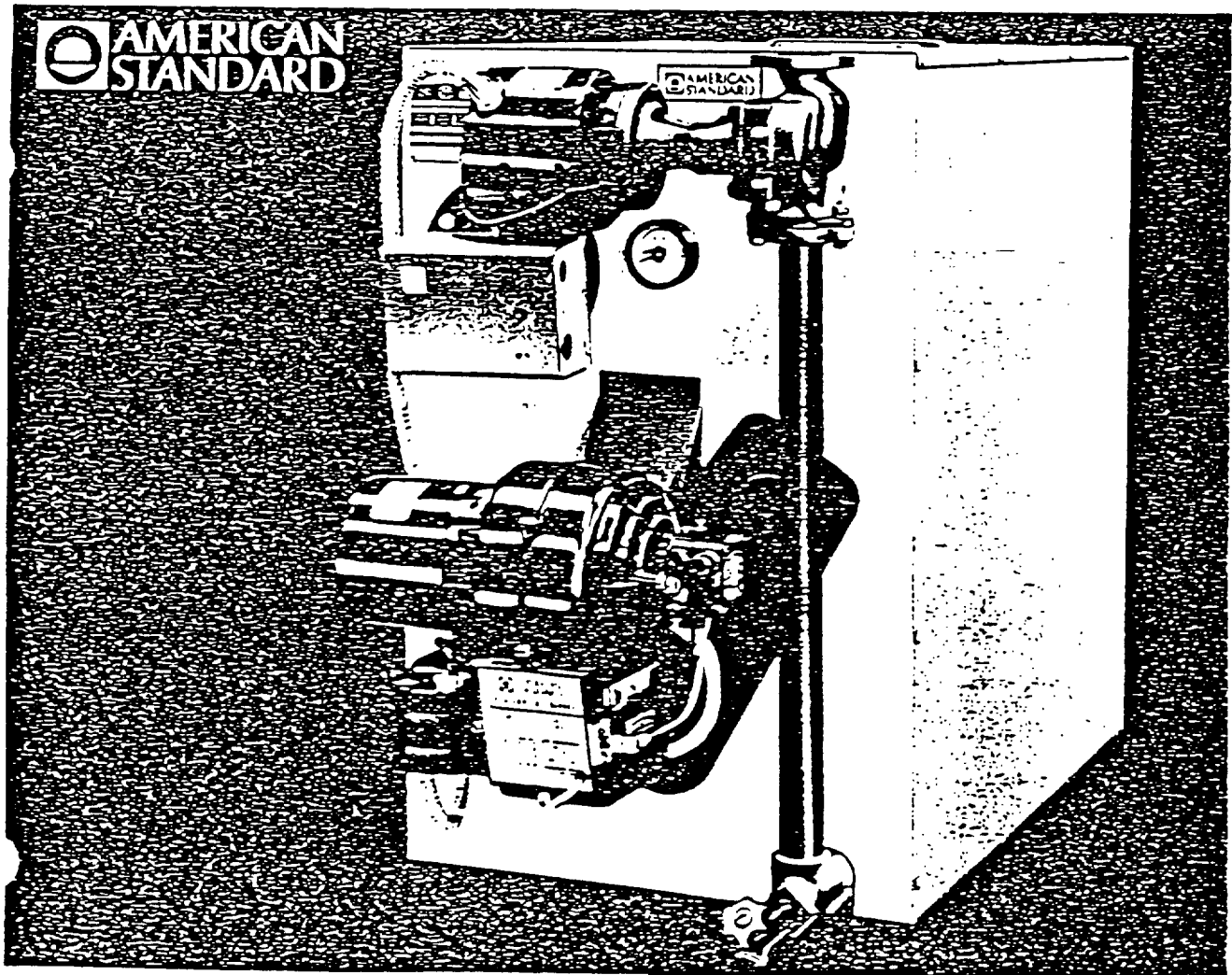


VPm

PACKAGED OIL-FIRED BOILERS
FORCED HOT WATER



PLAINTIFF'S
EXHIBIT

A3 E-862

16591

Introducing the new VP(T) Packaged Boilers

Eight outstanding features including a new concept in oil boiler operation—dual firing rates.

ONE

Each boiler comes with two nozzles. Install the one that meets the immediate needs. Later, you can add 15,000-20,000 BTUs just by switching nozzles.

TWO

New wet-base cast iron assembly of sections. Makes use of all heat-transfer areas.

THREE

Tankless heaters with the capacity to meet the needs of growing families. Achieve maximum tankless heater rating for each size boiler.

FOUR

Quiet 1725 RPM flame-retention burner.

FIVE

Flame-retention DH burner capable of operating at 12% CO₂ with combustion efficiency of over 80%.

SIX

Completely packaged to save on-the-job assembly time. (To simplify handling, burner packaged separately.)

SEVEN

Fits minimum space of 16½" to 28½" deep x 21½" wide by 34½" high.

EIGHT

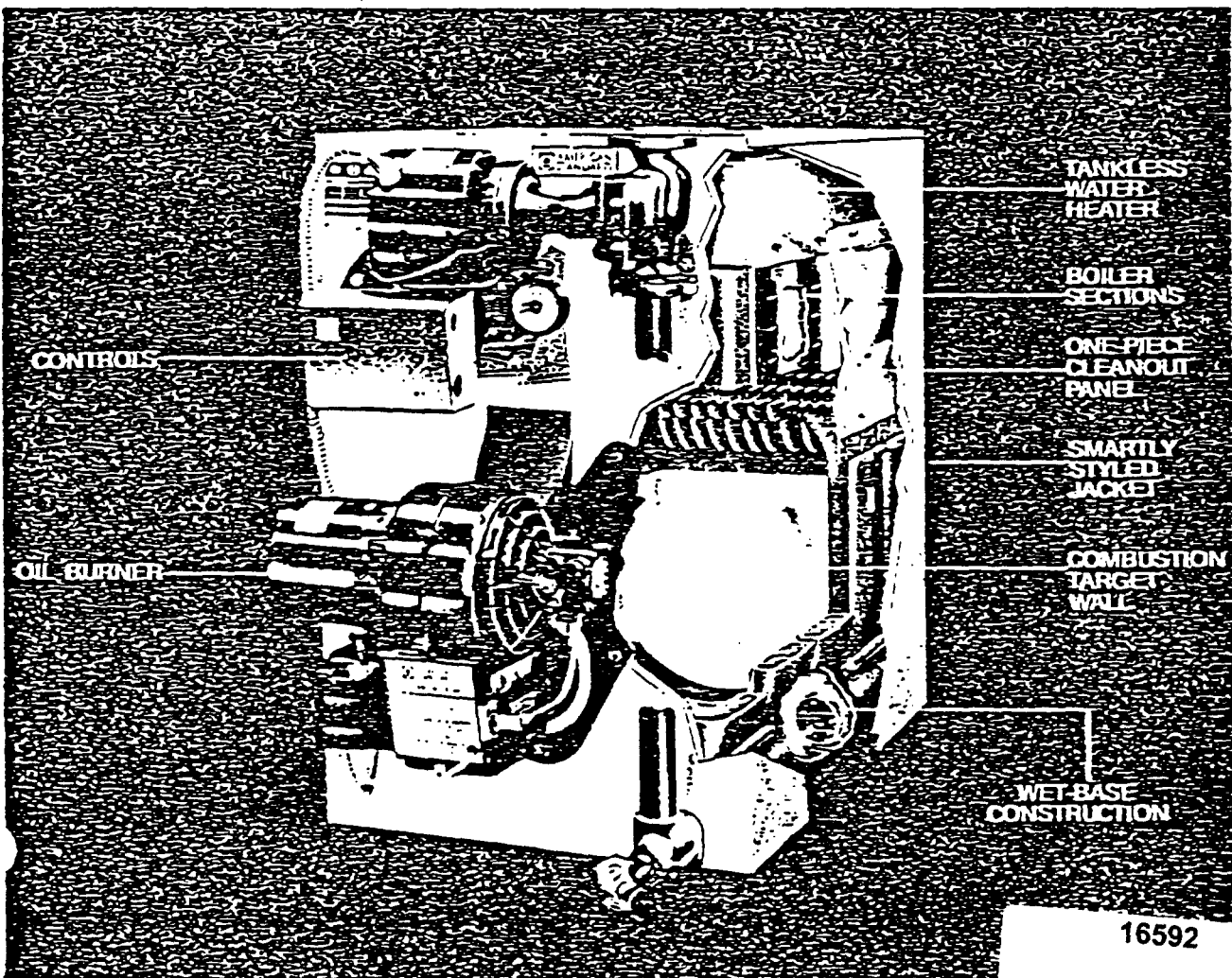
Optional return tapping on rear section for zoning with circulators.

1. controls—(including primary control) are mounted on front for easy service and adjustment. Controls are factory-mounted and pre-wired. Primary control features light-sensing detector for quick response to ignition and flame failure.

2. model DH-F Arcocflame oil burner—flame-retention head is engineered to provide clean, efficient, economical firing. Sling-mount hanging and EXACT-AIRE control simplify installation and adjustment.

3. water heater—large, copper coil tankless type, is inserted into 5" nipple port.

4. boiler sections—of durable cast iron feature vertical flue design.



with pinned surface area to extract maximum combustion heat. Wet-base construction eliminates need for special base. Sections are water tested at 75 psi (2½ times water working pressure in accordance with A.S.M.E.).

5. one-piece cleanout panel—permits cleaning of all flue surfaces from right side without disturbing burner, controls or accessories.

6. smartly styled jacket—made of sturdy steel in beige and brown finish, is assembled on boiler at factory.

7. combustion target wall—long-lived, efficient refractory target wall used on all VP boilers. It provides even heat distribution to combustion area and is factory-installed.

