Dear Esteemed ASHRAE Members and Distinguished Readers,

February 2024 has been an eventful month for our chapter, filled with significant milestones and exciting developments.

Firstly, I am pleased to announce that we celebrated ASHRAE Night enthusiastically, focusing on membership promotion. The event featured live music and comedy shows, creating a vibrant atmosphere that brought our members together and highlighted the importance of our community.

Furthermore, it was an honour to welcome the ASHRAE President once again to India, where she actively participated in the ASHRAE India Chapter and ACREX events. ASHRAE Book Store stall was held at ACREX, and visitors gave an overwhelming response to the discount offered by the society.

In line with our dedication to continuous learning and professional development, a workshop on ‘District Cooling Systems’ by the ASHRAE Global Training Center was successfully conducted by your chapter at ACREX Noida. Another, NIK webinar last in the series was also held on ‘District Cooling Systems’ by Mr. Poh Teong Keng. The webinar was attended by a large number of participants.

I am thrilled to announce that our student members have been awarded a generous scholarship and project grant totalling $32,960 from ASHRAE. This recognition not only highlights the exceptional talent within our student community but also reinforces our commitment to supporting the next generation of HVAC&R professionals.

I am proud to share that our ASHRAE India Chapter’s LinkedIn followers have surpassed the 3000 mark. This achievement reflects the growing recognition and influence of our chapter within the industry and underscores the importance of our online community.

In a big development for our region, the ASHRAE Board of Directors approved the formation of Region XV consisting of 10 Chapters in India and one each from Bangladesh and Sri Lanka. ASHRAE India Chapter will host the first Chapter Regional Conference for Region XV in September 2024 at Udaipur.

I request all members to give their feedback on the operations of your Chapter and highlight the areas that need improvements.

Thank you all for your support to ASHRAE.

Best regards,

RAJESH KUMAR JAIN
President
ASHRAE INDIA CHAPTER
ASHRAE INDIA CHAPTER (AIC) organized “ASHRAE Night” for the membership promotion on 3rd February, 2024, at Crown Plaza, Okhla, New Delhi. During the event, the felicitation ceremony was held to felicitate the past president of AIC for their outstanding contribution for the chapter.

The members had an enjoyable evening entertainment with Live music and comedy show followed by Cocktails & Dinner. Many prospective members joined the event and interacted with senior members of AIC. The YEA members also got an opportunity to interact with the senior members.

Gifts were distributed to all the children and a lucky draw was also held during the event for the members for distribution of gifts.
District Cooling System Workshop

ASHRAE India Chapter successfully organized one day training programme on “District Cooling System” by ASHRAE Global Training Centre, Dubai on 16th February, 2024 at IEML Greater Noida during ACREX 2024.

Workshop started with the address of Ms. Ginger Scoggins, President ASHRAE and Mr. Rajesh Jain, President ASHRAE India Chapter. Mr. Kanagaraj Ganesan Coordinated the event on behalf of ASHRAE India Chapter.

Mr. Hassan Younes, Director at Griffin Consultants was the lead trainer of the workshop followed by two speakers Mr. Luke Leung, principle Skidmore, Owings & Merrill LLP and Mr. Ashish Verma, General Manager/Technical Development at Tabreed India. This was a certification programme attended by more than 25 participants from the HVAC industry.
ACREX 2024

First region XV meet during the ACREX 2024

Technical Tour by ASHRAE India Chapter YEA team at ACREX 2024

Membership promotion drive at ACREX 2024

AIC Students shadow ASHRAE President Ms. Ginger Scoggins at ACREX 2024
K-12 Students

Students from Mayoor High School, Noida won the third prize in “2024 ASHRAE High School Competition” and receive $300 prize money along with the plaque and recognition in ASHRAE’s insights. 3 students from class 8 Aarika Jain, Avneey Rawat and Bhoomika Jain participated in the competition. The project were made under the guidance of Mr. Abhishek Jain, Chair Student Activity and Mr. Kanagaraj Ganesan, Immediate Past President.

