



**DRUCKGUSS**  
SERVICE DEUTSCHLAND



Your partner for Die Casting Machines,  
Contract Manufacturing &  
Industrial Service



## All under one roof!

We - Druckguss Service Deutschland GmbH - are a globally oriented company based in Lübeck. Our core competence lies in specialised machine manufacturing and engineering, especially die casting machines. We attach great importance to service and know-how. Through our experience and continuous training we are offering, among other things, excellent and certified quality in the field of state-of-the-art production technology (according to DIN EN ISO 0991) as well as in our welding department (according to DIN EN ISO 3834-2 and EN 1090 EXC 3).

**Versatile:** We specialized ourselves in the production of heavy and large components, but also smaller components are in good hands with us. Our welding department expands our extensive portfolio by offering various welding technologies, welding constructions, repair welding as well as cladding and tanks.

**Holistic:** In no other service company in the industry you can find such an extend of core competencies united under one roof! We offer a holistic service for die casting machines of all manufacturers and sizes with a vertical integration of more than 97%. Due to our own mechanical manufacturing, electrical and hydraulic department, we set our own priorities and are largely independent from suppliers and other service providers.

**Competent:** With our competent and highly motivated employees, as well as with our over 35 years of experience, we succeed over and over again to provide optimal solutions for our customers. In the field of machine renewal, we offer a complete service from repair and conversion via modernization to general overhaul.

**Service-orientated:** For us it is self-evident that we are also available to our customers on site. Our extensive service fleet (including vehicles with the latest tools and materials) ensures on-site repairs - in Germany, Europe and around the world.

Page

4-5

On-Site Service

6-7

Machinery Service

8-9

Hydraulic-Service

10-11

Electro-Service

12-15

Manufacturing

16-17

Mobile Machining

18-19

Welding Technologies

20-21

Measuring, Testing, Adjusting

22-23

Project Planning / Engineering

24-25

Lift and Move

26-27

Innovations

28-29

DSD Product Family

30-31

Technology Consulting and Training



## Installation and Commissioning - Fast and Competent

### On-Site service

- ▶ Troubleshooting
- ▶ Safety test
- ▶ Machine condition test
- ▶ Service check
- ▶ Tie bar strain measurement
- ▶ Shot adjustment
- ▶ Machine Optimisation
- ▶ Preventive maintenance
- ▶ Hydraulic, mechanical, electrical repairs
- ▶ Gauging of pumps
- ▶ Testing of piston accumulators and nitrogen bottles
- ▶ Machine relocation
- ▶ Dismantlement of oversized machines
- ▶ Machine alignment
- ▶ Geometric measurements

### Your benefit (hydraulic, mechanical, electrical)

- ▶ Fast and on-time production start-up
- ▶ Benefit from our dedication and experience

## Troubleshooting in Electrohydraulic Systems and Rectification!

### We bring everything along

#### Special tools for:

- ▶ Machine alignment with laser technologies
- ▶ Shot alignment with laser technologies
- ▶ Ultrasonic tests
- ▶ Mobile milling and spindle technologies
- ▶ Welding technologies (e. g. rotation welding: inside and outside circular)
- ▶ Hoisting vehicle Boom-Truck up to 50 t
- ▶ Pressure testing system with 3.1.b. certificate

### Strain measurement

Exact adjustment of the machine by means of strain measurement ensures high production quality and reduces wear out

### Shot adjustment

The shot is precisely aligned with the latest laser technologies





## Modernisation and Revision Fresh Wind for Existing Production Facilities

### Machine service on site

#### In the annual inspection, the following is performed:

- ▶ Maintenance of tiebar and tiebar nuts
- ▶ Leveling the machine
- ▶ Control of sliding plates, sliding belts and guiding elements
- ▶ Condition and function checks of closing force regulation, casting valves, cooling system, hydraulic system, filtration, sensors and actuators, control system components
- ▶ Diagnostics of pump systems and proportional hydraulics
- ▶ System and security checks

### Your benefit

- ▶ Reduce operating costs
- ▶ Increase system availability
- ▶ Extend machine lifetime
- ▶ Reduce downtimes

## Retrofit your Die Casting Machine!

### Regulated shot

- ▶ Latest technology
- ▶ Regulated production
- ▶ Completely no new control needed
- ▶ Shot optimisation

### Path sensor

- ▶ Very robust
- ▶ High accuracy (0.1 mm)
- ▶ Integrated GK return signal
- ▶ High compatibility

