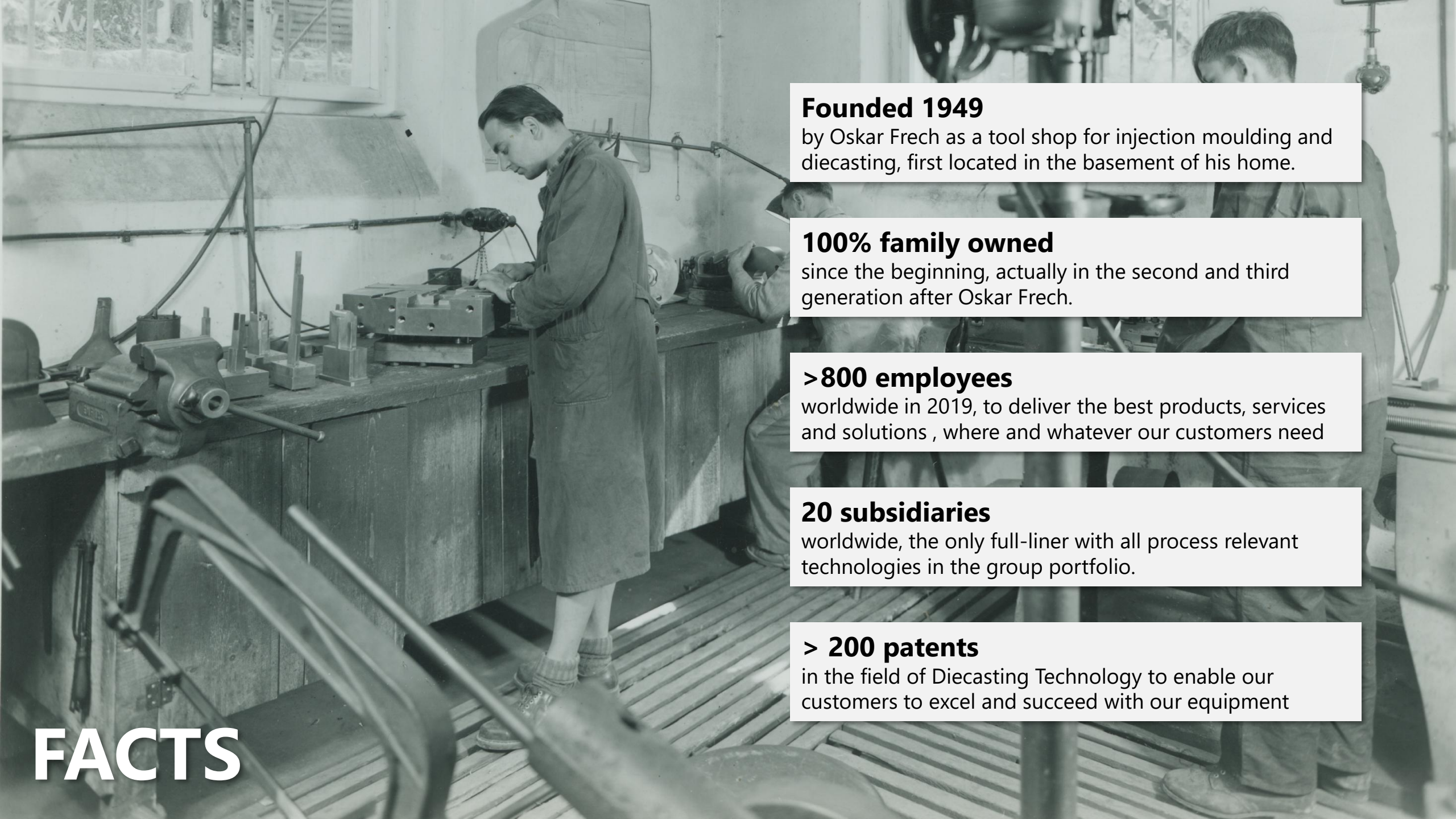


# OSKAR FRECH GMBH + CO. KG



### **Founded 1949**

by Oskar Frech as a tool shop for injection moulding and diecasting, first located in the basement of his home.

### **100% family owned**

since the beginning, actually in the second and third generation after Oskar Frech.

