



**UNITED
TECHNOLOGIES
CARRIER**

Commercial Division
Carrier Corporation

BULLETIN: CA-SB-19-C-65-27
DATE: 4/28/65
PAGE: 1 OF: 2

SERVICE BULLETIN

SUBJECT:

COOLER REFRIGERANT CHARGE

SUPERSEDE
BULLETIN:

DATE:
PAGE: OF:

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PURPOSE

To transmit a table listing the maximum refrigerant charge for each 19C machine model.

MACHINES AFFECTED

All standard 19C machines.

INFORMATION

The exact refrigerant charge depends upon machine size and design operating conditions. In some cases, the charge listed may be slightly in excess of that required to meet the design conditions of a particular machine. Therefore, it is important that the charging procedure (4.0) be followed to minimize carryover and to prevent the machine from cutting out on the low refrigerant temperature switch.

CHARGING PROCEDURE

The refrigerant level indicator located in the purge cabinet can be used as a starting point to determine a correct refrigerant charge.

- A. If machine full-load is available at start-up, charge refrigerant to approximately 1" below the arrow on the level indicator, corresponding to the cooler size. Operate the machine at full load and gradually add refrigerant until the difference between the leaving chilled water temperature and cooler refrigerant temperature is at design conditions or minimum. Shut down the machine, allow the refrigerant to drain to the cooler, mark the level indicator and instruct the operator to maintain the machine at the shut-down refrigerant level.
- B. If only partial load is available at start-up, charge the amount of refrigerant listed, less 200 lb. Trim the machine as in 4.1 when full load is available.



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PAGE: 2 OF: 2

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PAGE: OF:

Table 1. 19C Machine Refrigerant Charges

<u>Model No.</u>	<u>Cooler Size</u>	<u>Refrigerant</u>	<u>Charge (lb)</u>	<u>Model No.</u>	<u>Cooler Size</u>	<u>Refrigerant</u>	<u>Charge (lb)</u>
19C-110	19Q1	R-113	900	19C-450	19Q12	R-11	2000
19C-131	19Q2	"	800	-511			
19C-140				19C-519	19Q13	"	1900
-153	19Q3	"	800	19C-525	19Q14	"	1600
-164				-568			
19C-174	19Q4	"	800	19C-575	19Q15	"	1600
19C-177	19Q5	"	700	-620			
-196				19C-635			
19C-200	19Q6	"	700	-655	19Q16	"	2000
19C-220	19Q5	"	700	-742			
19C-239	19Q6	"	700	-749			
19C-248	19Q7	"	700	19C-757			
19C-256				-828	19Q17	"	1900
-260	19Q8	"	800	-884			
-270				-898			
19C-283	19Q9	"	800	19C-911	19Q18	"	2400
-313				-978			
19C-332	19Q91*	"	1200	19C-1002	19Q19	"	3600
19C-345	19Q11	"	1100	-1118			
-357			1300	19C-1175	19Q20	"	4400
19C-386				-1305			
-390	19Q111**	"	1800	-1398			
-412				19C-1425	19Q21	"	6400
19C-424	19Q12	"	1900	19C-1512	19Q22	"	6100
19C-429	19Q13	"	1800	19C-1750	19Q22	R-114	7500
				19C-2000	19Q23	"	7500

*19Q9 tube bundle in 19Q11 shell.

**19Q11 tube bundle in 19Q13 shell.