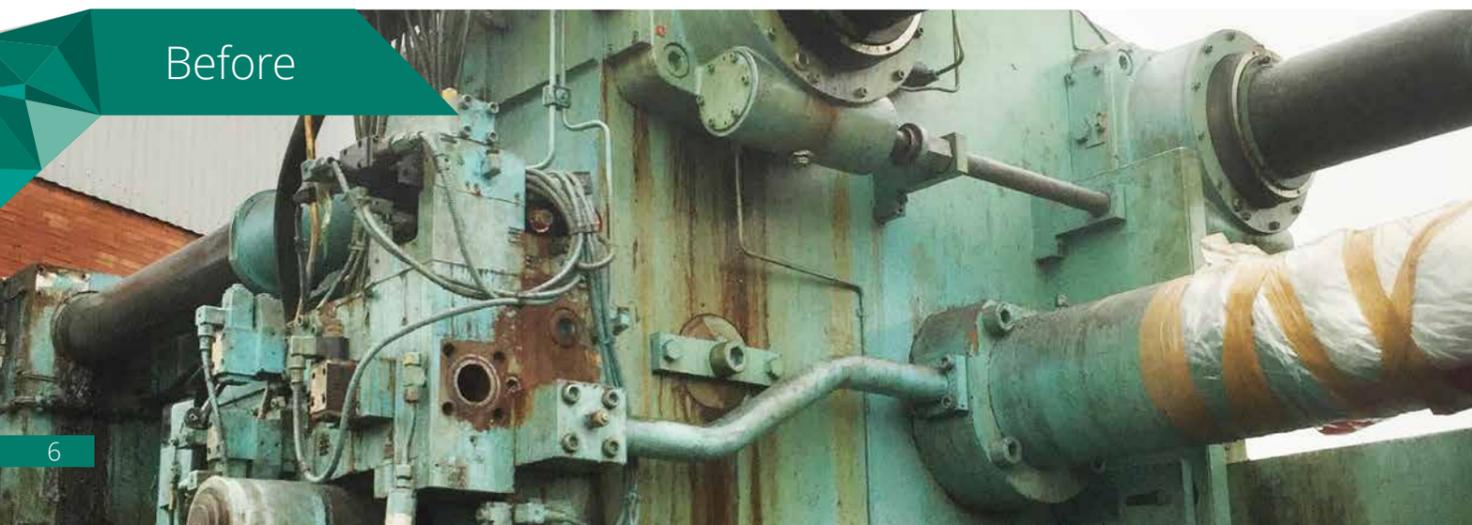
### Safety door

- ▶ Extruded aluminium profile
- ▶ Free ground anchoring
- ▶ Protection by safety switch
- ▶ Device to prevent access/stepping behind
- ▶ Control integration and installation on request
- ▶ Stroke adjusted as needed

### Tiebar withdrawal

- ▶ Faster change of device
- ▶ Lower machine downtime
- ▶ Increasing safety at work
- ▶ Mobile retrofittable on site
- ▶ Change / optimization of existing, vulnerable systems
- ▶ Higher availability of machine

Before



After





## Preventive Maintenance. Reduction of Unplanned Downtime.

### Inspections of installations (twice a year or annually):

- ▶ Regular assessment of the machines
- ▶ Testing electrical and mechanical functions
- ▶ Assessment and evaluation of wear parts
- ▶ Determining the need for maintenance
- ▶ Documentation of defects and risks
- ▶ Advice on measures to be initiated
- ▶ Assessment of functionality
- ▶ Safety test

### Hydraulic service on site

- ▶ Gauging of pumps
- ▶ Repairs
- ▶ Mobile test bench
- ▶ Hydraulic hoses
- ▶ Cylinder construction and overhaul
- ▶ Repair of equipment (hydraulic, mechanical, electric)
- ▶ Pressure testing of nitrogen bottles, pressure vessels etc. according to DIN EN10204
- ▶ Mobile piston rod repair / mobile electroplating
- ▶ Non-destructive, endoscopic examination of hydraulic equipment
- ▶ Analysis of the medium

### Pump overhaul

Let us check your defective pump.  
You will receive a free quote for the repair.

### Transportable test bench

Testing of hose lines and pressure bodies (eg piston accumulators or nitrogen bottles according to DIN EN10204 with 3.1.b. certificate)





## Electronics Service for Your Die Casting Machine

### Our portfolio

- ▶ Troubleshooting
- ▶ Diagnosis and troubleshooting in machines and plants
- ▶ Switch cabinet construction
- ▶ Software and measuring electronics for casting process documentation
- ▶ Programming of SPS controls (also peripherals)
- ▶ Programming according to IEC - 61131
- ▶ Development and production of controls for die casting machines and accessories
- ▶ Machine cabling on site
- ▶ DGUV3 exam
- ▶ Energy efficiency
- ▶ Circuit diagram creation in E-Plan
- ▶ Systems CE creation

### Electronics service

- ▶ Diagnosis and troubleshooting of machines and systems
- ▶ Siemens S7/F
- ▶ Profibus / Profinet
- ▶ HMI PC-based or panel