### **>800 employees**

worldwide in 2019, to deliver the best products, services and solutions , where and whatever our customers need

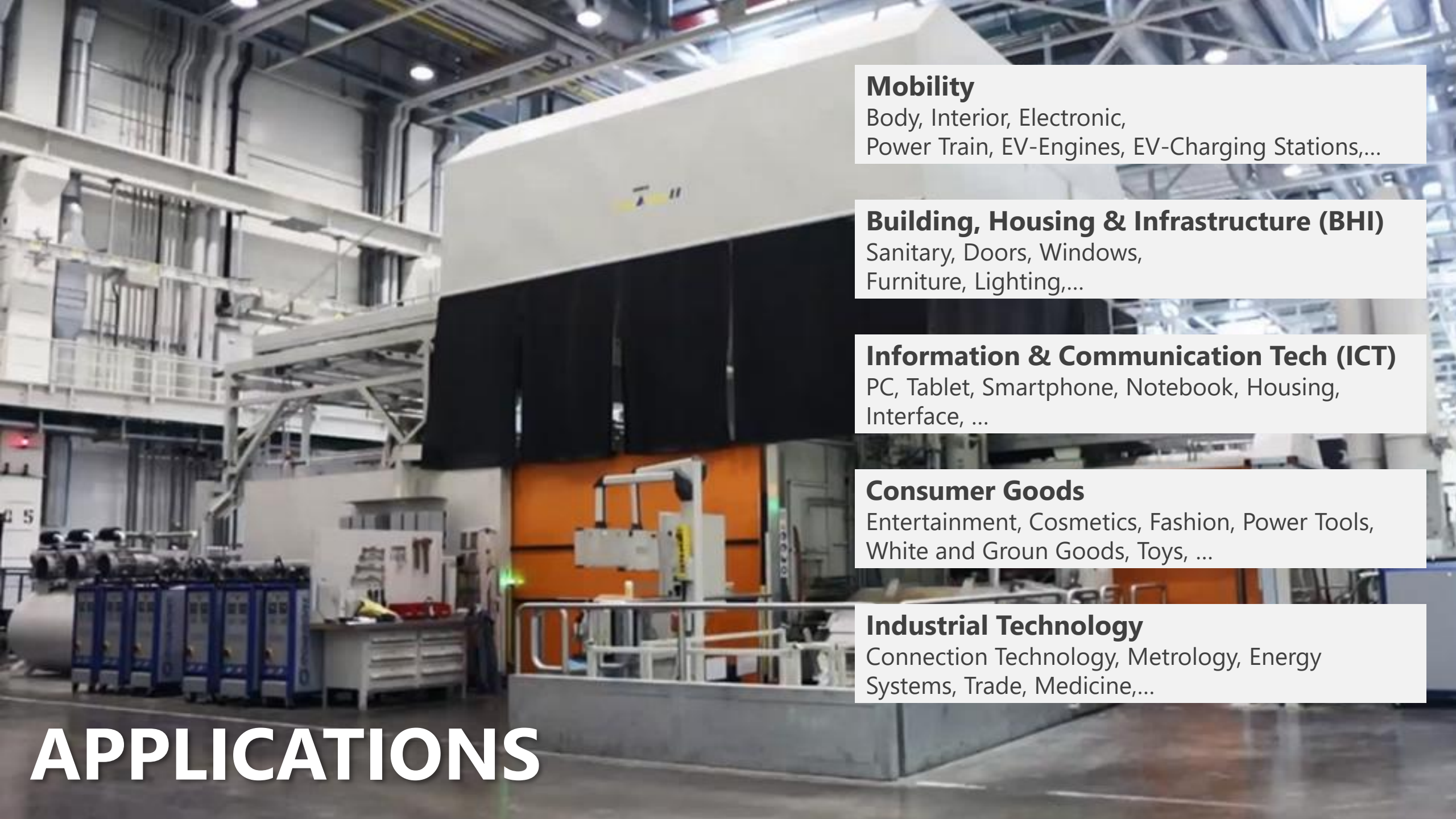
### **20 subsidiaries**

worldwide, the only full-liner with all process relevant technologies in the group portfolio.