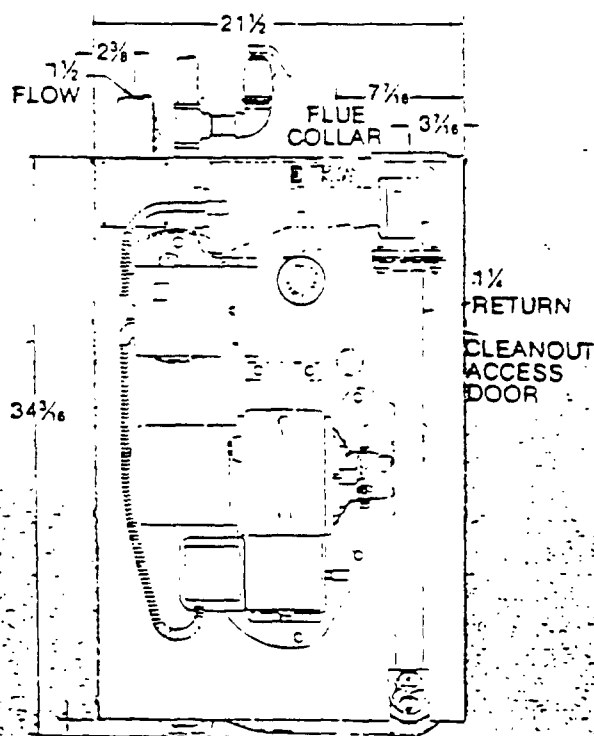
8. wet-base construction—provides an extra heat-absorbing bottom surface. Waterways completely surround combustion area and extend beneath the boiler, making this boiler ideal for installation on combustible floors or basements.

ELIMINAIRE[®]—a patented, cost-saving feature. This unique built-in air eliminator is integrally cast into the left-hand end section. Furnished with all VP(T) boilers, the ELIMINAIRE baffle diverts rising air bubbles into a tapping for connection to the expansion tank. No external device is required to separate air and water, thus reducing both cost and installation time.

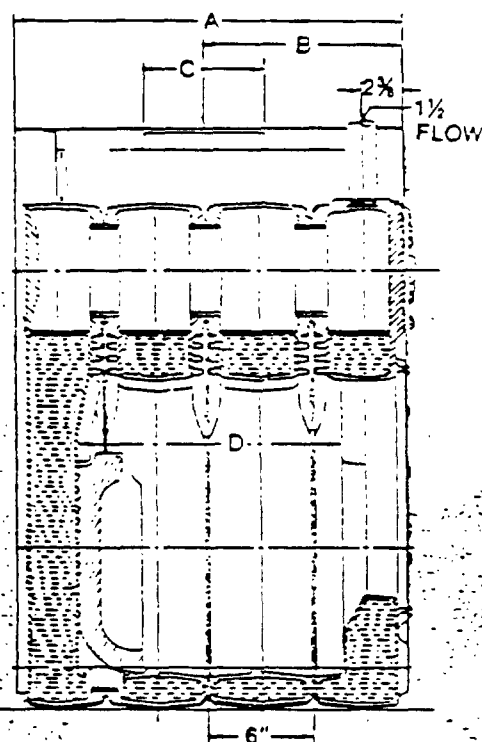
Arcoflame, EXACT-AIR and ELIMINAIRE are trademarks of AMERICAN-STANDARD.

Technical Data

Number of Sections	Water Content Gals.	Heat Transfer Service Sq. Ft.
3	15.6	14.9
4	20.0	21.5
5	24.4	28.1



Front View Packaged Boiler



Section Through Boiler

RATINGS—VPT Boilers—packaged units with factory installed tankless heaters

Model No.	gross I=B=R output (MBH)	I=B=R burner capacity (gph)	no. of sections	tankless heater no.	tankless heater capacity (gpm)*	net I=B=R rating (MBH)	net rating sq. ft. water	burner used	nozzle size	chimney size
VPT-115	115.0	1.05	3	130	3½	100.0	667	DH-4F1	1.00—60° semi-solid and	8" x 8" x 15'
VPT-130	130.0	1.15				113.0	753		1.10—60° semi-solid	8" x 8" x 15'
VPT-170	170.0	1.50	4	131	4¾	147.8	985	DH-5F2	1.50—80° solid and	8" x 8" x 15'
VPT-190	190.0	1.70				165.2	1,102		1.65—80° solid	8" x 8" x 15'
VPT-230	230.0	2.05	5	132	6	200.2	1,333	DH-5F3	2.00—60° semi-solid and	8" x 8" x 15'
VPT-250	250.0	2.25				217.4	1,449		2.25—60° semi-solid	8" x 12" x 15'

VP Boilers—packaged units less tankless heaters

VP-115	115.0	1.05	3	—	—	100.0	667	DH-4F1	1.00—60° semi-solid and	8" x 8" x 15'
VP-130	130.0	1.15				113.0	753		1.10—60° semi-solid	8" x 8" x 15'
VP-170	170.0	1.50	4	—	—	147.8	985	DH-5F2	1.50—80° solid and	8" x 8" x 15'
VP-190	190.0	1.70				165.2	1,102		1.65—80° solid	8" x 8" x 15'
VP-230	230.0	2.05	5	—	—	200.2	1,333	DH-5F3	2.00—60° semi-solid and	8" x 8" x 15'
VP-250	250.0	2.25				217.4	1,449		2.25—60° semi-solid	8" x 12" x 15'

*GPM water from 40°F to 140°F with 200°F boiler water temperature—intermittent draw

DIMENSIONS—VPT boilers

Model No.	no. of sections	dimensions				crate size (inches)			shipping weight lbs
		A	B	C	D	H	W	L	
VPT-115	3	16½	8⅞	6⅝	9¾	39	26	28	575
VPT-130									
VPT-170	4	22¾	11⅞	6⅝	15¾	39	26	24	685
VPT-190									
VPT-230	5	28¾	14⅞	7⅝	21¾	39	26	40	795
VPT-250									

VP boilers

VP-115	3	16¾	8⅞	6⅝	9¾	39	26	28	560
VP-130									
VP-170	4	22¾	11⅞	6⅝	15¾	39	26	34	670
VP-190									
VP-230	5	28¾	14⅞	7⅝	21¾	39	26	40	780
VP-250									

VP packaged oil-fired boilers

minimum piping recommendations forced hot water

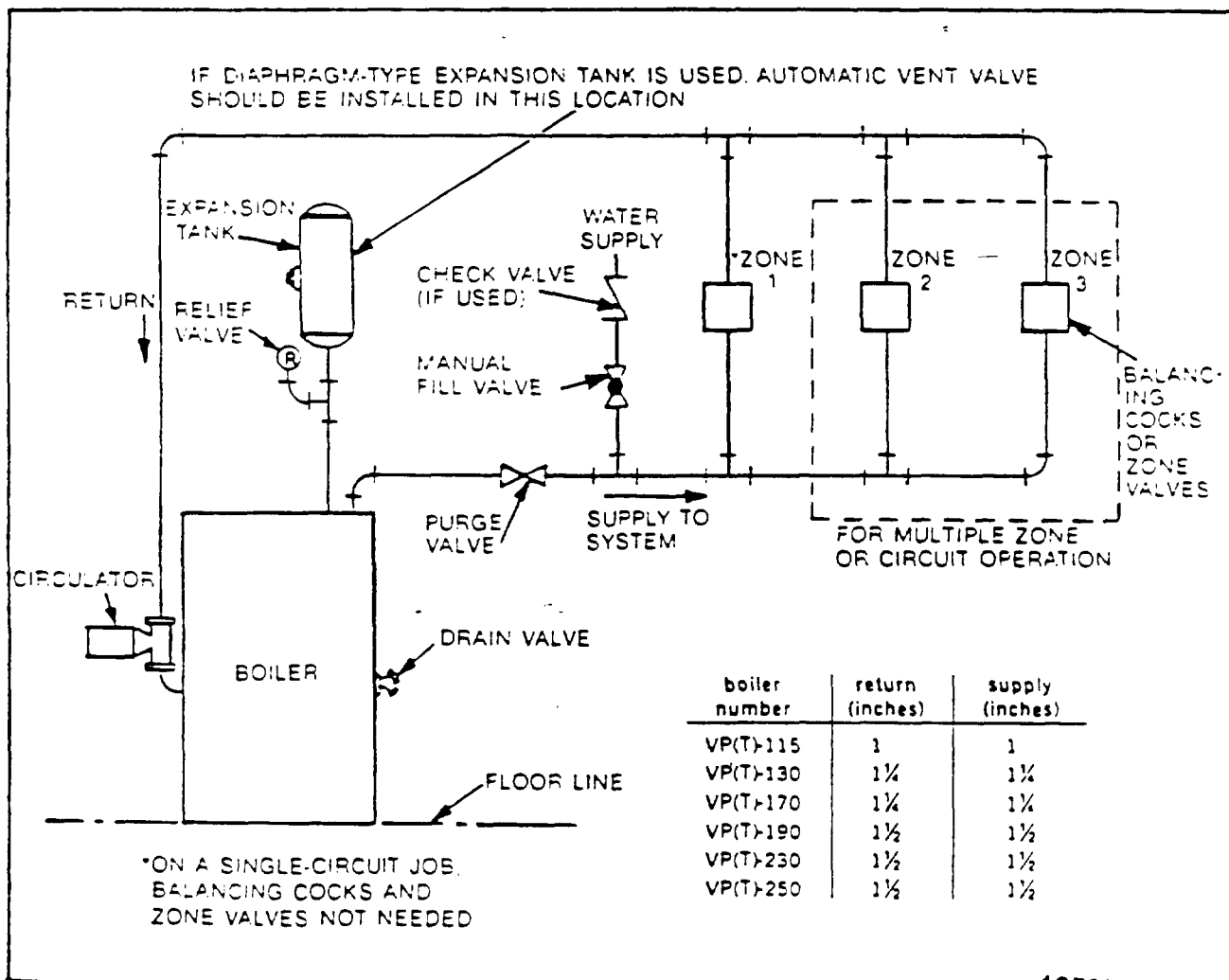
Procedures for filling loop Heatrim system:

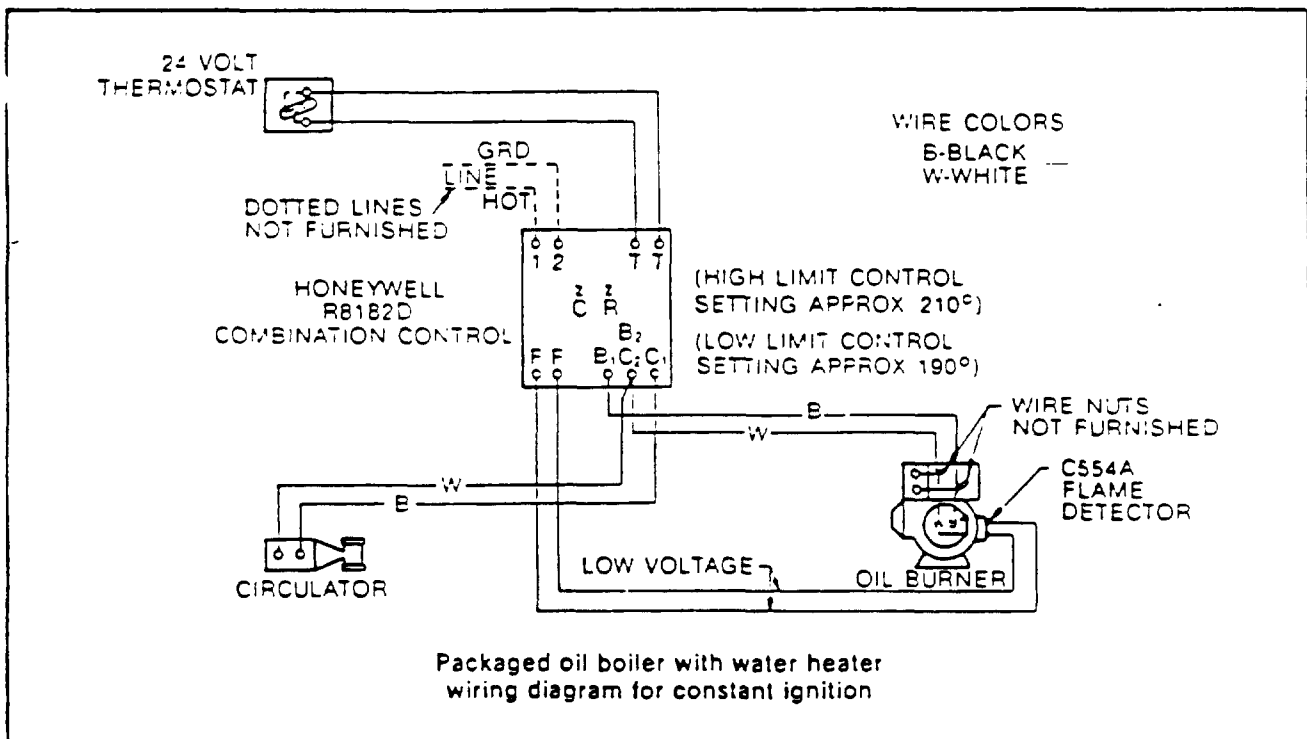
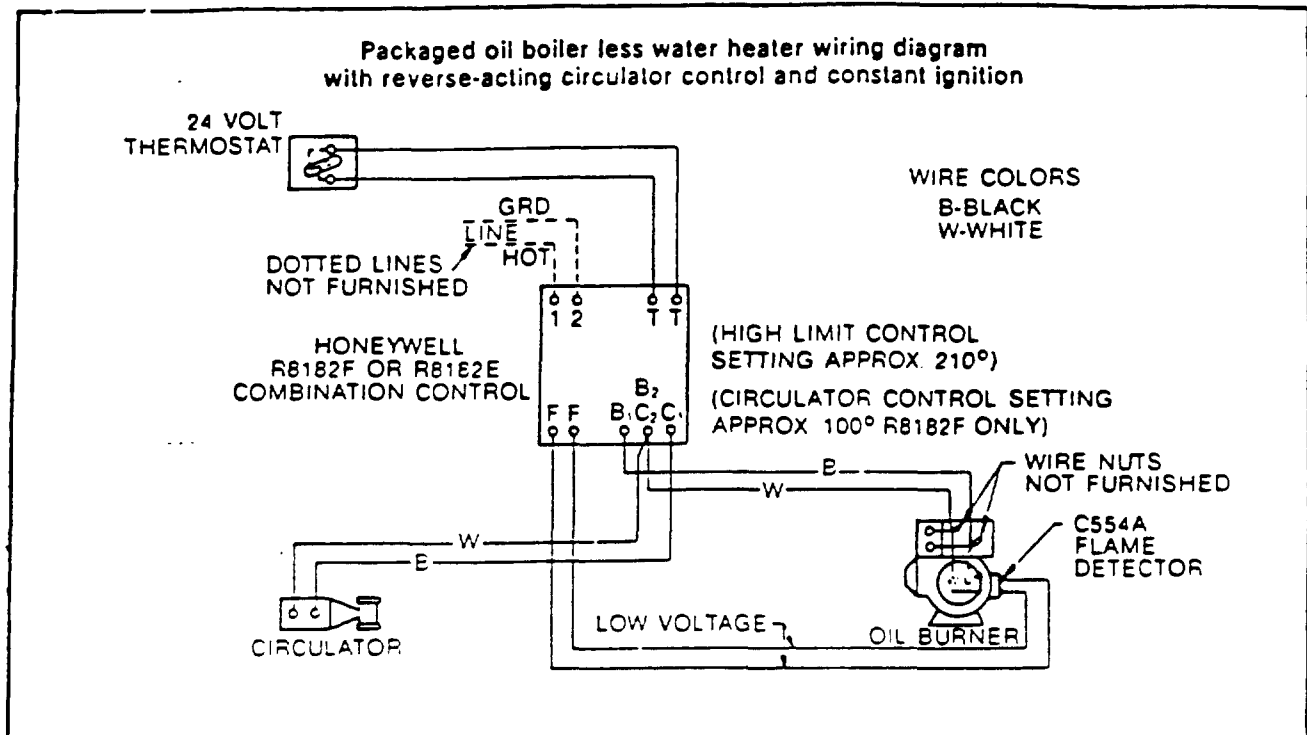
1. Close all zone valves except zone to be purged.
2. Open boiler drain valve.
3. Open fill valve.
4. Close purge valve.
5. Vent air from boiler by manually opening relief valve.
6. Open second valve to be purged. Close first zone. After second zone is purged, open third zone.

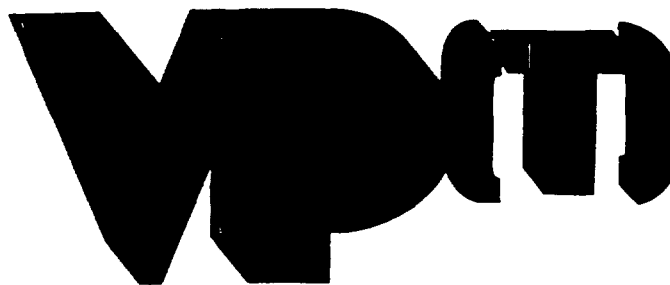
7. When all zones have been purged, close boiler drain cock. Repeat for as many zones as in system. (NOTE: Always have one zone valve open.)
8. When water appears at relief valve, release lever and allow to close.
9. Continue filling until pressure gauge reads approximately 12 lbs./sq. in. Close fill valve.
10. Open purge valve.

NOTE:

For a single loop Heatrim system, no additional vents, cocks, valves, drains or other accessories are required — with one exception. If tankless heater is used and Heatrim is above the boiler outlet, a flow check valve must be installed to prevent gravity circulation.

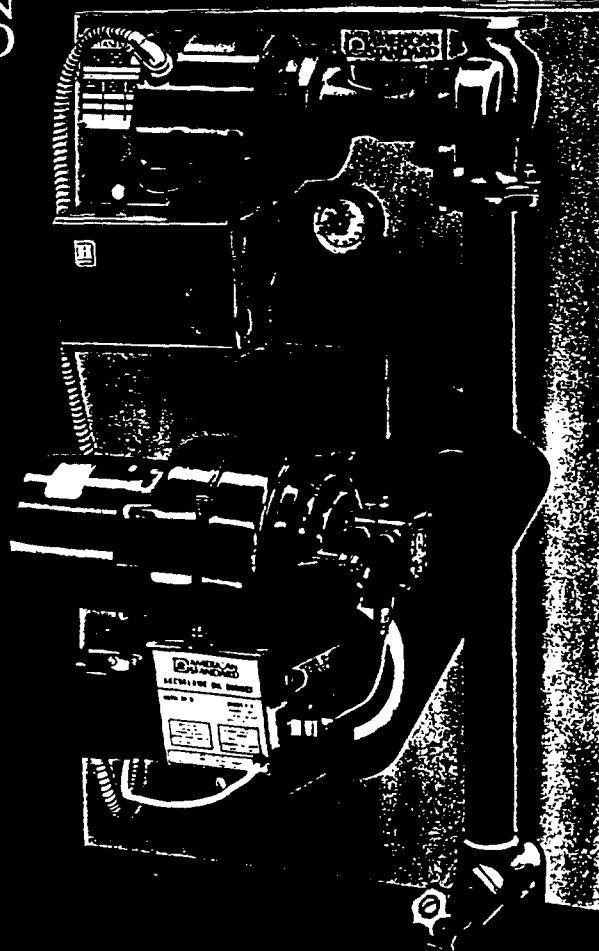






PACKAGED OIL-FIRED BOILERS
FORCED HOT WATER

 AMERICAN
STANDARD



Introducing the new VP(T) Packaged Boilers

Eight outstanding features including a new concept in oil boiler operation—dual firing rates.