## Cabling and Commissioning in 3 Weeks!

### Hardware switch cabinet construction

- ▶ High ease of use
- ▶ One control panel for all operating and display elements
- ▶ Network connection for PDA / control station
- ▶ Safety standard (EN869)
- ▶ Standard interfaces: after metal supply, sprayer, removal
- ▶ Protective fencing wired or bus system

### Software switch cabinet construction

- ▶ Language switch German - national language
- ▶ Parallel operation via touchscreen and keyboard
- ▶ Very simple shot curve programming
- ▶ Free tool management





## Our Selection Will Convince You.

### Lathes cycle controlled

- ▶ Weiler DA260  
Distance between centres: 2.000 mm - Ø 535 mm
- ▶ Weiler E110  
Distance between centres: 3.000 mm - Ø 730 mm
- ▶ Weiler E110  
Distance between centres: 9.000 mm - Ø 730 mm
- ▶ Weiler E50  
Distance between centres: 1.000 mm - Ø 570 mm
- ▶ Weiler E50  
Distance between centres: 2.000 mm - Ø 570 mm

### Lathes conventional

- ▶ Weiler DA  
Distance between centres:  
2.000 mm - Ø 345 mm
- ▶ Heyligenstaedt/VDF  
Distance between centres:  
14.000 x 1.100 mm - Ø 600 mm

### Boring Mills

- ▶ Collet 175  
Machining size: 4.500 x 3.100 mm  
Depth: 1.500 mm  
Max. weight: 100.000 kg

### Honing bench

- ▶ Sunnen HL-3500  
Machining length: up to 7.000 mm - Ø 500 mm
- ▶ Honing GOE-2000  
Machining length: up to 4.000 mm - Ø 500 mm





## Our Selection Will Convince You.

### SHW UniSpeed 7

▶ Clamping surface table:	6.000 x 1.300 mm
Max. allowed load on table:	19 t
Traverse paths:	X= 6.000 mm Y= 1.600 mm Z= 1.300 mm
Positioning table:	2
Axes:	5

### Milling conventional and cycle controlled

▶ Hermle UWF 900E (cycle controlled)	
Machining Size:	X= 650 mm Y= 350 mm Z= 440 mm
▶ Bed-type milling machine MTE/K25	
Clamping surface table:	2.700 x 850 mm
Max. allowed load on table:	6 t
Traverse path:	X= 2.500 mm Y= 1.000 mm Z= 1.100 mm

### Lathe and milling centre SHW Powerspeed 5

▶ Round table:	1.600 mm
Max. possible area for lathing:	1.600 mm
Max. allowed load on table/lathing:	3 t
Max. allowed load on table/milling:	6 t
Max. allowed load panel field:	10t per sqm
Traverse paths:	X= 6.000 mm Y= 2.100 mm Z= 1.300 mm
Automatic universal milling head	

### SHW UniForce 8

▶ Working area:	
X-axis – table/stand horizontal:	12.000 mm
Y-axis – slide vertical:	6.100 mm
Z-axis – headstock transversal:	1.800 mm
W-axis:	2.500 mm
Clamping surface complete:	12 x 6,5 m
▶ Highlights:	
Piece weight up to 130t – head-change system – interpolation turning	

The UniForce 8 is a large-scale machining center with the gantries of a portal machine. The machine will handle the toughest machining tasks and even the most complex modern processing tasks. The new tool change system shortens changeover times independently of the travel path and thus reduces machine- dependent non-productive times to a minimum.





## Mobile Machining on Site

In short term, we will bring your die casting machine back to service by repairing the traverse, the fixed and movable plate „on site“, reworking the T-slots and resetting the chamber space. Plates dented by moulds and torn T-slots can therefore economically be repaired, since the disassembling of the machine is not needed. Spindles of joints, defective holes (e. g. tie rods or tie-bar guides) in the case of partial damage are carried out without dismantling the machine. Onsite repair reduces downtime and costs.

### Mobile milling

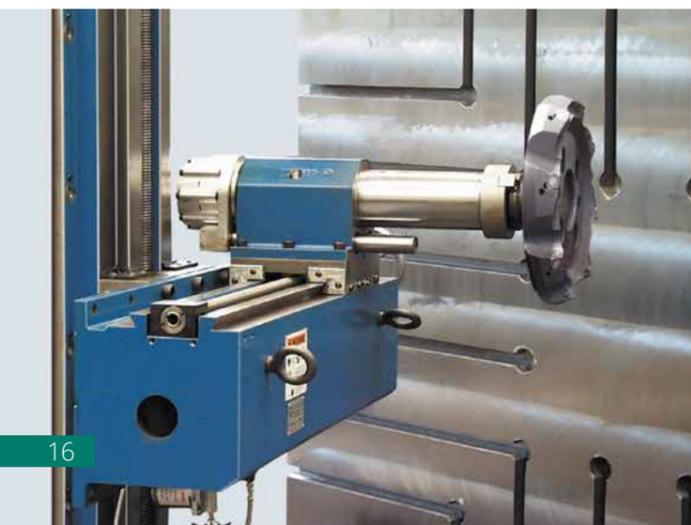
- ▶ Reducing the downtime
- ▶ No dismantling of the machine needed
- ▶ Revision of the machine bed
- ▶ Line boring of all holes (e.g. joints)
- ▶ No complicated disassembly of piping and electrical connections

