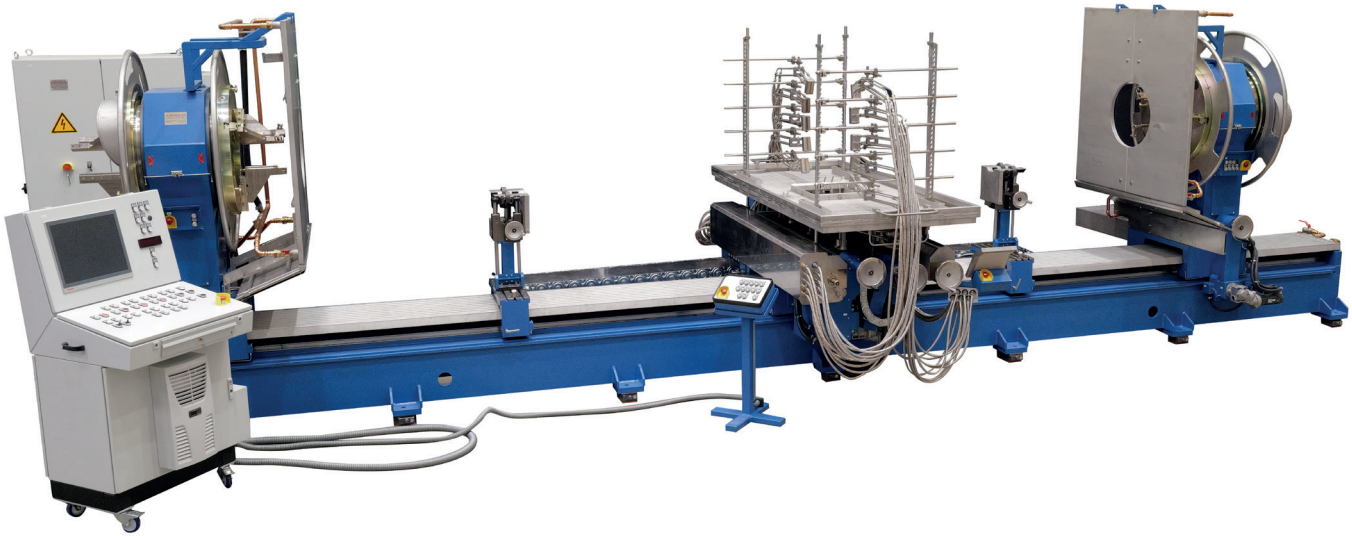
# QUARTZGLASS
# 石英玻璃



ARNOLD GRUPPE



## Resizer SYR3400 - SYR3600

**Our robust standard machine with the following features:**

- Individually driven working heads (SY drive)
- Spindle passage Ø400 mm or Ø500 mm
- Length 6800 mm or 7800 mm (between spindle flanges)
- High speeds of up to 150 RPM enable resizing using centrifugal forces. This function has a positive effect when processing feedstock material with slightly higher wall thicknesses inhomogeneities.
- A water-cooled bed cover and high-temperature heat shields in front of the clamping chucks, in combination with the large, shade-providing calibration device, guarantee decades of use under extreme thermal conditions.

**Burner gas control**

- Stainless steel execution
- Gas volume control via proportional valves
- Designed for the following gases:
- Hydrogen + oxygen
- Propane + oxygen

**Electrical execution**

- Modern SIEMENS S7/1500 PLC with SIEMENS drive technology
- 19“ HMI touch panel
- Air-conditioned control cabinet and control panel

