PRODUCT DATA

PD28A-3

Smith Steam Boilers [28A Series]

Pressurized Wet Base
Boiler/Burner Unit

Smith
CAST IRON BOILERS

Designed to provide the highest efficiencies possible with forced draft firing. This new product line of Smith cast iron boilers is available in fifteen basic sizes, with gross output ratings from 931 to 4,622 MBH. Series 28HE boilers may be used in steam systems, and may be fired with light oil, gas or gas/light oil.

STANDARD FEATURES

- Cast iron wet base sections tested for 80 psi working pressure, 15 psi steam working pressure
- Insulated metal jacket
- Burner mounting plate with insulation block
- Front and rear flame observation ports
- Steel angle floor rails
- Ceramic fiber rope seal between sections
- Graphite port connectors
- Flue brush
- Manual reset hi-limit
- Operating control

ADDITIONAL FEATURES FOR STEAM BOILERS

- A.S.M.E. side outlet safety valve, 15 psi
- Gauge glass with cocks and guards

I B R Ratings, Burner Capacities

Designed and tested to the A.S.M.E. boiler and pressure vessel code, section IV for maximum allowable working pressure, steam 15 PSIG,water 80 PSIG.

Boiler Number (Note 1)	Boiler Horse-power	I=B=R Gross Output (MBH)	Net I=B=R Ratings (Note 2)				Heating Surface (Sq. Ft.)	Furnace Volume (Cu. Ft.)	Water Contents (Gals.)	Working Weight (Lbs.)
			Steam		I=B=R Burner Capacity					
			Sq. Ft.	MBH	Oil GPH (Note 3)	Gas MBH (Note 4)			Steam	
†28A-S-4	27	900	2813	675	8.0	1154	81.2	12.04	102.8	4,215
†28A-S-5	35	1166	3646	875	10.4	1491	105.3	16.14	125.8	5,038
†28A-S-6	43	1433	4538	1089	12.6	1827	129.4	20.24	147.8	5,861
†28A-S-7	51	1699	5458	1310	15.0	2163	153.5	24.34	169.8	6,684
†28A-S-8	59	1965	6358	1526	17.4	2499	177.6	28.44	191.8	7,507
†28A-S-9	67	2232	7221	1733	19.6	2836	201.7	32.54	213.8	8,331
†28A-S-10	75	2498	8079	1939	22.0	3172	225.8	36.64	235.8	9,169
†28A-S-11	83	2764	8942	2146	24.5	3508	249.9	40.74	257.8	9,992
†28A-S-12	91	3031	9804	2353	26.5	3844	274.0	44.84	279.8	10,815
†28A-S-13	98	3297	10667	2560	29.0	4180	289.1	48.94	301.8	11,649
†28A-S-14	106	3563	11525	2766	31.5	4517	322.2	53.04	323.8	12,467
†28A-S-15	114	3830	12392	2974	33.5	4853	346.3	57.14	345.8	13,511
†28A-S-16	122	4096	13250	3180	36.0	5189	370.4	61.24	367.8	14,375
†28A-S-17	130	4362	14113	3387	38.5	5525	394.5	65.34	398.8	15,239
†28A-S-18	138	4629	14975	3594	40.5	5862	418.6	69.44	411.8	16,103

