REVISION HISTORY							
ZONE	REV	ECN	DESCRIPTION	DATE	DR	CHK	APPD
.	A	.	ANALOG BD SHOWN AS ANA 1 OR 2, SHT 1 OF 1	11-29-05	HGN	BSH	HGN
.	B	.	ADD DIP SW NOTES TO 7984	02-22-06	HGN	BSH	HGN
.	C	.	CHANGE TE-6 FROM CH 5 TO CH 13	02-24-06	HGN	JL	HGN
.	D	.	AUTODESK	03-09-06	HGN	JL	HGN
.	E	.	ADD TEMP SW OPTION TO STATOR TEMP	03-14-07	HGN	JML	HGN
.	F	.	BLOWER MOTOR AUX CORRECTION	03-15-07	HGN	JLS	HGN
.	G	.	ADD VYPER SIZE NOTES	04-12-07	HGN	JML	HGN
.	H	.	REVISE WIRING DESIGNATIONS & LINETYPE	07-03-07	HGN	JML	JML
.	J	.	REVISE WIRE NOTE FOR BLOWER MOTORS, ADD INFO	10-12-07	HGN	JML	JML

THIS WIRING MAY GO TO ANA 1 OR 2

+12
0V OR COM
P2

BELDEN #9320(20/2) OR EQUAL
CABLE #1012
TERMS IN VYPER: DR, RED, BLK, WHT, GRN

TO TE-9 ICTD — CABLE #29 — VYPER COOLING TEMP SENSOR

+24 VDC FROM UNIT W/D SHT 1 LN 12
TO MOTORIZED VALVE — 1001 — CABLE #109

RS 485 COM CABLE-#9841(24/2) BELDEN OR EQUAL
CABLE #485
TB1: WHT/B 485+, BLK/W 485-

ANALOG BOARD NOT NECESSARILY MOUNTED IN THIS POSITION

ANALOG BD
6400168H01

ANALOG BOARD LAYOUT

CPU MOTHER BOARD LAYOUT

MOTORIZED VALVE TEMP SENSOR

DEVICE NUMBERS MAY CHANGE ON DIFFERENT UNIT PIPING & WIRING DIAGRAMS

TE-9 ICTD: WHITE 1, BLACK 2
DIN CONNECTOR IF USED
CABLE #29 BELDEN #9320(20/2) OR EQUAL
ANALOG BD #2, CONN P7A, CH3, P7A

CHANNEL 13, ANA BD 2
(ANALOG INPUT AUXILIARY #9)
VYPER COOLING TEMP (IF SUPPLIED)
ICTD INPUT

NOTE:
ANALOG BOARD 2 HAS THE SAME CONNECTOR NUMBERS AS ANALOG BOARD 1-SEE LAYOUT ON THIS SHEET

MOTORIZED VALVE

HONEYWELL ML7984 COOLING CONTROLLER
T6, C, T5 W
RED — 1001 — WHT — BLK
CABLE #109 BELDEN #9364(20/3) OR EQUAL
24 VDC QUANTUM PANEL
ANALOG BD #2, CONN P11A, CH1, P11A

DIP SW CONFIG FOR DIRECT ACTING:
SW'S 1 TO 4-ON, OFF, OFF, OFF

CHANNEL 1, ANA BD 2
PID LOOP OUTPUT FOR VYPER COOLING (IF SUPPLIED)
4-20 MA

VYPER STARTER TO QUANTUM & UNIT MOTORS

INCOMING POWER SOURCE: L1, L2, L3, G → CIRCUIT BREAKER LUGS L1, L2, L3, G

TERMINALS IN QUANTUM PANEL → TERMS IN VYPER

1	#10 AWG	GND
2	#10 AWG	L
5	#14 AWG	2
19	#14 AWG	5
8	#14 AWG	19
18	#14 AWG	18
20	#14 AWG	20

IF OIL SUPPLY PUMP IS SUPPLIED ON UNIT

COMPR UNIT OIL PUMP: T1, T2, T3 → 72, 73, 74

NEU
REMOTE COOLING PUMP STARTER — OL — M
HOT IN FROM STARTER → 79
HOT RTN TO STARTER → 80
VYPER COOLING PUMP AUX (IF REQUIRED)

