

teca News



MESSAGE FROM THE PRESIDENT

I write this message on the first rainy day of the past two months and it makes me think we may be heading into an early start for the heating season—wouldn't that be nice for all the contractors! It's a privilege to serve as your TECA president this year. I had a gentle start as our first quarter for the Association's governance year (June-Aug) is always quiet over the summer. That said, I can assure you the coming months will be hopping with a focus on professional development for our industry contractors, meeting planning, and work on the CHT—all of which will continue to be the focus of this organization for the next year.

I take my lead from Terry Regier who did an outstanding job of leading TECA in some lofty goals such as the inception of the CHT program, the start of a HRV program currently under development as well as a joint venture with GeoExchange BC on their bi-annual conference. On behalf of all of us at TECA, I would like to thank Terry for his passion and vision over the past two years and to let him know that TECA was served well by his leadership. Without him, we would not be where we are today.

My mandate will be a short one, as I have only committed to being President for one year. I hope to carry on where Terry left off and I have set some goals for myself and for TECA over the next twelve months. They are:

1. Grow our membership by 10% in 2010/11.
2. Take one of our member meetings outside of the Lower Mainland to enable our "outside the lower mainland" members to attend.

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Quality First™ is TECA's respected brand of Forced Air, Hydronics, Ventilation and Principles of Airflow (Basics of Air) training courses, manuals and software. Our courses also form the foundation of the new provincially accredited Certified Heating Technician training program. For course descriptions, ordering manuals and registration forms, schedules and other information, please visit our website: www.teca.ca ■

Advertisements contained within *tecaNews* do not necessarily reflect the views of the association.

President's Message (continued)

3. Move the CHT program towards acceptance across the Province
4. Re-establish TECA meetings as a great networking place for contractors, wholesalers, manufacturers and our utility and government allies.

Please know, these are not just my goals but also the goals discussed by the Board on an annual basis and I hope we can build on our past successes over the last few years and achieve these targets this coming year.

TECA continues to offer outstanding value to all of its members and the entire Board continues to try and create even more value each and every year. I hope that if you have taken the time to read this that you will take it a step forward, today, and either become a member of TECA or find out how you can make our association even better by volunteering. We need each and every member to be actively involved so we can ensure we are serving you well.

Have a great fall and I look forward to working with you this year.

Respectfully,

Andrew Dyck
Barclay Sales ■



LETTER FROM THE EXECUTIVE DIRECTOR

Fall will be busy for me as I have been and will be meeting with the province's municipalities over the next few months, strongly urging them to widely require Quality First™ paperwork and/or the CHT credential. We see the standardization of installation practices and requirements among municipalities as incredibly important for both customer assurance and to level the playing field for our industry members. We recognize that some of you may have questions or concerns about this initiative, and we encourage you to contact us about it, but it is the organization's firm conviction that this is the right approach and the right time to pursue it with the ventilation code likely to change in 2011.

Without some sort of municipal requirement, heating system installs may not be to the level necessary to meet our province's energy efficiency targets and the demands of increasingly complex systems.

To support our members in the increasing professionalization of the trade, we have included information on earning the CHT on pages 18 and 19. Having our contractors CHT credentialed is a

Editor

Kim Savage, Executive Director, TECA

Production

Beyond Expectations Communication & Design Solutions
info@beyondexpectations.ca

Contributors to this issue include

Andrew Dyck, The Canadian Institute of Plumbing & Heating, Kathryn Fallis, Chris Frye, Habitat for Humanity, Kim Savage, Paul Vaillancourt.

New Copy and Advertising Deadlines

April 10 • August 10 • December 10

Advertising Rates (also available online)

	TECA Member	Others
1/4 page	\$150	\$185
1/3 page	\$200	\$245
1/2 page	\$295	\$375
Full Page	\$585	\$750
Spot colour 1/2 page	\$345	\$455
Spot colour full page	\$720	\$900
Spot colour cover	\$800	\$1000

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Leo Vaillancourt Watts Industries Canada

Nir Kushnir National Energy Equipment

Russ Roper North Shore Plumbing & Heating

Ex Officio

Greg Morandini BC Hydro

Wolf Scherrelies Terasen Gas

key to the success of this project. I look forward to updating you on our progress in the coming months.

Kim Savage
Executive Director



NOTES FROM THE OFFICE

Summer has been busy for TECA staff and directors since our Annual General Meeting on June 3rd. We would like to welcome two new directors to our Board, Nir Kushnir (National Energy Equipment Inc.) and Russ Roper (North Shore Plumbing & Heating).

Fall 2010 is all about training!

This issue is packed full of information on upcoming training classes. Our first courses of the season begin later this month, so check the calendar of events on pages 10 and 11 and register now!

TECA Voting Members and all of their employees receive member discounts on TECA's training courses and products. Join the Association and save \$money\$. Please visit our web site at www.teca.ca to become a TECA member!

TECA Membership Referral

Your TECA Membership renewal invoice will arrive in the mail in November. Before you send it in, take a moment to think of anyone you know who would benefit from membership. Contractor members get a \$25 credit towards next year's dues for each referral who joins; Suppliers/Manufacturers get a \$50 credit. Make sure the applicant puts your name on the Member Application. Promote the Association and reap the rewards. Don't forget to renew!

Municipalities / Cities that Require Quality First™ Paperwork

We are currently working on creating a list of municipalities and/or cities that require Quality First™ paperwork for one or more of hydronics, duct design, appliance selection and ventilation.

