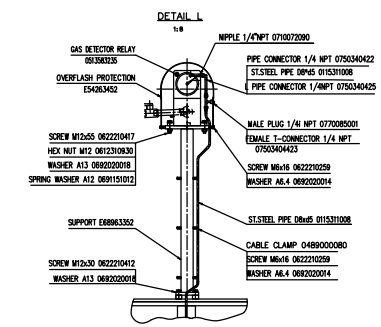
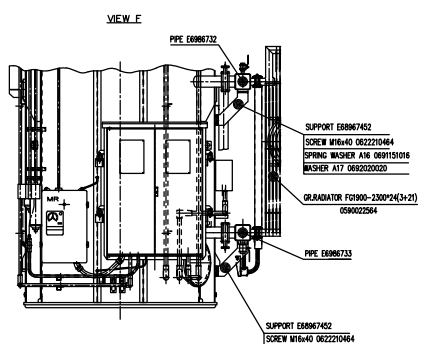
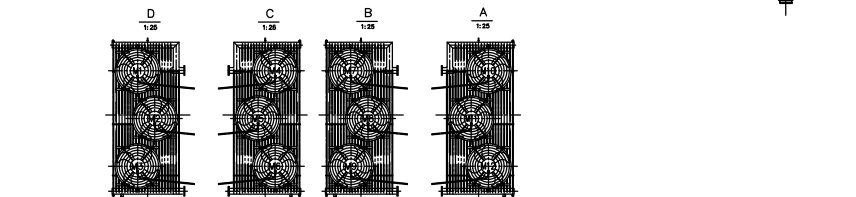
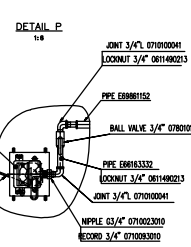
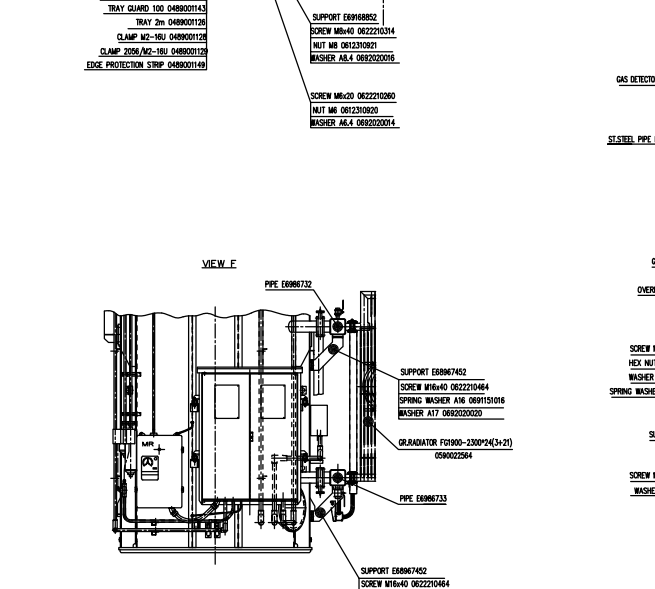
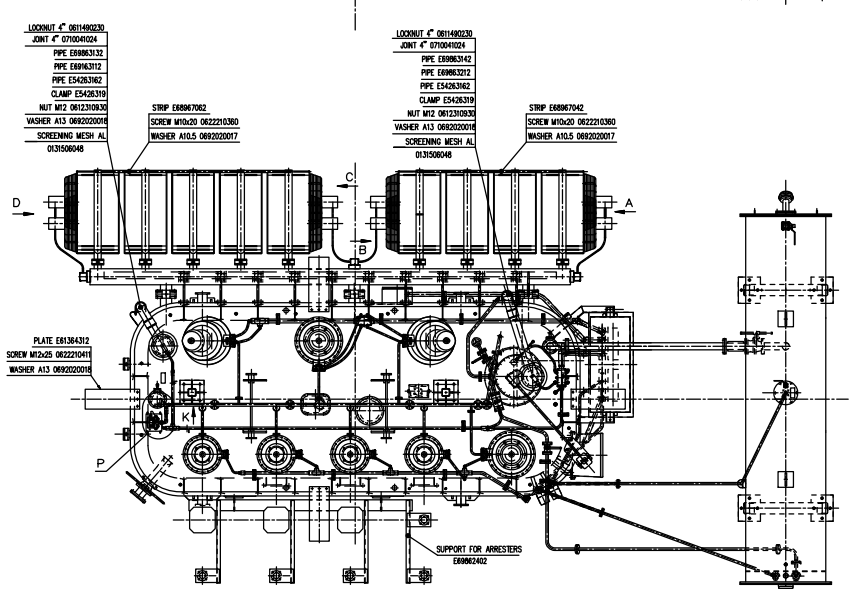
