TMEIC CORPORATION
FOR
DURA-BILT5i MV OUTLINE DRAWINGS

SHEET # 0B	DB5i MV CABLING GUIDELINES
SHEET # 1	DB5i, 2400V, FRAME A2
SHEET # 2	DB5i, 2400V, FRAME B2
SHEET # 3	DB5i, 2400V, FRAME D2
SHEET # 4A	DB5i, 4160V, FRAME A4u
SHEET # 4B	DB5i, 4160V, FRAME A4
SHEET # 4	DB5i, 4160V, FRAME 0
SHEET # 5	DB5i, 4160V, FRAME 1
SHEET # 6	DB5i, 4160V, FRAME 2
SHEET # 7	DB5i, 4160V, FRAME 3
SHEET # 8	DB5i, 4160V, FRAME 4
SHEET # 9	DB5i, 4160V, FRAME 0 W/BYPASS
SHEET # 10	DB5i, 4160V, FRAME 1 W/BYPASS
SHEET # 11	DB5i, 4160V, FRAME 2 W/BYPASS
SHEET # 12	DB5i, 4160V, FRAME 3 W/BYPASS
SHEET # 13	DB5i, 4160V, FRAME 4 W/BYPASS
SHEET # 14	DB5i, 13800V, FRAME 1
SHEET # 15	DB5i, 13800V, FRAME 2
SHEET # 16	DB5i, 13800V, FRAME 3
SHEET # 17	DB5i, 13800V, FRAME 4
SHEET # 18	DB5i, 4160V, FRAME G4P
SHEET # 19	DB5i, 4160V, FRAME H4P
SHEET # 20	DB5i, 13800V, FRAME G4P
SHEET # 21	DB5i, 13800V, FRAME H4P
SHEET # 22	DB5i, REMOTE CONV-INV FRAME 3
SHEET # 23	DB5i, REMOTE CONV-INV FRAME 4
SHEET # 24	DB5i, REMOTE CONV, FRAME G4P
SHEET # 24A	DB5i, REMOTE INV, FRAME G4P
SHEET # 25	DB5i, REMOTE CONV, FRAME H4P
SHEET # 25A	DB5i, REMOTE INV, FRAME H4P
SHEET # 26	DB5i-N3R, OUTDOOR, TO 1500HP

REVISION NO. 0	ENGINEERING	PROJECT: OUTLINES	TITLE		
REVISION DATE	TECHNICAL	REQUISITION:	TMEIC CORPORATION ROANOKE, VA U. S. A.	DWG. NO.	SH. NO.
REVISED BY	ISSUE DATE 15-SEP-2011	S. O. :		CONT. ON SHT. 0B	0A

RECOMMENDATIONS FOR POWER CABLING BETWEEN IGBT INVERTERS AND MOTORS RATED 2300-4160VAC

SELECTION AND TERMINATION OF POWER CABLING IS CRITICAL TO THE SAFE AND RELIABLE OPERATION OF THIS SYSTEM. ISSUES WITH RADIATED ELECTRICAL NOISE, BEARING FAILURES, DISRUPTIVE GROUND CURRENTS AND SAFETY ALL HAVE ROOTS IN POWER CABLING SELECTION AND TERMINATION. THESE RECOMMENDATIONS COMPLY WITH THE REQUIREMENTS OF THE NATIONAL ELECTRIC CODE (NEC) OF THE USA. IT IS THE RESPONSIBILITY OF THE INSTALLER TO INSURE THAT LOCAL CODES ARE FOLLOWED WHERE THEY CONFLICT WITH THESE RECOMMENDATIONS.

SELECTION:

RECOMMENDED FOR ALL INSTALLATIONS IS MC (METAL CLAD) TYPE CABLE WITH A CONTINUOUS CORRUGATED ALUMINUM SHIELD AND A SYMMETRICAL GROUND SYSTEM (SEE FIGURE 1). TYPE MC CABLE WITH A SINGLE GROUND (SEE FIGURE 2) DOES NOT PROVIDE ALL THE BENEFITS OF THE SYMMETRICAL GROUND CABLE BUT IS ACCEPTABLE FOR MOST INSTALLATIONS. INTERLOCKING STEEL OR ALUMINUM AND INDIVIDUAL PHASE SHIELDS SHOULD BE AVOIDED. TC TYPE CABLES (FLEXIBLE METAL TAPE) SHOULD ALSO BE AVOIDED. SOME MANUFACTURERS OFFER SPECIAL PURPOSE "VFD" CABLES WHICH MAY BE USED IF THE MANUFACTURER CAN DOCUMENT PERFORMANCE EQUAL TO OR BETTER THAN THE RECOMMENDED CABLE. INSULATION LEVELS SPECIFIED SHOULD BE EQUAL TO OR HIGHER THAN THE MOTOR'S RATED VOLTAGE. SINCE THE NEC NOW REQUIRES SHIELDED CABLE FOR ALL APPLICATIONS OVER 2400VAC, INSTALLATIONS THAT CONFORM TO NEW 2005 NEC RULES MUST OBSERVE THIS REQUIREMENT. SYSTEMS WITH VOLTAGES 2001-2400VAC CAN USE UNSHIELDED CABLING ONLY UNDER LIMITED CONDITIONS AS SPECIFIED IN THE NEC.

TERMINATION AT THE MOTOR:

FITTINGS SHOULD BE USED TO INSURE THAT THERE IS A 360 DEGREE ELECTRICAL CONNECTION BETWEEN THE ALUMINUM SHIELD AND THE JUNCTION BOX. ANY GROUND CONDUCTORS SHOULD BE TERMINATED TO THE EQUIPMENT GROUNDING LUG PROVIDED FOR THAT PURPOSE. INDIVIDUAL CONDUCTORS SHOULD BE CONNECTED USING COMPRESSION LUGS.

TERMINATION AT THE INVERTER OR CONVERTER:

IT IS NECESSARY TO CUT A HOLE FOR CABLE ENTRY IN THE CABINET'S GALVANIZED PLATE PROVIDED FOR THAT PURPOSE. IT IS ALSO NECESSARY TO REMOVE ENOUGH CABLE SHIELD SO THAT INDIVIDUAL PHASE CONDUCTORS CAN REACH FROM THE POINT THE CABLE ENTERS THE EQUIPMENT CABINET, TO THE AC CONNECTION POINTS OF THE INVERTER OR CONVERTER. ONCE THE SHIELD HAS BEEN REMOVED, FITTINGS SHOULD BE USED, TO INSURE THAT THERE IS A 360 DEGREE ELECTRICAL CONNECTION BETWEEN THE ALUMINUM SHIELD AND THE GALVINIZED CABINET CABLE ENTRY PLATE. GROUND CONDUCTORS SHOULD BE CONNECTED TO THE E1 GROUND BUS PROVIDED FOR THAT PURPOSE. PHASE CONDUCTORS SHOULD BE CONNECTED ACCORDING TO THE EQUIPMENT DRAWINGS. ALL CONDUCTORS SHOULD BE TERMINATED WITH COMPRESSION LUGS.

POWER CABLES WHICH HAVE BEEN SELECTED AND TERMINATED ACCORDING TO THESE GUIDELINES CAN BE RUN IN CABLE TRAYS WITH POWER CABLES FROM OTHER INVERTERS WITHOUT RESTRICTIONS.

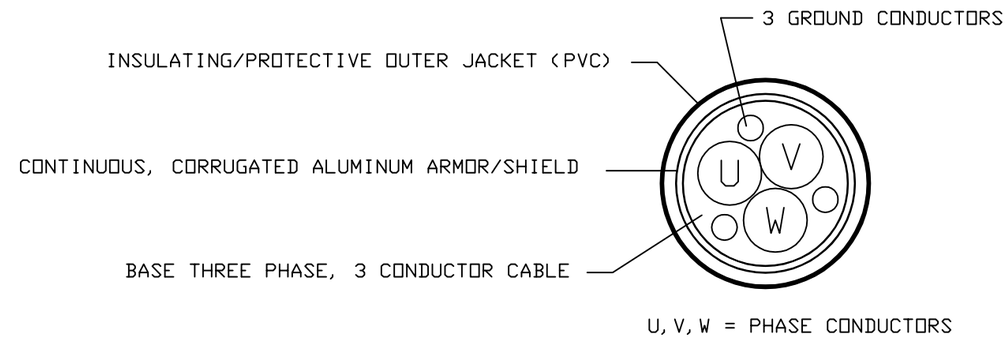

FIGURE 1: CABLE WITH ARMOR AND THREE SYMMETRICAL GROUNDS

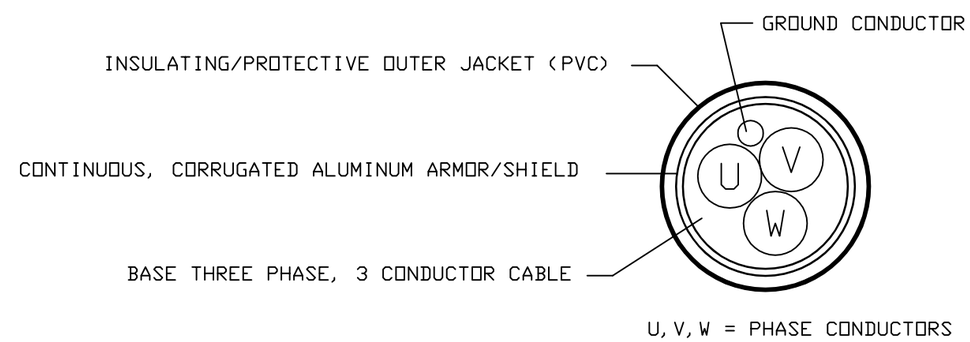

FIGURE 2: CABLE WITH ARMOR AND SINGLE GROUND

REVISION NO. 0	ENGINEERING	PROJECT: OUTLINES	DB5; MV CABLING GUIDELINES		
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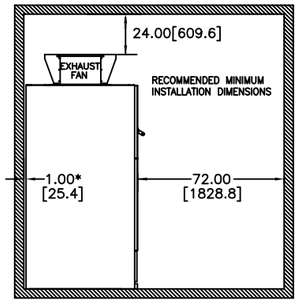
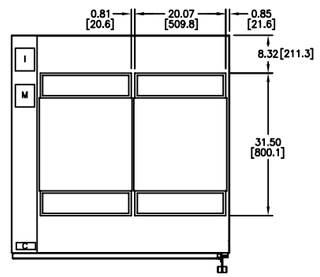
REVISED BY	ISSUE DATE 15-SEP-2011	S. O.:		CONT. ON SHT. 1	OB

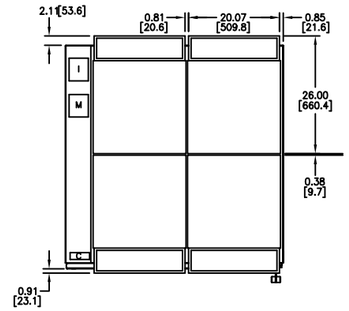


*3.00 [76.2] WITH REDUNDANT FAN

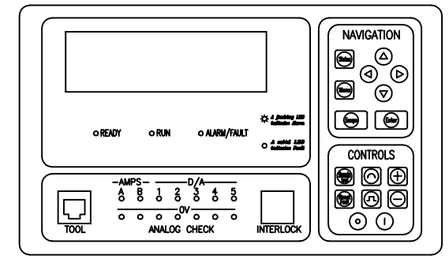
INSTALLATION DETAIL

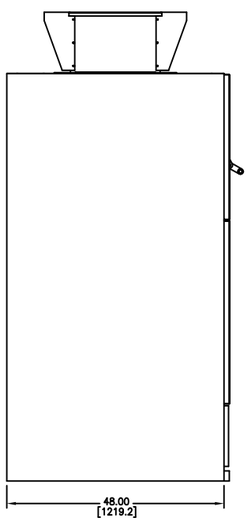


TOP VIEW W/STD FAN

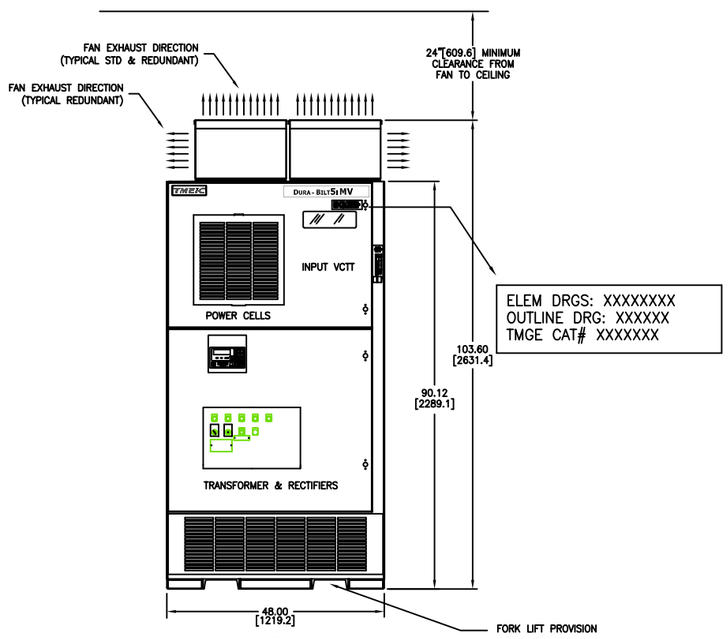


TOP VIEW W/REDUNDANT FAN

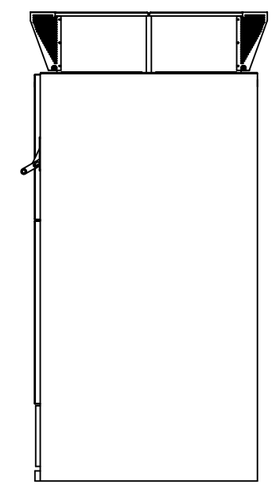




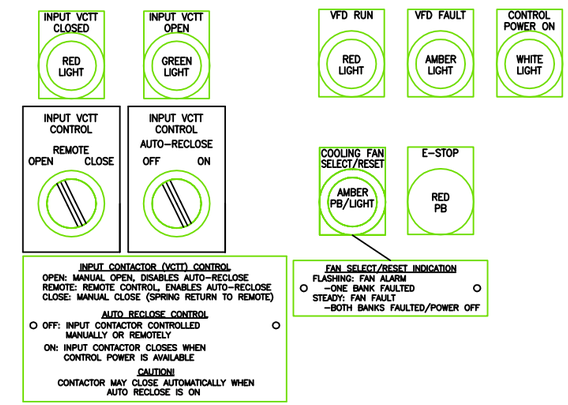
LH VIEW W/STD FAN



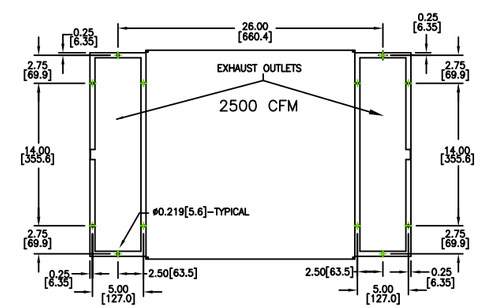
FRONT VIEW



RH VIEW W/REDUNDANT FAN



DETAIL PILOT DEVICES AND KEYPAD



TYPICAL EXHAUST FAN HOLE PATTERN
FOR CUSTOMER DUCTWORK
(TOP VIEW-STD FAN)

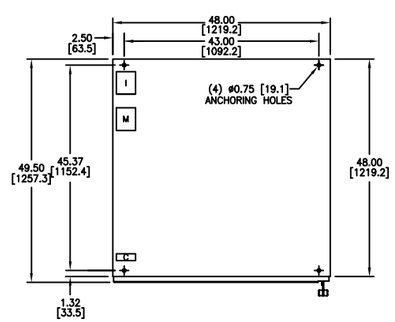
NOTE: NO PROVISION AVAILABLE FOR DUCTWORK CONNECTION TO REDUNDANT FAN

CABLE TERMINATIONS			
ENTRY	INCOMING CABLES	MOTOR LEADS	CONTROL WIRE
TOP	I	M	C
BOTTOM	I	M	C
INCOMING AND MOTOR TERMINATIONS USE NEMA 4-HOLE PATTERN			

NOTES
1. ENCLOSURE TYPE: NEMA 1 W/GASKETED DOORS
2. FINISH: ANSI 61 TEXTURED GRAY PAINT
3. ALL WEIGHTS ARE APPROXIMATE IN LBS (kg)
4. ALL DIMS ARE IN INCHES [mm]
5. POWER CELLS NEED TO BE REMOVED FOR ACCESS

	450HP
VFD	5,200 lbs (2,359 kg)

FOR REDUNDANT FANS ADD 150 lbs



FLOOR PLAN VIEW

REVISION NO. 0	ENGINEERING	PROJECT: OUTLINES	DB5i, 2400V, FRAME A2		
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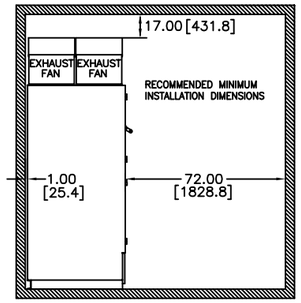
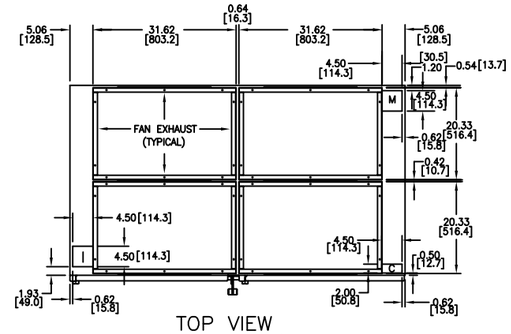
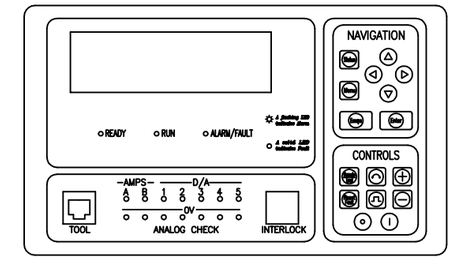
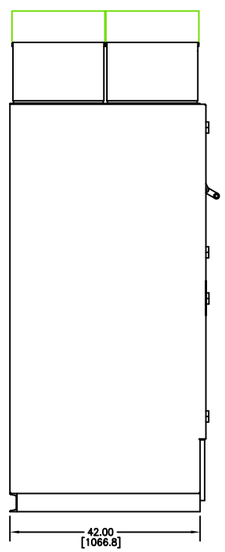


INSTALLATION DETAIL

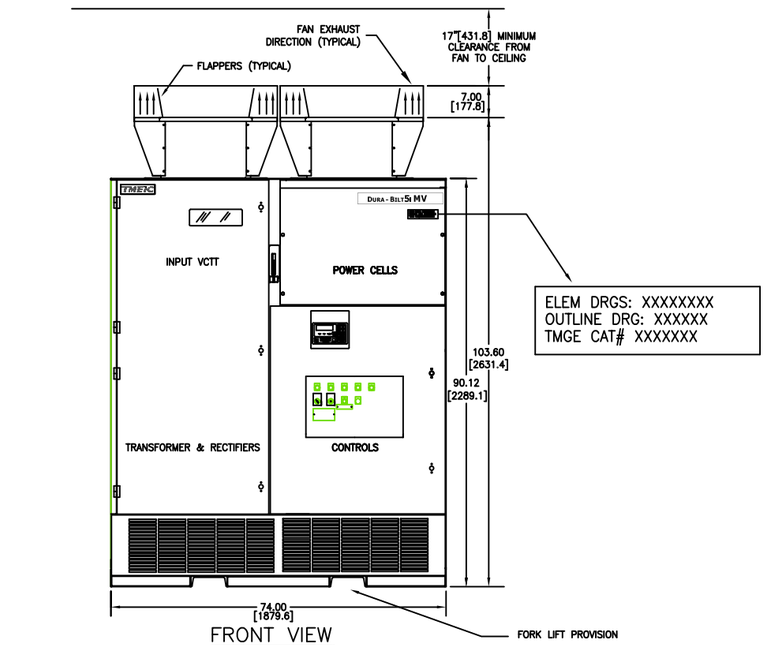


TOP VIEW



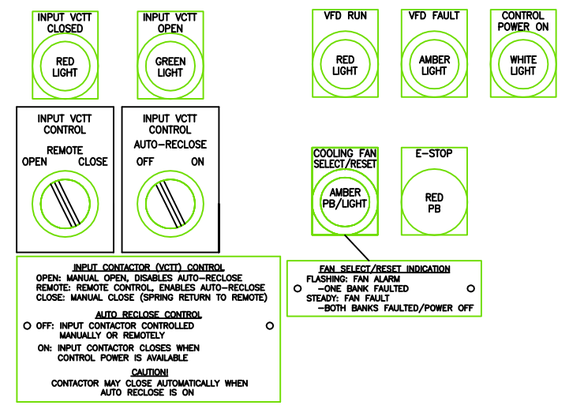


LH VIEW



ELEM DRGS: XXXXXXXX
OUTLINE DRG: XXXXXX
TMGE CAT# XXXXXXX

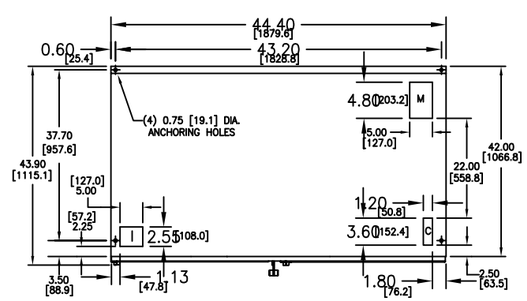
FRONT VIEW



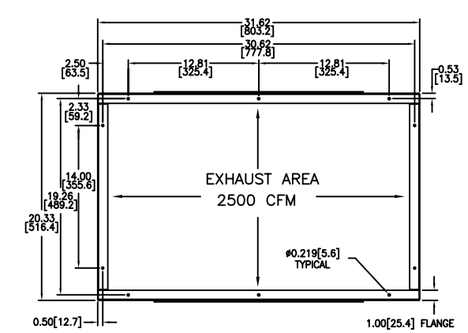
DETAIL PILOT DEVICES AND KEYPAD

CABLE TERMINATIONS			
ENTRY	INCOMING CABLES	MOTOR LEADS	CONTROL WIRE
TOP	I	M	C
BOTTOM	I	M	C
INCOMING TERMINATIONS USE NEMA 4–HOLE PATTERN MOTOR TERMINATIONS USE NEMA 2–HOLE PATTERN			

NOTES
1. ENCLOSURE TYPE: NEMA 1 W/GASKETED DOORS
2. FINISH: ANSI 61 TEXTURED GRAY PAINT
3. ALL WEIGHTS ARE APPROXIMATE IN LBS (kg)
4. ALL DIMS ARE IN INCHES [mm]
5. POWER CELLS NEED TO BE REMOVED FOR ACCESS



FLOOR PLAN VIEW



TYPICAL EXHAUST FAN HOLE PATTERN
FOR CUSTOMER DUCTWORK
(TOP VIEW – REDUNDANT FAN)

	600HP	900HP
VFD	7,400 lbs (3,356 kg)	8,300 lbs (3,765 kg)

FOR REDUNDANT FANS ADD 150 lbs

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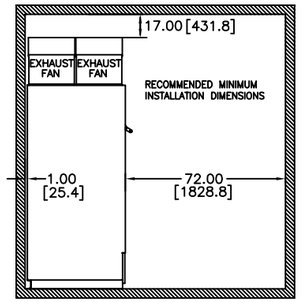
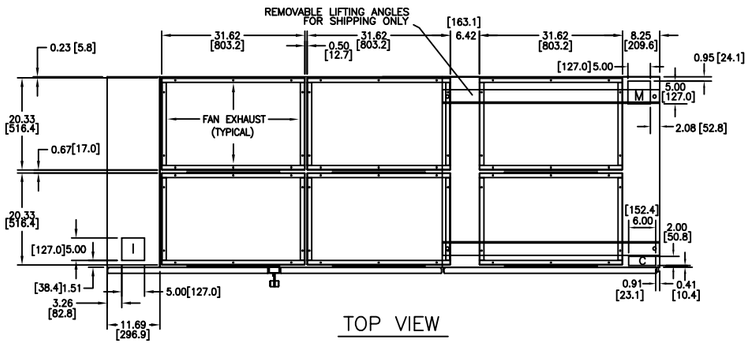
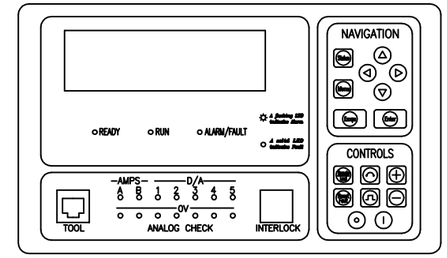
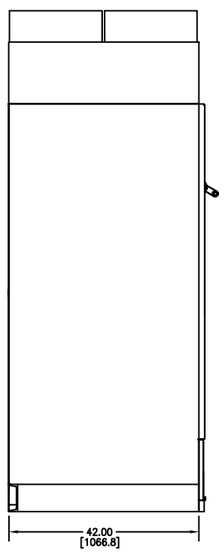


INSTALLATION DETAIL

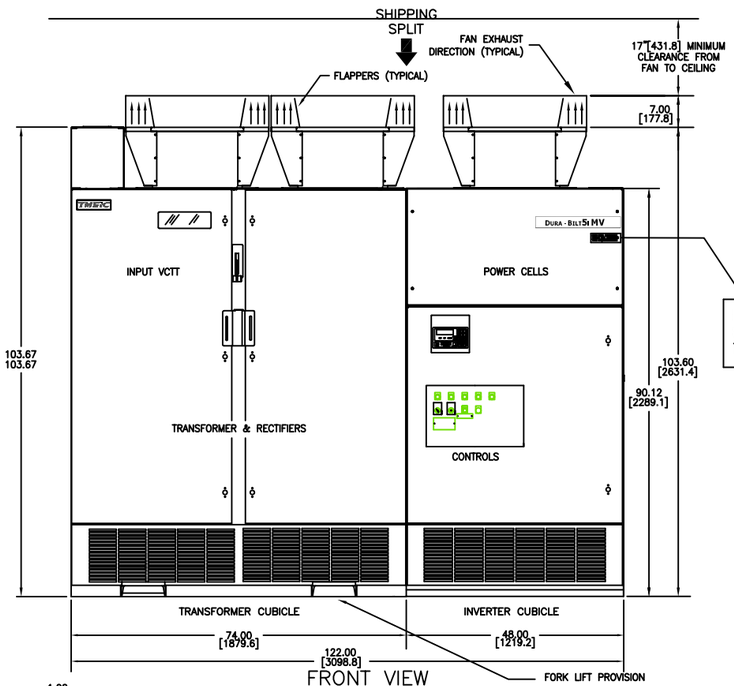


TOP VIEW



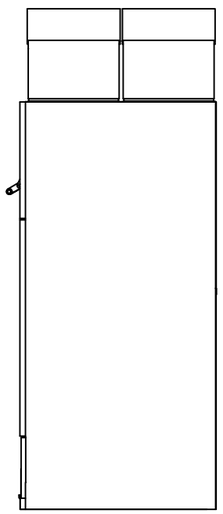


LH VIEW

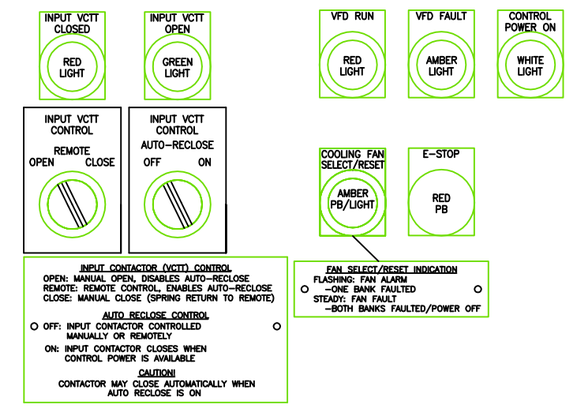


FRONT VIEW

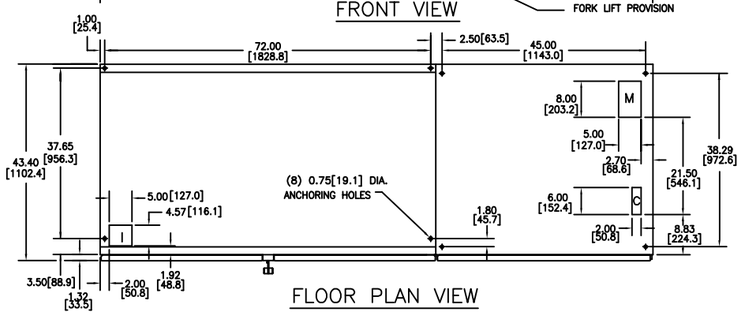
ELEM DRGS: XXXXXXXX
OUTLINE DRG: XXXXXX
TMGE CAT# XXXXXXX



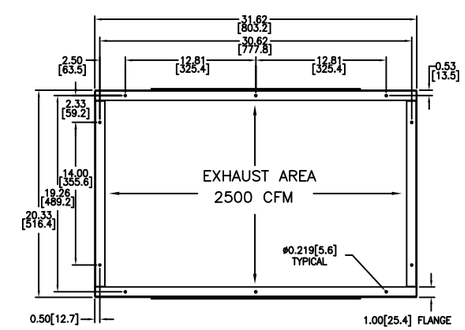
RH VIEW



DETAIL PILOT DEVICES AND KEYPAD



FLOOR PLAN VIEW



TYPICAL EXHAUST FAN HOLE PATTERN
FOR CUSTOMER DUCTWORK
(TOP VIEW – REDUNDANT FAN)

CABLE TERMINATIONS			
ENTRY	INCOMING CABLES	MOTOR LEADS	CONTROL WIRE
TOP	I	M	C
BOTTOM	I	M	C
INCOMING AND MOTOR TERMINATIONS USE NEMA 4–HOLE PATTERN			

NOTES
1. ENCLOSURE TYPE: NEMA 1 W/GASKETED DOORS
2. FINISH: ANSI 61 TEXTURED GRAY PAINT
3. ALL WEIGHTS ARE APPROXIMATE IN LBS (kg)
4. ALL DIMS ARE IN INCHES [mm]
5. POWER CELLS NEED TO BE REMOVED FOR ACCESS

	1250 HP	1500 HP	1750 HP
TRANSFORMER CUBICLE	8,500 lbs (3,856 kg)	9,000 lbs (4,082 kg)	9,400 lbs (4,264 kg)
INVERTER CUBICLE	2,800 lbs (1,270 kg)	2,800 lbs (1,270 kg)	2,800 lbs (1,270 kg)

FOR REDUNDANT FANS ADD 150 lbs TO EACH XFMR & INVERTER CUBICLE

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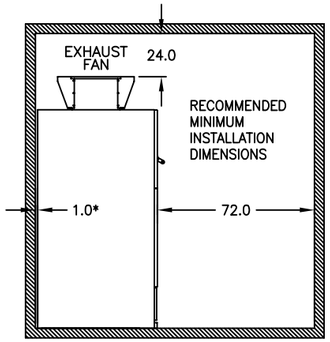
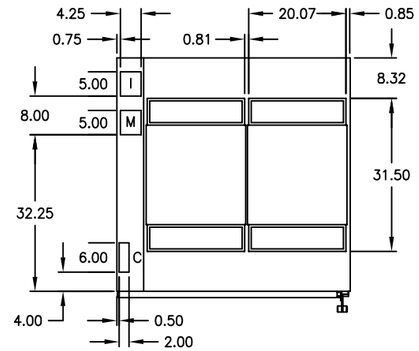
SH. NO. 3

