

INDUSTRIAL COOPERATION



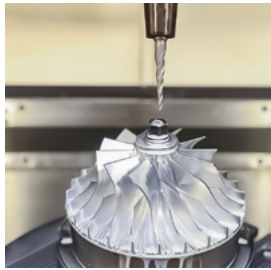
AEROSPACE • INVESTMENT CASTING • CRYOGENICS • SURFACE TREATMENT

WE OFFER COMPLETE PRODUCTION PROCESSES

As a vertically integrated company we are able to offer a wide range of manufacturing operations “**under one roof**”, including precision casting, machining, milling, heat treatment, coating, welding,

surface treatment and non-destructive testing. All operations are carried out to a **very high quality** and with an individual approach to each job.

PRECISION MACHINING



TECHNOLOGY	Dmax	Lmax	TECHNOLOGY	X	Y	Z
CNC turning	11.81 in	11.81 in	3-axis CNC machining	23.62 in	15.75 in	15.75 in
5-axis CNC milling	23.62 in	15.75 in				
Centerless grinding	0.79 in	3.94 in	Flat grinding	23.62 in	7.87 in	7.87 in
Center grinding	11.81 in	19.69 in				
Cylindrical grinding (inner)	11.81 in	11.81 in	Electrical discharge hollowing	11.81 in	11.81 in	11.81 in
3D laser cutting & drilling	11.81 in	11.81 in				

GEAR GRINDING



TECHNOLOGY	Dmax	Bmax	Module	Gearing incl. angle
External involute gearing	12.6 in	2.76 in	max. 0.24 in	0°
Internal involute gearing	11.81 in	2.76 in	max. 0.24 in	0°
Involute gearing milling	5.91 in	3.94 in	max. 0.08 in	±45°
Involute gearing elongation	2.36 in	—	max. 0.08 in	0°
Gear grinding	10.24 in	15.75 in	max. 0.26 in	±45°

SURFACE TREATMENT



ALUMINIUM ALLOYS	X	Y	Z	COPPER, STEEL, BRASS	X	Y	Z
Hard anodising	72.84 in	33.45 in	21.65 in	Nickel coating	72.84 in	33.45 in	21.65 in
Hard black anodising	72.84 in	33.45 in	21.65 in	Tin coating	72.84 in	33.45 in	21.65 in
Natural anodising	72.84 in	33.45 in	21.65 in	Blackening	72.84 in	33.45 in	21.65 in
Natural black anodising	72.84 in	33.45 in	21.65 in	Zinc coating with blue passivation	72.84 in	33.45 in	21.65 in
Chromic acid anodising	72.84 in	33.45 in	21.65 in	Zinc coating with yellow passivation	72.84 in	33.45 in	21.65 in

OTHER TECHNOLOGY



TECHNOLOGY	TECHNOLOGY	TECHNOLOGY
Heat treatment and soldering	X 23.62 in	Y 23.62 in
Turbine blades coating	X 15.75 in	Y 15.75 in
Screw-thread rolling	Dmax 0.71 in	Pitch 0.06 in
Balancing	Dmax 13.78 in	Pin Ø 2.36 in
		max. 33 lb
	TIG manual welding	Steel sheets up to a thickness of 0.04 - 0.08 in, including stainless steel and Hastelloy X.
	Resistance spot welding	
	Resistance seam welding	

OVERVIEW OF AVAILABLE TECHNOLOGIES AND MACHINES

- › CNC machining, milling and drilling
- › Center and centerless grinding
- › Surface grinding
- › Electrical discharge machining
- › 3D laser cutting and drilling
- › Vacuum furnace annealing and soldering
- › TIG and resistance welding
- › Rotor balancing
- › Reverse engineering
- › Rapid prototyping
- › Non-destructive testing
- › Surface treatment

AVAILABLE CAPACITIES



TECHNOLOGY	OVERVIEW OF MACHINES
Multifunctional CNC machining	Mazak Integrex 200-IV
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	Mazak Integrex i-300
	OKUMA Multus U4000
5-axis milling	Hermle C12U
	Hermle C20U
	Hermle C30U
	Hermle C42U
	Fehlmann Picomax 60
	Fehlmann Picomax 90
	Fehlmann Picomax 95
3 & 4 -axis milling	MCV 750
	MCFV 1000 SPRINT
	MCFV 1270 SPRINT
CNC turning	Mazak QT 100 MSY
	Mazak QTN 100 MY
	Mazak QT 200 MY
	Mazak QTN 200 MY
Gear grinding	Niles ZE 400

PROFESSIONAL EXPERIENCE

PBS Velka Bites **has been successfully** operating in the field of highly demanding **aerospace production for 50 years**.