NIK Webinar on District Cooling System

A NIK Webinar on “District Cooling System” held on 28th February, 2024 with the esteemed Mr. Poh Tiong Keng, General Manager of Keppel’s infrastructure division, overseeing operations in Vietnam, India and China. Approximate 57 participants attend the webinar.
Department of Mechanical Engineering, ASHRAE AMU Student Branch has received a funded project Equipment Grant with USD $14990 (INR 12,59,160) for the year 2024-25 by ASHRAE

<table>
<thead>
<tr>
<th>Project Title</th>
<th>Project Supervisor</th>
<th>Student Participants</th>
<th>Amount Allocated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design and Development of a Three-Stage Multi-Compression Refrigeration Test Rig as a Training and Demonstration Unit</td>
<td>Dr. Taliv Hussain &amp; Dr. Mohammad Asif</td>
<td>Shahil, Tahir Jamal, Shahbaz Alam, Mohd. Sharif, Taskeen Saba</td>
<td>$ 4998</td>
</tr>
<tr>
<td>Design &amp; Development of Vapour Absorption Refrigeration Test Rig with different input energy sources as a Training and Demonstration Unit</td>
<td>Dr. Taliv Hussain &amp; Dr. Mohammad Asif</td>
<td>Mohd Rehan, Mohd Bilal, Mohd Yusuf, Moin Khan, Mohd Saifullah</td>
<td>$ 4997</td>
</tr>
<tr>
<td>Design and Development of a Two-Stage Cascade Refrigeration Test Rig as an educational demonstration unit</td>
<td>Dr. Taliv Hussain &amp; Dr. Mohammad Asif</td>
<td>Rizwan Khan, Suhaib Shahid, Mohd Atif, Brijesh Kumar</td>
<td>$ 4995</td>
</tr>
</tbody>
</table>

STUDENT PARTICIPANTS

- Shahabaz Alam
- Mohd Rehan
- Mohd Bilal
- Mohd Yusuf
- Moin Khan
- Mohd Saifullah
- Sahil
- Taskeen Saba
- Tahir Jamal
- Mohd. Sharif
- Dr. Shahid Husain
- Brijesh Kumar
- Rizwan Khan
- Suhaib Shahid
- Mohd Atif
- Faculty Advisor
  - Dr. Mohammad Asif
- Faculty Advisor
  - Dr. Taliv Hussain
Department of Mechanical & Automation Engineering and department of Mechanical Engineering, ASHRAE Maharaja Agrasen Institute of Technology Student Branch has received a funded project Equipment Grant with USD $9970 (INR 8,37,480) for the year 2024-25

<table>
<thead>
<tr>
<th>Project Title</th>
<th>Project Supervisor</th>
<th>Amount Allocated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design and Development of Solar Thermal Adsorptive Refrigeration (Star) System</td>
<td>Dr. Vaibhav Jain</td>
<td>$ 4990</td>
</tr>
<tr>
<td>Design and Development of Multi Heat Exchanger System as a Training and Demonstration Unit</td>
<td>Dr. Vaibhav Jain</td>
<td>$ 4980</td>
</tr>
</tbody>
</table>

Students of Department of Mechanical & Automation Engineering, ASHRAE Maharaja Agrasen Institute of Technology Branch has received Scholarship of USD $8000 (INR 6,72,000) for the year 2024-25

<table>
<thead>
<tr>
<th>Scholarship Detail</th>
<th>Name of Students</th>
<th>Scholarship Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate Alwin B. Newton Scholarship for the 2024-2025 Academic year</td>
<td>Aman Vats</td>
<td>$ 5000</td>
</tr>
<tr>
<td>Undergraduate Alwin B. Newton Scholarship for the 2024-2026 Academic year</td>
<td>Keshav Vats</td>
<td>$ 3000</td>
</tr>
</tbody>
</table>

