‘Yule’ Centrifugal fan

MODEL CAPACITY :

- **FLOW RATE FROM 2000 M^3/Hr TO 30,00,000 M^3/Hr**
- **PRESSURE UPTO 4900 mm WG**
- **TEMPERATURE UPTO 450 DEG.C (CONTINUOUS)**
- **SPEED UPTO 3000 RPM**
- **POWER UPTO 6 MW FOR SINGLE FAN**

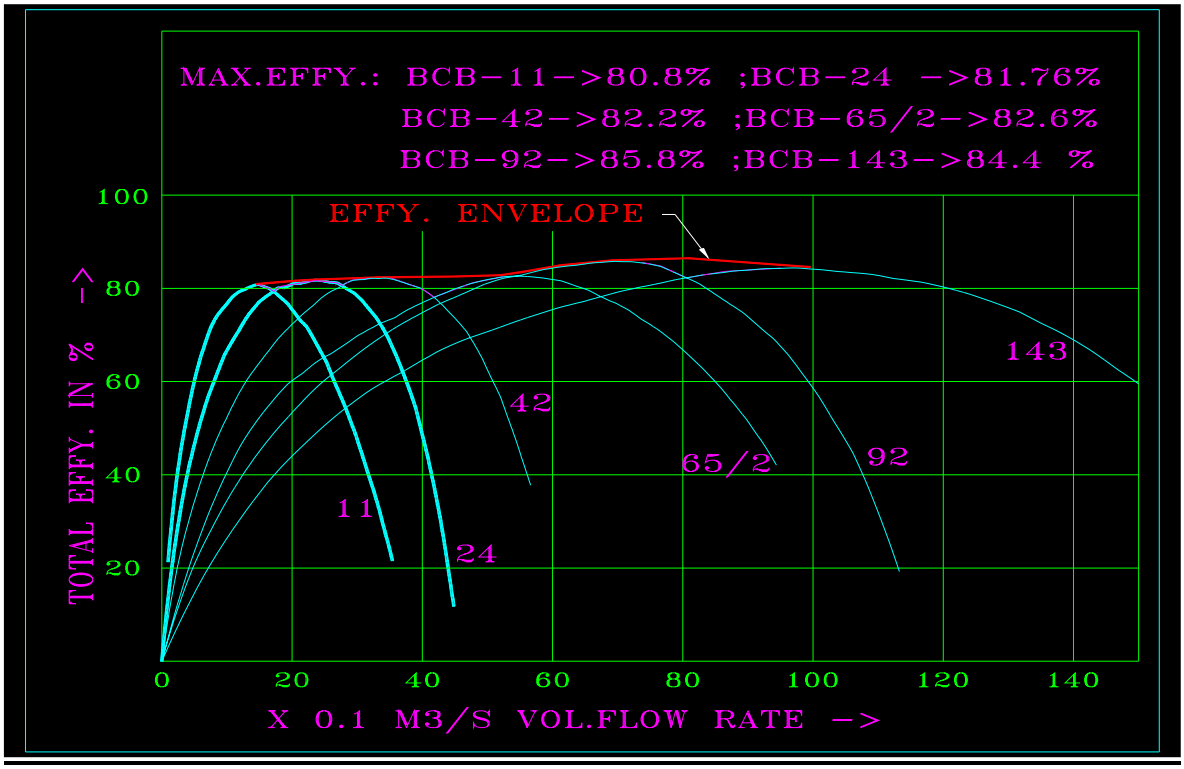
SPECIALITY:

- **HIGH EFFICIENCY**
- **GUARANTEED PERFORMANCE**
- **SOUND MECHANICAL RUNNING, LOW NOISE**
- **QUICK DELIVERY**
- **ONE YEAR ON-SITE WARRANTY (excl. wear liners)**
- **VERY RELIABLE SERVICE BACK-UP BY REAL EXPERTS IN THE FIELD**

