

Job: \_\_\_\_\_  
Engineer: \_\_\_\_\_  
Contractor: \_\_\_\_\_  
Prepared By: \_\_\_\_\_ Date: \_\_\_\_\_  
Model: \_\_\_\_\_

# Condensing Heat Exchanger (CHX)

For Hi Delta<sup>®</sup> Boilers/Heaters

## Boosts thermal efficiency to 98% at full fire!

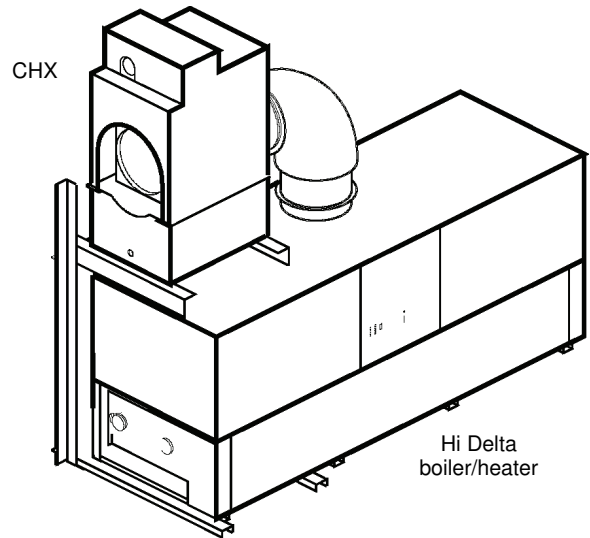
The Raypak Condensing Heat Exchanger (CHX) utilizes exhaust heat, which is normally wasted, and converts it to useful energy that increases overall operating efficiency. By isolating corrosive condensation in the CHX, away from the primary combustion chamber, the life of the boiler/heater is extended.

### Applications

- Domestic Hot Water
- Pool Heating
- Hydronic Heating

### Available Configurations

- Top-mounted CHX
- Rear-mounted CHX
- Stacked boilers/CHXs



Top-mounted configuration shown

### CHX Features

- Finned cupro-nickel tubes with patented epoxy coating
- All bronze headers
- Traditional Raypak tube sheet design with high-temperature silicone O-rings
- ASME tested to 160 PSIG working pressure
- AL29-4C stainless steel casing
- PolyTuf powder coating on outer shell
- Indoor/outdoor construction (32°F+ ambient temperatures)
- Condensate drain connection
- Limited twenty-year thermal shock warranty
- Ten-year limited warranty
- National Board approved
- Installation components and kits available

