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Maybe you learned everything you need to know in college. I certainly didn't. The reality is that most of us learn as we go, mostly by working.

In light of the above, Safid, being a leader in its industry, actively strive to be a knowledge source for the stakeholders.

For 30 years experience in the field of HVAC, Safid has not been providing contractors and engineers with quality products exclusively. A valuable contribution to the community is the wealth of information, technical expertise, and forward thinking which have lead to an undeniable impact.

This newsletter issue, as all others, remains the best means of conveying what we deem as informative, innovative and practical information for our customers.

A well known French quote says "He who doesn't go forward, in reality is moving backwards." This applies in particular to the technological fields such as the construction, HVAC, and telecommunication in particular.

Finally, to make this newsletter a two-way communication tool, we welcome your input, whether contribution, suggestion of an article, or a needed advice. Simply communicate with us through safidflow@safid.com.



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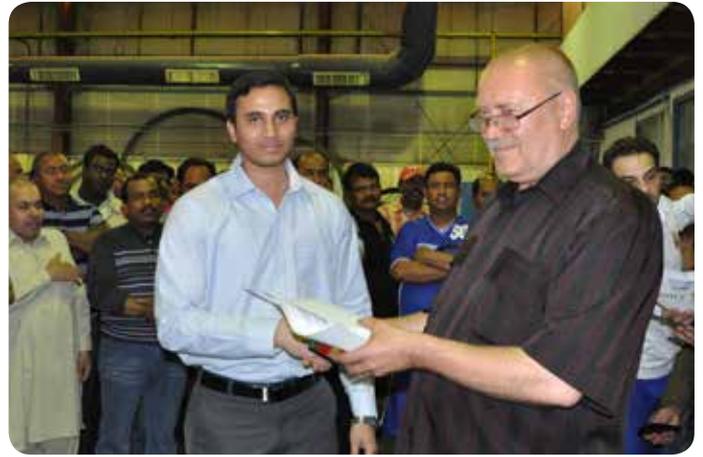


Happenings

▪ End of Year Event 2012-2013

This end-of-year event witnessed remarkable preparations by SAFID employees and staff. We were all excited to be IN-SHAPE for this event ahead of time. As a result, our teams were ready for this day throughout all the events organized such as: Basketball, Badminton, and other fun game.

Everyone was delighted and joyfull, thanks to the organizers and all the efforts done to re-stress the fact that we, at SAFID, are one family working together to achieve our goals and targets.



Trophies and prizes were handed to the winning teams; and everybody had a chance to win with the raffle draw on many valuable prizes, Round trip tickets, LED Screens, Electronics, in addition to cash slips had been handed to the lucky winners.

Congratulations to all the participants and looking forward to next year's events.

▪ Saudi HVAC CONFEX - 11-13 February 2013



Organised by the Ministry of Water and Electricity and the Saudi Energy Efficiency Center, Saudi Arabia, SAFID participated in the Saudi HVAC CONFEX 2013 that took place at Al Faisaliah Tower - Riyadh between 11th & 13th February 2013.

Many of our valued clients visited our stand and had the opportunity to discuss mutual concerns with SAFID representatives, who strived to provide the required clarifications professionally.

The exhibition marked a new opportunity to prove that SAFID is always an active element of any ongoing event in the HVAC industry.

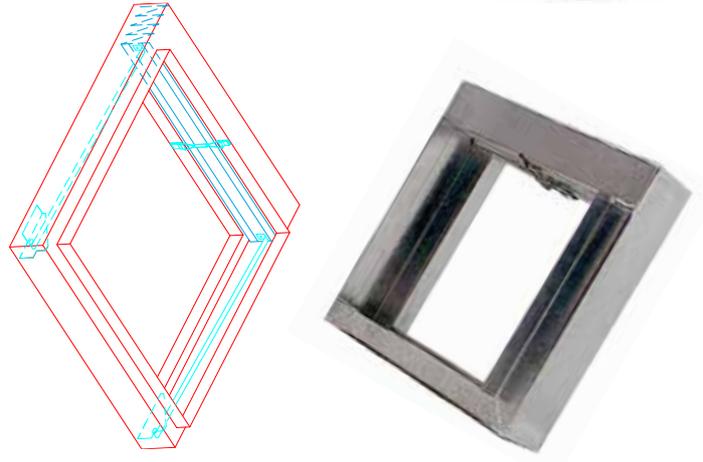
We ARE CERTIFIED:

SAFID Achieves UL Certification on Curtain Type Fire Dampers – Horizontal Mounting Position



Once again, SAFID strives to offer the best products backed by international certifications and standards. In this manner, Safid SSA -1 Type Fire Dampers (Horizontal Mounting Position) achieved the UL Certification.

