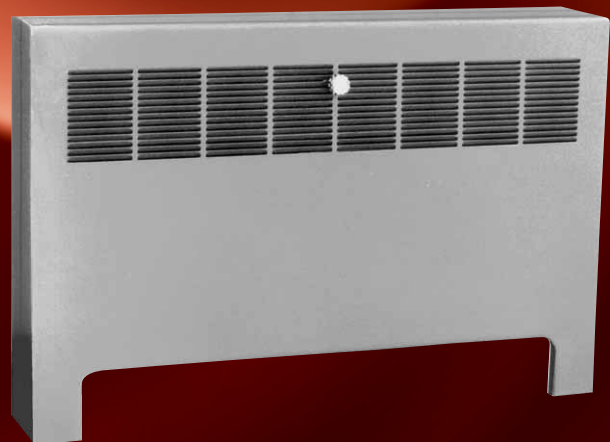
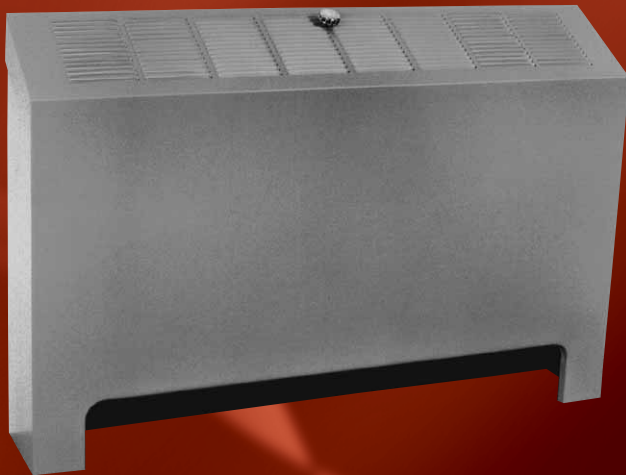


CONVECTORS





CONVECTOR RADIATION

Beacon/Morris Convectors are engineered for both forced hot water and two-pipe steam heating system installation with heating elements of lightweight non-ferrous construction. They are available in (7) basic types to meet a wide range of heating applications in institutional buildings, hospitals, hotels, office buildings, schools, apartments and other structures. A variety of cabinet enclosure styles permits the selection of an attractive and functional installation to blend with any building interior — modern or traditional.

Designed for maximum flexibility of installation arrangement, Beacon/Morris Convectors are available in free-standing, semi-recessed, wall hung and fully recessed models. Enclosures are formed from heavy-gauge steel, and finished in prime coat for complete protection against corrosion during shipment and providing a base for final finish to meet architectural requirements after installation.

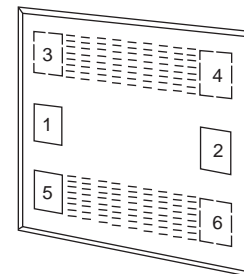
All Beacon/Morris Convectors are made from recycled materials. Recycled material contents can be obtained from your local representative or by viewing our web site at www.beacon-morris.com. Beacon/Morris is a participating member of USGBC-LEEDS.



END POCKET

End Pockets — End pockets may be provided at each or either end of Beacon/Morris institutional convectors to protect and conceal valves, traps and piping. A left-hand end pocket is illustrated. The liner is extended and a baffle welded to the back of the liner. The cabinet front is extended and grille is offset in length to line up with heating element. Length of end pocket is determined by using a standard element. Specify right or left hand. Available in 4" increments only. One end pocket only on 64" long units. No end pockets available on SR-A or RF-A 64" units.
 Note: Fronts and liners increase in length but the coil length remains the same.

Access Doors — Access Doors (4 1/4" square) may be provided in the front panel of the convectors for inspection or operation of valves, traps, or air vents. These doors are hinged on top. Concealed 1/4 turn locking device is provided with an Allen-head operator. Access doors are available in the standard locations illustrated. For units 24" or less in height, not all positions are available, consult factory. See table 5 on page 12 for derating factors.



ACCESS DOOR LOCATIONS

Heating Elements — Heating elements are available in three nominal depths — 4" with 2-tube element, 6" with 3-tube element, 8" with 4-tube element. Fins of .010" aluminum have integral collars to assure uniform spacing. Tubes are mechanically expanded into collars to permit maximum heat transfer. Both headers are cast brass with single - 3/4" NPT tappings. A dual top and bottom 3/4" tapped header is available. This option allows for supply and return piping to come from the top or bottom. Combined with the standard single header, piping direction is no longer a problem. Heating element assembly is protected by formed shield plates front and back running the entire length of element, and supported in enclosure by a welded bracket to eliminate strain on piping or element.

Tamper-Resistant Fasteners — Our Convectors are provided with friction fit slip joiners. Hex Head Locks, to fasten fronts securely may be provided on special applications.

Concealed Fasteners — are available with Hex-head operator. Head of operator recessed 1/8" inside cabinet. Fastener engages keeper, spot welded to inside of liner.



STANDARD FASTENER FOR RECESSED UNITS

Damper — The assembly consists of a triple lead screw and a heavy gauge damper blade, flanged top and bottom for additional rigidity, that covers the entire louvered area of the enclosure.

Damper assemblies are available with either a knob operator or a tamper resistant operator which is simply operated with a hex key. The later is particularly valuable in school or institutional work where only supervisory operation is desired.

Institutional convectors are specially constructed to satisfy the requirements of strength and safety demanded by institutional building application.

Heavy Gauge Steel — To withstand the abuse often received on this type of application, institutional convectors are available in heavy gauge steel upon specific request. (Front and back available in 18, 16 and 14 gauge)

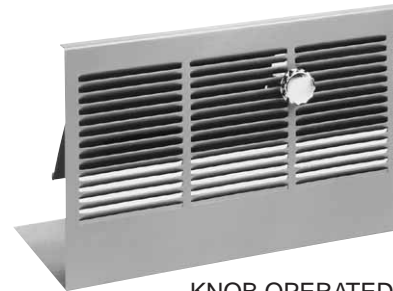
Perforated Outlet and/or Inlet — Consult factory for unit styles offered with 14-gauge perforated front panels.

Dual Inlet Header — Allows piping from either top or bottom.

Non-Standard Sizes — Sizes other than standard can be provided for institutional buildings. Please consult factory with requirements.

Insulation — 1/2" thick fiber-glass insulation is available on convector backs, or sides and tops for special application. (Top does not apply to sloping models)

Special Finish — All our Convectors are thoroughly cleaned after fabrication and provided with a high quality baked enamel prime coat paint. As an option, cabinet may be finished in one of the standard Convector colors also in baked enamel.



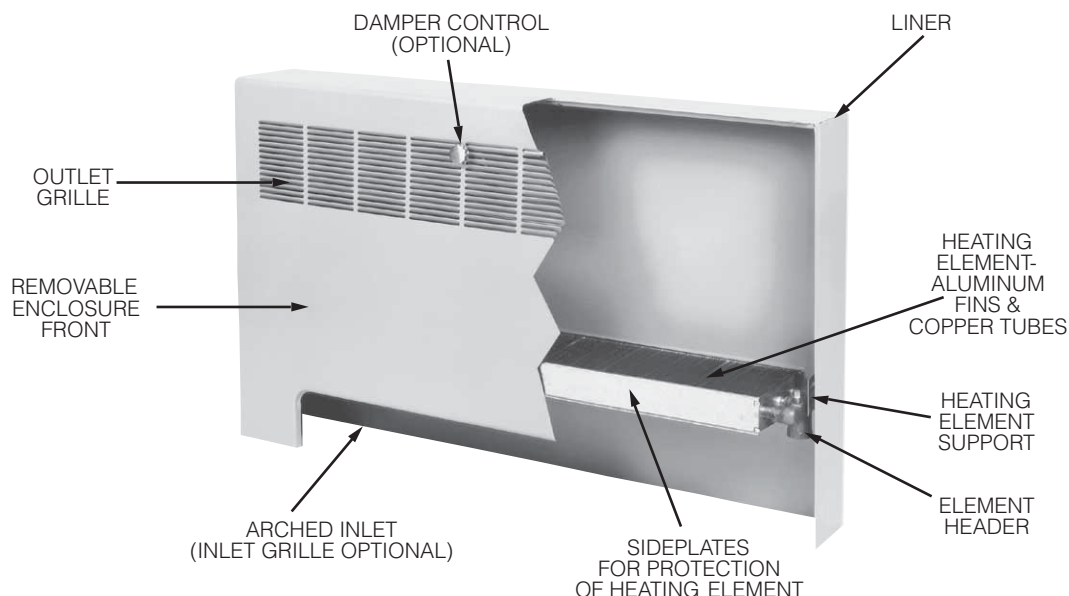
KNOB OPERATED DAMPER OPTION



INSTITUTIONAL DAMPER OPERATOR

ENCLOSURES

Features of enclosure construction are shown below. Note that the element support provides a simple and inexpensive means of leveling the heating element or giving it an appropriate pitch for steam installation. Enclosures are formed steel with front of 18-gauge, back and sides of 20-gauge thickness. Enclosure fronts are separate and fastened by friction fit slip joiners at sides of the front piece. Back, top and sides are an integral welded structure in all models, except wall hung slope top model, which has top integral with front. Design details of individual units are shown on succeeding pages.



TYPES OF CONVECTORS



FS-A/FSG-A

Type FS-A: The type FS-A Free-Standing Cabinet Enclosure is designed to be used exposed and fitted flush against the wall. Readily installed without alteration of wall interior, the FS-A enclosure is frequently used for system modernization where it is desirable to avoid the expense of recessing the unit in the wall. Arched inlet shown is standard. Unit may be provided with integral inlet grille, (FSG-A). See page 14.



W-A

Type W-A: The W-A Convecting Wall Hung Unit is a completely exposed wall hung unit with flat top. Outlet grille is in the face of the enclosure. Enclosure front wraps around unit and fastens to sides of cabinet with clips. Air inlet is through open bottom of unit enclosure. See page 15.



SR-A/SRG-A

Type SR-A Semi-Recessed: Cabinet design is similar to FS-A model. Enclosure projects only 2 1/4" from wall. Complete unit includes enclosure, front panel with outlet grille and arched inlet opening heating element. Front panel is easily removed for cleaning or access to heating element. Unit may be provided with integral inlet grille, (SRG-A). See page 16.



PW-A/PWG-A

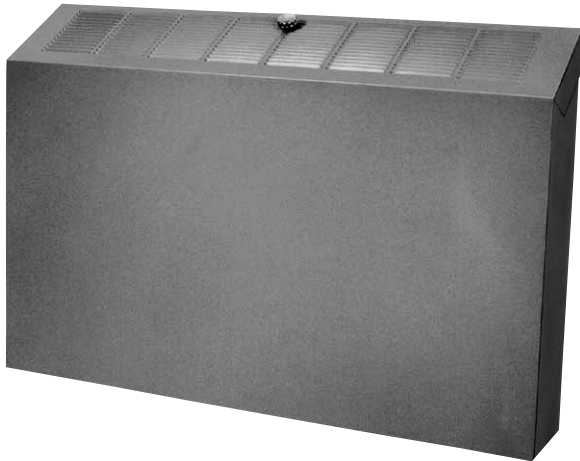
Type PW-A: This is a partially recessed unit with rounded flange front and venetian type air outlet grille, standard for wall mounting as illustrated. Cabinet extends only 2 1/4" from wall. Enclosure front fastens and screw to brackets on unit liner installed in wall recess. Air inlet is through open bottom of unit (PW-A). Unit may be provided with integral inlet grille, (PWG-A). See page 17.

TYPES OF CONVECTORS



SF-A/SFG-A

Type SF-A: The Type SF-A Free-Standing Cabinet Enclosure is designed to be used exposed and fitted flush against the wall. Readily installed without alteration of wall interior, the SF-A enclosure is frequently used for system modernization where it is desirable to avoid the expense of recessing the unit in the wall. Arched inlet shown is standard. Unit may be provided with integral inlet grille, (SFG-A). See page 18. (SFG-A available in stainless steel, consult factory).



SW-A

Type SW-A: This model is fully exposed wall hung with outlet grille located in sloping top. Enclosure wraps around unit and fastens to sides with clips. Air inlet is through open bottom of unit. Slope of top is 30°. See page 15. Consult factory for availability with stainless steel.



RF-A/RFG-A AND FWG-A

Type RF-A: Designed to be fully recessed within the wall. The flanged edge metal front contains the outlet grille and inlet opening and is fastened by screws. It is easily removable for heating element access. The standard unit is arranged for floor mounting with arched inlet opening, (RF-A). Unit may be provided with integral inlet grille (RFG-A shown).

Type FWG-A unit is similar, but for wall mounting with integral inlet grille. All units extend 13/16" from wall. See pages 19 & 20. Consult factory for availability of FWG-A and RFG-A models in stainless steel.

