



PAC 116 chiller with UniSAB systems controller

## Sabroe PAC chillers

Packaged ammonia chillers based on reciprocating compressors, with a 50–1,400 kW capacity range

PAC ammonia-based chillers are fully integrated packaged units, designed to take full advantage of the many different models of ultra-reliable Sabroe reciprocating compressors. They are popular because there is such a wide range of different standard sizes, and they are also particularly easy to customise to meet specific requirements.

The integrated design, with the plate evaporator/condenser, oil separator, and control system all built in, means PAC units provide exceptional refrigeration capacity while only taking up a minimum of space. They are ideal for use in indirect cooling setups and in installations where it is important to use future-compatible natural refrigerants, such as ammonia.

The advanced technology and the well-matched integration of the component systems make these chillers so energy efficient that their low operating costs make them the most economical choice over the lifetime of a refrigeration plant.

### Range

There are 21 different standard models in this range of packaged chillers, with capacities ranging from 50 kW to 1,400 kW.

Customised configurations are also available for use with remote air-cooled or evaporative condensers, and for twin or multi-packages, designed to provide particularly large cooling capacities.

Features	Benefits
Factory-assembled, pre-tested packaged units	Easy pre-commissioning makes installation and running-in both faster and cheaper. Factory acceptance test (FAT) available as an option
Comprehensive selection of compressor capacities, making it easier to match particular requirements	Avoid paying for greater capacity than needed
Very easy access for service	Improves safety, ensures maximum reliability and global sourcing of parts
Indirect cooling and uncomplicated flooded evaporating system, using ammonia (R717) only	Greater safety and outstanding reliability
Plate evaporator/condenser are easy to open and service	Routine checks/service can be carried out by operator's own staff

Water: inlet 12 °C, outlet 7 °C

Type	Cooling capacity	E-motor	R717 charge	Dry weight	Unit dimensions in mm			Sound pressure level	COP shaft cooling
	kW	kW	kg	kg	L	W	H	dB(A)	
PAC 104 S-A	272	61	48	3100	3300	1850	2300	77	5.2
PAC 104 L-A	346	74	49	3250	3300	1850	2300	77	5.3
PAC 104 E-A *	352	74	51	3400	3300	1850	2300	78	5.1
PAC 106 S-A	407	90	51	3500	3300	1850	2300	78	5.3
PAC 106 L-A	519	108	54	3550	3300	1850	2300	79	5.3
PAC 106 E-A *	528	113	57	3700	3550	1850	2300	79	5.1
PAC 108 S-A	543	117	54	3700	3300	1850	2300	79	5.3
PAC 108 L-A	692	142	58	3900	3550	1850	2300	80	5.3
PAC 108 E-A *	704	164	74	4300	3850	1850	2450	80	5.1
PAC 112 S-A	815	164	73	4650	4130	1850	2450	80	5.4
PAC 112 L-A	1037	205	78	5000	4130	1850	2450	81	5.4
PAC 112 E-A *	1055	222	84	5300	4550	1850	2450	81	5.2
PAC 116 S-A	1086	222	79	5350	4130	1850	2450	81	5.4
PAC 116 L-A	1383	279	98	5650	4900	1850	2450	82	5.4
PAC 116 E-A *	1407	291	137	6300	5750	2000	2600	82	5.2

Ethylene glycol 30%: inlet -2 °C, outlet -8 °C

Type	Cooling capacity	E-motor	R717 charge	Dry weight	Unit dimensions in mm			Sound pressure level	COP shaft cooling
	kW	kW	kg	kg	L	W	H	dB(A)	
PAC 104 S-C	131	45	47	3000	3300	1850	2300	76	3.1
PAC 104 L-C	172	61	48	3050	3300	1850	2300	77	3.2
PAC 104 E-C *	177	61	49	3200	3300	1850	2300	77	3.2
PAC 106 S-C	197	66	50	3250	3300	1850	2300	78	3.2
PAC 106 L-C	257	90	53	3450	3300	1850	2300	79	3.2
PAC 106 E-C *	265	90	54	3600	3300	1850	2300	79	3.2
PAC 108 S-C	262	90	53	3550	3300	1850	2300	79	3.2
PAC 108 L-C	343	117	57	3650	3300	1850	2300	80	3.2
PAC 108 E-C *	354	117	71	4100	3600	1850	2450	80	3.2
PAC 112 S-C	393	131	71	4400	4130	1850	2450	80	3.2
PAC 112 L-C	515	177	78	4600	4130	1850	2450	81	3.3
PAC 112 E-C *	531	174	79	5050	4130	1850	2450	81	3.2
PAC 116 S-C	525	177	77	5150	4130	1850	2450	81	3.3
PAC 116 L-C	686	258	86	5400	4130	1850	2450	82	3.3
PAC 116 E-C *	708	258	128	6000	4550	2000	2600	83	3.3

Condenser: water inlet 30 °C, outlet 35 °C.

The above data are only valid for the stated temperatures and operating conditions. Capacities are nominal at 1800 rpm.

\* Capacities are nominal at 1500 rpm.

PAC S and L models, 60 Hz or VSD operation possible.

Dimensions, weight and sound pressure levels are guidelines only.

Sound pressure levels measured in free field, over reflecting plane and one metre distance from the unit.

## Options

- Variable-speed drive (VSD)
- Soft-starter or Y/D starter
- Desuperheater
- Subcooler
- External condenser
- Control panel mounted separately
- Customer-witnessed factory acceptance test (FAT)

Our products within the scope of eco-design, implemented according to regulation No 2015/1095 for low (-25°C) and medium (-8°C) temperatures and No 2016/2281 for high temperatures (+7°C), are in compliance. The harmonised standards EN 14511 series and EN 14825 have been used for testing and calculation. Value tolerances for selection tools comply with EN 12900.

All information is subject to change without notice.

Johnson Controls Denmark ApS . Sabroe Factory . Christian X's Vej 201 . 8270 Højbjerg . Denmark . Phone +45 87 36 70 00  
[www.sabroe.com](http://www.sabroe.com)

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