

**COMMERCIAL
MODELS: MVB 503 THRU 2003**

CATALOG NO. 9300.74
Effective: 05-01-09
Replaces: 03-30-09

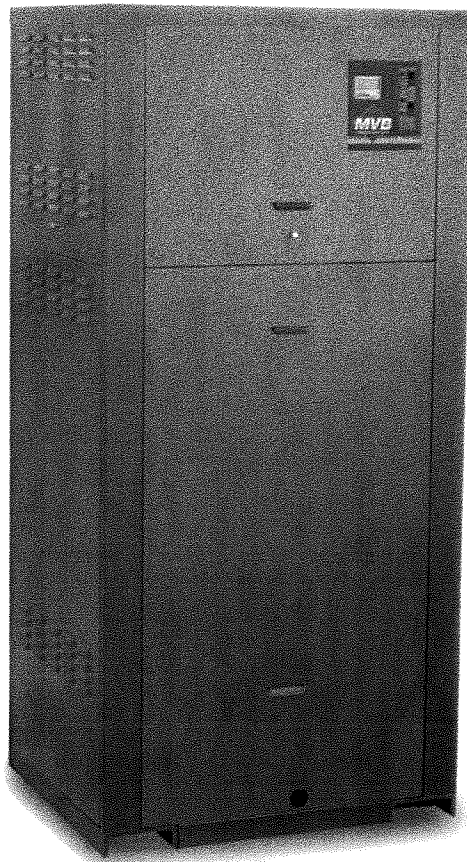
RAYPAK ILLUSTRATED PARTS LIST

MODEL SIZES: 503, 753, 1003, 1253, 1503, 1753 & 2003

MODEL TYPES: MODULATING VERTICAL BOILER H, WH CAT IV

DATES OF MANUFACTURE: 6-01-06 THROUGH CURRENT

THE PARTS LISTED ARE FOR STANDARD EQUIPMENT FOR THIS MODEL TYPE. RAYPAK RESERVES THE RIGHT TO SUBSTITUTE, DELETE OR CHANGE ANY PART WITHOUT NOTIFICATION. THE ADDITION OF OPTIONS MAY ALSO CHANGE SOME OF THE PARTS. ORDER REPLACEMENT PARTS FROM ACTUAL HEATER COMPONENTS.

