



SUGAR PLANTS  
& DISTILLERIES

180<sup>+</sup>  
Installations

## Falling Film Evaporators (FFE)



*FFE Pipraich, India*



*FFE, Peru*



*Centralised Control Room for a Sugar Plant*



ENGINEERING FOR EXCELLENCE

**Novel  
Distributor**

**Easy  
Maintenance**

**High  
Heat Transfer**

## Advantages

**Range: From 150m<sup>2</sup> to 7500m<sup>2</sup>**

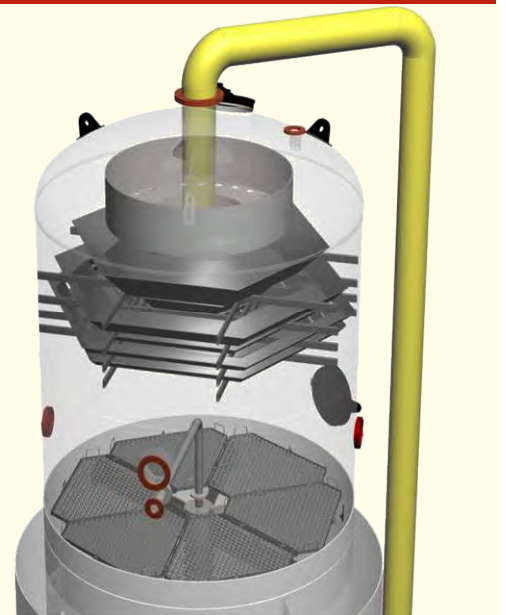
- No Boiling Point Elevation
- Lower  $\Delta T$
- Low Residence Time
- Less Colour Formation
- Less Inversion Losses
- High OHTC



4 Nos. 6500 m<sup>2</sup> HSA FFE at Jawahar SSSK Ltd., Maharashtra, India

## Salient Features

- Self-supporting Structure
- Maintenance-friendly 5 Stage Cascade Type Inbuilt Juice Distributor
- Top Caps on each Tube
- Design Vetting rate 20-22 l/cm-h
- Sufficient headroom over top Tube Sheet for Easy Maintenance
- Fully Automated Operation
- Mild Steel or Stainless Steel Construction



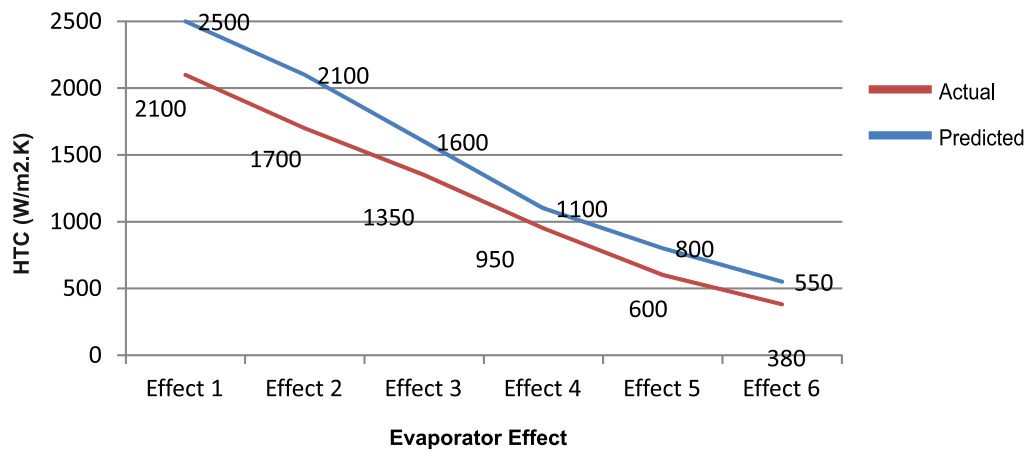
**175+ Isgec FFE Installations all over the World**