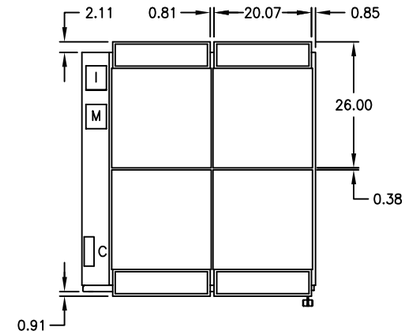


*3.0 WITH REDUNDANT FAN

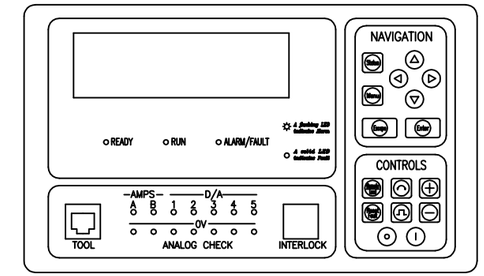
INSTALLATION DETAIL

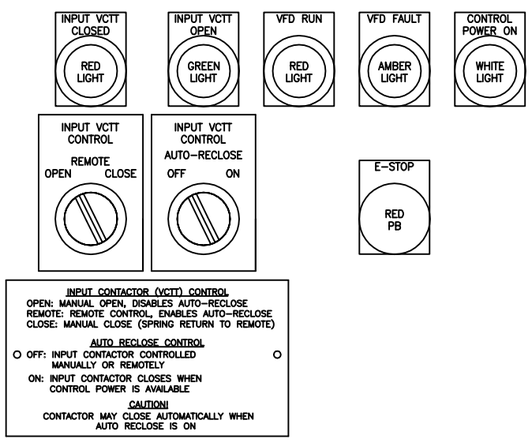


TOP VIEW WITH STD FAN

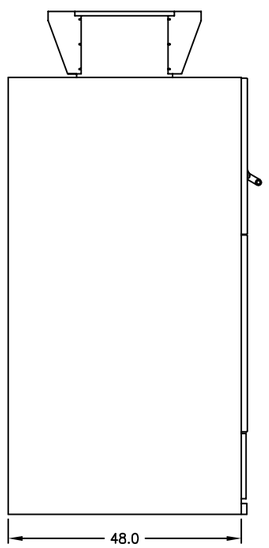


TOP VIEW WITH REDUNDANT FAN

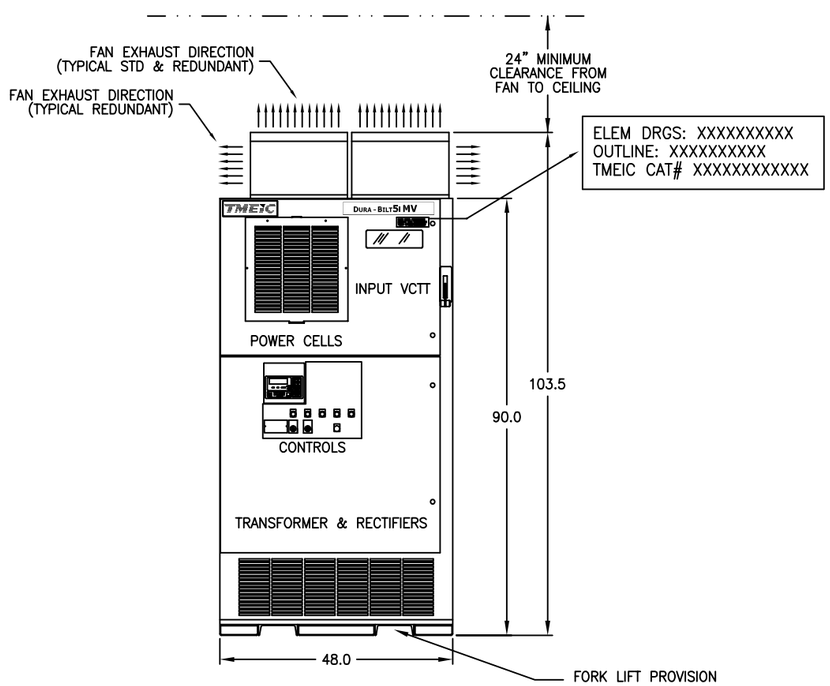




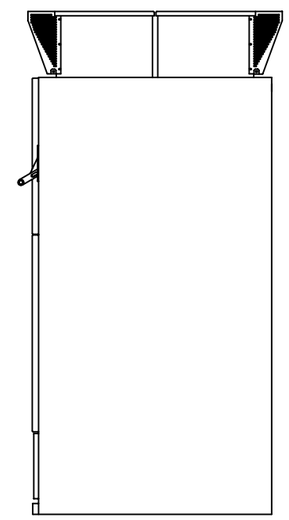
DETAIL PILOT DEVICES AND KEYPAD



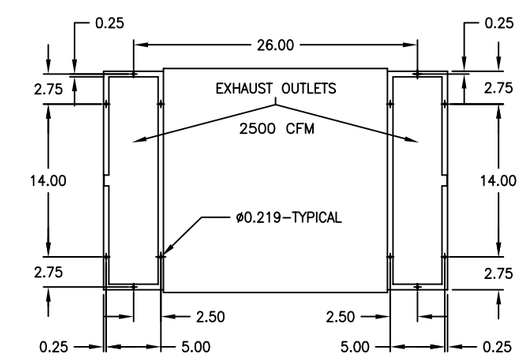
LH VIEW WITH STD FAN



FRONT VIEW



RH VIEW WITH REDUNDANT FAN



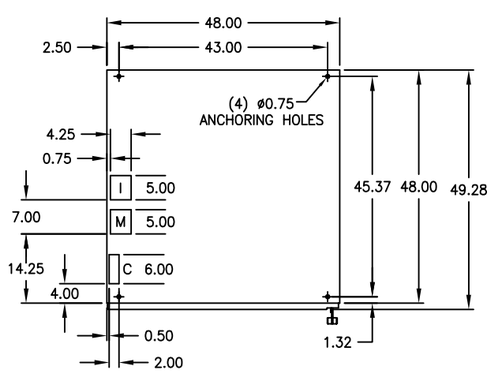
TYPICAL EXHAUST FAN HOLE PATTERN FOR CUSTOMER DUCTWORK
(TOP VIEW-STD FAN)

NOTE: NO PROVISION AVAILABLE FOR DUCTWORK CONNECTION TO REDUNDANT FAN

CABLE TERMINATIONS			
ENTRY	INCOMING CABLES	MOTOR LEADS	CONTROL WIRE
TOP	I	M	C
BOTTOM	I	M	C
INCOMING AND MOTOR TERMINATIONS USE NEMA 2-HOLE PATTERN			

NOTES
1. ENCLOSURE TYPE: NEMA 1 W/GASKETED DOORS
2. FINISH: ANSI 61 TEXTURED GRAY PAINT
3. ALL WEIGHTS ARE APPROXIMATE
4. ALL DIMS ARE IN INCHES
5. POWER CELLS NEED TO BE REMOVED FOR ACCESS

	500HP
VFD	6000 lbs



FLOOR PLAN VIEW

REV	DATE	DESCRIPTION	BY	CHK	APPR
4					
3					
2					
1					
0		INITIAL ISSUE			

TMEIC CORPORATION
ROANOKE, VA USA

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TITLE: ENCLOSURE OUTLINE – FRAME A4u, 4160V DURA-BILT5i MV

SHOP DRAWING

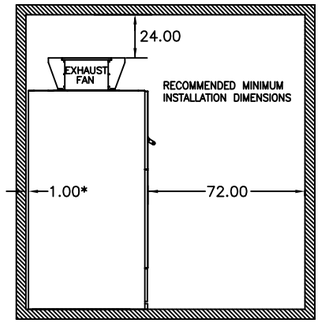
PROJECT: XXXX

REVISION: 0

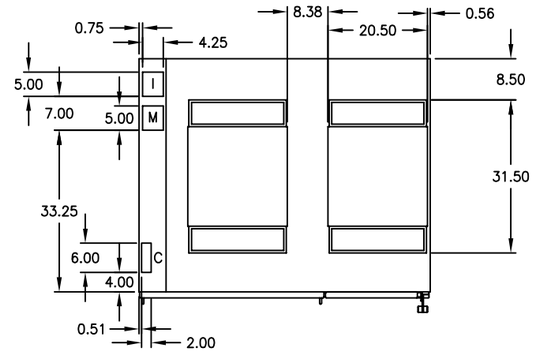
SCALE: NTS

TMEIC DRAWING NUMBER

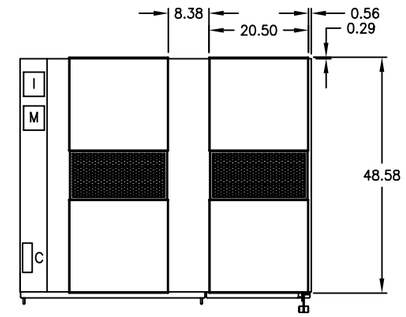
SHEET NUMBER: 4A



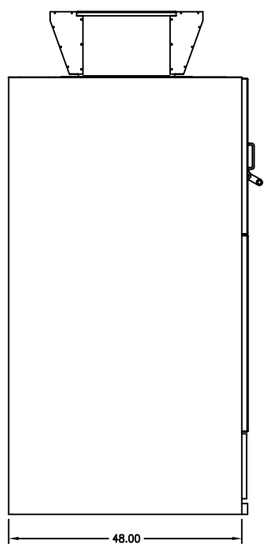
INSTALLATION DETAIL



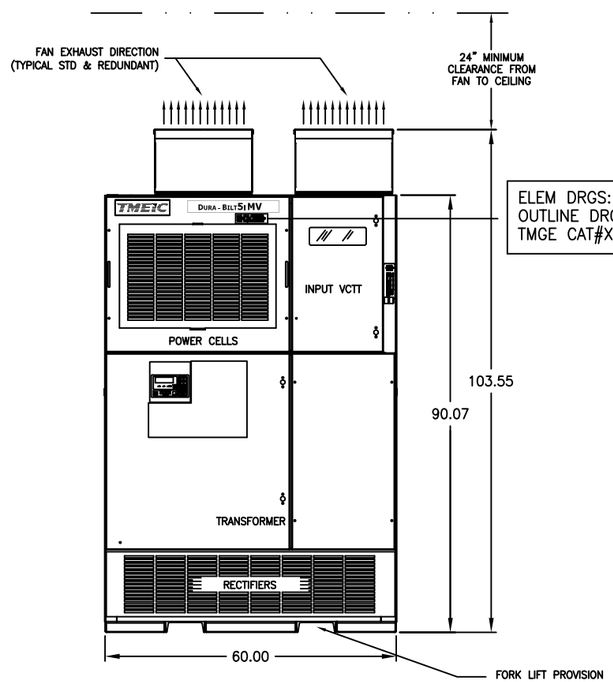
TOP VIEW W/STD FAN



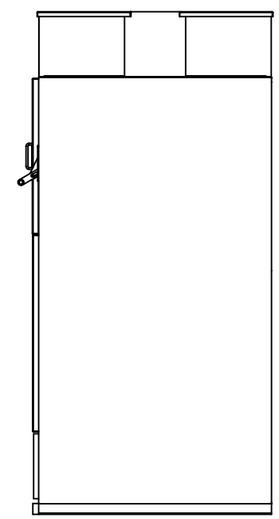
TOP VIEW W/REDUNDANT FAN



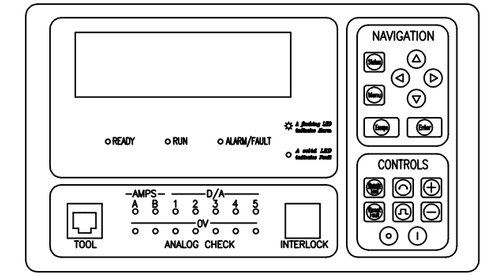
LH VIEW W/STD FAN

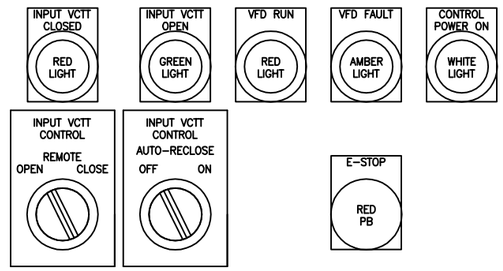


FRONT VIEW



RH VIEW W/REDUNDANT FAN



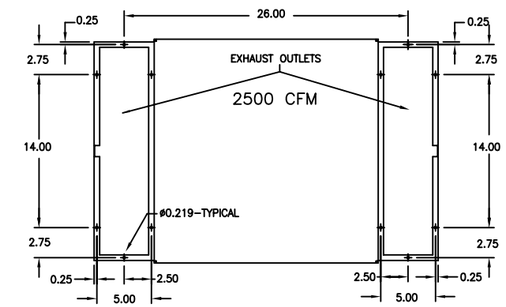


INPUT CONTACTOR (VCTT) CONTROL
OPEN: MANUAL OPEN, DISABLES AUTO-RECLOSE
REMOTE: REMOTE CONTROL, ENABLES AUTO-RECLOSE
CLOSE: MANUAL CLOSE (SPRING RETURN TO REMOTE)

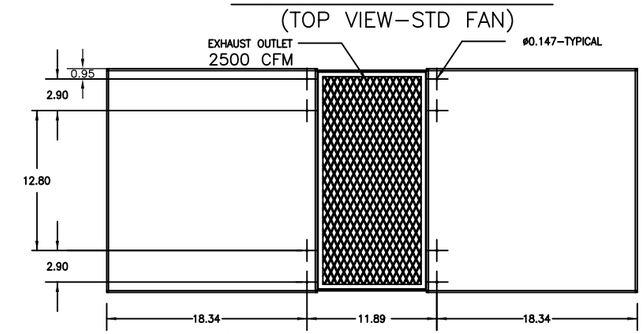
AUTO RECLOSE CONTROL
OFF: INPUT CONTACTOR CONTROLLED MANUALLY OR REMOTELY
ON: INPUT CONTACTOR CLOSES WHEN CONTROL POWER IS AVAILABLE

CAUTION!
CONTACTOR MAY CLOSE AUTOMATICALLY WHEN AUTO RECLOSE IS ON

DETAIL PILOT DEVICES AND KEYPAD



TYPICAL EXHAUST FAN HOLE PATTERN FOR CUSTOMER DUCTWORK (TOP VIEW-STD FAN)



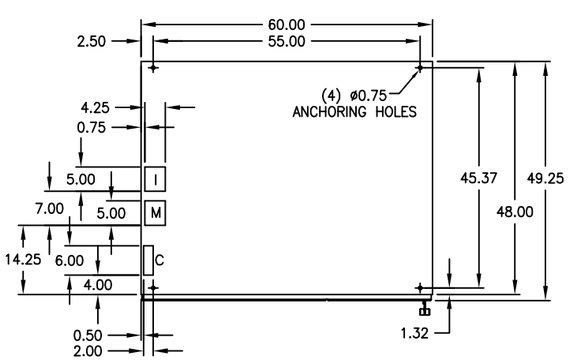
TYPICAL EXHAUST FAN HOLE PATTERN FOR CUSTOMER DUCTWORK (TOP VIEW-REDUNDANT FAN)

CABLE TERMINATIONS			
ENTRY	INCOMING CABLES	MOTOR LEADS	CONTROL WIRE
TOP	I	M	C
BOTTOM	I	M	C
INCOMING AND MOTOR TERMINATIONS USE NEMA 4-HOLE PATTERN			

NOTES
1. ENCLOSURE TYPE: NEMA 1 W/GASKETED DOORS
2. FINISH: ANSI 61 TEXTURED GRAY PAINT
3. ALL WEIGHTS ARE APPROXIMATE
4. ALL DIMS ARE IN INCHES
5. POWER CELLS NEED TO BE REMOVED FOR ACCESS

	1000HP
VFD	7,400 lbs

FOR REDUNDANT FANS ADD 200 lbs TO VFD



FLOOR PLAN VIEW

REV	DATE	DESCRIPTION	BY	CHK	APPR
4					
3					
2					
1					
0		INITIAL ISSUE			

TMEIC CORPORATION
ROANOKE, VA USA

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TITLE: ENCLOSURE OUTLINE – FRAME A4, 4160V DURA-BILT5i MV

SHOP DRAWING

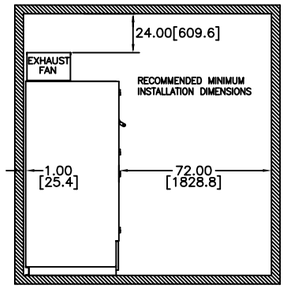
PROJECT: XXXX

REVISION: 0

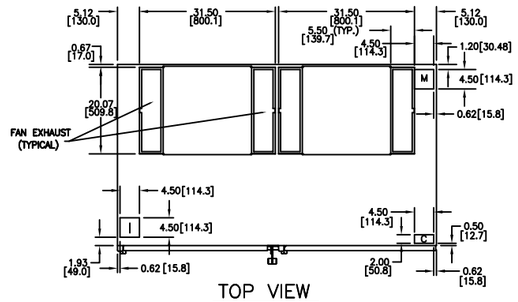
SCALE: NTS

TMEIC DRAWING NUMBER

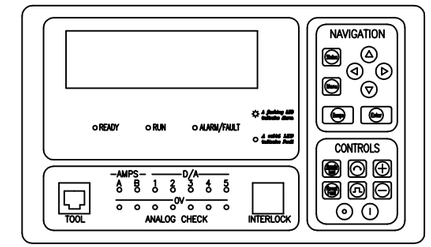
SHEET NUMBER: 4B

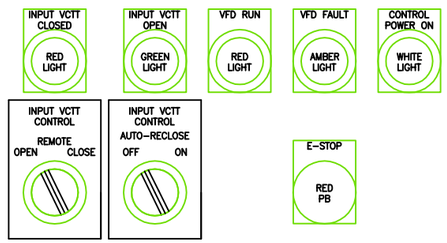


INSTALLATION DETAIL



TOP VIEW



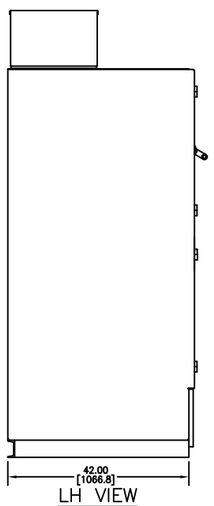


INPUT CONTACTOR (VCTT) CONTROL
OPEN: MANUAL OPEN, DISABLES AUTO-RECLOSE
REMOTE: REMOTE CONTROL, ENABLES AUTO-RECLOSE
CLOSE: MANUAL CLOSE (SPRING RETURN TO REMOTE)

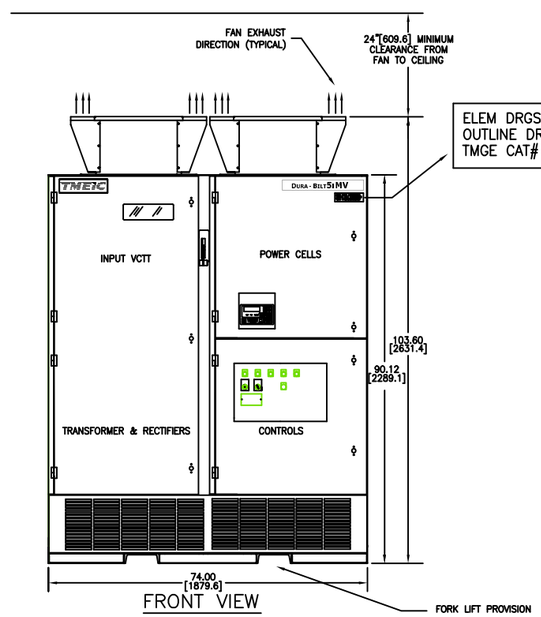
AUTO RECLOSE CONTROL
OFF: INPUT CONTACTOR CONTROLLED MANUALLY OR REMOTELY
ON: INPUT CONTACTOR CLOSES WHEN CONTROL POWER IS AVAILABLE

CAUTION!
CONTACTOR MAY CLOSE AUTOMATICALLY WHEN AUTO RECLOSE IS ON

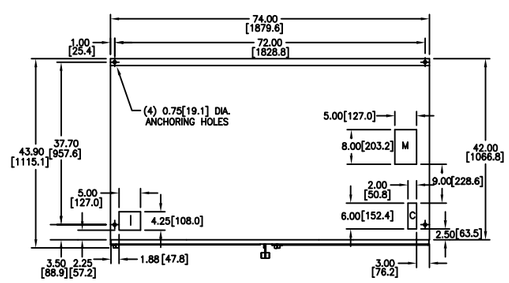
DETAIL PILOT DEVICES AND KEYPAD



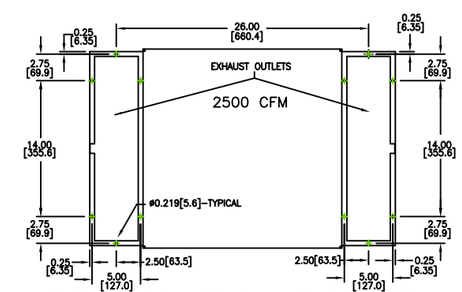
LH VIEW



FRONT VIEW



FLOOR PLAN VIEW



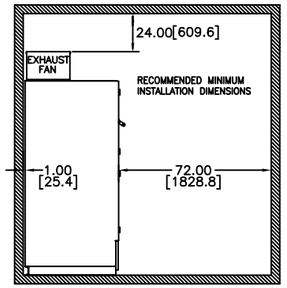
TYPICAL EXHAUST FAN HOLE PATTERN FOR CUSTOMER DUCTWORK (TOP VIEW)

CABLE TERMINATIONS			
ENTRY	INCOMING CABLES	MOTOR LEADS	CONTROL WIRE
TOP	I	M	C
BOTTOM	I	M	C
INCOMING TERMINATIONS USE NEMA 4-HOLE PATTERN MOTOR TERMINATIONS USE NEMA 2-HOLE PATTERN			

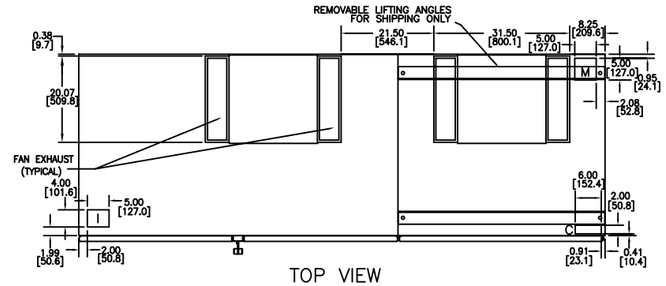
NOTES
1. ENCLOSURE TYPE: NEMA 1 W/GASKETED DOORS
2. FINISH: ANSI 61 TEXTURED GRAY PAINT
3. ALL WEIGHTS ARE APPROXIMATE IN LBS (kg)
4. ALL DIMS ARE IN INCHES [mm]
5. POWER CELLS NEED TO BE REMOVED FOR ACCESS

VFD	700HP
	7,200 lbs (3,266 kg)

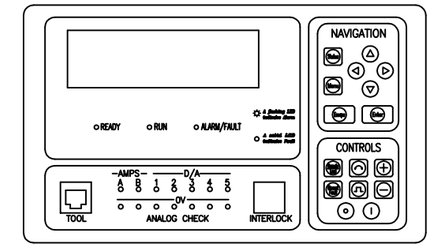
REVISION NO. 0	ENGINEERING	PROJECT: OUTLINES	DB5i, 4160V, FRAME 0		
REVISION DATE	TECHNICAL	REQUISITION:	TMEIC CORPORATION ROANOKE, VA USA	DWG. NO.	SH. NO.
REVISED BY	ISSUE DATE	S. O.:		CONT. ON SHT. 4A	4

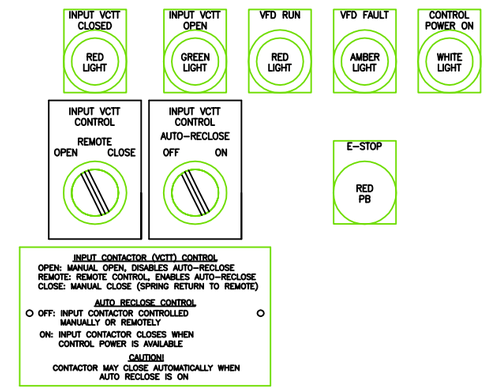


INSTALLATION DETAIL

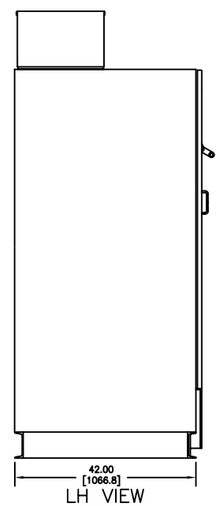


TOP VIEW

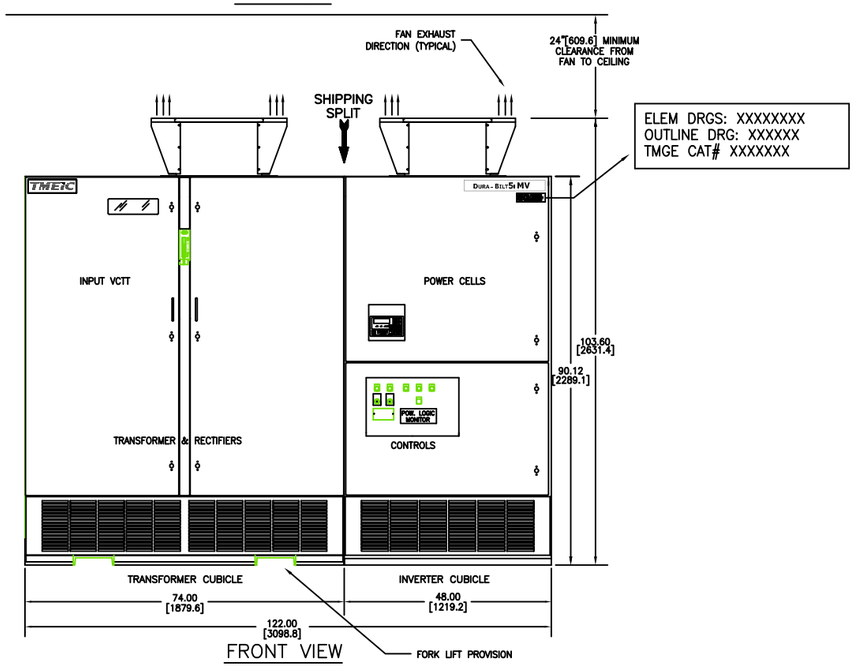




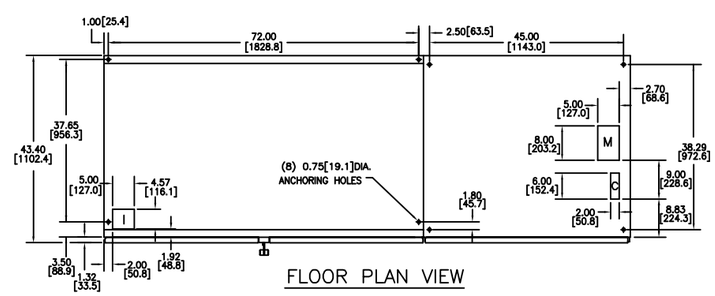
DETAIL PILOT DEVICES AND KEYPAD



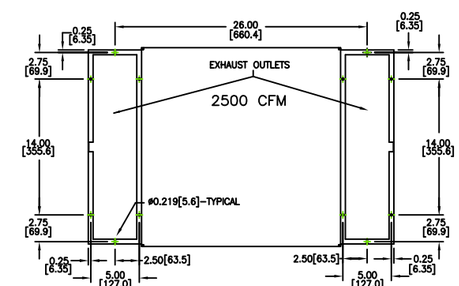
LH VIEW



FRONT VIEW



FLOOR PLAN VIEW



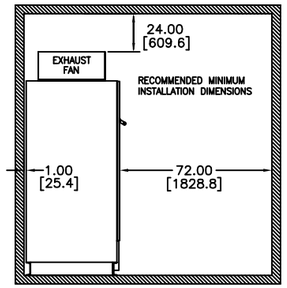
TYPICAL EXHAUST FAN HOLE PATTERN FOR CUSTOMER DUCTWORK (TOP VIEW)

CABLE TERMINATIONS			
ENTRY	INCOMING CABLES	MOTOR LEADS	CONTROL WIRE
TOP	I	M	C
BOTTOM	I	M	C
INCOMING TERMINATIONS USE NEMA 4-HOLE PATTERN MOTOR TERMINATIONS: USE NEMA 4-HOLE PATTERN			

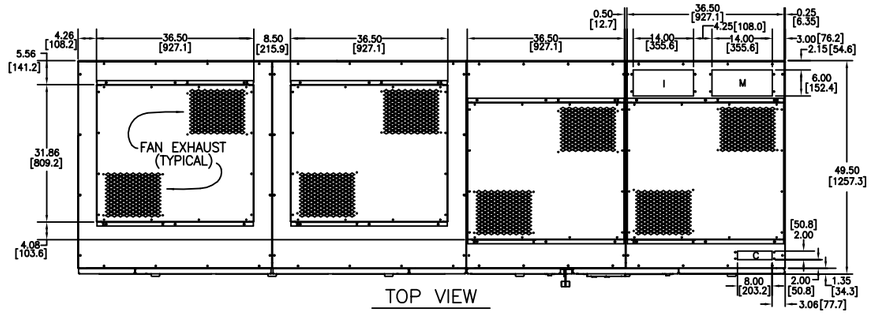
NOTES
1. ENCLOSURE TYPE: NEMA 1 W/GASKETED DOORS
2. FINISH: ANSI 61 TEXTURED GRAY PAINT
3. ALL WEIGHTS ARE APPROXIMATE IN LBS (kg)
4. ALL DIMS ARE IN INCHES [mm]
5. POWER CELLS NEED TO BE REMOVED FOR ACCESS

TRANSFORMER CUBICLE	6,500 lbs (2,948 kg)
INVERTER CUBICLE	2,500 lbs (1,134 kg)

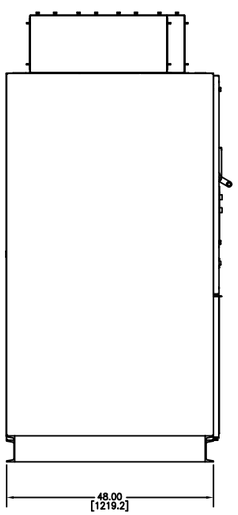
REVISION NO. 0	ENGINEERING G. A. DALTON	PROJECT: OUTLINES	DB5i, 4160V, FRAME 1		
REVISION DATE	TECHNICAL BWN	REQUISITION:	TMEIC CORPORATION ROANOKE, VA USA	DWG. NO.	SH. NO.
REVISED BY	ISSUE DATE	S. O.:		CONT. ON SHT. 6	5



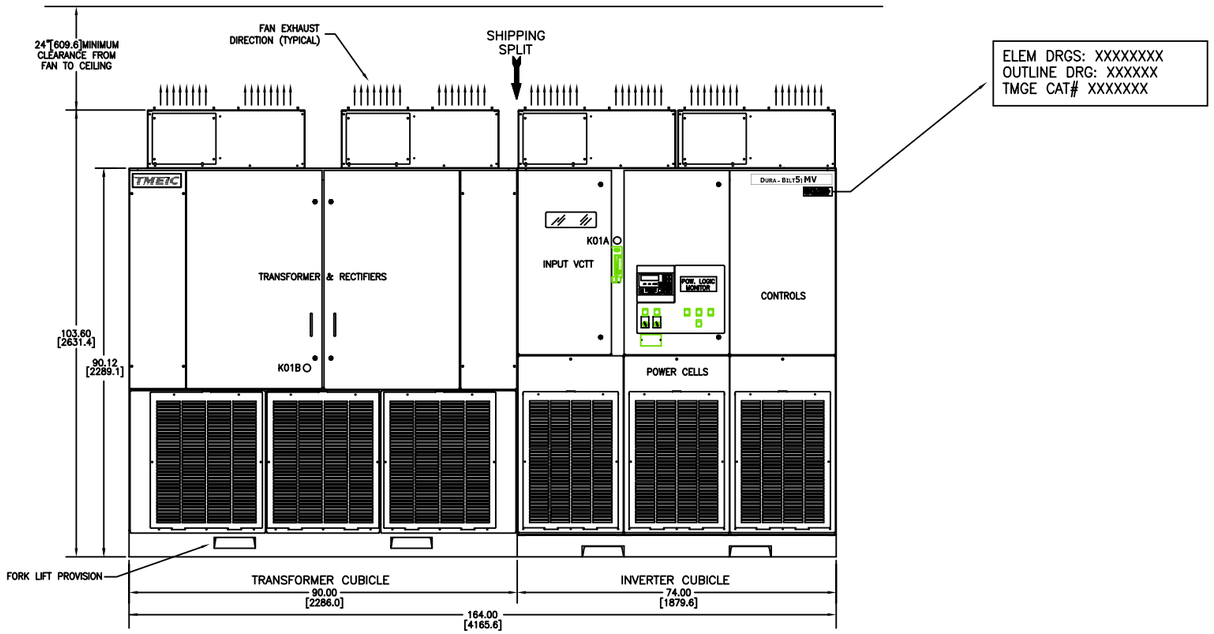
INSTALLATION DETAIL



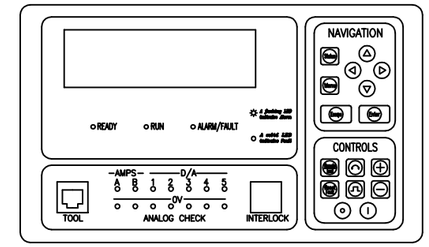
TOP VIEW

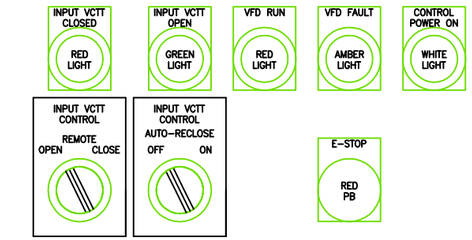


LH VIEW



FRONT VIEW





INPUT CONTACTOR (VCTT) CONTROL
OPEN: MANUAL OPEN, DISABLES AUTO-RECLOSE
REMOTE: REMOTE CONTROL, ENABLES AUTO-RECLOSE
CLOSE: MANUAL CLOSE (SPRING RETURN TO REMOTE)

AUTO RECLOSE CONTROL
OFF: INPUT CONTACTOR CONTROLLED MANUALLY OR REMOTELY
ON: INPUT CONTACTOR CLOSES WHEN CONTROL POWER IS AVAILABLE

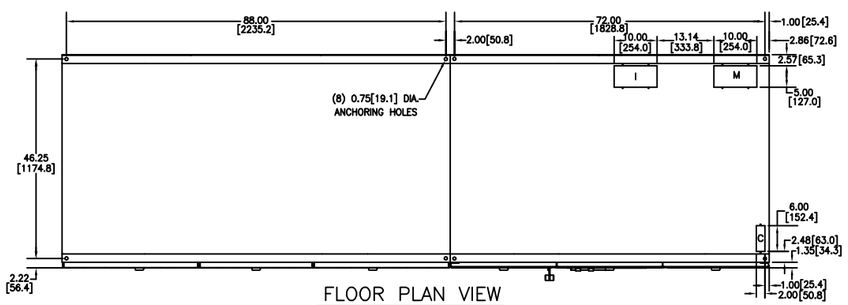
CAUTION!
CONTACTOR MAY CLOSE AUTOMATICALLY WHEN AUTO RECLOSE IS ON

DETAIL PILOT DEVICES AND KEYPAD

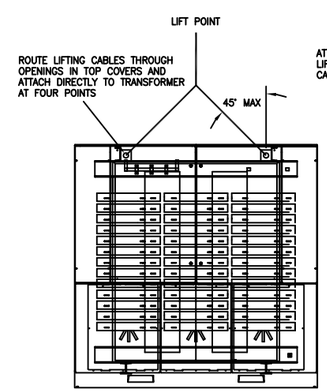
CABLE TERMINATIONS			
ENTRY	INCOMING CABLES	MOTOR LEADS	CONTROL WIRE
TOP	I	M	C
BOTTOM	I	M	C
INCOMING TERMINATIONS USE NEMA 4-HOLE PATTERN MOTOR TERMINATIONS: USE NEMA 4-HOLE PATTERN			