### **> 200 patents**

in the field of Diecasting Technology to enable our customers to excel and succeed with our equipment

# FACTS



### **Mobility**

Body, Interior, Electronic,  
Power Train, EV-Engines, EV-Charging Stations,...

### **Building, Housing & Infrastructure (BHI)**

Sanitary, Doors, Windows,  
Furniture, Lighting,...

### **Information & Communication Tech (ICT)**

PC, Tablet, Smartphone, Notebook, Housing,  
Interface, ...

### **Consumer Goods**

Entertainment, Cosmetics, Fashion, Power Tools,  
White and Groun Goods, Toys, ...

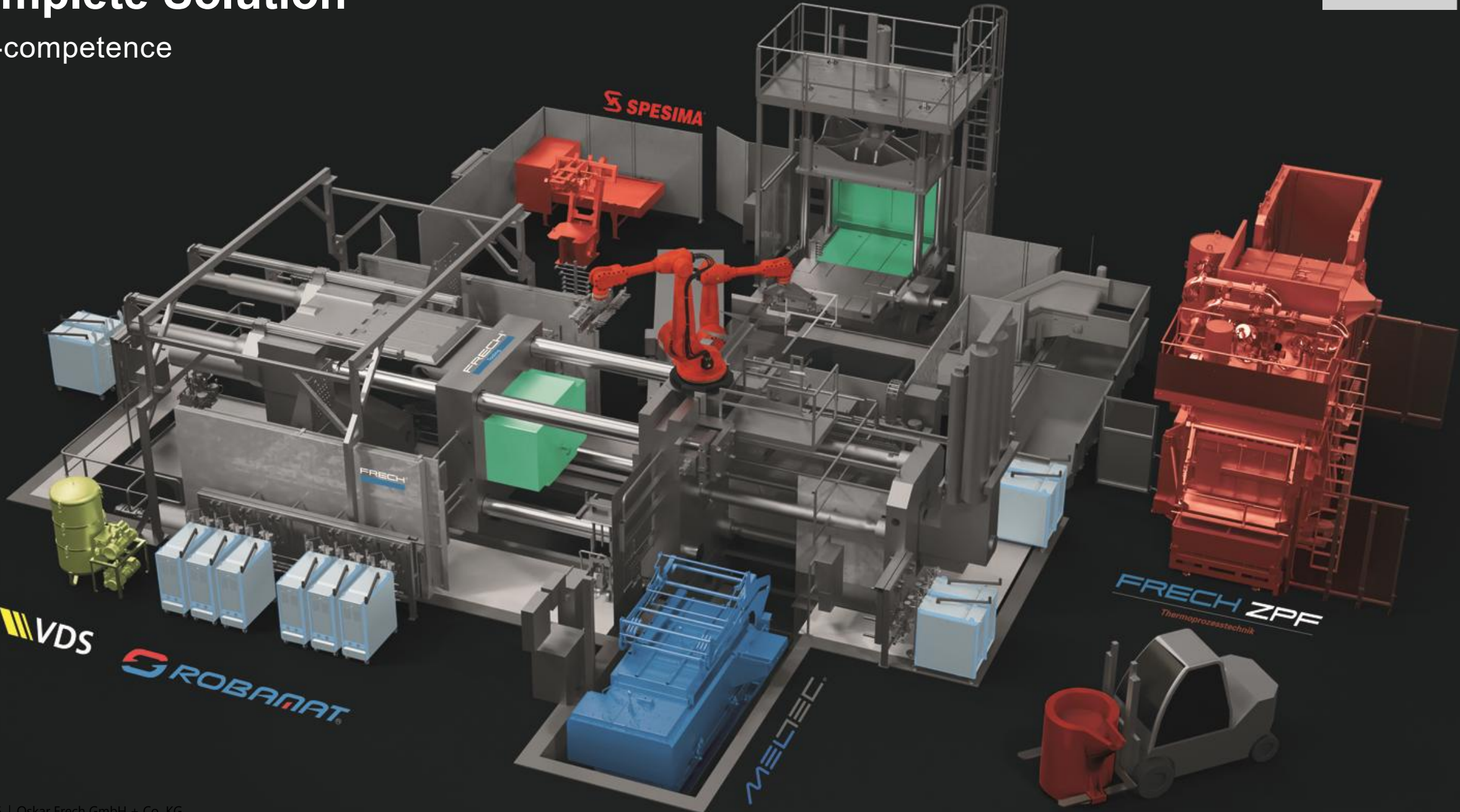
### **Industrial Technology**

Connection Technology, Metrology, Energy  
Systems, Trade, Medicine,...