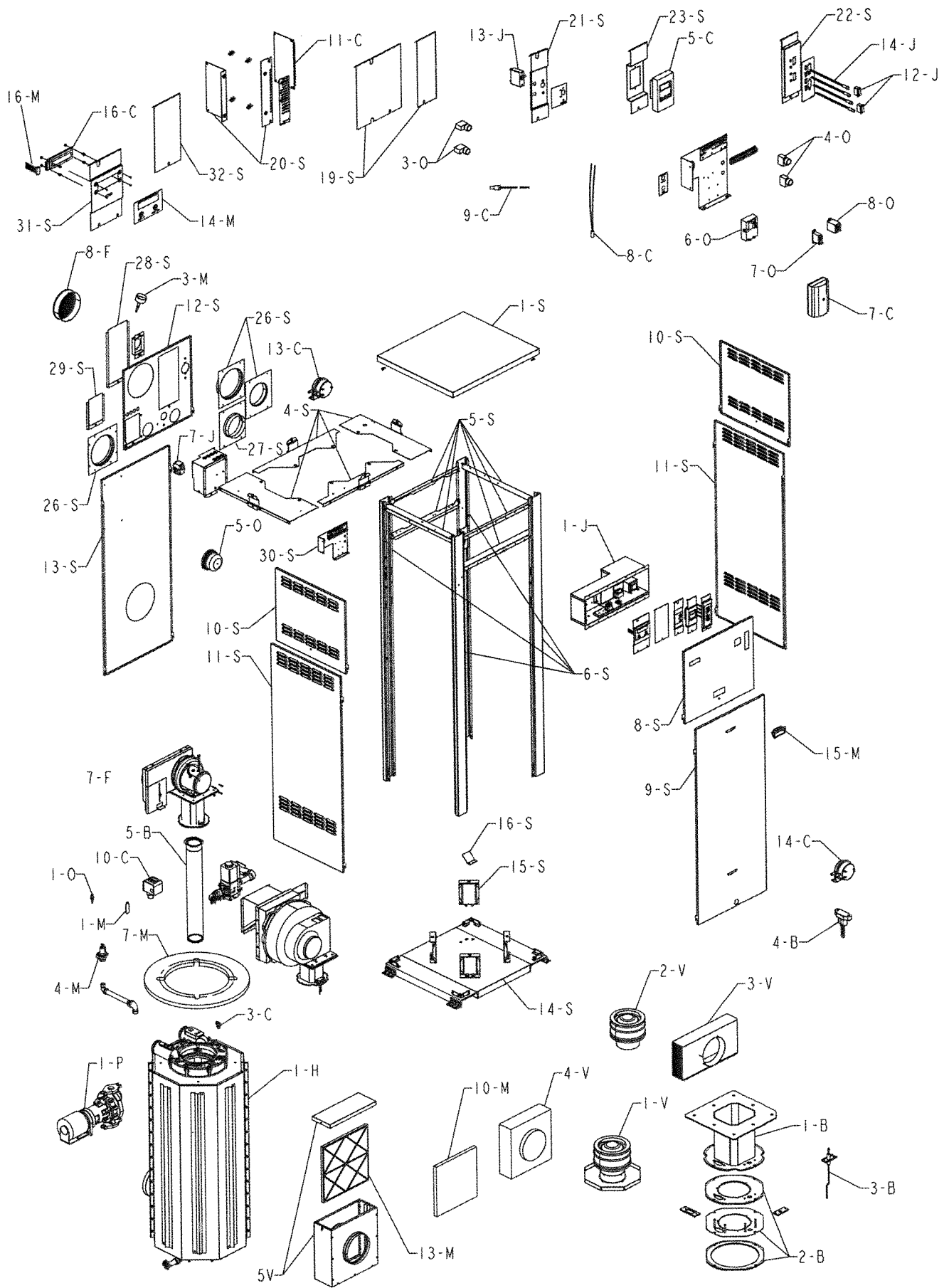


FOR DETAILED INSTRUCTIONS, SEE "HOW TO USE YOUR RAYPAK ILLUSTRATED PARTS LIST",
CATALOG NO. 9001.10

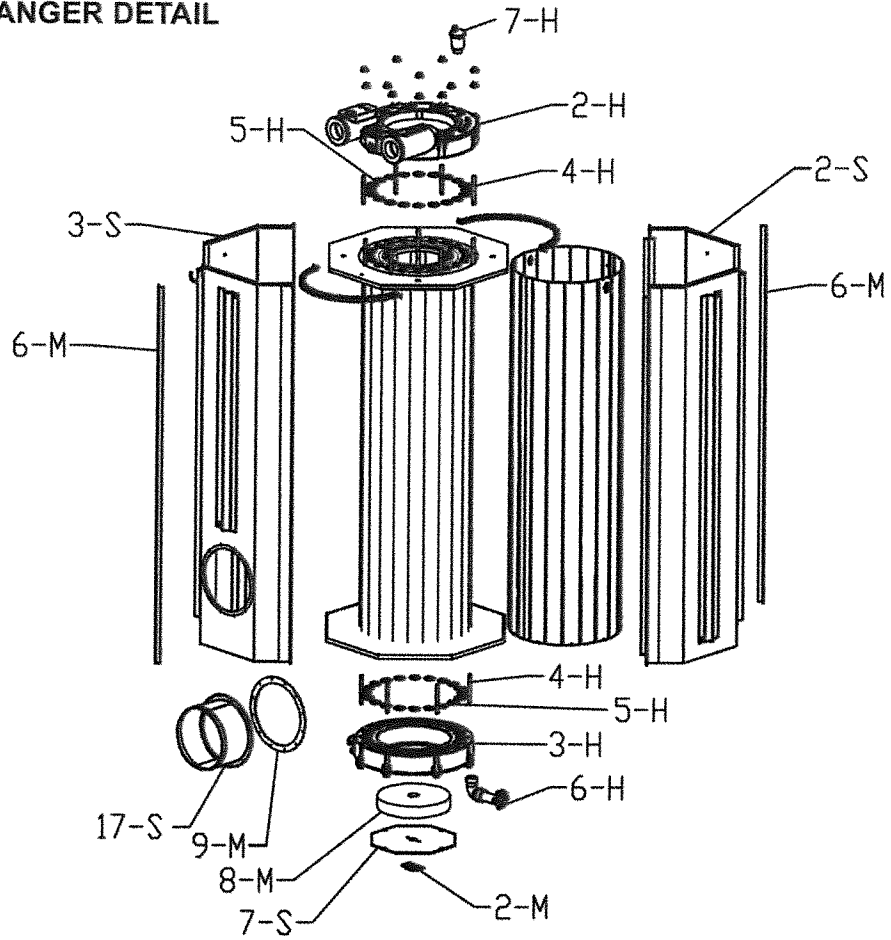


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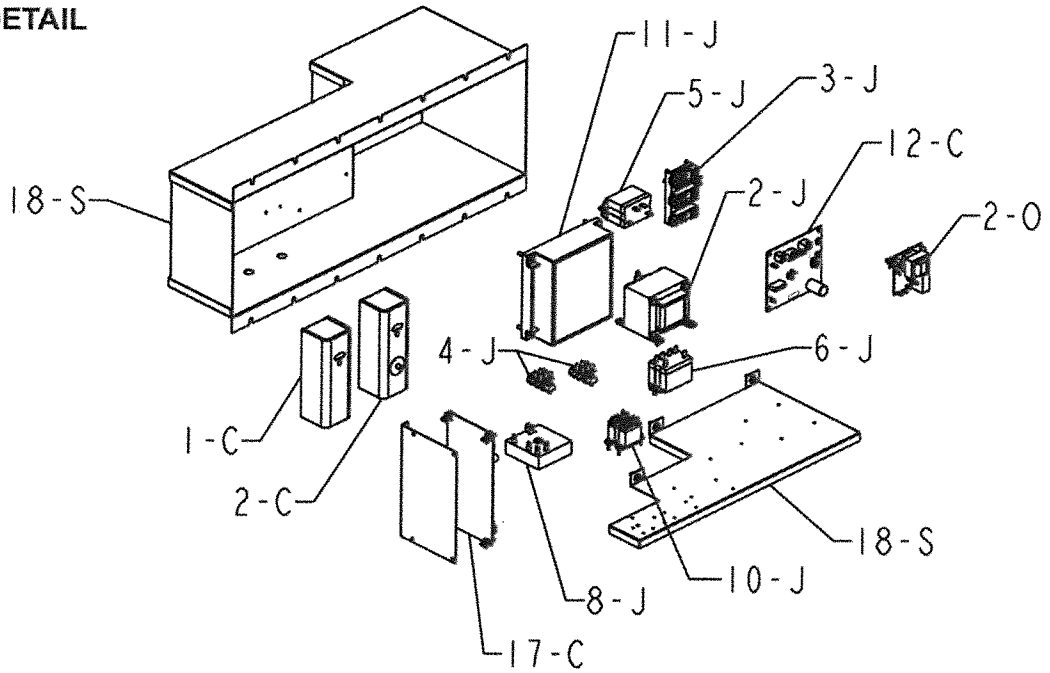
P/N 241293



