializing in investment casting since 1969 and is the European leader in this technology. We focus on precision castings of superalloys as wheels for turbochargers, blades for gas turbines, impellers and guide wheels for aircraft engines and many other types of castings for various industrial sectors.
Our advanced technologies, including vacuum and open furnaces, enable us to produce a wide range of materials, including steel alloys. With a reputation for reliability and expertise, we continually evolve to meet our customers' needs and deliver high quality products.

WHY PBS

- ✓ We provide everything from design, casting and machining to the final product
- ✓ From carbon steels to nickel or cobalt superalloys
- ✓ Technically advanced products with high durability
- ✓ Reverse engineering and rapid prototyping
- ✓ For several decades, we have been cooperating with leading world manufacturers of turbochargers, combustion turbines, aviation components and insulation materials based on glass wool

PRODUCTION POSIBILLITIES

- ✓ Dimension range of casts: 30 – 600 mm
- ✓ Weight range of casts: 0.15 – 50 kg
- ✓ Superalloys
- ✓ Air or vacuum casting
- ✓ Surface roughness: Ra 3,2 µm



INC 713
INC 738
MAR M247
B1914

FOUNDRY TECHNOLOGY

- ✓ 10 injection moulding machines
- ✓ 2 robotic coating lines
- ✓ 2 boilerclaves for smelting
- ✓ 4 carousel gas annealing furnaces
- ✓ 2 electronic resistance annealing furnaces
- ✓ 7 vacuum furnaces
- ✓ 9 blasting machines

OUR PORTFOLIO OF TURBINE BLADES

MS3002-1

CP MS3002

MS5001-1 OT

MS3002-2

CP MS3002

MS5001-2 OT

MS5001-1 NT

MS5002-1

CP MS5002

MS5001-2 NT

MS5002-2

CP MS5002

GE TURBINE BLADES

MS3002-1

First Stage Bucket

TECHNICAL SPECIFICATION

Model of turbine	H-J
Firing temperatures	up to 950 °C
EQV to OEM number	314B7156G007
Bucket in set	80 pcs
Alloy	EEQ 111 / IN 738LC
Coating	HVOF + Aluminizing
Weight	1.40 kg (3.09 lb)

MS3002-2

Second Stage Bucket

TECHNICAL SPECIFICATION

Model of turbine	H-J
Firing temperatures	up to 950 °C
EQV to OEM number	314B7156G003
Bucket in set	80 pcs
Alloy	IN 738LC
Coating	No
Weight	1.80 kg (3.97 lb)
Z-Welding	Applied

GE COVER PLATES

CP MS3002-1

First Stage Cover Plate

TECHNICAL SPECIFICATION

Model of turbine	H-J
Firing temperatures	up to 950 °C
EQV to OEM number	818E0715P002-005
Bucket in set	4x40 pcs
Alloy	IN 738LC
Coating	No
Weight	0.13 kg (0.28 lb)

CP MS3002-2

Second Stage Cover Plate

TECHNICAL SPECIFICATION

Model of turbine	H-J
Firing temperatures	up to 950 °C
EQV to OEM number	818E0715P006-009
Bucket in set	4x40 pcs
Alloy	IN 738LC
Coating	No
Weight	0.11 kg (0.25 lb)

GE TURBINE BLADES

MS5001-1 OT

First Stage Bucket

TECHNICAL SPECIFICATION

Model of turbine	L-P
Firing temperatures	up to 950 °C
EQV to OEM number	314B7158G003
Bucket in set	120 pcs
Alloy	IN 738LC
Coating	Aluminizing
Weight	1.20 kg (2.65 lb)

MS5001-2 OT

Second Stage Bucket

TECHNICAL SPECIFICATION

Model of turbine	P-PA
Firing temperatures	up to 950 °C
EQV to OEM number	314B7159G006
Bucket in set	90 pcs
Alloy	IN 738LC
Coating	No
Weight	2.00 kg (4.41 lb)
Z-Welding	Applied

GE TURBINE BLADES

MS5001-1 NT

First Stage Bucket

TECHNICAL SPECIFICATION

Model of turbine	P-PA
Firing temperatures	up to 950 °C
EQV to OEM number	314B7158G015
Bucket in set	120 pcs
Alloy	IN 738LC / MAR M247 / EEQ 111
Coating	HVOF
Weight	1.40 kg (3.10 lb)

MS5001-2 NT

Second Stage Bucket

TECHNICAL SPECIFICATION

Model of turbine	P-PA
Firing temperatures	up to 950 °C
EQV to OEM number	314B7159G013
Bucket in set	90 pcs
Alloy	IN 738LC
Coating	No
Weight	2.00 kg (4.41 lb)
Z-Welding	Applied

GE TURBINE BLADES

MS5002-1

First Stage Bucket

TECHNICAL SPECIFICATION

Model of turbine	A-C
Firing temperatures	up to 960 °C
EQV to OEM number	3314B7160G018
Bucket in set	80 pcs
Alloy	EEQ 111
Coating	HVOF + Aluminizing
Weight	3.80 kg (8.38 lb)

MS5002-2

Second Stage Bucket

TECHNICAL SPECIFICATION

Model of turbine	A-C/D
Firing temperatures	up to 950 °C
EQV to OEM number	314B7161G002
Bucket in set	80 pcs
Alloy	IN 738LC
Coating	No
Weight	4.40 kg (9.70 lb)
Z-Welding	Applied