Department of Mechanical Engineering, ASHRAE ABES Engineering College Student Branch has received a funded project Equipment Grant with USD $4984 (INR 4,18,656) for the year 2024-25

<table>
<thead>
<tr>
<th>Project Title</th>
<th>Project Supervisor</th>
<th>Student Participants</th>
<th>Amount Allocated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design and fabrication of Multi-Evaporator Refrigeration System for different food storage as a training and demonstration unit.</td>
<td>Mr. Mohit Bansal</td>
<td>Deepak Kumar Yadav Yashika Kunal Saini Gyanendra Junaid Pradyumn Srivastava</td>
<td>$ 4984</td>
</tr>
</tbody>
</table>

**STUDENT PARTICIPANTS**

Yashika  
Deepak KR Yadav  
Kunal Saini  
Gyanendra  
Junaid  
Pradyumn Srivastava
ASHRAE INDIA CHAPTER IS NOW PART OF NEWLY FORM REGION XV. TOTAL 12 CHAPTERS ARE LISTED IN REGION XV (EFFECTIVE FROM JULY 1, 2024).

<table>
<thead>
<tr>
<th>Chapter</th>
<th>City</th>
</tr>
</thead>
<tbody>
<tr>
<td>158 India</td>
<td>New Delhi, IND</td>
</tr>
<tr>
<td>163 Western India</td>
<td>Ahmedabad, IND</td>
</tr>
<tr>
<td>169 ASHRAE Bangalore</td>
<td>Bangalore, IND</td>
</tr>
<tr>
<td>171 Shri Lankan</td>
<td>Colombo, LKA</td>
</tr>
<tr>
<td>185 Chennai</td>
<td>Chennai, IND</td>
</tr>
<tr>
<td>186 Pune</td>
<td>Pune, IND</td>
</tr>
<tr>
<td>188 ASHRAE Mumbai</td>
<td>Mumbai, IND</td>
</tr>
<tr>
<td>191 ASHRAE Deccan</td>
<td>Hyderabad, IND</td>
</tr>
<tr>
<td>197 Bangladesh</td>
<td>Dhaka, BGD</td>
</tr>
<tr>
<td>215 East India</td>
<td>Kolkata, IND</td>
</tr>
<tr>
<td>216 Rajasthan</td>
<td>Jaipur, IND</td>
</tr>
<tr>
<td>217 Chandigarh</td>
<td>Chandigarh, IND</td>
</tr>
</tbody>
</table>

Research Promotion Donation

The ASHRAE Research Promotion Fund is a vital initiative that fuels research, education and development within the HVAC&R industry. RP fund supports research projects, educational programs and courses, YEA programs for empowering young engineers and professionals, providing financial assistance to students.

All the members are requested to please contribute in the RP fund with minimum $10. RP funds play a pivotal role in advancing HVAC&R knowledge, innovation and sustainability.

Click here to contribute - [https://www.ashrae.org/about/invest-in-the-rp-campaign](https://www.ashrae.org/about/invest-in-the-rp-campaign)

OR

Contact our Secretariat Team +919873082688 or mail us at ashraeic@gmail.com

New Members list for the February Month

Mr. C. P. Khandelwal
Pyrotech Electronics Pvt. Ltd.

Mr. Mayank Singhal
HMX Systems Pvt. Ltd.

Mr. Nitish Mathur
AVP - Business Development with Dessicant Rotors International Pvt Ltd.

Mr. Arjun Pal
Desiccant Rotors International/ Bry Air Asia.

Mr. Shubh Bindal
R.V. Enterprises
DO IT YOURSELF GUIDE SELECTION OF VRF SYSTEM – CENTRAL AIR-CONDITIONING SYSTEM

By Gaurav Rohilla, Member: ISHRAE, ASHRAE, RATA and FOCUS (Forum of Critical Utility Services)

Introduction

VRF system nowadays is the most widely opted air-conditioning solution for almost all kinds diverse applications like residences, small and big offices, hotels, hospitals, industrial, educational, etc. It is no longer considered a luxury or a one-time buy. The end-user today is typically a second or third time – sometimes even a multiple time – user. In this scenario, the users are quite well-versed with VRF technology and behavior. However, they are generally not aware of optimum system selection.