COMPR MOTOR: T1, T2, T3, G → T1, T2, T3

LINE SIDE CONNECTION INFORMATION

STARTER H.P.	BBL LUGS per POLE	BBL WIRE SIZE RANGE
305 HP	2 BBL	2/0 to 350 KCMIL
435 HP	2 BBL	3/0 to 350 KCMIL or 400 to 500 KCMIL

COMPRESSOR MOTOR COOLING BLOWER MOTORS

MINIMUM SIZES USING SINGLE CONDUCTOR WIRING
COLORS IF MULTI-COND(SO)TYP CABLE IS USED

QUANTUM: 2, 18, 5, AUX 2 29
#16 WHT, #16 GRN, #16 RED, NOT USED, #16 RED, #16 RED
WHT, GRN, BLK, GRN, BLK, WHT

SEPARATE STARTER FOR BLOWER MOTOR('S)
1MSP MSP, 2MSP MSP, M, 18, 2, 5, 29

SEPARATE STARTER FOR BLOWER MOTOR('S) MOUNT AT CONVENIENT POSITION

BLOWER MTR STARTER

ALSO SEE AUX 2 WIRING 1N QUANTUM AT LOWER LEFT OF THIS DRAWING

FROM LOAD SIDE OF MAIN CIR BKR IN VYPER STARTER OR SEPARATE 3 PHASE SUPPLY: L1, L2, L3
#12 AWG BLK MINIMUM

1MSP: 1T1, 1T2, 1T3 → 1 MTR BLOWER MOTOR #1 IF SUPPLIED → GREEN
2MSP: 2T1, 2T2, 2T3 → 2 MTR BLOWER MOTOR #2 IF SUPPLIED → GREEN
#14 BLK WIRING MINIMUM TO MOTORS

ADD ON COMMUNICATION DEVICES THAT MAY BE ADDED TO STARTER ARE NOT INCLUDED ON THIS DRAWING, REFER TO STARTER DRAWINGS

- 1 INDICATES DIN CONNECTOR IF USED ON DEVICE
- ---- INDICATES DEVICES SUPPLIED BY FRICK OR OTHERS WHEN OPTIONAL OR REQUIRED
- ---- WIRING BY OTHERS- ALL WIRING FROM STARTER TO QUANTUM AND ASSOCIATED DEVICES BY OTHERS IF STARTER IS SHIPPED LOOSE UNLESS SPECIFIED OTHERWISE. SOME OPTIONAL DEVICES WILL BE WIRED IF MOUNTED ON UNIT ALL 3 PHASE WIRING SHALL BE SIZED PER PRESENT NEC CODE
- -·-·- INDICATES WIRING AT FACTORY IF STARTER AND/OR DEVICES ARE MOUNTED & SHIPPED ON UNIT
- ▭ REPRESENTS VYPER STARTER TERMINALS
- ◉ TERMINALS IN QUANTUM CONTROL PANEL

THIS CONNECTIONS DIAGRAM IS MEANT TO BE USED WITH A VYPER THAT:
-INCLUDES A CPR MTR BLOWER MOTOR STARTER OUTSIDE THE VYPER
-INCLUDES CPR MOTORS 475 HP AND UNDER
-PROBABLE SIZES INCLUDE UP TO 435 HP

STATOR WIRING IF DRIVE MOTOR IS SUPPLIED WITH THERMISTOR OR OTHER DEVICE USING ISOLATED CONTACT TO INDICATE FAULT

REFERENCE ANALOG BOARD #2 WIRING DIAGRAM
REFERENCE SHT 1 OF SUPPLIED WIRING DIAGRAM

BLK, WHT, GRN
INT-69 MOUNTED IN BOX ON MOTOR WITH THERMISTORS PRE-WIRED
RUN AC WIRING TO QUANTUM (COLORS SHOWN ARE MULTI-CONDUCTOR CABLE)
IF INT-69 IS SHIP LOOSE, LOCATE IT IN QUANTUM AND WIRE THERMISTORS WITH BELDEN 8762 OR EQUAL TO THE INT-69, AC WIRING IS THEN DONE WITHIN THE QUANTUM

