

4		3	
ITEM	MAJOR COMPONENTS	ITEM	CUSTOMER CONNECTIONS
1	CONTROL PANEL W/FALCON	A	8" STACK OUTLET
2	BURNER HOUSING DOOR	B	1" NPT. OVERFLOW (PLUGGED)
3	CONTROL PIPING C/W PRESSURE CONTROLS	C	1 1/4" NPT. GAS SUPPLY
4	<b>SURFACE BLOWOFF PIPING (OPTIONAL)</b>	D	6" 150# F.F. FLANGE NOZZLE, STEAM OUTLET
5	COLLECTOR PIPE (OPTIONAL)	E	2 1/2" NPT. RELIEF VALVE OUTLET
6	HANDHOLES (3)	F	1/2" NPT. CHEMICAL FEED
7	6 5/8" O.D. PIPE COMBUSTION AIR DIRECT VENT KIT (OPTIONAL)	G	1" NPT. FEED WATER
8	AIR FILTER KIT (REMOVED WHEN COMBUSTION AIR DIRECT VENT SELECTED)	H	1" NPT. BLOWDOWN
9	RELIEF VALVE, 2" INLET (SET @ 15 PSI)	I	6" DIA. COMB. AIR/DIRECT VENT
10	<b>1" BLOWDOWN PIPING (OPTIONAL)</b>	J	1" NPT. ALTERNATE FEED WATER
11	<b>1" FEED WATER PIPING (OPTIONAL)</b>	K	1/4" SURFACE BLOWOFF CONNECTION
12	1 1/4" GAS TRAIN PIPING	L	1/2" NPT. SMOKEBOX CONDENSATING DRAIN (PLUGGED)
13	BLOWER MOTOR, 115V 50/60HZ, 750 W	M	3/4" NPT. WATER COLUMN DRAIN
14	BURNER SIGHT GLASS	N	1/4" NPT. GAUGE GLASS DRAIN
15	VALVE, GAS 120VAC 1 1/4" NPT.	O	1" NPT. SPARE CONNECTION
16	LOW GAS PRESSURE SWITCH		
17	HIGH GAS PRESSURE SWITCH, MAX PRESSURE: 1 PSIG		
18	GAS PRESSURE REGULATOR, MAXITROL #RV81		
19	LEAKAGE TEST COCK (3)		
20	1 1/4" BALL VALVE (2)		
21	<del>GASMIC CLIPS (OPTIONAL)</del>		
22	BURNER CAN UNIT		
23	COMBUSTION AIR PROVING SWITCH		
24	LOW WATER AND PUMP CONTROL		
25	AUX. LOW WATER CUT OFF		
26	STEAM PRESSURE GAUGE		

3	
ITEM	CUSTOMER CONNECTIONS
A	8" STACK OUTLET
B	1" NPT. OVERFLOW (PLUGGED)
C	1 1/4" NPT. GAS SUPPLY
D	6" 150# F.F. FLANGE NOZZLE, STEAM OUTLET
E	2 1/2" NPT. RELIEF VALVE OUTLET
F	1/2" NPT. CHEMICAL FEED
G	1" NPT. FEED WATER
H	1" NPT. BLOWDOWN
I	6" DIA. COMB. AIR/DIRECT VENT
J	1" NPT. ALTERNATE FEED WATER
K	1/4" SURFACE BLOWOFF CONNECTION
L	1/2" NPT. SMOKEBOX CONDENSATING DRAIN (PLUGGED)
M	3/4" NPT. WATER COLUMN DRAIN
N	1/4" NPT. GAUGE GLASS DRAIN
O	1" NPT. SPARE CONNECTION

SHIPPING DATA  
 BOILER SIZE: 99"L x 65"W x 66"H  
 BOILER WEIGHT: 3550 LBS.

