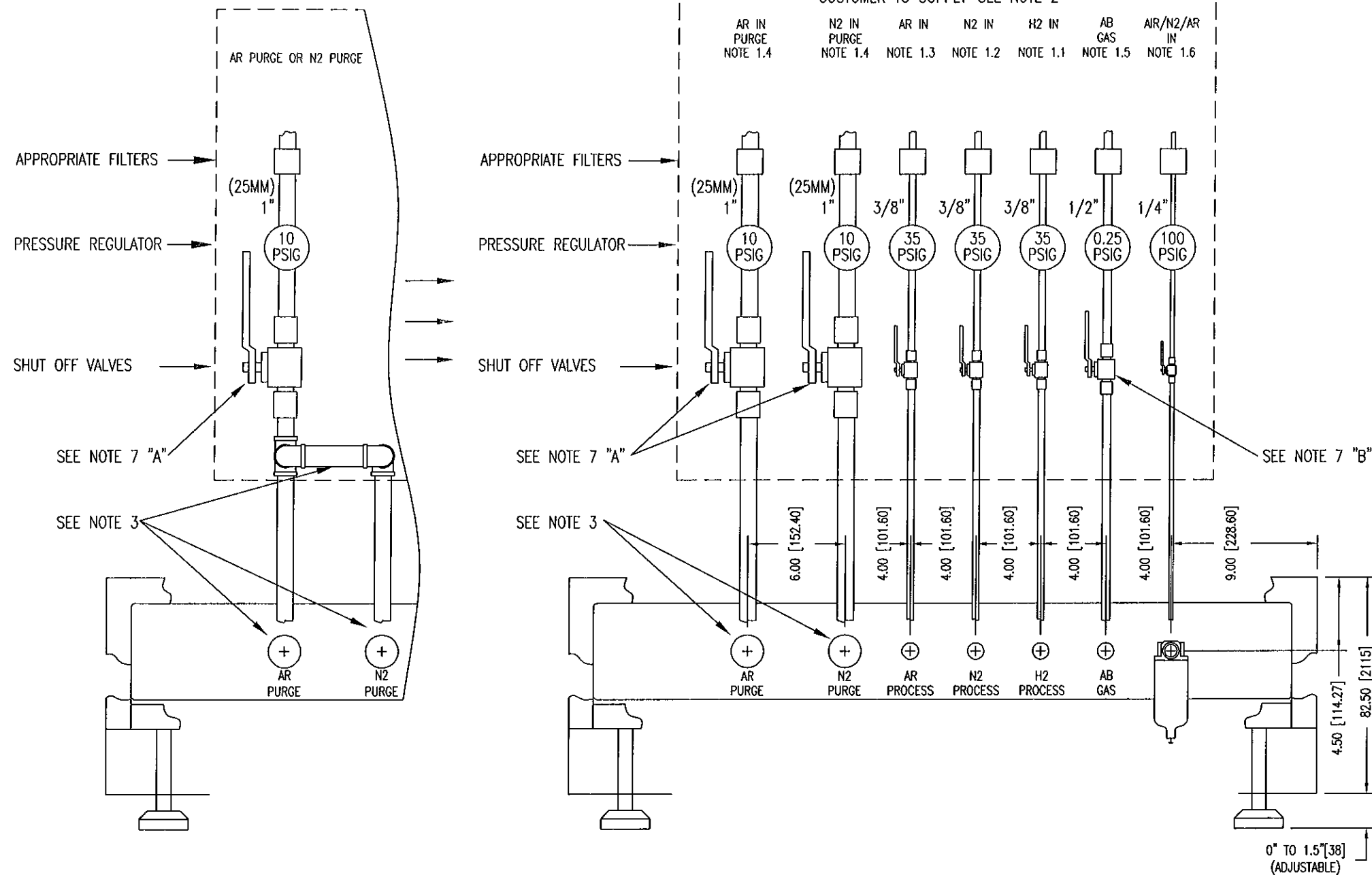


GAS/AIR HOOK UP PANEL



NOTE 2: PROCESS GASSES AND RESOURCE REQUIREMENT


- SUPPLY ALL SERVICES WITH CLEAN DRY FILTERED GASES.
FILTER RECOMMENDATION:
PROCESS GASSES: 15 MICRON
INSTRUMENT AIR: 40 MICRON
PURGE GAS: NO FILTER
- ALL PIPING AND CONNECTIONS SHOULD MEET STATE AND LOCAL GUIDELINES.
- ALL SHUT-OFF VALVES SHOULD BE STAINLESS STEEL OR BRASS.
- ALL SHUT-OFF VALVES MUST BE VACUUM TIGHT.
- ALL CUSTOMER PIPING MUST BE CLEANED INTERNALLY PRIOR TO CONNECTING TO FURNACE.

NOTE 3: CONNECTIONS TO BE PROVIDED BY CUSTOMER: (NPT THREADS) SEE NOTE 10.

WHEN ONLY ONE PURGE GAS IS PRESENT, BOTH AR AND N2 PURGE LINES ARE TO BE CONNECTED BY A TEE OR BYPASS VALVE.
DO NOT PLUG EITHER OF THE PURGE GAS INLETS.

NOTE 1: FLOW RATE/PRESSURE

NOTE No.	GAS	CONNECTIONS MAIL NPT	INTERNAL PRESSURE SWITCHES SET AT	REQUIRED SUPPLY PRESSURE	MAXIMUM FLOW RATE
