ENGINEERING SUBMITTAL

AQUAFLOW™

INDIRECT FIRED WATER HEATER

AF 30

AF 40

AF 55

AF 65

AF 80

AF 199

AF 80 MAX

AF 119 MAX

AF 119 POWER MAX

JOB NAME _____

ADDRESS _____

_____

DESIGNER / ENGINEER _____

CONTRACTOR _____

TEL _____

EMAIL _____

DATE _____

MODEL	AV 30	AV 40	AV 50	AV 65	AV 80	AV 119	80 MAX	119 MAX	119 POWER MAX
QTY									

FEATURES

- Stainless steel construction – AISI 444 stainless steel tank shell, 316L stainless steel heating coil and inlet dip tube
- Large smooth-wall heating coil in counterflow configuration
- Oversized low-pressure-drop heating coil
- Durable meal jacket.
- Butt-welded construction for maximum structural integrity
- TIG-welded construction eliminates crevice corrosion risks
- Fully pickled and passivated internally and externally
- No sacrificial anodes required, reducing lifetime maintenance
- 2" thick rigid polyurethane insulation
- Dedicated recirculation connection
- Ships with 10KΩ temperature sensor and high limit aquastat
- Front-heating connections for flexible installation
- Top hot and cold-water connections (residential models)
- Factory-installed drain valve with cap

CERTIFICATIONS

- Compliant with NSF/ANSI 372:2016 for drinking water system components – lead content *(Pending)*
- Compliant with IAS 91 Issued: 1992/06/01 IAS – U.S. Requirements for Indirect Water Heaters for use with external heat source

WARRANTY

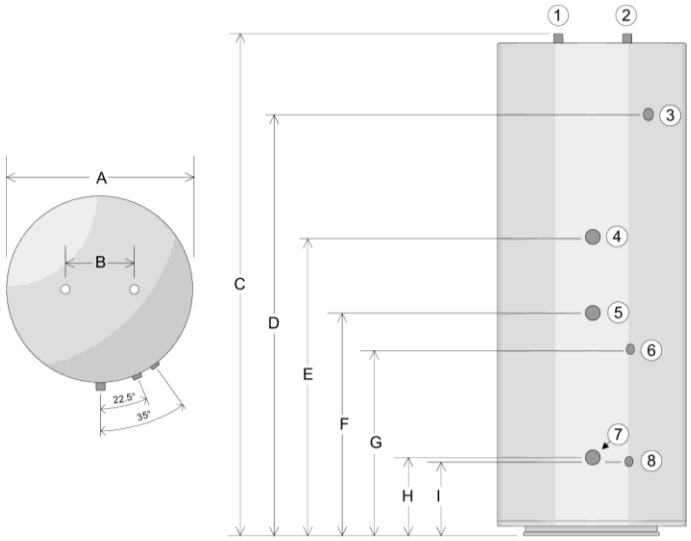
- RESIDENTIAL: Limited lifetime tank and heating coil warranty
- COMMERCIAL: 6 years limited tank and heating coil warranty
- PARTS: 1 Year limited warranty

Pending

TANK CLEARANCES

SURFACE	DISTANCE FROM COMBUSTIBLES	FOR SERVICE
Front	1”	24”
Rear, Right and Left Sides	1”	1”
Top	1”	1”
Bottom	0”	0”

