

Energy Conservation Cell and Activities.

- The company is highly focused on reduction of production cost.
- Senior level people continuously focus on cost reduction without compromising quality.
- People at all the levels are made aware about high energy cost and ideas are invited for energy conservation.
- For all new projects energy conservation measures are implemented from the beginning and best available technologies are incorporated during the design stage.
- Month wise annual energy budgets are prepared and same is compared on monthly v/v budgeted energy. Reasons for deviations are discussed at high level during monthly MIS Presentation.
- Area wise energy allocation is made during the budget and separately metered on day to day basis.
- Sophisticated metering for energy, refrigeration tonnage measurement, water measurement, steam measurement and compressed air quantity measurement are in place.
- Manager (Mechanical – Projects), Mr. N. R. Shah working with us since 1995 has obtained Energy Auditor Certifications from BEE in the year 2007 (Certificate NO. EA – 0873).

2004-05

ENERGY CONSERVATION MEASURE 2004-05

PROJECTS IMPLEMENTED DURING THE YEAR 2004-05

Rs. In Lacs.

Sr. No.	Project description	Achievement of energy savings per year basis					Total savings	Investment incurred on the project
		Electricity	Fuels*			Total (fuel) in Mkal		
		(Lakhs (kWh)	Coal (tonnes)	F.Oil (KL)	Gas (lakhs m 3)			
1	Installation of 20 KVA Bablec Unit in Street light LDB at Formulation L.T. Room	0.12					0.68	0.75
2	Installation of VFD on 20 HP Brine Process Cooling Water Pump with Panel at API	0.30					1.70	2.67
3	Introduction of 3 Nos. VFD on Brine Circulation Pump in Formulation Area.	0.29					1.64	2.50
4	Introduction of 1 No. 55 KW VFD on Cooling Water System for Brine, D. G. Set and Air Compression in Formulation Area.	0.84					4.76	6.00
5	Introduction of Heat Recovery Wheel in Air Handling System (in place of 100% Frsh Air Handling System)	0.18		23.72			3.47	6.32
6	Introduction of Condensate Recovery System in Process Heating	0.21		25.00			5.15	4.00
7	Introduction of 2 Nos. Thiresteor base APFC Control Panel at API Area.	-					4.20	4.00
8	Replacement of Conventional Tubelight Set with Asian make Tubelight. 200 Nos.	0.16					0.91	1.60
9	Replacement of Conventional Choke with Electronic Choke 400 Nos.	0.37					2.10	1.60
	Total	2.4737		48.72			24.62	29.44

Energy Saver in Lighting

20 KVA Capacity Energy Saver Unit for Lighting

The installation has enabled Energy Conservation of more than 20 %.

Investment : Rs. 0.75 Lakh

Saving : Rs. 0.68 Lakh



VFD on Processing Cooling Tower Pump in API Plant

02 Nos. VFDs are installed for 20 HP Process Cooling Tower Pumps.

By maintaining the header pressure of 2.5 kg./cm², speed of the pump is regulated.

Process Cooling Tower is used in various Reactor Jackets as well as in various Heat Exchangers. When process cooling water requirement is not there, manual valves are closed, which increases the header pressure. Header pressure is then maintained by reducing the speed of the pump through VFD.

Investment	:	Rs.	2.67 Lakh
Saving	:	Rs.	1.70 Lacs

VFD on Brine Circulation Pump in Formulation Utility

02 Nos. VFDs are installed for 25 HP Brine Circulation Pump.

By maintaining the header pressure of 2.5 kg./cm², speed of the pump is regulated.

Brine is used in various AHUs. AHUs are having Brine Control Valves and is controlled through BMS. When Brine Control Valves are regulated through BMS, header pressure increases, which in turn regulated by controlling the speed of the speed of the pump through VFD.

Investment	:	Rs.	2.50 Lakh
Saving	:	Rs.	1.64 Lacs

VFD on 55 KW Cooling Water Pump



523 m³/hr. – 40 meter Head capacity Cooling Water Pump having 55 KW rating is used for Brine Chiller, Air Compressors and D. G. Sets.

Pump provided with 55 KW rating VFD.

When all Brine Chillers, Air Compressors and D.G. Sets are not in operation, header pressure increases, which is regulated by maintaining speed of pump through VFD.

Investment	:	Rs.	6.00 Lakh
Saving	:	Rs.	4.76 Lakh

HEAT RECOVERY WHEELS IN AHU

Existing System

100% Fresh Air System

Room Temperature of 25 deg. C and the Humidity of 50% is maintained in the area.

25 deg. C and 50% Humid Air is thrown in to the atmosphere.

Implementation :

Introduction of Heat Recovery Wheels in the System

System recovers both sensible as well as latent heat

Exhaust Air is utilized for conditioning the Fresh Air.

65% Recovery is achieved with the implementation.

