

FLEET FLOOR STANDING
HORIZONTAL SERIES BOILER
PIPE KITS

**Installation & Commissioning
Instructions**

**Boiler Models: F40H, F50H, F60H, F70H, F85H, F100H,
F125H, F150H, F175H, F200H, F250H, F300H & F350H**

IMPORTANT NOTE

**THESE INSTRUCTIONS MUST BE READ
AND UNDERSTOOD BEFORE INSTALLING
AND COMMISSIONING THESE PIPE KITS.**

Customer After Sales Services

Telephone: **01202 662555** E-mail: **service@hamworthy-heating.com** Fax: **01202 662522**

Technical Enquiries

To supplement the detailed technical brochures, technical advice on the application and use of products in the Hamworthy Heating range is available from our technical team in Poole and our accredited agents.

Site Assembly

Hamworthy offer a service of site assembly for many of our products where plant room access is restricted. Using our trained staff we offer a higher quality of build and assurance of a boiler built and tested by the manufacturer.

Commissioning

Commissioning of equipment by our own engineers, accredited agents or specialist sub-contractors will ensure the equipment is operating safely and efficiently.

Service Contracts

Regular routine servicing of equipment by Hamworthy service engineers inspects the safety and integrity of the plant, reducing the risk of failure and improving performance and efficiency. Service contracts enable you to plan and budget more efficiently.

Breakdown service, repair, replacement

Hamworthy provide a rapid response breakdown, repair or replacement service through head office at Poole and accredited agents throughout the UK.

Spare Parts

We offer a comprehensive range of spare parts, providing replacement parts for both current and discontinued products. Delivery options are available to suit you. Please refer to our website for more details.

FLEET FLOOR STANDING HORIZONTAL SERIES BOILER PIPE KITS

**Suitable for Models F40H To F350H
boiler installation configurations**

INSTALLATION & COMMISSIONING INSTRUCTIONS

**NOTE: THESE INSTRUCTIONS MUST BE READ AND UNDERSTOOD BEFORE
ATTEMPTING TO INSTALL & COMMISSION THESE PIPE KITS.**

**THESE INSTRUCTIONS MUST BE READ IN CONJUNCTION WITH THE FLEET
FLOOR STANDING HORIZONTAL SERIES BOILER INSTRUCTIONS :-
HHL Part No. 500001212 (F40H-F150H) & 500001216 (F175H-F350H).**

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1.0 GENERAL INSTRUCTIONS

These instructions MUST be read in conjunction with the Fleet Floor Standing Horizontal Boiler Series Installer's Guides HHL Part No. 500001212 (F40H-F150H) & 500001216 (F175H-F350H).

SAFETY NOTE: All safety instructions referred to in the Installer's Guide must be adhered to, and a competent person must carry out all works referred to in this instruction.

The Fleet Horizontal Boiler Pipe Kits comprise water & gas manifold pipe work specifically for use with Fleet Floor Standing Horizontal Series boilers for hot water heating systems.

The kits also come with pipes & fittings for connection to the discharge of the pressure relief valve & condensate drain from each boiler.

Additional Low Loss Headers are available.

Sensor Spool Kits with temperature sensor pockets for 3 off, Ø6mm Sensors are also available for assembly to the flow & return pipes of the water manifold of the pipe kits.

Boiler flue kits are also available - refer to boiler instructions for details.

All pipe kit components are pressure tested prior to despatch.

There are 16 models of pipe kit, three models of sensor spool kit & 6 models of low loss header suitable for the Fleet Floor Standing Horizontal Boilers.

The Flow & Return manifold pipes are available in three pipe sizes DN50, DN65 & DN125. EN 1092-1 Type 1 B1 flanges rated to PN16 are used.

The DN50 manifolds are sized for a maximum power output of 400kW (4 boilers of 100kW).

The DN65 manifolds are sized for a maximum power output of 600kW (4 boilers of 150kW).

The DN125 manifolds with R11/2"(BSP) connections is sized for a maximum power output of 1MW (4 boilers of 250kW).

The DN125 manifold with R2"(BSP) connections are sized for a maximum power output of 1.4MW (4 boilers of 350kW).

See Table No. 1 Which defines what pipe kits is suitable for use with each boiler.

The pipe kits are located behind the boiler at low level & designed to bolt together in a row when the boilers are spaced 50mm apart.

The range of Fleet Pipe Kits are suitable for:

40kW, 50kW, 60kW, 70kW, 80kW, 85kW, 100kW, 120kW, 125kW, 140kW, 150kW, 160kW, 170kW, 175kW, 180kW, 200kW, 210kW, 240kW, 250kW, 255kW, 280kW, 300kW, 340kW, 350kW, 375kW, 400kW, 450kW, 500kW, 525kW, 600kW, 700kW, 750kW, 800kW, 900kW, 1000kW, 1050kW, 1200kW, 1400kW

boiler configurations.

Table No. 1 – Pipe Kit Selection Table (Read Across The Row For Suitable Pipe Kit / Sensor Spool Kit / Low Loss Header)

FLEET BOILER MODEL	No. OF BOILERS ON PIPE KIT PIPE KIT	BOILER PIPE KIT <i>PART No.</i>	PIPE KIT <i>NOMINAL BORE</i> (mm)	SENSOR SPOOL <i>KIT (1 PER ROW OF BOILERS)</i> <i>PART No.</i>	LOW LOSS HEADER (1 PER ROW OF BOILERS)	
					<i>PART No.S</i>	
					2 PORT	6 PORT
F40H F50H F60H F70H F85H F100H	1	562702280	DN50	562702223	562702242	562702205
	2	562702281	DN50	562702223	562702242	562702205
	3*	562702208	DN50	562702223	562702242	562702205
		<i>1 x 562702280 1 x 562702281</i>				
	4*	562702209	DN50	562702223	562702242	562702205
<i>2 x 562702281</i>						
F125H F150H	1	562702193	DN65	562702224	562702243	562702190
	2	562702210	DN65	562702224	562702243	562702190
	3*	562702211	DN65	562702224	562702243	562702190
		<i>1 x 562702193 1 x 562702210</i>				
	4*	562702212	DN65	562702224	562702243	562702190
<i>2 x 562702210</i>						
F175H F200H F250H	1	562702194	DN125	562702227	562702240	562702241
	2	562702213	DN125	562702227	562702240	562702241
	3 *	562702214	DN125	562702227	562702240	562702241
		<i>1 x 562702194 1 x 562702213</i>				
	4 *	562702215	DN125	562702227	562702240	562702241
<i>2 x 562702213</i>						
F300H F350H	1	5627052195	DN125	562702227	562702240	562702241
	2	562702216	DN125	562702227	562702240	562702241
	3*	562702217	DN125	562702227	562702240	562702241
		<i>1 x 562702195 1 x 562702216</i>				
	4*	562702218	DN125	562702227	562702240	562702241
<i>2 x 562702216</i>						

Note : Pipe Kits In **Bold** Defined With An ‘ * ‘ Are Constructed From 2 Pipe Kits Supplied Together. Those Supplied To Make That Pipe Kit Are Shown In *Italic* Underneath.

1.1 Delivery

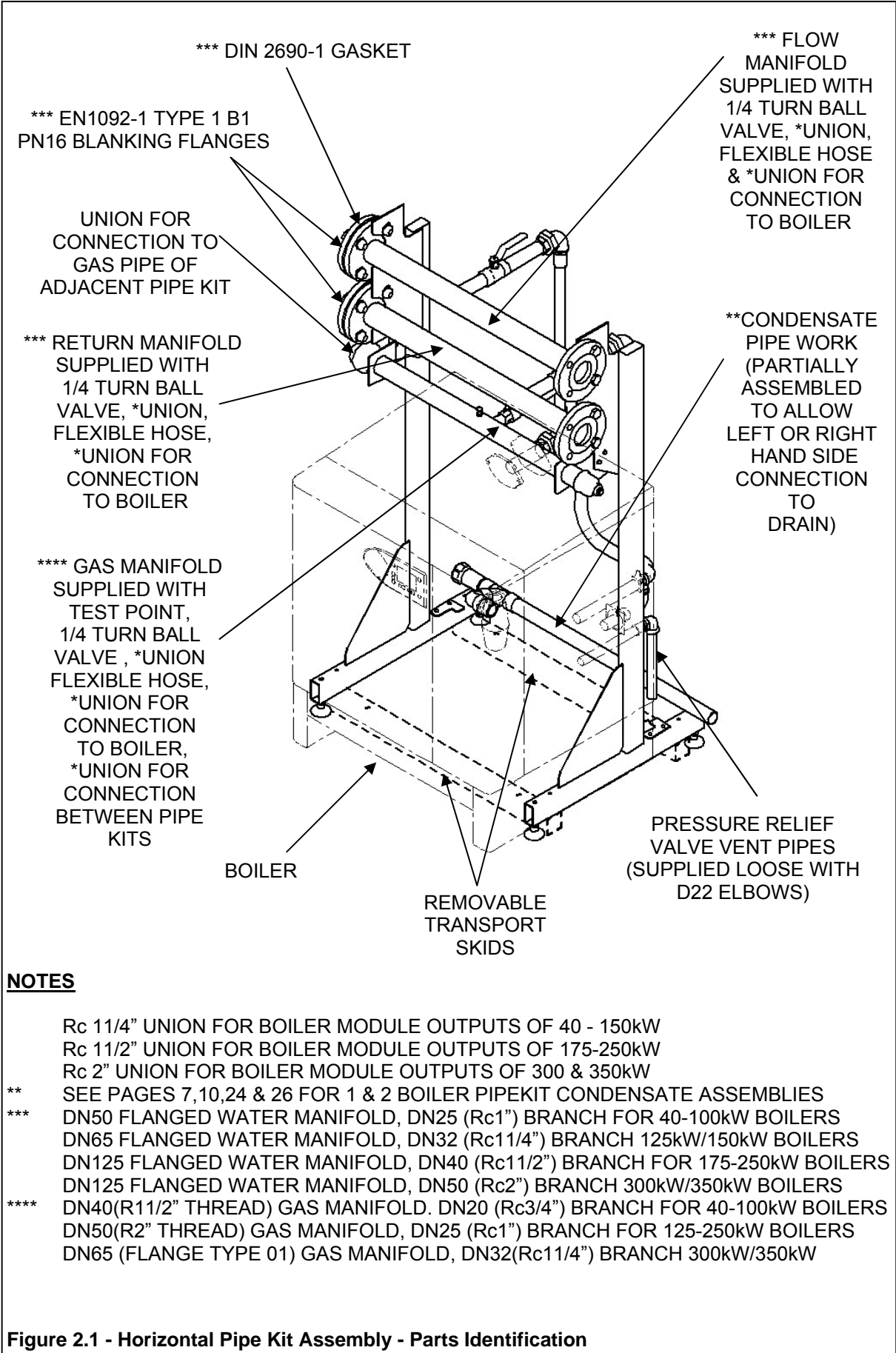
Remove all packing material and, referring to Figures 2.2 to 3.9 & Tables 3 to 19 inspect the pipe kits & optional extras to ensure that all parts are present and undamaged.

If any items are missing, use the delivery note & picking list supplied with the pipe kit & fax these back to Hamworthy Heating Ltd. Fax No. 01202 665111.

Table No. 2 – Weights Of Kits

PART NUMBER	DESCRIPTION	WEIGHT OF KIT WITH PACKAGING Kg
562702280	ONE WIDE F40H-F100H BOILER PIPE KIT	84
562702193	ONE WIDE F125H-F150H BOILER PIPE KIT	110
562702194	ONE WIDE F175-F250H BOILER PIPE KIT	129
562702195	ONE WIDE F300H-F350H BOILER PIPE KIT	168
562702281	TWO WIDE F40H-F100H BOILER PIPE KIT	137
562702210	TWO WIDE F125H-F150H BOILER PIPE KIT	200
562702213	TWO WIDE F175-F250H BOILER PIPE KIT	238
562702216	TWO WIDE F300H-F350H BOILER PIPE KIT	316
562702223	SENSOR SPOOL KIT DN50	11
562702224	SENSOR SPOOL KIT DN65	12
562702227	SENSOR SPOOL KIT DN125	20
562702242	2 PORT LOW LOSS HEADER DN50	50
562702205	6 PORT LOW LOSS HEADER DN65	78
562702243	2 PORT LOW LOSS HEADER DN65	53
562702190	6 PORT LOW LOSS HEADER DN65	85
562702240	2 PORT LOW LOSS HEADER DN125	170
562702241	6 PORT LOW LOSS HEADER DN125	200

SECTION 2 – PARTS IDENTIFICATION



NOTES

Rc 1 1/4" UNION FOR BOILER MODULE OUTPUTS OF 40 - 150kW
 Rc 1 1/2" UNION FOR BOILER MODULE OUTPUTS OF 175-250kW
 Rc 2" UNION FOR BOILER MODULE OUTPUTS OF 300 & 350kW

- ** SEE PAGES 7,10,24 & 26 FOR 1 & 2 BOILER PIPEKIT CONDENSATE ASSEMBLIES
- *** DN50 FLANGED WATER MANIFOLD, DN25 (Rc1") BRANCH FOR 40-100kW BOILERS
 DN65 FLANGED WATER MANIFOLD, DN32 (Rc1 1/4") BRANCH 125kW/150kW BOILERS
 DN125 FLANGED WATER MANIFOLD, DN40 (Rc1 1/2") BRANCH FOR 175-250kW BOILERS
 DN125 FLANGED WATER MANIFOLD, DN50 (Rc2") BRANCH 300kW/350kW BOILERS
- **** DN40(R1 1/2" THREAD) GAS MANIFOLD, DN20 (Rc3/4") BRANCH FOR 40-100kW BOILERS
 DN50(R2" THREAD) GAS MANIFOLD, DN25 (Rc1") BRANCH FOR 125-250kW BOILERS
 DN65 (FLANGE TYPE 01) GAS MANIFOLD, DN32(Rc1 1/4") BRANCH 300kW/350kW

Figure 2.1 - Horizontal Pipe Kit Assembly - Parts Identification

2.1 Single Boiler Pipe Kit For Boiler Models: F40VH, F50H, F60H, F70H, F85H & F100H.

Table No. 3 - List Of Parts Received When Pipe Kit 562702280 Is Delivered

DESCRIPTION	QTY	FIGURE	PAGE
Single Horizontal Boiler Hydraulic & Gas Manifold Assembly	1	2.2	5
Flexible Hose Assembly For Connection To Flow Pipe Of Boiler	1	2.3	5
Flexible Hose Assembly For Connection To Return Pipe Of Boiler	1	2.3	5
Flexible Hose Assembly For Connection To Gas Pipe Of Boiler		2.3	5
Pressure Relief Valve discharge Pipe Assembly	1	2.4	6
D22mm Compression Elbow	1		
D22 Drain Pipe (200mm Long)	1		
Condensate Pipe Kit		2.5	6
D36-D40 Expanded ABS Pipe	1		
M x F D36 Elbow	1		
Female ABS T	1		
D36 ABS Socket	1		
D36 ABS Rod Eye	1		
D36 Abs Long Pipe	1		
D36 ABS Short Pipe	1		
Blanking Flanges Gaskets Fasteners & Fittings		2.6	6
DN50 PN16 DIN2690 Flange Gaskets	4		
DN50 PN16 Blind Flanges Tapped Rc1/2" & Assembled With R1/2" Taper Drain Cock	2		
M16x70 Zinc Plated Bolts	16		
M16 Zinc Plated Nuts	16		
M16 Zinc Plated Washers	16		
Rc1 1/2" MAC Union	1		
Rc1 1/2" x Rc1/2" Reducing Socket	1		
Rc1/2" Taper Plug	1		
Stud Assembly	1	2.7	7
M16 x 150 Stud	2		
M16 Nut	4		

Pipe Kit For Boiler Models: F40H, F50H, F60H, F70H, F85H & F100H.

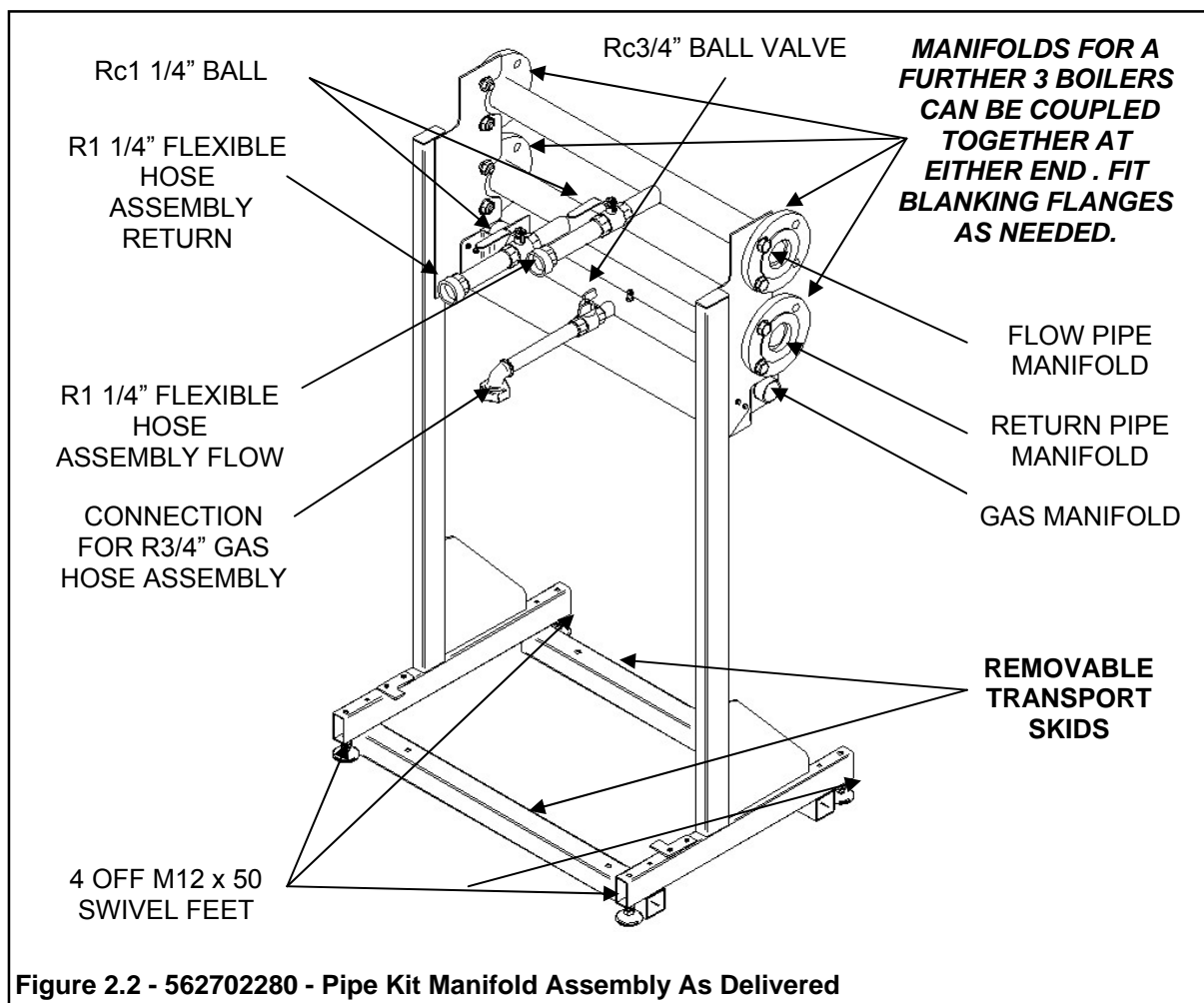


Figure 2.2 - 562702280 - Pipe Kit Manifold Assembly As Delivered

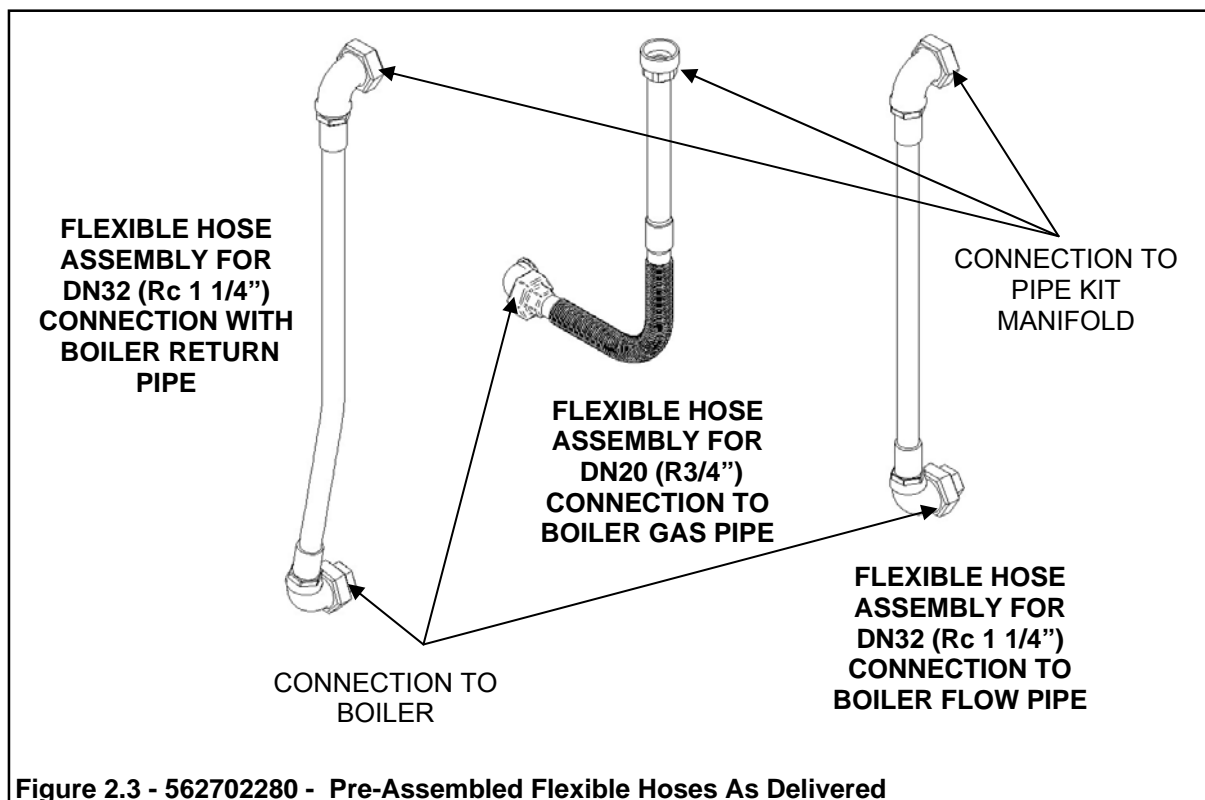
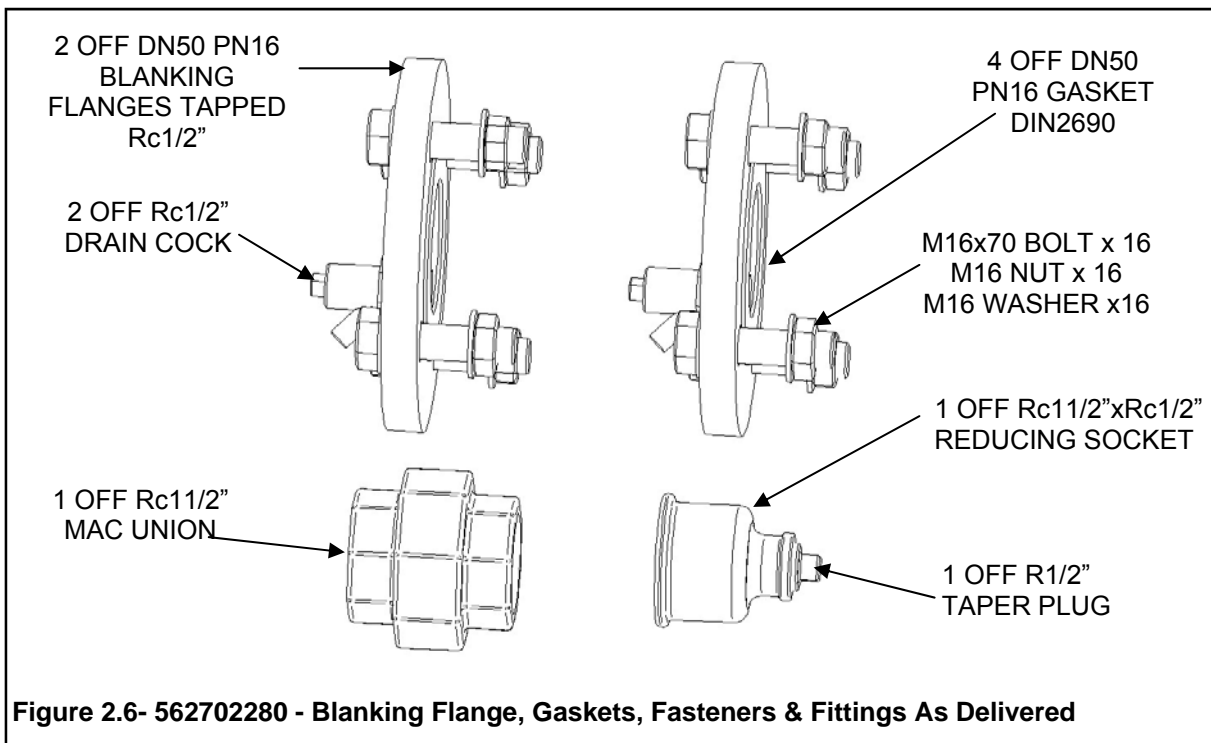
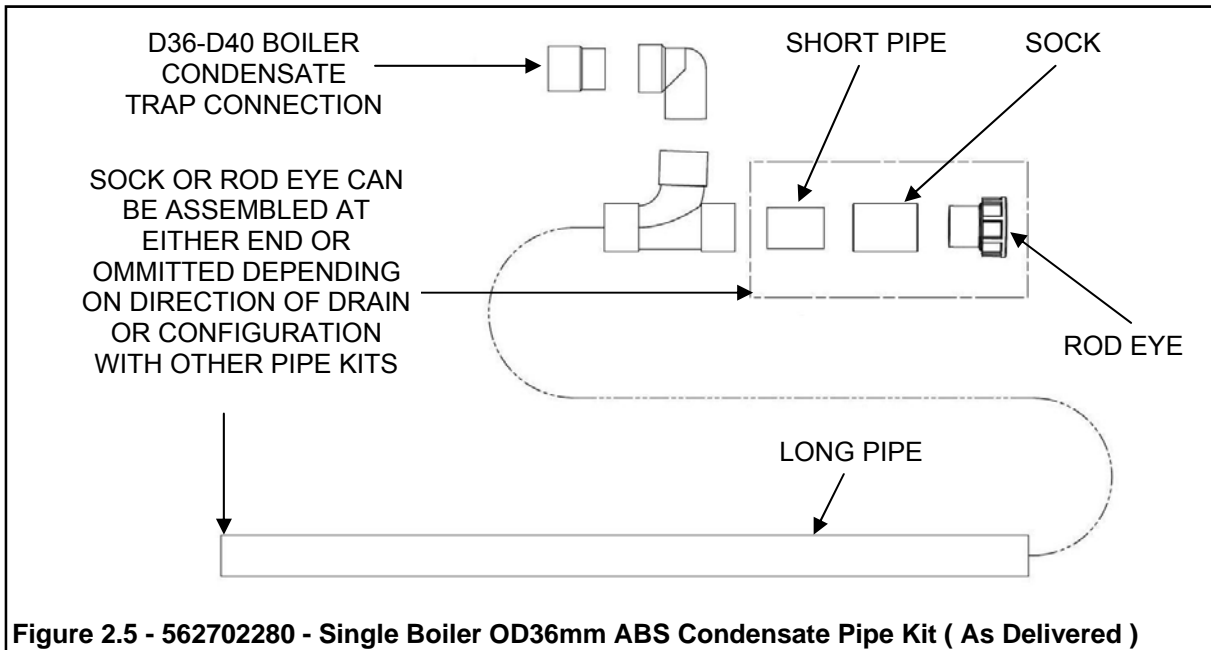
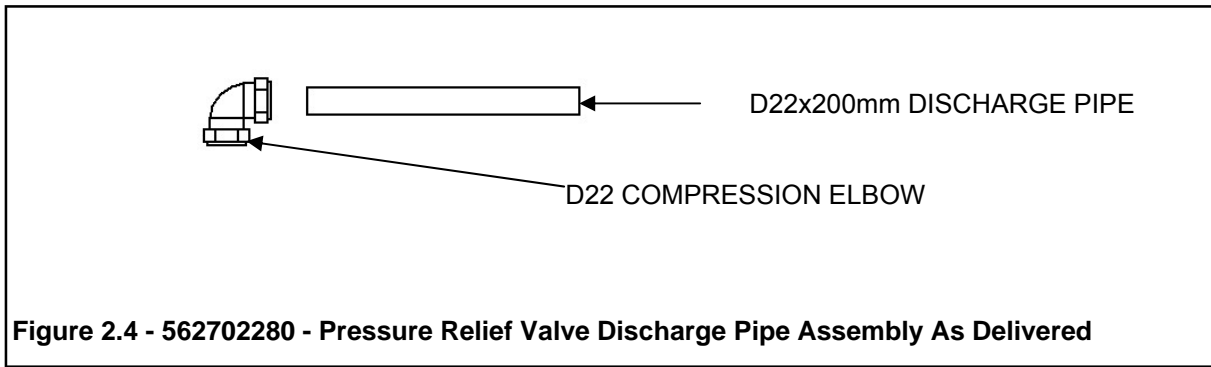


Figure 2.3 - 562702280 - Pre-Assembled Flexible Hoses As Delivered

Pipe Kit For Boiler Models: F40H, F50H, F60H, F70H, F85H & F100H.



Pipe Kit For Boiler Models: F40H, F50H, F60H, F70H, F85H & F100H.