## 扩管机 SYR3400 - SYR3600

**我们坚固耐用的标准机型具备以下特点：**

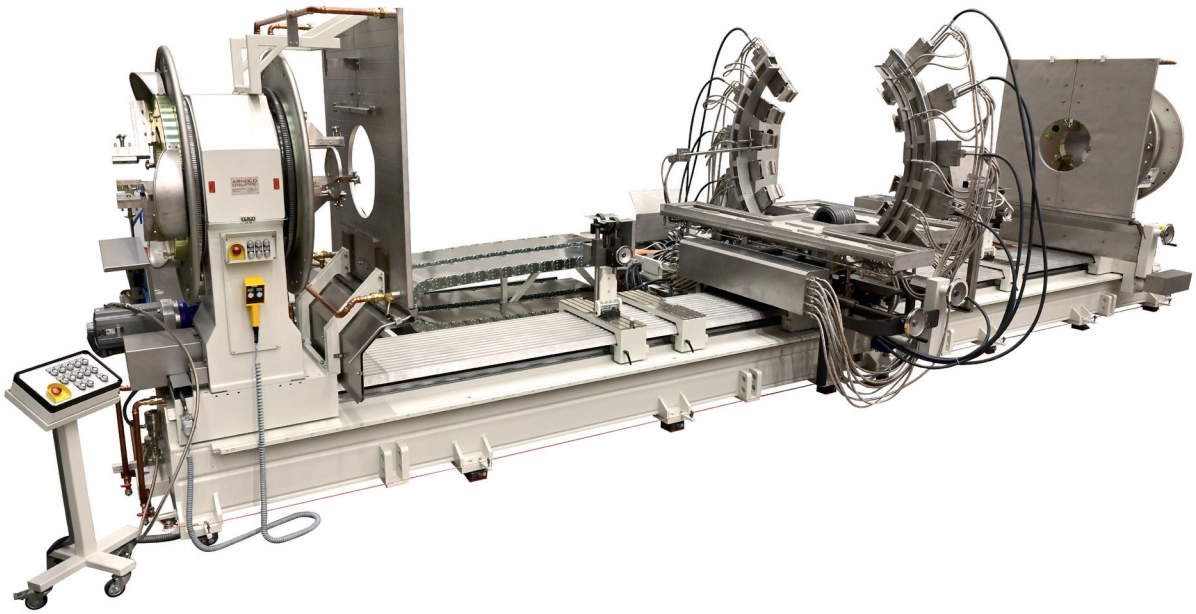
- 独立驱动的工作头（同步驱动）
- 主轴通孔直径 ø400mm 或 ø500mm
- 长度 6800mm 或 7800mm（主轴法兰之间）
- 高达150 RPM 的高转速支持利用离心力进行尺寸调整。该功能在加工壁厚不均匀度稍高的原材料时效果显著。
- 水冷式床身护罩、夹紧卡盘前方的耐高温隔热板，以及大型遮阳定径装置，共同确保了设备在极端热工况下能长期稳定运行。

**喷灯燃气控制**

- 不锈钢材质
- 通过比例阀控制燃气流量
- 适用于以下气体：
- 氢气 + 氧气
- 丙烷 + 氧气

**电气配置**

- 采用西门子驱动技术的现代化西门子 S7/1500 PLC
- 19英寸 HMI 触摸屏
- 带空调冷却系统的控制柜及控制面板



## Resizer SYPR3400-SYPR3800

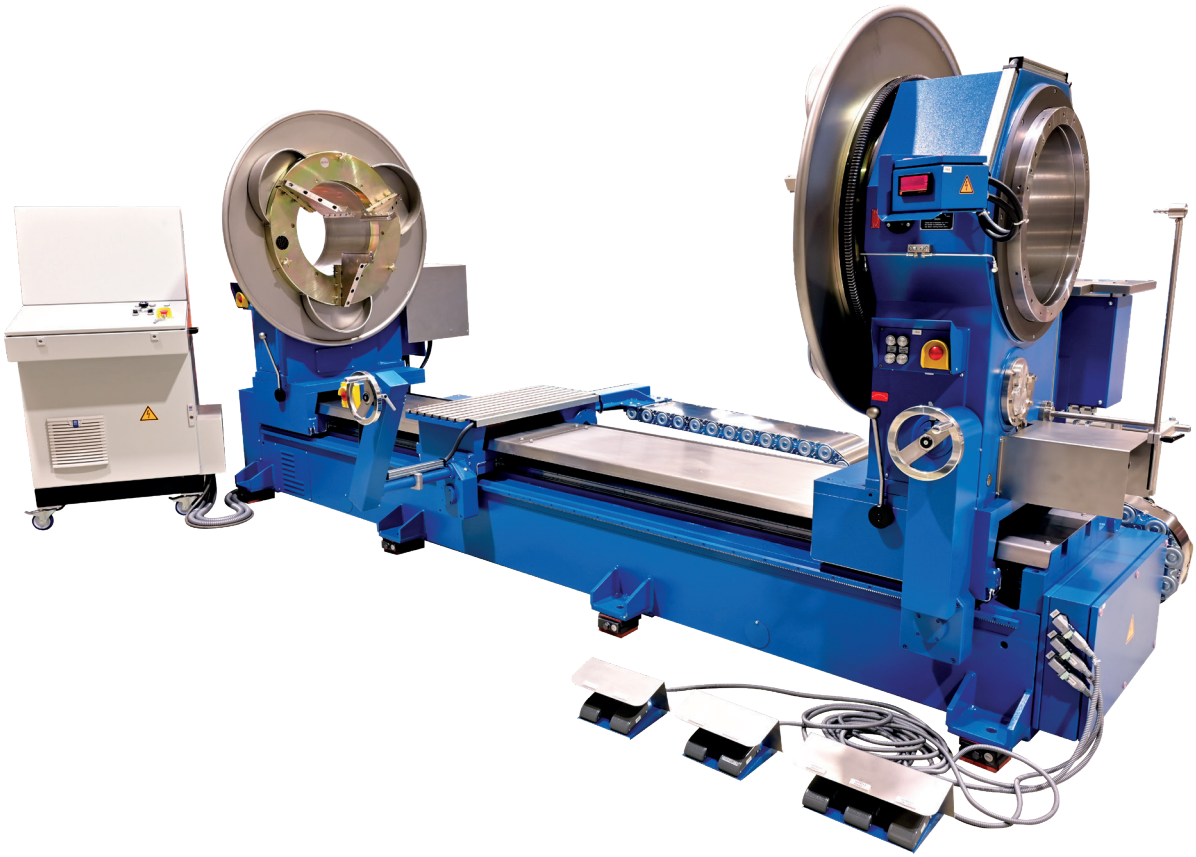
**Advanced machines with the following advantages:**

