



4th Qtr
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The Mulvaney Pipeline



AWAY GOES MONEY DOWN THE DRAIN

Heated wastewater can be harnessed to pre-heat the inlet to hot water systems, offering considerable savings and the downsizing of hot water unit capacity.

Until recently, recovering heat in wastewater discharged from fixtures and appliances in dwellings, commercial buildings and industrial plants was a largely neglected source of energy. However, with the rising cost of energy and the need to reduce greenhouse gases, greater attention is being given to this readily available and clean energy source.

Watercycles Energy Recovery, a Canadian based company located in the province of Saskatchewan, has developed a viable device to capture this wasted energy. The company manufactures the Watercycles heat-recovery system exporting it to the United States and Europe. The system uses no energy itself, and there are no moving parts. The Watercycle unit has a copper coil system and forms part of the wastewater pipe to extract heat from the wastewater. This heat is then conveyed to the incoming fresh water before it reaches the water tank, thus preheating the supply.

In commercial applications, the main recovery opportunities are in areas such as multiple shower installations, swimming pools, and dishwashers in commercial kitchens. Industrial wastewater from process operations provide even more heat recovery. The cost is greater due to the fittings and installation time involved, but savings are also greater because of the higher volume of hot water consumed in these commercial settings.



GEORGE'S Renown Christmas Fruit Cake Recipe

Ingredients

- 1 Cup water 4 large Eggs
- 1 Cup brown sugar
- 1 Cup butter
- 1 tsp. Salt
- 8 oz mixed nuts

- 2 Cup dried fruit
- Juice of 1 lemon
- 1 tea spoon baking powder
- 1 bottle bourbon



1. Sample the bourbon to check quality.
2. Take a large bowl.
3. Re-sample the bourbon to ensure it is of the highest quality. Pour one cup and drink. Repeat.
4. Turn on the electric mixer, beat one cup of butter in a large fluffy bowl.
5. Add one tsp sugar and beat again.
6. Make sure the bourbon is still okay. Cry another tup.
7. Turn on the mixer. Break two eggs and add to the bowl, chuck in the dried fruit. Mix on the turner.
8. If the fried druit gets stuck in the beaters, pry it loos with a drowscriver. Sample the bourbon to check for tonsiscency. Next sift two cups of salt, or something. Who cares? Check the bourbon. Now sift the lemon juice and strain your nuts. Add one table. Spoon. Of sugar or something. Whatever you can find. Grease the oven. Turn the cake tin to 350 degrees. Don't forget to beat off the turnerer. Throw the bowl out of the window, check the bourbon again and go to bed.

AIRBUS A380 - SERIOUS PLUMBING AT 30,000 FT.



Imagine the equivalent of a large cinema crowd needing bathroom access 30,000ft in the sky. Aircraft plumbing designers are turning to distributed systems for solutions.

The Airbus A380 can carry up to 850 passengers plus a crew of 20 on a nonstop flight extending over 9,300 miles. That's the easy part. The more difficult challenge is to comfortably accommodate the restroom needs of up to 870 people during a 14 hour flight. The solution was in using computer controlled systems to move waste from toilet to holding tank at speeds of 125 mph.

The potable water system and the waste system are distributed systems – that is, composed of autonomous local small computers connected by a communications network and equipped with software enabling them to co-ordinate activities and share resources. These controllers act as traffic cops to facilitate the movement of waste from source to holding tank. Apart from the usual considerations of flushing, extraction and hygiene, plumbing engineers also must deal with the many odd objects that somehow find their way into aircraft toilets. Following aircraft safety, toilet facilities are the most important in-flight aspect to the traveling public. Passengers would not be too upset if the temperature inside an aircraft varied slightly, but if toilets were jammed they would remember it for years. Toilets are very important to airlines and the best way to keep passengers happy. There are always some people that put anything down the toilets including towels, tableware, glasses, diapers, etc. The A380 engineers, operating test rigs, have done their best to block the toilets – then figure out how to avoid serious problems in flight. Waste pipes from the 20 toilets on a typical A380 are fabricated in clear plastic for test and observation purposes. The pipes in the completed aircraft design are formed from titanium to increase strength reduce weight.

Toilet flushing is achieved by pumping air from the system, creating a part vacuum to evacuate waste to a holding tank in the rear of the aircraft. This is what allows for the high speed flushes. Such speeds are important when building a 240 foot long aircraft. It's a long way from the front toilets to the holding tank residing in the tail section.

So, when you take your seat aboard the giant A380 Airbus and marvel that an aircraft so large can even get off the ground, let alone fly using less fuel than its predecessors, spare a thought for that 'other' engineering excellence taking place beneath your feet.

Holiday Time Safety Tips

The winter holiday season is a joyous time for all, but can also be a very dangerous time for accidents. The use of seasonal decorations, cooking of holiday feasts added to the incoming cold weather adds up to increased exposure to accidents and injuries. It is estimated that in Connecticut alone, 150,000 residents will sustain some level of injury due to the holiday season and the cold and slippery conditions outside. Although there are countless lists of safety tips and advisories focused on the festive season, these are some of the most important.