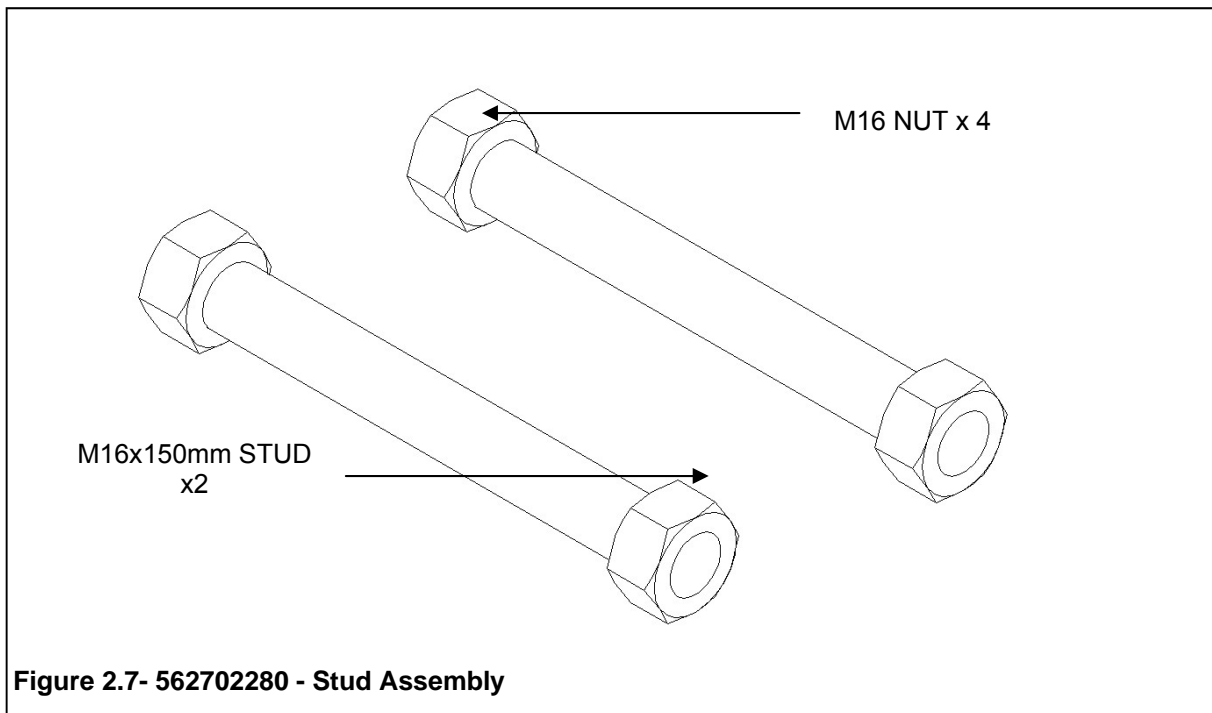


Figure 2.7- 562702280 - Stud Assembly

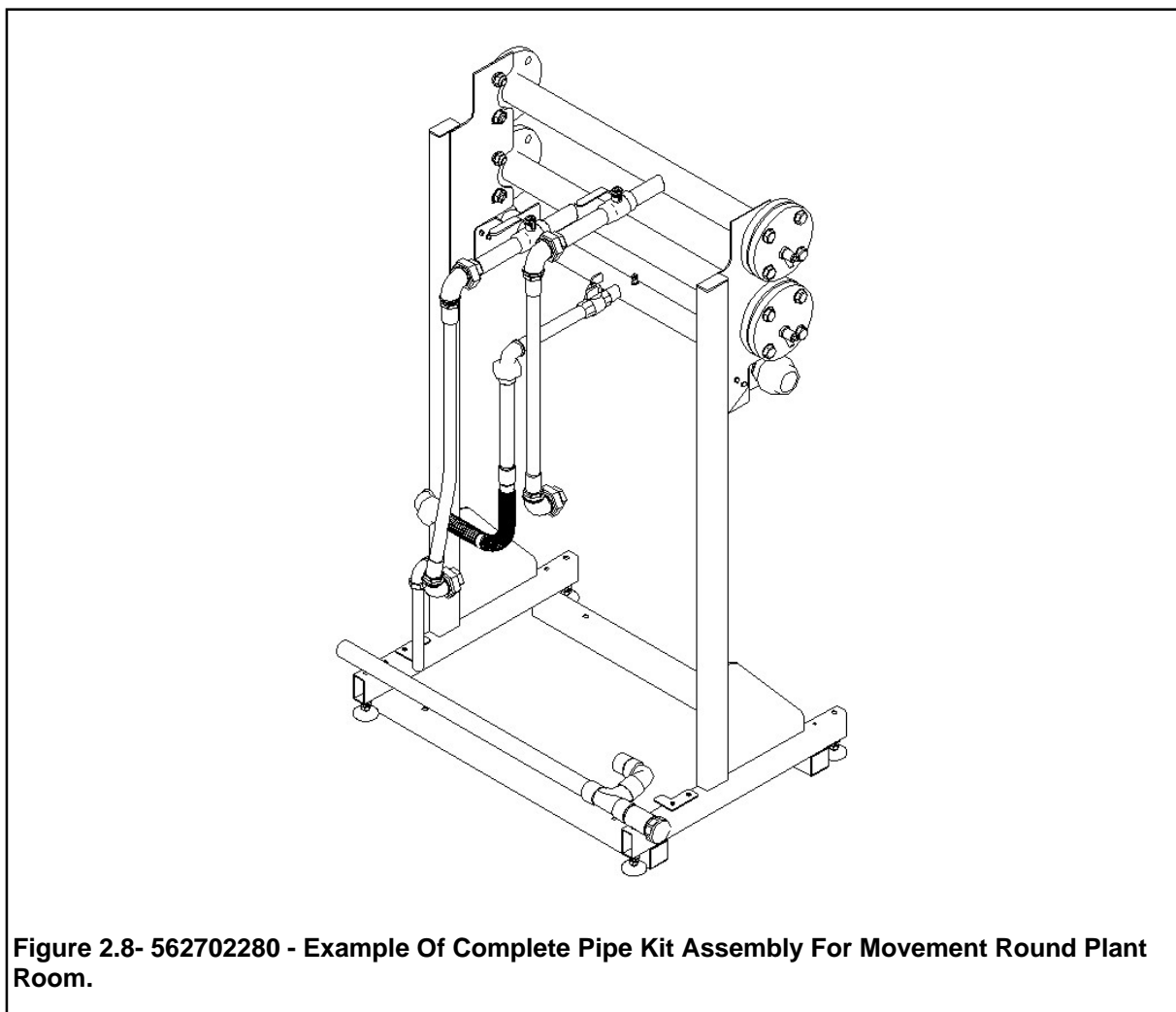


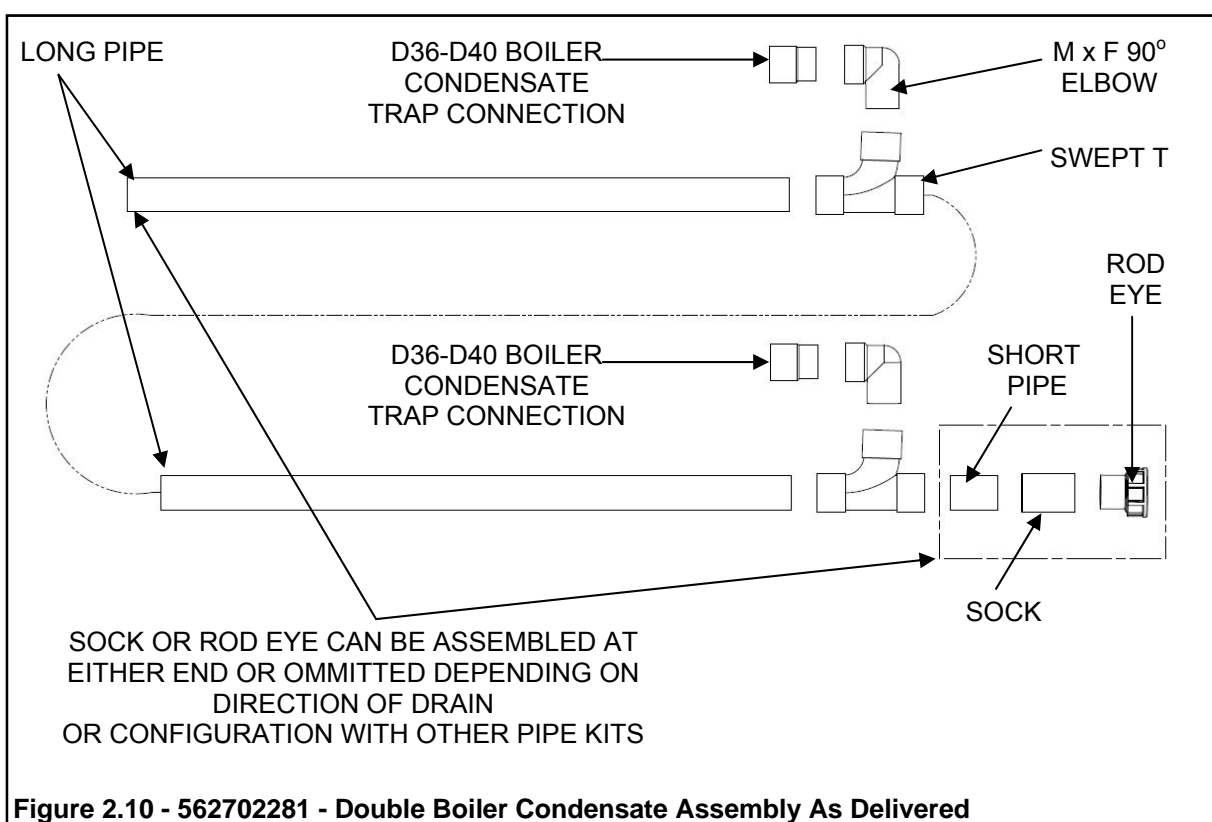
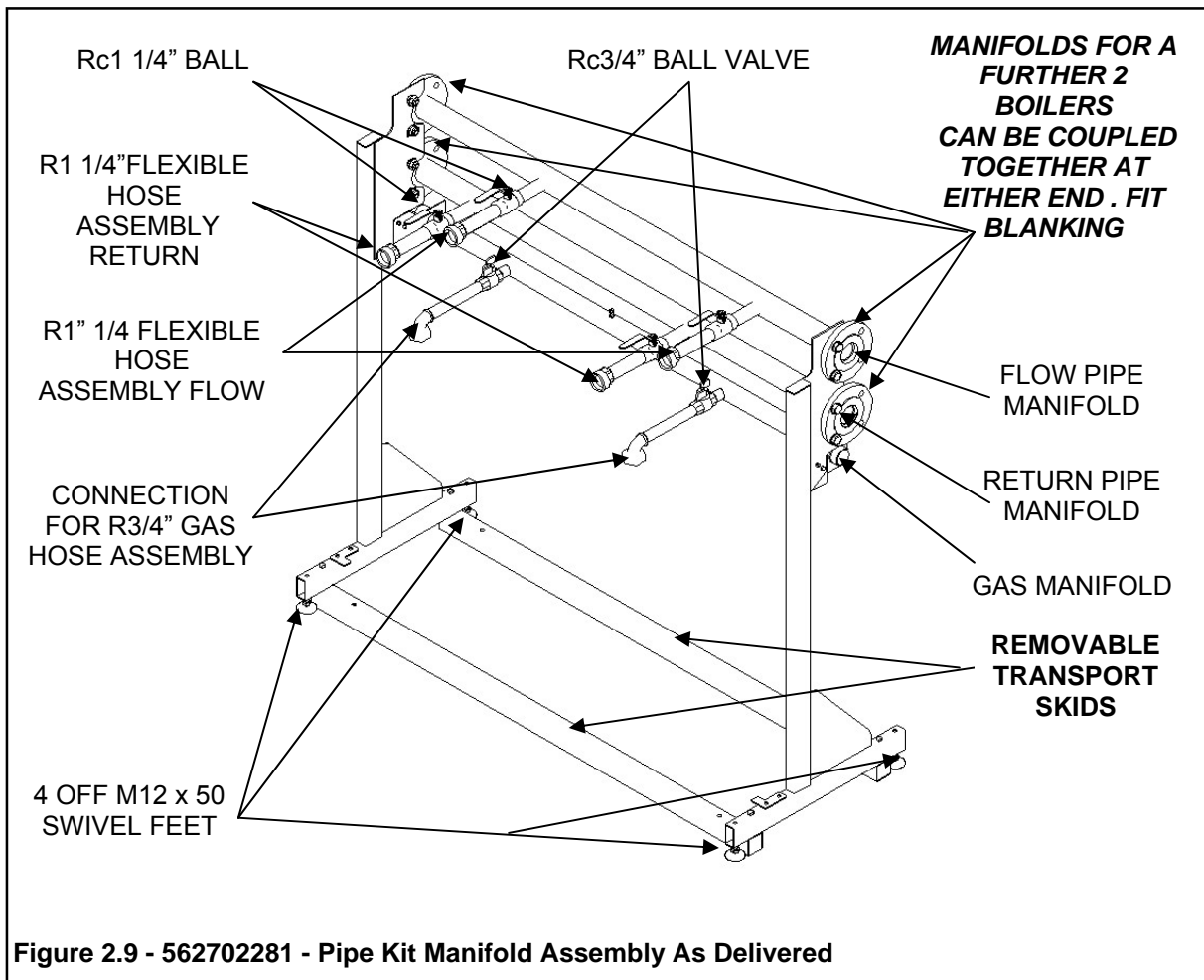
Figure 2.8- 562702280 - Example Of Complete Pipe Kit Assembly For Movement Round Plant Room.

2.2 Two Boiler Pipe Kits For Boiler Models: F40H, F50H, F60H, F70H, F85H & F100H.

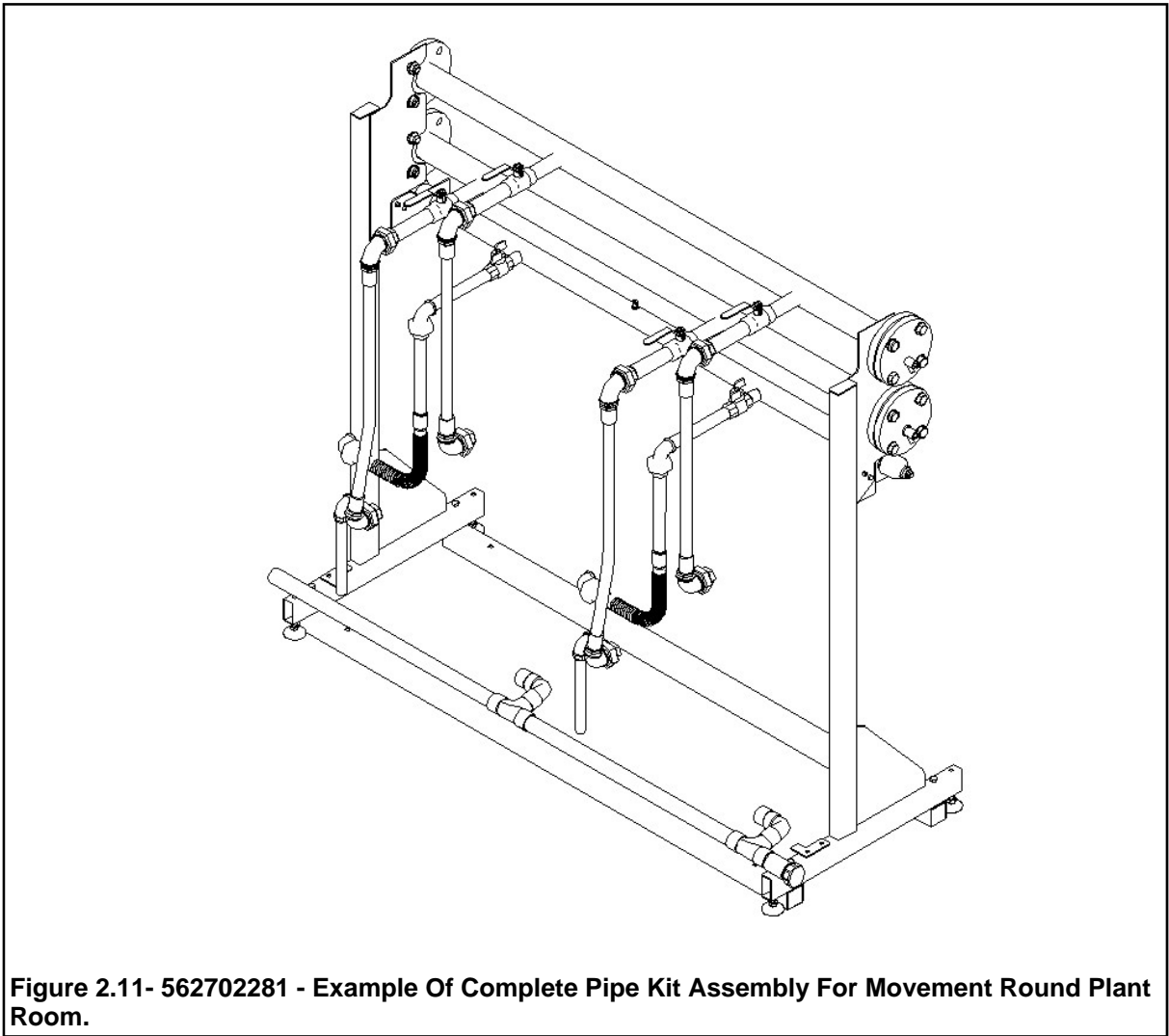
Table No. 4 - List Of Parts Received When Pipe Kit 562702281 Is Delivered

DESCRIPTION	QTY	FIGURE	PAGE
Double Horizontal Boiler Hydraulic & Gas Manifold Assembly	1	2.9	9
Flexible Hose Assembly For Connection To Flow Pipe Of Boiler	1	2.3	5
Flexible Hose Assembly For Connection To Return Pipe Of Boiler	1	2.3	5
Flexible Hose Assembly For Connection To Gas Pipe Of Boiler	1	2.3	5
Pressure Relief Valve discharge Pipe Assembly	2	2.4	6
D22mm Compression Elbow	2		
D22 Drain Pipe (200mm Long)	2		
Condensate Pipe Kit		2.10	9
D36-D40 Expanded ABS Pipe	2		
M x F D36 Elbow	2		
Female ABS T	2		
D36 ABS Socket	1		
D36 ABS Rod Eye	1		
D36 Abs Long Pipe	2		
D36 ABS Short Pipe	1		
Blanking Flanges Gaskets Fasteners & Fittings		2.6	6
DN50 PN16 DIN2690 Flange Gaskets	4		
DN50 PN16 Blind Flanges Tapped Rc1/2" & Assembled With R1/2" Taper Drain Cock	2		
M16x70 Zinc Plated Bolts	16		
M16 Zinc Plated Nuts	16		
M16 Zinc Plated Washers	16		
Rc1 1/2" MAC Union	1		
Rc1 1/2" x Rc1/2" Reducing Socket	1		
Rc1/2" Taper Plug	1		
Stud Assembly	1	2.7	7
M16 x 150 Stud	2		
M16 Nut	4		

Pipe Kit For Boiler Models:F40H, F50H, F60H, F70H, F85H & F100H.



Pipe Kit For Boiler Models: F40H, F50H, F60H, F70H, F85H & F100H.

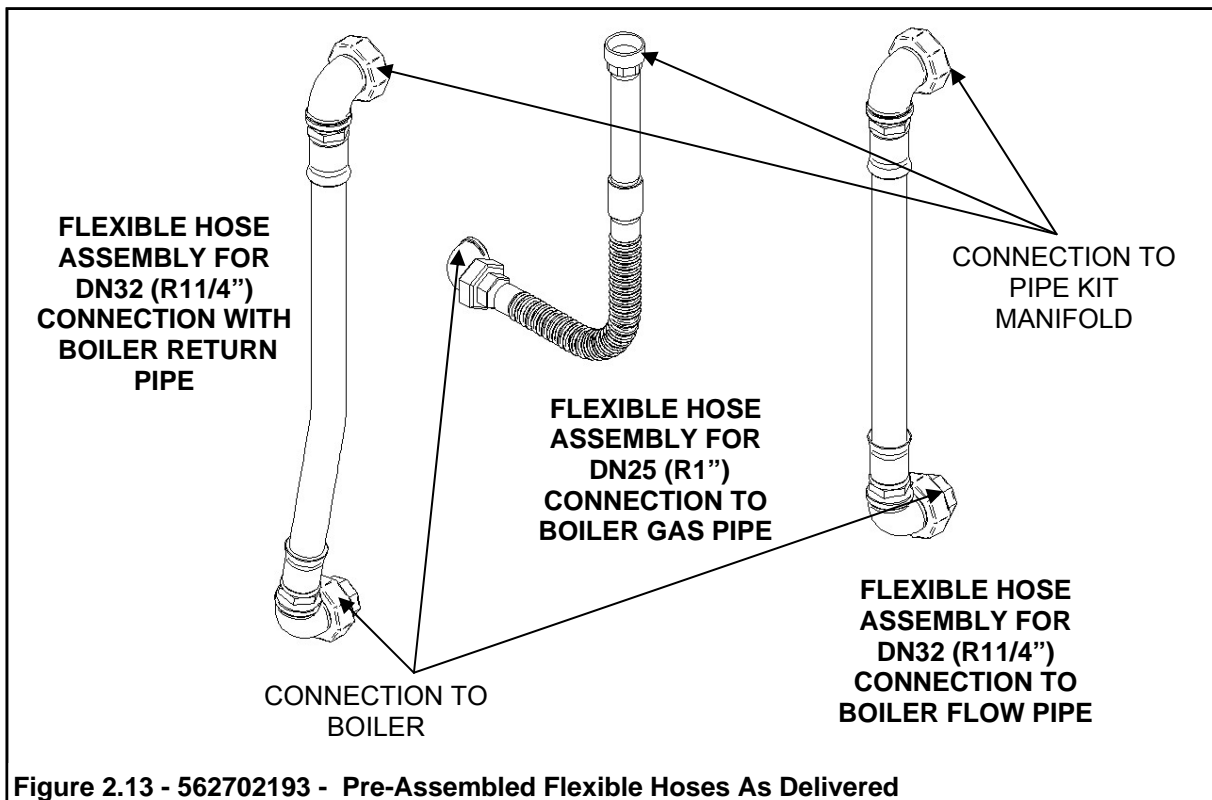
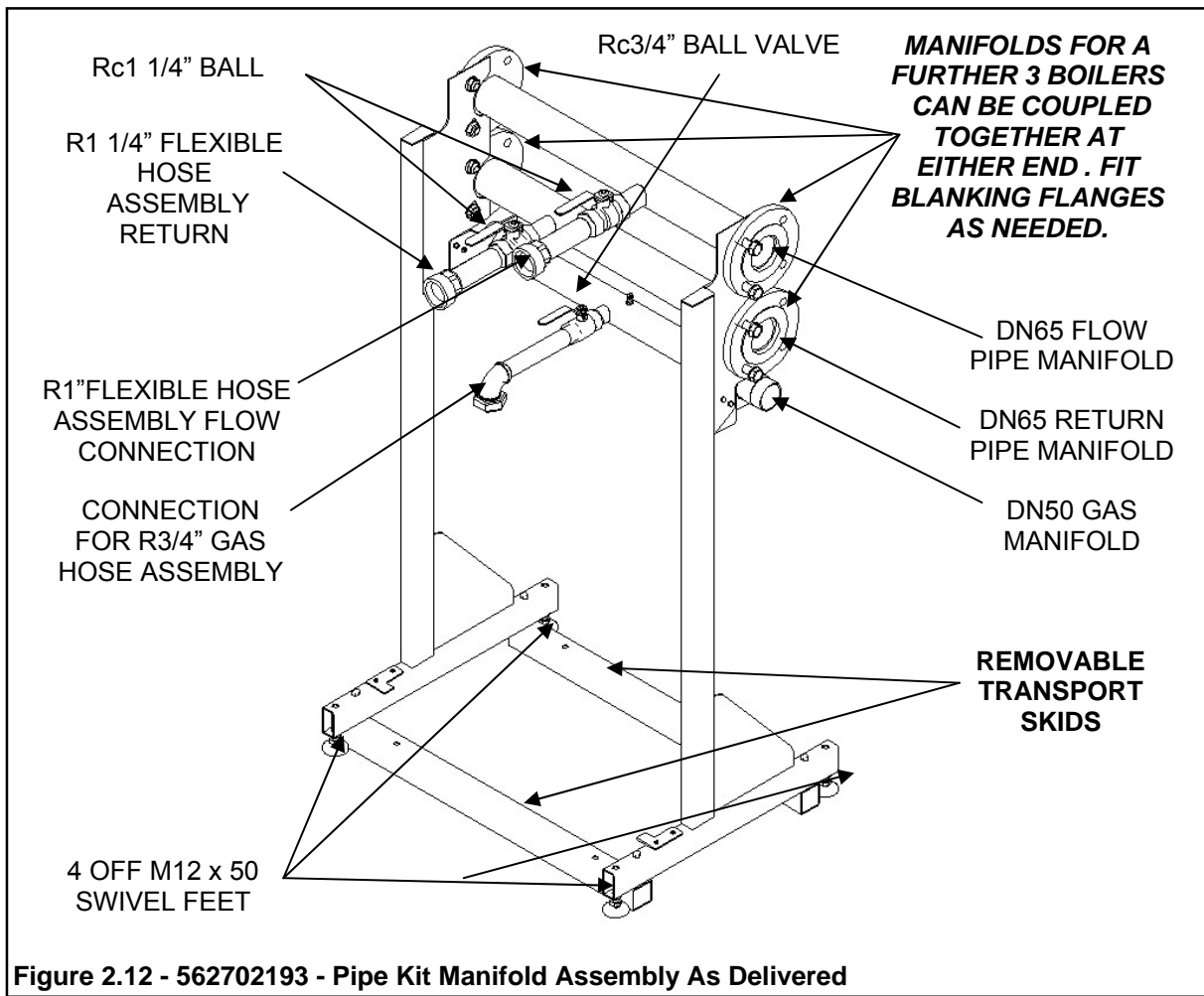


2.3 Single Boiler Pipe Kit For Boiler Models: F125H & F150H.

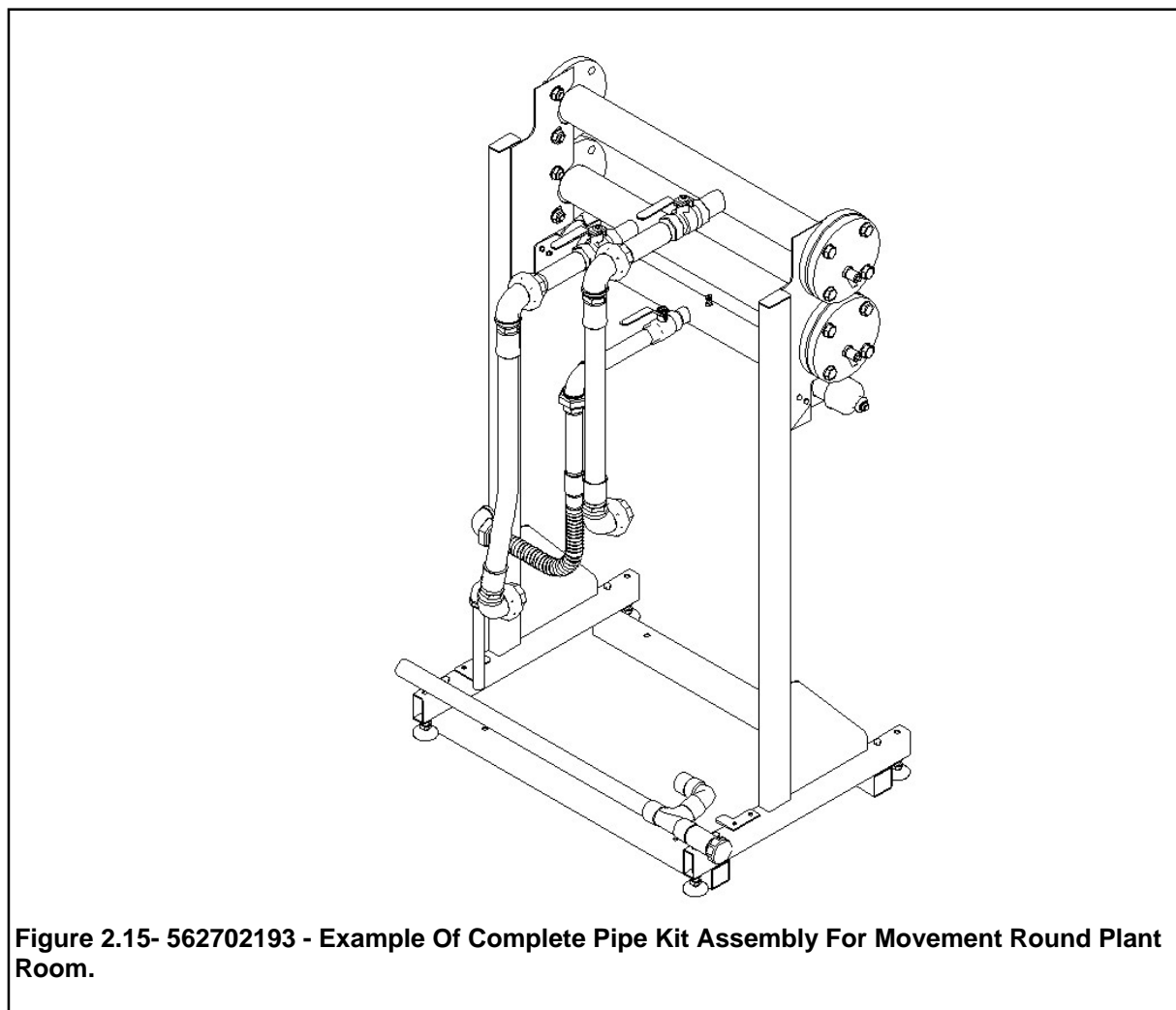
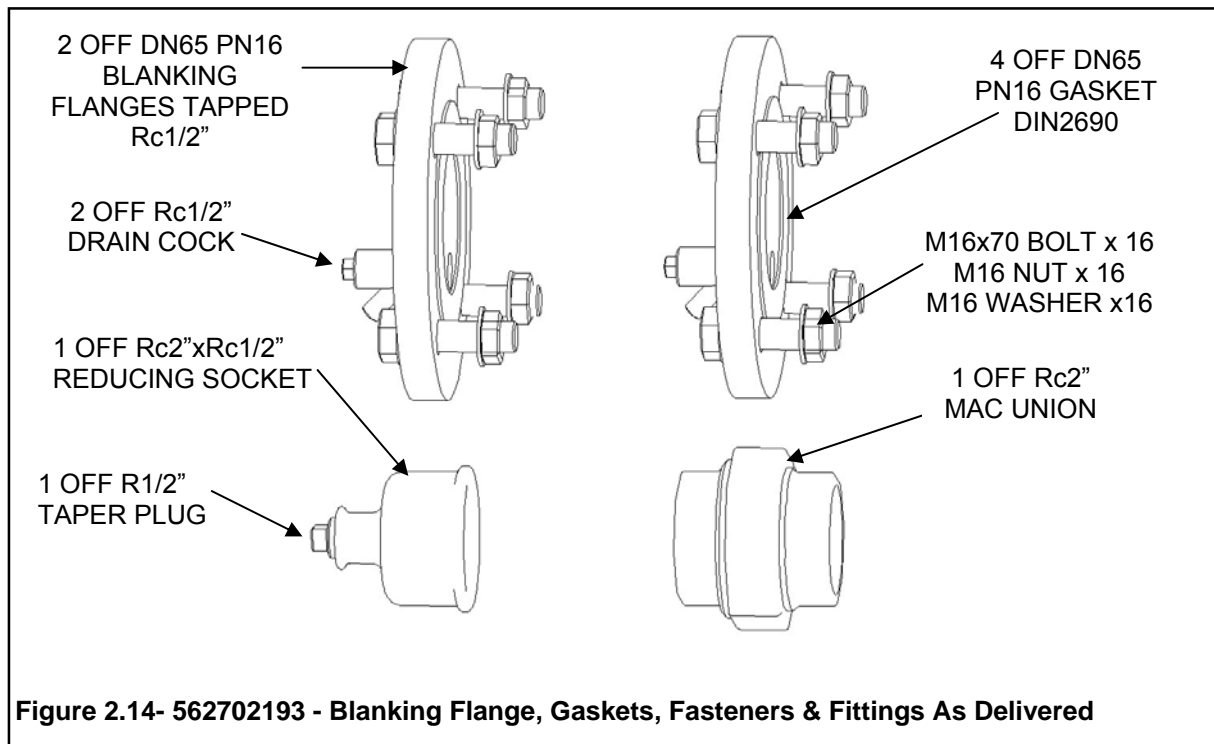
Table No. 5- List Of Loose Parts Received When Pipe Kit 562702193 Is Delivered

DESCRIPTION	QTY	FIGURE	PAGE
Single Horizontal Boiler Hydraulic & Gas Manifold Assembly	1	2.12	12
Flexible Hose Assembly For Connection To R11/4" Flow Pipe Of Boiler	1	2.12	12
Flexible Hose Assembly For Connection To R11/4" Return Pipe Of Boiler	1	2.12	12
Flexible Hose Assembly For Connection To R1" Gas Pipe Of Boiler	1	2.12	12
Pressure Relief Valve discharge Pipe Assembly		2.4	6
D22mm Compression Elbow	1		
D22 Drain Pipe (200mm Long)	1		
Condensate Pipe Kit		2.5	6
D36-D40 Expanded ABS Pipe	1		
M x F D36 Elbow	1		
Female ABS T	1		
D36 ABS Socket	1		
D36 ABS Rod Eye	1		
D36 ABS Long Pipe	1		
D36 ABS Short Pipe	1		
Blanking Flanges Gaskets Fasteners & Fittings		2.14	13
DN65 PN16 DIN2690 Flange Gaskets	4		
DN65 PN16 Blind Flanges Tapped Rc1/2" & Assembled With R1/2" Taper Drain Cock	2		
M16x70 Zinc Plated Bolts	16		
M16 Zinc Plated Nuts	16		
M16 Zinc Plated Washers	16		
Rc2" MAC Union	1		
Rc2" x Rc1/2" Reducing Socket	1		
Rc1/2" Taper Plug	1		
Stud Assembly	1	2.7	7
M16 x 150 Stud	2		
M16 Nut	4		

Pipe Kit For Boiler Models: F125H & F150H.