NOTES
1. ENCLOSURE TYPE: NEMA 1 W/GASKETED DOORS
2. FINISH: ANSI 61 TEXTURED GRAY PAINT
3. ALL WEIGHTS ARE APPROXIMATE IN LBS (kg)
4. ALL DIMS ARE IN INCHES [mm]
5. POWER CELLS NEED TO BE REMOVED FOR ACCESS

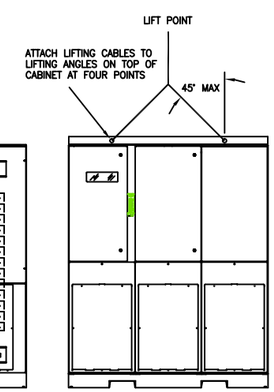
TRANSFORMER CUBICLE	11,200 lbs (5,080 kg)
INVERTER CUBICLE	4,500 lbs (2,041 kg)



FLOOR PLAN VIEW

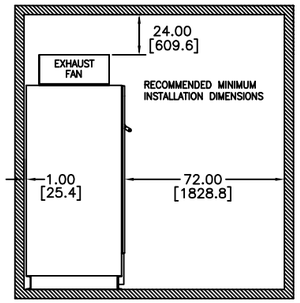


ALTERNATE LIFTING METHOD
TRANSFORMER CUBICLE
(FANS REMOVED)

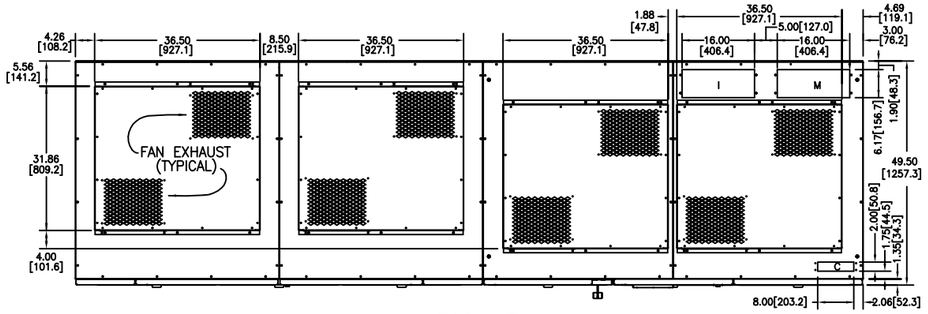


ALTERNATE LIFTING METHOD
INVERTER CUBICLE
(FANS REMOVED)

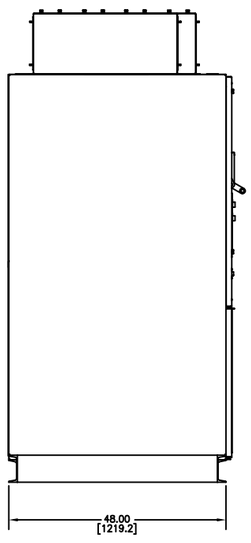
REVISION NO. 0	ENGINEERING G. A DALTON	PROJECT: OUTLINES	DB5i, 4160V, FRAME 2		
REVISION DATE	TECHNICAL BWN	REQUISITION:	TMEIC CORPORATION ROANOKE, VA USA	DWG. NO.	SH. NO.
REVISED BY	ISSUE DATE	S. O.:		CONT. ON SHT. 7	6



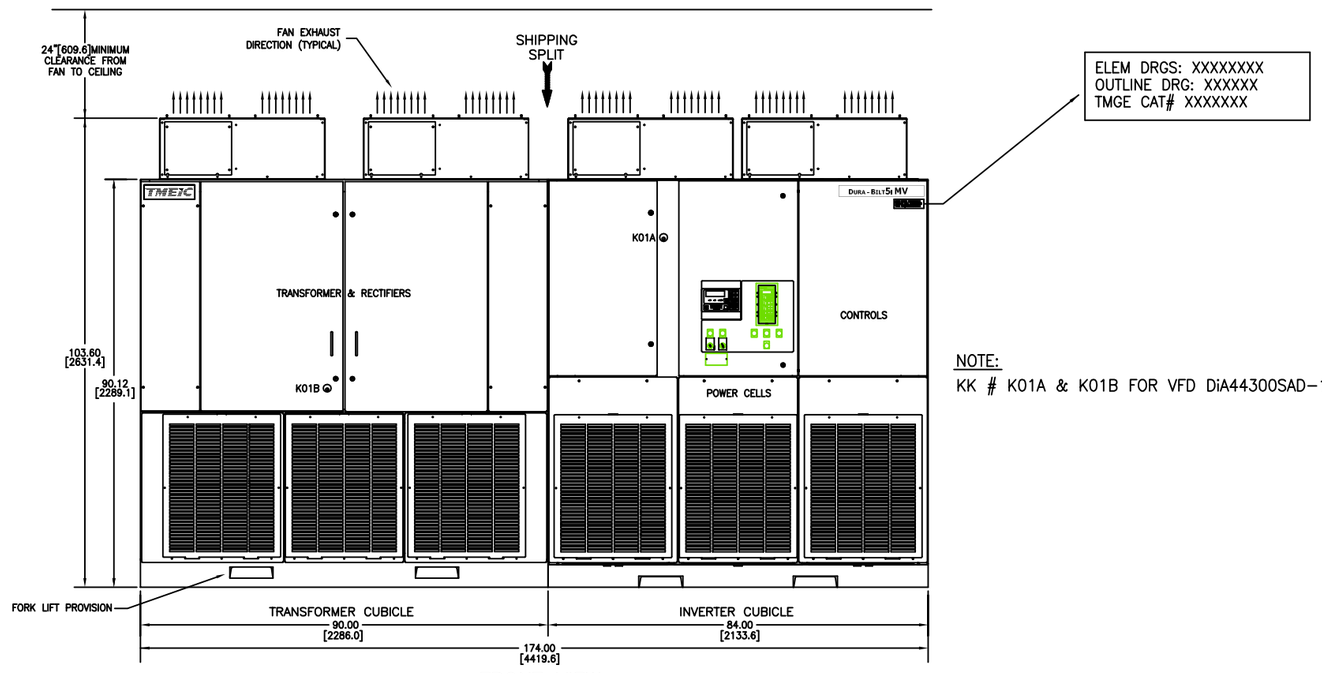
INSTALLATION DETAIL



TOP VIEW

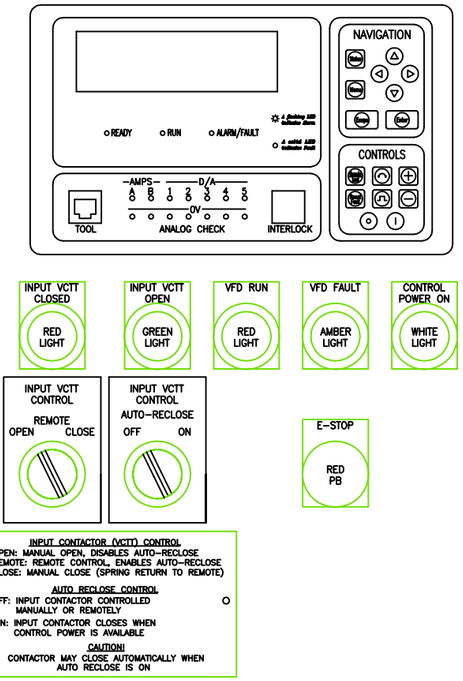


LH VIEW

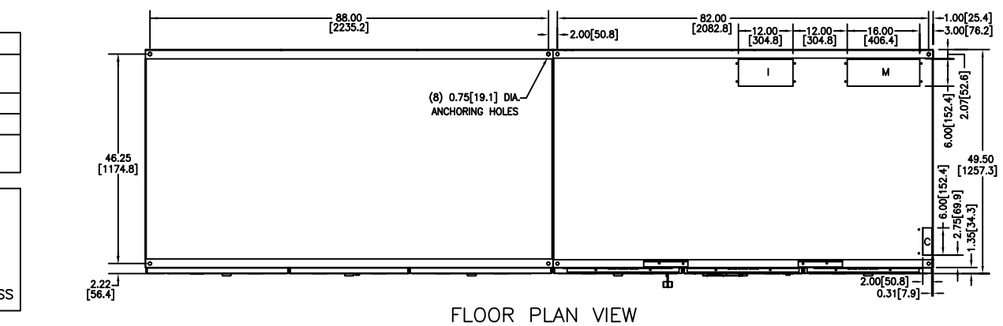


FRONT VIEW

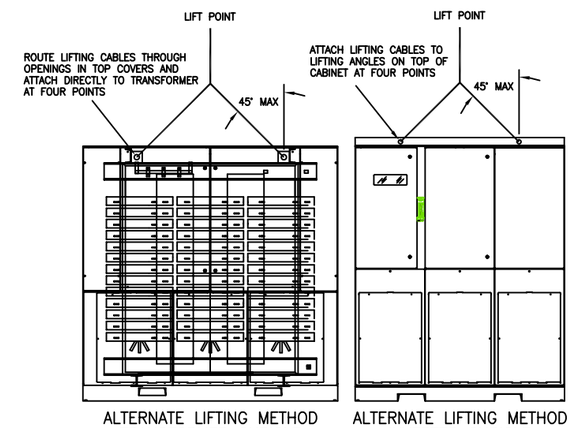
NOTE:
KK # K01A & K01B FOR VFD DiA44300SAD-1



DETAIL PILOT DEVICES AND KEYPAD



FLOOR PLAN VIEW



ALTERNATE LIFTING METHOD TRANSFORMER CUBICLE (FANS REMOVED)

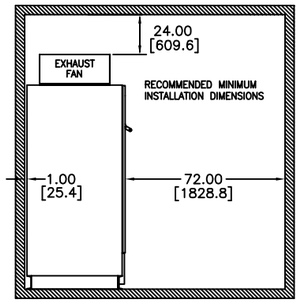
ALTERNATE LIFTING METHOD INVERTER CUBICLE (FANS REMOVED)

CABLE TERMINATIONS			
ENTRY	INCOMING CABLES	MOTOR LEADS	CONTROL WIRE
TOP	I	M	C
BOTTOM	I	M	C
INCOMING TERMINATIONS USE NEMA 4-HOLE PATTERN MOTOR TERMINATIONS USE NEMA 4-HOLE PATTERN			

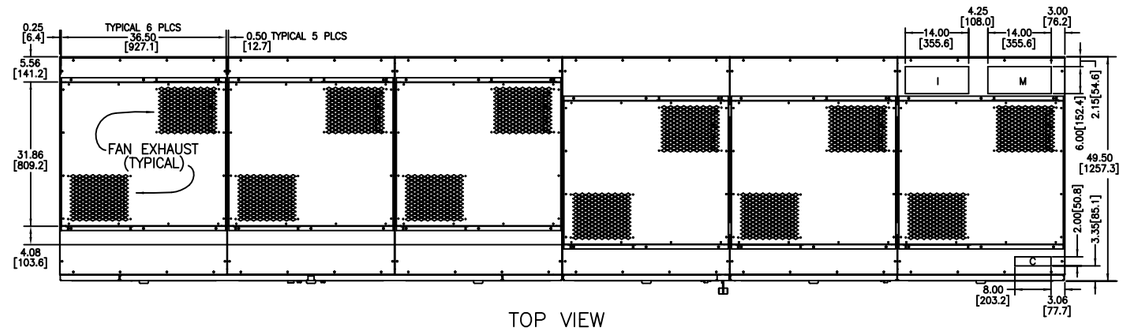
NOTES
1. ENCLOSURE TYPE: NEMA 1 W/GASKETED DOORS
2. FINISH: ANSI 61 TEXTURED GRAY PAINT
3. ALL WEIGHTS ARE APPROXIMATE IN LBS (kg)
4. ALL DIMS ARE IN INCHES [mm]
5. POWER CELLS NEED TO BE REMOVED FOR ACCESS

TRANSFORMER CUBICLE	12,700 lbs (5,760 kg)
INVERTER CUBICLE	5,500 lbs (2,495 kg)

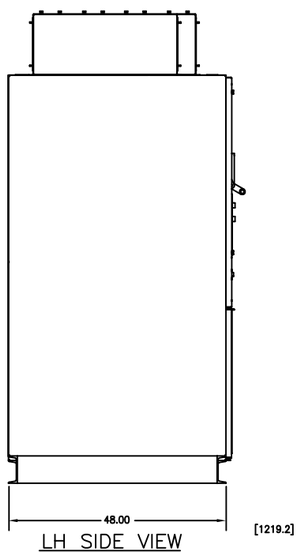
REVISION NO. 0	ENGINEERING G. A. DALTON	PROJECT: OUTLINES	DB5i, 4160V, FRAME 3		
REVISION DATE	TECHNICAL BWN	REQUISITION:	TMEIC CORPORATION ROANOKE, VA USA	DWG. NO.	SH. NO.
REVISED BY	ISSUE DATE	S. O.:		CONT. ON SHT. 8	7



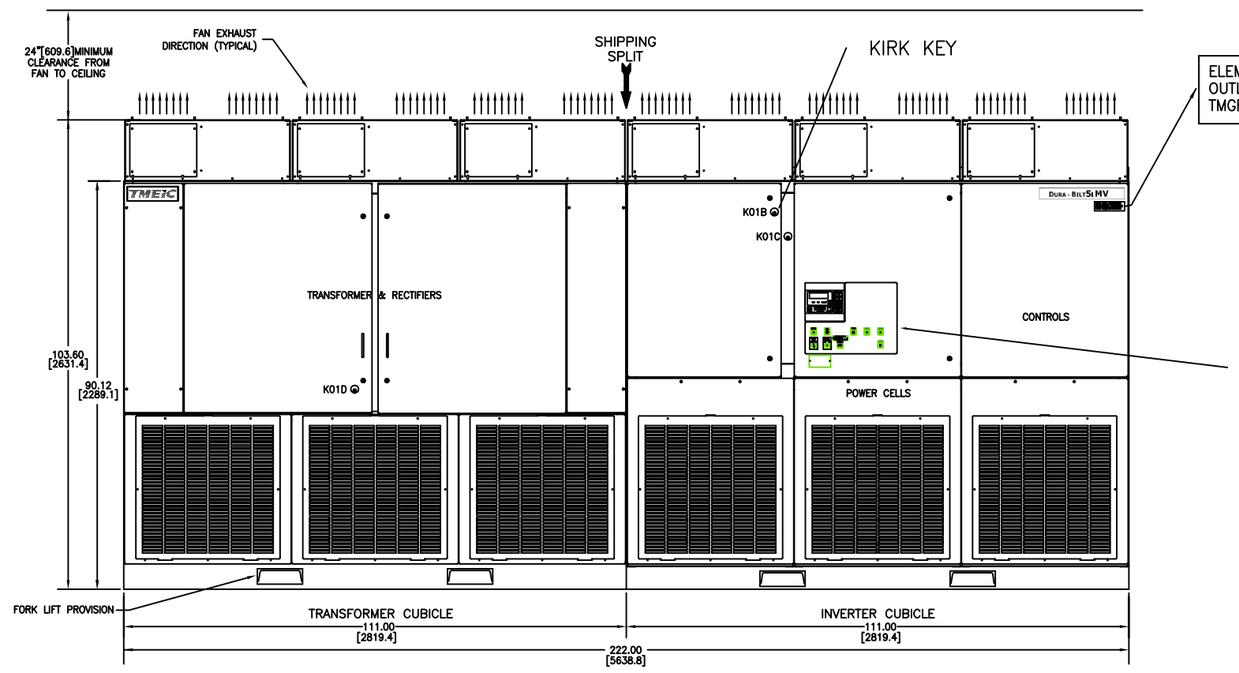
INSTALLATION DETAIL



TOP VIEW



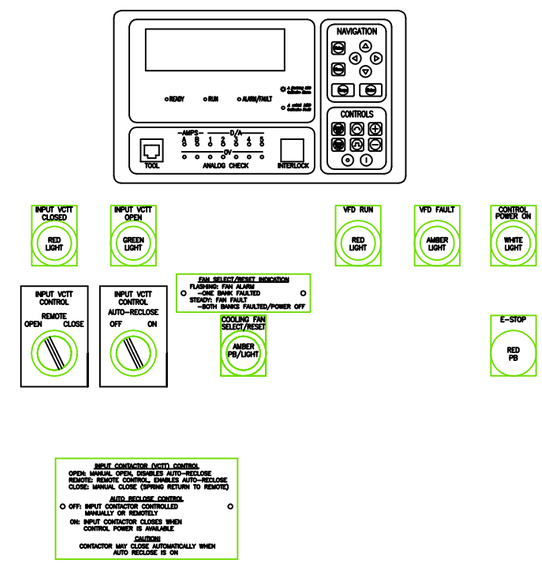
LH SIDE VIEW



FRONT VIEW

ELEM DRGS: XXXXXXXX
OUTLINE DRG: XXXXXX
TMGE CAT# XXXXXXX

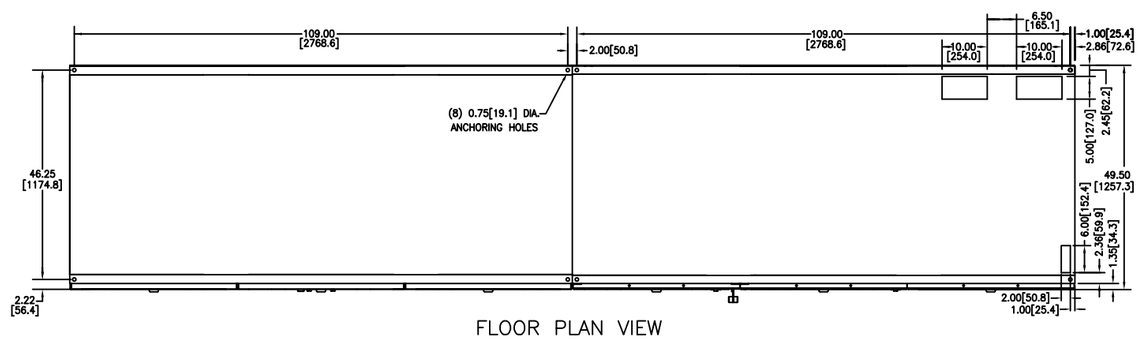
DETAIL PILOT DEVICES AND KEYPAD



	DIA44500SAC-1	DIA44500SAC-2
TRANSFORMER CUBICLE	23,500 lbs (10,660 kg)	25,500 lbs (11,566 kg)
INVERTER CUBICLE	6,500 lbs (2,948 kg)	6,500 lbs (2,948 kg)

CABLE TERMINATIONS				
ENTRY	INCOMING CABLES	MOTOR LEADS	CONTROL WIRE	
TOP	I	M	C	
BOTTOM	I	M	C	
INCOMING TERMINATIONS USE NEMA 4-HOLE PATTERN MOTOR TERMINATIONS USE NEMA 4-HOLE PATTERN				

NOTES
1. ENCLOSURE TYPE: NEMA 1 W/GASKETED DOORS.
2. FINISH: ANSI 61 TEXTURED GRAY PAINT.
3. ALL WEIGHTS ARE APPROXIMATE AND BASED ON MAXIMUM HP FOR THIS FRAME SIZE.
4. ALL DIMENSIONS ARE IN INCHES. [mm]
5. POWER MODULES NEED TO BE REMOVED FOR ACCESS.



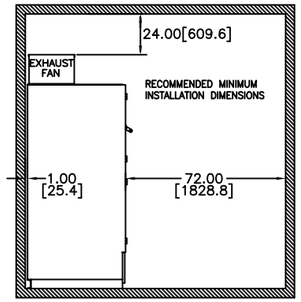
FLOOR PLAN VIEW

KIRK KEY INTERLOCK SET

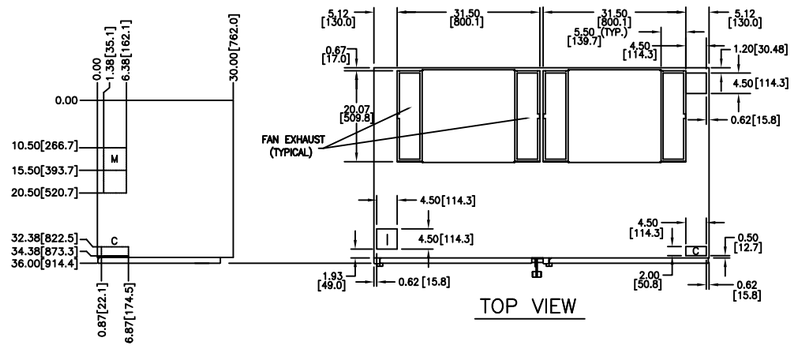
KEY ALIKE SET #1 = K01A, K01B
KEY ALIKE SET #2 = K01C, K01D
EACH KEY ALIKE SET TO HAVE DIFF. KEY# FROM OTHER SETS

NOTE KIRK KEY K01A TO BE MOUNTED ON CUSTOMER SUPPLIED M1 INCOMING CONTACTOR

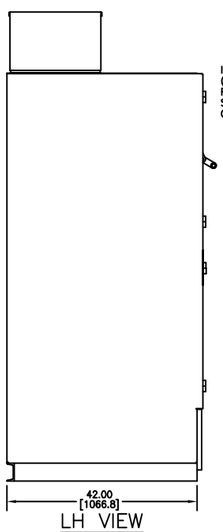
REVISION NO. 0	ENGINEERING D. W. ANDERSON	PROJECT: OUTLINES	DB5i, 4160V, FRAME 4		
REVISION DATE	TECHNICAL BWN	REQUISITION:	TMEIC CORPORATION ROANOKE, VA U. S. A.	DWG. NO.	SH. NO.
REVISED BY	ISSUE DATE	S. O.:		CONT. ON SHT. 9	8



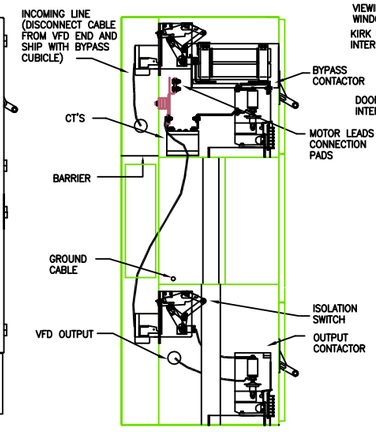
INSTALLATION DETAIL



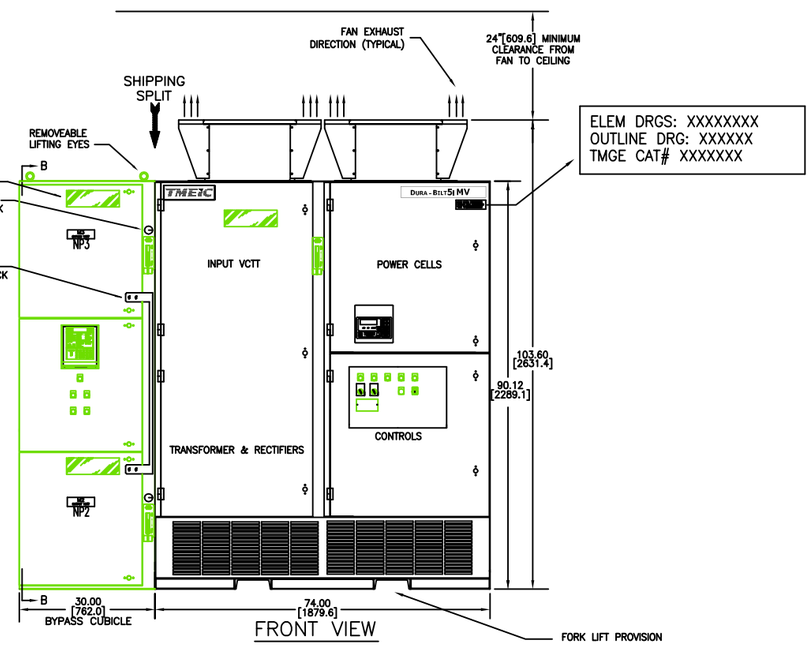
TOP VIEW



LH VIEW

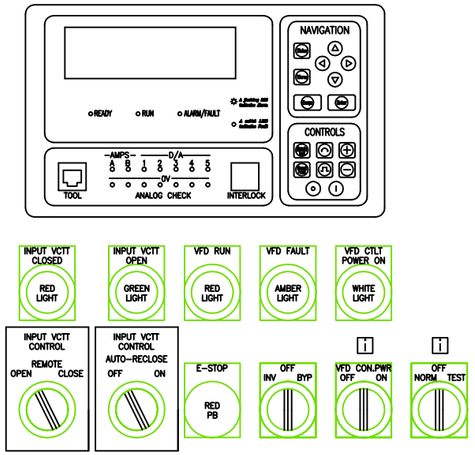


VIEW B–B

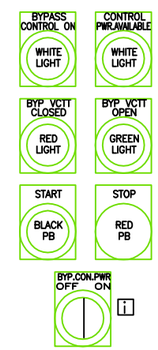


ELEM DRGS: XXXXXXXX
OUTLINE DRG: XXXXXX
TMGE CAT# XXXXXXX

FRONT VIEW



DETAIL PILOT DEVICES AND KEYPAD



BYPASS
DETAIL PILOT DEVICES

[i] = MOUNTED INSIDE CABINET

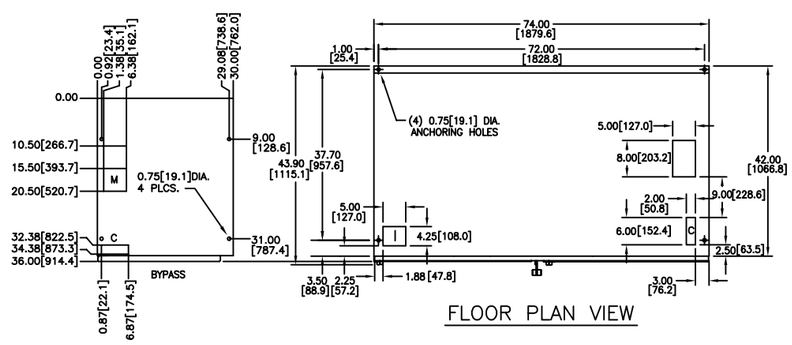
NP1
M1
INPUT VCTT

NP2
M2
OUTPUT VCTT

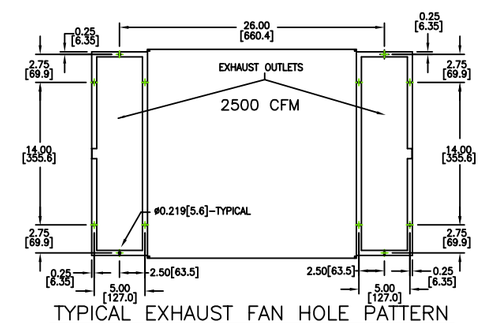
NP3
M3
BYPASS VCTT

CABLE TERMINATIONS			
ENTRY	INCOMING CABLES	MOTOR LEADS	CONTROL WIRE
TOP	I	M	C
BOTTOM	I	M	C
INCOMING TERMINATIONS USE NEMA 4–HOLE PATTERN MOTOR TERMINATIONS USE NEMA 2–HOLE PATTERN			

NOTES
1. ENCLOSURE TYPE: NEMA 1 W/GASKETED DOORS
2. FINISH: ANSI 61 TEXTURED GRAY PAINT
3. ALL WEIGHTS ARE APPROXIMATE IN LBS (kg)
4. ALL DIMS ARE IN INCHES [mm]
5. POWER CELLS NEED TO BE REMOVED FOR ACCESS



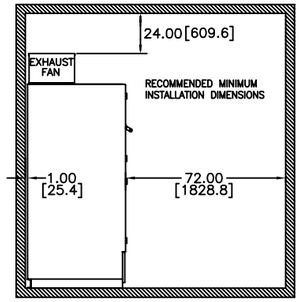
FLOOR PLAN VIEW



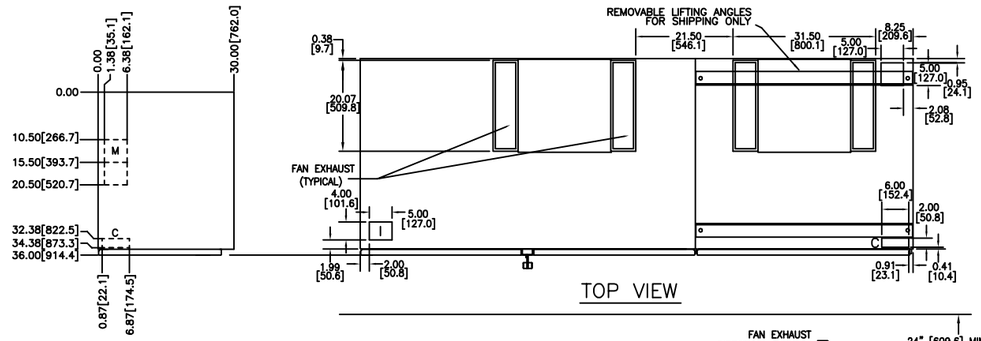
TYPICAL EXHAUST FAN HOLE PATTERN
FOR CUSTOMER DUCTWORK
(TOP VIEW)

	800HP
VFD	7,200 lbs 3,266 kg)
BYPASS	1,100 lbs (500 kg)

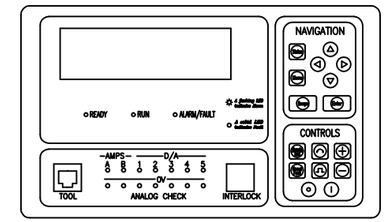
REVISION NO.	ENGINEERING	PROJECT:	DB5i, 4160V, FRAME 0 W/BYPASS		
0	M. D. LAUDENSLAGER	OUTLINES			
REVISION DATE	TECHNICAL BWN	REQUISITION:	TMEIC CORPORATION ROANOKE, VA USA	DWG. NO.	SH. NO.
REVISED BY	ISSUE DATE	S. O.:		CONT. ON SHT. 10	9

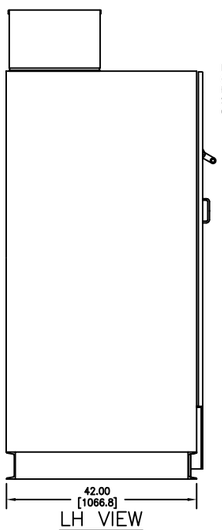


INSTALLATION DETAIL

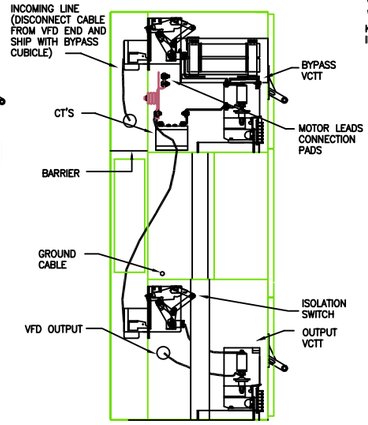


TOP VIEW

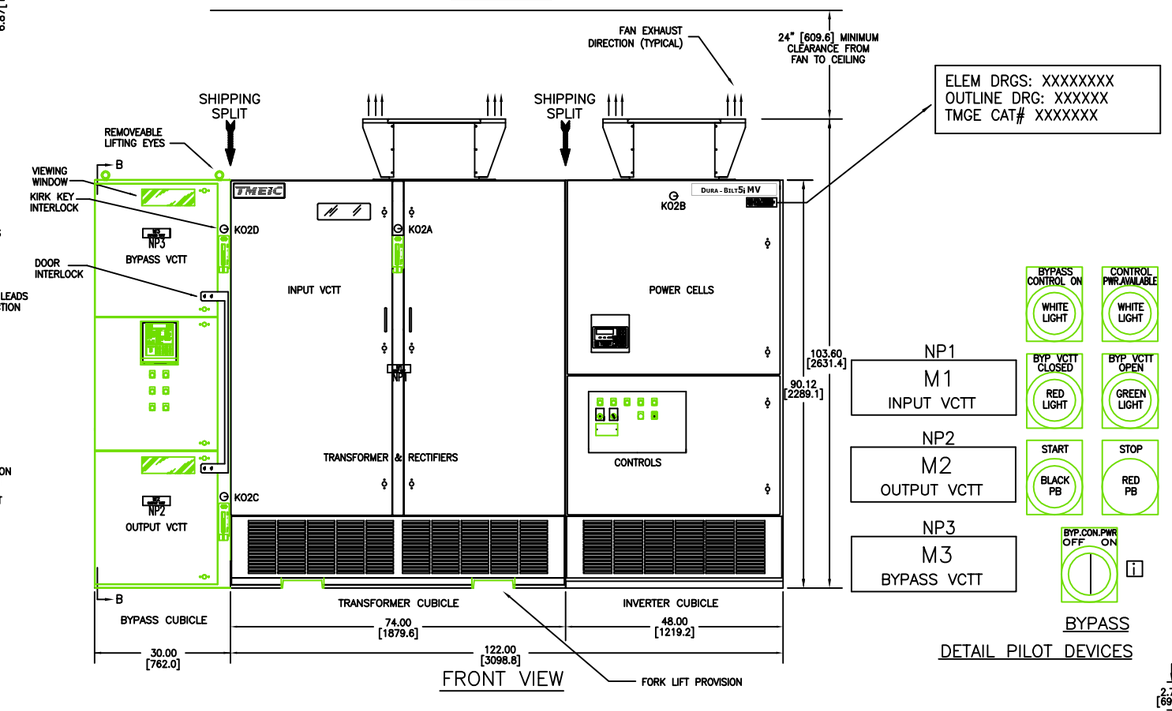




LH VIEW



VIEW B–B



FRONT VIEW

ELEM DRGS: XXXXXXX
OUTLINE DRG: XXXXXX
TMGE CAT# XXXXXXX

DETAIL PILOT DEVICES AND KEYPAD

[i] = MOUNTED INSIDE CABINET

BYPASS

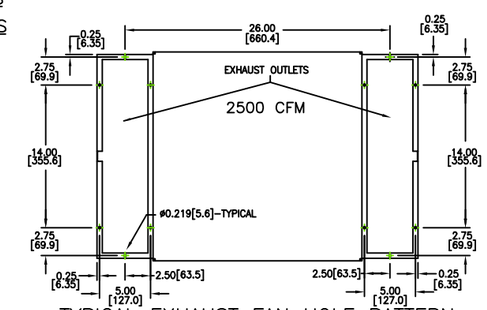
DETAIL PILOT DEVICES

NP1
M1
INPUT VCTT

NP2
M2
OUTPUT VCTT

NP3
M3
BYPASS VCTT

KIRK KEY INTERNLOCK NOTE:
K02A, K02B = KEY ALIKE
K02D, K02C = KEY ALIKE



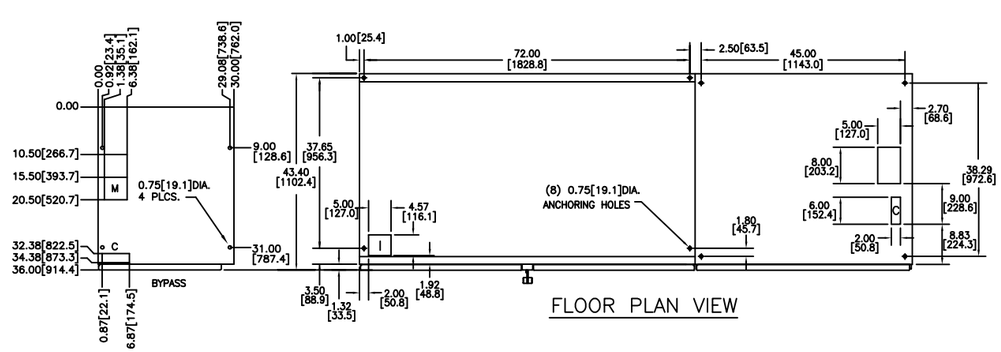
TYPICAL EXHAUST FAN HOLE PATTERN FOR CUSTOMER DUCTWORK (TOP VIEW)

