



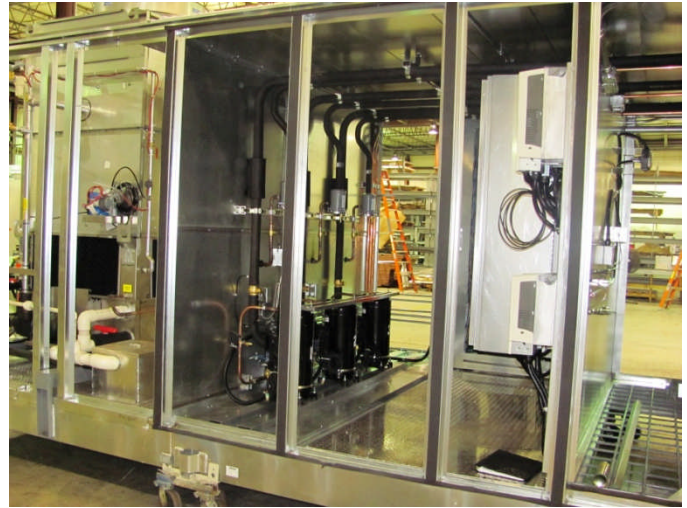
Now In Production

NOVEMBER 2010

Fort Benning Dining Facility, Fort Benning, GA

Three (3) custom new **GREEN** rooftop units with DX cooling, **R-410a** refrigerant, energy wheels, VFDS, electric heat and evaporative condensing sections.

Representative : Thermal Recovery Systems, Inc. 4942 Hammermill Rd. Tucker, GA 30084
Frank Fincher; P 770-939-9100; F 770-939-4239



Welded galvanized steel base and the floor, evaporative cooled condensing sections, scroll compressors with a digital lead compressor, walk-in service vestibule with welded aluminum tread-plate floor are some of the features of these units.



Each unit is provided with two airfoil plenum direct drive supply air blowers and an airfoil plenum direct drive return air blower with premium efficiency motors and variable speed drives.



4500 Industrial Access Road Douglasville, GA 770-489-0716 P ; 770-489-2938 F ; www.seasons4.net



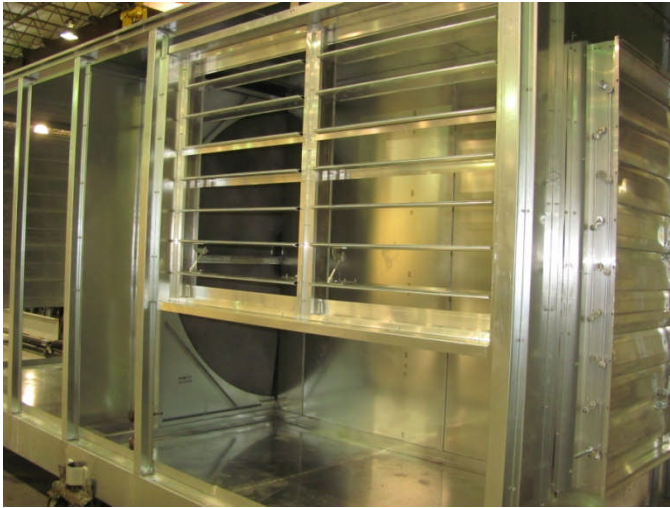
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Energy recovery wheels, open resistance electric heaters, airflow monitoring stations, CO2 sensors, security dampers, recirculation condensation pump and DDC controls are additional features.



The units are cased with 2" aluminum polyurethane foam insulated panels, tested and shipped to the jobsite..