To date we have the following areas on our list:

- Burnaby
- Coquitlam
- Township of Langley
- Fraser Valley Regional District
- Kelowna
- Comox Valley

If you are aware of another jurisdiction that requires Quality First, could you please advise the TECA administration office and we will follow-up to confirm.

TECA News wants to hear from you! If you have a topic to suggest, a photo or an article to contribute, or a comment on this or past issues, please send an e-mail to office@teca.ca, or give us a call.

Contact TECA



Call TECA's Association Administrator, Kathryn Fallis, for Membership, Training & General Inquiries:

Phone

BC TOLL-FREE 1-888-577-3818
DIRECT 604-594-5956

Fax

BC TOLL-FREE FAX 1-888-577-3137
DIRECT 604-594-5091

E-mail

training@teca.ca
or office@teca.ca

Mail

TECA Office
PO Box 73105, Evergreen RO
Surrey, BC V3R 0J2

Office Hours

9am-4pm, Tuesday to Friday
Please note: Office visits require an appointment.

Executive Director

Kim Savage
PHONE 604-596-0595
E-MAIL execdir@teca.ca

www.teca.ca

Register now for
Fall/Winter 2010 training.
Schedules on page 10.

NOT A TECA Member?

and would like the opportunity to tap into the restricted area on our website where a wealth of knowledge is stored? Please visit our web site at www.teca.ca to become a member or contact the administration office. See above for contact information ■



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- Pre-installed Adjustable Heat Pump Ready TX Valve (R-22 or R410a)
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US	THEM
Yes	No
Yes	No
Yes	No
Yes	No
Yes	No



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OPERATION:

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- One-Size-Fits-All Product (Motor, Controller, Circuit Board, Air Purification System)

US	THEM
Yes	No
Yes	No
Yes	No
Yes	No
Yes	No

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US	THEM
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Yes	No
No	Yes
Yes	No



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US	THEM
Yes	No
Yes	No
Yes	No
Yes	No

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Hydronic Heating with Pumps

Paul Vaillancourt, ECCO Supply

Heat pumps are gaining tremendous attention these days due to their higher efficiencies and their inherent ability to provide cooling. While the HVAC industry has been active in this market enjoying growth and profitability, the hydronic heating industry has yet to tap in. When we talk about heat pumps, the first thing that comes to mind are air-source heat pumps coupled with gas-fired forced air furnaces or geothermal heat pumps.

Air-to-water heat pumps offer opportunities to the hydronic heating industry in radiant, in-floor heating applications and in chilled-water fan-coil cooling applications. Their ability to efficiently produce hot water temperatures up to 115°F (46°C) make them ideal for both in-floor and fan-coil heating applications. These units will also produce low water temperatures down to 42°F (6°C)

making them ideal for fan-coil cooling applications.

Air-to-water heat pumps are also known as Reverse Cycle Chillers. They have the ability to efficiently extract energy from outside air at temperatures as low as 10°F (-12°C) while achieving a Coefficient of Performance (COP) of 2.3 at that temperature. At around 47°F (8°C), these units can average COPs of 3.1. These COPs are based on producing water temperatures of 120°F (49°C), higher COPs can be achieved by lowering the design operating temperatures. By comparison, the best gas-fired modulating boilers in the market can only approach COPs of around .98 under ideal conditions.

The COP is calculated by dividing the total output in BTUs per hour by the total input in BTUs per hour or by dividing the total output in watts by the total input in watts. Since a heat pump's input is measured in watts

continued on page 6

Specifications

Normal Capacity Btu/hr [kW]	Sound level [dB]	Electrical Data						Refrigerant	
		Minimum Circuit Ampacity	Maximum Fuse/Circuit Breaker	Voltage	Hz	Phse	Amps @ 230V	Type	Charge lb [kg]
36.000 [10.6]	69	29.1	45	208/230	60	1	19	R-22	5.1 [2.3]
10.000 [17.6]	60	41.7	60	208/230	60	1	25.5	R-22	7.9 [3.6]
36.000 [10.6]	60	25.5	40	220	50	1	22.5	R-22	5.1 [2.3]
60.000 [17.6]	60	16.6	25	380	50	2	14.7	R-22	7.9 [3.6]

Hydronic Heating (continued)

and its output in BTUs per hour, the input must be converted from watts to BTUs in order to calculate the COP. Although most heat pumps are electrically driven, they can still yield energy savings upwards of 30% when compared to natural gas appliances since they deliver more energy than they consume by moving energy as opposed to generating heat by the process of combustion. The following sample specifications can be used to estimate the COP of a particular unit.

If we look at model number UCHR-060-1-1-P as an example, we can see that the unit at 230V is expected to draw 25.5 amps and that the heating capacity is expected to be around 60,000 BTU/h. This is of course based on a given set of conditions.

To calculate the estimated COP under the given conditions, we must first calculate the wattage the heat pump is expected to draw. Since Volts x Amps = Watts, our calculation will be as follows:

$$230V \times 25.5 \text{ amps} = 5,865 \text{ watts}$$

We must now convert the input in watts to BTU's per hour using the simple formula:

$$\text{Watts} \times 3.412 = \text{BTUs}$$

or in this case

$$5,865 \times 3.412 = 20,011 \text{ BTUs}$$

Since we know that the heat pumps output is 60,000 BTUs and the input is 20,011 BTUs, we can easily estimate the COP by dividing the output by the input.

$$\text{COP} = \frac{60,000}{20,011} = 3.0$$

OUTPUT INPUT

This translates that for every dollar spent to operate the heat pump, the owner will get three dollars worth of heat. A 98% efficient gas boiler by comparison will give me only 98 cents worth of heat for every dollar I spend.

