



## CREATING CLEANER, SAFER LABS





## **AEOLUS NEU**

### Advanced safety standards through attention to detail

A safe lab is an efficient, productive lab. As your researchers work with chemicals, it is important for you to provide your staff with lab spaces that are thoughtfully designed, keep contaminants in the atmosphere to the minimum and support focussed and precision based work.

**The Aeolus Neu Fume Hood** has been conceptualised keeping people safety and health at the centre design thinking. From Laminar airflow that is known to reduce turbulence within the Fume Hood, to carefully angled and positioned baffles that draw contaminants away from the operator's breathing zone to the control panel that sits on the outside - Aeolus Neu Fume Hood is designed for a better lab experience.

Further, its ergonomic design allows researchers to work comfortably for long sessions, while its energy saving features can deliver direct and indirect savings for you.



SAFETY



ERGONOMICS



ENERGY  
CONSERVATION





1 CONNECTOR BOX

2 AIRFLOW MONITOR

3 FUME HOOD MAIN SWITCH

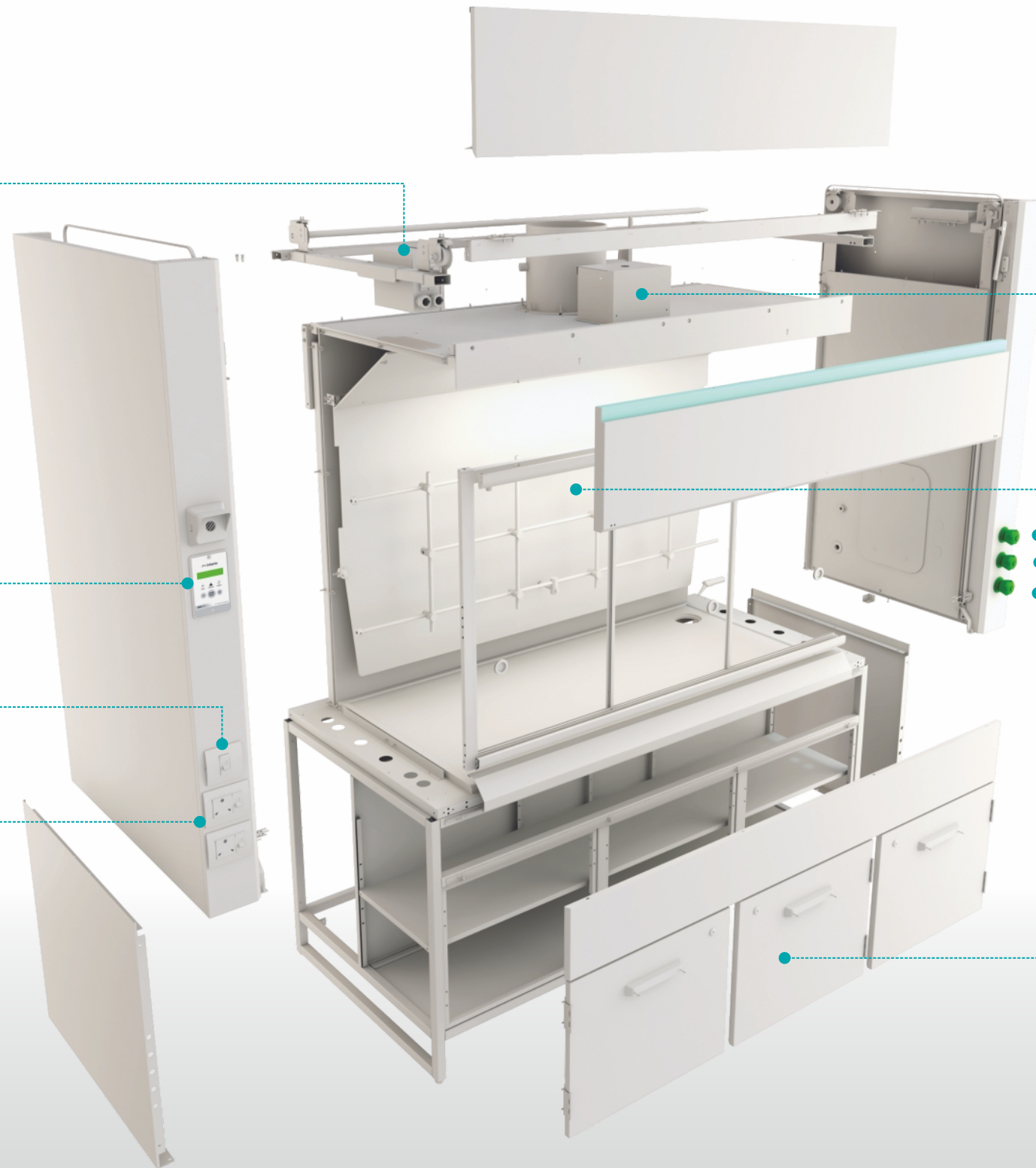
4 SWITCH & SOCKET

5 LED LIGHT

6 APPARATUS GRID

7 UTILITY & SERVICE VALVES

8 UNDER STORAGE CABINETS



SAFETY



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## Engineered for highest user safety

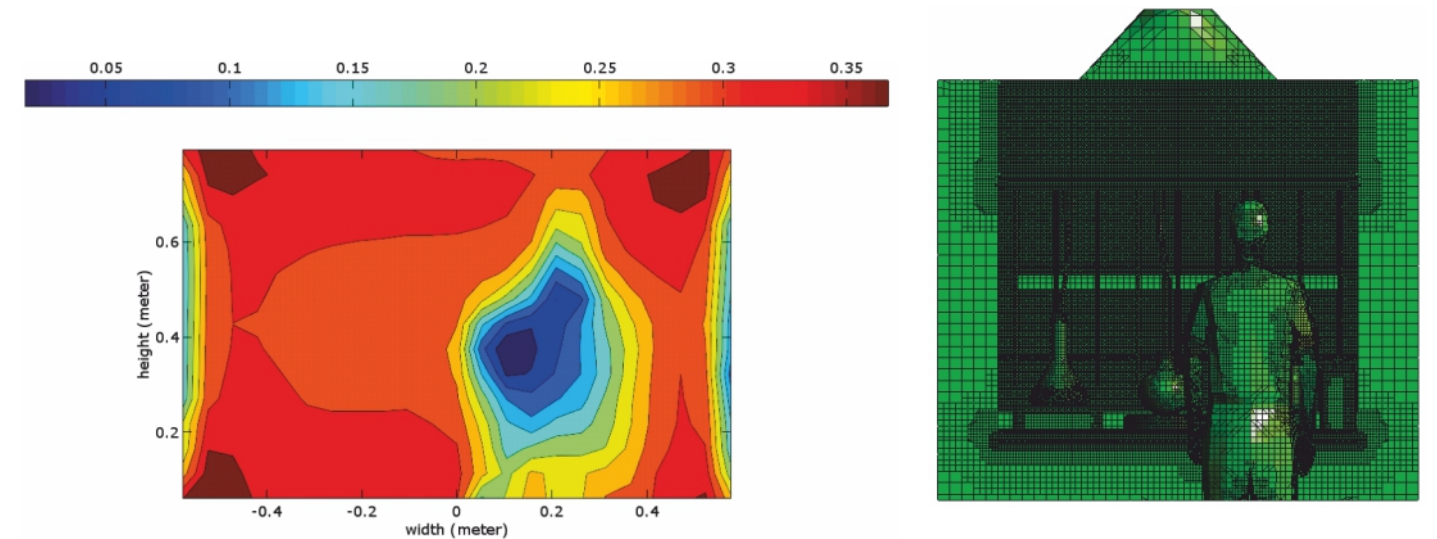
The efficacy of a Fume Hood is defined by its capability to move the contaminants away from the sash and the operator's breathing zone; and by its ability to contain the fumes in the hood till the same are exhausted. Aeolus Neu Fume Hood delivers high performance on both of these parameters.

