GA Line ACF Series
Commercial and Specialty Chillers

Small Tonnage Gas Fired Absorption Chillers With Modular Capability

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
Capacity
Standard (ST): 60,500 BTU/h
TK: 60,500 BTU/h
HT: 58,400 BTU/h
LB: 45,400 BTU/h
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**.
- **Modular Systems** containing up to 5 chiller modules are available preassembled from Robur (RTCF series).
  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 - Nominal 5 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 - Nominal 5 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 - Nominal 4 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.

PERFORMANCE RATINGS [1]			ACF60 ST	ACF60 HT	ACF60 TK	ACF60 LB
Cooling capacity [2]		BTU/h	60,500	58,400	60,500	45,400
Gas input		BTU/h	94,900	94,900	94,900	94,900
Ambient operating temperature	maximum	°F	120	131	120	120
	minimum	°F	32	32	10.4	32
Chilled water temperature	minimum outlet (to hydronic system)	°F	37.4	41	37.4	14
	maximum inlet (to unit)	°F	113	113	113	113
Chilled water flow	nominal	GPM	12.2	11.8	12.2	11.4
	maximum	GPM	14.0	14.1	14.1	12.8
	minimum	GPM	11.0	11.0	11.0	10.1
Internal pressure drop at nominal chilled water flow		Feet of Head	9.7	9.1	9.7	14.1
		psi_g	4.2	3.9	4.2	6.1

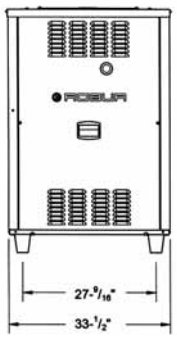
ELECTRICAL RATINGS [1]			
Required voltage, 60 Hz, single phase [3]		V	208 - 230
Operating consumption [4]		kW	0.75

PHYSICAL DATA [1]						
Operating weight		pounds	750	816	816	816
Chilled water entering and leaving connections		FPT	1”			
Gas inlet connections		FPT	1/2”			
Dimensions	width	inches	33 1/2			
	length	inches	48 1/2			
	height	inches	50 3/4			

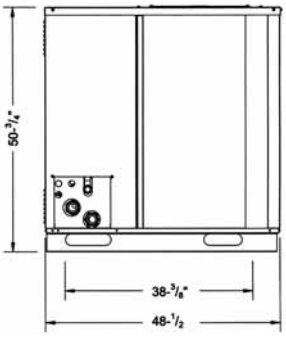
[1] All illustrations and specifications contained herein are based on the latest information available at the time of publication.
[2] Cooling capacity at standard conditions of 95 °F ambient temperature.
ST, TK, HT: chilled water outlet temperature 45 °F, chilled water inlet temperature 55 °F.
LB: chilled water outlet temperature 23 °F, chilled water inlet temperature 32 °F.
[3] Units are factory-wired for 208-230 volts operation.
[4] May vary by ± 10% as function of both power supply and electrical motor input tolerance.

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

ACF Dimensions

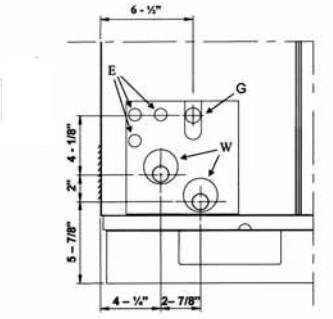


Front view



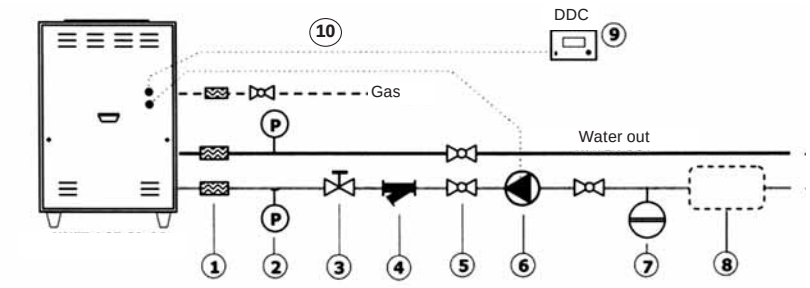
Right side view

ACF Connection Panel



G Gas connections Ø 1/2” FPT
W Water connections Ø 1” FPT
E Electrical knockouts Ø 7/8” FPT

ACF Hydronic System: Typical Installation Arrangement (External Components not included with Robur Unit)



1 Antivibration flexible hoses
2 Pressure gauge
3 Flow regulating valve
4 Water filter
5 Shut-off valve
6 Circulating water pump
7 Expansion tank
8 Chilled water storage
9 DDC (optional from Robur)
10 Can Bus cable (optional from Robur)

Robur Corporation advanced heating and cooling technologies www.robur.com/us sales@robur.com
827 E. Franklin Street Evansville Indiana 47711 USA Ph. (812) 424-1800 Fax (812) 422-5117