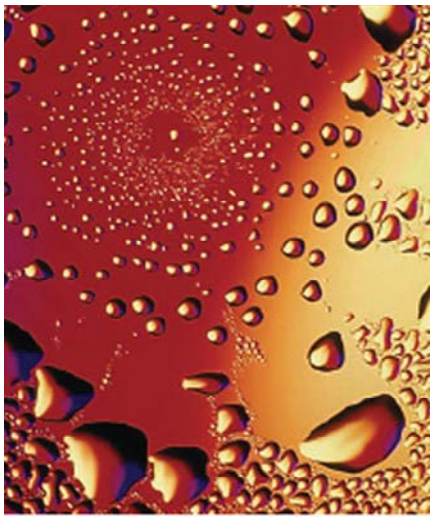
BEKO QUARTERLY

News and Information from the Second Quarter of 2007

BEKO Declares War on Oil with Advanced Technologies



Many of you have seen our advertisements that feature the headline **Condensate Kills**, but what is it that makes compressed air condensate so harsh and destructive on systems? What causes more part defects per million? What can ruin an entire batch of finished product? What is in compressed air that can kill a human being? The answer is oil. BEKO has provided high quality, technical solutions for condensate discharge and treatment since the company was founded in 1982, and over the past decade established a solid core of reliable, dependable compressed air treatment products that are second to none. Now we are going to the source itself—the compressor—to provide completely new, advanced solutions that have never before been seen in our market.

After years of intense research and development, BEKO has introduced two new products to the market: one that will provide oil free air for any system under any condition and a second product that will measure, monitor, and detect the presence of hydrocarbons down to 0.001 mg/m^3 all from a self-contained unit that attaches to your existing pipe work. The technical limitations of the products, or lack thereof actually, are achievements unto themselves. But the integration of these products is how BEKO has truly advanced the use of compressed air. The installation and integration of both these products would be as follows:

1. **Pipe in**
2. **Pipe out**
3. **Plug in**

In three steps, six if you use both products concurrently, and less than 30-minutes; verifiable, oil free air that is being monitored in real time can be achieved. Therein lies the true power of the **BEKOKAT®** and **OILCONTROL®** from BEKO. Furthermore, both solutions are extremely cost effective and have an near instantaneous economic payback period. Yes, they both use electricity, so the savings is not in energy consumption, rather it is in the true optimization and protection of the entire application process regardless of the industry where the units are installed.

Of course, there are those of you sitting there with your arms crossed, reading this on the screen and saying, “We have an oil free compressor, so what are you telling me?” That’s natural, and criticism and skepticism are to be expected considering the lofty claims made in the previous paragraphs. The only retort is; do you? Do you really have an oil free compressor? How do you know?

First of all, there are two very important things to keep in mind. One is that the quality of air an oil free compressor puts out is directly related to and impacted by the quality of the air it pulls in (intake air). Two, regardless of manufacturer, size, price, year built, etc. an oil free air compressor is still just a machine, a tool, and just like any other machine it is susceptible to wear and tear and mechanical breakdown.

That being said; let’s imagine an oil free machine, doesn’t matter what kind or size—pick your favorite, that is being used in a pharmaceutical production application. Everyone in the facility loves the unit, it has been working perfectly since new and is well maintained. Then a relatively common occurrence happens and the crankcase seal breaks. Oil has just flooded the system and ruined a one million dollar batch of pills where the contamination can only be realized after the batch is produced. A shut down ensues so the compressor can be repaired, and with every tick of the clock upper management is counting the dollars being poured into the incinerator along with a million dollars worth of prescription drugs they just lost.

Now let’s take that same scenario with the addition of a just an **OILCONTROL®** unit installed. As the crankcase seal begins to wear the **OILCONTROL®** unit is continuously monitoring the level of hydrocarbons present in the compressed air stream, long before the seal actually breaks an increase in oil content would be noticed, thus providing an early warning indicator that a preventative maintenance action should be taken, thereby saving hundreds of thousands or millions in lost product and/or unnecessary down time. To take it one step further; add a **BEKOKAT®** to the equation and suddenly it doesn’t matter if the crankcase seal breaks or not. Provided that the **BEKOKAT®** unit is sized appropriately for the compressor output, no matter how much oil the compressor is throwing out (maximum residual intake oil content of 500 mg/m^3) the end result downstream of the **BEKOKAT®** will be a *maximum* residual oil content of 0.003 mg/m^3, which means that production can continue uninterrupted until there is a more convenient time to take the compressor offline. As an added safety feature; the **BEKOKAT®** offers advanced protection in the way of a system shut down and alarm feature in the event that the intake oil content has exceeded the 500 mg/m^3 level. After repair and restart the unit will recover automatically.

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Despite the fact that the above scenarios are hypothetical, they are most definitely common, real world problems that often occur when compressed air is being used. Not to mention, that until now, solutions that provided instant information or immediate purification were not available. In addition, certainly not every application requires such stringent air quality requirements, which is exactly why BEKO offers the OILCONTROL in varying levels of measurement sensitivity.

