NOTES:

1. CAUTION: TO PROTECT EQUIPMENT, YORK SHIPS ALL EVAPORATOR, CONDENSER, ECONOMIZER, COMPRESSOR, OIL RETURN UNIT AND PUMPOUT UNIT REFRIGERANT CIRCUITS SEALED AND CHARGED WITH 5 PSIG DRY NITROGEN. EVAPORATOR AND CONDENSER WATER CIRCUITS ARE ALSO PURGED DRY AND SEALED. DO NOT RELEASE PRESSURE OR OPEN ANY CONNECTIONS UNTIL NECESSARY TO MAKE UP PIPING. ONCE OPENED, SHELLS SHOULD BE PROTECTED AT ALL TIMES AGAINST ENTRY OF DIRT AND MOISTURE. PIPING CONNECTIONS SHOULD BE COMPLETED AND CLOSED AS PROMPTLY AS PRACTICAL.
2. FOR COMPLETE TURBOMASTER UNIT INSTALLATION & MAINTENANCE INSTRUCTIONS, RECOMMENDED SEQUENCE OF ASSEMBLY, AND RELATED GENERAL INFORMATION, REFER TO YORK IOM (INSTALLATION, OPERATION AND MAINTENANCE MANUAL).
3. ALL PIPING SHOULD BE MADE UP AND RUN IN A NEAT AND WORKMAN-LIKE MANNER AS SHOWN AND NOTED ON THIS DRAWING, TAKING CARE NOT TO INTERFERE WITH INSPECTION/MAINTENANCE ACCESS TO ANY UNIT COMPONENTS. ALL PIPE, VALVES AND FITTINGS SHOULD BE CLEAN, DE-BURRED AND DRY PRIOR TO ASSEMBLY.
4. ALL PIPING MUST BE SUPPORTED AS NECESSARY TO WITHSTAND COMBINED WEIGHT OF PIPE, FITTINGS, VALVES AND FLUID IN PIPE TO PREVENT NOISE, VIBRATION AND PHYSICAL DAMAGE, AND TO AVOID STRESS OR DISTORTION AT ANY POINT OR CONNECTION. NOTE - DO NOT WELD ANY SUPPORTS DIRECTLY TO ASME CODE PRESSURE VESSELS (EVAPORATOR, CONDENSER, ECONOMIZER, OIL RETURN UNIT OR RECEIVER), EXCEPT WHERE SPECIFICALLY NOTED, USING REINFORCING PADS PROVIDED ON SHELL FOR THE PURPOSE. SUPPORTS MAY BE WELDED TO OTHER PIPING WHERE IT WILL NOT INTERFERE WITH THE FUNCTION OF THE OTHER PIPE, AND WITH ADEQUATE ALLOWANCE FOR INSULATION AND SERVICE ACCESS.
5. WELD SUPPORT (680) TO PADS LOCATED ON SHELLS. TRIM TO SUIT.
6. PIPING ARRANGEMENT(S) SHOWN ARE TYPICAL, AND ARE THE BASIS OF THE TABULATED MATERIAL LIST(S) AND QUANTITIES.

   PIPING MAY BE RE-ROUTED AS NECESSARY TO SUIT SPECIFIC INSTALLATION CONDITIONS, TAKING CARE NOT TO TRAP LINES OR OTHERWISE INTERFERE WITH INTENDED FUNCTION, UNLESS OTHERWISE INDICATED.
7. OIL RETURN LINE FROM OIL RETURN UNIT TO COMPRESSOR SUMP MUST BE ARRANGED HORIZONTALLY OR CONTINUOUSLY SLOPED TOWARD COMPRESSOR, AND FREE OF TRAPS TO PROVIDE GRAVITY FLOW.
8. LIQUID INJECTION CONNECTIONS MUST BE LOCATED AS SHOWN. NO OTHER POINTS OF LIQUID INJECTION ARE TO BE USED.
9. FLANGES MUST BE LOCATED IN RELATIVE LOCATION(S) SHOWN TO AID SERVICE (I.E.: SOLENOIDS, LIQUID INJECTION, FLOAT VALVE, FILTER DRIER, OIL EDUCTOR).
10. PIPE, TUBING, VALVES AND FITTINGS WHEN FURNISHED BY YORK WILL BE SHIPPED LOOSE FOR FIELD ASSEMBLY (SEE NOTE 20). PIPE WILL BE SUPPLIED IN STRAIGHT LENGTHS OF EACH SIZE REQUIRED, AND TUBING IN COILS. CUT TO LENGTH AND SCARF FOR WELDING, THREAD, FLARE OR BRAZE, AS REQUIRED, AT JOB SITE.
11. ALL WELDED JOINTS 2" AND SMALLER TO BE SOCKET WELDED AND ALL JOINTS LARGER THAN 2" TO BE BUTT WELDED, EXCEPT AS NOTED.

