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1. News & history

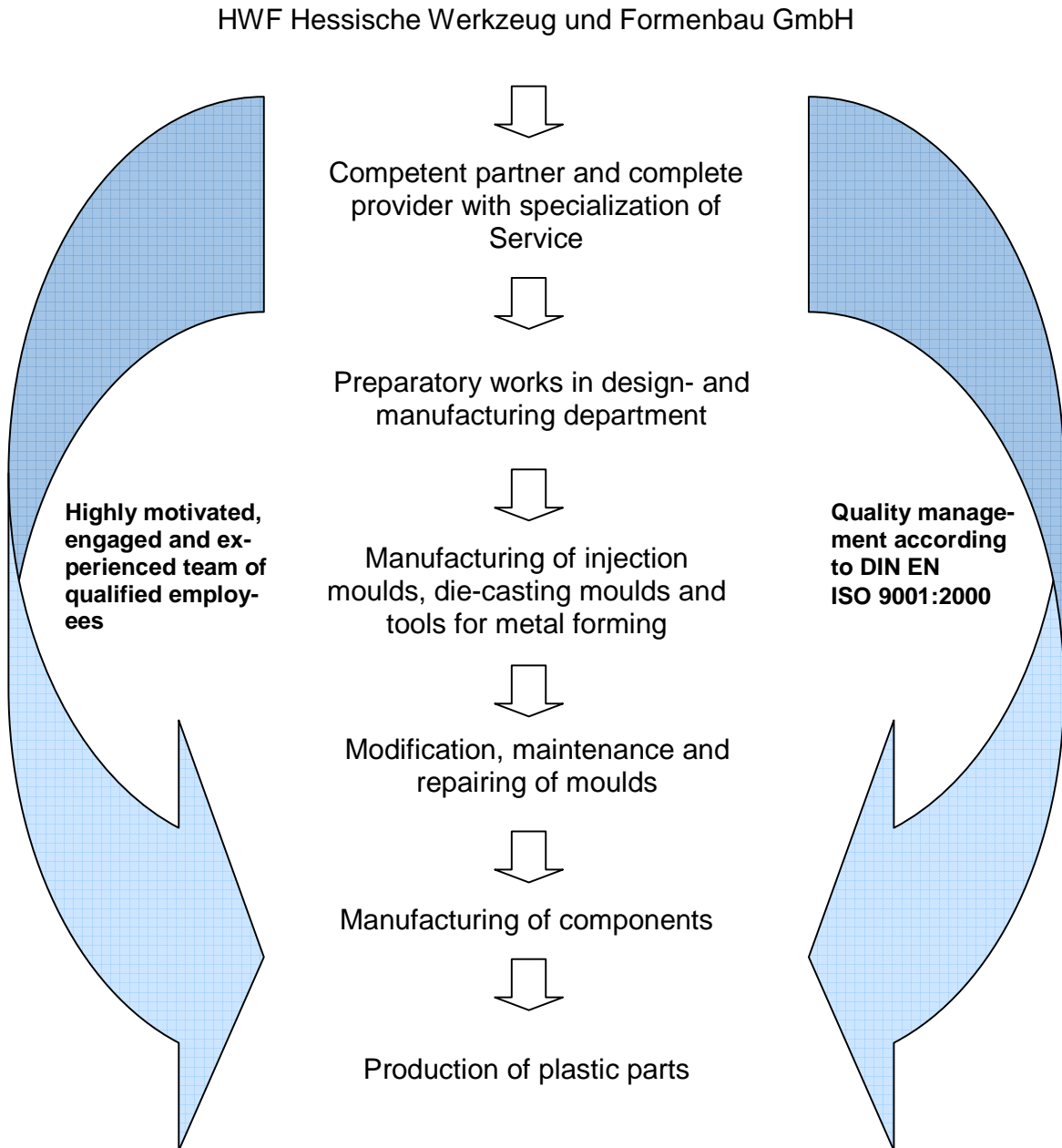
February 2012	Re-Certification of quality-management system according to DIN EN ISO 9001:2008. The certificate is valid till 14th February 2013.
January 2012	A further injection molding machine Arburg 520 C extends our possibilities regarding try-out of molds and production of injection parts.
October 2011	A further eroding machine Zimmer+Kreim 850, yb 1999, extends our capacities regarding eroding.
February 2010	A further injection moulding machine expands our machines park. The Ferro-matic-Milacron VL 1350-6600 offers a max. clamping force of 1350 t and a bar diameter of max. 1580 x 1320 mm. So we are able to make try outs for moulds and to produce plastic parts from clamping force of 75 t to 1350 t.
January 2010	Re-Certification of quality-management system according to DIN EN ISO 9001:2008. The certificate is valid till 14th February 2013.
July 2009	Also our HERMLE C600U was arranged with our pallet clamping system. Here we can make more electrodes in much more quality.
March 2009	We have finalized the design and production of our pallet clamping system for the milling machine HERMLE C800U. Now we are able to work on several parts in 5 Axis at the same time.
February 2009	The second HERMLE C40 U runs. Also in 5-axis-simultaneous-drilling.
December 2008	The new IBERIMEX-ZAYER-high performance-portal milling machine KPCU-6000-AR with x-axis: 6000 mm, y-axis: 3550 and z-axis: 1100 mm runs.
June 2008	5-axis-simultaneous-drilling are practicable. Many ones talk over it - we do it.
April 2008	A further eroding machine type Zimmer & Kreim 1200, year of manufacturing 1998, extended our machines park.
January 2008	A new injection moulding machine DEMAG 250 to compact with 50er cylinder is put in operation.
October 2007	A new 3-stage WIG-welding device extends our possibilities at the repair- and moulding service department.
June 2007	The new milling machine HERMLE C40 U runs.
June 2006	HWF GmbH arises of Johann Dutiné OHG.
1956	Foundation of „previous-company“ Johann Dutiné OHG.