By now you'd probably like to know what the **BEKOKAT®** and OILCONTROL are exactly, and maybe some of the technical details, a picture or two perhaps—I'm just guessing! Well, we can certainly accommodate that:

The **BEKOKAT®** is a catalytic oil removal system for compressed air that use catalysis technology from BEKO to set new standards for compressed air treatment. The function is carried out by heat and a very special granulate fill inside the converter; as the compressed air flows into the converter the oil molecule is split in two. These fragments continue to break apart until only one carbon atom is left, as these particles continue through the converter the free floating hydrogen and carbon atoms are oxidized to form H_2O and CO_2. The result of which is the emission of oil free compressed air and water. For an animated version of this process please visit this link.

Beyond the benefit of simply treating the air by removing hydrocarbons, the **BEKOKAT®** is extremely environmentally friendly. The condensate produced by a system where a **BEKOKAT®** is employed does not require any further treatment of any kind. From a simple economic standpoint; the granulate material used in the **BEKOKAT®** will last approximately 66 times longer than activated carbon. That is around 20,000 hours for the **BEKOKAT®** versus around 300 hours for activated carbon. And catalytic oxidation takes place regardless of ambient conditions, inlet temperature, and oil inlet concentrations, even under partial load, thus improving process reliability in every area at every level.

The **OILCONTROL®** monitoring system consists of two units (pictured below); the yellow box, which is a probe and measuring cell and the blue box, which houses the evaluation electronics that provide the necessary visual feedback from the measuring cell. The principle by which the measurement cell functions is the ion exchange method. Ion exchange is defined as an exchange of ions between two electrolytes. However, the words ion exchange are more conventionally used to denote processes of purification, separation, and decontamination; while the actual process used in the **OILCONTROL®** is most like ion exchange chromatography that allows the separation of ions and polar molecules based on the charge properties of the molecules, although with the **OILCONTROL®** neither lab work nor a chromatograph will ever be required. This process also allows for the refurbishing of the measuring cell, so your investment will never be at risk.

The **OILCONTROL®** monitoring system directly corresponds to ISO 8573 standard for air quality, ensuring that you will always be in compliance. The unit will operate reliably within a temperature range between +32 °F and +60 °F and operation is unaffected by variable flow conditions or humidity. Pendant upon the type of application; the **OILCONTROL®** is available in three configurations: the most sensitive will measure hydrocarbons down to 0.001 mg/m^3 while the least sensitive unit will only go as low as 0.5 mg/m^3. There are also high pressure models available for operation up to 650 psig. All units feature an analog output and relay output, and a data logger with software is available as an option. **OILCONTROL®** units are also available premounted in a section of stainless steel pipe, in your diameter of choice, for your convenience.

Please don't hesitate to contact your BEKO representative directly further details.

A More Elaborate OILCONTROL

Okay, we're really excited about the **OILCONTROL®** units and I know it's obvious, but there is more to the story. We have taken the **OILCONTROL®** unit and from it developed two alternative systems designed specifically for breathing air applications. From this evolution come the **VARI**SENSE and **MEDBAC**, which stands for **VARI**able **SENSE** (as in sensing) and **MED**ical **B**reathing **A**ir **C**ontrol, respectively.

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BEKO . . . Who?

For the record, the drain we manufacture is called **BEKO-MAT®** not BEKOMATIC, and we are not "just a drain company." I hope that would be obvious by now if you've read the other articles in this newsletter. Of course our "claim to fame" and our roots lay directly with our drains, so I suppose we should be somewhat honored when someone refers to the actual company name as **BEKOMAT®**. BEKO manufactures and distributes a wide array of products for your compressed air system, naturally starting with condensate technology and ranging all the way to point of use dryers, large desiccant systems, purification and treatment products along with a complete line of advanced instrumentation devices as we have mentioned. So please contact your BEKO Regional Sales Manager today and request your complete Product Portfolio:

BEKO . . . Who? Part 2

BEKO Technologies Corporation's area of responsibility within the worldwide BEKO group includes North America and we are currently branching out more and more into Central and South America. We are also manufacturing our **DRYPOINT® M** membrane air dryers here in the United States in Bend, OR. These two facilities, in Mooresville, NC and Bend, OR, make up what we call BEKO America.

That being said; now would be a great opportunity to introduce you to the team members that you will come into contact with the most. Focusing on the just the US market for a moment; we have divided the country into four separate regions, each with its own Regional Sales Manager or RSM. Each RSM is responsible for eleven (or so) states that comprise their respective sales territory to which they provide support. Included on the following pages is a breakdown of the regions along with the pertinent contact information.

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A More Elaborate OILCONTROL

These systems go beyond sensing only hydrocarbons, and include values for oxygen, carbon dioxide, carbon monoxide, water vapor, sulfur dioxide, nitrous gases, and of course residual oil and vapor. Each breathing air control is available with Part 1 and Part 2 electronics, which are separate evaluation parts, allowing you to tailor the device to your needs.