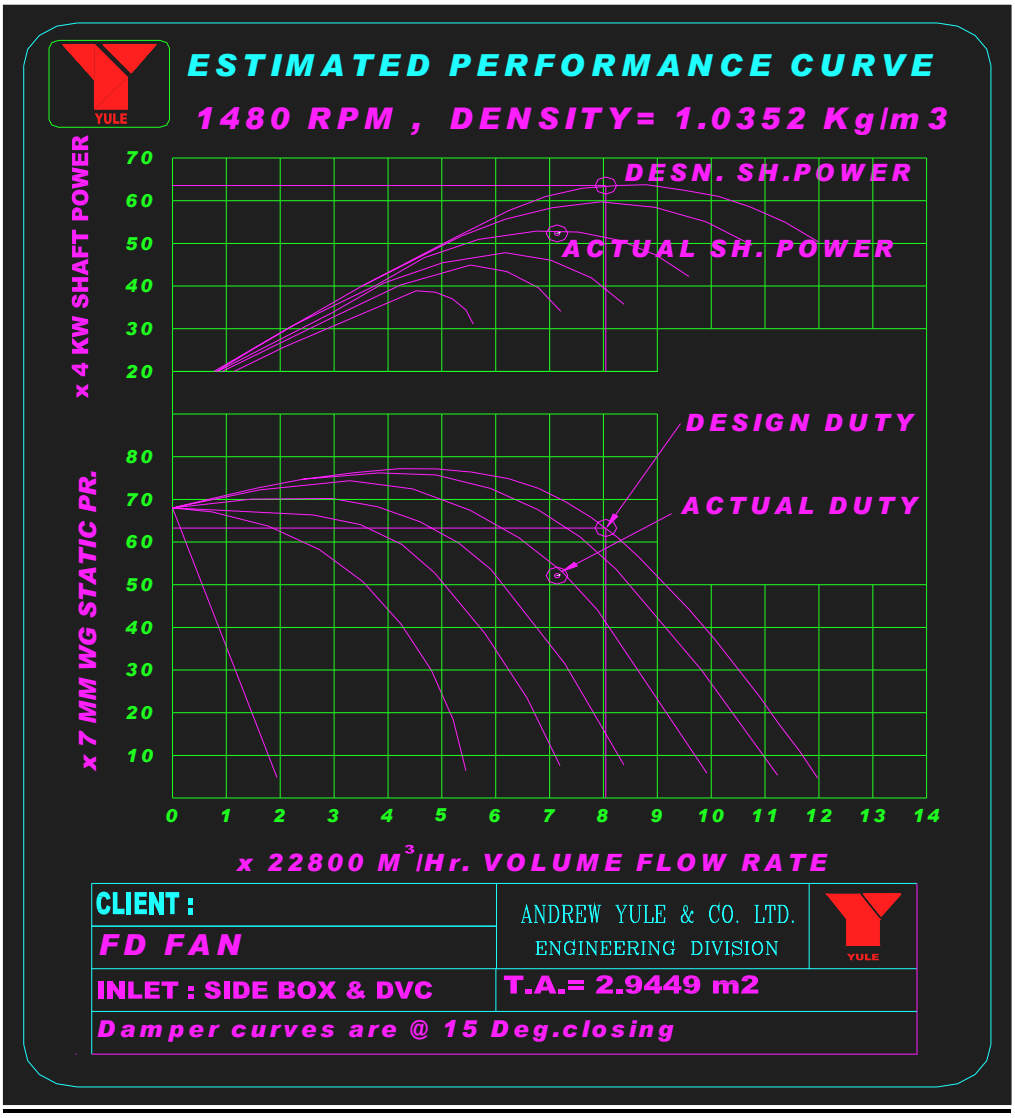
FAN MODEL SELECTION :

- **BEST EFFICIENCY MODEL SELECTED BY A SPECIAL SOFTWARE PACKAGE**
- **ESTIMATED PERFORMANCE CURVE GENERATED.**
- **FAN DESIGN (IMPELLER, SHAFT –> MATL, PLATE THK, WT., WK^2 etc.) DONE BY COMPUTER AIDED DESIGN (3D)**
- **BEARING, COUPLING SELECTION, DAMPER TORQUE etc. ALSO DONE BY Auto-CAD.**
- **SPEED-TORQUE CURVE GENERATED- FOR MOTOR SELECTION BY MOTOR MANUFACTURER.**

