KeepRite® REFRIGERATION

KEZ-Line Condensing Units

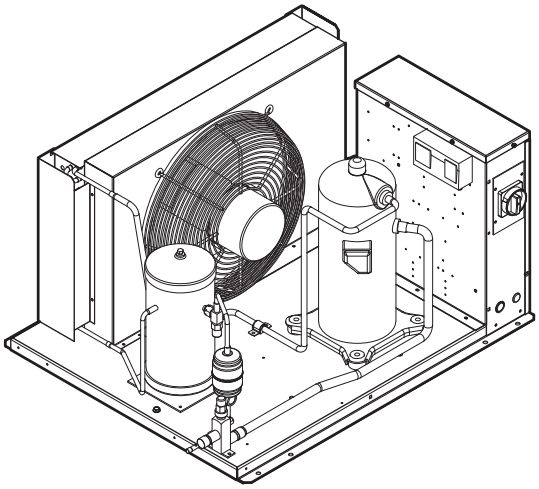
PRODUCT DATA & SPECIFICATIONS

Bulletin K40-KEZ-PDS-60-6

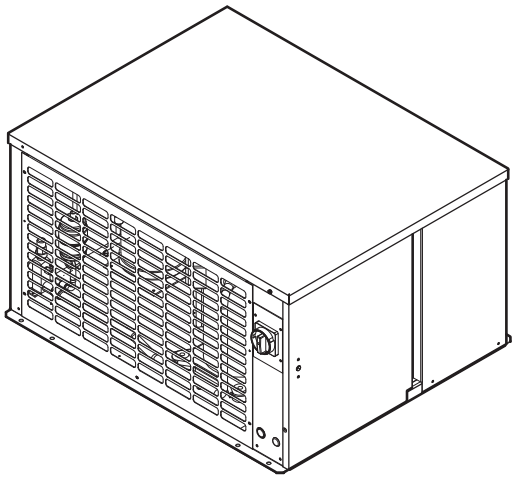
1087393

60 Hz

Indoor/Outdoor
Air-Cooled Scroll
Condensing Units
1 to 15 HP -
High, Medium and Low
Temperature Refrigeration



Indoor Unit



Outdoor Unit

CONTENTS

For the latest product updates and further information, visit **www.keepriterefrigeration.com**

NOMENCLATURE

K E Z A 020 M 6 - H T4 B - A

Model Name
K = KeepRite

Model Series
EZ = Excel Scroll Air Cooled Condensing Unit Line

Compressor Manufacturer
A = Copeland
T = Tecumseh

Nominal HP
010 - 150 = 1 - 15 HP

Application Range
H = High and Med Temp
M = Med Temp
E = Extended Medium Temperature
L = Low Temp

Refrigerant*
2 = R22, 6 = R404A / R507
8 = R404A / R507, R22, R407C

Enclosure
H = Outdoor
I = Indoor

Voltage*
S2 = 208/230-1-60
S3 = 230-1-60
S6 = 200/220-1-50
S7 = 200-1-50
T3 = 208/230-3-60
T4 = 460-3-60
T5 = 575-3-60
T7 = 200/220-3-50
T9 = 380/400-3-50

Optional Feature Packages (Factory Mounted)
A = Standard Features (see below)
B = Standard Features (see below)
Plus Sealed Liquid Line Filter Drier and Sight Glass
C = Standard Features (see below)
Plus Sealed Liquid Line Filter Drier and Sight Glass
Plus Suction Accumulator
Plus Electric Defrost Kit
D = Standard Features (see below)
Plus Sealed Liquid Line Filter Drier and Sight Glass
Plus Heated and Insulated Receiver
E = Standard Features (see below)
Plus Sealed Liquid Line Filter Drier and Sight Glass
Plus Heated and Insulated Receiver
Plus Suction Accumulator
Plus Electric Defrost Kit
F = Standard Features (see below)
Plus Sealed liquid line filter drier and sight glass
Plus Electric Defrost Kit
G = Standard Features (see below)
Plus Sealed liquid line filter drier and sight glass
Plus Electric Defrost Kit
Plus Heated and insulated receiver
H = Standard Features (see below)
Plus Sealed Liquid Line Filter Drier and Sight Glass
Plus Timeclock
J = Standard Features (see below)
Plus Sealed Liquid Line Filter Drier and Sight Glass
Plus Heated and insulated receiver
Plus Suction Accumulator

Series
B = Latest Catalog spec (2nd generation)

* subject to compressor availability

STANDARD FEATURES

Indoor Unit:

- Weatherproof electrical control box with compressor contactor and fused control circuit
- Copeland or Tecumseh scroll compressor
- High efficiency enhanced tube and fin condenser design
- Energy efficient PSC condenser fan motor
- Receiver with fusible plug and liquid shut off valve
- Suction service valve
- Pre-formed copper tubing
- Liquid injection (low temp. models)
- Unit leak tested and shipped with Helium holding charge
- Fixed high and low pressure control
- Receiver inlet and outlet shut off valve (2 fan units)
- Discharge thermostat on applicable models only

Outdoor Unit: All Standard Features of Indoor Unit, Plus:

- Outdoor weather-resistant housing with removable hood
- Flooded head pressure control (non adjustable)
- Crankcase heater
- Fan cycling control with flex hose (2 fan units)