### Mobile hard-facing

- ▶ Refining the component surface
- ▶ Surface hardening
- ▶ Higher wear and corrosion resistance

### Mobile line boring and welding

- ▶ Pre line boring
- ▶ Build-up welding
- ▶ Post line boring
- ▶ Borwelder system enables the mobile repair of bushings and worn bolt bearings
- ▶ MSG inside round welding





## Our Welding Technologies

- ▶ MIG / MAG / WIG / UP
- ▶ Autogenous and manual electric welding
- ▶ Soldering
- ▶ MIG / MAG inside round welding
- ▶ MIG / MAG / UP  
External round welding on automatic turning device
- ▶ Rotation welding  
(inside and outside  $\varnothing$  1.000 x 1.500 mm)
- ▶ Welding construction
- ▶ MIG / MAG  
Semi-automated build-up welding on signs also possible on a mobile basis
- ▶ Repair welding of difficult to weld materials e. g. ductile iron
- ▶ Thermite welding
- ▶ Mobile hard-facing  
(see page: Mobile machining)
- ▶ Maritime steel construction

Certified acc. to:

DIN EN ISO 3834-2: Quality requirements for fusion welding of metallic materials. Comprehensive quality requirements in application.

EN 1090-2 EXC 3 - Steel construction. International standard. Allows the production of predominantly non-static structures.



Reg.-Nr.: Q1 0110139



## Measuring Technology on Site

### 3D laser acquisition and digitisation, construction of original models

Our team of experienced engineers and technicians has specific know-how from the die casting industry and general mechanical engineering. In combination with in-depth expertise, we can assist you in your projects with our all-in-one measurement software.

#### Applications

- ▶ Analytical measurements for manufacturing problems
- ▶ Quality assurance
- ▶ Actual recording of existing geometries
- ▶ Target-performance comparison
- ▶ Positioning
- ▶ Machine calibration
- ▶ Comparison with CAD data

#### FARO-Arm Prime

- ▶ 3D measuring arm with highest accuracy
- ▶ Unlimited rotation flexibility
- ▶ Measuring range 1.8 m
- ▶ Accuracy (+/-) 0.027 mm (at 1.8 m)