Fire dampers are used to prevent transmission of flame where air ducts penetrate fire barriers. A fire barrier is a fire-resistant-rated vertical or horizontal assembly of materials designed to restrict the spread of fire in which openings are protected. They can also be employed in air transfer openings in walls and partitions. Its construction includes a galvanized steel frame, blades, and a fusible link (a heat sensitive device usually set at 71° C).



One of the most common questions concerning dampers is the use of horizontal dampers. The correct damper depends on the situation. In case of a vertical duct extending up through a fire rated floor assembly by one of the exceptions in NFPA 90A, then the horizontal type fire damper is the appropriate damper to use.

Factory Visits

All are welcomed to tour our facilities and to experience our daily operations. The Tour will give a special insight into the process that goes into creating Safid products.

You can book a Factory visit by contacting our sales or marketing department or simply email us at safidflow@safid.com . We will confirm your booking in return and make sure to organize a very informative and useful tour.



Sector Focus – FUEL CELLS AND HVAC

Fuel Cells May Reshape Home Hvac

A quiet, environmentally friendly energy source not much larger than many home air conditioning condensing units might hold the key to reducing the inconveniences many consumers experience in summertime and its higher electricity consumption, related largely to air conditioning use.

Dozens of companies seem to be rushing to develop and prove the feasibility of fuel cells in applications ranging from power for your vehicle to basic home energy plants, and in larger applications, for community or regional power-generating stations.

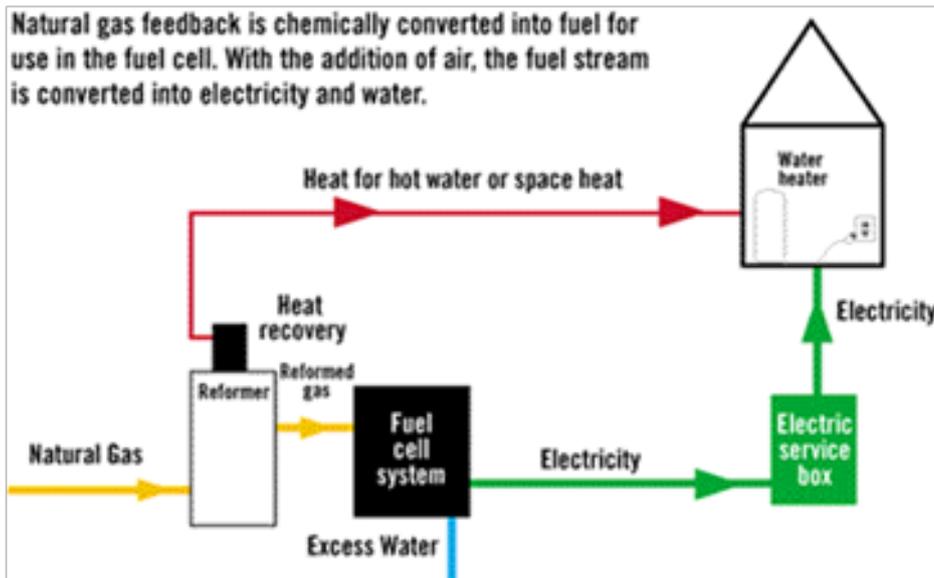
Fuel cells have been used in the U.S. space program since 1965. They convert hydrogen and oxygen into direct current (dc) electricity, heat, and water.

A reformer or fuel processor ahead of the fuel cell itself produces the hydrogen from natural gas, propane, methanol, and possibly other sources. The heat produced as a byproduct can be used to heat domestic hot water.



A look at the basic fuel cell structure and connections (courtesy of NiSource Inc. subsidiary Energy USA).

A reformer or fuel processor ahead of the fuel cell itself produces the hydrogen from natural gas, propane, methanol, and possibly other sources. The heat produced as a byproduct can be used to heat domestic hot water.



