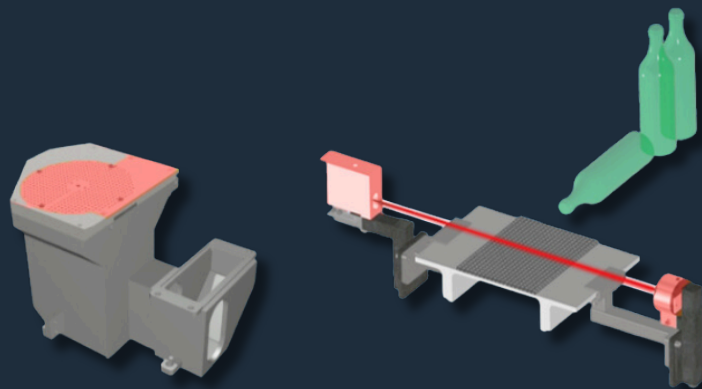
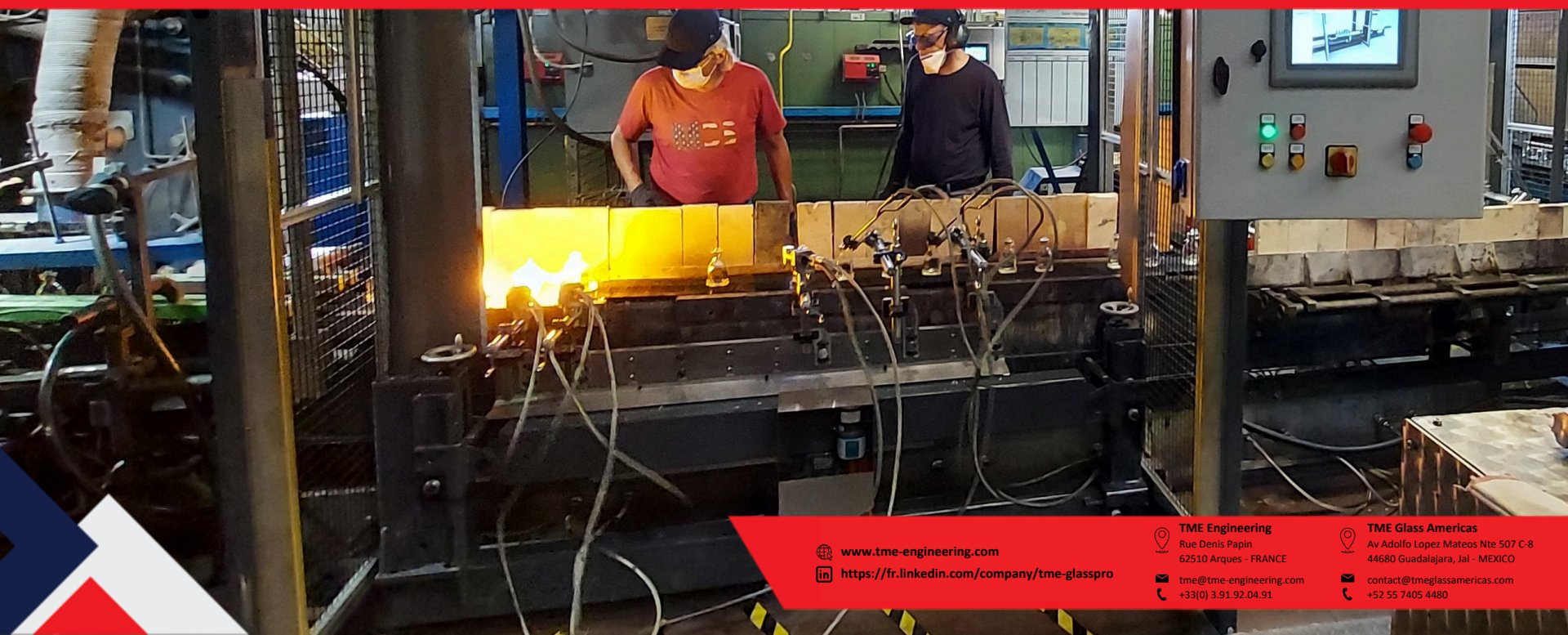