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ENGINEERING SPECIFICATIONS

JOB NAME FORT BENNING DINING
LOCATION FORT BENNING, GA
DATE PREPARED Revised: 08/26/10
SEASONS-4 REFERENCE # A61701
UNIT MODEL # 3EPK53-0563-ER155-16EW
UNIT DESIGNATION ERU-1, ERU-2
SYSTEM VOLTAGE 460/3/60

DESIGN DATA

TOTAL COOLING CAPACITY (BTUH)	681,587
APPROXIMATE MINIMUM TURNDOWN CAPACITY (BTUH)	57,000
TOTAL AIRFLOW (CFM)	16,000
MINIMUM OUTDOOR AIR (CFM)	8,400
ECONOMIZER OUTDOOR AIR (CFM)	8,400 - 16,000
ESTIMATED REFRIGERANT CHARGE (LBS. R410A)	270
UNIT EER (REF ARI 360)	14.2

COMPRESSOR SECTION

COMPRESSOR:	
TYPE	COPELAND SCROLL
NUMBER	3
STAGES OF CAPACITY	MODULATING (DIGITAL LEAD COMP)

EVAPORATIVE CONDENSER

FANS (NUMBER/HP)	1/5
AIRFLOW (CFM)	11,800
PUMPS (NUMBER/HP)	1/1
DESIGN AMBIENT TEMPERATURE (FWB):	80.0
APPROXIMATE EVAPORATION RATE AT DESIGN CONDITIONS (GPH)	117.6

COOLING COIL SECTION

FACE AREA (SQ-FT)	39.8
ROWS/FPI	8/10
COIL CIRCUITS (NUMBER)	3
TOTAL CAPACITY (BTUH)	681,587
SENSIBLE CAPACITY (BTUH)	481,622
ENTERING AIR TEMP (FDB/FWB)	80.0/66.3
COIL LEAVING AIR TEMP (FDB/FWB)	52.6/52.0
CONDITIONED AIR (CFM)	16,000
CONDENSATE (GPH)	22.30

SUPPLY AIR BLOWER SECTION

TYPE	AF SWSI PLENUM
NUMBER/SIZE	2/24.5"
AIRFLOW (CFM)	16,000
TOTAL STATIC PRESSURE (TSP) IN WC	6.20
EXTERNAL STATIC (ESP) IN WC	1.50
DESIGN FAN SPEED (RPM)	1,781
FAN BHP (INCLUDING DRIVE LOSSES)	2 @ 10.3
MOTOR HP	2 @ 15
MOTOR DRIVE	DIRECT DRIVE

* NOTE: EACH SA BLOWER DESIGNED TO BE ABLE TO PROVIDE 75% OF TOTAL UNIT AIRFLOW

ENGINEERING SPECIFICATIONS

RETURN AIR BLOWER SECTION

TYPE	AF SWSI PLENUM
NUMBER/SIZE	1/30"
AIRFLOW (CFM)	16,000
TOTAL STATIC PRESSURE (TSP) IN WC	1.50
EXTERNAL STATIC (ESP) IN WC	1.00
DESIGN FAN SPEED (RPM)	1,170
FAN BHP (INCLUDING DRIVE LOSSES)	6.9
MOTOR HP	7.5
MOTOR DRIVE	DIRECT DRIVE

PREFILTER SECTION

TYPE	2" PLEATED (30% EFFICIENCY)
NUMBER/SIZE	12/24x24, 3/12x24
TOTAL FACE AREA (SQ-FT)	54.0
FACE VELOCITY (FPM)	296

FILTER SECTION

TYPE	12" CARTRIDGE (85% EFFICIENCY)
NUMBER/SIZE	12/24x24, 3/12x24
TOTAL FACE AREA (SQ-FT)	54.0
FACE VELOCITY (FPM)	296

ELECTRIC HEAT SECTION

TYPE	OPEN WIRE
INPUT CAPACITY (KW)	155
CONDITIONED AIR (CFM)	16,000
CONDITIONED AIR TR (F)	30.6
STAGING	SCR

ENERGY RECOVERY WHEEL

SIZE	78 IN DIA / 8 IN DEEP
SUPPLY AIRFLOW (SCFM)	8,400
SUMMER ENTERING AIR TEMP (FDB/FWB)	96.0/76.1
SUMMER LEAVING AIR TEMP (FDB/FWB)	84.5/69.5
WINTER ENTERING AIR TEMP (FDB/FWB)	23.0/22.9
WINTER LEAVING AIR TEMP (FDB/FWB)	46.3/40.9
EFFECTIVENESS (%)	92.00
PRESSURE DROP (IN-WC)	0.67

