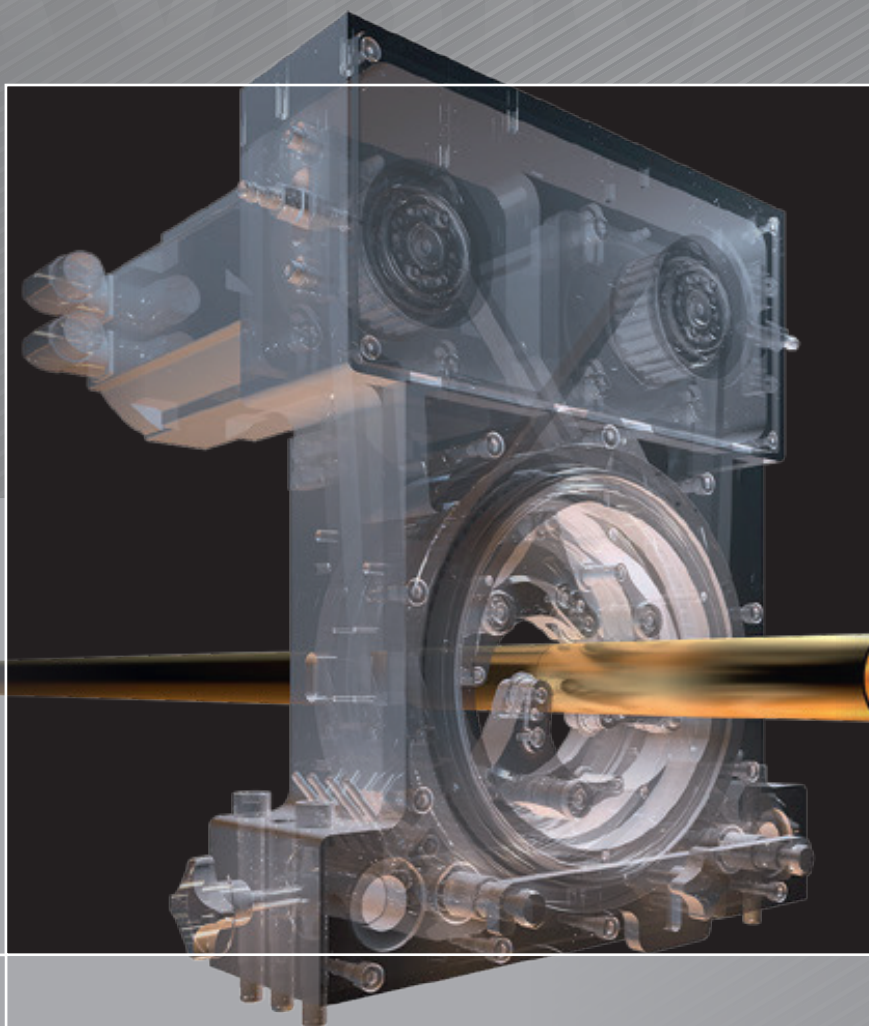


FZH

VARIO

Tubes

Fast and
chipless
cutting



THE TUBE CUTTER
exclusively from the manufacturer.

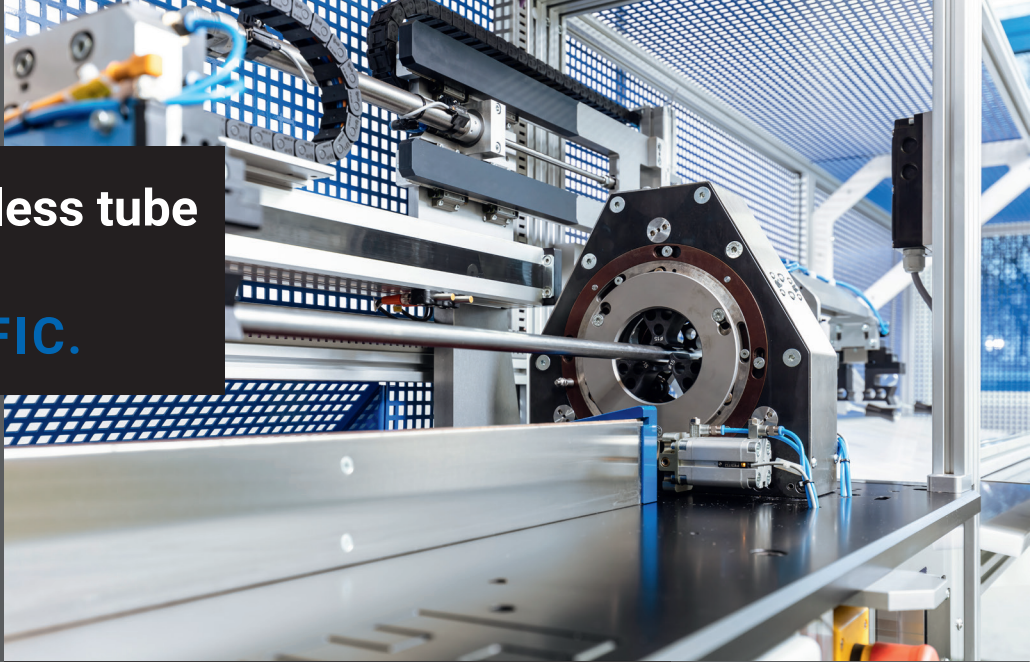
We manufacture chipless tube cutting systems **CUSTOMER-SPECIFIC.**