CONVECTOR STEAM RATINGS

TABLE 1 **STEAM RATINGS IN EDR (215°F at 65° E.A.T.)**

DEPTH IN INCHES	LENGTH IN INCHES	FRONT OUTLET, NOMINAL LINER HEIGHT *TYPES FS-A, SR-A, RF-A, PW-A					SLOPE TOP, WALL MOUNTED, NOMINAL HEIGHT TYPE SW-A				
		18"	20"	24"	26"	32"	14"	18"	20"	26"	32"
4	20	9.3	10.4	11.8	12.3	13.0	12.2	13.0	13.4	13.9	14.6
	24	11.5	13.0	15.0	15.4	16.6	15.4	16.4	16.9	17.7	18.4
	28	13.8	15.9	18.1	18.6	19.9	18.7	19.9	20.4	21.3	22.1
	32	16.1	18.6	21.3	21.8	23.6	21.9	23.4	24.0	25.1	26.2
	36	18.2	21.4	24.4	25.0	27.0	25.2	26.9	27.6	28.9	30.2
	40	20.4	24.0	27.3	28.2	30.4	28.3	30.4	31.2	32.6	33.8
	44	22.6	26.8	30.6	31.3	33.9	31.6	33.9	34.8	36.3	37.8
	48	24.8	29.5	33.6	34.6	37.3	34.8	37.3	38.3	40.0	41.6
	52	27.3	32.5	36.9	37.8	40.6	38.1	40.6	41.4	43.5	45.2
	56	29.3	35.0	40.0	41.0	44.2	41.2	44.3	45.1	47.3	49.3
60	31.9	38.0	43.1	44.2	47.5	44.6	47.5	48.4	50.8	53.4	
64	33.9	40.6	46.2	47.4	51.1	47.6	51.2	52.2	54.7	58.0	
6	20	13.5	15.1	17.7	18.3	20.2	18.8	20.6	21.2	22.3	23.7
	24	16.8	18.9	22.3	23.0	25.6	23.7	26.1	26.8	28.9	29.9
	28	20.2	23.0	27.0	27.8	30.7	28.7	31.5	32.3	34.7	36.2
	32	23.4	26.8	31.5	32.6	36.0	33.6	37.0	37.9	40.9	42.2
	36	26.8	30.6	36.0	37.5	41.3	38.5	42.3	43.6	46.8	48.4
	40	30.2	34.7	40.7	42.3	46.6	43.4	47.7	49.1	52.7	54.8
	44	33.6	38.5	45.3	47.1	51.7	48.3	53.2	54.5	58.9	61.1
	48	37.0	42.5	49.9	51.8	56.9	53.2	58.6	60.2	64.7	67.1
	52	40.6	46.6	54.6	56.4	62.1	58.4	63.7	65.5	70.4	73.3
	56	43.8	50.3	59.0	61.2	67.5	63.0	69.2	71.3	76.6	79.8
60	47.5	54.4	63.8	66.0	72.6	68.1	74.5	76.5	82.2	85.7	
64	50.8	58.3	68.3	70.9	78.1	72.8	80.1	82.3	88.4	92.0	
8	20	16.8	18.9	21.0	21.4	23.2	24.0	25.4	26.2	28.2	29.3
	24	21.3	23.8	26.4	27.3	29.5	30.3	32.4	33.4	36.0	37.5
	28	26.6	29.0	32.0	32.9	35.5	37.0	39.2	40.2	43.4	45.1
	32	31.5	33.8	37.5	38.6	41.8	43.2	46.2	47.3	51.1	53.3
	36	36.3	38.8	43.1	44.4	48.0	49.8	53.0	54.5	58.8	61.2
	40	41.1	43.9	48.8	50.1	54.1	56.1	59.9	61.6	66.4	69.1
	44	46.0	49.0	54.1	55.8	60.4	62.6	66.7	68.6	73.8	76.8
	48	49.8	54.0	59.7	61.4	66.6	69.1	73.6	75.4	81.5	84.9
	52	56.1	59.3	65.3	67.1	72.8	75.8	80.2	82.3	88.9	92.6
	56	60.9	64.2	70.9	72.9	79.1	81.8	87.3	89.5	96.8	100.9
60	65.7	69.4	76.4	78.5	84.9	88.7	93.8	96.3	104.0	108.5	
64	69.9	74.1	82.0	84.4	91.4	95.0	100.9	103.7	111.8	116.7	

TABLE 1A **STEAM RATINGS IN BTU/H (215°F at 65° E.A.T.)**

DEPTH IN INCHES	LENGTH IN INCHES	FRONT OUTLET, NOMINAL LINER HEIGHT *TYPES FS-A, SR-A, RF-A, PW-A					SLOPE TOP, WALL MOUNTED, NOMINAL HEIGHT TYPE SW-A				
		18"	20"	24"	26"	32"	14"	18"	20"	26"	32"
4	20	2230	2500	2830	2950	3120	2930	3120	3220	3340	3500
	24	2760	3120	3600	3700	3980	3700	3940	4060	4250	4420
	28	3310	3820	4340	4460	4780	4490	4780	4900	5110	5300
	32	3860	4460	5110	5230	5660	5260	5620	5760	6020	6290
	36	4370	5140	5860	6000	6480	6050	6460	6620	6940	7250
	40	4900	5760	6550	6770	7300	6790	7300	7490	7820	8110
	44	5420	6430	7340	7510	8140	7580	8140	8350	8710	9070
	48	5950	7080	8060	8300	8950	8350	8950	9190	9600	9980
	52	6550	7800	8860	9070	9740	9140	9740	9940	10440	10850
	56	7030	8400	9600	9840	10610	9890	10630	10820	11350	11830
60	7660	9120	10340	10610	11400	10700	11400	11620	12140	12820	
64	8140	9740	11090	11380	12260	11420	12290	12530	13130	13920	
6	20	3240	3620	4250	4390	4850	4510	4940	5090	5350	5690
	24	4030	4540	5350	5520	6140	5690	6260	6430	6940	7180
	28	4850	5520	6480	6670	7370	6890	7560	7750	8330	8690
	32	5620	6430	7560	7820	8640	8060	8880	9100	9820	10130
	36	6430	7340	8640	9000	9910	9240	10150	10460	11230	11620
	40	7250	8330	9770	10150	11180	10420	11450	11780	12650	13150
	44	8060	9240	10870	11300	12410	11590	12770	13080	14140	14660
	48	8880	10200	11980	12430	13660	12770	14060	14450	15530	16100
	52	9740	11180	13100	13540	14900	14020	15290	15720	16900	17590
	56	10510	12070	14160	14690	16200	15120	16610	17110	18380	19150
60	11400	13060	15310	15840	17420	16340	17880	18360	19730	20570	
64	12190	13990	16390	17020	18740	17470	19220	19750	21220	22080	
8	20	4030	4540	5040	5140	5570	5760	6100	6290	6770	7030
	24	5110	5710	6340	6550	7080	7270	7780	8020	8640	9000
	28	6380	6960	7680	7900	8520	8880	9410	9650	10420	10820
	32	7560	8110	9000	9260	10030	10370	11090	11350	12260	12790
	36	8710	9310	10340	10660	11520	11950	12720	13080	14110	14690
	40	9860	10540	11710	12020	12980	13460	14380	14780	15940	16580
	44	11040	11760	12980	13390	14500	15020	16010	16460	17710	18430
	48	11950	12960	14330	14740	15980	16580	17660	18100	19560	20380
	52	13460	14230	15670	16100	17470	18190	19250	19750	21340	22220
	56	14620	15410	17020	17500	18980	19630	20950	21480	23230	24220
60	15770	16660	18340	18840	20380	21290	22510	23110	24960	26040	
64	16780	17780	19680	20260	21940	22800	24220	24890	26830	28010	

*Derating factors for inlet grilles, see Page 12 Table 7.

CONVECTOR STEAM RATINGS

TABLE 2 STEAM RATINGS IN EDR (215°F at 65° E.A.T.)

DEPTH IN INCHES	LENGTH IN INCHES	FRONT OUTLET, WALL MOUNTED, NOM. HEIGHT TYPE W-A					SLOPE TOP, NOMINAL HEIGHT *TYPE SF-A				
		14"	18"	20"	26"	32"	18"	20"	24"	26"	32"
4	20	10.4	11.8	12.1	13.0	13.6	11.7	12.2	13.0	13.4	13.9
	24	13.2	15.1	15.5	16.6	17.3	15.0	15.6	16.6	17.0	17.7
	28	15.9	18.1	18.6	19.9	21.0	18.0	18.7	19.9	20.4	21.3
	32	18.8	21.3	22.0	23.6	24.8	21.3	22.2	23.5	24.0	25.2
	36	21.5	24.5	25.1	27.1	28.6	24.6	25.4	26.9	27.6	29.0
	40	24.4	27.6	28.4	30.6	32.2	27.7	28.6	30.5	31.3	32.7
	44	27.1	30.9	31.6	34.0	36.0	30.6	31.9	33.9	34.8	36.4
	48	29.7	33.9	34.9	37.5	39.7	33.9	35.2	37.4	38.3	40.1
	52	32.5	36.9	37.8	40.6	43.1	36.8	38.1	40.6	41.4	43.5
	56	35.4	40.2	41.2	44.3	47.1	40.1	41.6	44.4	45.3	47.6
60	38.0	43.1	44.2	47.5	50.5	42.7	44.6	47.5	48.4	50.8	
64	40.9	46.5	47.6	51.3	54.5	45.8	48.1	51.4	52.2	54.9	
6	20	15.1	17.7	18.3	20.2	21.0	18.2	18.8	20.7	21.2	22.8
	24	19.1	22.5	23.3	25.7	26.7	22.6	23.9	26.2	27.2	29.0
	28	23.0	27.0	27.8	30.7	31.9	27.2	28.7	31.4	32.3	34.7
	32	27.2	31.8	32.9	36.3	37.6	31.4	33.9	37.1	38.0	41.0
	36	31.0	36.4	37.7	41.5	43.1	37.1	38.9	42.5	43.7	47.0
	40	35.0	41.0	42.6	46.9	48.6	41.6	43.9	47.9	49.2	52.9
	44	38.9	45.6	47.4	52.2	54.1	46.6	48.8	53.4	54.7	59.0
	48	42.9	50.3	52.0	57.3	59.6	51.4	53.7	58.4	60.4	64.9
	52	46.6	54.6	56.4	62.1	64.6	56.4	58.4	63.7	65.5	70.4
	56	50.8	59.5	61.5	67.7	70.5	62.3	63.8	69.6	71.5	76.8
60	54.4	63.8	66.0	72.6	75.6	65.8	68.1	74.5	76.5	82.2	
64	58.6	68.7	71.2	78.3	81.6	70.2	73.5	80.4	82.4	88.8	
8	20	18.9	21.0	21.4	23.2	24.2	22.9	24.0	25.5	26.3	28.2
	24	24.2	26.6	27.4	29.6	31.1	30.0	30.8	32.7	33.6	36.1
	28	29.0	32.0	32.9	35.5	37.2	36.0	37.0	39.2	40.2	43.4
	32	34.3	37.7	39.0	42.0	44.0	42.6	43.8	46.5	47.6	51.4
	36	39.4	43.5	44.7	48.2	50.5	49.0	50.6	57.4	54.7	58.9
	40	44.6	49.1	50.5	54.6	56.9	55.0	56.9	60.2	61.9	66.7
	44	49.6	54.7	56.2	60.8	63.3	61.6	63.4	66.9	68.9	74.1
	48	53.8	60.3	62.0	67.3	70.0	68.0	69.9	74.0	73.8	81.9
	52	59.3	65.3	67.1	72.6	75.6	73.8	75.8	80.2	82.3	88.9
	56	64.9	71.4	73.5	79.3	82.7	80.7	82.8	87.7	90.0	96.9
60	69.4	76.4	78.5	84.9	88.4	86.4	88.7	93.8	96.3	104.0	
64	74.9	82.5	85.0	91.6	95.4	93.3	95.8	101.3	104.0	112.2	

TABLE 2A STEAM RATINGS IN BTU/H (215°F at 65° E.A.T.)

DEPTH IN INCHES	LENGTH IN INCHES	FRONT OUTLET, WALL MOUNTED, NOM. HEIGHT TYPE W-A					SLOPE TOP, FREE STANDING, NOMINAL HEIGHT *TYPE SF-A				
		14"	18"	20"	26"	32"	18"	20"	24"	26"	32"
4	20	2500	2830	2900	3120	3260	2810	2930	3120	3220	3340
	24	3170	3620	3720	3980	4150	3600	3740	3980	4080	4250
	28	3820	4340	4460	4780	5040	4320	4490	4780	4900	5110
	32	4510	5110	5280	5660	5950	5110	5330	5640	5760	6050
	36	5160	5880	6020	6500	6860	5900	6100	6460	6620	6960
	40	5860	6620	6820	7340	7730	6650	6860	7320	7510	7850
	44	6500	7420	7580	8160	8640	7340	7660	8140	8350	8740
	48	7130	8140	8380	9000	9530	8140	8450	8980	9190	9620
	52	7800	8860	9070	9740	10340	8830	9140	9740	9940	10440
	56	8500	9650	9890	10630	11300	9620	9980	10660	10870	11420
60	9120	10340	10610	11400	12120	10250	10700	11400	11620	12190	
64	9820	11160	11420	12310	13080	10990	11540	12340	12530	13180	
6	20	3620	4250	4390	4850	5040	4370	4510	4970	5090	5470
	24	4580	5400	5590	6170	6410	5420	5740	6290	6530	6960
	28	5520	6480	6670	7370	7660	6530	6890	7540	7750	8330
	32	6530	7630	7900	8710	9020	7540	8140	8900	9120	9840
	36	7440	8740	9050	9960	10340	8900	9340	10200	10490	11280
	40	8400	9840	10220	11260	11660	9980	10540	11500	11810	12700
	44	9340	10940	11380	12530	12980	11180	11710	12820	13130	14160
	48	10300	12070	12480	13750	14300	12340	12890	14020	14500	15580
	52	11180	13100	13540	14900	15500	13540	14020	15290	15720	16900
	56	12190	14280	14760	16250	16920	14950	15310	16700	17160	18430
60	13060	15310	15840	17420	18140	15790	16340	17880	18360	19730	
64	14060	16490	17090	18790	19580	16850	17640	19300	19780	21310	
8	20	4540	5040	5140	5570	5810	5500	5760	6120	6310	6770
	24	5810	6380	6580	7100	7460	7200	7390	7850	8060	8660
	28	6960	7680	7900	8520	8930	8640	8880	9410	9650	10420
	32	8230	9050	9360	10080	10560	10220	10510	11160	11420	12340
	36	9460	10440	10730	11570	12120	11760	12140	13780	13130	14140
	40	10700	11780	12120	13100	13660	13200	13660	14450	14860	16010
	44	11900	13130	13490	14590	15190	14780	15220	16060	16540	17780
	48	12910	14470	14880	16150	16800	16320	16780	18100	17710	19660
	52	14230	15670	16100	17420	18140	17710	18190	19250	19750	21340
	56	15580	17140	17640	19030	19850	19370	19870	21050	21600	23260
60	16660	18340	18840	20380	21220	20740	21290	22510	23110	25010	
64	17980	19800	20400	21980	22900	22390	22990	24310	24960	26930	

*Derating factors for inlet grilles, see Page 12 Table 7.

HOT WATER CAPACITIES

FRONT OUTLET CABINETS, TYPES (FS-A, SR-A, RF-A) (W-A, PW-A)**
 SR-A & RF-A are same capacity as FS-A.