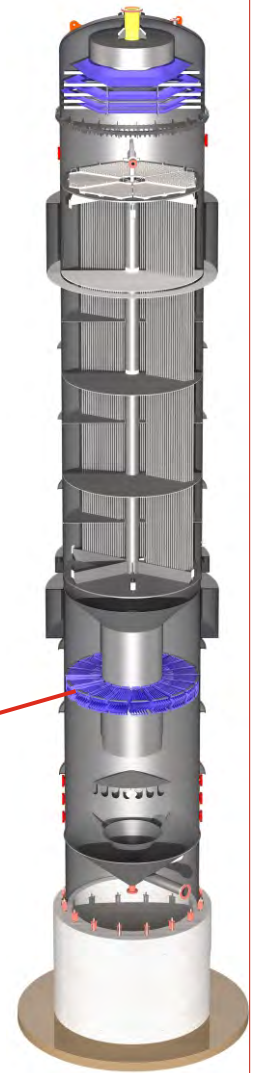


2500 TPD Standalone Refinery - Triple Effect Mill Concentrator Falling Film Evaporator at Durrah Advanced Development Company, Yanbu Port, Saudi Arabia

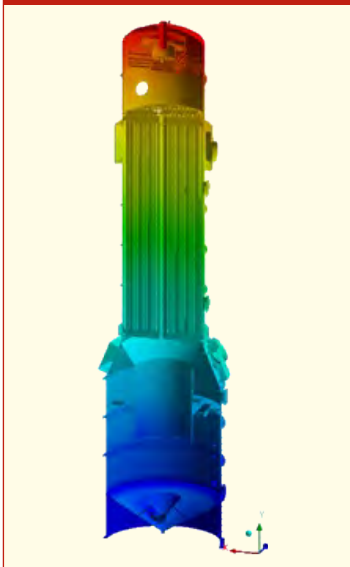
### Heat transfer coefficient in Hexuple Effect evaporator set (W/m<sup>2</sup>.K)



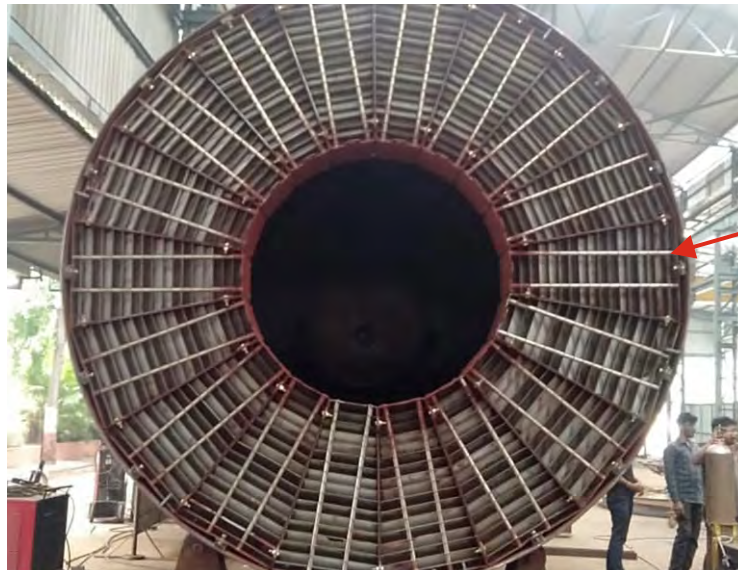
### NEW DESIGN



### FEA Analysis of FFE



Certification of Registration of Design from the India Patent Office.  
Special Design of Entrainment Catcher in Falling Film Evaporators  
- Annular Polybaffle for Evaporators in Sugar Mills