The modular base machine can be expanded without any problem into a half- or a full-automatic device.

Besides several special versions we also realise additional adaptations of the cut tubes.

SOME EXAMPLES:

- Thread cutting
- End machining
- Cross drilling
- Compressing, crushing
- Expanding
- Measuring, testing



VARIO

The tube cutting systems are
OWN DEVELOPMENTS of FZH –
built out of practice for the practice.

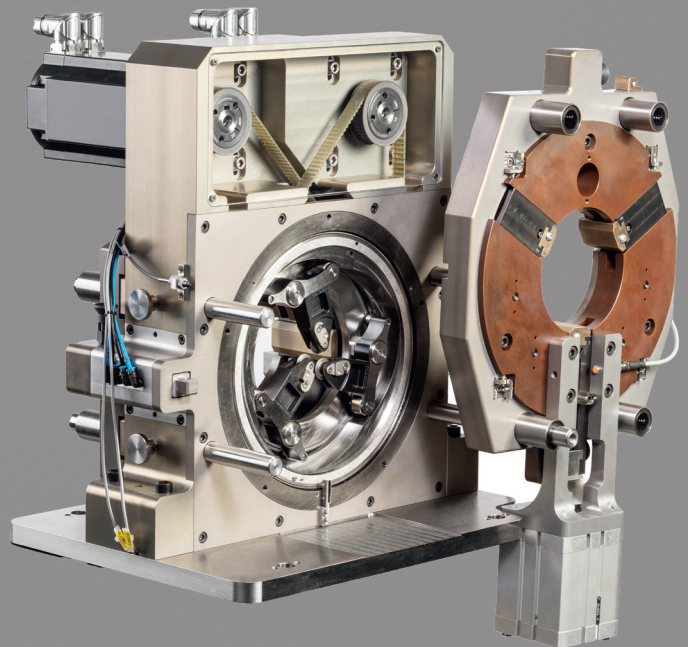
Our tube cutting systems cut tubes with thin walls
with 3 rotating cutting wheels:

LOW CHIP VOLUME AND WITHOUT TUBE DEFORMATION.

The feeding and opening movement of the cutting wheels are done by means of cam control, the feed speed can be adjusted by means of the operating panel.

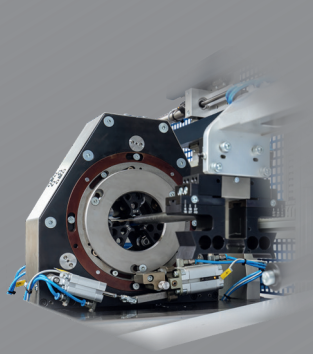
The tube cutter Vario offers significant advantages compared to traditional cutting methods:

- material saving
- maintenance friendly
- no cooling/lubrication products
- short processing times
- all current materials
- tube diameter: 4 mm - 120 mm
- wall thicknesses 0.1 mm - 2.5 mm (1.5 mm stainless steel)
- can be combined with all current tube magazines or with coils
- in **special versions** customer-specific, for example with length measurement systems, as "flying unit" etc.



