GAS BOILER PERFORMANCE SCHEDULE

* BASED ON D.O.E. (DEPT. OF ENERGY) TEST PROCEDURE

TAG	INPUT (MBH)	HEATING CAPACITY (MBH)	PRESS. DROP (FT HD)	FUEL	EFF. (%)	INTAKE/ VENT(IN)	ELECTRICAL REQUIREMENTS			BASIS OF DESIGN : LOCHINVAR CREST	
							AMP	WATTS	V/PH/HZ	SERVICE	MODEL
B-1	2500.0	2300.0	3.5	NAT GAS	92.0	9"/8"	15.0	-	120/1/60	HWS/R	FBN-2500
B-2	2500.0	2300.0	3.5	NAT GAS	92.0	9"/8"	15.0	-	120/1/60	HWS/R	FBN-2500

BFP PERFORMANCE SCHEDULE

TAG	SIZE	FLOW RATE (GPM)	W.P.D (PSI)	MAX. WORK'G. TEMPERATURE (DEGREES F)	MAX. WORK'G. PRESSURE (PSI)	TESTABLE (Y) OR (N)	BASIS OF DESIGN : ZURN-WILKINS		
							BODY STYLE*	SERVICE	MODEL
BFP-1	¾"	30.0	14.0	180	175	Y	RPZ	BOILER FILL	975XL

EXPANSION TANK PERFORMANCE SCHEDULE

PRE-CHARGE TANKS TO 40PSIG

TAG	TANK VOLUME (GAL)	ACCEPTANCE VOLUME (GAL)	MIN. REQ'D. ACCEPT.VOL. (GAL)	MAX. WORK'G. TEMPERATURE (DEG F)	MAX. WORK'G. PRESSURE (PSI)	WEIGHT (LBS)	BASIS OF DESIGN : TACO		
							MOUNTING	SERVICE	MODEL
ET-1	158.0	158.0	132.0	240	125	1800	FLOOR	HWS/R	CA600
ET-2	67.0	34.0	22.0	240	125	540	FLOOR	DHW	PAX-254

AIR SEPARATOR PERFORMANCE SCHEDULE

TAG	FLOW RATE (GPM)	W.P.D (PSI)	Cv FACTOR	STRAINER (Y) OR (N)	MAX. WORK'G. TEMPERATURE (DEGREES F)	MAX. WORK'G. PRESSURE (PSI)	BASIS OF DESIGN : TACO		
							SERVICE	PIPE SIZE(IN)	MODEL
AS-1	370.0	0.6	-	N	270	125	HWS/R	5"	4905ADH

GAS-FIRED WATER HEATER PERFORMANCE SCHEDULE

TAG	STORAGE (GALS)	INPUT (MBH)	REC'VRY. @ 100°F	ELECTRICAL REQUIREMENTS			BASIS OF DESIGN : LOCHINVAR ARMOR		
				AMPS	WATTS	V/PH/HZ	SERVICE	FUEL	MODEL
GFWH-1	3.4	399.0	465.0	6.5	-	120/1/60	DHW	NAT GAS	AWN400FM
GFWH-2	3.4	399.0	465.0	6.5	-	120/1/60	DHW	NAT GAS	AWN400FM

HWS1 SHALL BE LOCHINVAR LOCK-TEMP ROUND JACKETED MODEL RCA0940, 940 GALLON, CEMENT LINED OR EQUAL.