ONE

Each boiler comes with two nozzles. Install the one that meets the immediate needs. Later, you can add 15,000-20,000 BTUs just by switching nozzles.

TWO

New wet-base cast iron assembly of sections. Makes use of all heat-transfer areas.

THREE

Tankless heaters with the capacity to meet the needs of growing families. Achieve maximum tankless heater rating for each size boiler.

FOUR

Quiet 1725 RPM flame-retention burner.

FIVE

Flame-retention DH burner capable of operating at 12¼% CO₂ with combustion efficiency of over 80%.

SIX

Completely packaged to save on-the-job assembly time. (To simplify handling, burner packaged separately.)

SEVEN

Fits minimum space of 16½" to 28½" deep x 21½" wide by 34½" high.

EIGHT

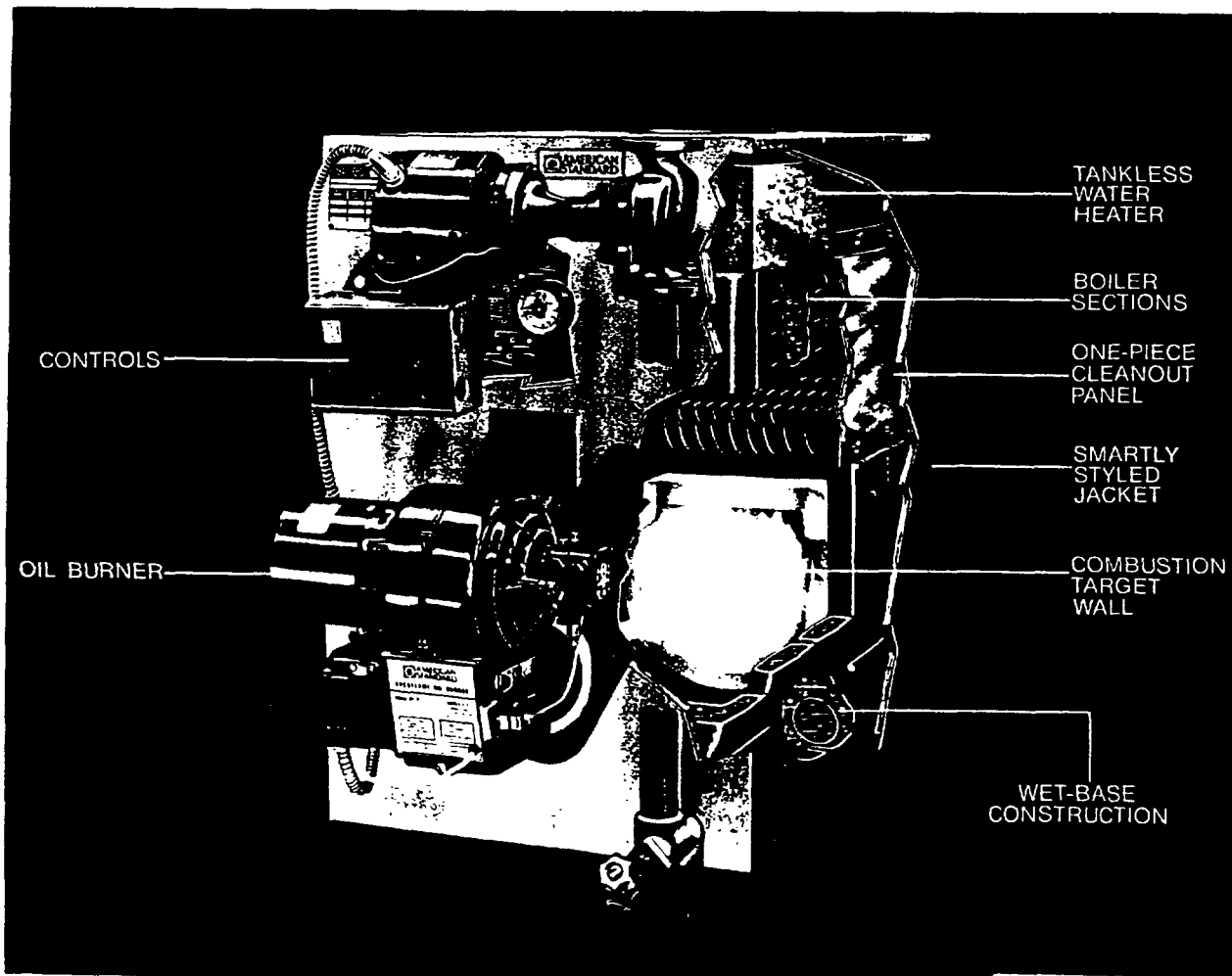
Optional return tapping on rear section for zoning with circulators.

1. controls—(including primary control) are mounted on front for easy service and adjustment. Controls are factory-mounted and pre-wired. Primary control features light-sensing detector for quick response to ignition and flame failure.

2. model DH-F Arcoflame oil burner—flame-retention head is engineered to provide clean, efficient, economical firing. Sling-mount hanging and EXACT-AIRE control simplify installation and adjustment.

3. water heater—large, copper coil tankless type, is inserted into 5" nipple port.

4. boiler sections—of durable cast iron feature vertical flue design



RATINGS—VPT Boilers—packaged units with factory installed tankless heaters

Model No.	gross I=B=R output (MBH)	I=B=R burner capacity (gph)	no. of sections	tankless heater no.	tankless heater capacity (gpm)*	net I=B=R rating (MBH)	net rating sq. ft.-water	burner used	nozzle size	chimney size
VPT-115	115.0	1.05	3	130	3½	100.0	667	DH-4F1	1.00—60° semi-solid and	8" x 8" x 15'
VPT-130	130.0	1.15				113.0	753		1.10—60° semi-solid	8" x 8" x 15'
VPT-170	170.0	1.50	4	131	4¾	147.8	985	DH-5F2	1.50—80° solid and	8" x 8" x 15'
VPT-190	190.0	1.70				165.2	1,102		1.65—80° solid	8" x 8" x 15'
VPT-230	230.0	2.05	5	132	6	200.2	1,333	DH-5F3	2.00—60° semi-solid and	8" x 8" x 15'
VPT-250	250.0	2.25				217.4	1,449		2.25—60° semi-solid	8" x 12" x 15'

VP Boilers—packaged units less tankless heaters

VP-115	115.0	1.05	3	—	—	100.0	667	DH-4F1	1.00—60° semi-solid and	8" x 8" x 15'
VP-130	130.0	1.15				113.0	753		1.10—60° semi-solid	8" x 8" x 15'
VP-170	170.0	1.50	4	—	—	147.8	985	DH-5F2	1.50—80° solid and	8" x 8" x 15'
VP-190	190.0	1.70				165.2	1,102		1.65—80° solid	8" x 8" x 15'
VP-230	230.0	2.05	5	—	—	200.2	1,333	DH-5F3	2.00—60° semi-solid and	8" x 8" x 15'
VP-250	250.0	2.25				217.4	1,449		2.25—60° semi-solid	8" x 12" x 15'

*GPM water from 40°F to 140°F with 200°F boiler water temperature—intermittent draw.

DIMENSIONS—VPT boilers

Model No.	no. of sections	dimensions				crate size (inches)			shipping weight lbs.
		A	B	C	D	H	W	L	
VPT-115	3	16¾	8⅞	6⅞	9¾	39	26	28	575
VPT-130									
VPT-170	4	22¾	11⅞	6⅞	15¾	39	26	24	685
VPT-190									
VPT-230	5	28¾	14⅞	7⅞	21¾	39	26	40	795
VPT-250									

VP boilers

VP-115	3	16¾	8⅞	6⅞	9¾	39	26	28	560
VP-130									
VP-170	4	22¾	11⅞	6⅞	15¾	39	26	34	670
VP-190									
VP-230	5	28¾	14⅞	7⅞	21¾	39	26	40	780
VP-250									