KEZA COPELAND

CAPACITY DATA - R404A R507
MEDIUM TEMPERATURE

60Hz

COND. UNIT MODEL	SAT. SUCT. TEMP.		CAPACITY BTU/H (WATTS) R404A R507 AMBIENT TEMPERATURE °F (°C)													
	° F	° C	80	(26.6)	85	(29.4)	90	(32.2)	95	(35)	100	(37.8)	105	(40.6)	110	(43.3)
	40	(4.4)	17900	(5250)	17300	(5070)	16600	(4860)	16000	(4690)	15300	(4480)	14600	(4280)	13900	(4070)
	35	(1.7)	16300	(4780)	15700	(4600)	15100	(4430)	14500	(4250)	13900	(4070)	13300	(3900)	12700	(3720)
	30	(-1.1)	14800	(4340)	14300	(4190)	13800	(4040)	13200	(3870)	12700	(3720)	12100	(3550)	11500	(3370)
KEZA010H8	25	(-3.9)	13500	(3960)	13000	(3810)	12500	(3660)	12000	(3520)	11500	(3370)	11000	(3220)	10500	(3080)
	20	(-6.7)	12200	(3580)	11800	(3460)	11400	(3340)	10900	(3190)	10500	(3080)	10000	(2930)	9530	(2790)
Compressor	15	(-9.4)	11100	(3250)	10700	(3140)	10300	(3020)	9920	(2910)	9510	(2790)	9090	(2660)	8660	(2540)
Model	10	(-12.2)	10000	(2930)	9700	(2840)	9360	(2740)	9000	(2640)	8630	(2530)	8260	(2420)	7880	(2310)
ZS09KAE	5	(-15.0)	9080	(2660)	8770	(2570)	8460	(2480)	8150	(2390)	7820	(2290)	7490	(2200)	7140	(2090)
	0	(-17.8)	8180	(2400)	7910	(2320)	7620	(2230)	7350	(2150)	7070	(2070)	6770	(1980)	6460	(1890)
	-5	(-20.6)	7330	(2150)	7090	(2080)	6850	(2010)	6600	(1930)	6350	(1860)	6090	(1780)	5820	(1710)
	-10	(-23.3)	6520	(1910)	6310	(1850)	6100	(1790)	5880	(1720)	5660	(1660)	5430	(1590)	5190	(1520)
	40	(4.4)	21100	(6180)	20300	(5950)	19600	(5740)	18800	(5510)	18000	(5280)	17200	(5040)	16300	(4780)
	35	(1.7)	19200	(5630)	18500	(5420)	17800	(5220)	17100	(5010)	16400	(4810)	15600	(4570)	14900	(4370)
	30	(-1.1)	17500	(5130)	16900	(4950)	16300	(4780)	15600	(4570)	14900	(4370)	14300	(4190)	13600	(3990)
KEZA011H8	25	(-3.9)	16000	(4690)	15400	(4510)	14800	(4340)	14200	(4160)	13600	(3990)	13000	(3810)	12300	(3600)
	20	(-6.7)	14500	(4250)	14000	(4100)	13500	(3960)	12900	(3780)	12400	(3630)	11800	(3460)	11300	(3310)
Compressor	15	(-9.4)	13200	(3870)	12700	(3720)	12300	(3600)	11800	(3460)	11300	(3310)	10800	(3170)	10300	(3020)
Model	10	(-12.2)	12000	(3520)	11600	(3400)	11100	(3250)	10700	(3140)	10300	(3020)	9810	(2880)	9330	(2730)
ZS11KAE	5	(-15.0)	10800	(3170)	10500	(3080)	10100	(2960)	9710	(2850)	9310	(2730)	8900	(2610)	8480	(2490)
	0	(-17.8)	9780	(2870)	9450	(2770)	9110	(2670)	8780	(2570)	8420	(2470)	8060	(2360)	7690	(2250)
	-5	(-20.6)	8780	(2570)	8480	(2490)	8190	(2400)	7890	(2310)	7580	(2220)	7270	(2130)	6930	(2030)
	-10	(-23.3)	7820	(2290)	7560	(2220)	7310	(2140)	7050	(2070)	6770	(1980)	6490	(1900)	6180	(1810)
	40	(4.4)	23500	(6890)	22600	(6620)	21700	(6360)	20800	(6100)	19900	(5830)	19000	(5570)	18100	(5300)
	35	(1.7)	21400	(6270)	20600	(6040)	19800	(5800)	19000	(5570)	18200	(5330)	17300	(5070)	16500	(4840)
	30	(-1.1)	19600	(5740)	18800	(5510)	18100	(5300)	17400	(5100)	16600	(4860)	15800	(4630)	15000	(4400)
KEZA015H8	25	(-3.9)	17900	(5250)	17200	(5040)	16500	(4840)	15800	(4630)	15200	(4450)	14400	(4220)	13700	(4020)
	20	(-6.7)	16300	(4780)	15700	(4600)	15100	(4430)	14400	(4220)	13800	(4040)	13200	(3870)	12500	(3660)
Compressor	15	(-9.4)	14800	(4340)	14300	(4190)	13700	(4020)	13200	(3870)	12600	(3690)	12000	(3520)	11400	(3340)
Model	10	(-12.2)	13400	(3930)	13000	(3810)	12500	(3660)	12000	(3520)	11500	(3370)	11000	(3220)	10400	(3050)
ZS13KAE	5	(-15.0)	12200	(3580)	11700	(3430)	11300	(3310)	10900	(3190)	10400	(3050)	9960	(2920)	9470	(2780)
	0	(-17.8)	11000	(3220)	10600	(3110)	10200	(2990)	9850	(2890)	9450	(2770)	9030	(2650)	8590	(2520)
	-5	(-20.6)	9880	(2900)	9540	(2800)	9210	(2700)	8870	(2600)	8520	(2500)	8150	(2390)	7760	(2270)
	-10	(-23.3)	8810	(2580)	8520	(2500)	8220	(2410)	7930	(2320)	7610	(2230)	7290	(2140)	6940	(2030)
	40	(4.4)	26300	(7710)	25200	(7390)	24200	(7090)	23100	(6770)	22000	(6450)	20900	(6130)	19700	(5770)
	35	(1.7)	24300	(7120)	23400	(6860)	22400	(6560)	21400	(6270)	20300	(5950)	19300	(5660)	18200	(5330)
	30	(-1.1)	22500	(6590)	21600	(6330)	20600	(6040)	19700	(5770)	18800	(5510)	17800	(5220)	16800	(4920)
KEZA020H8	25	(-3.9)	20700	(6070)	19800	(5800)	19000	(5570)	18200	(5330)	17300	(5070)	16400	(4810)	15500	(4540)
	20	(-6.7)	19000	(5570)	18200	(5330)	17400	(5100)	16700	(4890)	15900	(4660)	15000	(4400)	14200	(4160)
Compressor	15	(-9.4)	17300	(5070)	16700	(4890)	15900	(4660)	15200	(4450)	14500	(4250)	13700	(4020)	13000	(3810)
Model	10	(-12.2)	15800	(4630)	15200	(4450)	14500	(4250)	13900	(4070)	13200	(3870)	12500	(3660)	11800	(3460)
ZB15KCE	5	(-15.0)	14300	(4190)	13800	(4040)	13200	(3870)	12600	(3690)	12000	(3520)	11400	(3340)	10700	(3140)
	0	(-17.8)	13000	(3810)	12500	(3660)	11900	(3490)	11400	(3340)	10800	(3170)	10300	(3020)	9700	(2840)
	-5	(-20.6)	11700	(3430)	11200	(3280)	10800	(3170)	10300	(3020)	9800	(2870)	9300	(2730)	8700	(2550)
	-10	(-23.3)	10500	(3080)	10100	(2960)	9600	(2810)	9200	(2700)	8800	(2580)	8300	(2430)	7800	(2290)
	40	(4.4)	32800	(9610)	31500	(9230)	30100	(8820)	28800	(8440)	27400	(8030)	26000	(7620)	24600	(7210)
	35	(1.7)	30400	(8910)	29100	(8530)	27900	(8180)	26700	(7820)	25400	(7440)	24100	(7060)	22800	(6680)
	30	(-1.1)	28000	(8210)	26900	(7880)	25800	(7560)	24600	(7210)	23400	(6860)	22200	(6510)	21000	(6150)
KEZA025H8	25	(-3.9)	25800	(7560)	24800	(7270)	23700	(6950)	22700	(6650)	21600	(6330)	20500	(6010)	19300	(5660)
	20	(-6.7)	23700	(6950)	22700	(6650)	21800	(6390)	20800	(6100)	19800	(5800)	18800	(5510)	17700	(5190)
Compressor	15	(-9.4)	21600	(6330)	20800	(6100)	19900	(5830)	19000	(5570)	18100	(5300)	17200	(5040)	16200	(4750)
Model	10	(-12.2)	19700	(5770)	18900	(5540)	18100	(5300)	17300	(5070)	16500	(4840)	15600	(4570)	14800	(4340)
ZB19KCE	5	(-15.0)	17900	(5250)	17200	(5040)	16500	(4840)	15700	(4600)	15000	(4400)	14200	(4160)	13400	(3930)
	0	(-17.8)	16200	(4750)	15600	(4570)	14900	(4370)	14200	(4160)	13500	(3960)	12800	(3750)	12100	(3550)
	-5	(-20.6)	14600	(4280)	14000	(4100)	13400	(3930)	12800	(3750)	12200	(3580)	11600	(3400)	10900	(3190)
	-10	(-23.3)	13100	(3840)	12600	(3690)	12000	(3520)	11500	(3370)	10900	(3190)	10300	(3020)	9700	(2840)

