VERTICAL LOADING VACUUM FURNACE

MODEL No. IPSEN VVFC60 x 60









TECHNICAL DATA

DIMENSIONS

Floor space required	
Width	6.6 m
Height	8.0 m
Depth	8.5 m
Plant gross weight	15,000 kgs
Work zone	
Height	1520 mm
Diameter	1520 mm
Max gross charge	1800 kg

TEMPERATURE

Max. Temperature	1300 °C
Vacuum 600°C to 1300°C	±5 °C

QUALITY FROM EXPERIENCE

ENERGY

Rating of heating	380Kw
Connected load	458Kva
Rated voltage (3 phase – 50Hz)	400 V

VACUUM

Ultimate vacuum (conditioned furnace)	1.0×10^{-5} mbar
Operating vacuum	1.0×10^{-4} mbar
Partial Pressure Nitrogen/Argon	0.1 to 10 mbar
Leak rate mbar/sec	5×10^{-2} mbar l / sec or < 4 microns

PUMPING GROUP

MECHANICAL PUMP –	
Model No. – Leybold SV630	
Capacity	630 m^3/h-1
BOOSTER PUMP –	
Model No. – Leybold WAU 2001	
Capacity	2050m3/h-1
DIFFUSION PUMP –	
Model – Balzers	
Capacity	55,000 l/sec

COOLING FAN

Rated power	75Kw

INERT GAS

Nitrogen quenching gas max pressure	1 bar abs
Gas consumption at max pressure	14m3 approx
Quenching gas purity	99,999 %

QUALITY FROM EXPERIENCE

CYCLE FEATURES – CONDITIONED, EMPTY FURNACE

Pumping time to 10^{-4} mbar range	< 30 min
Cooling time of furnace from 1250°C to 150°C	< 30 min
Heating time of the hot zone from 150°C. to 1250°C.	< 50 min

CONTROL SYSTEM

Controller	Ipsen Vacuprof V4.0
PLC	Siemens S7
Temperature/Vacuum Recorder	Ipsen Vacuprof
Over temperature safety controller	Eurotherm
Pirani Vacuum Gauge	Edwards
Penning Vacuum Gauge	Edwards
Thermocouples (Control O/Temp)	Type ‘S’
Load thermocouples (12 off)	Type ‘N’

WATER (To be confirmed)

Min/Max pressure cooling water	3.5 bar
Water consumption during cooling	17 m3/h
Average consumption cooling water	10 m3/h
Water inlet max. Temp.	23 °C

GRAPHITE HOT ZONE

Insulation	Graphite
Heating Elements	Graphite

QUALITY FROM EXPERIENCE

The work cycle of the Model No. IPSEN VVFC 60 x 760 is completely automatic.

Gas fan cooling is included @ 1 bar abs

Gas Quenching is included:-

- Cooling cylindrically, through gas nozzles

The gas pressure flowing through the gas quench system is operated at up to **1 mbar 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.

QUALITY FROM EXPERIENCE

PROPOSAL

PRICE SCHEDULE

Item 1

One (1) Vacuum Heat Treatment & Brazing Furnace Model No. Ipsen VVFC 60 x 60 as generally as described within the attached technical summary.

The furnace is in excellent condition and currently in production (until March 30th 2020) at a leading OEM in Amsterdam. The furnace has been serviced annually by the OEM.

Upgrades listed below supplied and installed by the OEM

- Control panel complete with Siemens S7 and Ipsen Vacuprof 4.0, supplied 2012
- Hot zone in excellent condition, relined in 2014
- Water system complete with IFM's supplied 2015

All original and updated manuals available with equipment.

Price: POA
(This offer is made Subject to Prior Sale)

QUALITY FROM EXPERIENCE

Delivery – to be quoted upon advising final of the destination
Installation / commissioning / training – to be quoted upon advising of the final destination

DELIVERY:

1 week

TERMS OF CONTRACT:

TBD

TERMS OF PAYMENT:

To be discussed

TAXES:

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

TRAINING

On site training at Customer site will include 3 man days where both practical and theoretical aspects of vacuum engineering will be discussed and include a seminar covering:-

1. Vacuum Terminology. Detailing a basic understanding of the terms and units used in day-to-day use of vacuum furnaces.
2. Vacuum Pumping. Detailing the basic operation of the individual vacuum pumps.
3. Furnace control and sequencing.
4. Furnace Control System
5. Vacuum furnace maintenance.
6. “Hands on” Maintenance training.

As well as the Operation and Maintenance manuals supplied with the plant, within the training programme, an additional manual will be supplied to each attendee of the seminar.

It is useful if a ‘classroom’ could be made available during this period.

QUALITY FROM EXPERIENCE

EXCLUSIONS

VAS's installation proposal offer is based upon purchaser's acceptance of the following responsibilities, unless otherwise agreed in price summary.

1. Pits, foundations, packers and associated foundation bolts, unless previously specified and quoted.
2. Steelwork covering pits.
3. Any additional supporting steelwork and stairs which might be requested.
4. Cranes and handling devices.
5. Sump pumps for pit where applicable.
6. Any water treatment equipment, unless previously specified and quoted.
7. Any auxiliary emergency pumps.
8. Provide adequate 3 Phase, 50 Hz, power supply and in accordance with furnace requirements.
9. Provide adequate water system including pipework
10. Provide inert gas to furnace termination point
11. Provide and install all inlet exhaust ducting from the furnace termination point i.e.. mechanical pump exhaust.
12. Provide security for all of the furnace and erection equipment against theft and malicious damage.

QUALITY FROM EXPERIENCE