



# HOSHIZAKI AMERICA, INC.

## SERVICE BULLETIN

**SB99-0018**  
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### Subject: R-404A Remote Systems, Lines and Refrigerant Charge.

The change to R-404A refrigerant has required some changes in line-set model numbers and the installation procedures for remote applications. This bulletin highlights those changes.

Several pre-charged line-sets are available for R-404A refrigerant applications. They are:

R404-2046-2,	R404-3546-2	
R404-2068-2,	R404-3568-2,	R404-5568-2
R404-20610,	R404-35610,	R404-55610

To identify the line-sets, use this code.

#### LINE-SET IDENTIFICATION CODE

	<u>R404</u>	-	<u>20</u>	<u>6</u>	<u>10</u>
Refrigerant type	_____		_____	_____	_____
Length in feet	_____		_____	_____	_____
Liquid line size in 16 th's	_____		_____	_____	_____
Discharge line size in 16 th's	_____		_____	_____	_____

#### Line set application chart:

Model number	Condenser Model	Liquid line size "OD ~ 16 th's	Discharge line size "OD 16 th's
KM-500MRF, KM-630MRF, F-1000	URC-6F	1/4" ~ <u>4</u> /16"	3/8" ~ <u>6</u> /16"
KML-600MRF	URC-7F	1/4" ~ <u>4</u> /16"	3/8" ~ <u>6</u> /16"
KM-900MRF, KM1300MRF, KM-1300SRF	URC-12F	3/8" ~ <u>6</u> /16"	1/2" ~ <u>8</u> /16"
KM-1600MRF, KM2000MRF, KM-1600SRF, KM2000SRF	URC-20F	3/8" ~ <u>6</u> /16"	5/8" ~ <u>10</u> /16"
KM-2400SRF	URC-24F	3/8" ~ <u>6</u> /16"	5/8" ~ <u>10</u> /16"

Excess line length or extra loops should be removed prior to making connections to the unit and condenser. Follow normal refrigeration practices to evacuate the line-set holding charge, cut out the excess loops, re-solder the tubing, leak check, and charge with R-404A refrigerant gas pressure of 15~30 psig. Once completed, make your connections to the condenser and unit. This will eliminate the possibility of oil traps and line kinks in the line-set.

A universal line-set adapter kit, part number OS-QUICK is available if you need to field-fabricate a line-set. Both lines should be insulated separately for the entire length of the run. Follow the instructions provided in the technician's pocket guide to field-fabricate or shorten/lengthen a line set. As always, the installer should use good refrigerant piping practices to assure proper operation. A small service loop is recommended for the line-set at the rear of the ice machine head to allow for the unit to be pulled away from the wall if necessary.

An R-404A remote system has the same maximum limitations on line-set length as previous R-22 and R-502 models. These limitations are highlighted in the technician's pocket guide and in the installation instructions provided with the unit. The maximum line-set length from connector to connector is 100 ft. The maximum lift from the unit up to the condenser is 33 ft. The maximum drop from the unit down to the condenser is 10 ft. The maximum length with the existing refrigerant charge is 66 ft. It should be noted that exceeding these maximum limitations which are recommended by the engineering department would effect the unit warranty coverage.

In case of a line set length that exceeds 66 ft., additional refrigerant must be added to the system. The amount that must be added per foot is different with R-404A. To calculate the amount to be added, multiply the length over 66 ft. to the 100 ft. maximum by **0.4 oz.** per foot. As an example, a 76-ft. line-set application will require an additional (10 ft. x 0.4 oz.) 4 fl. oz. of R-404A refrigerant. It is recommended to mark the additional refrigerant amount on the unit nameplate with a black marker so that the next technician will know the exact refrigerant charge amount.

Following these recommendations will provide a proper installation of a Hoshizaki remote condenser application using R-404A refrigerant.