

**SALE CONTRACT No. 217 DATE 01/30/2007**  
**FOR No. 1 PLANT**  
**MODEL VIV 801/2**  
**FOR THE DECORATION OF**  
**METAL PROFILES**

# **DECORAL® PROCESS**

## **PLANT MODEL VIV 801/2**

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## **1. INTRODUCTION AND DECORAL PROCESS**

The **DECORAL®** process has been studied early '90 by VIV-DECORAL, and then patented worldwide. It has been continuously improved during the years, mainly thanks to the experience of VIV-DECORAL SPA, part of DECORAL GROUP, that decorates at industrial level aluminium profiles and sheets and now DECORAL SYSTEM USA CORP, is able to provide the necessary equipments and materials also to US companies.

The decoration is realised using a heat transfer process that transfers a pattern (wooden, marble, granite, and several others fantasies) carried over a special film, into a single powder coating layer applied on profiles of aluminium, steel or other materials as well as in the case of accessories. The equipment necessary to perform this process is technologically advanced, easy and safe to be used.

The operator lays down the profiles, already inserted in a transfer film tube, on the frame resting on a moving trolley located in front of the oven.

The particular design of the frame makes the operation very comfortable and feasible at room temperature.

Using the intake air connectors located on the frame, each film tube is connected and hold in place to the vacuum system. The vacuum pump sucks the air out from the tube forcing the film to adapt perfectly to the profile surfaces. With the vacuum still in place the frame moves into the oven manually where it stays for 4-7 minutes till the pattern will be transferred from the film within the coating layer for 2.3-2.7 mils in depth. The frame has a temperature probe that makes sure the operation is performed under the best conditions.

Ending the cycle, the frame exits manually from the oven. The vacuum pumps stops and air is blown into the film tube to cool down and release it from the profiles. The operator can then unlock the profiles and start again with a new load. Once the film is removed, the profiles are ready for checking and packaging.

The oven configuration having the trolley located laterally as in the mod. VIV 801/2 allows to have reduced dimensions of the plant.

## 2. DESCRIPTION OF THE DECORAL PLANT

- A. Oven for heat-transfer process consisting in:
- The machine's basement is made of fully electrically welded steel and joint welded zinc plated panels;
  - External structure made with carbon steel profiles pressed and bended. The profiles are painted with RAL 9002;
  - External walls made of pre-formed **stainless steel panels** and shielded with a polyethylene film;
  - Insulation (rock wool) between internal and external panels (4.72 in. thickness);
  - Inspection door with safety opening, in accordance to UL regulations. The door allows access and inspection to the tunnel;
  - Heat exchanger with fitting and pipes inside the oven;
  - No. 04 motorized fans with supports, transmission, internal connectors, fitting, air deflectors and external motor brackets, transmission cover;
  - Heating supplied by burner working with Diesel Oil or Natural gas or LPG;
  - Pre-arrangement for vent stack for exhausting fumes;
  - Lateral opening for trolley entrance with self sealing closure;
  - Adjustable internal deflectors for air circulation;
- B. Basement completes with 1 (one) sliding steel frame holder, sliding guide, rack, gear motor and chains for a proper functioning. This frame holder is suitable to receive the 15 intake air connectors frame or the double membrane frame or the platform for sheets.
- C. Wire Sensor probe to measure the temperature of the pieces to decorate
- D. No. 1 (one) electric vacuum pump group complete with 1 (one) heat exchanger for air cooling, piping, pneumatic valves, reserve air tank and pressure regulator.
- E. Compressed-air circuit for releasing the film tube from the profiles.
- F. Complete Security Photocell system for safety plant operation, according to UL regulations.
- G. No. 2 (two) frames containing 16 aspiration heads fixed and movable per each side, for the aspiration of the bags of profiles and for their connection to the vacuum system.
- H. No. 1 (one) double membrane frame complete with 2 membranes for the decoration of embossed sheets (for doors), 3D pieces and curved profiles.
- I. No. 2 (two) movable trolleys for the moving the frame or the double membrane frame inside and outside the oven.
- L. Fixed Crane to raise the vacuum head frame once ready and leave space for another frame to enter into the Decoral oven
- M. No. 1 cutting machine, to cut the film rolls at the right width.
- N. package prestige, consisting in:
1. PLC SIEMENS for the display of information of quantity of production, such as nr of cycles, hours of work and stops, etc;
  2. No. 2 PRINTERS for the printing of eventual anomalies and every curing cycle for quality control;
  3. LASER TEMPERATURE SENSOR, for the automatic reading of the temperature of the profiles during the curing avoiding to lose time for the manual application of wire sensor.
- O. 10,000\$ worth of raw materials for start up.