CABLE TERMINATIONS			
ENTRY	INCOMING CABLES	MOTOR LEADS	CONTROL WIRE
TOP	I	M	C
BOTTOM	I	M	C

INCOMING TERMINATIONS USE NEMA 4–HOLE PATTERN
MOTOR TERMINATIONS:
USE NEMA 4–HOLE PATTERN
USE NEMA 2–HOLE PATTERN FOR VFD W/BYPASS

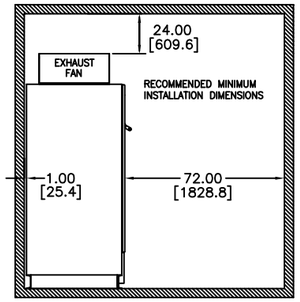
NOTES
1. ENCLOSURE TYPE: NEMA 1 W/GASKETED DOORS
2. FINISH: ANSI 61 TEXTURED GRAY PAINT
3. ALL WEIGHTS ARE APPROXIMATE IN LBS (kg)
4. ALL DIMS ARE IN INCHES [mm]
5. POWER CELLS NEED TO BE REMOVED FOR ACCESS

	900HP
TRANSFORMER CUBICLE	8,500 lbs (3,856 kg)
INVERTER CUBICLE	2,500 lbs (1,134 kg)
BYPASS CUBICLE	1,100 lbs (500 kg)

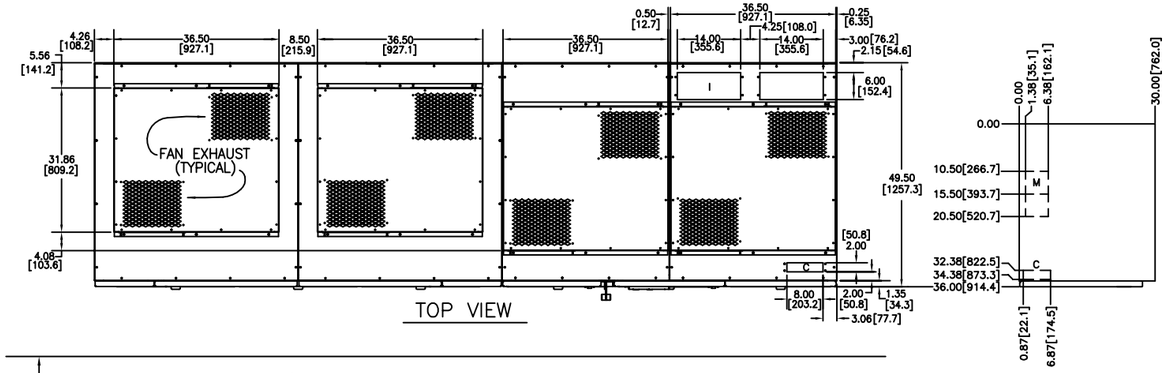


FLOOR PLAN VIEW

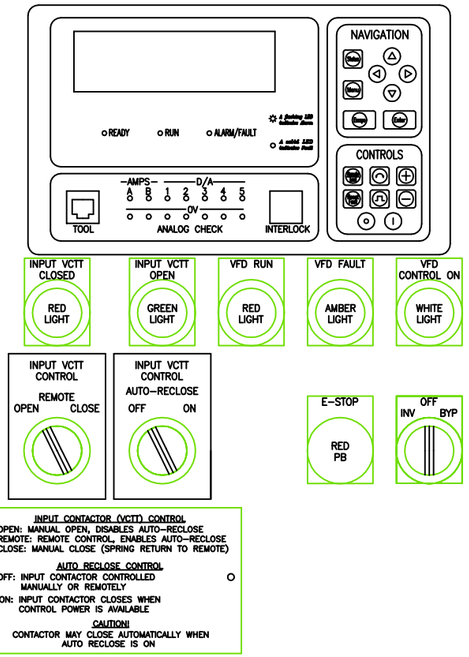
REVISION NO. 0	ENGINEERING M. LAUDENSLAGER	PROJECT: OUTLINES	DB5i, 4160V, FRAME 1 W/BYPASS
REVISION DATE	TECHNICAL BWN	REQUISITION:	TMEIC CORPORATION ROANOKE, VA U. S. A.
REVISED BY	ISSUE DATE	S. O.:	DWG. NO. CONT. ON SHT. 11 / SH. NO. 10



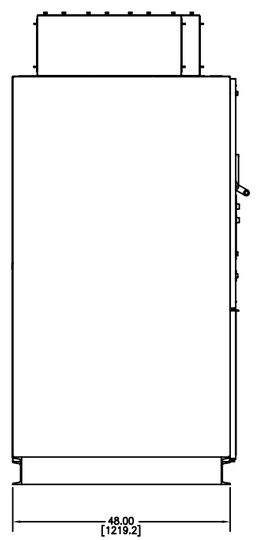
INSTALLATION DETAIL



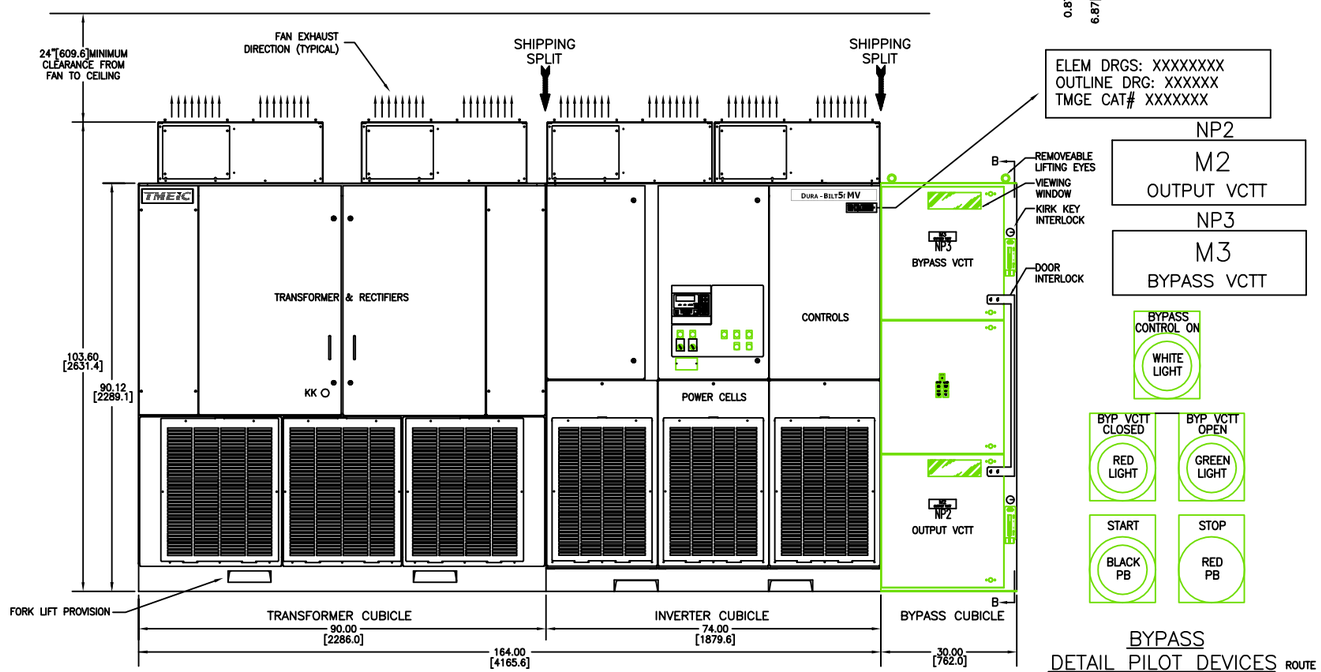
TOP VIEW



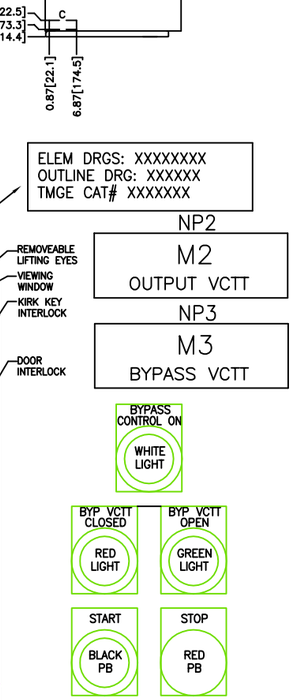
DETAIL PILOT DEVICES AND KEYPAD



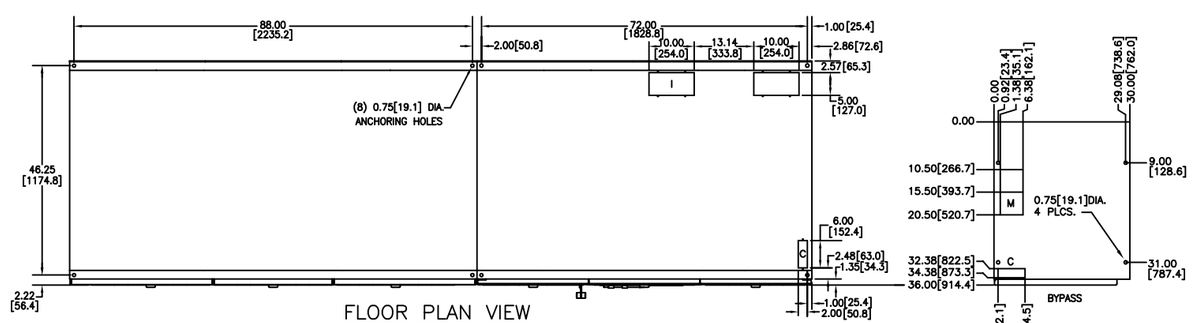
LH VIEW



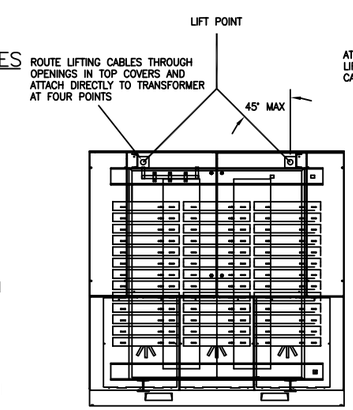
FRONT VIEW



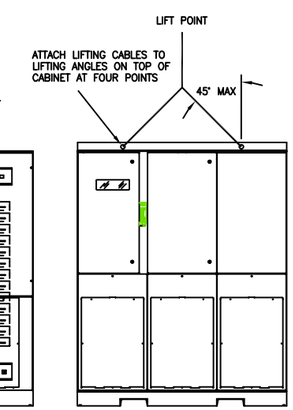
BYPASS
DETAIL PILOT DEVICES



FLOOR PLAN VIEW



ALTERNATE LIFTING METHOD
TRANSFORMER CUBICLE
(FANS REMOVED)



ALTERNATE LIFTING METHOD
INVERTER CUBICLE
(FANS REMOVED)

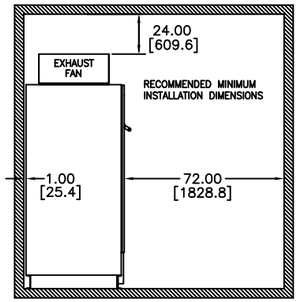
CABLE TERMINATIONS			
ENTRY	INCOMING CABLES	MOTOR LEADS	CONTROL WIRE
TOP	I	M	C
BOTTOM	I	M	C
INCOMING TERMINATIONS USE NEMA 4-HOLE PATTERN MOTOR TERMINATIONS: USE NEMA 2-HOLE PATTERN			

NOTES
1. ENCLOSURE TYPE: NEMA 1 W/GASKETED DOORS
2. FINISH: ANSI 61 TEXTURED GRAY PAINT
3. ALL WEIGHTS ARE APPROXIMATE IN LBS (kg)
4. ALL DIMS ARE IN INCHES [mm]
5. POWER CELLS NEED TO BE REMOVED FOR ACCESS

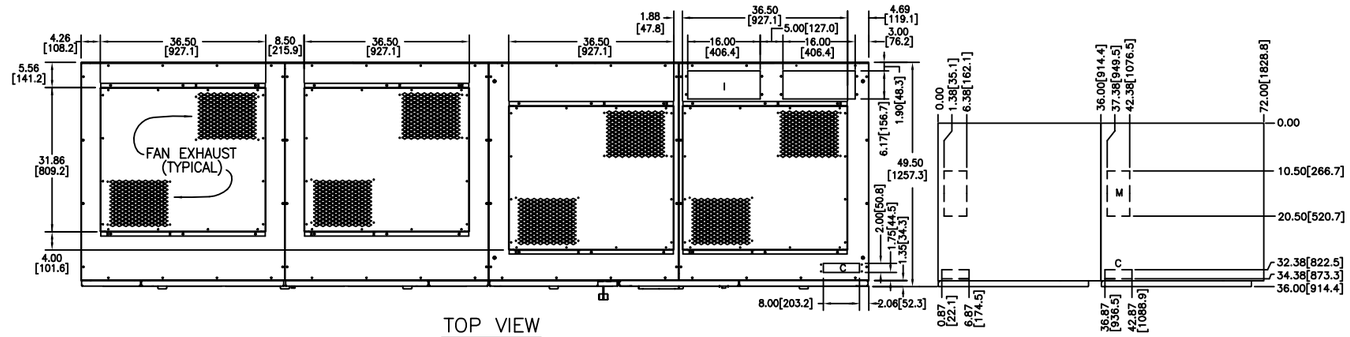
	2000HP
TRANSFORMER CUBICLE	12,000 lbs (5,443 kg)
INVERTER CUBICLE	4,500 lbs (2,041 kg)
BYPASS CUBICLE	1,100 lbs (500 kg)

REVISION NO. 0	ENGINEERING M. S. SLUSHER	PROJECT: OUTLINES	DB5i, 4160V, FRAME 2 W/BYPASS	
REVISION DATE	TECHNICAL BWN	REQUISITION:	TMEIC CORPORATION ROANOKE, VA U. S. A.	DWG. NO.
REVISED BY	ISSUE DATE	S. O.:		CONT. ON SHT. 12

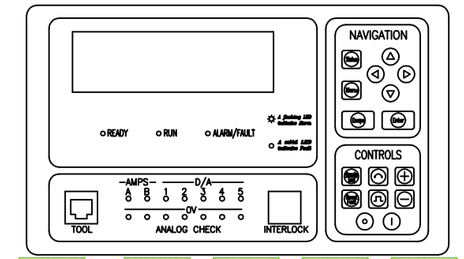
SH. NO. 11

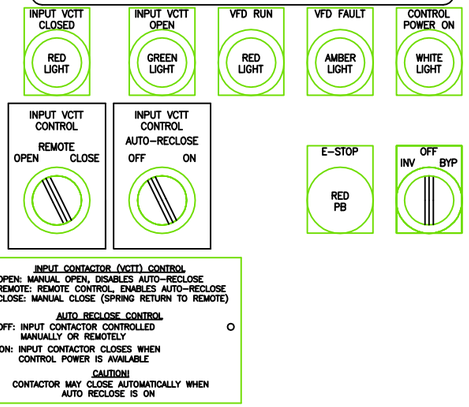


INSTALLATION DETAIL

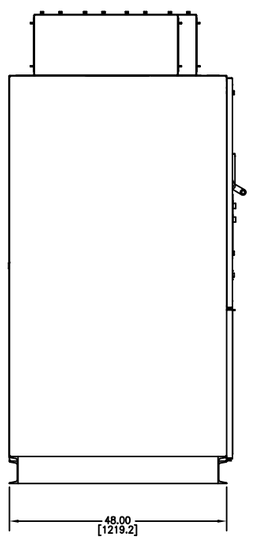


TOP VIEW

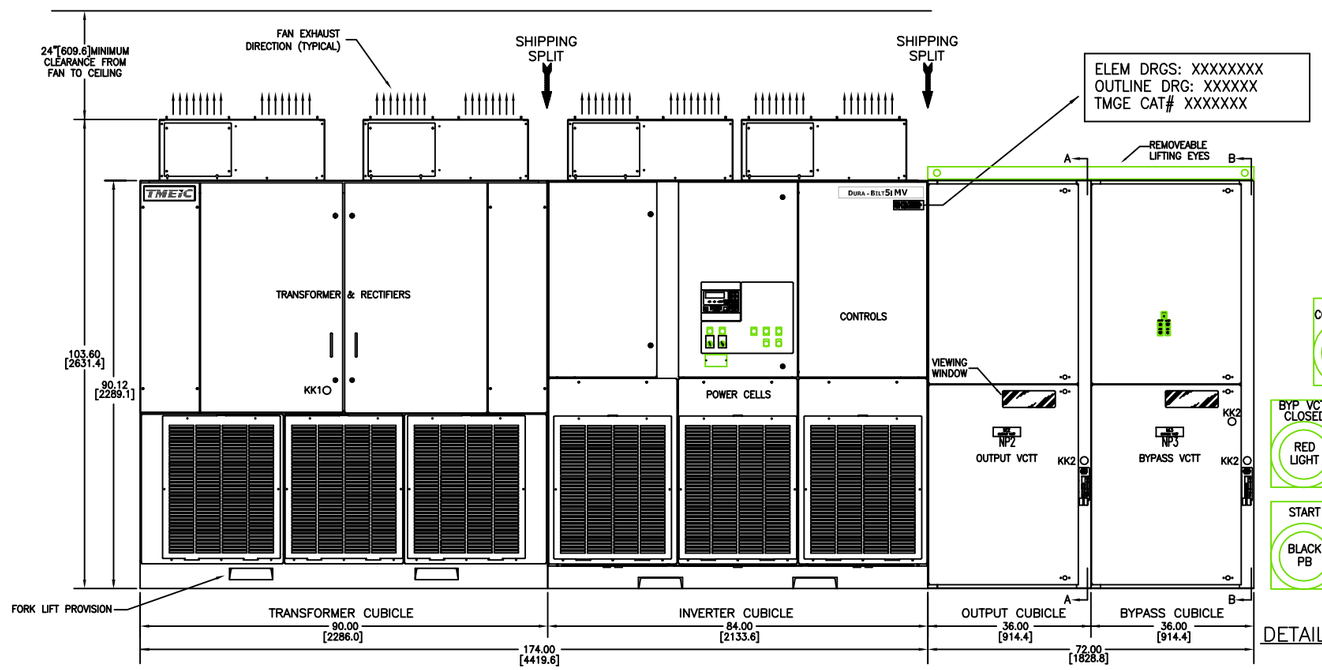




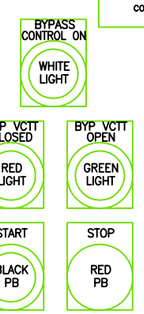
DETAIL PILOT DEVICES AND KEYPAD



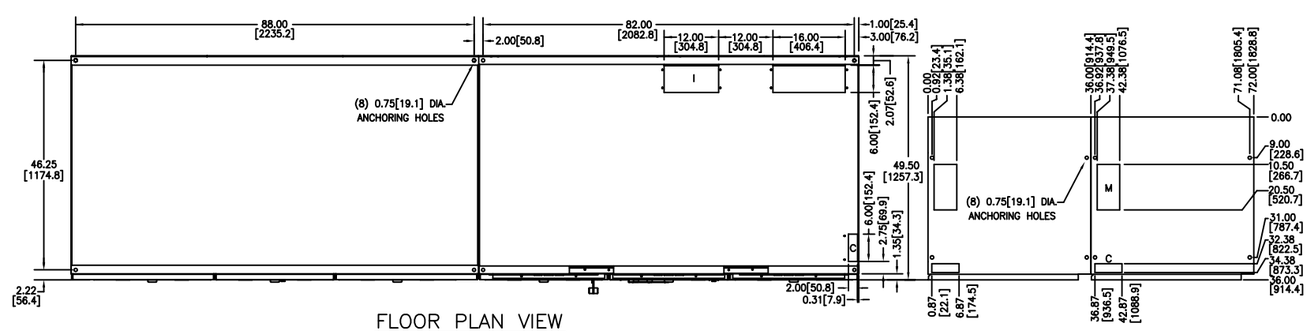
LH VIEW



FRONT VIEW



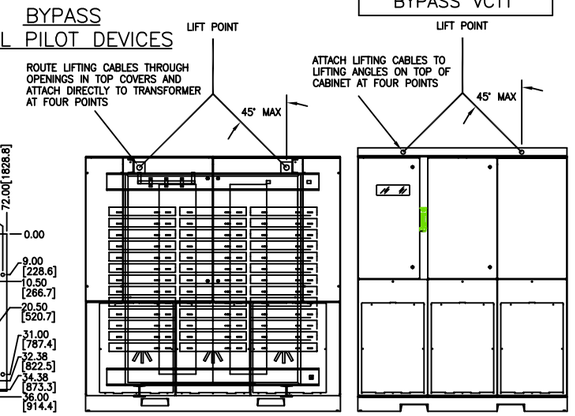
BYPASS DETAIL PILOT DEVICES



FLOOR PLAN VIEW

NP2
M2
OUTPUT VCTT

NP3
M3
BYPASS VCTT



ALTERNATE LIFTING METHOD TRANSFORMER CUBICLE (FANS REMOVED)

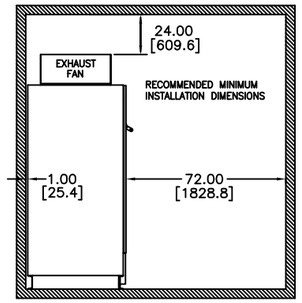
ALTERNATE LIFTING METHOD INVERTER CUBICLE (FANS REMOVED)

CABLE TERMINATIONS			
ENTRY	INCOMING CABLES	MOTOR LEADS	CONTROL WIRE
TOP	I	M	C
BOTTOM	I	M	C
INCOMING TERMINATIONS USE NEMA 4-HOLE PATTERN MOTOR TERMINATIONS USE NEMA 4-HOLE PATTERN			

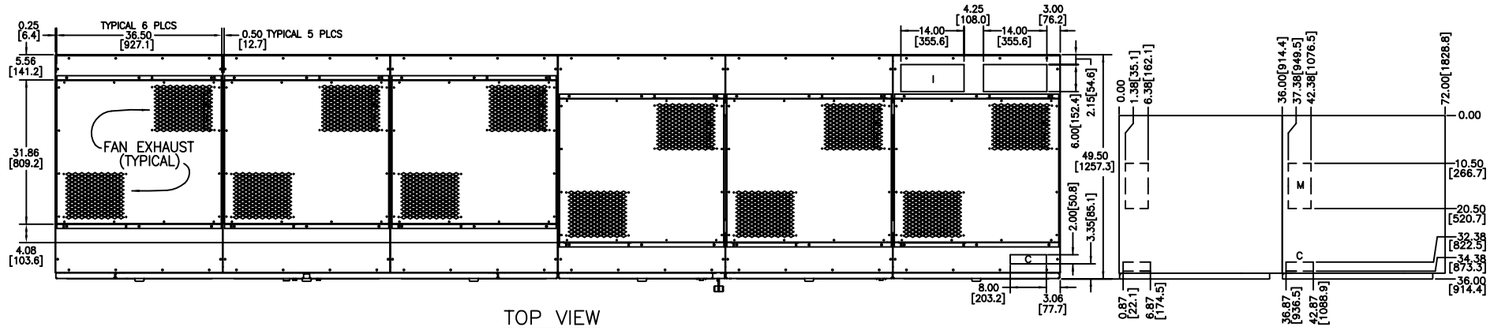
NOTES
1. ENCLOSURE TYPE: NEMA 1 W/GASKETED DOORS
2. FINISH: ANSI 61 TEXTURED GRAY PAINT
3. ALL WEIGHTS ARE APPROXIMATE IN LBS (kg)
4. ALL DIMS ARE IN INCHES [mm]
5. POWER CELLS NEED TO BE REMOVED FOR ACCESS

	2500HP
TRANSFORMER CUBICLE	13,500 lbs (6,124 kg)
INVERTER CUBICLE	5,500 lbs (2,495 kg)
OUTPUT/BYPASS	2,800 lbs (1,270 kg)

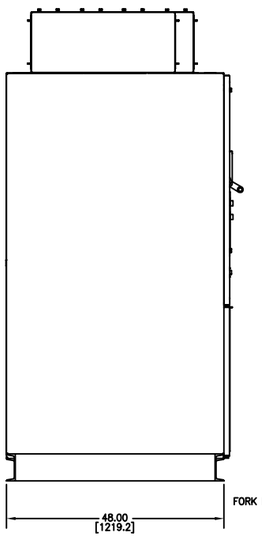
REVISION NO. 0	ENGINEERING M. S. SLUSHER	PROJECT: OUTLINES	DB5i, 4160V, FRAME 3 W/BYPASS	
REVISION DATE	TECHNICAL BWN	REQUISITION:	TMEIC CORPORATION ROANOKE, VA U. S. A.	DWG. NO. CONT. ON SHT. 13	SH. NO. 12
REVISED BY	ISSUE DATE	S. O.:			



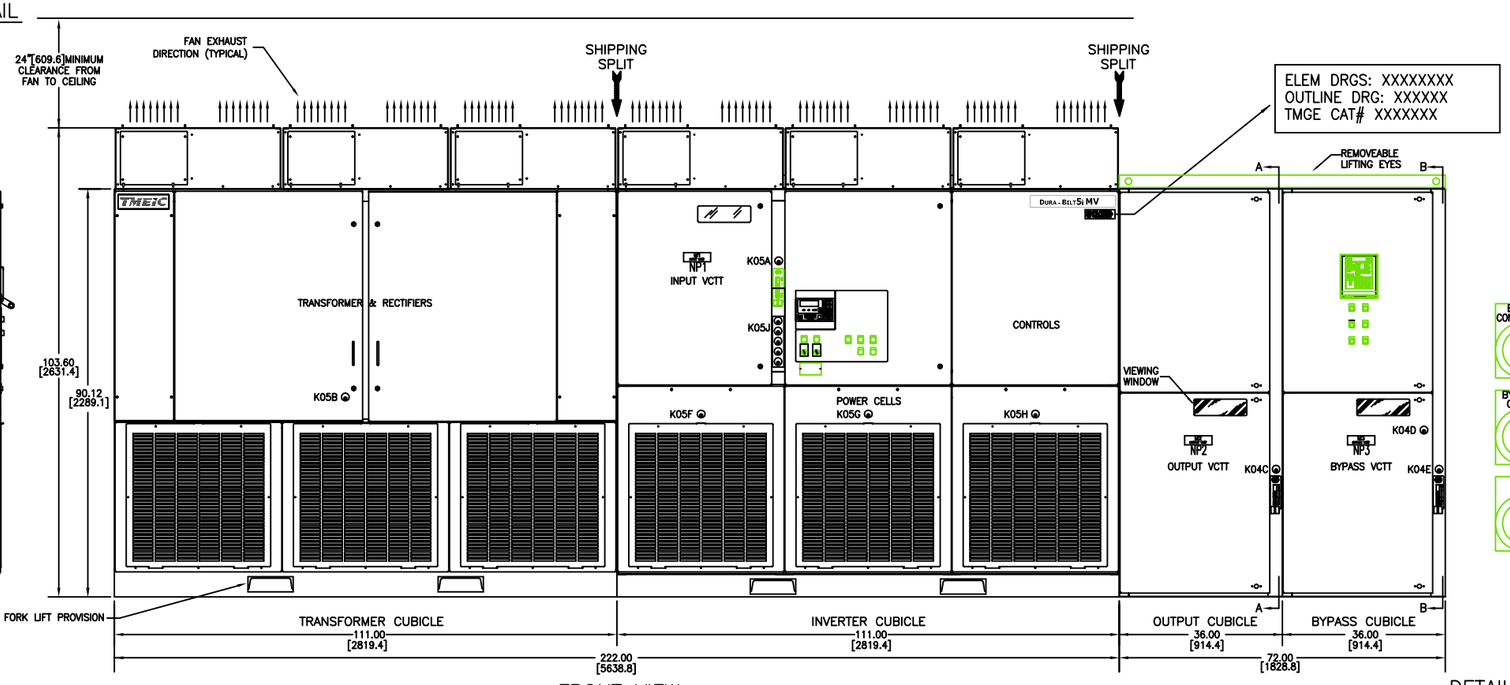
INSTALLATION DETAIL



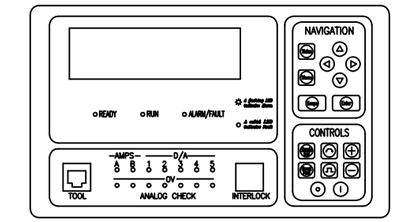
TOP VIEW

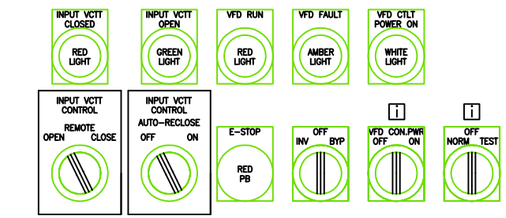


LH VIEW



FRONT VIEW



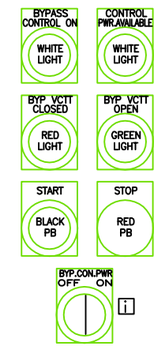


INPUT CONTACTOR (VCTT) CONTROL
OPEN: MANUAL OPEN, DISABLES AUTO-RECLOSE
REMOTE: REMOTE CONTROL, ENABLES AUTO-RECLOSE
CLOSE: MANUAL CLOSE (SPRING RETURN TO REMOTE)

AUTO RECLOSE CONTROL
OFF: INPUT CONTACTOR CONTROLLED MANUALLY OR REMOTELY
ON: INPUT CONTACTOR CLOSES WHEN CONTROL POWER IS AVAILABLE

CAUTION!
CONTACTOR MAY CLOSE AUTOMATICALLY WHEN AUTO RECLOSE IS ON

DETAIL PILOT DEVICES AND KEYPAD



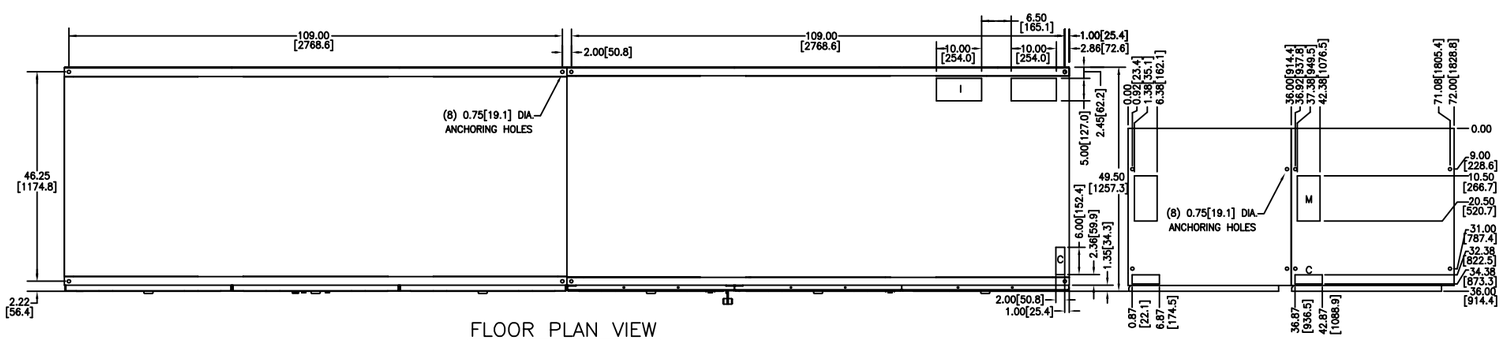
BYPASS
DETAIL PILOT DEVICES

[i] = MOUNTED INSIDE CABINET

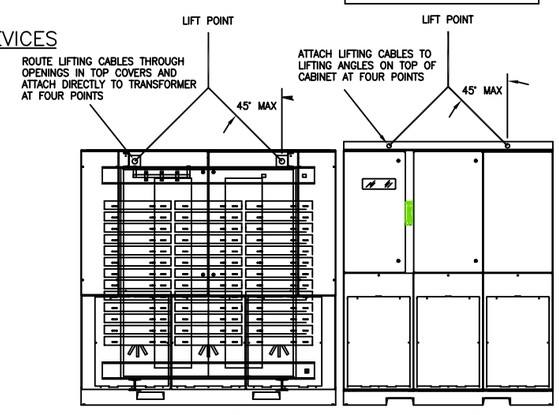
NP1
M1
INPUT VCTT

NP2
M2
OUTPUT VCTT

NP3
M3
BYPASS VCTT



FLOOR PLAN VIEW



ALTERNATE LIFTING METHOD TRANSFORMER CUBICLE (FANS REMOVED)