Pipe Kit For Boiler Models: F125H & F150H.



2.4 Two Boiler Pipe Kit For Boiler Models : F125H & F150H.

Table No. 6 - List Of Parts Received When Pipe Kit 562702210 Is Delivered

DESCRIPTION	QTY	FIGURE	PAGE
Twin Horizontal Boiler Hydraulic & Gas Manifold Assembly	1	2.16	15
Flexible Hose Assembly For Connection To R11/4" Flow Pipe Of Boiler	1	2.12	12
Flexible Hose Assembly For Connection To R11/4" Return Pipe Of Boiler	1	2.12	12
Flexible Hose Assembly For Connection To R1" Gas Pipe Of Boiler	1	2.12	12
Pressure Relief Valve discharge Pipe Assembly		2.4	6
D22mm Compression Elbow	2		
D22 Drain Pipe (200mm Long)	2		
Condensate Pipe Kit		2.10	9
D36-D40 Expanded ABS Pipe	2		
M x F D36 Elbow	2		
Female ABS T	2		
D36 ABS Socket	1		
D36 ABS Rod Eye	1		
D36 ABS Long Pipe	2		
D36 ABS Short Pipe	1		
Blanking Flanges Gaskets Fasteners & Fittings		2.13	12
DN65 PN16 DIN2690 Flange Gaskets	4		
DN65 PN16 Blind Flanges Tapped Rc1/2" & Assembled With R1/2" Taper Drain Cock	2		
M16x70 Zinc Plated Bolts	16		
M16 Zinc Plated Nuts	16		
M16 Zinc Plated Washers	16		
Rc2" MAC Union	1		
Rc2" x Rc1/2" Reducing Socket	1		
Rc1/2" Taper Plug	1		
Stud Assembly	1	2.7	7
M16 x 150 Stud	2		
M16 Nut	4		

Pipe Kit For Boiler Models : F125H & F150H.

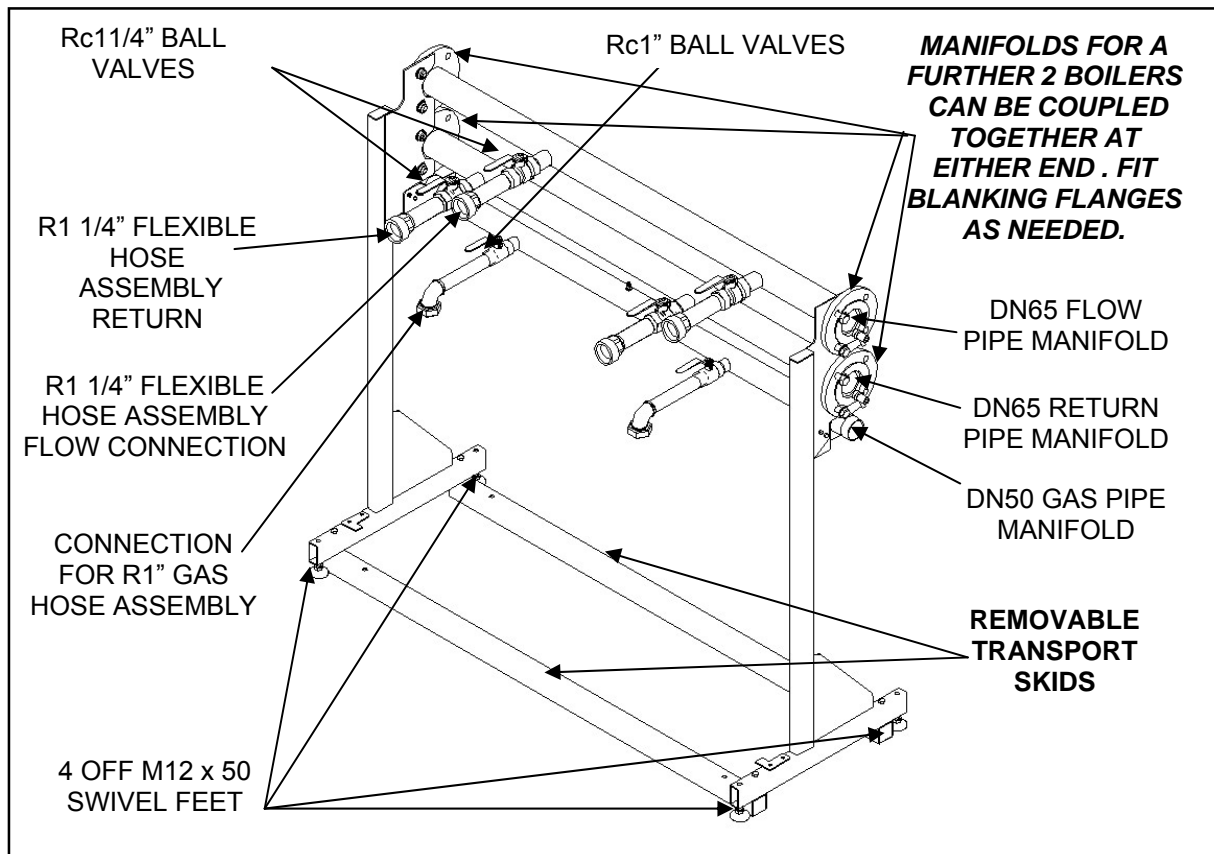


Figure 2.16 - 562702210 - Pipe Kit Manifold Assembly As Delivered

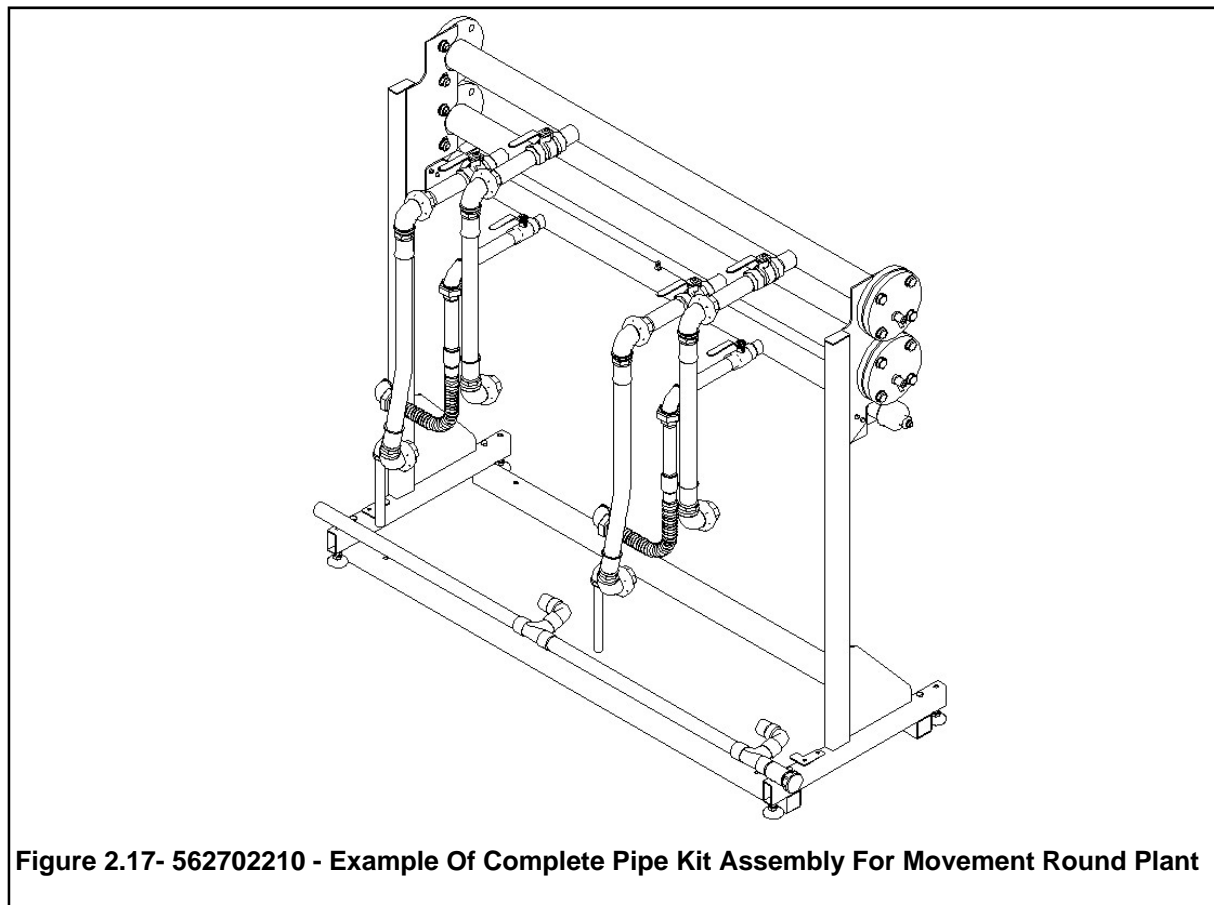


Figure 2.17- 562702210 - Example Of Complete Pipe Kit Assembly For Movement Round Plant

2.5 Pipe Kit For Boiler Models : F175H, F200H & F250H

Table No. 7 - List Of Parts Received When Pipe Kit 562702194 Is Delivered

DESCRIPTION	QTY	FIGURE	PAGE
Twin Horizontal Boiler Hydraulic & Gas Manifold Assembly	1	2.18	17
Flexible Hose Assembly For Connection To R11/2" Flow Pipe Of Boiler	1	2.19	17
Flexible Hose Assembly For Connection To R11/2" Return Pipe Of Boiler	1	2.19	17
Flexible Hose Assembly For Connection To R1" Gas Pipe Of Boiler	1	2.19	17
Pressure Relief Valve discharge Pipe Assembly		2.4	6
D28mm Compression Elbow	1		
D28 Drain Pipe (215mm Long)	1		
Condensate Pipe Kit		2.9	8
D36-D40 Expanded ABS Pipe	1		
M x F D36 Elbow	1		
Female ABS T	1		
D36 ABS Socket	1		
D36 ABS Rod Eye	1		
D36 ABS Long Pipe	1		
D36 ABS Short Pipe	1		
Blanking Flanges Gaskets Fasteners & Fittings		2.20	18
DN125 PN16 DIN2690 Flange Gaskets	4		
DN125 PN16 Blind Flanges Tapped Rc1/2" & Assembled With R1/2" Taper Drain Cock	2		
M16x70 Zinc Plated Bolts	40		
M16 Zinc Plated Nuts	40		
M16 Zinc Plated Washers	40		
DN65 GAS PIPE 1 Way Pipe	1		
Flange DN65 PN16 Type 05	1		
Gasket DN65 PN16	2		
Rc1/2" Taper Plug	1		
Stud Assembly	1	2.7	7
M16 x 150 Stud	2		
M16 Nut	4		

Pipe Kit For Boiler Models: F175H, F200H & F250H.

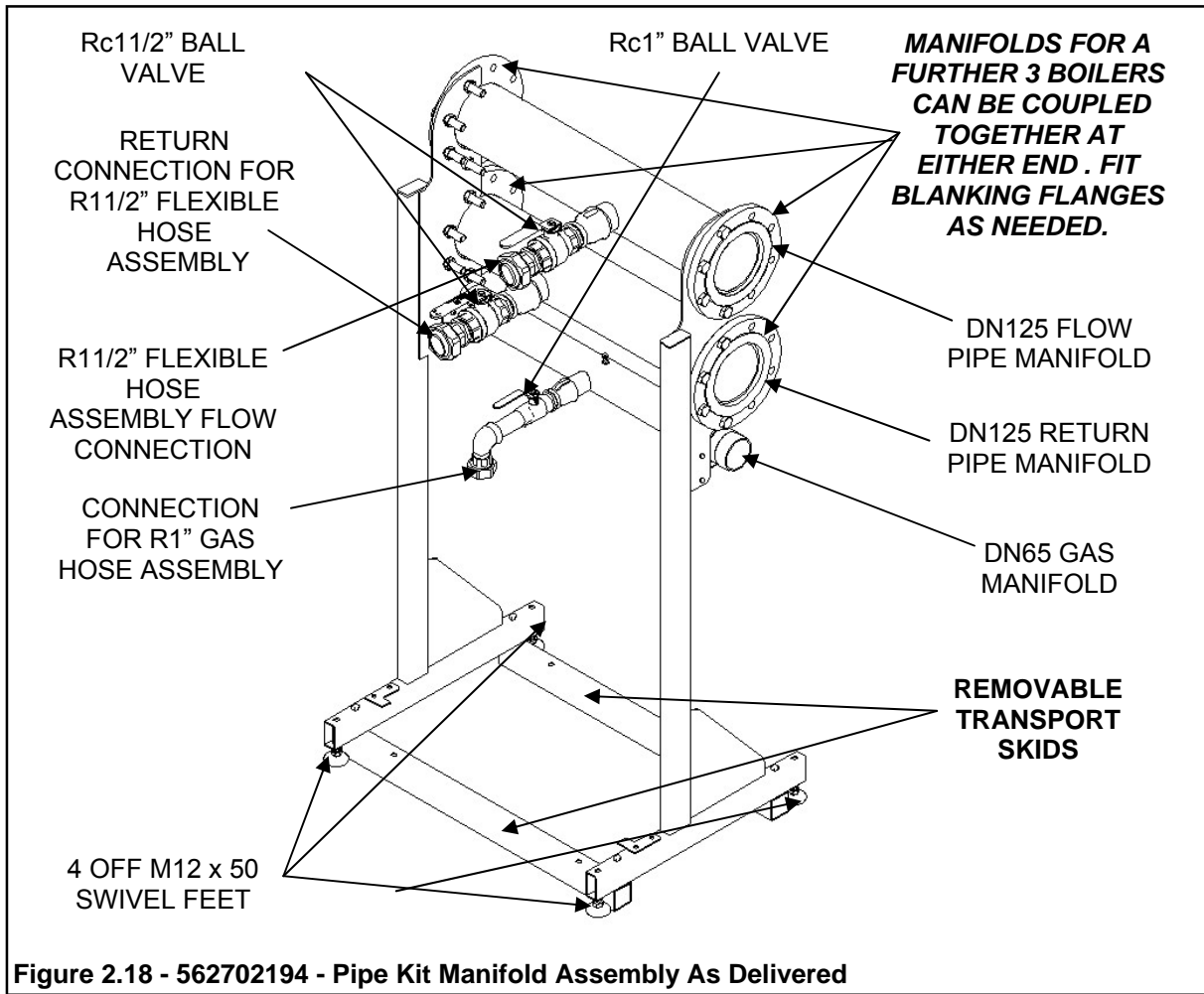


Figure 2.18 - 562702194 - Pipe Kit Manifold Assembly As Delivered

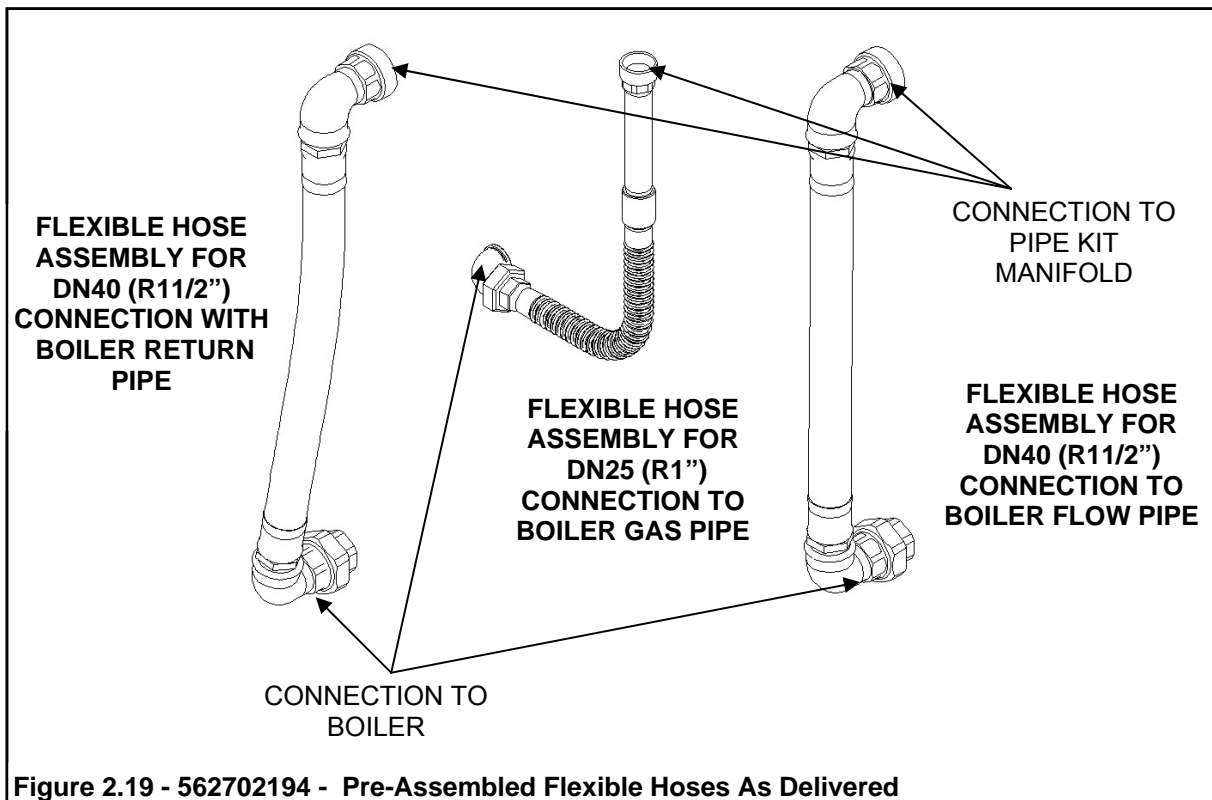
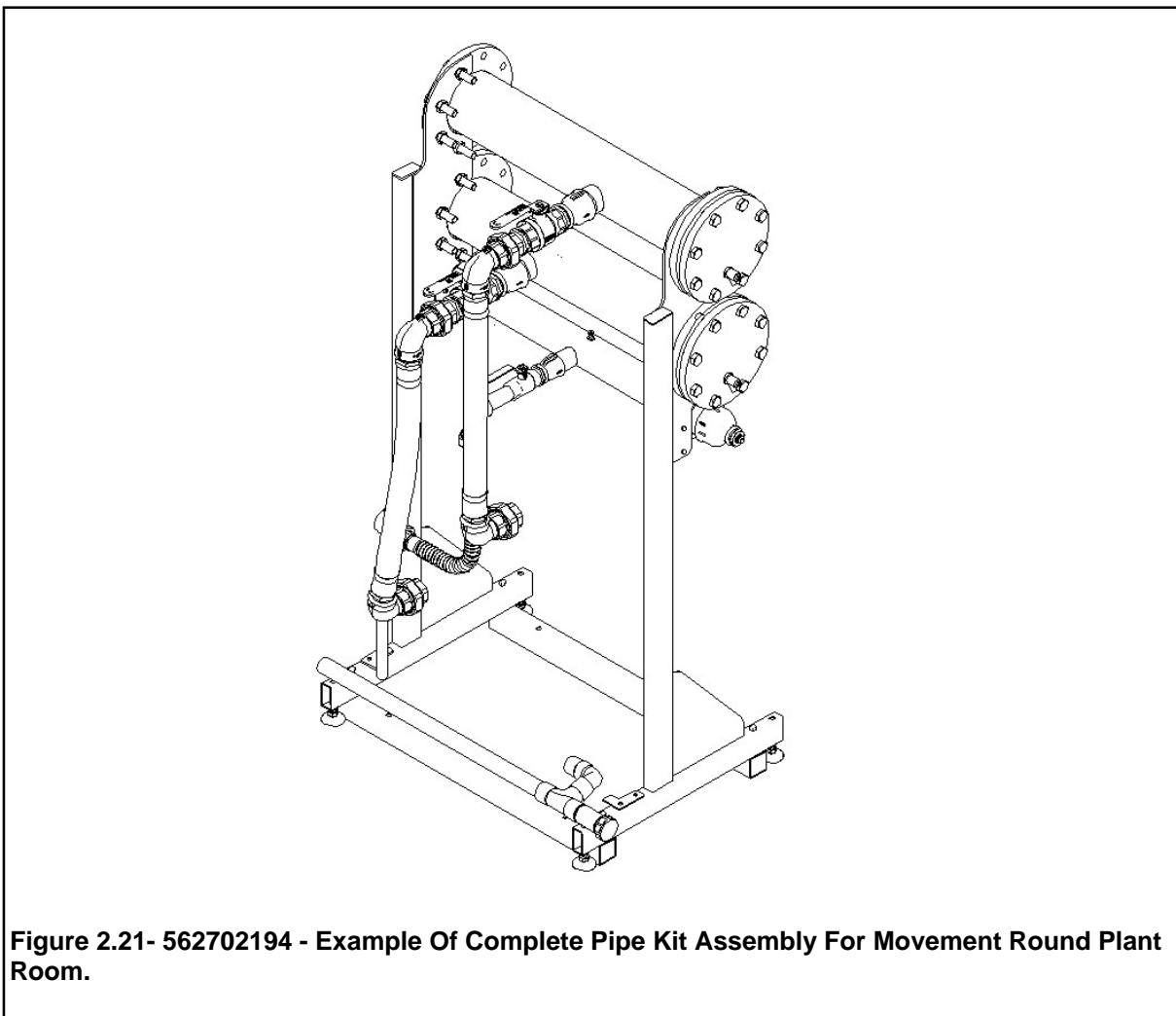
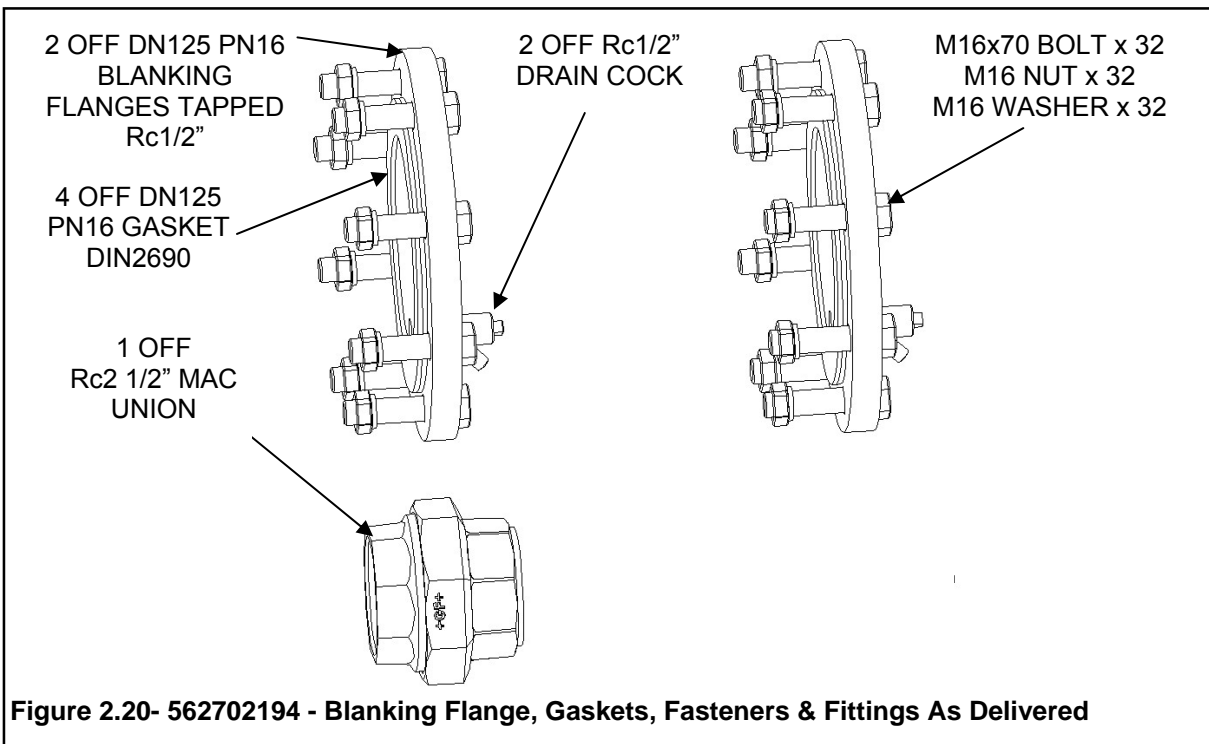


Figure 2.19 - 562702194 - Pre-Assembled Flexible Hoses As Delivered

Pipe Kit For Boiler Models: F175H, F200H & F250H.