PUMP PERFORMANCE SCHEDULE

TAG	FLOW RATE (GPM)	HEAD (FT.WG)	IMPEL. SIZE	RPM	EFF %	ELECTRICAL REQUIREMENTS					BASIS OF DESIGN : TACO		
						HP	BHP	VFD	AMPS	V/PH/HZ	SERVICE	ARRANGEMENT	MODEL
CP-1	230.0	15.0	6.6	1160	74.0	1-½	1.25	N	-	208/3/60	B-1	INLINE	KV4007
CP-2	230.0	15.0	6.6	1160	74.0	1-½	1.25	N	-	208/3/60	B-2	INLINE	KV4007
CP-3	370.0	50.0	10.8	1160	80.0	10	7.9	Y	-	208/3/60	HWS/R	BASE MNT	C1401IC
CP-4	370.0	50.0	10.8	1160	80.0	10	7.9	Y	-	208/3/60	HWS/R	BASE MNT	C1401IC
CP-5	40.0	25.0	-	1725	-	¾	-	N	-	208/3/60	DHW	INLINE	IL133B
CP-6	40.0	25.0	-	1725	-	¾	-	N	-	208/3/60	DHW	INLINE	IL133B
CP-7	10.0	20.0	-	3450	-	1/10	-	N	1.4	120/1/60	RHW	INLINE	24106

CP-5, CP-6 & CP-7 SHALL BE ALL BRONZE OR STAINLESS STEEL CONSTRUCTION.

AIR HANDLER PERFORMANCE SCHEDULE

SOUND POWER (dB RE 10^{-12} WATTS) OCTAVE BAND & CENTER FREQUENCY (HZ)

TAG	AIRFLOW (CFM)	MIN.O.A. (CFM)	MAX.O.A. (CFM)	FAN	T.S.P* (IN.WG)	E.S.P (IN.WG)	FAN TYPE & SIZE	RPM	ELECTRICAL REQUIREMENTS						TAG ERW	TAG HTG COIL	TAG CLG COIL
									HP	BHP	FLA	LRA	MOCP	V/PH/HZ			
MAU-1	6000	6000	6000	PLENUM SUPPLY (W/VFD)	2.13	1.0	AF16-9BL	3500	7.5	4.80	19.3	-	-	208/3/60	N/A	HC-1	N/A

SOUND SOURCE	1	2	3	4	5	6	7	8	HORIZONTAL CONFIGURATION	STACKED CONFIGURATION	FILTER / MIXING BOX	ENERGY RECOVERY	HIGH EFFICIENCY FILTERS	CABINET FAN	BYPASS HEATING COIL	HEATING COIL	ACCESS SECTION	CHILLED WATER COOLING COIL	SUPPLY FAN	DISCHARGE PLENUM
	63	125	250	500	1000	2000	4000	8000												
INLET	80	78	82	98	80	81	81	77	Y	N	1	-	-	2	-	3	-	4	5	
CABINET	72	69	68	79	64	61	49	41	BASIS OF DESIGN : MCQUAY											
DISCH'G	83	80	82	93	87	87	87	80	MODEL : VISION CAH012GHGC											

* - T.S.P. WITH MERV 8 FILTERS AT MID-LIFE.
PROVIDE UNIT WITH VFD SUPPLY FAN TO BE CONTROLLED BY BUILDING PRESSURE.

HEATING COIL PERFORMANCE SCHEDULE

INTEGRAL FACE AND BYPASS HEATING COIL

TAG	OUTPUT (MBH)	COIL AREA (SQ. FT.)	FLOW RATE (GPM)	W.P.D (FT.WG)	WATER VELOCITY (FPS)	E.W.T. (°F)	L.W.T. (°F)	ROWS	TURBS (Y/N)	HTG. AIR FLOW (CFM)	A.P.D (IN.WG)	BASIS OF DESIGN : MCQUAY						
												EAT(°F)	LAT(°F)	FIN TYPE	FPF	MODEL	VALVE	SERVICE
HC-1	553.1	8.61	45.0	3.15	-	180.0	155.2	3	-	6000	0.76	-10.0	75.5	-	168	HMW14A630	V-1	MAU-1

ELECTRONIC TEMPERATURE MIXING VALVE PERFORMANCE SCHEDULE

TAG	FLOW RATE (GPM)	INLET CONNECTION (INCHES)	OUTLET CONNECTION (INCHES)	W.P.D (PSIG)	SET POINT (DEGREES F)	PROVIDE SPARE CARTRIDGE (Y) OR (N)	BASIS OF DESIGN : HEAT-TIMER		
							SERVICE	ARRANGEMENT	MODEL
ETMV-1	80.0	2"	2"	3.0	120°F	-	DOM HW	WALL	ETV-2"

PROVIDE WITH HEAT-TIMER TEMPERATURE MONITORING CONTROL (TMC) INCLUDING SOLENOID AND SENSORS.

