## Thermodynamics & Microelectronics

# petite fleur

the baby Tango





## petite fleur – the baby Tango

The baby Tango is the entry level model for temperature control applications in the mid-range -40 °C to 200 °C.

## Plug & Play



### der kleine Tango

E-grade professional and ComG@te are included as standard. Natural refrigerant to protect the evironment.



The Tango is the original and smallest circulator of the Unistat® range, which has been the benchmark for many years. The "Petite Fleur" in comparison with the Tango Nuevo, is  $\frac{2}{3}$  the size,  $\frac{2}{3}$  the power and  $\frac{2}{3}$  the price.

The Tango and the Unistats® are suitable for externally open baths or closed applications, e.g. reactors. The first version of "Petite Fleur", the baby Tango, is designed for externally closed applications. With the expansion tank and the large illuminated sight glass, it is instantly recognisable as a Unistat® with all the well known advantages. A second version for open bath applications is in preparation.

#### "Good Day"

The bigger Unistat® models are equipped with the 5,7" display, and the baby tango welcomes the user with 3,5" display of the CC-Pilot. The picture left, shows the usual configuration, with the expansion tank and sight glass on the left, and on the right the automatic controller and control panel.

#### **Functionality for all Applications**

As with the large Unistats® the "Petite Fleur" comes with full controller functionality. The powerful variable speed pump combined with the VPC pressure control and the TAC adaptive internal and cascade control unsure the best possible results. The "Professional" E-grade and an internal ComG@te are factory installed as standard.



Also a fine view from the back: ComG@te, M16x1 pump connections

#### Lift and Roll

Just 260 mm wide the baby Tango is ideally suited to fit in extract hoods. The rollers fitted at the back of the unit allow it to be easily brought to the required position, just lift and roll.

#### **Ready for action**

If the application is regularly changed, residual water in hoses and reactors can be a problem. The water mixes with the thermal fluid and inhibits the heat transfer process. The new water separation system allows water to be removed from the thermal fluid during thermal regulation.

#### More Power

DIN 12876 requires that cooling powers are measured at full pump speed. Reducing the pump speed reduces the heat energy entering the system. This leads to higher cooling powers and lower end temperatures. The baby Tango has an unusually powerful pump. Reducing the pump speed can make additional cooling power available – an extra 30 to 50 Watts can be achieved. We always quote cooling at maximum pump speed.

## Unistat® for Professional Scale-Up and Process Development

The introduction of the "Petite Fleur" now means that the Unistat® temperature control system is available starting from a cooling capacity of 480 Watts at 20 °C, making it the only temperature control system in the world which offers professional Scale-Up from small scale laboratory R&D through to production plant. The Unistat® temperature control system covers a temperature range from -120 °C to 425 °C and cooling and heating powers up to 130 kW. The Unistat® temperature control system can be combined with customers' steam or brine systems, and is thus suitable for applications beyond the 10 m<sup>3</sup>-class.



VPC Variable Pressure Control

### **DIN 12876**

Our cooling powers are always quoted at full pump speed

| Model          | Working<br>Temperature | Pump max.<br>VPC |       | Heating | Cooling Power (kW) at (°C) |      |      | (°C) | Dimensions | Cat.No.     | G            |   |  |
|----------------|------------------------|------------------|-------|---------|----------------------------|------|------|------|------------|-------------|--------------|---|--|
|                | Range (°C)             | (l/min)          | (bar) | (kW)    | 200                        | 20   | 0    | -20  | -30        | WxDxH (mm)  |              |   |  |
| petite fleur   | -40200                 | 33               | 0,9   | 1,5     | 0,48                       | 0,48 | 0,45 | 0,27 | 0,16       | 260x450x504 | 1030.0001.04 | 3 |  |
| petite fleur w | -40200                 | 33               | 0,9   | 1,5     | 0,48                       | 0,48 | 0,45 | 0,27 | 0,16       | 260x450x504 | 1030.0003.04 | 3 |  |



## Compatible Control Functions

| Function   | CC-Pilot "Professional"  |
|--|--|
| Adjustable Heating / Cooling Power   | ✓  |
| Adjustable limit alarms  | $\checkmark$   |
| Alarm Signal optical / acoustic  | $\checkmark$   |
| AutoStart (mains failure automatic)  | $\checkmark$   |
| Calendar, Date, Time   | $\checkmark$   |
| Calibration programme for control sensor (Internal, Process)   | 5 Point  |
| Colour flat screen display   | 3,5″   |
| ComG@te Functions<br>– External control signal / ECS STANDBY<br>– Programmeable volt free contact / ALARM<br>– digital interfaces RS232, RS485<br>– AIF (Analogue interface) 4-20 mA<br>– Level monitoring | ~  |
| Comfort Menu / Compact Menu  | $\checkmark$   |
| Compressor Automatic Control   | $\checkmark$   |
| Controller parameter tuning  | TAC <sup>1</sup>   |
| De-gassing program   | $\checkmark$   |
| Digital interface RS232  | $\checkmark$   |
| Display  | graphic, numeric, zoom   |
| Display Resolution   | 0,1 °C / 0,01 °C   |
| Easy Control   | $\checkmark$   |
| Function check at start  | Sensors, electronic  |
| Language: D / E / F / IT / ESP / RUS   | $\checkmark$   |
| Monitoring (Level Protection, Over Temperature Protection)   | $\checkmark$   |
| Plug & Play-Technology   | $\checkmark$   |
| Programmer<br>— Additional functions   | 10 Prg. / max. 100 steps<br>Calendar Start, Non-Linear-Ramping |
| Ramp function  | $\checkmark$   |
| Set Point Limits   | $\checkmark$   |
| Temperature control mode (Internal, Process)   | $\checkmark$   |
| Temperature format: °C / F   | $\checkmark$   |
| Time Format  | $\checkmark$   |
| User Menus (Administrator-Level)   | $\checkmark$   |
| Variable speed pump VPC  | $\checkmark$   |
| Venting programme  | $\checkmark$   |
| 2nd set point  | $\checkmark$   |



<sup>1</sup> TAC – True Adaptive Control

Self optimising internal and cascade controllers

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