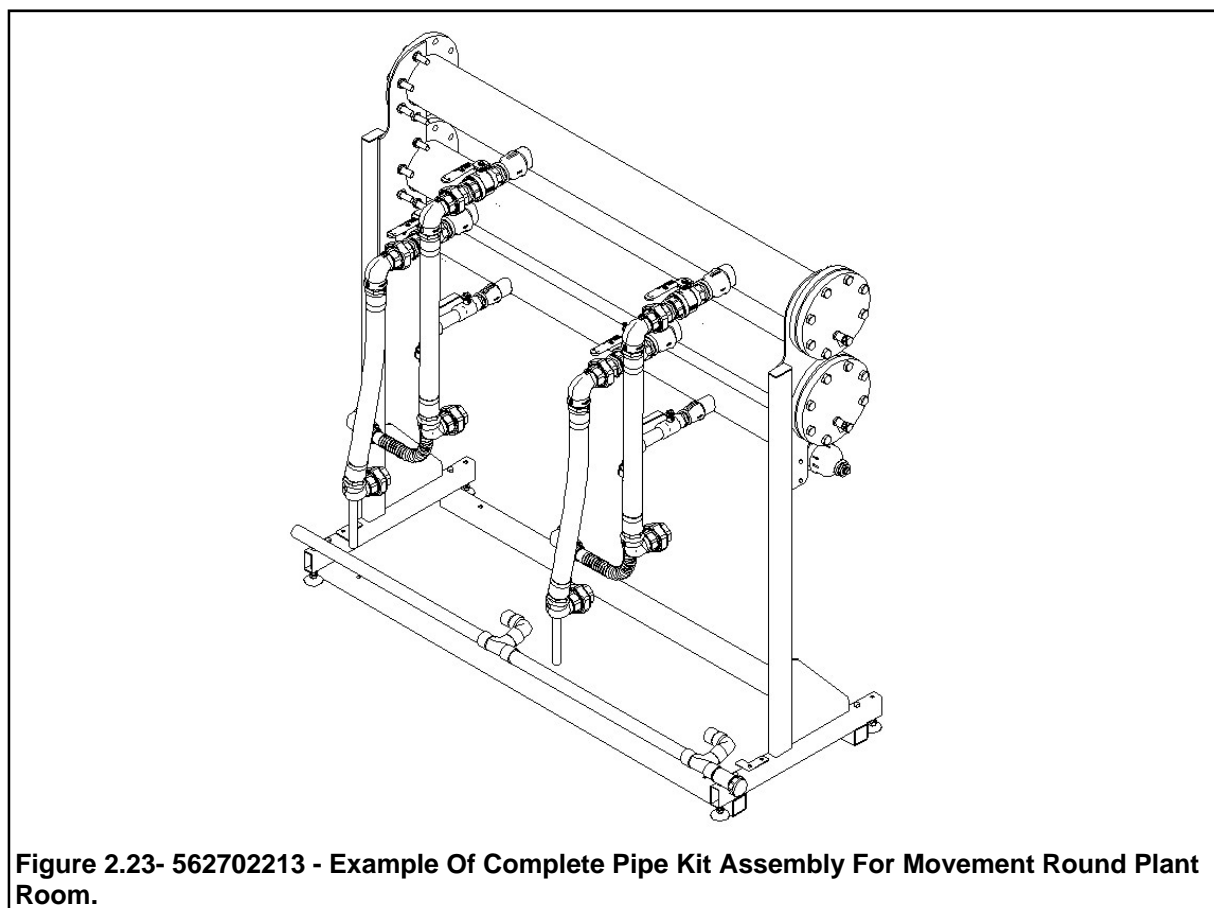
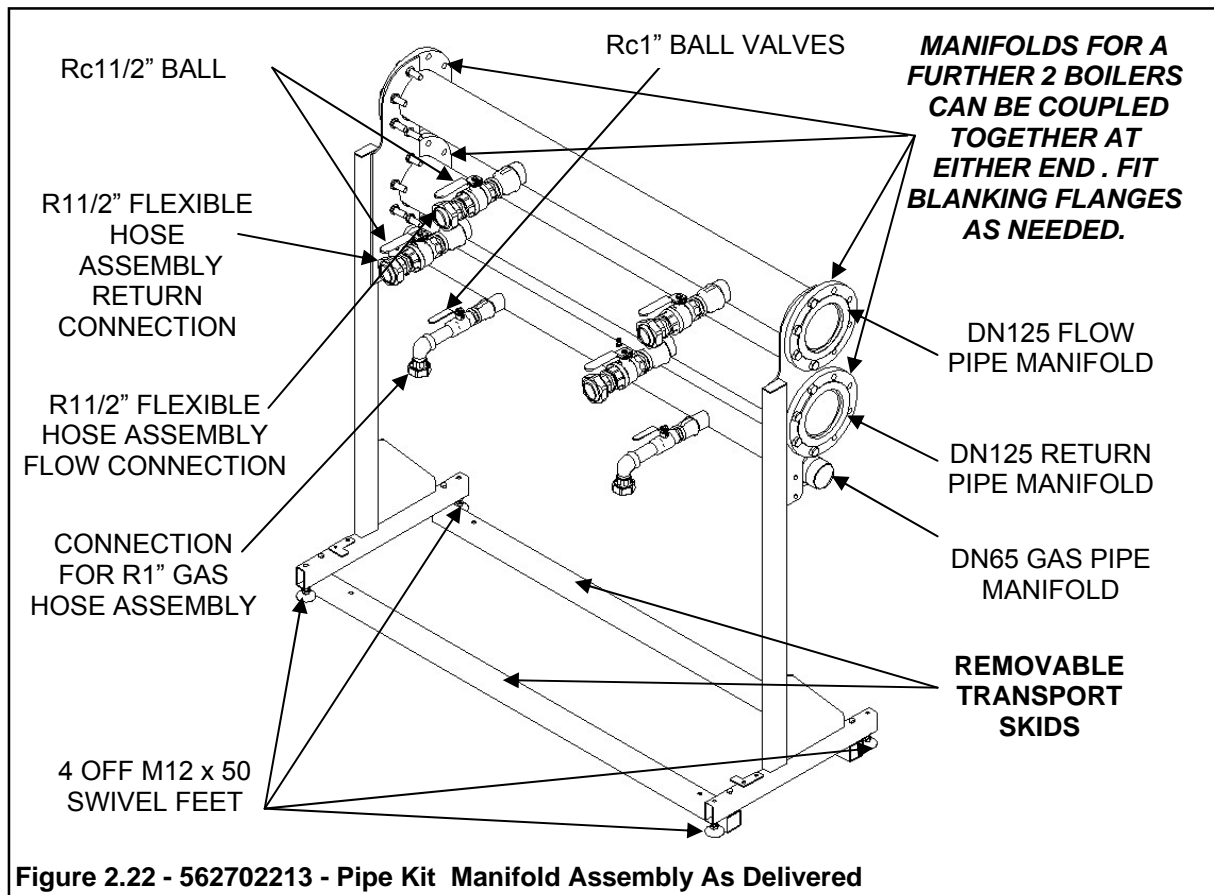


2.6 Two Boiler Pipe Kit For Boiler Models : F175H, F200H & F250H.

Table No. 8 - List Of Parts Received When Pipe Kit 562702213 Is Delivered

DESCRIPTION	QTY	FIGURE	PAGE
Twin Horizontal Boiler Hydraulic & Gas Manifold Assembly	1	2.22	20
Flexible Hose Assembly For Connection To R11/4" Flow Pipe Of Boiler	2	2.19	17
Flexible Hose Assembly For Connection To R11/4" Return Pipe Of Boiler	2	2.19	17
Flexible Hose Assembly For Connection To R1" Gas Pipe Of Boiler	2	2.19	17
Pressure Relief Valve Discharge Pipe Assembly		2.4	6
D28mm Compression Elbow	2		
D28 Drain Pipe (215mm Long)	2		
Condensate Pipe Kit		2.10	9
D36-D40 Expanded ABS Pipe	2		
M x F D36 Elbow	2		
Female ABS T	2		
D36 ABS Socket	1		
D36 ABS Rod Eye	1		
D36 ABS Long Pipe	2		
D36 ABS Short Pipe	1		
Blanking Flanges Gaskets Fasteners & Fittings		2.20	18
DN125 PN16 DIN2690 Flange Gaskets	4		
DN125 PN16 Blind Flanges Tapped Rc1/2" & Assembled With R1/2" Taper Drain Cock	2		
M16x70 Zinc Plated Bolts	40		
M16 Zinc Plated Nuts	40		
M16 Zinc Plated Washers	40		
DN65 GAS PIPE 2 Way Pipe	1		
Flange DN65 PN16 Type 05	1		
Gasket DN65 PN16	2		
Rc1/2" Taper Plug	1		
Stud Assembly	1	2.7	7
M16 x 150 Stud	2		
M16 Nut	4		

Two Boiler Pipe Kit For Boiler Models : F175H, F200H & F250H.

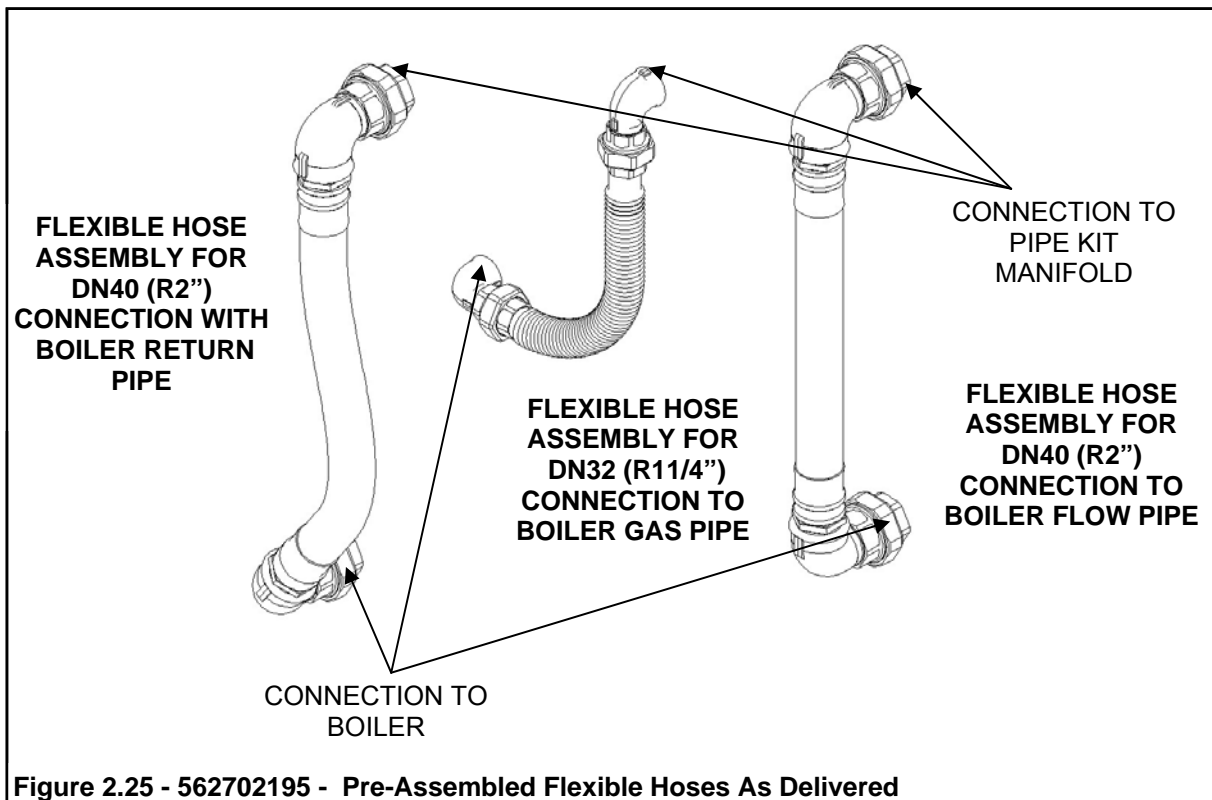
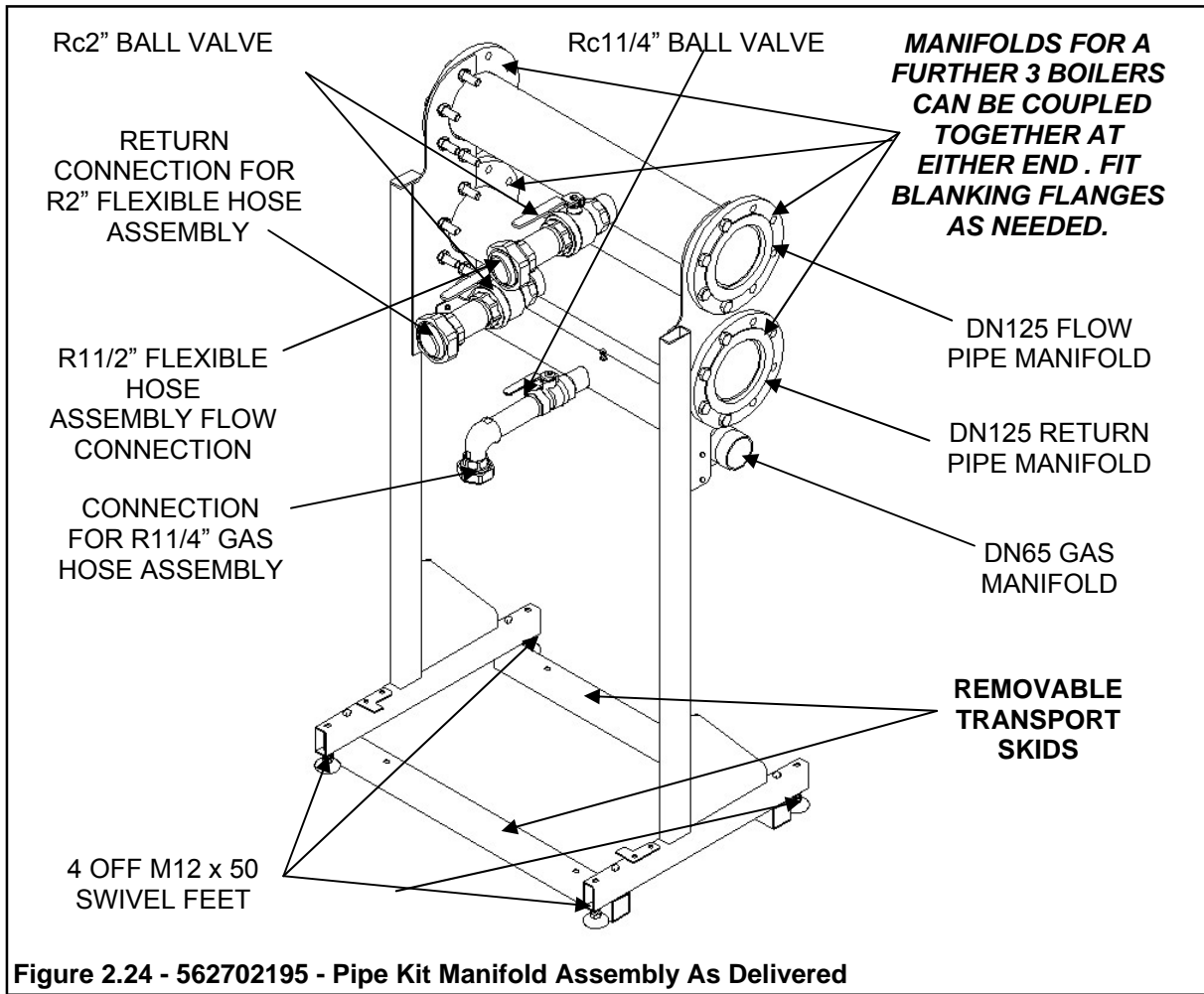


2.7 Single Boiler Pipe Kit For Boiler Models : 300H, F350H.

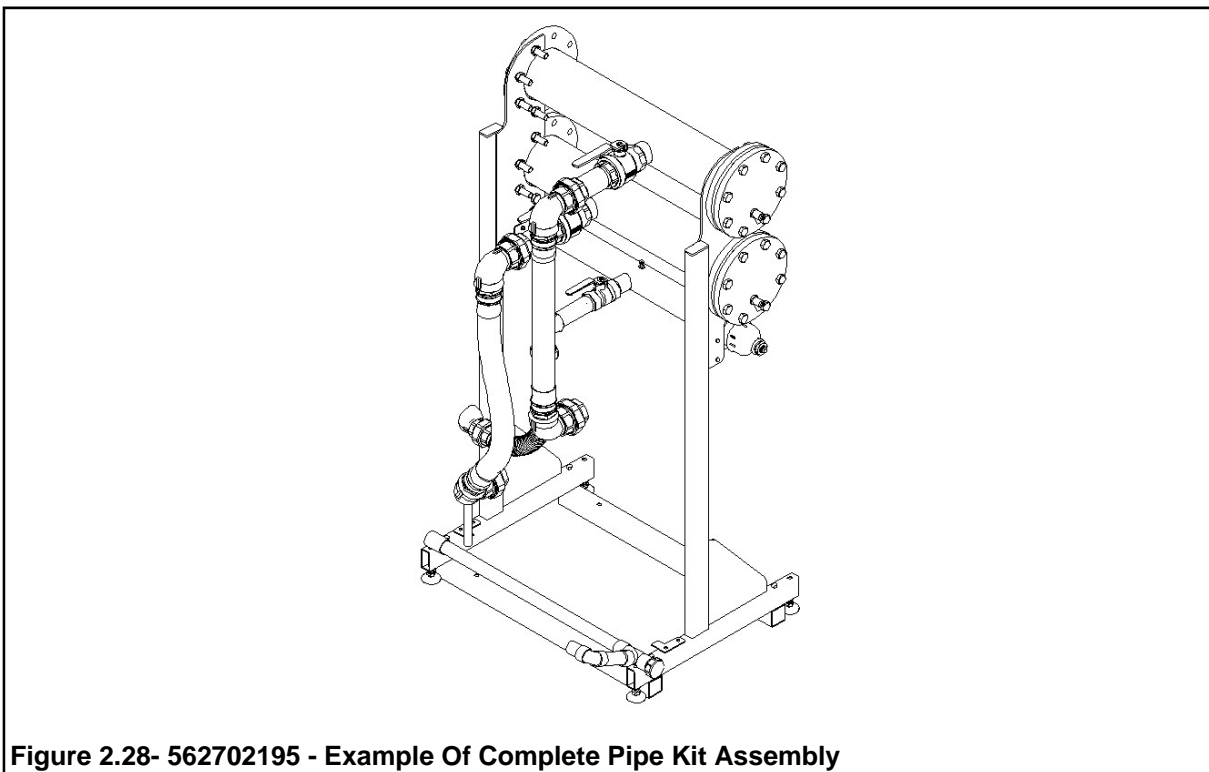
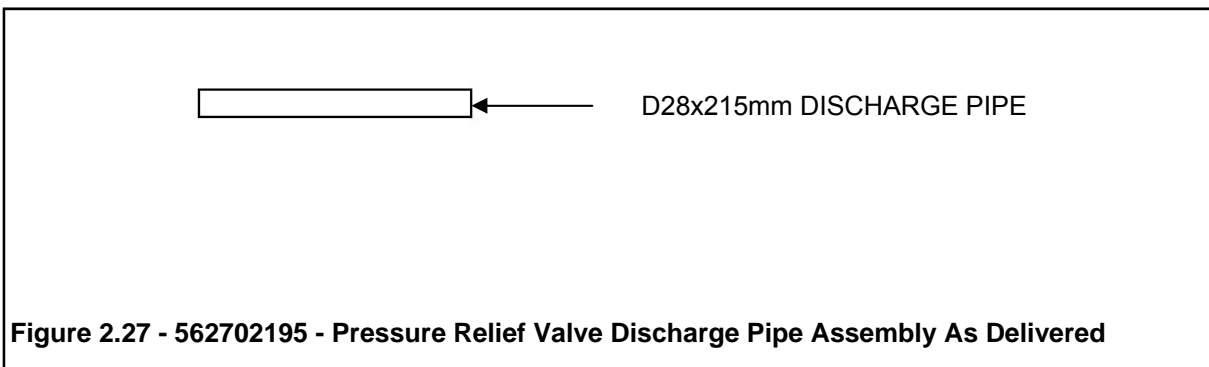
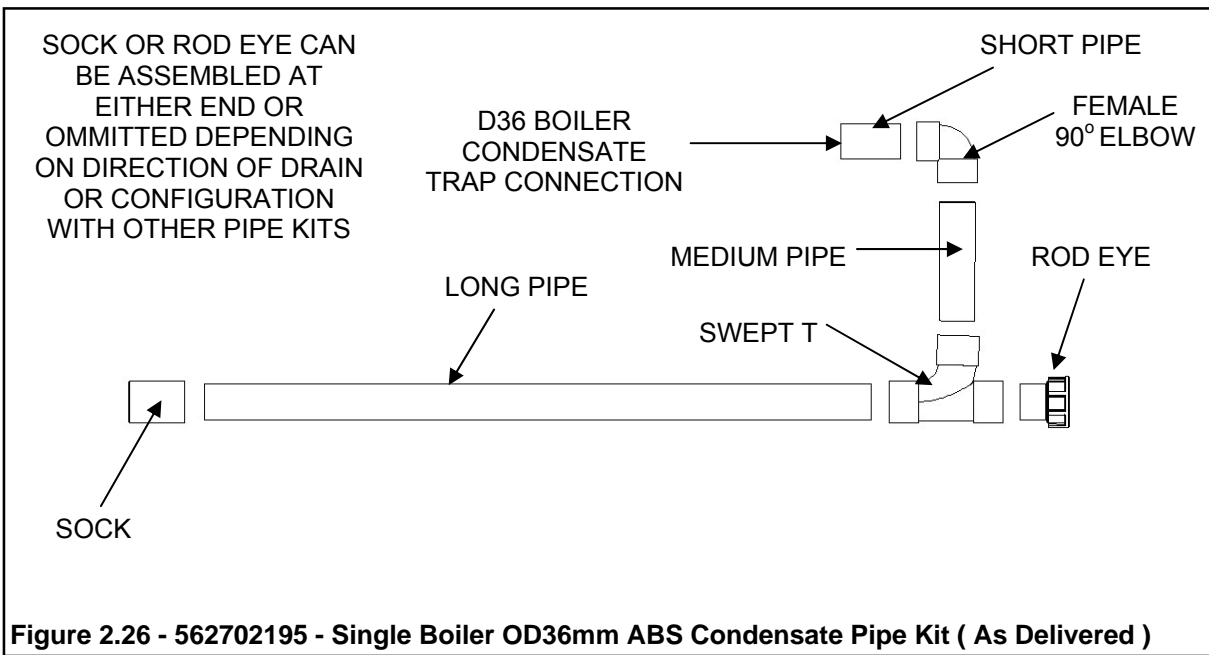
Table No. 9 - List Of Parts Received When Pipe Kit 562702195 Is Delivered

DESCRIPTION	QTY	FIGURE	PAGE
Twin Horizontal Boiler Hydraulic & Gas Manifold Assembly	1	2.24	22
Flexible Hose Assembly For Connection To R2" Flow Pipe Of Boiler	1	2.25	22
Flexible Hose Assembly For Connection To R2" Return Pipe Of Boiler	1	2.25	22
Flexible Hose Assembly For Connection To R11/4" Gas Pipe Of Boiler	1	2.25	22
Pressure Relief Valve Discharge Pipe Assembly		2.27	23
D28 Drain Pipe (215mm Long)	1		
Condensate Pipe Kit		2.26	23
D36-D40 Expanded ABS Pipe	1		
F x F D36 90° Elbow	1		
Female ABS T	1		
D36 ABS Socket	1		
D36 ABS Rod Eye	1		
D36 ABS 675mm Long Pipe	1		
D36 ABS 120mm Medium Pipe	1		
D36 ABS 60mm Short Pipe	1		
Blanking Flanges Gaskets Fasteners & Fittings		2.20	18
DN125 PN16 DIN2690 Flange Gaskets	4		
DN125 PN16 Blind Flanges Tapped Rc1/2" & Assembled With R1/2" Taper Drain Cock	2		
M16x70 Zinc Plated Bolts	32		
M16 Zinc Plated Nuts	32		
M16 Zinc Plated Washers	32		
DN65 GAS PIPE 1 Way Pipe	1		
Flange DN65 PN16 Type 05	1		
Gasket DN65 PN16	2		
Rc1/2" Taper Plug	1		
Stud Assembly	1	2.7	7
M16 x 150 Stud	2		
M16 Nut	4		

Single Boiler Pipe Kit For Boiler Models: F300H & F350H.



Single Boiler Pipe Kit For Boiler Models: F300H, F350H.



2.8 Two Boiler Pipe Kit For Boiler Models : F300H & F350H.

Table No. 10 - List Of Parts Received When Pipe Kit 562702216 Is Delivered

DESCRIPTION	QTY	FIGURE	PAGE
Twin Horizontal Boiler Hydraulic & Gas Manifold Assembly	1	2.29	25
Flexible Hose Assembly For Connection To R11/4" Flow Pipe Of Boiler	2	2.25	22
Flexible Hose Assembly For Connection To R11/4" Return Pipe Of Boiler	2	2.25	22
Flexible Hose Assembly For Connection To R1" Gas Pipe Of Boiler	2	2.25	22
Pressure Relief Valve Discharge Pipe Assembly		2.27	23
D28 Drain Pipe (215mm Long)	2		
Condensate Pipe Kit		2.30	25
D36-D40 Expanded ABS Pipe	2		
M x F D36 Elbow	2		
Female ABS T	2		
D36 ABS Socket	1		
D36 ABS Rod Eye	1		
D36 ABS Long Pipe	2		
D36 ABS Medium Pipe	2		
D36 ABS Short Pipe	2		
Blanking Flanges Gaskets Fasteners & Fittings		2.20	18
DN125 PN16 DIN2690 Flange Gaskets	4		
DN125 PN16 Blind Flanges Tapped Rc1/2" & Assembled With R1/2" Taper Drain Cock	2		
M16x70 Zinc Plated Bolts	40		
M16 Zinc Plated Nuts	40		
M16 Zinc Plated Washers	40		
DN65 GAS PIPE 2 Way Pipe	1		
Flange DN65 PN16 Type 05	1		
Gasket DN65 PN16	2		
Rc1/2" Taper Plug	1		
Stud Assembly	1	2.7	7
M16 x 150 Stud	2		
M16 Nut	4		

Two Boiler Pipe Kit For Boiler Models: F300H & F350H.

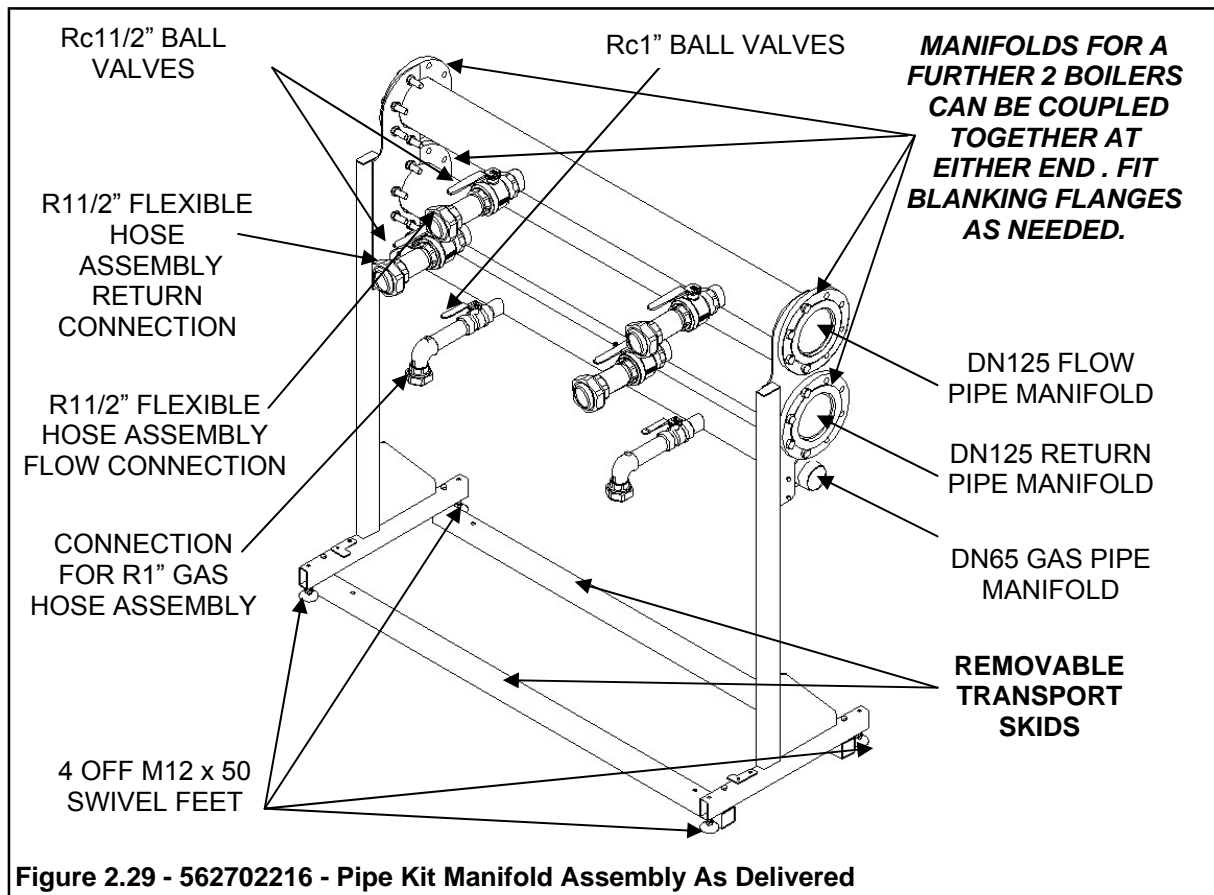


Figure 2.29 - 562702216 - Pipe Kit Manifold Assembly As Delivered

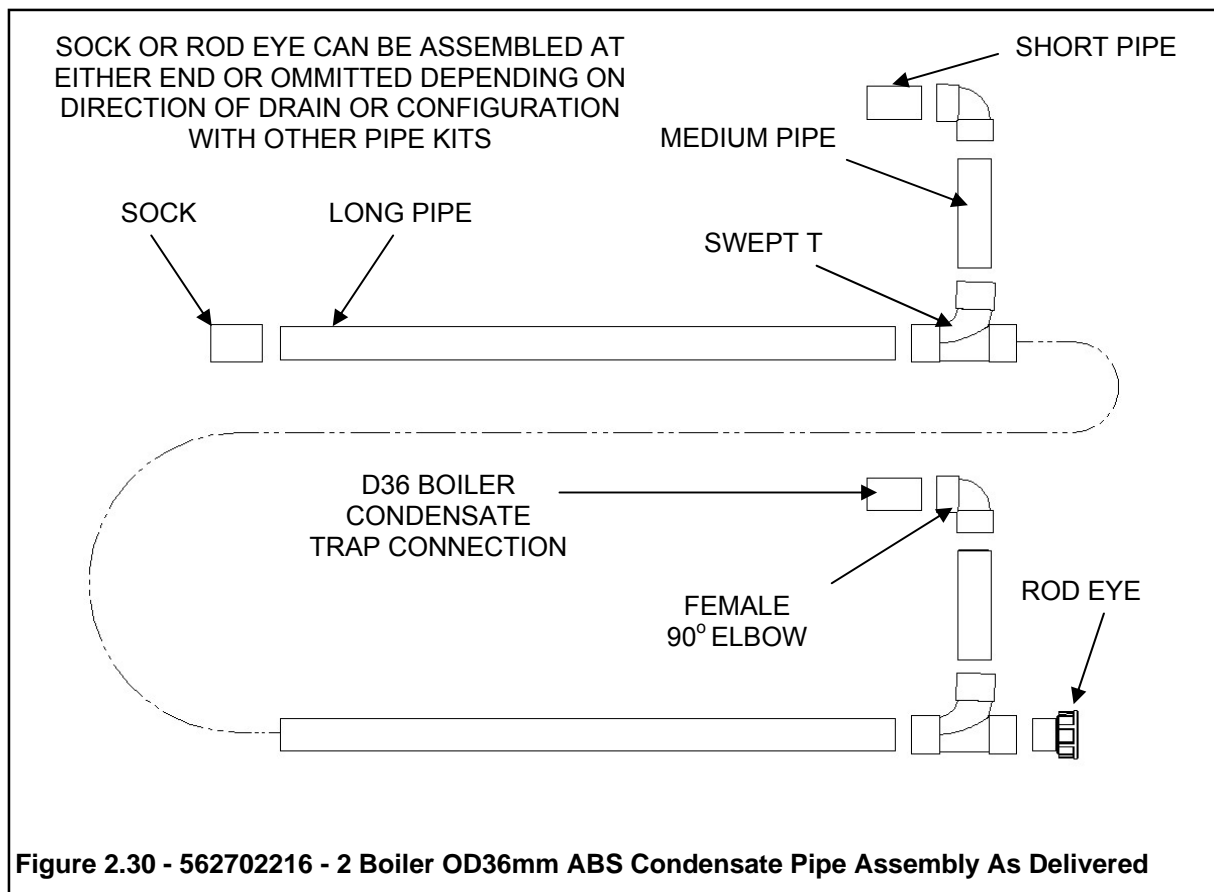
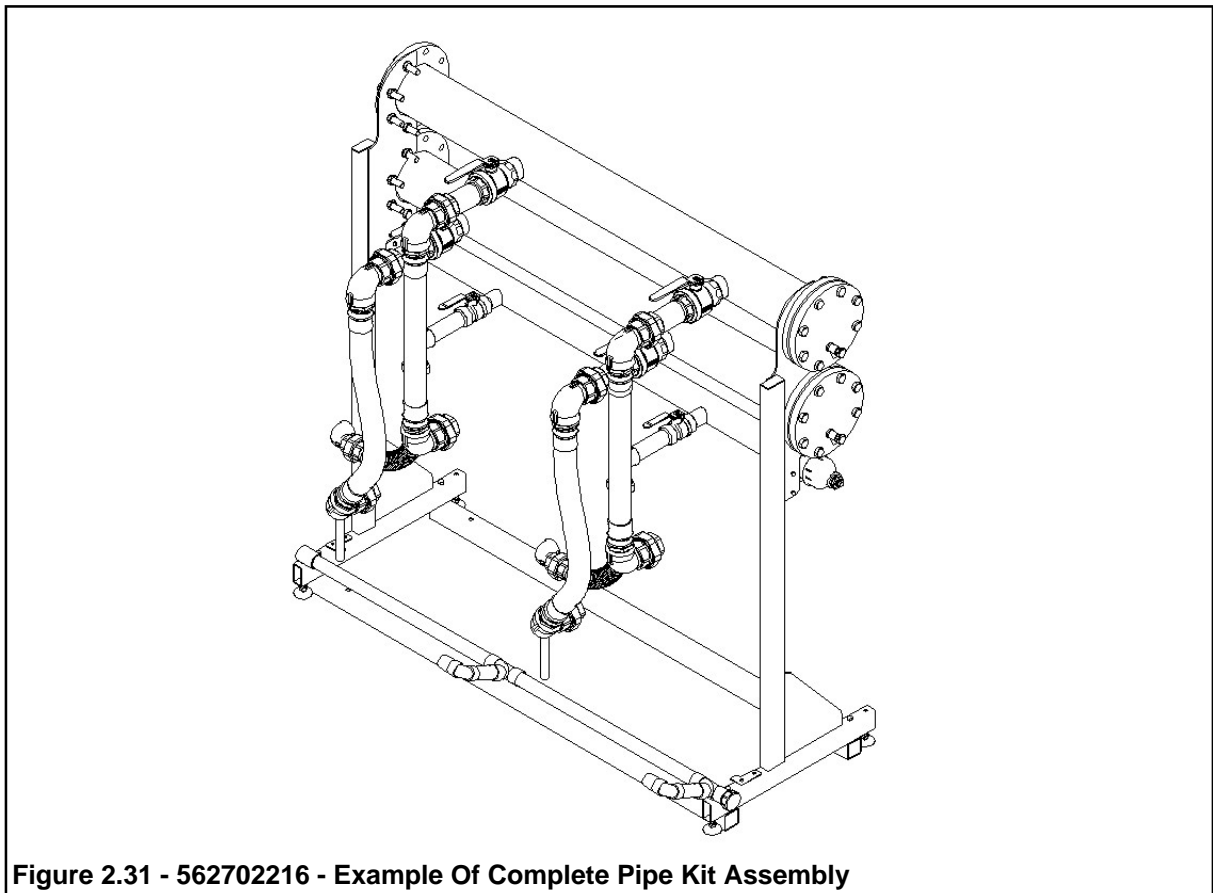


Figure 2.30 - 562702216 - 2 Boiler OD36mm ABS Condensate Pipe Assembly As Delivered

Two Boiler Pipe Kit For Boiler Models: F300H & F350H.



