

General



The Kühling&Kühling VP75 Additive Manufacturing System

Welcome to the operating manual for the VP75 Additive Manufacturing System of the Kühling&Kühling GmbH (in the following referred to as *Kühling&Kühling*).

The VP75 Additive Manufacturing System (in the following referred to as *VP75* or *machine*) is a fully automatic stand-alone device for **Fused-Filament-Fabrication (FFF)** in a lab or commercial environment.

Any information needed for [installing and commissioning](#), [operating](#), [troubleshooting](#), [maintenance](#) and [repair](#) of the AMS are described in the following paragraphs and the accompanying sites.

This user's manual must be read thoroughly as it is meant to provide the operator with all information needed to operate the VP75 safely and reasonably. Please always provide access to the website for any user of the Additive Manufacturing System in case of questions or problems.

About this manual

In this online version of the VP75 operating manual you will find special phrasing and symbols to help you navigate in order to understand your product better.

Navigation

If you prefer having a printed version at hand, use the „Export to PDF“  button on the right hand side of the screen.

To navigate through this manual, use the chapter list on the [Start Page](#), the **Table of Contents** in each chapter and the [links](#) provided in the text.

If there are additional information of related interest in a chapter, these are provided as [buttons](#) at the end of a chapter, headed „Further information“.

To return to the top of a page, use the  on the right hand side of the screen.

Formatting

Content of special interest is represented by its formatting. Safety information are placed at the beginning of the respective chapter and/or just before the relevant step of action.



INFO

This box gives you additional information about a topic, tipps and tricks or reminders.

NOTICE!

This box states **possible machine damage** and information about

- mandatory behaviour,
- correct procedures and
- methods of avoiding.

CAUTION!

This box states **possible personal damage of minor effects** (e.g. cuts, bruises, light burns) and information about

- mandatory behaviour,
- correct procedures and
- methods of avoiding.

WARNING!

This box states **possible personal damage of major and possibly lasting effects** (e.g. crushing injuries, deep cuts, caustic burns, intoxication) and information about

- mandatory behaviour,
- correct procedures and
- methods of avoiding.

DANGER!

This box states **mortal peril** (e.g. electric shock) and information about

- mandatory behaviour,
- correct procedures and
- methods of avoiding.

Signs on the machine

Type plate

Number of revision	from	until	
v1.0.x	12-2016	current	 Type plate on the rear side.

On the type plate at the rear side of the VP75 you find all information to precisely identify your Additive Manufacturing System. The valid hardware revision is also displayed on the [\[Setup\]](#) menu of the operating screen. Please provide the serial number and the hardware revision when contacting us for [technical support](#).

1	Serial number
2	Date of manufacturing
3	Hardware Revision

Warning signs and labels

Due to the manufacturing process single components inside the build chamber may reach temperatures up to 500 °C. To warn the operator before touching anything inside the machine,



Hot surface warning sign.

areas of high temperatures are specially marked.

Current carrying components are labeled specially to indicate the danger of electric shocks.



High-voltage label on current carrying parts.

Intended use

The VP75 Additive Manufacturing System has been designed and built for manufacturing three-dimensional workpieces of nearly random geometries from common 1.75 mm thermoplastic filament strands.

The AMS features an advanced hot-end geometry with an extrusion temperature up to 500°C. In combination with the heated build chamber (up to 70°C) and the heated built plate (up to 130°C), this makes the VP75 suitable for processing a variety of materials. It is therefore capable of performing regular additive manufacturing tasks with standard thermoplastics as well as special jobs with technical plastics.

[Contact Kühling&Kühling](#) or refer to [our web shop](#) for more detailed information on available and applicable materials.

The VP75 is intended for industrial and commercial use. It is not valid for the operation in an explosive atmosphere.

Observing this manual and adhering to the stated information is part of the proper operation.

Improper operation of the VP75 can lead to hazardous situations.

It is forbidden to operate the AMS under conditions and for purposes other than stated in this manual.

Operating the VP75 is forbidden under the following circumstances:

- The VP75 is used for a purpose not designated, with unspecified materials or out of its operating range in any other way.
- Mechanical parts or parts of the electrical equipment are damaged or the insulation is defective.
- The VP75 does not function flawlessly.
- Mechanical components or the control system have been inexpertly altered or reconstructed.
- Operating parameters have been altered inadmissibly.
- Use of unspecified tools.
- Failure to regularly perform the prescribed maintenance work.

Warranty terms

The general [terms and conditions](#) of Kühling&Kühling GmbH apply. The customer is familiar with these terms latest on the day of signing the purchase contract.

The warranty terms and the liability period can be found in the contract documents and in the order confirmation.

Warranty claims and liability are voided in one or more of the following applies:

- unintended use of the VP75
- operation beyond the specified operating parameters
- false setup, commissioning, operation repair or maintenance
- operating the AMS with defective, missing, improperly installed and/or malfunctioning equipment
- unauthorized or inadmissible alteration of the electrical or mechanical equipment or the operating parameters of the system.
- use of other than the specified replacement parts, tools, and/or operating materials
- exceeding the specified maintenance intervals
- cases of disaster and force majeure

INFO

Any structural alteration of the VP75 not agreed upon with and approved in writing by Kühling&Kühling render the warranty and the EU Declaration of Conformity void and free Kühling&Kühling from product liability. Even if approved, alterations have to be carried out by the customer thoroughly and properly. If necessary, adequate safety devices have to be installed.



Ordering wear and spare parts and material

Parts of the VP75 are subject to wear and must be replaced in the specified intervals or on demand. Regularly check these components as stated in the maintenance manual and replace them if required.

Using the VP75 with worn parts is forbidden and frees *Kuehling&Kuehling* from liability. Wear parts must meet the technical specifications defined by *Kühling&Kühling*. *Kühling&Kühling* original parts are subject to rigid requirements and meet these standards. Contact sales@kuehlingkuehling.de for complete list of available wear and spare parts.

Further information
[Maintenance manual](#)
[Inquiries](#)

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