The selected system however could either be under-rated or over-rated. An under-rated VRF system consumes more power and provides poor performance resulting in lower efficiency. An over-rated VRF system consumes more power than the anticipated consumption along with higher capital expenditure on the system and ancillary electrical items. In this scenario, the VRF specialist must add value that end users are willing to accept before the product or service becomes an issue.

We must understand that end user is the prime stakeholder of the system, and must be educated about the VRF system during the diagnosis and collaboration phases.

A. Design Conditions

There can be a difference between the expectation of the end user and how a VRF specialist designs the system. To deliver the optimum VRF solution, the end user must be interviewed for the following:

A.1 Selection of Indoor Temperature

The VRF specialist must enquire from the end user about the requirement of indoor temperature, and needs to check whether the demand is normal or abnormal. A very low indoor temperature requirement leads to an over-rated VRF system. One must educate the customer the advantages of selecting a normal temperature, i.e. 22°C to 27°C, for thermal comfort.

A.2 Selection of Outdoor Temperature
Correction Factors

Correction Factors are basically multiplying factors required to be multiplied to the nominal outdoor capacity to get actual capacity of outdoor considering reduction in the capacity of outdoor unit due to High Ambient, Lower Indoor Conditions & Longer piping length. Primarily, VRF machines are designed to deliver nominal capacities. One must add correction factors.

Understanding the Air-conditioning Loads pertaining to VRF System

Above, we understood how to select Indoor Units of a typical VRF system for cooling purpose. Now, in order to understand designing or selecting a VRF Outdoor, one needs to get acquainted with Heat Load Estimation. Although Heat Load estimation considers geographical conditions of location, Building Material, Orientation of Building, Type of Glass Envelope etc., but these all things ultimately concludes to majorly two outputs i.e. Refrigeration Tonnage (Say Capacity required to Cool a place), Airflow Rate (Say amount of Air required to Cool the place at given point of time).

Actual Air-conditioning Load (Say To-be Conditioned Areas)

The cumulative of air-conditioning capacities of areas which are to be conditioned at any given moment of time.

Actual Diversified Load (Say Extra Areas)

The cumulative of air-conditioning capacities of areas which are extra to the capacity of outdoor unit but may be used when the occupant shifts from “To-be conditioned areas” to “Extra Areas”.

A.3 Type of Indoor Unit

The VRF specialist must not assume the type of indoor unit on its own. One must enquire from the end user proactively the type of Indoor unit required, during the design stage. This plays an important role in the selection of optimum capacity of outdoor unit. One can select lower apparatus dew point (ADP) for non-ducted type of indoor units, and higher ADP for ducted type indoor units.

For example, if the VRF specialist assumes a ducted unit for a particular room without enquiring from the end user, it would lead him to input a higher ADP during heat load estimation, which would lead to the requirement of higher air flow, resulting in the selection of higher capacity indoor unit as well as outdoor unit. But if the end user has indicated a ceiling suspended cassette or a wall mounted unit instead of a ducted type, a lower ADP selection will save the unnecessary increase in outdoor unit capacity.

A.4 Tentative VRF Outdoor Unit Location

The benefit of understanding the tentative location of the outdoor unit enables the VRF specialist to derive the actual capacity of outdoor unit with due consideration decrease in capacity due to piping length.

In order to derive the actual de-ration in capacity caused due to longer piping length, the VRF specialist should calculate the distance between the tentative farthest indoor unit and the tentative outdoor unit location. One must apply a correction factor on the proposed outdoor unit capacity to compensate for the reduction of outdoor unit capacity. This would lead to optimum selection of the outdoor unit.