Investment : Rs. 6.32 Lakh

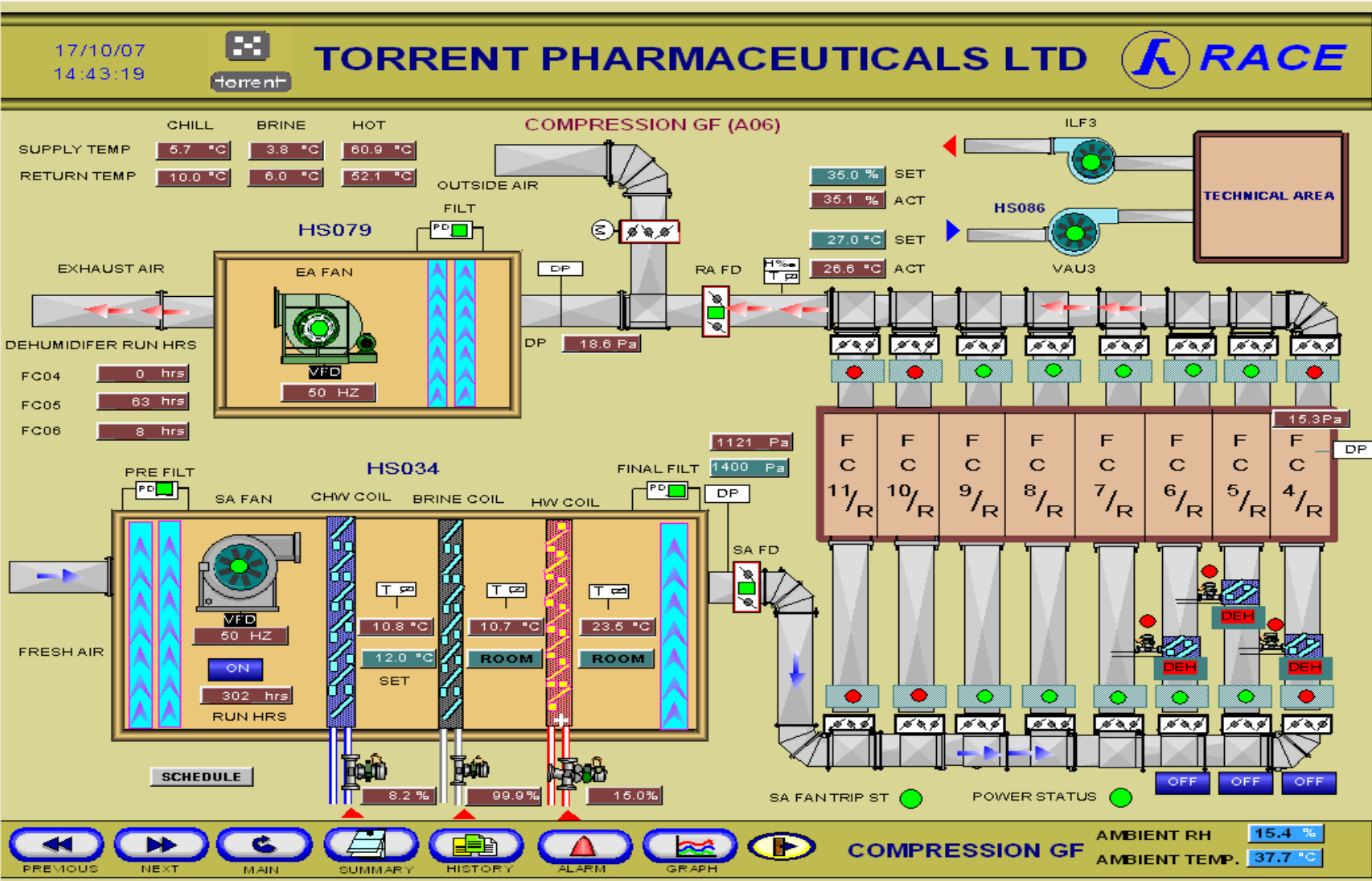
Saving : Rs. 3.47 Lakh

HEAT RECOVERY WHEELS IN AHU

Energy Saving of HRW Year 2004-05

Sr. No.	Area	CHW TR	Refrigeration load Without HRW	Refrigeration load With HRW	Saving	Annual Base Savings	Refrigeration load Without HRW on annual basis	
1	Hardshell	19	59719	20902	38817	38817.35	59719	
2	Small Batch	29	39441	13804	25637	30498.65	46921	
3	Sampling	6	6500	2275	4225	6282.9	9666	
			105660	36981	68679	75599		
	Total Energy Saving in Refrigeration TR @ 65%		68679				75599	
	Electricity used in KWH		16483				18144	
	Electricity cost per TR in Rs.Lakhs		0.93				1.03	
	Furnace oil used in KL		21.55				23.72	
	Furnace oil cost in Rs.Lakhs		2.22				2.44	
	Total Saving.in Rs.lakhs		3.15				3.47	

Without Heat Recovery



With Heat Recovery

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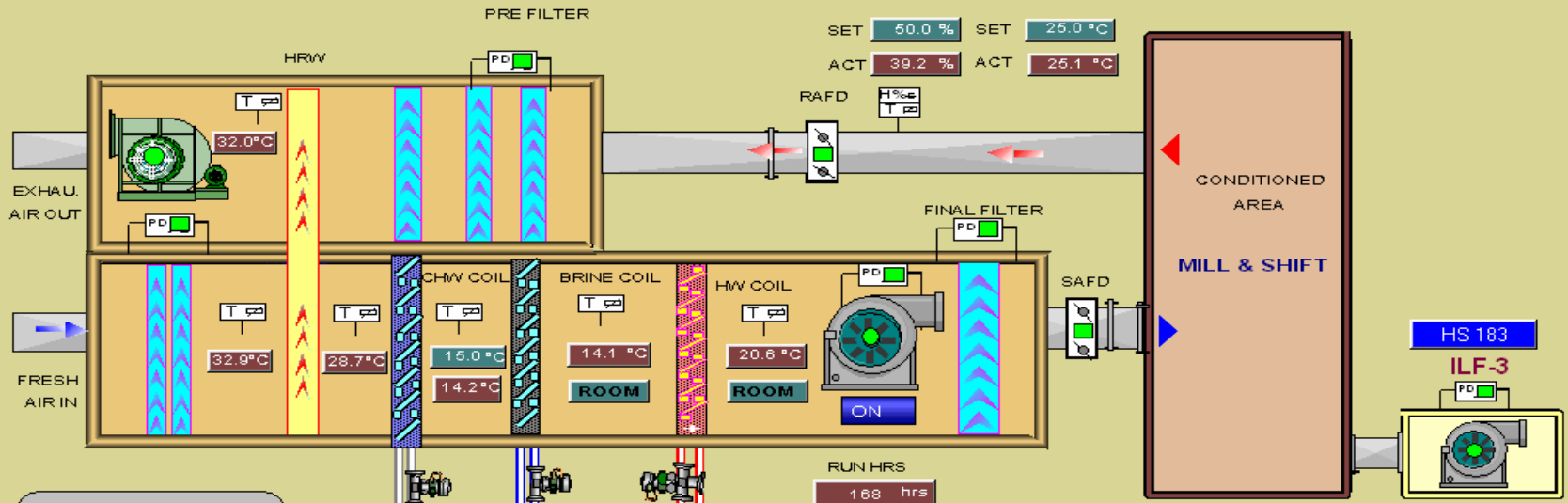
TORRENT PHARMACEUTICALS LTD