The field measurement of COP will of course be more accurate and will generally be more favorable than the calculations from the specifications for several reasons. The first is that the compressors rarely draw to their full rating, a correction factor of .85 is used on the calculated wattage unless a more accurate watt meter is used to measure true power as opposed

continued on page 7




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Call your local ECCO Supply Representative for more information.

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www.eccosupply.ca

Hydronic Heating (continued)

to using an amprobe and running the calculations. Field measurements required are flow rate in USGPM, water side TD, voltage & amperage. Pressure and temperature ports must be installed at the heat pump water connections in order to calculate overall performance.

The installations are relatively simple because they are typically a self contained packaged unit and only need water and electricity to be field installed.

A typical installation would include an outdoor unit installed on a pad and a buffer tank installed inside. The two components are then coupled with water lines (usually copper); other piping materials can be used. The simplest method of installation is a design where the sole function of the heat pump is to maintain a target temperature in the buffer tank which can be controlled by a simple aqua-stat or boiler control. The

radiant floor or fan-coil units then draw the conditioned water directly from the buffer tank and return the water to the buffer tank. This method de-couples the heat pump from the distribution system inside the building and simplifies the entire installation.

De-coupling the heat pump is a very important part of the design since the water flow requirement for the heat pump in most cases will be significantly higher than the required flow rate for the load side of the system. One of the major differences between a boiler and a heat pump is that a heat pump's flow rate across the condenser or evaporator is near critical. In other words, the flow rate cannot vary with the load side demand of a radiant floor, fan-coil or any other distribution system.

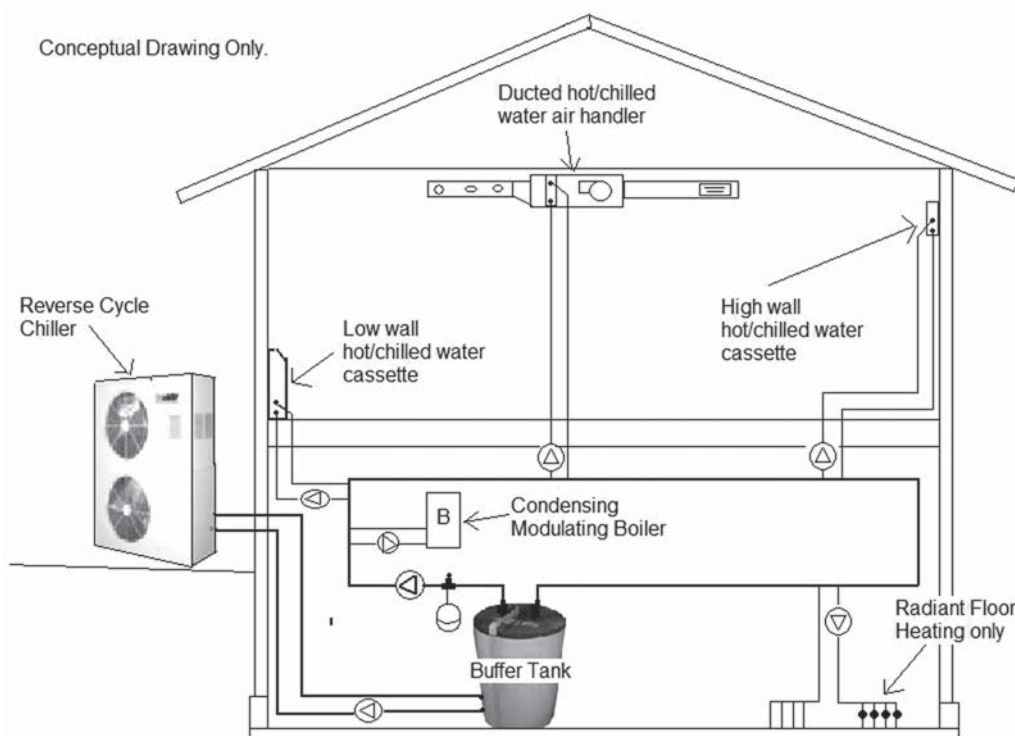
Since air-source heat pumps will lose capacity and efficiency as the outdoor ambient temperature drops,

a back-up system is typically required. A modulating condensing boiler can easily be integrated in a system to either supplement the heat pump's capacity or take over under extreme conditions. The following conceptual drawing shows a simple system using a single buffer tank for distribution. The tank can be switched to cooling on a seasonal basis. A two buffer tank system using 3-way diverting valves can be designed if simultaneous heating and cooling is required.

While these systems are relatively simple to install it is important for the mechanical contractor to have a good understanding of how a heat pump works, the relationship between water temperatures, flow rates and the effects on a refrigeration system. A lack of understanding of these will often result in unwanted problems with the equipment and in many cases compressor failures will result. Training is an important factor in installing trouble free systems and can usually be administered over a one or two day session to an experienced hydronics technician.

Reverse Cycle Chillers offer many new opportunities in residential, commercial and industrial applications. This type of system could undoubtedly help you grow your business and open you up to new markets. May your call backs be low, your customers be happy and your profits keep you smiling!