VP packaged oil-fired boilers

minimum piping recommendations forced hot water

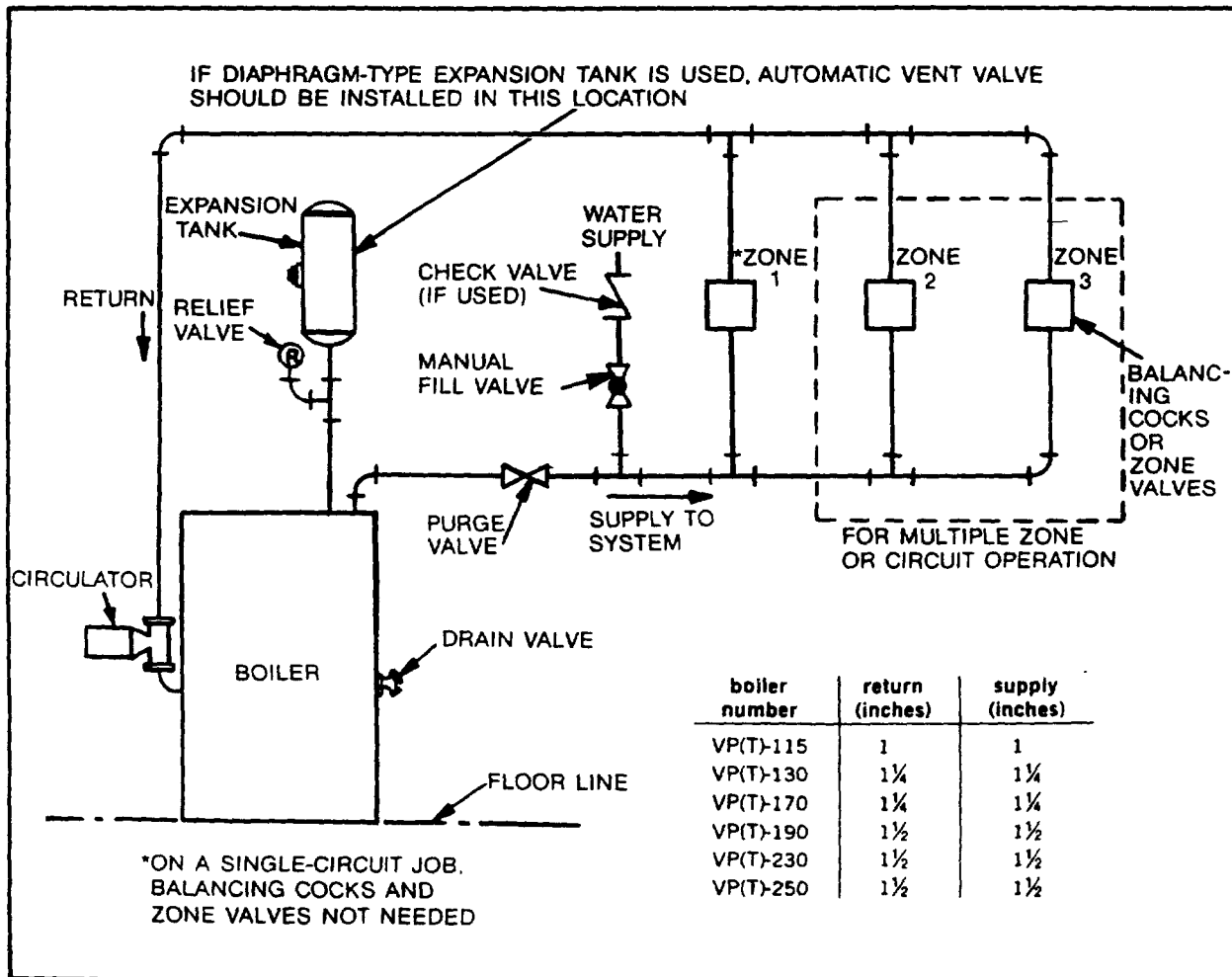
Procedures for filling loop Heatrim system:

1. Close all zone valves except zone to be purged.
2. Open boiler drain valve.
3. Open fill valve.
4. Close purge valve.
5. Vent air from boiler by manually opening relief valve.
6. Open second valve to be purged. Close first zone. After second zone is purged, open third zone

- valve and close second zone. Repeat for as many zones as in system. (NOTE: Always have one zone valve open.)
7. When all zones have been purged, close boiler drain cock.
8. When water appears at relief valve, release lever and allow to close.
9. Continue filling until pressure gauge reads approximately 12 lbs./sq. in. Close fill valve.
10. Open purge valve.

NOTE:

For a single loop Heatrim system, no additional vents, cocks, valves, drains or other accessories are required—with one exception. If tankless heater is used and Heatrim is above the boiler outlet, a flow check valve must be installed to prevent gravity circulation.



with pinned surface area to extract maximum combustion heat. Wet-base construction eliminates need for special base. Sections are water tested at 75 psi (2½ times water working pressure in accordance with A.S.M.E.).

5. one-piece cleanout panel—permits cleaning of all flue surfaces from right side without disturbing burner, controls or accessories.

6. smartly styled jacket—made of sturdy steel in beige and brown finish, is assembled on boiler at factory.

7. combustion target wall—long-lived, efficient refractory target wall used on all VP boilers. It provides even heat distribution to combustion area and is factory-installed.

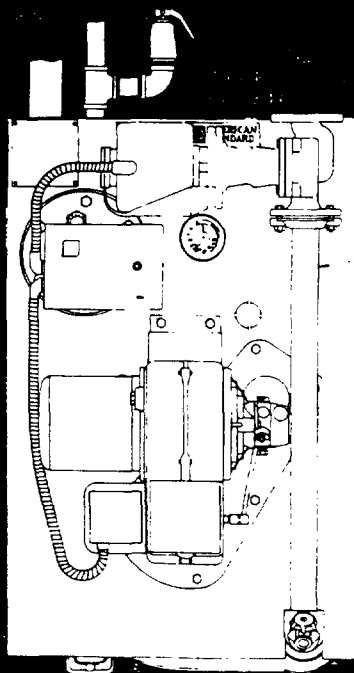
8. wet-base construction—provides an extra heat-absorbing bottom surface. Waterways completely surround combustion area and extend beneath the boiler, making this boiler ideal for installation on combustible floors or basements.

ELIMINAIRE®—a patented, cost-saving feature. This unique built-in air eliminator is integrally cast into the left-hand end section. Furnished with all VP(T) boilers, the ELIMINAIRE baffle diverts rising air bubbles into a tapping for connection to the expansion tank. No external device is required to separate air and water, thus reducing both cost and installation time.

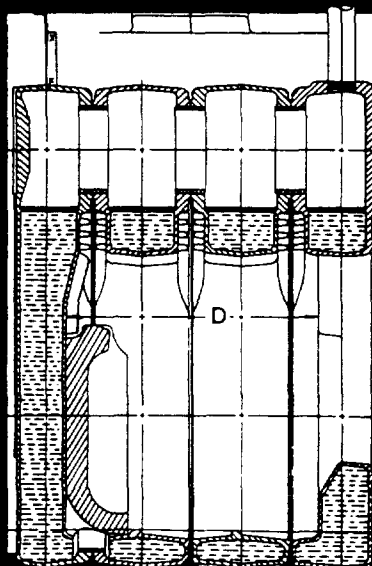
Arcoflame, EXACT-AIR and ELIMINAIRE are trademarks of AMERICAN-STANDARD

Technical Data

Number of Sections	Water Content Gals.	Heat Transfer Service Sq. Ft.
3	15.6	14.9
4	20.0	21.5
5	24.4	28.1

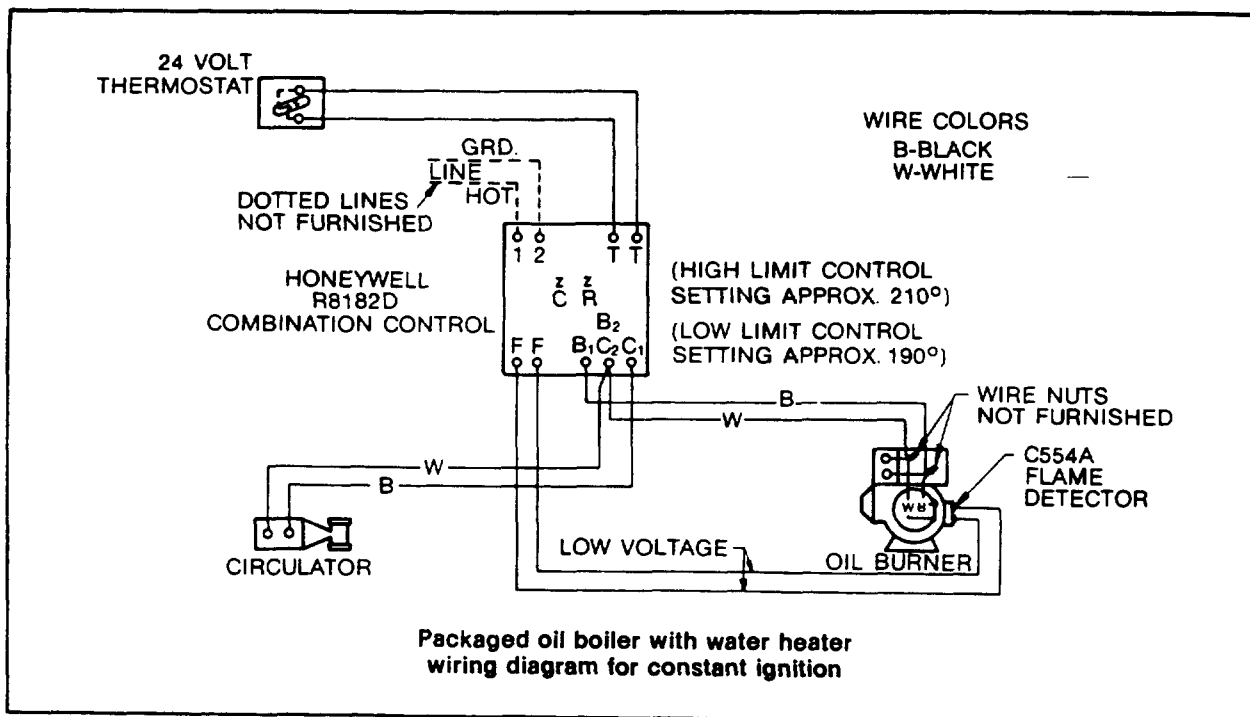
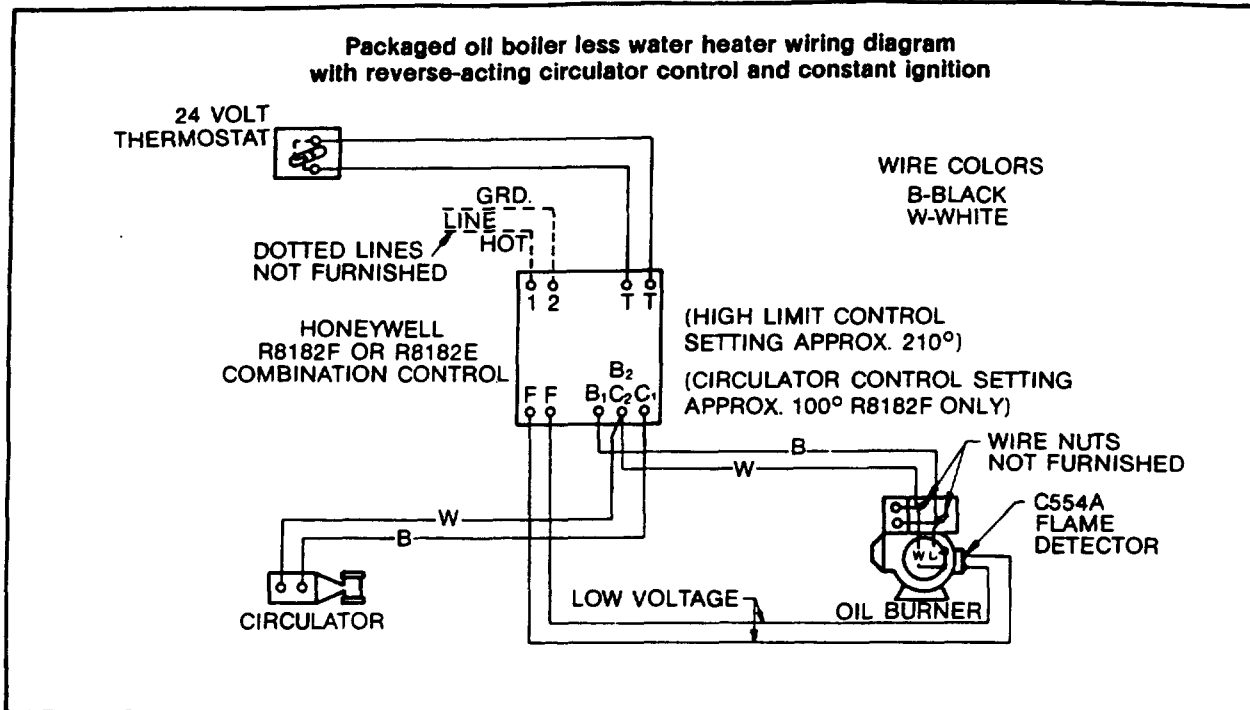


