



Marine





Story And Photography By Steve D'Antonio

Tec

Marine Heating And Hot Water Systems With An International Flair

I recall working on marine diesel heating systems during my early days as a mechanic. Back then, nearly all were of the forced-hot-air variety, and their upkeep and repair was a black art. It seemed for every hour they ran, they required two hours of maintenance.

I also clearly remember a coworker who knew diesel heating systems very well regularly scoffing and cursing them. Somehow, though, he always seemed to be able to coax life back into them after they had stopped working.

In those days, the primary problem with diesel heating systems on the boats we serviced was that they weren't used enough—both the boats and the heating systems. For forced-hot-air systems, lack of use was a deal killer. It nearly ensured that when fall arrived, the heat wouldn't function reliably.

These memories have remained with me, and so when I encounter a diesel heating system, I place high value on reliability and simplicity.

KABOLA: DIESEL HEAT WITH A DIFFERENCE

When I first encountered the Kabola “red box” furnace five or six years ago, I was intrigued. Having grown up on Long Island, I was intimately familiar with domestic oil/hot-water heating, what the marine industry refers to as “hydronic” heat. As a child, I would religiously watch the service man work on our oil furnace; he used to jokingly say he was worried I would grow up one day to take his job. As a budding gearhead, watching him was a great learning experience—it was when I first learned about carbonization and the effects it has on the combustion process.

The first time I had an opportunity to closely inspect a Kabola, it appeared to me to be a miniaturized version of the familiar oil furnace I knew and, well, loved. Indeed, while the Kabola furnace has a few special tricks up its sleeve, one of its strengths is the similarity it bears to these ubiquitous home heating units. The design is well proven and, as such, it's functional, simple, reliable, and efficient.

Kabola furnaces embody several interesting features, not the least of which is their very high efficiency, claimed to be 90 percent. Simply put, they are very good at turning diesel fuel into heat and hot water. An indication of this efficiency is the relatively low temperature of their exhaust, typically about 450°F. (Hotter exhaust means less heat captured for use in warming the vessel.) Kabola products are available in a wide range of sizes, from 35,000 to 400,000 Btu, making the right fit very straightforward, and they operate on either shorepower/generator alternating current or 24 volts DC (a converter can be installed for boats with 12-volt systems).

While I was at the Marine Equipment Trade Show (METS) in Amsterdam this past fall, I met and spoke with representatives from Kabola. They were very excited about a product they were on the verge of releasing, a very low emission “green” boiler. You'll be hearing more about this product in the near future.





Above: MarineTec partners Lars Nilsson, left, and Costica Gheorghiu flanking a Kabola furnace. Right: A complete Kabola system installed in a lazarette aboard a new trawler.

THE PEOPLE BEHIND THE PRODUCT

As time passed, it seemed I was seeing more and more of these little red furnaces aboard vessels. I bumped into the North American Kabola distributor, a Swedish expatriate named Lars Nilsson, at last year's Seattle Boat Show. As a diesel heat enthusiast, I engaged him in conversation, and we ended up chatting over the furnaces for hours. The more I heard, the more I liked. The systems are rugged and place a strong emphasis on simplicity—the furnace itself comprises only about 10 major parts—and because the furnaces share many components with residential and industrial heating systems, the design and parts are proven. With a background as a merchant marine engineer, Lars is very keen on reliability and quality of construction. He showed me some of the Kabola features and explained that the units are built in Oudewater, Netherlands, where they are designed to meet stringent CE safety and construction requirements. The quality of the units was clear to see, and their warranty—one year overall and five years on materials—speaks volumes.