MILL & SHIFT

HS240

	CHILL	BRINE	HOT
SUPPLY TEMP	5.7 °C	3.8 °C	60.9 °C
RETURN TEMP	10.0 °C	6.0 °C	52.1 °C



SET	50.0 %	SET	25.0 °C
ACT	39.2 %	ACT	26.1 °C

- SA FAN TRIP ST ●
- EAU FAN TRIP ST ●
- POWER STATUS ●
- CNTR STATUS ●

COMMAND	COMMAND	COMMAND
3.6 %	5.9 %	12.6 %
FEEDBACK	FEEDBACK	FEEDBACK
21.3 %	6.0 %	6.0 %

RUN HRS
168 hrs

PREVIOUS
NEXT
MAIN
SUMMARY
HISTORY
ALARM
GRAPH
LOG IN

GRANULATION 1
 AMBIENT RH 15.4 %
 AMBIENT TEMP. 37.7 °C

Condensate Recovery

- Under the Effimax System project installed condensate recovery system.
- 02 No. Pressure Power Pumping System installed.
- Recovery from VAM also carried out.
- Recovered condensate of around 80 deg. C feed into the boiler feed water tank.

Investment : 4.00 Lakhs

Savings : 5.15 Lakhs

Condensate Recovery

Energy Saving of Condensate recovery system Year 2004-05

Sr. No.	Description	
1	Annual condensate recovery during the year in Ton	5000
2	Cost of condensate per ton	78
3	Cost of RO water per ton	25
4	Total cost of condensate per ton	103
Annual Saving in Rs.		5.15
Investment in Rs.lakhs		4.00

2005-06

ENERGY CONSERVATION MEASURE 2005-06

PROJECTS IMPLEMENTED DURING THE YEAR 2005-06

Rs. In Lacs.

Sr. No.	Project description	Achievement of energy savings per year basis					Total savings	Investment incurred on the project
		Electricity	Fuels*			Total (fuel) in Mkcal)		
		(Lakhs (kWh)	Coal (tonnes)	F.Oil (KL)	Gas (lakhs m 3)			
1	Installation of 81 KVA Bablec Unit in various places, like Warehouse (RM / PM and DP Store) and Canteen Lighting LDB (22.5 KVA + 22.5 KVA + 36 KVA)	0.30					1.65	3.66
2	Installation of VFD on AHU at Warehouse in Formulation Area RM / PM / BSR-1 and BSR-2 / DP-1 and DP2	1.53					8.40	6.10
3	Introduction of Heat Recovery Wheel in Air Handling System (in place of 100% Frsh Air Handling System)	0.35		46.28			9.30	11.42
4	Introduction of Effimax System in 10.0 Ton Boiler (Online Montiroing and Controlling of % Oxygen)			62.50			8.10	4.00
5	Introduction of FO Heating System by Steam in 6.0 Tone Boiler (in place of Electric Heating)	0.42					0.50	0.80
6	Construction of 5 nos Recharge borewells and connecting pipings for Rain water harvesting having the potential of recharging 62000 m3 water in the season.						Corporate Social Reponsibil ity.	30.00
7	Construction of 2 nos-2.5 lakh ltr capacity each drinking water storage tank from the roof top harvested rain water.						Corporate Social Reponsibil ity.	20.00
8	Operation of 375 TR Capacity Trane chiller in manual mode inplace of Auto mode resulted in stoppage of machine for more hours and saved direct energy						12.00	
Total		2.60		108.78			39.94	75.98

Energy Saver in Lighting

80 KVA Capacity Energy Saver Unit for Lighting

The installation has enabled Energy Conservation of 18.5 %.

Investment : Rs. 3.66 Lakh

Saving : Rs. 1.65 Lakh

BEBLEC UNIT IN LIGHTING

Sr No.	Description	Capacity	KWH		Saving(kwh)	% SAV ING
			Without P-20	With P-20		
1	DP Store Lighting	22.5 KVA	8.54	6.87	1.67	19.56
2	RM/PM Store Lighting	22.5 KVA	5.08	4.16	0.92	18.11
3	Canteen/Project Lighting	36 KVA	17.55	14.3	3.25	18.52
4.	Total Saving per hour				5.84	

VFD in Warehouses.

Installation of Variable Frequency Drive (VFD) in Warehouses (RM / PM / BSR / DP)

Based on the Return Temperature of Air Handling Unit, speed of the VFD is regulated.

During night hours when personnel movement is least in the areas, it is possible to maintain room temperature of 25 deg. C with VFD speed as low as 25 Hz.