If you would like more information, please contact Terry Regier or Chris Dafoe at ECCO SUPPLY in Burnaby BC. 604-420-4323 ■





2010 Fall Training

TECA's Quality First™ training runs from September to June. Visit our website at www.teca.ca for course information, schedules and online registration features. Remember, courses are scheduled when enough people express interest and may be cancelled due to lack of enrollment. Register early. Contact Kathryn at the TECA Office to be put on our notification list:

1-888-577-3818 TOLL FREE in BC
or DIRECT 604-594-5956,
or e-mail training@teca.ca.

Be sure to provide your name, phone number, location and the name of the course you are interested in, Principles of Airflow (Basics of Air), Ventilation or Forced Air. For Hydronics, call BCIT— See contact information below.

You will receive a registration form by fax or e-mail when a course is scheduled.

Encourage your local inspection authorities to post our latest training schedule and to require Quality First™ certification for residential heating contractors. Municipalities such as Burnaby, Township of Langley, Fraser Valley Regional District, Kelowna, and Comox Valley Regional District already require one or more of Hydronics, Forced Air and Ventilation numbers.

Quality First™ Hydronics at BCIT

Successful BCIT course participants will be mailed (or e-mailed) a Hydronic Systems Designer Number Registration Form from TECA approximately four weeks after the course ends, based on the contact info you provide on your exam. Registered Hydronic Designer stamps are required on system drawings from TECA's Hydronic & Combo Guidelines (included in course manual) by inspection authorities in many municipalities.

Already a registered designer? Current designers, please call TECA to update your contact info, to ensure you appear in the new national, searchable

Hydronic Designers online database being developed by the Canadian Hydronics Council.

To Register or contact BCIT

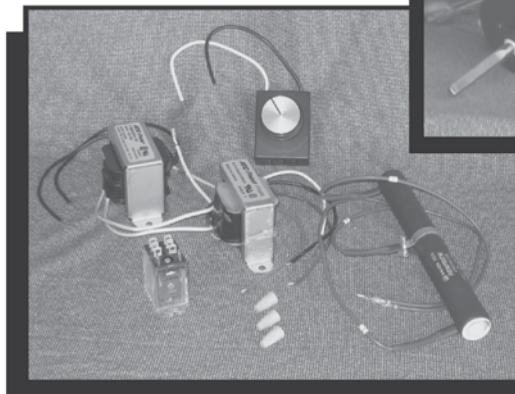
Paula Rossetti, Program Assistant
School of Construction & the Environment
Phone: 604-412-7564
Fax: 604-435-5995
Email: paula_rossetti@bcit.ca

These modules are no longer in pilot so regular tuition fees will apply. If you or someone you know is interested in taking one or both of these courses, please visit www.heatingtech.ca for program information or www.bcit.ca/apprenticeship/students/training or www.bcit.ca/construction/plumbing/news to register■

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Habitat for Humanity

Charity Profile & Community Service Opportunity

Since 1996, Habitat for Humanity (HFH) Boundary has empowered low-income families to prepare for the future and pursue their dreams by providing them a hand up to home ownership. By mobilizing volunteers and community partners in building affordable housing and promoting home ownership, we break the cycle of poverty one door at a time.

HFH Boundary is preparing to build a seven unit multiplex in Grand Forks, BC. This project will provide a first time opportunity for home ownership to a local group of developmentally disabled adult men. They will be expected to participate in all phases of the construction of their homes, putting in a minimum of 500 hours of "sweat equity", and on completion of the project, will purchase the individual homes (at fair market value) from Habitat for Humanity with an interest free mortgage. Their mortgage payments will be amortized not to exceed 25% of their income, allowing them to spend money on necessities like groceries and winter clothing.

All incomes from HFH Boundary's mortgages are used exclusively for new low income building projects. Administrative costs (less than 10% of our budget) are paid from non-designated donations and local fund raising events.

HFH Boundary is planning this build to be our first certified "Built Green" project. Built Green Canada has accepted us as builders in their

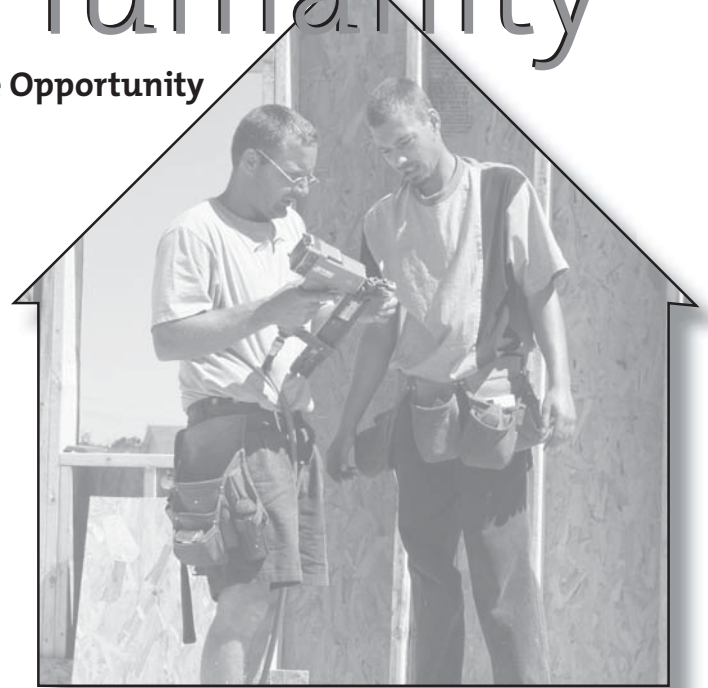
program, and is waiving registration and membership fees. While this may raise the cost of construction slightly, the subsequent benefits of an energy efficient structure will make our homes even more affordable to live in.