Seeing Kabola furnaces at work aboard my clients' boats has allowed me to gain even more of an

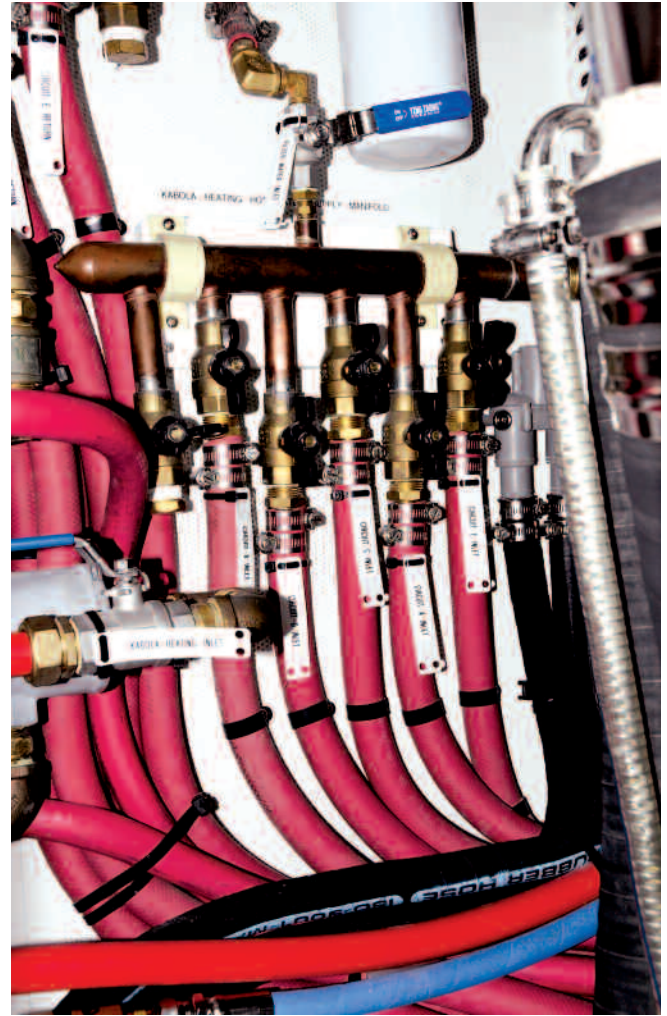
appreciation for their design, construction, and function. They are compact—really compact. Their most diminutive unit, the 34,000-Btu HR 300, measures about 23 by 14 by 14 inches, and it provides hydronic heat and domestic hot water. Using a heat exchanger in a conventional water heater, the Kabola units seamlessly provide you with water for hot showers and washing dishes and clothes, much like at home.

Beyond that, Kabola furnaces have another important feature: they're designed specifically for the marine market. When I worked as a mechanic and was tasked with servicing or troubleshooting a then-popular diesel heating system, I would occasionally call the distributor for assistance. On more than one occasion, when faced with a challenging problem, he would say, "Well, you know, these systems really are designed for trucks and buses, not boats." That comment made a lasting impression on me, and led me to form two opinions: first, I prefer to choose equipment that is specifically designed for marine applications; second, I prefer to use equipment that is well understood and well supported by its manufacturer or distributor. In the case of a product



that's manufactured overseas, the "in country" support becomes vital to its success, since these folks, in the eyes of the users, become de facto manufacturers.

In preparation for writing this article, I visited with Lars and his partner, Costica Gheorghiu, looking over some of their installations, as well as their offices and shops. Both men's stories of coming to America and starting businesses here are inspiring, and they share some common elements—both Lars and Costica arrived in the U.S. after working as merchant marines, and both had entrepreneurial dreams that they were unable to fulfill in their home countries. There, however, the similarities diverge.



Top left: Lars and Costica are intent on using only the highest quality materials. The copper threaded plumbing connection shown here—used on an air handler supplied by an aftermarket manufacturer, not Kabola—makes for a reliable, leak-free seal. Above right: Hydronic systems can be complex, and as such, they require specific installation expertise. Above left: Active hydronic systems use small air handlers to convert hot water into warm air. The Kabola systems utilize a control mechanism that prevents them from blowing cold air at start-up.