table continues on next page >>>

KEZA COPELAND

ELECTRICAL DATA
COPELAND MODELS

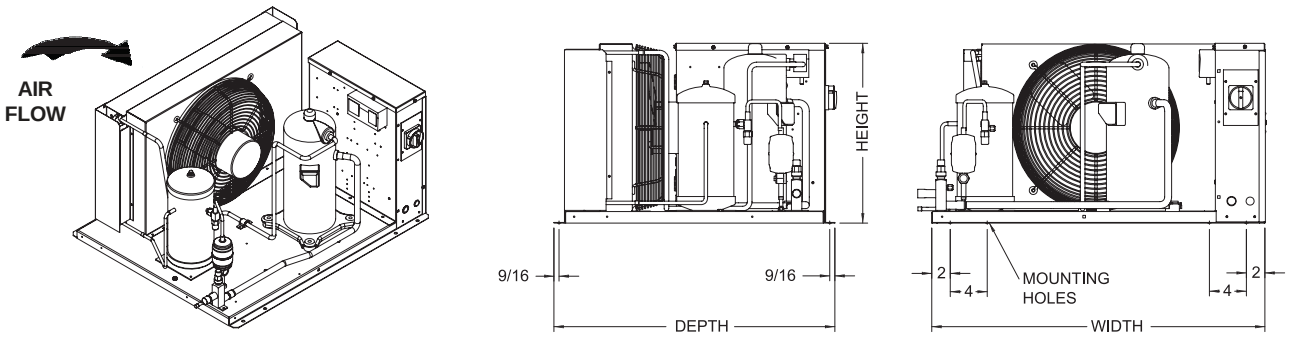
60Hz

CONDENSING UNIT MODEL		COMPRESSOR MODEL NO.	POWER SUPPLY	COMPRESSOR		CONDENSER FAN MOTOR		UNIT	
				RLA	LRA	QTY	FLA	MCA	MOP
KEZA010H8-*	S2B	ZS09KAE-PFV	208-230/1/60	10.0	40.3	1	1.1	13.6	20
	T3B	ZS09KAE-TF5	208-230/3/60	8.0	55.4	1	1.1	11.1	15
	T4B	ZS09KAE-TFD	460/3/60	3.8	28	1	0.6	5.4	15
KEZA011H8-*	S2B	ZS11KAE-PFV	208-230/1/60	12.6	55	1	1.1	16.9	25
	T3B	ZS11KAE-TF5	208-230/3/60	10.4	58	1	1.1	14.1	20
	T4B	ZS11KAE-TFD	460/3/60	4.3	28	1	0.6	6.0	15
KEZA015H8-*	S2B	ZS13KAE-PFV	208-230/1/60	12.0	56	1	1.1	16.1	25
	T3B	ZS13KAE-TF5	208-230/3/60	9.7	58	1	1.1	13.2	20
	T4B	ZS13KAE-TFD	460/3/60	4.8	29	1	0.6	6.6	15
KEZA020H8-*	S2B	ZB15KCE-PFV	208-230/1/60	15.7	61	1	1.1	20.7	35
	T3B	ZB15KCE-TF5	208-230/3/60	8.9	55	1	1.1	12.2	20
	T4B	ZB15KCE-TFD	460/3/60	5.0	27	1	0.6	6.9	15
KEZA025H8-*	S2B	ZB19KCE-PFV	208-230/1/60	17.9	73	1	1.1	23.5	40
	T3B	ZB19KCE-TF5	208-230/3/60	10.0	63	1	1.1	13.6	20
	T4B	ZB19KCE-TFD	460/3/60	5.0	31	1	0.6	6.9	15
KEZA030H8-*	S2B	ZB21KCE-PFV	208-230/1/60	20.7	100	1	2.1	28.0	45
	T3B	ZB21KCE-TF5	208-230/3/60	12.1	77	1	2.1	17.2	25
	T4B	ZB21KCE-TFD	460/3/60	6.1	39	1	1.1	8.7	15
KEZA035H8-*	S2B	ZB26KCE-PFV	208-230/1/60	23.6	127	1	2.1	31.6	50
	T3B	ZB26KCE-TF5	208-230/3/60	13.9	88	1	2.1	19.5	30
	T4B	ZB26KCE-TFD	460/3/60	7.1	44	1	1.1	10.0	15
KEZA040H8-*	S2B	ZB30KCE-PFV	208-230/1/60	26.8	132	1	2.1	35.6	60
	T3B	ZB30KCE-TF5	208-230/3/60	15.7	115	1	2.1	21.7	35
	T4B	ZB30KCE-TFD	460/3/60	7.5	47.5	1	1.1	10.5	15
	T5B	ZB30KCE-TFE	575/3/60	6.0	38	1	0.9	8.4	15
KEZA050H8-*	S2B	ZB38KCE-PFV	208-230/1/60	31.1	175	1	2.1	41.0	70
	T3B	ZB38KCE-TF5	208-230/3/60	22.1	115	1	2.1	29.7	50
	T4B	ZB38KCE-TFD	460/3/60	9.6	63	1	1.1	13.1	20
	T5B	ZB38KCE-TFE	575/3/60	7.7	50	1	0.9	10.5	15
KEZA060H8-*	T3B	ZB45KCE-TF5	208-230/3/60	22.5	156	1	2.1	30.2	50
	T4B	ZB45KCE-TFD	460/3/60	11.5	70	1	1.1	15.5	25
	T5B	ZB45KCE-TFE	575/3/60	9.2	56	1	0.9	12.4	20
KEZA065H8-*	T3B	ZB50KCE-TF5	208-230/3/60	28.6	196	1	2.1	37.9	60
	T4B	ZB50KCE-TFD	460/3/60	15.0	100	1	1.1	19.9	30
	T5B	ZB50KCE-TFE	575/3/60	11.1	90	1	0.9	14.8	25
KEZA070H8-*	T3B	ZB58KCE-TF5	208-230/3/60	32.1	195	1	2.1	42.2	70
	T4B	ZB58KCE-TFD	460/3/60	16.4	95	1	1.1	21.6	35
	T5B	ZB58KCE-TFE	575/3/60	12.9	80	1	0.9	17.0	25
KEZA076H8-*	T3B	ZB66KCE-TF5	208-230/3/60	33.6	225	2	4.2	46.2	80
	T4B	ZB66KCE-TFD	460/3/60	17.5	114	2	2.2	24.1	40
	T5B	ZB66KCE-TFE	575/3/60	13.5	80	2	1.8	18.7	30
KEZA085H8-*	T3B	ZB76KCE-TF5	208-230/3/60	41.4	239	2	4.2	56.0	90
	T4B	ZB76KCE-TFD	460/3/60	20.0	125	2	2.2	27.2	45
	T5B	ZB76KCE-TFE	575/3/60	13.8	80	2	1.8	19.1	30
KEZA110H8-*	T3B	ZB95KCE-TW5	208-230/3/60	61.4	300	2	7.2	84.0	125
	T4B	ZB95KCE-TWD	460/3/60	31.4	150	2	3.4	42.7	70
	T5B	ZB95KCE-TWE	575/3/60	22.9	109	2	2.8	31.4	50
KEZA150H8-*	T3B	ZB114KCE-TW5	208-230/3/60	65.0	340	2	7.2	88.5	150
	T4B	ZB114KCE-TWD	460/3/60	35.0	173	2	3.4	47.2	80
	T5B	ZB114KCE-TWE	575/3/60	25.7	132	2	2.8	34.9	60

