

TRANSFORMER DATA SHEET

DATE : 07/24/2022
 CUSTOMER : HVES
 CIRCUIT/LOCATION : HVES #95
 MANUFACTURER : ABB
 TRANSFORMER TYPE : Pad Mount
 S/N : 95J968045

CLASS : 0A

THREE PHASE ☒ SINGLE PHASE ☐ : 60 HERTZ

VOLTAGE RATING: 4160 Delta-208Y/120

KVA RATING: 150 Continuous, Self Cooled
 Continuous, Forced Air

LV WINDING: COPPER

HV WINDING: COPPER

LV: 65°C rise, BIL: 30 kV

HV: 65°C rise, BIL: 60 kV

NAMEPLATE DATA

Core & Coils	1000
Case & Fittings	598
Oil in Gallons	99
Weight in Pounds	2390

Fluid Type : Mineral Oil

Impedance volts : 1.86 % at rated volts at : 150 KVA

MEGGER TEST RESULTS

TRANSFORMER TEST DATA

	1 Minute				POLARIZATION INDEX	CAPACITANCE	
High-> Ground	30k	M-Ohms, @	5	kV DC	1.74	0.02	micro-farad
Low -> Ground	15k	M-Ohms, @	1	kV DC	1.99	0.02	micro-farad
High-> Low	25k	M-Ohms, @	1	kV DC	2.06	0.02	micro-farad

TRANSFORMER TTR TESTS

TAP (V)	CALC. TTR	PHASE 1	PHASE 2	PHASE 3
4370				
4265				
4160	34.666	35.021	35.011	35.004
4055				
3950				

COMMENTS

Type: VS8A494NPJ

Date: 11/1995

Tag: 11509

05/10/2017 Oil samples collected for analysis.

07/24/2022 Transformer tested.

TRANSFORMER OIL DATA SHEET
Standard Oil Analysis

DATE : 06/21/2017 Sample Date : 05/10/2017
CUSTOMER : HVES
CIRCUIT/LOCATION : HVES #95
MANUFACTURER : ABB
KVA/TYPE or M/N : 150
S/N : 95J968045
FLUID TYPE : Mineral Oil

<u>TEST</u>	<u>ASTM</u>	<u>LIMITS*</u>	<u>RESULTS</u>
WATER CONTENT	D1533	20 Max	: 29 ppm
INTER-FACIAL TENSION	D971	32 Min	: 35.6 Dynes/ppm
NEUTRALITY	D974	0.10 Max	: 0.004 mg KOH/g
COLOR	D1500	3.5 Max	: 1.0
VISUAL EXAMINATION	D1524	N/A	: Clear & bright
DIELECTRIC	D877	26 Min	: 48 kV
SPECIFIC GRAVITY	D1298	0.91 Max	: 0.884

*NETA Table 100.4.1 and ANSI/IEEE C57.106-2002 "Guide for Acceptance and Maintenance of Insulating Oil in Equipment," Table 7.

COMMENTS:

TRANSFORMER OIL DATA SHEET
Dissolved Gas-in-Oil Analysis As Per ASTM D-3612A

DATE : 06/21/2017 Sample Date : 05/10/2017
CUSTOMER : HVES
CIRCUIT/LOCATION : HVES #95
MANUFACTURER : ABB
KVA/TYPE or M/N : 150
S/N : 95J968045
FLUID TYPE : Mineral Oil

<u>TEST</u>	<u>IN-SERVICE NORMS*</u>	<u>RESULTS</u>
HYDROGEN (H2)	240 ppm	: 0 ppm
METHANE (CH4)	160 ppm	: 5 ppm
ETHANE (C2H6)	115 ppm	: 1 ppm
ETHYLENE (C2H4)	190 ppm	: 8 ppm
ACETYLENE (C2H2)	11 ppm	: 0 ppm
CARBON MONOXIDE (CO)	580 ppm	: 82 ppm
CARBON DIOXIDE (CO2)	n/a	: 902 ppm
NITROGEN (N2)	n/a	: 63933 ppm
OXYGEN (O2)	n/a	: 31104 ppm
TOTAL GAS	n/a	: 96035 ppm
TOTAL COMBUSTIBLES	n/a	: 96 ppm
ESTIMATED TCG	n/a	: 0.08 %
CO2/CO RATIO		: 11.01

ANALYSIS:

All gases are within accepted limits.

RECOMMENDATION:

Resample in 1 year.

*In-service Norms as follows:

	<u>GENERATING</u>	<u>TRANSMISSION</u>
HYDROGEN (H2)	240 ppm	100 ppm
METHANE (CH4)	160 ppm	120 ppm
ETHANE (C2H6)	115 ppm	65 ppm
ETHYLENE (C2H4)	190 ppm	30 ppm
ACETYLENE (C2H2)	11 ppm	35 ppm
CARBON MONOXIDE (CO)	580 ppm	350 ppm

COMMENTS:



UNIT 95

UNIT 90

82

UNIT 95



ABB

DISTRIBUTION TRANSFORMER
MADE IN U.S.A. AT
JEFFERSON CITY, MO.

