

VERTICAL MODELS



- 3680 3816 3670
3684 3817 3732
3685 3701 3734
3689 3702 3827
3703 3732 3738
3736 3731 3700
3837 3733 3706
3737 3698 3704
3743 3707 3832
3708

HORIZONTAL MODELS



- 3826 3831 3836
3810 3838 3839
ASME code models below



- 3639
3641
3640



- 3841 3873
3840 3874

Mounting Brackets
RR 7187 (8 5/8" Dia.)
RR 7188 (10 3/4" Dia.)

These brackets can be used to hold horizontal accumulators securely in position.

REFRIGERATION RESEARCH INC. Pointing the Way... WITH NEW IDEAS
SUCTION ACCUMULATOR APPLICATION DATA

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SUCTION ACCUMULATOR
Cannot Trap Oil

PURPOSE - To prevent compressor damage due to the sudden return of liquid through the suction line.

Compressors on many air-conditioning, truck, heat pump and other refrigeration systems are often subjected to sudden liquid return, resulting in broken valves, pistons, connecting rods, crank-shafts, blown gaskets or bearing failure.

Compressors on low superheat applications such as liquid chillers, low temperature display cases and truck refrigeration are especially susceptible to damage from liquid refrigerant.

THE SUCTION ACCUMULATOR, by Refrigeration Research will protect the compressor. Although several pounds of refrigerant may suddenly return through the suction line it does not flood into the compressor. The liquid refrigerant is temporarily held in the suction accumulator and metered back to the compressor at a controlled rate, through the metering orifice.

ACTS AS A SUCTION MUFFLER - In most cases it will be found that the suction accumulator also reduces transmission of noise to the low side since it tends to act as a suction muffler.

LOCATION - The suction accumulator should be installed in the suction line as close to the compressor as possible. In reverse-cycle systems, it must be installed in the suction line between the compressor and reversing valve.

MOUNTING POSITION "Vertical" Accumulators must be installed vertically. "Horizontal" Accumulators must be installed horizontally.

INSTALLATION - It is MOST IMPORTANT that the INLET and OUTLET of the suction accumulator be correctly connected. The "IN" stamped at the top must be attached to the suction line from the coil and the "OUT" must be attached to the suction line leading to the compressor. Otherwise, oil and refrigerant would be trapped. If the connections are made correctly the suction accumulator cannot trap oil.

MAKING CONNECTIONS - A good quality of silver solder should be used for making connections. Silver solder No. 45 or No. 35 may be used. Good practice dictates that the suction line should properly fit the accumulator nipples and a good joint should be made without causing flux and silver solder to run into the accumulator. A good joint can easily be made if a flame of correct size and intensity is used. Under no circumstances should connections be made with so-called "soft solder" such as 50-50, 95-5 etc. which does not have sufficient strength to withstand vibration of the suction line at the compressor. All connections on vertical and horizontal model accumulators with copper nipples can be made with a silphos or equivalent alloy.

PROTECTING JOINTS - After solder joints have been carefully leak tested, nipples should be painted with "Rust-O-Leum" or equivalent to prevent rust.

SELECTION OF SUCTION ACCUMULATOR - The suction accumulator should not necessarily be selected to have the same size inlet and outlet as the compressor suction line. It is more important to select the suction accumulator well within the limits of (1) pressure drop and (2) oil return. Total amount of charge to be held (3) is also important.

The actual refrigerant holding capacity needed for a suction accumulator is governed by the requirements of the particular application. There is a great variation in refrigeration systems and this must be considered and where possible the capacity selected checked by actual test. Normally the accumulator should not be sized for less than 50% of the total system capacity. If in doubt, consult the compressor manufacturer.

CONSTRUCTION - The suction accumulator is constructed entirely of steel. Hydrogen copper brazing insures the ultimate in cleanliness, strength, and durability under vibration. Vertical and horizontal models are manufactured with copper nipples.

SUCTION ACCUMULATORS PROVIDE LOW COST INSURANCE - They are easily and quickly installed and when properly applied will provide years of trouble free service. When the possibility exists of compressor damage through sudden liquid return, the low initial cost of the suction accumulator may be saved many times over by increased compressor life.

Table with columns for Part Number, Vertical/Horizontal, Diameter, Length, Weight, Code, Maximum Refrigerant Holding Capacity (LBS.) for various refrigerants (R-22, R-134A, R-401A, R-401B, R-402A, R-402B, R-404A, R-407C, R-410A, R-502, R-507), Suction Inlet/Outlet I.D. Size, Evap Temp, and Recommended Tons of Refrigeration for various refrigerants (R-22, R-134A, R-401A, R-401B, R-402A, R-402B, R-404A, R-407C, R-410A, R-502, R-507).

Suction Accumulators of 6" diameter or smaller are (C) and (C) listed File No. SA2400 (Hydrogen copper brazed construction)
Suction Accumulators larger than 6" diameter are made to ASME code (Shielded arc welded construction) # ASME Length in inches includes nipples
† Maximum recommended tons based on pressure drop through Suction Accumulator † Minimum recommended tons based on oil return through Suction Accumulator.
Δ These ASME models are not intended for use with R-410A refrigerant, see alternate chart for R-410A ASME models (Some standard models available with electric float)

OTHER PRODUCTS BY REFRIGERATION RESEARCH: RECEIVERS, MUFFLERS, DRIERS, OIL SEPERATORS, WATER COOLED CONDENSERS, COAXIAL CONDENSERS, AND MORE. R410A PRODUCTS NOW AVAILABLE

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REFRIGERATION RESEARCH inc. cannot assume responsibility for improper installation or misapplication of its products.