



Replacement Coil Guide

1-800-USA-COIL
(1-800-872-2645)

FAX: (610) 296-9763 • www.usacoil.com



DESCRIPTION	PAGE NUMBER
How to field measure coils for replacement	2
Coil Order Form	3
Standard Steam Heating Coils	4
Steam Distributing Heating Coils	5
Water Heating & Cooling Coils	6
DX Evaporator Coils	7
Condenser Coils	8

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Below is a step-by-step description of all the steps required to accurately measure any coil for replacement. Please note that there are only 8 to 10 key components required to duplicate any coil. Also note that each step # below matches the corresponding # on Form CC-100.

USA offers a "Coil Sidekick" which is a tool that helps you measure several of these key dimensions. Please ask your local representative for one of these, or contact USA Coil & Air directly at 800-872-2645.

- (1) Determine coil type: Hot water, chilled water, steam, DX, condenser. If you are looking at a non-freeze steam coil, then you should refer to Dwg. #RSD-400. If you are looking at any water coil, then you should refer to Dwg. #RW-200, etc.
- (2) Stand on the entering or leaving air side of the coil (it doesn't matter which side you choose), and match up the coil that you are looking at to the appropriate lettered drawing. For example: a same end connected non-freeze coil would be Dwg. # "A", and an opposite end connected steam coil would be Dwg. # "C".
- (3) Walk around to the connection end of the coil, so that the connections are pointing directly at you. Match up the connection arrangement on the bottom of the drawing. For example: a same end coil being supplied in the middle and returned on the bottom of the same header would be connection arrangement #1. Circle or put an arrow next to the configuration that you are replacing.
- (4) Once you have noted what the coil looks like on the drawing, go to form #CC-100 and fill in the appropriate coil arrangement and connection arrangement under the proper columns marked #'s 2 and 3.
- (5) Count the number of rows deep in the direction of airflow from front to back. An appropriate number would be anywhere from 1 thru 10 rows.
- (6) Count the number of fins/inch. Place a ruler on the fins and count the number of fins in any inch.
- (7) Measure the finned area of the coil. This is the actual "open" area that the air passes across.
- (8) Most coils have some kind of casing around the finned area. This is the "envelope" dimensions of the coil. "CH" is the overall casing height, "CL" is the overall casing length, and "CD" is the overall casing depth.
- (9) The "OLH" dimension is the overall length to include the manifolds and the return bends, which often stick out beyond the casing. Do not include the length of the connection stubs, as they will be measured later. Fill in the "OLH" dimension under column #9.
- (10) Dimension "A" is the stub length. It can vary from 1" long to 8" long. This is not the diameter.
- (11) "B" is the width of the casing on both the top and bottom of the coil. They are usually the same dimension. Fill in "B" under column #11.
- (12) "C" and "D" are the widths of the casing on each end of the coil.
- (13) Measure the I.D. of the coil connections, and this will give you the proper supply and return connection size. Please note that the supply size and return size can be the same or different.
- (14) "X", "Y", position the connections properly for direct replacement, so you don't have to change the piping. Both "X" and "Y" are measured from the top and/or bottom of the casing to the centerline of the connection. Don't measure from the top or bottom of the header, because there is no guarantee that the header runs to the top or bottom of the coil.
- (15) "Z" is the horizontal centerline between the (2) headers, if the coil is same end connected. Measure from the centerline of one header to the centerline of the other header.
- (16) Connection type is either: Sweat, M.P.T., F.P.T.
- (17) Tube outside diameter is either: 3/8", 1/2", 5/8", 7/8", or "1".
- (18) Tube material is either: Copper, Aluminum, Cupro-Nickel, Brass, Steel or Stainless Steel.
- (19) Fin material is either: Aluminum, Copper, Steel or Stainless Steel.
- (20) Header material usually matches tube material. It is possible to have steel headers with different material tubes.
- (21) Connections can be Copper, Steel, Cupro-nickel, Brass or even Aluminum.
- (22) Casing is typically Galv. Steel, Stainless Steel or Aluminum. Gauges run from 18 Ga. to 8 Ga.
- (23) Circuiting is the number of tubes that the supply header feeds. Determine which of the headers is the supply header. Count the number of tubes which are connected to the supply header either visually, or by running your hand down the back of the header and feeling the number of tubes connected to the header. Fill in # of tubes under column #23.