GE COVER PLATES

CP MS5002

First Stage Cover Plate

TECHNICAL SPECIFICATION

Model of turbine	A-C/D
Firing temperatures	up to 950 °C
EQV to OEM number	818E0714P002-005
Bucket in set	4x40 pcs
Alloy	IN 738LC / U500
Coating	No
Weight	0.31 kg (0.69 lb)

CP MS5002

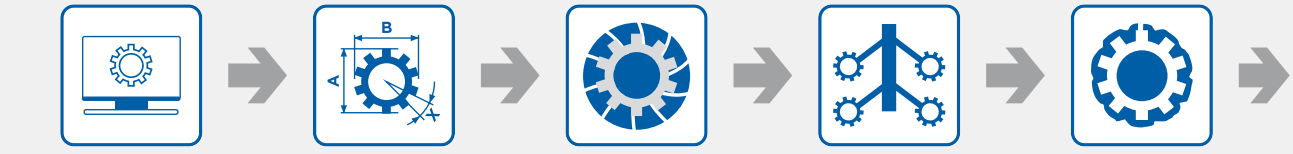
Second Stage Cover Plate

TECHNICAL SPECIFICATION

Model of turbine	A-C/D
Firing temperatures	up to 950 °C
EQV to OEM number	818E0714P006-009
Bucket in set	4x40 pcs
Alloy	IN 738LC / U500
Coating	No
Weight	0.27 kg (0.59 lb)

APLICATION

PRODUCTION PROCESS



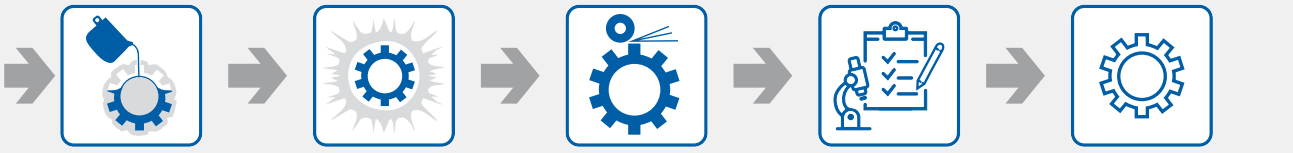
Mathematical simulation of casting solidification

Drawing of moulds

Wax model

Casting cluster

Production of ceramic shell mould



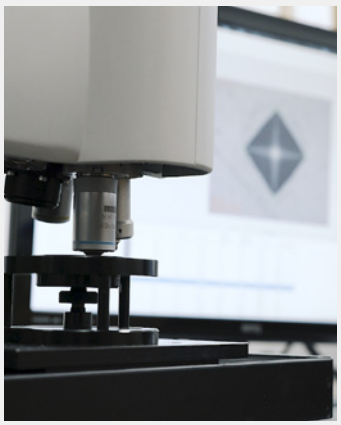
Casting

HIP & HT

Casting machining

Control Inspection

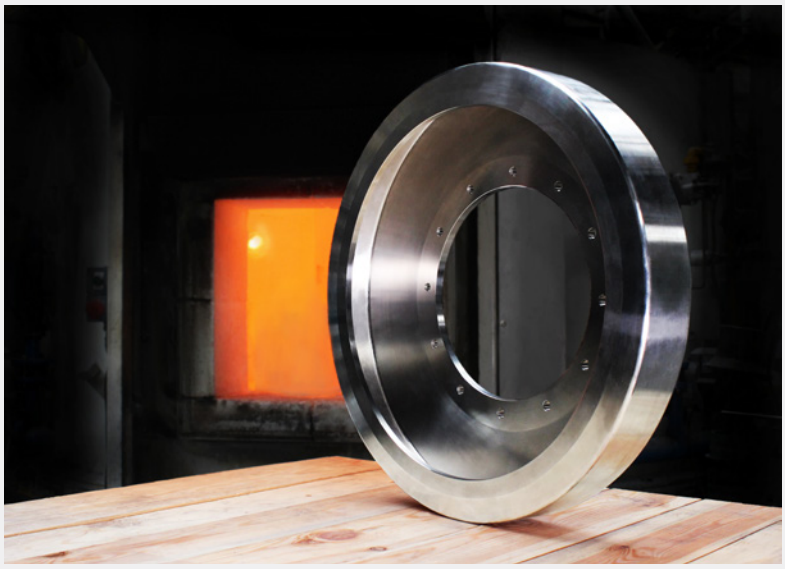
Finished casting



ADDITIONAL SERVICES

- Special types of heat treatment
  - In a protective atmosphere of argon, nitrogen or vacuum
  - Hot isostatic pressing (HIP)
- Machining and balancing
- Production of model equipment
- Removing ceramic cores in a leaching autoclave
- 3D measurement
- Chemical and mechanical tests and analysis
- Micro and macro analysis
- Testing in our own or independent laboratories
- Non-destructive tests certified by NADCAP

OVERVIEW OF OUR PRODUCTS



ABOUT US

PBS is a globally recognized engineering brand with a history of over two hundred years.
The company specializes in the R&D and manufacturing of turbine engines, APUs, and ECS systems designed for unmanned aerial vehicles, medium helicopters, and airplanes.
PBS also develops and produces cryogenic equipment for the world's largest manufacturers of gas liquefaction systems.
PBS Foundry is one of the leading suppliers of nickel and cobalt-based superalloy castings in Europe.

EASA	DOA
	POA & MOA
LRQA	AS 9100, ISO 9001 & ISO 14001
Nadcap ACCREDITED	Non-destructive testing (PT, RT)

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