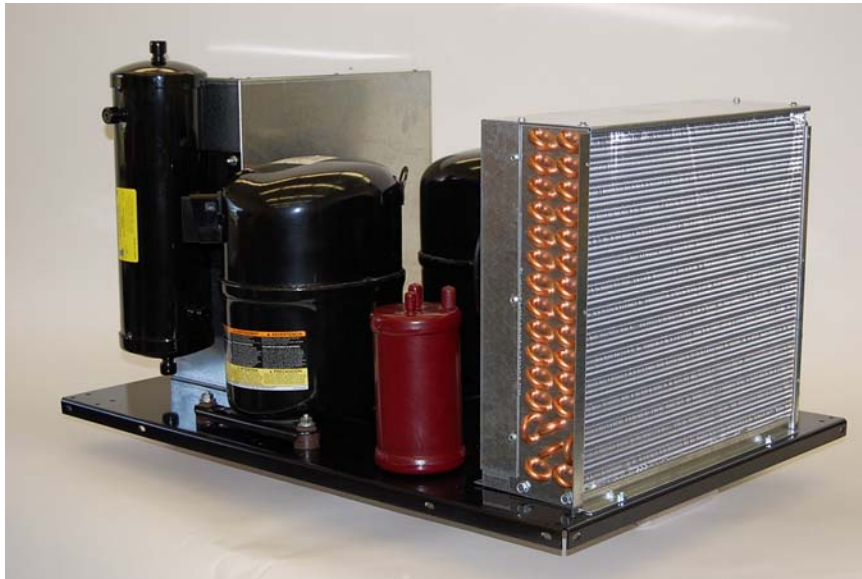


Environmental Stress Systems, Inc.

Standard Cascade Condensing Units

Ultra Low Temperatures Made Easier™



0.5 kW standard cascade condensing unit basic component layout

ESS, Inc. designs, manufactures and sells a standard range of cascade condensing units for use in achieving ultra low (-90° C/-130° F) evaporator temperatures. With a wide selection of heat removal capacities ranging from 100 W to 9 kW @ -80° C/-112° F SST, we offer a solution for most ULT applications. Utilizing both hermetic reciprocating and hermetic scroll compressors, these standard cascade condensing units from **ESS, Inc.** deliver the ultimate choice in performance, efficiency, reliability and value. Available in air-cooled or water-cooled and with or without evaporators

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Standard Cool-Only Cascade Plant Nominal Energy Capacities Using Reciprocating Compressors

<i>Min. Temp ° C</i>	<i>Energy Capacity</i>	<i>Evap Temp Range</i>	<i>Compressor Type</i>
-90° C	100 W @ -80° C SST	-60° C to -90° C	Reciprocating
-90° C	138 W @ -80° C SST	-60° C to -90° C	Reciprocating
-90° C	238 W @ -80° C SST	-60° C to -90° C	Reciprocating
-90° C	313 W @ -80° C SST	-60° C to -90° C	Reciprocating
-90° C	0.5 kW @ -80° C SST	-60° C to -90° C	Reciprocating
-90° C	0.8 kW @ -80° C SST	-60° C to -90° C	Reciprocating
-90° C	1.1 kW @ -80° C SST	-60° C to -90° C	Reciprocating

Standard Cool-Only Cascade Plant Nominal Energy Capacities Using Scroll Compressors

<i>Min. Temp ° C</i>	<i>Energy Capacity</i>	<i>Evap Temp Range</i>	<i>Compressor Type</i>
-90° C	1.1 kW @ -80° C SST	-60° C to -90° C	Scroll
-90° C	1.5 kW @ -80° C SST	-60° C to -90° C	Scroll
-90° C	2.1 kW @ -80° C SST	-60° C to -90° C	Scroll
-90° C	2.4 kW @ -80° C SST	-60° C to -90° C	Scroll
-90° C	2.8 kW @ -80° C SST	-60° C to -90° C	Scroll
-90° C	3.3 kW @ -80° C SST	-60° C to -90° C	Scroll
-90° C	4.5 kW @ -80° C SST	-60° C to -90° C	Scroll
-90° C	9.0 kW @ -80° C SST	-60° C to -90° C	Scroll

Standard Heat/Cool Cascade Plant Nominal Energy Capacities Using Reciprocating Compressors

<i>Min. Temp ° C</i>	<i>Energy Capacity</i>	<i>Evap Temp Range</i>	<i>Compressor Type</i>
-90° C	100 W @ -80° C SST	+175° C to -90° C	Reciprocating
-90° C	138 W @ -80° C SST	+175° C to -90° C	Reciprocating
-90° C	238 W @ -80° C SST	+175° C to -90° C	Reciprocating
-90° C	313 W @ -80° C SST	+175° C to -90° C	Reciprocating
-90° C	0.5 kW @ -80° C SST	+175° C to -90° C	Reciprocating
-90° C	0.8 kW @ -80° C SST	+175° C to -90° C	Reciprocating
-90° C	1.1 kW @ -80° C SST	+175° C to -90° C	Reciprocating

Standard Heat/Cool Cascade Plant Nominal Energy Capacities Using Scroll Compressors

<i>Min. Temp ° C</i>	<i>Energy Capacity</i>	<i>Evap Temp Range</i>	<i>Compressor Type</i>
-90° C	1.1 kW @ -80° C SST	+175° C to -90° C	Scroll
-90° C	1.5 kW @ -80° C SST	+175° C to -90° C	Scroll
-90° C	2.1 kW @ -80° C SST	+175° C to -90° C	Scroll
-90° C	2.4 kW @ -80° C SST	+175° C to -90° C	Scroll
-90° C	2.8 kW @ -80° C SST	+175° C to -90° C	Scroll
-90° C	3.3 kW @ -80° C SST	+175° C to -90° C	Scroll
-90° C	4.5 kW @ -80° C SST	+175° C to -90° C	Scroll
-90° C	9.0 kW @ -80° C SST	+175° C to -90° C	Scroll