#### Measure 2CAM

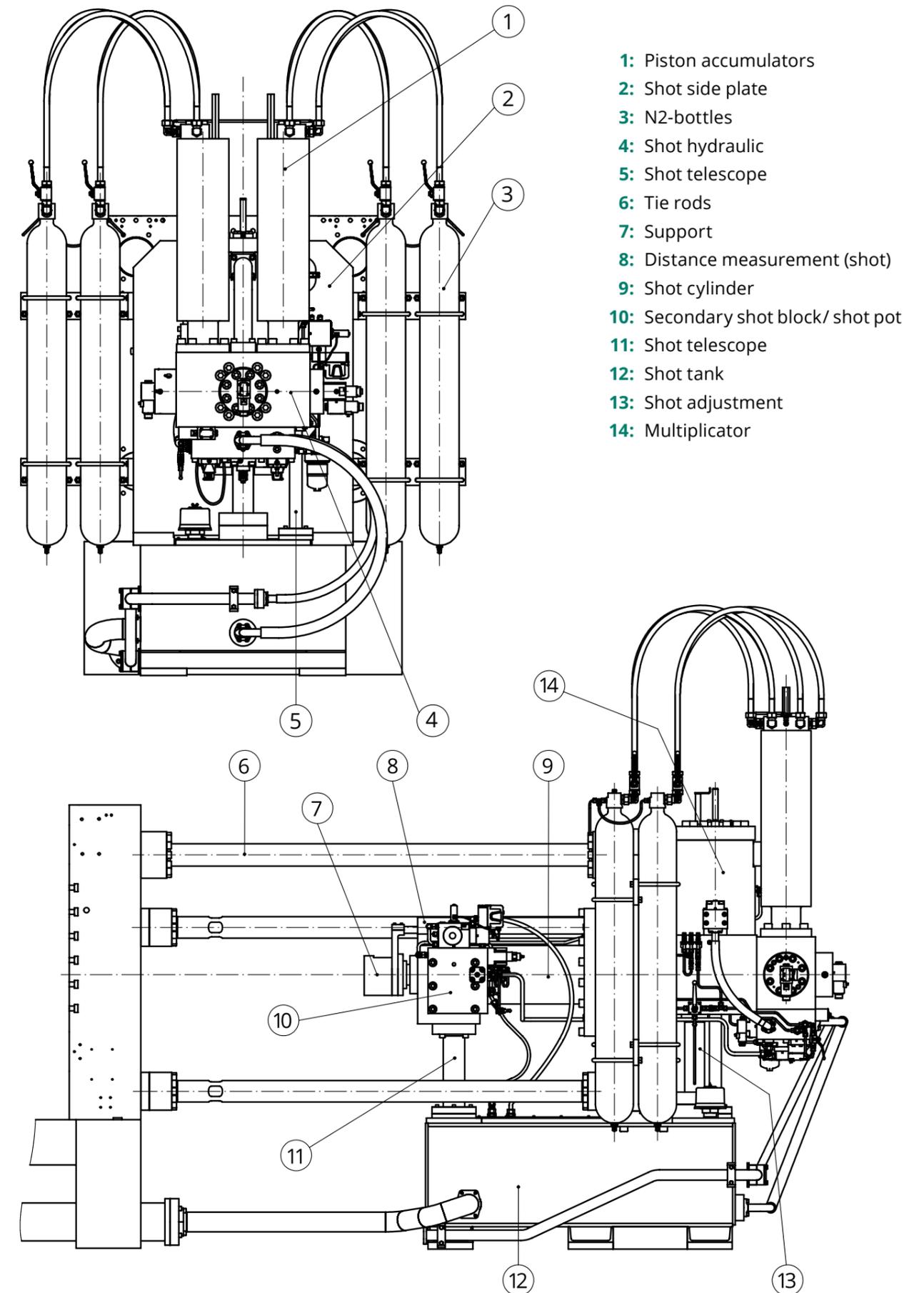
- ▶ All-in-one measurement software
- ▶ Data Input / Output:  
Parasolid, IGES, VDA / FS, Step

#### Laser Tracker

- ▶ 3D measuring and imaging system
- ▶ Portable coordinate measuring machine
- ▶ Measuring distance maximum 80 m
- ▶ Accuracy 0.016 mm + 0.0008 mm / m

#### FARO Track Arm

- ▶ Seamless combination of two portable measuring systems to a full solution



## Reverse Engineering & Construction

Thanks to our high flexibility we support our customers worldwide in a non- bureaucratic way!

For Druckguss Service Deutschland GmbH, „engineering“ implies on first hand the technical project management in the area of development and design, starting with the formulation of your technical ideas up to the production or commissioning of the product.

Our project management works hand in hand with the engineering in all stages of development and allows you at any time comprehensive insight into the process.

### Design department

- ▶ Construction with SolidWorks 3D CAD
- ▶ Creation of complete machine layouts in 3D
- ▶ Machine documentation with part list / overview
- ▶ Drawing Design-related FEM calculations

### 3D printing

- ▶ Method: FDM (Fused Deposition Modeling)
- ▶ Resolution: 0.02 mm to 0.2 mm
- ▶ Plastics: PLA, ABS, CPE, PVA and Nylon (PA6)
- ▶ Colors: two-color printing is possible
- ▶ Moving structures possible with lost support material





## BOOMTRUCK

The BOOM-TRUCK is a mobile lift truck that can effortlessly place weights up to 50 t, the dismantling of large machineries will never be a problem anymore.

Whenever indoor cranes are not sufficient and crane trucks can not be used because of lack of space, the BOOM-TRUCK is the solution.

- ▶ Dimensions: L = 5,00 m / W = 2,15 m / H = 3,00 m

With its dimensions, it moves easily through the halls and requires only slightly more space than a forklift. Machines up to approx. 700t clamping force can be moved without dismantling.

## Heavy transport organisation

Druckguss Service Deutschland GmbH also organises the necessary heavy transports, as shown here at the example of an order for a well-known German automobile manufacturer.