Correction Factors

Correction Factors are basically multiplying factors required to be multiplied to the nominal outdoor capacity to get actual capacity of outdoor considering reduction in the capacity of outdoor unit due to High Ambient, Lower Indoor Conditions & Longer piping length. Primarily, VRF machines are designed to deliver nominal capacities. One must add correction factors.

Understanding the Air-conditioning Loads pertaining to VRF System

Above, we understood how to select Indoor Units of a typical VRF system for cooling purpose. Now, in order to understand designing or selecting a VRF Outdoor, one needs to get acquainted with Heat Load Estimation. Although Heat Load estimation considers geographical conditions of location, Building Material, Orientation of Building, Type of Glass Envelope etc., but these all things ultimately concludes to majorly two outputs i.e. Refrigeration Tonnage (Say Capacity required to Cool a place), Airflow Rate (Say amount of Air required to Cool the place at given point of time).

Actual Air-conditioning Load (Say To-be Conditioned Areas)

The cumulative of air-conditioning capacities of areas which are to be conditioned at any given moment of time.

Actual Diversified Load (Say Extra Areas)

The cumulative of air-conditioning capacities of areas which are extra to the capacity of outdoor unit but may be used when the occupant shifts from “To-be conditioned areas” to “Extra Areas”.

Figure 2: How ADP selection affects air flow requirement
Total Refrigeration Load

It is as simple as cumulative of air-conditioning capacities of “To-be conditioned areas” & “Extra Areas”.

Total Connected Load

Connected Load is basically the sum of capacities of Indoor units which we select against the air-conditioning demand of areas based on Heat Load Estimation.

Understanding Diversity:

To understand diversity, a typical VRF system is meant to serve two sets of zone: the primary set of zones that are required to be air-conditioned on priority by the VRF system, and the secondary set of zones that are connected but will be used only when load shifts from the primary set of zones.

The diversity, or total diversified load as defined earlier in this article, is not meant to be in use in parallel to the actual running load as it affects the VRF system’s performance. The industry erroneously uses the term diversity for combination ratio. Now, we have explained the difference.

For example, let us assume a residence that has living and dining rooms, a master bed room, and two bed rooms. Ideally, the primary set of zones to be conditioned can be assumed as the master bed room and two bed rooms, and the secondary set of zones as the living and dining room. The living and dining room are considered to be the diversity. The VRF outdoor would feed the primary set of zones and, in case any room load shifts to dining and living room, the outdoor would cater to the diversified load. Total connected load comprises both the primary and the secondary set of zones. The actual running load with reference to the end user is the master bed room and two bed rooms. On the other hand, the end user can also prioritize the master bed room, one bed room and living room as the primary zone, and may consider the secondary zone as one bed room and dining area. It would be totally dependent on the user’s requirement as to what constitute the primary and secondary zones.

Step by Step Procedure to Select the VRF System:

Optimum selection of VRF (primarily for cooling application) is defined below.

Step 1

Estimate the heat load for the cooling application.

Step 2

Select the indoor unit (type and capacity) based on the client’s requirement and air flow required; most of the times the selected capacity will be higher in order to satisfy the air flow requirement.

Step 3

Now calculate or analyze the following:

• Find the total refrigeration capacity of heat load estimation, say ‘A’.
• Find the cumulative of capacity indexes of connected indoor units, i.e. connected load; convert this into the total capacity index number as defined earlier, say ‘B’.
• Calculate or find the total actual running load ‘C’, based on the end user’s input.
• Calculate or Find the Actual Diversified Load ‘D’, based on the end user’s input.

Step 4

Select the provisional outdoor capacity, say ‘E’, using the sum of capacity indexes of the selected indoor units, ensuring the combination ratio is between 50% and 130% (refer Annexure 1, wherein the value ‘B’ should fall between the minimum and maximum range of the cumulative of capacity indexes of connected indoor units; column d and e are 50% and 130% combinations). The provisional outdoor capacity Index should be selected in such a way that it should fall in the bracket of minimum and maximum combinations.

