
# GA Line RTCF Series

## Gas Fired Absorption Chiller Modular Configurations

### Cooling

**A perfect solution to satisfy many cooling needs.**
Robur high efficiency chillers use a water-ammonia air cooled absorption cycle and are designed for outdoor installation. Their primary energy source is Natural gas or propane gas (LPG) resulting in minimal electrical service requirements.

With no engines or compressors and few moving parts, Robur units are a reliable and durable source for chilled water. These environmentally friendly commercial grade chillers offer complete hydronic design flexibility for custom residential and light commercial comfort conditioning, industrial process cooling and medium temperature refrigeration applications.

**Use** Chilled water systems
**Type** Air cooled
**Heat transfer fluid** Water
**Cooling Capacity (BTU/h)**
Standard (ST): from 121,000 to 302,500
HT: from 116,800 to 292,000
TK: from 121,000 to 302,500
LB: from 90,800 to 227,000
**Outlet water temperature**
ST & TK: 37.4 °F
HT: 41 °F
LB: 14 °F
**Main advantage** Using gas as the primary energy source, the need of electric power is reduced by approximately 87% as compared with electric compression units.
**Additional advantages**

- **Single Phase Power**.
- **Remote management** and staging by a Direct Digital Controller (DDC) is a popular option. One DDC can manage up to 16 Chiller modules on a common hydronic loop.
- **Wide Range of Application Flexibility**: ST, TK, HT and LB Models.
- **Minimal Electrical Power Requirements**. Avoid electrical service upgrades and three phase service. Minimize electric demand charges.
- **Smaller Generator Requirements** for those applications requiring off grid power or emergency cooling.
- **High Reliability** due to few moving parts inside the units.
- **Easy Maintenance**, similar to gas fired boilers.
- **No Water Consumption**. No cooling tower and related water treatment and maintenance.
- **No Use of Harmful Refrigerants** that contaminate the environment.
- **Outdoor Installation**. No need for indoor equipment room.

**Features**

- **Patented absorption cycle**.
- **Refrigerant circuit** made of low carbon steel and completely sealed.
- **Evaporator** tube and shell tower geometry made of stainless steel.
- **Variable speed condenser fan** for optimal performance and efficiency.
- **Optional Direct Digital Controller (DDC).**
- **Microprocessor Control.** Printed resin electronic circuit with LED display. Ensures optimum operation of the absorption cooling process while allowing easy access of unit data for preventative maintenance and diagnostics.
- **Pre-mixed gas burner** with flame sensor device controlled by an electronic ignition box.
- **Built-in safety and control devices**.

**Specialty Chillers**

- **TK - From 10 to 25 Tons**. For Industrial & Commercial applications requiring heavy use on a year round basis. This unit's refrigerant charge and accumulator allow for long running periods and operation at low ambient conditions down to 10 °F.
- **HT - From 10 to 25 Tons**. For installation in climates with design temperatures over 104 °F. The HT is designed for use in high ambient climate areas or in those applications where excessive heat may be generated artificially, such as reflective white rooftops.
- **LB - From 8 to 20 Tons**. For medium temperature refrigeration applications. LB chillers are also capable of working with thermal (ice) storage systems during off-peak or on-peak hours to maximize building energy efficiency.

| STANDARD VERSION PERFORMANCE RATINGS [1] | | | RTCF120 | RTCF180 | RTCF240 | RTCF300 |
|---|---|---|---|---|---|---|
| Cooling capacity [2] | | BTU/h | 121,000 | 181,500 | 242,000 | 302,500 |
| Gas input | | BTU/h | 189,800 | 284,700 | 379,600 | 474,500 |
| Ambient operating temperature | maximum | °F | 120 | 120 | 120 | 120 |
| | minimum | °F | 32 | 32 | 32 | 32 |
| Chilled water temperature | minimum outlet (to hydronic system) | °F | 37.4 | 37.4 | 37.4 | 37.4 |
| | maximum inlet (to unit) | °F | 113 | 113 | 113 | 113 |
| Chilled water flow | nominal | GPM | 24.4 | 36.6 | 48.8 | 61 |