CUTTING HEADS

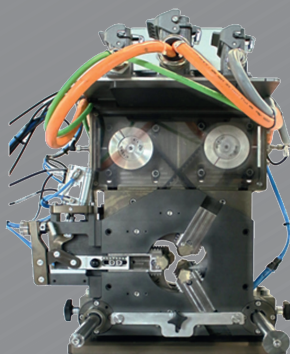
OUR CUTTING HEADS



VARIO 2

THE EASY ONE

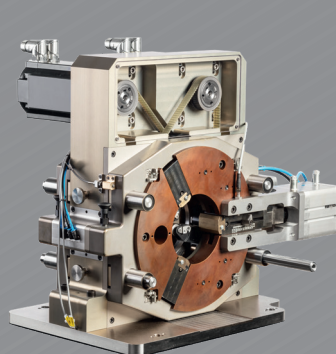
Appropriate for small volumes
wall thicknesses max. 1 mm
copper & aluminium
Ø 6-80 mm



VARIO FLEX

THE ALLROUNDER

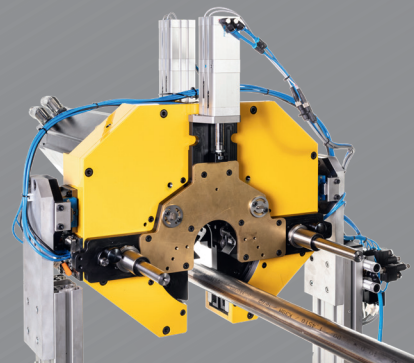
Wall thicknesses max. 2.5 mm
(material specific)
copper, aluminium, synthetic
material, steel & stainless steel
Ø 6-76 mm



VARIO 3 FLEX

THE BIG ONE

Wall thicknesses max. 2.5 mm
(material specific)
copper, aluminium, synthetic
material, steel & stainless steel
Ø 35-120 mm



VARIO OPEN FLEX

THE SPECIAL ONE

Wall thickness max. 2 mm
(material specific)
copper, aluminium, synthetic
material, steel & stainless steel
Ø 35-80 mm

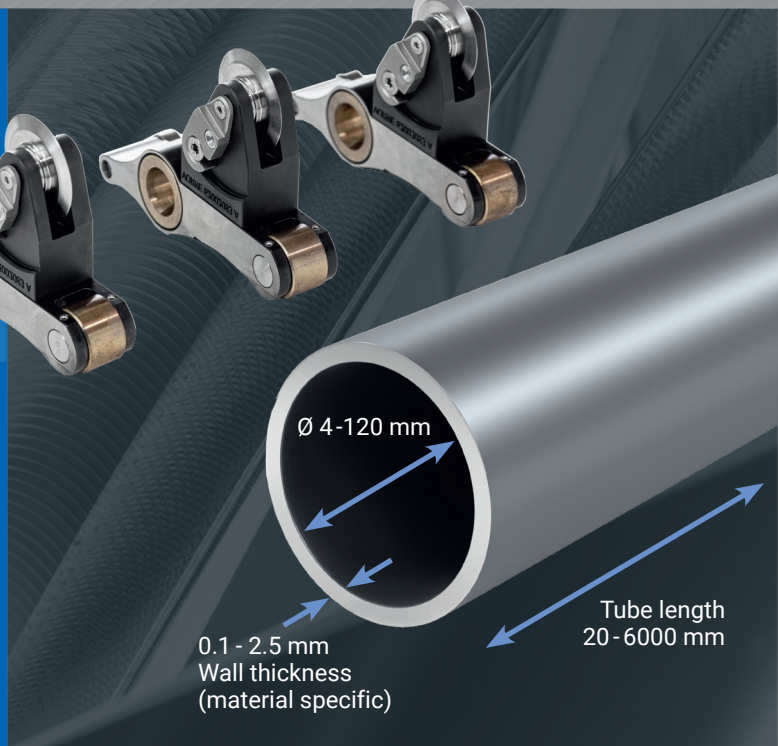
WE CUT IT!

Straight tubes, corrugated tubes or bent tubes or tubes with union nuts, no problem. Our customers are different, and this also applies to the versatility of our systems.

We cut a vast number of materials:
aluminium, copper, brass, steel,
synthetic material, stainless steel.

The variety of the needs of our customers is dealt with a vast number of applications, adapting our cutting heads exactly to your needs. Stand-Alone-version for manual cutting works, flying device or full-automatic system for complex tube cutting works, both from the coil as from the rod.

We are pleased to integrate the Vario Flex also in your existing system, such as tube bending cells, endless welding systems or tube straightening systems.