Step 5

Check the Combination Ratio ‘CR’, i.e. ‘B’ divided by ‘E’. If it is within the 130% limit, proceed further; if not, repeat the selection process.

Step 6

Calculate the de-ration in the value ‘B’, i.e. cumulative of capacity indexes of connected indoor units.

De-ration due to ambient temperature and indoor temperature conditions based on end user’s input, Say ‘X%’ and ‘Y%’

De-ration due to extended piping length between the outdoor unit and the farthest indoor unit, say ‘Z%’.

Calculate the total reduction in capacity, say Z1 = X%+Y%+Z%.

Step 7

Derive the Actual Outdoor Unit Capacity, say ‘AC’ =
Provisional Outdoor Capacity – Z1.

**Step 8**

Check whether ‘AC’, i.e. the Actual Outdoor Unit Capacity, is equal to or greater than the Actual Running Load ‘C’. If the corrected capacity is larger than or equal to the required Actual Running Load, the selection is complete. In the event that the corrected capacity is lower than the Actual Running Load ‘C’, the selection steps should be repeated from the point where the outdoor unit capacity is provisionally selected, i.e. Step 4. Refer sample calculation in Annexure 1.

**Conclusion**

This guide is meant to increase the ease of selection for VRF systems. It would help the VRF specialist select the VRF system based on a professional approach, and the end-user or the prospect would be able to independently verify the selection.

---

**Annexure 2: Sample Calculation**

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Step</th>
<th>Description of Activity</th>
<th>Parameter</th>
<th>(in TR)</th>
<th>(in kW)</th>
<th>(in Capacity Index Number)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Total Refrigeration Tonnage based on Heat Load Estimation</td>
<td>A</td>
<td>10.5</td>
<td>36.9</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>Connected Load (Based on Selection of Indoor unit)</td>
<td>B</td>
<td>13</td>
<td>45.7</td>
<td>457</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>Connected Load (Based on Selection of Indoor unit) in terms of Capacity Index Number</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>Total Actual Running Load (Based on Refrigeration Tonnage of Heat Load Estimation)</td>
<td>C</td>
<td>8</td>
<td>28.1</td>
<td>281</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>Total Actual Diversified Load (Based on Refrigeration Tonnage of Heat Load Estimation)</td>
<td>D</td>
<td>5</td>
<td>17.6</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>Provisionally Selected Outdoor Capacity (Refer Annexure 1)</td>
<td>E</td>
<td>40</td>
<td>400</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>7</td>
<td>Combination Ratio</td>
<td>CR = B / E</td>
<td></td>
<td>114%</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>8</td>
<td>De-ration due to Ambient based on End User’s Input</td>
<td>X% + Y% (Say 15%)</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>9</td>
<td>De-ration due to Indoor Temperature Conditions based on End User’s Input</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>10</td>
<td>De-ration due to Extended Piping Length between Outdoor Unit and Farthest Indoor Unit</td>
<td>Y% (say 6%)</td>
<td></td>
<td>2.4</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>11</td>
<td>Total Reduction in Capacity</td>
<td>Z1 = X%+Y%</td>
<td></td>
<td>8.4</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>12</td>
<td>Actual Outdoor Unit Capacity</td>
<td>AC = E - Z1</td>
<td></td>
<td>31.6</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>13</td>
<td>Check</td>
<td>AC Equal to or Greater than C</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>14</td>
<td>IF YES</td>
<td>Value AC is selected Capacity</td>
<td>40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>15</td>
<td>IF NO</td>
<td>Repeat from Step 4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ASHRAE INDIA CHAPTER
YEA MEET
Ascent 1.0
An event for YEA’s to learn, interact, network & much more

Something exciting is coming in April 24 at Heritage Hotel, Stay tuned!!