ALTERNATE LIFTING METHOD INVERTER CUBICLE (FANS REMOVED)

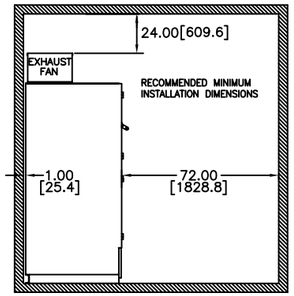
CABLE TERMINATIONS			
ENTRY	INCOMING CABLES	MOTOR LEADS	CONTROL WIRE
TOP	I	M	C
BOTTOM	I	M	C
INCOMING AND MOTOR TERMINATIONS USE NEMA 4-HOLE PATTERN			

NOTES
1. ENCLOSURE TYPE: NEMA 1 WITH GASKETED DOORS
2. FINISH: ANSI 61 TEXTURED GRAY PAINT
3. ALL WEIGHTS ARE APPROXIMATE IN LBS (kg)
4. ALL DIMENSIONS ARE IN INCHES [mm]
5. POWER CELLS NEED TO BE REMOVED FOR ACCESS

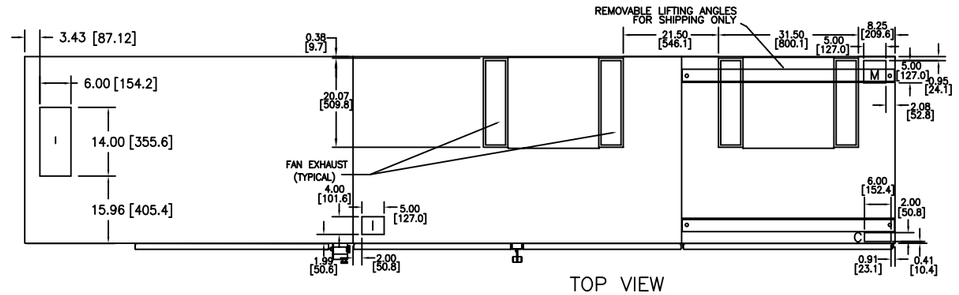
TRANSFORMER CUBICLE	23,500 lbs (10,660 kg)
INVERTER CUBICLE	6,500 lbs (2,948 kg)
OUTPUT/BYPASS	2,800 lbs (1,270 kg)

KIRK KEY INTERNLOCK NOTE:
K06C, K06D, K06E = KEY ALIKE
K06A, K06J(TOP CYLINDER) = KEY ALIKE
K06B, K06F, K06G, K06H, K06J(BOTTOM 4 CYLINDERS) = KEY ALIKE

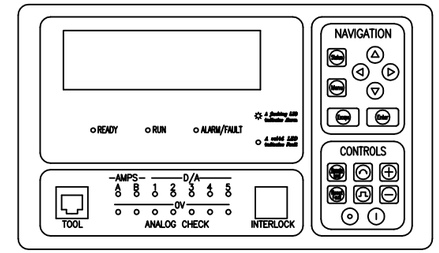
REVISION NO. 0	ENGINEERING M. LAUDENSLAGER	PROJECT: OUTLINES	DB5i, 4160V, FRAME 4 W/BYPASS
REVISION DATE	TECHNICAL BWN	REQUISITION:	TMEIC CORPORATION ROANOKE, VA U. S. A.
REVISED BY	ISSUE DATE	S. O.:	DWG. NO. / CONT. ON SHT. 14 / SH. NO. 13

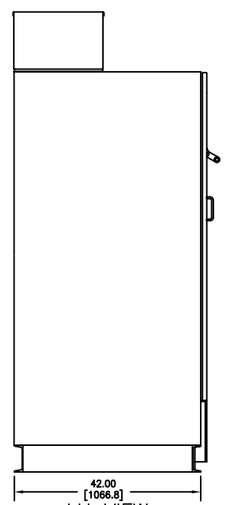


INSTALLATION DETAIL

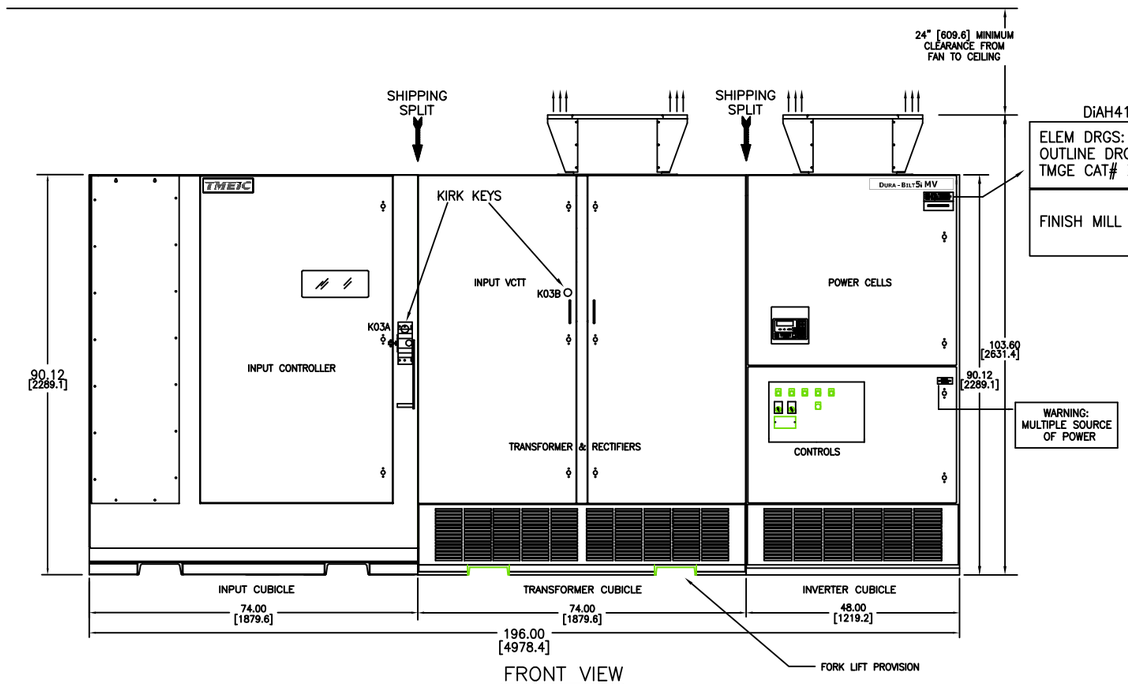


TOP VIEW





LH VIEW

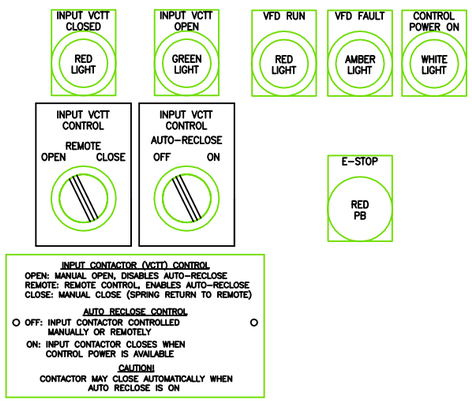


FRONT VIEW

DiAH4125SAB-3

ELEM DRGS: XXXXXXXX
OUTLINE DRG: XXXXXX
TMGE CAT# XXXXXXX

FINISH MILL #6 CLASSIFIER



DETAIL PILOT DEVICES AND KEYPAD

APPROXIMATE WEIGHTS:

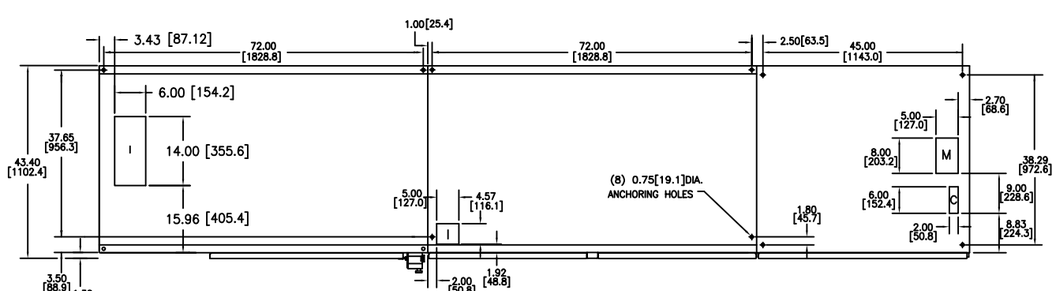
INPUT CUBICLE.	2500 LBS	[1133.9 Kg]
TRANSFORMER CUBICLE	7850 LBS	[3560.7 Kg]
INVERTER CUBICLE (W/3 POWER MOD) .	2650 LBS	[1202.0 Kg]
INVERTER POWER MODULE.	260 LBS	[117.9 Kg]
TOTAL UNIT WEIGHT	13000 LBS	[5896.7 Kg]

CABLE TERMINATIONS

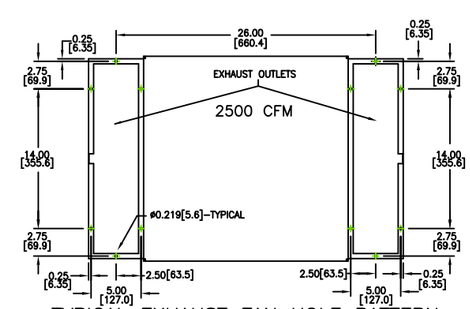
ENTRY	INCOMING CABLES	MOTOR LEADS	CONTROL WIRE
TOP	I	M	C
BOTTOM	I	M	C

INCOMING TERMINATIONS USE NEMA 4-HOLE PATTERN
MOTOR TERMINATIONS:
USE NEMA 4-HOLE PATTERN
USE NEMA 2-HOLE PATTERN FOR VFD W/BYPASS

NOTES
1. ENCLOSURE TYPE: NEMA 1 W/GASKETED DOORS
2. FINISH: ANSI 61 TEXTURED GRAY PAINT
3. ALL WEIGHTS ARE APPROXIMATE IN LBS (kg)
4. ALL DIMS ARE IN INCHES [mm]
5. POWER CELLS NEED TO BE REMOVED FOR ACCESS

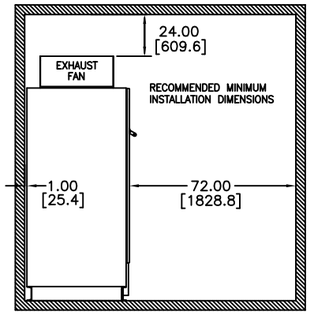


FLOOR PLAN VIEW

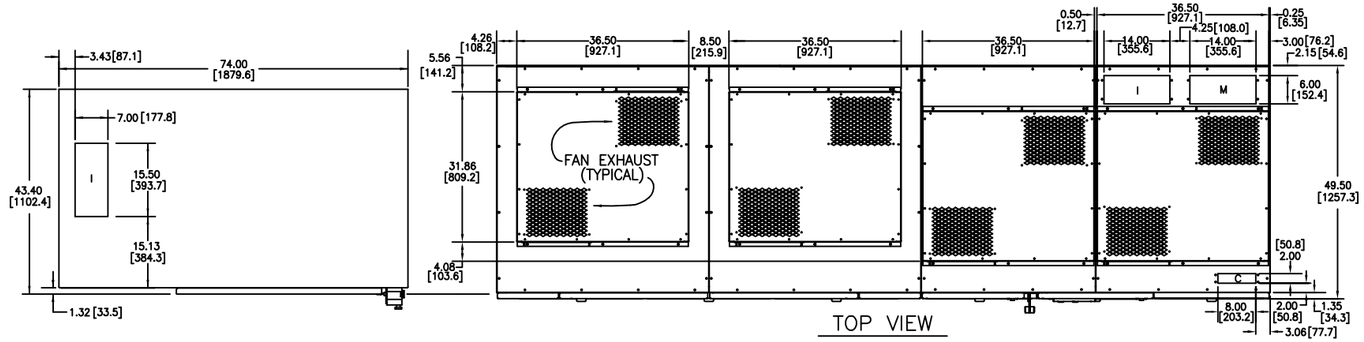


TYPICAL EXHAUST FAN HOLE PATTERN FOR CUSTOMER DUCTWORK (TOP VIEW)

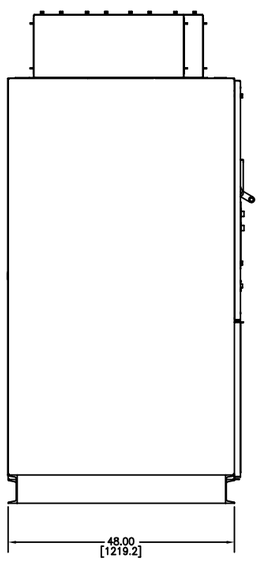
REVISION NO. 0	ENGINEERING G. A. DALTON	PROJECT: OUTLINES	DB5i, 13.8KV INPUT, FRAME 1		
REVISION DATE	TECHNICAL BWN	REQUISITION:	TMEIC CORPORATION ROANOKE, VA U. S. A.	DWG. NO.	SH. NO.
REVISED BY	ISSUE DATE	S. O.:		CONT. ON SHT. 15	14



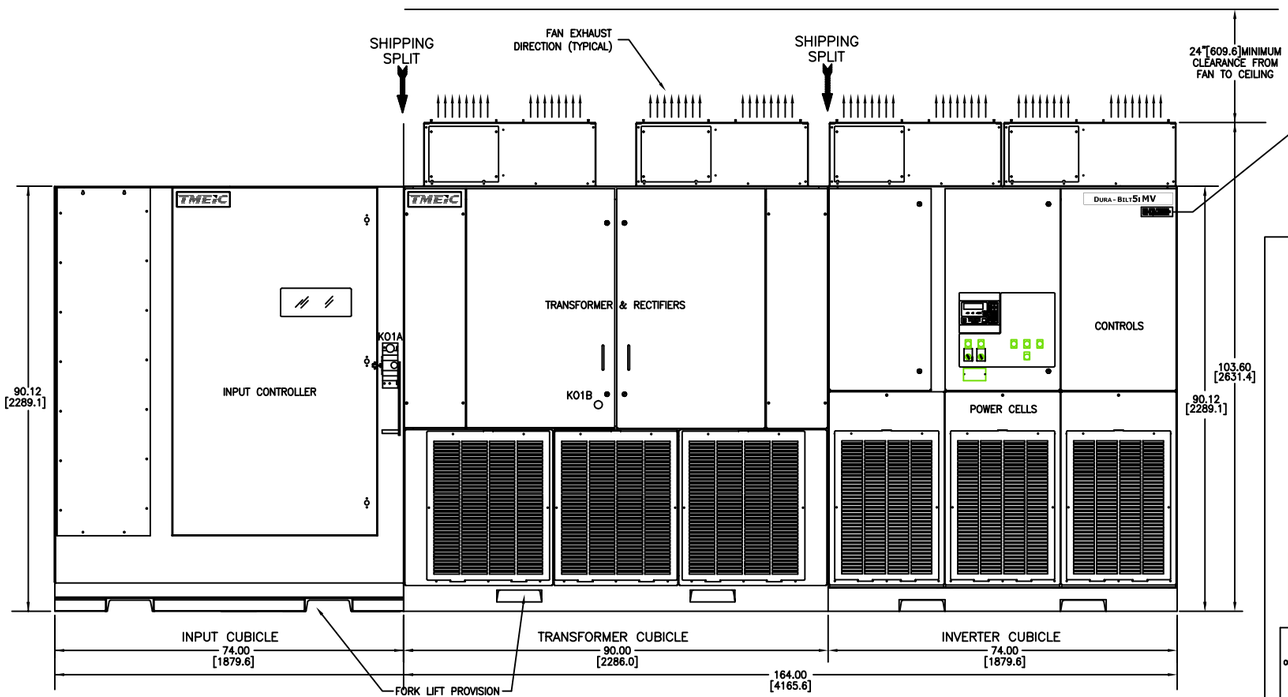
INSTALLATION DETAIL



TOP VIEW

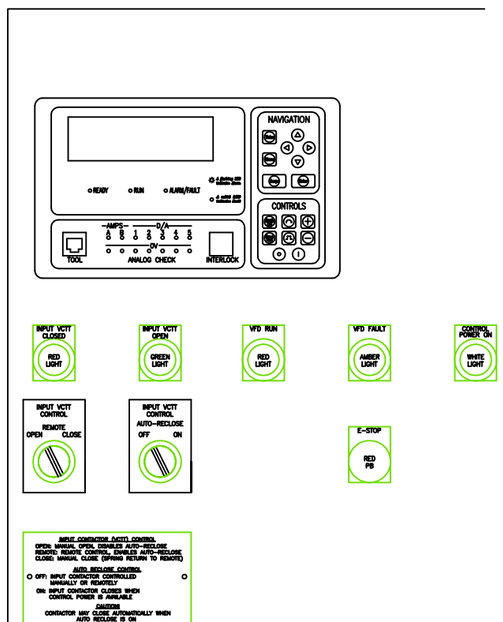


LH VIEW

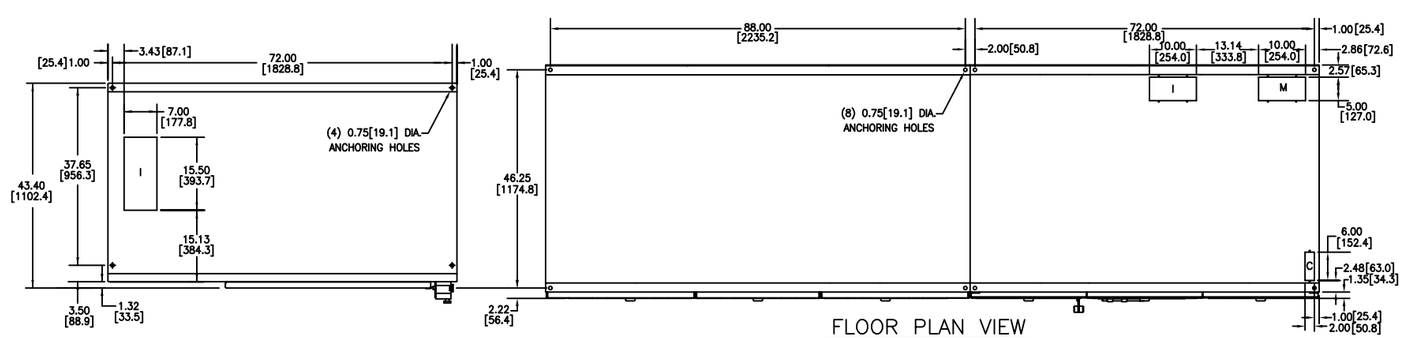


FRONT VIEW

ELEM DRGS: XXXXXXXX
OUTLINE DRG: XXXXXX
TMGE CAT# XXXXXXX



DETAIL PILOT DEVICES AND KEYPAD



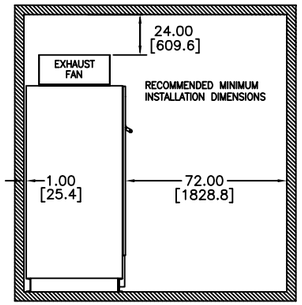
FLOOR PLAN VIEW

CABLE TERMINATIONS			
ENTRY	INCOMING CABLES	MOTOR LEADS	CONTROL WIRE
TOP	I	M	C
BOTTOM	I	M	C
INCOMING TERMINATIONS USE NEMA 4-HOLE PATTERN MOTOR TERMINATIONS: USE NEMA 4-HOLE PATTERN			

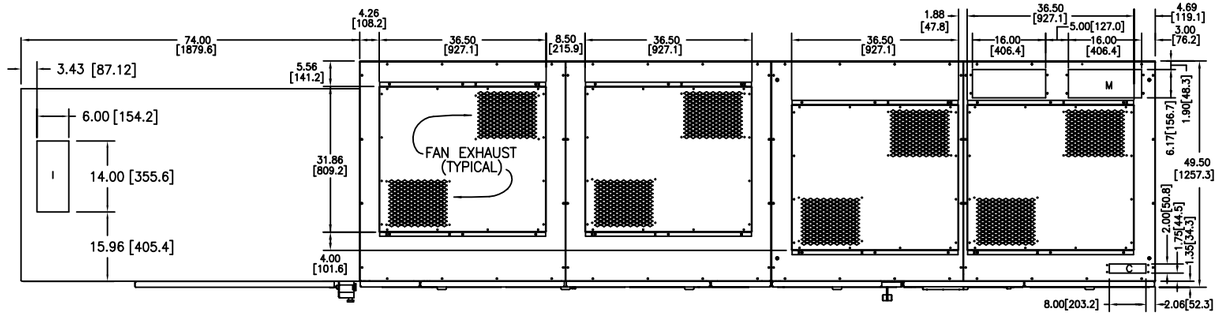
NOTES
1. ENCLOSURE TYPE: NEMA 1 W/GASKETED DOORS
2. FINISH: ANSI 61 TEXTURED GRAY PAINT
3. ALL WEIGHTS ARE APPROXIMATE IN LBS (kg)
4. ALL DIMS ARE IN INCHES [mm]
5. POWER CELLS NEED TO BE REMOVED FOR ACCESS

INPUT CUBICLE	2,500 lbs (1,134 kg)
TRANSFORMER CUBICLE	12,000 lbs (5,443 kg)
INVERTER CUBICLE	4,500 lbs (2,041 kg)

REVISION NO. 0	ENGINEERING G. A. DALTON	PROJECT: OUTLINES	DB5i, 13.8KV INPUT, FRAME 2		
REVISION DATE	TECHNICAL BWN	REQUISITION:	TMEIC CORPORATION ROANOKE, VA U. S. A.	DWG. NO. CONT. ON SHT. 16	SH. NO. 15
REVISED BY	ISSUE DATE	S. O.:			



INSTALLATION DETAIL



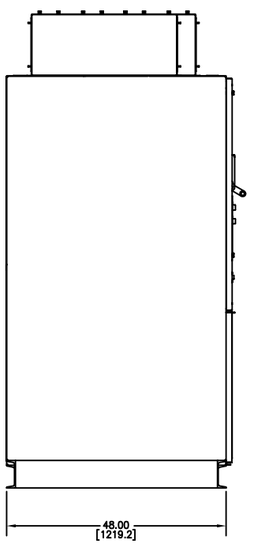
TOP VIEW

DiAH4300SAB-7

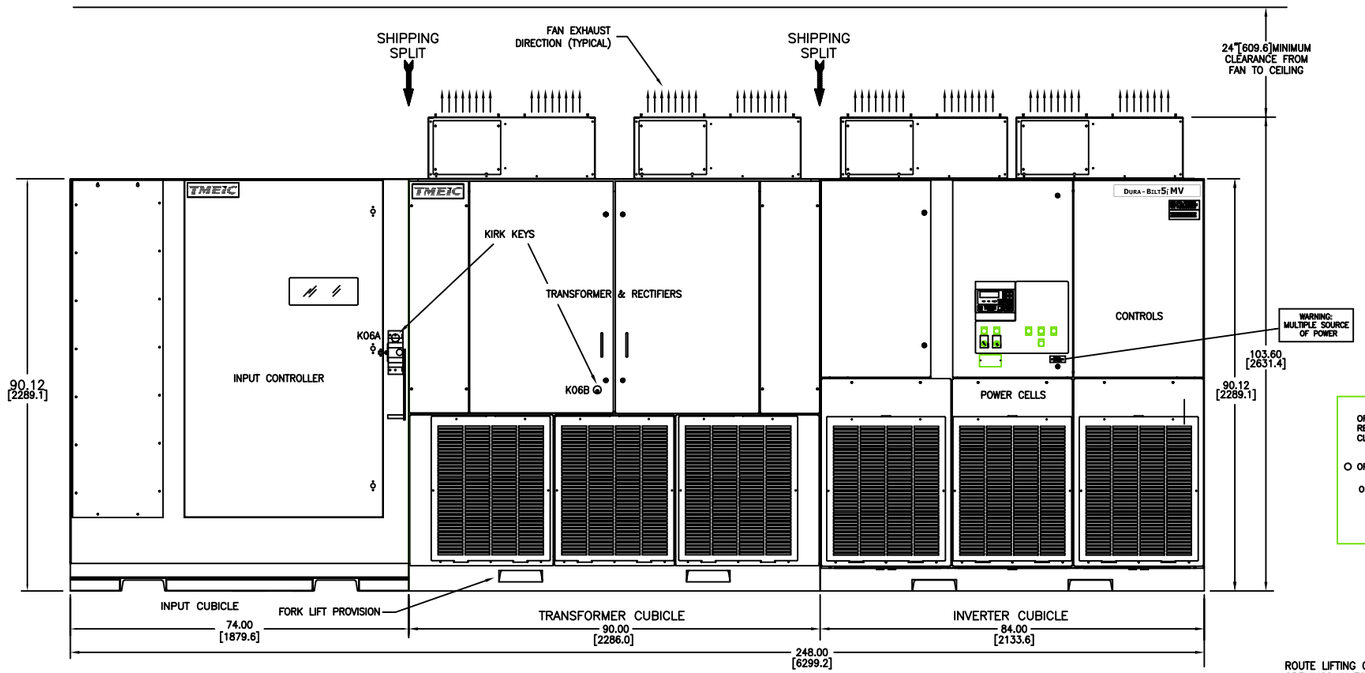
ELEM DRGS: XXXXXXXX
OUTLINE DRG: XXXXXX
TMGE CAT# XXXXXXX

MAIN BAGHOUSE #3 FAN

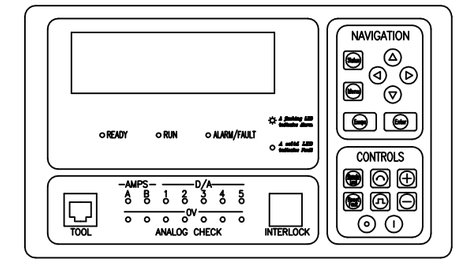
K06A, K06B

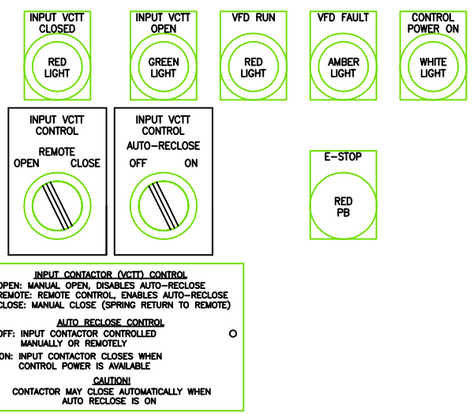


LH VIEW



FRONT VIEW



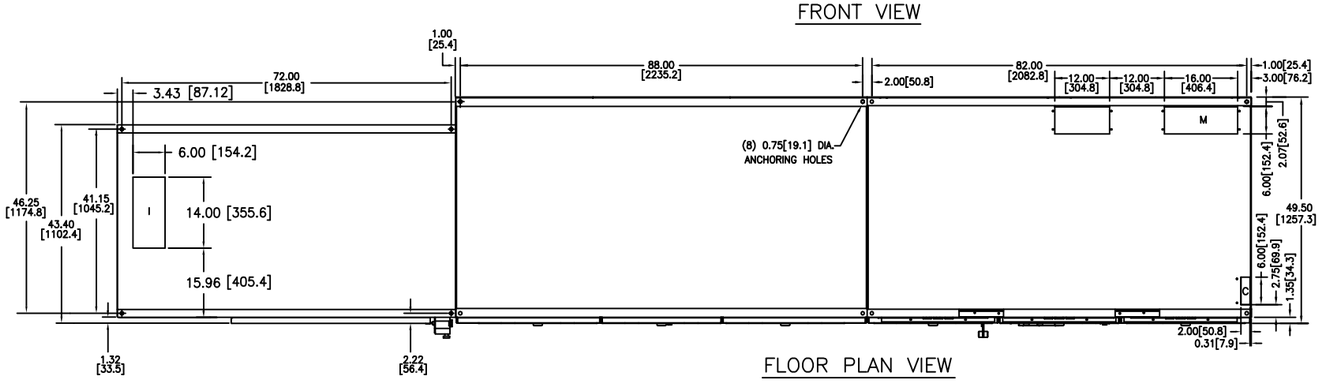


DETAIL PILOT DEVICES AND KEYPAD

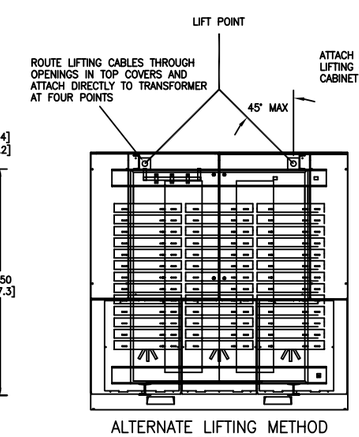
CABLE TERMINATIONS			
ENTRY	INCOMING CABLES	MOTOR LEADS	CONTROL WIRE
TOP	I	M	C
BOTTOM	I	M	C
INCOMING TERMINATIONS USE NEMA 4-HOLE PATTERN MOTOR TERMINATIONS USE NEMA 4-HOLE PATTERN			

NOTES
1. ENCLOSURE TYPE: NEMA 1 W/GASKETED DOORS
2. FINISH: ANSI 61 TEXTURED GRAY PAINT
3. ALL WEIGHTS ARE APPROXIMATE IN LBS (kg)
4. ALL DIMS ARE IN INCHES [mm]
5. POWER CELLS NEED TO BE REMOVED FOR ACCESS

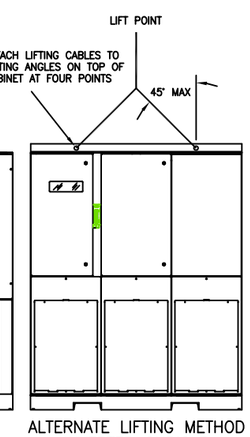
	3000HP	3500HP
TRANSFORMER CUBICLE	12,700 lbs (5,760 kg)	13,500 lbs (6,124 kg)
INVERTER CUBICLE	5,500 lbs (2,495 kg)	5,500 lbs (2,495 kg)
INCOMING CUBICLE	2,500 lbs (1,134 kg)	2,500 lbs (1,134 kg)



FLOOR PLAN VIEW



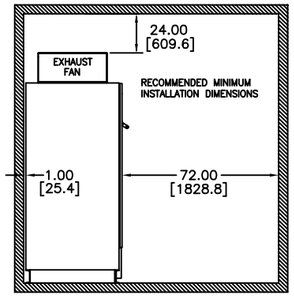
ALTERNATE LIFTING METHOD
TRANSFORMER CUBICLE
(FANS REMOVED)



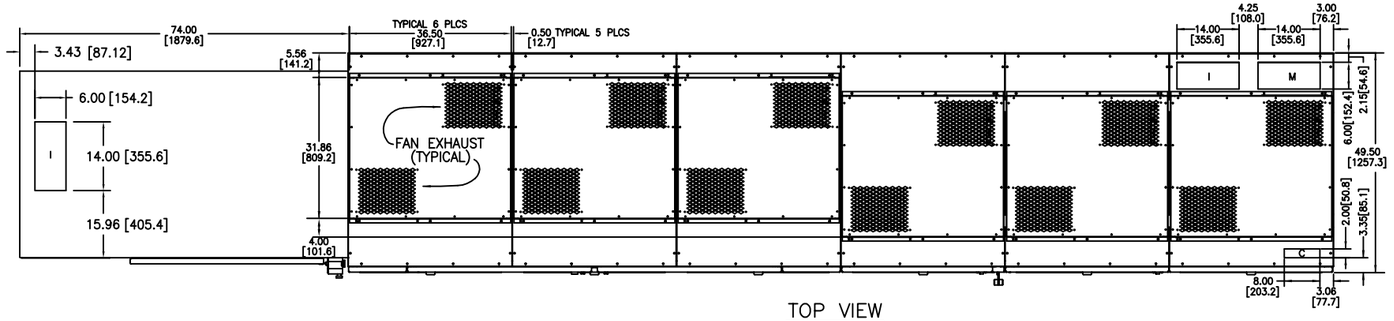
ALTERNATE LIFTING METHOD
INVERTER CUBICLE
(FANS REMOVED)

REVISION NO. 0	ENGINEERING G. A DALTON	PROJECT: OUTLINES	DB5i, 13.8KV INPUT, FRAME 3	
REVISION DATE	TECHNICAL BWN	REQUISITION:	TMEIC CORPORATION ROANOKE, VA U.S.A.	DWG. NO.
REVISED BY	ISSUE DATE	S.O.:		CONT. ON SHT. 17