Lars grew up in southern Sweden, in the city of Malmö. As a teen, he became interested in sailing. He and his friends purchased a 22-foot sailboat, which they routinely cruised around Sweden's southern islands, as well as to Denmark and other Baltic countries. Lars' love of the sea and his desire to travel led him to Sweden's prestigious merchant marine academy at Kalmar, from which he graduated with a degree in marine engineering.

He immediately entered the merchant fleet and quickly rose through the ranks, eventually becoming a chief engineer. (He modestly asserts that this was because there was a shortage of licensed engineers; however, I strongly suspect that his skill and his strong work ethic had much to do with his rapid advancement.) Lars worked aboard a variety of vessels, including

tankers, bulk carriers, ferries, fish-processing ships, and yachts. In 1984, while spending some downtime ashore in Spain, he met a fellow Swede who planned to sail his 35-foot wood ketch to Brazil to attend the famous carnival in Rio de Janeiro. He invited Lars to crew, and although they never made it to Rio, they did cruise much of Central America and the Caribbean, narrowly escaping from Grenada during the U.S. invasion. Eventually, they landed in San Diego, California.

After spending so much time at sea aboard a small boat, like many seafarers, Lars was ready to swallow the anchor and set down some roots. While his shipmate returned to Sweden, Lars decided to stay on in the U.S. after meeting his soon-to-be wife. While he planned to travel less, he still loved the sea, and it was a vocation he knew well. For the next 14 years he



Top: Solaris water heaters are available with multiple heating elements that can be used independently, depending on available power. Above: A Solaris water heater plumbed to a Kabola heating system. This arrangement allows the Kabola to provide hot water for domestic use without running an engine or generator.

worked as a captain or engineer on several yachts, mostly in the Pacific Northwest, but occasionally in the Caribbean and the Mediterranean. He also spent time as an owner's representative at the well-known De Vries Shipyard in the Netherlands, overseeing the construction of a client's 158-foot motoryacht.

Over lunch one day, I asked Lars what was the most valuable lesson he had learned from working in the marine industry. When he responded, "The importance of great customer service, as well as high-quality marine gear and equipment," I knew I had found a kindred spirit. I couldn't have expressed the sentiment any better.

Wanting to spend more time with his family, Lars made a career change that would require less travel and less time at sea. He began working at a retailer in the Seattle area that dealt in marine stoves and heaters. For a time, he also worked as a project manager at a large boatyard in Sidney, British Columbia. In 2001 he started his own business, Nortec Marine, specializing in—you guessed it—marine heating systems. While in the Netherlands overseeing the large yacht construction project, he'd had the opportunity to work with a variety of equipment manufacturers, many of whom had no U.S. presence at the time. One of these manufacturers, Kabola, made a distinctly positive impression on him, inspiring a trip back to the Netherlands for a meeting. Lars returned to the United States with the U.S. distributorship.

Over the course of the next several years, Lars was responsible for raising the Kabola banner in North America. And raise it, he did—the product went from being a virtual unknown to a well-respected addition to many vessels, both large and small. With the economic downturn, however, Nortec fell on hard times.

A BUDDING PARTNERSHIP

Enter Costica Gheorghiu, another former merchant marine, and a refugee from behind the Iron Curtain. Costica's story is a remarkable one. During my time with him, I found myself posing a variety of questions that had little to do with the marine industry: How did you escape from communist Romania? What happened to your family when you left? Did you speak English when you came to the United States? Costica's English, though accented, is very good, and I found myself unable to take notes quickly enough as his stories diverged and one anecdote led to another. I quickly became lost in his fascinating experiences. Exasperated with trying to follow the details, I asked him to write down his story and email it to me. It runs seven and a half single-spaced pages, and somehow I suspect this is the short version. While Lars is the epitome of quiet determination and modesty, Costica exemplifies the self-made "do whatever it takes to get the job done" entrepreneur. And quiet, he's not.