SECTION 3 – OPTIONAL EXTRAS

3.1 Sensor Spool Kit 562702223 For Boiler Models: F40H, F50H, F60H, F70H, F85H, F100H.

Table No. 11 - List Of Parts Received When Spool Kit 562702223 Is Delivered

DESCRIPTION	QTY
DN50 Spool Body Fitted With Sensor Pocket	2
DN50 Gasket	4
M16 x 70 Bolt	8
M16 Washer	8
M16 Nut	8

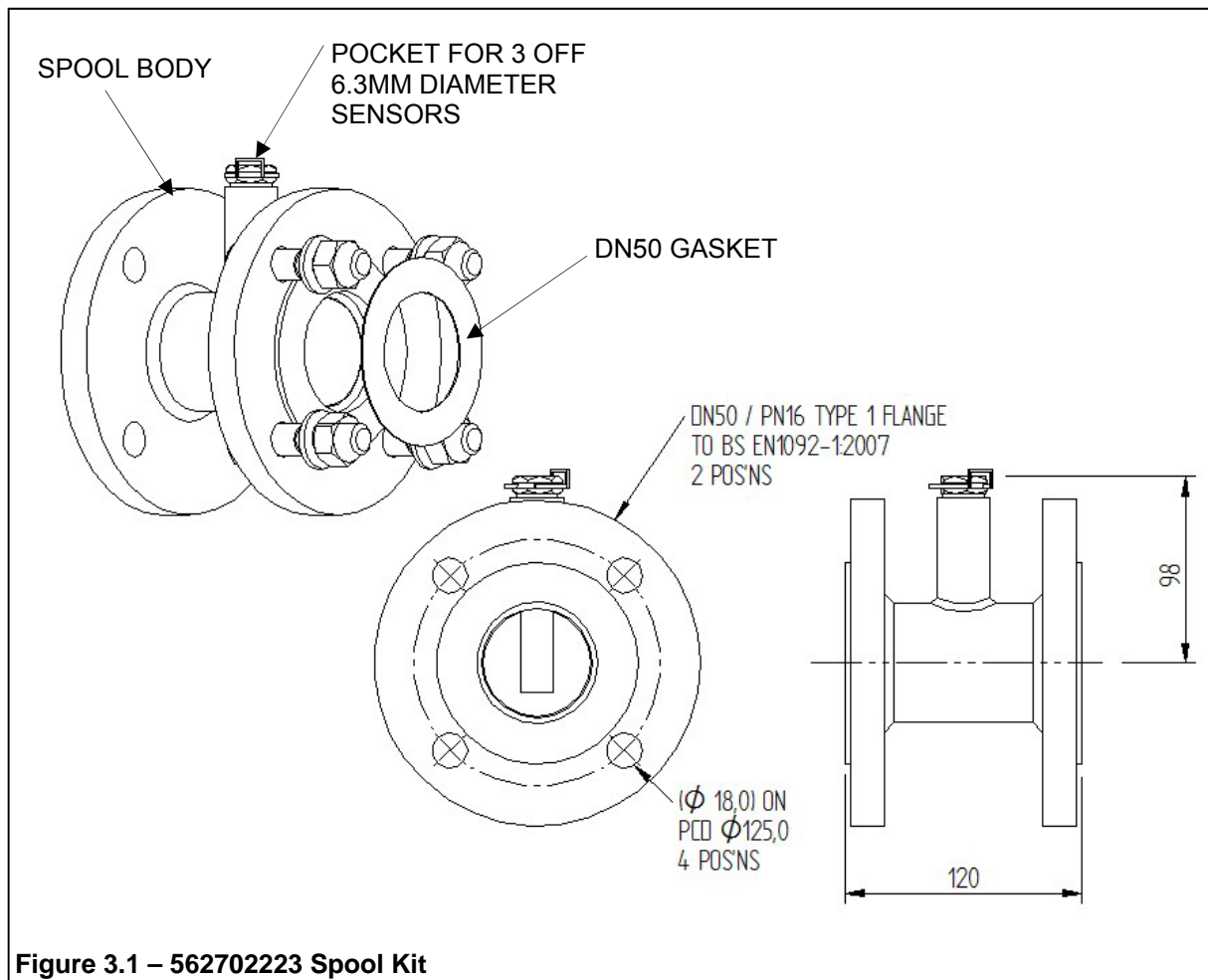


Figure 3.1 – 562702223 Spool Kit

3.2 Sensor Spool Kit 562702225 For Boiler Models: F125H, F150H.

Table No. 12 - List Of Parts Received When Spool Kit 562702224 Is Delivered

DESCRIPTION	QTY
DN65 Spool Body Fitted With Sensor Pocket	2
DN65 Gasket	4
M16 x 70 Bolt	8
M16 Washer	8
M16 Nut	8

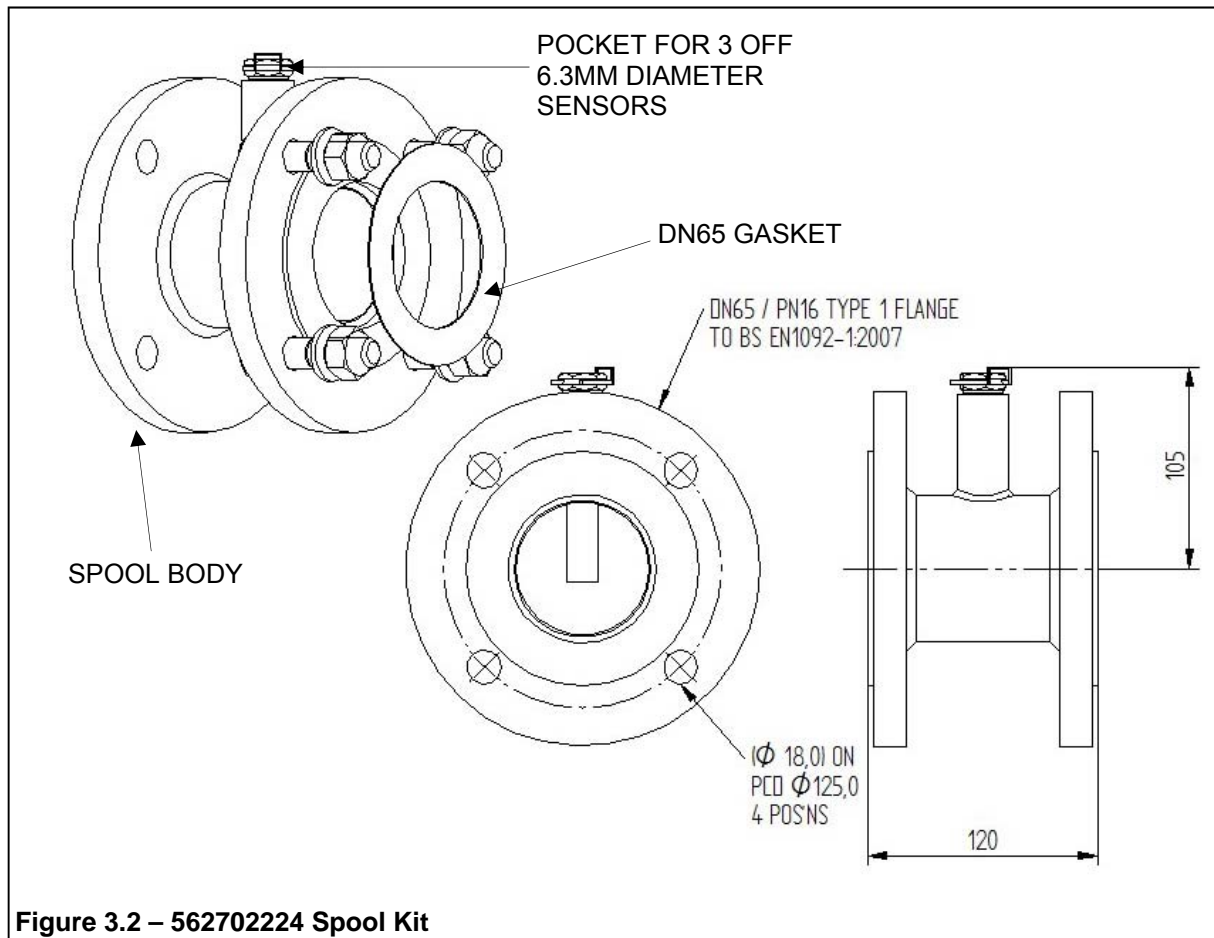
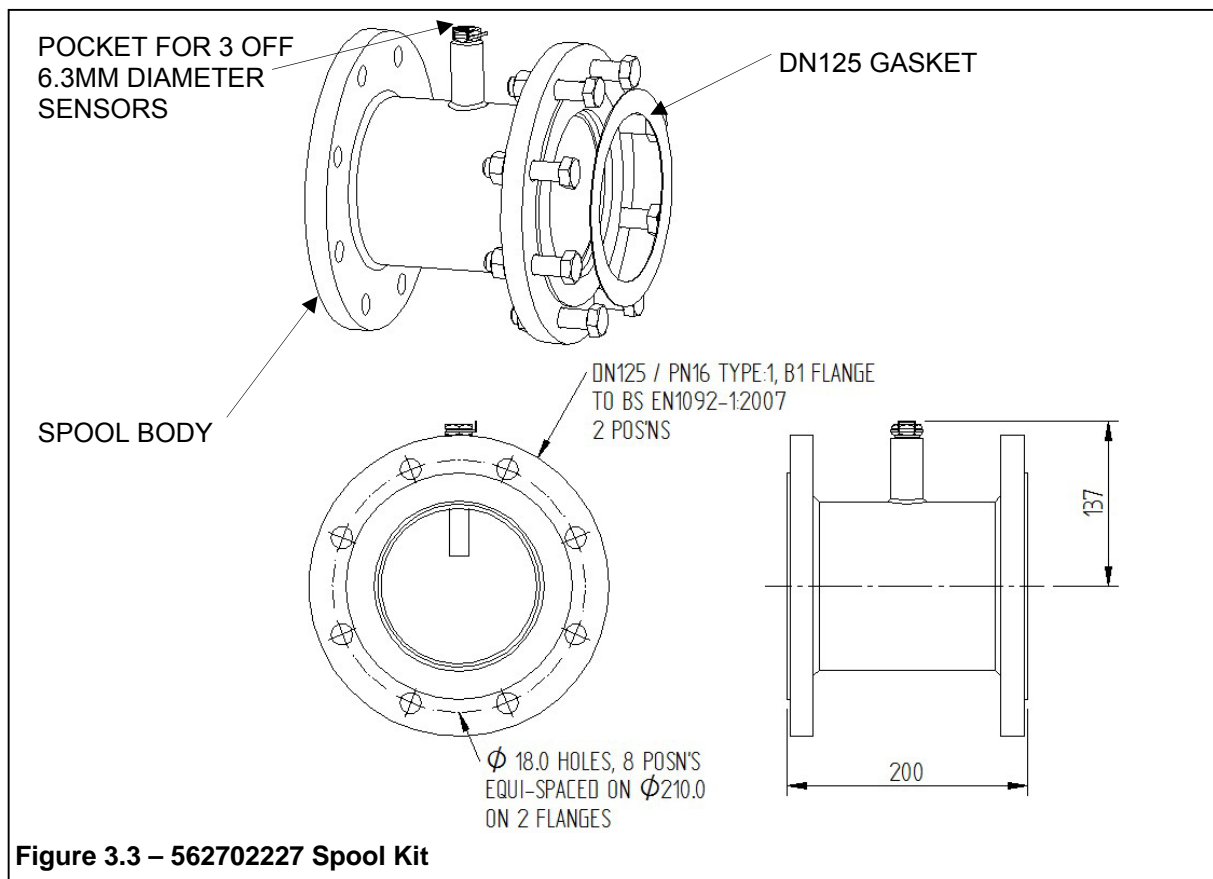


Figure 3.2 – 562702224 Spool Kit

3.3 Sensor Spool Kit 562702227 For Boiler Models : F175H, F200H, F250H, F300H & F350H.

Table No. 13 - List Of Parts Received When Spool Kit 562702227 Is Delivered

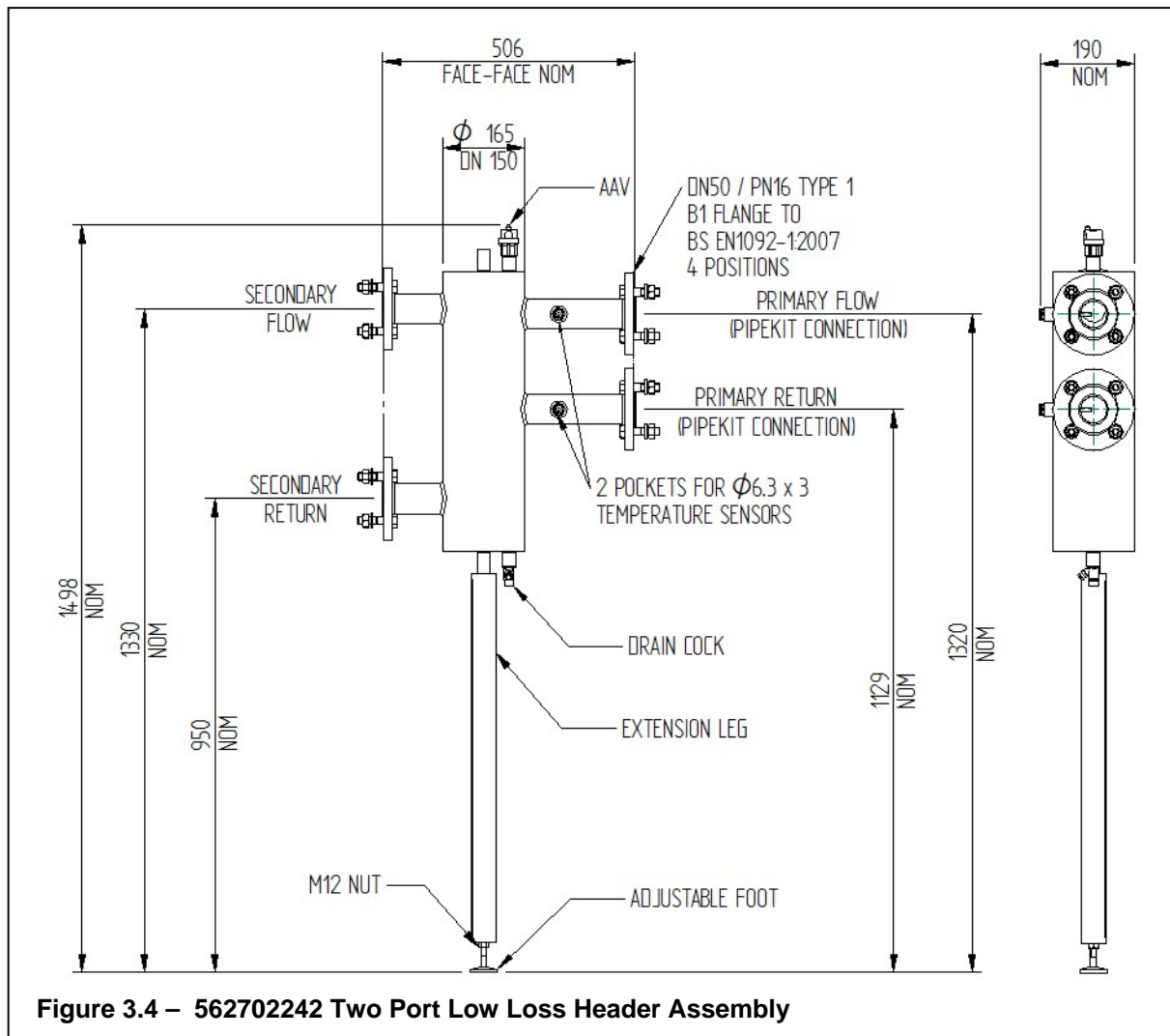
DESCRIPTION	QTY
DN125 Spool Body Fitted With Sensor Pocket	2
DN125 Gasket	4
M16 x 70 Bolt	16
M16 Washer	16
M16 Nut	16



3.4 Two Port Low Loss Header 562702242 For Boiler Models: F40H, F50H, F60H, F70H, F85H, F100H.

Table No. 14 - List Of Parts Received When Low Loss Header 562702242 Is Delivered

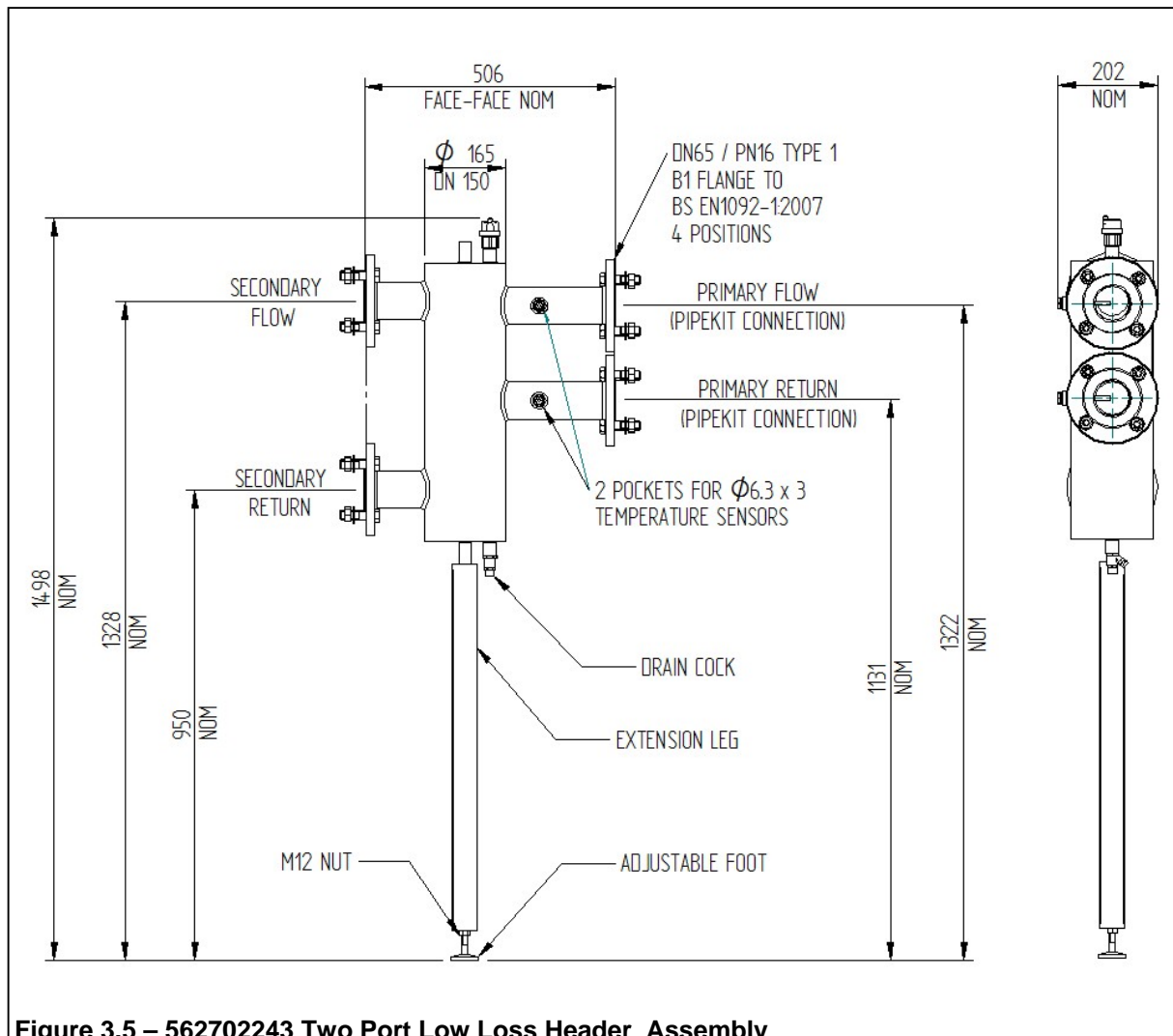
DESCRIPTION	QTY
2 Port Low Loss Header DN50 Connection	1
Extension Leg (Supplied Loose To Fit On Site)	1
M12 x 75mm Adjustable Foot (Supplied Loose To Fit On Site)	1
M12 Hex Nut (Supplied Loose To Fit On Site)	1
Auto Air Vent (Supplied Loose To Fit On Site)	1
R1/2" BSP Drain Cock (Supplied Loose To Fit On Site)	1
Sensor Pocket D6.3mm Sensor (Supplied Fitted)	2
DN50 Gasket (D96 x D61x 2) (Supplied Loose)	4
Hex Bolt M16 x 70mm (Supplied Loose)	16
M16 Plain Washer (Supplied Loose)	16
M16 Hex Full Nut (Supplied Loose)	16



3.5 Two Port Low Loss Header 562702243 For Boiler Models: F125H & F150H.

Table No. 15 - List Of Parts Received When Low Loss Header 562702243 Is Delivered

DESCRIPTION	QTY
2 Port Low Loss Header DN65 Connection	1
Extension Leg (Supplied Loose To Fit On Site)	1
M12 x 75mm Adjustable Foot (Supplied Loose To Fit On Site)	1
M12 Hex Nut (Supplied Loose To Fit On Site)	1
Auto Air Vent (Supplied Loose To Fit On Site)	1
R1/2" BSP Drain Cock (Supplied Loose To Fit On Site)	1
Sensor Pocket D6.3mm Sensor (Supplied Fitted)	2
DN65 Gasket D116 x D77 x 2 (Supplied Loose)	4
Hex Bolt M16 x 70mm (Supplied Loose)	16
M16 Plain Washer (Supplied Loose)	16
M16 Hex Full Nut (Supplied Loose)	16



3.6 Two Port Low Loss Header 562702240 For Boiler Models: F175H, F200H, F250H, F300H & F350H.

Table No. 16 - List Of Parts Received When Low Loss Header 562702240 Is Delivered

DESCRIPTION	QTY
2 Port Low Loss Header DN125 Connection	1
M12 x 75mm Adjustable Foot (Supplied Loose To Fit On Site)	1
M12 Hex Nut (Supplied Loose To Fit On Site)	1
Auto Air Vent (Supplied Loose To Fit On Site)	1
R1/2" BSP Drain Cock (Supplied Loose To Fit On Site)	1
Sensor Pocket D6.3mm Sensor (Supplied Fitted)	2
DN125 Gasket D182 x D141 x 2 (Supplied Loose)	4
Hex Bolt M16 x 70mm (Supplied Loose)	32
M16 Plain Washer (Supplied Loose)	32
M16 Hex Full Nut (Supplied Loose)	32

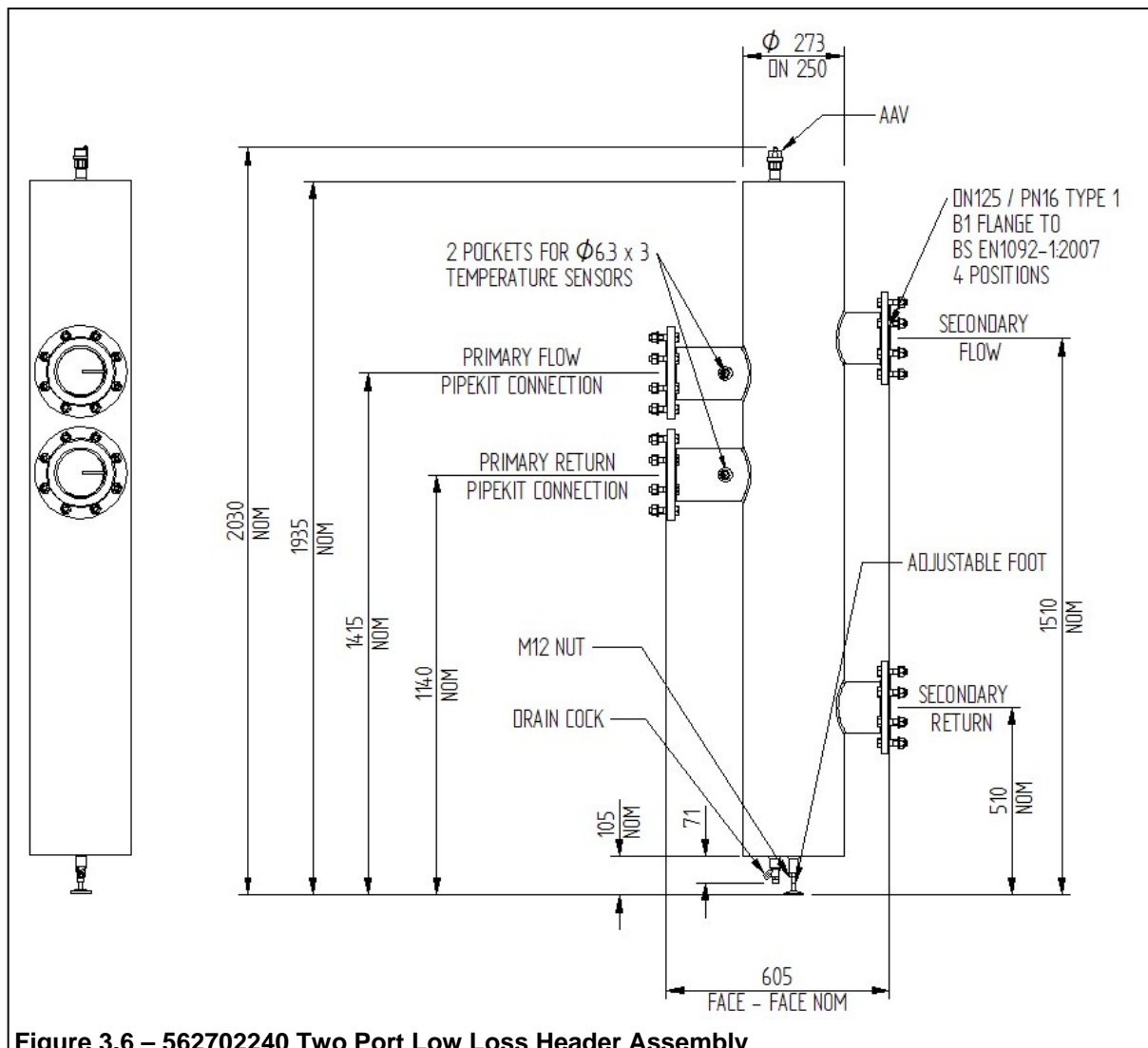


Figure 3.6 – 562702240 Two Port Low Loss Header Assembly

3.7 Six Port Low Loss Header 562702205 For Boiler Models: F40H, F50H, F60H, F70H, F85H, F100H.

Table No. 17 - List Of Parts Received When Low Loss Header 562702205 Is Delivered

