

**HORIZONTAL FRONT LOADING VACUUM FURNACE**

**MODEL TAV TH1000**



FROM EXPERIENCE



Agents for:



Unit 30 Park Rose Ind Est, Middlemore Road, West Bromwich, B66 2DZ  
Tel: 0121 544 4385 Fax: 0121 544 3874  
[www.vacat.co.uk](http://www.vacat.co.uk)

VAS Group of companies:



**TECHNICAL DATA**

**DIMENSIONS**

Floor space required

Width	6.0 m
Height	5.0 m
Depth	7.0 m

Work zone

Width	1000 mm
Height	800 mm
Depth	1000 mm

Max gross charge	750 kg
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**TEMPERATURE**

Max. Temperature	1300 °C
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Vacuum 600°C to 1200°C	±6 °C
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**ENERGY**

Rating of heating	250 kw
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Connected load	290 Kva
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Rated voltage (3 phase – 50Hz)	380 V
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**VACUUM**

Ultimate vacuum (conditioned furnace)	1.0 x 10 <sup>-5</sup> mbar
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Operating vacuum	5.0 x 10 <sup>-5</sup> mbar
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Partial Pressure Nitrogen/Argon	0.1 to 10 mbar
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Leak rate mbar/sec	5 x 10 <sup>-2</sup> mbar l / sec
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Microns	4 microns / hour
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**PUMPING GROUP**

MECHANICAL PUMP – (x1)

Model No. – Stokes 412

Capacity 510 m<sup>3</sup>/h-1

BOOSTER PUMP –

Model No. – Stokes 615

Capacity 3400 m<sup>3</sup>/h-1

DIFFUSION PUMP –

Model – Leybold DI 20,000

Capacity 20,000 l/sec-1

HOLDING PUMP –

Model – Leybold Trivac NT 25

Capacity 25.7 m<sup>3</sup>/h

**COOLING FAN**

Rated power 37kw

**INERT GAS**

Nitrogen / Argon quenching gas max pressure 1 bar abs

Gas consumption at max pressure 12 Nm<sup>3</sup>

Quenching gas purity 99,999 %

**CYCLE FEATURES – CONDITIONED, EMPTY FURNACE**

Pumping time to 10<sup>-2</sup> mbar range < 20 min

Pumping time to 10<sup>-5</sup> mbar range < 40 min

Cooling time of furnace  
from 1300°C to 100°C < 30 min

Cooling rate 1200C to 400C,  
100kg load, 5mm thick component 25 C/min

Heating time of the hot zone  
from 50°C. to 1250°C. < 30 min

**CONTROL SYSTEM**

Controller	Stange SE 234
PLC	Siemens S5
Temperature/Vacuum Recorder	Eurotherm 6180A
Over temperature safety controller	Eurotherm 2204
Pirani Vacuum Controller	Leybold
Penning Vacuum Controller	Leybold
Thermocouples (Control O/Temp)	Type 'S'
Thermocouples (load)	12 off Type 'K'

**WATER (To be confirmed)**

Min/Max pressure cooling water	2.5 bar
Average consumption cooling water	1000 l/min-1
Water consumption during cooling	800 l/min-1
Water inlet max. Temp.	27 C
Diff pump max temp	23 C

**GRAPHITE HOT ZONE (refurbished)**

Insulation	Graphite
Heating Elements	Graphite

The work cycle of the Model No. TH is completely automatic.

**Gas fan cooling is included @ 1 bar abs**

**Gas Quenching is included:-**

- Cooling from above
- Cooling from below
- Cooling alternatively top and bottom
- Cooling from top and bottom together

The gas pressure flowing through the gas quench system is operated at **1.0 bar abs**

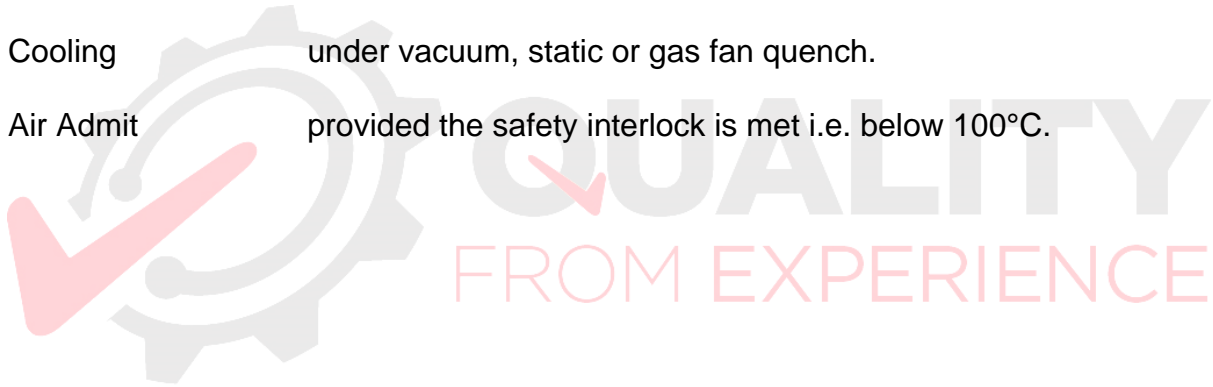
The following items are switched from the control panel.

Pumping                      booster pump introduced at pre-set vacuum levels.

Heating                      can be activated automatically provided the pre-set vacuum levels are achieved and water is available.

Cooling                      under vacuum, static or gas fan quench.

Air Admit                    provided the safety interlock is met i.e. below 100°C.



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## **PROPOSAL**

### **PRICE SCHEDULE**

#### **Item 1**

One (1) Vacuum Heat Treatment & Brazing Furnace Model No. TAV TH1000 as generally as described within the attached technical summary.

The following upgrade works are included

- Existing panel and control system
- Existing hot zone
- Vacuum pumps
- Loader
- Argon air receiver (no CE mark or certificate)

Upgrades, delivery, installation, commissioning and training will be quoted separately

#### **DELIVERY:**

To be determined at time of order

#### **WARRANTY:**

The Seller will offer a warranty period of 3 months, effective from the date of acceptance or 1 month after delivery, whichever is the sooner. Wearing parts, consumables and operator damage are excluded. Warranty conditions apply. The Seller does not accept any liability for consequential damages and losses. Full terms and conditions available upon request.

#### **TERMS OF PAYMENT:**

60% with order  
30% on delivery  
10% on formal acceptance at the customers works or 30 days from delivery  
whichever is the soonest.

#### **TAXES:**

The aforementioned quotation is exclusive of VAT or any other taxes / import duties that may apply.