20° DROP HEIGHT	FRONT OUTLET TYPES – 65° ENTERING AIR									AVERAGE WATER TEMP.			
	DEPTH SYMBOL	LENGTH								160°			
		20"	24"	28"	32"	36"	40"	44"	48"	52"	56"	60"	64"
TYPE FS-A 18	4	1.1	1.4	1.7	2.0	2.3	2.5	2.8	3.1	3.3	3.6	3.9	4.2
	6	1.7	2.1	2.5	2.9	3.3	3.7	4.2	4.6	5.0	5.4	5.8	6.3
	8	2.0	2.6	3.2	3.9	4.5	5.1	5.7	6.3	6.9	7.5	8.0	8.6
TYPE FS-A 20 TYPE W-A 14	4	1.3	1.6	1.9	2.3	2.6	3.0	3.3	3.7	4.0	4.3	4.6	5.0
	6	1.8	2.3	2.8	3.3	3.8	4.3	4.8	5.3	5.7	6.2	6.7	7.2
	8	2.4	3.0	3.6	4.2	4.8	5.4	6.1	6.7	7.3	7.9	8.7	9.2
TYPE FS-A 24 TYPE W-A 18	4	1.4	1.8	2.2	2.6	3.0	3.4	3.8	4.2	4.5	4.9	5.3	5.7
	6	2.0	2.8	3.3	3.9	4.7	5.0	5.6	6.2	6.7	7.3	7.8	8.4
	8	2.6	3.3	3.9	4.6	5.3	6.0	6.7	7.4	8.0	8.7	9.4	10.2
TYPE FS-A 26 TYPE W-A 20	4	1.5	1.9	2.2	2.6	3.1	3.4	3.9	4.3	4.6	5.0	5.3	5.7
	6	2.2	2.8	3.4	4.0	4.6	5.2	5.8	6.4	6.9	7.5	8.1	8.4
	8	2.7	3.3	4.0	4.8	5.4	6.2	6.9	7.6	8.3	9.0	9.7	10.3
TYPE FS-A 32 TYPE W-A 26	4	1.6	2.0	2.4	2.9	3.3	3.7	4.2	4.6	5.0	5.4	5.8	6.3
	6	2.4	3.1	3.7	4.4	5.1	5.7	6.4	7.0	7.6	8.3	9.4	9.6
	8	2.8	3.6	4.3	5.1	5.9	6.6	7.4	8.2	8.9	9.7	10.4	11.1
TYPE W-A 32	4	1.7	2.1	2.5	3.0	3.5	3.9	4.4	4.8	5.3	5.8	6.3	6.7
	6	2.5	3.3	3.9	4.6	5.3	5.9	6.6	7.3	8.0	8.6	9.2	10.1
	8	3.0	3.8	4.6	5.4	6.2	6.9	7.7	8.5	9.3	10.0	10.9	11.8

SEE CORRECTION FACTORS FOR 10° and 30° TEMP. DROP Pg. 12

20° DROP HEIGHT	FRONT OUTLET TYPES – 65° ENTERING AIR									AVERAGE WATER TEMP.			
	DEPTH SYMBOL	LENGTH								170°			
		20"	24"	28"	32"	36"	40"	44"	48"	52"	56"	60"	64"
TYPE FS-A 18	4	1.3	1.6	1.9	2.3	2.6	2.9	3.2	3.5	3.8	4.2	4.5	4.8
	6	1.9	2.4	2.8	3.3	3.8	4.3	4.8	5.2	5.7	6.2	6.7	7.2
	8	2.3	3.0	3.7	4.5	5.2	5.8	6.5	7.2	7.8	8.5	9.2	9.9
TYPE FS-A 20 TYPE W-A 14	4	1.4	1.8	2.2	2.6	3.0	3.4	3.8	4.2	4.6	5.0	5.4	5.8
	6	2.2	2.7	3.2	3.8	4.3	4.9	5.5	6.0	6.5	7.1	7.6	8.2
	8	2.7	3.4	4.1	4.8	5.5	6.2	6.9	7.7	8.4	9.1	9.8	10.6
TYPE FS-A 24 TYPE W-A 18	4	1.7	2.1	2.5	3.0	3.4	3.9	4.3	4.8	5.2	5.6	6.0	6.5
	6	2.6	3.2	3.8	4.5	5.1	5.8	6.4	7.1	7.8	8.3	8.9	9.6
	8	2.9	3.7	4.5	5.3	6.1	6.9	7.6	8.4	9.2	10.1	10.8	11.7
TYPE FS-A 26 TYPE W-A 20	4	1.8	2.2	2.6	3.1	3.5	4.0	4.4	4.9	5.4	5.8	6.3	6.7
	6	2.7	3.3	3.9	4.6	5.3	5.9	6.6	7.3	7.9	8.6	9.3	9.9
	8	3.0	3.8	4.6	5.4	6.2	7.0	7.8	8.7	9.5	10.2	11.1	11.9
TYPE FS-A 32 TYPE W-A 26	4	1.9	2.3	2.8	3.3	3.8	4.3	4.8	5.2	5.7	6.2	6.7	7.2
	6	2.9	3.6	4.3	5.1	5.8	6.6	7.3	8.0	8.7	9.5	10.2	11.1
	8	3.3	4.1	5.0	5.9	6.7	7.6	8.5	9.4	10.2	11.2	11.9	12.9
TYPE W-A 32	4	2.0	2.4	2.9	3.5	4.0	4.5	5.0	5.6	6.1	6.6	7.1	7.6
	6	3.0	3.7	4.5	5.3	6.0	6.8	7.6	8.3	9.1	10.0	10.6	11.5
	8	3.4	4.3	5.2	6.1	7.0	8.0	8.9	9.8	10.7	11.5	12.5	13.3

20° DROP HEIGHT	FRONT OUTLET TYPES – 65° ENTERING AIR									AVERAGE WATER TEMP.			
	DEPTH SYMBOL	LENGTH								180°			
		20"	24"	28"	32"	36"	40"	44"	48"	52"	56"	60"	64"
TYPE FS-A 18	4	1.5	1.8	2.2	2.6	2.9	3.3	3.6	4.0	4.4	4.7	5.0	5.4
	6	2.2	2.7	3.2	3.8	4.3	4.8	5.4	5.9	6.4	7.0	7.6	8.1
	8	2.6	3.4	4.2	5.0	5.8	6.6	7.3	8.1	9.0	9.7	10.4	11.1
TYPE FS-A 20 TYPE W-A 14	4	1.7	2.1	2.5	3.0	3.4	3.9	4.3	4.7	5.1	5.6	6.1	6.5
	6	2.4	3.0	3.6	4.3	4.9	5.5	6.2	6.8	7.4	8.0	8.6	9.3
	8	3.0	3.8	4.6	5.4	6.2	7.0	7.8	8.6	9.3	10.2	10.9	11.7
TYPE FS-A 24 TYPE W-A 18	4	1.9	2.4	2.9	3.4	3.9	4.4	4.9	5.4	5.9	6.4	6.9	7.4
	6	2.8	3.6	4.3	5.0	5.8	6.5	7.2	8.0	8.8	9.4	10.2	11.0
	8	3.2	4.2	5.1	6.0	6.9	7.7	8.6	9.5	10.4	11.3	12.1	12.9
TYPE FS-A 26 TYPE W-A 20	4	2.0	2.4	2.9	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.2	7.5
	6	3.0	3.7	4.4	5.2	5.9	6.7	7.5	8.2	8.9	9.7	10.4	11.4
	8	3.4	4.3	5.2	6.1	7.0	8.0	8.9	10.2	10.9	11.6	12.4	13.3
TYPE FS-A 32 TYPE W-A 26	4	2.1	2.6	3.1	3.7	4.3	4.8	5.4	5.9	6.4	7.0	7.5	8.1
	6	3.2	4.1	4.9	5.7	6.6	7.4	8.2	9.1	9.9	10.6	11.4	12.3
	8	3.7	4.7	5.6	6.6	7.6	8.6	9.6	10.5	11.5	12.6	13.6	14.6
TYPE W-A 32	4	2.2	2.8	3.3	3.9	4.5	5.1	5.7	6.3	6.9	7.4	8.0	8.6
	6	3.3	4.2	5.0	5.9	6.8	7.7	8.6	9.4	10.2	11.0	12.0	13.0
	8	3.8	4.9	5.9	6.9	8.0	9.0	10.0	11.1	12.1	13.1	14.1	15.0

* MBH — Thousands BTU/HR.

** Derating factors for inlet grilles, see Page 12 Table 7.

HOT WATER CAPACITIES

FRONT OUTLET CABINETS, TYPES (FS-A, SR-A, RF-A) (W-A, PW-A)**
 SR-A & RF-A are same capacity as FS-A.

20° DROP HEIGHT	FRONT OUTLET TYPES – 65° ENTERING AIR									AVERAGE WATER TEMP.			
	DEPTH SYMBOL	LENGTH								190°			
		20"	24"	28"	32"	36"	40"	44"	48"	52"	56"	60"	64"
TYPE FS-A 18	4	1.8	2.1	2.5	2.9	3.2	3.6	4.0	4.4	4.8	5.2	5.6	6.1
	6	2.4	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2	7.8	8.4	9.0
	8	3.0	3.8	4.7	5.6	6.5	7.3	8.2	9.0	9.9	10.9	11.6	12.5
TYPE FS-A 20 TYPE W-A 14	4	1.9	2.3	2.8	3.3	3.8	4.3	4.8	5.3	5.7	6.2	6.7	7.2
	6	2.7	3.4	4.1	4.8	5.5	6.2	6.9	7.6	8.3	9.0	9.7	10.2
	8	3.3	4.2	5.1	6.0	6.9	7.8	8.7	9.6	10.5	11.3	12.3	13.2
TYPE FS-A 24 TYPE W-A 18	4	2.2	2.7	3.2	3.8	4.3	4.9	5.4	6.0	6.5	7.1	7.6	8.2
	6	3.2	4.0	4.8	5.6	6.4	7.2	8.0	8.9	9.8	10.4	11.3	12.0
	8	3.7	4.7	5.6	6.6	7.6	8.6	9.6	10.6	11.6	12.6	13.5	14.6
TYPE FS-A 26 TYPE W-A 20	4	2.3	2.7	3.3	3.9	4.4	5.0	5.6	6.1	6.7	7.3	7.9	8.4
	6	3.3	4.1	4.9	5.8	6.6	7.5	8.3	9.2	10.0	10.9	11.6	12.6
	8	3.8	4.8	5.8	6.8	7.8	8.8	9.9	11.0	11.9	13.0	13.9	15.0
TYPE FS-A 32 TYPE W-A 26	4	2.4	2.9	3.5	4.1	4.8	5.4	6.0	6.6	7.2	7.8	8.4	9.0
	6	3.6	4.5	5.4	6.4	7.3	8.2	9.2	10.0	11.0	11.8	12.8	13.7
	8	4.1	5.2	6.3	7.4	8.5	9.6	10.7	11.9	12.9	14.1	15.0	16.0
TYPE W-A 32	4	2.5	3.1	3.7	4.4	5.0	5.7	6.3	7.0	7.6	8.3	8.9	9.6
	6	3.7	4.7	5.6	6.6	7.6	8.5	9.5	10.6	11.4	12.5	13.4	14.5
	8	4.3	5.4	6.5	7.7	8.8	9.9	11.0	12.1	13.3	14.7	15.6	16.7

SEE CORRECTION FACTORS FOR 10° and 30° TEMP. DROP Pg. 12

20° DROP HEIGHT	FRONT OUTLET TYPES – 65° ENTERING AIR									AVERAGE WATER TEMP.			
	DEPTH SYMBOL	LENGTH								200°			
		20"	24"	28"	32"	36"	40"	44"	48"	52"	56"	60"	64"
TYPE FS-A 18	4	1.9	2.3	2.7	3.1	3.6	4.0	4.4	4.9	5.3	5.8	6.3	6.8
	6	2.6	3.3	3.9	4.6	5.3	5.9	6.6	7.3	7.9	8.6	9.2	9.9
	8	3.3	4.2	5.2	6.2	7.1	8.0	9.0	9.9	10.9	12.0	12.8	13.6
TYPE FS-A 20 TYPE W-A 14	4	2.0	2.6	3.1	3.6	4.2	4.7	5.3	5.8	6.3	6.9	7.4	8.0
	6	3.0	3.7	4.5	5.3	6.0	6.8	7.6	8.3	9.0	9.9	10.6	11.5
	8	3.6	4.7	5.6	6.6	7.6	8.6	9.6	10.5	11.6	12.7	13.6	14.6
TYPE FS-A 24 TYPE W-A 18	4	2.3	2.9	3.5	4.2	4.8	5.4	6.0	6.6	7.2	7.8	8.4	9.0
	6	3.5	4.4	5.3	6.2	7.1	8.0	8.9	9.8	10.9	11.4	12.4	13.2
	8	4.3	5.2	6.2	7.3	8.2	9.5	10.5	11.6	12.7	13.9	14.9	16.1
TYPE FS-A 26 TYPE W-A 20	4	2.4	3.0	3.6	4.3	4.9	5.5	6.1	6.7	7.3	8.0	8.6	9.2
	6	3.6	4.5	5.4	6.4	7.3	8.2	9.2	10.2	10.7	12.0	12.6	13.9
	8	4.4	5.3	6.4	7.5	8.6	9.8	10.8	11.9	13.1	14.3	15.3	16.5
TYPE FS-A 32 TYPE W-A 26	4	2.6	3.2	3.9	4.6	5.2	5.9	6.6	7.3	7.9	8.6	9.2	9.9
	6	4.0	5.0	6.0	7.0	8.0	9.1	10.0	11.0	12.1	13.2	14.1	15.1
	8	4.5	5.7	6.9	8.1	9.3	10.5	11.8	13.1	14.2	15.3	16.5	17.6
TYPE W-A 32	4	2.9	3.4	4.1	4.8	5.3	6.2	7.0	7.7	8.4	9.1	9.8	10.5
	6	4.2	5.2	6.2	7.3	8.3	9.4	10.6	11.4	12.6	13.8	14.7	15.7
	8	4.7	6.0	7.2	8.5	9.8	11.1	12.2	13.6	14.7	16.1	17.2	18.6

20° DROP HEIGHT	FRONT OUTLET TYPES – 65° ENTERING AIR									AVERAGE WATER TEMP.			
	DEPTH SYMBOL	LENGTH								210°			
		20"	24"	28"	32"	36"	40"	44"	48"	52"	56"	60"	64"
TYPE FS-A 18	4	2.0	2.5	2.9	3.4	3.9	4.4	4.9	5.3	5.8	6.3	6.8	7.3
	6	2.9	3.6	4.3	5.0	5.7	6.5	7.2	7.9	8.6	9.4	10.1	10.8
	8	3.5	4.6	5.6	6.7	7.8	8.8	9.9	11.0	12.0	13.1	14.0	14.9
TYPE FS-A 20 TYPE W-A 14	4	2.2	2.8	3.4	4.0	4.6	5.2	5.8	6.3	6.9	7.5	8.1	8.7
	6	3.2	4.0	4.9	5.8	6.6	7.4	8.3	9.1	9.9	10.7	11.6	12.5
	8	4.0	5.1	6.1	7.2	8.3	9.4	10.5	11.7	12.6	13.6	14.7	15.9
TYPE FS-A 24 TYPE W-A 18	4	2.5	3.2	3.8	4.5	5.2	5.9	6.5	7.2	7.8	8.5	9.1	10.0
	6	3.8	4.8	5.7	6.7	7.7	8.7	9.7	10.6	11.6	12.5	13.6	14.5
	8	4.4	5.6	6.8	8.0	9.2	10.5	11.5	12.6	13.9	15.2	16.3	17.6
TYPE FS-A 26 TYPE W-A 20	4	2.6	3.3	3.9	4.6	5.3	6.0	6.7	7.4	8.0	8.7	9.3	10.0
	6	3.8	4.9	5.9	6.9	8.0	9.0	10.1	10.9	12.0	13.1	14.0	15.2
	8	4.6	5.8	7.0	8.2	9.4	10.6	12.0	13.2	14.3	15.4	16.7	18.1
TYPE FS-A 32 TYPE W-A 26	4	2.8	3.5	4.2	5.0	5.7	6.5	7.2	7.9	8.7	9.4	10.1	10.8
	6	4.3	5.4	6.5	7.7	8.8	9.9	10.9	12.2	13.2	14.3	15.5	16.7
	8	5.1	6.3	7.6	8.9	10.1	11.6	12.9	14.2	15.4	16.7	18.1	19.5
TYPE W-A 32	4	3.0	3.7	4.5	5.3	6.0	6.8	7.6	8.4	9.1	9.9	10.7	11.4
	6	4.5	5.6	6.8	8.0	9.1	10.2	11.4	12.5	13.7	15.0	16.1	17.2
	8	5.3	6.6	7.9	9.3	10.7	12.1	13.5	14.6	16.1	17.6	18.8	20.3

* MBH — Thousands BTU/HR.