- Spindle passage up to Ø600, Ø800 mm, thus allowing the tubes produced in the machine to be clamped through the working head.
- In this machine, the energy chains are guided from a separate frame at a greater distance from the burner.
- The machine allows the integration of measuring devices, such as outer **diameter measurement, wall thickness measurement**, and **temperature measurement**
- Motor-adjustable burner positioning.
- In addition to high speeds (centrifugal forces for spinning), we offer a blow pressure control system (for blowing) for this machine.
- In addition to hydrogen and propane gas, we offer natural gas as a fuel gas in combination with oxygen for this machine variant.

## 扩管机 SYPR3400 - SYPR3800

**该先进设备具备以下优势：**

- 主轴通孔直径可达 ø600 或 ø800 ㎜，允许将待加工管材穿过加工头进行夹持。
- 该设备的拖链由独立框架支撑引导，与喷灯保持较大距离。
- 设备支持集成多种测量装置，如外径、壁厚及温度测量系统。
- 喷灯位置可通过电机进行调节。
- 除支持高速旋转（利用离心力进行旋压成型）外，该设备还配备了吹制压力控制系统（用于吹制成型）。
- 针对该机型，除氢气和丙烷外，还可使用天然气与氧气混合作为燃料气体。



## Fabricator 3400-3500

**Our robust standard machines have been available for decades with the following features:**

- Ø400 mm and Ø500 mm spindle passage
- Various machine bed lengths
- Proven spindle rotation drive using motor, synchronous shaft, and multi-disc clutches to decouple the working heads.
- Rigid machine beds with robust linear rails.
- Protruding machine feet for optimal load distribution and the possibility of anchoring.

## 旋盘机 3400-3500

**我们坚固耐用的标准机床已投入使用数十年，具备以下特点：**

- 主轴通孔直径为ø400㎜ 和 ø500㎜
- 多种机床床身长度可选
- 成熟可靠的主轴旋转驱动系统，采用电机、同步轴及多片式离合器，可实现工作头的脱开（解耦）
- 刚性机床床身，配备坚固耐用的直线导轨
- 凸出的机脚设计，旨在实现最佳的载荷分布与地脚固定。

## Flat Bed Fabricator 3400, 3500, 3600

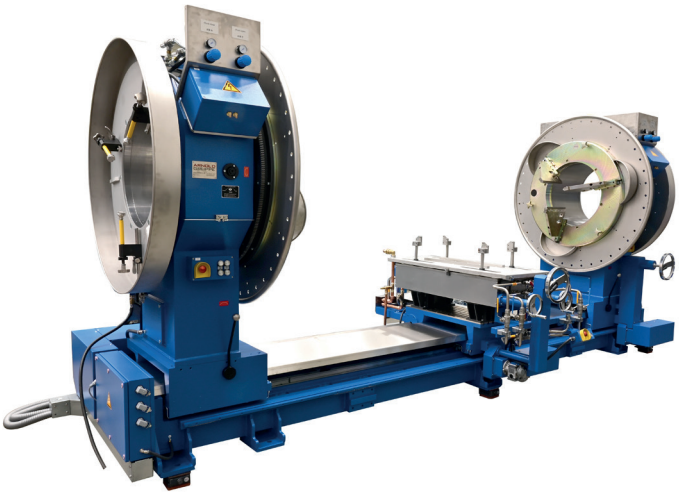
**Our robust standard machines have been available for decades with the following features:**