# Isgec FFE Installations (180+ Nos)

Heating Surface Area (m <sup>2</sup> )	No. of FFE Installed	Sugar Plant Name	
3500	4	Agroaurora S.A.C	Peru
3500	4	Agrolmos	Peru
3340	10	White Nile Sugar	Sudan
2600	1	Savannah Sugar, (Dangote)	Nigeria
1500	2	Durrah Sugar Refinery	Saudi Arabia
1200	2	Agrolmos, S.A.	Peru
1200	5	White Nile Sugar	Sudan
800	2	Agrolmos S.A.	Peru
800	1	Durrah Sugar Refinery	Saudi Arabia
350	2	Ingenio Tala Refinery	Mexico
7500	1	Y. M. Krishna SSK Ltd.,	India
6500	1	Y. M. Krishna SSK Ltd.,	India
6500	3	Jawahar SSK, Hupari	India
6000	3	Dalmia, Bharat Sugar, Jawaharpur	India
6000	2	Jawahar SSK, Hupari	India
5700	6	KPR Sugar, Karnataka	India
5000	9	DCM Shriram Ltd., Ajbapur	India
5000	8	Bindal Papers Mills Ltd.	India
5000	5	Shri Dutt India Pvt. Ltd.	India
5000	2	Swaraj India Agro Ltd., Maharashtra	India
5000	2	KPR Sugar, Karnataka	India
5000	1	Narmada Sugar	India
5000	1	Rana Sugars Ltd.	India
4700	2	Shahukagal SSK	India
4500	5	Triveni Engineering & Industries Ltd., Deoband	India
4500	1	Daund Sugar	India
4000	4	Ajinkyatara SSK, Satara	India
4000	1	Venkateskripa Sugar Mills Ltd., Maharashtra	India
3600	4	Uttar Pradesh Cooperative Sugar, Munderwa	India
3600	4	Uttar Pradesh Cooperative Sugar, Pipraich	India
3500	4	Twenty One Sugar	India
3500	4	Belgaum Sugars Pvt. Ltd.	India
3500	2	Uttar Pradesh Cooperative Sugar, Pipraich	India
3500	6	DSCL Sugar, Hariawan	India
3500	2	Uttar Pradesh Cooperative Sugar, Munderwa	India
3500	2	Jaywant Sugars Ltd., Karad	India
3300	1	Saraswati Sugar Mills Ltd., Yamunanagar	India
3000	4	Prasad Sugar & Allied Product Ltd., Maharashtra	India
3000	4	KPR Sugar Mill Limited	India
3000	2	Swaraj India Agro	India
3000	1	Sar Senapati Ghorpade Sugar	India
3000	5	Dalmia Bharat Sugar, Nigohi	India
3000	4	Haryana Cooperative Sugar Ltd., Karnal	India
2800	4	Panchganga Sugar and Power Pvt. Ltd.	India
2500	5	Panchganga Sugar and Power Pvt. Ltd.	India
2500	9	Shiv Shakti Sugars Ltd., Belgaum, Karnataka	India
2500	2	Twenty One Sugar	India
2500	1	Uttar Pradesh Cooperative Sugar, Mohuiddinpur	India
2300	4	Belgaum Sugar	India
2300	3	Khatvmaan Agro Industries	India
2000	2	KPR Sugar, Karnataka	India
2000	2	Bindal Paper Mills Ltd.	India
2000	2	Birajdaar Aayan Mills	India
2000	1	Baanganga	India
1200	1	Shahukagal SSK	India
600	2	Twenty One Sugar	India
500	2	DSCL Sugar, Hariawan	India
300	3	Haryana Cooperative Sugar Ltd., Karnal	India

## OTHER PRODUCTS

EPC Projects • Bagasse & Biomass Fired Boilers • Slop / Vinasse Fired Boilers • Pulverised Coal Fired Boilers • Circulating Fluidised Bed Combustion Boilers  
Atmospheric Fluidised Bed Combustion Boilers • Oil & Gas Fired Boilers • Waste to Energy Boilers • Waste Heat Recovery Boilers • Air Pollution Control Equipment • Deaerators • Spares

Process Equipment • Presses (Mechanical & Hydraulic) • Iron Castings (Iron & Steel) • Contract Manufacturing



**ISGEC HEAVY ENGINEERING LTD.**

A-4, Sector 24, Noida - 201 301 (U.P.) India

Tel.: +91-120-408 50 01 / 02

E-mail: [exports@isgec.co.in](mailto:exports@isgec.co.in), [xydsales@isgec.co.in](mailto:xydsales@isgec.co.in)

[www.isgec.com](http://www.isgec.com)