2. Contacts

Our contacts are available at any time to you. Choose the phone-no. ++49 (0) 6071/3083 and the respective direct distance dialing:

<i>Name</i>	<i>Department</i>	<i>DD</i>	<i>Mail-address</i>
Markus Fischer	Managing director, project-management for molds, tools and manufacturing of components	-11	m.fischer@hwf-werkzeugbau.de
Thomas Bott	Management of department "large milling"	-12	t.bott@hwf-werkzeugbau.de
Werner Kolb	Technical Management, management of design/ CAD/CAM, management of production of plastic parts	-13	w.kolb@hwf-werkzeugbau.de
Manuela Jelinek	Quality management, Commercial management	-16	m.jelinek@hwf-werkzeugbau.de
Richard Jakob	Production supervisor, service of molds	-18	r.jakob@hwf-werkzeugbau.de
Sieglinde Hermanns	Management of production of plastic parts, order processing	-20	s.hermanns@hwf-werkzeugbau.de
Rene Maiwald	Project management, data-management	-15	r.maiwald@hwf-werkzeugbau.de

3. Performance overview



3.1 Preparatory works in design- and manufacturing department

Design and manufacturing preparation is the link between the customer and the manufacturing.

The evolution, planning and processing of production data for the producing departments occurs here. This contains the mould design, the 2D- and 3D-construction, the CAM programming and the determination of the check criteria.

We have a team from qualified and experienced engineers and technicians.

3.2 Manufacturing of injection moulds, die-casting moulds and tools for metal forming

The design and manufacturing of series injection moulds for the most different automobile and none automobile applications is the core competence of HWF. Since the foundation of the “previous-company” Johann Dutiné in 1956, this has been component of the product range.

33 developed mould makers and 6 moulds maker masters are in our team of 53 employees in total. Compartment competence and know-how in all fields of the process means that for you.

