Frick

SmartPAC
Packaged Ammonia Heat Pumps

A complete packaged solution that reduces water heating costs in your ammonia refrigeration facility

The power behind **your mission**

Johnson Controls

A smart, environmentally friendly way to upgrade your facility and reduce your carbon footprint

FRICK SmartPAC Heat Pumps

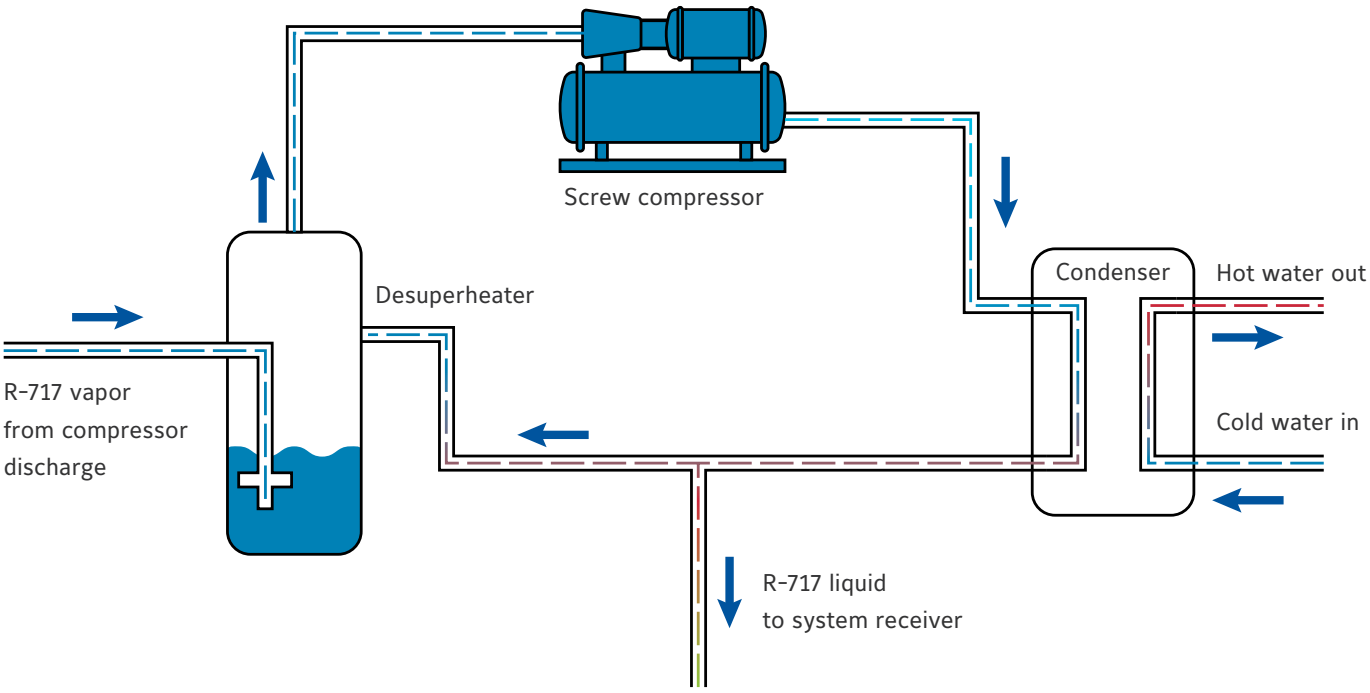
SmartPAC Heat Pumps capture the heat from your ammonia refrigeration system that is normally rejected to the atmosphere. SmartPAC then transforms this valuable resource into hot water that can be utilized throughout your industrial facility.

SmartPAC enables you to make efficient use of your ammonia refrigeration waste heat to lower utility bills, reduce your carbon footprint and generate water savings.

Install with peace of mind

FRICK screw compressors, heat exchangers, pressure vessels and controls all come together in a compact package ready to install. Advanced heat exchanger technology increases operating efficiency with a reduced refrigerant charge.

When installed by a FRICK Factor, your unit has the added bonus of a three-year warranty, granting you peace of mind on your investment.