EXAMPLES

Customer-specifically manufactured



■ Tube cutting system for thin tubes

Diameter	Ø 6-80 mm
Initial length	L = 6,000 mm
Cut lengths	200 mm to 800 mm
Wall thicknesses	0.1 to 0.5 mm
Material	Stainless steel
Cutting Head	Vario 2

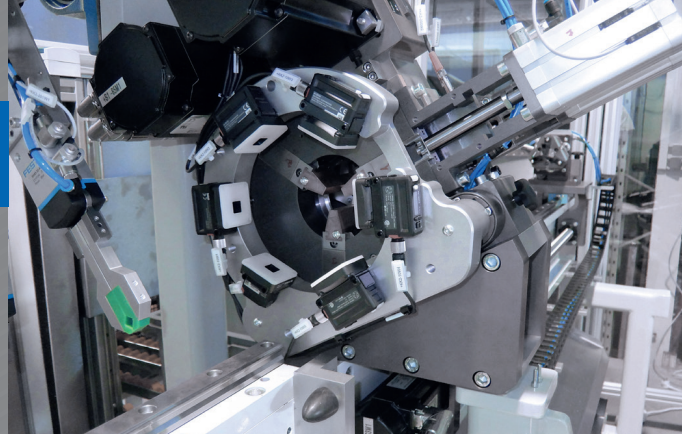
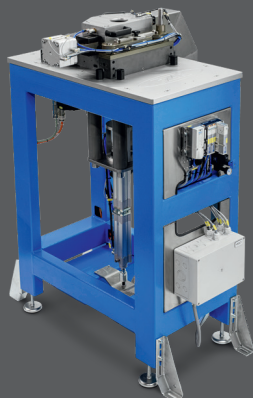


■ Tube cutting system without preparation

Diameter	Ø 6-22 mm
Initial lengths	L = 4,000 mm
Cut lengths	20 mm to 2,500 mm
Wall thicknesses	0.5 to 1.5 mm
Material	Stainless steel
Cutting head	Vario flex

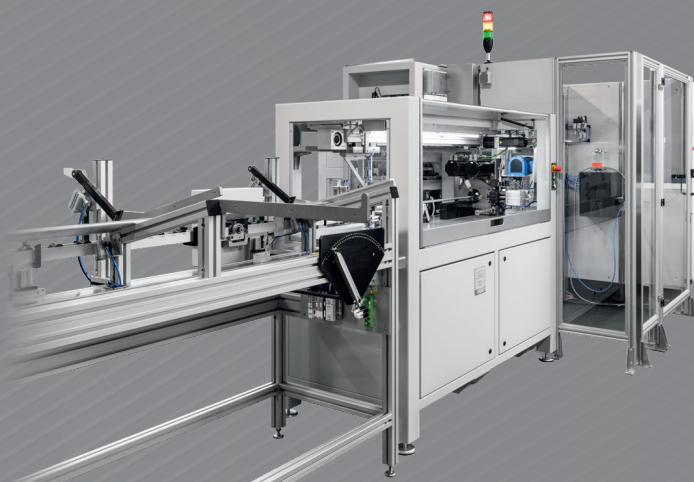
■ Horizontal tube end cutting

Diameter	Ø 60-80 mm
Initial material	sleeves
Cut lengths	5-10 mm
Wall thicknesses	0.5 to 1.5 mm
Material	aluminium
Cutting head	Vario flex
Specific features	Introduction by robot



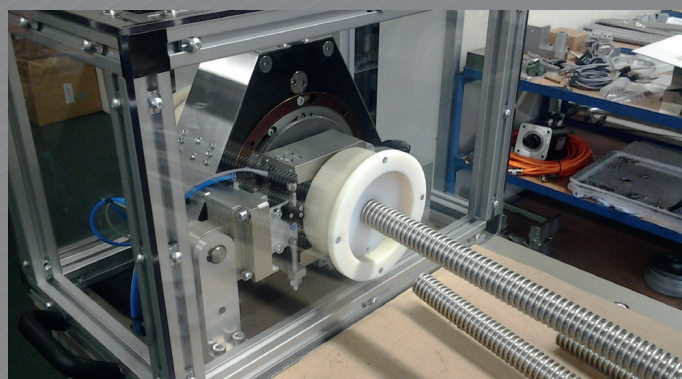
■ Tube cutting system with laser measurement