# APPLICATIONS

# Complete Solution

Cell-competence



SPESIMA

FRECH

FRECH

FRECH ZPF  
Thermoprozesstechnik

VDS

ROBANAT

MELCOR



**Location: Gmunden/Austria**  
**Export share: 90%**

Meltec develops, produces and distributes economically, environmentally and user-friendly all-in-one solutions for foundry and melting operations. Our products range from melting and dosing furnaces for high-pressure die casting, through protective gas mixing and dosing units, to automated ingot preheating and charging systems. Our range also includes central melting and recycling furnaces as well as liquid metal transport systems.

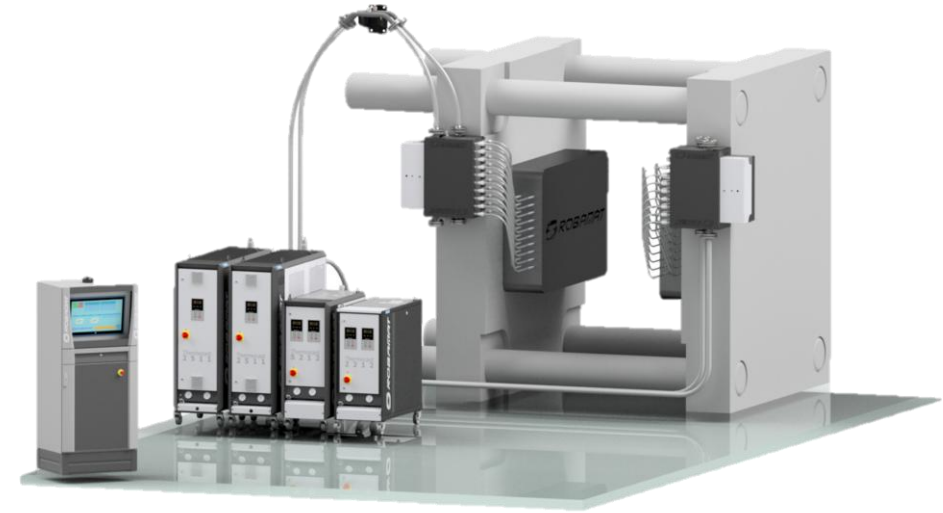




**Location: Gmunden/Austria**  
**export share: 98%**  
**Founded: 1979**



### Solutions for thermocontrol of die casting tools



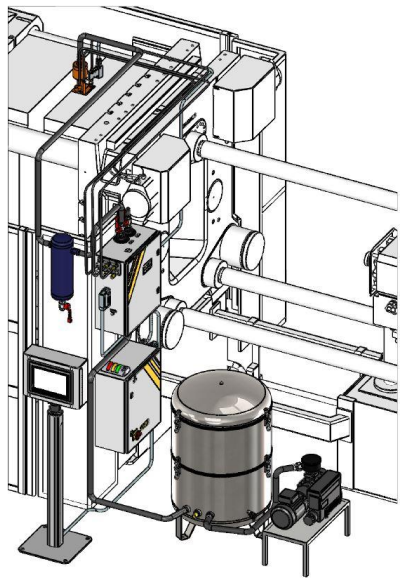
### Selected references in alphabetic order

OEM		TIER1
		Bocar
		Dynacast
		+GF+
		Handtmann
		Magna
		Martinrea Honsel
		Nemak
		Kolbenschmidt Pierburg
		Takata