These units are exactly what is required in applications such as industrial paint booths, clean rooms, semiconductor manufacturing, and hospitals to name a few. The easy integration into existing systems such as these will provide 24/7/365 monitoring of the most critical air uses. Not to mention that the **MEDBAC** and **VARI**SENSE greatly simplify compliance with breathing air standards around the world as you have an instant visual of your air quality values.

Take this into consideration; how many hospitals are there in the United States? The most recent Census information states there are 7,569 hospitals nationwide employing 5.1 million people. Now think about how many breathing air systems, both general and sterile, are in those thousands of hospitals. And I'm sure you can imagine what a single hospital pay in insurance premiums per year for professional liability insurance, malpractice insurance, etc. Add that all up and you can see that these hospitals carry quite a burden, which certainly trickles down and impacts every insured individual in this country.

So, what if the insurance companies started reducing premiums at hospitals that have **MEDBAC** units installed because each hospital can now accurately monitor their air quality to a degree that was never possible before thus limiting their liability. The potential cost savings go well beyond the initial cost of the unit. Now this is the real kicker, if you will. What is just as important and perhaps even more common in breathing air applications besides the removal of hydrocarbons? The removal of bacteria. And the **BEKOKAT®** does exactly that. The **BEKOKAT®** not only removes oil from compressed air, it also kills bacteria in the air stream making it the perfect solution for breathing air and critical air applications. Used in combination with a **MEDBAC** or **VARI**SENSE, BEKO can provide premium quality air systems that can be verified and monitored, are completely turn-key, easy to integrate into existing systems, requires very little maintenance, and are extremely cost effective in the long term.

Let's lower those liability insurance premiums together, we can't wait to hear from you, so please contact BEKO today.

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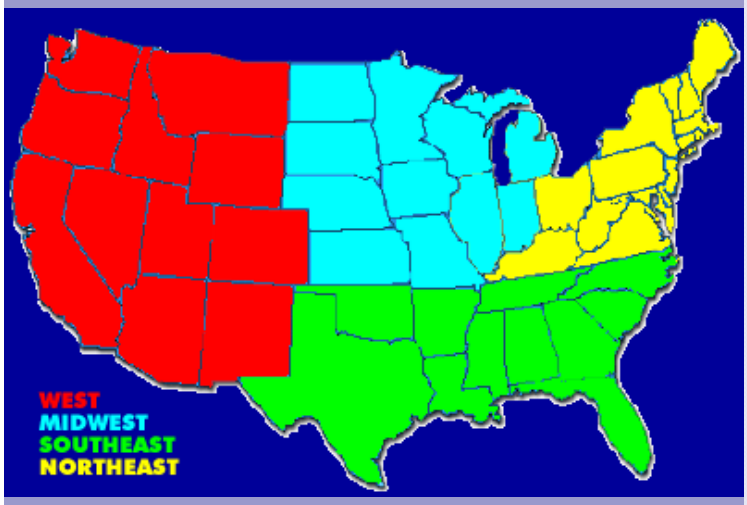
BEKO . . . Who? Part 2



Mr. Jim Hughes
Jim has been with BEKO for just over one year now and works out of his home office in the Detroit area. He is an avid skydiver and outdoorsman who enjoys fishing, hunting, and hiking. Jim's area of responsibility is the MIDWEST territory. He can be reached at (734) 765-2950 or via e-mail at jimhughes@bekousa.com.

Mr. Manu Srivastava
Manu is a newcomer to BEKO, and has been with company for just a few months, but his presence is already being felt. He has a background in chemical engineering, is recently married, and enjoys singing and musical composition. Manu's area of responsibility is the WEST territory. He is working out of the Phoenix area and can be reached at (480) 619-2007 or via e-mail at manusrivastava@bekousa.com.

Mr. Sandy Tomasini
Sandy recently celebrated his fourth year with BEKO and is responsible for the NORTHEAST territory. He joined BEKO with more than 20 years of experience and is located in northwest New Jersey. Sandy enjoys playing golf, spending time at the shore in the summer or on the couch watching football in the fall. Sandy can be reached at (973) 610-2966 or via e-mail at sandytomasini@bekousa.com.

Mr. Scott Woodward
Scott is another newcomer who just came on board with BEKO a few months ago as well, and is working from his home office in Jacksonville, FL. Scott enjoys traveling, camping, and spending time outdoors with his family. His area of responsibility is the SOUTHEAST territory and he can be reached at (904) 327-3660 or via e-mail at scottwoodward@bekousa.com.

Ms. Pam Tetterton
Pam joins the BEKO team as the company's new Business Development Specialist and will assist the sales team with project management and new business development as well as providing both on and off-site technical support to our customers. She is based in Atlanta, GA and enjoys playing softball and quilting in her spare time. Pam can be reached at (770) 596-7656 or via e-mail at pamtetterton@bekousa.com.