# HOT END AUTOMATED SYSTEM






**TME**  
INNOVATION & PERFORMANCE

GLASS  
INDUSTRY



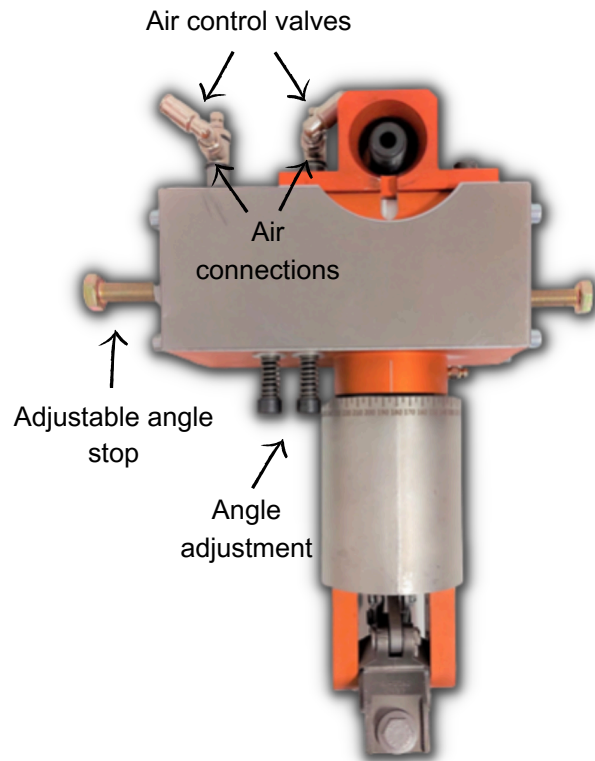
 [www.tme-engineering.com](http://www.tme-engineering.com)  
 <https://fr.linkedin.com/company/tme-glasspro>

 **TME Engineering**  
Rue Denis Papin  
62510 Arques - FRANCE  
 [tme@tme-engineering.com](mailto:tme@tme-engineering.com)  
 +33(0) 3.91.92.04.91

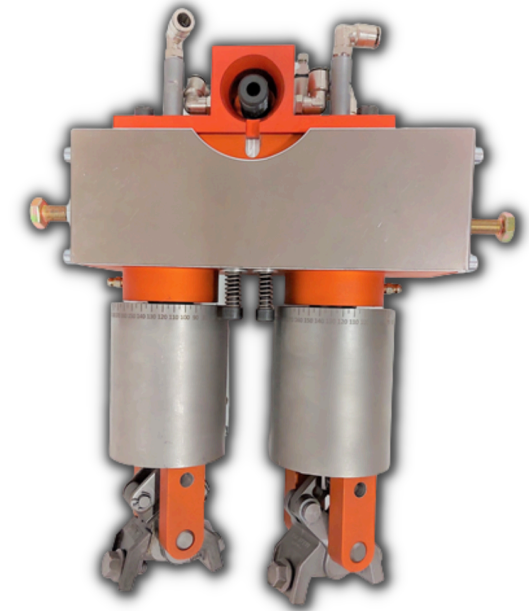
 **TME Glass Americas**  
Av Adolfo Lopez Mateos Nte 507 C-8  
44680 Guadalajara, Jal - MEXICO  
 [contact@tmeamericas.com](mailto:contact@tmeamericas.com)  
 +52 55 7405 4480





# HOT END AUTOMATED SYSTEM TAKE OUT ROTATIVE

311







This system makes it possible to pick up items and place them on the conveyor with a specific orientation. It can be fitted to all arms.