- Ø400 mm, Ø500 mm and Ø600 mm spindle passage
- Ever-increasing product diameters and wall thicknesses require ever-greater tip heights on the machines.
- This reduces the thermal load on the machine beds.
- The high tip heights make it possible to integrate forming tools for shaping.
- With the flatbed machines, we have now succeeded in keeping the machines axis of rotation low even at high tip heights.

## 低车身旋盘机 3400, 3500, 3600

**我们坚固耐用的标准机型已投入使用数十年，具备以下特点：**

- 主轴通孔直径分别为ø400mm, ø500mm 和 ø600mm
- 随着工件直径和壁厚的不断增加，机床需要更高的中心高。
- 这降低了机床床身的热负荷。
- 较高的中心高使得集成成形工具成为可能。
- 对于平床身机床，我们现已成功实现即使在中心高较高的情况下，仍能保持较低的旋转轴高度。

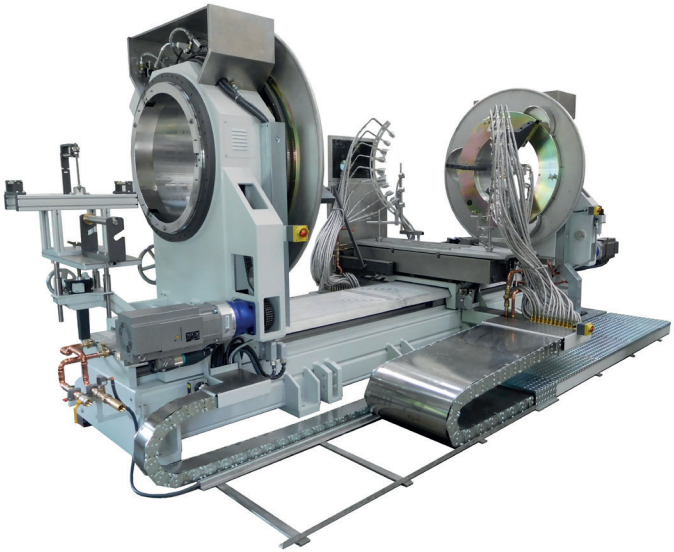


## Flat Bed Fabricator SYPF 3500, 3600, 3800, 31000

- Individually driven working heads (SY drive)
- Ø500 mm, Ø600 mm, Ø800 mm as well as Ø1000 mm spindle passage