We specialized on the following products in the mould making:

- Injection moulds
till max. total weight of 15 t,
in Prototype- and Series design,
in 1- and 2-component-technology,
- Die casting moulds
till max. total weight of 15 t,
- Tools for metal forming and pressing
till max. total weight of 20 t,
till max. dimension of 6000 x 2800 x 1200 mm (L x W x H),
- Die sinking- und wire eroding works, Surface grinding- and cylindrical grinding, Lathing, Fitting, Laser welding, Milling of small and big parts.

3.3 Modification, maintenance and repairing of moulds

- Rapid Service-Task-Force,
- Laser welding,
- Ultrasonic cleaning,
- Weight of moulds till 12 t.,
- Try-outs on site.
- All processes are synchronized flexibly with the requirements of the customer.
- Our most supreme commandment: We hold what we promise!

3.4 Manufacturing of components

The emphasis lies in 3D-outline processing.

We construct and process components (also in HSC- and 5- axis processing):

- for metal forming tools-, die casting- and injection moulds for automobile industry in prototype- and series-design.
- for machinery- and plant-engineering,
- for cubing-models,
- for measuring- and testing-gauge.

In the mean time we have extended our machines park with 2 further machining centre HERMLE C40U. We realize true 5-axes-simultaneous drilling. Therefore we are able to reduce the processing time and to enlarge the surface quality.

Our milling machines HERMLE C600U and C800U are each equipped with our own designed pallet clamping system. So we can make more electrodes in higher quality and we are able to work on several parts in 5 axis at the same time.

In December 2008 we have extended our machinery with a new IBERIMEX-ZAYER-high performance-portal milling machine KPCU-6000-AR with x-axis: 6000 mm, y-axis: 3550 and z-axis: 1100 mm. This machine offers special highlights:

- Process ways of up to 6000 x 2800 x 1100 mm (XYZ-axis).
- 4 automatically changeable cutter heads.



HWF Hessische Werkzeug- und Formenbau GmbH

Please kindly take the manufacturing possibilities from the datasheet mechanical equipment - see page 13.

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As from 05th July2012/Page 9 of 14

3.5 Production of plastic parts

In order to make the moulds ready for series production, we have several injection moulding machines.

Chiefly we make:

- Try-outs of prototype- and series-injection-moulds,
- Pre-production,
- Limited-lot-production,
- Assembling of components,
- Special feature: production in transparent optics (500 t).

Please kindly take the manufacturing possibilities from the Datasheet mechanical equipment - see page 13.

Also use this service outside of current moulding-projects.

4. References

An excerpt of our reference list:

AIS Automotive Interior Systems GmbH	Ingenium S.A., Luxemburg
Arnold AG	Innovative Components Technologies GmbH
Audi AG	Norma Germany GmbH
Autoplast Kunststoff GmbH	Adam Opel AG
BMW AG	Planet Commerce AG
BorgWarner Cooling Systems GmbH	PW Molds and More GmbH & Co. KG i.G.
Brüder Winkle GmbH & Co. KG	Röchling Automotive Worms KG
Celstran GmbH	SI Analytics GmbH
Continental Automotive GmbH	Springer GmbH
Daimler AG	Gebrueder Schmidt KG
Decoma (Germany) GmbH Werk Idoplas	Takata-Petri AG
Decoma Exterieur Systems GmbH	Ticona GmbH
Eissmann Automotive Deutschland GmbH	ThyssenKrupp Drauz Nothelfer GmbH
EuWe Eugen Wexler GmbH	TRW Automotive Safety Systems GmbH
F.S. Fehrer Automotive GmbH	Georg Utz AG
Friatec AG	Volkswagen AG
Gerhardi Kunststofftechnik GmbH	WEGU GmbH Leichtbausysteme
Grammer AG	Wirthwein GmbH & Co. KG Creglingen
Haas Automotive, Mexico	Wirthwein Eichenzell GmbH & Co. KG
HBW Gubesch GmbH	Wirthwein Friedberg GmbH & Co. KG
HKT Hienz Kunststofftechnik GmbH	Wirthwein Sasbach GmbH & Co. KG

When may we convince you?

