

# Top quality artisan glass from Glassworks Ajeto using the latest glass melting technology [tell me more](#)



“To be able to succeed in the segment of select hand-made glass, our products must always be unique as far as their design and quality are concerned. We need as flexible a method of melting as possible for our glassmakers to show their skills to their full. The made-to-measure oxy-fuel solutions courtesy of Air Products create the optimal conditions for the manufacture of unique products and thus help us to become a more competitive player in our target market”.

Libor Fafala, managing director and co-owner of glassworks  
AJETO spol. s r.o. Czech Glass Craft



**Glassworks Ajeto is a leading producer of select hand-made glass. It is focused on bespoke order manufacture and exports its products worldwide. It has become renowned for, amongst other things, the co-operation with distinguished glass designers and for the manufacture of unique glass objects.**

## First in the world

Ajeto melts glass in pot furnaces which differ from other conventional glass-making furnaces as they are open and each pot usually melts a different type of glass. Even so, our glass industry experts were convinced that the well known benefits of oxy fuel combustion would apply to this type of furnace, despite there being no known reference within this industry.

“When Air Products introduced their oxygen combustion solution, we expressed our reservations because to us it was something new and unconventional. However, Air Products’ technologists were sure about their calculations and offered us the option of a trial in order to demonstrate the new system. We obtained such positive results during the trial that we decided to install the full oxy-fuel system in our facility almost immediately”, describes Libor Fafala, the managing director and co-owner of Ajeto.

## Technical solution

Air Products has a proven track record of delivering oxy-fuel solutions across Europe and worldwide. Our patented Cleanfire® burners are consistently installed after head to head tests because they provide the highest fuel efficiencies, production rates and flexibility for adjusting the flame shape. They require virtually no maintenance, and deliver emissions performance that is well below current limits.

The furnace at Ajeto is now equipped with two Cleanfire® HRi™ oxy fuel burners, replacing the previous air-fuel (natural gas) system.

Cleanfire® HRi™ burners use 100% oxygen and were developed specifically for the glass industry to provide better luminosity, improved heat transfer, low flame velocity and require virtually no maintenance.

The oxygen and natural gas flow is controlled automatically to provide the required mixing ratio and additional controls ensure that a stable furnace temperature is maintained and efficient melting achieved. If necessary, the system can be switched to a manual mode.

Air Products has the technology and expertise glassmakers need to improve their glass melting operations. Our Cleanfire® technology is the benchmark in the glass industry with well over 1000 burners installed today. We have experience in oxy-fuel technology spanning more than 20 years with over 150 furnaces around the world.

Jan Viduna, Head of Glass Applications Technology at Air Products, said: "By switching to our Cleanfire® HRI™ burner technology, Ajeto have already seen a huge improvement in efficiency. Using these technologies in a company like Ajeto was new to us but it has proved to be successful and generated great results."

"Thanks to oxy-fuel combustion, we are achieving better quality molten glass, greater furnace stability and increasingly consistent colours", continues Libor Fafala. He adds, "We have achieved greater than 40% energy savings as we no longer need to preheat the air and have also removed the recuperator completely which we were replacing every three years. With this improved efficiency, we are decreasing our gas consumption. Our furnace is also quieter than it was in the past and its temperature can be controlled easily. Finally, an automatic control system has eliminated manual intervention and potential human error."

Libor Fafala summarises "Updating our operation with Air Products' combustion system has resulted in significant operational savings and process benefits. This exceptionally flexible system of melting enables us to manufacture top quality products and thus keep pace with our competitors".

## Benefits

Following our work at Ajeto we have now installed our oxy fuel technologies on several other pot furnaces in Europe and our customers are realising the following benefits.

### Pot furnace:

- 42-45% total fuel saving (60% for melting)
- Better working environment – less noise, less heat from furnace
- No recuperator required.
- Lower emissions - NO<sub>x</sub>, CO<sub>2</sub>, particulates
- Reduced electricity costs
- Faster and more consistent melting
- Better glass quality
- No significant capital investment required

### Oxy-fuel reheat chamber

- 70% fuel saving
- No noise
- Better heat transfer
- More efficient reheating of glass
- Improved quality
- Increased productivity

## tell me more

For more information please contact us at the nearest location:

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