

## Cutting Head HP2" M

High-power cutting head with cartridge changing system and adjustable lens position via CNC



The HP2" M cutting head is used in flat bed systems and pipe cutting machines. Like the other models in the HP series, the HP2" M is equipped with the proven cartridge replacement system. This enables the fast and simple replacement of the preadjustable cartridges and the automated cutting of variable workpiece thicknesses and types of material. In addition to the integrated non-contact distance sensor system and the motorised lens position adjustment device, several sensors are available for cutting process automation, like piercing and lens break sensors.

### >> EFFICIENT

- high cutting speeds with integrated distance sensors
- short conversion times with fast changing of focal lengths
- preadjustable focusing optics
- fast gas exchange
- optimised gas flow

### >> FLEXIBLE

- cutting of different material thicknesses
- cutting of thick sheets with double-nozzle function
- cutting of non-metal materials like plastic or wood
- focal lengths tailored to your application

### >> USER FRIENDLY & SAFE

- simple and safe cartridge replacement system with TCP retention
- motorised focal position adjustment
- integrated process monitoring

---

## Features and fitments

### System types / lasers

>> The HP2" M processing head is used for cutting of thin and thick sheets in flatbed and pipe-cutting systems which work with CO<sub>2</sub> lasers.

### Integrated sensors

>> The integrated non-contact distance sensor guarantees consistently high cutting quality and speed. Sensors integrated in the head record errors like collisions, cable breaks and the exceeding of measuring area tolerances - they then send either an EMERGENCY STOP signal or a signal with the relevant errors to the machine.

Focal position adjustment is motorised. This means that various sheet metal thicknesses can be cut without the need for any manual adjustment.

A process monitoring system in the form of a combination of piercing and lens break sensors can be easily integrated into the cutting head. The piercing sensor monitors the piercing and cutting process online. The lens break sensor identifies damage to the focusing lens as well as larger volumes of spatter.

### Cartridge replacement system

>> Thanks to the cartridge replacement system, the focusing optics can be replaced easily and quickly to suit various cutting requirements. A non-contact cartridge detection system is also integrated into the cutting head.

### Cooling system

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

Additional air cooling of the lens (by means of cutting gas and additional gas) and air cooling of the sensor insert are possible. All media connections are located in the upper part of the cutting head.

## Examples of application



### Thick sheets applications

>> Many different types of industrial material and workpiece thicknesses are already being cut successfully every day with the HP2" M cutting head - with highest quality and with absolutely no reworking.

Metal sheets are nowadays becoming thicker - but currently available lasers are up to the task of cutting these. Double nozzles can considerably increase cutting quality when cutting the thick metal sheets used in construction today. Machines in this category are predominantly 2D systems with a very large working area. Machines with a working area of 6 x 30 m have already been designed and used for large-scale cutting operations.

This head is especially suitable for stainless steel applications. The integrated Lasermatic® distance sensor system is non-sensitive to plasma disturbances. The HP2" M cutting head has proved to be extremely robust and achieves optimal cutting qualities and speeds.



### Cutting of special solutions

>> The HP2" M cutting head is also used for special solutions. The image on the left shows coated aluminium honeycomb metal being cut.

The HP2" M cutting head can also cut non-metal materials like plastic and wood. In this case, distance control takes place by means of a tactile electrodes.



- 1 exchangeable cartridge for use of different focal lengths
- 2 focusing lens
- 3 connections for sensorics
- 4 media connections for air and water cooling
- 5 sensor insert with ceramic part and nozzle

### Technical specifications of HP2" M cutting head

max. laser power	8 kW
electronics	Lasermatic®
focal lengths	5" / 7.5" / 10" (10" with extension adapter)
lens diameter	2"
max. free aperture	45.5 mm
axial length	300 mm
mass of complete system	9.0 kg
vertical adjustment range	-10 mm to +5 mm
dimensions (W x T)	180 x 162 mm

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.**

04/Bg/10.03.2010



#### Precitec KG

Draisstr. 1 - 76571 Gaggenau - Germany

Tel.: +49 (0)7225 684 0

Mail: [precitec@precitec.de](mailto:precitec@precitec.de)

Fax: +49 (0)7225 684 900

Internet: [www.precitec.com](http://www.precitec.com)