ASHRAE INDIA CHAPTER
YEA MEET
Ascent 1.0
An event for YEA’s to learn, interact, network & much more

HIGHLIGHTS OF THE EVENT
- Learn About ASHRAE
- Interaction with Seniors & Chapter Officials
- YEA Presentations
- Fun & Frolic
- Networking Dinner
- YEA Connections
- Team Building Activities
- Future Prospects

Career Opportunities with ASHRAE
ASHRAE’s mission is to serve humanity by advancing the arts and sciences of heating, ventilation, air-conditioning, refrigeration, and their allied fields. ASHRAE’s vision is a healthy and sustainable built environment for all.
If you are seeking a job in the engineering field or searching for the most qualified engineers, the ASHRAE job board offers the most qualified opportunities and candidates. Engineers can set up a personal account for job searches, manage resumes, and create alerts for new job postings. Employers can set up corporate accounts to post new jobs, review resumes, and manage security.

Reach us at https://jobs.ashrae.org/

DIGITISATION AND IOT IN COLD-CHAIN TO ENHANCE ENERGY EFFICIENCY

Wednesday, March 27th 6:30PM to 8:00PM

SPEAKER
PRABHAT GOEL
Mr. Prabhat Goel has 40 Years Experience in the HVAC Industry including Design, Project Execution and Commissioning of HVAC Systems and associated Control Systems. He joined Voltas in 1977 and thereafter worked with UT Carrier and York in Dubai. He was part of the JCI team in India till Sept 2013. Now work as a HVAC Consultant on large HVAC projects and visiting Faculty at IISER, Pune.

Mr. Rajesh Jain President
Mr. Gaurav Mathur CTTC-Chair
Mr. Ashish Gupta Refrigeration Chair
Dr. Rajinder Singh Refrigeration Co-chair

Registration Link

Contact: Ritu Chauhan +91 915900 2008 | Email: ashraei@gmail.com
TECHNICAL RESOURCES
Access the world's largest library of HVACR related technical information, Members get:
• ASHRAE Journal
• HPB Magazine
• ASHRAE Handbook (for Member and Associate grade members)
• ASHRAE Technology Portal

PROFESSIONAL NETWORK
Grow your network at the local, regional, and international level, both in-person and online.
• 199 Chapters within 15 Regions keep members connected at the local level through meetings and events.
• Society Conferences and Chapter Regional Conferences provide networking and unparalleled learning opportunities.
• Connect with members across the globe on social media.

CAREER & PROFESSIONAL DEVELOPMENT RESOURCES
Develop personally and professionally with continuing education, certification and leadership programs.
• ASHRAE Learning Institute & eLearning
• Free PDHs from Annual Webcast
• YEA Leadership Programs
• ASHRAE Jobs
• Certifications

MEMBERSHIP FEE TO JOIN

Mr. Waliullah Siddiqui
Chair-Membership Promotion
+91-9810450857

Login at: https://www.ashrae.org/join, to become a member instantly.
Secretariat Help: +91-8130528158, +91-83839 69876

Website and contact information:
www.ashraeindia.org
Email: ashraeic@gmail.com

AIC Newsletter
Advertisements Rates

<table>
<thead>
<tr>
<th>Coloured</th>
<th>₹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Back Cover</td>
<td>6,000</td>
</tr>
<tr>
<td>Inside Back Page</td>
<td>5,000</td>
</tr>
<tr>
<td>Full Page</td>
<td>5,000</td>
</tr>
<tr>
<td>Half Page</td>
<td>3,000</td>
</tr>
<tr>
<td>Quarter Page</td>
<td>2,500</td>
</tr>
<tr>
<td>Banner</td>
<td>1,500</td>
</tr>
</tbody>
</table>

AIC Website
Advertisements Rates

<table>
<thead>
<tr>
<th>Coloured</th>
<th>₹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banner adv. rates yearly</td>
<td>10,000</td>
</tr>
</tbody>
</table>

Reader Feedback
ASHRAE India Chapter Bulletin Newsletter wants ideas from readers on what you would like to see in future newsletters.
Tell us what you think.
Members interested to send their technical articles are requested to send the same at ashraeic@gmail.com