## 低车身旋盘机 SYPF 3500, 3600, 3800, 31000

- 独立驱动的工作头（同步驱动）
- 主轴通孔直径：ø500mm, ø600mm, ø800mm 及 ø1000mm







## 72/440, 72/442, 72/440 Dome Cut

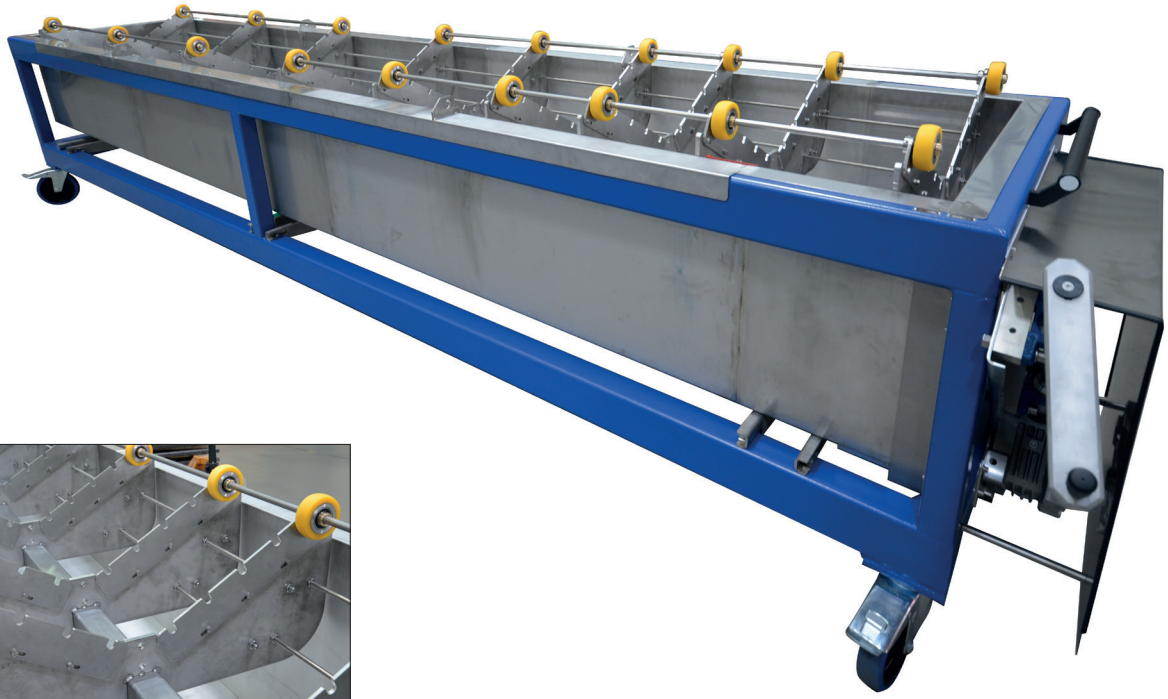
**Arnold supplies cutting machines for the following applications:**

- Cutting long tubes with diameters up to 1000 mm
- Cutting windows (for upper and lower domes) from holding pipes in a special vacuum holder.
- Cutting attachments (ball grinds) from lower domes

## 72/440, 72/442, 72/440 圆顶式切割

Arnold 为以下应用提供切割设备:

- 切割直径最大可达 1000㎜ 的长管
- 利用专用真空夹具固定管材，从中切割出窗口部件（用于上、下半球罩）
- 从下半球罩上切割出连接件（球形磨削件）





## 72/442 RW 001

Special customized cleaning systems for rinsing pipes after they have been processed using the wet separation method. Height-adjustable roller support enables ergonomic processing of products with different diameters

## 72/442 RW 001

专为湿式分离工艺处理后的管道冲洗而定制的清洗系统。高度可调的滚轮支架设计，确保了对不同直径产品进行符合人体工学操作的便利性。



## Robot-controlled fire polishing systems

Our product range includes customized fire polishing systems. These use robot-guided hand torches for fire polishing windows or flanges.

## 机器人控制的火焰抛光系统

我们的产品系列包括定制的火焰抛光系统。这些系统利用机器人引导的手持式喷枪，对窗口或法兰进行火焰抛光。



Auto lathe with UR Robot and burner and Co2 Laser combination

配备 UR 机器人、喷灯及 CO2 激光器的自动车床组合




Auto lathe with Co2 Laser

配备 CO2 激光器的自动车床

## Auto Lathe

**Arnold is known worldwide for its customized automated glassworking machines. Machines with up to 14 motorized servo axes are available. Axes for rotating the workpiece, but also for all forming processes, etc...**

- MFC-controlled burners with closed-loop control are always reproducible working temperature
- CO2 lasers are integrated as a heat source for joining and cutting
- Manual loading options or loading by robot or cobot

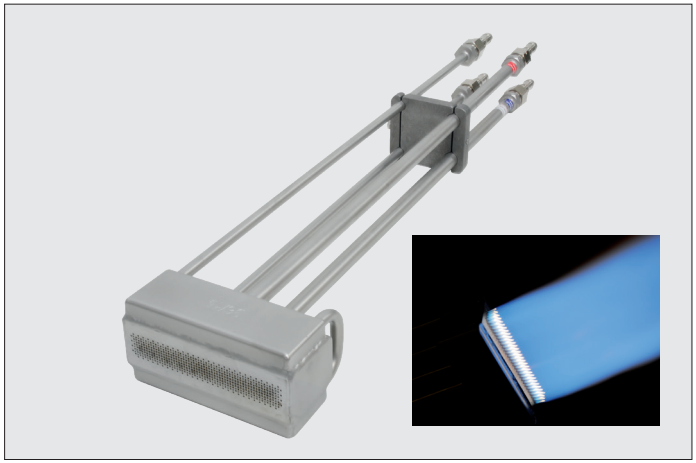
We are particularly proud of the programming of these machines. They are programmed with our AEPS+ system. This enables customers to program processes with their own personnel without the need for an ARNOLD PLC programmer to be on site at the customer's premises.