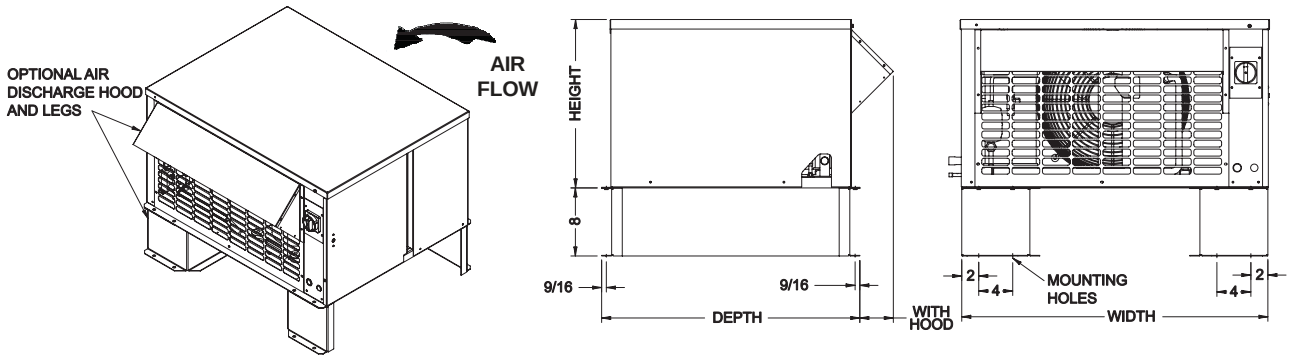
* I = Indoor, H = Outdoor. Above listed RLA value is based on UL rating method and may differ from published compressor RLA data.

table continues on next page >>>

DIMENSIONAL DATA - DRAWING #1
(1 Fan Models Small Chassis)



INDOOR DIMENSIONS



OUTDOOR DIMENSIONS

NOTE: Discharge hood and legs are optional components

REFER TO PAGE 23 FOR
DIMENSIONAL DATA FOR SPECIFIC MODELS

KEZA COPELAND

DIMENSIONAL DATA
COPELAND MODELS

60Hz

CONDENSING UNIT MODEL	DRAWING # (see table below)	OUTDOOR MODELS								INDOOR MODELS					
		WIDTH		DEPTH				HEIGHT		WIDTH		DEPTH		HEIGHT	
				Base		With Hood									
		Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
KEZA010H8	1	36 3/8	924	30 3/8	772	34 3/8	873	19 7/8	505	36 3/8	924	30 3/8	772	19 1/2	495
KEZA011H8	1	36 3/8	924	30 3/8	772	34 3/8	873	19 7/8	505	36 3/8	924	30 3/8	772	19 1/2	495
KEZA015H8	1	36 3/8	924	30 3/8	772	34 3/8	873	19 7/8	505	36 3/8	924	30 3/8	772	19 1/2	495
KEZA020H8	1	36 3/8	924	30 3/8	772	34 3/8	873	19 7/8	505	36 3/8	924	30 3/8	772	19 1/2	495
KEZA025H8	1	36 3/8	924	30 3/8	772	34 3/8	873	19 7/8	505	36 3/8	924	30 3/8	772	19 1/2	495
KEZA030H8	2	43 7/8	1114	32 7/8	835	43	1092	30 3/8	772	43 7/8	1114	32 7/8	835	30 3/16	767
KEZA035H8	2	43 7/8	1114	32 7/8	835	43	1092	30 3/8	772	43 7/8	1114	32 7/8	835	30 3/16	767
KEZA040H8	2	43 7/8	1114	32 7/8	835	43	1092	30 3/8	772	43 7/8	1114	32 7/8	835	30 3/16	767
KEZA050H8	2	43 7/8	1114	32 7/8	835	43	1092	30 3/8	772	43 7/8	1114	32 7/8	835	30 3/16	767
KEZA060H8	2	52 1/8	1324	35 7/8	911	43	1092	41 7/8	1064	52 1/8	1324	35 7/8	911	41 11/16	1059
KEZA065H8	2	52 1/8	1324	35 7/8	911	43	1092	41 7/8	1064	52 1/8	1324	35 7/8	911	41 11/16	1059
KEZA070H8	2	52 1/8	1324	35 7/8	911	43	1092	41 7/8	1064	52 1/8	1324	35 7/8	911	41 11/16	1059
KEZA076H8	3	65 1/8	1654	35 7/8	911	43	1092	41 7/8	1064	65 1/8	1654	35 7/8	911	41 11/16	1059
KEZA085H8	3	65 1/8	1654	35 7/8	911	43	1092	41 7/8	1064	65 1/8	1654	35 7/8	911	41 11/16	1059
KEZA110H8	4	75 7/8	1927	45 3/4	1162	59	1511	45 1/2	1156	75 7/8	1927	45 3/4	1162	45 17/32	1156
KEZA150H8	4	75 7/8	1927	45 3/4	1162	59	1511	45 1/2	1156	75 7/8	1927	45 3/4	1162	45 17/32	1156
KEZA020L6	1	36 3/8	924	30 3/8	772	34 3/8	873	19 7/8	505	36 3/8	924	30 3/8	772	19 1/2	495
KEZA025L6	1	36 3/8	924	30 3/8	772	34 3/8	873	19 7/8	505	36 3/8	924	30 3/8	772	19 1/2	495
KEZA030L6	1	36 3/8	924	30 3/8	772	34 3/8	873	19 7/8	505	36 3/8	924	30 3/8	772	19 1/2	495
KEZA035L6	1	36 3/8	924	30 3/8	772	34 3/8	873	19 7/8	505	36 3/8	924	30 3/8	772	19 1/2	495
KEZA045L6	2	43 7/8	1114	32 7/8	835	43	1092	30 3/8	772	43 7/8	1114	32 7/8	835	30 3/16	767
KEZA055L6	2	43 7/8	1114	32 7/8	835	43	1092	30 3/8	772	43 7/8	1114	32 7/8	835	30 3/16	767
KEZA060L6	2	43 7/8	1114	32 7/8	835	43	1092	30 3/8	772	43 7/8	1114	32 7/8	835	30 3/16	767
KEZA075L6	2	52 1/8	1324	35 7/8	911	43	1092	41 7/8	1064	52 1/8	1324	35 7/8	911	41 11/16	1059
KEZA100L6	2	52 1/8	1324	35 7/8	911	43	1092	41 7/8	1064	52 1/8	1324	35 7/8	911	41 11/16	1059
KEZA130L6	3	65 1/8	1654	35 7/8	911	43	1092	41 7/8	1064	65 1/8	1654	35 7/8	911	41 11/16	1059
KEZA150L6	3	65 1/8	1654	35 7/8	911	43	1092	41 7/8	1064	65 1/8	1654	35 7/8	911	41 11/16	1059