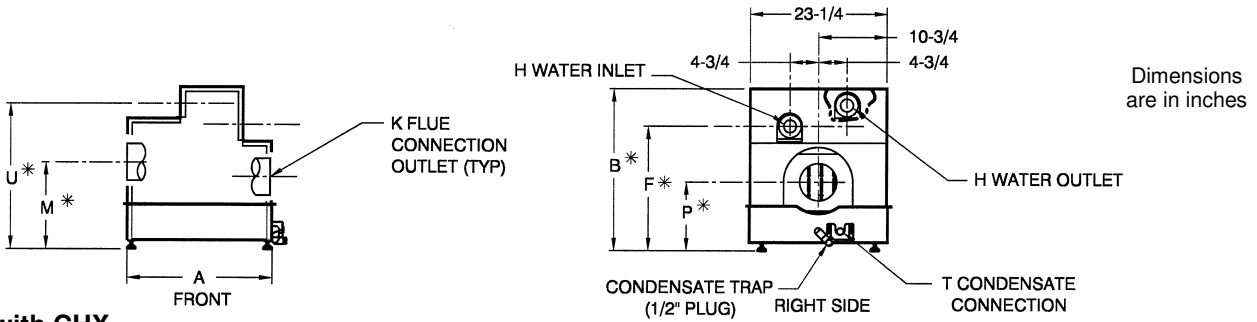


**Raypak<sup>®</sup>**  
A Rheem<sup>®</sup> Company

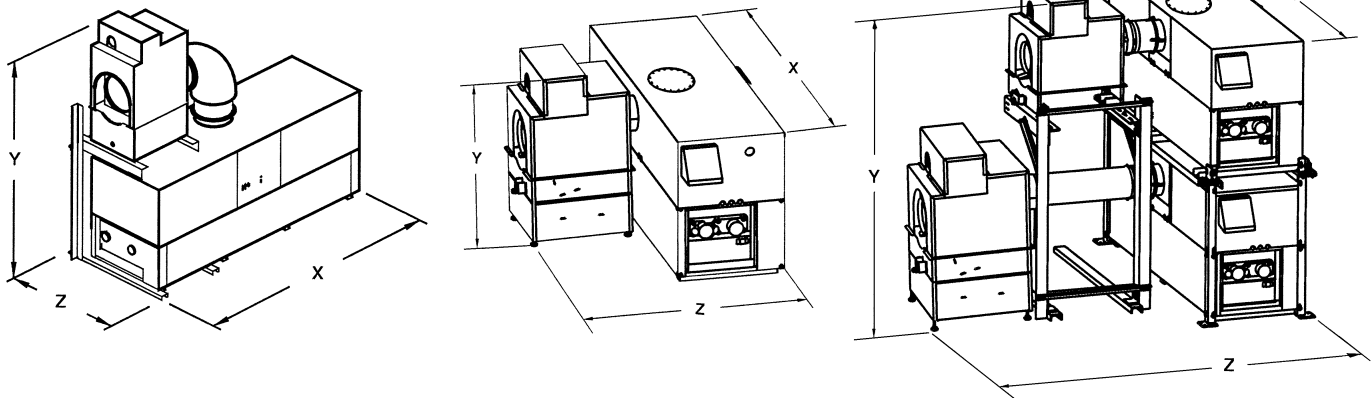
# CHX for Hi Delta

Model \_\_\_\_\_

## CHX



## Hi Delta with CHX



\* Dimension can be increased approx. 2" using adjustable feet

Hi Delta/ CHX Model	MBTUH		CHX										HI DELTA WITH CHX								
	Input	Output	A Width	B* Height	F*	P*	U*	M*	T NPT	K	H NPT	Ship.Wt. (lbs)	Top CHX			Rear CHX			Stacked CHXs		
													X	Y	Z	X	Y	Z	X	Y	Z
402/500-6	399	391	23-1/4	24-11/16	18-3/4	11	22-1/4	13-3/4	1/2	6	2	250	61-1/2	66-1/2	39-1/2	43	56	57	48-1/2	77-1/2	68-1/2
502/500-6	500	490	23-1/4	24-11/16	18-3/4	11	22-1/4	13-3/4	1/2	6	2	250	65-1/2	66-1/2	39-1/2	50	56	57	55-1/2	77-1/2	68-1/2
652/500-8	650	637	23-1/4	24-11/16	18-3/4	11	22-1/4	13-3/4	1/2	8	2	250	75	66-1/2	39-1/2	60-1/2	56	58-1/2	66	77-1/2	71
752/750-8	750	735	23-1/4	30-11/16	24-1/8	15	27-3/4	16-1/2	1/2	8	2	275	78	71	39-1/2	67-1/2	56	58-1/2	73	80	71
902/750-8	900	882	23-1/4	30-11/16	24-1/8	15	27-3/4	16-1/2	1/2	8	2	275	83-1/2	71	39-1/2	78	56	58-1/2	83-1/2	80	71
992/1000-10	990	970	28-3/4	39	33	21-5/8	36-5/8	20-5/8	1/2	10	2-1/2	300	75	89-1/2	46-1/2	57-1/2	65-1/2	73-1/2	62-1/2	102	110-1/2
1262/1000-10	1260	1235	28-3/4	39	33	21-5/8	36-5/8	20-5/8	1/2	12	2-1/2	300	81-1/2	89-1/2	46-1/2	68-1/2	65-1/2	73-1/2	74	102	108
1532/1500-12	1530	1499	34-1/4	49	42	19-1/2	46	20	3/4	12	2-1/2	350	88	99-1/2	46-1/2	80	65-1/2	73-1/2	85-1/2	112	108
1802/1500-14	1800	1764	34-1/4	49	42	19-1/2	46	20	3/4	14	2-1/2	350	102-1/2	99-1/2	46-1/2	91-1/2	65-1/2	78-1/2	96-1/2	112	115-1/2
2002/1500-14	1999	1959	34-1/4	49	42	19-1/2	46	20	3/4	14	2-1/2	350	108	99-1/2	46-1/2	102-1/2	65-1/2	78-1/2	107-1/2	112	115-1/2

## RATES OF FLOW AND PRESSURE DROPS

Model	20° F ΔT		30° F ΔT		40° F ΔT		Maximum Flow								
	Flow (GPM)	ΔP (ft)		Flow (GPM)	ΔP (ft)		Flow (GPM)	ΔP (ft)		GPM	Hi Delta		CHX		
		Hi Delta	CHX		Hi Delta	CHX		Hi Delta	CHX		ΔP (ft)	ΔT (°F)	ΔP (ft)	ΔT (°F)	
402	500-6	34	1.5	0.5	22	<1.0	0.2	N/A	N/A	N/A	90	10.0	7	3.0	1.2
502	500-6	42	2.3	0.8	28	1.1	0.4	21	<1.0	0.2	90	10.5	9	3.0	1.5
652	500-8	55	4.0	1.2	36	1.8	0.6	28	1.0	0.4	90	10.7	12	3.0	2.0
752	750-8	64	5.5	2.0	42	2.5	0.9	32	1.4	0.5	90	11.0	14	3.5	2.3
902	750-8	76	8.3	2.6	51	3.8	1.2	38	2.1	0.7	90	11.8	17	3.5	2.8
992	1000-10	84	5.6	4.0	56	2.5	1.9	42	1.4	1.1	132	14.0	13	9.2	2.2
1262	1000-12	107	10.0	6.2	71	4.5	2.9	54	2.5	1.8	132	15.5	16	9.2	2.7
1532	1500-12	130	16.0	10.0	86	7.1	4.7	65	4.0	2.6	132	16.5	20	10.1	3.3
1802	1500-14	N/A	N/A	N/A	102	10.8	6.3	76	6.0	3.7	132	18.0	23	10.1	3.8
2002	1500-14	N/A	N/A	N/A	113	14.0	7.7	85	8.1	4.5	132	19.5	26	10.1	4.3

For Hydronic applications, minimum flow rates are at 40° F ΔT, except on model 402 which is 20 GPM.

For Pool applications, use 20° F ΔT or Maximum Flow column, as appropriate.

For series piping, add the pressure drop of the boiler, CHX and piping to size the pump.

For dual-pumped Domestic Hot Water, size the heater pump for the pressure drop of the selected heater plus the pressure drop of the piping. Size the CHX pump for 40 GPM @ 0.7 ft. of head for models 402 to 902 and for 60 gpm @ 2.2 ft of head for models 992 to 2002 plus the piping.