BOILER DATA  
 FUEL: NATURAL GAS  
 INPUT: 1375 MBH  
 OUTPUT: 1339 MBH

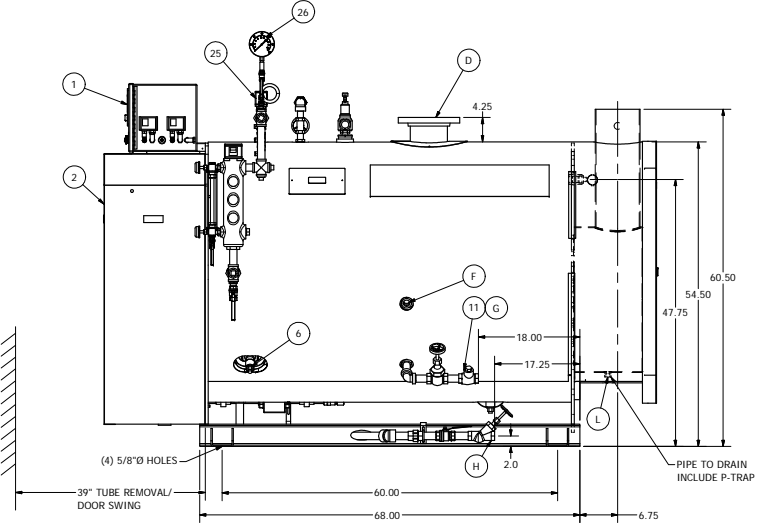
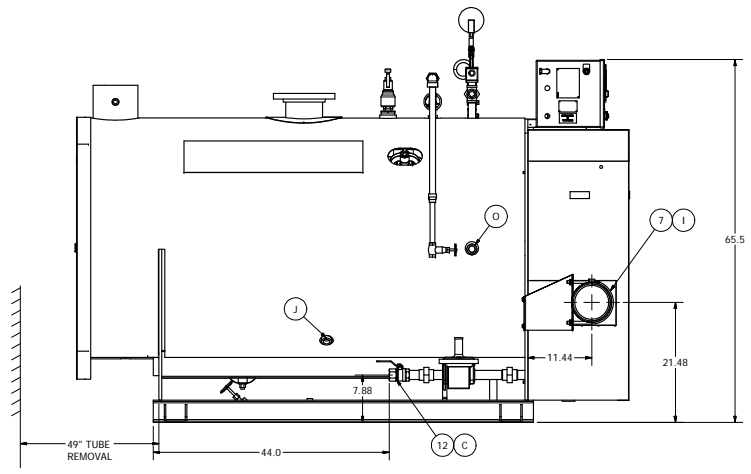
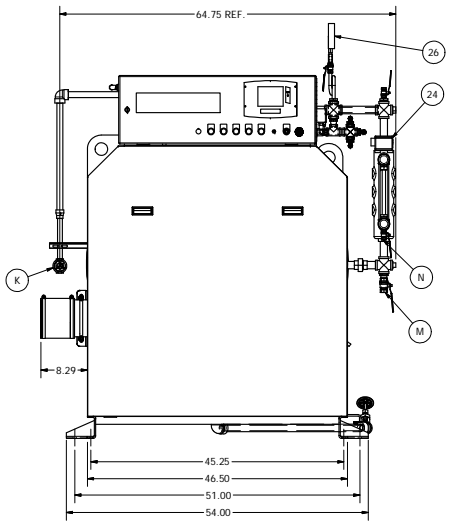
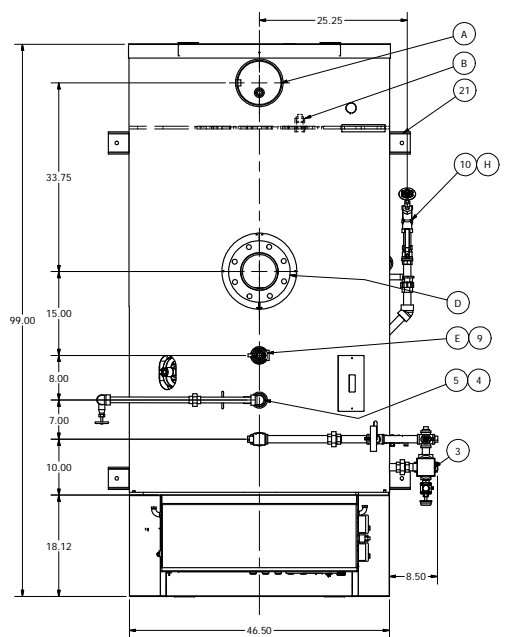
FIRESIDE HEATING SURFACE: 381 SQ.FT.  
 BOILER HEATING SURFACE: 28 SQ.FT.

EXTENDED HEATING SURFACE: 353 SQ.FT.  
 MINIMUM GAS PRESSURE REQUIRED: 11" W.C.  
 MAXIMUM GAS PRESSURE REQUIRED: 28" W.C.

