



Kemco Systems
11500 47th Street North
Clearwater FL, 33762
www.kemcosystems.com
(727)-573-2323

Release Date: 05/28/25
Job Number: 35211
Job Name: Rosina Foods
City & State: Buffalo, NY
Project Engineer: Andy Rzonca
Description: 9 MBTU DCWH system

Heater		Inputs
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Symbol	Description	Value	Units
F_{Heater}	Water Flow Rate	160	GPM
T_{win}	Cold Water Temperature	40	°F
T_{wout}	Hot Water Temperature (195°F Max)	150	°F
Q_{Design}	Design Capacity	9.0	MBTU/hr.
	Stack Approach	10	°F
	Heater Packaging Type	4-Pt.	-
	Heater Inlet Size	3	in.
	Nozzle Length	7.16	in.
	Nozzle Size	3	in.
$F_{\text{Nozz.}}$	Nozzle Flow Rate @ 10psi	112.4	GPM
	Nozzle Spray Angle	120	°
	Altitude (round to nearest 500ft., 12,000ft. max)	500	ft.
FC	Fuel Cost	9.36	\$/MMBTU
HpW	Hours per Week of Operation	40	hrs/wk
WpY	Weeks per Year of Operation	52	wks/yr
Sys_{eff}	System Efficiency	65	%

Intermediate Calculations

Symbol	Equation	Description	Value	Units
$T_{\text{Adj.}}$	-tabulated value-	Altitude adjusted heater outlet temp.	151	°F
Q	$\frac{500 * F_{\text{Heater}} * \Delta T}{10^6}$	Calculated heater capacity	8.8	MBTU/hr.
$Q_{\text{Adj.}}$	$Q_{\text{Design}} * C_{\text{Blower}}$	Altitude corrected blower capacity	9.1	MBTU/hr.

Results

Warnings and
Recommendations:

Savings: \$ 92252 per year

Heater Capacity: 8.8 MBTU/hr.

Packing Volume: 60 cubic feet

Nipple: 3" x 11"

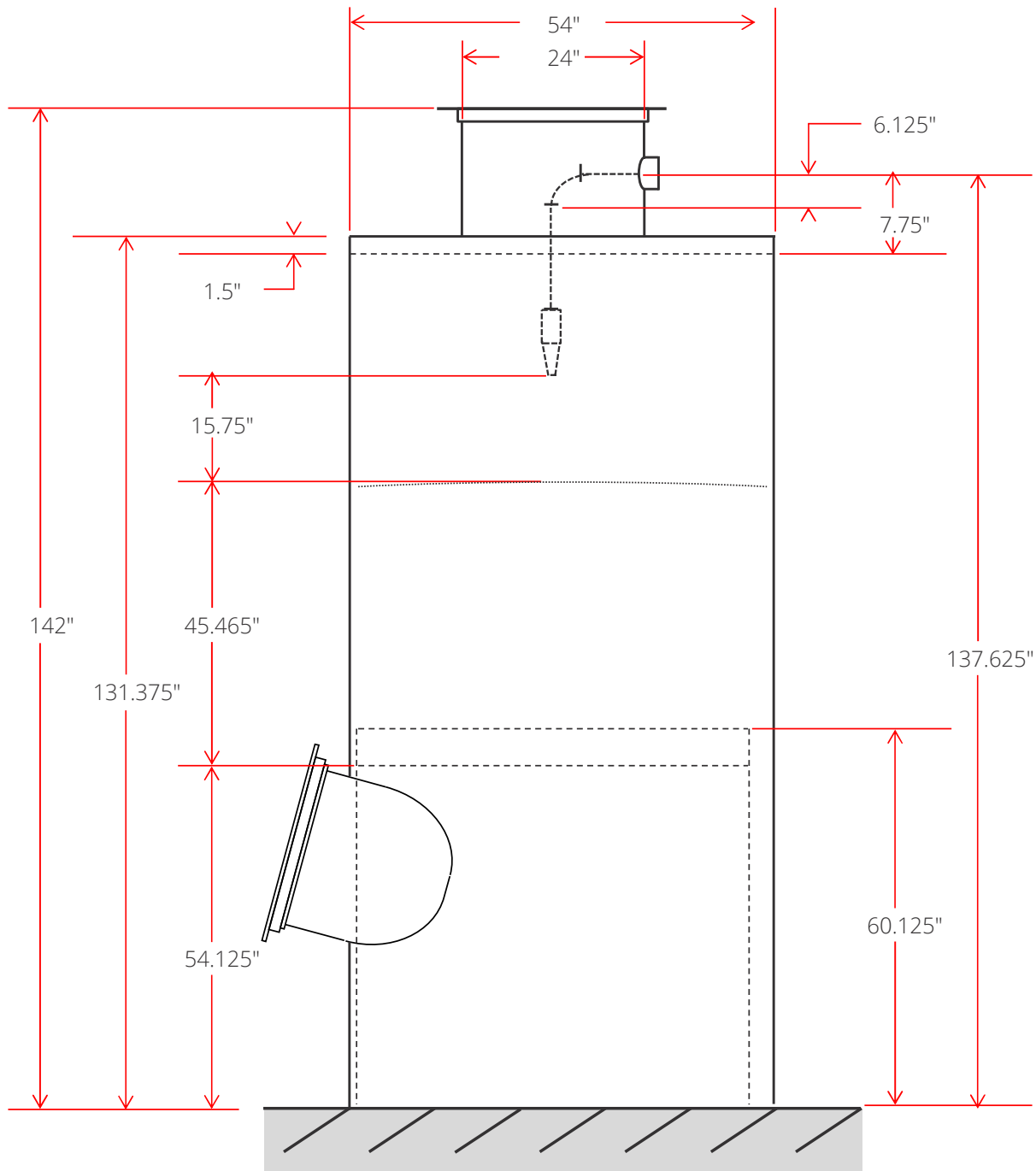
Can Size: 11' tall x 54" dia.



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Job Number:	35211
Job Name:	Rosina Foods
City & State:	Buffalo, NY
Project Engineer:	AndyRzonca
Description:	9 MBTU DCWH system

Heater		Can Cross Section
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Note: Drawing represents standard packaging. If 4-pt. packaging, then stack elbow to face dimension will be composed of a S.R. elbow and a welded on half coupling (and reducer if applicable).