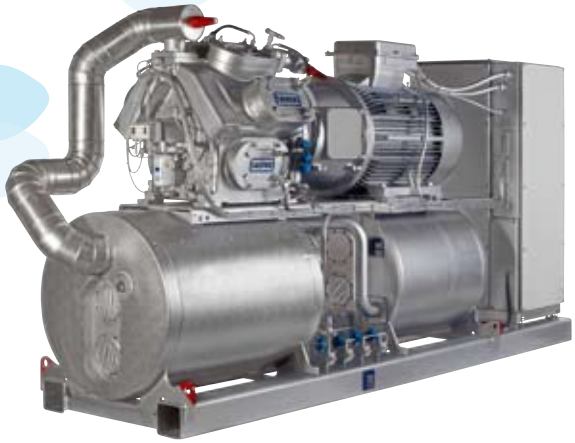
ChillPAC packaged ammonia chillers

Sabroe ChillPAC packaged ammonia chillers based on reciprocating compressors feature a unique design. The range of ChillPAC provides a number of outstanding advantages and benefits in cases where indirect cooling, future-compatible natural refrigerants and life cycle costs are important issues.
The ChillPAC design includes fully welded plate heat exchangers as well as pre-formed pipes. This minimises any risk of leaks and provides a much greater degree of safety and reliability.



The plate heat exchangers and other integrated components mean that only a minimum of space is required for a complete Sabroe ChillPAC unit. This is largely because of the shell-and-plate evaporator design with built-in liquid separator and the shell-and-plate condenser design with built-in oil separator and high-pressure float expansion valve system.

Comprehensive series of chillers

The standard Sabroe range of ChillPAC ammonia chillers comprises 15 models that have been optimised to meet the requirements experienced in the great majority of situations. Solutions customised to meet individual needs are also available.
These chillers are all supplied with Y/D starters or variable-speed drive as standard.
All ChillPAC ammonia chillers are supplied with PED approval (European Pressure Equipment Directive). Other approvals are available on request.

Significant advantages

- The standard ChillPAC range is factory-assembled and based on world-renowned reciprocating compressor products developed and optimised by Sabroe.
- The Sabroe ChillPAC design is based on the flooded evaporating system, using ammonia only. This provides very high COP, outstanding part-load performance and no limitations on the condenser pressure because the condensing temperatures make full use of ambient temperature differences.
- The compact ChillPAC design is unique compared with conventional chiller designs. The ChillPAC weighs less, uses less than half the amount of refrigerant and has less than half the footprint. In terms of size, it is equal to or smaller than HFC/HCFC chillers.
- All Sabroe ChillPAC units are operationally tested with refrigerant at the specialist End of Line (EOL) Test Centre before dispatch. A capacity test is available as an option.

Customer benefits

- Full advantage of well-tested Sabroe standard solutions that feature top-quality industrial components. This improves safety, ensures maximum reliability and low operating costs, and provides easy access to service and parts worldwide.
- Ammonia is the most environmentally acceptable and future-compatible refrigerant currently available. Exceptional reliability and very low energy consumption also result in the lowest possible life cycle costs.
- Significantly reduced installation costs due to smaller size, and additional energy savings achieved from the low differential pressure on the secondary side. Provides an easy, safe and cost-effective upgrade path for when you are ready to replace existing HCFC chillers.
- Factory testing confirms specified performance and ensures trouble-free on-site start-up and operation as soon as the refrigerant charge has been added and utility connections made. Shorter, safer start-up and commissioning periods reduce overall costs significantly.

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Selection guide – packaged ammonia chillers

Water chillers (water: inlet 12°C, outlet 7°C)

Type	Cooling capacity	E-motor	R717 charge	Dry weight	Dimensions			Sound level *)
					L	W	H	
	kW	kW	kg	kg	mm	mm	mm	dB(A)
CPAC 104S-A	230	45	13	3300	2900	1000	2000	78
CPAC 104L-A	294	55	15	3476	2900	1000	2000	79
CPAC 106S-A	346	75	20	3725	3100	1000	2000	79
CPAC 104E-A	357	75	18	3555	3100	1000	2000	79
CPAC 106L-A	442	90	22	3814	3100	1000	2000	80
CPAC 108S-A	466	90	24	4037	3300	1000	2000	80
CPAC 106E-A	538	110	27	4045	3200	1000	2000	81
CPAC 108L-A	590	110	30	4203	3200	1000	2000	82
CPAC 112S-A	695	132	36	5120	3800	1000	2200	82
CPAC 108E-A	718	132	36	4510	3500	1000	2000	82
CPAC 112L-A	878	160	43	5633	4200	1000	2200	83
CPAC 116S-A	923	200	47	5962	4300	1000	2200	83
CPAC 112E-A	1066	200	53	6037	4600	1000	2200	83
CPAC 116L-A	1173	250	58	6524	4800	1000	2200	83
CPAC 116E-A	1398	315	62	6678	5000	1000	2200	84

Brine chillers (ethylene glycol 30%: inlet -4°C, outlet -8°C)

Type	Cooling capacity	E-motor	R717 charge	Dry weight	Dimensions			Sound level *)
					L	W	H	
	kW	kW	kg	kg	mm	mm	mm	dB(A)
CPAC 104S-C	117	37	13	3170	2900	1000	2000	78
CPAC 104L-C	151	55	15	3341	3000	1000	2000	79
CPAC 106S-C	173	55	17	3471	3000	1000	2000	79
CPAC 104E-C	187	75	18	3534	3000	1000	2000	79
CPAC 106L-C	225	75	20	3971	3000	1000	2000	80
CPAC 108S-C	230	75	20	3743	3200	1000	2000	80
CPAC 106E-C	273	90	21	3730	3200	1000	2000	81
CPAC 108L-C	297	110	23	3983	3200	1000	2000	82
CPAC 112S-C	341	110	27	4749	3800	1000	2200	82
CPAC 108E-C	364	132	28	4230	3400	1000	2000	82
CPAC 112L-C	441	160	33	5232	4100	1000	2150	84
CPAC 116S-C	450	160	34	5366	4100	1000	2150	83
CPAC 112E-C	543	200	41	5566	4100	1000	2150	84
CPAC 116L-C	587	200	46	5803	4300	1000	2150	84
CPAC 116E-C	718	250	52	6234	4400	1000	2150	83

Condenser: water inlet 30°C, outlet 35°C
Motor: 3 x 400V, 50 Hz, 1460 rpm
The above data are only valid for the stated temperatures and operating conditions.

Capacities are nominal.
A = The A after the type designation stands for air conditioning application (temperature above 0°C)
C = The C after the type designation stands for brine chiller application (temperature below 0°C)

*) Mean sound pressure levels in free field over reflecting plane, distance at 1 m.
All data are based on sound power measurements made according to ISO 9614-2

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