CONTROL VALVE SCHEDULE

TAG	FLOW RATE (GPM)	Cv	VALVE SIZE (IN)	TYPE	SERVICE
V-1	45.0	25.0	1-½"	2-WAY, PROPORTIONING	HC-1

MECHANICAL AND PLUMBING SYMBOLS AND ABBREVIATIONS LEGEND

NOTE - USE SYMBOLS AND ABBREVIATIONS AS APPLICABLE FOR THIS MECHANICAL DRAWING SET.
SOME SYMBOLS AND ABBREVIATIONS IN THIS LEGEND MAY NOT APPLY.

SYMBOL	DESCRIPTION
CA	COMPRESSED AIR PIPING (CA)
C	CONDENSATE DRAIN PIPING (C)
CTR	COOLING TOWER RETURN PIPING (CTR)
CTS	COOLING TOWER SUPPLY PIPING (CTS)
CWR	CHILLED WATER RETURN PIPING (CWR)
CWS	CHILLED WATER SUPPLY PIPING (CWS)
FOR	FUEL OIL RETURN PIPING (FOR)
FOS	FUEL OIL SUPPLY PIPING (FOS)
G	GAS PIPING (G)
HWR	HOT WATER RETURN PIPING (HWR)
HWS	HOT WATER SUPPLY PIPING (HWS)
RL	REFRIGERANT LIQUID PIPING (RL)
RG	REFRIGERANT GAS PIPING (RG)
	SANITARY PIPING BELOW FLOOR (SAN)
	SANITARY PIPING ABOVE FLOOR (SAN)
	SANITARY VENT PIPING
RWL	RAINWATER LEADER ABOVE SLAB (RWL)
	COLD WATER PIPING (CW)
	HOT WATER PIPING (HW)
	RECIRCULATED HOT WATER PIPING (RHW)
	PIPE CAP
	DIRECTION OF FLUID FLOW
	ELBOW UP
	ELBOW DOWN
	PIPE TEE UP
	PIPE TEE DOWN
	PIPE REDUCER
	PIPE WITH GUIDE
	PIPE WITH ANCHOR
	BUTTERFLY VALVE
	OS & Y GATE VALVE

SYMBOL	DESCRIPTION
	BACKFLOW PREVENTER (BFP)
	CHECK VALVE
	BALANCING VALVE (ADJUSTABLE)
	AUTOMATIC FLOW CONTROL VALVE
	RELIEF VALVE (RV)
	BALL VALVE
	BALL VALVE
	3/4" BALL VALVE WITH 3/4" HOSE END
	GATE VALVE
	PRESSURE REDUCING VALVE
	FUSIBLE VALVE
	STRAINER W/BLOWDOWN BALL VALVE
	2-WAY CONTROL VALVE
	SOLENOID VALVE
	3-WAY CONTROL VALVE
	3-WAY CONTROL VALVE (TOP VIEW)
	4-WAY CONTROL VALVE (TOP VIEW)
	2 BUTTERFLY VALVES W/SINGLE ACTUATOR
	BUTTERFLY VALVE W/ACTUATOR
	TRIPLE-DUTY VALVE
	UNION
	PIPE FLANGE
	PUMP WITH FLANGES
	BASE MOUNTED PUMP
	CARTRIDGE TYPE INLINE PUMP
	VERTICAL INLINE PUMP
FC	FLEXIBLE PIPE CONNECTION (FC)
	PITCH DOWN
	PETCOCK
	FLOW METER