** Derating factors for inlet grilles, see Page 12 Table 7.

HOT WATER CAPACITIES

SLOPING TOP CABINETS TYPES SW-A & SF-A **

20° DROP HEIGHT	SLOPING OUTLET TYPES – 65° ENTERING AIR									AVERAGE WATER TEMP.			
	DEPTH SYMBOL	LENGTH								160°			
		20"	24"	28"	32"	36"	40"	44"	48"	52"	56"	60"	64"
TYPE SF-A 18	4	1.4	1.8	2.2	2.6	3.0	3.4	3.8	4.1	4.5	4.9	5.2	5.6
	6	2.2	2.8	3.3	3.9	4.5	5.1	5.7	6.3	6.9	7.6	8.1	8.6
	8	2.9	3.7	4.4	5.2	6.0	6.7	7.5	8.3	9.1	10.0	10.6	11.5
TYPE SF-A 20 TYPE SW-A 14	4	1.5	1.9	2.3	2.7	3.1	3.5	3.9	4.3	4.7	5.1	5.5	5.9
	6	2.3	2.9	3.5	4.1	4.7	5.4	6.0	6.6	7.2	7.8	8.4	9.0
	8	3.0	3.8	4.6	5.4	6.2	6.9	7.7	8.5	9.3	10.2	10.9	11.8
TYPE SF-A 24 TYPE SW-A 18	4	1.6	2.0	2.4	2.9	3.3	3.7	4.2	4.6	5.0	5.4	5.8	6.3
	6	2.5	3.2	3.8	4.5	5.2	5.9	6.5	7.2	7.8	8.5	9.1	9.8
	8	3.2	4.0	4.8	5.7	6.5	7.4	8.2	9.0	9.8	10.6	11.5	12.5
TYPE SF-A 26 TYPE SW-A 20	4	1.7	2.1	2.5	2.9	3.4	3.8	4.2	4.7	5.1	5.5	5.9	6.4
	6	2.6	3.3	3.9	4.6	5.3	6.0	6.7	7.4	8.0	8.7	9.4	10.0
	8	3.2	4.1	4.9	5.8	6.7	7.6	8.4	9.3	10.1	10.9	11.8	12.6
TYPE SF-A 32 TYPE SW-A 26	4	1.8	2.2	2.6	3.1	3.5	4.0	4.4	4.9	5.3	5.8	6.2	6.7
	6	2.8	3.5	4.2	5.0	5.7	6.5	7.2	7.9	8.6	9.4	9.7	10.0
	8	3.5	4.4	5.3	6.3	7.2	8.1	9.1	9.9	10.9	11.9	12.7	13.6
TYPE SW-A 32	4	1.9	2.3	2.7	3.2	3.7	4.2	4.6	5.1	5.5	6.0	6.5	7.1
	6	2.9	3.7	4.4	5.2	6.0	6.7	7.5	8.3	9.0	9.8	10.5	11.4
	8	3.6	4.6	5.5	6.5	7.5	8.5	9.4	10.3	11.4	12.3	13.3	14.4

SEE CORRECTION FACTORS FOR 10° and 30° TEMP. DROP Pg. 12

20° DROP HEIGHT	SLOPING OUTLET TYPES – 65° ENTERING AIR									AVERAGE WATER TEMP.			
	DEPTH SYMBOL	LENGTH								170°			
		20"	24"	28"	32"	36"	40"	44"	48"	52"	56"	60"	64"
TYPE SF-A 18	4	1.7	2.1	2.5	3.0	3.4	3.9	4.3	4.8	5.2	5.6	6.0	6.4
	6	2.5	3.2	3.8	4.5	5.2	5.8	6.5	7.2	7.9	8.7	9.2	9.8
	8	3.3	4.2	5.1	6.0	6.9	7.6	8.6	9.5	10.4	11.2	12.2	13.0
TYPE SF-A 20 TYPE SW-A 14	4	1.8	2.2	2.6	3.1	3.5	4.0	4.5	4.9	5.3	5.8	6.2	6.7
	6	2.7	3.4	4.0	4.7	5.4	6.1	6.8	7.5	8.2	8.9	9.6	10.2
	8	3.3	4.3	5.2	6.1	7.1	7.9	8.9	9.8	10.7	11.5	12.5	13.3
TYPE SF-A 24 TYPE SW-A 18	4	1.8	2.3	2.8	3.3	3.8	4.3	4.8	5.2	5.7	6.2	10.5	7.2
	6	2.4	3.7	4.4	4.7	6.0	6.7	7.5	8.2	8.9	9.7	13.2	11.2
	8	3.4	4.6	5.5	6.1	7.4	8.4	9.4	10.5	11.3	12.2	14.2	14.2
TYPE SF-A 26 TYPE SW-A 20	4	1.9	2.4	2.9	3.4	3.9	4.4	4.9	5.4	5.8	6.3	6.8	7.3
	6	3.0	3.8	4.5	5.3	6.1	6.9	7.7	8.5	9.2	9.9	10.8	11.5
	8	3.7	4.7	5.7	6.7	7.7	8.7	9.7	10.5	11.6	12.6	13.6	14.5
TYPE SF-A 32 TYPE SW-A 26	4	1.9	2.5	3.0	3.5	4.1	4.6	5.1	5.6	6.1	6.6	7.1	7.7
	6	3.1	4.0	4.8	5.7	6.6	7.4	8.3	9.1	9.9	10.9	11.6	12.3
	8	4.0	5.0	6.1	7.2	8.2	9.3	10.5	11.6	12.5	13.7	14.6	15.6
TYPE SW-A 32	4	2.1	2.6	3.1	3.7	4.2	4.8	5.3	5.8	6.3	6.9	7.5	8.1
	6	3.4	4.2	5.1	6.0	6.8	7.7	8.6	9.5	10.3	11.1	12.1	12.9
	8	4.2	5.3	6.4	7.5	8.6	9.7	10.7	12.0	13.0	14.3	15.3	16.5

20° DROP HEIGHT	SLOPING OUTLET TYPES – 65° ENTERING AIR									AVERAGE WATER TEMP.			
	DEPTH SYMBOL	LENGTH								180°			
		20"	24"	28"	32"	36"	40"	44"	48"	52"	56"	60"	64"
TYPE SF-A 18	4	1.9	2.4	2.9	3.4	3.9	4.4	4.8	5.4	5.8	6.3	6.8	7.3
	6	2.8	3.6	4.3	5.1	5.9	6.6	7.3	8.1	8.9	9.8	10.4	11.0
	8	3.7	4.7	5.7	6.7	7.7	8.7	9.7	10.8	11.7	12.6	13.7	14.9
TYPE SF-A 20 TYPE SW-A 14	4	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.6	7.1	7.6
	6	3.0	3.8	4.5	5.3	6.1	6.9	7.7	8.5	9.3	10.0	10.8	11.7
	8	3.7	4.8	5.8	6.9	8.0	9.0	9.9	10.9	12.0	13.2	14.1	15.0
TYPE SF-A 24 TYPE SW-A 18	4	2.0	2.6	3.1	3.7	4.3	4.8	5.4	5.9	6.4	7.0	7.5	8.1
	6	3.3	4.1	5.0	5.9	6.7	7.6	8.4	9.3	10.1	10.9	11.8	12.6
	8	4.1	5.2	6.2	7.3	8.4	9.5	10.5	11.8	12.7	13.7	14.9	16.1
TYPE SF-A 26 TYPE SW-A 20	4	2.1	2.7	3.2	3.8	4.4	4.9	5.5	6.0	6.5	7.1	7.7	8.3
	6	3.4	4.3	5.1	6.0	6.9	7.8	8.7	9.5	10.4	11.2	12.1	12.9
	8	4.2	5.3	6.4	7.5	8.6	9.8	11.0	12.1	13.1	14.3	15.3	16.3
TYPE SF-A 32 TYPE SW-A 26	4	2.2	2.8	3.4	4.0	4.6	5.1	5.7	6.3	6.9	7.5	8.1	8.7
	6	3.5	4.6	5.5	6.5	7.4	8.4	9.3	10.4	11.2	12.2	13.0	13.9
	8	4.5	5.7	6.9	8.1	9.3	10.5	11.9	13.0	14.1	15.4	16.5	17.8
TYPE SW-A 32	4	2.3	2.9	3.5	4.1	4.8	5.4	6.0	6.6	7.2	7.8	8.5	9.2
	6	3.8	4.8	5.7	6.7	7.7	8.7	9.7	10.8	11.7	12.8	13.6	14.5
	8	4.6	5.9	7.1	8.4	9.7	11.1	12.1	13.4	14.7	15.9	17.2	18.6

* MBH — Thousands BTU/HR.

** Derating factors for inlet grilles, see Page 12 Table 7.

HOT WATER CAPACITIES

SLOPING TOP CABINETS TYPES SW-A & SF-A**

20° DROP HEIGHT	SLOPING OUTLET TYPES – 65° ENTERING AIR										AVERAGE WATER TEMP.			
	DEPTH SYMBOL	LENGTH										190°		
		20"	24"	28"	32"	36"	40"	44"	48"	52"	56"	60"	64"	
TYPE SF-A 18	4	2.1	2.6	3.2	3.8	4.3	4.9	5.4	6.0	6.5	7.1	7.6	8.1	
	6	3.2	4.0	4.8	5.7	6.5	7.6	8.2	9.0	10.0	10.9	11.6	12.3	
	8	4.4	5.3	6.4	7.5	8.6	9.6	10.7	11.9	13.1	14.3	15.3	16.4	
TYPE SF-A 20 TYPE SW-A 14	4	2.1	2.7	3.3	3.9	4.5	5.0	5.6	6.2	6.7	7.3	7.9	8.5	
	6	3.3	4.2	5.0	5.9	6.8	7.7	8.6	9.5	10.3	11.3	12.0	12.9	
	8	4.4	5.4	6.5	7.7	8.8	10.1	11.0	12.2	13.4	14.5	15.7	16.8	
TYPE SF-A 24 TYPE SW-A 18	4	2.1	2.9	3.5	4.1	4.8	5.4	6.0	6.6	7.2	7.8	8.4	9.0	
	6	3.6	4.6	5.5	6.5	7.5	8.4	9.4	10.4	11.2	12.3	13.1	14.1	
	8	4.5	5.7	6.9	8.1	9.3	10.5	11.9	12.9	14.2	15.5	16.6	17.8	
TYPE SF-A 26 TYPE SW-A 20	4	2.4	3.0	3.6	4.2	4.8	5.5	6.1	6.7	7.3	7.9	8.5	9.2	
	6	3.7	4.7	5.7	6.7	7.7	8.7	9.6	10.5	11.6	12.7	13.5	14.5	
	8	4.7	5.9	7.1	8.4	9.6	10.8	12.2	13.4	14.5	15.9	17.0	18.3	
TYPE SF-A 32 TYPE SW-A 26	4	2.4	3.1	3.7	4.4	5.1	5.9	6.4	7.0	7.7	8.4	9.0	9.6	
	6	4.1	5.1	6.1	7.2	8.2	9.3	10.5	11.3	12.4	13.6	14.5	15.6	
	8	5.0	6.3	7.6	9.0	10.3	11.8	13.1	14.5	15.7	17.0	18.4	19.7	
TYPE SW-A 32	4	2.5	3.2	3.9	4.6	5.3	6.0	6.7	7.3	8.0	8.7	9.4	10.2	
	6	4.2	5.3	6.4	7.5	8.6	9.7	10.9	12.0	13.0	14.0	15.2	16.3	
	8	5.1	6.6	8.0	9.4	10.9	12.3	13.7	14.9	16.4	17.9	19.2	20.6	

SEE CORRECTION FACTORS FOR 10° and 30° TEMP. DROP Pg. 12

20° DROP HEIGHT	SLOPING OUTLET TYPES – 65° ENTERING AIR										AVERAGE WATER TEMP.			
	DEPTH SYMBOL	LENGTH										200°		
		20"	24"	28"	32"	36"	40"	44"	48"	52"	56"	60"	64"	
TYPE SF-A 18	4	2.2	2.9	3.5	4.1	4.8	5.4	5.9	6.6	7.2	7.8	8.3	8.9	
	6	3.5	4.4	5.3	6.3	7.2	8.8	9.0	9.9	11.0	12.0	12.8	13.5	
	8	4.5	5.8	7.0	8.2	9.5	10.7	12.0	13.3	14.4	15.5	16.8	18.0	
TYPE SF-A 20 TYPE SW-A 14	4	2.4	3.0	3.6	4.3	4.9	5.5	6.2	6.8	7.4	8.1	8.7	9.3	
	6	3.7	4.6	5.6	6.6	7.5	8.5	9.5	10.5	11.3	12.4	13.2	14.1	
	8	4.6	5.9	7.2	8.5	9.8	10.9	12.4	13.4	14.7	15.9	17.3	18.7	
TYPE SF-A 24 TYPE SW-A 18	4	2.6	3.2	3.9	4.6	5.2	5.9	6.6	7.3	7.9	8.6	9.2	10.0	
	6	4.1	5.1	6.1	7.2	8.2	9.3	10.4	11.5	12.4	13.4	14.5	15.7	
	8	5.1	6.3	7.6	9.0	10.2	11.6	12.9	14.4	15.8	17.4	18.4	19.7	
TYPE SF-A 26 TYPE SW-A 20	4	2.8	3.3	4.0	4.7	5.3	6.0	6.7	7.4	8.1	8.8	9.4	10.0	
	6	4.1	5.2	6.3	7.4	8.5	9.5	10.5	11.8	12.8	14.0	14.9	16.0	
	8	5.2	6.5	7.8	9.2	10.5	11.9	13.4	14.8	16.0	17.5	18.8	20.0	
TYPE SF-A 32 TYPE SW-A 26	4	2.8	3.4	4.1	4.9	5.6	6.3	7.0	7.8	8.5	9.2	9.9	10.7	
	6	4.4	5.6	6.7	7.9	9.1	10.2	11.5	12.7	13.7	15.0	16.0	17.3	
	8	5.4	7.0	8.4	9.9	11.5	13.0	14.5	16.0	17.3	18.9	20.3	22.0	
TYPE SW-A 32	4	2.9	3.6	4.3	5.1	5.9	6.6	7.3	8.1	8.8	9.6	10.4	11.3	
	6	4.7	5.9	7.1	8.3	9.5	10.8	12.0	13.0	14.3	15.4	16.7	18.0	
	8	5.7	7.3	8.8	10.4	12.0	13.5	15.0	16.6	18.0	19.7	21.1	22.8	

