



# SPC-1 Cryogenerator

Reliable cryogenic cooling power

## Stirling Technology

For over sixty years Stirling Cryogenics has been designing and manufacturing cryogenerators for extreme low temperature cooling, serving customers all over the world under all possible conditions. This experience is incorporated in our most common cryogenerator, the SPC-1 (Stirling Process Cryogenerator). The SPC-1 is a single stage cryogenerator that provides cooling power in the range of 200-2800W @ 40-160K. The SPC-1 is mostly used for liquefying Nitrogen for all different kinds of purposes, but it can also be used for other gases like Oxygen, Methane, Argon, Helium, CO<sub>2</sub>, etc.

The cooling power of the SPC-1 is created by the so called 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 energy is extracted from the process gas.

## SPC-1: Liquefy, Cool or Sub-cool

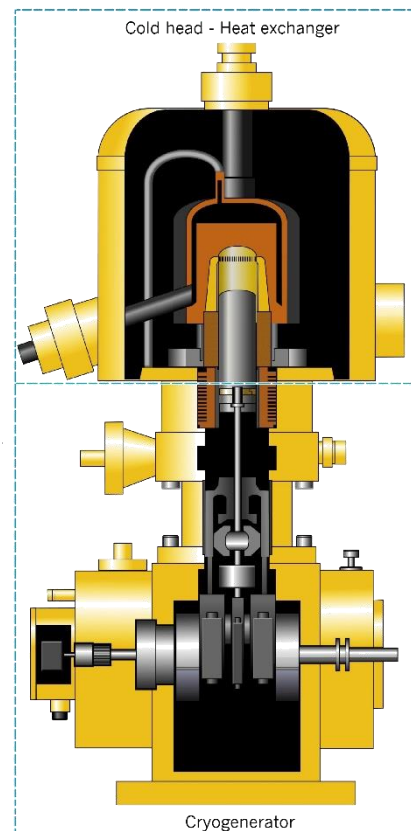
The Stirling Cryogenics Cryogenerator operates stand-alone. It's driven by an electrical motor and has its own control unit. The SPC-1 can operate in the following multiple ways:

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

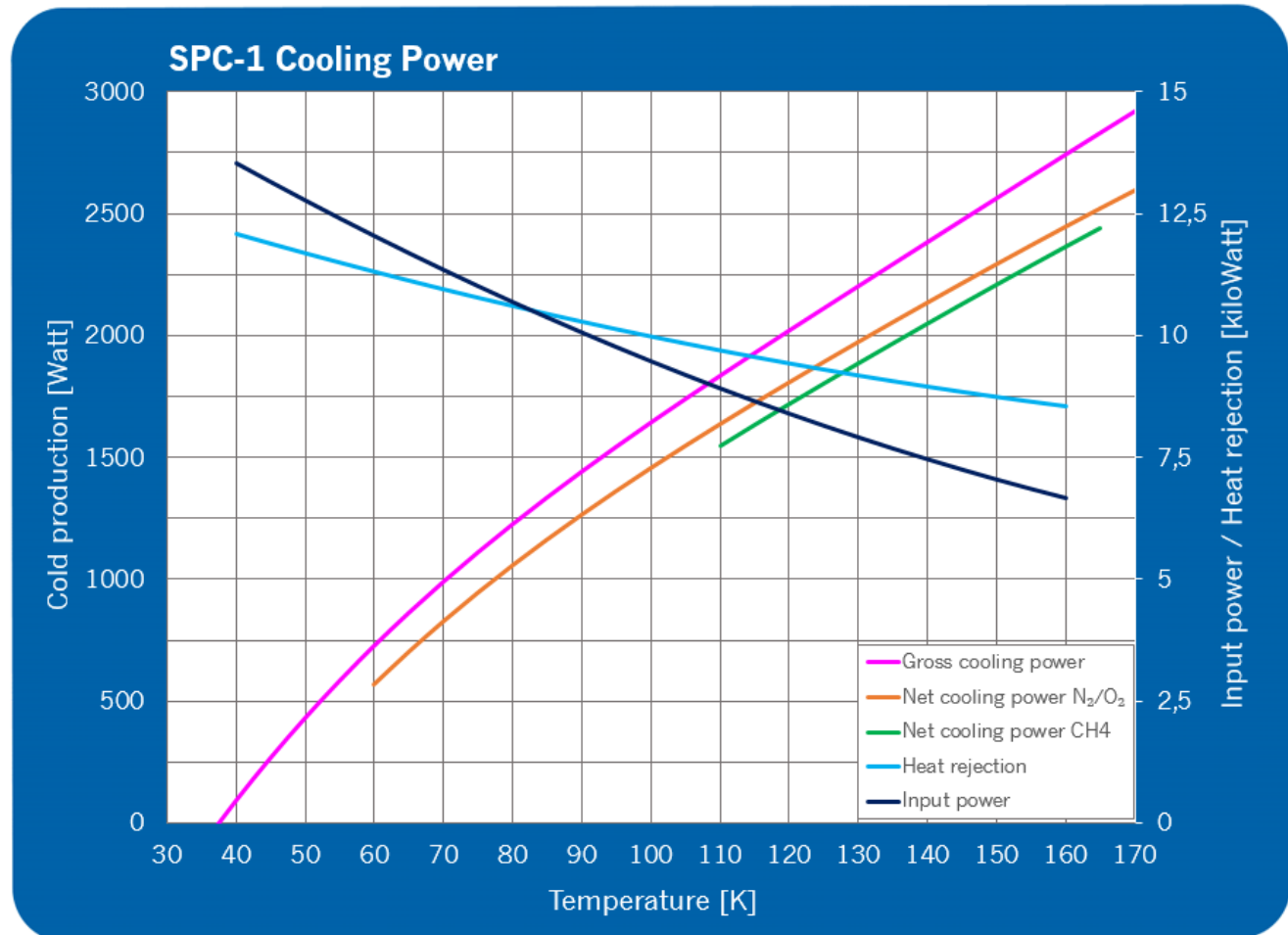
Depending on customer's application one of the above methods can be selected which will result in the final configuration of the SPC-1.

## Typical SPC-1 features

- Low maintenance interval ( $\geq 6000$  operating hrs)
- Low noise level
- Connectable to all power supplies
- Available in explosion proof execution
- Different coldhead/heat exchanger configurations possible
- Worldwide service & maintenance
- More than 50 years reliable track record



## SPC-1 Specifications



### Graph conditions

Helium pressure	30 barg
RPM	1455
Water temperature	15°C
Water consumption	1.000 l/hr (20% glycol added)

### Specifications

Power supply	3ph 400V, 50Hz 3ph 480V, 60Hz Other, upon request
Max gas pressure	20 barg 290 psig

Cold production	See graph
Power consumption	See graph
Environmental conditions	Enclosure required 5°C - 45°C 20 % - 95% humidity

Weight	551 kg 1.250 lbs
System size (l x w x h)	0,86 m 0,62 m 1,32 m

### Most common applications

Nitrogen  
Helium  
Oxygen  
Methane