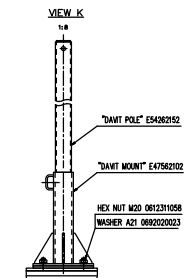
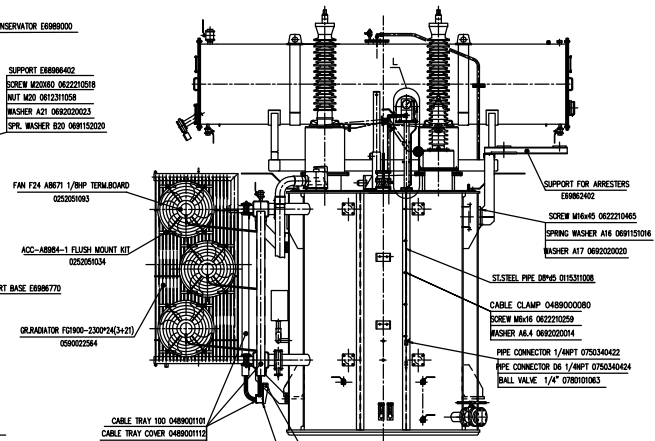
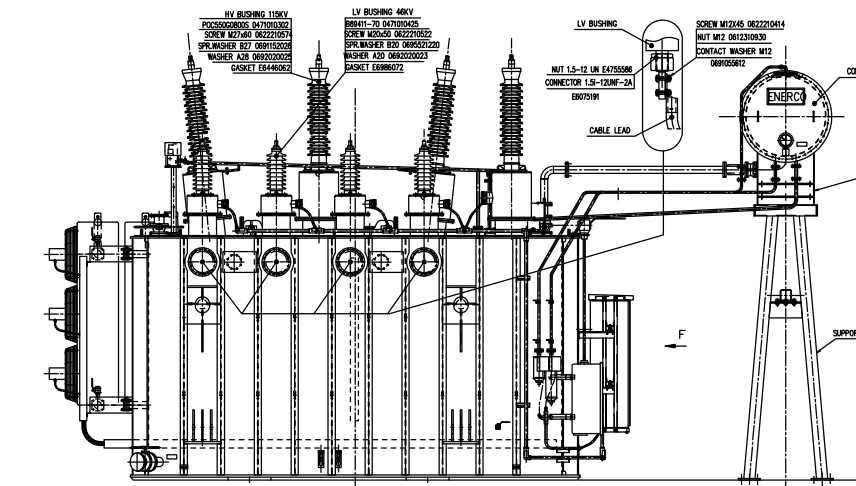
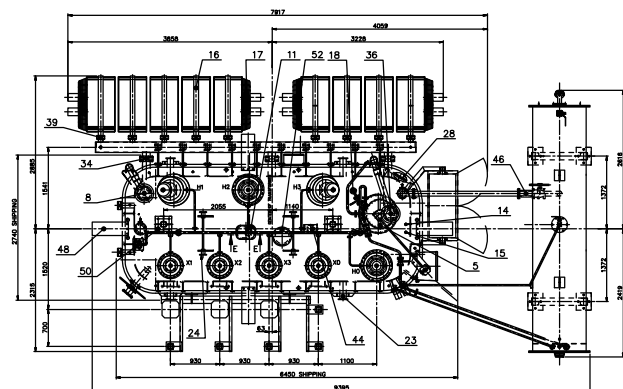
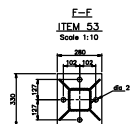
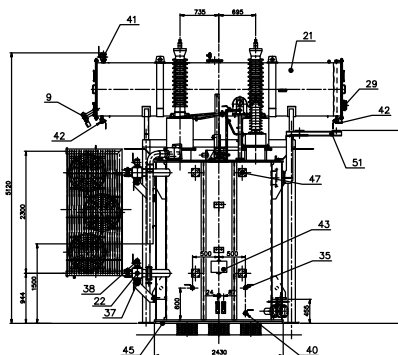