HEAT EXCHANGER DETAIL

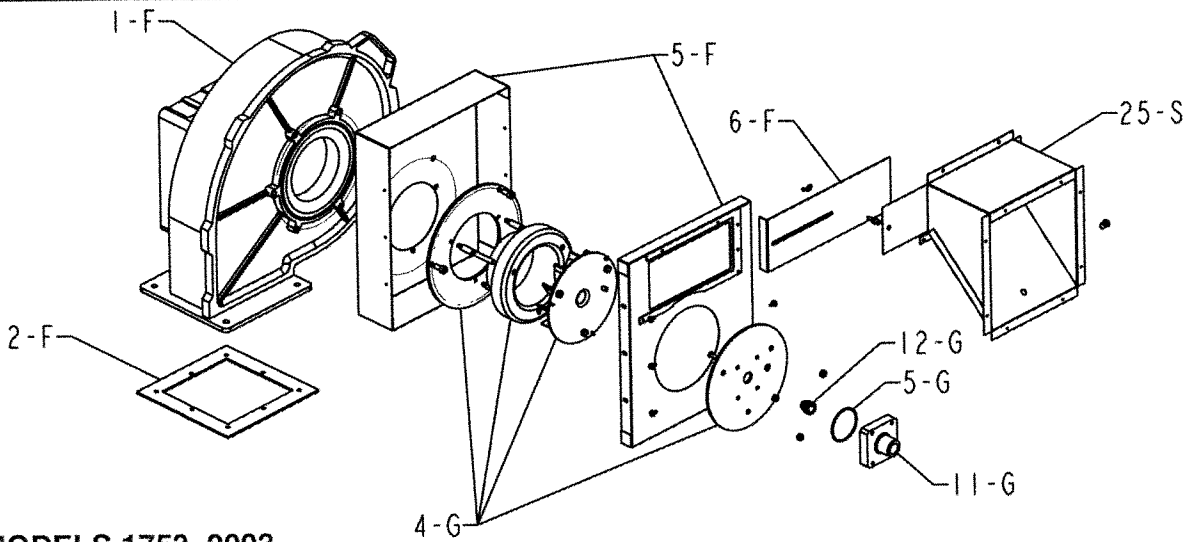
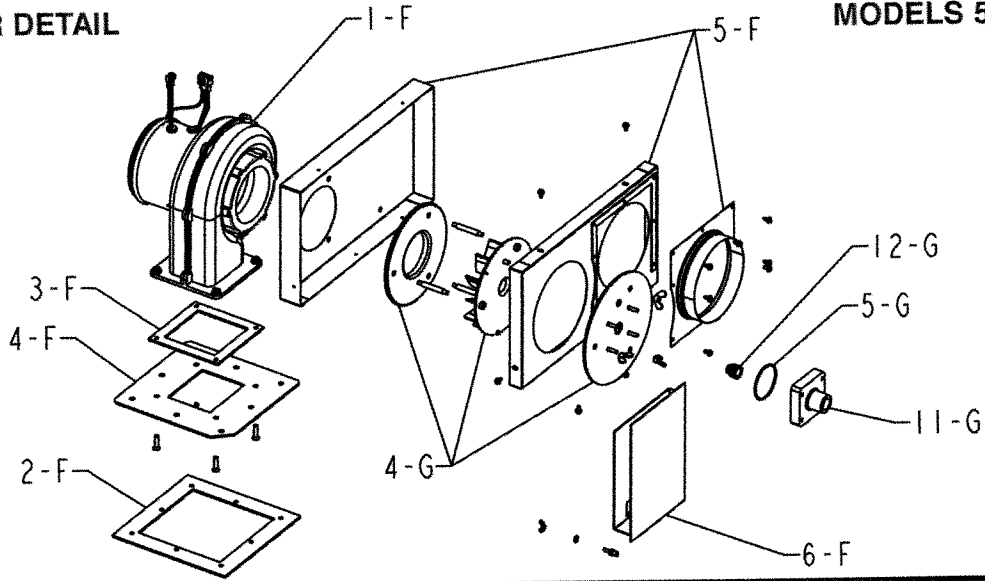


