

# Silex Builds It's Largest-Ever Silenox Silencer

**I**n the fields of sound or emission control, companies and products have to measure up if they're going to cut problems down to size.

That's why Weatherford Global Compression, one of the world's top 3 gas compression companies, turned to Silex for a customized retrofit installation at a new Dolni Bojanovice facility near the town of Hodonin in Czechoslovakia - where noise and emission standards are among the toughest of any nation.

"Simply put," says Weatherford Project Manager, Greg Motyka, "Silex is the best in the industry for jobs like this. And we made that abundantly clear to our client from the very beginning."

Silex, with engineering expertise and technologies that can reduce sound and emissions to virtually any level, began to address the problem by first analyzing on-hand detailed specs for the engine in question: Caterpillar's G3612 TALE Lean Burn Unit.

Next, objectives were established for carbon monoxide (CO), total hydrocarbons (THC) and non-methane hydrocarbon (NMHC) emission levels, that could meet all government regulations with a comfortable safety margin. Effective sound reduction levels were especially critical, so db(A) goals also had to be determined -again based on government requirements and the engine's known characteristics. Finally, before silencer customization could begin, on-site and nearby residential noise factors had to be considered, as well as any anticipated 24-hour variation in engine usage that might ultimately affect engineering design.

"One of the early issues we had to face", says Len Morris, Application Sales Engineer for Silex, "was balancing our virtually limitless capability for sound and emission reduction, with cost-effectiveness and



practicality. We actually have the potential here to reduce noise and emissions by almost 100% if required, but in terms of economics that would simply be overkill."

Silex then began applying its engineering expertise towards customizing their patented Hospital Grade 2-way SileNOX - a state-of-the-art combination unit that integrates a number of advanced technologies to produce combined emission control and silencing.

With access to specialized resources at Johnson Matthey, Silex engineers also began adapting the SileNOX' units to incorporate the JM catalyst element - usually built from a metal monolith with higher mechanical strength and greater thermal durability than most other catalytic materials, and a catalyst that delivers impressively low back pressure.

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According to Warren Tait, Engineering Manager for Silex, this latest application was just one more testimonial to Silex' design, engineering and manufacturing capabilities in the fields of sound and emission control.

"All our standard and customized products are manufactured and developed in-house at our Mississauga location," Warren claims proudly, "which means we maintain total control over performance, quality assurance, scheduling, delivery - and ultimately, over the cost of manufacture."

"Our search for ideal, cost-effective solutions," he goes on to say, "has traditionally been based on close, working partnerships between companies like Weatherford, Johnson Matthey and ourselves. This is one of the reasons we always make our own engineering expertise and on-site information resources available to the industry at all times."

How successful is a partnering philosophy like this when you have to custom-design noise reduction or emission solutions on a scale that has never been attempted before?

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## SILEX PROJECT AT A GLANCE

**Facility:** Dolni Bojanovice Czechoslovakia  
**Engine:** Caterpillar G-3612 TALE Lean Burn  
**Silencer Type:** Customized Hospital Grade 2-Way SileNOX  
**SileNOX Model:** SC-JDDS-30-S16  
**Length:** 944.8 cm (372")  
**Diam:** 198.1 cm (78")  
**Wt:** 3,774.9 kg. (8,322 lbs)  
**CO Output:** .19 g/bhp/hr  
**CO Reduction:** 90%  
**THC output:** 2.975 g/bhp/hr  
**THC Reduction:** 50%  
**NMHC output:** .35 g/bhp/hr  
**NMHC Reduction:** 50%  
**Insertion Loss (Sound):** 70 db(A) max @ 1.5m (4.9 ft)

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After a series of tough, pointed queries to learn the amount of noise and disturbance his townspeople might eventually have to tolerate, the Mayor fixed a steely, disapproving gaze on the operators to ask the question that had been uppermost in his mind.

"When," he said coldly, "do you actually plan to start up and begin invading our ears with all this noise and clamor?"

Puzzled, the operators looked at each other and then back at the Mayor.

"Start up?" they asked innocently. "We've been operating for a month."

# Silex

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