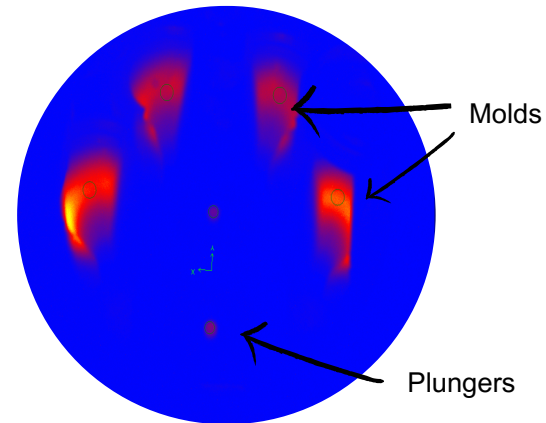



-  **Easy to install**
-  **Smooth rotation**
-  **Outsourced setting**
-  **SG / DG**

# HOT END AUTOMATED SYSTEM BLANKCONTROL

-  **Reduction of thermal forming defects**
-  **All history of the process**
-  **One camera per section for 100% cycle control**
-  **Reduced start-up time**

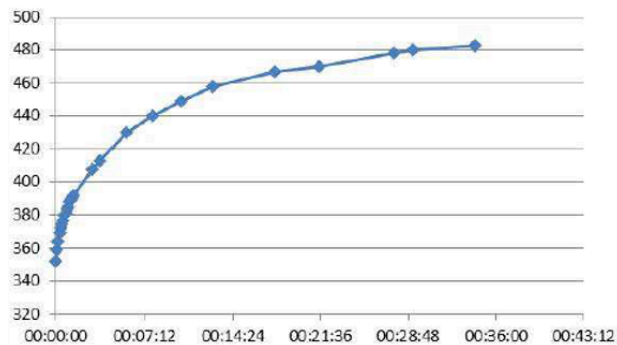
Thermal image :



 Start section :

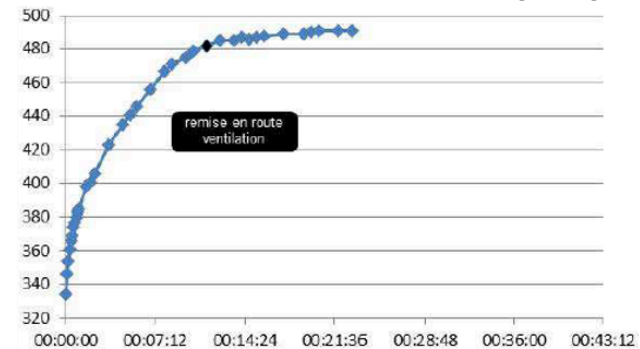
**480°C IN 30MN**

**WITHOUT BLANKCONTROL**




**480°C IN 10MN**

**WITH BLANKCONTROL**

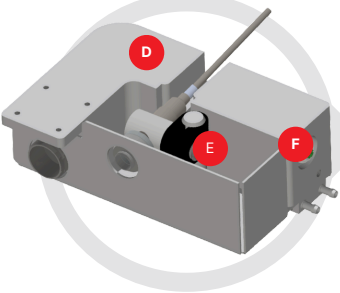
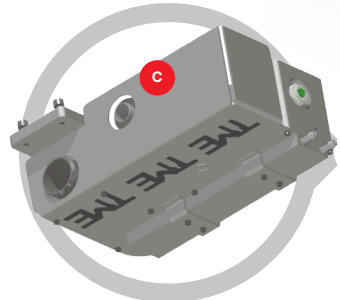
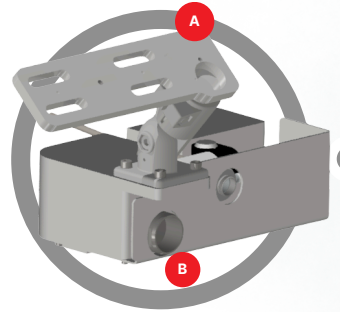