ERS OUTSIDE AIR FILTER SECTION

TYPE	2" PLEATED (30% EFFICIENCY)
NUMBER/SIZE	10/16x25
TOTAL FACE AREA (SQ-FT)	27.8
FACE VELOCITY (FPM)	314

ERS EXHAUST AIR FILTER SECTION

TYPE	2" PLEATED (30% EFFICIENCY)
NUMBER/SIZE	10/16x25
TOTAL FACE AREA (SQ-FT)	27.8
FACE VELOCITY (FPM)	162

ENGINEERING SPECIFICATIONS

ERS EXHAUST AIR BLOWER

TYPE	AF SWSI PLENUM
NUMBER/SIZE	1/24.5"
AIRFLOW (CFM) (INCLUDING O.A. PURGE)	4,814
TOTAL STATIC PRESSURE (IN-WC)	1.36
DESIGN FAN SPEED (RPM)	1,170
FAN BHP (INCLUDING DRIVE LOSSES)	2.0
MOTOR HP	2.0
MOTOR DRIVE	DIRECT DRIVE

UNIT SHIPPING WEIGHT (LBS) 23,600

UNIT OPERATING WEIGHT (LBS) 24,900

CURB WEIGHT (LBS) 1,400

ENGINEERING SPECIFICATIONS

ELECTRICAL DATA

JOB NAME FORT BENNING DINING

LOCATION FORT BENNING, GA

DATE PREPARED Revised: 08/26/10

SEASONS-4 REF NUMBER A61701 UNIT MODEL 3EPK53-0563-ER155-16EW

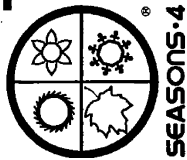
UNIT DESIGNATION ERU-1, ERU-2

SYSTEM VOLTAGE	460	CONTROL VOLTAGE	120	EXT. VOLTAGE	24	
ITEM	QTY	HP	FLA	LRA	KW	TYPE
COMPRESSOR 1	1	***	30.0	173.0	12.6	ZPD182KCE
COMPRESSOR 2	2	***	30.0	173.0	12.2	ZP182KCE
EVAP COND FAN	1	5.0	6.8	46.0	4.5	
EVAP COND PUMP	1	1.0	1.7	17.8	1.0	
SA FAN	2	15.0	17.7	118.0	8.3	Bald
RA FAN	1	7.5	9.6	61.0	5.6	Bald
ER WHEEL	1	0.5	1.0	10.8	0.5	GSTD
EX (ERS) AIR BLOWER	1	2.0	2.8	19.6	1.7	Bald
ELECT HEAT	1		194.8		155.0	Open
CONTROL CIRCUIT			2.2			
CONTROL CKT (EXTRA)			6.5			
CONVENIENCE OUTLET			4.3			15 Amps
SUMP HEATER	1		2.5		2.0	
TOTALS (COOL)	10	***	160.3		66.8	
TOTALS (HEAT)	7	40.0	259.1		181.3	

M.C.A. 264 (MINIMUM CIRCUIT AMPACITY)

M.O.P. 300 (MAXIMUM OVERLOAD PROTECTION)