CLASS OA 60 HERTZ
THREE PHASE

TANK MUST
BE SOLIDLY
GROUNDED

KVA 150

CONT RISE
65°C

SER 95J968045

STYLE VS8A494NPJ

HV 4160

LV 208Y/120

HV CU HV BIL 95
LV CU LV BIL 30

MFG DATE NOV-95

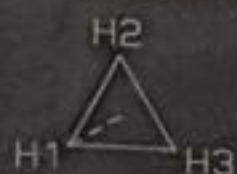
GAL OIL 99

% IMPEDANCE 1.86

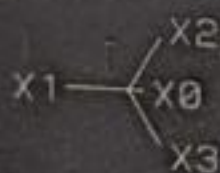
WT LBS 2390

TAP CHANGER

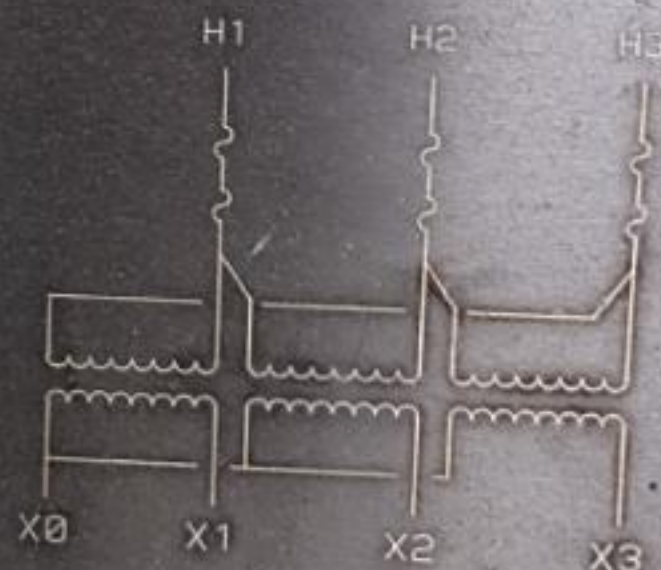
TAP	VOLTAGE
1	4370
2	4265
3	4160
4	4055
5	3950



PHASOR DIAGRAM



CAUTION:
BEFORE OPERATING
READ INSTRUCTION
BOOK 46-060-1



FILLED WITH NON-PCB
MINERAL OIL THAT
CONTAINED LESS THAN
1 PPM PCB AT TIME
OF MANUFACTURE.

1/2A



ABB DISTRIBUTION TRANSFORMER CLASS DA 60 HERTZ THREE PHASE TANK VENT BE SOLIDLY GROUND

150 4160 208Y/120 95 95J968045 VS8A494NPJ

TAP	VOLTS
1	4370
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PHASE DIAGRAM

CAUTION: BEFORE OPERATING READ INSTRUCTIONS BACK 45-000-1

FILLED WITH NON-FERROUS MINERAL OIL THAT CONTAINS LESS THAN 1 PPM FIBER AT TIME OF MANUFACTURE

BLUE

BLACK

X1

X3

RED

X2

X4



X0

X1

X2

X3

BLUE

BLACK

RED

WARNING
DANGER
HIGH VOLTAGE
ELECTRICITY
DO NOT TOUCH
INTERNAL PARTS
WHEN THE DOOR IS OPEN
OR WHEN THE UNIT IS ON
THE POWER SUPPLY
MUST BE DISCONNECTED
BEFORE ANY WORK IS
DONE ON THE UNIT
OR THE DOOR IS OPENED
FOR REPAIR OR
MAINTENANCE
WORK.

VENT BEFORE
OPERATING FUSE

CAUTION
READ FUSE HOLDER
INSTRUCTIONS
BEFORE OPERATING

LIFT COVER TO OPERATE
BAYONET-TYPE FUSE HOLDER







UNIT 95

UNIT 90

82

UNIT 95



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CONT RISE
65°C

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LV 208Y/120

HV CU HV BIL 95
LV CU LV BIL 30

MFG DATE NOV-95

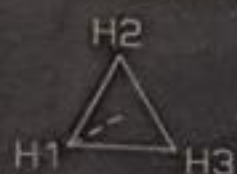
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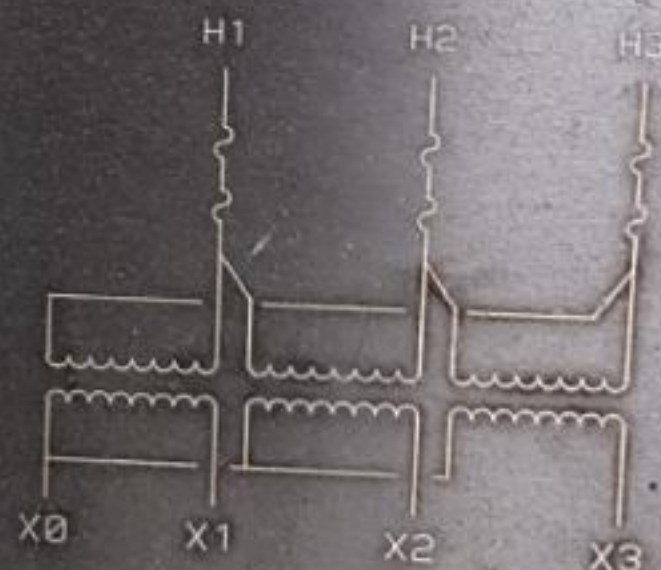
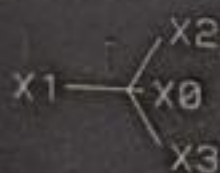
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TAP CHANGER

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1EAP



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BLUE

BLACK

X1

X3

RED

X1

X2



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OPERATING FUSE

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INSTRUCTIONS
BEFORE OPERATING

LIFT COVER TO OPERATE
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