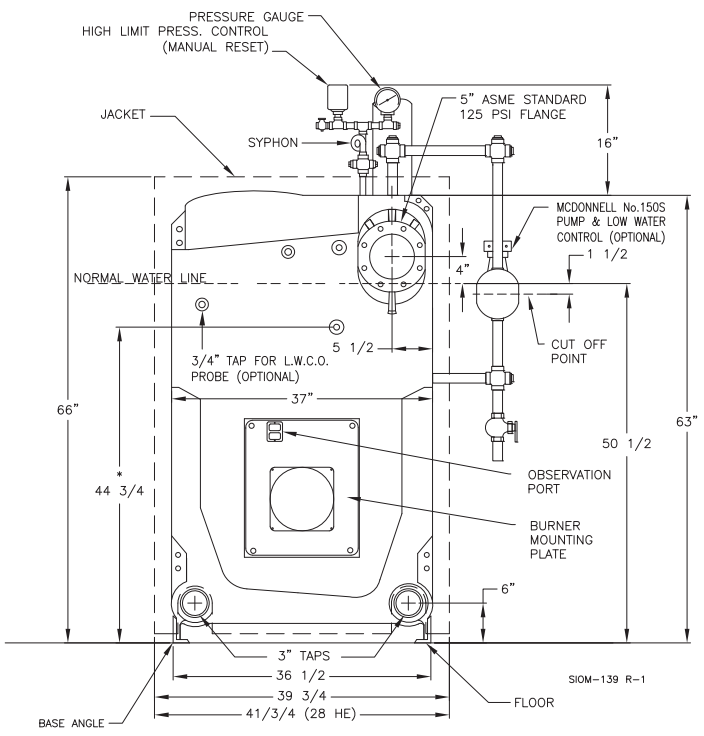
(Note 1) Important Ordering information
(†) Add Prefix for type of fuel to be burned. "LO" for light oil, "G" for Gas or "GO" for gas/oil.
Example: LO-28A-S-6 is the model no. for a six section steam boiler firing light oil.

(Note 2) Net I=B=R Ratings for steam boilers are based on piping and pick-up factor as follows:
4 and 5 section = 1.333
6 section = 1.305
8 section and larger = 1.288

(Note 3) Light oil having a heat content of 140,000 BTU/Gal.

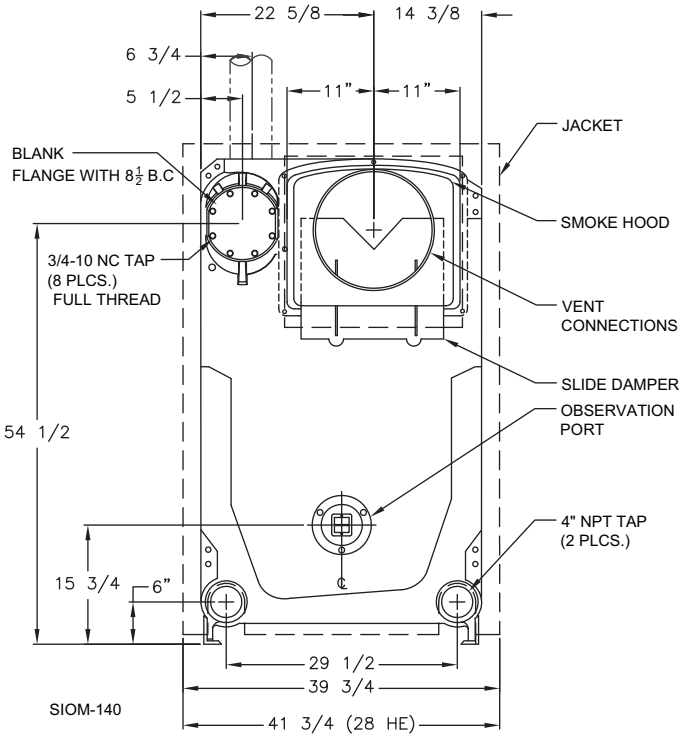
(Note 4) Gas having a heat content of 1,000 BTU/Cu. Ft., 0.60 specific gravity