KEZT TECUMSEH

DIMENSIONAL DATA
TECUMSEH MODELS

60Hz

CONDENSING UNIT MODEL	DRAWING # (see table below)	OUTDOOR MODELS								INDOOR MODELS					
		WIDTH		DEPTH				HEIGHT		WIDTH		DEPTH		HEIGHT	
				Base		With Hood									
		Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
KEZT010M6	1	36 3/8	924	30 3/8	772	34 3/8	873	19 7/8	505	36 3/8	924	30 3/8	772	19 1/2	495
KEZT011M6	1	36 3/8	924	30 3/8	772	34 3/8	873	19 7/8	505	36 3/8	924	30 3/8	772	19 1/2	495
KEZT015M6	1	36 3/8	924	30 3/8	772	34 3/8	873	19 7/8	505	36 3/8	924	30 3/8	772	19 1/2	495
KEZT020M6	1	36 3/8	924	30 3/8	772	34 3/8	873	19 7/8	505	36 3/8	924	30 3/8	772	19 1/2	495
KEZT025M6	1	36 3/8	924	30 3/8	772	34 3/8	873	19 7/8	505	36 3/8	924	30 3/8	772	19 1/2	495
KEZT030M6	2	43 7/8	1114	32 7/8	835	43	1092	30 3/8	772	43 7/8	1114	32 7/8	835	30 3/16	767
KEZT035M6	2	43 7/8	1114	32 7/8	835	43	1092	30 3/8	772	43 7/8	1114	32 7/8	835	30 3/16	767
KEZT040M6	2	43 7/8	1114	32 7/8	835	43	1092	30 3/8	772	43 7/8	1114	32 7/8	835	30 3/16	767
KEZT050M6	2	43 7/8	1114	32 7/8	835	43	1092	30 3/8	772	43 7/8	1114	32 7/8	835	30 3/16	767
KEZT060M6	2	52 1/8	1324	35 7/8	911	43	1092	41 7/8	1064	52 1/8	1324	35 7/8	911	41 11/16	1059
KEZT020L6	1	36 3/8	924	30 3/8	772	34 3/8	873	19 7/8	505	36 3/8	924	30 3/8	772	19 1/2	495
KEZT025L6	1	36 3/8	924	30 3/8	772	34 3/8	873	19 7/8	505	36 3/8	924	30 3/8	772	19 1/2	495
KEZT030L6	1	36 3/8	924	30 3/8	772	34 3/8	873	19 7/8	505	36 3/8	924	30 3/8	772	19 1/2	495
KEZT035L6	1	36 3/8	924	30 3/8	772	34 3/8	873	19 7/8	505	36 3/8	924	30 3/8	772	19 1/2	495
KEZT045L6	2	43 7/8	1114	32 7/8	835	43	1092	30 3/8	772	43 7/8	1114	32 7/8	835	30 3/16	767
KEZT055L6	2	43 7/8	1114	32 7/8	835	43	1092	30 3/8	772	43 7/8	1114	32 7/8	835	30 3/16	767
KEZT060L6	2	43 7/8	1114	32 7/8	835	43	1092	30 3/8	772	43 7/8	1114	32 7/8	835	30 3/16	767

KEZA COPELAND

SPECIFICATIONS

60Hz

CONDENSING UNIT MODEL	UNIT CONNECTIONS				RECEIVER CAPACITY 90% FULL *		APPROX. SHIPPING WEIGHT			
	SUCTION (OD)		LIQUID (OD)				INDOOR		OUTDOOR	
	Inches	*mm*	Inches	*mm*	Lbs.	*Kgs*	Lbs.	*Kgs*	Lbs.	*Kgs*
KEZA010H8 *	5/8	*16*	3/8	*10*	11	*4.9*	285	*129*	265	*120*
KEZA011H8 *	5/8	*16*	3/8	*10*	11	*4.9*	285	*129*	265	*120*
KEZA015H8 *	7/8	*22*	3/8	*10*	11	*4.9*	285	*129*	265	*120*
KEZA020H8 *	7/8	*22*	3/8	*10*	11	*4.9*	280	*127*	300	*136*
KEZA025H8 *	7/8	*22*	1/2	*13*	14	*6.3*	290	*132*	320	*145*
KEZA030H8 *	7/8	*22*	1/2	*13*	22	*9.9*	380	*172*	410	*186*
KEZA035H8 *	7/8	*22*	1/2	*13*	22	*9.9*	380	*172*	415	*188*
KEZA040H8 *	1 1/8	*29*	1/2	*13*	22	*9.9*	390	*177*	420	*191*
KEZA050H8 *	1 1/8	*29*	1/2	*13*	22	*9.9*	390	*177*	425	*193*
KEZA060H8 *	1 1/8	*29*	5/8	*16*	30	*13.8*	430	*195*	470	*213*
KEZA065H8 *	1 1/8	*29*	5/8	*16*	30	*13.6*	465	*211*	510	*231*
KEZA070H8 *	1 3/8	*35*	5/8	*16*	30	*13.6*	470	*213*	515	*234*
KEZA076H8 *	1 3/8	*35*	5/8	*16*	54	*24.5*	580	*263*	635	*288*
KEZA085H8 *	1 3/8	*35*	5/8	*16*	54	*24.5*	590	*268*	645	*293*
KEZA110H8 *	1 3/8	*35*	7/8	*22*	76	*34.5*	745	*338*	690	*313*
KEZA150H8 *	1 5/8	*41*	7/8	*22*	76	*34.5*	845	*383*	790	*358*
KEZA020L6	7/8	*22*	3/8	*10*	11	*4.9*	290	*132*	315	*143*
KEZA025L6	7/8	*22*	3/8	*10*	14	*6.3*	310	*141*	335	*152*
KEZA030L6	7/8	*22*	3/8	*10*	14	*6.3*	390	*177*	425	*193*
KEZA035L6	7/8	*22*	1/2	*13*	14	*6.3*	400	*181*	430	*195*
KEZA045L6	1 1/8	*29*	1/2	*13*	22	*9.9*	400	*181*	435	*197*
KEZA055L6	1 1/8	*29*	1/2	*13*	22	*9.9*	400	*181*	440	*200*
KEZA060L6	1 1/8	*29*	1/2	*13*	22	*10.0*	450	*204*	485	*220*
KEZA075L6	1 3/8	*35*	5/8	*16*	30	*13.8*	460	*209*	495	*225*
KEZA100L6^	1 3/8	*35*	5/8	*16*	30	*13.6*	500	*227*	545	*247*
KEZA130L6	1 3/8	*35*	5/8	*16*	54	*24.5*	670	*304*	725	*329*
KEZA150L6	1 3/8	*35*	5/8	*16*	54	*24.5*	690	*313*	745	*338*

