



Pratt & Whitney

A United Technologies Company

Pratt & Whitney Kalisz Sp. z o.o.

Tool Services

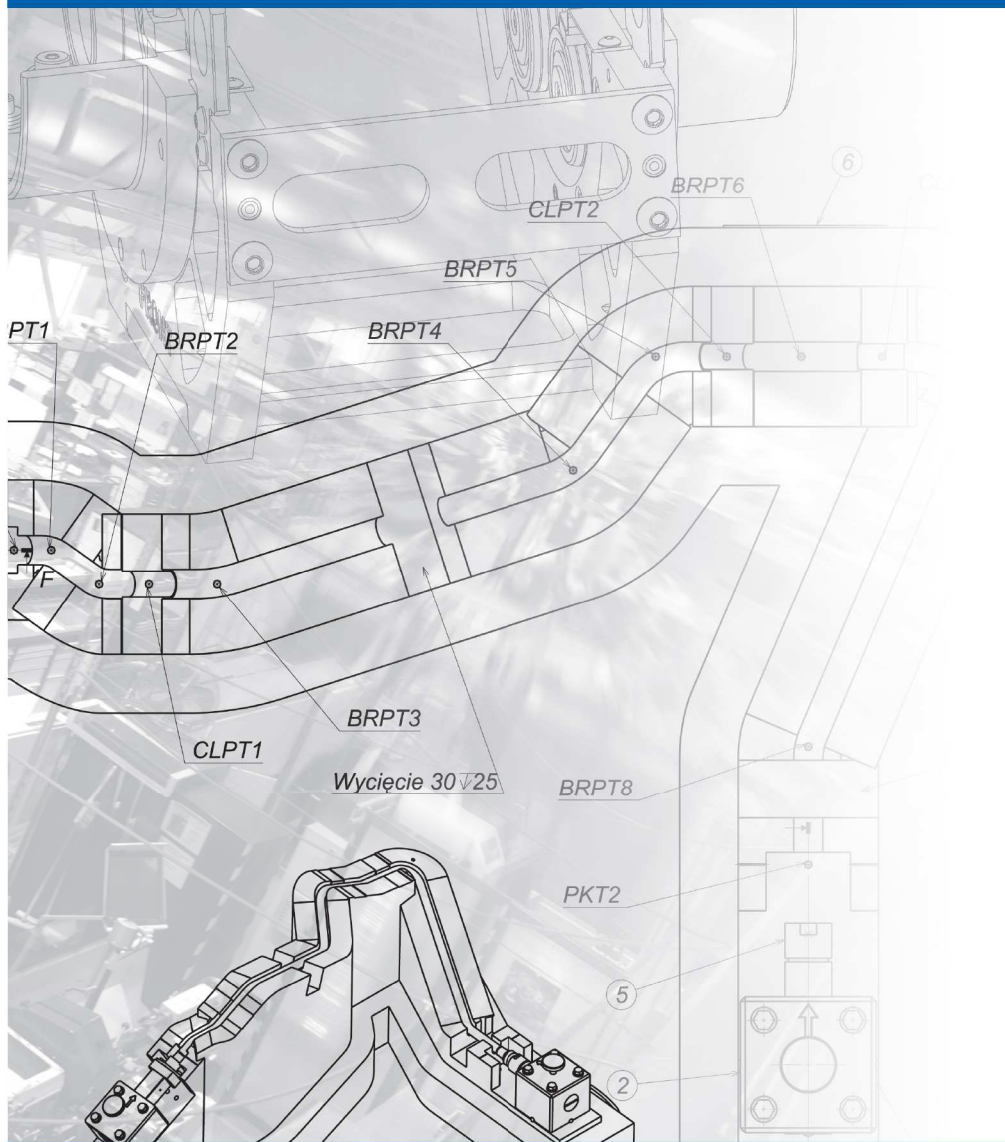
TOOL SERVICES



TOOLING DESIGN AND MAKE UNIT

2

Pratt & Whitney Kalisz Sp. z o.o.





Pratt & Whitney Kalisz Sp. z o. o. - Tool Services offers its expertise and capabilities since 1992.

Our experienced people, wide range of software, machinery and equipment make us a supplier of your choice.