28A Series

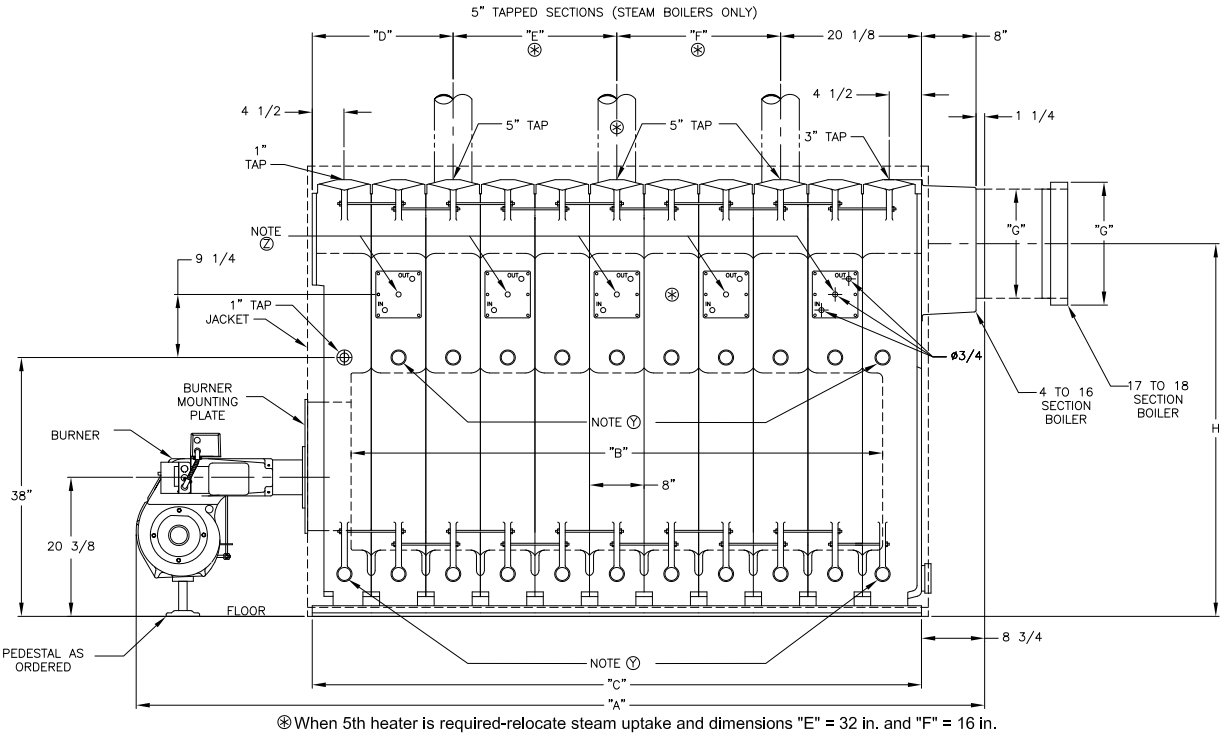


* LOWEST PERMISSIBLE WATER LINE

FRONT VIEW (Steam Boiler)



REAR VIEW



⊛ When 5th heater is required-relocate steam uptake and dimensions "E" = 32 in. and "F" = 16 in.

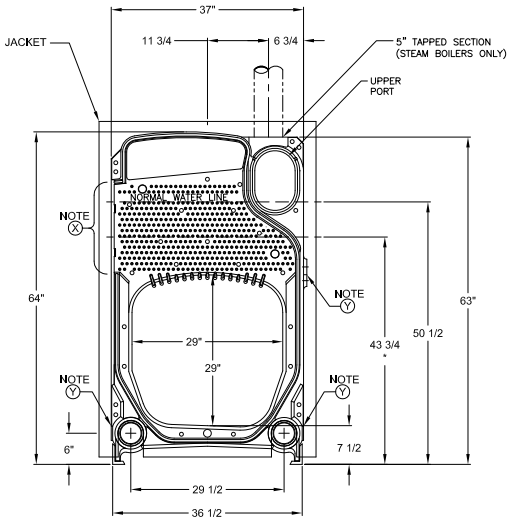
SIDE VIEW

(Note Y) 1-1/2" inspection tappings when ordered.
(Note Z) Tankless heater sections when ordered. Allow 36" clear space for heater withdrawal.

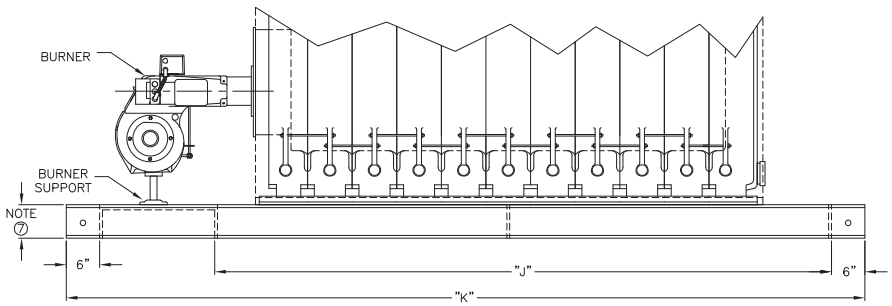
Dimensions (inches)