This project will stretch the capacity of the Grand Forks based Habitat affiliate and its volunteers beyond what they have accomplished in the past 13 years. HFH Boundary will need more volunteers for the build, more individuals to help with administrative and supportive work, and significantly more money to complete the project.

Get involved!

Please consider how you could to be a part of this worthwhile project:

- **Become a part of the team**—join the board of directors or a committee. Call 250.442.2634.
- **Be a volunteer**—volunteers leave build sites satisfied with the tangible difference they have made in their community. Call the volunteer coordinator at 250.442.2634.



- **Give money**—help eliminate substandard / unaffordable housing by donating:

- \$50 \$100
 \$500 \$1,000
 Other

Your donation is tax-deductible. Please make checks payable to: Habitat for Humanity Boundary Society, Box 1088, Grand Forks, V0H 1H0 or Donate Online: <http://local.habitat.org/hfbboundary>

For other Habitat for Humanity projects around BC, go to <http://habitat.ca> for information on initiatives in your community.

TECA encourages members to participate in charitable initiatives. Have a project to profile? Email execdir@teca.ca the info and we'll help spread the word ■



SEPTEMBER

SUN	MON	TUE	WED	THU	FRI	SAT
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

OCTOBER

SUN	MON	TUE	WED	THU	FRI	SAT
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
	Thanksgiving					
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

NOVEMBER

SUN	MON	TUE	WED	THU	FRI	SAT
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

DECEMBER

SUN	MON	TUE	WED	THU	FRI	SAT
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	Christmas



MEETING



COURSE



CONVENTION



GOLF TOURNAMENT

SEPTEMBER

🏛️ Thursday, Sept 9

Member Meeting / Dinner
Executive Plaza, Burnaby
5:30 pm

Katherine Muncaster, Sr. Policy Advisor, Energy Efficiency Branch, BC Ministry of Energy, Mines & Petroleum Resources
“Living Smarter – Improving Energy Efficiency in Water Heaters & Other Systems”

📅 Saturdays, Sept 11–Oct 23 (6 weeks; no session Oct 9)

Quality First™ Hydronics Design Course
BCIT
7:30 am – 2:00 pm

📅 Saturday, Sept 25

Quality First™ Ventilation Guidelines Course
Burnaby
8:30 am – 5:30 pm

OCTOBER

🏛️ Wednesday, Oct 13 (tentative)

Member Meeting / Dinner
Venue TBA
Time TBA
Guest Speaker TBA

📅 Monday & Wednesday, Oct 18 – Nov 3 (6 evenings)

Quality First™ Forced Air Guidelines Course
Surrey (please note changed from Langley)
6:00 pm – 10:00 pm

📅 Monday – Friday, Oct 18-22

Quality First™ Hydronics Design Course
BCIT
7:30 am – 3:15 pm

Thursday, Oct 21

Quality First™ Ventilation Guidelines Course
Vernon
8:30 am – 5:30 pm

Friday & Saturday, Oct 22-23

Quality First™ Principles of Airflow (Basics of Air) Course
Vernon
9:00 am – 4:30 pm

Saturday, Oct 30

Quality First™ Ventilation Guidelines Course
Duncan (Chemainus)
8:30 am – 5:30 pm

Saturday, Oct 30

Quality First™ Ventilation Guidelines Course
Burnaby
8:30 am – 5:30 pm

NOVEMBER

TECA will not host a Member Meeting in November

Wednesday & Thursday, Nov 3-4

TECA Exhibitors at Ciphex West 2010
BMO Centre
Stampede Park, Calgary
See p.12 for further information

Saturday, Nov 20 & 27 (2 Saturdays)

Quality First™ Principles of Airflow (Basics of Air) Course
Langley
9:00 am – 4:30 pm

Friday - Sunday, Nov 26-28

Quality First™ Forced Air Guidelines Course (Intensive)
Duncan (Chemainus)
8:00 am – 4:30 pm

DECEMBER**Thursday, Dec 2***Member Meeting / Dinner*

Executive Plaza, Burnaby

5:30 pm

Guest Speaker TBA

Thursday – Saturday, Dec 2-4*Quality First™ Forced Air Guidelines**Course (Intensive)*

Langley

8:00 am – 4:30 pm

Friday – Sunday, Dec 3-5*Quality First™ Forced Air Guidelines**Course (Intensive)*

Kelowna

8:00 am – 4:30 pm

Saturday, Dec 4*Quality First™ Ventilation Guidelines*
Course

Burnaby

8:30 am – 5:30 pm

Saturday – Sunday, Dec 11-12*Quality First™ Principles of Airflow*
(Basics of Air) Course

Duncan (Chemainus)

9:00 am – 4:30 pm

TOP 10 REASONS

to attend TECA Events

- 10** To have the opportunity to participate in a first class run industry organization;
- 9** A chance to hear and learn from a variety of interesting speakers at the business meetings;
- 8** Events are an excellent source of industry information;
- 7** To have the opportunity to reward my employees;
- 6** To renew old and make new industry friendships;
- 5** To represent my company;
- 4** To learn from others;
- 3** To learn what our Association is working on for the membership;
- 2** To learn more about the industry from different perspectives; and
- 1** To meet and have the opportunity to network with others within the same industry.