Our Quality System meets the highest requirements:

ISO 9001-2000

ISO 14001

AS 9100 (ENVIRONMENT)

PN-N-18001 (HEALTH AND SAFETY)

Our Production System is based on the principles of:

ACE

KAIZEN



TOOL DESIGN

As a supporting unit for aviation and automobile industry we have a solid expertise in the design of:

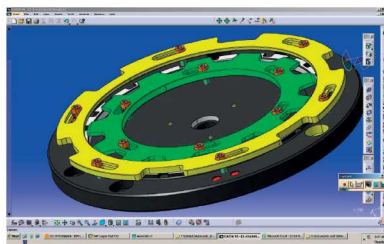
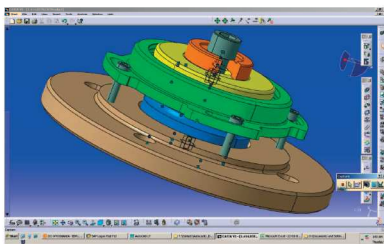
- Special gages
- Tube chacking gages
- Production / machining fixtures (turning, welding, grinding etc.)
- Dies
- Special cutting tools (especially for gears)
- Modular tools
- Flexible (universal) tools
- Assembly and test fixtures
- EDM tooling (electrodes, holding devices)

Our educated and experienced team of the Design Department are equipped with a wide range of CAD/CAM systems:

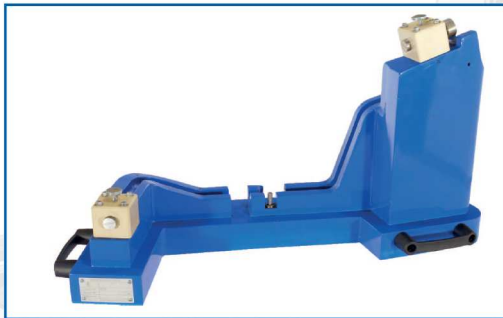
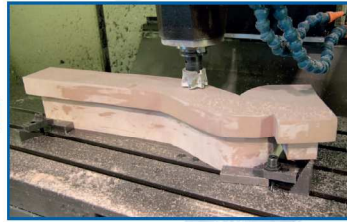
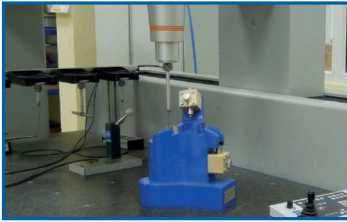
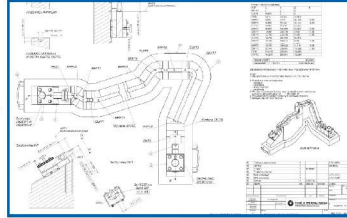
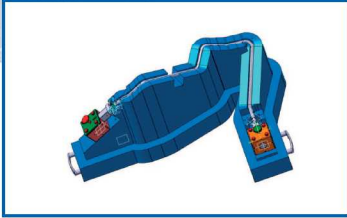
Key Design Capabilities

CATIA, UNIGRAPHICS, SOLID EDGE, AUTOCAD

TOOL DESIGN



CORE COMPETENCE

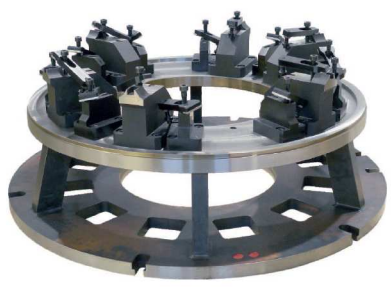


TOOLING DESIGN AND MAKE UNIT

**WE PROVIDE (DESIGN AND MAKE)
A WIDE RANGE OF PRODUCTS**



FIXTURE FOR LATHE



MILLING FIXTURE



EDM FIXTURE (EROWA SYSTEM)