20° DROP HEIGHT	SLOPING OUTLET TYPES – 65° ENTERING AIR										AVERAGE WATER TEMP.			
	DEPTH SYMBOL	LENGTH										210°		
		20"	24"	28"	32"	36"	40"	44"	48"	52"	56"	60"	64"	
TYPE SF-A 18	4	2.5	3.2	3.8	4.5	5.2	5.9	6.5	7.2	7.8	8.5	9.1	9.7	
	6	3.8	4.8	5.8	6.8	7.8	8.8	9.8	11.0	12.0	13.3	14.0	14.9	
	8	4.9	6.3	7.6	9.0	10.5	11.6	12.9	14.5	15.7	17.0	18.4	19.9	
TYPE SF-A 20 TYPE SW-A 14	4	2.6	3.3	4.0	4.7	5.4	6.0	6.8	7.4	8.1	8.8	9.5	10.2	
	6	4.1	5.1	6.1	7.2	8.2	9.3	10.4	11.3	12.4	13.4	14.5	15.5	
	8	5.0	6.5	7.9	9.3	10.8	11.9	13.3	14.9	16.2	17.7	18.9	20.2	
TYPE SF-A 24 TYPE SW-A 18	4	2.8	3.5	4.2	5.0	5.7	6.5	7.2	7.9	8.6	9.4	10.1	11.0	
	6	4.4	5.5	6.7	7.9	9.0	10.2	11.4	12.3	13.5	14.6	15.8	16.9	
	8	5.5	6.9	8.3	9.8	11.2	12.9	14.3	15.5	17.0	18.6	19.9	21.3	
TYPE SF-A 26 TYPE SW-A 20	4	2.9	3.6	4.3	5.1	5.8	6.6	7.3	8.1	8.8	9.6	10.3	11.0	
	6	4.5	5.7	6.9	8.1	9.3	10.5	11.5	12.9	13.9	15.0	16.3	17.6	
	8	5.6	7.1	8.5	10.1	11.7	13.2	14.7	15.9	17.5	18.9	20.5	21.8	
TYPE SF-A 32 TYPE SW-A 26	4	2.9	3.7	4.5	5.3	6.1	6.9	7.7	8.5	9.2	9.9	10.8	11.5	
	6	4.8	6.1	7.4	8.7	10.0	11.1	12.6	13.8	15.0	16.4	17.5	18.9	
	8	6.0	7.6	9.2	10.8	12.4	14.0	15.8	17.2	18.9	20.7	22.1	23.5	
TYPE SW-A 32	4	3.0	3.9	4.7	5.5	6.4	7.2	8.0	8.8	9.6	10.4	11.4	12.3	
	6	5.0	6.4	7.7	9.0	10.4	11.8	12.9	14.4	15.6	16.9	18.3	19.7	
	8	6.7	7.9	9.6	11.2	12.9	14.8	16.2	17.9	19.7	21.2	23.0	24.5	

* MBH — Thousands BTU/HR.

** Derating factors for inlet grilles, see Page 12 Table 7.

MISCELLANEOUS CAPACITY AND SELECTION DATA

Selection

1. Determine the conditions of the system. (If hot water, the average temperature, temp. drop, etc.)
2. Determine the MBH capacity of the unit as required for each location as shown on plans or based on heat loss calculations.
3. Refer to the hot water capacity tables on page 8 thru 11 which list capacities at the conditions for the job, for the model convector required.
4. Locate in table the required capacity and read convector size from columns showing Depth, Length, Height.
5. For rating below 160° use correction factors from table 3 for desired AWT and multiply times 215° rating.

Table 4

CORRECTION FACTORS FOR STEAM PRESSURES OTHER THAN 1 PSI GAUGE*						
FACTOR	PRESSURE PSI GAUGE					
	5	10	15	20	25	50
BTU PER SQ. FT.	269	301	327	351	374	463

*Apply factor to Tables 1, 1A, 2 and 2A to obtain rating at other than 1 psi gauge. (Pages 6 & 7).

Note: Max Recommended operating pressure 150 PSIG, (365.9°F).
For conversion from steam to hot water, use table factors as multiplier rather than a divisor.

Table 3

CONVECTOR CORRECTION FACTORS Based on ASHRAE HVAC Systems and Equipment					
AVERAGE WATER TEMPERATURE F°	ENTERING AIR TEMPERATURES °F				
	▼				
	55°	60°	STD. 65°	70°	75°
100°	0.17	0.14	0.12	0.09	0.07
110°	0.23	0.20	0.17	0.14	0.12
120°	0.29	0.26	0.23	0.20	0.17
130°	0.35	0.32	0.29	0.26	0.23
140°	0.43	0.39	0.35	0.32	0.29
150°	0.50	0.46	0.43	0.39	0.35
160°	0.58	0.54	0.51	0.47	0.43
170°	0.67	0.63	0.58	0.54	0.51
180°	0.76	0.71	0.67	0.63	0.58
190°	0.85	0.81	0.76	0.71	0.67
200°	0.95	0.90	0.85	0.81	0.76
210°	1.05	1.00	0.95	0.90	0.85
215° (STD) ▶	1.10	1.05	1.00	0.95	0.90
220°	1.15	1.10	1.05	1.00	0.95
230°	1.26	1.20	1.15	1.10	1.05
240°	1.37	1.32	1.26	1.21	1.15
250°	1.47	1.43	1.37	1.32	1.27

Table 5

DERATING PERCENTAGE REDUCTION TABLE									
Length "L"	Free Standing, Non-Recessed Non-Standard Access Door Locations				Semi-Recessed or Recessed Non-Standard Access Door Locations				
	3 or 4	3 & 4	5 or 6	5 & 6	3 or 4	3 & 4	5 or 6	5 & 6	
20	6%	12%	18%	35%	2.5%	5%	7.5%	15%	
24	5	9	14	28	2	4	6	12	
28	4	8	11	23	1.8	3.2	5.2	9.8	
32	3	6	11	20	1.5	2.8	4.5	8.2	
36	3	6	8	17	1.2	2.5	3.8	7.5	
40	3	5	8	15	1	2.2	3	6.8	
44	2	5	7	14	1	2	3	6	
48	2	4	6	12	1	1.8	3	5.2	
52	2	4	5	11	.8	1.5	2.2	4.5	
56	2	4	5	11	.8	1.5	2.2	4.5	
60	2	3	5	10	.8	1.5	2.2	4.5	
64	2	3	5	9	.8	1.2	2.2	3.8	

Note: Derating factors do not apply to units with end pockets.

Table 6

WATER FLOW IN G.P.M.	PRESSURE LOSS IN FEET OF WATER		
	4 INCH MODELS	6 INCH MODELS	8 INCH MODELS
.25	0.044	—	—
.50	0.160	0.070	0.046
1	0.597	0.270	0.167
2	2.220	1.047	0.616
3	—	2.260	1.367
4	—	3.793	2.380
5	—	—	3.673

Charted figures showing pressure drop through Convectors with forced hot water. Used for determining pressure head requirement. Based on 64" length units, but applicable to shorter units, as most loss is due to headers.

Table 7

DERATING FACTORS FOR INLET GRILLES			
TYPES: FSG-A, SRG-A, RFG-A, FWG-A, PWG-A, SFG-A			
HEIGHT	DEPTH		
	4	6	8
20	3%	6%	9%
24	2%	5%	7%
32	1%	2%	3%

Refer: All Tables Pages 6-11

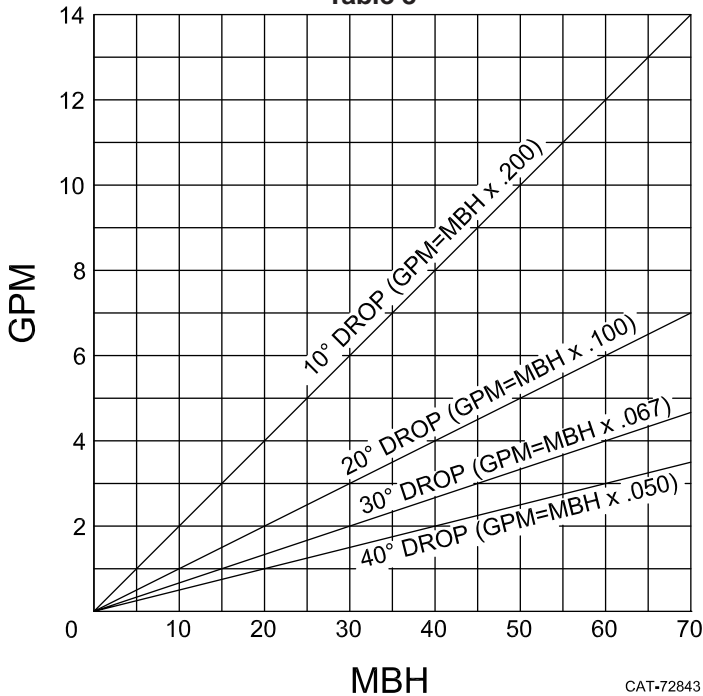
Due to the restriction to air flow, the percentages should be subtracted from the BTU output when inlet grilles are specified.

REFER TO P. 21 FOR ELEMENT & PIPING INFORMATION

MISCELLANEOUS CAPACITY AND SELECTION DATA

GALLONS PER MINUTE OF HOT WATER REQUIRED

Table 8



CAT-72843

The chart above may be used to determine the approximate GPM required for the desired MBH with various water temperature drops.

Formulas shown in chart with temperature drops may also be used for determining GPM.

EXAMPLE: $\left\{ \begin{array}{l} \text{MBH} \\ \text{Temperature drop} \\ \text{Factor from formula} \end{array} \right. \begin{array}{l} 15 \\ 10^\circ \\ .200 \end{array}$
 $15 \times .200 = 3.0 \text{ GPM}$

Where systems are designed for low flow rates (velocity) it has been determined by ASHRAE and the Hydronics Institute (I.B.R.) that a minimum flow rate of .25 F.P.S. should be observed. No formal test information is available for performance below the .25 F.P.S. at this point in time.

REF:

$$\begin{aligned} \text{BTU} &= \text{GPM} \times 500 \times \text{TD} \\ \text{GPM} &= (\text{BTU} \div 500) \div \text{TD} \\ \text{TD} &= (\text{BTU} \div 500) \div \text{GPM} \end{aligned}$$

CORRECTIONS WHEN USING GLYCOL SOLUTION IN SYSTEM

		Propylene Glycol
1. Heat transfer @ 180°F, with no increase in flow rate	20% solution	.982*
	30% solution	.961*
	40% solution	.934*
	50% solution	.902*
2. G.P.M. req'd @ 180°F, (no correction to pump curve)	20°Δt	110%*
3. Pump head req'd @ 180°F, with increase in G.P.M.		123%*
4. Freezing Point	50% by volume	-37°F -28°F
	40%	-14°F -13°F
	30%	+ 2°F + 4°F
	20%	+15°F +17°F

*Compared To Water.

OUTPUT-FLOW RATE CORRECTIONS

Table 9

Convecter Depth	Tubes per Element	Min. Flow Rate (0.25 Ft./Sec.) GPM	MBH Based on T.D. & Min. Flow Rate			
			10TD	20TD	30TD	40TD
4	2	.15	0.750	1.500	2.250	3.000
6	3	.225	1.125	2.250	3.375	4.500
8	4	.30	1.500	3.000	4.500	6.000

Note: TABLE 9 shows MBH which result at specific water temperature drops and minimum water flow rates which are required to maintain turbulent flow within element tubes. If the MBH output rating capacities shown on pages 8 to 11 fall below those shown in TABLE 9 for the minimum flow rates, this indicates that the GPM required at a 20 Deg. water temperature drop is less than the minimum GPM required to maintain turbulent flow.

Example: From page 8, -20° water temperature drop
 -170° F. AWT, 65° F. EA
 -Unit: FSA-18, 8" deep, 24" long
 -MBH = 2.6 (Rated capacity)

This capacity rating is less than the MBH (2.8) shown in TABLE 9 for a 20 Deg. F. TD and the minimum flow rate of 0.28 GPM.

Applying the following formula to the example above, we may determine the GPM required for a 20 Deg. F. TD at 2.6 MBH.

$$\text{GPM} = \frac{2.6 \text{ MBH}}{500 \times 20 \text{ TD}} \quad \text{GPM} = 0.26$$

Again, this GPM is too low to maintain turbulent flow within the element tubes. Therefore, use Min. GPM of 0.28 per TABLE 9.

The water temperature drop which may be expected when using the Min. GPM can be determined using the following formula:

$$\text{TD} = \frac{2.6 \text{ MBH}}{500 \times 0.28} \quad \text{TD} = 18.57 \text{ Deg. F.}$$

Note: By using the higher flow rate, a lower water temperature drop will be experienced. Because of this, the average water temperature will be higher and result in a somewhat higher output capacity. For many installations, the use of the minimum GPM from TABLE 9 will be satisfactory, without further consideration. However, if required, a closer approximation may be obtained by dividing by two and subtracting the result from the entering water temperature of 180 Deg. F.

$$\text{i.e. } 180 - \left(\frac{18.57}{2} \right) = 170.7 \text{ Deg. F. AWT}$$

Then, the new MBH rating may be determined by interpolation between the ratings shown on page 8 for the unit at 170 AWT and 180 AWT. In the above example, the new rating would be 2.61 MBH which would be very close to the actual performance without resorting to further iterations.

