

Germany



Customer Training



January to June 2012

ARBURG

www.arburg.com

Introduction



Ladies and Gentlemen,

Are you new to the injection moulding sector or are you interested in increasing your knowledge? Looking to make even more efficient use of your machines, through automation or preventive maintenance? Do you need to train employees at several locations worldwide according to the same standards? Then we have exactly what you need!

Because we also increase our knowledge on a daily basis, we can now offer you four new training courses, ranging from a service and adjustment course for EDRIVE series electric machines and robotic system maintenance through to compression injection moulding and micro injection moulding. This is your chance to benefit from our extensive know-how in injection moulding technology.

We have highlighted all the new features to make it easier for you to find your way around the course planner. You will also find all the familiar courses on machines, service, robotic systems and injection moulding technology. If you need a course tailored to your specific requirements, we will be pleased to oblige and can provide training either on your premises or at ARBURG.

For questions, registration and hotel reservations please contact: Ingrid Späth and Christina Keck by e-mail at kundenschulung@arburg.com or by telephone (07446 33-5228).

Best wishes,

Uwe Klumpp

Group Manager, Product Training

Registration / confirmation

Christina Keck and Ingrid Späth will be happy to answer your questions and to confirm your course registration. You will receive a confirmation no later than two weeks before the start of the course.

Contact

E-Mail: kundenschulung@arburg.com

Tel.: +49 (0)7446 33-5228

Fax: +49 (0)7446 33-3170

Course times / prices

First day: 8:00 a.m. - 4:00 p.m.

Last day: 8:00 a.m. - 3:00 p.m.

The price (not including VAT) covers extensive course documentation, lunch, snacks and beverages.

Implementation / cancellation

Please note that ARBURG reserves the right to cancel or change course dates for important reasons.

Cancellations up to one week prior to the start of the course will be liable to a 10% cancellation charge; cancellations at shorter notice will be liable to the full course fee.

Standards/ certification

ARBURG places high demands on its trainers. All our courses are carried out according to a unified standard worldwide.

Quality in focus: we are a member of the VerMIT association of medium-sized industrial training centres, which regularly certifies our instructors.



Our Team



Christina Keck



Ingrid Späth



David Chu



Karl Epting



Alexander Fischer



Michael Gort



Sven Guhl



Reiner Meier



Kai-Uwe Vorwalder



Manuel Witte



Thomas Wursthorn



Zhijie Xing

Overview

Machine

G

Basic machine course

p. 9

Introductory course on machine operation

M

Machine adjustment course

p. 10

Main course on machine operation
and programming

P

Intensive machine course

p. 11

Advanced course following on from
the machine adjustment course

Service

SK

Main service courses

p. 12-13

Preventive maintenance, ALLROUNDER
EDRIVE, service for robotic systems,
hydraulics/mechanics, electrics/electronics

PSK

Intensive practical service course

p. 14

Advanced course SK EL, focus
on troubleshooting

SK Abgl

Service calibration course

p. 15

Course on calibrating an injection
moulding machine

Overview

Technology

KT

Plastics technology courses p. 16-17

Injection moulding materials/injection moulding process, moulded part/mould

SP

Courses on special processes p. 18-20

Multi-component technology, thermoset processing, powder injection moulding, LSR processing, compression injection moulding, micro-injection moulding

Automation

HP

Courses on robotic systems p. 21-22

Six-axis robotic systems, MULTILIFT V/
MULTILIFT SELECT, MULTILIFT H

We are also pleased to offer individualised courses upon request, with customer-specific content. These courses can be held either at your premises or at ARBURG.

Upon request, we are also able to offer you a course on earlier machine types, which are no longer featured in the machine range.



ARBURG headquarters in Lossburg

ARBURG GmbH + Co KG

Postfach 11 09

72286 Lossburg/Germany

www.arburg.com

info@arburg.com

Course description

Course objective: Basic knowledge of how to operate and program an injection moulding machine

Target group: Those new to injection moulding, machine operators

Requirements: None

Course duration: 2 days

Course fee: 395,- EUR

Documents: Course folder and CD

Note: To further enhance your knowledge, we recommend participation in a machine adjustment course (M)

Course content

- Fundamentals of the injection moulding machine and control
- Injection moulding process
- Typical plastics processing requirements
- Practical situations: starting/ending the injection moulding process, remedying faults and malfunctions, changing the mould and moulding material with cylinder and screw cleaning
- Machine maintenance

Machine	Control	Code
ALLROUNDER A	SELOGICA 'direct'	G-A d
ALLROUNDER E	SELOGICA 'direct'	G-E
ALLROUNDER 170 S - 570 S	SELOGICA	G12
ALLROUNDER 170 S - 570 S	SELOGICA 'direct'	G-S
ALLROUNDER C	SELOGICA	G14
ALLROUNDER GOLDEN EDITION	SELOGICA direct	G-GE