TECA Exhibits at CIPHEX West

Western Canada's largest trade show for plumbing, hydronics (hot water heating), heating, ventilation, air conditioning, refrigeration and water treatment products.

- 200 Exhibitors
- Seminars and Technical Workshops
- New Products
- Contests and Prizes
- Eco-Friendly Products

Wednesday, November 3
10 am to 5 pm

Thursday, November 4
10 am to 5 pm

Join us in Calgary



After two very successful golf tournaments TECA is looking for your help. We would like to set-up a golf committee and are looking for volunteers.

TECA will host our 3rd annual golf tournament in the Spring of 2011.

If you are interested, please contact Kathryn Fallis, TECA's Association Administrator at office@teca.ca or call her at 604.594.5956.



BREAKING NEWS

Richard Trethewey joins CIPHEX West seminar line-up

Trethewey, from television's *This Old House* has joined the extensive speaker line-up with a presentation entitled "Lessons in a Lifetime of Heating and Cooling." Trethewey has been an integral part of *This Old House* since the home improvement show's debut in 1979. Today, he also appears on the Emmy Award-winning show's sister series, *Ask This Old House*. Other speakers include John Siegenthaler, Sidney Manning, Chris Thompson, Arnold Knapp and Carol Fey.

Save \$25 per person and avoid line-ups at the door.
REGISTER **FREE** BEFORE NOVEMBER 1st at www.ciphexwest.ca

TECA welcomes you to visit us at Booth #506.
For further information and to register please visit: www.ciphexwest.ca



The LiveSmart BC Program is alive and well and available to residential customers across British Columbia. Despite a small disruption in the program last year, the provincial budget in February 2010 announced \$35 million in additional funding for LiveSmart, including a reinstatement of the previously available program incentives for April 1, 2010 to March 31, 2011 (see www.livesmartbc.ca/homes/incentives.html). LiveSmart utility program partners also announced additional funding to support the LiveSmart one-stop, whole-home program incentives. Announcements will be made prior to March 31, 2011 about the design of the Program after April 1, 2011.

Participants in the extended LiveSmart program must have entered on or after April 1, 2010 by

having a pre-retrofit home energy assessment performed by a Certified Energy Advisor. To access incentives, customers must complete their energy efficiency upgrades and have a post retrofit assessment performed by no later than March 31, 2011.

Please visit www.livesmartbc.ca/rebates to find up-to-date information for you and your customers.

Please contact Chris Frye of the BC Energy Efficiency Branch with any questions or comments: chris.frye@gov.bc.ca

The Energy Efficiency Branch would like to thank you - the heating contractors - for the important work you do in assisting British Columbians to improve the energy efficiency of their homes. You also provide key

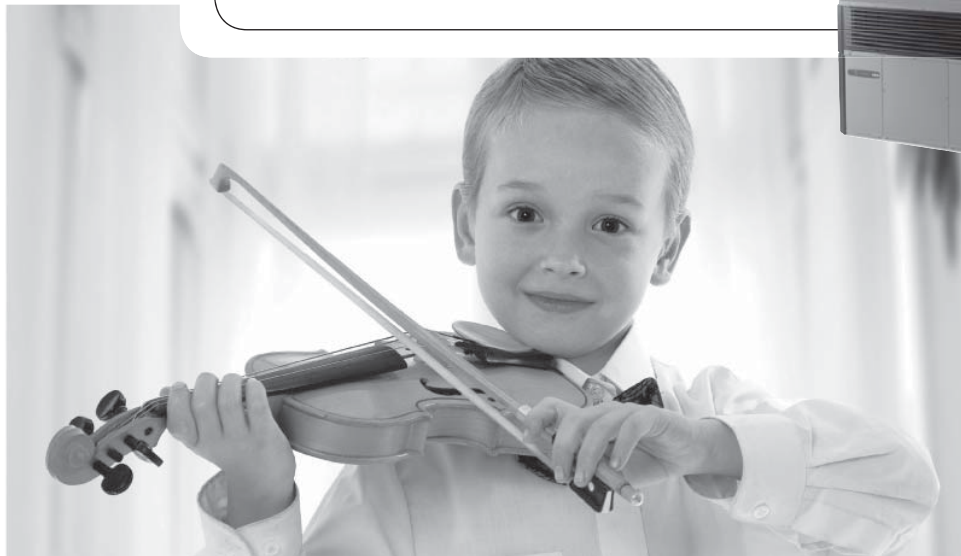
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Terasen Incentive Programs

There are a number of new programs under way at Terasen and below are a few highlights and links to the programs.

1 Furnace TLC

As contractors, you know it's good practice to have your natural gas furnace serviced once a year.

If your customer services before September 30, 2010, Terasen will offer a \$25 Save-On-Foods™ gift card to the customer.

Objective: Ensure furnaces are running as efficiently as possible and connect with customers to encourage the replacement of standard and mid-efficiency furnaces.

- From June 1, 2010 to September 30, 2010 across the province
- Ask your customers to mail in their application form and photocopy of the service invoice
- Download application forms and brochures at www.terasengas.com/tlc

2 Switch 'n' Shrink Program

Change out an oil or propane furnace to natural gas and install an ENERGY STAR® heating system for a \$1,000 customer rebate.