Like Lars, Costica had a lust for travel, along with an interest in things mechanical and mathematical. Two obstacles stood in Costica's way. First, at the time,



Romania was a hard-line communist state, ruled by the equally hard iron fist of the now-notorious Nicolae Ceausescu. In Costica's words, "According to the law at the time, no private citizen was allowed to leave the country, period. We were living in an open prison; the only exceptions were high-level diplomats, pilots, and sailors working on merchant ships." The second problem was Costica's personality—he describes himself as "a nonconformist who has no patience or understanding for mediocrity, top-down rules, or faceless uniformity." You can see his predicament; this man simply wasn't made to live under a communist dictatorship.

To make a long story less long, Costica attended the Romanian merchant marine academy and graduated with honors as an engineer in 1980. He went on to work aboard merchant ships that docked in Western ports of call, earning the princely sum of \$1.55 a day. The pay was irrelevant, however; the taste of freedom he experienced while traveling overseas was all he needed. In 1986, while making a port call in Greece, Costica jumped ship—literally, leaving his wife and daughter in Romania. Seeking political asylum as a merchant officer immediately made him a criminal in Romania. It was a very difficult decision, but one that he says he does not regret today.

After nearly a year of internment and waiting, Costica found himself in Maine, of all places, speaking no English, sharing a small apartment with a few fellow refugees, and relying on food stamps. It didn't take him long to find work and to start attending English classes. His first job was at a small boatyard, where he washed boats, painted bottoms, and did anything else he was asked to do, happily, for \$4.50 an hour. He took on a second job loading containers for long-haul trucks, which provided enough cash for him to get a place of his own. In 1988, with the help of a U.S. senator, Costica was able to obtain visas for his wife and daughter, and they were reunited.

Life in America was good for Costica, and he has never looked back. He has held many jobs in the marine industry, including working as a merchant marine engineer in Alaska. He lost two ships during that stint, prompting his wife to insist that he, too, swallow the anchor. Like a good husband, he obliged.

In 1990 Costica returned to the boatyard business, taking a job at Seattle's Marine Servicer on Lake Union. He put his time to good use, learning everything he could about yacht repair and construction, and about the workings of the marine industry. Once again, however, the restless nonconformist in Costica sought another avenue for his creativity. In 1997 he purchased a bankrupt

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marine-repair company, which he promptly renamed Costica Marine. After significant growth and a merger with another repair firm, Costica found himself presiding over a large boatyard with 25 employees and a 90-ton lift, working on vessels up to 70 feet long and commissioning boats for some of the industry's best-known marques.

Costica opted to sell his share of the yard to his partner in 2005. In 2008, Costica bumped into Lars at a boat show. Costica hadn't been active in the marine industry since selling his share of the yard, but he had remained in touch with many of his colleagues; it was a business he loved and simply couldn't escape. This was not the first time the two had met—Lars had installed heating systems aboard boats at Costica's yard, and during this time they had developed a working relationship that would turn out to be a lasting one. Costica became Lars' best customer after seeing how well the Kabola furnaces and the high-end copper-tank Solaris water heaters he installed worked. (See "Potable Water Systems: Part II," *PMM* July/Aug. '10, for more on Solaris water heaters.)

The impromptu boat show encounter led to a restructuring of the Kabola distribution network in North America. Costica formed MarineTec, of which Lars is a partner. Today, their premier products are still Kabola furnaces and Solaris water heaters.

There's no shortage of twists and turns, along with a few ups and downs, behind MarineTec's classic American story of immigrant success—a Swede and a Romanian working together, selling a furnace from the Netherlands and a water heater from the U.K. Today, Costica and Lars, through MarineTec's Seattle location, provide specialized service for their niche, offering hydronic heating and domestic hot water systems using Kabola's furnaces and Solaris water heaters. It's a business they both know very well, and one they hope will continue to grow. 

Steve owns and operates Steve D'Antonio Marine Consulting (www.stevedmarine.com), providing consulting services to boat buyers, owners, and the marine industry.