

# THE PERFECT LASER CUT



## GAS MIXTURES INSTEAD OF INDIVIDUAL GASES

Assist gases play an important role in laser cutting. Nitrogen or oxygen not only expel the cut material, but also have a direct influence on the cutting process. Depending on the gas, the cutting speed and quality are different. Both gases have specific advantages but also disadvantages. A gas mixture, i.e. the mixture of nitrogen and oxygen, combines the positive properties of the individual gases and thus delivers perfect cutting results. Especially in the medium and thick sheet range, the material can be cut faster and at the same time rendered practically free of oxide and burrs. Any reworking is minimised and your costs are significantly reduced.



### LASER CUTTING WITH O<sub>2</sub>

- + High cutting quality,  
low surface roughness
- Oxidation of the cut edge,  
powdering or  
lacquering not possible,  
reworking necessary



### LASER CUTTING WITH N<sub>2</sub>

- + High cutting speeds
- No optimum cutting quality,  
burr formation,  
reworking necessary



### LASER CUTTING WITH N<sub>2</sub>/O<sub>2</sub> GAS MIXTURE

- + Very high cutting speeds
- + High cutting quality,  
low burr formation
- + No oxidation of the cutting edges
- + Reduction of rework
- + Increased productivity
- + Minimisation of costs

# WITT GAS MIXERS – FOR THE HIGHEST POSSIBLE MIXED GAS QUALITY

You perform better with gas mixtures. However, the quality of the gas mixtures used, i.e. the purity and mixture consistency, is the decisive driver of process quality. Even small deviations in the gas mixture can have a negative influence on the cutting process and cause defects. High-quality gas mixers from WITT have already been tried and tested in practice for many years and successfully deliver the required high gas mixture qualities for laser cutting systems - safely and reliably. The gas mixers work with a process that delivers highly precise gas mixtures, is stable over the long term and at the same time extremely robust.



”

*„For the quality of the cut, it is extremely important to supply the laser constantly with a very pure cutting gas or a precisely dosed gas mixture. Gas mixers from WITT offer the high quality and reliability required for our applications.“*

Axel Willuhn,  
Product Manager Punching  
and Laser Technology at  
AMADA GmbH.

## KEY FEATURES OF WITT GAS MIXERS

- capacity ranges up to max 438 Nm<sup>3</sup>/h, at a maximum inlet pressure of 40 bar
- stepless mixture setting via (electronic)\* proportional mixing valve
- GC50 control (local) - via Ethernet or analogue output (remote controllable)\*
- mixed gas flow rate possible from zero to maximum output\*
- user-friendly data and process parameter input via integrated keyboard or via PC (e.g. MS-Excel®)\*
- high process reliability
- visual or acoustic alarm in case of too low inlet pressures, system is automatically switched off\*
- integrated equal pressure control
- lockable door to protect the settings
- simple, intuitive operation; no trained personnel required
- splash-proof, robust stainless steel housing

*\*available depending on model*

## OPTIONS

- monitoring of the gas supply by temperature transmitters
- alarm module AM3: integrated inlet pressure monitoring with digital display for pressure indication (with analogue pressure transmitters) and optical alarm, adjustable alarm limits, acknowledgement obligation, backup of alarms with time indication, interfaces e.g. for controlling external alarms, etc.

**WITT-GASETECHNIK GmbH & Co KG**

Salinger Feld 4-8  
58454 Witten, Deutschland  
Tel. +49 (0)2302 8901-0  
witt@wittgas.com  
www.wittgas.com