Datasheet

Stirling SPC-4T Cryogenerator

Remote cooling by He circulation at 15-60 K

STIRLING CRYOGENICS

Stirling Technology

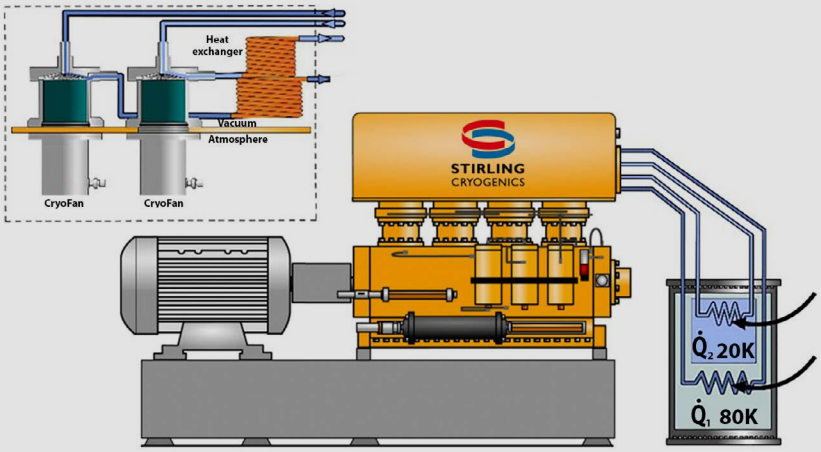
For over seventy years Stirling Cryogenics has been designing and manufacturing Cryogenerators for cryogenic cooling, serving customers all over the world under all possible conditions.
The SPC-4T is a two-stage Cryogenerator that provides cooling power in the range of 200-700 W at the temperatures of 20-60 K.

The cooling power of the SPC-4T 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 is transferred to a heat exchanger, where thermal energy is extracted from the flow of helium. This flow will cool the connected application.

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

SPC-4T helium loop cooling

The SPC-4T is commonly used to remotely cool an application by means of a flow of cold helium gas. The helium gas is first cooled in the coldhead of the Cryogenerator to e.g. 20 K, which then cools the application as the helium flows through. If desired, a separate second loop utilizing the first stage of the Cryogenerator can be used at 80 K for e.g. shielding or pre-cooling. Other configurations are also possible.



To circulate the helium, the Stirling SPC-4T Cryogenerator is equipped with integrated CryoFans (cryogenic circulators) in the vacuum space of the cold head. In many cases this eliminates the need for a separate cryostat. The CryoFans are selected based on the heat load, flow, and pressure drop of the customer's system.

Typical SPC-4T features

- Low maintenance interval (> 6.000 operating hrs)
- Low noise level
- Connectable to all 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-4T Specifications

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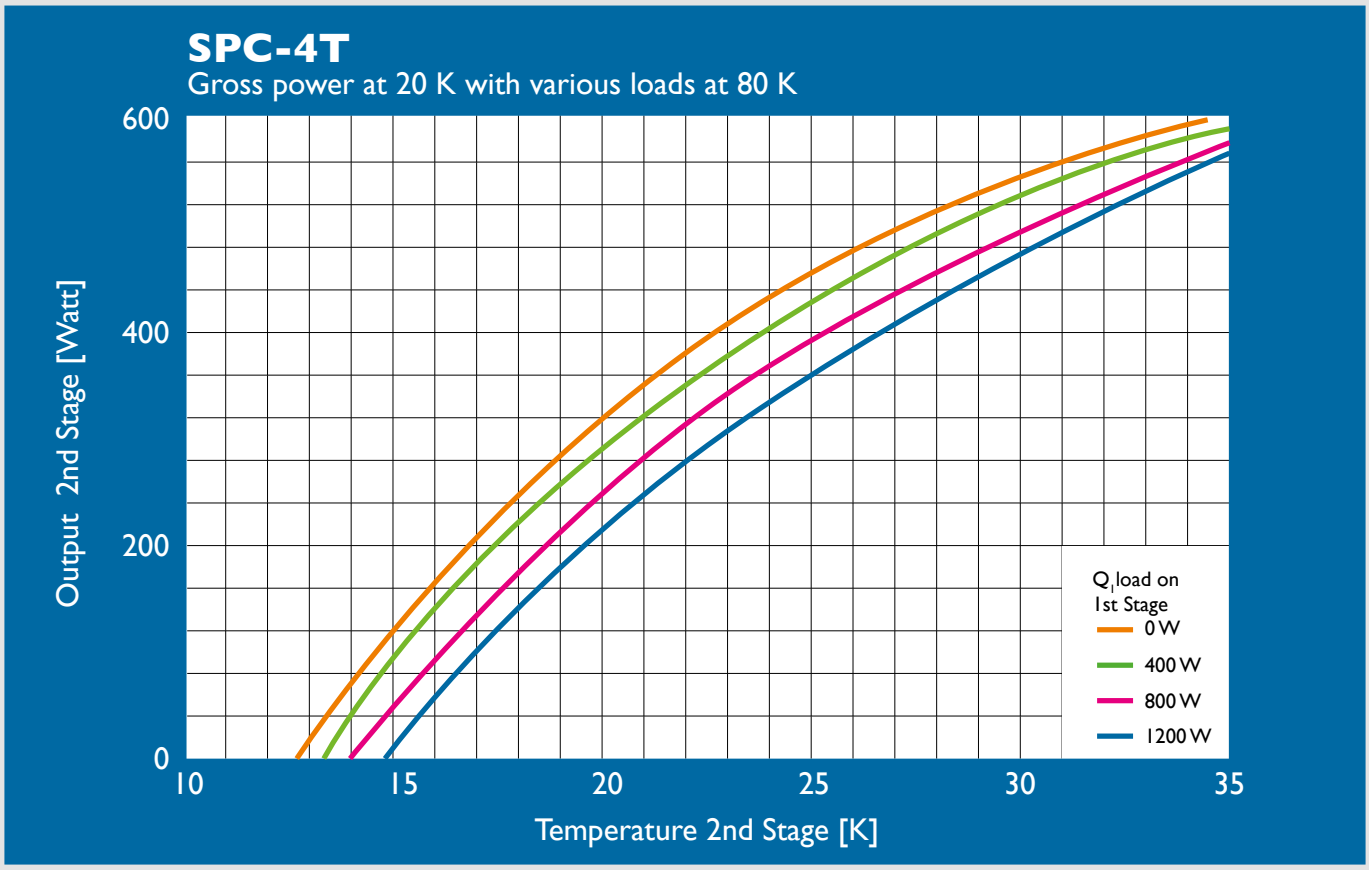

Graph conditions	
Helium pressure	30 barg
RPM	1.455
Water temperature	15°C
Water cooling loop (20% glycol added)	5.000 l/hr @ dP of 2.5 bar

Specifications	
Power supply	3ph 400V, 50Hz 3ph 480V, 60 Hz Others upon request
Max He loop pressure	30 barg
Power consumption	37 kW @ 20 K
Environmental conditions	Enclosure required 5°C - 45°C 20% - 95% humidity
Weight	1.350 kg
Soundlevel	<74 dBA
System size (l x w x h)	1,8 x 0,75 x 2,2 m

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