Location: Montreux Switzerland  
Founded : 1987

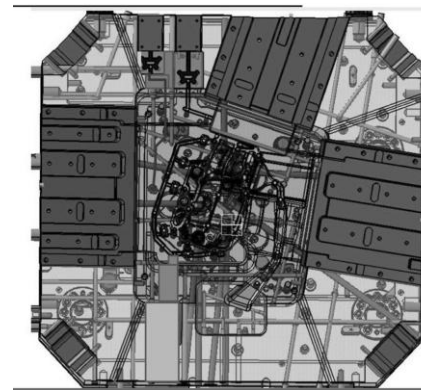
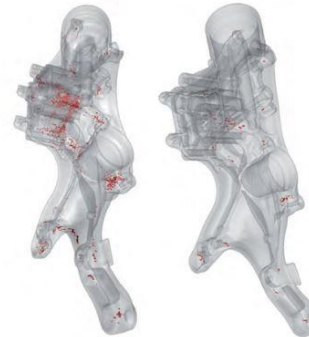
### Vacuum System for HPDC



### Porosity Free DC

Without Vacuum

With Vacuum



### OEM



Mercedes-Benz

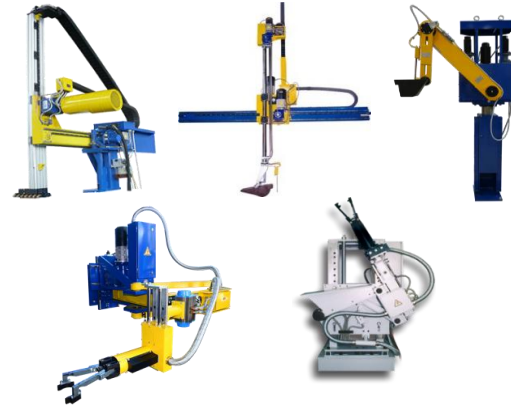


### Tier 1



FOXCONN  
鴻海科技集團





**DCM Automation – Ladles,  
Sprayers and Extractors**

main business activity is the development and implementation of specialized systems for automation of horizontal die casting machines. We offer rotation and linear dosing manipulators with accurate dosing system, extracting manipulators and spraying manipulators.

For its 30 years on the market, we have always been on the way to innovation, possessing more than 25 patented products and trademarks. We are a member of the German-Bulgarian Economic and Trade Chamber, the Bulgarian Industrial Association, Society of Automatics and Informatics Union, Robotics Association and cooperating with the Bulgarian Academy of Science and the Technical University in Sofia.

Location: Sofia Bulgaria  
Founded : 1989



**KUKA    ABB    FANUC**

**Integrator of KUKA, ABB and Fanuc. Expert in re-engineering of universal robots for custom applications**



**Control systems with built-in VPN, 3 level switch Wi-Fi teaching pendant and movable control panel.**

# FRECH Tooling Technology

Increase of the OEE through various FRECH technologies



## FRECH Tooling Technology

Founded: 1949

Origin Business Field of Oskar Frech

Experience with thousands of dies

## FRECH Tools Poland

Founded: 2005

for customers in East-Europe

Experience with hundreds of dies



### Manufacturing



Concept, Design, Production and Optimization for

- Development
- Transfer into Die-casting
- Mass-Series production
- Small-series production
- Casted spare parts

### Expertise



Overall-companion in all knowledge topics in tooling

- Training
- Engineering
- Consulting

### Technology



Solutions to improve availability, performance and quality

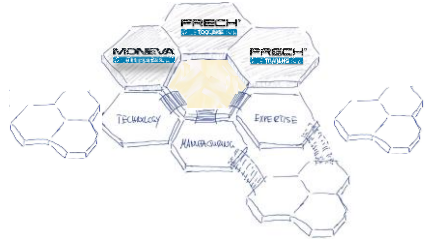
- FGS (Hot-runner-system)
- FCC (Salt-cores)
- FLM (Additive parts for contour-close temperating)