### AEOLUS NEU FUME HOOD DESIGN

Smoke tests on Aeolus Neu Fume Hood show Horizontal laminar air flowing toward the baffle forces contaminants to rear interior, away from user. The Fully Air Assisted Internal Vortex Control aided by the ergonomically designed Aerofoil improves containment near the sash opening by increasing velocity of fresh air.

## Laminar air flow management

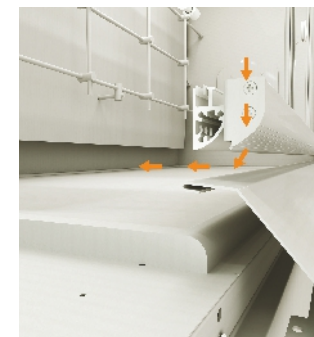
### I. REAL LIFE AIRFLOW SIMULATION



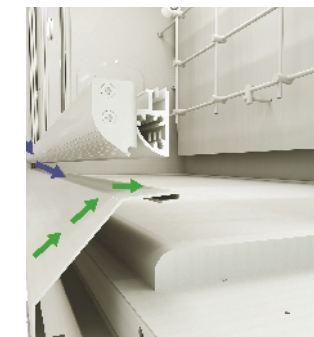
Aeolus Neu is designed based on outcomes of Advanced COMPUTATIONAL FLUID DYNAMICS (CFD) analysis that simulated actual working conditions helping to analyze their effects on airflow patterns

and subsequent fume containment. This has allowed the efficiency and robustness parameters to be exceedingly good. Neu Aeolus is safe to operate at face velocities of 0.3 m/s or 60 fpm

### II. WORLD CLASS AIRFLOW ENGINEERING



For ABP and LCV: A Fully Air Assisted & Internal Vortex Control improves containment near the sash opening by increasing the velocity of fresh air.



Aerodynamic Sash Terminator and Handle: A gentle airlift by 6-degrees in the Aerofoil improves the containment considerably.



For LCV: Outer Elephant Tusk deflector at face level has ensured containment by increasing the airflow into the hood.



The gradual slope of the inner deflector vane assists the incoming fresh air to control the internal turbulence.





## High fume containment ensured with 3AAS

Godrej Interio | Laboratory engineers have designed the Aeolus Neu Fume Hood to achieve superlative fume containment with the help of its intelligently designed 3-stage Assisted Airflow System or 3AAS.

### I. REDUCED AIR TURBULENCE

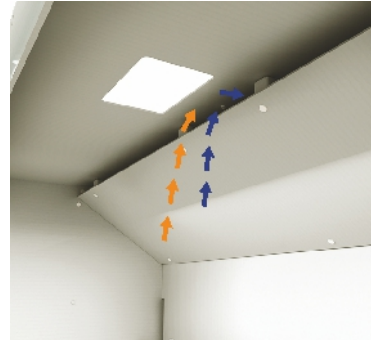
This system is based upon meticulous detailing of each individual part of the sash, facilitating effective exhaust of fumes of all densities, significantly reducing concentrations of chemical contaminants throughout the work area, particularly near the operator's breathing zone and at the work surface.

Depending on sash position, tendencies for air turbulence, vortexing and the roll frequently observed in traditional Fume Hood are minimised.

### II. HIGHLY EFFICIENT FUME CONTAINMENT

The inner design of Aeolus Neu facilitates efficient exhaust of Light, Medium and Dense Fumes for maximum user safety.

**Low density fumes** are exhausted via the opening at the top of the baffle over the top liner.



**Medium density fumes** are exhausted through the openings at the mid-height of the baffle.



**High density fumes** are swept effectively across the worktop and guided by the opening at the bottom of the baffle.



### I. ELECTRIC PANEL

Highly reliable connectors used with international sockets. FRLS cables used throughout, protecting the electrical cables and any leakages in the current, minimizing the damage.

### II. SERVICE CONTROLS OUTSIDE THE FUME HOOD

Highly reliable connectors used with international sockets. FRLS cables used throughout, protecting the electrical cables and any leakages in the current, minimizing the damage.