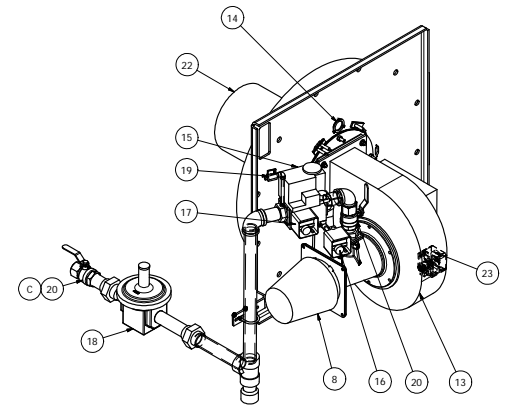
VOLTAGE: 120/160  
 BOILER WATER VOLUME: NORMAL 237 GAL

- NOTES:  
 1. BOILER IS DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE ASME BOILER AND PRESSURE VESSEL CODE, SECTION IV.  
 2. BOILER HAS 2" BLANKET INSULATION, COVERED WITH SECTIONAL WHITE POWDER COATED SHEET METAL LAGGING.  
 3. ASME CSD-1 COMPLIANT.  
 4. UNIT IS FACTORY FIRE TESTED.  
 5. BURNER IS FULLY MODULATING WITH 5:1 TURN DOWN.  
 6. ALL NORMALLY UNUSED FITTINGS ARE CAPPED OR PLUGGED.

ITEMS 4, 10, AND 11 ARE SUPPLIED AND INSTALLED BY OTHERS.



**CAUTION**  
 Dimensions shown are approximate and should not be used in restrictive layouts or to prefabricate assemblies unless Cleaver-Brooks has been consulted. It is strongly recommended that the customer request as-built certified drawings for these cases.



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REV.	DATE	DESCRIPTION
01	10/22/09	CP
02	10/11/11	CP

**WARNING:** Changes, modifications or alterations are strictly prohibited. Changes to this drawing and subsequent modification of equipment could result in damage to the equipment and/or serious personal injury.

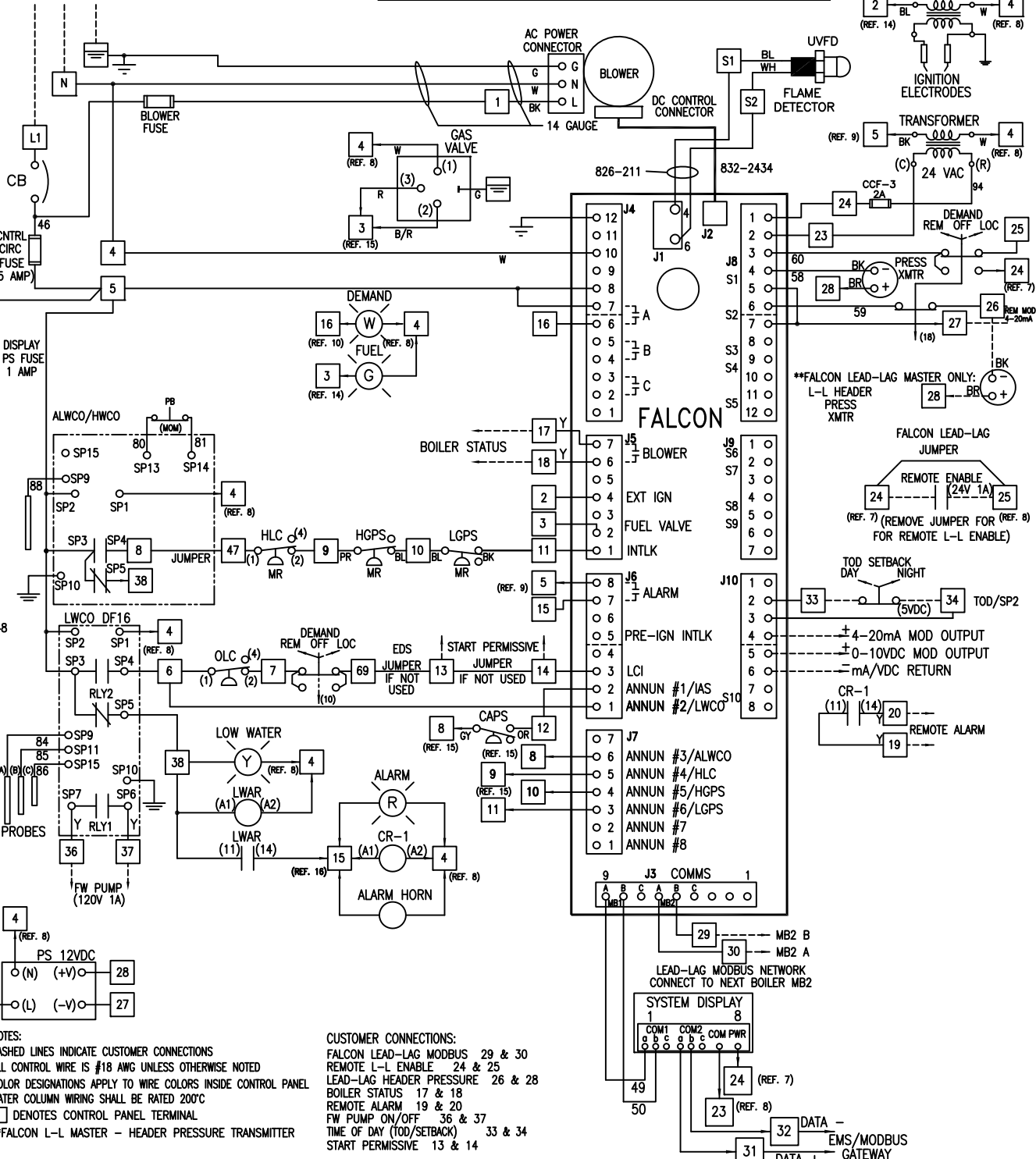
ALL MATERIAL SIZES ON BILL OF MATERIAL ARE FOR REFERENCE ONLY. DRAWING DIMENSIONS MUST BE FOLLOWED.	DRAWN BY: CP CHECKED BY: NCB DATE: 17/07/2007 SHEET: 02
FRACTIONAL:      DECIMAL: + HOLE LOCATIONS: + DRILLED, PUNCHED OR SLOTTED HOLES: +	DIMENSIONAL DIAGRAM 40HP CFH, 15# STEAM N.T.S.
SIZE: D SHT 1 OF 1	DRWG. NO. CFH 40HP REV 02