The Criteria of air change is not of much importance in above areas.

In Warehouse HVAC System gaining 40% Energy Saving

- Investment : Rs. 6.10 Lakh
- Saving : Rs. 8.40 Lakh



VFD IN AHU OF WAREHOUSES

VFD SAVING

Sr No.	Description	Capacity	KWH		Saving(kwh)	% SAVING
			Without VFD	With VFD		
1	RM store AHU	7.5 HP	3.74	1.95	1.79	47.83
2	PM store AHU	10 HP	5.98	3.51	2.47	41.30
3	BSR-I store AHU	10 HP	5.98	3.51	2.47	41.30
4	BSR-II store AHU	7.5 HP	3.74	1.95	1.79	47.83
5	DP-1 store AHU	10 HP	5.98	3.51	2.47	41.30
6	DP-II store AHU	25 HP	14.63	8.13	6.5	44.44
	Total Saving / hr.				17.50	

HEAT RECOVERY WHEELS IN AHU

Existing System

100% Fresh Air System

Room Temperature of 25 deg. C and the Humidity of 50% is maintained in the area.

25 deg. C and 50% Humid Air is thrown in to the atmosphere.

Implementation :

Introduction of Heat Recovery Wheels in the System

System recovers both sensible as well as latent heat

Exhaust Air is utilized for conditioning the Fresh Air.

65% Recovery is achieved with the implementation.

Investment : Rs. 11.42 Lakh

Saving : Rs. 9.30 Lacs

SAVINGS FROM HEAT RECOVERY WHEEL

Energy Saving of HRW

Year 2005-06

Sr. No.	Area	CHW TR	Refrigeration load Without HRW	Refrigeration load With HRW	Saving	Annual Base Savings	Refrigeration load Without HRW on annual basis
1	Packing	28	59719	20902	38817	50205.35	77239
2	Packing-CVC	16	27750	9713	18038	18037.5	27750
3	Coating	22	21917	7671	14246	79246.05	121917
			109386	38285	71101	147489	226906
Total Energy Saving in Refrigeration TR @ 65%			71101			147489	
Electricity used in KWH			17064			35397	
Electricity cost per TR in Rs.Lakhs			0.94			1.94	
Furnace oil used in KL			22.31			46.279	
Furnace oil cost in Rs.Lakhs			3.55			7.35	
Total Saving.in Rs.lakhs			4.48			9.30	

O2 sensor and VFD in Boiler

Installation of O2 Sensor in Boiler Exhaust

VFD installed in Combustion Air Blower.

O2 percentage controlled at 3%. This is achieved by controlling the speed of combustion air blower.

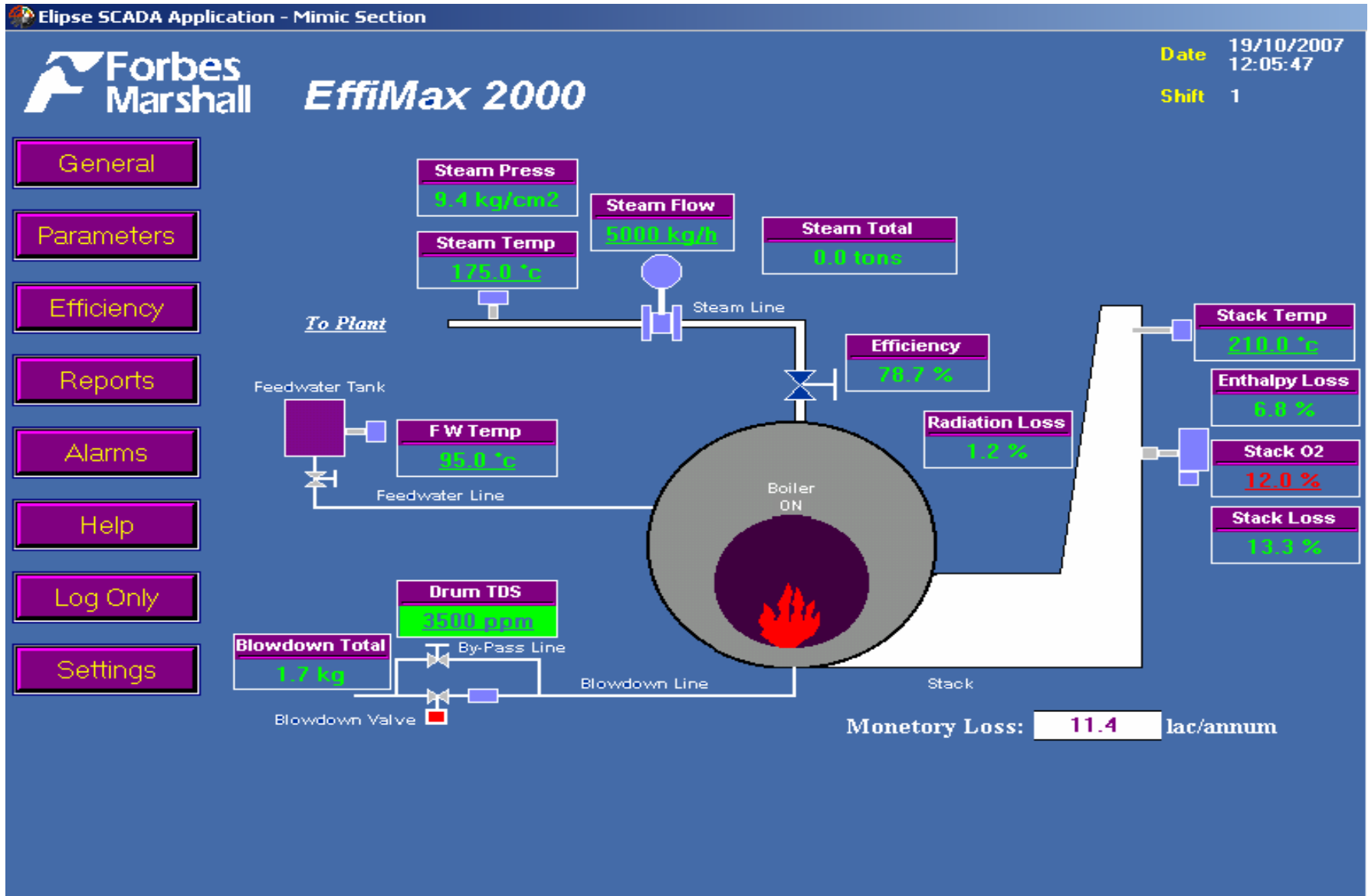
Investment	:	Rs. 4.00 Lakh
Saving	:	Rs. 8.10 Lakh.