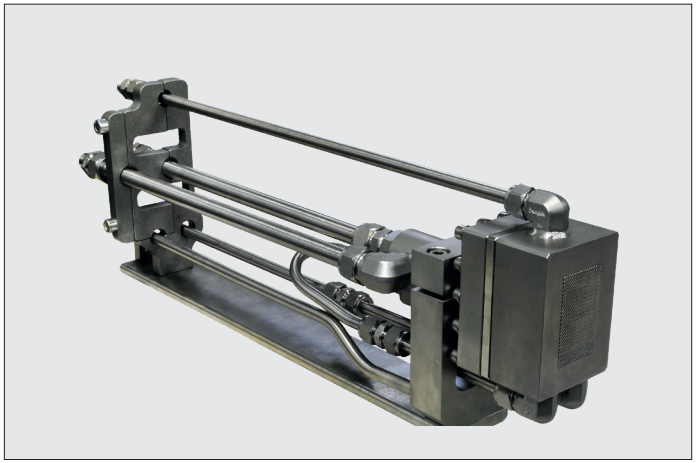
## 自动车床

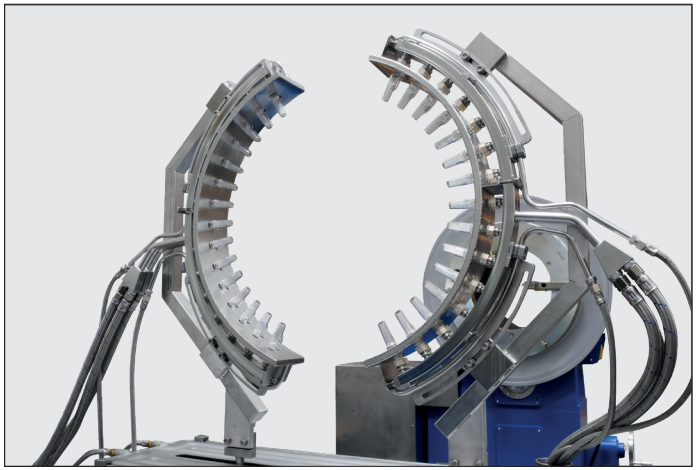
Arnold 以其定制的自动化玻璃加工设备而闻名全球。公司提供配备多达 14 个电动伺服轴的设备，这些轴不仅用于工件旋转，还涵盖各类成型工艺等。

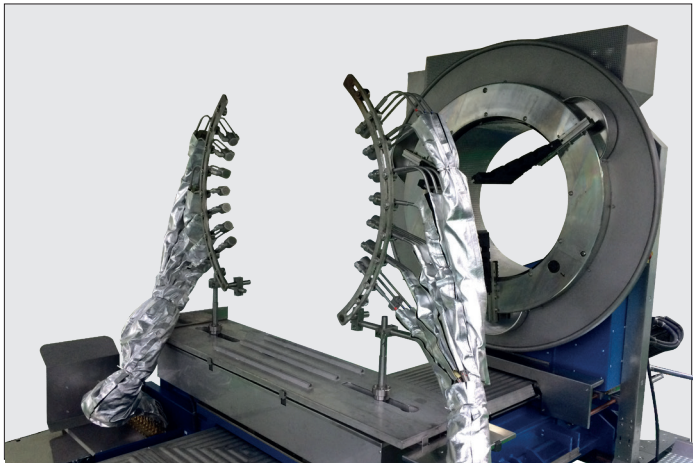
- 采用MFC（质流量控制器）和闭环控制的喷灯，确保工作温度始终保持一致且可重复
- 集成CO2激光器作为连接与切割的热源
- 支持人工上料，或通过机器人/协作机器人进行上料

我们对这些设备的编程功能尤为自豪。它们采用了我们的 AEPS+ 系统，这使得客户能够利用自有人员进行工艺编程，而无需 ARNOLD 公司的 PLC 程序员亲临客户现场。