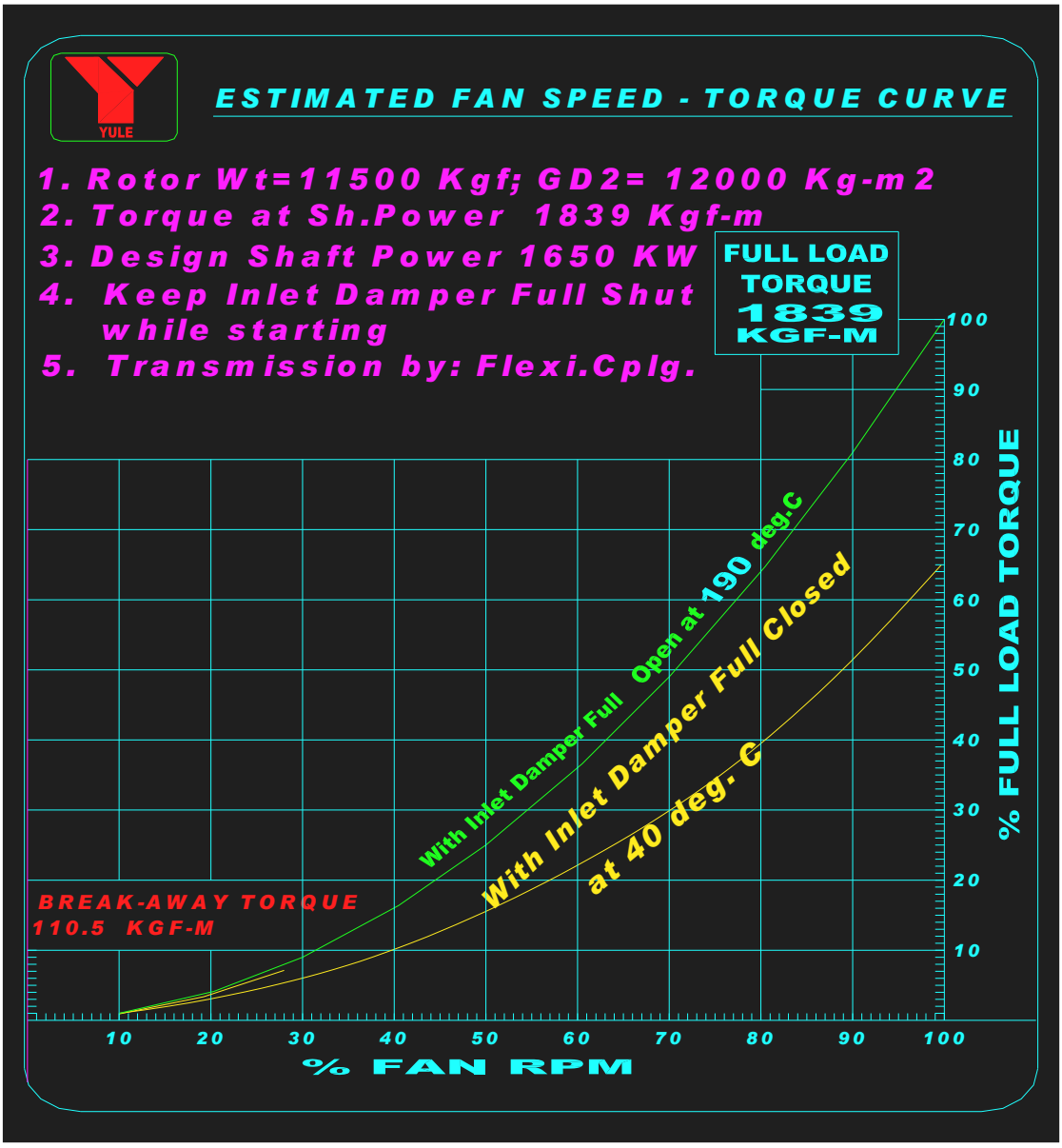
Efficiency of different Models of Fan



Estimated Performance Curve of Fans



Estimated Speed-Torque Curve of Fans
(required for Motor selection)



RANGE OF APPLICATION:

POWER PLANTS:

- **ID FAN - UPTO 21 LAC M^3/Hr.**

-> NTPC- RIHAND TPS: 3186 MM DIA IMPELLER; 2060280 M^3/Hr.; 352 MM WG ST. PR; 2.82 MW; 720 RPM; IMP+SHAFT WT = 23.4 T
-> NTPC-TALCHER TPS: 2560 MM DIA IMPELLER; 684000 M^3/Hr.; 350 MM WG ST. PR.; 0.8 MW; 740 RPM; IMP+SHAFT WT = 9.4 T