# End-to-End Specialist with a unique Technology-Portfolio!

FRECH GROUP

## INDUSTRIALIZATION SPECIALIST



**CASTFEX**  
unlocking the potential of die casting

## HIGH-TECH MACHINE TECHNOLOGY

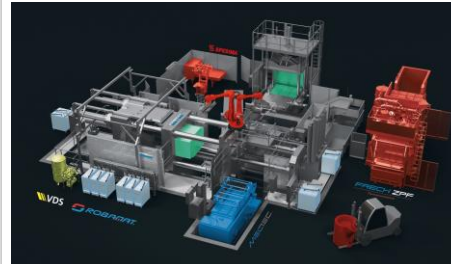


**W-Series**

**K-Series**

**GDK-Series**

## COMPLETE APPLICATIONS



**Cell Competence**

**Robamat**

**Meltec**

**VDS**

**Spesima**

## SOFTWARE SOLUTIONS



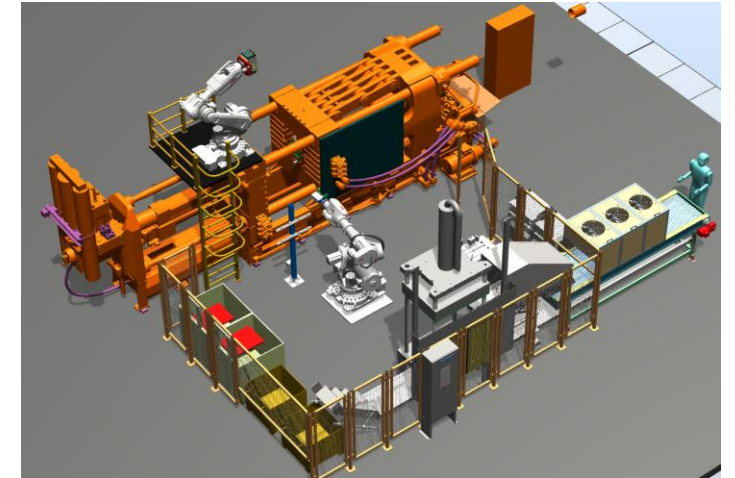
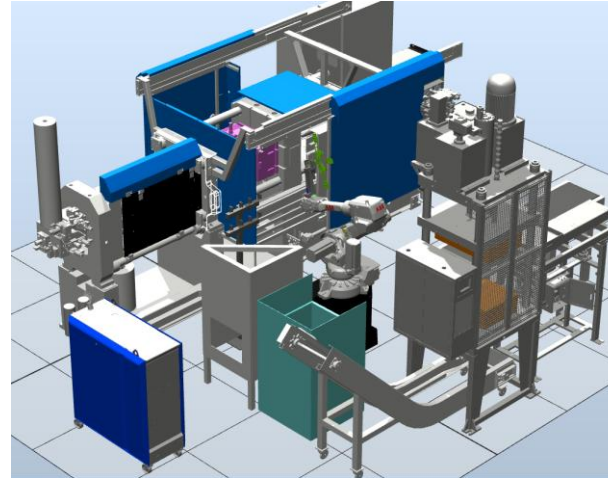
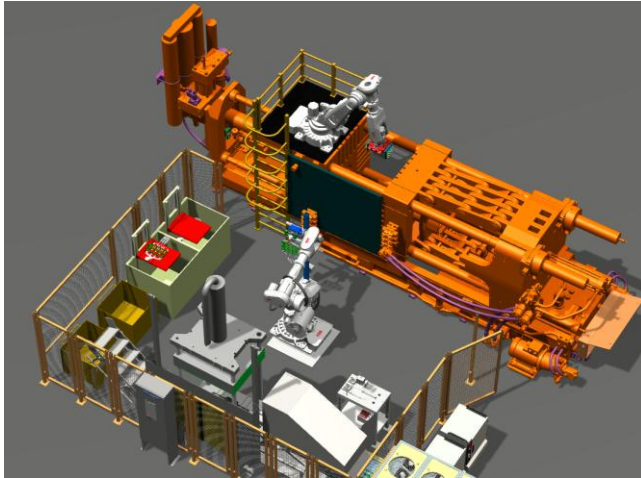
**foundryOS**

## EFFECTIVITY TASK FORCE



**100% Service**





## Advantages:

- One Frech Project Manager
- Cycle time optimization with Frech hand shake solutions
- Tool-/Gating know how transfer with heat optimized tooling technology
- Service partner for aftersales solutions