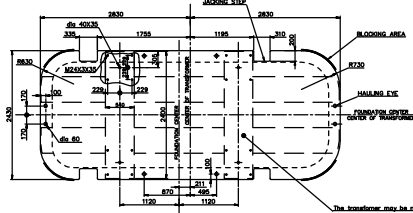


1. PIPING ASSEMBLY -- ACCORDING TO DRAWING 13698-1110
2. ASSEMBLY REMOTE CONSERVATOR SUPPORT -- ACCORDING TO DRAWING 13698-1120

ITEM	QTY	REMARKS	REVISION	DATE	BY	CHKD	APP'D	TRANSFORMER	GENERAL ASSEMBLY	PROJECT
1	1	13698-1110						41.7MVA, 115.5/44KV		
2	1	13698-1120								
3	1	13698-1130								
4	1	13698-1140								
5	1	13698-1150								
6	1	13698-1160								
7	1	13698-1170								
8	1	13698-1180								
9	1	13698-1190								
10	1	13698-1200								



Scale 1:7.5

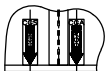


Loading on jack: without oil=12250kg
Loading on jack: with oil =17913kg
(based on assembly weight 71650kg, without coolers and conservator)

1. HV BUSHING 11KV/80A POORE POC 55000800S (DRAIN LEAD) (3pc)
2. LV BUSHING 4KV 1200A POORE POC BR9411-70 (BOTTOM CONNECTED) (3pc)
3. LV NEUTRAL BUSHING 4KV/1200A POORE POC BR9411-70 (BOTTOM CONNECTED) (1pc)
4. LV NEUTRAL BUSHING 11KV/80A POORE POC 55000800S (DRAIN LEAD) (1pc)
5. OLTC VACUUM PUMP 7007-7252-103536 REINHAUZEN (1pc)
6. MOTOR DRIVE EDIOS REINHAUZEN (1pc)
7. GAS DETECTOR RELAY MODEL 12 AMB WITH OVERFLASH PROTECTION (1pc)
8. PRESSURE RELIEF DEVICE QUALITROL 213-001-02 WITH DIRECTIONAL SHROUD FOR MAIN TANK (1 pc)
9. OL LEVEL GAUGE QUALITROL 043-301-02 FOR MAIN CONSERVATOR (1pc)
10. CONTROL CABINET WITH NAMEPLATES RIVETED TO THE DOOR (1pc)
11. CORE GROUND CONNECTION THROUGH 1KV BUSHING IN WATERPROOF BOX WITH RESISTOR 250 Ohms (1pc)
12. MAINTENANCE REEF BREAKER MTB-08 200 RM-T MESSKO FOR MAIN TANK CONSERVATOR (1pc)
13. MAINTENANCE FREE BREAKER MTB-08 100 RM-T MESSKO FOR OLTC CONSERVATOR (1pc)
14. RESISTANCE BULB 013-018-03 WITH PT100 QUALITROL (1pc)
15. RESERVE THERMOMETER POCOT (1pc)
16. DETACHABLE RADATOR FROD-2000x240x221 WITH UPPER AND LOWER SHUT VALVE (1pc)
17. FAN F24 AERTI 1/8HP - KIEVZ-12C (2pc)
18. BYPASS CONNECTION WITH 1" BALL VALVE FOR OLTC VACUUM FILLING
19. TEMPERATURE MONITOR 509-100 QUALITROL (1pc) (MOUNTED INSIDE CONTROL CABINET)
20. GAS COLLECTING PIPELINE (1pc)