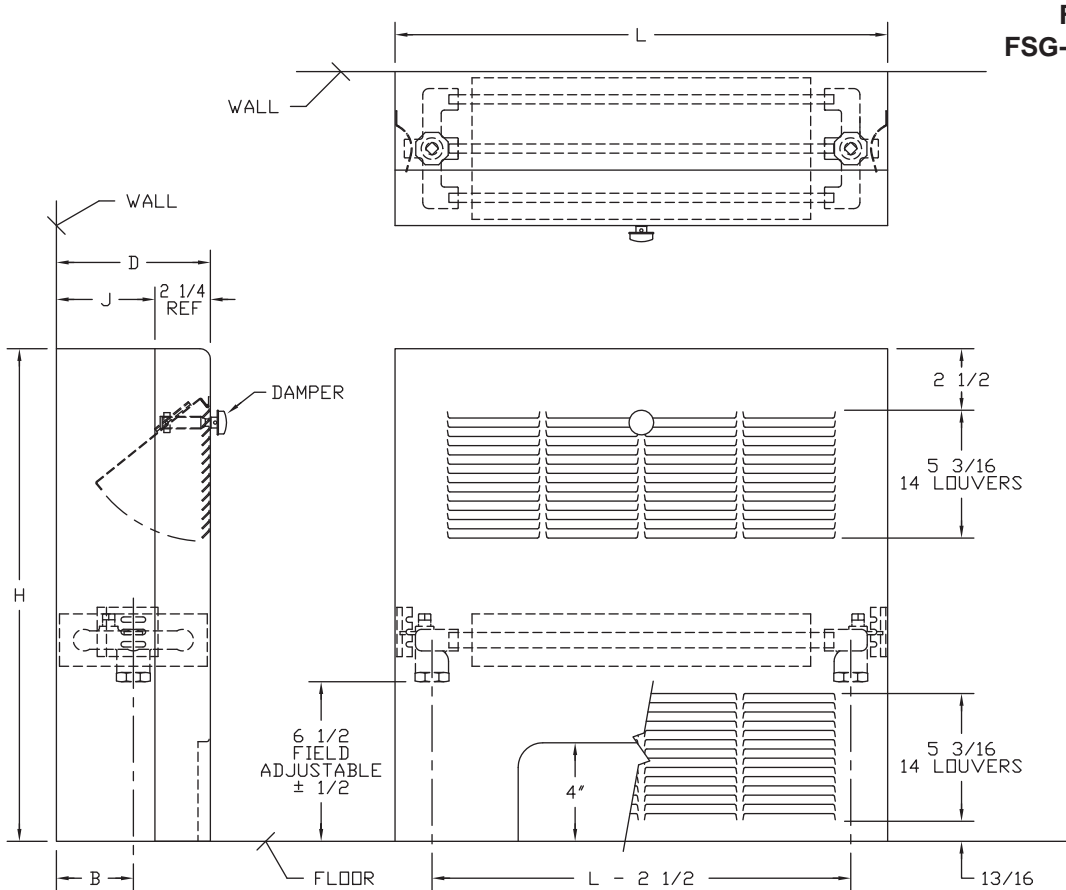
ALL HOT WATER RATINGS ARE BASED ON A 3 FPS VELOCITY

CONVECTOR DESIGN/INSTALLATION DATA

TYPE FS-A / FSG-A

TABLE					
MODEL	D	H	L	B	J
418	4-1/4	18	20,24,28,	2-1/8	2
420		20	32,36,40,		
424		24	44,48,52,		
426		26	56,60,64,		
432		32			
618	6-1/4	18	20,24,28,	3-1/8	4
620		20	32,36,40,		
624		24	44,48,52,		
626		26	56,60,64,		
632		32			
818	8-1/4	18	20,24,28,	4-1/8	6
820		20	32,36,40,		
824		24	44,48,52,		
826		26	56,60,64,		
832		32			

NOTE: When adding end pockets liner and front length increase.



FS-A = ARCHED INLET
 FSG-A = LOUVERED INLET
 (Grille)

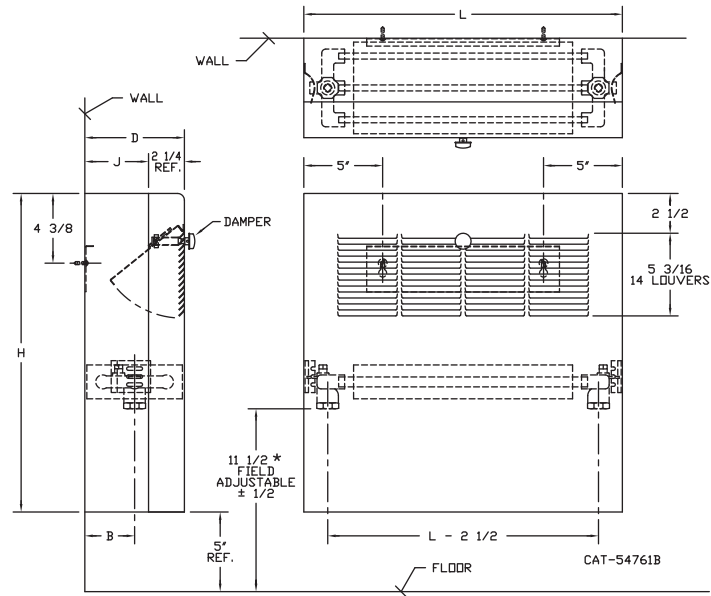
CAT-54760B

CONVECTOR DESIGN/INSTALLATION DATA

TYPE W-A

W-A

TABLE					
MODEL	D	H	L	B	J
414	4-1/4	14	20,24,28,	2-1/8	2
418		18	32,36,40,		
420		20	44,48,52,		
426		26	56,60,64,		
432		32			
614	6-1/4	14	20,24,28,	3-1/8	4
618		18	32,36,40,		
620		20	44,48,52,		
626		26	56,60,64,		
632		32			
814	8-1/4	14	20,24,28,	4-1/8	6
818		18	32,36,40,		
820		20	44,48,52,		
826		26	56,60,64,		
832		32			



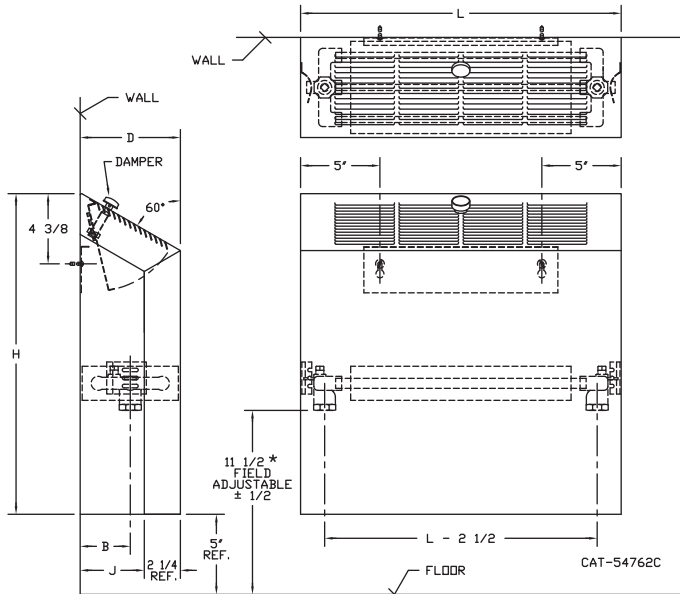
* 7-1/2" For 14" High Units

NOTE: When adding end pockets liner and front length increase.

TYPE SW-A

SW-A

TABLE					
MODEL	D	H	L	B	J
414	4-1/4	14	20,24,28,	2-1/8	2
418		18	32,36,40,		
420		20	44,48,52,		
426		26	56,60,64,		
432		32			
614	6-1/4	14	20,24,28,	3-1/8	4
618		18	32,36,40,		
620		20	44,48,52,		
626		26	56,60,64,		
632		32			
814	8-1/4	14	20,24,28,	4-1/8	6
818		18	32,36,40,		
820		20	44,48,52,		
826		26	56,60,64,		
832		32			



* 7-1/2" For 14" High Units

NOTE: When adding end pockets liner and front length increase.

CONVECTOR DESIGN/INSTALLATION DATA

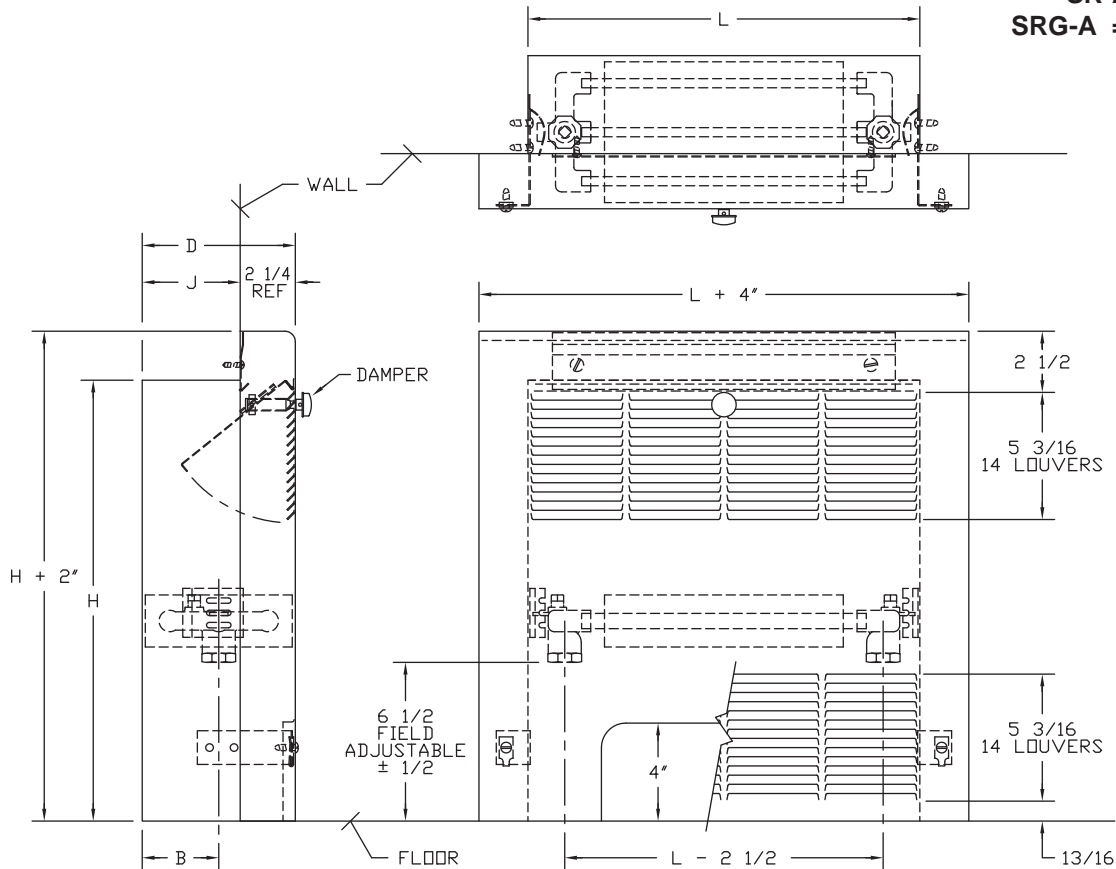
TYPE SR-A / SRG-A

TABLE					
MODEL	D	H	L	B	J
416	4-1/4	16	20,24,28,	2-1/8	2
418		18	32,36,40,		
422		22	44,48,52,		
424		24	56,60,64,		
430		30			
616	6-1/4	16	20,24,28,	3-1/8	4
618		18	32,36,40,		
622		22	44,48,52,		
624		24	56,60,64,		
630		30			
816	8-1/4	16	20,24,28,	4-1/8	6
818		18	32,36,40,		
822		22	44,48,52,		
824		24	56,60,64,		
830		30			

NOTE: Order by Liner Dimensions — L x H.
When adding end pockets liner and front length increase.

**Ratings, pages 6 thru 9, equivalent to
FS-A Models. (SR-A 416 = FS-A 418)**

**SR-A = ARCHED INLET
SRG-A = LOUVERED INLET
(Grille)**



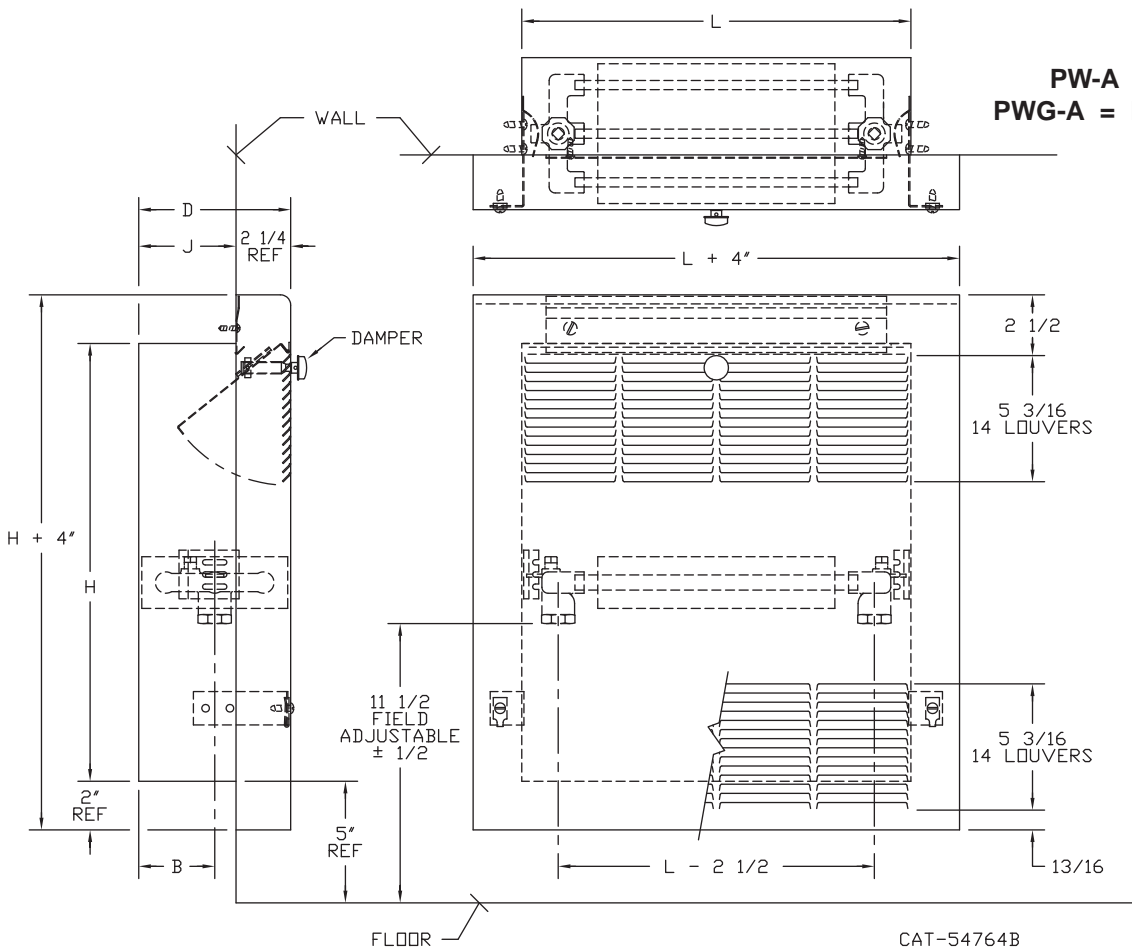
CAT-54763B

CONVECTOR DESIGN/INSTALLATION DATA

TYPE PW-A / PWG-A

TABLE					
MODEL	D	H	L	B	J
418	4-1/4	18	20,24,28,	2-1/8	2
420		20	32,36,40,		
424		24	44,48,52,		
426		26	56,60,64,		
428		28			
618	6-1/4	18	20,24,28,	3-1/8	4
620		20	32,36,40,		
624		24	44,48,52,		
626		26	56,60,64,		
628		28			
818	8-1/4	18	20,24,28,	4-1/8	6
820		20	32,36,40,		
824		24	44,48,52,		
826		26	56,60,64,		
828		28			

NOTE: Order by Liner Dimensions — L x H.
When adding end pockets liner and front length increase.