Course description

Course objective: Independent operation and programming of an injection moulding machine

Target group: Installation technicians, machine operators

Requirements: Participation in a basic machine course (G) or a basic knowledge of injection moulding

Course duration: 3 days

Course fee: 520,- EUR

Documents: Course folder and CD

Note: To further enhance your knowledge, we recommend participation in an intensive machine course (P), corresponding to your machine adjustment course (M)

Course content

- Explanation of typical machine features
- Programming the SELOGICA machine control system
- Setting up clamping and injection units
- Adapting the set values
- Quality monitoring and data recording/backup
- Machine maintenance

Machine	Control	Code
ALROUNDER A	SELOGICA 'direct'	M-A d
ALLROUNDER E	SELOGICA 'direct'	M-E
ALLROUNDER H	SELOGICA 'direct'	M-H
ALLROUNDER 170 S - 570 S	SELOGICA	M12
ALLROUNDER 170 S - 570 S	SELOGICA 'direct'	M-S
ALLROUNDER C	SELOGICA	M14
ALLROUNDER GOLDEN EDITION	SELOGICA 'direct'	M-GE
ALLROUNDER V	SELOGICA 'direct'	M-V d

Course description

Course objective: Development of knowledge on adjusting an injection moulding machine

Target group: Installation technicians, machine operators

Requirements: Participation in a machine adjustment course (M) or several years' experience with injection moulding machines and the SELOGICA control system

Course duration: 3 days

Course fee: 520,- EUR

Documents: Course folder and CD

Note: To enhance your knowledge, we recommend participation in a plastics technology course

Course content

- Independent determination of process data for an injection moulding machine under practical conditions.
- Adjusting an ALLROUNDER
- Working with example scenarios
- Using different injection moulding materials

Machine

ALROUNDER A

Control

SELOGICA 'direct'

Code

P-A d

Course description

Course objective: Development of knowledge of hydraulic machine sequences, fast fault detection and rectification

Target group: Service personnel, electronics engineers, fitters

Requirements: Basic knowledge of hydraulics and mechanics

Course duration: 2 days

Course fee: 395,- EUR

Documents: Course folder and CD

Course content

- Explanation of the most important function screens of the SELOGICA control system
- Regulating valves
- Pump control
- Working with the hydraulic circuit diagram
- Measurement and diagnostic options
- Structured detection, diagnosis and rectification of faults
- Maintenance

Machine	Control	Code
ALLROUNDER A	SELOGICA + SELOGICA 'direct'	SKA H/M
ALLROUNDER C	DIALOGICA	SK9 H/M

Course description

Course objective: Development of knowledge of electric machine sequences, fast fault detection and rectification

Target group: Service personnel, electronics engineers

Requirements: Basic knowledge of electrics and electronics

Course duration: 2 days

Course fee: 395,- EUR

Documents: Course folder and CD

Note: To further enhance your knowledge, we recommend participation in the intensive course in practical service (PSK)

Course content

- Explanation of the most important function screens of the SELOGICA control system
- Working with the electrical circuit diagram
- Machine sequence, block diagrams
- Regulating valves
- Measurement and diagnostic options
- Structured detection, diagnosis and rectification of faults

Machine	Control	Code
ALLROUNDER A	SELOGICA	
	+ SELOGICA 'direct'	SKA EL
ALLROUNDER C	DIALOGICA	SK9 EL

Course description

Course objective: Development of knowledge of fault detection and rectification

Target group: Service personnel, electronics engineers

Requirements: Participation in the main service course on electrics/electronics (SK EL)

Course duration: 1 day

Course fee: 190,- EUR

Documents: Course folder and CD

Course content

- Focus on electrics/electronics
- Intensive detection, diagnosis and rectification of faults
- Measurements and fault detection on regulating valves
- Comprehensive fault analysis

Machine

ALLROUNDER A

Control

SELOGICA

+ SELOGICA direct

Code

PSK A

Course description

Course objective: Independent calibration of an injection moulding machine

Target group: Service personnel

Requirements: Basic knowledge of hydraulics and mechanics

Course duration: 1 day

Course fee: 190,- EUR

Documents: Course folder and CD

Course content

- Machine adjustment
- Checking sensors
- Calibration of pumps, regulating valves, pressure sensors and stroke measurements

Machine	Control	Code
all ALLROUNDER	SELOGICA or SELOGICA direct	SK Abgl

Course description

Course objective: Development of knowledge of injection moulding materials and the injection moulding process

Target group: Installation technicians, machine operators, production managers, controllers, sales personnel, designers, planners

