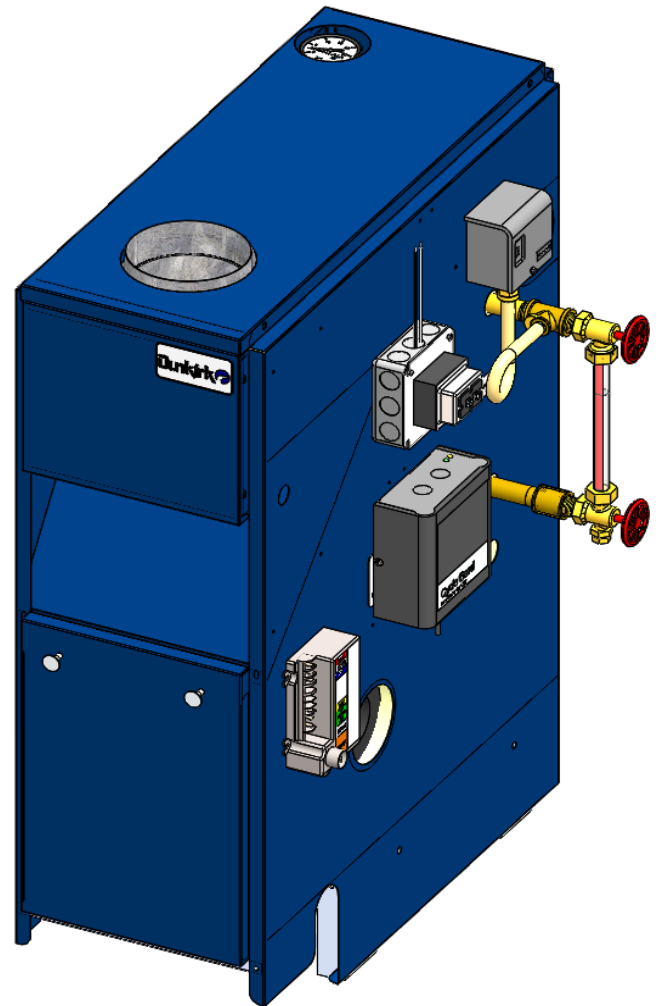




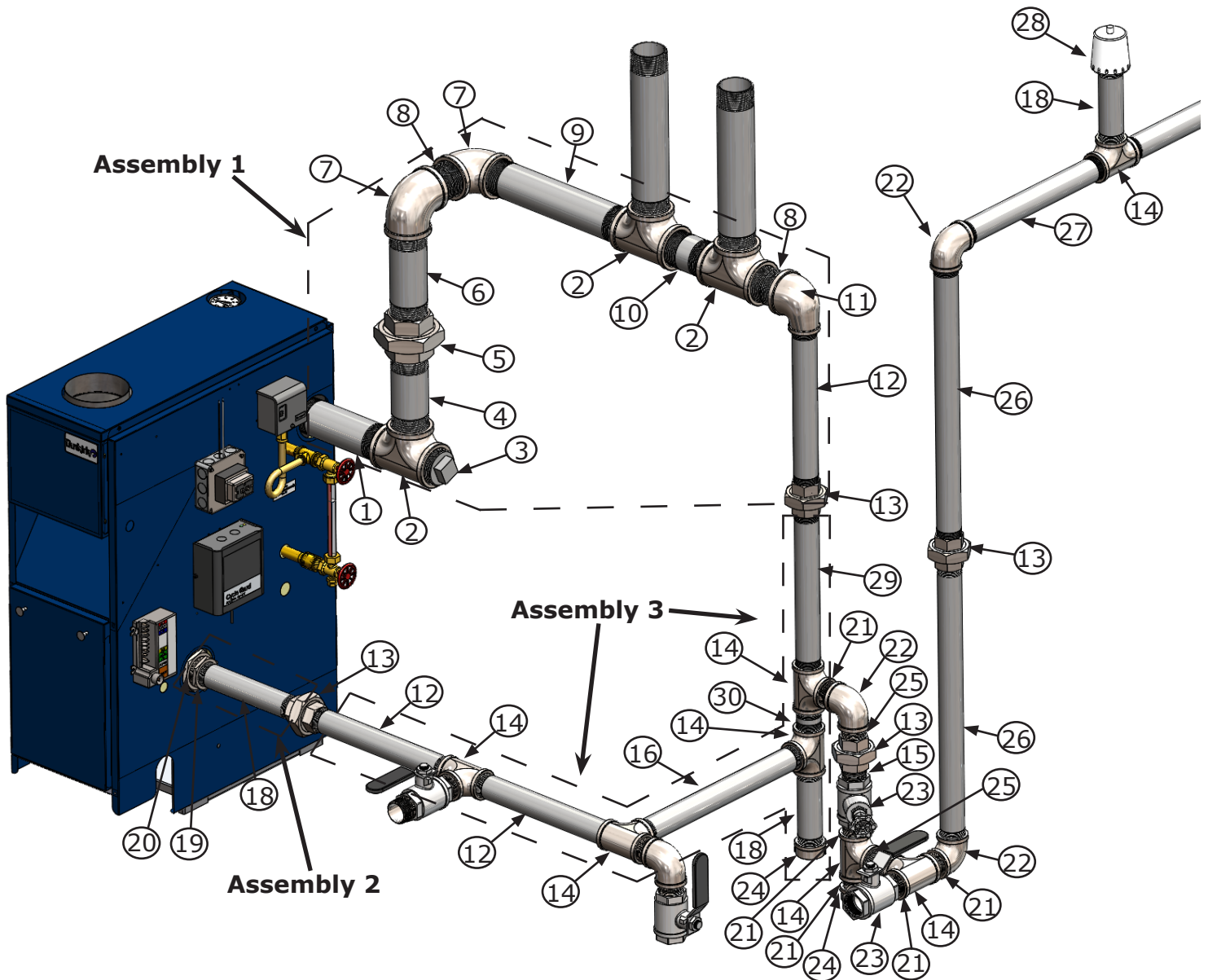
**PLYMOUTH STEAM  
BOILER SERIES 2  
GAS-FIRED  
STEAM BOILERS**