# Cold chamber technology: K & GDK Series



## K-Series

K-Series		*	K 380-	K 510-	K 640-	K 830-	K 1050-	K 1320-	K 1680-	K 1900-
		1	40	54	62	71	88	112	133	
		2		40	54	62	71	88	112	133
		3			40	54	62	71	88	112
Zuhaltekraft Locking force	kN		3.800	5.100	6.400	8.300	10.500	13.200	16.800	19.000
Aufspannplatten Size of platen	mm		1.015 x 1.015	1.135 x 1.135	1.255 x 1.255	1.400 x 1.400	1.550 x 1.550	1.730 x 1.730	1.950 x 1.950	2.100 x 2.100
Säulenabstand Space between tie bars	mm		675	750	825	925	1.025	1.150	1.300	1.350
Gießposition Shot position	mm	1	0 – 210	0 – 280	0 – 280	0 – 350	0 – 350	0 – 420	0 – 420	
		2		0 – 210	0 – 280	0 – 280	0 – 350	0 – 350	0 – 420	0 – 420
		3			0 – 210	0 – 280	0 – 280	0 – 350	0 – 350	0 – 420
Gießkraft max. Max. casting force	kN	1	409	548	623	713	881	1.120	1.330	
		2		409	548	623	713	881	1.120	1.330
		3			409	548	623	713	881	1.120
Gießkolbendurchmesser Injec. plunger diameter	mm	1	50 – 90	60 – 100	60 – 110	70 – 120	70 – 140	80 – 140	80 – 160	
		2		50 – 90	60 – 100	60 – 110	70 – 120	70 – 140	80 – 140	80 – 160
		3			50 – 90	60 – 100	60 – 110	70 – 120	70 – 140	80 – 140
Gießhub Casting stroke	mm	1	600	700	700	800	800	900	900	
		2		600	700	700	800	800	900	900
		3			600	700	700	800	800	900
Gießvolumen Casting volume	cm <sup>3</sup>	1	785 – 2.545	1.319 – 3.665	1.319 – 4.435	2.053 – 6.032	2.053 – 8.210	3.016 – 9.236	3.016 – 12.064	
		2		785 – 2.545	1.319 – 3.665	1.319 – 4.435	2.053 – 6.032	2.053 – 8.210	3.016 – 9.236	3.016 – 12.064
		3			785 – 2.545	1.319 – 3.665	1.319 – 4.435	2.053 – 6.032	2.053 – 8.210	8.210 – 9.236
Spez. Gießdruck Spec. injec. pressure	bar	1	2.083 – 643	1.938 – 698	2.203 – 656	1.853 – 630	2.289 – 572	2.228 – 728	2.646 – 661	
		2		2.083 – 643	1.938 – 698	2.203 – 656	1.853 – 630	2.289 – 572	2.228 – 728	2.646 – 661
		3			2.083 – 643	1.938 – 698	2.203 – 656	1.853 – 630	2.289 – 572	2.228 – 728
Zugeh. Trennfl. von – bis Casting area from – to	cm <sup>2</sup>	1	182 – 591	263 – 731	290 – 976	448 – 1.317	459 – 1.835	592 – 1.814	635 – 2.540	
		2		245 – 793	330 – 917	377 – 1.266	567 – 1.666	577 – 2.306	754 – 2.309	718 – 2.872
		3			307 – 995	428 – 1.190	477 – 1.602	712 – 2.094	734 – 2.935	853 – 2.611

