Datasheet

Stirling SPC-1 Cryogenerator

Reliable cryogenic cooling power

STIRLING CRYOGENICS

Stirling Technology

For over seventy years Stirling Cryogenics has been designing and manufacturing Cryogenerators for cryogenic cooling, serving customers all over the world under all possible conditions. The SPC-1 is a single stage Cryogenerator that provides cooling power in the range of 400 W to 2,7 kW at temperatures of 50-160 K.

The cooling power of the SPC-1 is created by the reversed Stirling Cycle: compression and expansion of a working gas in a closed cycle by mechanical pistons. This cooling power becomes available in a heat exchanger, where thermal energy is extracted from the process gas.

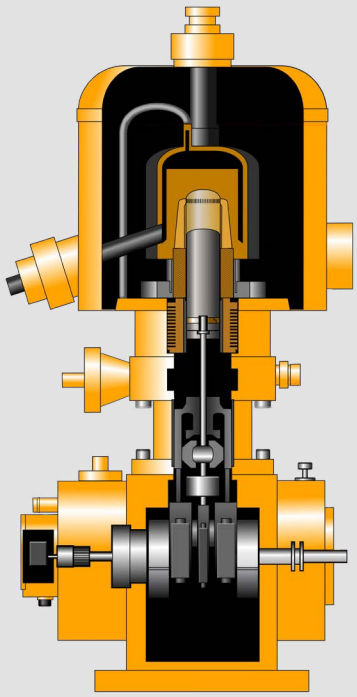
The Stirling Cryogenics Cryogenerator operates stand-alone.
It is driven by an electrical motor and has it's own control unit.

SPC-1: liquefy, cool or sub-cool

The SPC-1 is often used to produce liquid nitrogen for multiple cooling purposes, but is also widely used to produce other cryogenic liquids or to create a cryogenic cooling loop.

The SPC-1 can have the following modes of operation:

- (Re-)Liquefy gas into a cryogenic liquid
- Sub-cool a cryogenic liquid flow
- Cool a gas flow at cryogenic temperatures



Common liquid cryogens produced are nitrogen, methane, oxygen, argon, etc., and these can also be used as heat transfer fluids in a cryogenic cooling loop. For low-end temperature applications pressurized helium gas is commonly used. Depending on the customer's application requirements, the configuration of the SPC-1 will be determined.

Typical SPC-1 features

- Low maintenance interval (> 8.000 operating hrs)
- Low noise level
- Connectable to all common power supplies
- Available in explosion-proof versions
- Different coldhead/heat exchanger configurations possible
- Worldwide service & maintenance
- More than 70 years of reliable track record

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SPC-1 Specifications

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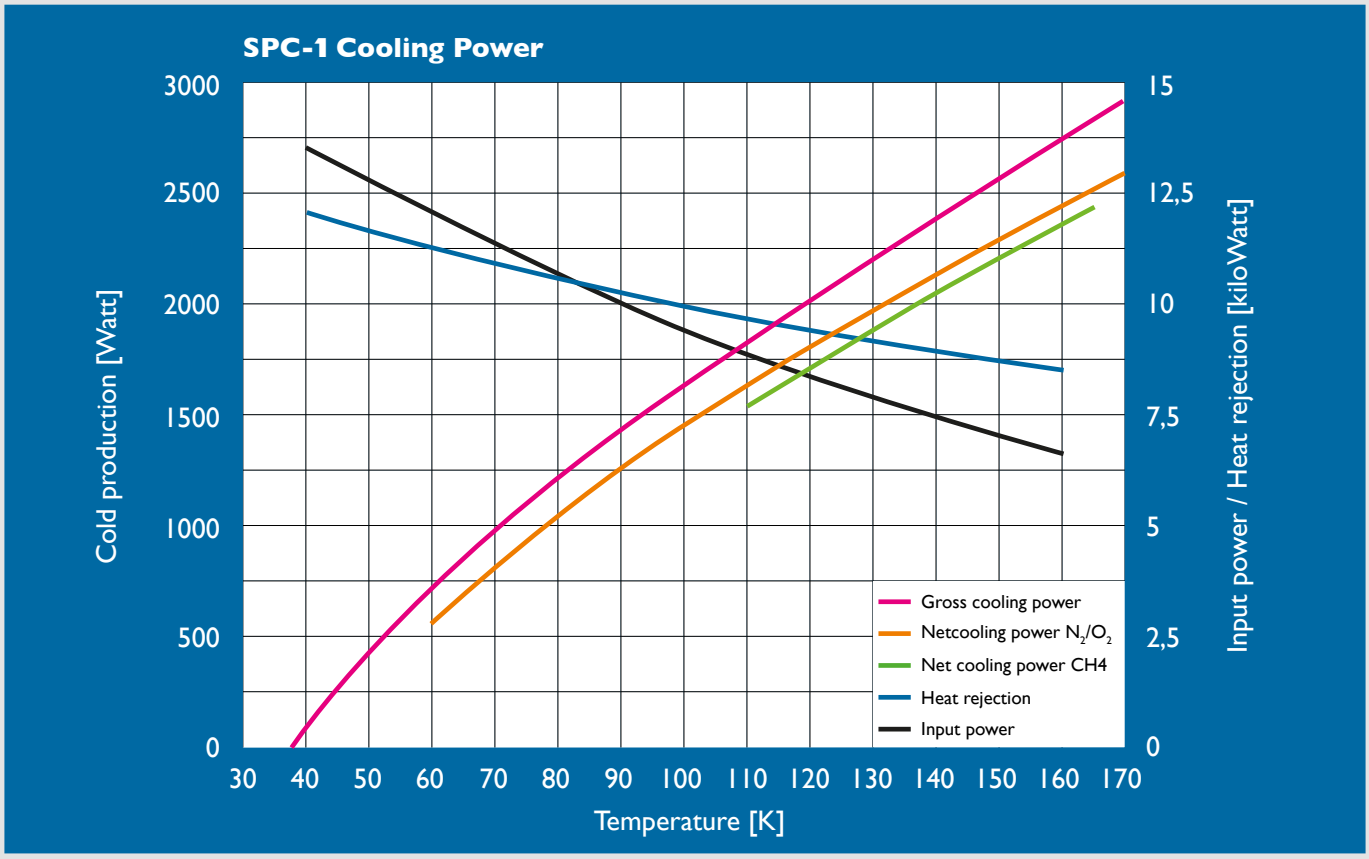

Graph conditions	
Helium pressure	30 barg
RPM	1.455
Water temperature	15°C
Water cooling loop (20% glycol added)	1.200 l/hr @ dP of 2.5 bar

Specifications	
Power supply	3ph 400V, 50Hz 3ph 480V, 60Hz Others upon request
Max process gas pressure	20 barg
Environmental conditions	Enclosed required 5°C - 45°C 20% humidity
Weight	550 kg
Soundlevel	< 72 dBA
System size (l x w x h)	1,0 x 0,7 x 1,65 m

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