Objective: Replace high carbon fuels with lower carbon natural gas as part of the provincial

greenhouse gas reduction strategy and upgrade old oil furnaces with high efficient models

- NOTE: This is in ADDITION to LiveSmart BC incentive
- From January 1 to December 31, 2010 across the province (with possible extension thru 2011)
- Ask your customers to mail in their application form and photocopy of their invoice
- Download application forms and brochures at www.terasengas.com/SwitchNShrink

3 High Efficiency Water Storage

Customer upgrades to a high efficiency water storage tank (0.62 EF and higher) and receives a \$100 incentive - \$50 to consumer and \$50 to point of sale contact

Objective: Enhance compliance of new provincial regulations for BC Energy Efficiency Act Standards for water heaters, upgrade water heaters and bring awareness for hot water conservation

- Runs to December 31, 2010 across the province
- Mail-in rebate - consists of a joint application form for the customer and dealer incentive
- Eligible models will be listed in a directory on Terasengas.com

- Watch terasengas.com for details
- Please ensure that eligible water heater model is clearly indicated on the application form for speed of processing

Terasen has been focusing on hot water efficiency strategies, stay tuned for more programs in the coming months!

4 EnerChoice Fireplace

- \$150 rebate coming soon. Watch www.terasengas.com for details.
- For more contractor information about any of the Terasen programs
- Email rebates@terasengas.com
- 1-866-884-8833 and press "3"

LiveSmart Update (continued)

education to occupants on how to properly use the equipment you install and how the systems in their home interact to provide a comfortable indoor environment. Going forward, program utility partners and the Energy Efficiency Branch are interested in providing more support for you in this educational role.

We look forward to working with you as the LiveSmart Program evolves in the coming years.

LiveSmart BC is a partnership between the Province of BC's Energy Efficiency Branch, BC Hydro's PowerSmart, Terasen Gas and FortisBC's PowerSense programs ■

New Members

Teca would like to welcome the following new members. We're glad you joined; we hope you'll stay!

- Absolute Heating Services
- Air Design Plus
- All Valley Heat Pumps
- Altum Engineering Ltd.
- AO Smith WPC Canada
- Arrow Kirk Heating CO. LTD.
- BLC Sheet Metal
- Britco Structures Inc.
- Broadway Refrigeration & Air Conditioning Co. Ltd.
- Canadian Radiant Design Ltd.
- Canadian Engineered Products & Sales Ltd.
- Check-Point Plumbing, Heating & Gasfitting Inc.
- Clean Energy Developments
- Colliers International
- Concorde Mechanical Solutions Ltd.
- CVA Technical Services
- Dahl Mechanical
- Dixon Heating & Sheet Metal Ltd.
- Emcar Homes Ltd.
- Exchangenergy Vancouver Island
- G & J Mechanical Ltd.
- Geocore Solutions Inc.
- Grizzly Enterprises Ltd.
- Hartwick Heating and Air Conditioning
- Heritage Mountain Heating & Cooling
- Hibbs Mechanical Services Inc.
- Independent Refrigeration & Air Conditioning Inc.
- Interior Energy & Air
- JK Mechanical Services Ltd.
- Kardean Plumbing
- McCormick Heating
- Navigator Plumbing & Heating Ltd.
- Northwest Furnace and Gas Co. Ltd.
- Ping's Ventilation
- Radec Air & Water Solutions
- SD Atlas HVAC
- Skyward Energy
- Sunshine Coast Plumbing & Heating
- Terra Mechanical Ltd.
- The Comfort Group Heating Corp.
- Tri Lakes Mechanical
- True Comfort Installation & Service
- Wedgemount Mechanical Ltd.
- West Valley Heating
- Wilo Canada Inc.



Same on the Outside – Better on the Inside!

Unico has taken their traditional air handler that for decades has enjoyed success in countless applications and made it a more intelligent, energy-efficient, and environmentally friendly unit. Features of the new Green Series such as the SCB (S.M.A.R.T. Control Board) and the new EC (Electronically Commutated) motor give Unico a Small-Duct High-Velocity air delivery system superior to any other in the industry.

The new Unico System Green Series Small-Duct High-Velocity air-handler

The Unico System[®]
Green Series
www.unicosystem.com

The new **Unico System Green Series** air handlers, combined with the new S.M.A.R.T. Control Board and the new EC motor, will provide just the perfect amount of airflow whether cooling, heating or simply circulating air.

Features:

- Greater comfort in heating, cooling and circulation modes.
- Availability in both 120v and 240v
- Perfect solution for multiple zoning capabilities without by-pass dampers
- Greater efficiencies when paired with 2 stage condensers



The new **Green Series EC motor** is the heart of Unico's new air handler series. The variable-speed fan motor adjusts speed to provide a consistent flow of comfortable conditioned air with quiet operation.



The new **S.M.A.R.T. Control Board** is the brains of the new air handler series. Combined with the EC motor it provides the highest level of Indoor Comfort that a homeowner demands.