O2 sensor and VFD in Boiler

Energy Saving of Effimax system Year 2005-06

Sr. No.	Area	Before Effimax installation	After Effimax installation	Saving
1	Average Oxygen% in Flue Gas	5.15	3	
2	Boiler Efficiency on GCV	82.14	84.19	
2	Average Fuel Consumption per day in KL	6.84	6.67	0.170
Per day Saving in Rs.		2701.3		
Yearly Saving in Rs.		8.10		
Furnace oil in KL		51.00		
Investment in Rs.lakhs		4.00		
Payback in years		0.49		

O2 sensor and VFD in Boiler



Replacement of Electrical Heater with Steam Heater

Existing System

Usage of electrical heater for preheating FO before feeding to Boiler Furnace.

Implementation :

Low pressure steam is used for preheating FO in place of electrical heater.

Investment : Rs. 0.80 Lakh

Saving : Rs. 0.50 Lakh

Replacement of Electrical Heater with Steam Heater

Energy Saving of FO heating in 6 TON Boiler Year 2005-06

Sr. No.	Area	Electric heating inKWH	Steam Heating in kg	Saving
1	In 6.0 ton boiler FO Heating	243	406	
	Rate	5.49	1.23	
2	Per day	1334.07	499.38	835
Per day Saving in Rs.		835		
Yearly Saving (Rs. In Lacs)		0.50		
Eq. Electricity Energy (in KWH)		9122		
Investment in Rs.lakhs		0.8		
Payback		1.60		

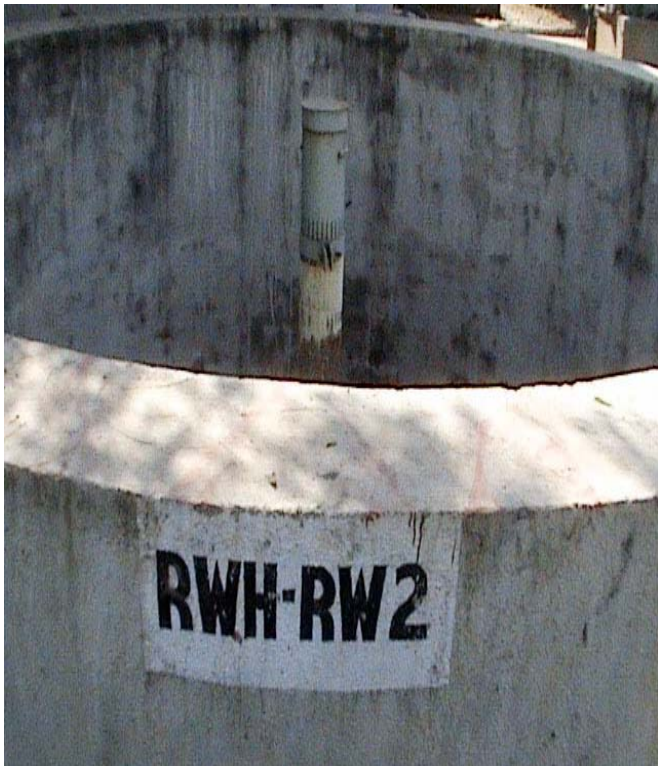
Recharge Borewells

Recharge Bore Wells

The unit has carried out project of 05 Nos. Recharge Borewell with piping, envisaging recharge of 62000 m³ of Rain Water @ 700 mm of Rain Fall.

Investment : Rs. 30.0 Lakh

Saving : 62000 M³ Rain Water
Recharge per year
equivalent to water
consumption of 100 days



2006-07

ENERGY CONSERVATION MEASURE 2006-07

PROJECTS IMPLEMENTED DURING THE YEAR 2006-07

Rs. In Lacs.

Sr. No.	Project description	Achievement of energy savings per year basis					Total savings	Investment incurred on the project
		Electricity	Fuels*			Total (fuel) in Mkal		
		(Lakhs (kWh)	Coal (tonnes)	F.Oil (KL)	Gas (lakhs m 3)			
1	Replacemet of 2 nos Existing steam operated VAM with electrical driven Cenrifugal Chillers			450.67			90.00	176.00
2	Replacement of 3 nos 60 TR Capacity each Brine reciprocating chillers by 01 no 180 TR Capacity Brine Screw chiller.						8.76	29.00
3	Introducing Heat Recovery Wheel in Air Handling System (In place of 100% Fresh Air Air Handling System)	0.15		63.95			13.59	10.82
4	Installation of VFD on Secondary Pump of Trane Chiller in API Plant	1.02					5.56	3.30
5	Installation of 36 KVA Bablac Unit in Street Light in API Area.	0.11					0.58	1.13
6	Replacement of Existing Oil Cool Transformer with Dry Type 1250 KVA Transformer in Formulation Plant 02 Nos.	0.75					4.00	29.00
7	Introducing FO Heating System by Steam in Day Tak Boiler House (In place of electric heating)	0.23					1.25	0.50
8	Replacement of 5 Nos. Vane Type Centrifugal Blower with Turbine Type Blower in Vacuum System	0.25					1.30	2.00
	Total	2.51		514.62			125.04	251.75

Replacement of Steam Operated VAM with Electrical Drive Centri Chillers.