### III. AIR FLOW MONITOR (OPTIONAL)

The Digital Air Flow Monitor provides a digital reading of the face velocity at the face of the Fume Hood. It can be configured to set the upper and lower thresholds as per the standards. Any deviations beyond these levels give an audio-visual alarm for the user to take notice and initiate corrective action.

The benefit is that the users are made aware in case the face velocity drops below the desired levels, thus possibly preventing them from exposure to accidental fume escapes, etc.



### IV. REMOVABLE SERVICE ACCESS PANEL

- The removable service doors inside the Fume Hood chamber provide easy access to the services for maintenance.
- Access to controls for Utility Services have been provided at the front of Fume Hood on vertical walls; and in some configurations also below the worktop on horizontal fixture panel, making for quick access.



### V. MATERIALS/UTILITY OPTIONS

- Liner Options: Industrial Laminate
- Electricals: 3 Module switch socket with 16A tiny trip
- Worktop: Mobile Black Granite
- Storages: Apparatus Storage
- Lights: Led Lights
- Cup Sink: Round cup sink with 4 inch outer diameter

*Designed with user need  
and convenience in mind.  
Aeolus Neu Fume Hood.*



## Ergonomic design for user comfort

Detailed user studies and their behaviour and interaction with the fume hoods inside the laboratory have enabled our designers and ergonomists to take user comfort into close account while designing Aeolus Neu. This has been achieved by a combination of utility and indigenously developed technology, which makes working on Aeolus Neu comfortable in all respects.



Large work area



Recessed airfoil grill and elbow rest accessory



Ergonomic edge design



Expanded vision zone



## Little details make greener labs

A typical fume hood in an air-conditioned laboratory consumes energy that is equivalent to three times of that consumed in a home. The aesthetics and functioning of Aeolus Neu have been designed to keep energy consumption low. Aeolus Neu scores big with direct savings in form of lowered energy consumptions and adds to the green quotient of your laboratory facility.

### Low constant volume exhaust (LCV) delivers Medium Level of Energy Saving

- For air-conditional laboratories, the Low Constant Volume (LCV) Exhaust Fume Hoods reduce the exhaust volume of air-conditioned cold fresh air. This reduces the load on the HVAC system in maintaining lab room temperature.
- In the LCV configuration, the glass sash is open only 1/3rd of its horizontal width at any point of time thereby reducing the entry area for fresh air into the Fume Hood and contributing to energy conservation.

### Eco friendly LED lights

- Energy Efficient (around 80% energy saving)
- Eco-Friendly as there is no use of Mercury
- Long Life



*Designed for highest energy efficiency. Aeolus Neu Fume Hood*





## Fume Hood Selection & Installation

### I. HOW TO SELECT A FUME HOOD

There are three key aspects to be considered while selecting a Fume Hood:

1. **Size of the room** where the Fume Hood is to be installed: Length x Width x Height
2. **Expected usage of Fume Hood:**
  - ▶ 3' & 4' width Fume Hoods are intended for 1 person with relatively small apparatus
  - ▶ 5' hoods are for 1 or 2 people, or with large apparatus
  - ▶ 6' hoods are generally for 2 or more people, or with exceptionally large apparatus
3. **Application of Fume Hood:**
  - ▶ A normal Auto-bypass Fume Hood can be

used for general purpose applications like teaching and for non-AC research laboratories involving use of acids and organic solvents