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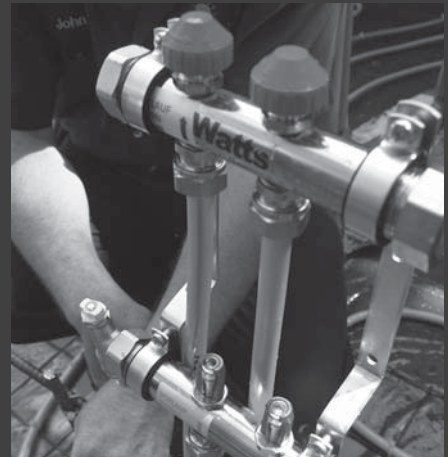
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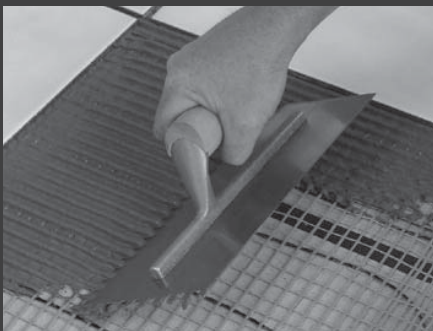
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ThermalPro™ Boiler Stations



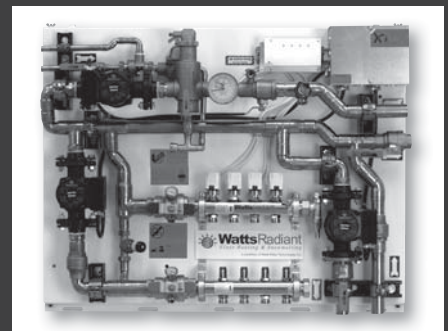
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Program Overview

Hydronics

Level 1 – Common Core

- 1.1 Residential Heating Industry
- 1.2 Apply Trades Math
- 1.3 Apply Workplace Safety
- 1.4 Safe Use and Care of Tools
- 1.5 Read Plans
- 1.6 Perform Basic Drafting
- 1.7 Basics of Framing
- 1.8 Insulation, Vapour Barriers and the Building Envelope
- 1.9 Apply Fundamentals of Heat Loss/Gain
- 1.10 Apply Basics of Electrical & Wiring
- 1.11 Ventilation
- 1.12 Basic Heating
- 1.13 Apply Job Skills and Career Options

Level 2 – Hydronics

- 2.1 Hydronic System Design
- 2.2 Heat Recovery Ventilator (HRV)
- 2.3 Installation Practices
- 2.5 Controls
- 2.6 Cross Connection Controls
- 2.7 Servicing and Troubleshooting
- 2.8 Class B Gas Fitter

Work Place Hours

3000 hrs



Forced Air

Level 1 – Common Core

- 1.1 Residential Heating Industry
- 1.2 Apply Trades Math
- 1.3 Apply Workplace Safety
- 1.4 Safe Use and Care of Tools
- 1.5 Read Plans
- 1.6 Perform Basic Drafting
- 1.7 Basics of Framing
- 1.8 Insulation, Vapour Barriers and the Building Envelope
- 1.9 Apply Fundamentals of Heat Loss/Gain
- 1.10 Apply Basics of Electrical & Wiring
- 1.11 Ventilation
- 1.12 Basic Heating
- 1.13 Apply Job Skills and Career Options

Level 2 – Forced Air

- 2.1 Heat Loss & Heat Gain Theory
- 2.2 Heat Loss/Heat Gain Calculation & Appliance Selection
- 2.3 Equipment – Heating and A/C
- 2.4 Equipment – Other
- 2.5 System Controls
- 2.6 Refrigeration Basics
- 2.7 Basics of Airflow
- 2.8 Duct Layout and Sizing
- 2.9 Duct Installation
- 2.10 Wiring
- 2.11 Ventilation
- 2.12 Equipment
- 2.13 Commissioning
- 2.14 Municipal Permit Applications
- 2.15 Service and Troubleshooting
- 2.16 Class B Gas Fitter

Work Place Hours

3000 hrs





Challenger

Hydronics

Qualifications

- 6000 Work Based Hours (Documented¹)
- Gas Fitter 'B' Ticket²
- Quality First^{TM3} - Hydronic Design
- Quality First^{TM3} - Ventilation

¹ See Challenge Application Form for full details.

² If you DO NOT hold a Gas 'B' ticket but have all other requirements you can either obtain equivalency status through ITA, or get technical training credit for Level 1 & 2 to obtain Gas Ticket B.

³ Quality FirstTM training courses are offered year round.

Challenger offer expires Dec 31/11

Forced Air

Qualifications

- 6000 Work Based Hours (Documented¹)
- Gas Fitter 'B' Ticker²
- Quality First^{TM3} - Basics of Air
- Quality First^{TM3} - Ventilation
- Quality First^{TM3} - Forced Air Guidelines

¹ See Challenge Application Form for full details.

² If you DO NOT hold a Gas 'B' ticket, but have all other requirements you can either obtain equivalency status through ITA, or get technical training credit for Level 1 & 2 to obtain Gas Ticket B.

³ Quality FirstTM training courses are offered year round.

Challenger offer expires Dec 31/11



Getting Started

Apprentice

- Find Employer
- Complete ITA Apprentice Registration Form
- Complete Training Request Form
- Register for Technical Training

Challenger

- Employed (self-employed) for five (5) year minimum
- Complete ITA Apprentice Registration Form
- Complete Challenge Application

For more information on:

- registering as an apprentice
- starting the challenge process
- upcoming training dates

Visit www.teca.ca and click on the CHT tab.
Questions? Call **604-596-0595**.

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