- **FD FAN -> UPTO 6 LAC M^3/Hr**

-> WBPDCL- KOLAGHAT TPS : 2045 MM DIA FAN ; 515520 M3/HR ; 425 MM WG ST.PR. ; 0.95 MW ; 980 RPM

- **PA FAN :**

UPTO 1 LAC M^3/Hr; 1500 mm WG ST.PR; 1500 RPM

- **SA FAN :**

UPTO 0.3 LAC M^3/Hr; 1800 MM WG ; 3000 RPM

STEEL PLANTS :

- **SINTER EXHAUST FAN -> UPTO 12 LAC M^3/Hr**

-> VIZAG & ROURKELA STEEL PLANT: 3660 & 3695 DIA FAN ; 9-11 Lac M3/HR ; 1500-1600 MM WG ST.PR. ; 4.2 – 5.2 MW ; 990 RPM
-> TISCO : 4010 MM DIA FAN ; 9.3 Lac M3/HR ; 1662 MM WG ST.PR. ; 4.97 MW ; 980 RPM

- **GB, CA & ID FANS:**

UPTO 3 LAC M^3/Hr; 750 mm WG ST.PR; 2980 RPM

CEMENT PLANT:

for all types of application viz. PA, Raw Mill, Coal Mill, Cement Mill, Cooler, Separator, Bag House, ESP/Waste Gas/P.H. etc.
Capacity Range: 2,000 – 8,00,000 m3/hr ; St. Pr: 100-1800 mm Wg.
Temp. up to 420 deg.C ; Speed: 600-3000 RPM ; Effy. up to 87%

- **Raw Mill Fan:**

-> GRASIM PLANT: 2910 DIA Double Inlet Fan ; 6.3 Lac M^3/Hr; 970 mm WG ST.PR. ; 105 deg.C; 2.1 MW ; 990 RPM

- **Kiln ESP Fan:**

-> PRIYADARSHINI CEMENT: 2265 DIA Double Inlet Fan; 4.98 Lac M^3/Hr; 175 mm WG ST.PR. ; 368 KW; 740 RPM

- **Cement Mill Fan:**

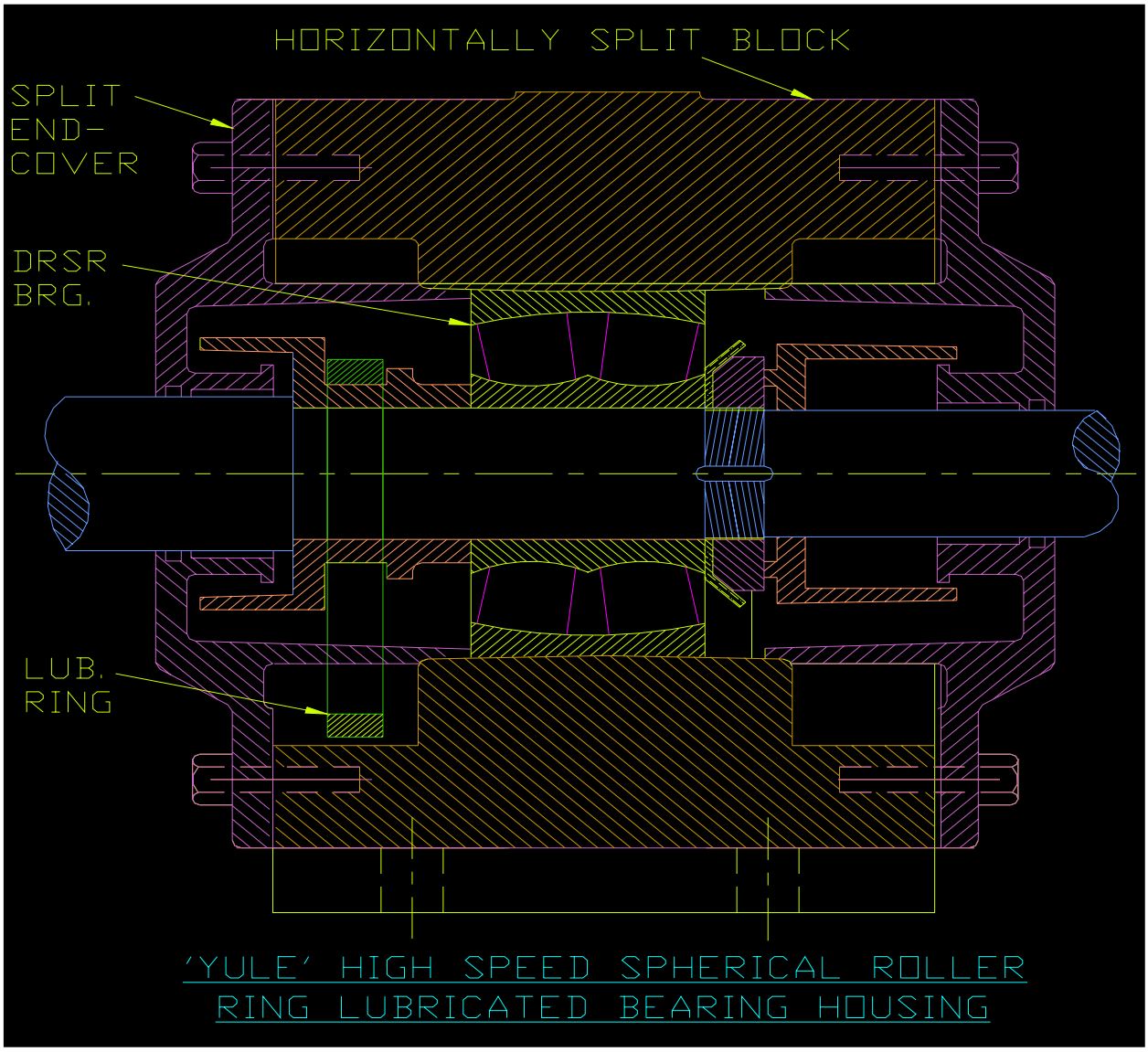
-> VIKRAM CEMENT : 1980 DIA Single Inlet Fan ; 1.4 Lac M3/HR ; 1020 mm WG ST.PR. ; 475 KW ; 985 RPM