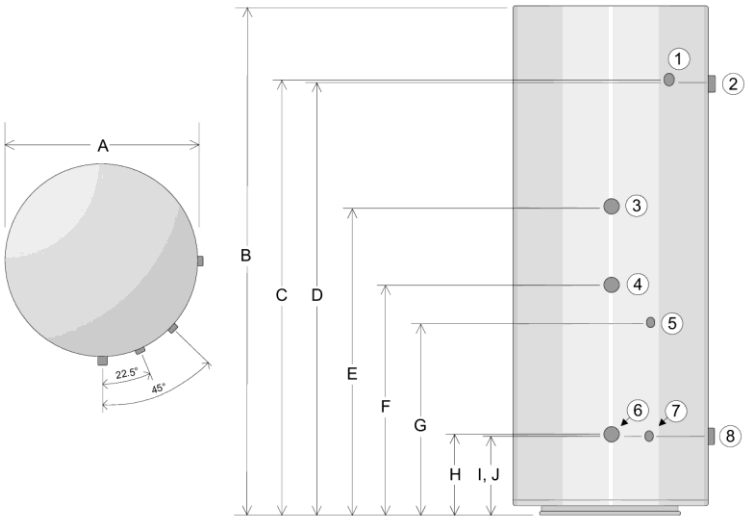
AF 30, AF 40, AF 55, AF 65



1	Hot water outlet - ¾” M NPT
2	Cold water inlet - ¾ M NPT
3	T&P relief valve – ¾” F NPT
4	Recirculation connection -1” F NPT
5	Boiler supply - 1” M NPT
6	Temperature Sensor well – 3/8” F
7	Boiler return - 1” M NPT
8	Tank drain - ½” F NPT

	DIMENSIONS	AF 30	AF 40	AF 55	AF 65
A	Diameter	21 5/8”	21 5/8”	21 5/8”	24 ¾”
B	Hot -cold center to center	7 7/8”	7 7/8”	7 7/8”	7 7/8”
C	Ground to hot water outlet	3 15/16”	46 1/8”	57 7/8”	55 ½”
D	Ground to T&P relief valve	26 11/16”	36 ½”	48 3/8”	45 ½”
E	Ground to recirculation connection	24 5/16”	30 7/16”	39 5/16”	37 1/8”
F	Ground to boiler supply	21 3/16”	22 ½”	25 ½”	26 ¼”
G	Ground to temperature sensor well	16 7/8”	18 3/8”	21 ¼”	21”
H	Ground to boiler return	9”	9”	9”	9 ¾”
I	Ground to tank drain	8 9/16”	8 ½”	8 ½”	9 ½”

AF 80, AF 80 MAX, 119, 199 MAX, 199 POWER MAX



	DIMENSIONS	AF 80G	AF 80 MAX	AF 119	AF 119MAX	AF 119 PM
A	Diameter	24 3/8”	24 3/8”	28”	28”	28”
B	Height (inches / cm)	64 3/8”	64 3/8”	65 ¾”	65 ¾”	65 ¾”
C	Ground to T&P relief valve	55”	55”	55”	55”	55”
D	Ground to hot water outlet	55”	54 1/2”	55 7/8”	55”	55”
E	Ground to Recirculation connection	44 5/8”	44 5/8”	45 ¼”	45 ¼”	45 ¼”
F	Ground to boiler supply	29”	32 7/8”	28 3/8”	31 ¼”	31 ¼”
G	Ground to sensor well	23 5/8”	23 5/8”	25”	25 ¼”	25 ¼”
H	Ground to boiler return	9 ¼”	9 ¾”	10 ¼”	10 7/8”	10 7/8”
I	Ground to tank drain	9 ¼”	9 ¼”	10 ¼”	10 3/8”	10 3/8”
J	Ground to cold water inlet	9 ¼”	9 3/8”	10 ½”	10 7/8”	10 7/8”

		AF 80	AF 80 MAX, AF 119, AF 119 MAX, AF POWER PMAX
1	T&P relief valve	¾” F NPT	1” F NPT
2	Hot water outlet	1” M NPT	1 ½” M NPT
3	Recirculation connection	1” F NPT	1 ½” F NPT
4	Boiler supply	1” M NPT	1 ½” M NPT
5	Temperature sensor well	3/8”	3/8”
6	Boiler return	1” M NPT	1 ½” M NPT
7	Tank drain	½” F NPT	½” F NPT
8	Cold water inlet	1” M NPT	1 ½” M NPT

SPECIFICATION

PERFORMANCE DATA	AF 30G	AF 40G	AF 50G	65G
TANK CAPACITY - USG	26	38.3	51	63.9
MAX. FIRST HR RATING@ 135ºF - GAL/HR	177	216	259	330
CONTINUOUS RATING @ 135ºF - GAL/HR	156	187	218	280
BOILER OUTPUT REQUIRED - BTU/HR	100,000	120,000	140,000	180,000
BOILER FLOW RATE - GPM	10	14	14	14
COIL PRESSURE DROP - FT HD	5.2	6.2	7	7.5
COIL TRANSFER AREA - SQ FT	6.7	8.1	10.2	11.4