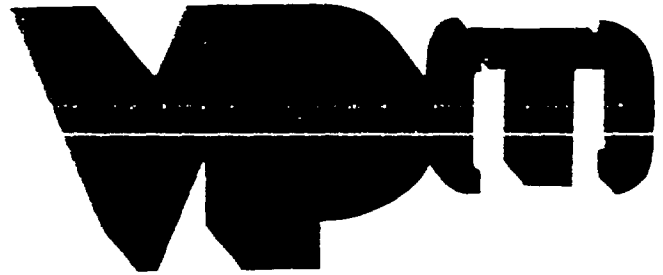
Front View Photograph of Boiler



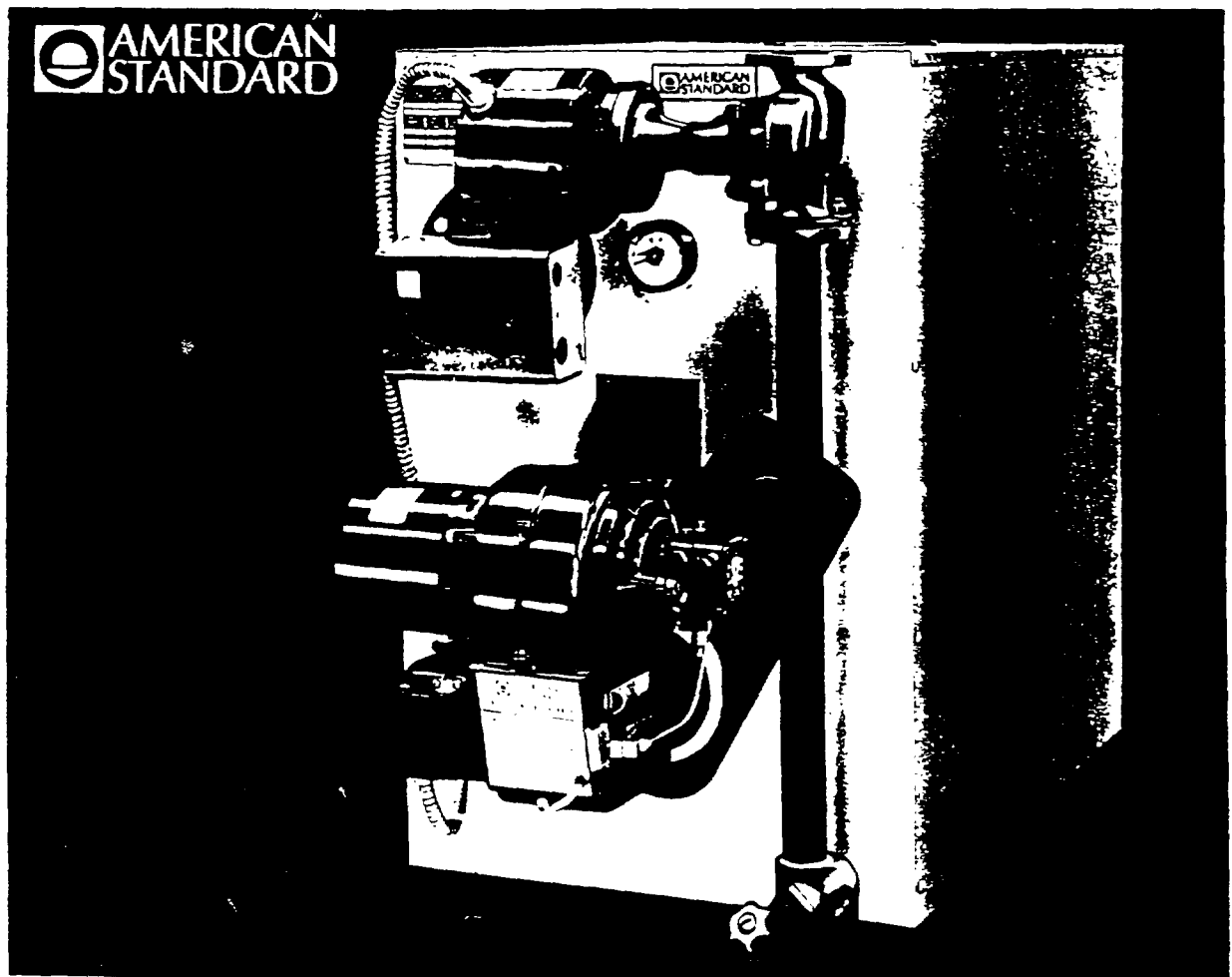
Section View (Vertical) of Boiler

General schematic showing wiring to components





PACKAGED OIL-FIRED BOILERS
FORCED HOT WATER



16729

Introducing the new VP(T) Packaged Boilers

Eight outstanding features including a new concept in oil boiler operation — dual firing rates

ONE

Each boiler comes with two sections of heating surface — one for immediate needs, the other for peak load. 3, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100 B.T.U. per hour. With 100,000 B.T.U. per hour.

TWO

New wet-base cast iron burner section. Makes use of heat transfer areas.

THREE

Tankless heaters with the capacity to meet the needs of growing families. Have maximum tankless heater ratings for each size boiler.

FOUR

Quiet 7.5 RPM flame arrest on burner.

FIVE

Flame-arrest on DH burner capable of operating at 100% B.O. with no combustion efficiency or over 80%.

SIX

Completely packaged to save installation assembly time. To simplify handling, burner packaged separately.

SEVEN

Fits minimum space of 16 1/4" to 22 1/4" deep x 21 1/2" wide by 11 1/2" high.