DESCRIPTION	QTY
6 Port Low Loss Header DN50 Connection	1
M12 x 75mm Adjustable Foot (Supplied Loose To Fit On Site)	1
M12 Hex Nut (Supplied Loose To Fit On Site)	1
Auto Air Vent (Supplied Loose To Fit On Site)	1
R1/2" BSP Drain Cock (Supplied Loose To Fit On Site)	1
Sensor Pocket D6.3mm Sensor (Supplied Fitted)	2
DN50 Gasket (D96 x D61x 2) (Supplied Loose)	8
Hex Bolt M16 x 70mm (Supplied Loose)	32
M16 Plain Washer (Supplied Loose)	32
M16 Hex Full Nut (Supplied Loose)	32

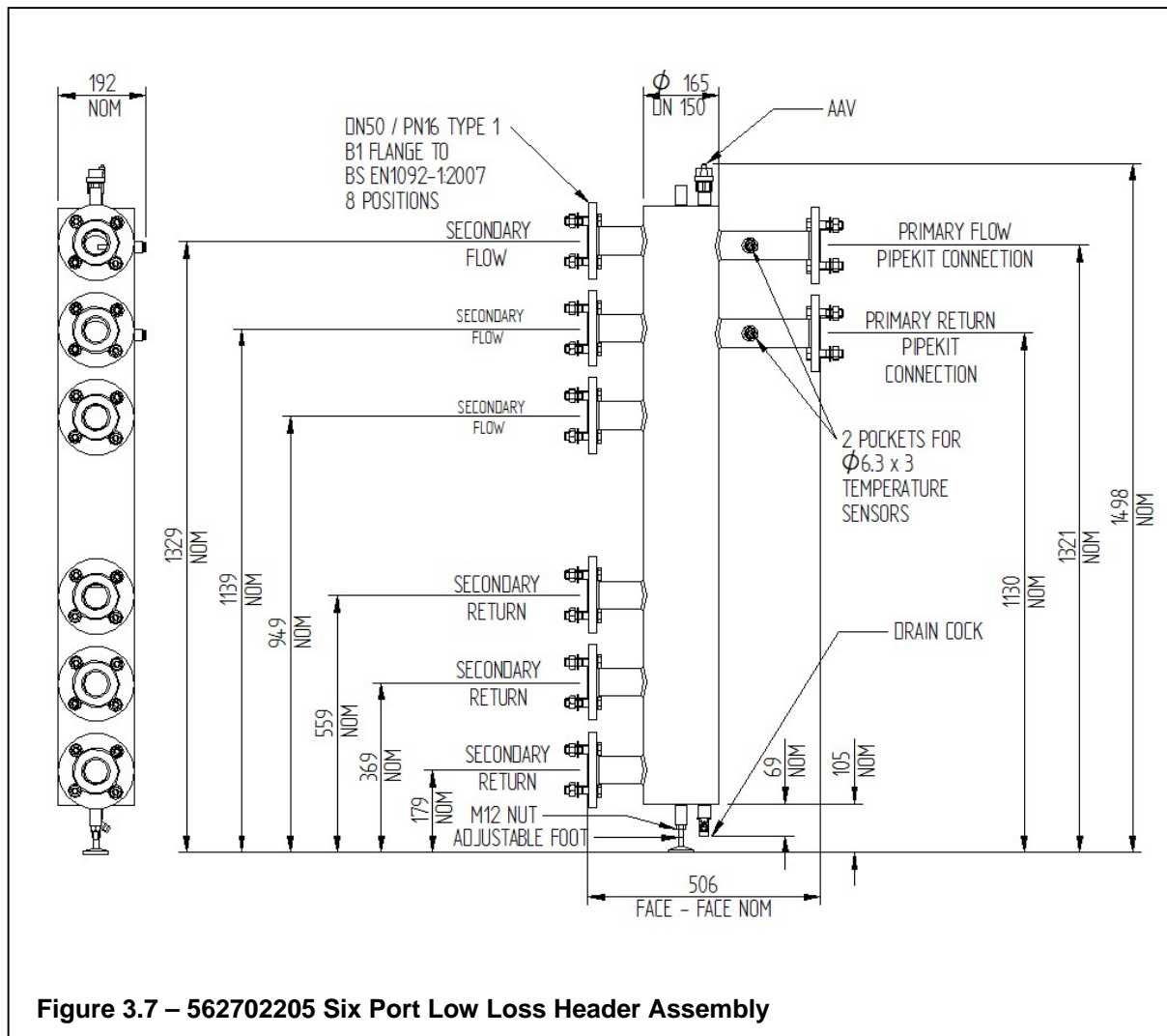


Figure 3.7 – 562702205 Six Port Low Loss Header Assembly

3.8 Six Port Low Loss Header 562702190 For Boiler Models: F125H & F150H.

Table No. 18 - List Of Parts Received When Low Loss Header 562702190 Is Delivered

DESCRIPTION	QTY
6 Port Low Loss Header DN65 Connection	1
M12 x 75mm Adjustable Foot (Supplied Loose To Fit On Site)	1
M12 Hex Nut (Supplied Loose To Fit On Site)	1
Auto Air Vent (Supplied Loose To Fit On Site)	1
R1/2" BSP Drain Cock (Supplied Loose To Fit On Site)	1
Sensor Pocket D6.3mm Sensor (Supplied Fitted)	2
DN65 Gasket D116 x D77 x 2 (Supplied Loose)	8
Hex Bolt M16 x 70mm (Supplied Loose)	32
M16 Plain Washer (Supplied Loose)	32
M16 Hex Full Nut (Supplied Loose)	32

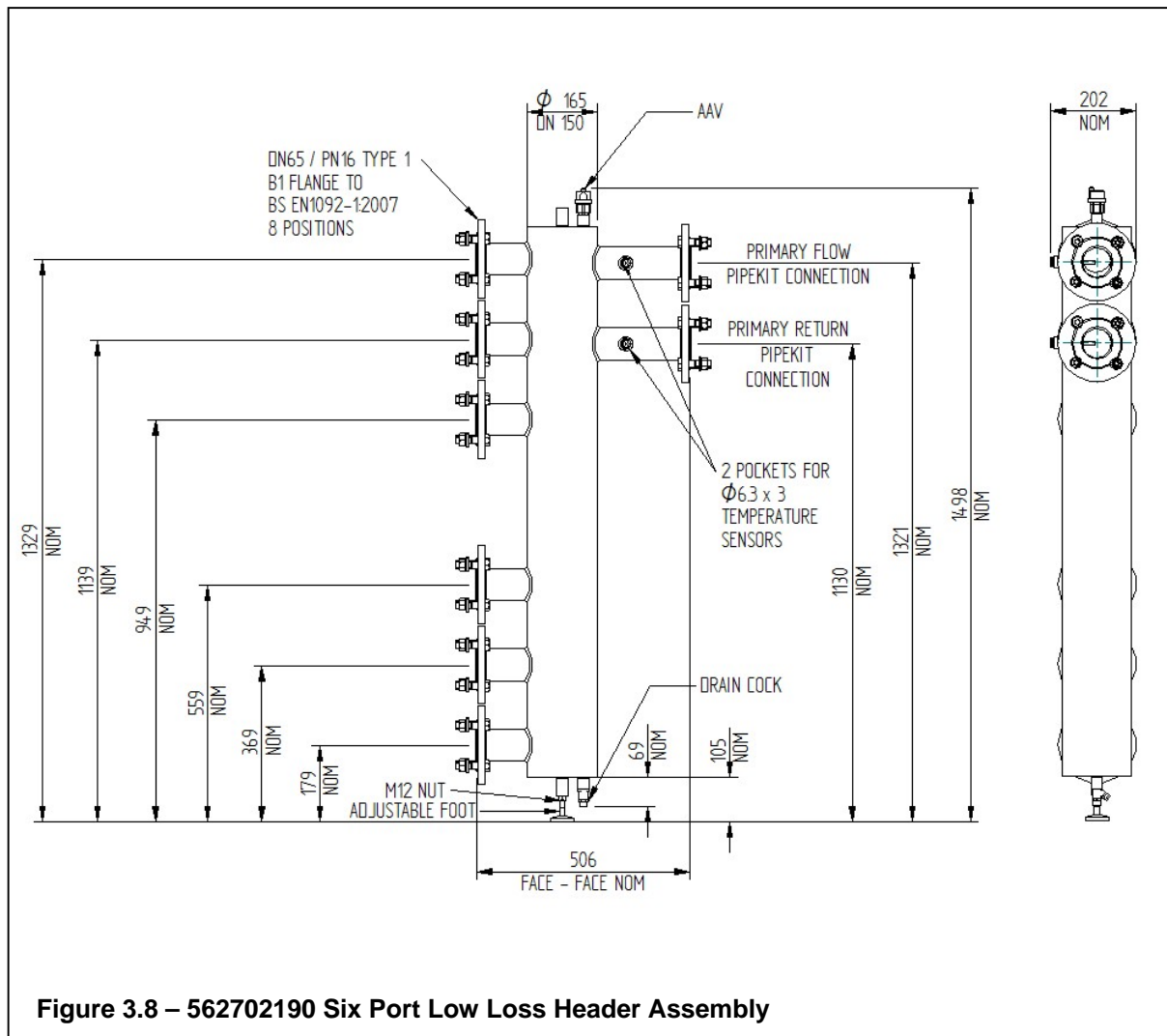


Figure 3.8 – 562702190 Six Port Low Loss Header Assembly

3.9 Six Port Low Loss Header 562702241 For Boiler Models: F175H, F200H, F250H, F300H & F350H.

Table No. 19 - List Of Parts Received When Low Loss Header 562702241 Is Delivered

DESCRIPTION	QTY
6 Port Low Loss Header DN125 Connection	1
M12 x 75mm Adjustable Foot (Supplied Loose To Fit On Site)	1
M12 Hex Nut (Supplied Loose To Fit On Site)	1
Auto Air Vent (Supplied Loose To Fit On Site)	1
R1/2" BSP Drain Cock (Supplied Loose To Fit On Site)	1
Sensor Pocket D6.3mm Sensor (Supplied Fitted)	2
DN125 Gasket D182 x D141 x 2 (Supplied Loose)	8
Hex Bolt M16 x 70mm (Supplied Loose)	64
M16 Plain Washer (Supplied Loose)	64
M16 Hex Full Nut (Supplied Loose)	64

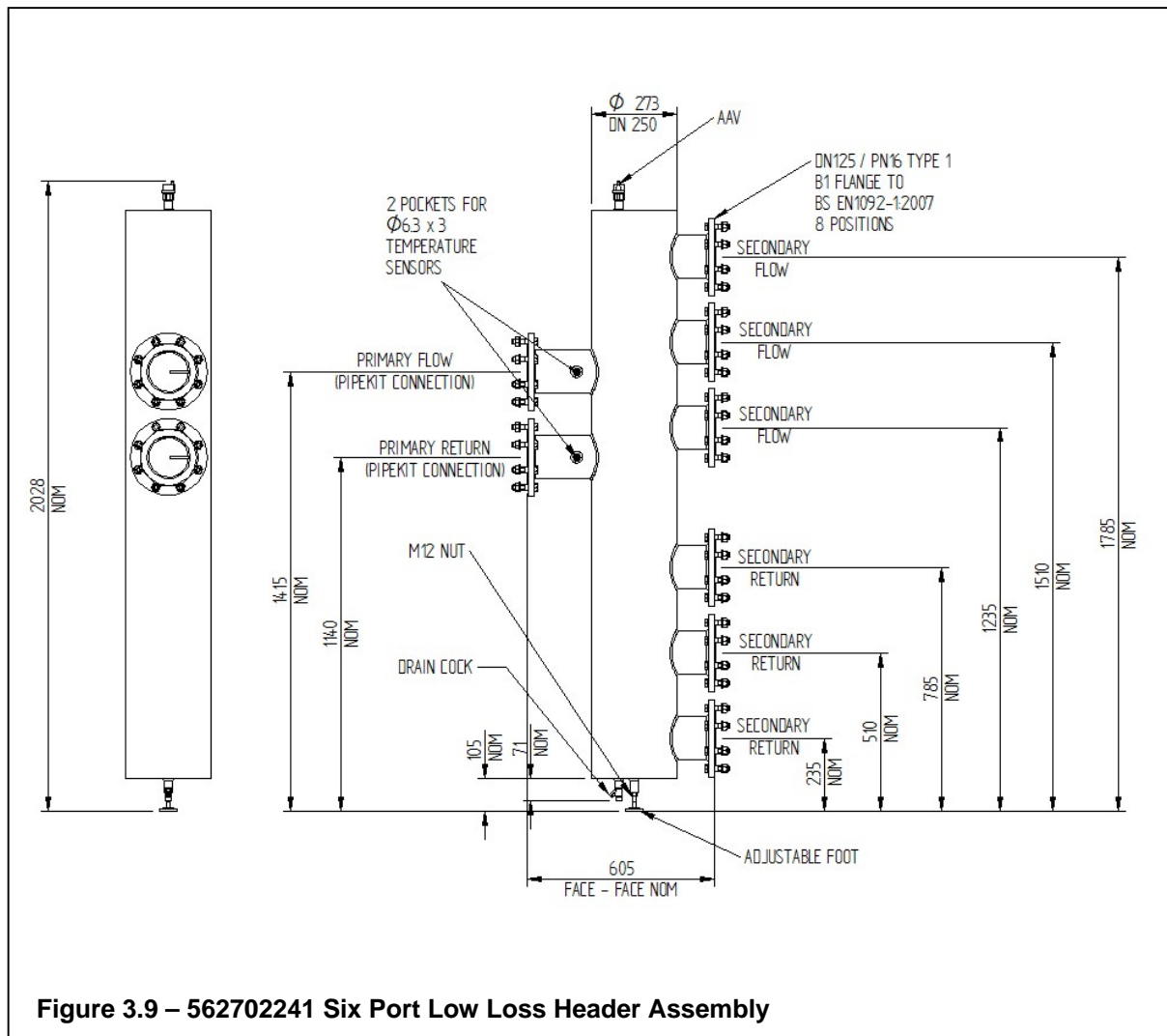


Figure 3.9 – 562702241 Six Port Low Loss Header Assembly

4.0 GENERAL REQUIREMENTS PRIOR TO INSTALLATION OF PIPE KITS

4.1 Carry out a risk assessment before moving the pipe kits to & round the plant room or installing the pipe kits.

4.2 Always safely lift & move the pipe kits to and round the plant room with suitable mechanical handling equipment.

4.3 Use appropriate Personal Protective Equipment when installing pipe kits on site.

4.4 It is best practice to isolate gas supply pipe work, from the manifold by use of a EN331 Approved Isolating valve. The gas supply pipe can be connected to either end of the horizontal gas manifold. pipe

4.5 On the opposite end to the gas supply connection, the reducing socket & R1/2" plug is to be fitted to the gas manifold pipe. **See Figure 5.6.**

4.6 It is recommended that a pressure relief valve be installed in the system pipe work close to the pipe kit . This valve must be sized and installed in accordance with BS EN 12828.

4.7 One instrument spool (pipe with flanges welded at either end & fitted with a sensor pocket for 3 off Ø6.3mm temperature sensors) can be assembled to the flow and one to the return pipes of the pipe kit.

4.8 Providing the flange & gas pipe size are the same, multiples of up to 4 module boilers can be assembled together.

4.9 Where pipe kits with different flange & gas pipe sizes are supplied ensure that the different pipe sizes are installed on separate branches.

4.10 Use a EN751-1 (gas) approved thread sealant for all gas supply pipe work.

4.11 The condensate pipe work is supplied un-solvent welded. Orientate the swept T's to the desired direction of flow to drain prior to assembly with solvent.

4.12 Check local authority requirements with respect to disposal of boiler condensate to the local sewers prior to connecting any condensate pipe work to drain.

4.13 During assembly of pipe kit flanges use best practice & tighten the bolts opposite to one another, working clockwise around the flange for a leak free assembly.

4.14 See Table 19 below for the spanner size used throughout the range of Fleet Horizontal Pipe Kits.

Table 20 - Pipe Kit Flange Bolt & Nut Spanner Sizes

THREAD	AF NUT (MM)	AF BOLT (MM)
M16	24	24

4.15 See Tables 20 & 21 below for the flow, return & gas manifold pipe thread & union sizes used through out the range of Fleet Horizontal Pipe Kits.

Table 21 - Screw Thread & Spanner Sizes For Gas Pipe Assembly

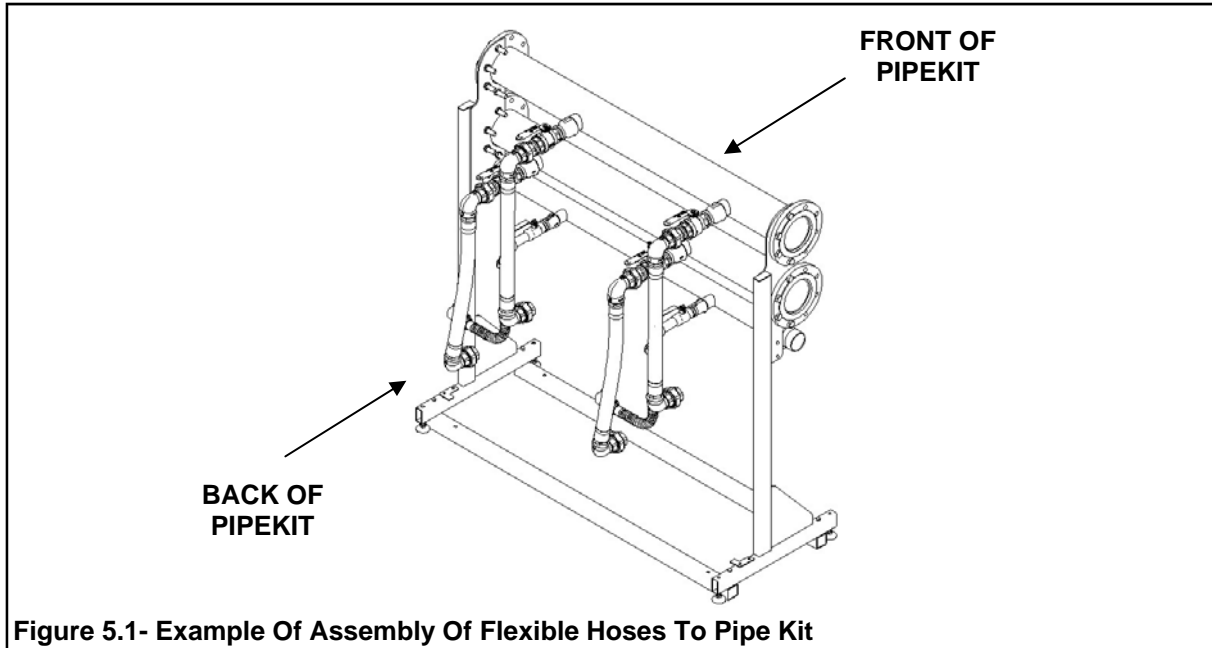
PIPE KIT PART NO.	MAIN HORIZONTAL PIPE			BRANCH PIPES (BOILER MODULE)		
	THREAD SIZE EN10226 (BS21)	AF SIZE UNION (mm)		THREAD SIZE EN10226 (BS21)	AF SIZE UNION (mm)	
		NUT	END		NUT	END
562702280	R1 1/2"	74	54	R3/4"	48	32
562702281						
562702193	R2"	90	66	R1"	55	38
562702210						
562702194	R1 1/2"	111	85	R1"	55	38
562702213						
562702195	R 2"	111	85	R1 1/4"	67	48
562702216						

Table No. 22 - Screw Thread & Spanner Sizes For Flow & Return Pipe Assembly

PIPE KIT PART NO.	MAIN PIPE EN1092-1 PN16 FLANGE	BRANCH PIPES (BOILER MODULE)		
		THREAD SIZE EN10226 (BS21)	AF SIZE UNION (mm)	
			NUT	END
562702280	DN50	R1 1/4"	55	38
562702281				
562702193	DN65	R1 1/4"	67	48
562702210				
562702194	DN125	R1 1/2"	74	54
562702213				
562702202	DN125	R2"	90	66
562702203				

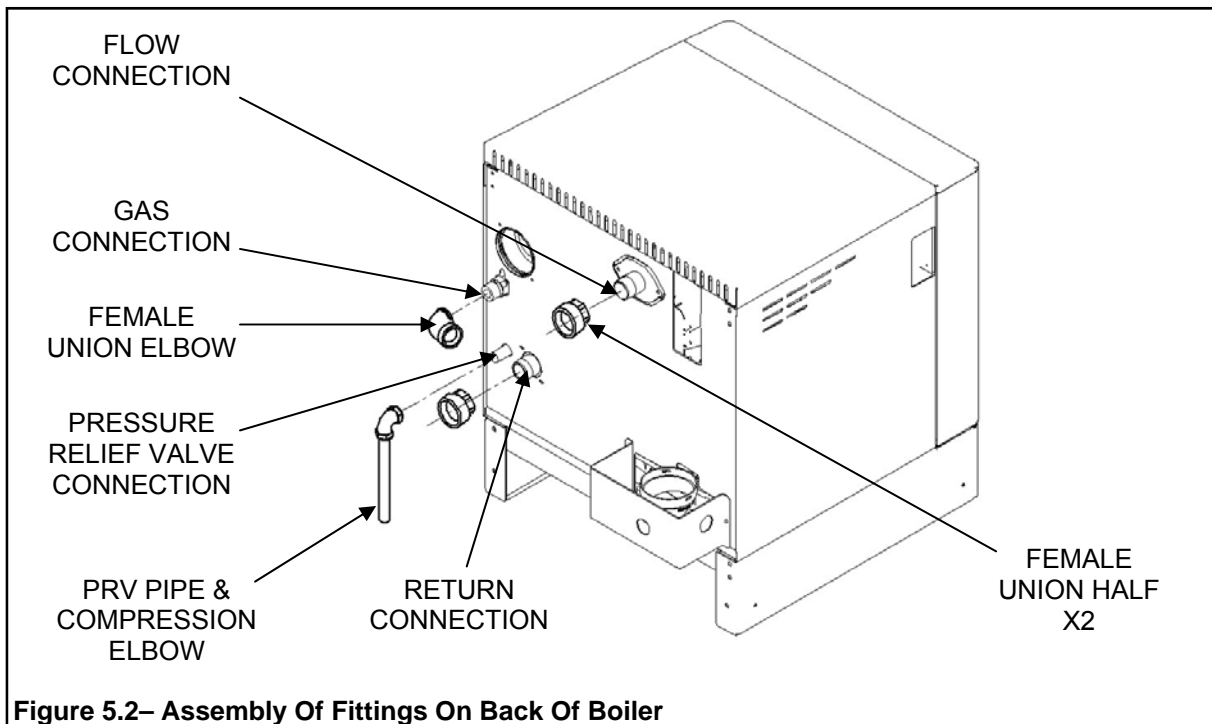
5.0 ASSEMBLY INSTRUCTIONS

5.1 Before Transporting each pipe kit to the intended location in the plant room preassemble the flexible hoses to the pipe kits as shown in the example in **Figure 5.1** below.



5.2 See Figure 5.2 below. Disconnect one half of the female union on the free end of each flexible hose. Assemble the unions to the male thread of the flow, return & gas connection pipes protruding from the back of the Fleet Horizontal boiler. Apply thread sealant to the male threads before making the joint. Thread sealant complying with EN751-1 must be used on the male thread of the gas inlet connection of each boiler as shown in Figure 5.3 below. Use Loctite 577 thread sealant (or suitable alternative) for hydraulic connections.

5.3 Assemble the compression elbow & short length of copper pipe supplied in the pipe kit together & fit the compression elbow to the D22 pipe protruding from the back of the boiler as shown & tighten the nuts of the elbow for a secure leak proof seal.

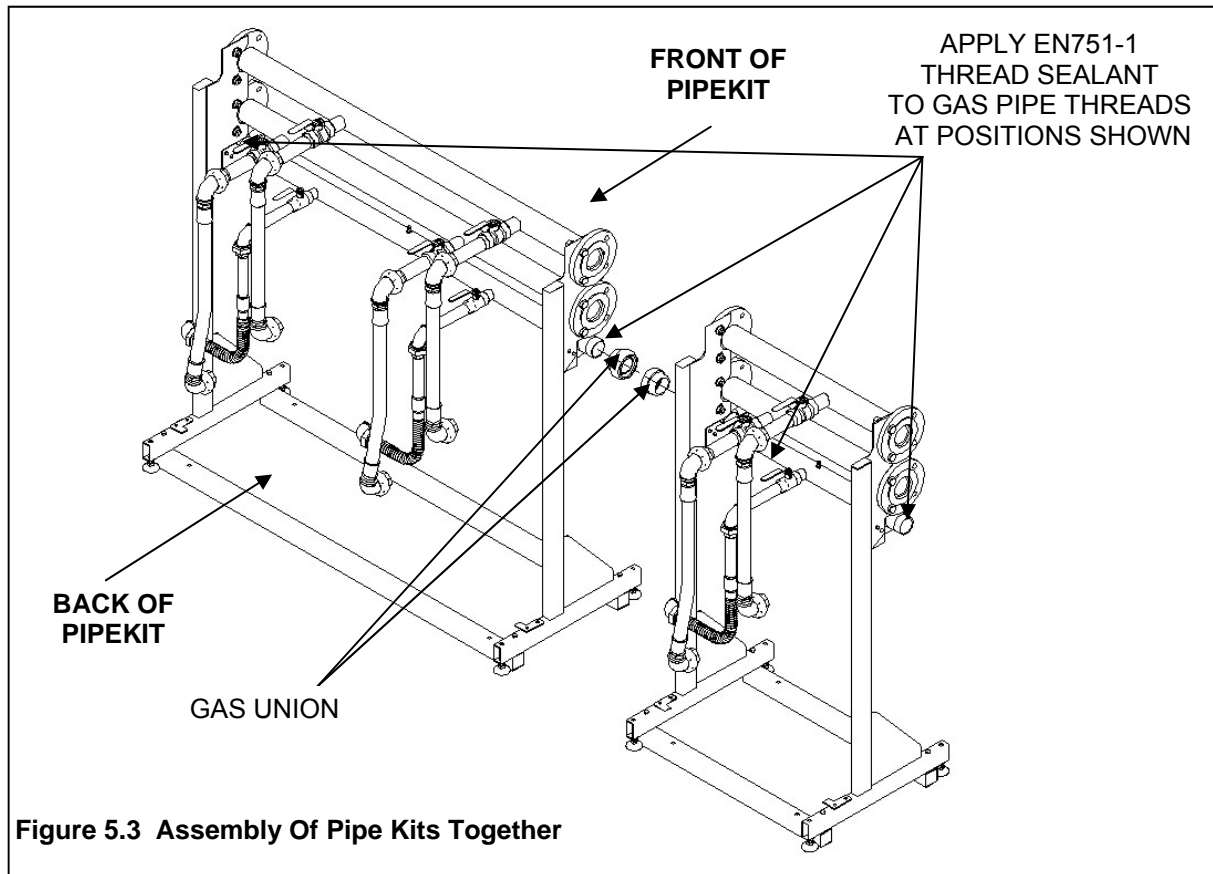


5.4 Transport skids are provided so the horizontal pipe kits are rigid enough to be moved round the plant room.

5.5 To assemble pipe kits together ensure the removable transport skids are in place. These will be removed later in the assembly process.

5.6 Before assembling adjacent pipe kits together apply EN751-1 (gas) approved thread sealant to the male threads of either end of the horizontal gas manifold pipe.

5.7 Separate the two halves of the large union supplied & assemble each half to the ends of the two gas pipes being connected. The union will be reassembled together later on. See Figure 5.3 Below.



5.8 Replace the M16x40 transport bolts in each flange with the M16x70 bolts supplied one at a time. Orientate the M16x70 bolts so that the head of the bolts are on the pipe side of the flanges, as this will aid assembly of the pipe kits together later on.

5.9 Move the pipe kit (s) to an area close to their final position.

5.10 Before removing the skids of each pipe kit, adjust the 4 feet of each pipe kit to take all the weight & so that the skids are free from contact with the floor.

5.11 Where pipe kits are to be assembled together bring the pipe kits up against one another so the two adjacent feet of the pipe kits come into contact with one another. Adjust the height of the feet so the centres of the flow return & gas pipes are at the same height. Check the pipe kits are level using a builders level.

5.12 Be careful not to cause the stud of the levelling feet to become bent whilst moving the pipe kit over an uneven floor to it's final location. Where possible Hamworthy Heating recommends suitable moving equipment to position the pipe kit in it's final location.

5.13 Un-attach the skids from the legs of the pipe kit by removing the M8 hex bolts located at either end of each skid & pull the skids out from underneath. The skids can then be disposed of.

5.14 To remove one of the support legs between two pipe kits being assembled together Hamworthy Heating Ltd recommends that the free end of the flow, return & gas pipes of the pipe kit having it's leg removed must be supported using suitable mechanical lifting equipment.

5.15 Should use of mechanical lifting equipment not be possible four M16 x150mm long steel studs & eight M16 nuts (two studs & four nuts per pipe kit) are supplied to support the free ends of the pipes during assembly. These fasteners are supplied in a poly bag taped to one leg of each pipe kit.

5.16 Follow the procedure below when using the M16 studs & nuts as support for the pipe kit during removal of one of the legs.