**NEAR BOILER PIPING**



Manufactured by:  
ECR International Inc.  
2201 Dwyer Avenue, Utica, NY 13501  
Tel. 800 253 7900  
[www.ecrinternational.com](http://www.ecrinternational.com)  
PN 615000243 REV. B [08/22/2023]

**ONE SUPPLY TAPPING  
FOR 3 AND 4 - SECTION BOILERS ONLY**



- All installations shall follow National/Local codes and requirements mentioned in boiler installation manual.
- It is recommended to apply Teflon tape and quality pipe dope on all threaded connections.
- Engagement depth for all piping is normally around  $1\frac{9}{32}$ " per threaded connection.
- Engagement depth of threaded connection depends on quality and supplier of parts. Installer is responsible for making sure each connection is fully engaged, secure, and leak free.
- General guide only. Check dimensions of specific install location and adjust piping as needed to meet requirements in IOM.
- This guide is not intended to require replacement of existing piping. Existing piping may meet the requirements outlined in the IOM.

**ONE SUPPLY TAPPING - LIST OF PARTS**

<b>Piping</b>			
<b>Item #</b>	<b>Description</b>	<b>Length</b>	<b>Quantity Required</b>
1	2 ½" NPT,Nipple	9"	1
2	2 ½" NPT,Tee Connector	n/a	3
3	2 ½" NPT,Plug	n/a	1
4	2 ½" NPT,Nipple	7"	1
5	2 ½" NPT,Union	n/a	1
6	2 ½" NPT,Nipple	8"	1
7	2 ½" NPT,Elbow Connector	n/a	2
8	2 ½" NPT,Nipple	3"	2
9	2 ½" NPT,Nipple	14"	1
10	2 ½" NPT,Nipple	4 ½"	1
11	2 ½" to 1 ½" NPT,Elbow Reducer	n/a	1
12	1 ½" NPT,Nipple	14"	3
13	1 ½" NPT,Union	n/a	4
14	1 ½" NPT,Tee Connector	n/a	7
15	1 ½" NPT,Nipple	2 ½"	1
16	1 ½" NPT,Nipple	18"	1
18	1 ½" NPT,Nipple	7"	3
19	2"-1 ½" Bushing Reducer	n/a	1
20	2 ½"-2" Bushing Reducer	n/a	1
21	1 ½" NPT,Nipple	1 ¾"	5
22	1 ½" NPT,Elbow Connector	n/a	3
23	1 ½" NPT,Gate/Ball Valve	n/a	2
24	1 ½" NPT,Cap	n/a	2
25	1 ½" NPT,Nipple	3"	1
26	1 ½" NPT,Nipple	24"	2
27	1 ½" NPT,Nipple	16"	1
28	Air Vent	n/a	1
29	1 ½" NPT,Nipple	12"	1
30	1 ½" NPT,Nipple	4 ½"	1