J-BOX DETAIL



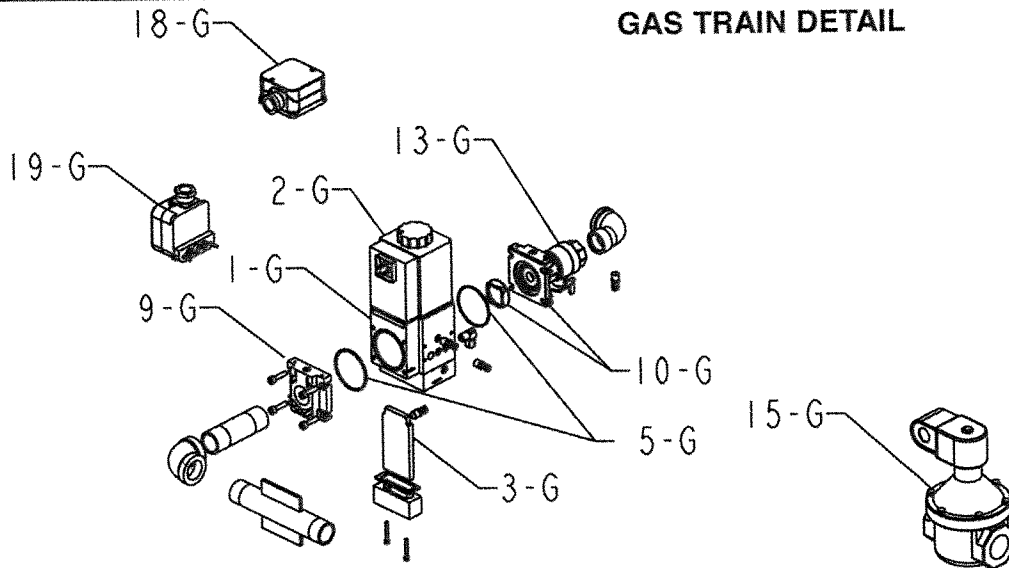
BLOWER DETAIL

MODELS 503-1503



MODELS 1753-2003