Centrifugal Chiller in place of existing Vapour Absorption Machine (VAM)



02 Nos. Electrical Driven Centri Chillers has been installed in place of Steam operated Vapour Absorption Machine, resulted in savings of Rs. 11.5 Lakhs within short span of 2 months. We anticipate saving of Rs.90 lakhs on an annual basis. R134 A is used as a refrigerant in the Centri Chiller, which is Environment friendly.

- Investment : Rs. 176 Lakh
- Saving : Rs. 90 Lakh

Replacement of Steam Operated VAM with Electrical Drive Centri Chillers.

	Jan.-07	Feb.-07	Mar.-07	Total
Description				
FO cost per liter in Rs.	16.88	16.95	18.34	17.39
Power cost per Kwh in Rs.	5.62	5.51	5.64	5.59
Steam cost Per Kg in Rs.	1.27	1.38	1.41	1.35
Refrigeration cost Per TR in Rs.				
With VAM	6.75	6.32	7.49	6.85
With Centrifugal Chiller	5.09	4.62	4.73	4.81
Saving Per TR in Rs.	1.66	1.70	2.76	2.04
Bugeted Refrigeration TR	229816	228166	535138	993120
Total Actual Refrigeration TR	262304	238432	310776	811512
Refrigeration TR generated through VAM	225254	9237	51231	285722
Refrigeration TR generated through Centrifugal Chiller	37050	229195	259545	525790
Refrigeration TR generated through Centrifugal Chiller eq.Steam used	104.481	721.964	975.889	1802
Refrigeration TR generated through Centrifugal Chiller eq.Furnace oil used	7.44	54.62	71.06	133
Steam used in VAM	634.558	29.151	192.785	856.494
Power used in Centrifugal chiller	30354	171931	112525	314810
Av. TR per Day.	8461	8515	10025	9001
Monthly Savings in Rs.	0.615	3.896	7.163	11.67

Replacement of Reciprocating Brine Chillers with Screw Brine Chiller

3 Nos. 60 TR capacity each Reciprocating Brine Chiller replaced by 1 No. 180 TR capacity Screw Chiller.

3 Nos. 60 TR capacity Brine Chillers were installed in 1990 and was consuming more power per TR.

Investment	:	Rs.	29.00 Lakh
Saving	:	Rs.	8.75 Lakh

Replacement of Reciprocating Brine Chillers with Screw Brine Chiller

Energy Saving of Chilled Brine system Year 2006-07

Sr.No.	Area	Raciprocating Chiller	Screw Chiller
1	Power consumption in KWH Per TR	1.40	1.25
2	TR Generated till date	24480	6120
	Saving in KWH (Lacs)		0.0092
	Saving in Rs.(Lacs.)		0.049
3	Last six month TR Generated	145270	509195
	Saving in KWH (Lacs)		0.76
	Saving in Rs.(Lacs.)		4.06
4	Annual TR Generated	210716.5	1098213.5
	Saving in KWH (Lacs)		1.65
	Saving in Rs.(Lacs.)		8.75
Annual Saving in Rs.(Lacs)			8.75
Annual Saving in KWH (Lacs)			1.65
Investment in Rs.lakhs			29.00

HEAT RECOVERY WHEELS IN AHU

Existing System

100% Fresh Air System

Room Temperature of 25 deg. C and the Humidity of 50% is maintained in the area.

25 deg. C and 50% Humid Air is thrown in to the atmosphere.

Implementation :

Introduction of Heat Recovery Wheels in the System

System recovers both sensible as well as latent heat

Exhaust Air is utilized for conditioning the Fresh Air.

65% Recovery is achieved with the implementation.

Investment : Rs. 10.82 Lakh

Saving : Rs. 13.59 Lakh

SAVINGS FROM HEAT RECOVERY WHEEL

Energy Saving of HRW

Year 2006-07

Sr. No.	Area	CHW TR	Refrigeration load Without HRW	Refrigeration load With HRW	Saving	Annual Base Savings	Refrigeration load Without HRW on annual basis	
1	Granulation-I	40	8171	2860	5311	40740.7	62678	
2	Dispensing	25	1981	693	1288	23788.05	36597	
			10152	3553	6599	64528.75	99275	
Total Energy Saving in Refrigeration TR @ 65%			6599				64529	
Electricity used in KWH			1584				15487	
Electricity cost per TR in Rs.Lakhs			0.084				0.822	
Furnace oil used in KL			6.54				63.95	
Furnace oil cost in Rs.Lakhs			1.306				12.772	
Total Saving.in Rs.lakhs			1.390				13.594	