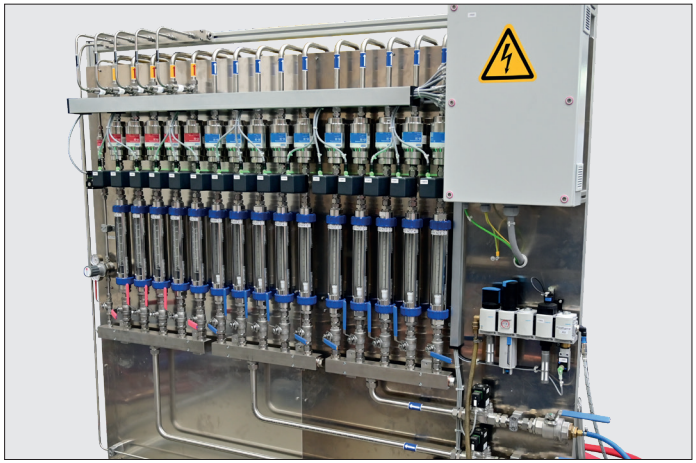


## Burner

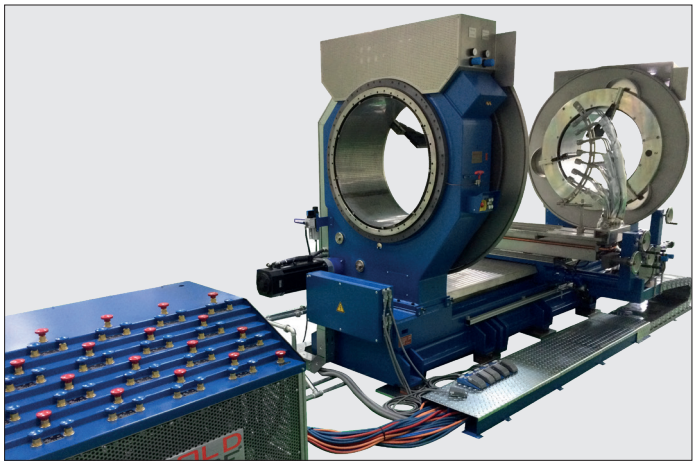
**Arnold burners are in use worldwide.**
Water-cooled burners with Inconel nozzles for the highest demands, metal burners with quartz glass heads for maximum purity. Every burner, whether standard or customized to the customer's requirements, is manufactured in our own burner production facility.

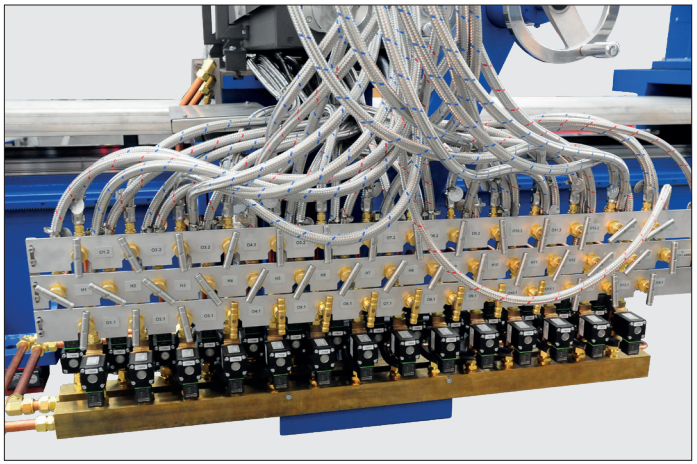
## 喷灯

**Arnold 喷灯广泛应用于世界各地。**
我们提供适用于极高工况要求、配备镍基高温合金（Inconel）喷嘴的水冷式喷灯，以及具备极高纯度特性的石英玻璃头金属喷灯。无论是标准型号还是按客户要求定制的产品，每一台喷灯均由我们自有的生产设施制造。









## Burner Gas Control

**We supply the burner gas controls for our machines.**
Burner gas control with proportional valves with large volumes for our resizers and fabricators, but also small, precision burner gas control with MFCs for our auto lathes. On customer request, completely made of stainless steel, orbitally welded, internally polished pipes, with filter, pressure regulator, pressure sensors, gas detectors, etc. on request.

## 喷灯燃气控制

**我们为自家设备提供喷灯燃气控制系统。**
针对扩管机和旋盘机，我们提供大流量比例阀式燃气控制系统；针对自动车床，则提供基于质流量控制器（MFC）的小型精密燃气控制系统。根据客户需求，系统可完全采用不锈钢制造，配备轨道焊接及内壁抛光管路，并可选配过滤器、调压阀、压力传感器、气体检测仪等组件。



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The actual paint may vary from those shown.

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