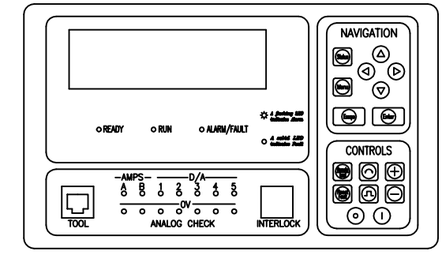
SH. NO. 16

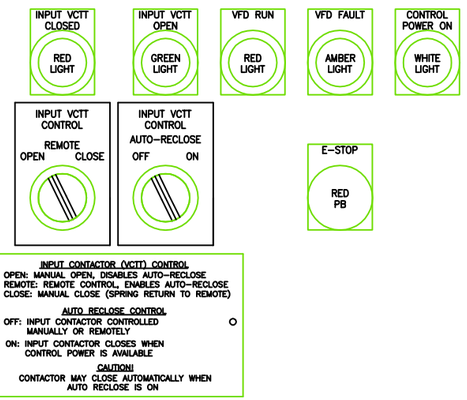


INSTALLATION DETAIL

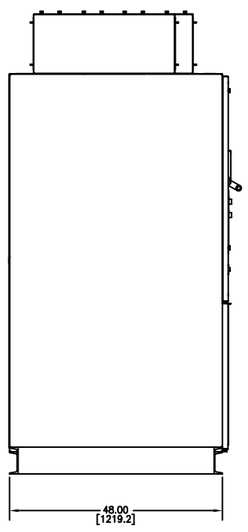


TOP VIEW

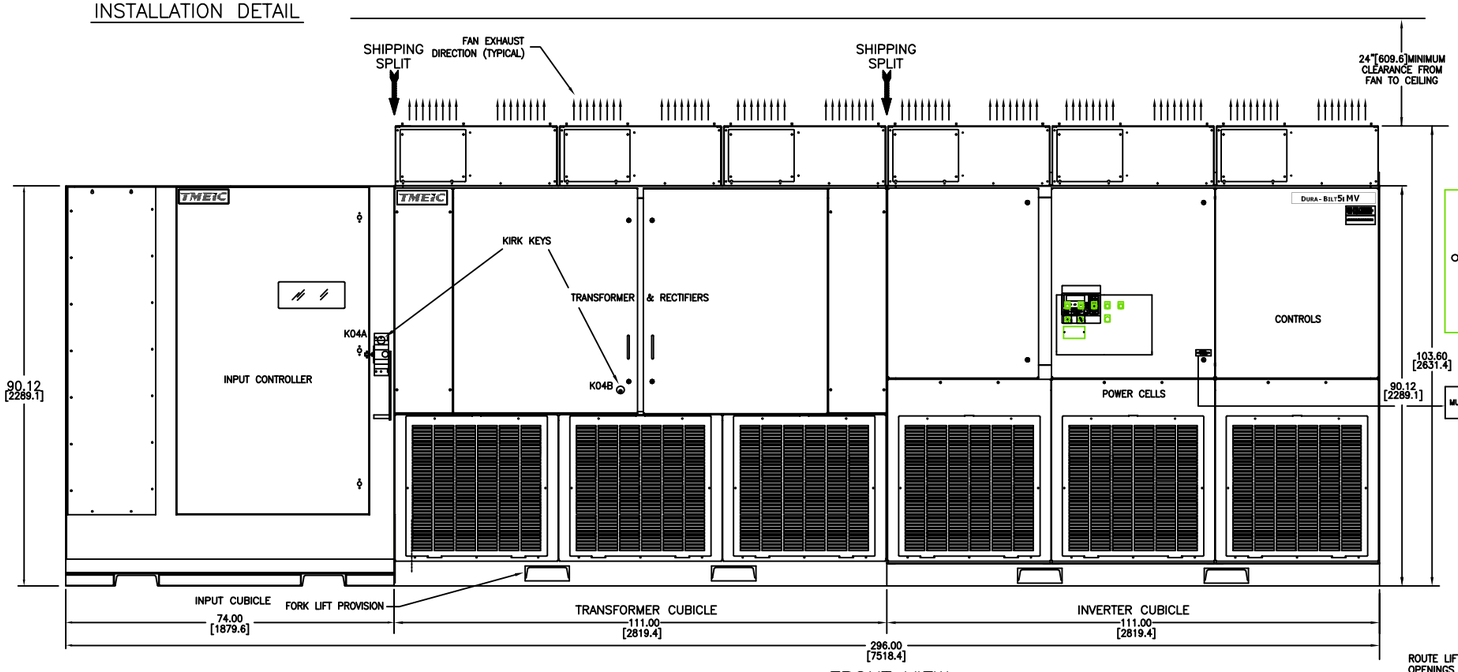




DETAIL PILOT DEVICES AND KEYPAD



LH VIEW



FRONT VIEW

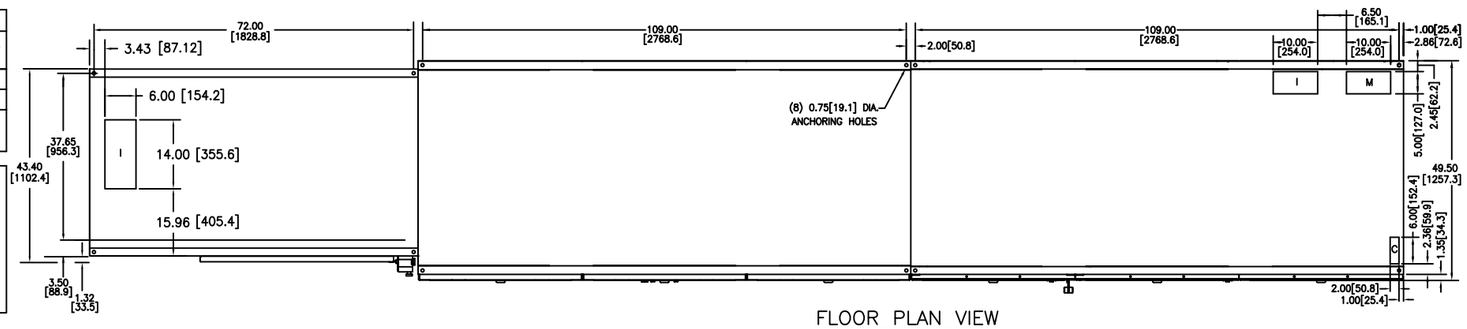
DiAH4175SAB-1
ELEM DRGS: XXXXXXXX
OUTLINE DRG: XXXXXX
TMGE CAT# XXXXXXX

MAIN KILN #1

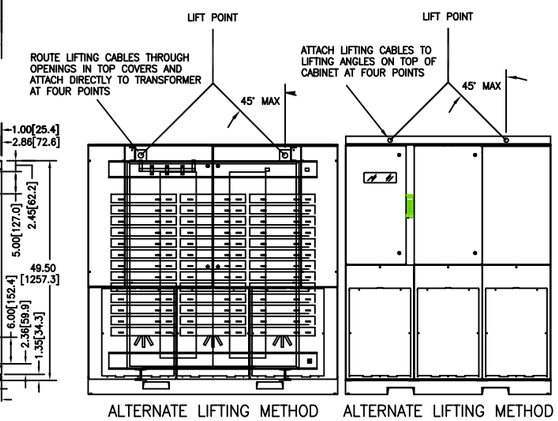
K04A, K04B

CABLE TERMINATIONS			
ENTRY	INCOMING CABLES	MOTOR LEADS	CONTROL WIRE
TOP	I	M	C
BOTTOM	I	M	C
INCOMING AND MOTOR TERMINATIONS USE NEMA 4-HOLE PATTERN			

NOTES
1. ENCLOSURE TYPE: NEMA 1 WITH GASKETED DOORS
2. FINISH: ANSI 61 TEXTURED GRAY PAINT
3. ALL WEIGHTS ARE APPROXIMATE IN LBS (kg)
4. ALL DIMENSIONS ARE IN INCHES [mm]
5. POWER CELLS NEED TO BE REMOVED FOR ACCESS



FLOOR PLAN VIEW

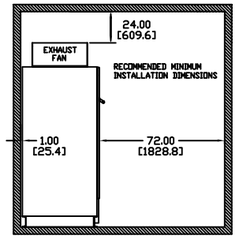


ALTERNATE LIFTING METHOD TRANSFORMER CUBICLE (FANS REMOVED)

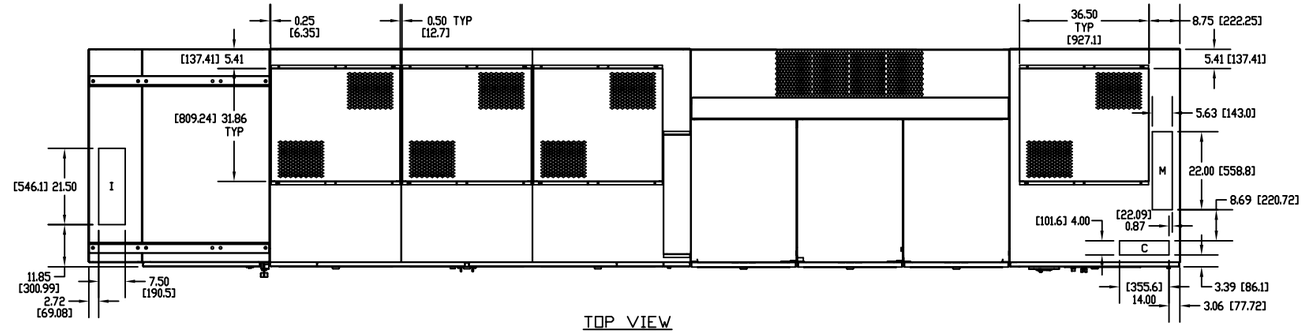
ALTERNATE LIFTING METHOD INVERTER CUBICLE (FANS REMOVED)

TRANSFORMER CUBICLE	15,000 lbs (6,806 kg)
INVERTER CUBICLE	6,500 lbs (2,948 kg)
INCOMING CUBICLE	2,500 lbs (1,134 kg)

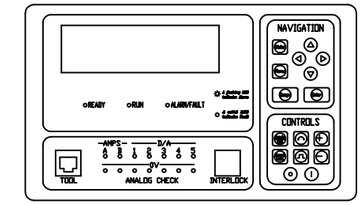
REVISION NO. 0	ENGINEERING G. A. DALTON	PROJECT: OUTLINES	DB5i, 13.8KV INPUT, FRAME 4		
REVISION DATE	TECHNICAL BWN	REQUISITION:	TMEIC CORPORATION ROANOKE, VA U. S. A.	DWG. NO.	SH. NO.
REVISED BY	ISSUE DATE	S. O.:		CONT. ON SHT. 18	17

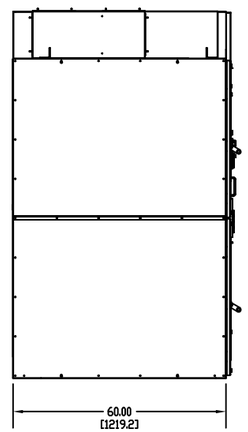


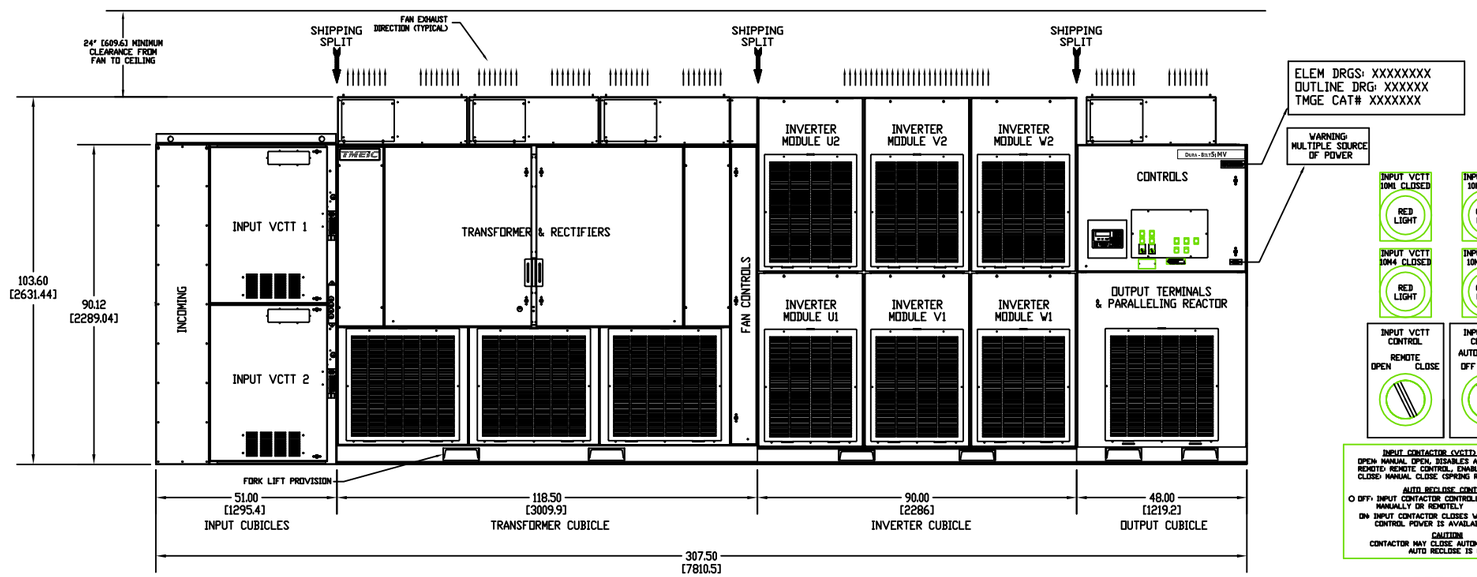
INSTALLATION DETAIL



TOP VIEW



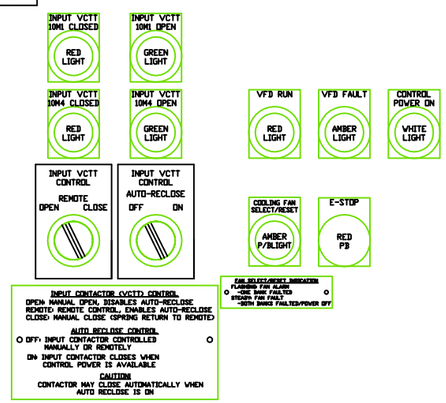




FRONT VIEW

ELEM DRGS: XXXXXXXX
OUTLINE DRG: XXXXXX
TMGE CAT# XXXXXXX

WARNING: MULTIPLE SOURCE OF POWER

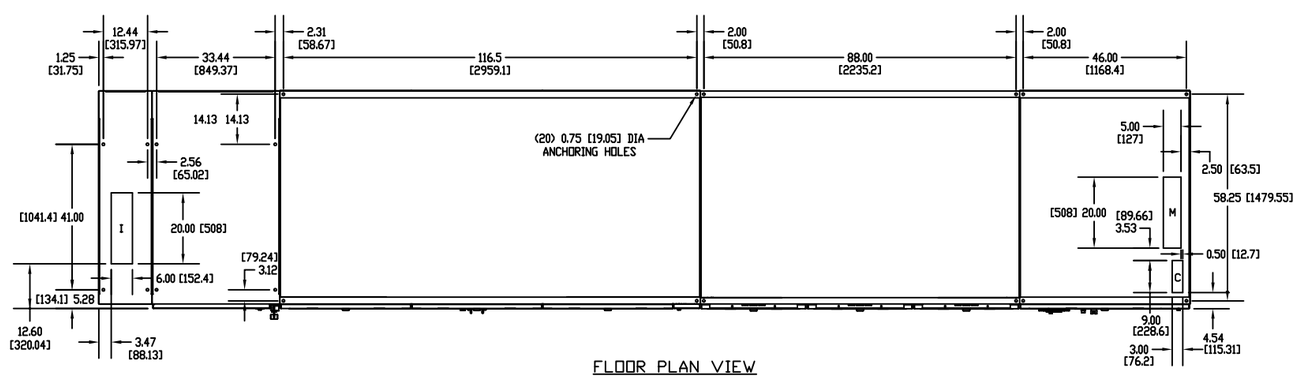


DETAIL PILOT DEVICES AND KEYPAD

CABLE TERMINATIONS			
ENTRY	INCOMING CABLES	MOTOR LEADS	CONTROL WIRE
TOP	I	M	C
BOTTOM	I	M	C
INCOMING AND MOTOR TERMINATIONS USE NEMA 4-HOLE PATTERN			

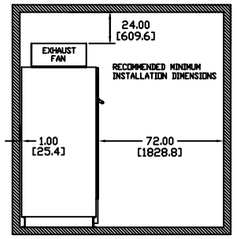
NOTES:
1. ENCLOSURE TYPE: NEMA 1 WITH GASKETED DOORS
2. FINISH: ANSI 61 TEXTURED GRAY PAINT
3. ALL WEIGHTS ARE APPROXIMATE IN LBS [kg]
4. ALL DIMENSIONS ARE IN INCHES [mm]
5. POWER CELLS NEED TO BE REMOVED FOR ACCESS

INPUT CUBICLES	3,000 lbs (1,360)
TRANSFORMER CUBICLE	23,500 lbs (10,659)
INVERTER CUBICLE	9,000 lbs (4,080)
OUTPUT CUBICLE	3,000 lbs (1,360)

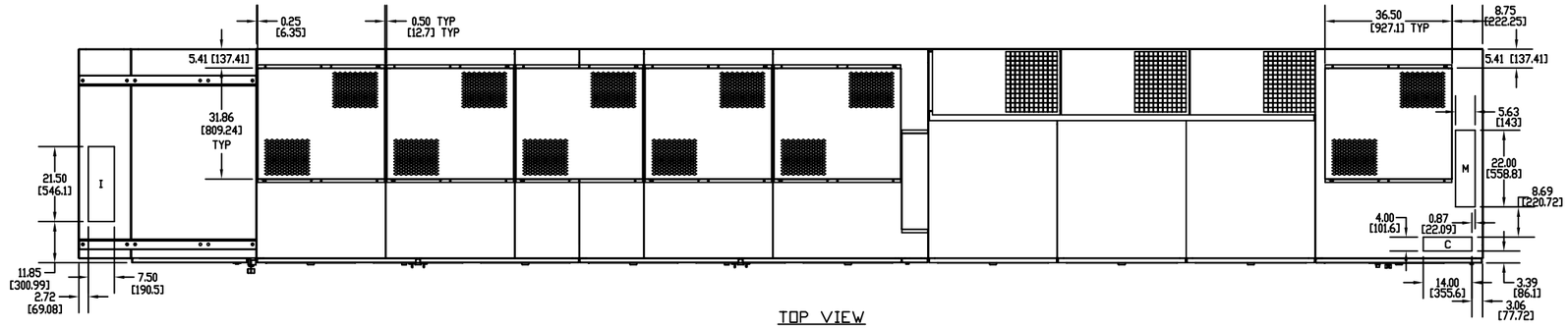


FLOOR PLAN VIEW

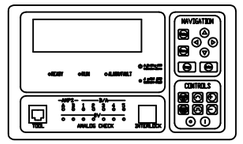
REVISION NO. 0	ENGINEERING	PROJECT: OUTLINES	DB5i, FRAME G4P		
REVISION DATE	TECHNICAL BWN	REQUISITION:	TMEIC CORPORATION ROANOKE, VA USA	DWG. NO.	SH. NO.
REVISED BY	ISSUE DATE	S. O.:		CONT. ON SHT. 19	18

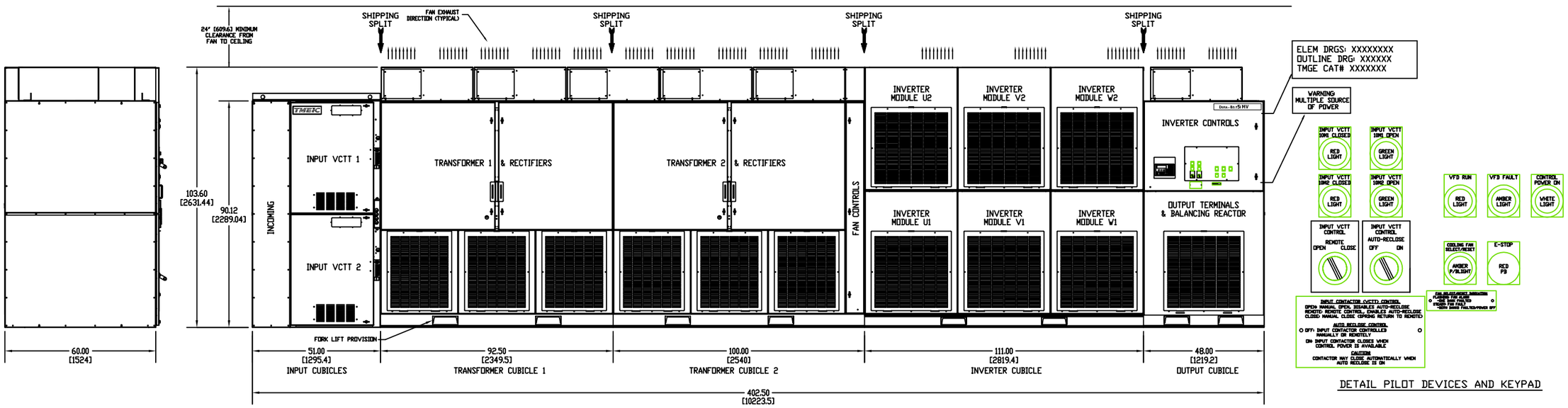


INSTALLATION DETAIL



TOP VIEW





FRONT VIEW

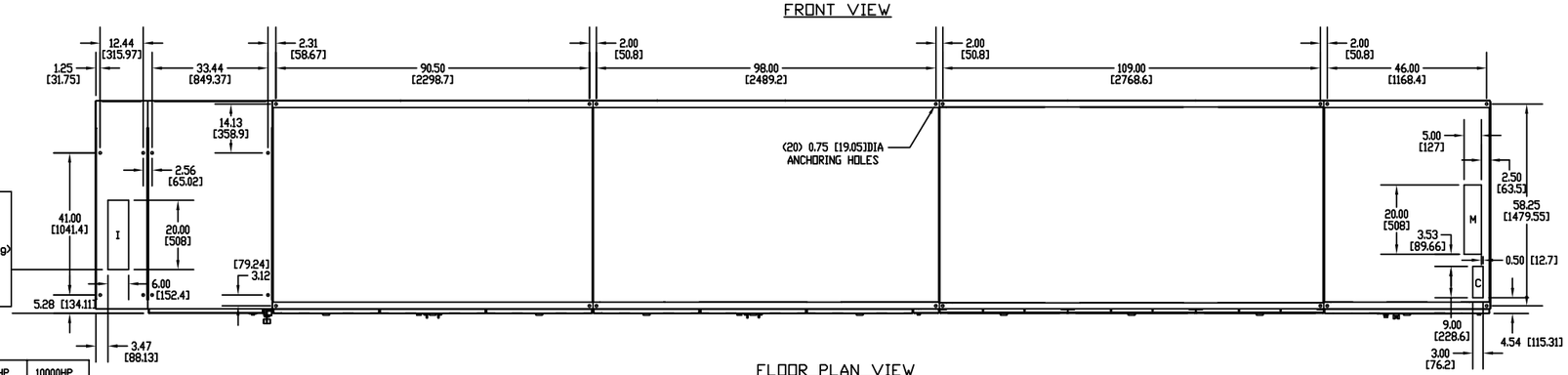
ELEM DRGS: XXXXXXXX
OUTLINE DRG: XXXXXX
TMGE CAT# XXXXXXX

WARNING
MULTIPLE SOURCE OF POWER

DETAIL PILOT DEVICES AND KEYPAD

CABLE TERMINATIONS			
ENTRY	INCOMING CABLES	MOTOR LEADS	CONTROL WIRE
TOP	I	M	C
BOTTOM	I	M	C
INCOMING AND MOTOR TERMINATIONS USE NEMA 4-HOLE PATTERN			

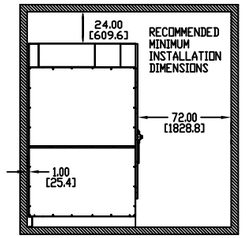
NOTES
1. ENCLOSURE TYPE: NEMA 1 WITH GASKETED DOORS
2. FINISH: ANSI 61 TEXTURED GRAY PAINT
3. ALL WEIGHTS ARE APPROXIMATE IN LBS (kg)
4. ALL DIMENSIONS ARE IN INCHES, [] IN MM
5. POWER CELLS NEED TO BE REMOVED FOR ACCESS



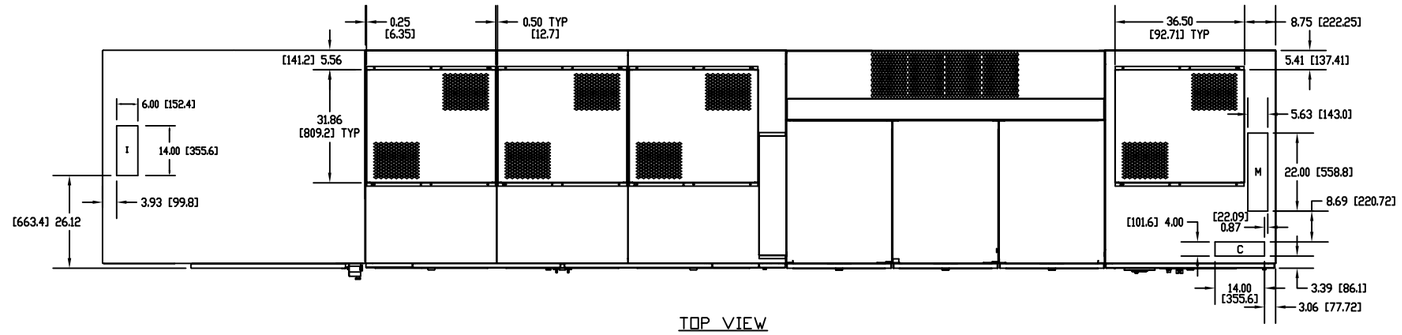
FLOOR PLAN VIEW

	8000HP	9000HP	10000HP
INPUT CUBICLES	3,000 lbs (1360.8)	3,000 lbs (1360.8)	3,000 lbs (1360.8)
TRANSFORMER CUBICLE 1	16,500 lbs (748.4)	18,500 lbs (839.1)	20,500 lbs (9298.6)
TRANSFORMER CUBICLE 2	16,800 lbs (7620.4)	18,800 lbs (8527.5)	20,800 lbs (9434.7)
INVERTER CUBICLE	17,000 lbs (7711.1)	17,000 lbs (7711.1)	17,000 lbs (7711.1)
OUTPUT CUBICLE	3,500 lbs (1587.6)	3,500 lbs (1587.6)	3,500 lbs (1587.6)

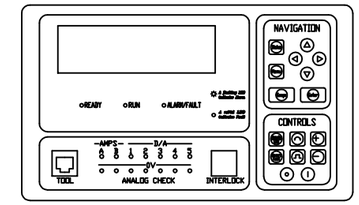
REVISION NO. 0	ENGINEERING	PROJECT: OUTLINES	DB5i, FRAME H4P		
REVISION DATE	TECHNICAL BWN	REQUISITION:	TMEIC CORPORATION ROANOKE, VA USA	DWG. NO.	SH. NO.
REVISED BY	ISSUE DATE	S. O.:		CONT. ON SHT. 20	19

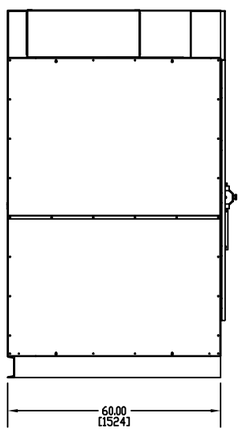


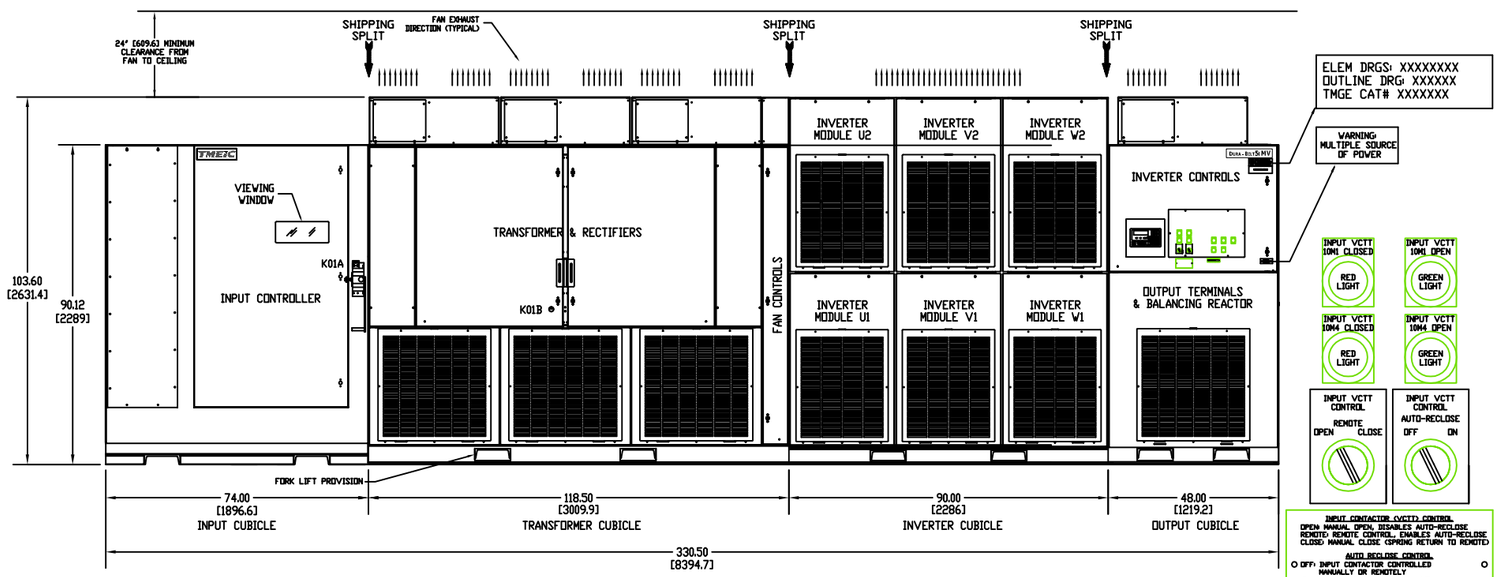
INSTALLATION DETAIL



TOP VIEW



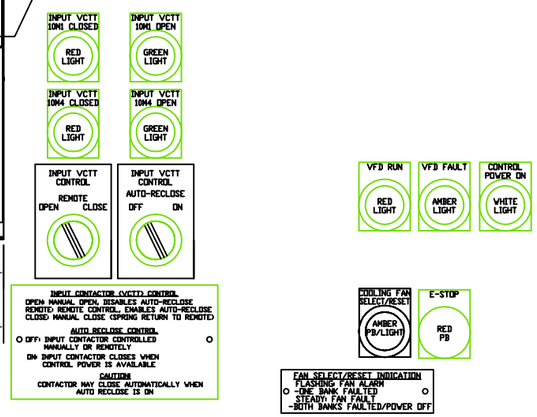




FRONT VIEW

ELEM DRGS: XXXXXXXX
OUTLINE DRG: XXXXXX
TMGE CAT# XXXXXXX

WARNING:
MULTIPLE SOURCE
OF POWER

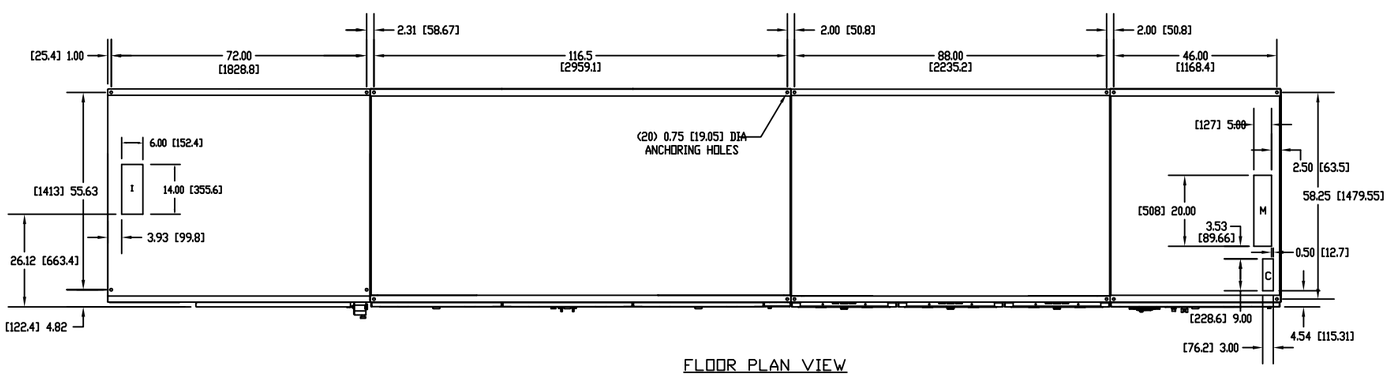


DETAIL PILOT DEVICES AND KEYPAD

CABLE TERMINATIONS			
ENTRY	INCOMING CABLES	MOTOR LEADS	CONTROL WIRE
TOP	I	M	C
BOTTOM	I	M	C
INCOMING AND MOTOR TERMINATIONS USE NEMA 4-HOLE PATTERN			

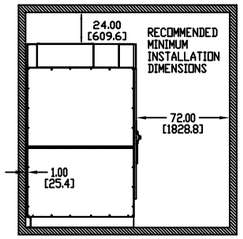
NOTES:
1. ENCLOSURE TYPE: NEMA 1 WITH GASKETED DOORS
2. FINISH: ANSI 61 TEXTURED GRAY PAINT
3. ALL WEIGHTS ARE APPROXIMATE IN LBS (kg)
4. ALL DIMENSIONS ARE IN INCHES [mm]
5. POWER CELLS NEED TO BE REMOVED FOR ACCESS

INPUT CUBICLES	3,000 lbs	(1,360)
TRANSFORMER CUBICLE	24,500 lbs	(11,116)
INVERTER CUBICLE	9,000 lbs	(4,080)
OUTPUT CUBICLE	3,000 lbs	(1,360)