Prequisites: Basic knowledge of injection moulding and injection moulding materials

Course duration: 2 days

Course fee: 460,- EUR

Documents: Course folder and CD

Course content

Injection moulding materials

- Structure / properties of the plastics
- Condition ranges / fine structure of plastics
- Overview of the most important plastics

Injection moulding process

- Design of the injection moulding machine
- Various injection moulding processes
- Process parameters and their influence on moulded parts

Technology

Injection moulding materials /
injection moulding process

Code

KT 1

Course description

Course objective: Development of knowledge of moulded part design and injection mould configuration

Target group: Moulded-part and injection mould designers, mould-makers, installation technicians, production managers, controllers

Requirements: Basic knowledge of injection moulding, moulds and injection moulding materials

Course duration: 2 days

Course fee: 460,- EUR

Documents: Course folder and CD

Course content

Moulded part

- Design of moulded parts
- Shrinkage characteristics/dimensional accuracy

Mould

- Construction and design of injection moulds
- Types of mould and demoulding
- Design of sprue and runner systems
- Mould temperature control

Technology

Moulded part / injection mould

Code

KT 4

Course description

Course objective: Independent equipment, set-up and operation of a multi-component injection moulding machine

Target group: Process technicians and installation technicians for multi-component machines

Requirements: Basic knowledge of injection moulding and participation in a machine adjustment course (M)

Course duration: 3 days

Course fee: 520,- EUR

Documents: Course folder and CD

Note: Please bring personal safety equipment (safety shoes) to the course

Course content

- Introduction to multi-component processing
- Explanation of various multi-component moulds
- Introduction to the machine technology and accessories
- Options, setup and adjustment of multicomponent moulds including rotary platens and strippers plates
- Programming of various production processes
- Production control
- Process optimisation
- Machine and accessory maintenance

Special processes

Multi-component technology

Code

SP MK

Course description

Course objective: Developing knowledge of material properties and the injection moulding of metal and ceramic powders (PIM)

Target group: Installation technicians, machine operators

Requirements: Basic knowledge of injection moulding and participation in a machine adjustment course (M)

Course duration: 3 days

Course fee: 520,- EUR

Documents: Course folder and CD

Course content

- Introduction to the structure/properties of powder materials and different binder systems
- PIM-specific equipment of an ALLROUNDER
- PIM-specific programming, settings and monitoring of an injection moulding machine
- Detection, diagnosis and rectification of faults
- Process optimisation
- Machine maintenance

Special processes

Powder injection moulding process

Code

SP PIM

Course description

Course objective: Developing knowledge of material properties and the injection moulding of liquid silicones (LSR).

Target group: Installation technicians, machine operators, mould designers

Requirements: Basic knowledge of injection moulding and participation in a machine adjustment course (M)

Course duration: 3 days

Course fee: 570,- EUR

Documents: Course folder and CD

Course content

- Introduction to the structure/properties of plastics and LSR materials
- LSR-specific equipment of ALLROUNDERS
- LSR-specific programming, setting and monitoring of an injection moulding machine
- Basics of LSR injection mould configuration
- Process optimisation

Special processes

LSR process

Code

SP LSR

Course description

Course objective: Independent working with a six-axis robotic system

Target group: Installation technicians, machine operators

Requirements: Participation in a machine adjustment course (M)

Course duration: 5 days

Course fee: 1200,- EUR

Documents: Course folder and CD

Note: As preparation, we recommend participation in one of the MULTILIFT courses (HP ML-V, HP ML-H). Credit notes cannot be used in this case.

Course content

- Introduction to the six-axis robotic system
- Technical data, Kuka Control Panel, safety circuits
- Movements of the six-axis robotic system
- Creation of teach points
- Programming basic settings, different removal methods, set-down sequences and placing finished parts in patterns
- Creation of a complete production sequence
- Monitoring functions, working area monitoring

Robotic system

Six-axis

Control

SELOGICA 'direct'

Code

HP 6AC

Course description

Course objective: Independent working with the ARBURG MULTILIFT V and MULTILIFT SELECT robotic systems.