### Basic data:

- ▶ Closing part 92.500 kg (LxWxH 7,7x3,5x3,3 m)
- ▶ Casting group 15.000 kg (LxWxH 4,1x2,2x3,0 m)

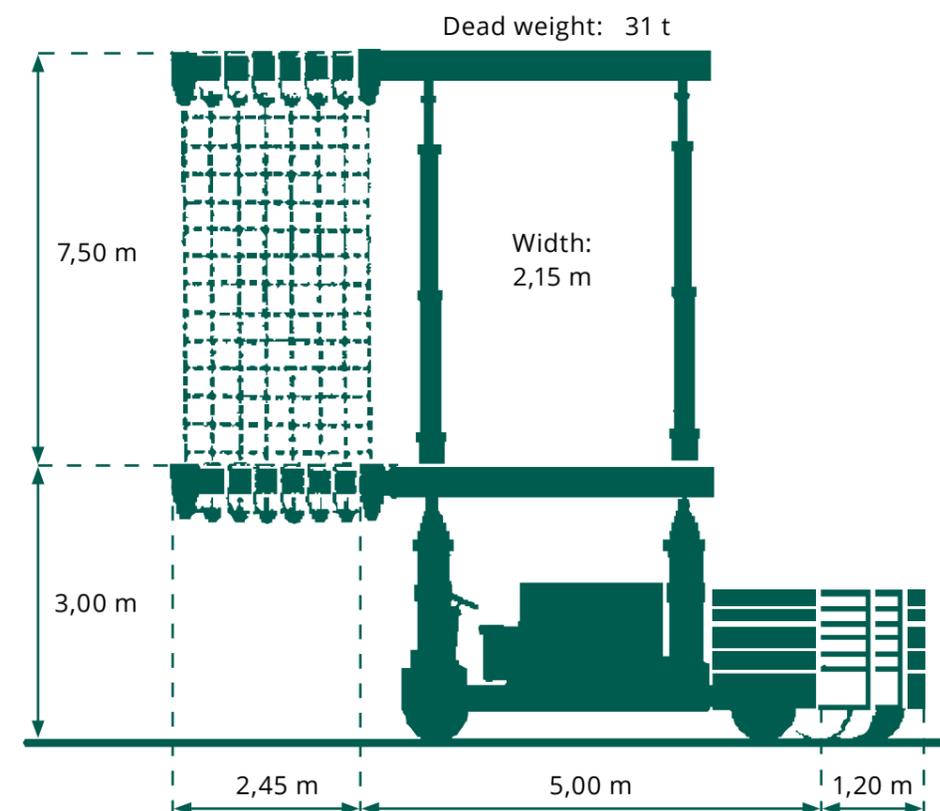
### Implementation:

- ▶ Overloading of the individual packages to the required 80,000 kg
- ▶ Re-coordination loading
- ▶ Transport organisation

### Challenge:

- ▶ Most of the German bridges have currently been reduced to a maximum load of 80,000 kg.

Mobile lifting up to 50 t





## Know-How

The newly developed innovative shot sleeve extraction device solves your problem with stuck filling chambers in chamber holder or mould. The compact design allows fast and secure clamping, extraction, storage and transport of the filling chamber. The filling chamber change is optimised to increase your productivity.

### Shot sleeve extraction device

- ▶ Gentle filling chamber process
- ▶ Effective relief of work
- ▶ Increased productivity
- ▶ Accident prevention
- ▶ Fast amortization
- ▶ Affordable „light“ version available

### Die Handling

- ▶ Accident prevention
- ▶ Effective relief of work profitability
- ▶ Gain in profitability
- ▶ Avoidance of damage to the die
- ▶ Fast amortisation

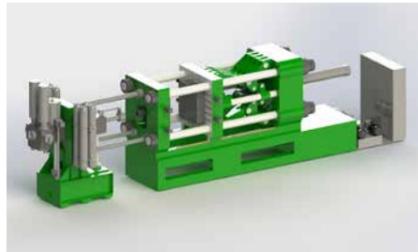
### The mobile die handling device

For vertical storage (90 °) and step-less tilting of die-casting moulds into the horizontal position. In each position can be worked comfortably on the moulds. The transport can be done in any position. Decisive criteria for the use of the mobile work platform are a significant reduction of the changeover time and the resulting increase in profitability. A quick amortisation of the investment costs is guaranteed. Also available as self driving device (FTS).



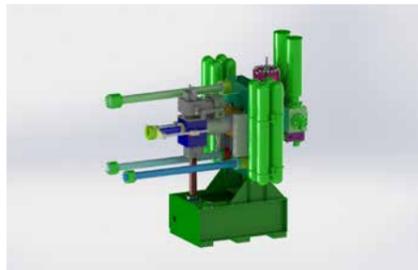
DSD on YouTube





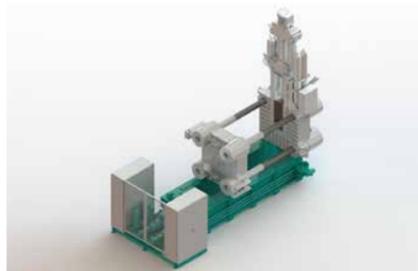
## Die Casting Machine

- ▶ Conversion to energy-efficient drives
- ▶ Special machines for new casting processes
- ▶ Equipment according to customer requirements