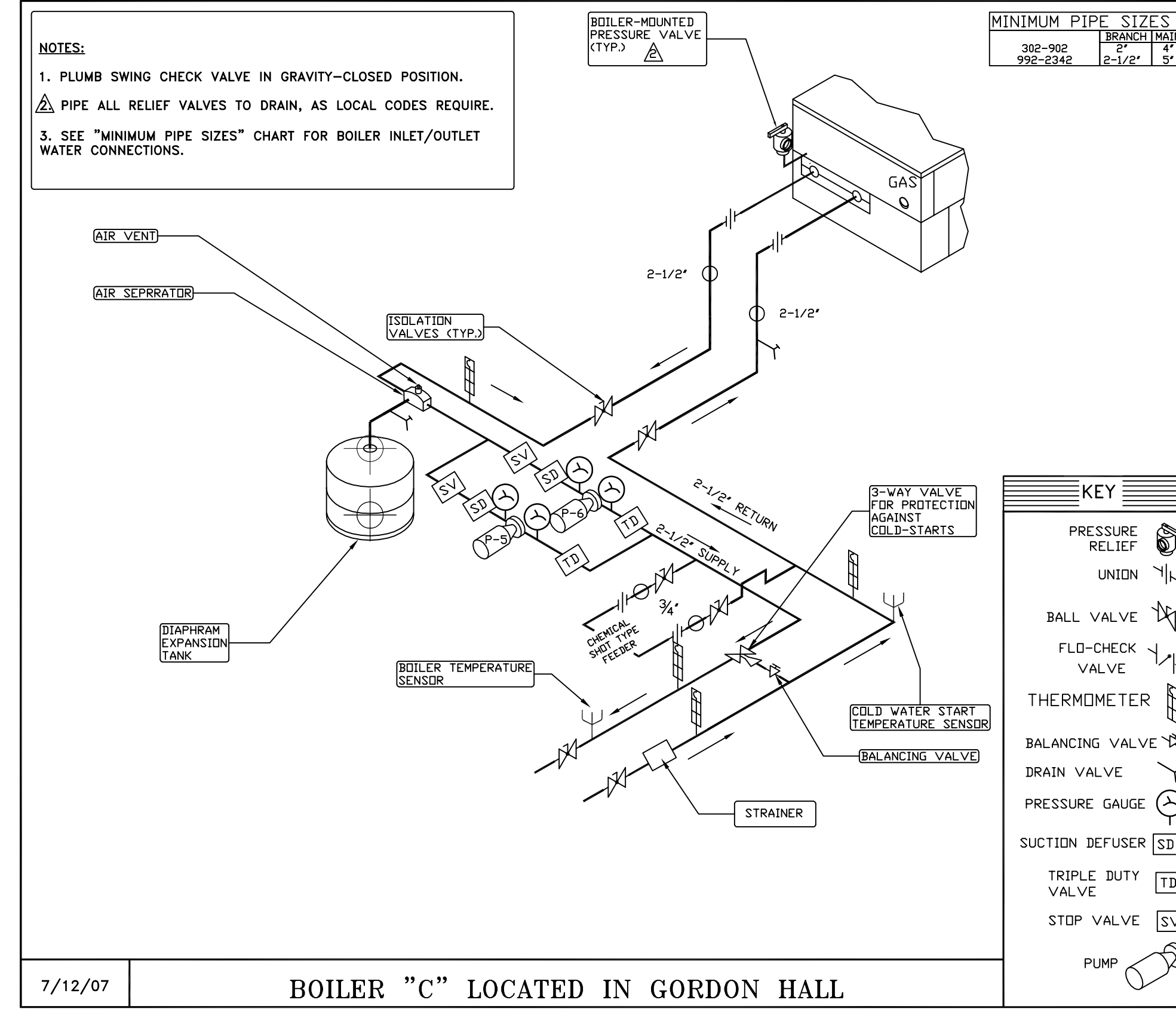
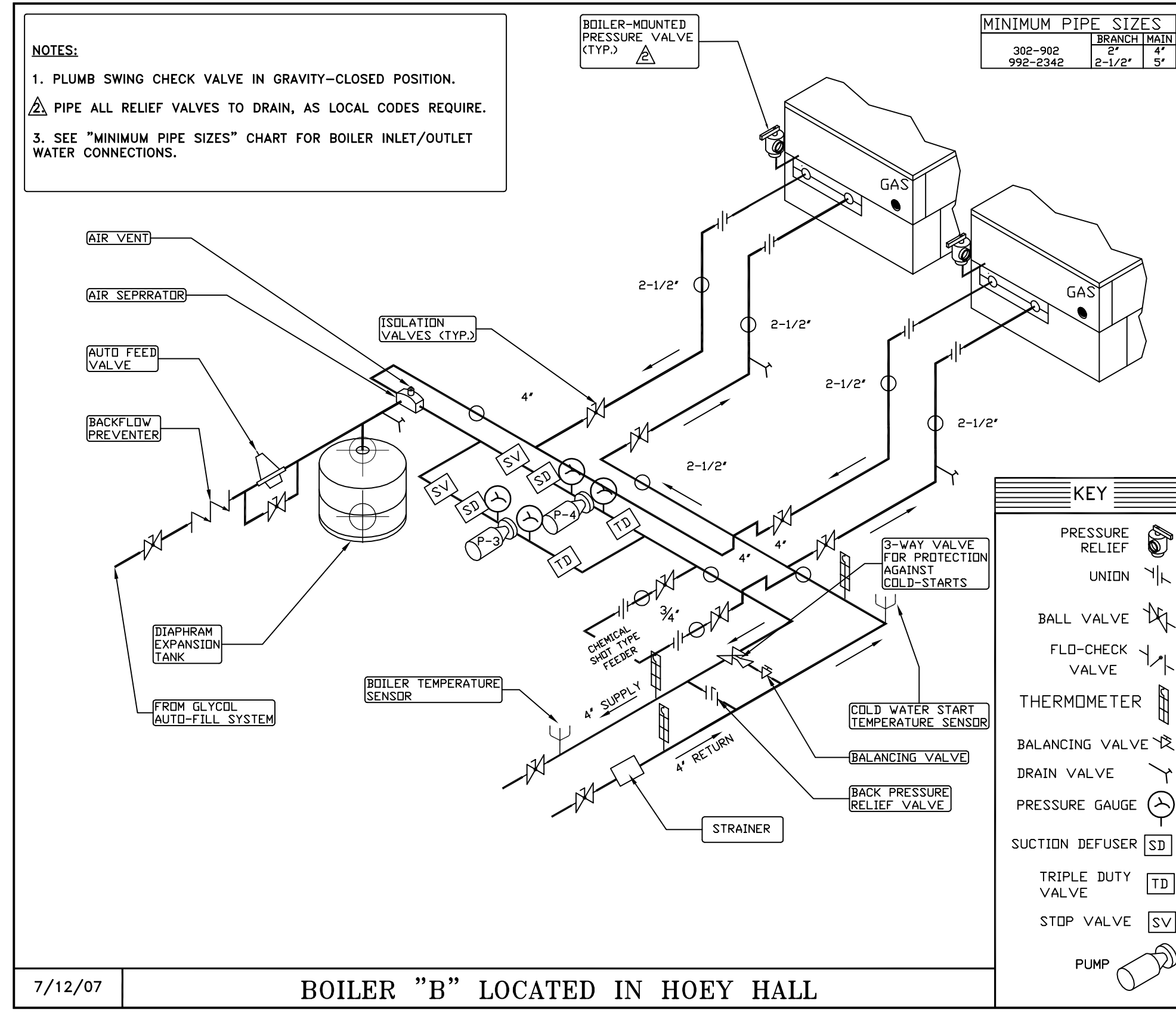
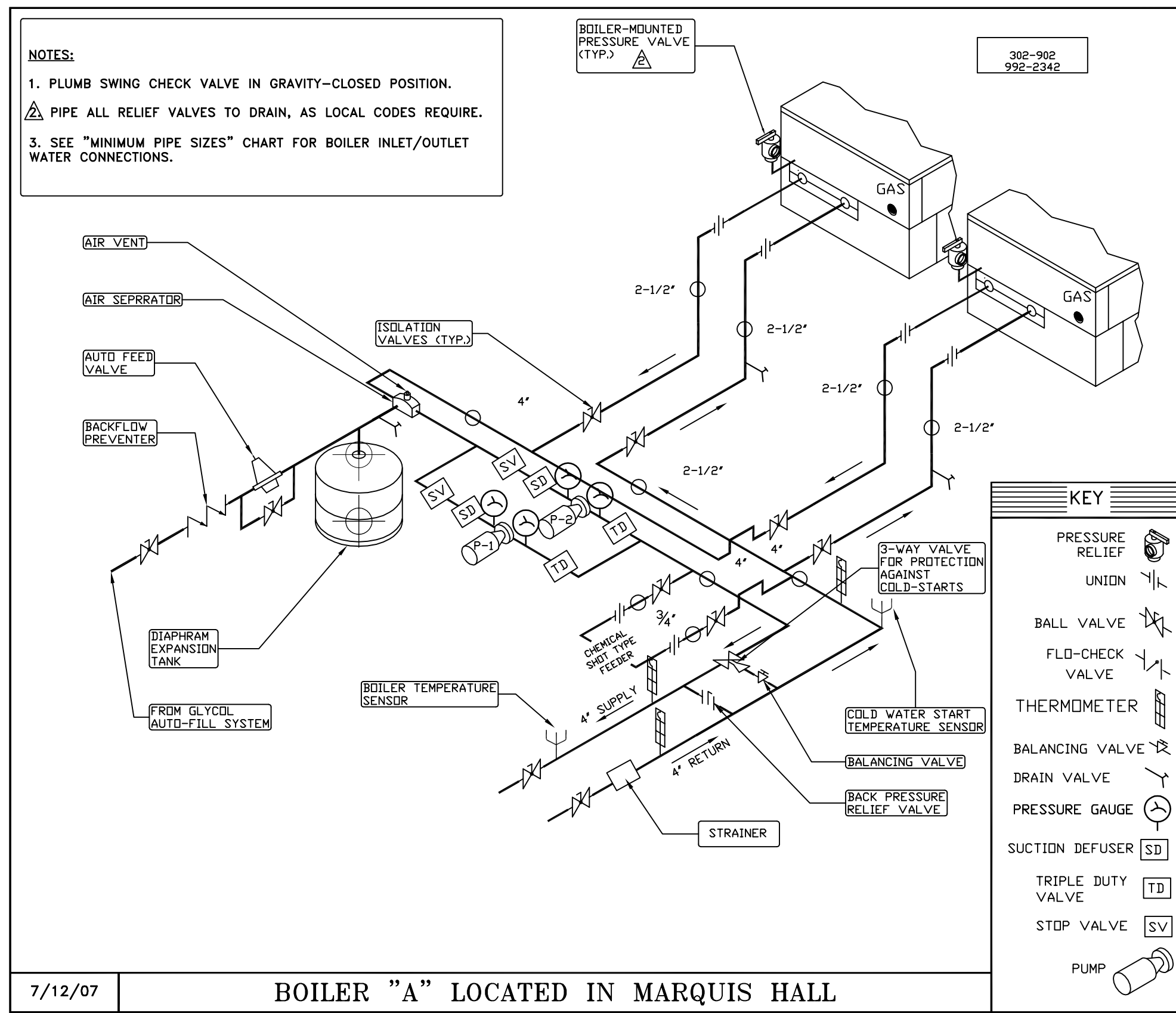
GAS TRAIN DETAIL