### 3. DOCUMENTATION

The machine comes complete with:

- Plant Operating and Maintenance manual
- Electric Vacuum pump operating and maintenance manual.
- **Riello** Burner operating and maintenance manual.
- Electrical and Electronics components operating and maintenance manual.
- Security Photocell operating and maintenance manual.
- Electrical drawings
- Recommended spare parts list

### 4. CLEARANCE AND FUNCTIONAL REQUIREMENTS

The plant requires the following conditions:

#### Minimum clearance:

- Decoration plant: 39.37 ft L x 18.04ft W x 8.20 ft H
- Production area: 1076 ft<sup>2</sup>

#### Functioning requirements:

- Electric power installed: KW 18
- Air compressed consumption: 847 ft<sup>3</sup>/hour
- Natural gas working pressure: 0.21 lbs/in<sup>2</sup> – 0.58 lbs/in<sup>2</sup>

#### Fuel consumption (for reference only):

- Natural gas consumption: 294 ft<sup>3</sup>/hour

Such figures consider the total daily average consumption, which includes the start up pre-heating in the normal working time.

## **5. TECHNICAL DATA PLANT MOD. VIV 801/2**

The plant mod. VIV 801/2 is suitable for the decoration of aluminium profiles up to 24ft and 2 in long.

Dimensions of the plant:	37.75 ft L x 16.67 ft W x 7.61 ft H.
Dimensions of the oven:	37.75 ft L x 7.21 ft W x 7.61 ft H.
Max operating oven temperature:	482 °F.
Thermal capacity installed:	200.000 kcal/h with burner.
Heating system:	LPG, Diesel Oil or Natural Gas.
Insulation:	ceramic fibres and rock wool (4.72 in. thick).
Air circulation:	no. 4 internal fans.

P.S. The oven is controlled by a probe that automatically adjusts the heating system, in order to keep the set temperature always steady. The hot air is equally distributed inside the oven to make sure the profiles reach the same temperature in all parts, in order to guarantee the best decoration quality.

## **6. GENERAL ELECTRIC PANEL**

A general electric control panel, equipped with metal industrial waterproof case in compliance with UL regulations.

The electric panel includes:

- ON/OFF Switches for no. 4 (four) fans with max power of 3.3 KW each.
- Control Switch for the vacuum pump with max power of 2.2 KW.
- No. 1 (one) digital thermo-regulator for regulation of oven temperature.
- No. 1 (one) digital thermo-regulator for regulation of piece temperature.
- No. 1 (one) digital timer.
- No 1 (one) acoustic and visual alarm to signal the end of cycle.
- Set of manual and automatic controls.
- General security switch and emergency stop switch.
- Voltage 208/3F, 60 Hz with neutral and ground.

## **7. COLOUR OF THE PLANT**

Stainless steel panels cover the plant all around.

PS: If different colour is required, this has to be specified at the time of order.

## **8. KNOW HOW AND TRAINING IN ITALY**

**No. 2 operators from Buyer's company will be trained for 5 (five) days in Seller's facilities for all the information concerning the production, the know-how and the maintenance of the plant. Board and lodging at Seller's expenses. Transportation and salary at Buyer's expenses.**

## **9. ASSEMBLING AND FINAL TEST**

It is included the supervision of one engineer from Seller for a period of 5 (five) days at Buyer's facilities, where the plant assembly and the start-up will be performed. Board and lodging expenses are at Buyer's charge. Travel expenses and salary are at Seller's expenses.

## **10. QUOTATION**

- **No. 1 Complete Plant model VIV 801/2 for the decoration of metal profiles as per DESCRIPTION OF THE DECORATION PLANT point 2.**
- **GENERAL ELECTRIC PANEL as to the point 6.**
- **KNOW HOW AND TRAINING IN ITALY as to the point 8.**
- **ASSEMBLING AND FINAL TEST as to the point 9.**

TOTAL PRICE

see Annex A

## **11. TERMS OF SALE**

<u>Payment:</u>	see Annex A.
<u>Delivery:</u>	see Annex A.
<u>Place of delivery:</u>	see Annex A.
<u>Packaging:</u>	included, according to our standard.

All the goods are of Italian origin

## **12. WARRANTY**

The warranty extends for 12 months from the installation and running of the plant and not further 18 months from delivery, for all the construction defects of the mechanical components and for the pneumatic components.

The warranty for electronic components extends for 6 months from the installation of the plant.

During the warranty period, the substitution of every component will be free (except freight charges), only if the defects of the components are not imputable to lack of skill, negligence or bad conduction of the plant.

Excluded from the warranty are:

- Damages caused by the nature calamity or fire.
- Costs of machine stops during the repairs under warranty.
- All other damages that do not depend on the normal equipment use.



### **13. EXCLUSIONS**

**This supply does not include the following:**

- Custom clearance and insurance costs.
- Travel tickets during buyer's operator training.
- Building Structure improvements.
- Connection of electrical power, air compressed and fuel from the source to the plant.
- Consumption of material during the installation and commissioning.
- Eventual capacity improvements of electrical power, air compressed and fuel.
- Working tables and devices for moving production materials.
- Necessary equipments for the plant unloading and handling.
- All other items not specified.