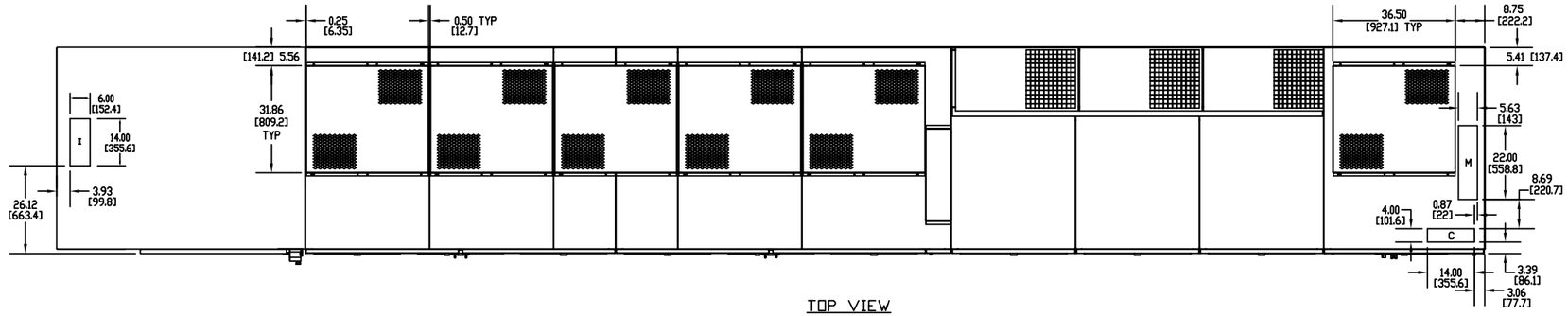


FLOOR PLAN VIEW

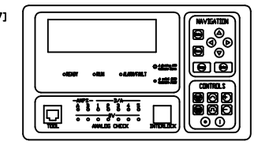
REVISION NO. 0	ENGINEERING	PROJECT: OUTLINES	DB5i, 13.8KV INPUT, FRAME G4P		
REVISION DATE	TECHNICAL BWN	REQUISITION:	TMEIC CORPORATION ROANOKE, VA USA	DWG. NO.	SH. NO.
REVISED BY	ISSUE DATE	S. O.:		CONT. ON SHT. 21	20

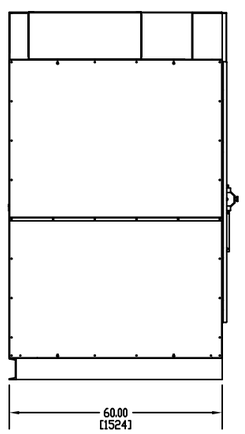


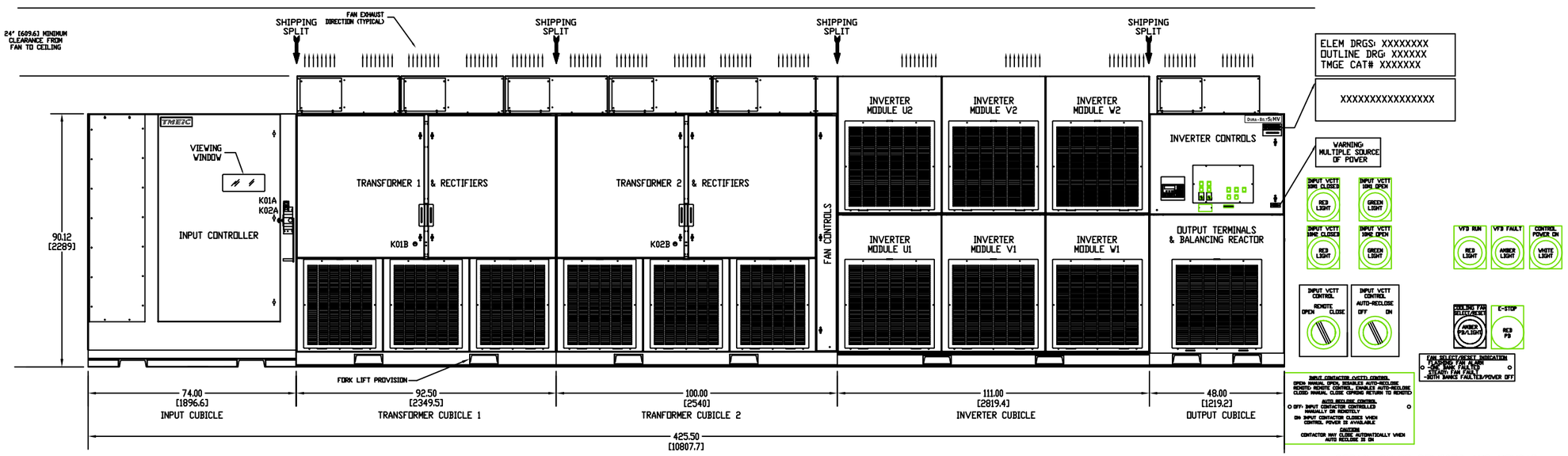
INSTALLATION DETAIL



TOP VIEW

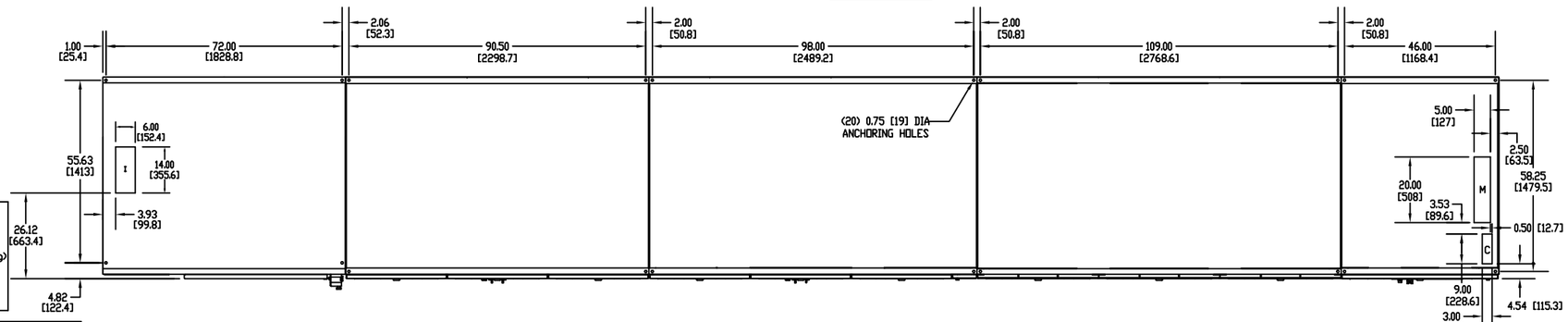






FRONT VIEW

DETAIL PILOT DEVICES AND KEYPAD



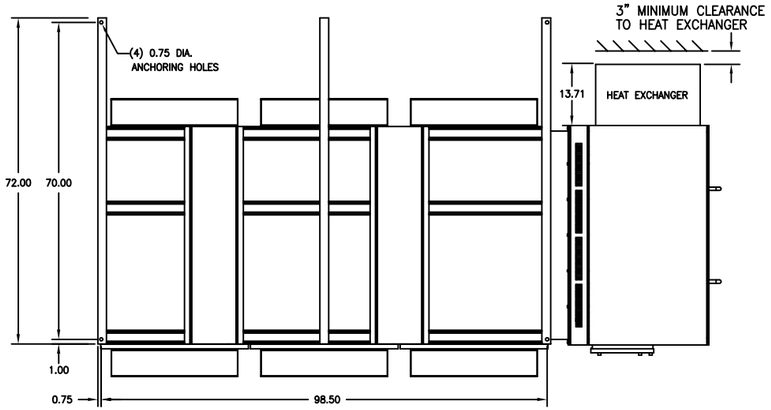
FLOOR PLAN VIEW

CABLE TERMINATIONS			
ENTRY	INCOMING CABLES	MOTOR LEADS	CONTROL WIRE
TOP	I	M	C
BOTTOM	I	M	C
INCOMING AND MOTOR TERMINATIONS USE NEMA 4-HOLE PATTERN			

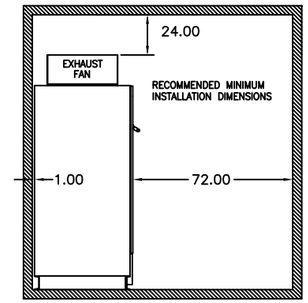
NOTES:
1. ENCLOSURE TYPE: NEMA 1 WITH GASKETED DOORS
2. FINISH: ANSI 61 TEXTURED GRAY PAINT
3. ALL WEIGHTS ARE APPROXIMATE IN LBS (kg)
4. ALL DIMENSIONS ARE IN INCHES [] IN MM
5. POWER CELLS NEED TO BE REMOVED FOR ACCESS

	8000HP	9000HP	10000HP
INPUT CUBICLES	3,000 lbs (1360.8)	3,000 lbs (1360.8)	3,000 lbs (1360.8)
TRANSFORMER CUBICLE 1	16,500 lbs (748.4)	18,500 lbs (839.1)	20,500 lbs (9298.6)
TRANSFORMER CUBICLE 2	16,800 lbs (7620.4)	18,800 lbs (8527.5)	20,800 lbs (9434.7)
INVERTER CUBICLE	17,000 lbs (7711.1)	17,000 lbs (7711.1)	17,000 lbs (7711.1)
OUTPUT CUBICLE	3,500 lbs (1587.6)	3,500 lbs (1587.6)	3,500 lbs (1587.6)

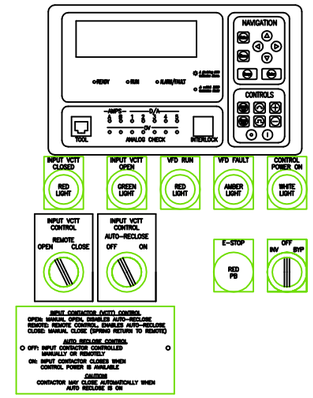
REVISION NO. 0	ENGINEERING	PROJECT: OUTLINES	DB5i, 13.8KV INPUT, FRAME H4P		
REVISION DATE	TECHNICAL BWN	REQUISITION:	TMEIC CORPORATION ROANOKE, VA USA	DWG. NO.	SH. NO.
REVISED BY	ISSUE DATE	S. O.:		CONT. ON SHT. 22	21



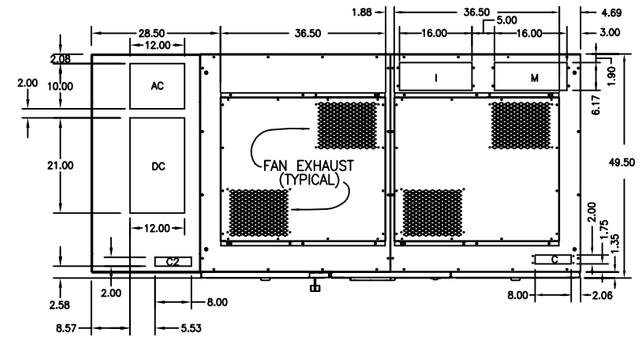
CONVERTER SECTION – FLOOR PLAN VIEW



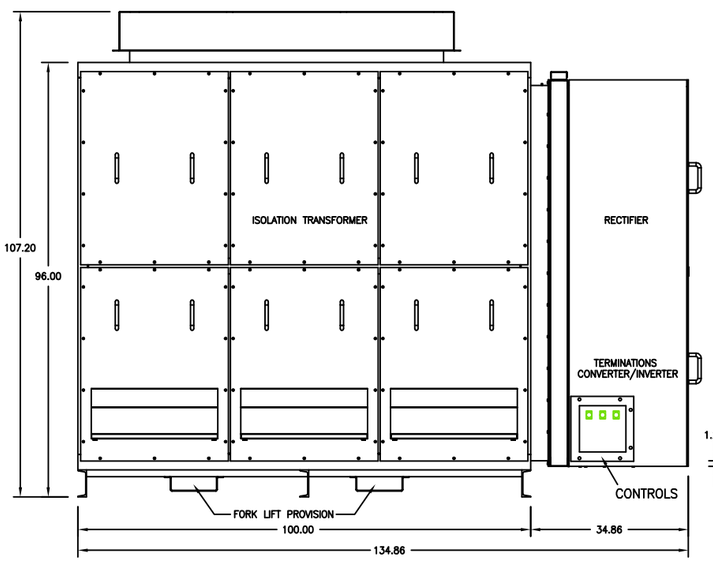
INSTALLATION DETAIL – INDOOR SECTION



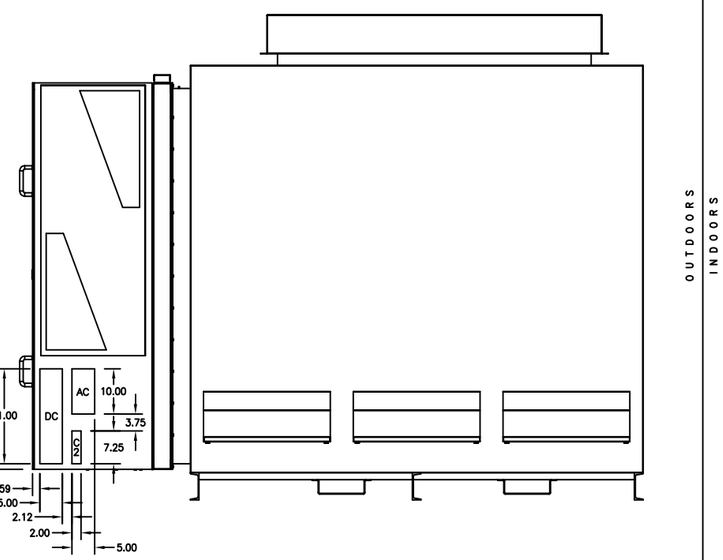
DETAIL PILOT DEVICES AND KEYPAD



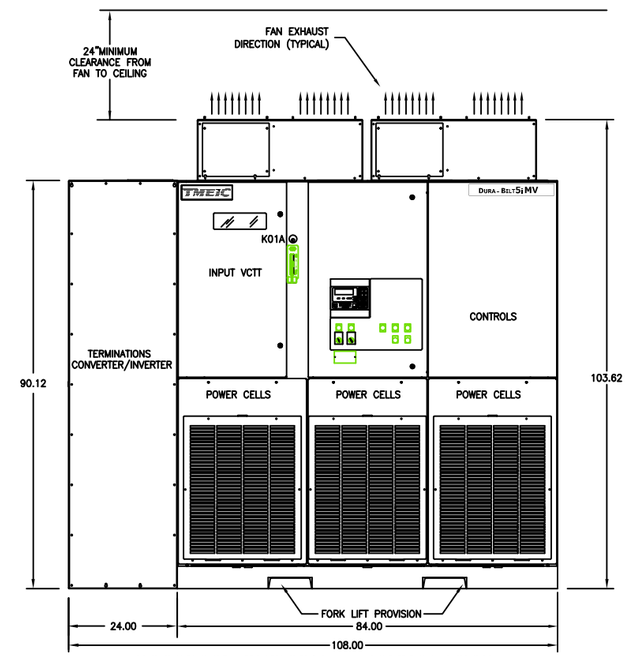
INVERTER SECTION – TOP VIEW



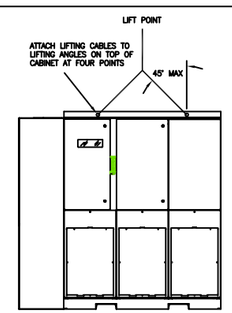
CONVERTER SECTION – FRONT VIEW



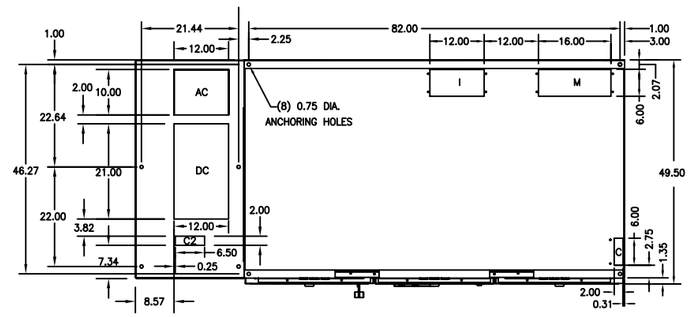
CONVERTER SECTION – REAR VIEW



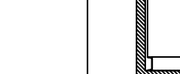
INVERTER SECTION – FRONT VIEW



ALTERNATE LIFTING METHOD
INVERTER CUBICLE
(FANS REMOVED)



INVERTER SECTION – FLOOR PLAN VIEW



DETAIL – PILOT DEVICES

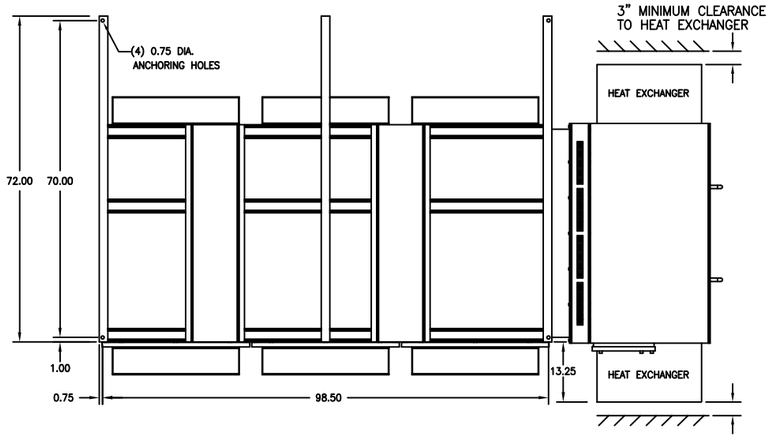
CABLE TERMINATIONS						
ENTRY*	INCOMING CABLES	MOTOR LEADS	CONTROL WIRE	AC POWER CABLES TO CONVERTER	DC POWER CABLES TO INVERTER	CONTROL WIRE CONVERTER TO INVERTER
TOP	I	M	C	AC	DC	C2
BOTTOM	I	M	C	AC	DC	C2
INCOMING, MOTOR, AC AND DC TERMINATIONS USE NEMA 4-HOLE PATTERN *ALL CABLES ENTER AT BOTTOM REAR OF CONVERTER SECTION						

WEIGHTS	3000HP	3500HP
CONVERTER SECTION	19000 lbs	20,300 lbs
INVERTER SECTION	5,500 lbs	5,500 lbs

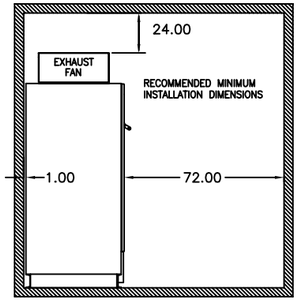
NOTES

1. COMPLETE DRIVE SYSTEM CONSISTS OF ONE CONVERTER SECTIONS AND ONE INVERTER SECTION
2. ENCLOSURE TYPE (CONVERTER SECTION): NEMA 3R OUTDOOR
3. ENCLOSURE TYPE (INVERTER SECTION): NEMA 1 INDOOR WITH GASKETED DOORS
4. FINISH (CONVERTER SECTION): SMOOTH WHITE PAINT
5. FINISH (INVERTER SECTION): ANSI 61 TEXTURED GRAY PAINT
6. ALL WEIGHTS ARE APPROXIMATE IN LBS
7. ALL DIMENSIONS ARE IN INCHES
8. POWER CELLS NEED TO BE REMOVED FOR ACCESS TO CABLE TERMINATIONS IN INVERTER SECTION
9. CONVERTER SECTION CAN BE LIFTED ONLY FROM BOTTOM USING FORKLIFT OR SLING-NO OVERHEAD LIFTING PROVISIONS

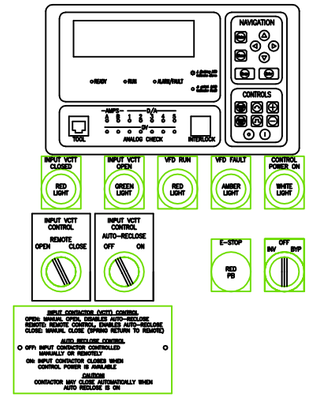
REVISION NO. 0	ENGINEERING	PROJECT: OUTLINES	DB5i, REMOTE CONV-INV FRAME 3		
REVISION DATE	TECHNICAL BWN	REQUISITION:	TMEIC CORPORATION ROANOKE, VA U. S. A.	DWG. NO.	SH. NO.
REVISED BY	ISSUE DATE	S. O. :		CONT. ON SHT. 23	22



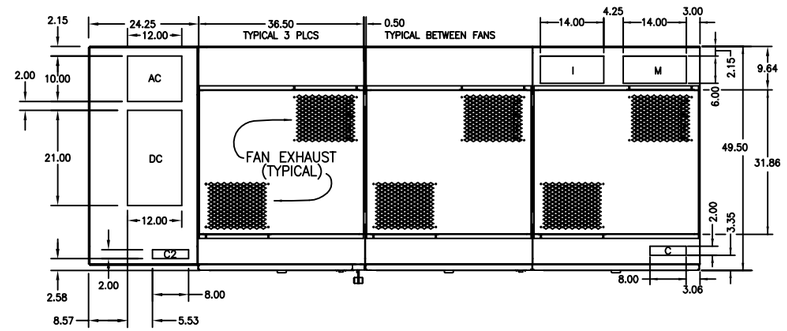
CONVERTER SECTION – FLOOR PLAN VIEW



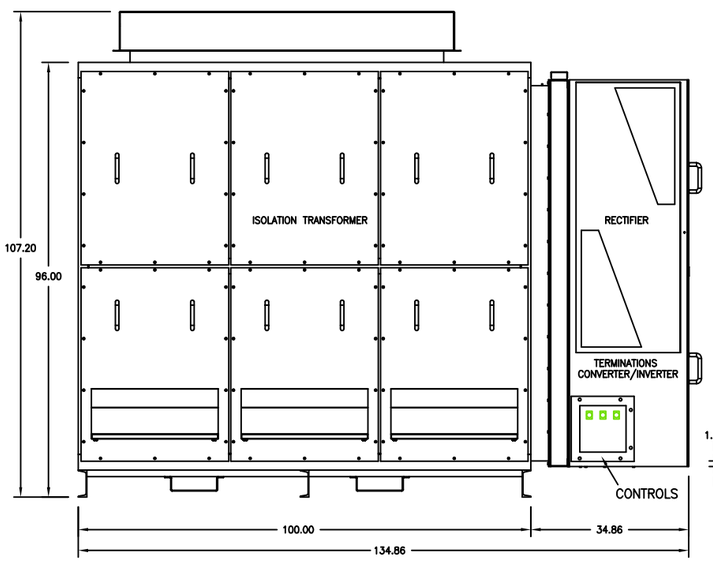
INSTALLATION DETAIL – INDOOR SECTION



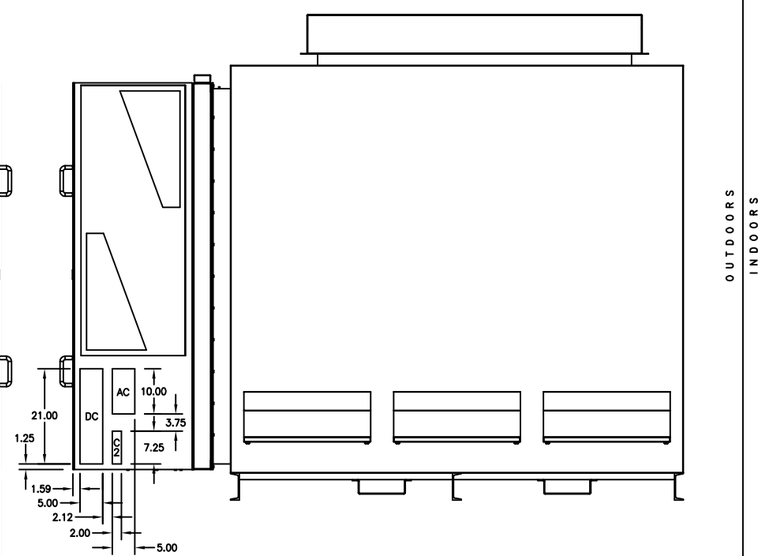
DETAIL PILOT DEVICES AND KEYPAD



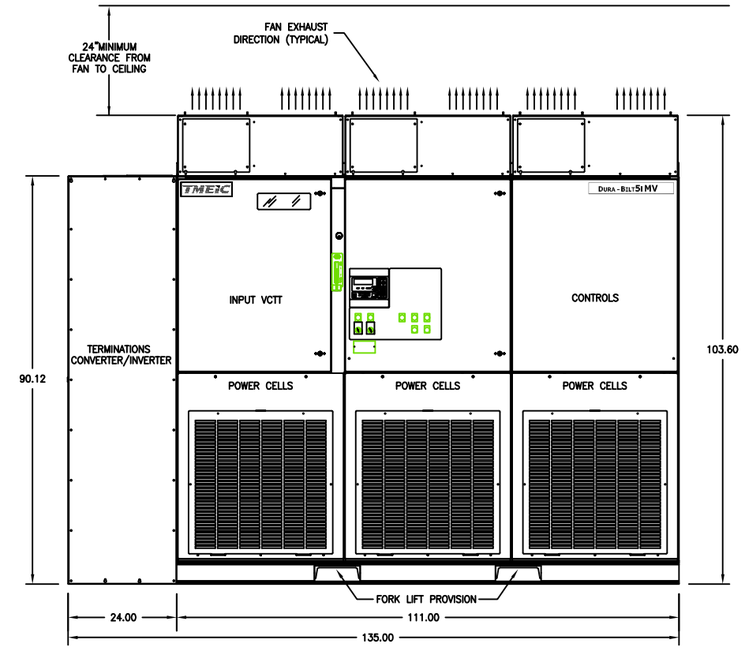
INVERTER SECTION – TOP VIEW



CONVERTER SECTION – FRONT VIEW

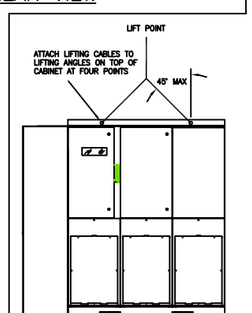


CONVERTER SECTION – REAR VIEW

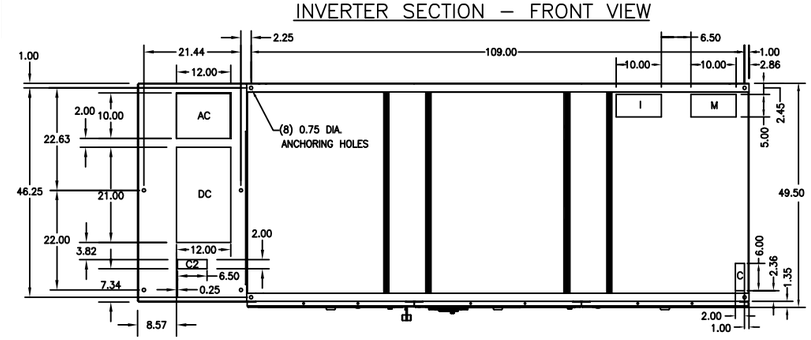


INVERTER SECTION – FRONT VIEW

DETAIL – PILOT DEVICES



ALTERNATE LIFTING METHOD
INVERTER CUBICLE
(FANS REMOVED)



INVERTER SECTION – FLOOR PLAN VIEW

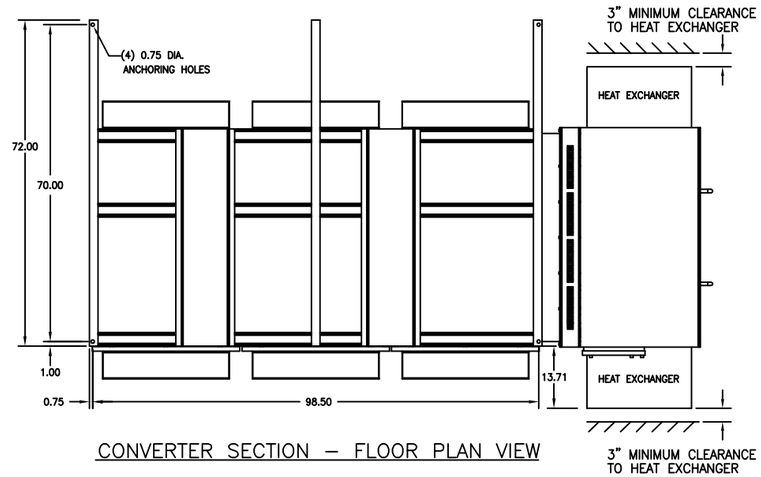
CABLE TERMINATIONS						
ENTRY*	INCOMING CABLES	MOTOR LEADS	CONTROL WIRE	AC POWER CABLES TO CONVERTER	DC POWER CABLES TO INVERTER	CONTROL WIRE CONVERTER TO INVERTER
TOP	I	M	C	AC	DC	C2
BOTTOM	I	M	C	AC	DC	C2
INCOMING, MOTOR, AC AND DC TERMINATIONS USE NEMA 4–HOLE PATTERN						
*ALL CABLES ENTER AT BOTTOM REAR OF CONVERTER SECTION						

WEIGHTS	4000HP	4500HP	5000HP	5500HP	6000HP
CONVERTER SECTION	14,800 lbs	16,100 lbs	17,400 lbs	18,700 lbs	20,000 lbs
INVERTER SECTION	6,500 lbs	6,500 lbs	6,500 lbs	6,500 lbs	6,500 lbs

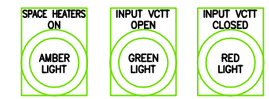
NOTES

1. COMPLETE DRIVE SYSTEM CONSISTS OF TWO CONVERTER SECTIONS AND ONE INVERTER SECTION
2. ENCLOSURE TYPE (CONVERTER SECTION): NEMA 3R OUTDOOR
3. ENCLOSURE TYPE (INVERTER SECTION): NEMA 1 INDOOR WITH GASKETED DOORS
4. FINISH (CONVERTER SECTION): SMOOTH WHITE PAINT
5. FINISH (INVERTER SECTION): ANSI 61 TEXTURED GRAY PAINT
6. ALL WEIGHTS ARE APPROXIMATE IN LBS
7. ALL DIMENSIONS ARE IN INCHES
8. POWER CELLS NEED TO BE REMOVED FOR ACCESS TO CABLE TERMINATIONS IN INVERTER SECTION
9. CONVERTER SECTION CAN BE LIFTED ONLY FROM BOTTOM USING FORKLIFT OR SLING–NO OVERHEAD LIFTING PROVISIONS

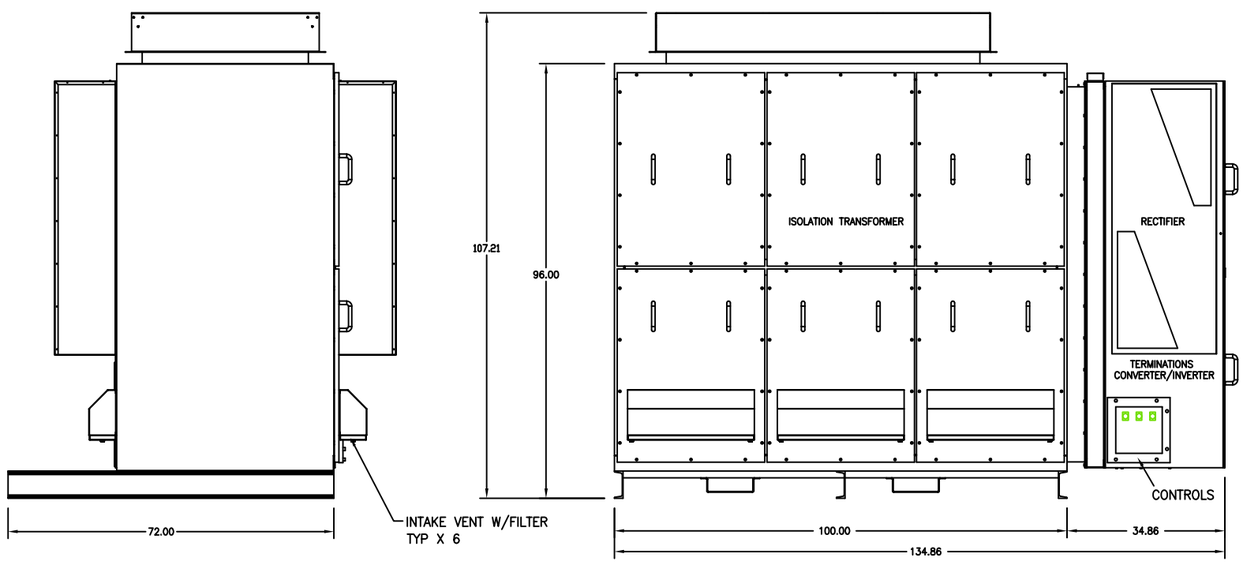
REVISION NO. 0	ENGINEERING	PROJECT: OUTLINES	DB5i, REMOTE CONV-INV FRAME 4		
REVISION DATE	TECHNICAL BWN	REQUISITION:	TMEIC CORPORATION ROANOKE, VA U. S. A.	DWG. NO.	SH. NO.
REVISED BY	ISSUE DATE	S. O.:		CONT. ON SHT. 24	23



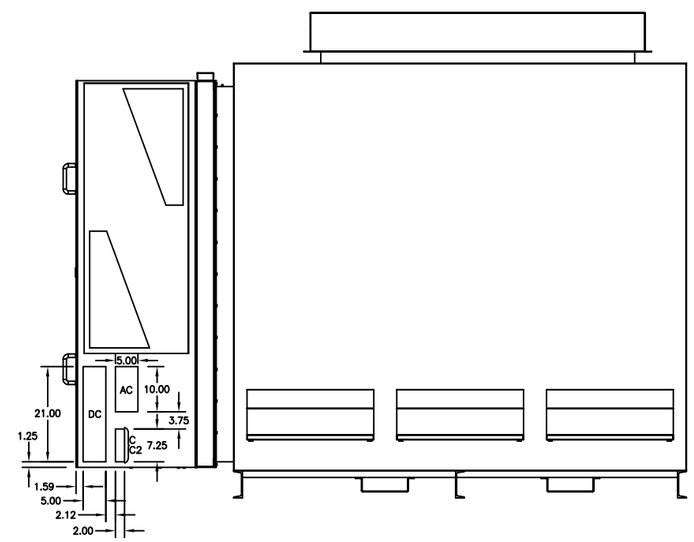
CONVERTER SECTION – FLOOR PLAN VIEW



DETAIL – PILOT DEVICES



CONVERTER SECTION – FRONT VIEW



CONVERTER SECTION – REAR VIEW

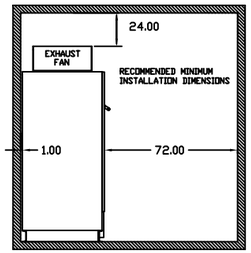
CABLE TERMINATIONS						
ENTRY*	INCOMING CABLES	MOTOR LEADS	CONTROL WIRE	AC POWER CABLES TO CONVERTER	DC POWER CABLES TO INVERTER	CONTROL WIRE CONVERTER TO INVERTER
TOP	I	M	C	AC	DC	C2
BOTTOM	I	M	C	AC	DC	C2
INCOMING, MOTOR, AC AND DC TERMINATIONS USE NEMA 4–HOLE PATTERN						
*ALL CABLES ENTER AT THE LOWER REAR OF CONVERTER SECTION						