BEARINGS AND BEARING HOUSINGS OF

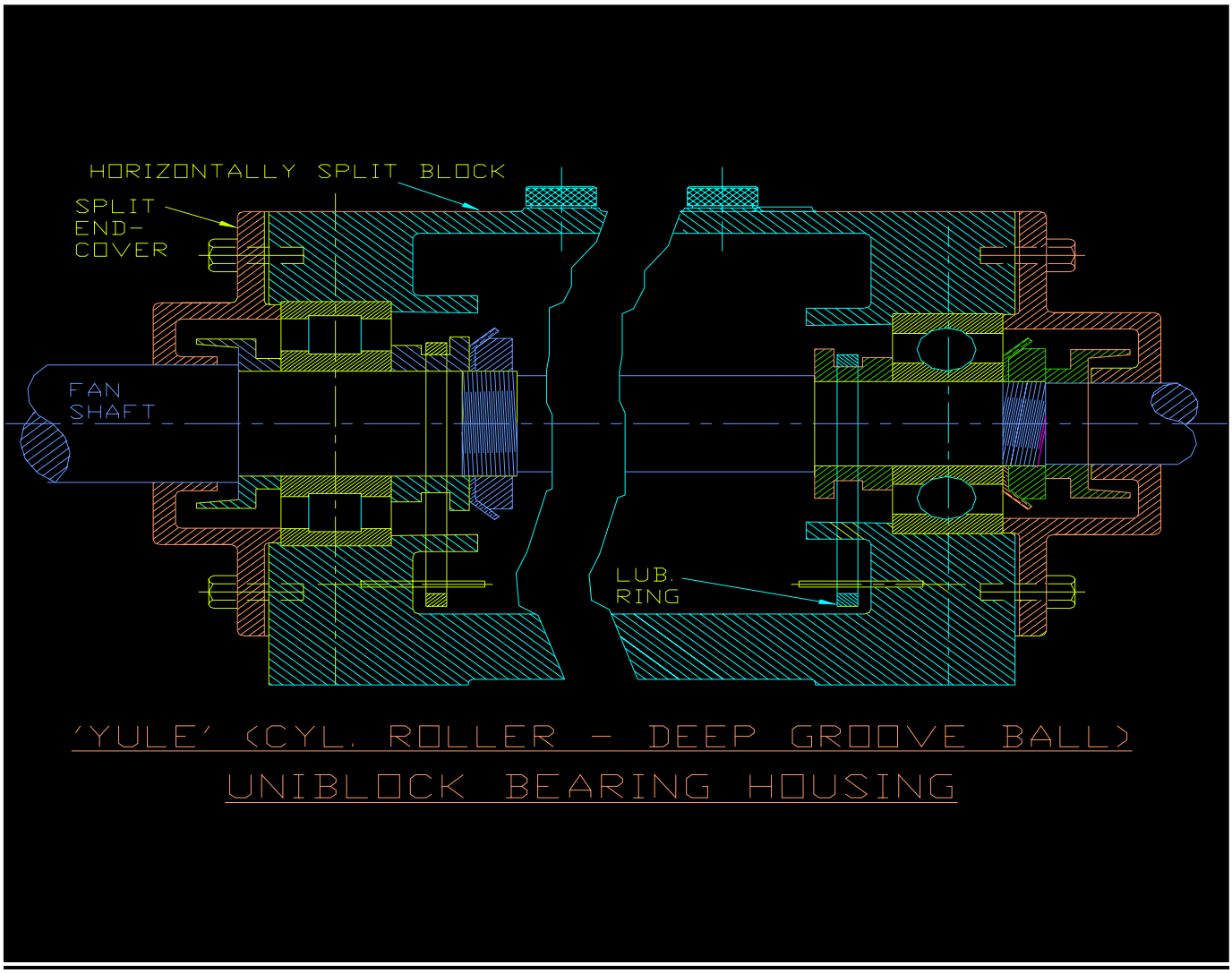
'YULE' MAKE

- **WHITE METAL LINED SLEEVE BEARING (2" TO 10" SIZE) – RING LUBRICATED , WATER COOLED**
- **PRESSURE FED WHITE METAL LINED SLEEVE BEARING (2" TO 12" SIZE)**
- **HOUSINGS FOR DOUBLE ROW SPHERICAL ROLLER BEARINGS (DRSR) -> 60 MM DIA UPTO 200 MM DIA**

YULE make Ring Lubricated DRSR Bearing Housing



YULE make Uniblock Housings



QUALITY PLAN FOR YULE FANS :

- **PLATES : CHEMICAL , PHYSICAL TESTS AND ULTRASONOGRAPHY**
- **SHAFT : CHEMICAL , PHYSICAL TESTS AND ULTRASONOGRAPHY .**
- **HUB : CHEMICAL & PHYSICAL TESTS**
- **WHITE METAL BEARINGS : ULTRASONOGRAPHY AND PRESSURE TESTING OF BRG.HOUSING**
- **WELDING JOINTS : FOR IMPELLER -> FILLET JOINTS DP/ MPI TESTED ; BUTT JOINTS -> MIN. 30% RADIOGRAPHY CARRIED OUT**
- **STATIC COMPONENTS : QUALITY OF WELD & MANUFACTURING STRICTLY CONTROLLED**
- **STRESS RELIEVING IN OWN SR FURNACE**
- **DYNAMIC BALANCING : ALL IMPELLERS AT SHOP AS PER ISO:1940 GRADES 6.3 / 2.5**
- **FAN ASSEMBLY : CARRIED OUT AT SHOP TO CHECK MATCHING OF CRITICAL COMPONENTS**
- **PERFORMANCE TEST & MECHANICAL RUN TEST : CARRIED OUT , AS PER CONTRACT, AS PER BS: 848 PART .**

WEAR PROTECTION IN FANS :

- **BLADE PROVIDED WITH LINERS (50% TO 100% WIDE) :**
  (a) WITH HARD-SURFACING (650 BHN) or
  (b) HARDENED PLATES (HARDOX- 400/500) USED AS LINER

- **CENTRE SHEET LINERS (Adjacent to blade area) PROVIDED**

- **OPEN BLADED IMPELLERS USED FOR HEAVY DUST LOAD**
- **Volute Casing also provided liner , if required**
- **REMOVABLE LINERS FOR EASY REPLACEMENT**

VIBRATION AND NOISE :