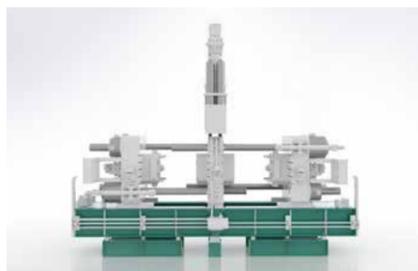
## DSD-shot ECO

- ▶ Energy efficient
- ▶ High power density
- ▶ Longer service life of all connected hydraulic components
- ▶ Increases productivity and saves energy



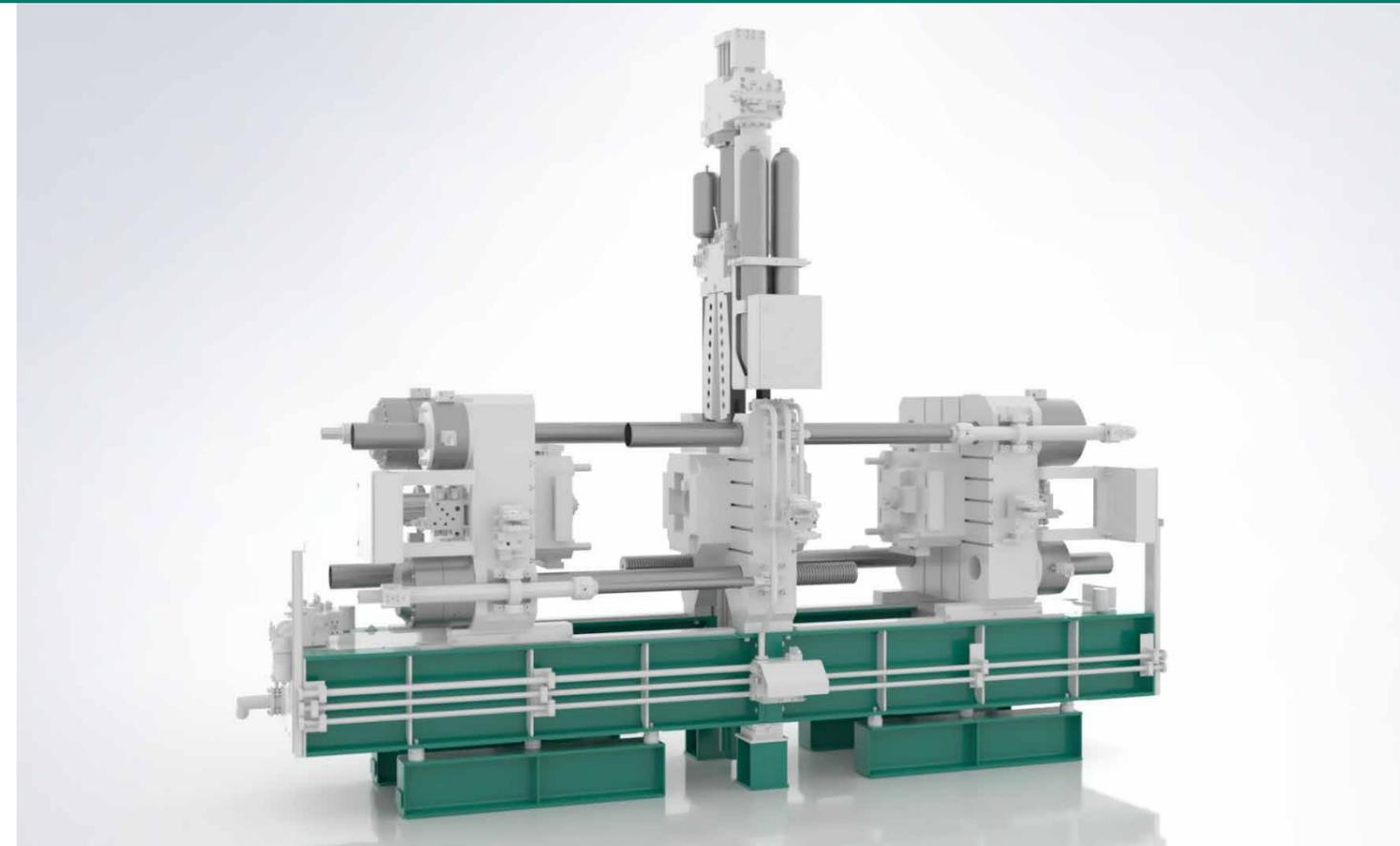
## V-Cast

- ▶ Base DuoCast technology
- ▶ No chaining of processes
- ▶ Quality advantages V-Principle
- ▶ Cycle time advantages through dosing and solidification in non-productive time
- ▶ Compact machine dimensions



## DuoCast

- ▶ Special machine, halves the required closing force
- ▶ Central sprue / rotationally symmetrical castings
- ▶ Double output - two sprues - one press rest
- ▶ Cycle time ~ 50s
- ▶ 100% filling level, closed melt feed