Fuel cells have the potential to provide clean, lower-cost electricity, heating and air conditioning for our homes and offices while dramatically reducing emissions of carbon dioxide, it offers a basic source of home electricity needs independent of the power grid, but may be hooked into the grid as a backup or peak-need source of electricity.

Once operating, the output power generated by the fuel cells must be conditioned and absorbed by a load. When a fuel cell powerplant is installed in a transit bus, it must interface with the power train, steering circuit, bus cooling system and HVAC system. The power train includes the drive motor, transmission and ancillary components. The steering circuit uses pressurized hydraulic oil to operate the steering mechanism.

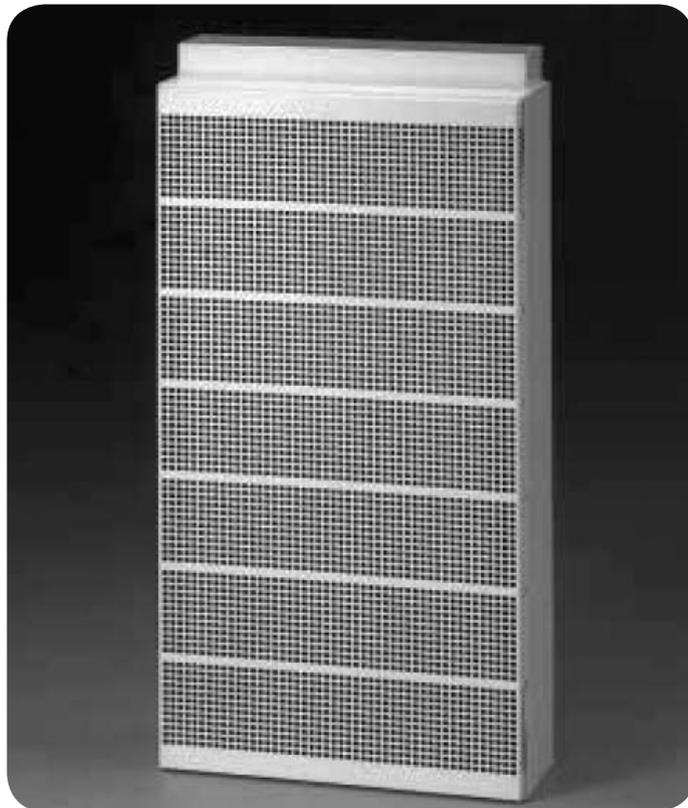
The bus cooling system removes heat from standard bus and fuel cell components, supplies heat to the HVAC system, and rejects waste heat to the environment. The HVAC system provides coach heat and air conditioning. This equipment requires subsidiary lubrication and hydraulic systems in order to operate.

A PRODUCT in SPOTLIGHT:

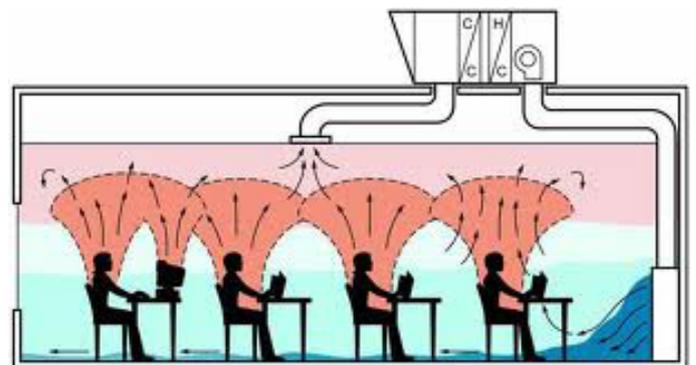
Displacement Ventilation

Displacement ventilation (DV) is an alternate air distribution method for commercial and industrial spaces. Used since the late 1970s in Northern Europe and more recently in U.S.

Displacement Ventilation (DV) originated in industrial facilities in Europe as an effective way to remove contaminants from the occupied zone. It has since gained popularity in a variety of applications in both Europe and North America due to its superior air quality, thermal comfort, and energy efficiency. DV provides high temperature, low velocity supply air, relying on the buoyancy forces of air to drive air motion. The result is high ventilation effectiveness and improved thermal comfort delivered in an energy efficient manner.