Coil Ordering Form

* REQUIRED FOR PRICING ANY COIL.
ADDITIONAL INFORMATION
WILL BE REQUIRED TO ACCURATELY
BUILD COIL. **FORM # CC-100**

COMPANY NAME:
CONTACT:
PHONE:
FAX:
PROJECT:
DATE:

USA COIL & AIR, INC.
P.O. BOX 578
DEVAULT, PA. 19432
(610)-296-9668
800-872-2645
FAX (610)-296-9763

NOMENCLATURE		UNIT OR COIL INFORMATION			ARRANGEMENTS		ROWS/FPI	
ITEM #	QTY.	(1) ORIGINAL MANUFACTURER UNIT MODEL #	(1-A) ORIGINAL MANUFACTURER COIL MODEL #	* (1-B) COIL TYPE	(2) COIL ARRGT	(3) CONN ARRGT	* (5) ROWS	* (6) FPI

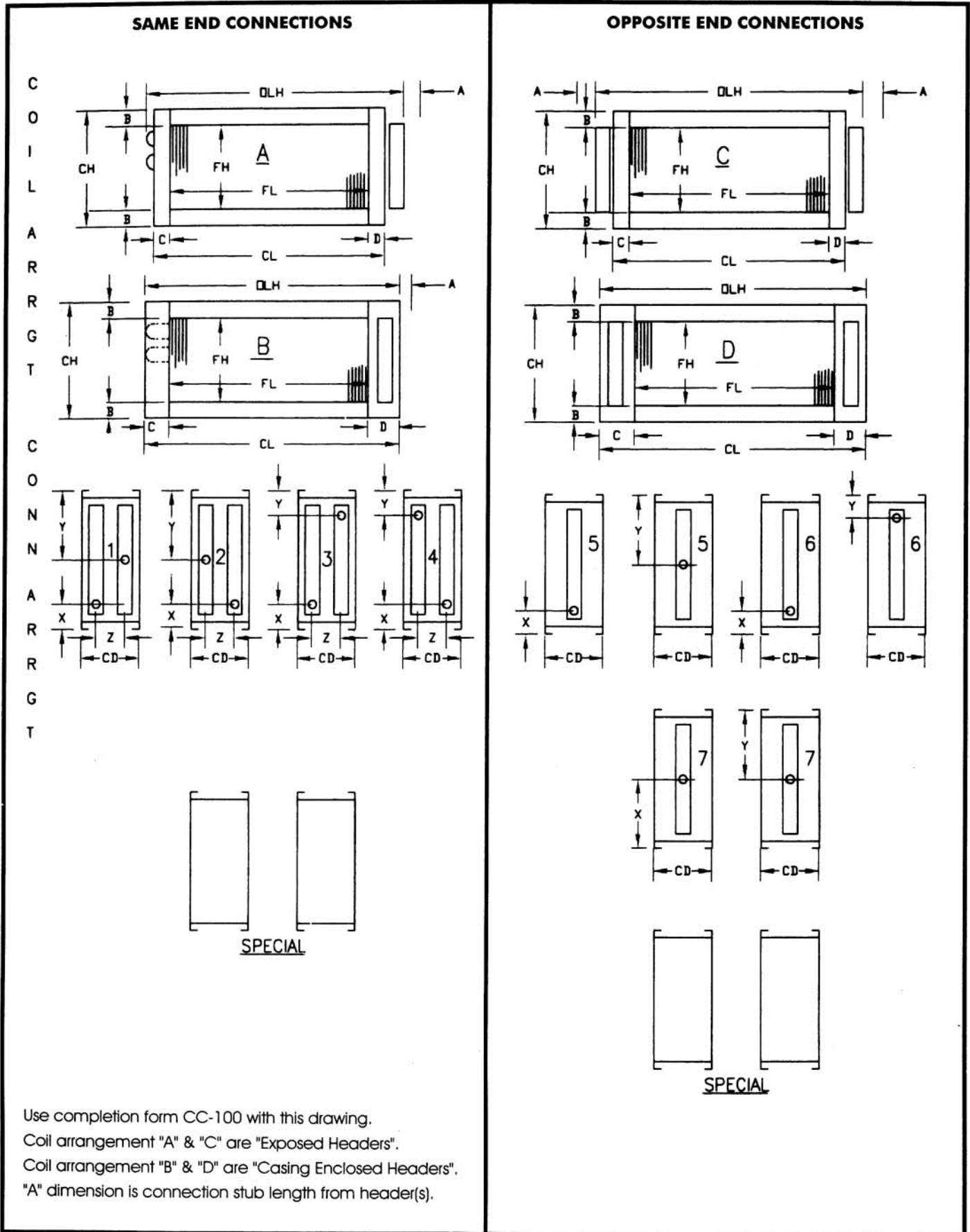
NOM.	INTERIOR AND EXTERIOR DIMENSIONS								CONNECTION SIZES AND LOCATIONS				
	* (7) FH X FL	(8) CH X CL X CD	(9) OLH	(10) A	(11) B	(12) C	(12) D	(13) SUPPLY	(13) RETURN	(14) X	(14) Y	(15) Z	(16) TYPE