Boiler Number (Note 1)	Overall Length — "A" (Note 8)				Opt. Packaged Base Dimensions				Furnace Length "B"	Boiler Length "C"	Steam Uptake Locations (Note 9)			Draft Loss Ins. W.C.	Firebox Press Ins. W.C.††	Dia. Vent Conn. "G"	(Note 7) Height Vent Conn. "H"
					Carlin & Beckett		Power Flame and Webster										
	Carlin	Beckett	Power Flame	Webster	"J"	"K"	"J"	"K"			"D"	"E"	"F"				
†28A-S-4	62¼	64	71⅝	66⅜	54¼	83¼	54¼	91¼	23⅓	33	12½	—	—	.24	.34	10	57⅝
†28A-S-5	70¼	72	83⅛	74⅜	62¼	91¼	62¼	104¼	31⅓	41	20½	—	—	.25	.35	10	57⅝
†28A-S-6	80⅛	80¼	91⅛	82⅜	70⅜	99⅛	70⅜	112⅜	39⅓	49	12½	16	—	.26	.36	10	57⅝
†28A-S-7	88⅛	88⅝	99⅛	90⅜	78⅜	107⅛	78⅜	120⅜	47⅓	57	12½	24	—	.27	.37	12	56⅝
†28A-S-8	96⅛	96¾	107⅛	98⅜	86½	115¼	86½	128½	55⅓	65	12½	32	—	.28	.38	12	56⅝
†28A-S-9	108⅞	104¾	115⅛	110⅜	96½	123¼	94½	136½	63⅓	73	12½	40	—	.29	.39	14	55⅝
†28A-S-10	116⅞	116⅜	128	118⅜	102⅝	135¼	102⅝	144⅝	71⅓	81	20½	40	—	.30	.40	14	55⅝
†28A-S-11	125⅛	124⅜	137⅛	126⅜	110⅝	143¼	110⅝	157⅞	79⅓	89	20½	24	24	.31	.41	14	55⅝
†28A-S-12	133⅛	132½	145⅛	134⅜	118¾	151¾	118¾	165¾	87⅓	97	20½	24	32	.33	.43	14	55⅝
†28A-S-13	141⅛	—	153⅛	142⅜	126¾	159¾	126¾	173¾	95⅓	105	20½	32	32	.34	.44	14	55⅝
†28A-S-14	149⅛	—	161⅛	150⅜	134⅞	167⅞	134⅞	181⅞	103⅓	113	20½	32	40	.35	.45	16	54⅝
†28A-S-15	—	—	169⅛	158⅜	—	—	142⅞	189⅞	111⅓	121	20½	40	40	.36	.46	16	54⅝
†28A-S-16	—	—	177⅛	166⅜	—	—	150⅜	198	119⅓	129	20½	48	40	.37	.47	16	54⅝
†28A-S-17	—	—	191⅛	183⅞	—	—	159	206	127⅓	137	20½	48	48	.38	.48	18	54⅝
†28A-S-18	—	—	199⅛	191⅞	—	—	167⅛	214¾	135⅓	145	20½	56	48	.39	.49	18	54⅝

(Note 7) When unit is assembled or packaged, add 6" to heights for 4-14 sect., 8" to heights for 15-18 sect.
(Note 8) Add 2-3/4" to sect. 17 and 18 for smoke hood adaptor.
(††) Based on 0.10 ins. W.C. pressure at boiler outlet. If vent sizing results in a back pressure greater than 0.10 ins. W.C., consult Smith.
(Note 9) These measurements are approximate.The Smith representative should be consulted before selecting boilers for installation having unusual piping and pick-up requirements, such as intermittent system operation, extensive piping systems, etc. The boiler ratings have been determined under previous governing forced draft units.



INTERMEDIATE VIEW



SIOM–141

TYPICAL ASSEMBLY – SIDE VIEW

(Note X) Flue cleanout opening. Allow 36" clear work space for using flue brush.