5. Quality management



We secure our claim on quality through the qualification, further education and experience of our employees and by our quality management system that corresponds to the requirements of the DIN in EN ISO 9001:2008. The certificate is valid until 14th February 2013.

6. Datasheet CAD / CAM / data-exchange

As from 22th Dez. 2011

CAD / CAM-systems		
CAD-systems	Surfaces	CAM-systems
Catia V5 - 1 work station	3D-mould-/tool-making	WorkNC V21/G3 - 5 work stations
Unigraphics NX 6 - 5 work stations	2-/4-Axis wire eroding	5-axes-simultaneous- milling - 1 work station
	Drafting, Solid Modeling, Freeform und Assembly Modeling	

Data-formats	
VDA-FS	STEP AP214
IGES	Catia native
DXF	Catia Export
Parasolid	Unigraphics native

Data-media			
description	size	capacity	format
DVD/CD-ROM		4,7 GB / 800 MB	
DAT Band	4 mm		UNIX ... tar
Cartridge Tape	¼ inch		UNIX ... tar
Diskette	3,5 inch	1,44 MB	MS-DOS Copy or Backup
ISDN			O-FTP/Euro-FTP

O-FTP parameters	
Protocol	Odette
Identification SSID/SFID	O0013002717DUTINE
Password	DUTINE
Port number	06071308330
Online-time	0 - 24

Contact			
Name	Phone	Fax	eMail
René Maiwald	3083-15	3083-50	r.maiwald@hwf-werkzeugbau.de

7. Datasheet mechanical equipment

As from 23th April 2012

Process	Supplier/type	Control system	Max. weight of working-piece (t)	Working dimension (mm)			
				x	y	z	
CAM milling	Iberimex-Zayer KPCU-6000-AR	Heidenhain iTNC 530	20	6000	2800	1100	
	Soramill SP 5000	Heidenhain TNC 426	21 (5 t/m ²)	3500	1200	1600	
	Droop & Rein FS 1255 DA 30	Fidia M2	10	2400	1250	1000	
	Droop & Rein FS 1255 DA 30	Heidenhain TNC 426	10	2400	1250	1000	
	Deckel FP 5	Deckel Dialog 11	0,6	710	600	400	
	Deckel FP 7	Deckel Dialog 4	0,8	700	590	700	
	Deckel DC 100, 8000 UPM	Deckel Dialog 112	1,2	1000	700	800	
	Deckel DC 100 V hi-dyn, 18000 UPM	Heidenhain TNC 426	1,2	1000	700	800	
	Hermle C 600 V	Heidenhain iTNC 530	1	600	450	450	
	Hermle C 800 U	Heidenhain iTNC 530i	0,3	800	600	500	
	Hermle C 40 U (2x)	Heidenhain iTNC 530i	1,4	850	700	500	
	CNC milling / various	Deckel FP 2-4	Deckel Dialog 4-11	0,45	450	350	250 - 400
	milling conv. / various	various		0,45			
	3D-measuring	Thome	Metrolog 2	0,2	600	400	300
Stiefelmayer		Metrolog 2	4	3400	2000	1450	
NC-die sink-eroding / various	Hansen (2x), Zimmer + Kreim (4x)		1	800	500		
Wire eroding / various	Fanuc		1,2	1000	600		
Surface- and diaform grinding	Aba		0,9	1000	600		
Cylindrical grinding	MSO		0,05	∅ = 100	L = 300		
Lathing	Various		0,4	∅ = 450	L = 1000		
Fitting	Reis TUS 90, TUS 200		9				
Production of plastic parts	Arburg 200 to, Engel 75- / 250-, Ferromatik-Milacron VL 1350 to / 6600, Windsor-Klöckner 500- / 650-, Demag 250 to Kompakt			Bottom plate 320 x 320 to 1200 x 800 till 1580 x 1320 mm			