Installation of VFD on Secondary Pump of Trane Chiller

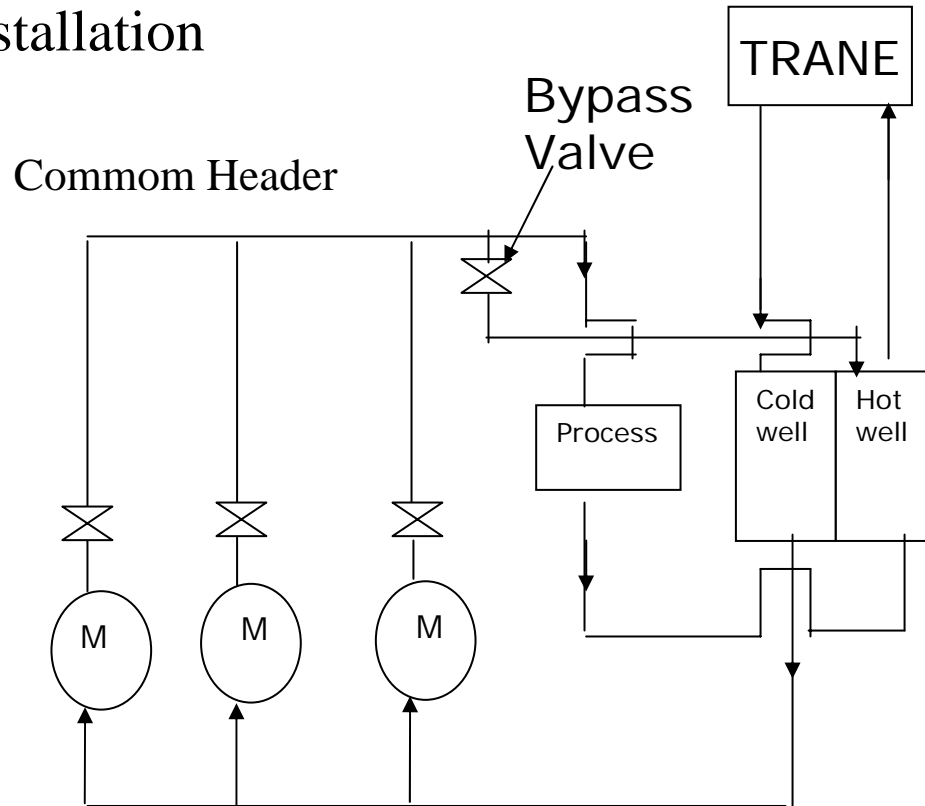
- 02 Nos. VFD provided on 25 HP capacity Secondary Chiller Water Circulation Pump of Trane Chiller.
- By controlling constant header pressure, speed of the pumps regulated.
- As BMS is installed for all AHUs, it is possible to get the advantage of VFD on Secondary Pumping System.