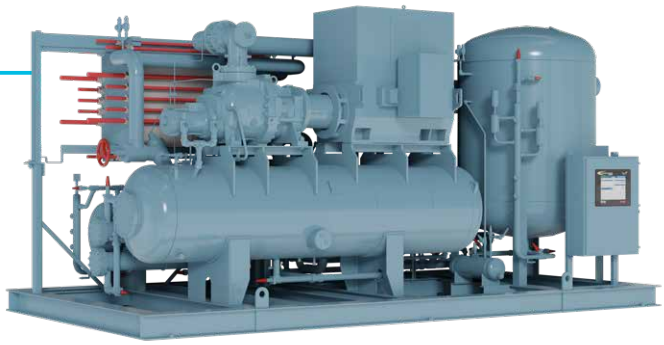
SmartPAC applications

- Beef
- Poultry
- Dairy
- Brewery
- Prepared foods
- Ice rinks
- District heating

SmartPAC Heat Pump

Packaged ammonia heat pump

SmartPAC Heat Pumps are designed and manufactured to meet the high quality standards of the industrial refrigeration industry. SmartPAC is designed to be reliable and accessible. All components are fully assembled, wired and tested on a single base, ready to install.



Compressor

FRICK rotary screw compressors are designed to be the most energy-efficient and reliable compressors available on the market today. From antifriction roller bearings to onboard computer controls, FRICK compressors utilize the latest technology in both mechanical and electrical design. With the addition of FRICK's new high-pressure screw compressor offering, higher leaving water temperatures are available.

Heat exchanger

FRICK's state-of-the-art plate heat exchanger technology increases efficiency and reduces refrigerant charge. Semi-welded titanium ensures reliability for many years of service.

Vessels

ASME and National Board certified FRICK pressure vessels are engineered to exacting standards for safe, reliable operation. Due to our focus on quality and cleanliness, FRICK pressure vessels are the best choice for any industrial refrigeration system.

Controls

The FRICK Quantum HD Unity Compressor Controller is the most advanced and versatile industrial controller available. Easy to use and reliable, the Quantum HD Unity is on the job 24/7 to ensure your equipment is operating safely and efficiently.

Model	Water GPM	Season	Heating Capacity kBtu/hr (kW)	COP	Power Consumption BHP (kW)	Motor Size HP	Shipping Weight (lb.)	Length (in.)	Width (in.)	Height (in.)
SmartPAC 36*	33	Winter	2,092 (613)	2.86	287 (214)	385	20,000	220	124	144
	51	Summer	3,241 (949)	3.56	357 (266)					
SmartPAC 42*	38	Winter	2,460 (720)	2.88	335 (250)	450	22,000	228	124	144
	59	Summer	3,809 (1,115)	3.60	415 (309)					
SmartPAC 100**	132	Winter	6,201 (1,816)	3.99	611 (455)	643	35,000	246	130	144
	203	Summer	9,511 (2,785)	5.82	641 (478)					
SmartPAC 166*	150	Winter	9,621 (2,817)	2.90	1,303 (972)	1,500	50,000	300	155	144
	230	Summer	14,761 (4,322)	4.01	1,445 (1,077)					
SmartPAC 221*	200	Winter	12,827 (3,756)	2.90	1,738 (1,296)	2,000	Vessel skid			
	307	Summer	19,681 (5,763)	4.01	1,926 (1,436)		25,000	160	160	144
							Compressor skid (vertical oil separator)			
							40,000	315	115	144

* Water flow is based on entering water at 60˚F and leaving at 190˚F.

** Water flow is based on entering water at 60˚F and leaving at 155˚F.

Heat source is the saturated condensing condition of ammonia leaving the refrigeration system. This is typically in the 65˚F to 95˚F range.

Check out **www.johnsoncontrols.com/FRICK** to learn more.

Visit **www.FRICKtraining.com** today for all of your training needs.

About Johnson Controls

At Johnson Controls (NYSE:JCI), we transform the environments where people live, work, learn and play. As the global leader in smart, healthy and sustainable buildings, our mission is to reimagine the performance of buildings to serve people, places and the planet.

Building on a proud history of nearly 140 years of innovation, we deliver the blueprint of the future for industries such as healthcare, schools, data centers, airports, stadiums, manufacturing and beyond through OpenBlue, our comprehensive digital offering.

Today, with a global team of 100,000 experts in more than 150 countries, Johnson Controls offers the world's largest portfolio of building technology and software as well as service solutions from some of the most trusted names in the industry.

Visit www.johnsoncontrols.com for more information and follow @johnsoncontrols on social platforms.

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