



Cutting System Form Cutter FC

Precise cutting of preprogrammed contours



For many years now, industry has utilized the Form Cutter for cutting applications on flat metal sheets and 3D workpieces. His special feature is an integrated X/Y linear drive system - this enables it to drive highly dynamically along contours and guarantees a very high degree of path accuracy at an extremely fast cutting speed. The Form Cutter is ideal in the field of automotive production („body-in-white“ lines), where small apertures and holes have to be cut (e.g. for radio antennae). The integrated, capacitive sensor system compensates for distance deviations between the cutting nozzle and the sheet surface.

>> EFFICIENT

- contour movement carried out from Form Cutter
- high degree of precision with high-level dynamics
- time savings through teach-in
- with integrated, non-contact distance sensors

>> FLEXIBLE

- cutting and welding in a 30 x 30 mm working area
- stand-alone system or robot application
- focal lengths tailored to your application

>> USER FRIENDLY & SAFE

- electrically monitored breakaway coupling
- Windows-based control with ethernet connection
- field bus-capable
- external offset presetting to compensate tolerances
- programming assistant

Features and fitments

System types / lasers

>> The Form Cutter is used in multiple linear drive laser systems or in robot systems which work with solid-state lasers.

Integrated sensors

>> The Form Cutter is equipped with an integrated non-contact distance sensor system, which guarantees consistently high cutting quality and speed. Integrated sensors record errors like collisions, cable breaks or when measuring area tolerances are exceeded and send a signal with the relevant errors or an EMERGENCY STOP signal to the machine.

The Form Cutter also provides an electrically-monitored breakaway coupling, which is triggered when collisions occur.

Cooling system

>> The housing of the cutting head is water-cooled. All water-guiding parts are made of corrosion-resistant stainless steel.

Additionally the lens is cooled by means of cutting gas. By using the cutting head YK52 an air cooling of the sensor inserts is also possible.

Examples of application



Cutting in automotive engineering

>> Setting up the machine for laser cutting of small contours in the automotive industry is often very time-consuming. Apart from this, the accuracy and reproducibility that can be achieved when cutting small contours at high speed is unsatisfactory.

The Form Cutter prevents the five or more robot drives from moving when cutting small two-dimensional figures - it performs these movements itself. With the Form Cutter, the moved mass is relatively small when compared with a multi-linear drive processing system, meaning that precise positioning at high speed is also possible, even in the case of tight curve cutting radii.

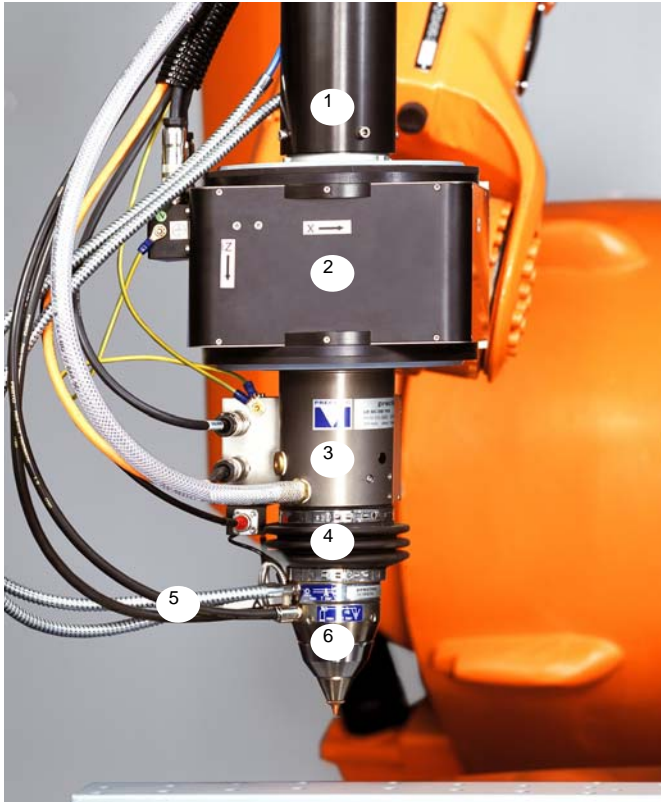
The working area of the contours in which e.g. rectangles, circles or letters are precisely cut, amounts to 30 x 30 mm.

The integrated distance sensor system maintains a constant nozzle standoff distance - an important condition for optimum cutting quality.



Cutting and welding of special solutions

>> The Form Cutter can also be equipped with a welding head. Therewith he welds e.g. heat exchangers. On the other hand the Form Cutter cuts holes and apertures in ovens and fridges for the "White Goods" industry.



- 1 collimation
- 2 X/Y - mechanical positioning system
- 3 Z - linear drive
- 4 magnetic breakaway coupling
- 5 connections for sensorics and cooling
- 6 cutting head YR30

Technical specifications of the Form Cutter

max. laser power	5.5 kW ⁽¹⁾
electronics	Lasermatic® Z
focal lengths	73, 80, 100, 120, 125, 150 mm ⁽²⁾
max. free aperture	26 mm (YR30), 48 mm (YK52)
mass of complete system	9.0 kg (by using the cutting head YR30)
power supply	110, 220 V AC
recommended working area	30 x 30 mm
dimensions of mechanics (W x H x T)	237 x 244 x 409 mm

(1) for wave lengths 1064 - 1080 nm

(2) depending on the cutting head used (YR30 / YK52)

The given data was generated for a typical application and may be different given other circumstances. Furthermore misprints, changes and/or innovations may lead to differences in the listed measurements, technical data and features. Therefore **all information is non-binding and technical data, measurements as well as features are not guaranteed by information in this product information.**

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