21. OL CONNECTION WITH 2" GEL PRONAL (ACC. TO ENERCO DRW.13698-8011) (1pc)
22. HEADER FOR COOLING SYSTEM (2pc)
23. LIFTING FACILITY FOR COMPLETE TRANSFORMER (4pc)
24. LIFTING FACILITY FOR ACTIVE PART (4pc)
25. ACTIVE PART IS RIGIDLY CONNECTED TO THE COVER
26. JACKING STEP (4pc)
27. REMOTE CONSERVATOR SUPPORT STRUCTURE
27. GROUND PAD (4 pc)
28. MANHOLE INSIDE DA 500MM (1 pc)
29. OL LEVEL GAUGE QUALITROL 032 FOR OLTC (1pc)
30. MANHOLE FOR ACCESSING LV & NEUTRAL BUSINGS BOTTOM CONNECTION, INSIDE DA 500MM (4pc)
31. 3" BALL VALVE (ANSI FLANGED) FOR CONSERVATOR (2pc)
32. 3" BALL VALVE (ANSI FLANGED) FOR VACUUM FILLING (1pc)
33. 4" BALL VALVE (ANSI FLANGED) FOR VACUUM FILLING (1pc)
34. 2" BUTTERFLY VALVE (8pc)
35. 1/2" BALL VALVE FOR MS CALISTO (2pc)
36. PRESSURE RELIEF DEVICE QUALITROL 213-001-02 WITH DIRECTIONAL SHROUD FOR OLTC (1pc)
37. 1.5" BALL VALVE FOR HEADER DRAIN (1pc on each header)
38. 1" BALL VALVE FOR HEADER VENT (1pc on each header)
39. 3" BUTTERFLY VALVE FOR RADATOR (22pc)
40. 1/2" SAMPLING VALVE (1pc)
41. 2" BALL VALVE FOR CONSERVATOR (1pc)
42. 1" BALL VALVE FOR MAIN & OLTC CONSERVATOR
43. IMPACT RESISTER IN BOLLINGERHEIM (ENERGO PROTECT) (1pc)
44. IMPACT RESISTER IN BOYCHOSK L00 R2036 (ENERGO PROTECT) (1pc)
45. SPRING SUPPORT PLATE
46. 3" EXPANSION JOINT (AXIAL & LATERAL) (1pc)
47. PROVISIONS FOR 2 ADDITIONAL RADATORS
48. SUPPORT FOR HEAT ACTIVATED DETECTOR (4pc)
49. PROVISION FOR SAFETY FENCE
50. FAL PROTECTION SYSTEM (POLE & MOUNT) (2pc)
51. SUPPORT FOR LV ARRESTER & BUS SUPPORTS (1pc)
52. MANHOLE FOR ACCESSING TERTIARY DELTA GROUND CONNECTION (Y2-Y3) INSIDE DA 500MM
53. ADJUSTMENT BLOCK FOR REMOTE CONSERVATOR SUPPORT FEET (4pc)



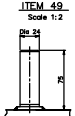
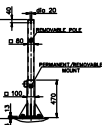
DETAIL B



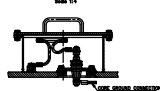
DETAIL D
Scale 1:10



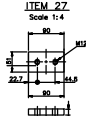
ITEM 4

ITEM 50
Scale 1: 25

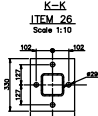
E-E
ITEM 12



ITEM 27



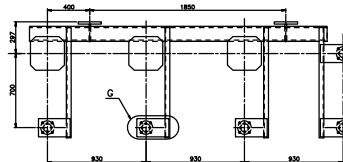
K-K



VIEW L
CONCRETE MOUNTING BRACKET



ITEM 51



DETAIL G



WEIGHTS:

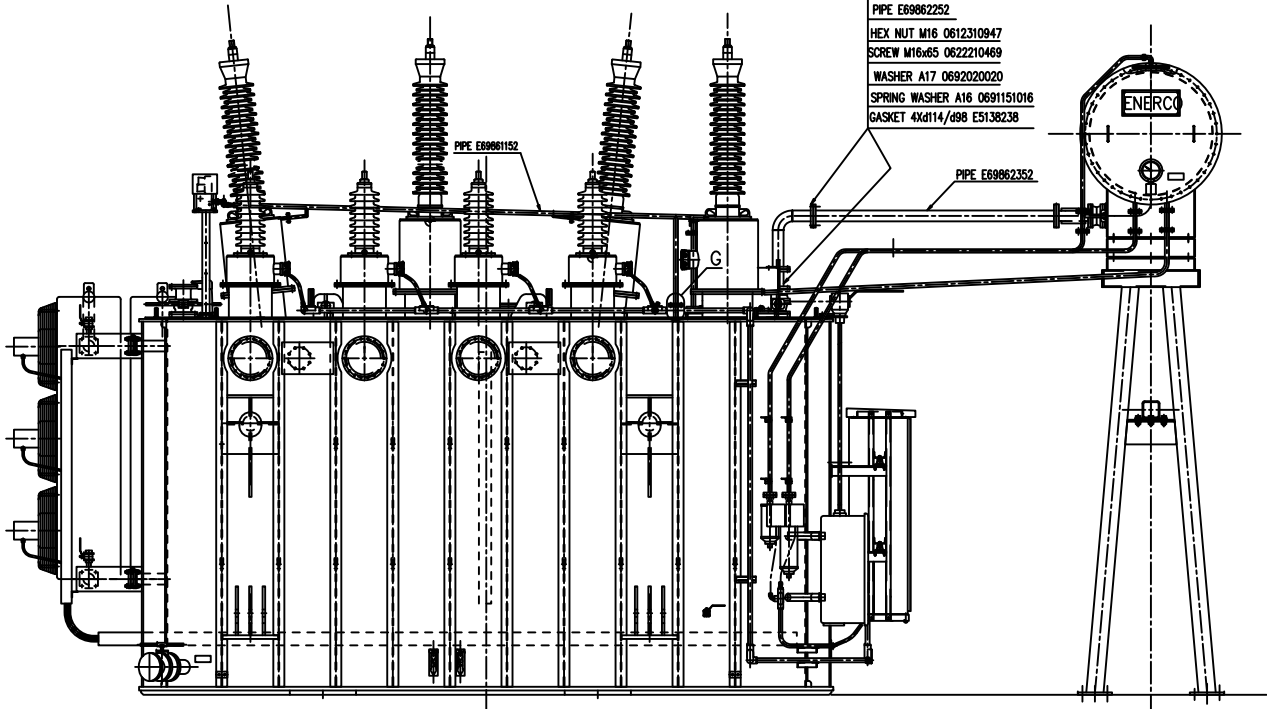
CORE AND COILS	34000 kg
TANK AND FITTINGS	17000 kg
COOLER BANK	6650 kg
TOTAL OIL IN TRANSFORMER	25520 litre=22970 kg
TRANSFORMER TOTAL	79300kg
SHIPPING WEIGHT-HEAVIEST PART (WITHOUT OIL)	49000kg

CUSTOMER : HYDRO ONE
HYDRO ONE BPO NUMBER 44897 REL. 7
SERIAL No. : 13698/

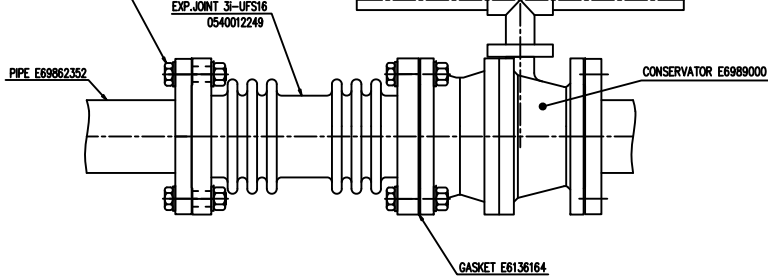
FORM	MATERIAL	WEIGHT	Scale 1:30	TRANSFORMER 41.7MVA 115.5/44KV
DATE	SIGNATURE	NAME	PAGE: 1	
2.11.2008		V. Rajan	DRAWN	
4.11.2008		M. Suresh	CHECKED	
4.11.2008		A. Suresh	APPROVED	
 Enerco Enterprises Ltd. TRANSMISSION DIVISION				GENERAL DIMENSIONS DRAWING NO 13698-1000