# HOT END AUTOMATED SYSTEM BLANKCONTROL

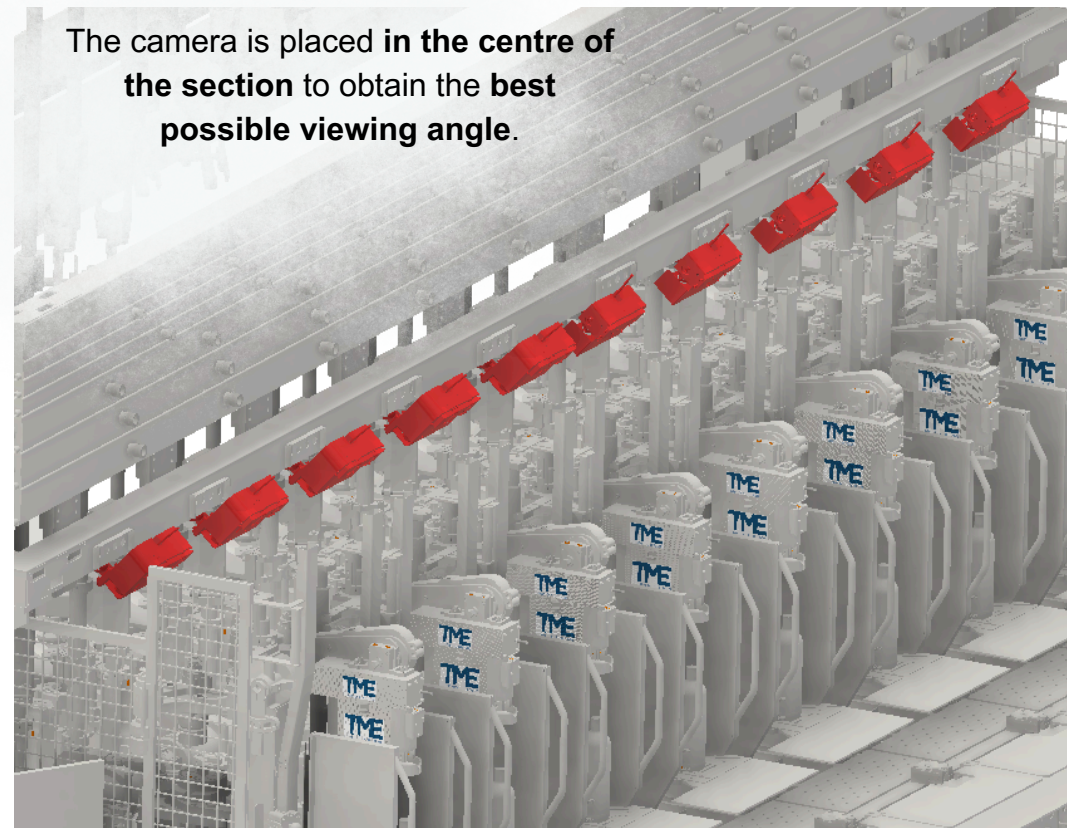
 Overview :

- A** HANGING
- B** OBTURATOR
- C** HEAT SHIELD
- D** CAMERA CASE
- E** PYROMETER
- F** CABLE GLAND



**Automatic regulation of  
mould ventilation**

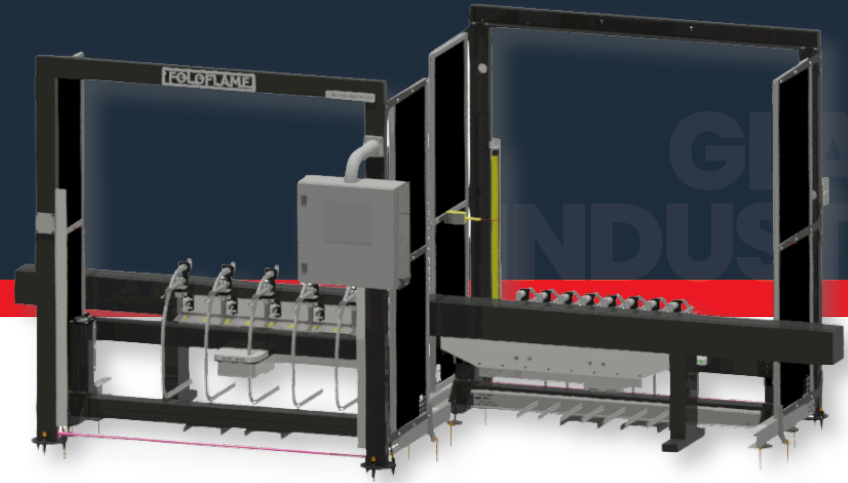
**Don't need to clean  
the camera**





# FOLOFLAME

FIRE POLISHING MACHINE



## Why the name "FOLOFLAME"

Following Flame



The two fire polishing methods can be compared to a finger passing through a flame:

- Fixed re-burn, equivalent to a quick pass over the flame. In this case, the flame remains stationary while the object moves along the conveyor, which limits its effectiveness.
- Accompanying re-burning corresponds to a prolonged passage above the flame. The flame follows the item, increasing its efficiency..



return on investment < 1 an



**Energy savings**



**Improved production quality**



**Easy installation and adjustment**



**Top-of-the-range mechanics**

# HOT END AUTOMATED SYSTEM

## FOLOFLAME 2/5

FIRE POLISHING MACHINE



💡 Foloflame contributes to the decarbonisation of industry:

- 60% **energy savings**
- Up to **580 tonnes of CO2** saved per line per year
- **No loss of energy** between 2 items
- **Superior flame efficiency**

⚡ **Reduces forming defects**

🎯 **Optimisation** through item tracking

✦✦ **High-gloss finish** on items

WITHOUT FOLOFLAME



WITH FOLOFLAME



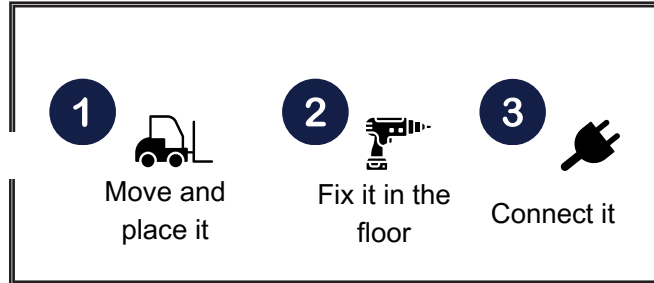
# HOT END AUTOMATED SYSTEM

## FOLOFLAME 3/5

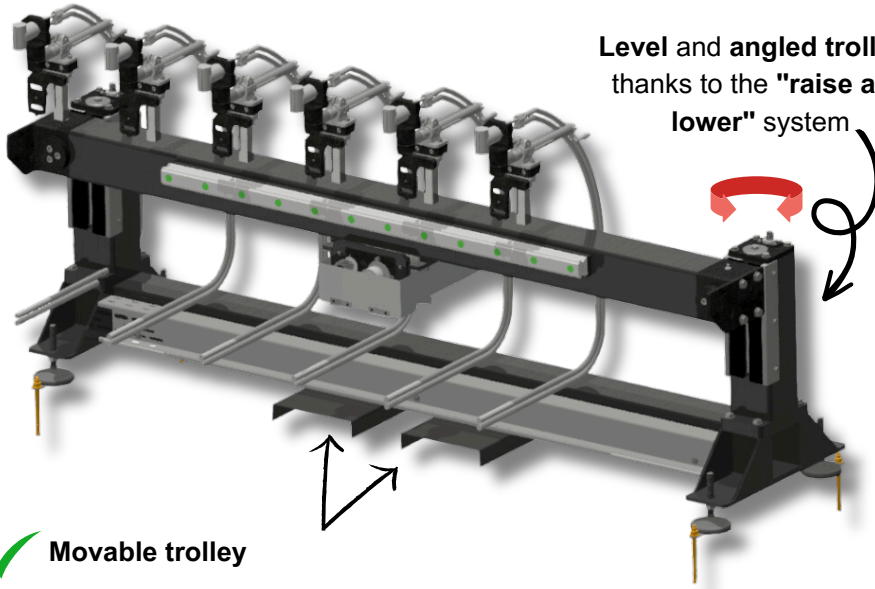
FIRE POLISHING MACHINE



### 💡 INSTALLATION PART :



The **two trolleys** are mounted on **both sides of the conveyor**.