CALL OUT	DESCRIPTION	503	753	1003	1253	1503	1753	2003
H HEAT EXCHANGER								
1-H	Heat Transfer Cupro-Nickle Bronze (Includes 15-S)	011780F	011781F	011782F	011783F	011784F	011785F	011786F
	Heat Transfer Cupro-Nickle Cast Iron (Includes 15-S)	011959F	011961F	011963F	011965F	011967F	011969F	011971F
	Heat Transfer Copper Bronze (Includes 15-S)	011773F	011774F	011775F	011776F	011777F	011778F	011779F
	Heat Transfer Copper Cast Iron (Includes 15-S)	011958F	011960F	011962F	011964F	011966F	011968F	011970F
2-H	Inlet/Outlet Header Bronze	009102F	009102F	009103F	009103F	009103F	009103F	009103F
	Inlet/Outlet Header Cast Iron	012331F	012331F	012332F	012332F	012332F	012332F	012332F
3-H	Return Header Bronze	007204F	007204F	007204F	007204F	007204F	007204F	007204F
	Return Header Cast Iron	012330F	012330F	012330F	012330F	012330F	012330F	012330F
4-H	Studbolt	009104F	009104F	009104F	009104F	009104F	009104F	009104F
5-H	Header Gasket (20 PCS)	007343F	007343F	007343F	007343F	007343F	007343F	007343F
6-H	Drain Valve	006536F	006536F	006536F	006536F	006536F	006536F	006536F
7-H	Air Vent Valve	011866F	011866F	011866F	011866F	011866F	011866F	011866F
M MISCELLANEOUS COMPONENTS								
1-M	Flow Switch Paddle (Taco)	010026F	010026F	010026F	010026F	010026F	010026F	010026F
2-M	Window Combustion Chamber	006947F	006947F	006947F	006947F	006947F	006947F	006947F
3-M	T & P Guage 0-75 PSI	007205F	007205F	007205F	007205F	007205F	007205F	007205F
	T & P Guage 0-200 PSI	007399F	007399F	007399F	007399F	007399F	007399F	007399F
4-M	PRV 30 PSI	007217F	007218F	007748F	007748F	007748F	007748F	007748F
	PRV 45 PSI	007220F	007346F	007221F	007221F	007751F	007751F	007752F
	PRV 60 PSI	007222F	007222F	007222F	007753F	007753F	007754F	007754F
	PRV 75 PSI	007223F	007223F	007223F	007223F	007756F	007756F	007756F
	PRV 125 PSI	007224F	007224F	007224F	007224F	007758F	007758F	007758F
	PRV 150 PSI	007225F	007225F	007225F	007225F	007225F	007225F	007225F
5-M	RTV Sealant 2.8 oz (Not Shown)	008924F	008924F	008924F	008924F	008924F	008924F	008924F
	RTV Sealant 10 oz (Not Shown)	005755F	005755F	005755F	005755F	005755F	005755F	005755F
6-M	Flue Collector Vertical Seal Gasket	011772F	011772F	011772F	011772F	011772F	011772F	011772F
7-M	Heat Transfer Insulation Blanket	011896F	011896F	011896F	011896F	011896F	011896F	011896F
8-M	Insulation Blanket Return Header	007241F	007241F	007241F	007241F	007241F	007241F	007241F
9-M	Flue Exhaust Adapter Gasket	009735F	009735F	009735F	009736F	009736F	009736F	009736F
10-M	Inline Intake Air Filter	008402F	008402F	008402F	011897F	011897F	011897F	011897F
13-M	Inline Intake Air Filter Premium	012552F	012552F	012552F	012553F	012553F	012553F	012553F
14-M	Membrane Switch	012598F	012598F	012598F	012598F	012598F	012598F	012598F
11-M	Touch up Paint (Green) Not Shown	750125	750125	750125	750125	750125	750125	750125
	Touch up Paint (Dark Gray) Not Shown	750126	750126	750126	750126	750126	750126	750126
12-M	Wire Harness							
	Units manufactured without 30-S Wiring Panel	012538F	012538F	012538F	012538F	012538F	012538F	012538F
	Units manufactured with 30-S Wiring Panel	012566F	012566F	012566F	012566F	012566F	012566F	012566F
	Units manufactured with 16-C LCD Display	012625F	012625F	012625F	012625F	012625F	012625F	012625F
16-M	LCD Display Wire Harness	011715F	011715F	011715F	011715F	011715F	011715F	011715F
15-M	Plastic Handle	012681F	012681F	012681F	012681F	012681F	012681F	012681F
O OPTIONS								
1-O	Remote Sensor (LWCO)	007228F	007228F	007228F	007228F	007228F	007228F	007228F
2-O	Control PC Board (LWCO)	007157F	007157F	007157F	007157F	007157F	007157F	007157F
3-O	Test / Reset Switch (LWCO)	005641F	005641F	005641F	005641F	005641F	005641F	005641F
4-O	Silencer/Reset Switch (Alarm)	005641F	005641F	005641F	005641F	005641F	005641F	005641F
5-O	Alarm Bell 3"	005642F	005642F	005642F	005642F	005642F	005642F	005642F
	Alarm Bell 4"	005643F	005643F	005643F	005643F	005643F	005643F	005643F
6-O	Time Delay Contactor 5 Second (Alarm / Dry contacts)	008921F	008921F	008921F	008921F	008921F	008921F	008921F
7-O	Relay SPDT 24 VAC (Alarm / Dry Contact)	009039F	009039F	009039F	009039F	009039F	009039F	009039F
8-O	Relay DPDT 24 VAC (Alarm)	011720F	011720F	011720F	011720F	011720F	011720F	011720F
P PUMPS								
1-P	Pump -Circulating - Bronze (Soft Water)	007226F	007226F	007227F	011845F	007348F	007351F	007351F
	Pump -Circulating - Bronze (Medium Water)	007226F	007347F	011845F	007351F	007351F	007937F	007937F
	Pump -Circulating - Bronze (Hard Water)	007349F	007349F	007351F	007351F	007351F	007937F	007937F
	Pump -Circulating - CI (Soft Water)	007232F	007232F	007233F	011846F	007354F	007357F	007357F
	Pump -Circulating - CI (Medium Water)	007232F	007353F	011846F	007357F	007357F	007938F	007938F
	Pump -Circulating - CI (Hard Water)	007355F	007355F	007357F	007357F	007357F	007938F	007938F
S SHEETMETAL								
1-S	Jacket Top	011833F	011833F	011833F	011833F	011833F	011833F	011833F
2-S	Flue Collector Front (No Opening) (Includes 6-M and 8-M)	011787F	011788F	011789F	011790F	011791F	011792F	011793F
3-S	Flue Collector Rear (Opening) (Includes 6-M and 8-M)	011794F	011795F	011796F	011797F	011798F	011799F	011800F
4-S	Heat Transfer Supports	009107F	009107F	009107F	009107F	009107F	009107F	009107F
5-S	Upper Cabinet Supports	011849F	011849F	011849F	011849F	011849F	011849F	011849F
6-S	Vertical Cabinet Supports	011801F	011802F	011803F	011804F	011805F	011806F	011807F
7-S	Return Header Cover	007257F	007257F	007257F	007257F	007257F	007257F	007257F
8-S	Jacket Upper Front Panel	011808F	011808F	011808F	011808F	011808F	011809F	011809F
	Jacket Upper Front Panel w/LCD Display	012699F	012699F	012699F	012699F	012699F	012700F	012700F
9-S	Jacket Lower Front Panel	011810F	011811F	011812F	011813F	011814F	011815F	011816F
10-S	Jacket Upper Side Panel	011817F	011817F	011817F	011817F	011817F	011818F	011818F
11-S	Jacket Lower Side Panel	011819F	011820F	011821F	011822F	011823F	011824F	011825F
12-S	Jacket Upper Rear Panel	011877F	011877F	011878F	011879F	011879F	011880F	011880F
13-S	Jacket Lower Rear Panel	011826F	011827F	011828F	011829F	011830F	011831F	011832F
14-S	Base Assembly	009129F	009129F	009129F	009129F	009129F	009129F	009129F
15-S	Leg Bracket (4 pcs per boiler)	007306F	007306F	007306F	007306F	007306F	007306F	007306F
16-S	Base Reflector Panel	007307F	007307F	007307F	007307F	007307F	007307F	007307F
17-S	Flue Exhaust Adapter Assembly	011900F	011900F	011900F	011901F	011901F	011901F	011901F
18-S	Control Box Assy	011869F	011869F	011869F	011869F	011869F	011869F	011869F
19-S	Control Box Cover (2 Panels)	011870F	011870F	011870F	011870F	011870F	011870F	011870F
20-S	Control Box Cover Panel w/Lights	011871F	011871F	011871F	011871F	011871F	011871F	011871F
31-S	Control Box Cover Panel w/LCD Display	012697F	012697F	012697F	012697F	012697F	012697F	012697F
32-S	Control Box Cover Panel	012698F	012698F	012698F	012698F	012698F	012698F	012698F
21-S	Power Switch Mounting Panel	011872F	011872F	011872F	011872F	011872F	011872F	011872F
22-S	Blower/Pump Switch Mounting Panel	011873F	011873F	011873F	011873F	011873F	011873F	011873F
23-S	Controllor Mounting Panel	011874F	011874F	011874F	011874F	011874F	011874F	011874F
25-S	Intake Air Vent	N/A	N/A	N/A	N/A	N/A	011881F	011881F
25-S	Intake Air Adapter	N/A	N/A	N/A	N/A	N/A	011881F	011881F
27-S	Intake Air Collar (Inside)	011905F	011905F	011905F	011905F	011905F	N/A	N/A
28-S	Access Panel	011883F	011883F	011883F	011883F	011883F	011884F	011884F
29-S	Access Panel Wiring Box	011906F	011906F	011906F	011906F	011906F	011906F	011906F
30-S	24V Wiring Panel	012567F	012567F	012567F	012567F	012567F	012567F	012567F
V VENTING								
1-V	Outdoor Stack	011894	011894	011894	011895	011895	011895	011895
2-V	Vent Cap Vertical for Indoor Units	010802	010802	010802	010803	010803	010803	010803
3-V	Vent Cap Horizontal Thru-the-Wall for Indoor Units	006644	006644	006644	006646	006646	006646	006646
4-V	Inline Air filter (Complete)	006926	006926	006926	006927	006927	006927	006927
5-V	Inline Air filter Premium (Complete)	012460	012460	012460	012461	012461	012461	012461