1.1	H2 PROCESS	1/4"	1725 mbarg (25 PSIG)	2400 mbarg (35 PSIG MAX)	100 L/MIN. (212 CUFT/HR) APPROX.
1.2	N2 PROCESS	1/4"	1725 mbarg (25 PSIG)	2400 mbarg (35 PSIG MAX)	100 L/MIN. (212 CUFT/HR) APPROX.
1.3	AR PROCESS	1/4"	1725 mbarg (25 PSIG)	2400 mbarg (35 PSIG MAX)	100 L/MIN. (212 CUFT/HR) APPROX.
1.4	AR/N2 PURGE	1"	344 mbarg (5 PSIG)	689 mbarg (10 PSIG MAX)	1000 L/MIN (35 CUFT/MIN) APPROX.
1.5	NATURAL GAS	1/2"		17 mbarg (0.25 PSIG MAX) (7" WC)	34 L/MIN (72 CUFT/HR) APPROX.
	PROPANE GAS	1/2"		27 mbarg (0.40 PSIG MAX) (11" WC)	15 L/MIN (32 CUFT/HR) APPROX.
1.6	AIR/N2/AR PNEUMATIC:	1/4"	5860 mbarg (85 PSIG)	6895 mbarg (100 PSIG MAX)	2.5 L/MIN (5 CUFT/HR) APPROX.

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STANDARD		SERIAL No.	
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HIGH TEMP. VACUUM FURNACE GENERAL HOOK-UP PANEL MIM 3045			
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NOTE 4: COOLING WATER