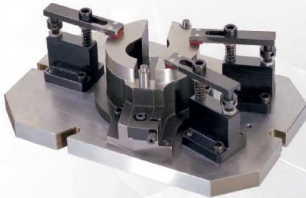
TRUE POSITION GAUGE



GRINDING ARBOR



VERTICAL SHARPER FIXTURE



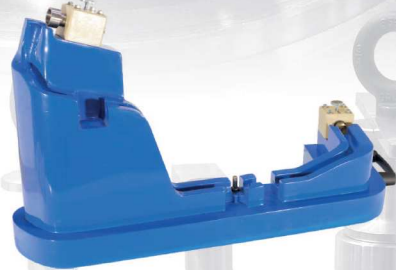
MILLING FIXTURE



PRESSURE TEST FIXTURE



MILLING FIXTURE



ASSEMBLY AND CHECKING TUBE FIXTURE



TOOL MAKE



HEAT TREATMENT



CNC LATHE



CNC GRINDER



NC MILLING MACHINE

TOOL MAKE



SURFACE ROTARY GRINDER



SCHARPENING MACHINE



KEY PRODUCTION CAPABILITIES	Maximum DIA/Width		Maximum Length/Height	
	mm	inch	mm	inch
NC Milling Machine:				
Cincinnati 1250C	550	22	1250	49
Haas TM-1 HE	200	8	900	35
FYM 63N	500	20	1000	39
NC Lathe:				
Andrychów TUG 40MN	450	18	1600	63
Pietro Carnaghi	1200	47	1400	55
Tarnów TUJ 630 MEF	630	25	1400	55
Jig Borer:				
2D 450 for angle face	630	25	1000	39
2E 450A for flat surface	630	25	1000	39
MAS WKV 100	800	31	650	25
Column Drill Multi Radial:				
Cegielski WRA 632	1400	55	1700	67
8 Surface Grinders - e.g:				
Okamoto 820A	350	14	600	24
FUM 4AMP	50	2	300	12
Surface Rotary Grinder:				
Favretto Mr100	1000	39	500	20
Vertical Grinder Inside/Outside Diameter:				
42CNC Springfield	1000	39	400	16
Internal Diameter Grinder:				
Voumard 5 AR	300	12	150	6
Erwin Junker Bd25	250	10	130	5
Heald Wd8851	400	16	150	6
Outside Diameter Grinders:				
Hol Manta BUA-31	320	13	1000	39
Jig Grinder:				
Mitsui Seiki 4GB	300	12	500	20
Thread Grinder:				
5236	180	7	500	20
NC EDM Wire:				
ARD A-200	400	16	250	10
Agie 200	250	10	400	16
Sharpening Machine for cutting tools - 3 axes:				
HPH AWS 300	25	1	200	8
Welding Machine:				
ASPA TIG uP 353H AC/DC	-	-	-	-
BESTER Magster Plus 400	-	-	-	-
Oven Hardening & Tempering:				
	600	24	500	20

...GET THE MOST COMPETITIVE PRICE AT THE SPEED OF A LOCAL SHOP...



QUALITY INSPECTION



**MICROSCOPE
(MITUTOYO MF 1030)**



**LINGHT GAGE
(CARL ZEISS ULM OPAL 600)**



**GAGE BLOCK MEASURING UNIT
(MAHR PECIMAR 826)**



**COORDINATE MACHINE
(CARL ZEISS CARAT)**

QUALITY INSPECTION

KEY PRODUCTION CAPABILITIES	Maximum DIA/Width		Maximum Length/Height	
	mm	inch	mm	inch
Coordinate Measuring Machine: Carl Zeiss Carat	850	33	600	24
Lenght Gage: Carl Zeiss ULM Opal 600	600	24	100	4
Linear Height: Mitutoyo LH 600B	600	24	600	24
Microscope: Mitutoyo Mf1030	350	14	200	8
Measuring Machine: MP 700A IOS	600	24	450	18

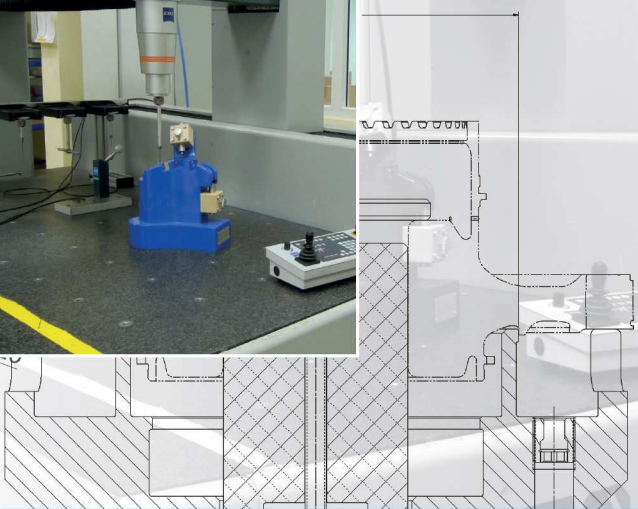


CHAIN OF SUPPLIERS

- SPLINE (int., ext.)
- TUBE BRAZING AND BENDING
- RESHARPENING
- WELDING ALUMINIUM
- COATING PLATING (CHROME, PLASMA, NICKEL, ZINK)
- LIFTING DEVICES EQUIPMENT
- SPECIAL CUTTING TOOLS
- CARBURIZING, HEAT TREATMENT



ISOMETRIC VIEW



Tool Services

Pratt & Whitney Kalisz Sp. z o.o.



Pratt & Whitney Kalisz Sp. z o.o.
ul. Elektryczna 4a
62-800 Kalisz
Poland

Tool Services Director
tel. +48 62 766 98 14
fax: +48 62 766 98 99

Tool Services Planning
tel. +48 62 766 98 14
fax: +48 62 766 98 99

www.pwk.com.pl
e-mail: tool@pwk.com.pl

