

# PRODUCT DATASHEET

## AIR CONDITIONER | DRAGON 3.1 | NATURAL GAS



| Reference         |  |
|-------------------|--|
|                   | CLIDRAG000015  |
| Applications      | Rapid, precise and reproducible heating & cooling of samples |
| Version           | 3.1  |
| Temperature range | <b>From -75°C to +250°C</b> (with arm length = 1m)           |

| General specification        |  |
|------------------------------|--|
| Frame dimensions (H x W x D) | 1040 x 900 x 700 mm (without electrical arm)   |
| Construction                 | Electrogalvanized steel with epoxy paint   |
| Net weigh                    | 250 kg   |
| Standard equipments          | 4 swivel casters with lock<br>2 easy moving handle<br>Glass Thermo Cup (T-Cup) & nozzle n°7<br>Foam mat<br>Type K thermocouple |
| Climate class (temperature)  | From +18°C to +30°C  |
| Relative humidity            | < 70%  |
| Indoor / Outdoor use         | Indoor use only  |
| Environnement                | Not designed for use in an explosive atmosphere (ATEX)   |
| Noise level                  | < 63dBa  |
| Warranty                     | 2 years by FROILABO (during and after warranty period)   |

| Electrical arm & head          |  |
|--------------------------------|--|
| Positionning                   | 2 electric cylinders for vertical and horizontal positioning of the head |
| Arm lenght (déployed / folded) | 900 mm / 1400 mm (from pivot to nozzle)                                  |
| <b>Working height</b>          | <b>From 675 mm to 1270 mm</b>  |
| Arm rotation                   | 270°   |
| Head cylinder                  | Pneumatic for component change (fast up/down)                            |
| Head rotation                  | 180°   |
| T-Cup dimensions               | Internal diameter : 144 mm / available height : 50mm                     |

| Refrigeration and thermal production |  |
|--------------------------------------|--|
| Refrigeration system                 | 2 cascade-mounted compressors with intermediate plate heat exchanger                       |
| Type of regulator                    | Capillary tube   |
| Refrigerant charge (natural gas)     | 1 <sup>st</sup> stage : R1270 (340g) / 2 <sup>nd</sup> stage : R170 (110g) Certified F-gas |
| Thermal production                   | Electrical heating resistance  |

| Performances (ambient temperature : 22°C) |   |
|---|---|
| Temperature range                         | From -75°C to -250°C, display and setting (on air) at +/- 0.1°C             |
| Air flow                                  | From 2.2 L/s to 8.4 L/s   |
| Controlled ramp                           | From 0.03°C to 15°C /s  |
| Transition time without control           | From -55°C to +125°C /s : 7 secondes / from +125°C to -55°C/s : 14 secondes |
| Head stability (AIR regulation)           | ≤ 0.5°C   |
| DUT stability                             | Being characterized   |

| Control & programming |   |
|-----------------------|---|
| Controller            | Temperature regulator   |
| Interface             | 7" tactile display (800x 480) - curve tracking - Languages : french / english   |
| Mode                  | Hot mode (heating resistance only) / Hot & Cold mode  |
| Data                  | Data recording on USB key (.csv)<br>Alarms historical   |
| Regulation            | Air or component  |
| Operating mode        | Manual : 3 sets of 4 parameters (T°C, q air, ramp, level time)<br>Automatic : 20 programs of 32 steps with settings of : T°C, q air, ramp, level time<br>Loopback : 0 to 999 cycles |
| Thermal protection    | The head temperature is protected by an independent probe against temperatures above 260 ° C  |

| Electrical data & connections |   |
|-------------------------------|---|
| Compressed air source         | Flow : 12 l/s<br>Supply pressure : from 6 to 10 bars<br>Air temperature : from +15°C to +25°C         |
| Types of power supply         | 230V +/-10%, 50Hz, circuit breaker 32A circuit breaker D curve (motor support) with differential 30mA |
| Electrical protection         | Protection of power elements by fuse  |

| Options & conformities     |   |
|----------------------------|---|
| Options                    | RS232<br>Board IEEE / 488.1 / GPIB<br>Anti-static equipment (head, nozzle and mat)<br>Specific nozzles and boxes on request<br>Support service for adjusting the regulation parameters on request   |
| Supplied with              | Final test sheet (temperature drop curve made with fictitious load)<br>Quality control sheet<br>2 technical notices: <ul style="list-style-type: none"> <li>• Implementation, installation, commissioning, use, preventive maintenance and communication</li> <li>• Refrigeration and electrical diagrams</li> <li>• Spare parts list</li> <li>• Regulator manufacturer's manual</li> </ul> |
| Certification / Conformity | Comply with the standard NF EN61010-1<br>Meets CE requirements<br>2014/35/UE – Low pressure directive<br>2014/30/UE – EMC directive, class A device<br>2014/68/UE – Under pressure device   |

| Shipment                  |                            |
|---------------------------|----------------------------|
| Shipment size (H x W x D) | 1750 x 1400 x 900 mm       |
| Shipment weight           | 370 kg                     |
| Type of package           | Delivered in a wooden case |

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