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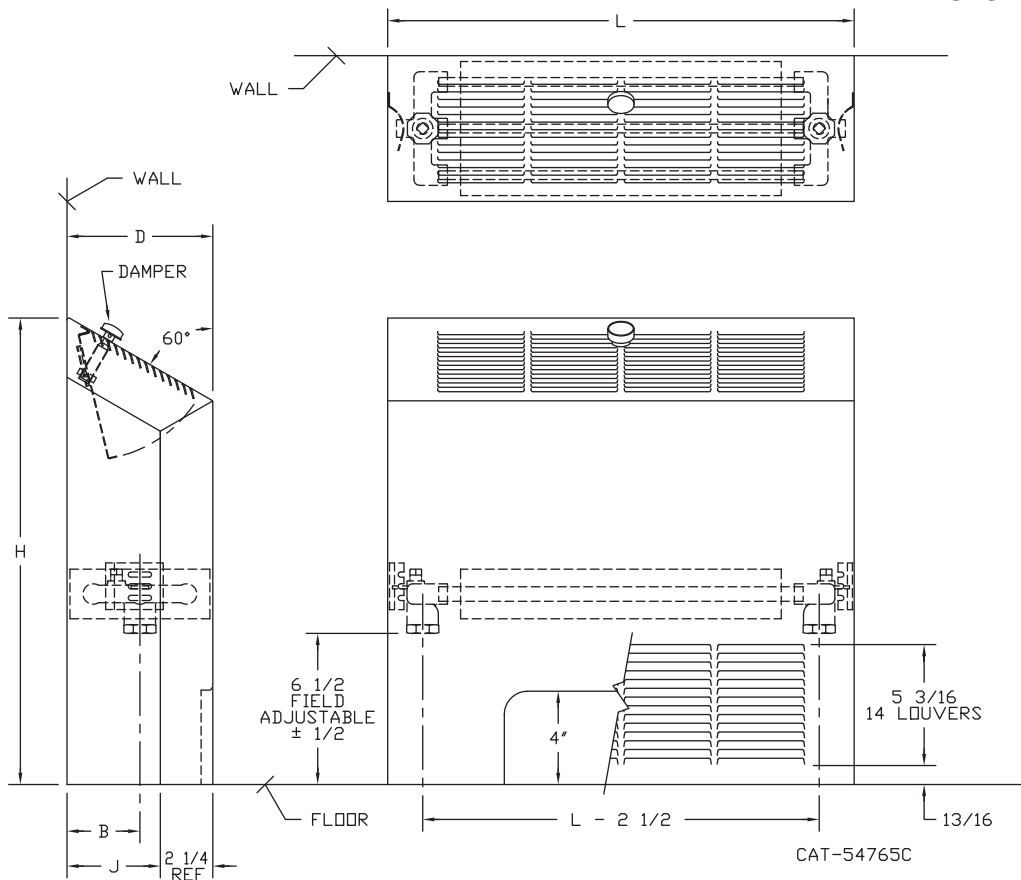
CONVECTOR DESIGN/INSTALLATION DATA

TYPE SF-A / SFG-A

TABLE					
MODEL	D	H	L	B	J
418	4-1/4	18	20,24,28,	2-1/8	2
420		20	32,36,40,		
424		24	44,48,52,		
426		26	56,60,64,		
432		32			
618	6-1/4	18	20,24,28,	3-1/8	4
620		20	32,36,40,		
624		24	44,48,52,		
626		26	56,60,64,		
632		32			
818	8-1/4	18	20,24,28,	4-1/8	6
820		20	32,36,40,		
824		24	44,48,52,		
826		26	56,60,64,		
832		32			

NOTE: When adding end pockets liner and front length increase.

SF-A = ARCHED INLET
SFG-A = LOUVERED INLET
(Grille)



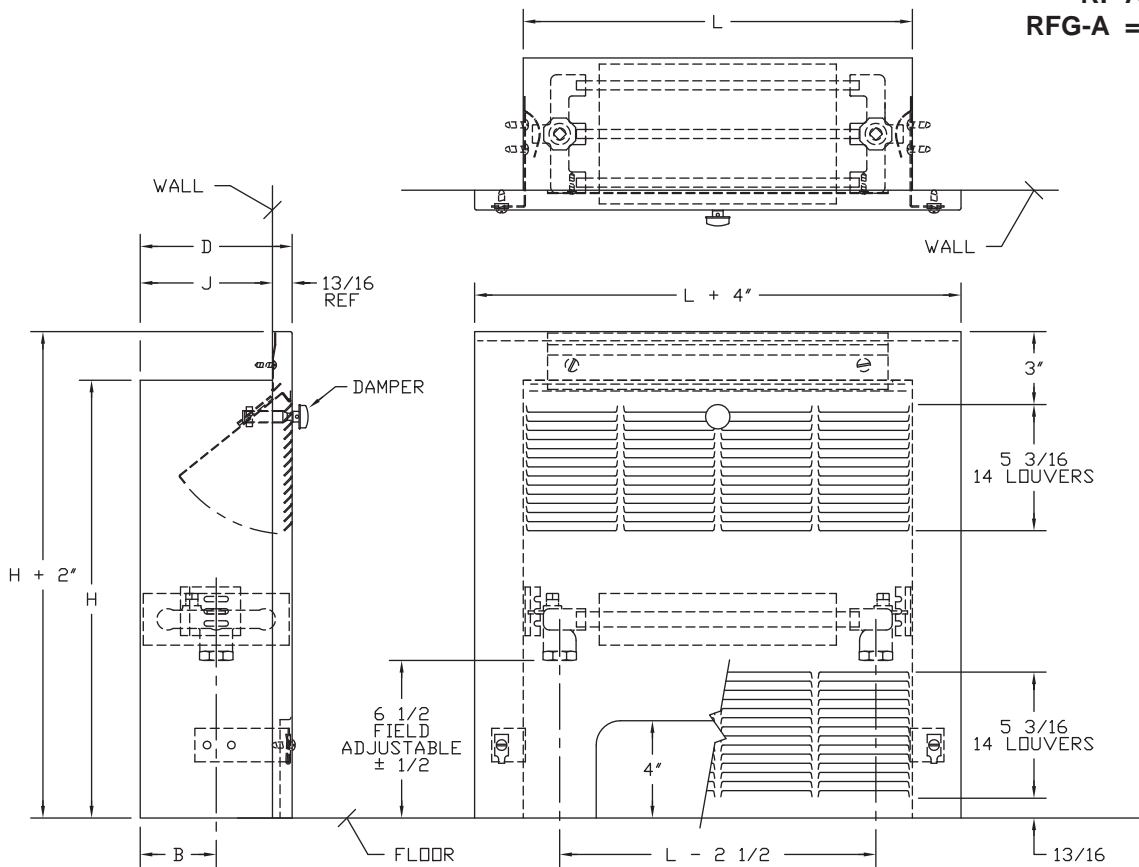
CONVECTOR DESIGN/INSTALLATION DATA

TYPE RF-A / RFG-A

TABLE					
MODEL	D	H	L	B	J
418	4-13/16	18	20,24,28,	2-1/8	4
420		20	32,36,40,		
424		24	44,48,52,		
426		26	56,60,64,		
432		32			
618	6-13/16	18	20,24,28,	3-1/8	6
620		20	32,36,40,		
624		24	44,48,52,		
626		26	56,60,64,		
632		32			
818	8-13/16	18	20,24,28,	4-1/8	8
820		20	32,36,40,		
824		24	44,48,52,		
826		26	56,60,64,		
832		32			

NOTE: Order by Liner Dimensions — L x H.
When adding end pockets liner and front length increase.

RF-A = ARCHED INLET
RFG-A = LOUVERED INLET (Grille)



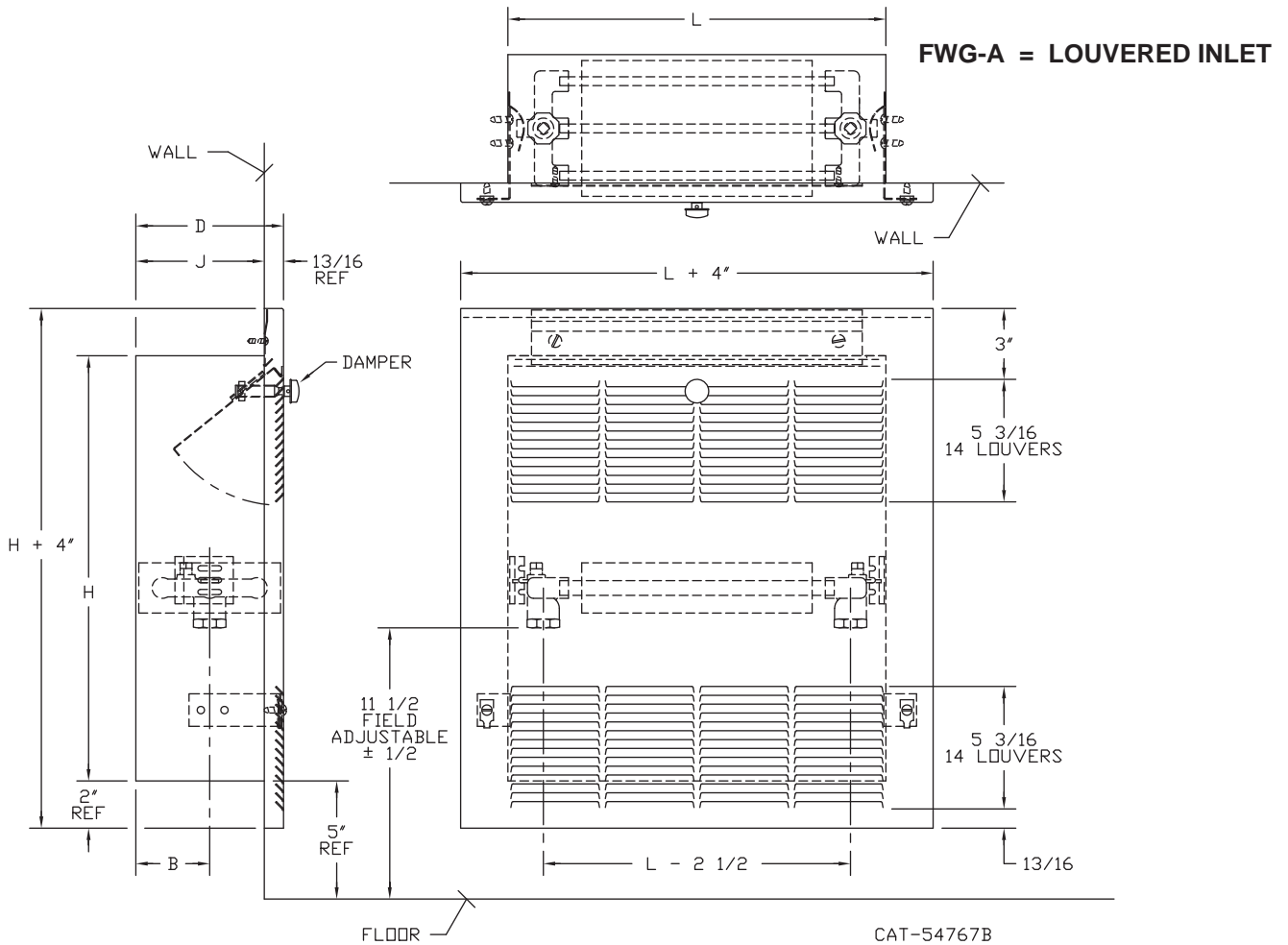
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CONVECTOR DESIGN/INSTALLATION DATA

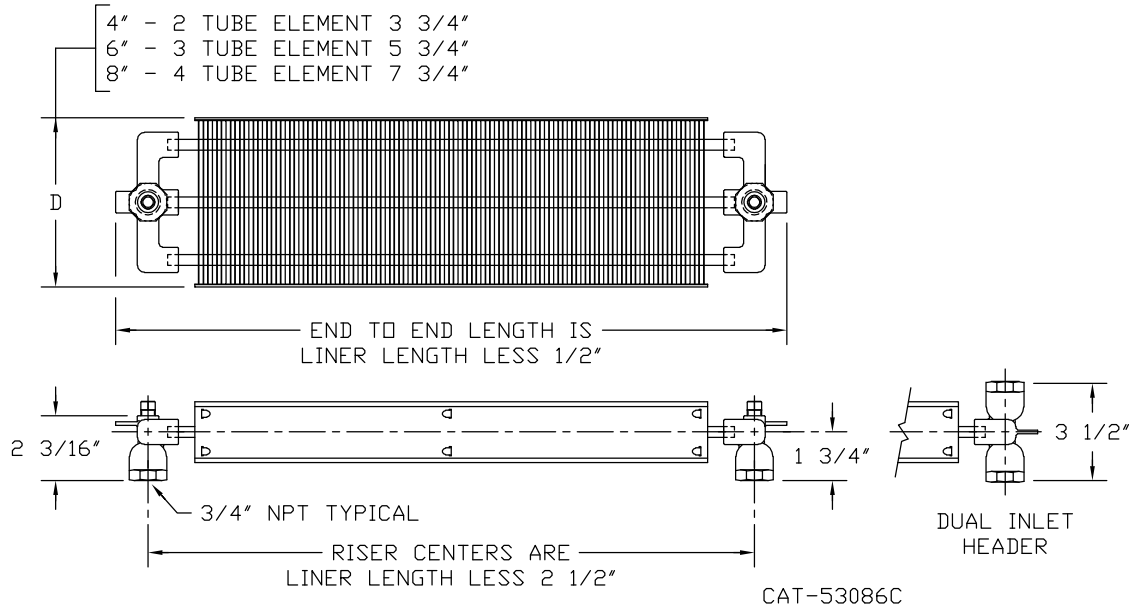
TYPE FWG-A

TABLE					
MODEL	D	H	L	B	J
418	4-13/16	18	20,24,28,	2-1/8	4
420		20	32,36,40,		
424		24	44,48,52,		
426		26	56,60,64,		
432		32			
618	6-13/16	18	20,24,28,	3-1/8	6
620		20	32,36,40,		
624		24	44,48,52,		
626		26	56,60,64,		
632		32			
818	8-13/16	18	20,24,28,	4-1/8	8
820		20	32,36,40,		
824		24	44,48,52,		
826		26	56,60,64,		
832		32			

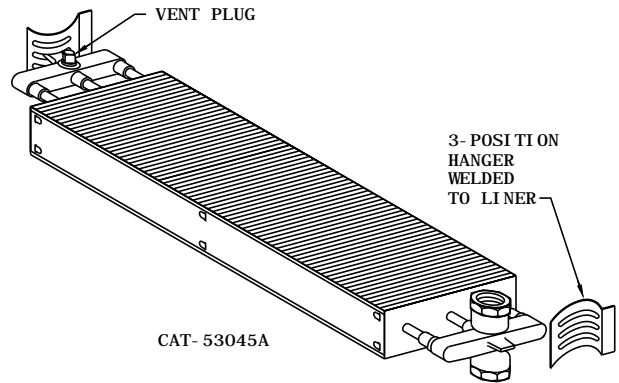
NOTE: Order by Liner Dimensions — L x H.
When adding end pockets liner and front length increase.