NOM.	CONSTRUCTION						
	* (17) TUBE OUTSIDE DIA.	* (18) TUBE MATERIAL	* (19) FIN MATERIAL	(20) HEADER MATERIAL	(21) CONNECTIONS TYPE/MATERIAL	* (22) CASING GAUGE/MATERIAL	(23) COIL CIRCUITY

SPECIAL/REMARKS

Standard Steam Heating Coils

STANDARD STEAM HEATING COILS (SINGLE TUBE) • DWG. NO. RSS-300

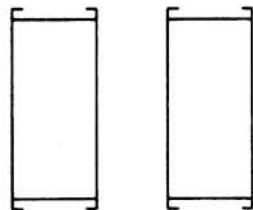
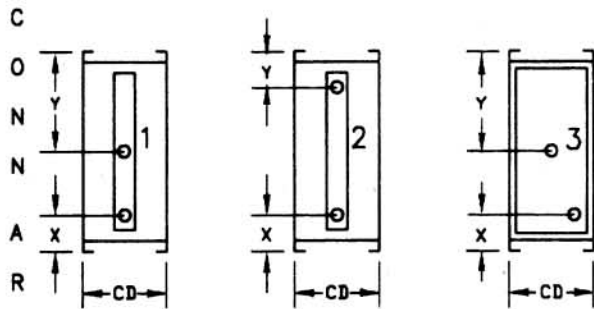
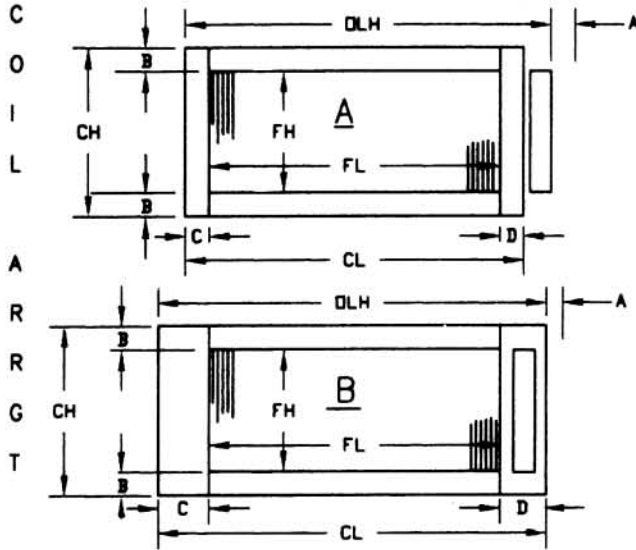


Use completion form CC-100 with this drawing.
 Coil arrangement "A" & "C" are "Exposed Headers".
 Coil arrangement "B" & "D" are "Casing Enclosed Headers".
 "A" dimension is connection stub length from header(s).