We develop and manufacture turbine engines, auxiliary power units, enviromental control systems

and components for aerospace industry companies from more than **40 countries** around the world.

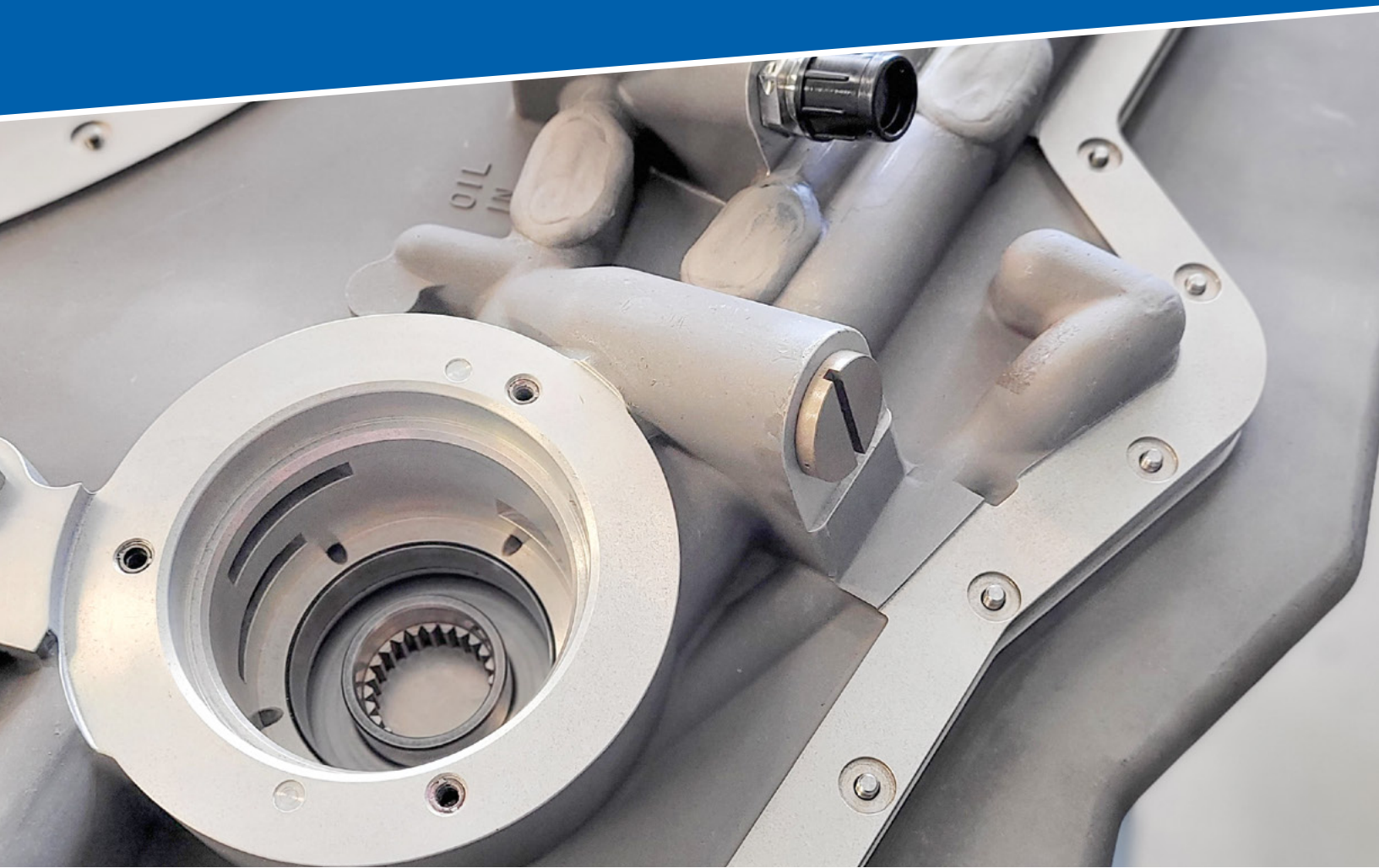
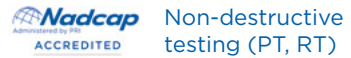
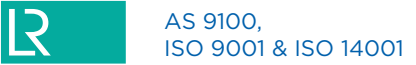
We have state-of-the-art machinery, and by combining specialised activities “under one roof,” we help our customers save costs and production time.

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.



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