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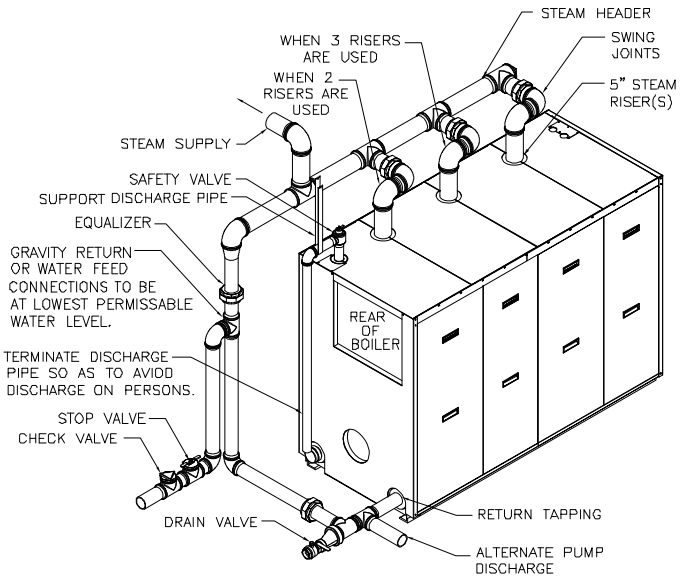
Recommended
Steam Piping Diagram



Boiler Section	No. of 5" Risers	Header	Equalizer
28A-S-4 & 5	1	5"	2-1/2"
28A-S-6 & 7	2	5"	2-1/2"
28A-S-8 thru 10	2	6"	4"
28A-S-11 thru 18	3	8"	4"

Burner Specifications

Boiler Number	Burners - Light Oil						Burners - Gas		Burners - Gas/Oil	
	Carlin (Note 5)		Beckett (Note 5)		Power Flame (Note 6)		Power Flame (Note 6)		Power Flame (Note 6)	
	Model No.	H.P.	Model No.	H.P.	Model No.	H.P.	Model No.	H.P.	Model No.	H.P.
†28A-S-4	702CRD	½	CF1400	½	C1-0	½	J30A-12	⅓	C1-G0-12	½
†28A-S-5	702CRD	½	CF1400	½	C1-0	½	J50A-15	½	C1-G0-12	½
†28A-S-6	801CRD	¾	CF2300	¾	C2-0A	¾	J50A-15	½	C2-G0-15	1
†28A-S-7	801CRD	¾	CF2300	¾	C2-0A	¾	J50A-15	½	C2-G0-15	1
†28A-S-8	801CRD	¾	CF2300	¾	C2-0B	1	C2-G-20A	¾	C2-G0-20A	1
†28A-S-9	1050FFD	1	CF2300	¾	C2-0B	1½	C2-G-20B	1	C2-G0-20B	1½
†28A-S-10	1050FFD	1	CF2500	2	C2-0B	1½	C2-G-20B	1	C2-G0-20B	1½
†28A-S-11	1150FFD	1½	CF2500	2	C3-0	2	C3-G-20	1½	C3-G0-20	2
†28A-S-12	1150FFD	1½	CF3500A	2	C3-0	2	C3-G-25	1½	C3-G0-25	2
†28A-S-13	1150FFD	1½	CF3500A	2	C3-0	2	C3-G-25	1½	C3-G0-25	2
†28A-S-14	1150FFD	1½	—	—	C3-0	2	C3-G-25	1½	C3-G0-25	2
†28A-S-15	—	—	—	—	C3-0B	3	C3-G-25B	3	C3-G0-25B	3
†28A-S-16	—	—	—	—	C3-0B	3	C3-G-25B	3	C3-G0-25B	3
†28A-S-17	—	—	—	—	C4-0A	5	C4-G-25	3	C4-G0-25	5
†28A-S-18	—	—	—	—	C4-0A	5	C4-G-25	3	C4-G0-25	5

(Note 5) Burner operation: Low-High-Low (4-14 sect.).

(Note 6) Burner operation: Low-High-Low, (4-9 sect.); Modulation (10-18 sect.).

Smith CAST IRON BOILERS

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