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SNOW MELT SCHEDULE BY PHASE

SNOW MELT SCHEDULE PHASE 1 (9" O.C.)

ZONE	MANIFOLD	TYPE	AREA	BTU/SF	BTUH	TUBE SPACING	LF. 3/4" PEX	# LOOPS	LOOP LENGTH	FLOW (Gpm)	Gpm / Tube	HEAD-LOSS	VOLUME (Gal)
1A	MA-7	Conc.	1,054	160	168,640	9"	1,476	4	369	13	3	25.8	27
1A	MA-8	Conc.	1,204	160	192,640	9"	1,686	4	421	15	4	37.5	31
1B	MA-1	Conc.	2,587	160	413,920	9"	3,622	9	402	33	4	37.3	67
1C	MA-2	Conc.	2,079	160	332,640	9"	2,911	7	416	27	4	37.6	54
1D	MA-3	Conc.	2,273	160	363,680	9"	3,182	7	455	29	4	37.4	59
1E	MA-4	Conc.	990	160	158,400	9"	1,386	4	347	13	3	24.3	26
1E	MB-9	Conc.	1,943	160	310,880	9"	2,720	6	453	25	4	40.3	50
TOTAL			12,130		1,940,800		16,982		41				312

SNOW MELT SCHEDULE PHASE 2 (9" O.C.)

ZONE	MANIFOLD	TYPE	AREA	BTU/SF	BTUH	TUBE SPACING	LF. 3/4" PEX	# LOOPS	LOOP LENGTH	FLOW (Gpm)	Gpm / Tube	HEAD-LOSS	VOLUME (Gal)
2A	MB-6	Conc.	2,748	160	439,680	9"	3,847	9	427	35	4	38.0	71
2A	MB-7	Conc.	2,935	160	469,600	9"	4,109	10	411	38	4	40.0	76
2B	MB-4	Conc.	2,025	160	324,000	9"	2,835	7	405	26	4	36.0	52
2C	MB-8	Conc.	2,692	160	430,720	9"	3,769	9	419	34	4	37.3	69
2D	MB-5	Conc.	2,628	160	420,480	9"	3,679	9	409	34	4	36.4	68
2E	MB-1	Conc.	850	160	136,000	9"	1,190	3	397	11	4	38.5	22
2F	MA-5	Conc.	2,709	160	433,440	9"	3,793	9	421	35	4	37.5	70
2F	MA-6	Conc.	2,794	160	447,040	9"	3,912	9	435	36	4	38.7	72
TOTAL			19,381		3,100,960		27,133		65				499

SNOW MELT SCHEDULE PHASE 3 (9" O.C.)

ZONE	MANIFOLD	TYPE	AREA	BTU/SF	BTUH	TUBE SPACING	LF. 3/4" PEX	# LOOPS	LOOP LENGTH	FLOW (Gpm)	Gpm / Tube	HEAD-LOSS	VOLUME (Gal)
3A	MA-9	Conc.	1,666	160	266,560	9"	2,332	6	389	21	4	34.6	43
3A	MA-10	Conc.	1,484	160	237,440	9"	2,078	5	416	19	4	34.6	38
3B	MB-2	Conc.	2,889	160	462,240	9"	4,045	9	449	37	4	38.0	74
3B	MB-3	Conc.	2,485	160	397,600	9"	3,479	8	435	32	4	38.7	64
3E	MC-1	Conc.	2,097	160	335,520	9"	2,936	7	419	27	4	37.3	54
3E	MC-2	Conc.	2,014	160	322,240	9"	2,820	7	403	26	4	35.9	52
TOTAL			12,635		2,021,600		17,689		42				325

SNOW MELT SCHEDULE BY BOILER

SNOW MELT SCHEDULE BOILER "A" (9" O.C.)

MANIFOLD	ZONE	TYPE	AREA	BTU/SF	BTUH	TUBE SPACING	LF. 3/4" PEX	# LOOPS	LOOP LENGTH	FLOW (Gpm)	Gpm / Tube	HEAD-LOSS	VOLUME (Gal)
MA-1	1B	Conc.	2,693	160	430,880	9"	3,770	9	419	34	4	37.3	69
MA-2	1D	Conc.	1,809	160	289,440	9"	2,533	6	422	23	4	37.6	47
MA-3	1D	Conc.	2,099	160	335,840	9"	2,939	7	420	27	4	37.4	54
MA-4	1E	Conc.	990	160	158,400	9"	1,386	4	347	13	3	24.3	26
MA-5	2F	Conc.	2,709	160	433,440	9"	3,793	9	421	35	4	37.5	70
MA-6	2F	Conc.	2,794	160	447,040	9"	4,068	9	452	36	4	38.7	75
MA-7	1A	Conc.	1,054	160	168,640	9"	1,476	4	369	13	3	25.8	27
MA-8	1A	Conc.	1,204	160	192,640	9"	1,686	4	421	15	4	37.5	31
MA-9	3A	Conc.	1,666	160	266,560	9"	2,332	6	389	21	4	34.6	43
MA-10	3A	Conc.	1,927	160	308,320	9"	2,698	7	385	25	4	34.6	50
MA-11	2F	Conc.	1,917	160	306,720	9"	2,684	4	394	12	3	35.6	24
TOTAL			18,945		3,031,200		26,679		65				491

SNOW MELT SCHEDULE BOILER "B" (9" O.C.)