[illegible]

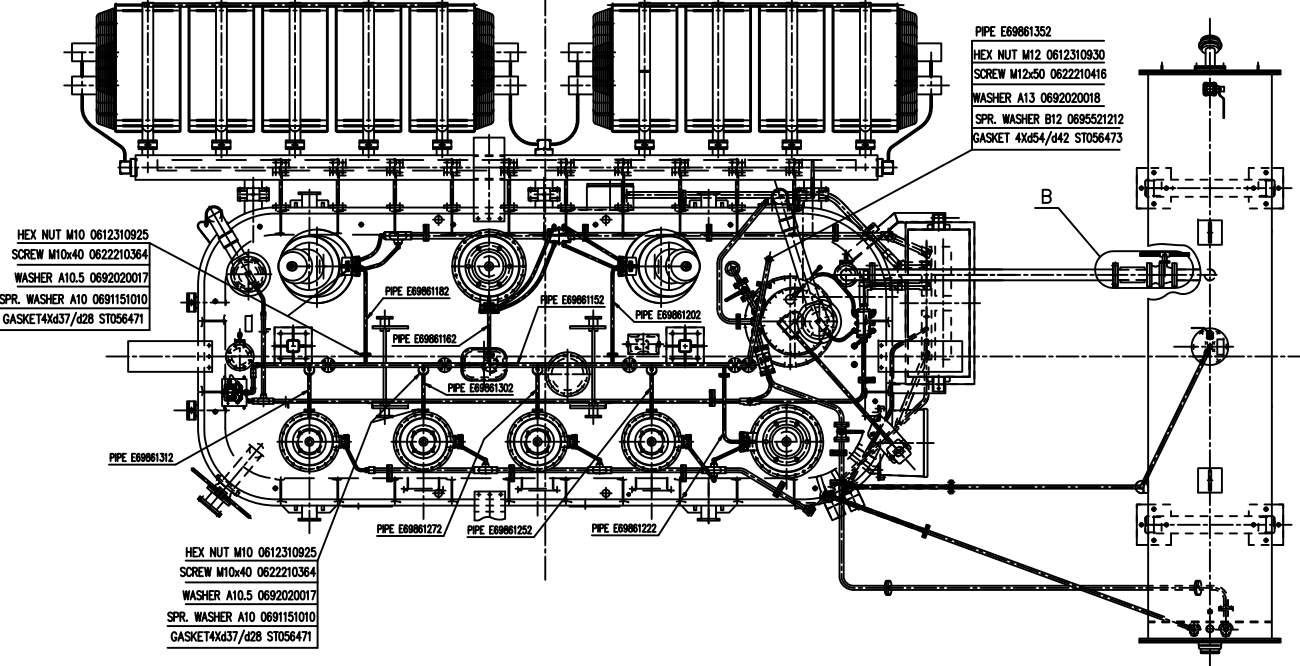
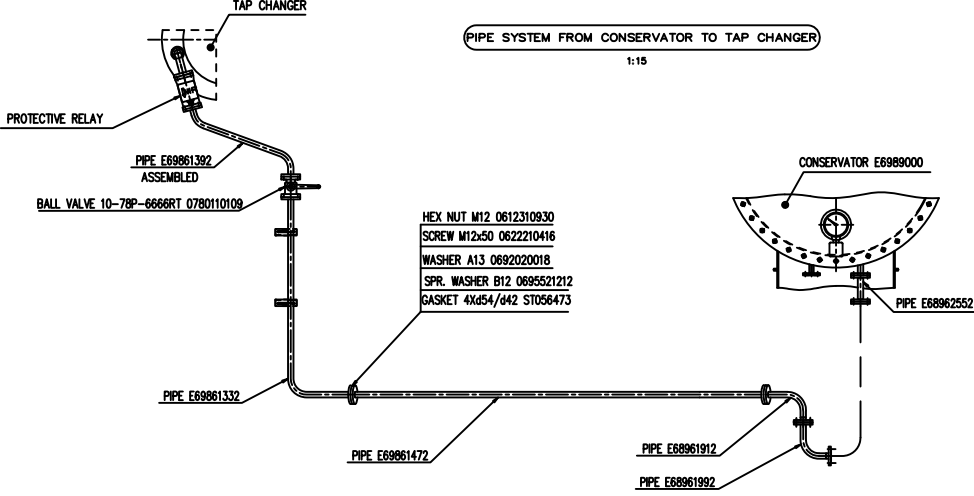
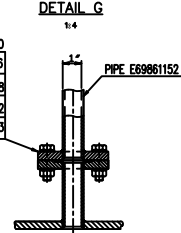
PIPE E69862212
PIPE E69862252
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SCREW M16x65 0622210469
WASHER A17 0692020020
SPRING WASHER A16 0691151016
GASKET 4X4114/498 E5138238