**Based on 180ºF boiler supply & 58ºF entering cold water. Max operating pressure of 150 psi*

PIPING CONNECTIONS	AF 30G	AF 40G	AF 50G	65G
CONNECTION LOCATION	Top	Top	Top	Top
DOMESTIC WATER IN - NPT M	3/4”	3/4”	3/4”	3/4”
DOMESTIC HOT WATER OUT - NPT M	3/4”	3/4”	3/4”	3/4”
RECIRCULATION CONNECTION - F	1”	1”	1”	1”
BOILER SUPPLY - NPT M	1”	1”	1”	1”
BOILER RETURN - NPT M	1”	1”	1”	1”
DRAIN VALVE - NPT F	1/2”	1/2”	1/2”	1/2”
RELIEF VALVE - NPT F	3/4”	3/4”	3/4”	3/4”

DIMENSIONS & WEIGHT	AF 30G	AF 40G	AF 50G	65G
TANK HEIGHT - INCHES	36	45.2	57	54.5
TANK DIAMETER - INCHES	22	22	22	24.5
TANK WEIGHT - LBS	88	100	127	145
BOX HEIGHT - INCHES	43	52.4	64.2	61.5
BOX WIDTH - INCHES	22.5	22.5	22.5	25.5
BOX DEPT - INCHES	25	25	25	29
SHIP WEIGHT - LBS	100	120	147	170

SPECIFICATION

PERFORMANCE DATA	AF 80G	AF 80 MAX	AF 119	AF 119MAX	AF 119 PM
TANK CAPACITY - USG	77.4	113	75	119	119
MAX. FIRST HR RATING@ 135ºF - GAL/HR	380	474	721	755	1,110
CONTINUOUS RATING @ 135ºF - GAL/HR	311	373	655	655	1,014
BOILER OUTPUT REQUIRED - BTU/HR	200,000	240,000	420,000	420,000	650,000
BOILER FLOW RATE - GPM	14	14	25	25	30
COIL PRESSURE DROP - FT HD	10.1	11.8	16.7	16.7	25
COIL TRANSFER AREA - SQ FT	13.4	18.3	27.4	27.4	38

**Based on 180ºF boiler supply & 58ºF entering cold water. Max operating pressure of 150 psi*

PIPING CONNECTIONS	AF 80G	AF 80 MAX	AF 119	AF 119MAX	AF 119 PM
CONNECTION LOCATION	Side	Side	Side	Side	Side
DOMESTIC WATER IN - NPT M	1”	1 1/2”	1 1/2”	1 1/2”	1 1/2”
DOMESTIC HOT WATER OUT - NPT M	1”	1 1/2”	1 1/2”	1 1/2”	1 1/2”
RECIRCULATION CONNECTION - F	1”	1 1/2”	1 1/2”	1 1/2”	1 1/2”
BOILER SUPPLY - NPT M	1”	1 1/2”	1 1/2”	1 1/2”	1 1/2”
BOILER RETURN - NPT M	1”	1 1/2”	1 1/2”	1 1/2”	1 1/2”
DRAIN VALVE - NPT F	1/2”	1/2”	1/2”	1/2”	1/2”
RELIEF VALVE - NPT F	3/4”	1”	1”	1”	1”

DIMENSIONS & WEIGHT	AF 80G	AF 80 MAX	AF 119	AF 119MAX	AF 119 PM
TANK HEIGHT - INCHES	64.5	65.7	64.5	65.7	65.7
TANK DIAMETER - INCHES	24.5	28	24.5	28	28
TANK WEIGHT - LBS	166	230	188	246	246
BOX HEIGHT - INCHES	71	73.2	71	73.2	73.2
BOX WIDTH - INCHES	25.5	30.7	25.5	30.7	30.7
BOX DEPT - INCHES	29	35.5	29	35.5	35.5
SHIP WEIGHT - LBS	193	275	201	290	331

RECOVERY RATES

AQUAFLOW 30 (135°F)