GDK-Series		*	GDK 2200-	GDK 2600-	GDK 2800-	GDK 3200-	GDK 3500-	GDK 4100-	GDK 4400-
			135 150	185 210	185 210	185 210	210 240	210 240	240 280
Zuhaltekraft Locking force	kN		22.000	26.000	28.000	32.000	35.000	41.000	44.000
Schließhub Closing stroke	mm		1.400	1.500	1.500	1.500	1.550	1.800	1.800
Auswerferhub Ejector stroke	mm		260	320	320	320	350	350	350
Formhöhe min.-max. Die Height min.-max.	mm		900 – 1.600	1.000 – 1.800	1.000 – 1.800	1.000 – 1.800	1.000 – 1.800	900 – 1.800	900 – 1.800
Größe der Aufspannplatten Size of platen	mm		2.160	2.500	2.500	2.500	2.700	2.800	2.800
Säulenabstand Space between tie bars	mm		1.400	1.600	1.600	1.600	1.750	1.750	1.750
Eingießposition Shot position	mm		0 – 450	0 – 600	0 – 600	0 – 600	0 – 600	0 – 600	0 – 600
Gießkraft max. Max. casting force	kN	1 2	1.350 1.500	1.850 2.100	1.850 2.100	1.850 2.100	2.100 2.400	2.100 2.400	2.400 2.800
Gießkolbendurchmesser injec. Plunger diameter	mm	1 2	90 – 160 90 – 170	100 – 170 110 – 180	100 – 170 110 – 180	100 – 170 110 – 180	110 – 180 120 – 190	110 – 180 120 – 190	120 – 190 130 – 200
Gießhub Casting stroke	mm	1 2	1.000 1.200	1.200 1.200	1.200 1.200	1.200 1.200	1.200 1.400	1.200 1.400	1.400 1.400
Gießvolumen Casting volume	cm³	1 2	4.241 – 13.404 5.089 – 18.158	6.283 – 18.158 7.603 – 20.358	6.281 – 18.158 7.603 – 20.258	6.283 – 18.158 7.603 – 20.358	7.603 – 20.358 10.556 – 26.463	7.603 – 20.358 10.556 – 26.463	10.556 – 26.463 12.388 – 29.322
Spez. Gießdruck Spec. Inject. Pressure	bar	1 2	2.122 – 671 2.358 – 661	2.355 – 815 2.210 – 825	2.355 – 815 2.210 – 825	2.355 – 815 2.210 – 825	2.210 – 825 2.122 – 846	2.210 – 825 2.122 – 846	2.122 – 846 2.110 – 891

# Hot Chamber Technology: OSKAR FRECH GMBH + CO. KG

Zink		W20/5 Zn	W20 Zn	W50 Zn	W80 Zn	W125 Zn	W200 Zn	W315 Zn	W500 Zn	W600 Zn
Zuhaltekraft Locking force	kN	90	240	600	900	1.250	2.200	3.150	5.800	6.500
Schließhub Closing stroke	mm	180	180	230	280	340	430	500	680	680
Auswerferkraft Ejector force	kN	9 6	28 18	40 26	61 41	80 53	110 70	159 80	285 147	285 147
Auswerferhub Ejector stroke	mm	50	50	70	70	90	100	120	160	160
Formhöhe min.-max. Die height min.-max.	mm	120 – 300	120 – 300	120 – 350	160 – 400	170 – 500	250 – 600	300 – 700	350 – 800	350 – 800
Größe der Platten Size of platen	mm	380 x 380	380 x 380	460 x 460	540 x 540	620 x 620	755 x 755	900 x 900	1.120 x 1.120	1.120 x 1.120
Säulenabstand Space between tie bars	mm	250 x 250	250 x 250	300 x 300	350 x 350	400 x 400	500 x 500	550 x 550	700 x 700	700 x 700
Säulendurchmesser Tie bar diameter	mm	45	45	56	65	75	85	110	140	140
Eingießposition Shot position	mm	0	0 – 40	0 – 50	0 – 60	0 – 80	0 – 100	0 – 120	0 – 160	0 – 160
Gießkraft max. Max. casting force	kN	15	43	54	78	100	130	158	182	182
Gießhub Casting stroke	mm	85	85	130	130	150	175	250	250	250
Gießkolbendurchmesser Injection plunger diameter	mm	36, 40, 45	36, 40, 45	45, 50, 55	50, 55, 60	60, 70, 80	70, 80, 90	70, 80, 90, 100	70, 80, 90, 100	70, 80, 90, 100
Gießvolumen Casting volume	cm <sup>3</sup>	47, 63, 87	47, 63, 87	109, 150, 194	147, 191, 241	205, 330, 475	450, 636, 856	514, 791, 1.105, 1455	514, 791, 1.105, 1455	514, 791, 1.105, 1455
Spez. Gießdruck Spec. injection pressure	bar	150, 150, 150	420, 340, 270	339, 274, 226	396, 327, 275	352, 259, 198	335, 260, 204	410, 316, 249, 201	473, 362, 286, 232	473, 362, 286, 232

**Thank you for  
your attention!**