^ Options may be limited. Consult factory for details.

*** NOTE ON ALTERNATE REFRIGERANTS:**

* PUBLISHED RECEIVER CAPACITY IS BASED ON **R404A** ON MODELS USING "8" AS REFRIGERANT CODE.
FOR ALERNATE REFRIGERANTS, MULTIPLY **R404A** VALUE BY THE APPROPRIATE VALUE BELOW:

R407C	R22	R507
1.10	1.15	1.00

BIOCOLD
ENVIRONMENTS FOR LIFE

EQUIPMENT AND MATERIAL LIST

WEBSTER INTERDISCIPLINARY SCIENCE BUILDING

ROOM #376 | CTR SECTION #130383 | WEBSTER, MO

EQUIPMENT AND MATERIAL COMPONENT LISTING

DESCRIPTION	PRODUCT
Insulated panel structure	Bally Refrigerated Boxes
24x14 view window	Norfab
Control Systems	7” Color Touchscreen
Temperature Controller	Allen Bradley
Lighting	BioCold 48” LED Fixtures
Compressor-Condensing Unit	Keeprite KEZA011H8-HT3B Outdoor Air-Cooled
Evaporator Unit Cooler	Larkin ACM156AE
Copper Tubing	Mueller Streamline Type L ACR
Brazing material	Harris Stay Silv 15
Solenoid valves	Sporlan Rapid Cycle Valves
Piping insulation	Armaflex

BioCold
Environments for Life

February 7, 2016

Paric Construction
Attn: Devin Gates
77 Westport Drive, Suite 250
Maryland Heights, Missouri 63146

RE: Submittal 130383-006 for the Controlled Temperature Room at Webster University Science Building

Dear Mr. Gates:

BioCold Environmental, Inc. is pleased to provide the following documents as our re-submittal package for the walk-in controlled temperature room at the Webster University Interdisciplinary Science Building in Webster, Missouri. This packet responds to each of the items identified in the review comments provided by Cannon Design.

COMMENTS:

1. **Comply with codes per specification 13083.1.3.A.**
   All equipment and installation methods will be in compliance with the relevant codes and regulatory requirements of ASHRAE, the Air Conditioning and Refrigeration Institute (ARI), the American Society for Testing and Materials (ASTM), the National Electrical Manufacturer's Association (NEMA), the National Sanitation Foundation's Standard #7 (NSF), and the Sealed Insulating Glass Manufacturer's Association. OK

2. **Provide Items 2, 3, 4 per Spec 1.4-A.**
   Please see enclosed for drawing more clearly indicating the following: (2) electrical schematic with j-box locations and conduit sizes; (3) refrigerant schematic showing lines and locations of system components, and (4) re-stated design and performance criteria. OK

3. **Provide equipment anchorage information per 1.4.B**
   Please see updated shop drawing showing equipment anchorage detail(s). OK

4. **Provide samples.**
   Samples have been previously provided. We have attempted to obtain custom samples per the specification requirements, but the manufacturer is not able to provide the specified wall/ceiling assembly samples. We have numerous installations in the St. Louis area, and would be pleased to provide either a site visit or photos of other installations. OK

5. **Provide warranty information.**
   Please see warranty letter included in the re-submittal package. OK

A/E: I will submit the sample received by bio-cold which under previous discussion with Kelvin does not meet requirements. Please let me know how to proceed. - Devin

6. **Provide ASTM E84 information per specification 130383.2.2.D.3.**
   Please see updated insulated panel data sheets indicating the ASTM E84 compliance. OK

7. **Coordinate installation and service clearance requirements with all other trades.**
   Clearance requirements will be coordinated during field measurements and throughout the installation process. OK

8. **The electrical drawings show a 20A/2pole (3wire) circuit for the evaporator serving the cold room. This shop drawing indicates a 20A/3pole (4wire) circuit to the control panel.**
   This has been coordinated with the electrical contractor. All control wiring from the control panel to equipment within the room is by BioCold. OK

9. **Coordinate with GC and electrical contractor.**
   We have already had coordination conversations with the GC and electrical contractor and will continue to coordinate throughout the installation process. OK

10. **GC to confirm dimensions work with the floor depression provided.**
    BioCold will also field verify all dimensions prior to fabrication.

11. **Relocate GFCI receptacles to 42” AFF.** Provide GCI receptacles at 42" AFF. Casework countertop is 34" high with 4" backsplash so there will no conflict.
    Please confirm desired receptacle height. The specification indicates that the receptacles should be 42” AFF **unless otherwise noted.** The elevation on A0615/14 clearly scales the receptacles at 48” AFF on center. We are more than willing to relocate the receptacles to 42” AFF on center, but want to confirm that this will not interfere with the casework/counters.

12. **GC to coordinate backing requirements for casework installation with casework manufacturer.**
    By others. GC to coordinate.

13. **GC to coordinate piping routes and condenser location on roof.**
    These routes and locations are being coordinated with the GC. OK

14. **Provide closure trim angles at walls & ceiling. Color to match cold room panels.**
    Closure trim in matching finish will be provided. Trim to be field measured prior to fabrication. OK

15. **Adjust partition wall in front of cold room as needed to accommodate touchscreen controller.**
    Please see revised shop drawing for requested clearances. OK

16. **Inside clear height to 8’-0” AFF.**
    The inside ceiling height will be 8’-10” AFF. With an evaporator that extends 9” from the ceiling, this leaves an inside clear height of 8’-1” AFF. OK

17. **Provide equipment seismic anchorage information per 1.4-B.**
    See item #3 above. OK

18. **Coordinate with GC & provide needed for connections to building automation system, smoke detector and sprinkler per specification 130383.2.6.C.**
    Wall and ceiling panels are adequate to support smoke detector without additional reinforcement required. The exact location for smoke detector can be field coordinated. Sprinkler lines are typically cored by the sprinkler contractor. BioCold does not recommend

GC will coordinate with FP contractor. -Devin Gates

OK

sleeved penetrations, as this creates additional possibility for moisture infiltration. BioCold is willing to make sprinkler penetrations if locations are marked by the sprinkler contractor. This will be coordinated in the field during installation. GC TO COORDINATE CONNECTION TO BUILDING AUTOMATION SYSTEM, IF NEEDED.