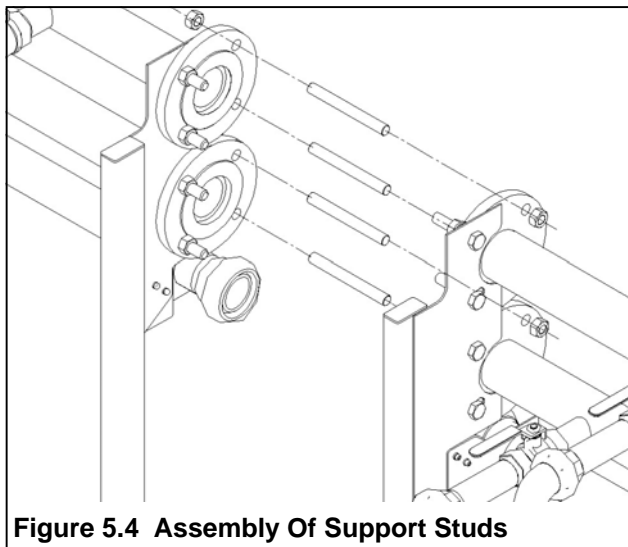


Figure 5.4 Assembly Of Support Studs

5.16.A Refer to figure 5.5. Assemble a M16x150mm stud through the top two bolt holes on the flow & return pipe flanges, of the pipe kits being connected. Use the bolt holes on the side of the flange not covered by the fixing plate of the leg.

5.16.B Assemble the M16 nuts onto either end of the studs on the back of the flanges. The studs will couple the flanges of connecting pipe kits together across the gap caused by the two support legs, so that during removal of one of the support legs the free end of the pipes are supported.

5.16.C Support the end of the gas pipe by temporarily hanging the gas pipe from the return connection above by using string or a cable tie to ensure it is secure.

5.16.D Disassemble the fixing bolts from the flanges of the redundant support leg and remove the leg.

5.16.F Screw the M16 nuts at the back of the flanges on the studs consecutively towards one another to close the gap between the flanges of the two pipe kits.

5.16.E When the gap between the flange allows assemble together the two halves of the union on the end of the two gas pipes & remove the hanging aid.

5.16.G When the gap between the flange face allows remove the nut on each bolt round the flange. Push the end of the bolt through the hole in the opposite flange and screw the nut back on the end of each bolt. Do this in turn to

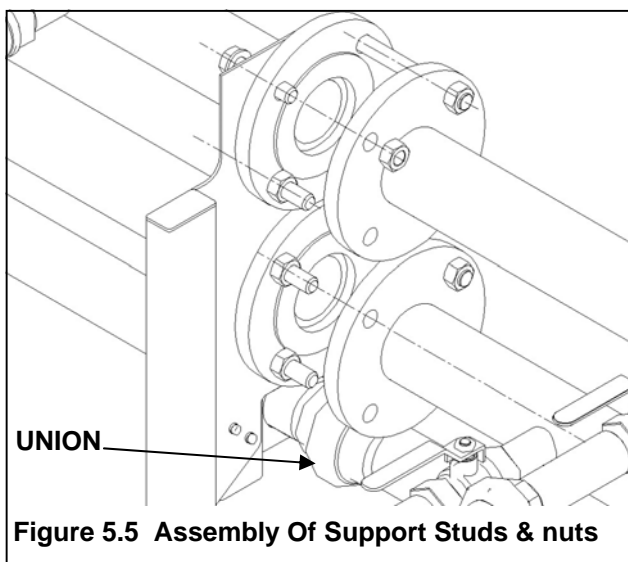


Figure 5.5 Assembly Of Support Studs & nuts

5.16.H Fit the gasket between the flanges, remove the studs and assemble the remaining M16x70 bolts (with a washer) supplied through the empty flange bolt holes. Secure with an M16 nut. Tighten the bolts up working clockwise round the flanges by tightening opposite bolt to opposite bolt in the normal way for a leak proof joint.

5.16.I Repeat the procedure of assembly when more than 2 pipe kits are to be assembled together.

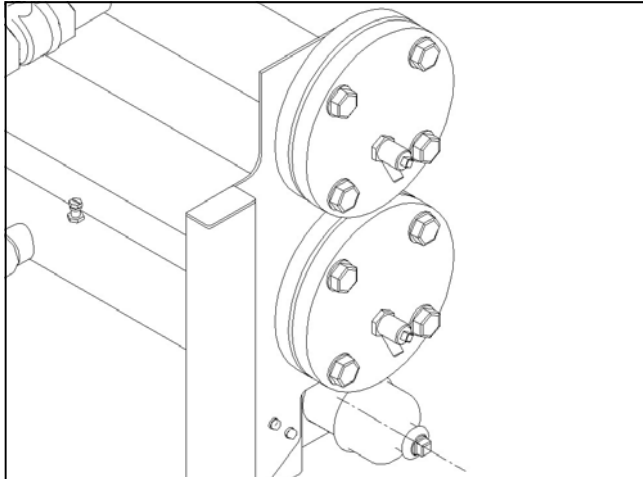


Figure 5.6 Flange Blank, Socket & Plug Assembly

5.17 See Figure 5.6. Assemble blanking flanges to the flow & return pipes on the end opposite to which the system flow & return pipe work is to be connected.

5.18 Fit a gasket between mating flange faces & assemble using the M16 bolts, washers & nuts provided.

5.19 Assemble the reducing socket & plug to the opposite end of the gas pipe to which the supply pipe is connected. Refer To Figure 5.6.

5.20 Apply thread sealant to the AAV & drain plug supplied with each low loss header & assemble the adjustable foot, support leg (if required) AAV & drain plug to the locations shown in Figures 3.4 to 3.9.

5.21 Where required fit the sensor spool kits to the flow & return flanges of the pipe kit. See Figure 5.8, or assemble a low loss header to the end pipe kit for connecting to system pipe work See Figure 5.8.

5.22 Fit a gasket between mating flange faces of the sensor spool kit pieces or low loss header & the flow & return connections of the pipe kit. Bolt the low loss headers to the pipe kit using the M16, bolts, nuts & washers supplied.

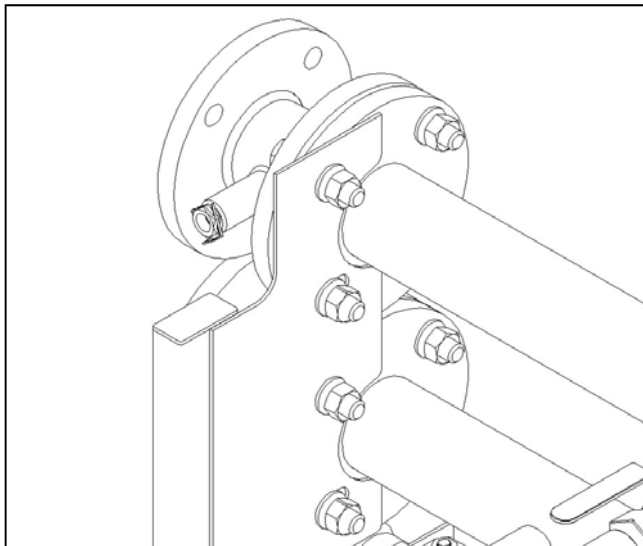


Figure 5.7 Sensor Spool Kit Assembly

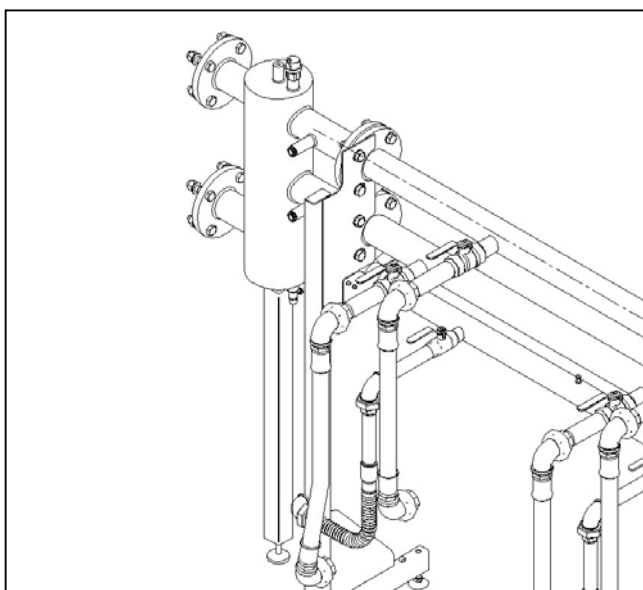


Figure 5.8 Assembly Of Low Loss Header

5.23 Observe the recommended distances behind & to the side of the pipe kits as shown in **Figures 5.17 To 5.20**.

5.24 Where two twin boiler pipe kits are assembled together remove the L-shaped bracket from the leg that has been removed. Remove the screws fixing the L-shaped bracket to the inner leg remaining & lay the two L-shaped brackets on top of one another so they face in opposite directions & reassemble the screws as shown in figure 5.10 below.

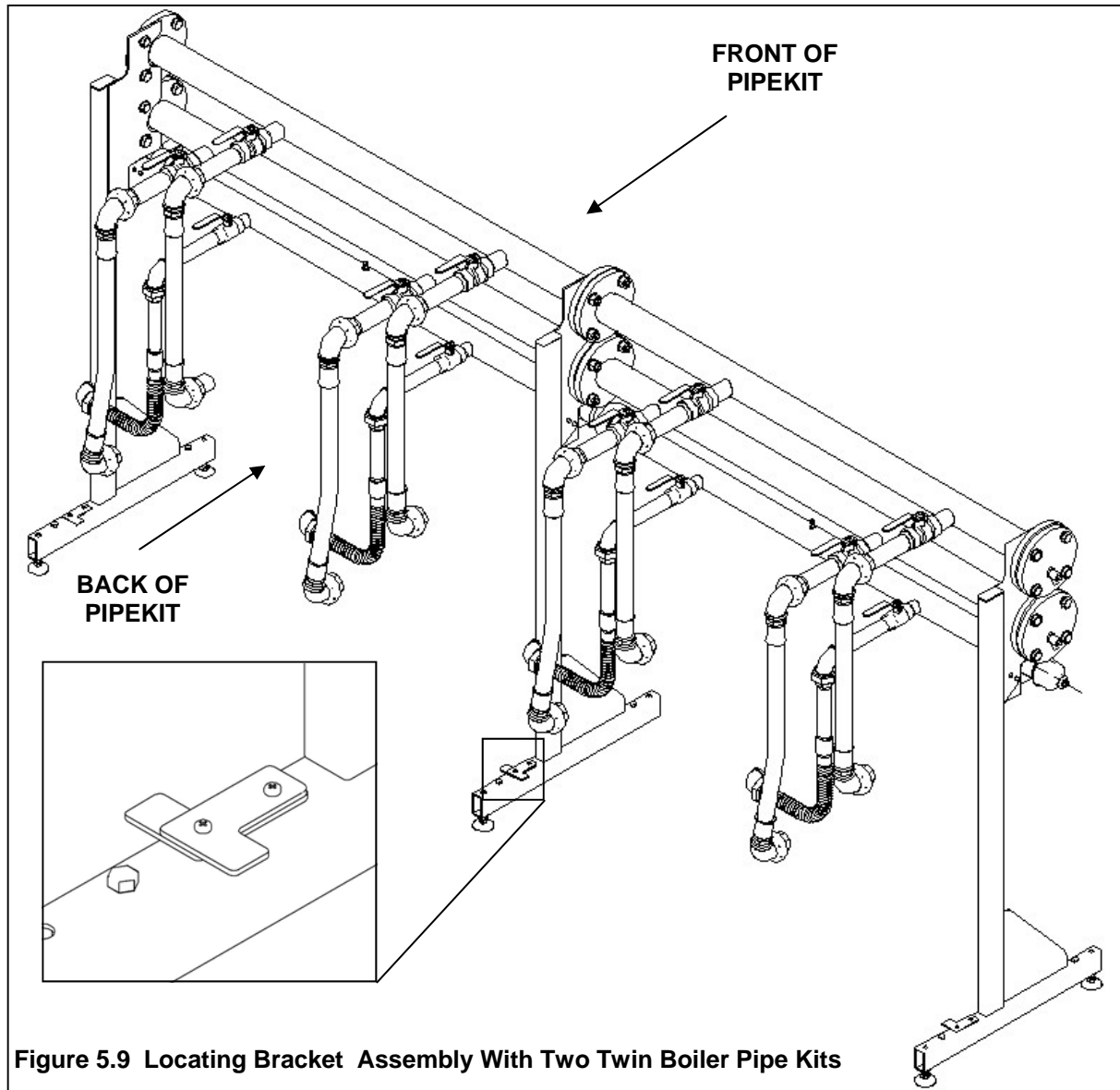


Figure 5.9 Locating Bracket Assembly With Two Twin Boiler Pipe Kits

5.25 The base of the horizontal floor standing boilers have been purposely designed so that a standard pallet truck can be used for manoeuvring purposes.

5.26 Push the forks of a pallet truck from the front, under the base of the first boiler to be installed. Check to make sure the forks of the pallet truck do not come into contact with the pipe of the black plastic flue elbow on the back of the boiler.

5.27 Position the boiler under the pipe kit & against the L-shaped locating bracket on the left hand side leg with the side panel of the boiler 10mm from the inside of the leg. See Figure 5.10 below.

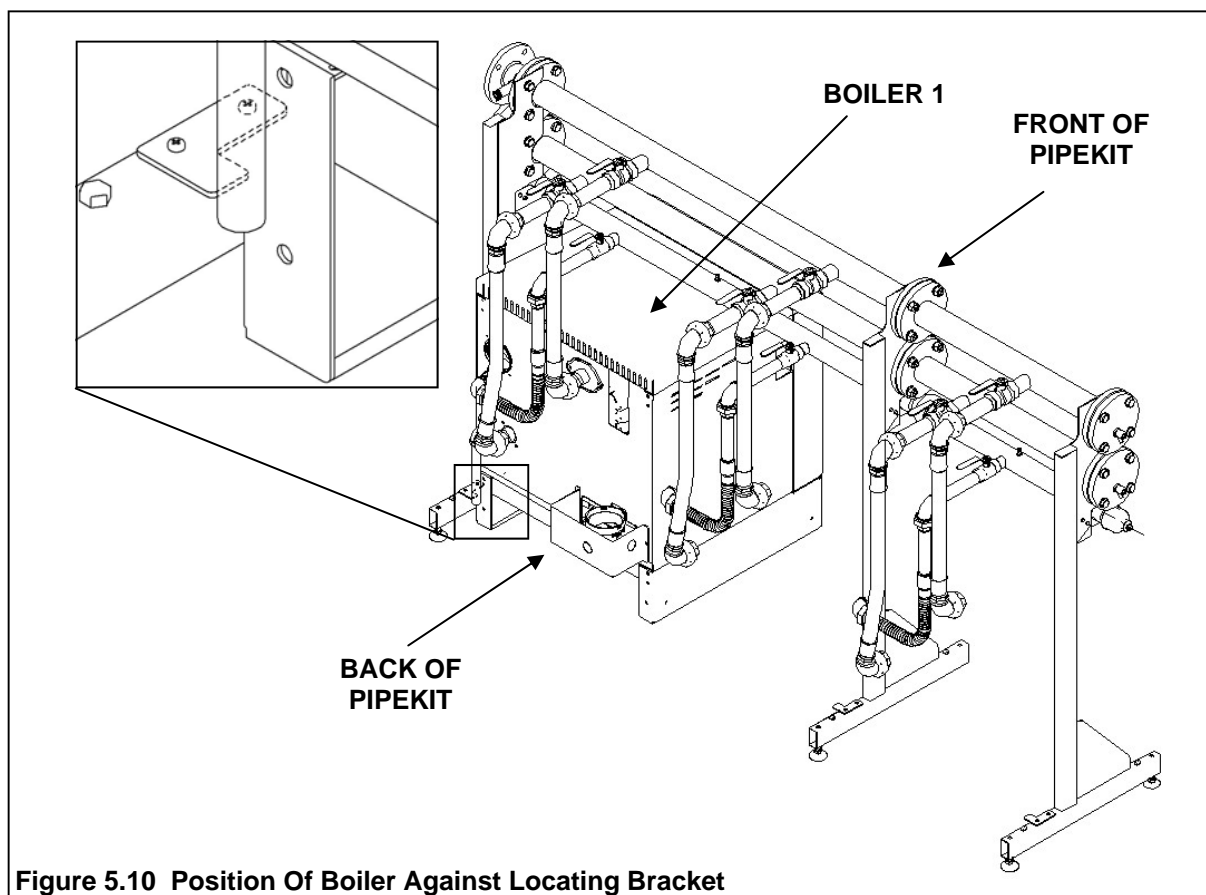


Figure 5.10 Position Of Boiler Against Locating Bracket

5.28 Assemble together the halves on the union on the flow, return & gas manifold pipes with the halves of the unions on the flow, return & gas connections on the back of the boiler.

5.29 Fit the white plastic condensate trap supplied with each boiler module to the condensate spigot of the boiler.

5.30 For assembly of condensate trap 531955009 to the spigot of the black plastic flue elbow on boilers F40H-F250H See Figure 5.11.

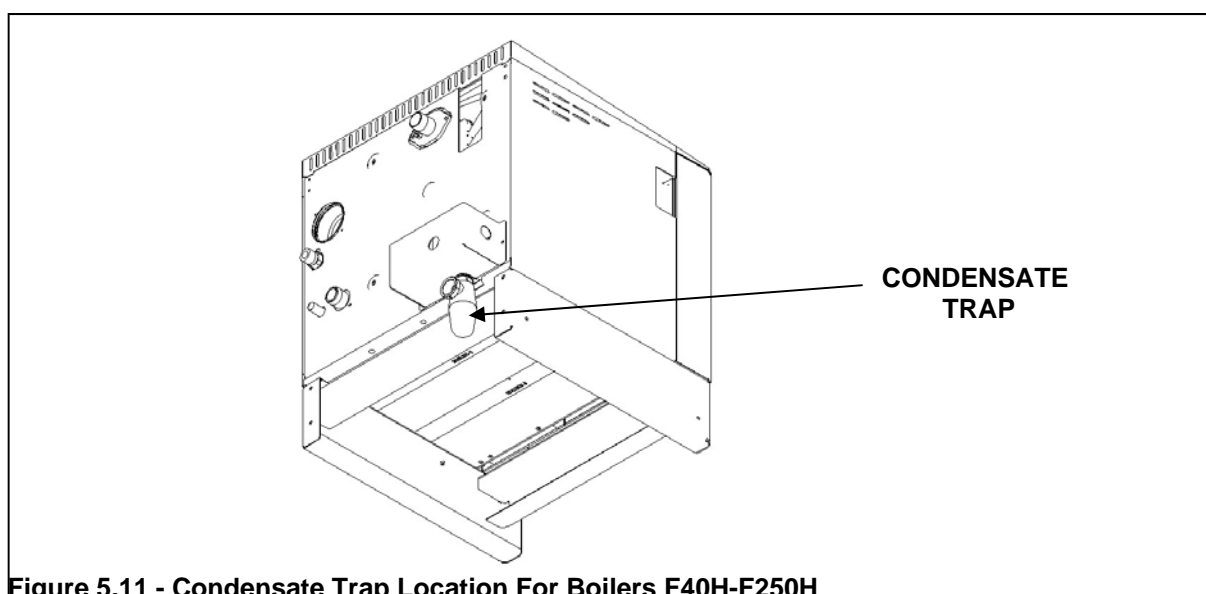


Figure 5.11 - Condensate Trap Location For Boilers F40H-F250H

5.31 For assembly of condensate trap 530105095 to the spigot of the sump on boilers F300V & F350V See Figure 5.12.

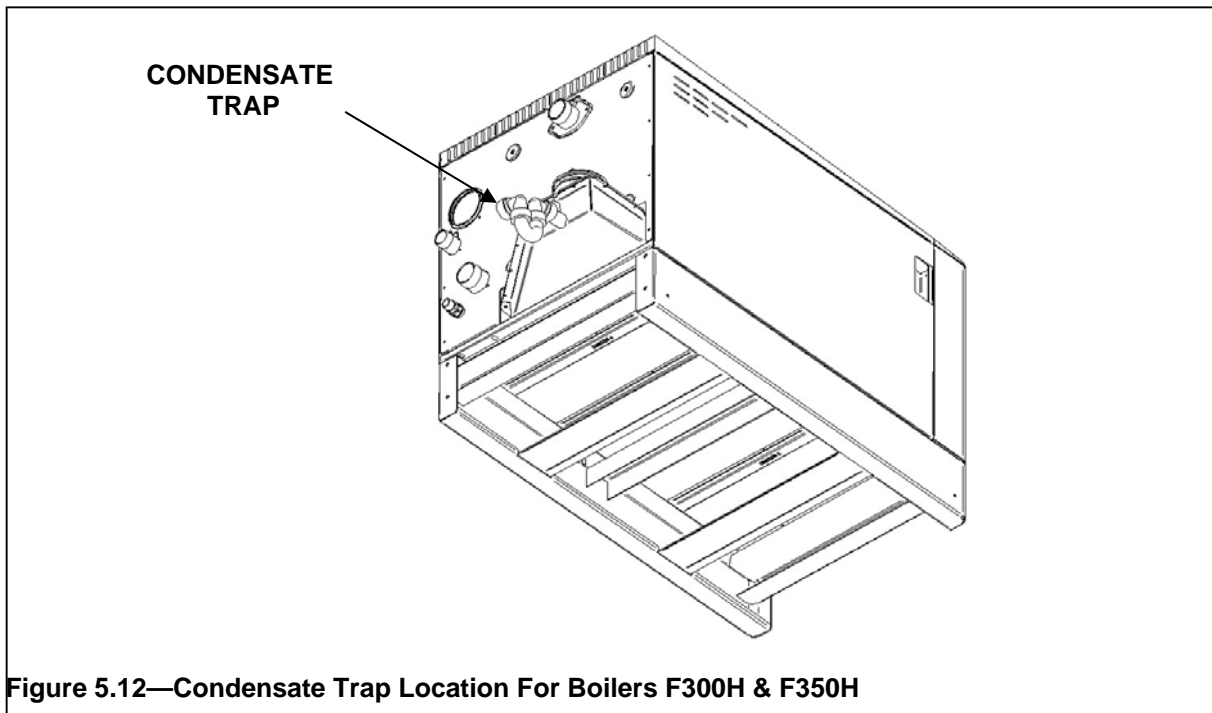


Figure 5.12—Condensate Trap Location For Boilers F300H & F350H

5.32 Assemble the condensate pipe work with solvent & connect to the bottle trap from the right hand side of the boiler as shown in figure 5.13 below.

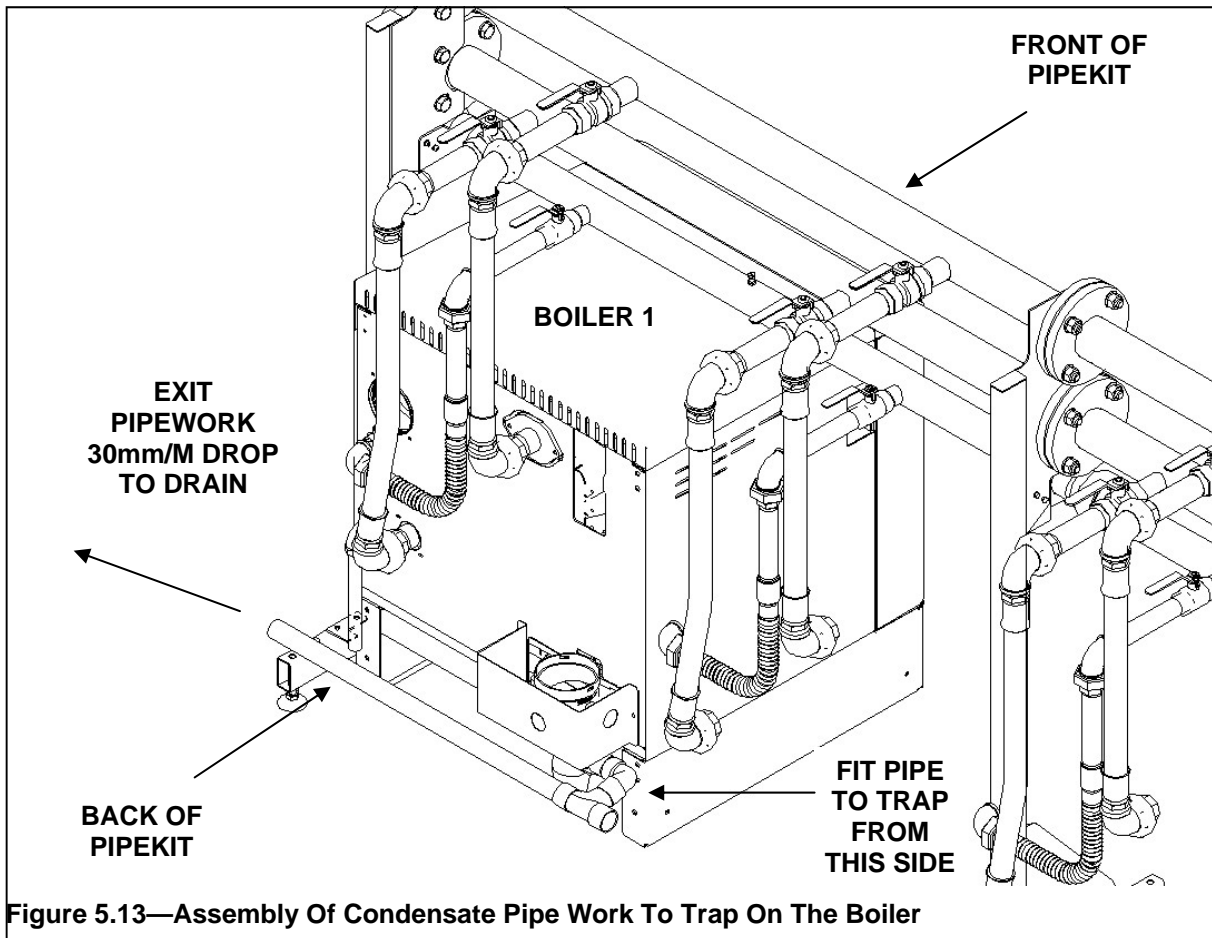


Figure 5.13—Assembly Of Condensate Pipe Work To Trap On The Boiler

5.33 See Figure 5.14. Position a second boiler (Boiler 2) to the right of Boiler 1 under the pipe kit. The back of Boiler 2 to be against the L-shaped locating bracket on the right hand leg. The side panel of Boiler 2 to be 50mm from Boiler 1.

5.34 Assemble the union halves on the flow, return & gas manifold pipes with those on the flow, return & gas connections on the back of Boiler 2.

5.35 Fit the white plastic condensate trap supplied with Boiler 2 to the condensate spigot of the boiler.

5.36 Assemble the next set of condensate pipes with solvent & fit these to both the condensate pipes installed on Boiler 1 & the bottle trap of Boiler 2. Do this from the right side of the boiler as shown.

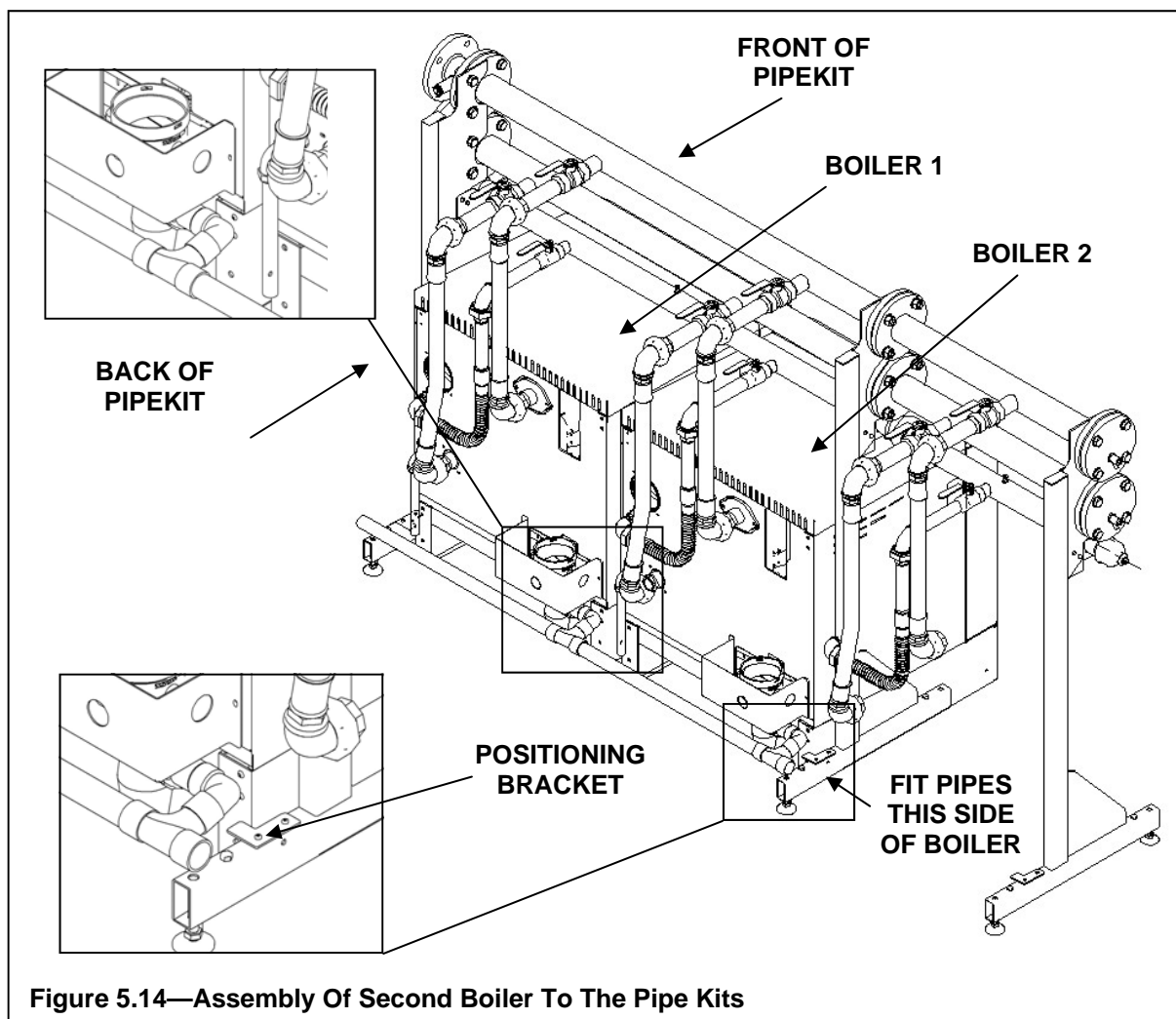


Figure 5.14—Assembly Of Second Boiler To The Pipe Kits

5.37 Repeat the process of assembly for a third & fourth boiler as required.

5.38 For the purposes of being able to see the connections on the back of the boiler, the assembly process has been shown from the back of the pipe kits. In practise once the pipe kit has been located installation of the boiler will occur from the left hand end of the pipe kit viewed from the front. Viewed from the back installation of the flexible hoses will occur from the right hand end.