## Technical Data DuoCast Series

	Unit	DC-35	DC-55	DC-70	DC-90	DC-110	DC-140	DC-180	DC-220	DC-280	DC-350	DC-440	DC-550
Closing force nominally	[kN]	3500	5500	7000	9000	11000	14000	18000	22000	28000	35000	44000	55000
Closing force maximal	[kN]	3675	5775	7350	9450	11550	14700	18900	23100	29400	36750	46200	57750
Casting force dynamic	(kN)	190	290	410	410	590	590	810	810	1170	1170	1560	1560
Casting force statistical	(kN)	540	770	1100	1100	1550	1550	2200	2200	3000	3000	4200	4200
Cylinder stroke	(mm)	500	600	675	750	825	900	975	1050	1125	1200	1275	1350
Stroke maximal	(mm)	290	345	390	435	475	520	560	600	650	690	730	780
Smallest shot chamber	(mm)	70	85	100	100	120	120	145	145	170	170	200	200
Biggest shot chamber	(mm)	105	125	150	150	175	175	210	210	245	245	290	290
Max. cast weight (Al alloy)	(kg)	6,3	10,6	17,2	19,2	28,6	31,3	48,5	52	76,6	81,3	120,5	128,8
Machine dimensions (length)	(mm)	5680	7150	8020	9010	9900	10890	11980	13175	14495	15945	17540	19200
Machine dimensions (width)	(mm)	1622	2042	2291	2574	2828	3111	3422	3764	4141	4555	5011	5485
Machine dimensions (height)	(mm)	2420	2905	4595	5050	5530	5970	6415	6860	7325	7714	8120	8520
Construction height max.	[mm]	470	595	670	750	840	940	1055	1185	1330	1490	1670	1770
Die opening stroke max.	[mm]	565	715	805	900	1010	1130	1265	1420	1595	1790	2005	2125
Tie-bar spacing	[mm]	590	750	845	925	1055	1185	1330	1490	1675	1875	2100	2230
Tie-bar diameter	[mm]	110	135	155	175	200	220	250	280	310	350	390	440
Dimensions of platens	[mm]	970	1205	1360	1500	1705	1895	2130	2380	2655	2975	3320	3600
Min. mould dimension	[mm]	440	555	625	690	785	880	990	1105	1240	1390	1555	1670



## Training

### New perspectives due to further education

Intensive training ensures optimal use of your machines! These training programs, which have been specially developed in-house, ensure that every die-casting operator stays up-to-date with the latest technological developments and meets the daily increasing demands. Extensive specialist knowledge, permanent exchange of experience with users and practice-oriented trainers are the best conditions for first-class results:

### Basics of die casting technology

Above all, this course addresses new employees in foundries.

### Electronics of die casting machines

The quick differentiation between electronic and hydraulic errors is a focus of this course.

### Setup and programming conventional and SC technology

This course is intended to give new employees the necessary knowledge in working with die casting machines and moulds.

### Hydraulics in general I + II

In this course the participants learn the functions of the most important hydraulic components.

### Hydraulic on die casting machines

In this course we specifically deal with hydraulics of die casting machines, regardless of machine type and manufacturer. Based on practical examples of errors, solutions are systematically developed with the help of hydraulic plans.

### Process optimisation

This course is aimed to fitters and foundry technologists.

### Measuring technology

This course is aimed to foundry technicians and maintenance personnel.

### Forklift and crane training

We now also offer training for cranes and industrial trucks. (Proposal: daily group training (8h) for 6 or more people starting at € 110 per person.)

### Your advantages

- ▶ Qualified Employees
- ▶ Long life of the machines
- ▶ Reliable operational readiness
- ▶ Assured production quality
- ▶ Economic productivity

### Your benefit

- ▶ Comprehensive knowledge transfer
- ▶ Practical intensive
- ▶ Training in small groups
- ▶ Exchange of experience

## Individual training

We are happy to offer a specially tailored training for your individual needs. The place (with us or at your site, the subjects and the date, will be planned with you according to your wishes.

Telephone: +49 (0)451 61999-0  
e-mail: info@dgs-hl.de



ALL UNDER ONE ROOF

SERVICE



ELECTRONIC SERVICE

HYDRAULIC SERVICE



MANUFACTURING

WELDING TECHNOLOGIES



DRUCKGUSS SERVICE DEUTSCHLAND GmbH

Wesloer Straße 112 - D 23568 Lübeck

Telephone: +49 (0)451 61999-0

Internet: [www.dgs-hl.de](http://www.dgs-hl.de)

Telefax: +49 (0)451 692554

e-Mail: [info@dgs-hl.de](mailto:info@dgs-hl.de)