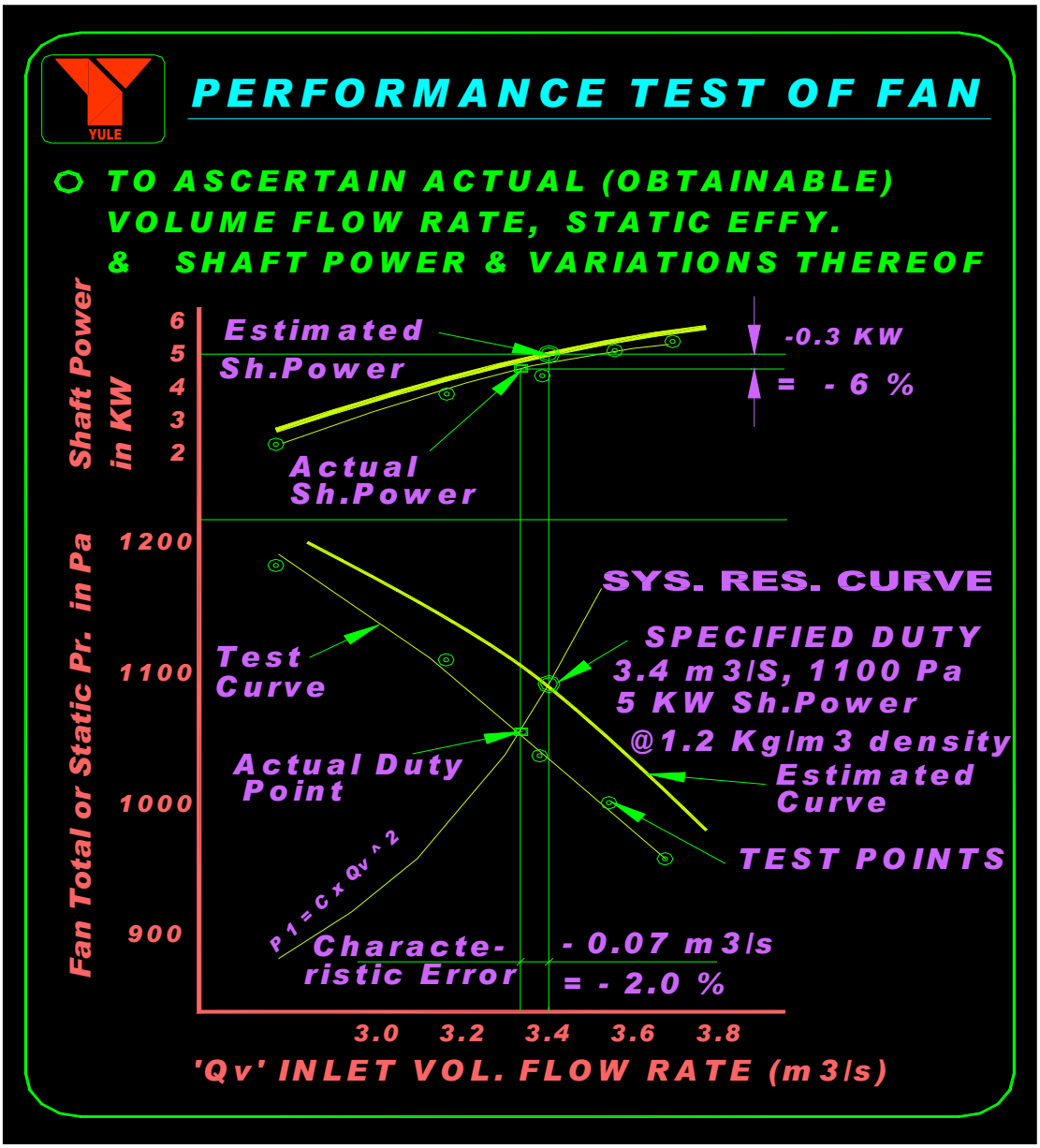
- **VIBRATION RANGE OF MACHINE CLASS-III FANS ARE AS PER ISO: 2372 / VDI 2056 -> 1.8 MM/S TO 11 MM/S ; NORMAL VALUE 2 TO 4 MM/S**

- **NOISE LIMIT : 85 dB @ 1M FROM FAN without or with SILENCER / ACCOUSTIC LAGGING/ ACCOUSTIC ENCLOSURES – as may be the case**

PERFORMANCE TEST :

Testing Facility :

- **Own Test Bay**
- **Test Duct upto 2m dia**
- **Calibrated testing Instruments**
- **Testing as per BS:848:Part-I**
- **Test Report & Curve generated by Computer**
- **Expert Testing Team**



