A/

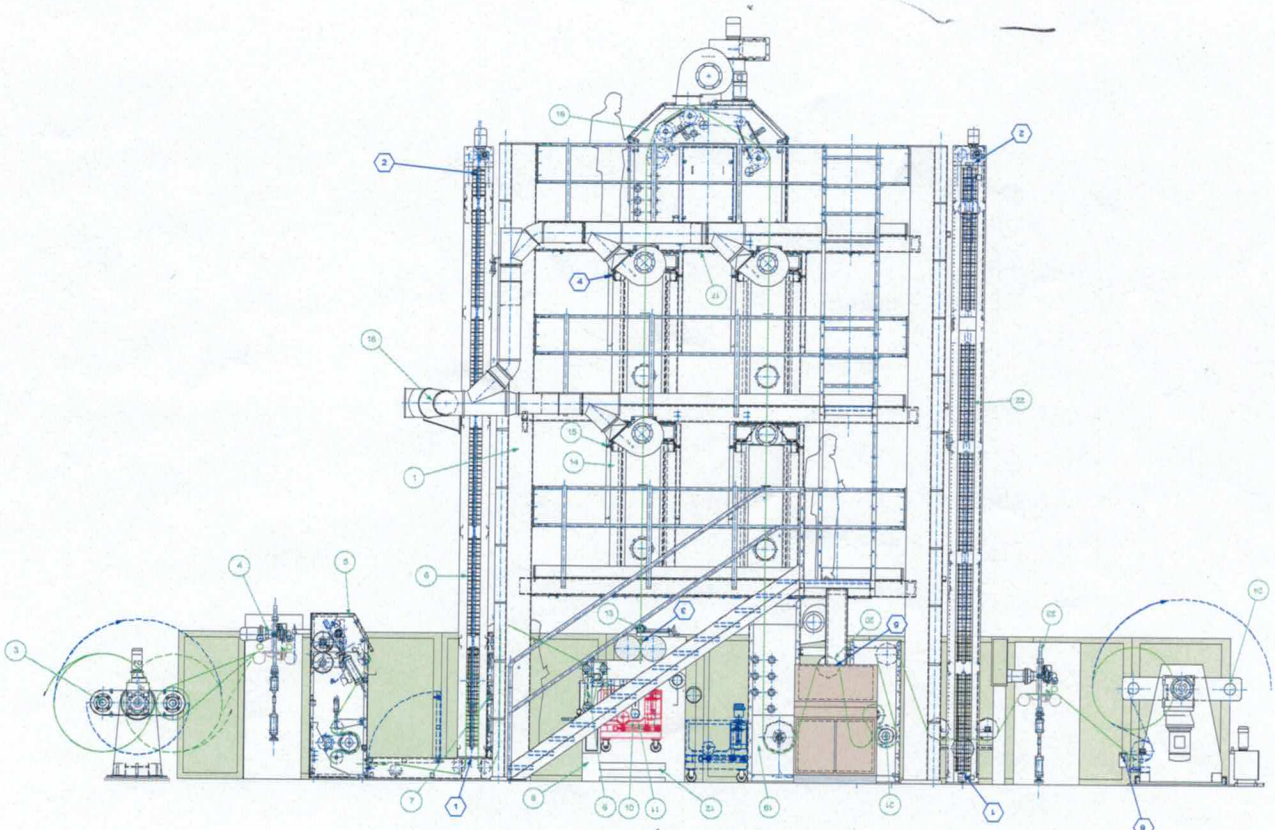
CEDAL EQUIPMENT®

INNOVATION & QUALITY PUTS US AHEAD

Cedal equipment srl
Via Cascina Mojetta, 38
20148 Milan - Italy
Phone: +39 02 39267520
Fax: +39 02 39256435
E-mail: **info@cequi.it**

ADARA SYSTEM

MINITREATER



mt. 12 850

mt. 9 420

Pos.	Codice	Q.ta'	Denominazione	*	Note
1	50100	1	TOWER MAIN FRAME	A	
2	50200	1	STAIRS	A	
3	51600	1	BOUBLE UNWINDER	A	
4	51700	1	AUTOMATIC CUT	A	
5	51400	1	JOINT BENCH	A	
6	51800	1	LOOPER	A	
7	51900	1	CLEANING STATION	A	
8	52000	1	COATING	A	
9	52100	1	PRE-COATING	A	
10	52200	1	MIXING GROUP	A	
11	52300	1	COATING TANK	A	
12	52400	1	HYDRAULIC PLATFORM	A	
13	52500	1	SCRAPER	A	
14	54100	4	POLYMERIZATION OVEN	A	
15	54200	64	RADIANT PANEL	A	
16	54300	1	TURN OVER	A	
17	54400	4	SHUTTER	A	
18	54900	1	ASPIRATION PIPES	A	
19	56100	1	COOLING GROUP	A	
20	56150	1	DANCER	A	
21	56200	1	FINAL DRAGGING	A	
22	56300	1	LOOPER	A	
23	56400	1	AUTOMATIC CUT	A	
24	58100	1	DOUBLE WINDER	A	