Steam Distributing Heating Coils

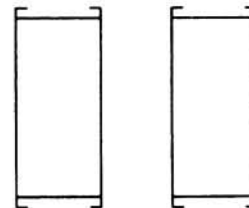
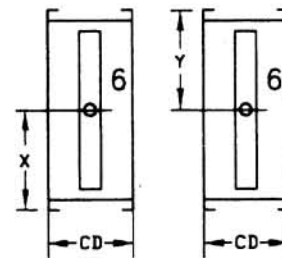
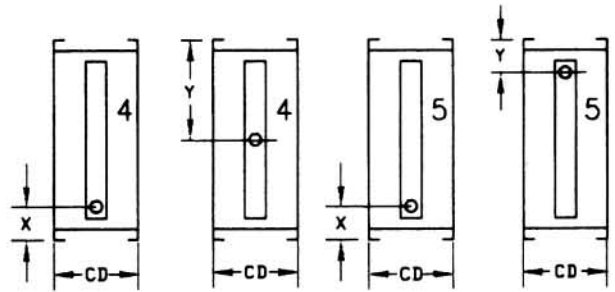
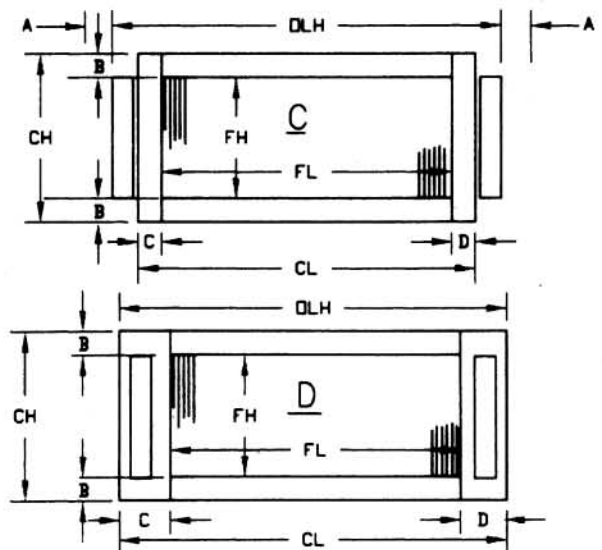
STEAM DISTRIBUTING HEATING COILS (TUBE-IN-TUBE) • DWG. NO. RSD-400