DECORATIONS

- When purchasing an artificial tree, look for the label "Fire Resistant." If you have a live tree, put it up late and take down right after the holiday. Keep fresh tree well watered.
- Position decorations away from heat sources, radiators, strong lighting and fireplaces.
- Use only noncombustible or flame-resistant decorations. This is vital when trimming a live tree.
- Take special care to avoid decorations that are sharp or breakable, keep trimmings with small removable parts out of the reach of children to avoid the child swallowing or inhaling small pieces, and avoid trimming that resemble candy or food, which may tempt a child to eat them.

FIREPLACE FIRES

- Avoid "fire salts," which produce colored flames when thrown on wood fires. They contain heavy metals.
- Do not burn wrapping papers in the fireplace, avoid a flash fire that may result in a chimney or house fire.
- Check to see that the flue is open and remove flammables from around the fireplace.

OUTDOORS

- Ice and snow increases your exposure to serious injury to falls.
- Dress accordingly and wear winter footwear that is slip resistant and sturdy enough to support your feet.
- Walk flat footed when on slick surfaces (duck walk) so that your soles are in more contact with the surface.
- Never rush or run in inclement weather. Always be aware of your footing and where you're walking.

LITTLE KNOWN CHRISTMAS FACTS

- Saint Nicholas, the original Santa Claus, was the patron saint of children, thieves and pawnbrokers.
- 17 percent of you will embarrass yourselves in some way at your office Christmas party.
- Santa's reindeer is called Donder, not Donner.
- 56 percent of Americans sing holiday carols to their pets.
- 53 percent of Americans plan to "re-gift" this year.
- 1 in 3 men will wait until Christmas Eve to finish their shopping.
- 1 in 6 men would like to get rid of all the "gift-giving nonsense."
- A traditional Christmas dinner in early England was the head of a pig prepared with mustard.
- There are 1.76 billion candy canes produced every year.
- Kris Kringel, is a real person who is a 40 something year old guy, living in North Pole, Alaska and delivers pizzas for a living, in his 1984 Ford Tempo.
- Based on a 1999 estimated population count of North America and Europe, on Christmas Eve of that year Santa Claus had to visit 42,466,666 homes in a 12-hour period -- that's 983 homes per second.



Christmas joy warms the heart

What could it be? Name the item pictured in the Photo and you could WIN DINNER FOR TWO!



E-mail or FAX your answer to our office. If more than one correct answer is received, a winner will be selected at random. If you e-mail your entry, you must write "NEWSLETTER CONTEST" in the subject line to avoid our SPAM filter. Please mail to janette@mulvaneyinc.com

The answer to the PHOTO Puzzle from last time was:

"A fuel oil delivery gauge to keep track of gallons delivered"

"Marry an orphan:
you'll never have to
spend boring holidays
with the in-laws
George Carlin

- The following people provided the correct answer.
- Michael Gaddis
 - Sam John
 - Martin A. Onorato
 - Jerry Palanzo
 - James L. Senatru
 - Rosty Slabicky
 - Susan Stout
 - Jesse VanCamp
 - Dainius Virbickas, PE
 - Gary Bocaccio
 - Stephen Burgess
 - Wanda McGarry
 - Starwood Hotels & Resorts
 - Rudolph Technologies
 - Thelen LLP
 - DCG Precision Mfg
 - Consulting Engineering Services
 - Boehringer-Ingelheim
 - Plumbers and Pipefitters Local 777
 - Consulting Engineering Services
 - Artel Engineering Group, LLC

It's hard to believe... but TRUE!

- Approximately 1,500 surgical tools are left in the bodies of patients in the US each year.
- Treadmills are second only to free weights in causing gym related injuries.
- Overhead bin accidents on airplanes account for about 4,500 injuries in the U.S. each year.
- Other than fruit, honey is the only natural food that is made without destroying any kind of life.
- The scientific name for very strong armpit odor: *Tragomaschalia*.
- There are more than half a million pregnancy-related deaths each year.
- West Virginia has the leading death rate from diabetes.
- Nutmeg is extremely poisonous if injected intravenously.
- Today the average adult receives more information in one month, than their grandparents did during their entire lifetime.
- 32% of all burglars currently in prison say they looked at their victims family photo albums when robbing them.
- By far, the number one profession that uses computer dating services the most is teachers.
- 50% of loans made to a "family member" are never repaid. 75% of those made to a "friend" are also never paid back.

WHAT'S GOIN' ON?

- Jan 22-23, 2009 MASCONN
Boston, MA
- Jan 26-28, 2009 AHR Conference and Expo
Chicago, IL
- Jan 30- Feb 1, 2009 New Eng Log & Timber Home Show
Manchester NH
- Feb 3-5, 2009 International Roofing Expo
Las Vegas, NV
- Feb 24-26, 2009 ACCA Conf & Indoor Air Expo
Fort Worth, TX
- Mar 10-12, 2009 NFM Conference & Expo
Baltimore, MD



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