THERMISTORS — INT-69 — 11, 14
MOD 17 F17 IN — 28
MOD 18 F18 IN — 29
BRD 1 P5
MOD 19 F19 IN — 30
MOD 20 F20 IN — 31
DIGITAL BD 1

BLOWER MOTOR CONTACTOR AUX — 5, M, 29

MOTOR T'STATS 1 PER WINDING — (P1), (P2)
NUMBERS MAY VARY
MOD 17 F17 IN — 28
SOME MOTORS MAY INCORPERATE THIS METHOD OF STATOR MONITORING

PER NEC CODE- VFD DRIVE MOTORS MUST HAVE STATOR HI-TEMP PROTECTION.

THIS PROTECTION WILL BE DONE EITHER WAY SHOWN BELOW IF MOTOR IS SUPPLIED BY FRICK

OR

INT-69 CONTACT CAN BE WIRED TO ALTERNATIVE AUX INPUT IF AUX 1 IS ALREADY BEING USED

(AUX #1) COMPR MOTOR STATOR HI-TEMP PROGRAM "SHUTDOWN", RUNNING, 5 SEC DELAY (SAFE CLOSED)

(AUX #2) BLOWER MOTORS ON PROGRAM "SHUTDOWN", RUNNING, 5 SEC DELAY (SAFE CLOSED)

PROCESS MODE SELECT
ALTERNATE MODE WHEN CLOSED

CAP CONT S.P. MODE 2
(S.P. MODE 2 WHEN CLOSED)

(AUX #1)
COMPRESSOR MOTOR HI-TEMP SHUTDOWN PROGRAM "SHUTDOWN", RUNNING, 5 SEC DELAY (SAFE CLOSED)

CPR MOTOR STATOR TEMPERATURE
100 OHM PLATINUM RTD'S ONLY

STATOR WIRING IF DRIVE MOTOR IS SUPPLIED WITH 100 OHM PLATINUM RTDS

ANALOG BD 1: P10A, P10B
RTD 1 — CABLE #T5 — RTD 4 SPARE
RTD 2 — CABLE #T6 — RTD 5 SPARE
RTD 3 — CABLE #T7 — RTD 6 SPARE
WHT, WHT, YEL / RED, WHT, BLK
BELDEN #9364(20/3) OR EQUAL (TYP)

REF UNIT WIRING DIAGRAM NOTES CONCERNING PHD - ALSO SEE WIRING DIAGRAM 649D5050

REFERENCE 649D5050 PHD WIRING DIAGRAM

PHD CH 5
MOTOR STATOR #1 TEMP DEFAULT SETPOINTS:
100 OHM PLATIUM .00385 TCR

PHD CH 6
MOTOR STATOR #2 TEMP DEFAULT SETPOINTS:
100 OHM PLATIUM .00385 TCR

PHD CH 7
MOTOR STATOR #3 TEMP DEFAULT SETPOINTS:
100 OHM PLATIUM .00385 TCR

FUTURE

PURCHASER
FRICK ORD NO
PURCH ORD NO

NOTICE TO PURCHASER
REFER TO CONTRACT FOR MATERIAL TO BE SUPPLIED BY FRICK COMPANY. THE AMOUNT OF SUCH MATERIAL IS NOT INCREASED BY ANYTHING SHOWN UPON THIS DRAWING.

THIRD ANGLE PROJECTION
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES DO NOT SCALE
UNLESS OTHERWISE SPECIFIED TOLERANCES PER QAP 18
DEC 2PL ± .01 | DEC 3PL ± .005 | FRACT ± 1/64 | ANGLE ± 1/2

YORK Refrigeration — York International Refrigeration - Frick, Waynesboro, PA 17268

TITLE: VYPER STARTER CONNECTIONS VYPER STARTERS UP TO 475 HP QUANTUM LX

DR	HG NOWELL	09-22-05
CHK	JE ECTON	10-31-05
APPD	DE LEHMAN	10-31-05
CODE		

SIZE D | CAGE CODE 23587 | DWG NO 649D5320 | REV J
SCALE | SHEET 1 OF 1