SYMBOL	DESCRIPTION
	PRESSURE GAGE WITH GAGE COCK
	THERMOMETER IN WELL
	WATER FLOW SWITCH
	PRESSURE SWITCH OR SENSOR
	IMMERSION TEMPERATURE SENSOR
	DUCT MOUNTED SMOKE DETECTOR
	ROOM TEMPERATURE SENSOR
	THERMOSTAT OR SENSOR ON WALL
	TSTAT OR SENSOR W/ TAMPERPROOF GUARD
	MANUAL AIR VENT
	NOTE TAG (NUMBER)
	AIR DEVICE TAG (LETTER) WITH CFM
	ROOM NUMBER
	TURNING VANES
	DUCT W/MANUAL DAMPER
	DUCT W/FLEXIBLE CONNECTION (FC)
	LAGGED DUCT
	DUCT W/ACOUSTIC LINING
	DUCT W/SQUARE-TO-ROUND TRANSITION
	FLEXIBLE DUCT
MOD	MOTOR OPERATED DAMPER
	AIRFLOW OUT
	AIRFLOW IN
	DIAMETER OR FLAT OVAL
	FIRE DAMPER
	ROUND OR FLAT OVAL DUCT DOWN
	ROUND OR FLAT OVAL DUCT UP
	SUPPLY DIFFUSER
	RETURN GRILLE
	STEAM TRAP
	WATER HAMMER ARRESTOR
	POINT OF CONNECTION OR DISCONNECTION

ABBREVIATION	DESCRIPTION
AAV	AUTOMATIC AIR VENT
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
AHU-*	AIR HANDLING UNIT TAG
AMS	AIRFLOW MONITORING STATION
AMPS	AMPERES
AP	ACCESS PANEL
APD	AIR PRESSURE DROP
AS-*	AIR SEPARATOR TAG
ATC	AUTOMATIC TEMPERATURE CONTROL
B-*	BOILER TAG
BD-*	BYPASS DAMPER TAG
BFP-*	BACKFLOW PREVENTER TAG
BHP	BRAKE HORSEPOWER
BTUH	BRITISH THERMAL UNITS PER HOUR
CBD	COUNTER BALANCED DAMPER
CC-*	COOLING COIL TAG
CFM	CUBIC FEET PER MINUTE
CHLR-*	CHILLER TAG
CO	CLEANOUT
CONV-*	CONVECTOR TAG
CUH-*	CABINET UNIT HEATER TAG
CP-*	CIRCULATING PUMP TAG
CT-*	COOLING TOWER TAG
Cv	VALVE COEFFICIENT
CW	COLD WATER
CHWS/R	CHILLED WATER SUPPLY AND RETURN
DB	DRY BULB
dB RE	DECIBELS RELATIVE TO
DC	DOUBLE CHECK
DCA	DOUBLE CHECK ATMOSPHERIC
DEG F	DEGREES FAHRENHEIT
DIA	DIAMETER
DIW	DOWN IN WALL
DN	DOWN
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EDB	ENTERING DRY BULB

ABBREVIATION	DESCRIPTION
EDC-*	ELECTRIC DUCT COIL TAG
EER	ENERGY EFFICIENCY RATIO
EF-*	EXHAUST FAN TAG
EFF	EFFICIENCY
EG-*	EXHAUST GRILLE TAG
ER-*	EXHAUST REGISTER TAG
ESP	EXTERNAL STATIC PRESSURE
ET-*	EXPANSION TANK TAG
EWB	ENTERING WET BULB
EWH-*	ELECTRIC WATER HEATER TAG
EWT	ENTERING WATER TEMPERATURE
EXG	EXISTING
EXH	EXHAUST
FC	FLEXIBLE CONNECTION
FCO	FLOOR CLEANOUT
FD	FIRE DAMPER
FD-*	FLOOR DRAIN TAG
FLA	FULL LOAD AMPS
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
FPHB	FROST PROOF HOSE BIBB
FPM	FEET PER MINUTE
FS-*	FLOOR SINK TAG
FT	FEET
FTR-*	FINTUBE RADIATION TAG
GA.	GAGE
GAL	GALLONS
GFWH-*	GAS FIRED WATER HEATER TAG
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GUH-*	GAS UNIT HEATER TAG
HC-*	HEATING COIL TAG
HP	HORSEPOWER
HRV-*	HEAT RECOVERY VENTILATOR TAG
HW	HOT WATER
HWS/R	HOT WATER SUPPLY AND RETURN
I=B=R	INSTITUTE OF BOILER AND RADIATOR MANUFACTURERS