WEIGHTS	7000HP
CONVERTER SECTION	20,300 lb

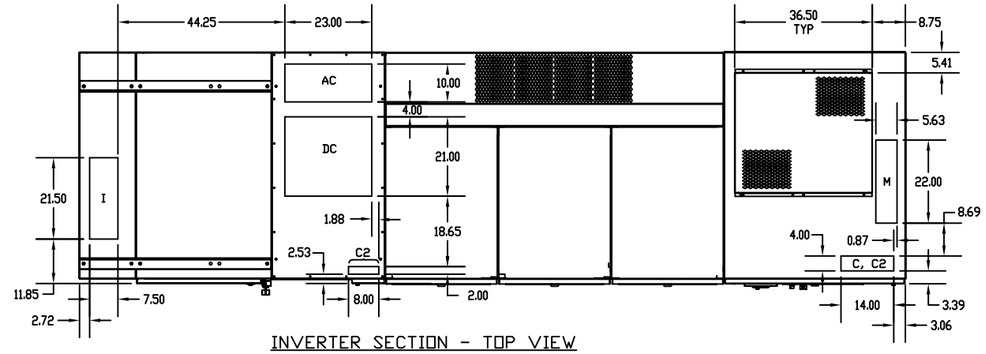
NOTES

1. COMPLETE DRIVE SYSTEM CONSISTS OF TWO CONVERTER SECTIONS (ONLY ONE SHOWN, DRAWING IS TYPICAL) AND ONE INVERTER SECTION (REFERENCE DRAWING: FG4P018031)
2. ENCLOSURE TYPE (CONVERTER SECTION): NEMA 3R OUTDOOR
3. FINISH (CONVERTER SECTION): SMOOTH WHITE PAINT
4. ALL WEIGHTS ARE APPROXIMATE IN LBS
5. ALL DIMENSIONS ARE IN INCHES
6. CONVERTER SECTION CAN BE LIFTED ONLY FROM BOTTOM USING FORKLIFT OR SLING–NO OVERHEAD LIFTING PROVISIONS

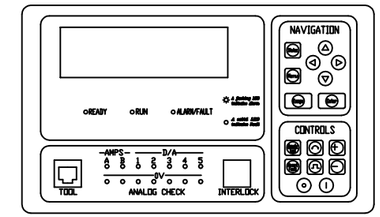
REVISION NO. 0	ENGINEERING	PROJECT: OUTLINES	DB5i, REMOTE CONV, FRAME G4P		
REVISION DATE	TECHNICAL BWN	REQUISITION:	TMEIC CORPORATION ROANOKE, VA U. S. A.	DWG. NO.	SH. NO.
REVISED BY	ISSUE DATE	S. O. :		CONT. ON SHT. 24A	24

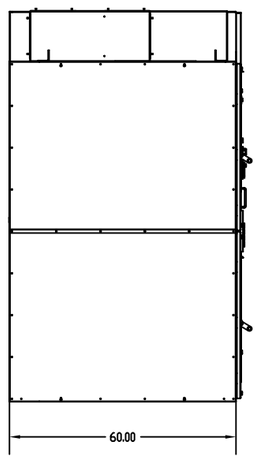


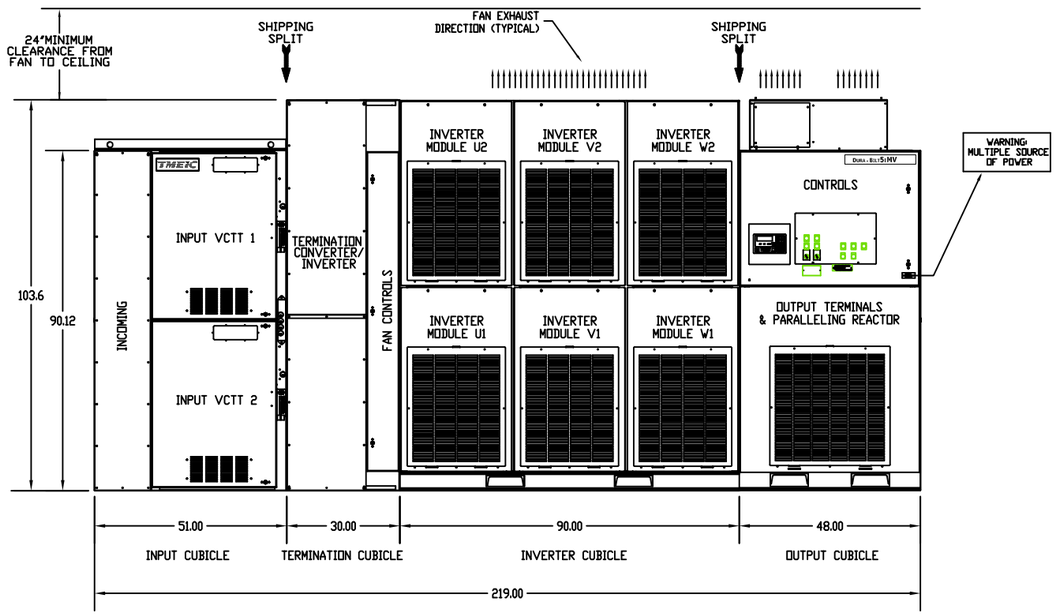
INSTALLATION DETAIL - INDOOR SECTION



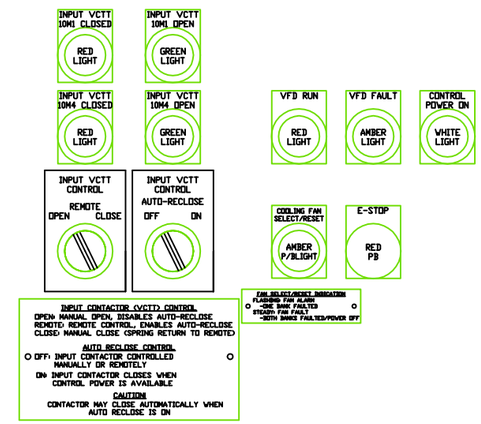
INVERTER SECTION - TOP VIEW







INVERTER SECTION - FRONT VIEW



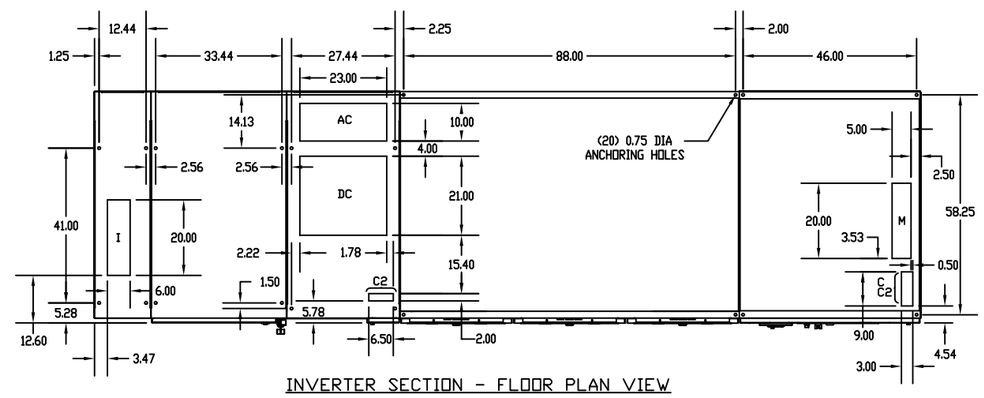
DETAIL PILOT DEVICES AND KEYPAD

CABLE TERMINATIONS						
ENTRY*	INCOMING CABLES	MOTOR LEADS	CONTROL WIRE	AC POWER CABLES TO CONVERTER	DC POWER CABLES TO INVERTER	CONTROL WIRE CONVERTER TO INVERTER
TOP	I	M	C	AC	DC	C2
BOTTOM	I	M	C	AC	DC	C2
INCOMING, MOTOR, AC AND DC TERMINATIONS USE NEMA 4-HOLE PATTERN *ALL CABLES ENTER AT THE LOWER REAR OF CONVERTER SECTION						

NOTES

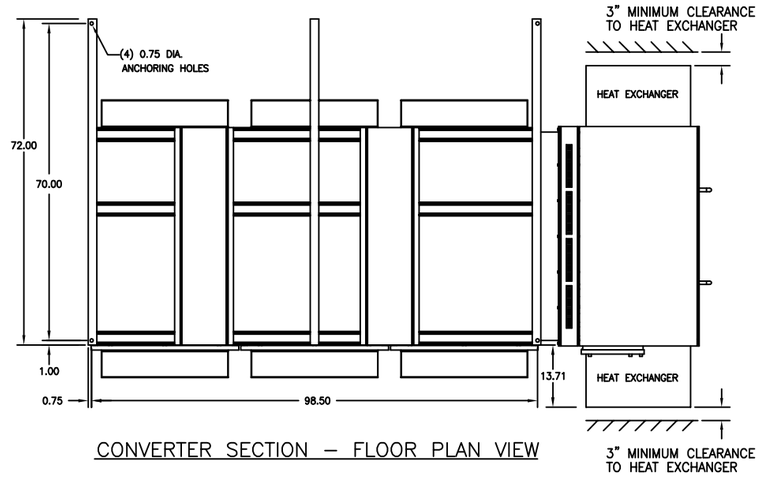
1. COMPLETE DRIVE SYSTEM CONSISTS OF TWO CONVERTER SECTIONS (REFERENCE DRAWING: FG4P0I8030) AND ONE INVERTER SECTION
2. ENCLOSURE TYPE (INVERTER SECTION): NEMA 1 INDOOR WITH GASKETED DOORS
3. FINISH (INVERTER SECTION): ANSI 61 TEXTURED GRAY PAINT
4. ALL WEIGHTS ARE APPROXIMATE IN LBS
5. ALL DIMENSIONS ARE IN INCHES

WEIGHTS	lbs
INPUT CUBICLES	3,000 lbs
TERMINATION CUBICLE	650 lbs
INVERTER CUBICLE	9,000 lbs
OUTPUT CUBICLE	3,000 lbs

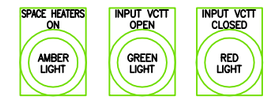


INVERTER SECTION - FLOOR PLAN VIEW

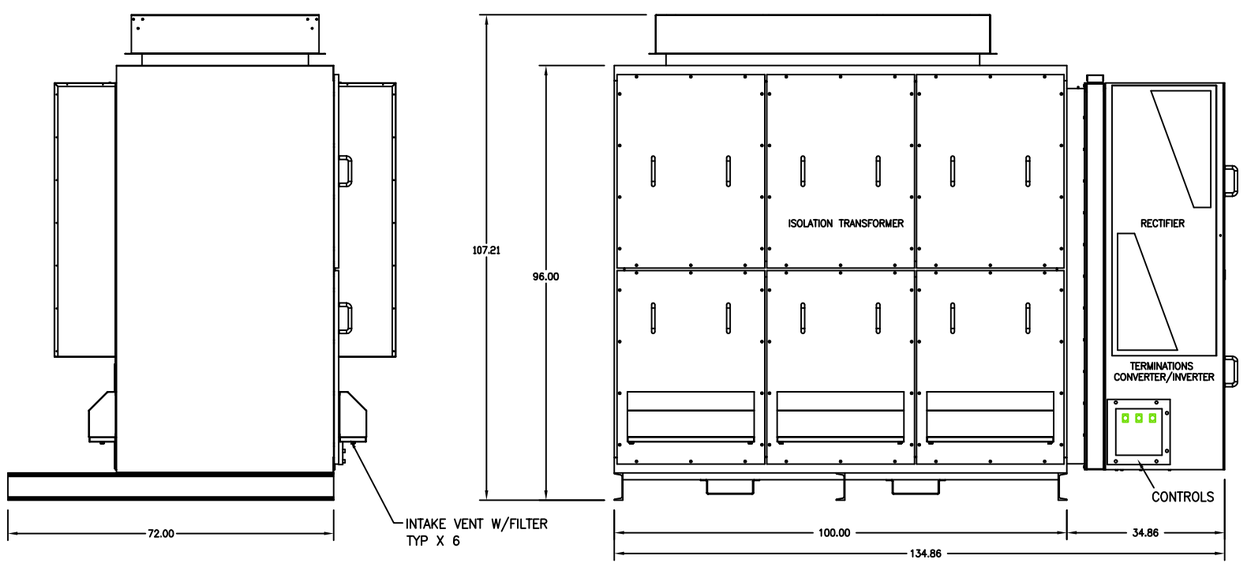
REVISION NO. 0	ENGINEERING	PROJECT: OUTLINES	DB5i, REMOTE INV, FRAME G4P		
REVISION DATE	TECHNICAL BWN	REQUISITION:	TMEIC CORPORATION ROANOKE, VA U. S. A.	DWG. NO.	SH. NO.
REVISED BY	ISSUE DATE	S. O.:		CONT. ON SHT. 25	24A



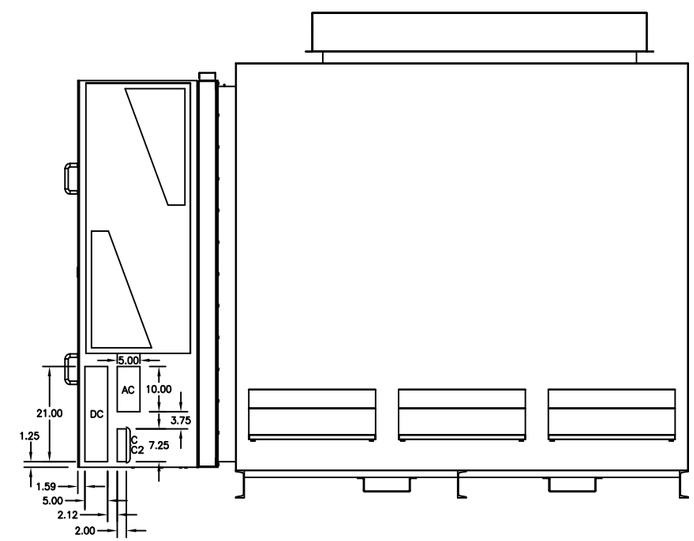
CONVERTER SECTION – FLOOR PLAN VIEW



DETAIL – PILOT DEVICES



CONVERTER SECTION – FRONT VIEW



CONVERTER SECTION – REAR VIEW

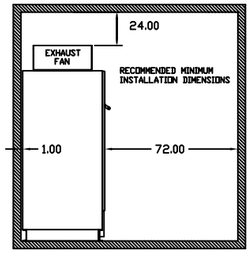
CABLE TERMINATIONS						
ENTRY*	INCOMING CABLES	MOTOR LEADS	CONTROL WIRE	AC POWER CABLES TO CONVERTER	DC POWER CABLES TO INVERTER	CONTROL WIRE CONVERTER TO INVERTER
TOP	I	M	C	AC	DC	C2
BOTTOM	I	M	C	AC	DC	C2
INCOMING, MOTOR, AC AND DC TERMINATIONS USE NEMA 4–HOLE PATTERN						
*ALL CABLES ENTER AT THE LOWER REAR OF CONVERTER SECTION						

WEIGHTS	8000HP	9000HP	10000HP
CONVERTER SECTION	18,125 lb	19,000 lb	19,875 lb

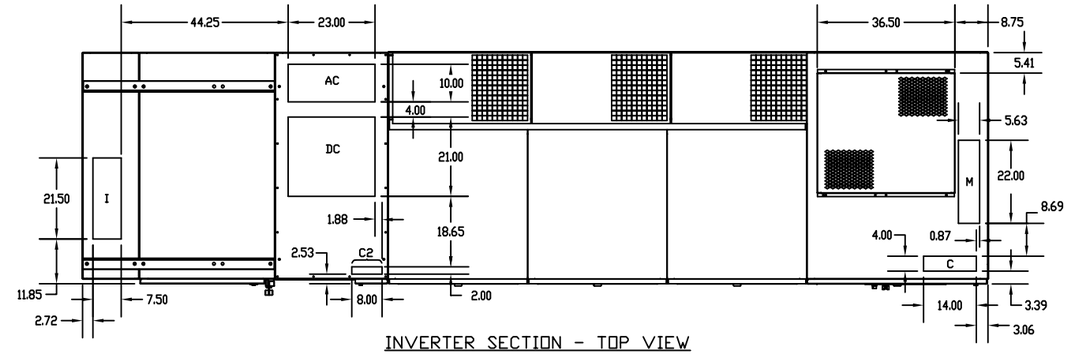
NOTES

1. COMPLETE DRIVE SYSTEM CONSISTS OF THREE CONVERTER SECTIONS (ONLY ONE SHOWN, DRAWING IS TYPICAL) AND ONE INVERTER SECTION (SEE SHEET 31)
2. ENCLOSURE TYPE (CONVERTER SECTION): NEMA 3R OUTDOOR
3. FINISH (CONVERTER SECTION): SMOOTH WHITE PAINT
4. ALL WEIGHTS ARE APPROXIMATE IN LBS
5. ALL DIMENSIONS ARE IN INCHES
6. CONVERTER SECTION CAN BE LIFTED ONLY FROM BOTTOM USING FORKLIFT OR SLING–NO OVERHEAD LIFTING PROVISIONS

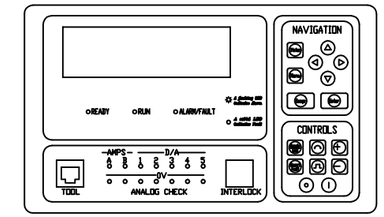
REVISION NO. 0	ENGINEERING	PROJECT: OUTLINES	DB5i, REMOTE CONV, FRAME H4P		
REVISION DATE	TECHNICAL BWN	REQUISITION:	TMEIC CORPORATION ROANOKE, VA U. S. A.	DWG. NO.	SH. NO.
REVISED BY	ISSUE DATE	S. O.:		CONT. ON SHT. 25A	25

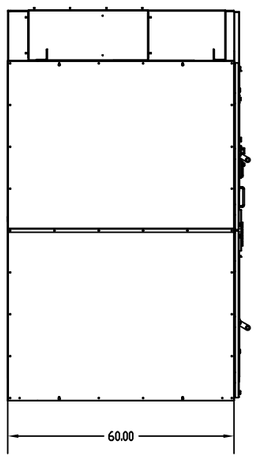


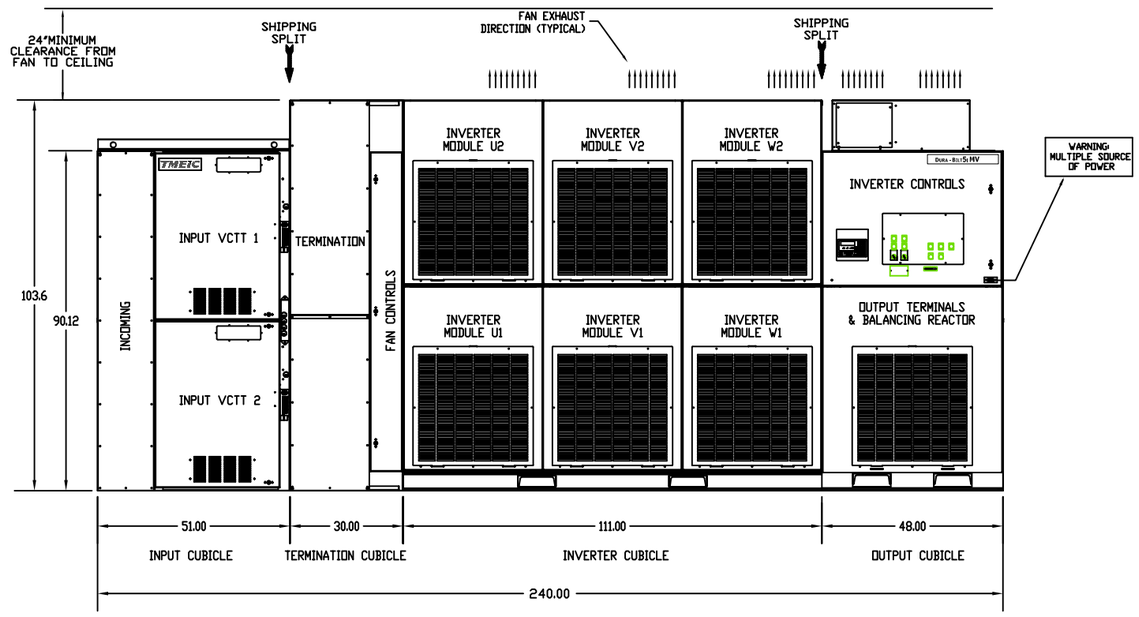
INSTALLATION DETAIL - INDOOR SECTION



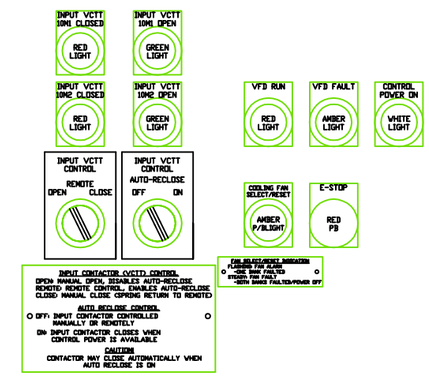
INVERTER SECTION - TOP VIEW







INVERTER SECTION - FRONT VIEW



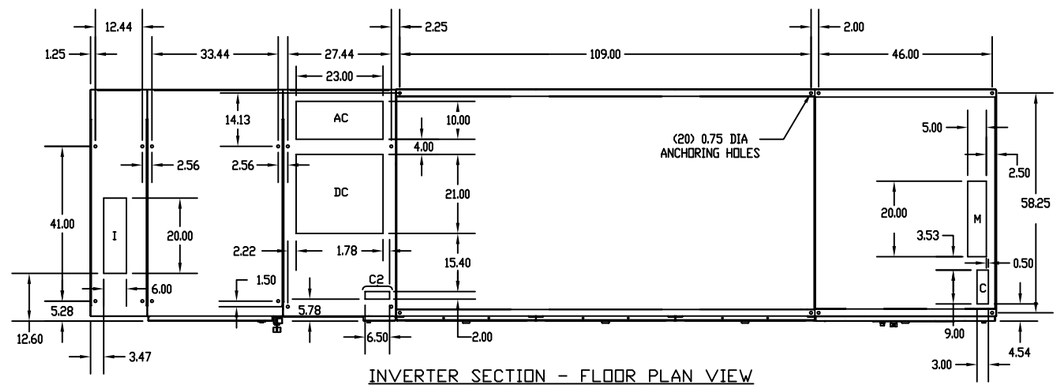
DETAIL PILOT DEVICES AND KEYPAD

CABLE TERMINATIONS						
ENTRY*	INCOMING CABLES	MOTOR LEADS	CONTROL WIRE	AC POWER CABLES TO CONVERTER	DC POWER CABLES TO INVERTER	CONTROL WIRE CONVERTER TO INVERTER
TOP	I	M	C	AC	DC	C2
BOTTOM	I	M	C	AC	DC	C2
INCOMING, MOTOR, AC AND DC TERMINATIONS USE NEMA 4-HOLE PATTERN *ALL CABLES ENTER AT THE LOWER REAR OF CONVERTER SECTION						

NOTES

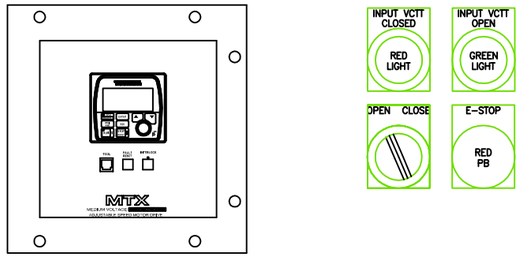
1. COMPLETE DRIVE SYSTEM CONSISTS OF THREE CONVERTER SECTIONS (SEE SHEET 30) AND ONE INVERTER SECTION
2. ENCLOSURE TYPE (INVERTER SECTION): NEMA 1 INDOOR WITH GASKETED DOORS
3. FINISH (INVERTER SECTION): ANSI 61 TEXTURED GRAY PAINT
4. ALL WEIGHTS ARE APPROXIMATE IN LBS
5. ALL DIMENSIONS ARE IN INCHES

WEIGHTS	lbs
INPUT CUBICLES	3,000 lbs
TERMINATION CUBICLE	650 lbs
INVERTER CUBICLE	17,000 lbs
OUTPUT CUBICLE	3,500 lbs

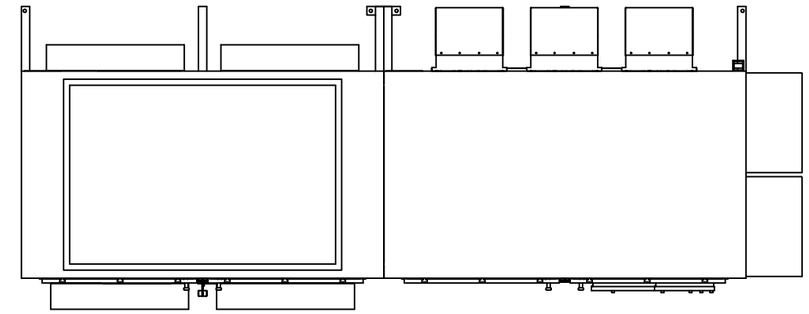


INVERTER SECTION - FLOOR PLAN VIEW

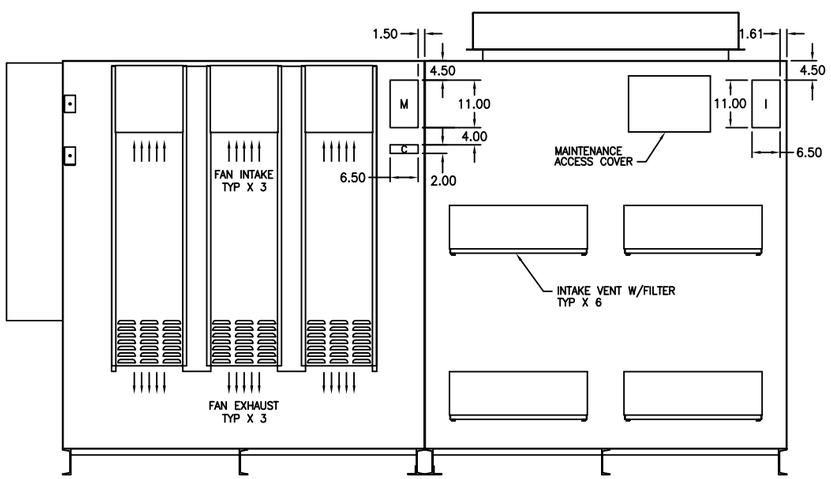
REVISION NO. 0	ENGINEERING	PROJECT: OUTLINES	DB5i, REMOTE INV, FRAME H4P		
REVISION DATE	TECHNICAL BWN	REQUISITION:	TMEIC CORPORATION ROANOKE, VA U. S. A.	DWG. NO.	SH. NO.
REVISED BY	ISSUE DATE	S. O.:		CONT. ON SHT. 26	25A



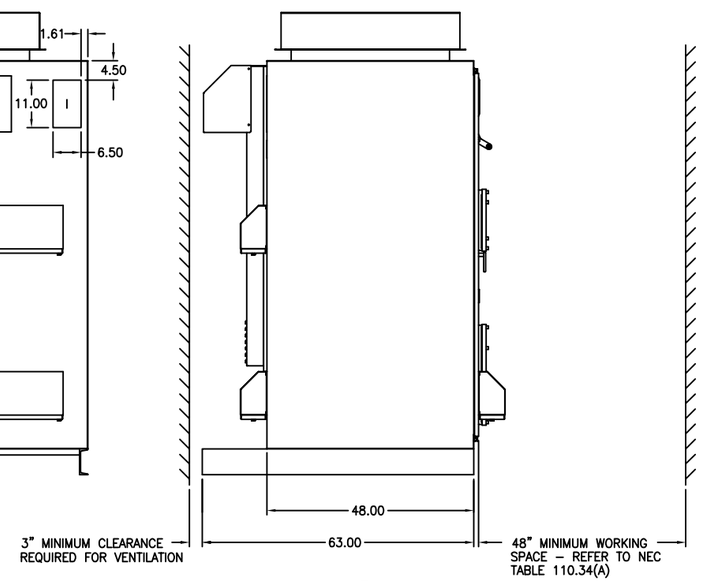
DETAIL OF PILOT DEVICES, 369 AND KEYPAD



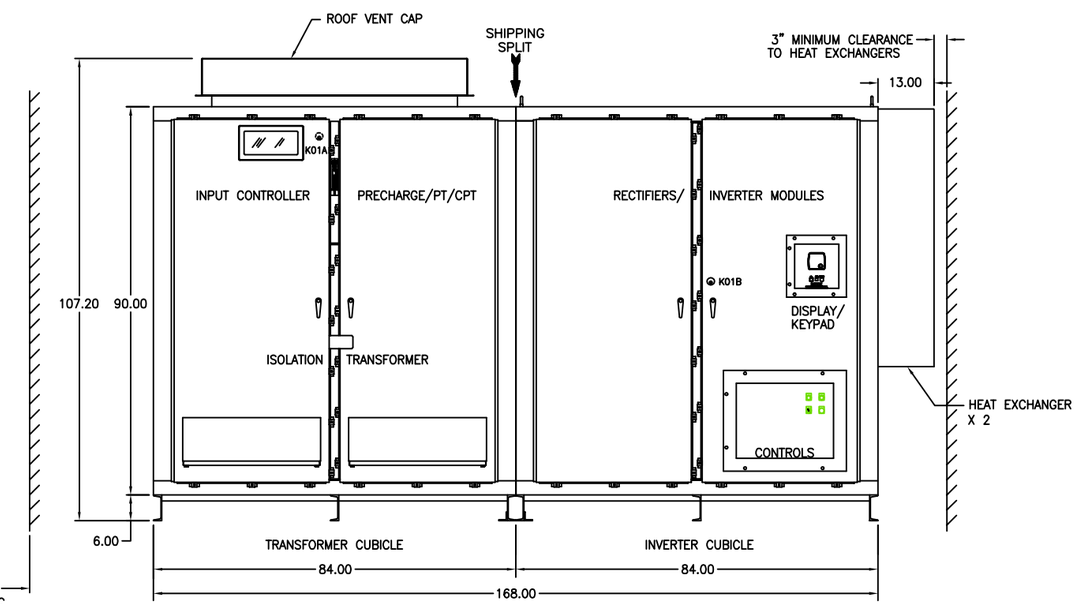
TOP VIEW



REAR VIEW



LH VIEW



FRONT VIEW

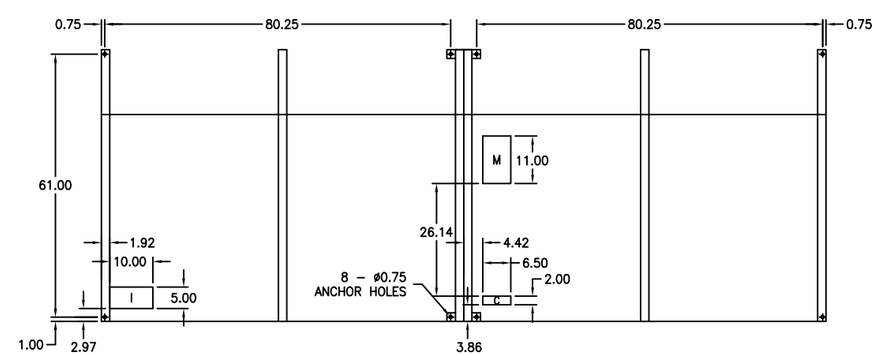
APPROXIMATE WEIGHTS:

TRANSFORMER CUBICLE . . . . . .10000 LBS
INVERTER CUBICLE . . . . . .5000 LBS

TOTAL UNIT WEIGHT . . . . . .15000 LBS

CABLE TERMINATIONS			
ENTRY	INCOMING CABLES	MOTOR LEADS	CONTROL WIRE
BOTTOM	I	M	C
REAR	I	M	C
INCOMING AND MOTOR TERMINATIONS USE NEMA 4-HOLE PATTERN			

NOTES
1. ENCLOSURE TYPE: NEMA 3R
2. FINISH: SMOOTH WHITE PAINT
3. ALL WEIGHTS ARE APPROXIMATE
4. ALL DIMS ARE IN INCHES
5. CUBICLES MUST BE LIFTED FROM THE BOTTOM USING EITHER FORKLIFT OR SLING. NO LIFTING EYES ON TOP.
6. REFER TO DRAWING SKT42131 FOR INSTRUCTIONS ON JOINING TRANSFORMER AND INVERTER CUBICLES.



FLOOR PLAN VIEW

FOR REFERENCE ONLY

REVISION NO. 0	ENGINEERING	PROJECT: OUTLINES	DB5i-N3R, OUTDOOR, TO 1500HP		
REVISION DATE	TECHNICAL BWN	REQUISITION:	TMEIC CORPORATION ROANOKE, VA USA	DWG. NO.	SH. NO.
REVISED BY	ISSUE DATE	S. O.:		CONT. ON SHT. FL	26