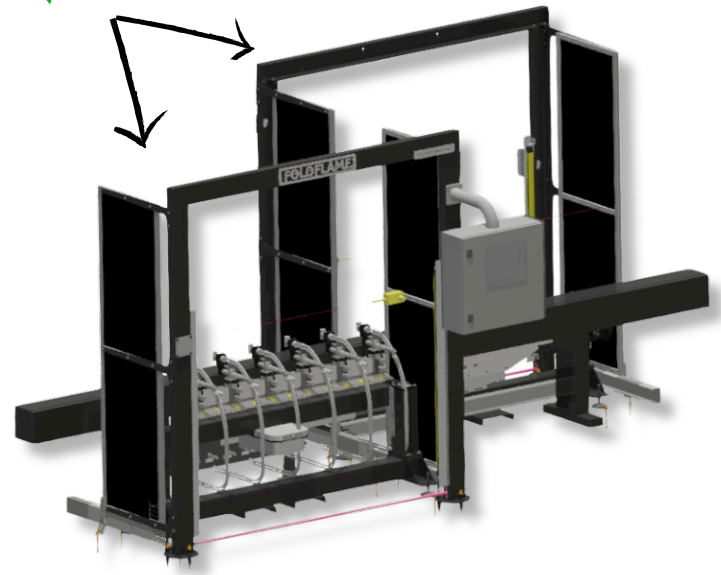


Level and angled trolleys thanks to the "raise and lower" system

- ✓ Movable trolley
- ✓ Easy movement between lines

The shoes in the chassis allow the trolleys to be movable

- ✓ Machine delivered **assembled**
- ✓ Easy to install





# HOT END AUTOMATED SYSTEM

## FOLOFLAME 4/5

### FIRE POLISHING MACHINE



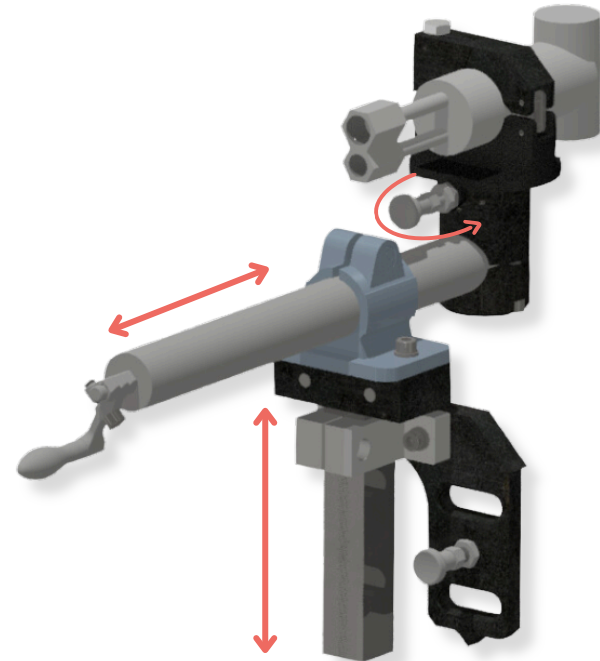
#### FOLOFLAME SETTING PART :

Foloflame is equipped with 2 types of tools :

- Tools for **basic burners**
- Tools for **torch burners**

Mechanical adjustments of rotation, depth, height and angles are made easier (cranks and indexing) to make adjustment quicker and more comfortable. This offers great flexibility for adapting to all types of product.

Our foloflame is equipped with an **"adjustment mode"** that allows **access to the work area**. The **return speed is then lowered** so that you can work in complete safety.



