MANUAL 3-STUB TUNER

Ref. AI3SMWR975D32X65LRR2PE

The function of the AI 3S impedance tuner is to decrease the SWR of a microwave installation by reducing reflected power close to 0. This tuner can be used with monomode or multimode cavities. Its special design makes possible a micrometric adjustment of the stubs with display.

REF	AI3SMWR975D32X65LRR2PE
Frequency	896 MHz or 915 MHz ± 15 MHz
Power	Maximum handling power depends upon the load's SWR: 20 kW if SWR < 10; 50 kW if SWR < 6; 75 kW if SWR < 3
Stub travel distance	68 mm
Display	On 15-turn micrometric turning system
Microwave input/output	Flange / guide WR975
Material	Waveguide in white painted aluminium alloy, stubs in copper
Weight	15 kg

Observations:

- **The 3 stubs shall never be moved together at the same time, but only 1 or 2 of them;**
- The stubs are voluntarily not mounted symmetrically on the guide. As a consequence, it is possible to find the optimum position for tuning (right-left or left-right) by rotating the tuner at 180^0;
- Before mounting the 3-stub tuner in any set-up look inside the waveguide and make sure the stubs at 0 position are not protruding inside the waveguide for more than 3-4 mm;
- Position 0 is equivalent with no tuning, the 3-stub impedance tuner has solely the role of a standard waveguide;
- Do not use the tuner to if the reflected power is > 30 % from maximum forward power used in the application.

Instruction to operate a manual 3-stub tuner using Sairem microwave generators:

1. Once the experimental set-up is ready and the load is present in the applicator, turn on the microwave generator and set the forward power (FP) to a low level, for example 500 W;

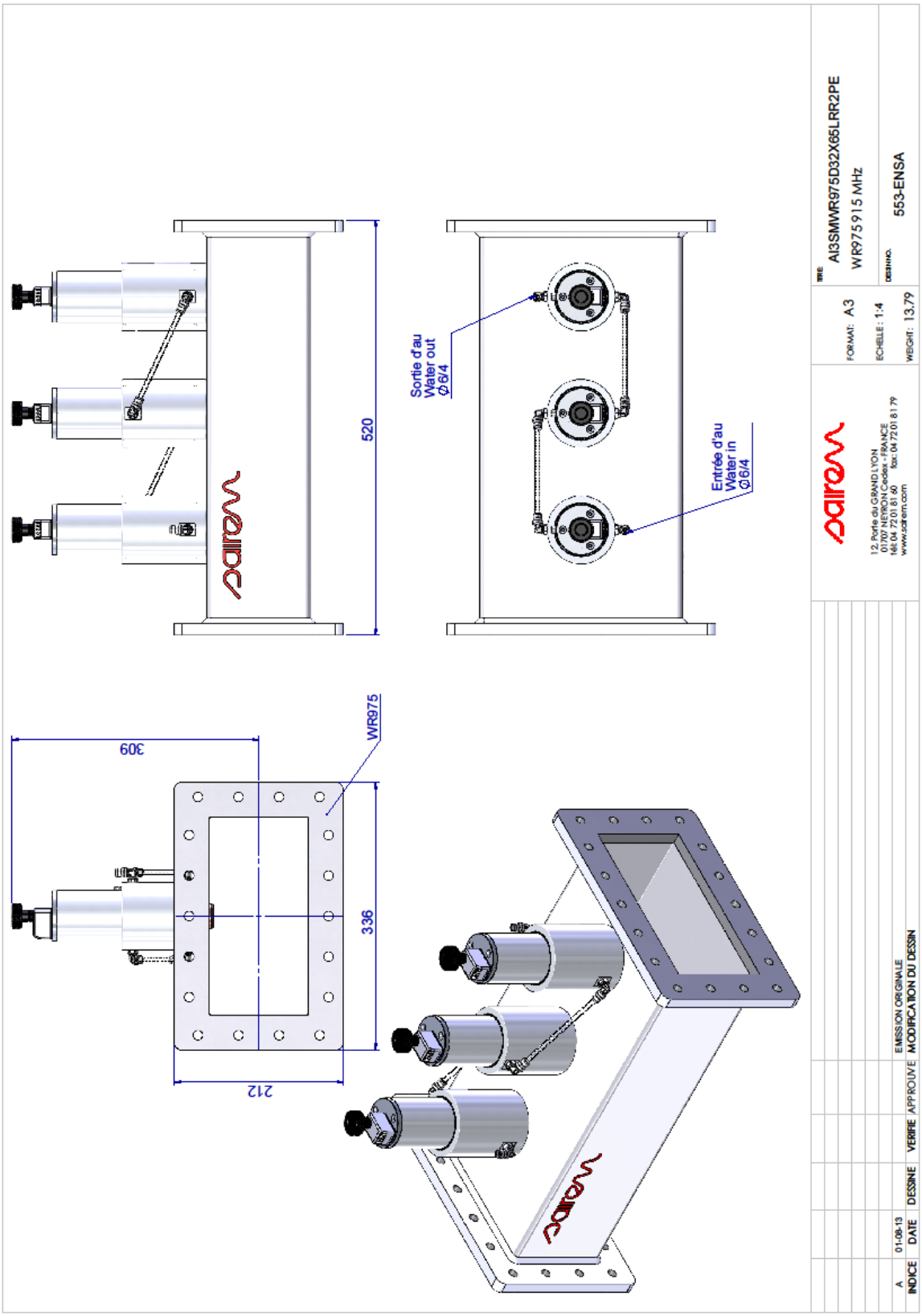
   Note: for non-Sairem generators refer to the manufacturer's low power level recommendation

2. Using a microwave leakage meter, make sure there is no microwave leakage along the system. Pay special attention to all connections via flanges & bolts. Do not worry if during this test the FP = RP. Take your time, the magnetron is protected by a high quality isolator;

3. Push the microwave START button and note the levels of the forward (FP) and reflected power (RP) on the LCD display of the power supply.

   * For a monomode set-up if the RP level is higher than 0 W use the sliding short circuit to lower it. Moving the sliding short circuit forward (towards the applicator) or backwards will increase or decrease the level of RP. Try to find the minimum RP possible. Increase FP to the desired level. Note the RP value and try to minimize it. Stop and block the position of the sliding short circuit when the minimum RP level has been reached;

4. If the RP < 30 % FR and the sliding short circuit cannot lower it, start using the first stub of the 3-stub tuner. Rotate it down into the waveguide until the reflected power level starts to decrease. If no effect or if the reflected power increases, get the stub back to 0 and start with the second (middle) stub and then with the third. If no effect, you can try to turn the position of the tuner in the microwave line at 180 degree and start again.


Sortie d'au
Water out
Ø6/4
Entrée d'au
Water in
Ø6/4
520
309
WR975
336
212
AI3SMWR975D32X65LRR2PE
WR975 915 MHz
553-ENSA
FORMAT: A3
ECHELLE : 1:4
WEIGHT: 13.79
12, Porte du GRAND LYON
01707 NEYRON Cedex - FRANCE
tél: 04 7201 81 60 fax: 04 7201 81 79
www.sairem.com
INDICE
DATE
DESSINE
VERIFIE
APPROUVE
MODIFICATION DU DESSIN
A
01-08-13
EMISSION ORIGINALE