## ONE SUPPLY TAPPING - ASSEMBLY PROCEDURE

- Assembly 1

1. Secure Pipe 1 to boiler
2. Tee 2 to pipe 1
3. Plug 3 to tee 2
4. Pipe 4 to tee 2
5. Union 5 to pipe 4
6. Pipe 6 onto other side of union 5
7. Elbow 7 to pipe 6
8. Pipe 8 to elbow 7
9. Elbow 7 to pipe 8
10. Pipe 9 to elbow 7
11. Tee 2 to pipe 9
12. Pipe 10 to tee 2
13. Tee 2 to pipe 10
14. Pipe 8 to Tee 2
15. Reducer 11 to Pipe 8
16. Pipe 12 to elbow reducer 11
17. Half union 13 to pipe 12

- Assembly 2

1. Secure bushing 20 to boiler
2. Bushing 19 to bushing 20
3. Pipe 18 to bushing 19
4. Half of union 13 to pipe 18

- Assembly 3

1. Half of union 13 to pipe 29
2. Tee 14 to pipe 29
3. Pipe 30 to tee 14
4. Tee 14 to pipe 30
5. Pipe 18 to tee 14
6. Cap 24 to pipe 18
7. Pipe 16 to tee 14
8. Tee 14 to pipe 16
9. Pipe 12 to tee 14
10. Tee 14 to pipe 12
11. Pipe 12 to tee 14
12. Half of union 13 to pipe 12

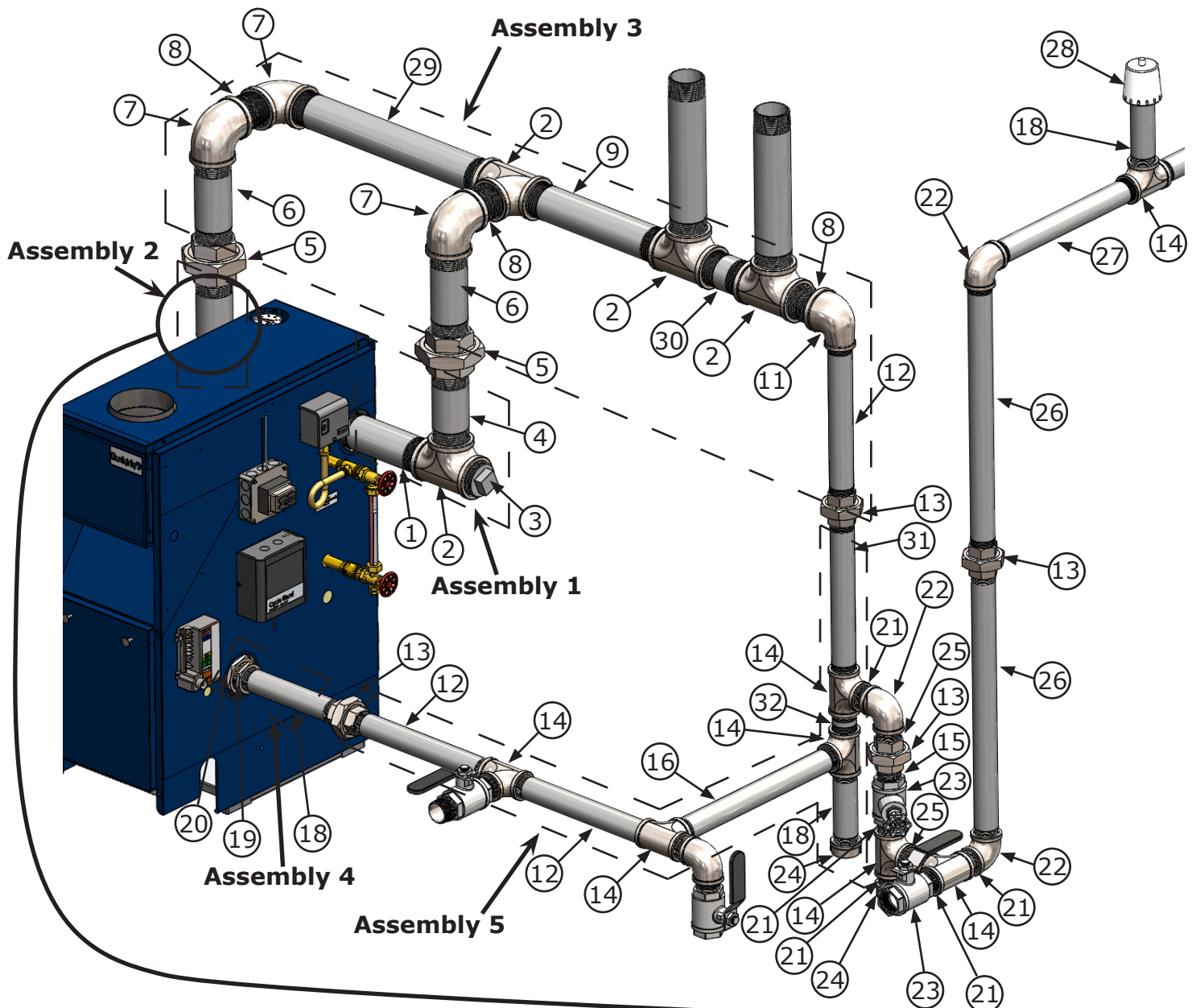
- Attach assembly 3 to both assembly 1 & 2