# HOT END AUTOMATED SYSTEM

## FOLOFLAME 5/5

### FIRE POLISHING MACHINE

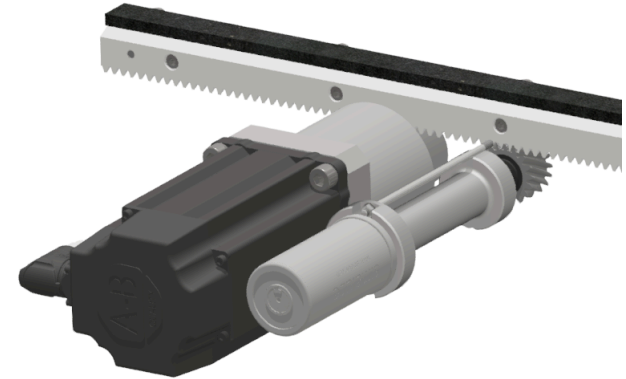


#### FOLOFLAME ACCELERATION PART:

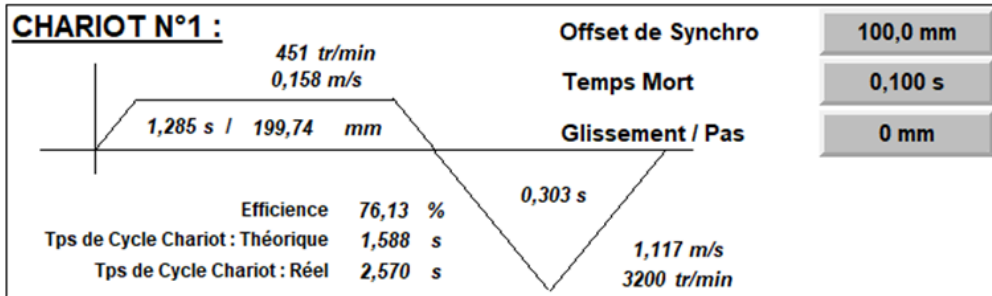
In an tracking fire polishing system, there are 2 movements:

- ➔ Forward movement to **tracking the product**
- ➔ Return movement to **return to the starting position**

As this return movement is time **without fire polishing**, it must be as **fast as possible**. In view of the distance, it consists of a very strong **acceleration** and a very strong **deceleration**.






Our system is equipped with a helical drive rack and pinion for the most efficient torque transmission possible.



# HOT END AUTOMATED SYSTEM STUCK REJECT IS MASTER



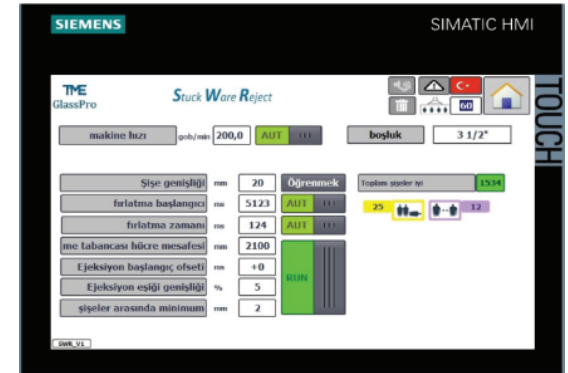
-  **Eject fallen & stuck items**
-  **On the machine output convoyor**
-  **Prevents conveying troubles**


 **NO STUCK WARE, NO DOWN WARE**

SWR consists of: a **control cabinet** with **touch panel**, one **sensor** plus one **reflector\***, **wiring** and one **electro valve\***.

*\*(or two, depending on the chosen option)*

We supply supports for **sensors** and **reflectors**, which include **compressed air cooling**.

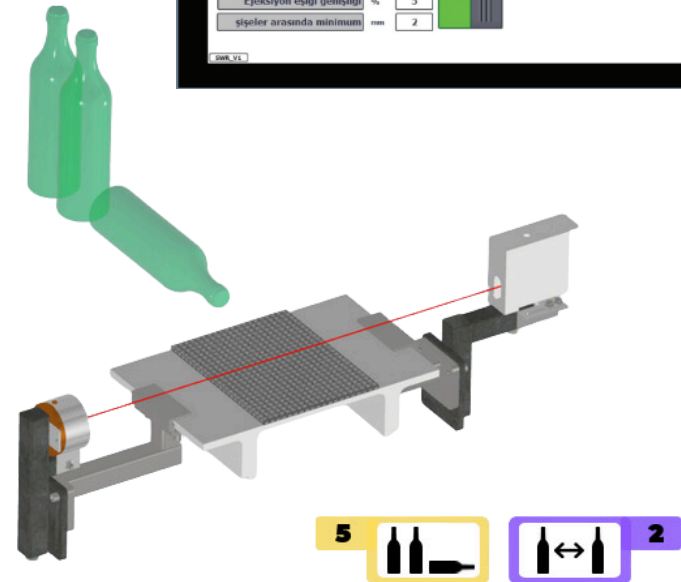


-  The **speed of the machine** can be set by input or manually.
- The **center distance of bottles** can be set.
- Bottle width** is learnt by the system.
- Ejection can be set **automatically or manually**.