SAME END CONNECTIONS



SPECIAL

OPPOSITE END CONNECTIONS

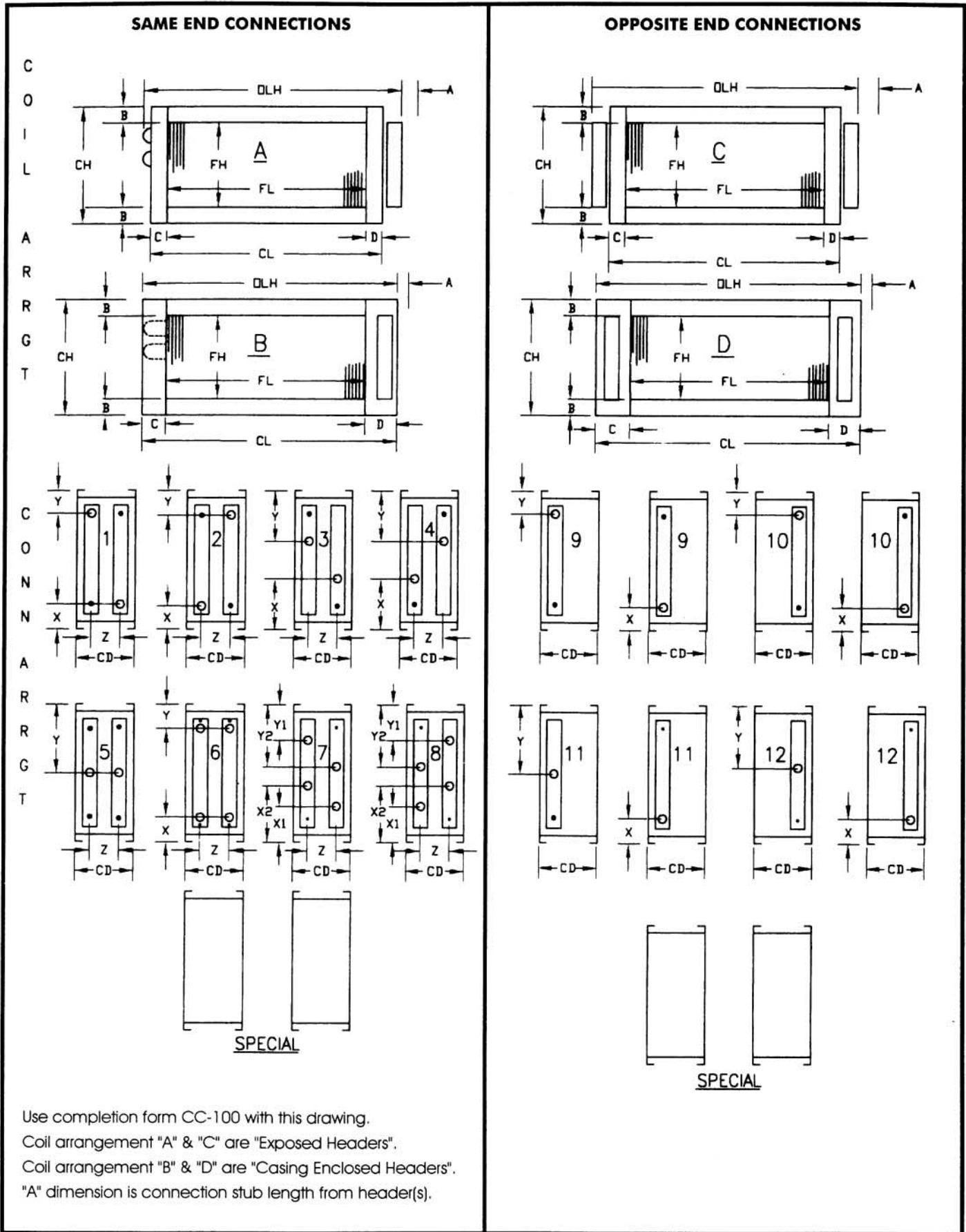


SPECIAL

Use completion form CC-100 with this drawing.
 Coil arrangement "A" & "C" are "Exposed Headers".
 Coil arrangement "B" & "D" are "Casing Enclosed Headers".
 "A" dimension is connection stub length from header(s).

Water Heating & Cooling Coils

WATER HEATING & COOLING COILS • DWG. NO. RW-200

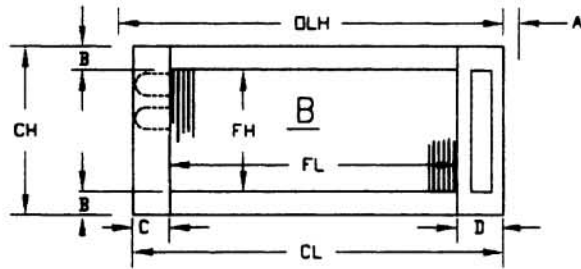
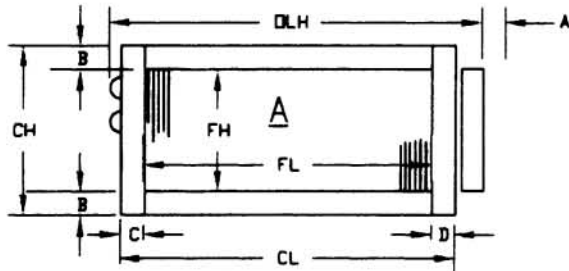