CONVECTOR DESIGN/INSTALLATION DATA



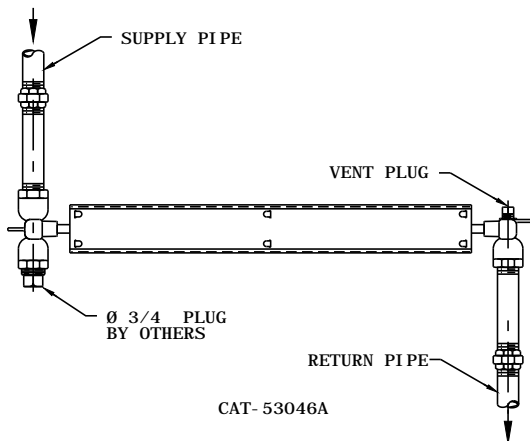
NOTE: When ordering convectors with end pockets always refer to the standard unit length. The overall physical length will increase by 4" for each end pocket. The coil length will remain the standard size. Coil fins are 2 1/2" high by width shown above and are mechanically bonded to copper tube at 6 fins per inch.



Non-ferrous convector heating elements consist of aluminum fins specially collared and mechanically bonded to 3/8" diameter copper tubes as the primary radiating surface. The tubes are joined at each end by cast brass headers for connection to the system risers. One header is provided with 1/4" NPT tapping for venting, the other header

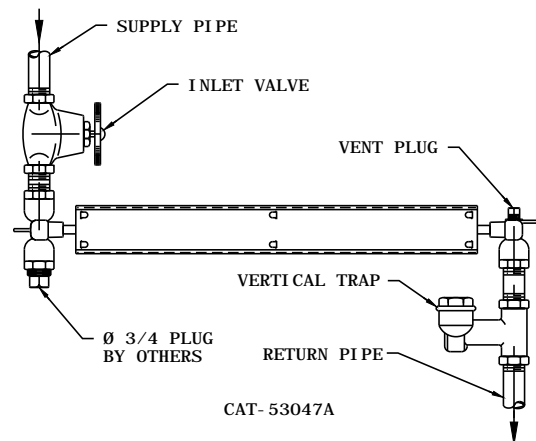
is supplied with a 1/4" NPT galvanized plug. All elements have steel side plates for appearance and strength. Standard heating element is supplied with two single 3/4" NPT headers. An optional dual inlet header is available. This allows for piping to come in from the top or bottom of element. Specify DH header one end when required.

HOT WATER SYSTEM



STEAM SYSTEM

(Not recommended for one pipe steam)



CONVECTOR SPECIFICATIONS

CONVECTOR RADIATORS

Furnish and install Convectors where shown on plans.

HEATING ELEMENTS

Convector heating elements shall be non-ferrous consisting of 3/8" diameter copper tubing and .010 thick aluminum plate fins with full-flanged collars. The tubes shall be expanded mechanically into fin collars to form a permanent thermal bond. Fins shall be protected front and back by formed shield plates running entire length of element. Headers shall be cast brass provided with bottom threaded piping connections. Heating elements shall be tested by manufacturer at 100 P.S.I. air pressure under water. Elements shall be supported from brackets on sides of cabinet which shall allow for proper pitching of the element.

CABINETS GENERAL

Cabinets shall be formed from cold rolled steel and shall be suitably braced and reinforced where necessary to provide stiffness, and accurately fitted to prevent air leakage. Cabinet front shall be flanged top and bottom for added rigidity. Top edge of cabinet fronts shall be smoothly formed with 3/8" inside radius. Air outlet louvers (and inlet louvers where required) shall be the venetian type. 18 gauge cold rolled steel heating element support brackets shall be spot welded to inside ends of all Convector cabinets.

After fabrication, all cabinets shall be thoroughly cleaned, and provided with a high quality baked enamel prime coat. Accessory items shall be included as noted per job requirements.

FREE STANDING CABINETS

— TYPE FS-A & FSG-A

Type FS-A Convectors shall be constructed from not less than 18 gauge CRS fronts and tops and 20 gauge CRS back, sides. The front shall wrap around the sides of the cabinet and shall fasten at sides with concealed friction-fit fasteners. Air outlet louvers of venetian type shall be in top face of front panel. Air inlet shall be through (arched opening Type FS-A) (venetian type louvers stamped in lower section of front panel — same length and height as air outlet louvers Type FSG-A).

WALL HUNG FLAT-TOP CABINETS

— TYPE W-A

Type W-A Convectors shall be constructed from not less than 18 gauge CRS fronts and tops, and 20 gauge CRS back, sides. The front shall wrap around the sides of the cabinet and shall fasten at sides with concealed friction-fit fasteners. Air outlet louvers of venetian type shall be at top of front panel. Air inlet shall be through open bottom. Back panel has stiffener with key-hole for added support and for mounting to wall.

WALL HUNG SLOPE TOP CABINETS

— TYPE SW-A

Type SW-A cabinets shall be constructed from not less than 18 gauge CRS front and top and 20 gauge CRS back and sides. The front shall wrap around the sides of the cabinet and shall fasten at sides with concealed friction-fit slip joints. Air outlet louvers of venetian type shall be in slope top. Type SW-A air inlet shall be through open bottom. Back shall be provided with holes for mounting on wall. Back panel has stiffener with key-hole for added support and for mounting to wall.

FREE STANDING SLOPE TOP CABINETS

— TYPES SF-A & SFG-A

Type SF-A & SFG-A cabinets shall be constructed from not less than 18 gauge CRS front and top and 20 gauge CRS back and sides. The front shall wrap around the sides of the cabinet and shall fasten at sides with concealed friction-fit fasteners. Air outlet louvers of venetian type shall be in slope top.

Type SF-A air inlet shall be through arched opening in front panel.

Type SFG-A air inlet shall be through venetian type louvers stamped in front panel, same length and height as air outlet louvers.

PARTIALLY RECESSED CABINETS

— TYPE SR-A & SRG-A, PW-A & PWG-A

Type SR-A & PW-A Convectors shall be constructed from not less than 18 gauge CRS wrap-around fronts and 20 gauge CRS recessed liner. Depth of cabinet front from wall shall be 2 1/4 inches. Front shall have radiused front edges and shall extend back to wall and fasten to brackets on liner with screws. Front shall be provided with venetian type air outlet grille (and arched air inlet, SR-A) (and integral inlet air grille, SRG-A & PWG-A). Convectors shall be 3 side overlap (for floor mount models, SR-A & SRG-A) and 4 side overlap for wall mounting, model (PWG-A).

FULLY RECESSED CABINETS

— TYPE RF-A & RFG-A & FWG-A

Convectors shall be constructed from not less than 18 gauge CRS fronts and not less than 20 gauge CRS liner. Fronts shall engage into horizontal securing strip as well as utilizing two front positive locking screws. Fronts shall be provided with venetian type air outlet louvers and integral inlet air louvers (arched air inlet for RF-A). Metal front cabinets shall be three (3) side overlap for floor mounting RF-A and RFG-A models. Wall mounting model FWG-A shall be four (4) sided front cabinets. All enclosure styles are available as options.

All enclosure styles are available with heavy gauge CRS.

Fronts: 18 gauge standard

16 gauge, 14 gauge optional

Liners: 20 gauge standard

18 gauge, 16 gauge, 14 gauge optional

CONVECTOR SPECIFICATIONS

DAMPERS

Provide factory installed knob-operated dampers for Convectors where noted. The operator is to be a fast-action, triple lead screw, knob operated for ease of adjustment.

ACCESS DOORS

Where noted, Convectors shall be provided with access doors. Access doors shall be 4 1/4" x 4 1/4" and shall be located in the non-louvered area*. Access doors shall be hinged on top with straight shaft type hinge and secured by a consealed 1/4 turn hex-head operator.

On units 24" high or less, consult factory for available door locations. For units without end pockets at access door locations, an adjustment must be made in the output ratings stated on pages 6 thru 11. See Table 6 on page 12 for derating percentage reductions. No access door available on 14" high units.

END POCKETS

Where noted, Convectors shall be provided with 4" end pockets (right end only) (left end only) (both ends). End pocket shall consist of the cabinet extended in length as noted with 20 gauge CRS baffle spot welded to back of cabinet extending from heating element to air outlet louvers. One end pocket only 64" long units. No end pockets on 64" SR-A or RF-A units.

NOTE: When ordering convectors with end pockets always refer to the standard unit length. The overall physical length will increase by 4" for each end pocket. The coil length will remain the standard size.

UNIT SIZE SELECTION

Example: Required, a type SW-A convector having an MBH capacity of 14.0, 190° average water temperature with 20° temperature drop. Turn to page 10, and using the table for 190° average water locate a rating of 14.0 or greater. In the columns at the left edge of the table you will find the depth and height of the unit and in the space at the top of the column containing the rating, you will find the length of the unit. It will be noted that several units meet the requirements listed. Select the size which best suits the application.

When ordering convectors with end pockets always refer to the standard unit length. The overall physical length will increase by 4" for each end pocket. The coil length will remain the standard size.

INSTITUTIONAL CABINETS

Furnish and install institutional-type Convectors where indicated. Cabinets shall be as described previously under the specific type except that tamper-resistant fasteners (Hex Head Screws) (Hex Head Concealed Locks) shall be provided. (Dampers and access doors where required shall be provided with Hex Head operators).

OPTIONAL EQUIPMENT

Among optional equipment features available with these Convectors are the following:

1. Damper with Knob Operator. Detailed description on page 3.
2. Access Door. Provided only when specifically ordered, hinged for easy access to valves or vents.*
3. Knock-outs on sides of cabinet are optional and will be provided only when specifically ordered.

Special models of these Convectors can also incorporate such special design features as integral inlet grilles, insulation, special gauge thickness of enclosure, special fasteners to meet unusual requirements, and various institutional type features as described on page 3.

*Note: Refer to page 2 for Standard Access Door Locations.

For units with 14, 16 or 18 inch high liners and grilled (louvered) inlet, a louver bank will be omitted. When Access Doors 3, 4, 5 or 6 are selected, see Table 5 for derating factors.

Example: Required, an FS-A convector having 40.5 EDR at 215° steam. Select size 6-40-24 from table #1 on page 6, which furnishes 40.7 EDR, or any other size furnishing 40.5 or more EDR. If the requirements are given in BTU's per hour (steam system) divide the BTU requirements by 240 to obtain the EDR capacity required and select the convector direct from table 1 and 2.

Other Products Manufactured by Beacon/Morris



Horizontal Unit Heater.

The Beacon/Morris horizontal steam/hot water unit heaters are available in twenty three models ranging from 8,000 BTUH to 360,000 BTUH (steam ratings). Available at competitive prices, and fast delivery makes it an easy choice.



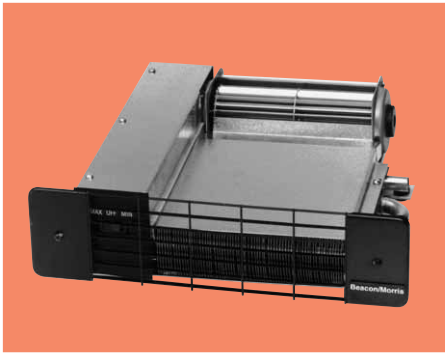
Vertical Unit Heater.

The Beacon/Morris vertical steam/hot water unit heaters are available in ten new models ranging from 35,190 BTUH to 705,000 BTUH (steam). Low temperature models are also available.



Cabinet Unit Heaters.

These units feature a unique solid state speed control for efficient and quiet operation. Available in attractive floor models and basic units for concealed or recessed installations.

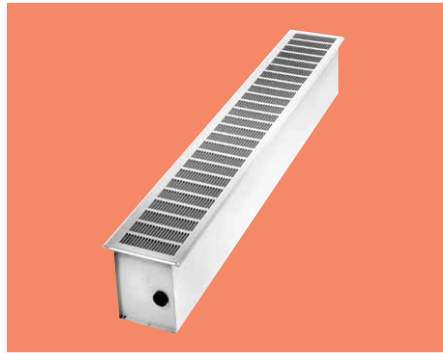


Twin-Flo.

When there's no space left for baseboard, install The Original space-saving Twin-Flo Heaters. Twin-Flo goes where convectors or baseboard cannot.

Our Twin-Flo kick space model measures a mere 4" x 12 1/4" x 12 3/4" But don't let its small size fool you — it delivers 4,278 BTU's, that's the equivalent of 9 feet of baseboard heating. Compact Twin-Flo units install in existing hot water heating systems.

So remember, no matter how tight the space, The Original Twin-Flo can solve your customers' needs. Four models in three sizes to choose from: 4,278, 8,460 and 11,585 BTU outputs. Send for FREE Catalog.



Window/Floor Vectors.

Icy window walls and sliding doors are converted to comfort zones with the Beacon/Morris Window/Floor Vector. Rectangular, grille-topped heaters recess into floor, "catch" cold air falling off window; deliver steady, efficient heat. Fit easily into wood or concrete slab floors or interior window ledges. Rust-resistant steel cabinet, welded steel floor register. In modular 3, 4 or 5-foot lengths to fit all window areas.



Low Profile Tubular Gas-Fired Unit Heaters

BRUT II low profile, gas-fired unit heaters are built by design. The durable tubular heat exchanger provides maximum and uniform heat transfer for longer service life.

ETL certified for residential, commercial and industrial installation, BRUT II units operate at 82-83% thermal efficiency.

Seven low profile units to choose from 30,000 to 120,000 BTU/Hr.



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