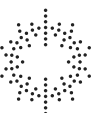




copenhagen
atomics

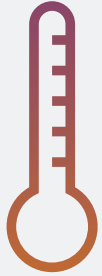
Molten Salt Pump

4kW motor, up to 700°C molten salt pump,
Max flow rate: 300 liter / minute



Pump Version 6.6

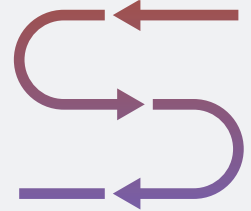
Highlights



700 °C



Controlled by VFD
RPM: 2000 - 2500



Typical pump flow rate:
300 L/min*



No dynamic
seals



Guaranteed lifespan
before service:
1000 hours



Made from
stainless steel 316



Low cost gaskets
available for fluoride,
chloride and nitrate salts

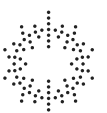


100%
leak free



Controlled via USB,
RS485, or Ethernet

*See page 5 for more details.



The molten salt pump

Overview

Copenhagen Atomics' molten salt pump is a unique pump design, which are developed for molten salt reactors. The design has no dynamic seals and the build in motor can operate up to 700°C.

✓ In order to make the pump work reliable in corrosive salts, at high temperatures and in radioactive environments, the pump is constructed to work with 3 phase AC voltages between 10 – 20V. Therefore the pump require a step down transformer and a typical variable frequency drive (VFD) to operate.

✓ The pump are sold including transformer and VFD and high temperature cables and the VFD can be controlled manually with a round dial (volume nub). Alternatively the VFD can be controlled over USB, RS485, or Ethernet.

Open source software exists for this.

✓ The pump are designed to work with fluoride, chloride or nitrate molten salts from 200°C to 700°C. But the pump can also operate with some molten metals, please inquire for more information.

✓ To reach long service life the pump typically requires a bypass flow through a filter to remove impurities in the molten salt or metals. Filters are available in different volume and grain sizes.

✓ Typical service life depends heavily on temperature, type of salt, purity of salt, flow rate etc. Customers typically have one standby pump, which they can swap in and send the first back to Copenhagen for service at regular intervals.



Pump engineering



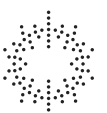
It is possible to buy flanges and gaskets which fit the Copenhagen Atomics pump or get custom flanges mounted on the pump inlet and outlet

It is possible to adjust the flow rate outside the standard range* by using adjustable valves and flow restrictors, or adjusting bypass flow. Copenhagen Atomics also sell flow meters. Please contact us for more information.

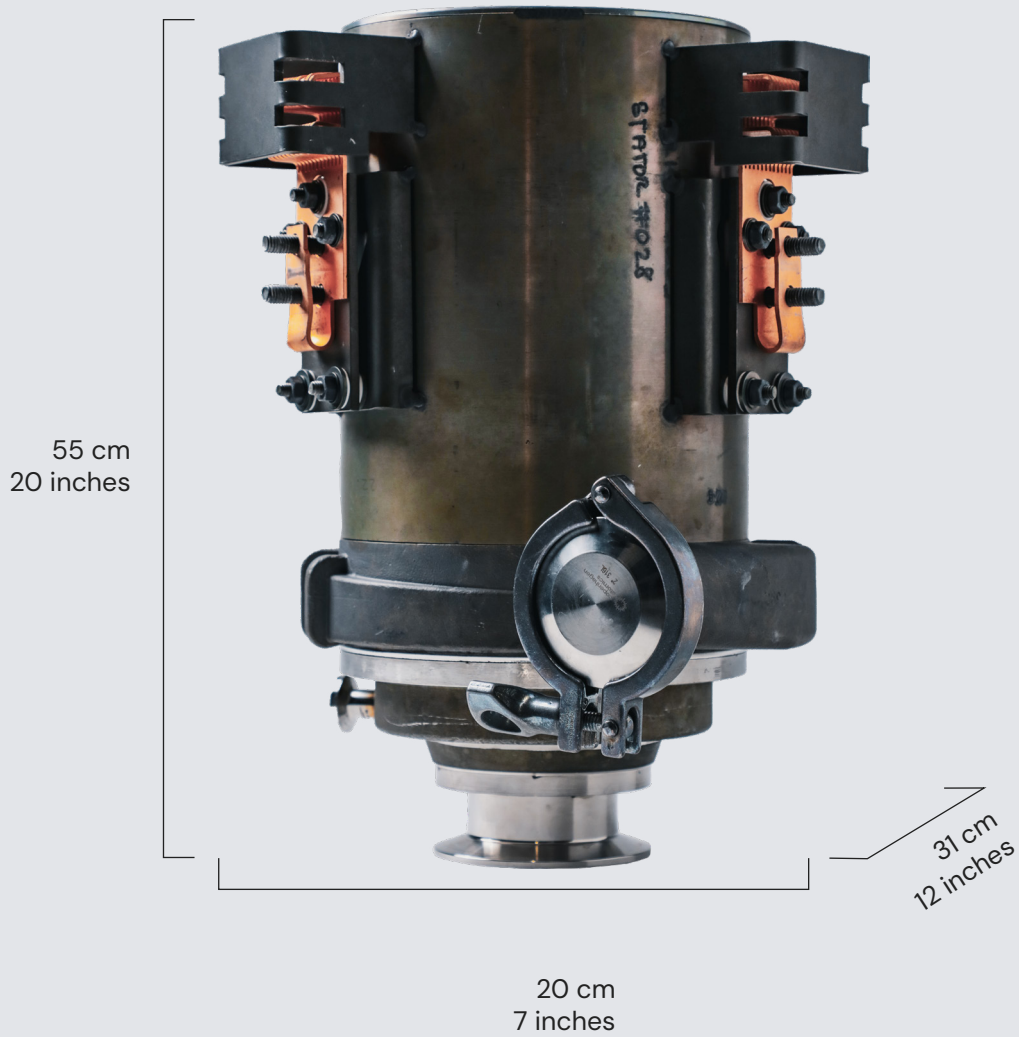
Copenhagen Atomics plans to develop versions of this pump in larger sizes later, but this require significant tooling cost. Please inquirer if you are looking for a different size.



*Contact us for variable flow rates.



Dimensions

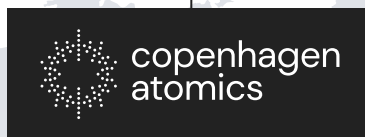


Pump technical specifications

Max motor power	4kW (150Amp-3phase-15volts)
Max temperature	700°C
Max flow rate	300 liters per minute
Pump weight	30kg
Transformer weight	40kg
VFD weight	2kg
Inlet flange outer diameter	76mm
Outlet flange outer diameter	64mm



Contact Copenhagen Atomics



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