5.39 The connection to drain can be made at either of the condensate pipe work. Fit the rod eye to the opposite end to which the drain connection is made as shown in Figure 5.15 & 5.16 below.

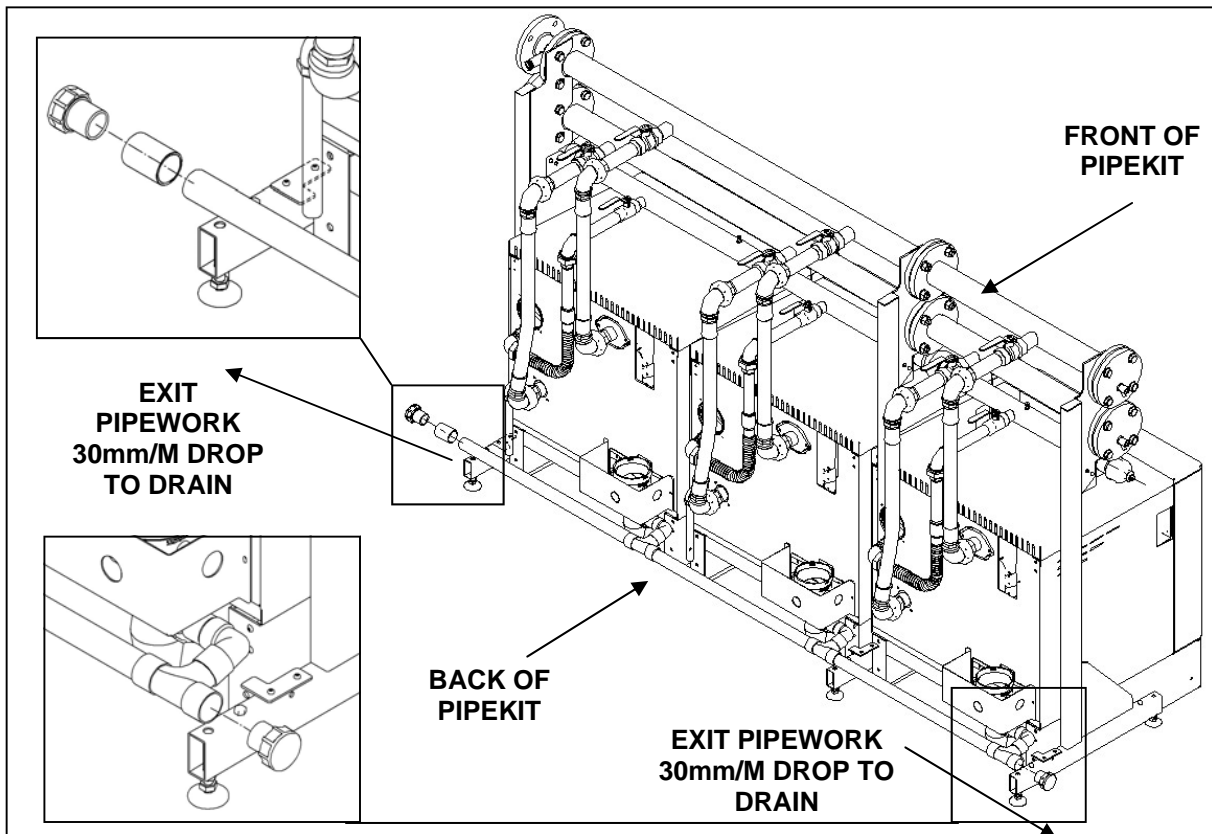


Figure 5.15 — Assembly Of Rod Eye To Either End Of Pipe Kits (F40H & F250H Boilers)

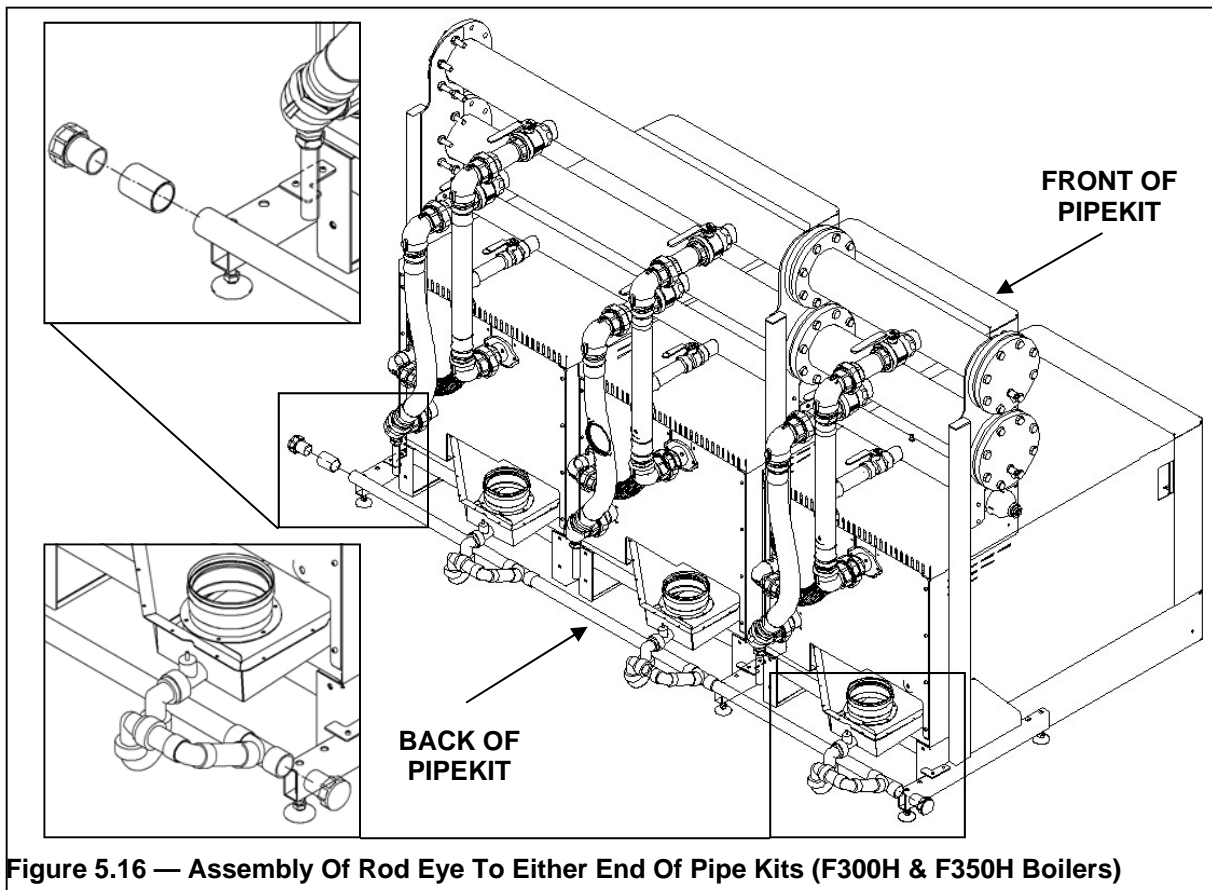
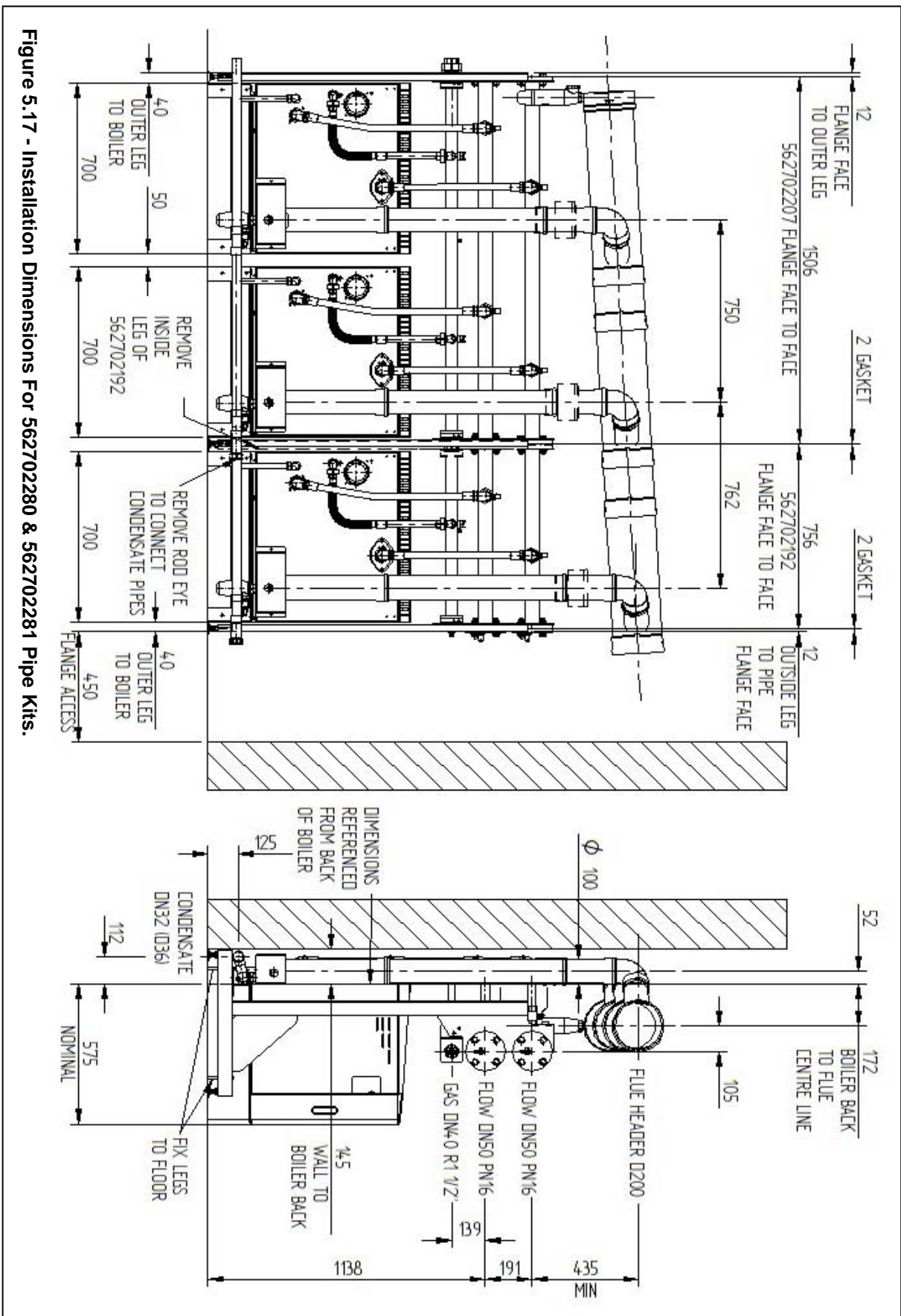
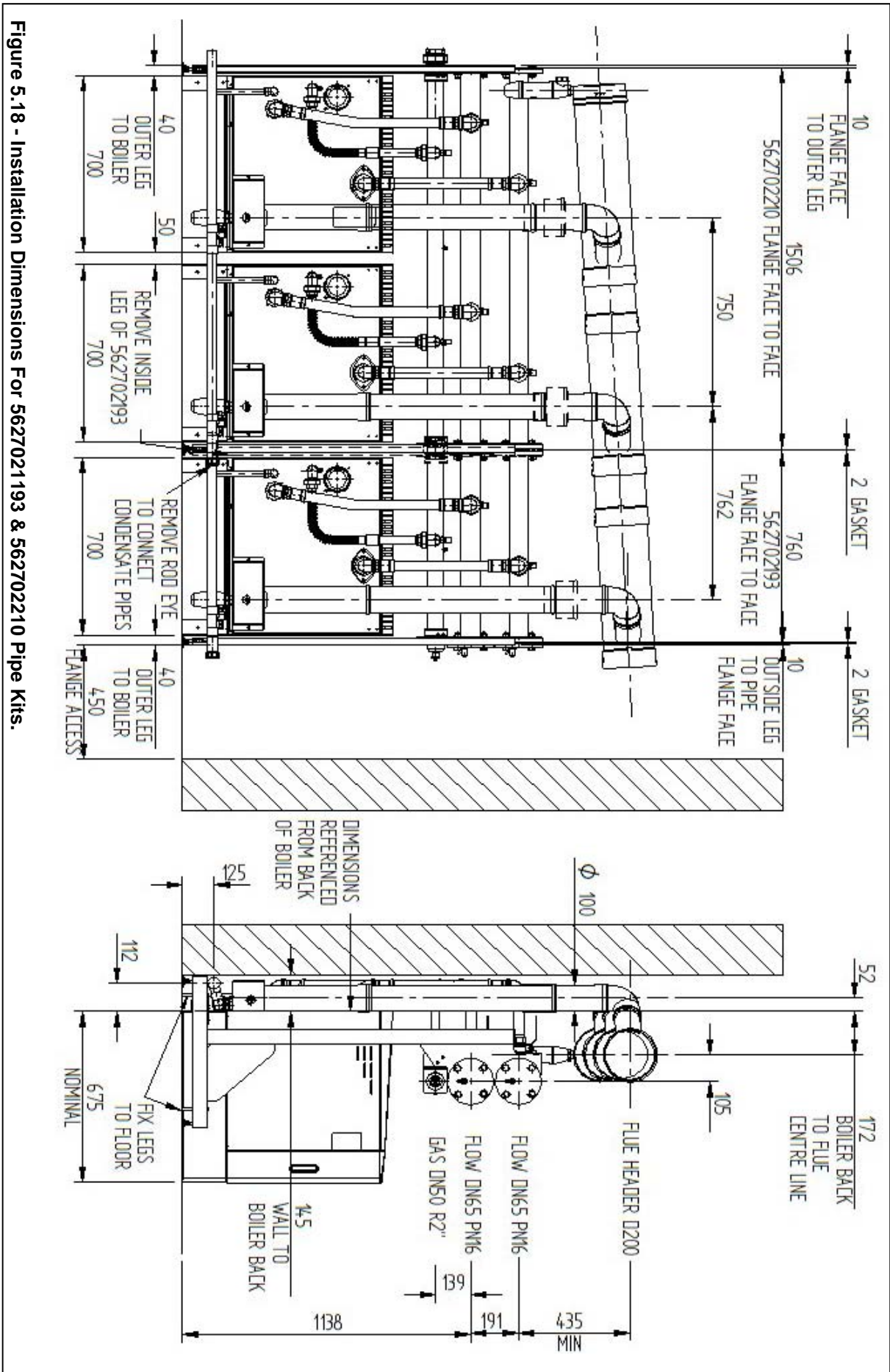


Figure 5.16 — Assembly Of Rod Eye To Either End Of Pipe Kits (F300H & F350H Boilers)

5.40 Observe the recommended distances behind & to the side of the boilers as shown in **Figures 5.17 To 5.20**.





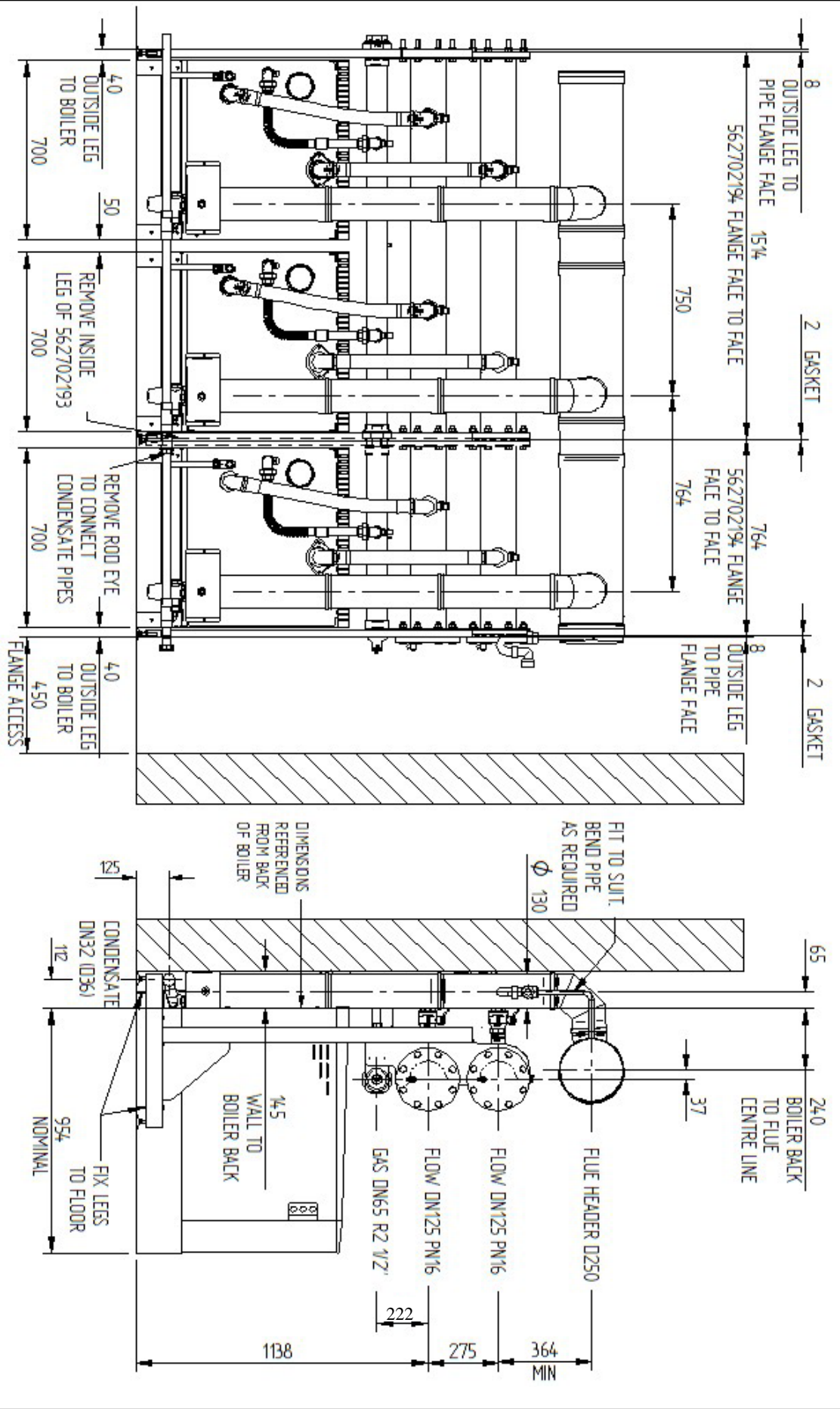


Figure 5.19 - Installation Dimensions For 562702194& 562702213.

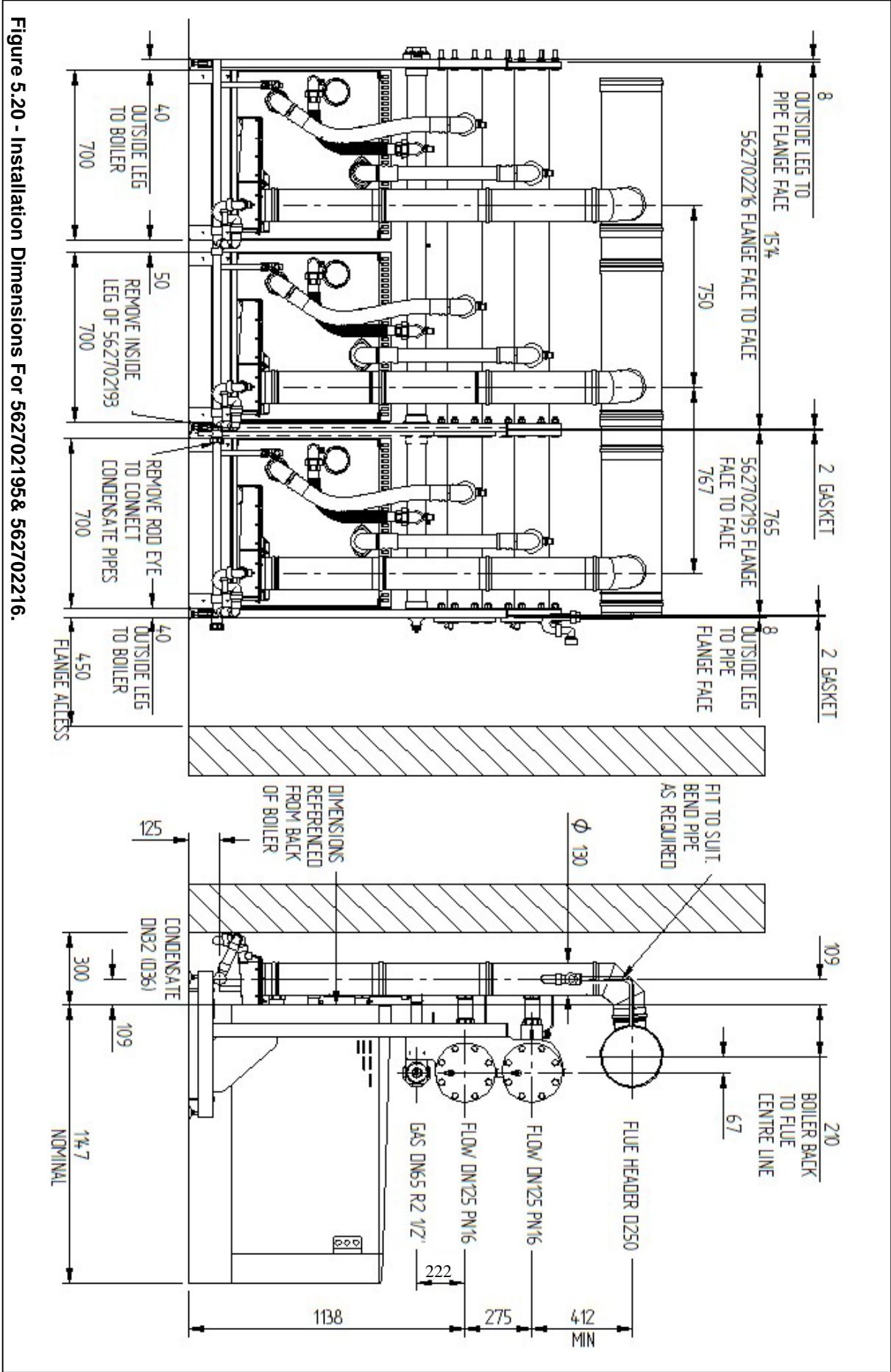
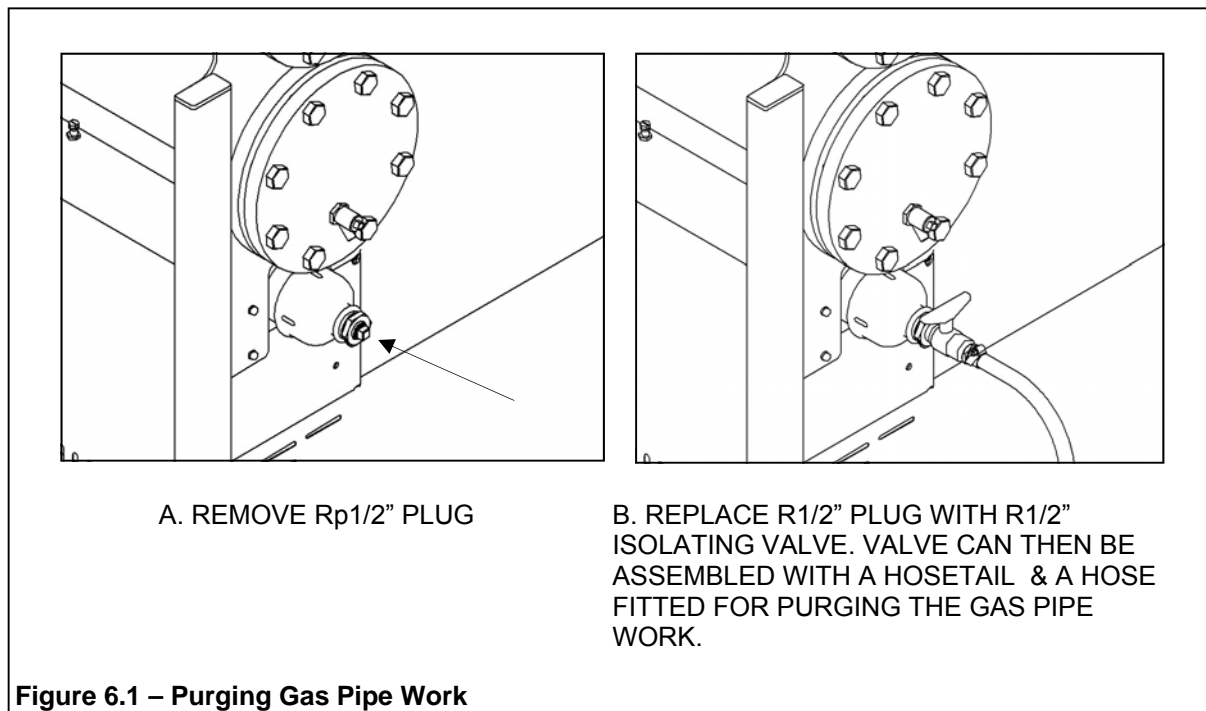


Figure 5.20 - Installation Dimensions For 562702195 & 562702216.

6.0 TESTING & PURGING GAS PIPE WORK

6.1 Once the gas supply pipe has been connected to the manifold, the gas pipe work must be strength & tightness tested to **IGE/UP/1 & 1A**.

6.2 To purge the gas installation to IGE/UP/1 & 1A an isolating valve (not HHL supply) will need to be fitted instead of the R1/2" plug assembled to the reducing socket at the opposite end to the gas supply pipe. The gas pipe work can then be purged by connecting to this isolating valve. See **Figure 6.1** below.



7.0 FILLING & VENTING HYDRAULIC PIPE WORK

7.1 Horizontal pipe kits are not supplied with an Automatic Air Vent (AAV). Hamworthy Heating Low Loss Headers are supplied with an AAV.

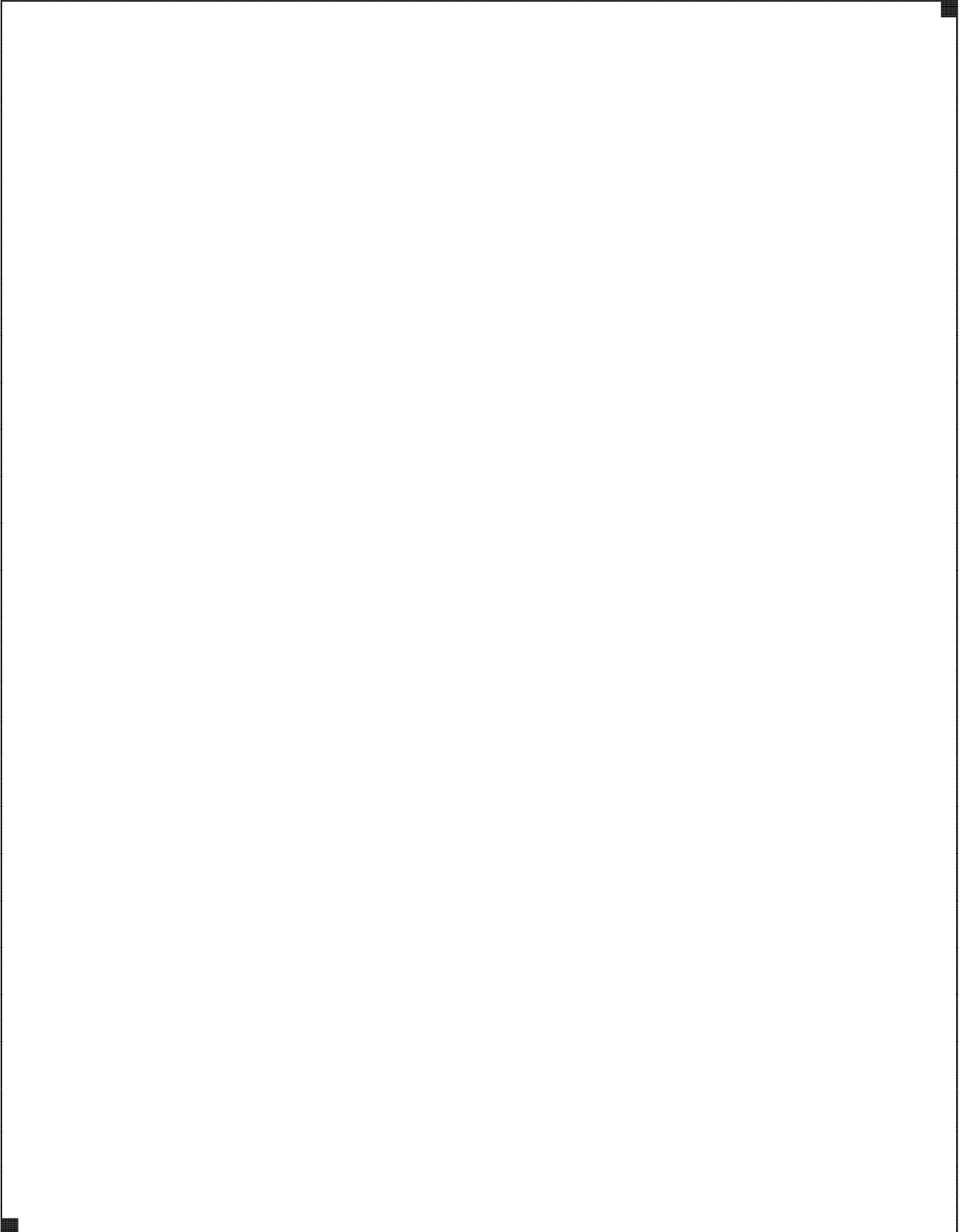
7.2 It is recommended that should Hamworthy Heating s Low Loss Headers not be supplied, an AAV should be installed on the system flow pipes close to the pipe kit .

7.3 So that the pipe kit & boilers are vented correctly the system should be filled from the return pipe work.

7.4 During filling the AAV vent cap should be loose.

7.5 It is recommended that the guidance given in BS EN12828 is followed & that a check is made with the Local Authority for any specific local requirements.

Notes



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