Fan Operation : Myth and Reality –

- **Dynamic Balancing to be done at Rated Speed of Fan -> Not essential. Balancing Machines can do the job very well at their rated speeds of 200/ 400 RPM as they are sensitive enough and calibrated for these speeds**

- **Shaft to be Dynamically Balanced *:* Not required -> As Shaft unbalance is within 0.1% of Impeller's Permissible Residual unbalance**

- **Always Use Silencer to reduce Noise *:* System Resistance will increase and power may go up by 5 to 15% .**

CONTACT INFORMATION :

- **For Fan, Spares enquiry/ Offers:**

Mr. A.K. Dutta - +919903032720 , Mr. Sandipan Das: +919831501221 / +919836744337.

Mr. Swarup Ghosh: +918100975193.

- **For ESP/ Bag Filter /spares enquiry/ Offers & WPC Execution:**

Mr. Sourav Sengupta: + 919830853319. / Mr. T. K. Chattopadhyay: +919874420015.

- **For Fan PO/ Contracts related matters:**

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Mr. Amit Ganguly: +919874573880 , Mr. Sarasij Ghosh - +919433660240

- **For Installation & Service related issues:**

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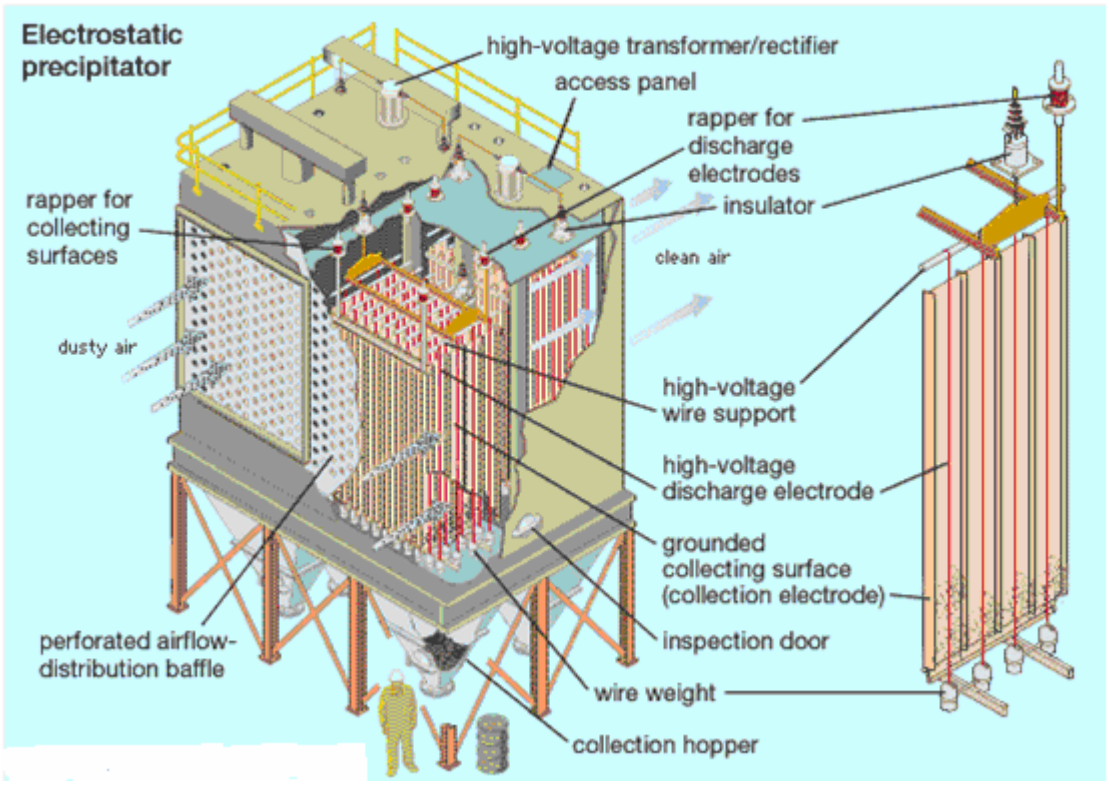
‘Yule’ Air Pollution Control

Electro Static Precipitator (ESP)



Pulsejet & Reverse jet Bag Filter / Bag House

Fume Extraction & Cleaning Systems .

Gas Conditioning Towers .

De-dusting Systems in Electric Arc Furnaces .