# PAC chillers with screw compressors

*PAC 128 HF-A*

Sabroe packaged ammonia chillers (PAC) based on screw compressors provide notable benefits when indirect cooling using a secondary refrigerant is required.

Because of the advanced technology that Sabroe uses in its PAC chillers, they are so energy efficient that their low running costs make them the cheapest option over the lifetime of a refrigeration plant. In addition, ammonia – because of its environmental friendliness – is the only suitable refrigerant that will still be in use in the foreseeable future.

## Comprehensive series of chillers

The standard Sabroe range of packaged ammonia chillers comprises more than 30 models that have been optimised to meet the requirements experienced in the great majority of situations. Individually customised solutions are also available for large capacity requirements.

All chillers are supplied with PED approval (European Pressure Equipment Directive). Other approvals than PED on request.

## Significant advantages

Sabroe PAC chiller designs feature the following advantages

## Customer benefits

Sabroe PAC chiller designs provide customers with the following benefits

| | |
|---|---|
| • The standard PAC chiller range is factory-assembled and based on world-renowned screw compressor products developed and optimised by Sabroe. | → • Full advantage of well-tested Sabroe standard solutions that feature top-quality industrial components. This improves safety, ensures maximum reliability and provides easy access to service and parts worldwide. |
| • Sole use of natural ammonia (R717) as refrigerant. | → • Ammonia has the highest COP (coefficient of performance) available for chillers. It is also the most environmentally friendly and future compatible refrigerant currently available. |
| • The Sabroe PAC chiller design is based on the flooded evaporator system, which is a relatively simple construction. | → • The most reliable operation with maximum energy efficiency and a very low operating cost. |
| • All Sabroe chiller units are operationally tested with refrigerant at the specialist End Of Line (EOL) Test Centre before dispatch. A capacity test is also available as an option. | → • Factory testing ensures trouble-free on-site start-up and operation as soon as the refrigerant charge has been added and water and electricity connections made. Shorter, safer start-up and commissioning periods reduce overall costs significantly. |

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## Selection guide – packaged ammonia chillers

### Water: inlet 12°C, outlet 6°C

| Type | Capacity | E-motor | R717 charge | Dry weight | Dimensions | | | Sound level *) |
|---|---|---|---|---|---|---|---|---|
| | | | | | L | W | H | |
| | kW | kW | kg | kg | mm | mm | mm | dB(A) |
| PAC 110 SM-A | 129 | 30 | 38 | 2500 | 3350 | 1800 | 2250 | 78 |
| PAC 110 LM-A | 164 | 37 | 39 | 2500 | 3350 | 1800 | 2250 | 78 |
| PAC 110 SF-A | 212 | 45 | 41 | 2600 | 3350 | 1800 | 2250 | 78 |
| PAC 110 LF-A | 268 | 55 | 42 | 2650 | 3350 | 1800 | 2250 | 78 |
| PAC 128 HM-A | 319 | 75 | 51 | 3850 | 3600 | 2000 | 2300 | 79 |
| PAC 128 HF-A | 494 | 90 | 56 | 4100 | 3600 | 2000 | 2300 | 83 |
| PAC 163 HM-A | 669 | 132 | 72 | 5100 | 3850 | 2150 | 2400 | 82 |
| PAC 163 HF-A | 1037 | 200 | 84 | 5700 | 4550 | 2150 | 2400 | 84 |
| PAC 202 SM-A | 1289 | 250 | 168 | 9700 | 5100 | 2800 | 3150 | 83 |
| PAC 202 LM-A | 1668 | 315 | 178 | 10700 | 5700 | 2800 | 3150 | 83 |
| PAC 202 SF-A | 1933 | 355 | 187 | 11050 | 5700 | 2800 | 3150 | 84 |
| PAC 202 LF-A | 2502 | 450 | 245 | 12450 | 6900 | 2800 | 3350 | 84 |

### Ethylene glycol 30%: inlet -4°C, outlet -8°C

| Type | Capacity | E-motor | R717 charge | Dry weight | Dimensions | | | Sound level *) |
|---|---|---|---|---|---|---|---|---|
| | | | | | L | W | H | |
| | kW | kW | kg | kg | mm | mm | mm | dB(A) |
| PAC 110 SM-C | 72 | 30 | 38 | 2450 | 3350 | 1800 | 2250 | 79 |
| PAC 110 LM-C | 91 | 37 | 39 | 2450 | 3350 | 1800 | 2250 | 79 |
| PAC 110 SF-C | 118 | 45 | 40 | 2550 | 3350 | 1800 | 2250 | 79 |
| PAC 110 LF-C | 149 | 55 | 41 | 2600 | 3350 | 1800 | 2250 | 79 |
| PAC 128 HM-C | 176 | 75 | 49 | 3750 | 3600 | 2000 | 2300 | 80 |
| PAC 128 HF-C | 273 | 90 | 53 | 3950 | 3600 | 2000 | 2300 | 84 |
| PAC 163 HM-C | 371 | 132 | 68 | 4900 | 3850 | 2150 | 2400 | 83 |
| PAC 163 HF-C | 575 | 200 | 76 | 5450 | 3850 | 2150 | 2400 | 85 |
| PAC 202 SM-C | 719 | 250 | 83 | 7550 | 4800 | 2500 | 2400 | 84 |
| PAC 202 LM-C | 930 | 315 | 170 | 10250 | 5100 | 2800 | 3150 | 84 |
| PAC 202 SF-C | 1078 | 355 | 177 | 10600 | 5400 | 2800 | 3150 | 85 |
| PAC 202 LF-C | 1396 | 450 | 230 | 11800 | 6300 | 2800 | 3350 | 85 |

Condenser: water inlet 25°C, outlet 30°C
Motor: 3 x 400V, 50 Hz, 1450 rpm
The above data are only valid for the stated temperatures and operating conditions.

Capacities are nominal.
A = Temperature above 0°C
C = Temperature below 0°C

*) Sound pressure levels in free field. All sound measuring has been carried out according to ISO 9614-2 at a distance of 1 m.

*All information is subject to change without previous notice.*

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