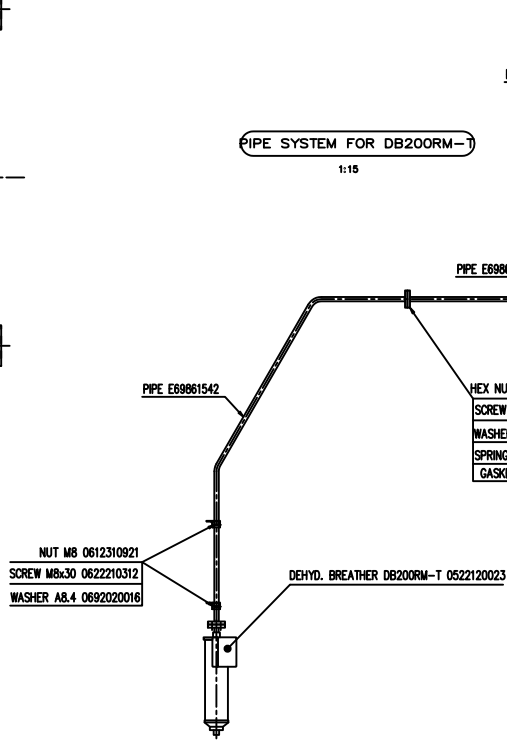
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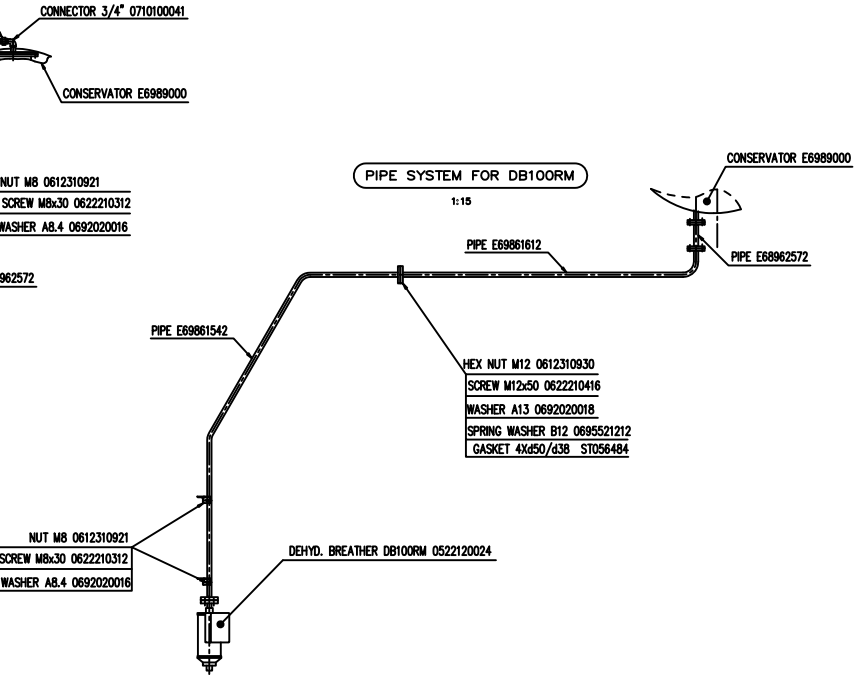
DETAIL G
1:4
HEX NUT M12 0612310930
SCREW M12x50 0622210416
WASHER A13 0692020018
SPR. WASHER B12 0695521212
GASKET 4X454/442 ST056473