**CleaverBrooks®**  
 DIMENSIONAL DIAGRAM  
 40HP CFH, 15# STEAM  
 N.T.S.  
 DRWG. NO. CFH 40HP  
 REV 02

115V/1PH AC FUSED  
POWER SUPPLY W/  
GROUNDED NEUTRAL

CC-BLOWER CIRCUIT BREAKER & BLOWER MOTOR FUSE SELECTION

BOILER SIZE	BLOWER MODEL	CIRCUIT BRKR	FUSE RATING, CL CC
10/15/20/25/30 HP	G1G170-AB05-20	10 A	6 A
40 HP	G3G200-GN26-01	15 A	12 A
50/60 HP	G3G250-GN39-01	20 A	15 A



NOTES:  
DASHED LINES INDICATE CUSTOMER CONNECTIONS  
ALL CONTROL WIRE IS #18 AWG UNLESS OTHERWISE NOTED  
COLOR DESIGNATIONS APPLY TO WIRE COLORS INSIDE CONTROL PANEL  
WATER COLUMN WIRING SHALL BE RATED 200°C  
□ DENOTES CONTROL PANEL TERMINAL  
\*\*FALCON L-L MASTER - HEADER PRESSURE TRANSMITTER

CUSTOMER CONNECTIONS:  
FALCON LEAD-LAG MODBUS 29 & 30  
REMOTE L-L ENABLE 24 & 25  
LEAD-LAG HEADER PRESSURE 26 & 28  
BOILER STATUS 17 & 18  
REMOTE ALARM 19 & 20  
FW PUMP ON/OFF 36 & 37  
TIME OF DAY (TOD/SETBACK) 33 & 34  
START PERMISSIVE 13 & 14

EMS INTERFACE MODBUS 31 & 32

TERMINALS: L1, N, G, 1, 2, 3, 4, 4-4, 5-5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 47, 69, S1, S2

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SUGGESTIONS AND INFORMATION CONTAINED ON THIS DRAWING ARE NOT INTENDED TO SUPPLANT LOCAL CODES.

Earnest Brew Works  
Toledo, OH, 43614

UNIT-1

SHT 01 OF 01

019422

REVISIONS	SCALE	N.T.S.
	DATE	11/01/21
	DRAWN	LS
	SIZE	A

**CleaverBrooks®**

CFH	700	40	15ST	XL-GAP
MODEL	FUEL	SIZE	PRESSURE	INSURANCE
115	1	60	2	13.5
VOLTS	PHASE	HERTZ	WIRE	AMPACITY

DRWG. NO. 019422-1-1WD 00