- Finish near boiler piping

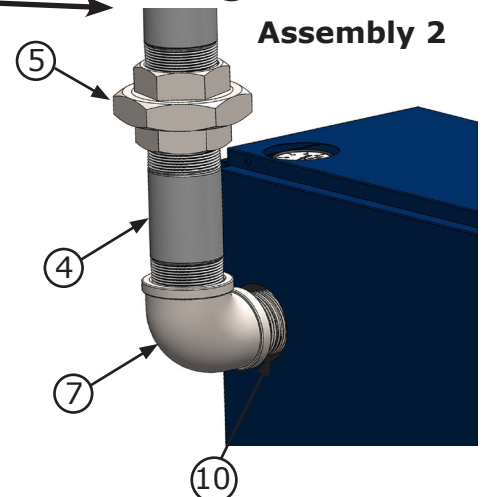
1. Pipe 21 to tee 14 from assy 3
2. Elbow 22 to pipe 21
3. Pipe 25 to elbow 22
4. Union 13 to pipe 25
5. Pipe 15 to union 13
6. Valve 23 to pipe 15
7. Pipe 21 to valve 23
8. Tee 14 to pipe 21
9. Pipe 21 to tee 14
10. Cap 24 to pipe 21
11. Pipe 25 to tee 14
12. Tee 14 to pipe 25
13. Pipe 21 to tee 14
14. Valve 23 to pipe 21
15. Pipe 21 to tee 14
16. Elbow 22 to pipe 21
17. Pipe 26 to elbow 22
18. Union 13 to pipe 26
19. Pipe 26 to union 13
20. Elbow 22 to pipe 26
21. Pipe 27 to elbow 22
22. Tee 14 to pipe 27
23. Pipe 18 to tee 14
24. Air Vent 28 to pipe 18

## TWO SUPPLY TAPPING

**APPLICABLE FOR ALL MODELS. REQUIRED FOR 5 SECTION OR LARGER BOILERS**



- All installations shall follow National/Local codes and requirements mentioned in boiler installation manual.
- It is recommended to apply Teflon tape and quality pipe dope on all threaded connections.
- Engagement depth for all piping is normally around  $1\frac{9}{32}$ " per threaded connection.
- Engagement depth of threaded connection depends on quality and supplier of parts. Installer is responsible for making sure each connection is fully engaged, secure, and leak free.
- General guide only. Check dimensions of specific install location and adjust piping as needed to meet requirements in IOM.
- This guide is not intended to require replacement of existing piping. Existing piping may meet the requirements outlined in the IOM.