Target group: Installation technicians, machine operators, mould makers and designers

Requirements: Participation in a machine adjustment course (M)

Course duration: 3 days

Course fee: 520,- EUR

Documents: Course folder and CD

Course content

- Introduction to the ARBURG MULTILIFT V and MULTILIFT SELECT robotic systems with **vertical (V) mould entry from above**
- Programming and operating a MULTILIFT V and MULTILIFT SELECT on ALLROUNDERS
- Variety of practical applications: removal with suction device or gripper, set-down variants
- Integrated production control with subsequent palletising or selection
- Maintenance
- Accessory equipment

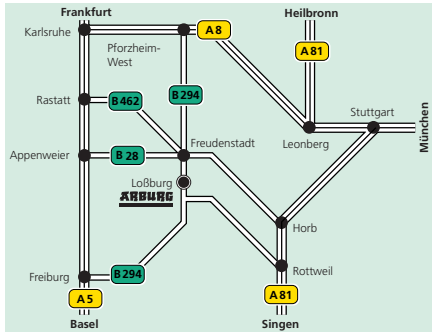
Robotic system	Control	Code
MULTILIFT V / SELECT	SELOGICA 'direct'	HP ML-V

	January	February	March		
01	Sun.	Wed.	Thu.	SK9	
02	Mon.	Thu.	Fri.	EL	
03	Tue.	Fri.	Sat.		
04	Wed.	Sat.	Sun.		
05	Thu.	Sun.	Mon.		
06	Fri.	Mon.	Tue.		
07	Sat.	Tue.	Wed.		
08	Sun.	Wed.	Thu.		
09	Mon.	Thu.	Fri.		
10	Tue.	Fri.	Sat.		
11	Wed.	Sat.	Sun.		
12	Thu.	Sun.	Mon.		
13	Fri.	Mon.	Tue.		
14	Sat.	Tue.	Wed.		
15	Sun.	Wed.	Thu.		
16	Mon.	Thu.	Fri.		
17	Tue.	Fri.	Sat.		
18	Wed.	Sat.	Sun.		
19	Thu.	Sun.	Mon.	G-A	
20	Fri.	Mon.	Tue.	d	
21	Sat.	Tue.	Wed.	M-A	
22	Sun.	Wed.	Thu.	d	
23	Mon.	Thu.	Fri.		
24	Tue.	Fri.	Sat.		
25	Wed.	Sat.	Sun.		
26	Thu.	Sun.	Mon.	P-A	
27	Fri.	Mon.	Tue.	d	
28	Sat.	Tue.	SK9	Wed.	
29	Sun.	Wed.	H/M	Thu.	SKA
30	Mon.			Fri.	H/M
31	Tue.			Sat.	

	April			May			June		
01	Sun.			Tue.		Fri.			
02	Mon.		SKA	Wed.		Sat.			
03	Tue.		EL	Thu.		Sun.			
04	Wed.		PSKA	Fri.		Mon.			
05	Thu.		SK Abgl.	Sat.		Tue.			
06	Fri.			Sun.		Wed.			
07	Sat.			Mon.		Thu.			
08	Sun.			Tue.		Fri.			
09	Mon.			Wed.		Sat.			
10	Tue.	HP		Thu.		Sun.			
11	Wed.	ML-V		Fri.		Mon.			
12	Thu.			Sat.		Tue.			
13	Fri.			Sun.		Wed.			
14	Sat.			Mon.		Thu.			
15	Sun.			Tue.		Fri.			
16	Mon.	G-E	KT1	Wed.		Sat.			
17	Tue.			Thu.		Sun.			
18	Wed.	M-E	KT4	Fri.		Mon.	G-S		
19	Thu.			Sat.		Tue.			
20	Fri.			Sun.		Wed.	M-S		
21	Sat.			Mon.	G-S	Thu.			
22	Sun.			Tue.		Fri.			
23	Mon.			Wed.	M-S	Sat.			
24	Tue.			Thu.		Sun.			
25	Wed.			Fri.		Mon.			
26	Thu.			Sat.		Tue.			
27	Fri.			Sun.		Wed.			
28	Sat.			Mon.		Thu.			
29	Sun.			Tue.		Fri.			
30	Mon.			Wed.		Sat.			
31				Thu.					

Location map

Lossburg



To: ARBURG GmbH + Co KG, Fax +49 (0)7446 33-3170

From: (please complete this form)

Company: _____

Address: _____

Telephone: _____ Fax: _____

E-Mail: _____

In case of queries, please contact: _____

I/We will arrive on: _____

and depart on: _____

Course	Date	Name of participant

Room reservation –

please send us this information together with your enrolment.

- No thank-you, we do not require accommodation
- Yes, please reserve accommodation for the person(s) listed below
(please enter exact number of rooms required and date of reservation)

Name	double	single	date from-to

The invoice will be charged at the end of the course. The room reservation is binding. Cancellations are usually subject to a cancellation fee and only possible in agreement with the providers of the accommodation. In this case please contact the hotel/guest house directly.

We have been informed that all liability claims against ARBURG are excluded, should a course participant suffer any damages or injury on the ARBURG premises.

Date

Signature

ARBURG GmbH + Co KG

Postfach 11 09

72286 Lossburg

Tel.: +49 (0) 74 46 33-0

Fax: +49 (0) 74 46 33 33 65

e-mail: contact@arburg.com