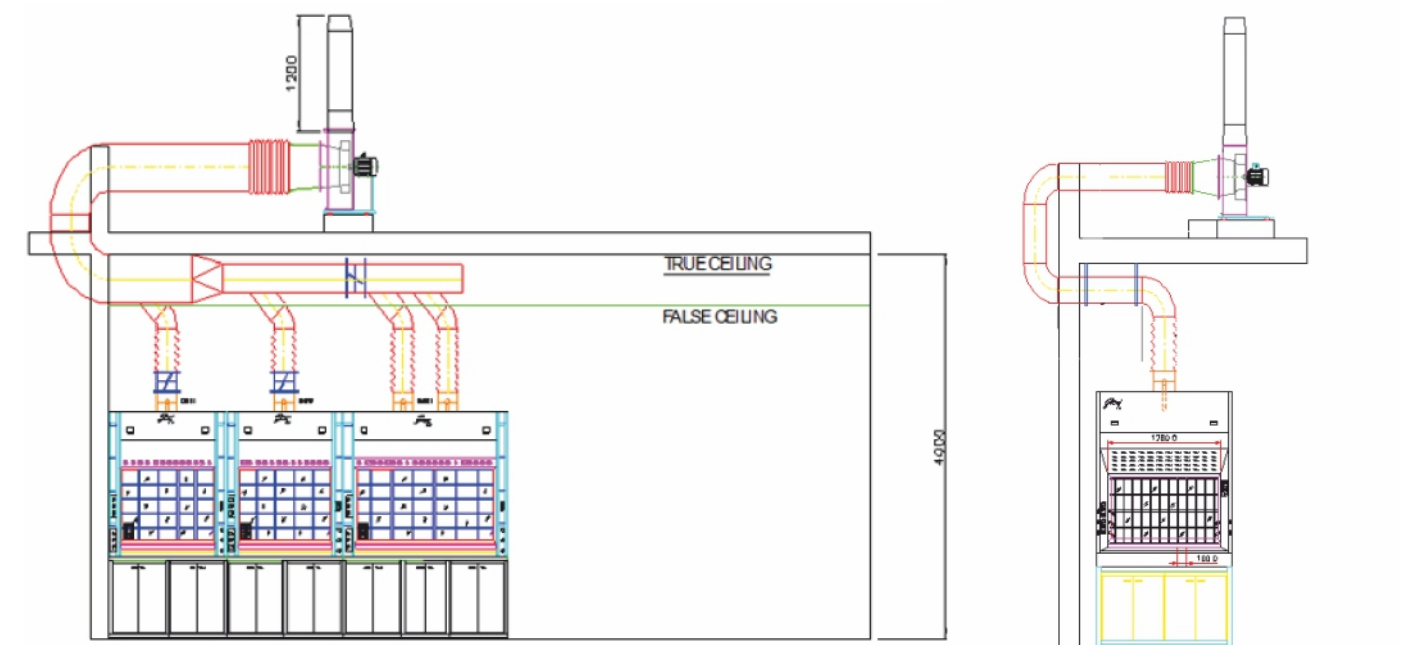
- ▶ For handling Perchloric Acid and Hydrofluoric Acid, highly toxic and other unstable explosive materials and radio-isotope applications, special design hoods are required
- ▶ Under-storages should be chosen as per the storage requirement (for apparatus or for corrosive acids or for flammable solvents)
- ▶ LCV Fume Hood should be used for AC labs



### II. INSTALL CLUSTERED FUME HOODS FOR QUICKER, MORE EFFICIENT SET UP

When multiple fume hoods are present in the lab, they can be clustered together to be connected to a common exhaust system. The entire cluster can be operated simultaneously, reducing

investment and time required for designing and building of exhaust comprising of ducts and blowers.



Clustering v/s Single Fume Hood

## Category

Aeolus Neu Fume Hood is available in Bench Top variant with efficient functioning and user friendly parameters as shown below.

### VARIANTS BY WIDTH

4' width

5' width

6' width

### VARIANTS BY AIRFLOW

- CONSTANT AIR VOLUME
  - ▶ AUTO BYPASS (ABP)
  - ▶ LOW CONSTANT VOLUME (LCV)