Investment : Rs. 3.30 Lakh

Saving : Rs. 5.56 Lakh

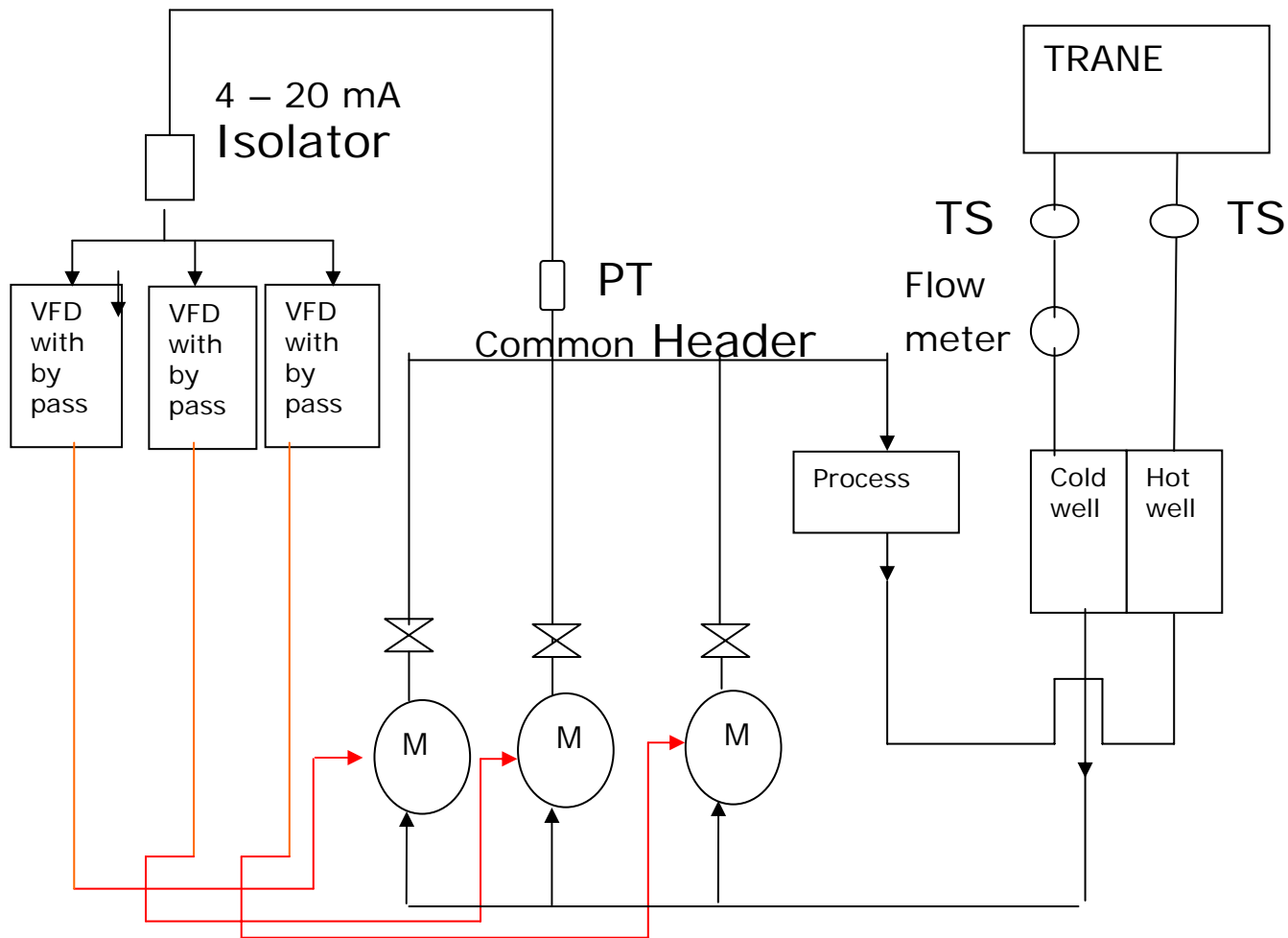
VFD IN SECONDARY PUMP OF SCREW CHILLER

Before Installation



VFD IN SECONDARY PUMP OF SCREW CHILLER

- Installed system



Energy Saver Unit in Lighting

36 KVA Capacity Energy Saver Unit for Lighting

The installation has enabled Energy Conservation of 20 %.

Investment : Rs. 1.13 Lakh

Saving : Rs. 0.59 Lakh

Replacement of Oil Type Transformer with Dry Type Transformer



- **Existing System**
- 02 Nos. 1250 KVA each oil immersed transformers were in use.
- **Implementation**
- Existing 02 Nos. oil immersed transformers replaced with 02 No. Dry Type Transformers having low loss.

Investment : Rs. 29.00 Lakh

Saving : Rs. 4.00 Lakh

Replacement of Oil Type Transformer with Dry Type Transformer

- **Saving of DRY Type Transformer over OIL Type Transformer**

Decscription	Dry type	Oil type
Cost in Rs.	1450000	940000
Full load losses in KW	11.3	18
Losses in KW @ 80% of KVA	7.23	11.52
Difference of losses in KW/hr	4.29	
Saving in Rsin lakh. /year	2.00	

Steam Heating in place of Electrical Heating in FO Day Tank

Existing System

Usage of electrical heater for heating FO before feeding to Boiler Fuel Pump.

Implementation :

Low pressure steam is used for heating FO in place of electrical heater.

Investment	:	Rs.	0.50 Lakh
Saving	:	Rs.	1.25 Lakh

Energy Saving of FO heating in FO service Tank Year 2006-07

Sr. No.	Area	Electric heating inKWH	Steam Heating in kg	Saving
1	In service tank FO Heating	121	203	
	Rate	5.49	1.51	
2	Per day in Rs.	664.29	306.53	358
	Per day Saving in Rs.	358		
	3 months Saving in Rs.	32198		
	Eq. Electricity Energy	5865		
	Year Saving in KWH.	23460		
	Year Saving in Rs.	1.29		
	Investment in Rs.lakhs	0.5		

Modification in Vacuum System

- The dust laden air is introduced into the bag filter through the inlet nozzle and sucked through the filter bag. Dust is retained on bag surface and clean air vented out. The dust cake built up on the filter bags, is dislodged by reversal air jet at predetermined intervals controlled by the sequence timer.
- The reversal air jet cleaning system controls the pressure drop across the bag filter within specified limits.

COMPARISION

SYSTEM	EXISTING SYSTEM	PROPOSED
• TYPE	VANE TYPE CENTRIFUGAL	TURBINE TYPE POSITIVE DISPLACEMENT
• DIMENSION	800 X 800 X 1100 MM	450 X 405 X 605 MM
• MOC		
HOUSING	MS	CAST ALUMINIUM
IMPELLER	ALUMINIUM	CAST ALUMINIUM
• CAPACITY	264 CMH	400 CMH
• MOTOR	7.5 HP, 2800 RPM	5.0 HP, 2800 RPM
• CONNECTED POWER	5.5 KW	3.7 KW
• NOISE	HIGHER THAN NORMAL	NORMAL
• MAINT- ENANCE TIME	IMPELLER & MOTOR PROBLEM YEARLY ONCE	BOTH RUN WITHOUT PROBLEM SINCE LONG

	EXISTING SYSTEM	PROPOSED SYSTEM
• POWER CONSUMPTION	CONNECTED KW X L.F. 5.5 X 0.9 = 4.95	CONNECTED KW X L.F. 3.7 X 0.9 = 3.33
• OPERATING HOURS PER DAY	10	10
• TOTAL HOURS	10 X 300 = 3000 HOURS	10 X 300 = 3000 HOURS
• UNIT COST	Rs.5.45	Rs.5.45
• TOTAL COST PER YEAR	4.95 x 3000 x 5.31 = Rs.78853/-	3.33 x 3000 x 5.31 = Rs.53046/-
• NET SAVING PER YEAR EACH UNIT		RS.25807/-
• TOTAL SAVINGS (05 UNIT)		Rs.1,29,035/-

DESIGN FEATURES

- Special turbine type positive displacement blower
- Impeller directly mounted on motor shaft
- Dynamically balanced impeller
- Silence at inlet and outlet
- Vibration dampening pads

ADVANTAGES OVER EXISTING SYSTEM

- 33% POWER SAVING
- ZERO MAINTENANCE IN COMPARE TO OLD SYSTEM
- VERY LOW NOISE IN COMPARE TO OLD SYSTEM

2007-08

Investment for 2007-08



- 500 m³ / day capacity Treated RO.
- MEE for Pollution Control.
- Solar Pond for Pollution Control as well as Energy Conservation.
- Heat Recovery Wheels in 100% Fresh Air Handling Units.
- Investment : Rs.450.00 Lakh