19. **Provide information per specification 130383 2.3.A.1 & 2 and 2.3.B.**
The performance information has been updated to include additional information as requested. OK

20. **Provide panel joint securing and sealing information per spec 2.2.D.2.**
See Bally Refrigerated Boxes product data sheets. All panels are constructed with cam lock fasteners and NSF-approved gaskets foamed in place. Flush-mounted caps are provided to close wrench holes. OK

21. **Provide foam-in-place isocyanurate insulation per specification 130383.2.2.D.2.a.**
Polyurethane (PUR) insulation is used by insulated panel manufacturers with cam-lock panel construction due to its high expansion rate (approx. 20:1) and insulation value. Continuous panel line manufacturers often use polyisocyanurate (PIR) insulation which has an expansion rate of approximately 5:1. This makes it acceptable for long panel sheets, but not for foaming around cam locks, conduits, j-boxes, etc. It also has a slightly lower R-value. Polyisocyanurate insulation is not available in cam-lock panel construction. OK

22. **Provide K-factor of 0.118 per specification 130383.2.2.D.2a.**

A/E: Confirm this is acceptable -DG

OK

The K-factor of insulated panel construction varies under different temperature conditions. For cooler applications (mean temperature of 55°F), the insulated panels have an R-value of 28.8 for a 4" thick panel, which equates to a K-value of .139. Under freezer application conditions (mean temperature of 20°F), the K-value drops to .125, reflecting an R-value of 32.1. In either case, 4" thick insulated panels are no longer able to achieve the specified K-values due to changes in the blowing agents used to foam the panels, as mandated by the Montreal Protocol and subsequent environmental regulatory changes. This is consistent across panel manufacturers.

23. **Provide ASTM E84 information per specification 130383.2.2.D.3.**
See item #6 above. OK

A/E: Confirm this is acceptable -DG

24. **Per spec 2.2.E.3 double gasketing on 3 sides of door and wiper gasket on bottom. Self-closing.**
We have been unable to locate a double-gasket for 3 sides of the door, unless we were to apply a surface-mounted gasket in addition to the magnetic gasket built into the door. There is a double sweep gasket at the bottom of the door. PROVIDE SURFACE-MOUNTED GASKET IN ADDITION TO MAGNETIC GASKET. CALL TO DISCUSS IF THERE ARE ANY DISADVANTAGES.

25. **Provide manual defrost capabilities per spec 2.3.E.3.i.**
OK The controls offer both automatic and manual defrost capabilities.

26. **Provide NFPA 70 and UL508A compliance per spec 2.3.D.5.**
The control panel is in compliance with NFPA 70 and carries a UL508A certification and will be labeled as such. OK

27. **Per spec 2.4.B.7, max sound level in room of 65 dba exclusive of occupancy generated noise.**
Sound characteristics vary based on room configuration, and sound ratings for evaporator fan coils are not available from the manufacturers. We are providing the quietest coil design

available (center-mount) and have never had an issue with sound characteristics of these evaporators. OK

28. **Per spec 2.4.B. Provide automatic hot gas defrost. Provide fully redundant system.**
The room is equipped with both automatic and manual hot gas defrost options. The system is designed such that regular defrost cycles are not required during normal operation. Per pre-bid conversations, redundant refrigeration systems are not required on this project, and were excluded from the scope of our subcontract agreement. OK

Curbs have been coordinated and installed -DG

29. **Provide and coordinate curbs, piping for condenser per spec 2.4.B.4 & 6. Coordinate with GC piping routes, condenser location on roof and power requirements.**
These items are being coordinated with the GC. OK

30. **Provide condensing unit and capacities per architectural specifications and drawings. Install unit and piping per cooler manufacturer requirements and mount on supports shown on architectural drawings.**
The condensing unit and capacities are shown in the product data submittal. Please note that we have upsized the condensing unit slightly from the previous submittal to ensure that we have adequate capacity for pulldown and recovery times. The unit will be installed per manufacturer's requirements and mounted on roof curbs per the project drawings. OK

31. **Cold room cooler: Provide unit and capacities per architectural specifications and drawings. Install unit per manufacturer requirements and as shown on architectural drawings.**
The evaporator coil and its capacity are shown in the product data and its location indicated on our shop drawing. The evaporator coil has also been upsized to match the increased capacity of the condensing unit as noted above. OK

32. **Refrigerant piping shall be installed per cooler manufacturer requirements. Refer to mechanical plans for general diagrammatic routing. Coordinate routing with all other trades.**
Piping shall be installed per manufacturer requirements and routing coordinated with other trades. OK

33. **Refrigerant pipe insulation. Provide jacketing for exterior piping per specification 232500-2.2-D-5. . . .**
The aluminum jacketing requirement was not indicated or referenced in our specification section. We will be pleased to provide pricing for this work, but do not have it included.
Provide the refrigerant insulation jacketing per the specification section given.
Mechanical contractor to provide jacketing if cold room manufacturer doesn't provide. GC TO COORDINATE.

34. **Condensing unit. Provide unit designed and with necessary accessories to operate in conditions between 0 deg. F and 105 deg. F. ambient temperature.**
The condensing unit is designed for operation between -20°F and +110°F. OK

35. **Condensing unit. Provide unit with outdoor enclosure (H) model designation.**
Unit will be provided with outdoor enclosure as indicated on equipment listing and shop drawing. OK

36. **Condensing unit. Provide with accumulator and high pressure safety switch.**
The condensing unit will be provided with both a suction accumulator and high pressure safety switch. OK

37. **Condensing unit: Provide sealed liquid line filter drier and sight glass.**
    The condensing unit will be provided with both a sealed liquid line filter drier and sight glass. OK

A/E: Please confirm this is acceptable

38. **Submittal is missing efficiency information. Provide this data.**
    There is no published efficiency data available at this time. Efficiencies can be calculated from FLA and BTU outputs. All equipment is compliant with federal energy standards.

39. **Submittal is missing warranty information. Provide warranty information.**
    See item #5 above. OK

40. **Electrical information in cold room submittal do not match electrical requirements called for in cold room product data submittal.**
    See item #8 above. OK

41. **Provide self-closing door.**
    Door is self-closing with cam-lift hinges and hydraulic closer device. OK

42. **Heaters to be positioned for easy accessibility for service & replacement.**
    Anti-condensate heaters are positioned under a trim piece at the perimeter of the door that can be removed with a Phillips screwdriver and easily replaced if necessary. OK

Thank you for reviewing these materials. If you have any questions or need additional information, please respond via email to joshua@biocold.com or juffman@biocold.com.