### III. COMPLETE FUME HOOD SOLUTIONS WITH EXHAUST SYSTEMS INSTALLED ON SITE

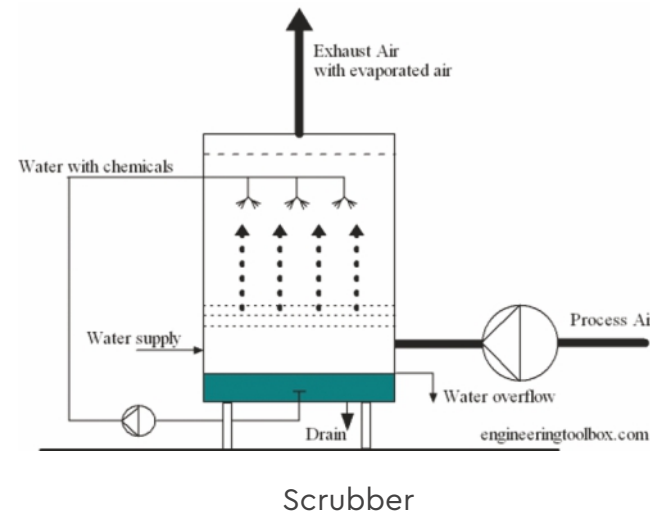
#### Blowers

Godrej Interio offers high quality blowers, which when connected to fume hoods via ducting complete the exhaust system in making the Fume Hood functional. You can choose from:

- High-quality reputed indigenous blowers made from PP + FRP casing and FRP-vinyl ester Impellers
- Imported fully PP Moulded blowers.

#### Scrubbers

Scrubbers are installed as a part of the exhaust system to scrub the incoming gases exhausted from Fume Hood. The cleaner scrubbed gas is released to the environment. Based on the application, the scrubber type can be a wet or a dry one.



Godrej Interio | Laboratory has been meeting the exhaust needs of several industries with its Aeolus Neu range of Fume Hoods. Listed below are some key clients from across industries:

#### EDUCATION



- Institute of Life Sciences, Bhubaneswar
- U. P. Rural Institute of Medical Sciences & Research, Saifai
- North Eastern Hill University
- College of Agriculture, Bengaluru
- PGIMER, Chandigarh
- Oxford College of Pharmacy and Science
- Indian Institute of Physics
- IIT Bombay, Gujarat, Roorkee, Madras, Kanpur, Indore, Guwahati
- Cargill
- Aligarh Muslim University
- University of Hyderabad
- Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR)
- Central Institute of Plastics Engineering and Technology (CIPET)
- Jalaun Medical College
- D. Y. Patil International Academy - Mumbai, Pune, Nagpur
- Institute of Nuclear Medicine and Allied Sciences (INMAR)
- National Inst. Of Pharma. Education & Research (NIPER)
- Birla Inst. of Technology & Science (BITS, Pilani)

#### RESEARCH



- Indira Gandhi Centre for Atomic Research, Kalpakkam
- Soil Testing Laboratories, Orissa
- TICEL Biopark, Chennai
- CDRI, Lucknow
- Saha Institute of Nuclear Physics, Kolkata
- Central Forensic Science Laboratories
- IISER Kolkata, Bhopal, Pune
- ICRISAT
- BARC
- ISRO
- Central Pollution Control Board
- Central Salt and Marine Chemicals Research Institute
- Physical Research Laboratory
- National Institute of Research in Reproductive Health (NIRRH)

#### OTHERS



- Hindustan Unilever Ltd.
- Mercedes Benz
- Honda R&D Centre
- Daimler
- Adani Power
- Kansai Nerolac Paints Ltd.
- Jindal Steel Power Ltd.
- Tata Motors
- Asian Paints
- L&T

#### CHEMICAL



- National Chemical Laboratory
- HPCL
- BPCL
- IOCL
- IPCA
- MRPL

#### PHARMA-BIOTECH



- Syngene International
- Shasun Pharmaceuticals Ltd.
- Kemin Industries
- Jubilant Organosys
- Bayer
- Lupin
- Bureau Veritas Group
- Concord Drugs
- Marico
- Bal Pharma
- Sandoz Pvt. Ltd.
- Ballarpur Industries
- Advinus
- Aurigene
- Micro Labs Ltd.
- Ranbaxy Laboratories Ltd.
- Johnson & Johnson
- Dr. Reddy's Lab





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South: Chennai, Bengaluru, Hyderabad, Kochi  
West: Mumbai, Ahmedabad, Bhopal, Pune  
East: Kolkata, Bhubaneswar, Guwahati, Patna

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