

YPC-F

ParaFlow Two-Stage Absorption Direct Fired Liquid Chiller/Heater

COOLING CAPACITY
703 to 2373 kW

HEATING CAPACITY
563 to 1969 kW



YPC-F

The York ParaFlow Direct Fired Absorption Chiller/Heater (YPC-F) is designed to provide both chilled or hot water for medium and large sized buildings. Both cooling and heating operations, with hot water up to 60°C, are performed through the evaporator as standard. Optionally an additional hot water heat exchanger for hot water up to 79,4°C can be installed. With that option a parallel cooling and heating operation is possible.



General

The YORK ParaFlow Direct Fired Absorption Chiller-Heater is completely factory-packaged, including a first stage (high temperature) generator, burner, burner panel, main shell, hot water heater, microprocessor controls and all interconnecting unit piping and wiring. All control and safety devices are mounted and wired. The lithium bromide charge is shipped loose.

Vessels and components are, as necessary, manufactured and approved according to valid codes.

Refrigerant cycle

The YORK YPC high efficiency two-stage absorption refrigeration cycle uses water as the refrigerant and lithium bromide as the absorbent. It is the strong affinity that these two substances have for each other that makes the cycle work. The entire process occurs in hermetic vessels in a near complete vacuum.

YORK's exclusive two-way split of solution flow allows the unit to operate at much lower solution concentrations and temperatures than in series flow systems. This dramatically increases the efficiency of the unit and virtually eliminates crystallisation problems. The ParaFlow two stage design guarantees a market leading COP up to 1,11 in cooling mode.

Environmental Considerations

Traditional electrically driven chillers generally use halogenated refrigerants, which can cause ozone depletion and have a high global warming potential. The YPC-F range uses the most environmentally safe refrigerant - WATER. The absorbent is lithium bromide. That water/lithium bromide solution has no global warming effect. It is non-caustic, non-toxic and non-flammable.

By using the environmental friendly ADVAGuard 750 inhibitor the internal corrosion rate and hydrogen generation is up to 8 times less than using lithium molybdate.

Burner

YPC-F units can be operated by either natural gas, propane gas or fuel oil. Capacity control is accomplished by modulating the burner's firing rate.

ISN Millennium Control Center

The Millennium™ control panel combines the very best in chiller protection with the optimum in system efficiency. As standard equipment on all chillers it is a major development in absorption chiller technology, providing the most precise and reliable control and safety.

Vital chiller operating information is shown on the 40 character alphanumeric display. All information is in clear language with numeric data provided in metric or imperial units.

The control panel automatic capacity control varies the burner's firing rate using a fuzzy-logic control algorithm to maintain the programmed setpoint for the chilled water leaving temperature in the load range between 30% and 100%.

Stainless Steel spray heads

YORK's advanced spray head design provides an extremely uniform and soft mist that eliminates hot and cold spots in the absorber and evaporator tubes, resulting in longer tube life and increased efficiency.

Unique Automatic Purge System

When accumulated non-condensable gases reach a preset level a sensor automatically activates the purge system, with a motor-driven purge pump. This negates the need for time consuming periodic purging of the unit by the operator.

Hermetic Pumps

The unique construction of YORK's hermetic pumps ensures low energy consumption and long trouble-free operation. Service inspections are usually carried out every 50,000 hours. Maintenance of the pumps can be carried out quickly and easily due to built-in isolation valves ahead and behind each internal pump.

Operation

No special operator qualifications are required to operate the unit. The unit operates in vacuum conditions and is not subject to boiler regulations.

Cooling Capacities and Physical Data

Model	Cooling Capacity ¹ kW	Heating Capacity ¹ kW	Dimensions mm				Operating Weight kg
			Length	Width ²	Width ³	Height	
12SC	703	563	3970	1850	1940	2280	9490
13SC	809	675	3990	1850	1970	2280	10830
14SC	1055	844	4950	1890	1940	2300	12130
15SL	1231	1013	5000	2260	2450	2730	17360
16S	1407	1125	5000	2260	2450	2730	17580
16SL	1547	1268	5960	2300	2600	2810	21180
17S	1705	1407	5960	2300	2600	2810	21580
18S	2039	1688	6960	2360	2670	2990	25190
19S	2373	1969	7980	2360	2670	2990	29720

Notes

¹ Values are valid at following conditions
Chilled Water Temperatures (in/out) 12.2/6.7°C
Cooling Water Temperatures (in/out) 29.4/35°C

Hot Water Temperatures (in/out) for standard unit 55.5/60°C

Hot Water Temperatures (in/out) for optional hot water heat exchanger 68.3/79.4°C

² standard width without optional hot water heat exchanger

³ width with optional hot water heat exchanger

⁴ add 450kg for optional hot water heat exchanger