Displacement ventilation (DV) is a means of providing cool supply air directly to the occupants in a space. The fresh air, supplied near the floor at a very low velocity, falls towards the floor due to gravity and spreads across the room until it comes into contact with heat sources. The cool supply air slowly rises as it picks up heat from occupants and equipment. The warm, stale air rises towards the ceiling where it is exhausted from the space. On the Indoor Air Quality side, DV has a ventilation effectiveness factor of 1.2 which translates to a 20% bonus when designing for ventilation requirements per ASHRAE Standard 62.1-2007.



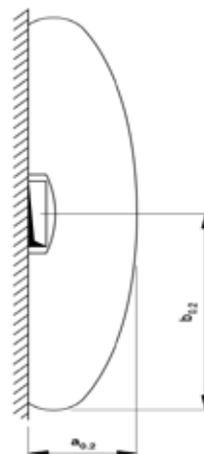
Benefits

With the appropriate design and application, DV provides several benefits: improved indoor air quality, reduced energy use, and improved acoustic performance. There also may be an opportunity to reduce the capacity of the primary cooling system.

Application:

DV can be applied in several places such as:

- Schools
- Large public spaces
- Health Care
- Industrial Facilities



Near zone $a_{0,2}$, $b_{0,2}$

$a_{0,2}$ is the horizontal distance from the wall to where the maximum velocity has decreased to 0.2 m/s.
 $b_{0,2}$ is the horizontal distance from the centre of the unit parallel with the wall to where the maximum velocity has decreased to 0.2 m/s.

Sound pressure level L_A

The diagram shows the sound pressure level L_A (dB(A)). The sound values are for room attenuation of 4 dB.

Example of calculation

Air flow: 150 l/s (540 m³/h)

Size 6010 lies within the recommended field of application.

Near zone at -3K: $a_{0,2} = 1.2$ m

$b_{0,2} = 4.0$ m

Pressure loss: $p_L = 13$ Pa

Sound pressure level: $L_A = 28$ dB(A)

The distance to where the maximum velocity is 0.25 becomes:

$a = 0.8 \times 1.2 = 1.0$ m

$b = 0.8 \times 4.0 = 3.2$ m

(from table 1, page 212).

Project in SPOTLIGHT

Dammam University Hospital

Minister of Higher Education Dr. Khaled Al-Anqari signed a building contract to establish a hospital for the University of Dammam (King Faisal University) on May 2010 with an estimated cost of SR500 million.

The project followed the signing of a number of contracts that aim to develop the academic performance of Saudi universities, as well as committing them to serve their respective communities.

The 11-storeyed university hospital will have the capacity of 400 beds, and will comprise medical sections, outpatient clinics, nursing units, educational facilities for the students of the university's college of medicine, specialized and support sections, diagnosis laboratories, operation theaters and a helipad site. The hospital is expected to be completed in four years.

Al Anqari said the university hospital is regarded one of the vital and important projects for the university as a new medical structure supported by the government which gives special attention and support to higher education sector.



CLIENT: King Faisal University (KFU)

CONTRACTOR: Fouzan Trading & General Construction Company

Electro-Mechanical Contractor: Drake & Scull International Saudi Arabia

SAFID Supplied: Ductwork, Volume Dampers, Fire, & Fire/Smoke Dampers

King Khaled Hospital Service Building

In 1982, a dedicated university hospital was opened within King Saud University Campus, and was named King Khalid University Hospital. This facility is an 800 bed facility with all general and subspecialty medical services. It contains a special outpatient building, more than 20 operating rooms, and a fully equipped and staffed laboratory, radiology, and pharmacy services in addition to all other supporting services.

A new General Service Building was developed by Al Mansouriya Est. and designed to provide general services for the hospital's doctors, nurses, employees and staff. Covering an area of 4,000 sqm, this 7 stories service building consists of a central industrial kitchen, Cafeterias, Library, Business offices, meeting areas, etc



CLIENT: King Saud University (KSU)

CONTRACTOR: Al Mansouriya Establishment

Electro-Mechanical Contractor: Al Mansouriya Establishment

SAFID Supplied: Ductwork and Accessories, Volume Dampers, Fire Dampers, Grilles and Diffusers, Flexible Ducts



Sand Storm is a PROBLEM?

Our Sand Trap Louvers is the Solution



Find out more about SAFID LOUVERS products in our Products and Accessories Catalogue – Section 6

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