You also have three counters which provide real time information on:

- **Bottles without defects**
- **Fallen or stuck bottles**
- **Bottles that are too close.**

You have an output that you can use to trigger hot surface treatment. In the event of power failure, **the system will restart with the same parameters**, but with ejection disactivated.





# HOT END AUTOMATED SYSTEM FLAME MASTER



- ✓ Easy to install
- ✓ Easy to run
- ✂ Low maintenance

Some bottles which previously stayed in single gob because of the fire-polishing, switched to double gob.

## Our equipment :

- Pressure Regulator are **dome relator**
- On **gaz** there are strainer filter and filter for mechanical impurities
- On **Oxygen** there is a strainer filter
- Flowmeters are from **Krone**
- Safety line: there is an input **to stop automatically the Flamemaster** if the conveyor is stopped.

## Latest Improvements:

- Even **quicker job change and set up times**
- **Ergonomic** settings
- Easier set up to the height of the conveyor
- Software improvement for maintenance



## A MUST HAVE FIREPOLISHING EQUIPMENT:

Fire-polish your bottle, with **high accuracy** and very **low deformation**.



# HOT END AUTOMATED SYSTEM VALVE CONTROLLER IS MASTER



Upgrade your existing machine with a proportional valve system for counter-blowing and fore-blowing.

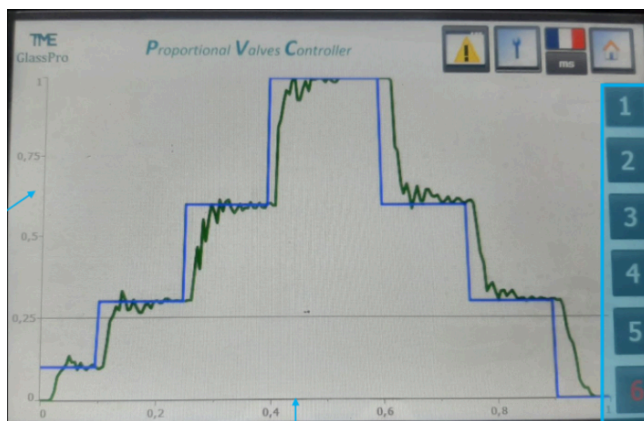
We offer a multi-language system.

The system allows the operator to set up to **seven different levels** with different **pressures**. The length of each level can be set in **ms** or **degrees**.

Once one section is set, the parameters **can be duplicated**.

We also set pressure for the little blow after the opening of the blank mold.

The values given by the valve compared to the values entered **can be monitored in real time**. A pocket may be used to **adjust the time and pressure**.



## Proportional Valves Controller



	S1		S2		S3	
	Press. pour	COPIER	Press. pour	COPIER	Press. pour	COPIER
	1000		800		700	
	Pression	Durée	Pression	Durée	Pression	Durée
Palier 1	1000	1500	1000	1500	1000	1500
Palier 2	500	50	500	50	500	150
Palier 3	0	0	0	0	0	0
Palier 4	800	350	800	250	800	350
Palier 5	0	0	0	0	0	0
Palier 6	0	0	0	0	0	0
Palier 7	0	0	0	0	0	0
Durée totale des paliers	1900		1800		2000	
Durée totale cycle perçage	2000		2000		2000	



# HOT END AUTOMATED SYSTEM ROTAPLATE

Given the IS Machine is a Linear Machine, when products need to be fire-polished, a compromise between '**hot sections**' (near the first burner) and '**cold sections**' (away from the first burner) **needs to be found**.

The **power of the burner** can result in **dimensional problems** on products due to these "**hot sections**", or **insufficient polishing** in "**cold sections**". Occasionally, one or two sections may have to be stopped as a result.



Our solution :

ROTAPLATE solves this! Time on the cooling plate is **extended** for hot sections' and the **temperature of the product** when it arrives at the first burner is **equalized**. Up to four products can sit on the cooling plate at any one time.

The setting of ROTAPLATE is intuitive and the motoring is **smooth** (without vibrations), thereby allowing work on unstable products. Up to four sections can be equipped on the machine