**TWO SUPPLY TAPPING - LIST OF PARTS**

Item #	Description	Length	Quantity Required
1	2 ½" NPT,Nipple	9"	1
2	2 ½" NPT,Tee Connector	n/a	3
3	2 ½" NPT,Plug	n/a	1
4	2 ½" NPT,Nipple	7"	2
5	2 ½" NPT,Union	n/a	2
6	2 ½" NPT,Nipple	8"	2
7	2 ½" NPT,Elbow Connector	n/a	4
8	2 ½" NPT,Nipple	3"	3
9	2 ½" NPT,Nipple	14"	1
10	2 ½" NPT,Nipple	2 ½"	1
11	2 ½" to 1 ½" NPT,Elbow Reducer	n/a	1
12	1 ½" NPT,Nipple	14"	3
13	1 ½" NPT,Union	n/a	3
14	1 ½" NPT,Tee Connector	n/a	7
15	1 ½" NPT,Nipple	2 ½"	1
16	1 ½" NPT,Nipple	18"	1
18	1 ½" NPT,Nipple	7"	3
19	2"-1 ½" Bushing Reducer	n/a	1
20	2 ½"-2" Bushing Reducer	n/a	1
21	1 ½" NPT,Nipple	1 ¾"	5
22	1 ½" NPT,Elbow Connector	n/a	3
23	Gate/Ball Valve	n/a	2
24	1 ½" NPT,Cap	n/a	2
25	1 ½" NPT,Nipple	3"	2
26	1 ½" NPT,Nipple	24"	2
27	1 ½" NPT,Nipple	16"	1
28	Air Vent	n/a	1
29	2 ½" NPT,Nipple	3 Sec - 16" 4 Sec - 19" 5 Sec - 22 1/2" 6 Sec - 26" 7 Sec - 29" 8 Sec - 32" 9 Sec - 35 1/2"	1
30	2 ½" NPT,Nipple	4 ½"	1
31	1 ½" NPT, Nipple	12"	1
32	1 ½" NPT,Nipple	4 ½"	1

## TWO SUPPLY TAPPING - ASSEMBLY PROCEDURE

- Assembly 1

1. Secure Pipe 1 to boiler
2. Tee 2 to pipe 1
3. Plug 3 to tee 2
4. Pipe 4 to tee 2
5. Half of Union 5 to pipe 4

- Assembly 2

1. Secure pipe 10 to boiler
2. Elbow 7 to pipe 10
3. Pipe 4 to elbow 7
4. Half of Union 5 to pipe 4

- Assembly 3

1. Half of union 5 to pipe 6
2. Elbow 7 to pipe 6
3. Pipe 8 to elbow 7
4. Tee 2 to pipe 8
5. Pipe 29 to tee 2
6. Elbow 7 to pipe 29
7. Pipe 8 to elbow 7
8. Elbow 7 to pipe 8
9. Pipe 6 to elbow 7
10. Half of union 5 to pipe 6
11. Pipe 9 to tee 2
12. Tee 2 to pipe 9
13. Pipe 30 to Tee 2
14. Tee 2 to pipe 30
15. Pipe 8 to tee 2
16. Elbow reducer 11 to pipe 8
17. Pipe 12 to elbow reducer 11
18. Half of union 13 to pipe 12.

- Attach assembly 3 to both assembly 1 & 2

- Assembly 4

1. Secure reducer 20 to boiler
2. Reducer 19 to reducer 20
3. Pipe 18 to reducer 19
4. Half union 13 to pipe 18

- Assembly 5

1. Half of union 13 to pipe 31
2. Tee 14 to pipe 31
3. Pipe 32 to tee 14
4. Tee 14 to pipe 32
5. Pipe 18 to tee14
6. Cap 24 to pipe 18
7. Pipe 16 to tee 14
8. Tee 14 to pipe 16
9. Pipe 12 to tee 14
10. Tee 14 to pipe 12
11. Pipe 12 to tee 14
12. Half of union 13 to pipe 12

- Attach assembly 5 to both assembly 3 & 4

- Finish near boiler piping

1. Pipe 21 to tee 14 from assy 5
2. Elbow 22 to pipe 21
3. Pipe 25 to elbow 22
4. Union 13 to pipe 25
5. Pipe 15 to union 13
6. Valve 23 to pipe 15
7. Pipe 21 to valve23
8. Tee 14 to pipe 21
9. Pipe 21 to tee 14
10. Cap 24 to pipe 21
11. Pipe 25 to tee 14
12. Tee 14 to pipe 25
13. Pipe 21 to tee 14
14. Valve 23 to pipe 21
15. Pipe 21 to tee 14
16. Elbow 22 to pipe 21
17. Pipe 26 to elbow 22
18. Union 13 to pipe 26
19. Pipe 26 to union 13
20. Elbow 22 to pipe 26
21. Pipe 27 to elbow 22
22. Tee 14 to pipe 27
23. Pipe 18 to tee 14
24. Air Vent 28 to pipe 18



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Tel. 800 253 7900  
[www.ecrinternational.com](http://www.ecrinternational.com)

All specifications subject to change without notice.  
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