EIGHT

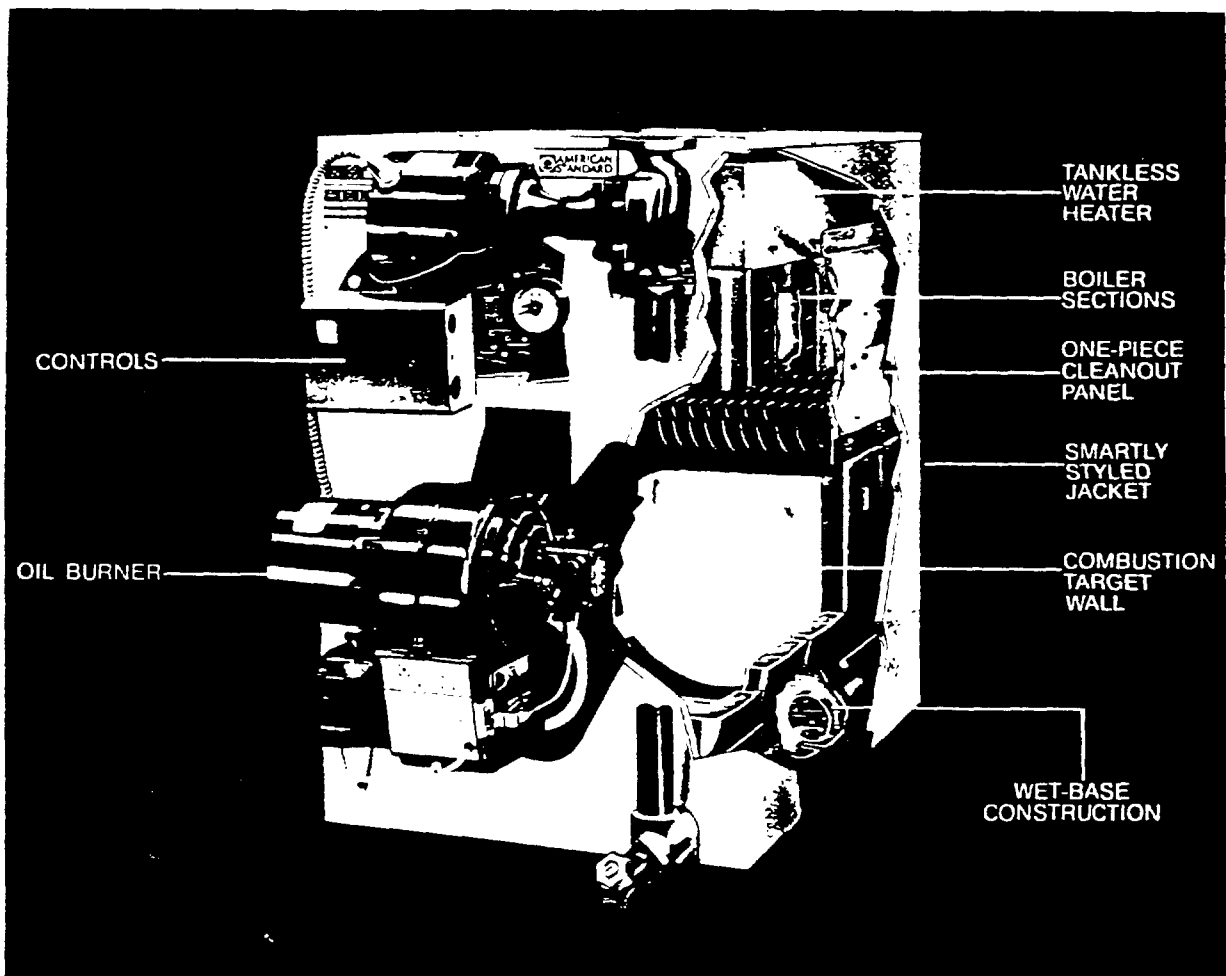
Optional return tapping on rear section for zoning with circulators.

1. controls — including primary controls are mounted on front for easy service and adjustment. Controls are factory mounted and pre-wired. Primary control features light sensing detector for quick response to ignition and flame failure.

2. model DH-F Arcoflame oil burner — flame-arrest on head. Engineered to provide clean, efficient, economical firing. Easy mount hanging and EXACT-A-RE controls simplify installation and adjustment.

3. water heater — type I under floor tankless type is selected for tankless operation.

4. boiler sections — with turndown ratio feature vertical tube design.



vacuum clean surface area to extract maximum combustion heat. Wet-base construction eliminates need for special code. Sections are water tested at 75 psi, 30 times water working pressure in accordance with A.S.M.E.

5. one-piece cleanout panel—permits cleaning of air flow surfaces from front side without disturbing burner controls or accessories.

6. smartly styled jacket—made of sturdy steel in beige and brown finish, is assembled on boiler at factory.

7. combustion target wall—long-lived, efficient refractory target wall used on all VP boilers; it provides even heat distribution to combustion area and is factory-installed.

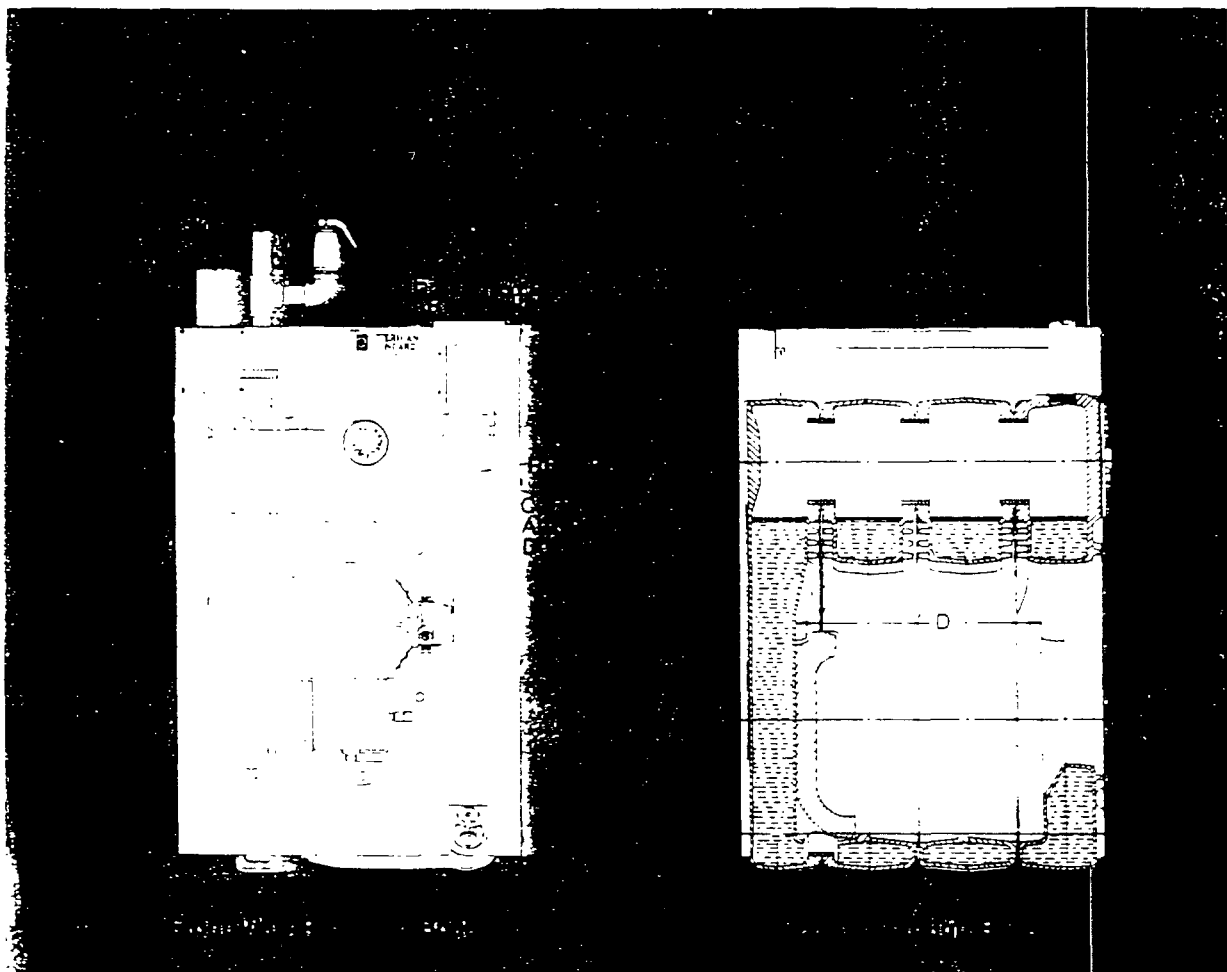
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Arconame EXACT-AIR and ELIMINAIRE are trademarks of AMERICAN-STANDARD.

Technical Data

Number of Sections	Water Content Gals.	Heat Transfer Service Sq. Ft.
1	15.6	14.9
4	20.0	21.5
5	24.4	23.1



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Model No.	gross I=B=R output (MBH)	I=B=R burner capacity (gph)	no. of sections	tankless heater no.	tankless heater capacity (gpm)*	net I=B=R rating (MBH)	net sq. ft. water	burner used	nozzle size	chimney size
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VPT-130	130.0	1.15				113.0	753		and 1.10—60° semi-solid	8" x 8" x 15'
VPT-170	170.0	1.50	4	131	4 1/2	147.8	985	DH-5F2	1.50—80° solid	8" x 8" x 15'
VPT-190	190.0	1.70				165.2	1,102		and 1.65—80° solid	8" x 8" x 15'
VPT-230	230.0	2.05	5	132	5	200.2	1,333	DH-5F3	2.00—60° semi-solid	8" x 8" x 15'
VPT-250	250.0	2.25				217.4	1,449		and 2.25—60° semi-solid	8" x 12" x 15'

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VP-190	190.0	1.70				165.2	1,102		and 1.65—80° solid	8" x 8" x 15'
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*GPM water from 40°F to 140°F with 200°F boiler water temperature—intermittent draw

DIMENSIONS—VPT boilers

Model No.	no. of sections	dimensions				crate size (inches)			shipping weight lbs.
		A	B	C	D	H	W	L	
VPT-115	3	16 5/8	8 1/8	6 1/8	9 1/8	39	26	28	575
VPT-130									
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VPT-190									
VPT-230	5	28 5/8	14 1/8	7 1/8	21 1/8	39	26	40	795
VPT-250									

VP boilers

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VP-230	5	28 5/8	14 1/8	7 1/8	21 1/8	39	26	40	780
VP-250									