General description:

The major innovation of our MiniTreater consists in the fact that the necessary thermal energy for evaporation of solvent and polymerization is realized by the electrical radiant panels.
Using the electrical energy as primary thermal source is obviously very simpler than adopting any other source generally used in such plants as for example diathermy oil or other.
Until now, it has never been possible to use electrical energy, which has never been used because of the danger and yielding of the system.
The radiant panels of MiniTreater on the contrary are totally safe cause of their special construction. At the same time they have the highest yield; therefore we can say that (with about 4 Kw per m^2) the system obtains the necessary results both in phase of solvent evaporation and polymerization with least consumption of energy.
The materials the panels are constructed with permit to transmit energy to prepregs in form of electromagnetic long waves particularly suitable to their purpose.

As a matter of fact the resin and the solvent which is contained in the resin can be heated first from the inside and then on the surface, therefore the products made by our Treater do not show any trace of solvent after the resin polymerization. This usually does not happen to the products made by competition. The process made by competition system creates a kind of barrier partially preventing the evaporation of solvent remaining inside the prepreg (bubbles) causing the quality problem when the copper foil is pressed onto the resins during the bonding process.

In short the main advantages are:

Quality
- Solvent residues almost zero.
- Gel-Time uniformity and repeatability.
- Products surface perfectly smooth.
- Uniform temperature distribution.

Costs
- Very low cost of energy.
- Short start-up time to normal running.

Main Technical Features MiniTreater	
Length	14,745 mt.
Width	4,50 mt (without stairs), 6,20 mt with stairs tower
Height	9,419 mt
Requested room height	13,00 mt
Total Weight	29.100 Kg
Voltage	400 V
Electrical Power (installed)	350 kW
Air Pressure	10 Bar
Total Air Consumption	450 Nl/min
Number of Heating Radiant Panels	64

Performance Mini-Treater	
Max Production speed	10 mt/min (depending of thickness and of materials)
Glass cloth width	(max) 1310 mm, (min) 955 mm

Productivity Mini-Treater							
Speed mt/min	Glass Cloth Width			Plant efficiency	working days per month	Production per month (Square meter)	Production per month (Square feet)
	Minimum width	Max width	Average width				
10	0,955	1.320	1.255	0,900	26	293.670	3.161.358

The Adara MiniTreater is composed of the following parts:

Input unit
Glass cloth roll un-winder double reel
Automatic Jointing bench
Compensator
Tension checking system(equipped with electronic ultrasonic detector)
Exhaust device
Transmission roller

Impregnation unit
Pre-impregnation system
Forced-impregnation
Squeezing device for thickness checking
Automatic viscosity meter system
Resin tank with pneu- mixing

Central unit (*)
1° Rising oven
1° Exhaust fan system
2° Rising oven
2° Exhaust fan system
Turnover (Water cooling system)
Blade air system for glass cloth cooling
2° Descending curing oven
2° Exhaust fan system
1° Descending curing oven
1° Exhaust fan system
Electrical cabinet for command and checking oven 1° floor
Checking exhaust fan system 1° floor
Electrical cabinet for command and checking oven 2° floor
Checking exhaust fan system 2° floor
Electrical cabinet for command and checking oven 3° floor
Checking exhaust fan system 3° floor
General electrical cabinet

Output unit
Cooling system with blade air
Tension checking system with dancing roller (equipped with electronic weighing cell)
Take off unit with 3 rolls
Output accumulator
Tension checking system(equipped with electronic ultrasonic detector)
Winder with edge trimming, automatic centering, tension checking and automatic roll change
Synoptic for checking work cycle
Carrying steel frame
- Tower of 2 floors of the MiniTreater
- Tower of 3 floors of the MultiTreater

(*) The number of Rising oven depends from the model of the Treater
- Mini-Treater: N. 4 rising ovens
- Multi-Tretaer: N. 8 rising ovens

SYSTEM INCLUDES:

< Lay out; drawing with air pressure & electrical connection.
< Machine manual with electrical & pneumatic connection in two copies.

SYSTEM EXCLUDES:

< Brickworks in the machine room.
< Foundation and Pit works.
< Floor levelling.
< Electrical, air & water pressure connection to the machine.
< All the safety and warning customer requirements if they are not already supplied along with the machine.
< All the approval and allowed required from the local authority.
< Burner for contaminated fumes.
< Chiller for turn over cooling rolls (see the Required freezing power).
< Pumps for feeding the acetone (after mixing and pre-cooling) in the Impregnation unit.
< Any needed piping.