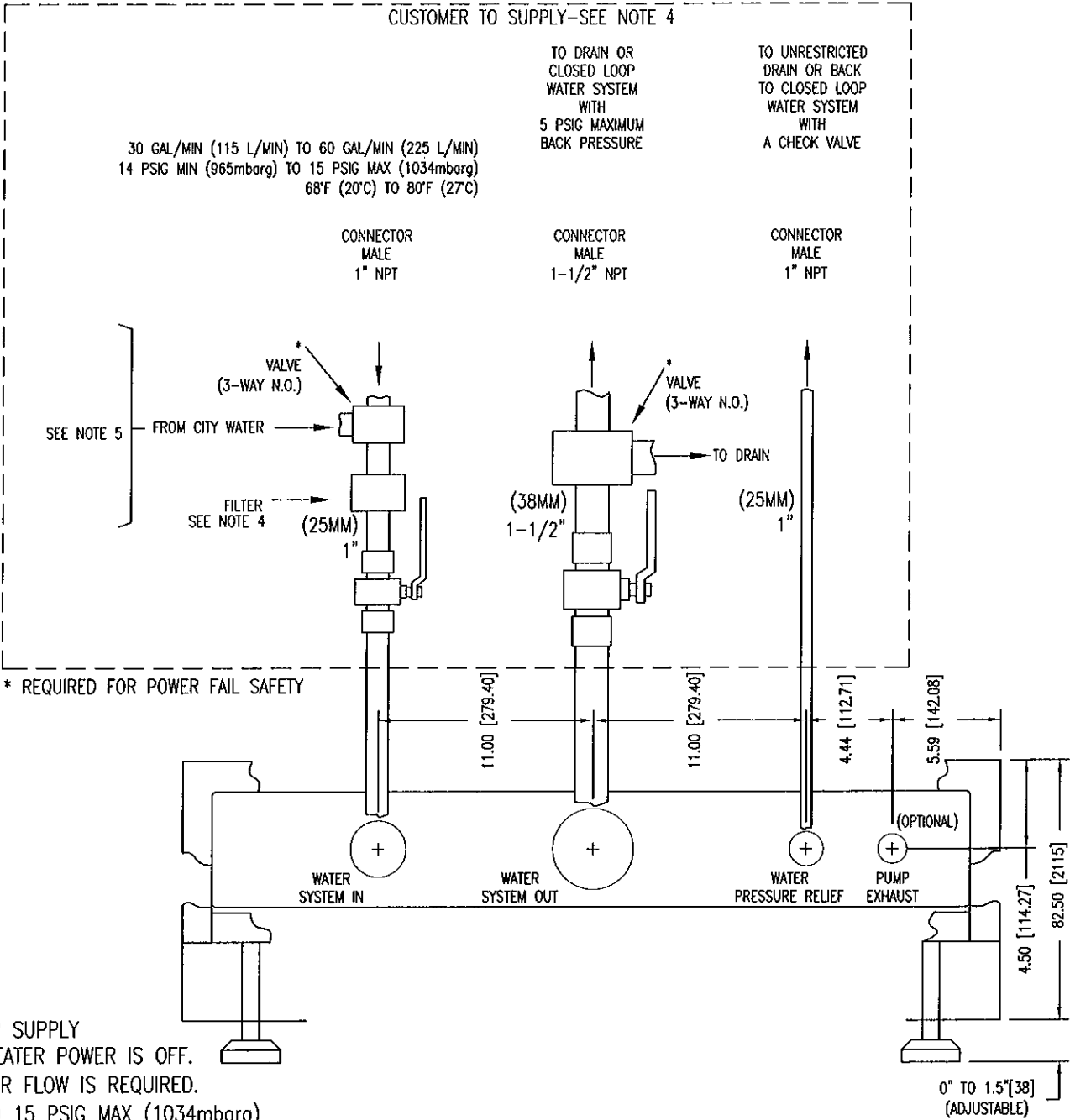
WATER IN:

- 30 GAL/MIN (115 L/MIN) TO 60 GAL/MIN (225 L/MIN)
- 14 PSIG MIN (965mbarg) TO 15 PSIG MAX (1034 mbarg)
- 68°F TO 80°F (20°C TO 27°C)
- CUSTOMER TO SUPPLY SHUT-OFF VALVES; FILTER & MAIN PRESSURE REGULATOR

REQUIREMENTS FOR AVOIDING CORROSION DAMAGE:


- INLET TEMPERATURE ABOVE THE AMBIENT TEMPERATURE (TO AVOID CONDENSATION)
- MAXIMUM INLET TEMPERATURE 80° F (27° C)
- WATER FILTERED, MECHANICALLY CLEAN, OPTICALLY CLEAR, WITHOUT CLOUDINESS OR SEDIMENT
- FILTER 150 MICRON
- MINIMUM OXYGEN CONTENT 4 mg/l
- MAXIMUM CHLORIDE CONTENT 100 mg/l
- MAXIMUM HARDNESS OF WATER 10 d H (179 ppm)
- MAXIMUM POTASSIUM PERMANGANATE CONSUMPTION 10 mg/l
- pH VALUE MINIMUM 7, MAXIMUM 9
- NO AGGRESSIVE CARBON DIOXIDE AND AMMONIA SHALL BE DETECTABLE.
- COOLING WATER SYSTEMS ARE SUBJECT TO SCALING, BIOLOGICAL FOULING AND CORROSION. THE EXTENT AND MAGNITUDE OF COOLING WATER TREATMENT NECESSARY FOR PROPER OPERATION IS DETERMINED BY MAKE-UP WATER QUALITY AND LOCAL ENVIRONMENT. A LOCAL INDUSTRIAL WATER TREATMENT PROFESSIONAL SHOULD BE CONSULTED TO DETERMINE THE OPTIMUM COOLING WATER SYSTEM, OPERATING PARAMETERS AND CHEMICAL TREATMENT LEVELS.
- 1" WATER PRESSURE RELIEF LINE MUST BE PLUMBED SEPERATELY WITH NO VALVING OR PRESSURE REGULATOR, TO AN UNRESTRICTED DRAIN.
- IF CLOSED LOOP WATER SYSTEM, MAKE SURE WATER IS TREATED PROPERLY.

WATER/EXHAUST HOOK-UP PANEL



NOTE 5: CITY WATER BACK UP SUPPLY
-DURING POWER LOSS ALL HEATER POWER IS OFF.
-15 (GAL/MIN) MINIMUM WATER FLOW IS REQUIRED.
-14 PSIG MIN (965mbarg) TO 15 PSIG MAX (1034mbarg)
-70°F (21°C) NOMINAL.

CITY WATER SOLENOID VALVES MUST BE ELECTRICALLY INTERLOCKED TO THE POWER SUPPLY OF THE COOLING SYSTEM.

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NOTE 6: ENVIRONMENTAL

- OPERATING TEMPERATURE 10°C TO 35°C (50°F TO 95°F)
- HUMIDITY RATING 5% TO 95%, NON-CONDENSING

NOTE 7: NFPA 86D 2004 STANDARDS

A) AS PER 8-2.2

SUPPLY A MANUAL PURGE VALVE WITH A MICROSWITCH ON THE AR/N2 PURGE INLET CONNECTION ON THE HOOK UP PANEL TO PROVE OPEN POSITION OF VALVE. SEE ELECTRICAL CONNECTION WIRING DIAGRAMS AND NOTE 7 FOR TERMINAL CONNECTIONS.

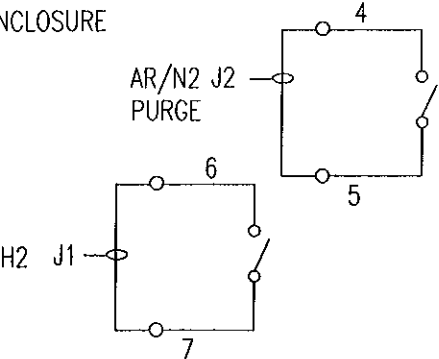
B) AS PER 8-2.3.3

SUPPLY MANUAL SHUT OFF VALVE IN THE H2 SUPPLY LINE TO FURNACE HOOK UP PANEL. SEE ELECTRICAL CONNECTION WIRING DIAGRAMS AND NOTE 7 FOR TERMINAL CONNECTIONS.

NOTE 9: CONNECTION INSIDE ELECTRICAL ENCLOSURE

REMOVE JUMPER J2.
CUSTOMER TO INSTALL MANUAL N2
PURGE VALVE TO PROVE OPEN

REMOVE JUMPER J1.
CUSTOMER TO INSTALL HYDROGEN
SENSOR MOUNTED IN ROOM ON
CEILING WHERE FURNACE IS INSTALLED




NOTE 10: PART NUMBERS FOR NPT x BSPT ADAPTERS
(THESE PARTS SUPPLIED IN WHITE BOX INSIDE FURNACE)

- (4) 15A-301 1/4"
- (4) 15A-305 1"
- (1) 15A-306 1-1/2"
- (1) 15A-303 1/2" (AB OPTION ONLY)

NOTE 8: ELECTRICAL

			MIM 3045	2045G
50 Hz	3 PHASE	380/400V	415A	280A
60 Hz	3 PHASE	460/480V	344A	233A

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