



what does BROAD produce

■ World's largest and smallest absorption chillers

BROAD's non-electric products span the gambit from the world's smallest chiller (16 kW) to the world's largest 11,630 kW. The largest chiller conditions an average area of 300,000 m² and the smallest conditions 200 m². Complementing the chiller products BROAD produces a wide variety of clean and beautiful fan coils ranging from 1.8 kW up to 250 kW (world's smallest to the largest) covering 10 m² to 4,000 m² respectively.

■ Cold from hot

BROAD chillers convert 1,000 °C heat in the combustion chamber into 7°C chilled water in the evaporator, which seems like magic to many, but the science of absorption is like the blood running through BROAD's veins.

■ Chilled water directly from fuel or waste heat

Chilled water is produced directly by burning fuel, harnessing the sun or recycling waste energy streams through a repeatable chemical process called the absorption cycle. This single energy conversion becomes important when comparing with electric chiller performance which requires a five fold process of energy conversion. Electric chillers require fossil fuel conversion into heat, heat into mechanical energy, mechanical into power, power into mechanical energy and finally mechanical energy into chilled water. The second law of thermodynamics teaches us that there is some loss in every energy conversion which results in energy waste. Thus, electric chillers consume much primary energy and create the need for a large electric grid to serve only a few hours of peak demand each year.

BROAD non-electric chillers, on the other hand, burn clean fossil fuels, can recycle any waste heat above 90°C or use the sun's rays and dramatically reduce the need to invest in generating, transmitting and distributing peak electric energy.

■ Most costly and yet most economic products

BROAD chillers are double and even triple the cost of competitor's chillers, which is why they are referred to as the "Rolls - Royce" of chiller technology. A survey of 10,000 end-users reveals that BROAD non-electric air conditioning systems are the most economical to install, commission and operate. BROAD systems double or quadruple energy savings over competitive non-electric air conditioning systems. Energy savings yields financial benefit that would permit the purchase of a completely new chiller every two to five years making the initial investment very economical considering each BROAD chiller is designed for a minimum 20 year life.



Safest from the most challenging

BROAD absorption technology operates in a vacuum which is theoretically the safest chiller design. However, component and operating issues may lead to transient conditions that must be controlled. BROAD's patented 8-level safety protection (6-level electronic and 2-level mechanical protection) provides worry free performance. Quality is also guaranteed at BROAD as evidenced by the world's most extensive third party quality certification program from European, American and other agencies like: PED, ASME, gas directive, EMC and low voltage directive.

Complex and most simple systems

BROAD packaged cooling/heating systems consist of a chiller or chiller/heater, cooling tower, water pumps, piping, water treatment, control and metering system, machine room enclosure, ventilation and lighting. This is the most complete factory-packaged heating and cooling system in the world today. It takes only a few days to install and commission a BROAD packaged cooling/heating system at the site. A BROAD packaged cooling/heating system, containing the largest chiller that can heat and cool an average 300,000 m² building, takes no more than 10 days to install and commission versus a conventional heating and cooling plant which takes 150 – 400 days.

Cleanest air

BROAD's clean and beautiful fan coils are equipped with electrostatic cleaners that can adsorb the finest dust, smoke and even bacteria, while providing air conditioning. A BROAD fan coil unit effectively turns the indoor environment into a fresh meadow, or cool forest. However, washing an electrostatic cleaner often shocks a customer as they watch the wash water turn black as ink from cleaning the air!

Greatest functionality

BROAD chillers can provide cooling, heating and hot water simultaneously or independently, which is unique in the industry.

BROAD's clean and beautiful fan coils offer constant temperature and humidity control, adsorb dust, kill bacteria, detect CO₂ and automatically adjust fresh air, meter energy use and provide other advanced and practical functions distinguishing them in the market.

In addition, BROAD produces a complete line of advanced air purifiers.

Edge-cutting technology

BROAD chiller products use over 100 innovations which have solved more than 50 problems that have plagued the industry for decades. Each solution is relatively complex to master but simple to implement. For example, one of the most advanced technologies is "auto vacuum purge without using a vacuum pump". The technical secret lies in the water siphon principle with a small spring, which is a "piece-of-cake" to implement once you understand the problem.

BROAD clean and beautiful fan coils look very common. On the inside they are equipped the edge-cutting technology like a CO₂ detector, electrostatic cleaner, ultrasonic heat meter, inverter-controlled motor and global internet management system. One mini indoor unit contains dozens of edge-cutting technologies.

Easy solutions for heating and cooling applications

BROAD has more than 7,000 models of chillers and 140 types of indoor units offering the widest variety of central air conditioning products in the industry. This creates a large challenge for BROAD in its R & D, production and service, but it is the cost to meet its Vision: Providing customers easy solutions to their heating/cooling challenges. If a customer awards BROAD an air conditioning project, they can relax, as BROAD will design, build, install, commission, service and even operate the system. One touch on BROAD's "Building Manager" control screen will activate the entire building's air conditioning system and all the windows that must be closed will be closed.

What is BROAD producing?

BROAD is producing something no one else in the world has provided during the 100 year history of air conditioning—personalised service.