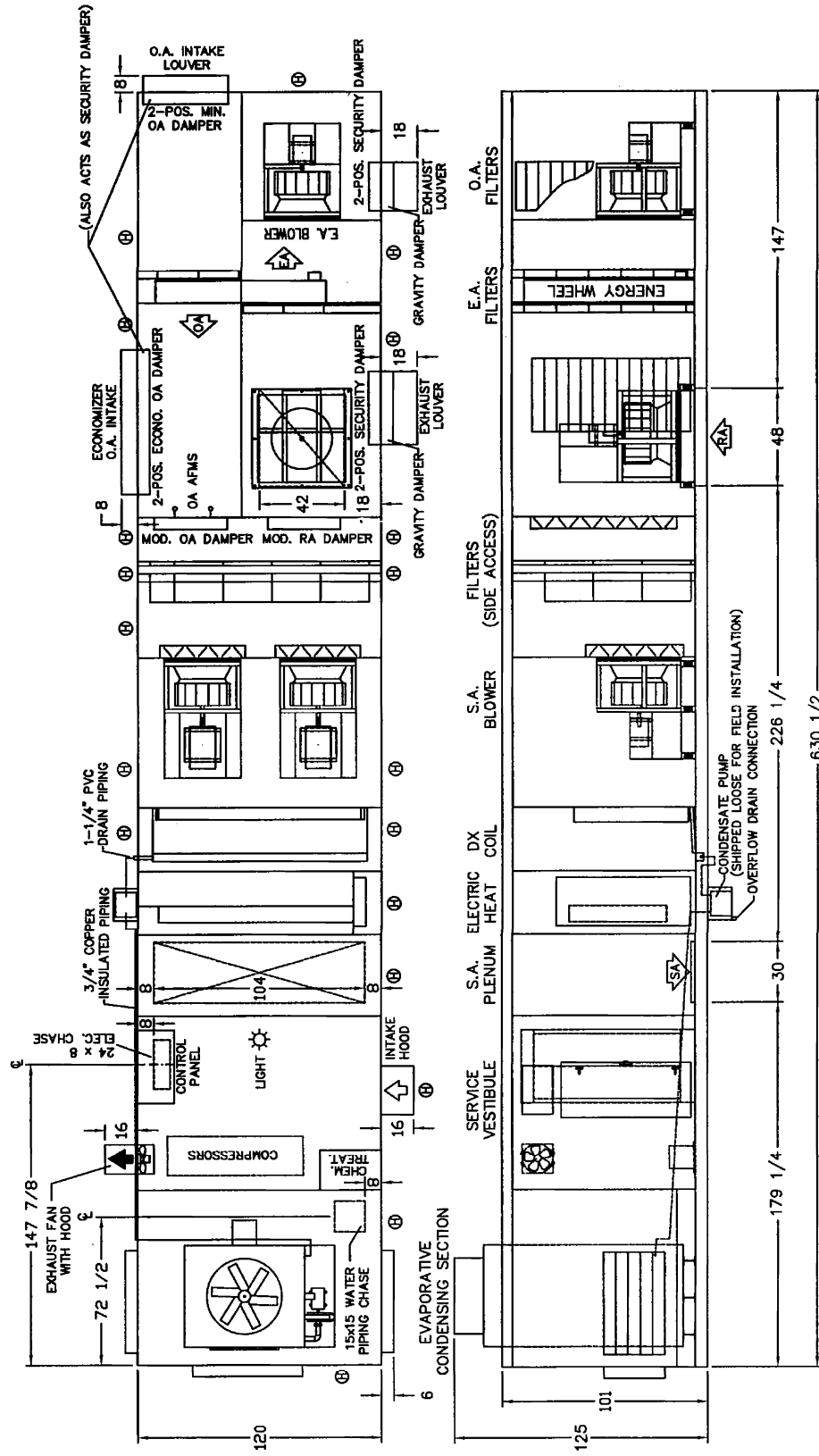
S.C.C.R. 65,000 (SHORT CIRCUIT CURRENT RATING)



ENGINEERING AND MANUFACTURING HVAC EQUIPMENT SINCE 1971

DIMENSIONAL DATA

FORT BENNING DINING
FORT BENNING, GA
ERU-1



- Ⓜ HINGED ACCESS DOOR
- Ⓢ SCREW-ON ACCESS DOOR
- Ⓛ LIFT-OFF ACCESS DOOR

REV. 3: 08/26/2010 JDP
REV. 2: 04/14/2010 JDP
REV. 1: 04/06/2010 JDP

NOTE: O.A./E.A. LOUVERS, FURNACE VENT CAPS, ETC. MAY REQUIRE FIELD INSTALLATION

02/24/2010 JDP A617D01JP 4500 INDUSTRIAL ACCESS ROAD • DOUGLASVILLE, GEORGIA 30134-3949 • 770/489-0716 • FAX 770/489-2938