BOILER OUTPUT (BTU/HR)	BOILER FLOW = 14 GPM / 180°F	
	1ST HOUR RATING (GAL/HR)	CONTINUOUS RATING (GAL/HR) 58°F ENTERING COLD WATER
50,000	114	78
60,000	129	93
80,000	159	124
100,000	190	156
120,000	204	170
140,000	204	170
160,000	204	170

AQUAFLOW 40 (135°F)

BOILER FLOW = 14 GPM / 180°F	
1ST HOUR RATING (GAL/HR)	CONTINUOUS RATING (GAL/HR) 58°F ENTERING COLD WATER
114	78
129	93
159	124
190	156
204	170
204	170
204	170

AQUAFLOW 50 (135°F)

BOILER OUTPUT (BTU/HR)	BOILER FLOW = 14 GPM / 180°F	
	1ST HOUR RATING (GAL/HR)	CONTINUOUS RATING (GAL/HR) 58°F ENTERING COLD WATER
50,000	124	78
60,000	139	93
80,000	169	124
100,000	199	156
120,000	230	187
140,000	259	217
160,000	259	217

AQUAFLOW 65 (135°F)

8OILER FLOW = 14 GPM / 180°F	
1ST HOUR RATING (GAL/HR)	CONTINUOUS RATING (GAL/HR) 58°F ENTERING COLD WATER
134	78
149	93
179	124
209	156
239	187
269	218
300	249

AQUAFLOW 80 (135°F)

BOILER OUTPUT (BTU/HR)	BOILER FLOW = 14 GPM / 180°F	
	1ST HOUR RATING (GAL/HR)	CONTINUOUS RATING (GAL/HR) 58°F ENTERING COLD WATER
50,000	153	78
60,000	168	93
80,000	198	124
100,000	228	156
120,000	259	187
140,000	289	218
160,000	319	249
180,000	349	280
200,000	356	287
220,000	-	-
240,000	-	-

AQUAFLOW 119 (135°F)

8OILER FLOW = 20 GPM / 180°F	
1ST HOUR RATING (GAL/HR)	CONTINUOUS RATING (GAL/HR) 58°F ENTERING COLD WATER
187	78
202	93
232	124
262	156
293	187
323	218
353	249
383	280
413	311
443	342
474	373

RECOVERY RATES

AQUAFLOW 80 MAX (135°F)

BOILER OUTPUT (BTU/HR)	BOILER FLOW = 25 GPM / 180°F	
	1ST HOUR RATING (GAL/HR)	CONTINUOUS RATING (GAL/HR) 58°F ENTERING COLD WATER
200,000	383	311
220,000	414	342
240,000	444	373
250,000	459	389
300,000	536	467
350,000	612	544
380,000	658	591
400,000	688	622
420,000	719	653

AQUAFLOW 119 MAX (135°F)

8OILER FLOW = 25 GPM / 180°F	
1ST HOUR RATING (GAL/HR)	CONTINUOUS RATING (GAL/HR) 58°F ENTERING COLD WATER
-	-
-	-
-	-
-	-
-	-
646	544
692	591
722	622
753	653

AQUAFLOW 119 POWER MAX

BOILER OUTPUT (BTU/HR)	BOILER FLOW = 25 GPM / 180°F	
	1ST HOUR RATING (GAL/HR)	CONTINUOUS RATING (GAL/HR) 58°F ENTERING COLD WATER
350,000	646	544
380,000	692	591
400,000	722	622
420,000	753	653
450,000	798	702
500,000	875	780
550,000	953	858
600,000	1031	936
650,000	1110	1014

PRESSURE TANK vs TANK FLOW

PRESSURE DROP (FT OF HEAD) VS TANK FLOW				
MODEL	10 GPM	14 GPM	25 GPM	40 GPM
AF 30	3.3	6.2	-	-
AF 40	3.3	6.2	-	-
AF 50	4.0	7.0	-	-
AF 65	4.4	7.5	-	-
AF 80	5.4	10.1	-	-
AF 119	6.5	11.8	-	-
AF 80 MAX	8.0	14.4	16.7	-
AF 119 MAX	8.0	14.4	16.7	-
AF 119 POWER MAX	-	14.4	16.7	25