PIPE SYSTEM FOR DB20ORM-T
1:15



PIPE SYSTEM FOR DB10ORM
1:15



DESIGNED	CHECKED	APPROVED	DATE	SIGNATURE	NAME	PAGE	1	TRANSFORMER 41.7MVA, 115.5/44kV PIPING ASSEMBLY	Format: A0
01.04.2009			02.04.2009						

vonRoll

TRANSFORMERS LTD

THREE PHASE TRANSFORMER

TYPE 13698 SERIAL NO. 13698/2¹ YEAR 2009 FREQUENCY 60 HZ

25/33.3/41.7 MVA CLASS: ONAN/ONAF/ONAF 115500Y/66689-44000Y/25403 volts

APPROXIMATE WEIGHTS:

CORE AND COILS	34000 Kg
TANK AND FITTINGS	17000 Kg
COOLER BANK	6650 Kg
TOTAL OIL 25520 litres	22970 Kg
TOTAL	79300 Kg
SHIPPING	49000 Kg

COOLING CLASS	TEMPERATURE RISE, °C	RATED POWER MVA	RATED CURRENT, A	
			HV	LV
ONAN	65	25	125.0	328.0
ONAF	65	33.3	166.5	436.9
ONAF	65	41.7	208.4	547.2

LTC Pos.	% IMPEDANCE AT 25 MVA
1	
17	
33	

WINDING INSULATION LEVELS ,kV

	FW/CW	SIL
HV LINE	550/605	456.5
LV LINE	250/275	—
HV NEUTRAL	550 / —	456.5
LV NEUTRAL	250 / —	—

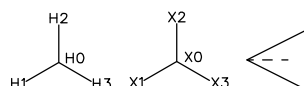
LOW VOLTAGE VARIATION

RATING MVA	LOW VOLTAGE V	CURRENT LV A	ON-LOAD TAP CHANGER		
			POS.	POS. OF REVERSING SWITCH	TAP SELECTOR CONTACTS
41.7	52800	456	33		17
	52250	461	32		16
	51700	466	31		15
	51150	471	30		14
	50600	476	29		13
	50050	481	28		12
	49500	486	27		11
	48950	492	26		10
	48400	497	25		9
	47850	503	24		8
	47300	509	23		7
	46750	515	22		6
	46200	521	21		5
	45650	527	20		4
	45100	534	19		3
	44550	540	18		2
	44000	547	17		1
41.2	43450	547	16		17
40.6	42900	547	15		16
40.1	42350	547	14		15
39.6	41800	547	13		14
39.1	41250	547	12		13
38.6	40700	547	11		12
38.0	40150	547	10		11
37.5	39600	547	9		10
37.0	39050	547	8		9
36.5	38500	547	7		8
36.0	37950	547	6		7
35.4	37400	547	5		6
34.9	36850	547	4		5
34.4	36300	547	3		4
33.9	35750	547	2		3
33.3	35200	547	1		2

BUSHING INSULATION LEVELS (LIL)

HV LINE	550 KV
LV LINE	250 KV
HV NEUTRAL	550 KV
LV NEUTRAL	250 KV

PHASOR DIAGRAM



MADE IN ISRAEL

CATALOG NO. 0299359805

dia3.5
4 HOLES

CUSTOMER : HYDRO ONE
HYDRO ONE BPO NUMBER 44897, RELEASE 7

FINISH	MATERIAL	WEIGHT	Scale:	TRANSFORMER 41.7MVA 115.5/44KV NAMEPLATE	Format:
DATE	SIGNATURE	NAME	PAGE: 1		A2
15.07.2008		Ovechkina	DESIGNED		M
15.07.2008		Yuhnovsky	CHECKED		
15.07.2008		A. Shor	APPROVED		
				DRAWING NO 13698-6501	

E	D	C	B	A
		22.12.2008	12.11.2008	
		Change N8032	Change N7985	
		Ovechkina Alla	Ovechkina Alla	