VP packaged oil-fired boilers

minimum piping recommendations forced hot water

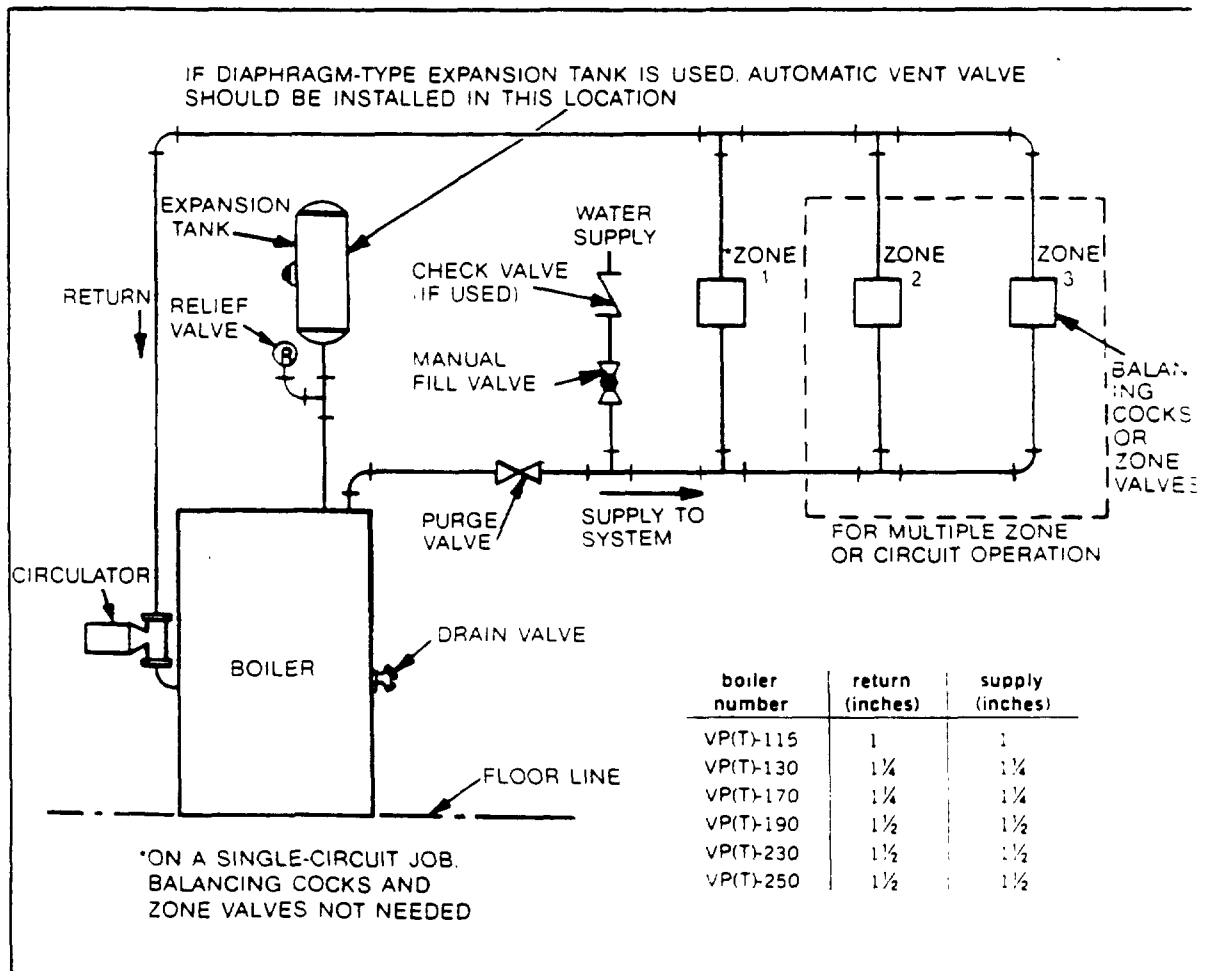
Procedures for filling loop Heatrim system:

1. Close all zone valves except zone to be purged.
2. Open boiler drain valve
3. Open fill valve
4. Close purge valve
5. Vent air from boiler by manually opening relief valve.
6. Open second valve to be purged. Close first zone. After second zone is purged, open third zone

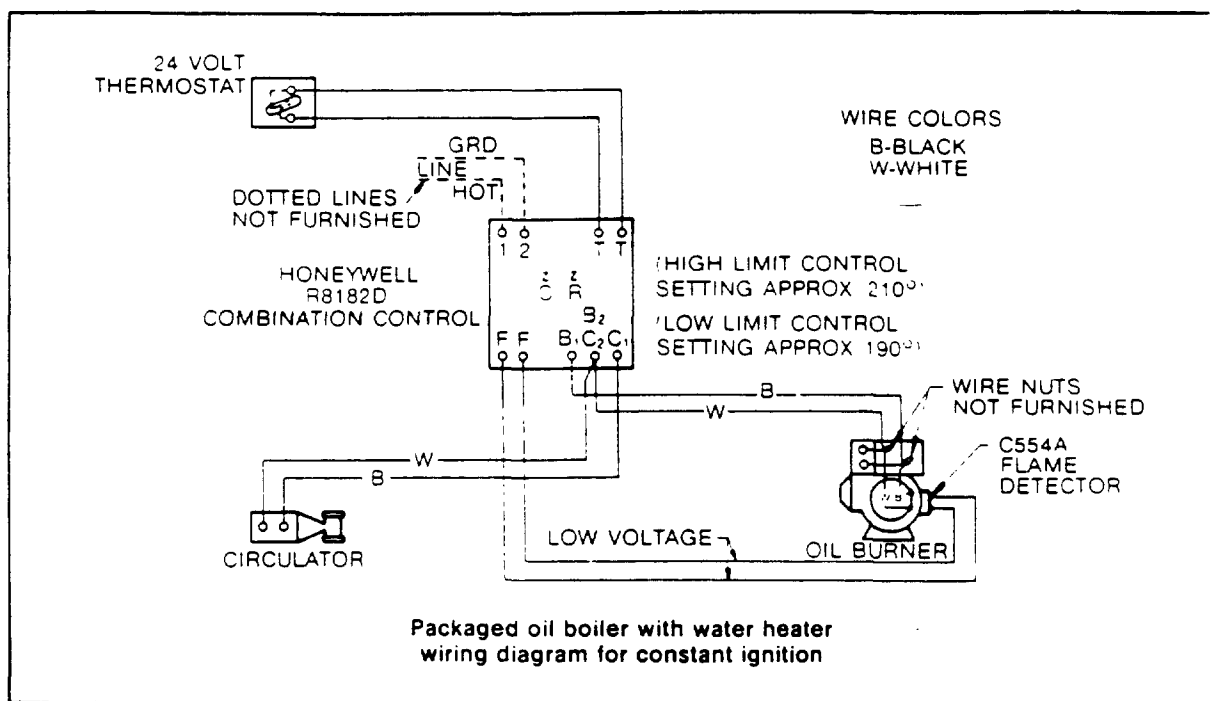
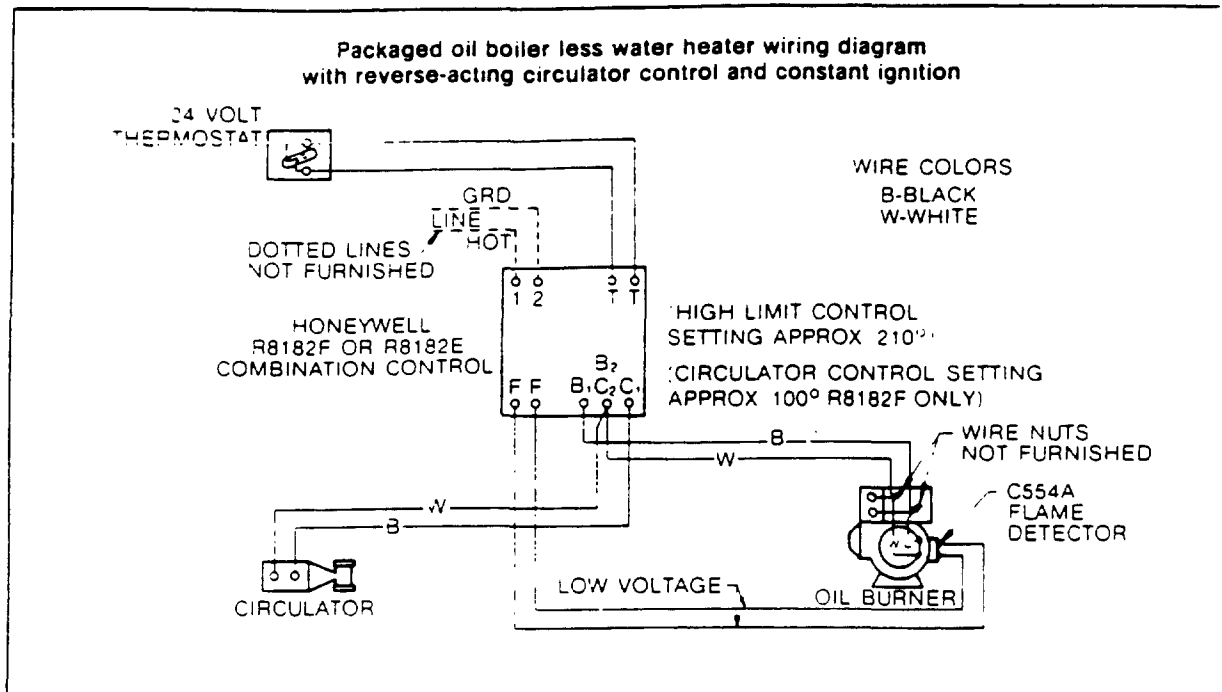
7. When all zones have been purged, close boiler drain cock.
8. When water appears at relief valve, release lever and allow to close
9. Continue filling until pressure gauge reads approximately 12 lbs./sq. in. Close fill valve.
10. Open purge valve

NOTE:

For a single loop Heatrim system no additional vents, cocks, valve drains or other accessories are required — with one exception — tankless heater is used and Heatrim is above the boiler outlet, a check valve must be installed to prevent gravity circulation.



General schematic showing wiring to components



**AMERICAN
STANDARD**
PLUMBING / HEATING

P.O. Box 2003, New Brunswick, N.J. 08903

Form No. 7263-2 (6-72) Litho in U.S.A.