Diameter	Ø 8-9 mm
Initial length	L = 150-1,000 mm
Cutting	through laser marking
Wall thicknesses	1 to 1.3 mm
Material	Stainless steel
Cutting head	Vario flex
Specific features	Tubes with union nuts



■ Tube cutting system with end processing

Diameter	Ø 10-20 mm
Initial length	L = 6,000 mm
Cut lengths	200 mm to 1,000 mm
Wall thicknesses	0.5 to 1.5 mm
Material	aluminium
Cutting head	Vario flex
Specific features	End processing Additional die cutting at both ends



■ Tube cutting system for corrugated tubes

Diameter	Ø 10-30 mm
Initial length	Endless
Wall thicknesses	0.5 mm
Material	Stainless steel
Cutting head	Vario 2
Special features	Corrugated tube



We work for and with
customers coming from
**SEVERAL
INDUSTRIES:**

- Tube processors and manufacturers
- Solar industry
- Car suppliers
- Drainage industry
- Fitting manufacturers
- KEG-manufacturers



BENEFIT FROM OUR VERSABILITY AND FLEXIBILITY

A standard machine does not fulfil your complex specifications? Your products must comply the highest quality standards? You need an experienced partner in the automation, moreover with a flexible mind?

With our experience and innovative ideas we also develop your special machine. Our systems are used internationally in many applications. Our experience of decades in development, manufacturing, start-up and support of assembly and test systems, as well as an innovative and competent team, make us your perfect partner for your automation project – from the idea through the development phase into the practice.

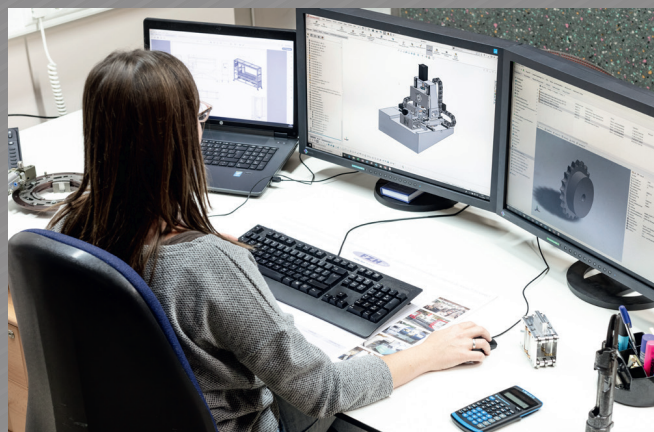
We conduct the assembly and we support you during the initial phase and further on. This guarantees a long-term and reliable utilisation of your machine.

OUR EXPERIENCE FOR YOUR PROJECT

Since the foundation in 1987 we have developed ourselves from a pure contract manufacturer to your partner for complex tube cutting works.

Today you benefit from our huge competence as to manufacturing and construction, all in the same company.

This means for you a more efficient planning, practice oriented work and faster processes for your project!



OUR THREE BASES



FZH MASCHINENBAU GMBH



MACHINING

With a high modern machinery we produce components in the segments turning, milling, and eroding.

SPARE PART MANUFACTURING

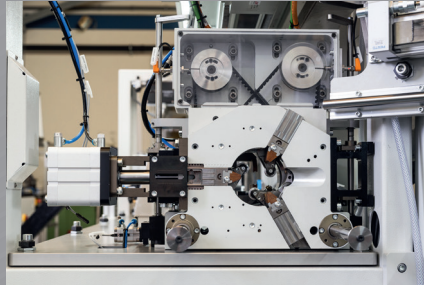
For all types of production machines we are your partner for spare parts in the quality of the manufacturer.

PROTOTYPES AND ASSEMBLY

We offer complete assemblies and prototype construction for your machine.



FZH ENGINEERING GMBH



CHIPLESS TUBE CUTTING SYSTEMS

The own innovation in chipless tube cutters.

As stand-alone or integrated into a full-automatic system.

ENGINEERING

Assembly automation and test devices for your individual specifications.

CONSTRUCTION

The origin of a superior product, part, and module construction as well as construction services.



FZH WAFFEN GMBH



Manufacturing of the well-known action **MAUSER 98** in the own production shop.

SALES of second-hand or new guns as well as accessories for hunting and shooting sport.

REPAIR through experienced experts in the own workshop.

TRAINING for hunters and sport shooters.

Modern **SHOOTING GALLERY** as training installation for hunters and sport shooters.



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