    ALL PIPE THREAD JOINTS TO BE MADE UP WITH LOCTITE SEALING COMPOUND PER THE FOLLOWING TABLE:

FITTING TYPE	FITTING SIZE	RECOMMENDED SEALANT		
		243 - BLUE HIGH VISCOSITY	277 - RED HIGH VISCOSITY	554 - RED LOW VISCOSITY
PERMANENT	UP TO 1/2"			X
	1/2" TO 3"		X[1]	
SEMI-PERMANENT	UP TO 1/2"			X
	1/2" TO 3"	X[1]		

    X[1] - FOR FITTINGS ABOVE 3", SPRAY PRIMER N (7649) ON FEMALE THREADS.

    ALL FLARE JOINTS MUST BE CLEAN AND MADE UP TIGHT WITHOUT ANY PIPE JOINT COMPOUND. TUBING SHOULD BE FLARED USING TOOLS SPECIFICALLY DESIGNED FOR THE PURPOSE.

    ALL SLIP JOINTS TO BE POLISHED CLEAN BEFORE ASSEMBLY, THEN BRAZED.
    FOR COPPER OR COPPER ALLOY TO STEEL AND STEEL TO STEEL JOINTS, USE BRAZING MATERIAL PER ASME SFA-5.8, CLASS BAG-20 (SAFETY SILV 30, TYPICAL) AND APPLICABLE FLUX (STAY SILV, WHITE, TYPICAL).
12. SYSTEM RELIEF VALVES, ITEM (512) & (554), PRESSURE SETTING IS 300 PSIG. OIL RETURN UNIT AND IF APPLICABLE, OPTIONAL FILTER DRIER PIPING, RELIEF VALVE(S) PRESS. SETTING IS 300 PSIG.
13. BURSTING DISKS PRESSURE SETTING IS 300 PSIG (NOMINAL).
14. REFRIGERANT PIPING SHALL BE TESTED IN ACCORDANCE WITH THE ASME CODE FOR REFRIGERATION PIPING, ASME B31.5-2001, LATEST ADDENDA. AFTER INSTALLATION, CONDUCT A PRESSURE TEST AND LEAK TEST AS SPECIFIED IN THE CODE. WARNING: PROTECT PERSONNEL FROM INJURY DURING TESTING.

    TESTING MEDIUM - SUITABLE DRY GAS SUCH AS NITROGEN OR AIR PER PARA. 538.5 IN ASME B31.5-2001, LATEST ADDENDA.
    THE FOLLOWING SUMMARIZES THE TESTING PROCEDURE THAT SHOULD BE FOLLOWED:

    A. REMOVE TAPE, PAINT, SCALE, RUST AND DIRT FROM ALL PIPING WELDS PRIOR TO TESTING.

    B. RELIEF VALVES AND RUPTURE DISCS MUST BE REMOVED FROM THE VESSELS. TEMPORARILY INSTALL TEST GASKETS PER (ITEM 681, 2") & (682, 1") IN PLACE OF RUPTURE DISKS, BETWEEN RETAINING FLANGES. CAUTION: TESTING WITHOUT A GASKET BETWEEN SAFETY HEAD PIECES MAY CAUSE SEAT DAMAGE AND CHRONIC LEAK PROBLEMS.

    C. INSTALL PRESSURE LIMITING/SAFETY DEVICES AT THE OUTLET SIDE OF THE TEST PRESSURE SOURCE. DEVICE RELIEF SETTING NOT TO EXCEED 130% (390 PSIG) OF THE STAMPED SYSTEM RELIEF VALVE SETTING (300 PSIG).

    D. PRELIMINARY TESTING TO LOCATE MAJOR LEAKS SHOULD BE PERFORMED AT 25 PSIG. AFTER REPAIRING ALL MAJOR LEAKS, RAISE THE SYSTEM PRESSURE TO CONDUCT A SAFETY PROOF PRESSURE TEST BEFORE CHECKING FOR SMALL LEAKS.

    E. PRESSURE TESTING SHALL BE DONE AT 110% (330 PSIG) OF THE STAMPED SYSTEM RELIEF VALVE SETTING.

    F. THE SYSTEM PRESSURE SHALL BE GRADUALLY INCREASED TO ONE-HALF OF THE PROOF PRESSURE FOLLOWED BY ONE-TENTH INCREMENTAL INCREASES UNTIL THE REQUIRED PROOF PRESSURE IS REACHED. MAINTAIN A MINIMUM OF 5 MINUTES BETWEEN PRESSURE INCREMENTS. MAINTAIN THE PROOF TEST PRESSURE FOR A MINIMUM OF 10 MINUTES.

    G. REDUCE THE SYSTEM PRESSURE TO 80% (240 PSIG) OF STAMPED SYSTEM RELIEF VALVE SETTING AND CONDUCT THE LEAK TEST AS DETAILED IN ARTICLE 10, SECTION V OF THE ASME BOILER AND PRESSURE VESSEL CODE.