Regards,

Joshua Baker
President

CANNONDESIGN

SUBMITTAL IDENTIFICATION SHEET

To be completed by Contractor/CM

WEBSTER UNIVERSITY ISB
PROJECT NAME

8274 BIG BEND BLVD
ADDRESS

NUMBER

WEBSTER UNIVERSITY
OWNER

CANNON DESIGN
ARCHITECT / ENGINEER

Joe Voypick
SUBMITTED BY

130383-006
CONTRACTOR / CM SUBMITTAL NO.

CANNON DESIGN SUBMITTAL NO.

DRAWING / DETAIL REFERENCE

130383
SPECIFICATION SECTION / PARAGRAPH

MANUFACTURER / SUPPLIER

ITEM / PRODUCT ID

REQUIRED DATE

PRIORITY

○ CRITICAL

ITEM BEING SUBMITTED (check only one)

- ○ Shop Drawings
- ○ Samples (_____ copies)
- ○ LEED Submittal
- ○ Certification / Qualifications
- ○ Record Documents
- ◉ Product Data
- ○ Coordination Drawing
- ○ Calculations
- ○ Schedules
- ○ O&M Manuals
- ○ Other _____

ITEM BEING SUBMITTED FOR (check only one)

◉ Action ○ Information Only ○ Record

REMARKS OR DEVIATIONS

CONTRACTOR / CM CERTIFICATION
(SUBMITTALS NOT CERTIFIED WILL BE RETURNED WITHOUT REVIEW)

PARIC

PARIC CORPORATION
SUBMITTAL STAMP

THIS SHOP DRAWING HAS BEEN REVIEWED BY PARIC CORPORATION

Subcontractor remains responsible for dimensions, quantities, coordination with other trades and compliance with contract documents.

By:
Devin D. Gates

Joe Voypick
REVIEWED BY

2/9/17
DATE

To be completed by Reviewer

13 0383-006 REV002
CANNON DESIGN SUBMITTAL NUMBER

2/9/17
RECEIVED DATE

- ○ A. No Exceptions Taken
  No further review of submittal is required.
- ◉ B. Make Corrections Noted
  Incorporate corrections in work; resubmission is not required.
- ○ C. Revise and Resubmit
  Revise as noted, and resubmit for review.
- ○ D. Rejected
  Submittal is not in compliance with Contract Documents; provide new submittal.
- ○ E. For Record / Information Only
  Submittal was reviewed for Record / Information purposes only.
- ○ F. Not Required for Review
  Submittal is not required by Contract Documents and has not been reviewed.

Review is for conformance with the design concept of this project and for general compliance with contract documents. Contractor is responsible for quantities, dimensions and compliance with contract documents and for information that pertains to fabrication processes, construction techniques and coordination of this work with all trades which will be affected thereby. This review is null and void if submittal deviates from contract documents and does not indicate or note deviations.

A/E COMMENTS ○ See attached sheet(s) for additional comments

SEE MARKUPS.

SEE ATTACHED MECHANICAL AND ELECTRICAL REVIEW COMMENTS.

Kelvin Patel
Digitally signed by Kelvin Patel
DN: C=US, E=kpatel@cannondesign.com, O=Cannon Design, OU=Architect, CN=Kelvin Patel
Date: 2017.02.24 15:15:09-06'00'
REVIEWED BY

2/24/17
DATE

WM TAO & ASSOCIATES
CONSULTING ENGINEERS

Shop Drawing Submittal Review

Transmitted To: Cannon Design

Date: February 24, 2017

Attention: **stl-cac@cannondesign.com**

Contact Person / WTA Field Inspector: Patrick Garner

Project Name: Webster University-**ISB**

Reviewed by: Jerry Reckmann (Mech)
Mark de la Fuente (Elec)

Project No. WT 14127.01 ☐ UPS ☐ Courier ☒ **Email**

Copies	No.	Description
1 PDF	130383E02A	(Submittal No.'s:) (~~R&B CxSRC~~) - Resubmittal
		(Cannon #130383-**006 REV002**)-(Paric #15051-0490)-(~~WES #607~~)
		➢ **Cold Room Product Data**

*Submittal Review Comments

Electrical Review Comments: The BioCold lamp and ballast information does not appear to be correct. The document indicates three 2-watt lamps and a six-watt ballast. The Topaz lamps included in this submittal indicate they are 22-watts each. Provide a ballast compatible with provided lamps.

Coordinate all electrical installation requirements with electrical contractor and manufacture.

Mechanical Review Comments: Provide the refrigerant insulation jacketing per the specification section given. Mechanical contractor to provide jacketing if cold room manufacturer doesn't provide.

c: **Kelvin Patel**
Kpatel@cannondesign.com

☐ Furnish as Submitted ☒ ***Furnish as Noted**

☐ Rejected ☐ Revise & Resubmit

☐ Reviewed ☐

Corrections or comments made on shop drawings during this review do not relieve contractor from compliance with requirements of drawings and specifications. This check is only for review of general conformance with the design concept of project and general compliance with information given in contract documents. Contractor is responsible for: confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating his work with that of all other trades; and performing his work in a safe and satisfactory manner.

7955 Manchester Road, Suite 125 • St. Louis, Missouri 63143-2711 • Phone: 314-884-7600 • Fax: 314-884-7601

If enclosures are not as noted, please notify us at once.

Sara Trout (314) 884-7645

77 Westport Plaza
Suite 250
St. Louis, MO 63146

TRANSMITTAL

No. 15051-0490

Paric Corporation

PROJECT: 15051-Webster University Interdisciplinary Science Building

DATE: 02/09/2017

TO: Cannon Design
1100 Clark Ave
St Louis MO 63102

Fax;
314-241-2203

RE: Cold Room Product Data REV1

ATTN: Kelvin Patel

JOB: 15051

WE ARE SENDING:	SUBMITTED FOR:	ACTION TAKEN:
☐ Shop Drawings	☑ Approval	☐ Approved as Submitted
☐ Letter	☐ Your Use	☐ Approved as Noted
☐ Prints	☐ As Requested	☐ Returned After Loan
☐ Change Order	☐ Review and Comment	☐ Resubmit
☐ Plans		☐ Submit
☐ Samples	**SENT VIA:**	☐ Returned
☐ Specifications	☐ Attached	☐ Returned for Corrections
☑ Other: Prodcut Data	☐ Separate Cover Via:	☐ Due Date:

Item	*Package*	*Code*	*Rev.*	*Copies*	*Date*	*Description*	*Status*
Submittal		130383-006	2		02/09/2017	Cold Room Product Data REV1	Submitted

NOTES:

CC:

Signed: _____

Devin Gates