ABBREVIATION	DESCRIPTION
IFWH-*	INDIRECT FIRED WATER HEATER TAG
IN.	INCHES
IV-*	INTAKE VENT TAG
L-*	LOUVER TAG
LAT	LEAVING AIR TEMPERATURE
LB	POUNDS
LD-*	LINEAR DIFFUSER TAG
LTHWS/R	LOW TEMPERATURE HOT WATER
LRA	LOCKED ROTOR AMPS
LWCO	LOW WATER CUTOUT
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MBH	THOUSANDS OF BTU PER HOUR
MCA	MINIMUM CIRCUIT AMPACITY
MIN	MINIMUM
NC	NOISE CRITERION
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OBD	OPPOSED BLADE DAMPER
O.D.	OUTSIDE DIAMETER
OED	OPEN ENDED DUCT
OFWH-*	OIL FIRED WATER HEATER TAG
OFRD	OVERFLOW ROOF DRAIN
OPD	OVERCURRENT PROTECTIVE DEVICE
P-*	PLUMBING FIXTURE TAG
PENET'N	PENETRATION
PF-*	PADDLE FAN TAG
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
PSIG	POUNDS PER SQUARE INCH GAGE
PVC	POLYVINYL CHLORIDE (PIPE)
RA	RETURN AIR
RD	ROOF DRAIN
RDE	RECOMMENDED DUAL ELEMENT FUSE AMPS
RFM-*	RADIANT FLOOR MANIFOLD TAG
RG-*	RETURN GRILLE TAG
RHW	RECIRCULATED HOT WATER

ABBREVIATION	DESCRIPTION
RLA	RUNNING LOAD AMPS
RPM	REVOLUTIONS PER MINUTE
RPS	REVOLUTIONS PER SECOND
RPZ	REDUCED PRESSURE ZONE
RR-*	RETURN REGISTER TAG
RTU	ROOM TEMPERATURE SENSOR
RV	RELIEF VALVE
RWL	RAINWATER LEADER
SA	SUPPLY AIR
SAN	SANITARY (DRAIN & WASTE)
SD	SMOKE DAMPER
SEER	SEASONAL ENERGY EFFICIENCY RATIO
SF	SUPPLY FAN
SG-*	SUPPLY GRILLE TAG
SP	STATIC PRESSURE
SP-*	SUMP PUMP TAG
SR-*	SUPPLY REGISTER TAG
SQFT	SQUARE FEET
ΔT	TEMPERATURE DIFFERENTIAL
TEMP.	TEMPERATURE
TCP	TEMPERATURE CONTROL PANEL
TMV-*	THERMOSTATIC MIXING VALVE TAG
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
UH-*	UNIT HEATER TAG
VAV-*	VARIABLE AIR VOLUME BOX TAG
VB	VACUUM BREAKER
VFD	VARIABLE FREQUENCY INVERTER DRIVE
VTR	VENT THRU ROOF
V/PH/HZ	VOLTS/PHASES/HERTZ
WB	WET BULB
WCO	WALL CLEANOUT
WG	WATER GAGE
WPD	WATER PRESSURE DROP
WSA	WIRE SIZING AMPS
WTD	WATER TEMPERATURE DROP
W/	WITH
ZD-*	ZONE DAMPER TAG

CITY OF PORTLAND, MAINE — RESURGAM
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STATE OF MAINE — LICENSED PROFESSIONAL ENGINEER

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HARBOR TERRACE
BOILER REPLACEMENT
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Mechanical Legend and Schedules

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