Use completion form CC-100 with this drawing.
 Coil arrangement "A" & "C" are "Exposed Headers".
 Coil arrangement "B" & "D" are "Casing Enclosed Headers".
 "A" dimension is connection stub length from header(s).

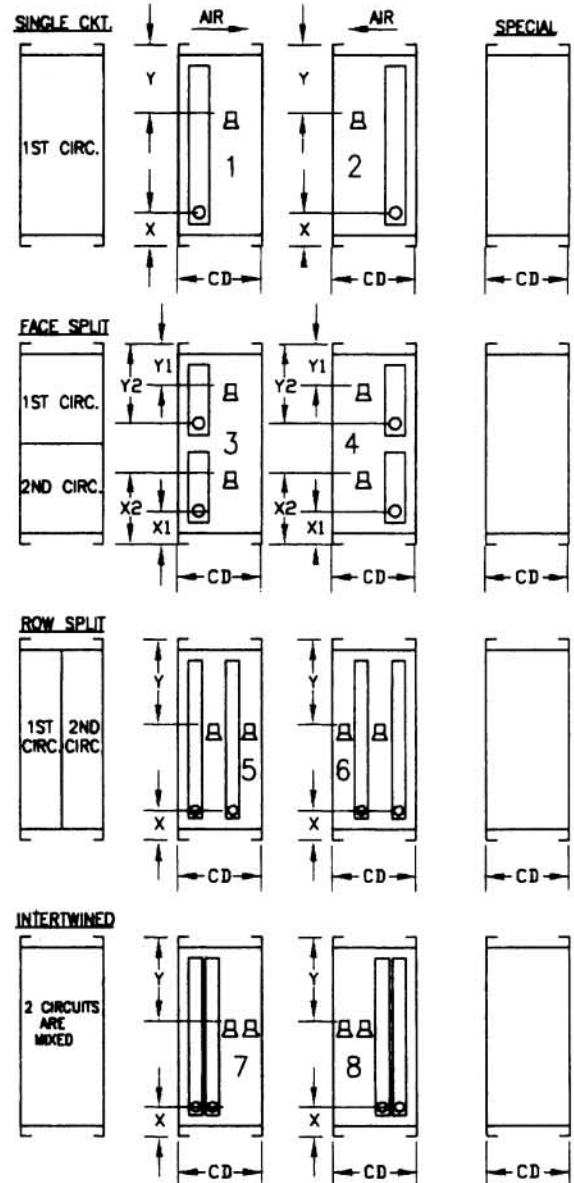
DX Evaporator Coils

DX EVAPORATOR COILS (WITH DISTRIBUTOR(S)) • RDX-500

COIL ARRANGEMENT



CONNECTION ARRANGEMENT

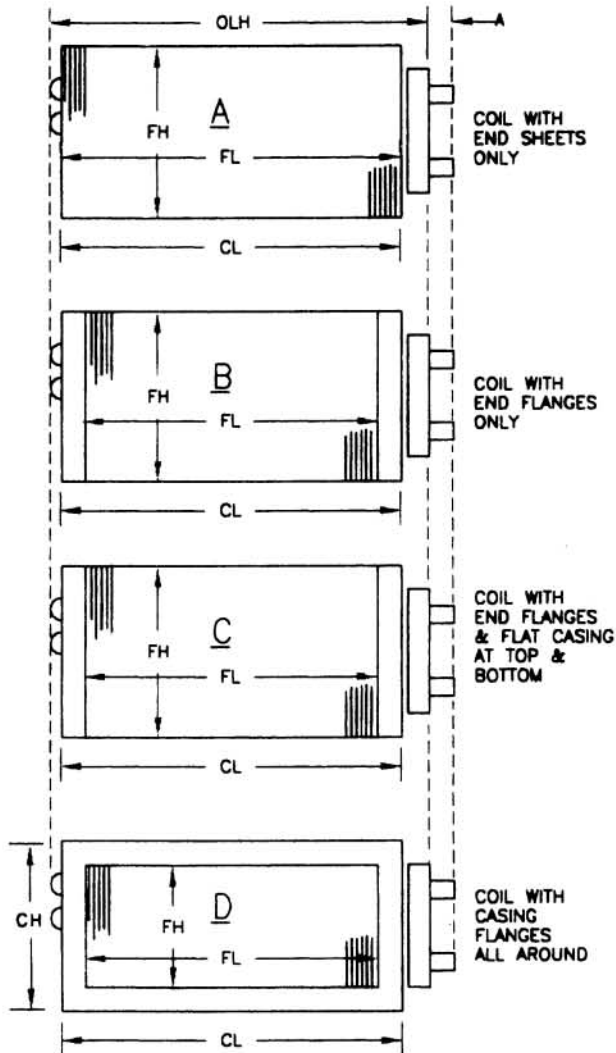


Use completion form CC-100 with this drawing.
 Coil arrangement "A" & "C" are "Exposed Headers".
 Coil arrangement "B" & "D" are "Casing Enclosed Headers".
 "A" dimension is connection stub length from header(s).

Condenser Coils

CONDENSER COILS • DWG. NO. RCC-600

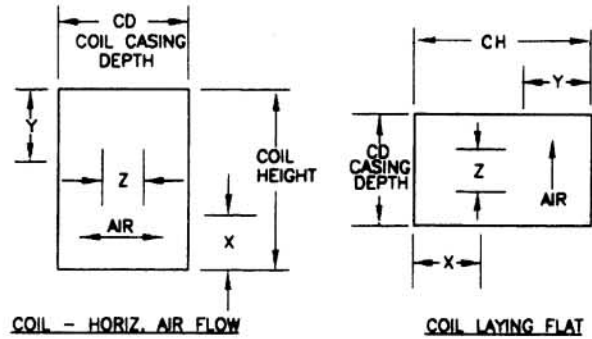
#1 COIL ARRANGEMENT & BASIC DIMENSIONS



#1 Directions

- Select coil arrangement "A" thru "D".
 - Measure FH, FL, CH (if required), CL and OLH (overall length including headers) and "A" (conn. stub length) if connections run same direction as tubes. (Connections can run 90 degree to tube direction.)
 - Record rows, FPI.
 - Record connection size (usually O.D. sweat).
- Use Completion Form CC-100 with this drawing.

#2 DEFINING CASING DEPTH & CONNECTION LOCATIONS



#2 Directions

- Measure "CD" dimension (casing depth).
- Measure "X" dimension - from very bottom of coil (or side if coil lays flat) to center line of lowest coil connection.
- Measure "Y" dimension from top to center line (or side if coil lays flat).
- Measure center line between connections "Z".

#3 Defining a coil's circuitry.

(Return bends, header, etc. is confusing.) USA gives you two options as follows:

OPTION #1

Take complete photos of the end view of coil at both ends. Make sure that it is well lighted and that you get the whole end view from one end (top to bottom) to other. If you need to take multiple shots USA will be able to put them together. Try to put them at a slight angle to headers so we can see the tube connection to the headers.

OPTION #2

Supply this drawing with completion form and supply the following information:

1. Tube O.D. _____, NO. of tubes high in single row of tubes _____, NO. of tubes connected to hot gas inlet header _____, NO. of tubes connected to liquid outlet _____, Unit tonnage _____, NO. of cond. coils in unit _____.