



COMBUSTION MOTOR SIZE - 3 H.P.
 SYSTEM MOTOR SIZE - 20 H.P.
 ELECTRICAL - 208/230 VAC/60 Hz/3 PH
 B.T.U. RATING - 2,900,000 BTU/HR
 GAS SUPPLY LINE 1 1/2" NPT
 GAS PRESSURE REQUIRED = 2890 SCFH @ 2-5 PSI SUPPLY
 INLET FLOW RATE - 250-1000 SCFM

- NOTES:
- 1) THE PROCESS INLET VALVE MUST REMAIN CLOSED AND THE DILUTION AIR VALVE MUST REMAIN OPEN UNTIL THE SYSTEM OUTLET TEMPERATURE REACHES A PRESET LEVEL.
 - 2) THE DILUTION AIR VALVE IS ADJUSTED TO DILUTE PROCESS INLET TO MAINTAIN OUTLET TEMPERATURE SET POINT.
 - 3) CATALYST VOLUME IS 1.4 CU FT.

REV	DESCRIPTION	DATE	APPR.
1	ADDED 2000 CFM CAPABILITY	12/22/05	JUD

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BISCO Environmental
 Soil & Groundwater Remediation Equipment
 Randolph, Massachusetts 02309

TITLE
 INTEGRATED THERMAL CATALYTIC OXIDIZER
 PROCESS & INSTRUMENTATION DIAGRAM

BISCO ENVIRONMENTAL
 SERIAL UNIT
 RNI1005ETP

JOB NO. RNI1005
 SHEET 1 REV 1

LEGEND

ETM	ELAPSED TIME METER
FE	FLOW ELEMENT
FI	FLOW INDICATOR
FT	FLOW TRANSMITTER
LSH	LEVEL SWITCH HIGH
LSHH	LEVEL SWITCH HIGH HIGH
LSL	LEVEL SWITCH LOW
M	MOTOR
MCP	MASTER CONTROL PANEL
MOV	MOTOR OPERATED VALVE
PHI	PRESSURE DIFFERENTIAL HIGH
PI	PRESSURE INDICATOR
PSH	PRESSURE SWITCH HIGH
PSL	PRESSURE SWITCH LOW
SP	SAMPLE PORT
SV	SOLENOID VALVE
TV	TEMPERATURE CONTROL VALVE
TE	TEMPERATURE ELEMENT
TI	TEMPERATURE INDICATOR
TIC	TEMPERATURE INDICATING CONTROLLER
TSH	TEMPERATURE SWITCH HIGH
VI	VACUUM INDICATOR
ZSC	POSITION SWITCH CLOSED
ZSO	POSITION SWITCH OPEN
	BALL VALVE
	BUTTERFLY VALVE
	GATE VALVE
	RELIEF VALVE
	WYE STRAINER
	REGULATOR
	PANEL MOUNTED
	ALARM LIGHT
	RUN LIGHT
	EMERGENCY STOP
	AIR LINE
	CONTROL LINE
	GAS LINE
	ANALOG LINE
	WATER LINE
	BREAK

- ALARMS
1. SYSTEM INLET VALVE NOT CLOSED
 2. DILUTION VALVE NOT OPEN
 3. MOISTURE SEPARATOR HIGH HIGH LEVEL
 4. CATALYST INLET HIGH TEMPERATURE
 5. CATALYST DISCHARGE HIGH TEMPERATURE
 6. SYSTEM READY TEMPERATURE NOT REACHED
 7. CATALYST HIGH DIFFERENTIAL PRESSURE
 8. SYSTEM AIR LOW PRESSURE
 9. GAS LOW PRESSURE
 10. GAS HIGH PRESSURE
 11. FLAME FAILURE
 12. COMBUSTION AIR LOW PRESSURE
 13. EMERGENCY STOP