    H. AFTER COMPLETING THE LEAK TEST, RELEASE PRESSURE, REMOVE TEST GASKETS AND REINSTALL ALL RELIEF VALVES/RUPTURE DISKS. FOLLOWING SYSTEM DEHYDRATION AND PRIOR TO START-UP, LEAK TEST REASSEMBLED RELIEF JOINTS USING THE SYSTEM REFRIGERANT AT AMBIENT CONDITIONS.
15. RELIEF VALVE DISCHARGE (VENT PIPING NOT FURNISHED BY YORK) MUST BE VENTED OUTSIDE THE BUILDING FOR SAFETY OF PERSONNEL. SIZE SHALL NOT BE LESS THAN THE VALVE OUTLET CONNECTION SIZE. LENGTH AND SIZE OF DISCHARGE PIPING SHALL BE SELECTED TO CONFORM TO ANSI/ASHRAE ST'D. 15 SAFETY CODE. A FLANGED JOINT MUST BE PROVIDED IN THE VENT PIPING ADJACENT TO EACH RELIEF VALVE TO PROVIDE SERVICE ACCESS TO THE VALVE(S). VENT LINE(S) MUST BE PROPERLY SUPPORTED AND A FLEXIBLE CONNECTION MUST BE PROVIDED IN THE INDIVIDUAL VALVE, OR COMMON VENT LINE(S) NEAR THE RELIEF VALVE(S) TO AVOID ANY POSSIBLE STRESS ON RELIEF VALVE(S) OR RUPTURE DISK(S).

    REQUIRED SYSTEM RELIEF CAPACITY FOR VENT LINE SIZING, BASED ON TOTAL OF VALVE(S) NAMEPLATE RATING = 720 LBS. OF AIR PER MINUTE.

NOTES: (CONT.)

16. OIL RETURN RELIEF VALVE (1/2" MALE FLARE CONN.) MUST BE VENTED OUTSIDE THE BUILDING FOR SAFETY OF PERSONNEL. MINIMUM 1/2" LINE MAY BE CONNECTED TO UNIT RELIEF VENT LINE. PROVIDE TEE IN LINE AT VALVE WITH PIPE PLUG FOR LEAK TESTING AND UNION CONN. FOR SERVICE ACCESS.

    IF APPLICABLE, OPTIONAL FILTER DRIER PIPING RELIEF VALVE (5/8" MALE FLARE CONN.), MUST BE VENTED IN SAME MANNER, BUT WITH MINIMUM 5/8" LINE.
17. PURGE VALVE (3/4" NPT) MUST BE VENTED OUTSIDE THE BUILDING FOR SAFETY OF PERSONNEL (MIN. 3/4" LINE). MAY BE CONNECTED TO UNIT RELIEF VENT LINE. PROVIDE TEE IN VENT LINE AT VALVE WITH PIPE PLUG FOR LEAK TESTING, AND UNION CONN. FOR SERVICE ACCESS.
18. ALL REFRIGERANT PIPING SHALL CONFORM TO THE REQUIREMENTS OF ASME B31.5 REFRIGERATION PIPING. FOR MATERIALS, DESIGN, FABRICATION, ASSEMBLY, ERECTION, TEST AND INSPECTION. DESIGN, CONSTRUCTION, INSTALLATION, OPERATION AND INSPECTION OF THE SYSTEM SHALL CONFORM TO ANSI/ASHRAE STANDARD 15, SAFETY CODE FOR MECHANICAL REFRIGERATION. ALL APPLICABLE STATE, COUNTY, CITY AND LOCAL LAWS, RULES AND REGULATIONS PERTAINING TO CONSTRUCTION, INSTALLATION AND INSPECTION SHALL ALSO BE CONFORMED TO.
19. REFER TO INSTRUCTION DRAWING 077-10989-000 FOR TORQUE REQUIREMENTS.
20. LIQUID INJECTION, OIL RETURN & SYSTEM RELIEF PIPING TO BE:

    FURNISHED BY [X] YORK FACTORY [ ] YORK FIELD [ ] OTHERS

    INSTALLED BY [ ] YORK FIELD [X] OTHERS

REV. LEV.	DATE	REVISION RECORD	CHG. NO.	DR.	CK.
-		NEW	CSIO 0365		
A	12-22-10	CHANGED TO OM-5090 IN TITLE.	CSIO 0523	MEB	MEB

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YORK INTERNATIONAL CORPORATION
YORK, PA. 17405

DIMENSIONS ARE IN INCHES
DO NOT SCALE
TOLERANCES PER ENG. STD. M-282
WELDING PER ENG. STD. M-30
REF. DWG.

KIT, PIPING, SYSTEM
OM - 5090
REFRIGERANT - 134a
NEMA - 1

MATERIAL
TYPE _____ ENG. STD. _____
PART NO. _____
CUT SIZE _____

NAME	DATE
DR. M E BAUGHMAN	09-22-10
APPR. M E BAUGHMAN	09-24-10
SCALE: NTS	

SIZE D | CAGE NO 66935 | DRAWING NUMBER 023-25214-002

WT. = LBS. | ORIG. NO. 023-25214-002 | SHEET 5 OF 5

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