| HT VERSION PERFORMANCE RATINGS [1] | | | RTCF120 HT | RTCF180 HT | RTCF240 HT | RTCF300 HT |
|---|---|---|---|---|---|---|
| Cooling capacity [2] | | BTU/h | 116,800 | 175,200 | 233,600 | 292,000 |
| Gas input | | BTU/h | 189,800 | 284,700 | 379,600 | 474,500 |
| Ambient operating temperature | maximum | °F | 131 | 131 | 131 | 131 |
| | minimum | °F | 32 | 32 | 32 | 32 |
| Chilled water temperature | minimum outlet (to hydronic system) | °F | 41 | 41 | 41 | 41 |
| | maximum inlet (to unit) | °F | 113 | 113 | 113 | 113 |
| Chilled water flow | nominal | GPM | 23.6 | 35.4 | 47.2 | 59 |

| TK VERSION PERFORMANCE RATINGS [1] | | | RTCF120 TK | RTCF180 TK | RTCF240 TK | RTCF300 TK |
|---|---|---|---|---|---|---|
| Cooling capacity [2] | | BTU/h | 121,000 | 181,500 | 242,000 | 302,500 |
| Gas input | | BTU/h | 189,800 | 284,700 | 379,600 | 474,500 |
| Ambient operating temperature | maximum | °F | 120 | 120 | 120 | 120 |
| | minimum | °F | 10.4 | 10.4 | 10.4 | 10.4 |
| Chilled water temperature | minimum outlet (to hydronic system) | °F | 37.4 | 37.4 | 37.4 | 37.4 |
| | maximum inlet (to unit) | °F | 113 | 113 | 113 | 113 |
| Chilled water flow | nominal | GPM | 24.4 | 36.6 | 48.8 | 61 |

| LB VERSION PERFORMANCE RATINGS [1] | | | RTCF120 LB | RTCF180 LB | RTCF240 LB | RTCF300 LB |
|---|---|---|---|---|---|---|
| Cooling capacity [2] | | BTU/h | 90,800 | 136,200 | 181,600 | 227,000 |
| Gas input | | BTU/h | 189,800 | 284,700 | 379,600 | 474,500 |
| Ambient operating temperature | maximum | °F | 120 | 120 | 120 | 120 |
| | minimum | °F | 32 | 32 | 32 | 32 |
| Chilled water temperature | minimum outlet (to hydronic system) | °F | 14 | 14 | 14 | 14 |
| | maximum inlet (to unit) | °F | 113 | 113 | 113 | 113 |
| Chilled water flow | nominal | GPM | 22.8 | 34.2 | 45.6 | 57 |

| ELECTRICAL RATINGS [1] | | | | | | |
|---|---|---|---|---|---|---|
| Required voltage, 60 Hz, single phase [3] | | V | 208 - 230 | | | |
| Operating consumption [4] | | kW | 1.5 | 2.25 | 3 | 3.75 |

| PHYSICAL DATA [1] | | | | | | |
|---|---|---|---|---|---|---|
| Operating weight | | pounds | 1,910 | 2,880 | 3,855 | 4,802 |
| Chilled water entering and leaving connections | | FPT | 1 1/2 | 1 1/2 | 2 | 2 |
| Gas inlet connections | | FPT | 1 | 1 | 1 1/4 | 1 1/4 |
| Operating pressure drop | | $psi_g$ | 4.4 | 4.4 | 4.4 | 4.4 |
| Dimensions | width | inches | 49 1/2 | | | |
| | length | inches | 93 | 144 | 195 | 246 |
| | height | inches | 53 1/4 | | | |

[1] All illustrations and specifications contained herein are based on the latest information available at the time of publication.

[2] Cooling capacities at standard conditions of 95 °F ambient temperature. Chilled water outlet temperature 45 °F, chilled water inlet temperature 55 °F.

[3] Modular links are factory-wired for 208-230 volts operation.

[4] May vary by ± 10% as function of both power supply and electrical motor input tolerances.

**Due to continuous product innovation and development, Robur reserves the right to change product specifications without prior notice.**