MANIFOLD	ZONE	TYPE	AREA	BTU/SF	BTUH	TUBE SPACING	LF. 3/4" PEX	# LOOPS	LOOP LENGTH	FLOW (Gpm)	Gpm / Tube	HEAD-LOSS	VOLUME (Gal)
MB-1	2E	Conc.	919	160	147,040	9"	1,287	3	429	12	4	38.2	24
MB-2	3B	Conc.	2,447	160	391,520	9"	3,426	8	428	31	4	38.0	63
MB-3	3B	Conc.	2,485	160	397,600	9"	3,479	8	435	32	4	38.7	64
MB-4	2B	Conc.	2,025	160	324,000	9"	2,835	7	405	26	4	36.0	52
MB-5	2D	Conc.	2,628	160	420,480	9"	3,679	9	409	34	4	36.4	68
MB-6	2A	Conc.	2,748	160	439,680	9"	3,847	9	427	35	4	38.0	71
MB-7	2A	Conc.	2,874	160	459,840	9"	4,024	9	447	37	4	40.0	74
MB-8	2A	Conc.	2,692	160	430,720	9"	3,769	9	419	34	4	37.3	69
MB-9	1E	Conc.	1,943	160	310,880	9"	2,720	6	453	25	4	40.3	50
TOTAL			20,761		3,321,760		29,068		68				535

SNOW MELT SCHEDULE BOILER "C" (9" O.C.)

MANIFOLD	ZONE	TYPE	AREA	BTU/SF	BTUH	TUBE SPACING	LF. 3/4" PEX	# LOOPS	LOOP LENGTH	FLOW (Gpm)	Gpm / Tube	HEAD-LOSS	VOLUME (Gal)
MC-1	3E	Conc.	2,097	160	335,520	9"	2,936	7	419	27	4	37.3	54
MC-2	3E	Conc.	2,014	160	322,240	9"	2,820	7	403	26	4	35.9	52
TOTAL			4,111		657,760		5,755		14				106

SNOW MELT PUMPS

PUMP#	MODEL	IMPELLER SIZE	HP	PHASE	VOLT	FLOW	HEAD
P-1	2BC	9-1/2"	7-1/2 HP	3	208-230	194	80'
P-2	2BC	9-1/2"	7-1/2 HP	3	208-230	194	80'
P-3	2-1/2BB	9-1/2"	9-1/2 HP	3	208-230	227	82.9'
P-4	2-1/2BB	9-1/2"	9-1/2 HP	3	208-230	227	82.9'
P-5	1-1/2X7	6	1 HP	3	208-230	44	34.2'
P-6	1-1/2X7	6	1 HP	3	208-230	44	34.2'

SNOW MELT MATERIALS PHASE 1
TOTAL AREA 11,507 SF

QTY.	PART #	DESCRIPTION
12,000	806018	WIRE TIES
7	1P0008	1-1/2" PRESSURE TEST KIT
6	1K0015	EMBEDDED INSTALL KIT-3/4"
3	BAM04-15-.75"	4-RUN MANIFOLD KIT
3	BAM06-15-.75"	6-RUN MANIFOLD KIT
1	BAM09-15-.75"	9-RUN MANIFOLD KIT
2	BDUA14	7/8" REPAIR COUPLERS
9	8006-55	55 GAL DRUM PROPYLENE GLYCOL
19	TPXB4CR10	3/4" x 1000' PEX W/0, TUBING
1	TPXB4CR5	3/4" x 500' PEX W/02 TUBING
7	5626	Manifold Boxes
7	414262	Manifold Box Covers

SNOW MELT MATERIALS PHASE 2
TOTAL AREA 19,453 SF

QTY.	PART #	DESCRIPTION
10,000	806018	WIRE TIES
8	1P0008	1-1/2" PRESSURE TEST KIT
6	1K0015	EMBEDDED INSTALL KIT-3/4"
1	BAM03-15-.75"	3-RUN MANIFOLD KIT
1	BAM07-15-.75"	7-RUN MANIFOLD KIT
5	BAM09-15-.75"	9-RUN MANIFOLD KIT
1	BAM10-15-.75"	10-RUN MANIFOLD KIT
2	BDUA14	7/8" REPAIR COUPLERS
7	8006-55	55 GAL DRUM PROPYLENE GLYCOL
32	TPXB4CR10	3/4" x 1000' PEX W/0, TUBING
1	TPXB4CR5	3/4" x 500' PEX W/02 TUBING
8	5626	Manifold Boxes
8	414262	Manifold Box Covers

SNOW MELT MATERIALS PHASE 3
TOTAL AREA 12,632 SF

QTY.	PART #	DESCRIPTION
9,000	806018	WIRE TIES
6	1P0008	1-1/2" PRESSURE TEST KIT
6	1K0015	EMBEDDED INSTALL KIT-3/4"
1	BAM06-15-.75"	6-RUN MANIFOLD KIT
3	BAM07-15-.75"	7-RUN MANIFOLD KIT
2	BAM08-15-.75"	8-RUN MANIFOLD KIT
2	BDUA14	7/8" REPAIR COUPLERS
6	8006-55	55 GAL DRUM PROPYLENE GLYCOL
21	TPXB4CR10	3/4" x 1000' PEX W/0, TUBING
1	TPXB4CR5	3/4" x 500' PEX W/02 TUBING
6	5626	Manifold Boxes
6	414262	Manifold Box Covers

BOILER SCHEDULE

BOILER #	BOILER LOCATION	MODEL #	TYPE	MBTHU	DIMENSIONS			FLOW RATES			PRESSURE DROPS						
					INPUT MAX	OUTPUT	INPUT MIN.	WIDTH	LENGTH	HEIGHT	MINIMUM FLOW	MAXIMUM FLOW	30°F				
A-1	MARQUIS HALL	MVB-2003	NATURAL GAS	1999	1739	500	30"	26"	81"	87	1809	40	116	31.9	30	116	31.9
A-2	MARQUIS HALL	MVB-2003	NATURAL GAS	1999	1739	500	30"	26"	81"	87	1809	40	116	31.9	30	116	31.9
B-1	HOEY HALL	MVB-2003	NATURAL GAS	1999	1739	500	30"	26"	81"	87	1809	40	116	31.9	30	116	31.9
B-2	HOEY HALL	MVB-2003	NATURAL GAS	1999	1739	500	30"	26"	81"	87	1809	40	116	31.9	30	116	31.9
C	GORDON HALL	MVB-735	NATURAL GAS	750	653	188	30"	26"	49"	33	1.9	40	100	13.8	13	44	3.1

LIABILITY

This drawing and our recommendations and suggestions, are intended to assist our customers. Our design represents our best judgment based on our experience and the best facts provided to us, any use thereof is at the sole risk of the customer.

It is assumed that the customer will install the THAW-PAK system in compliance with all local, state and national codes.

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