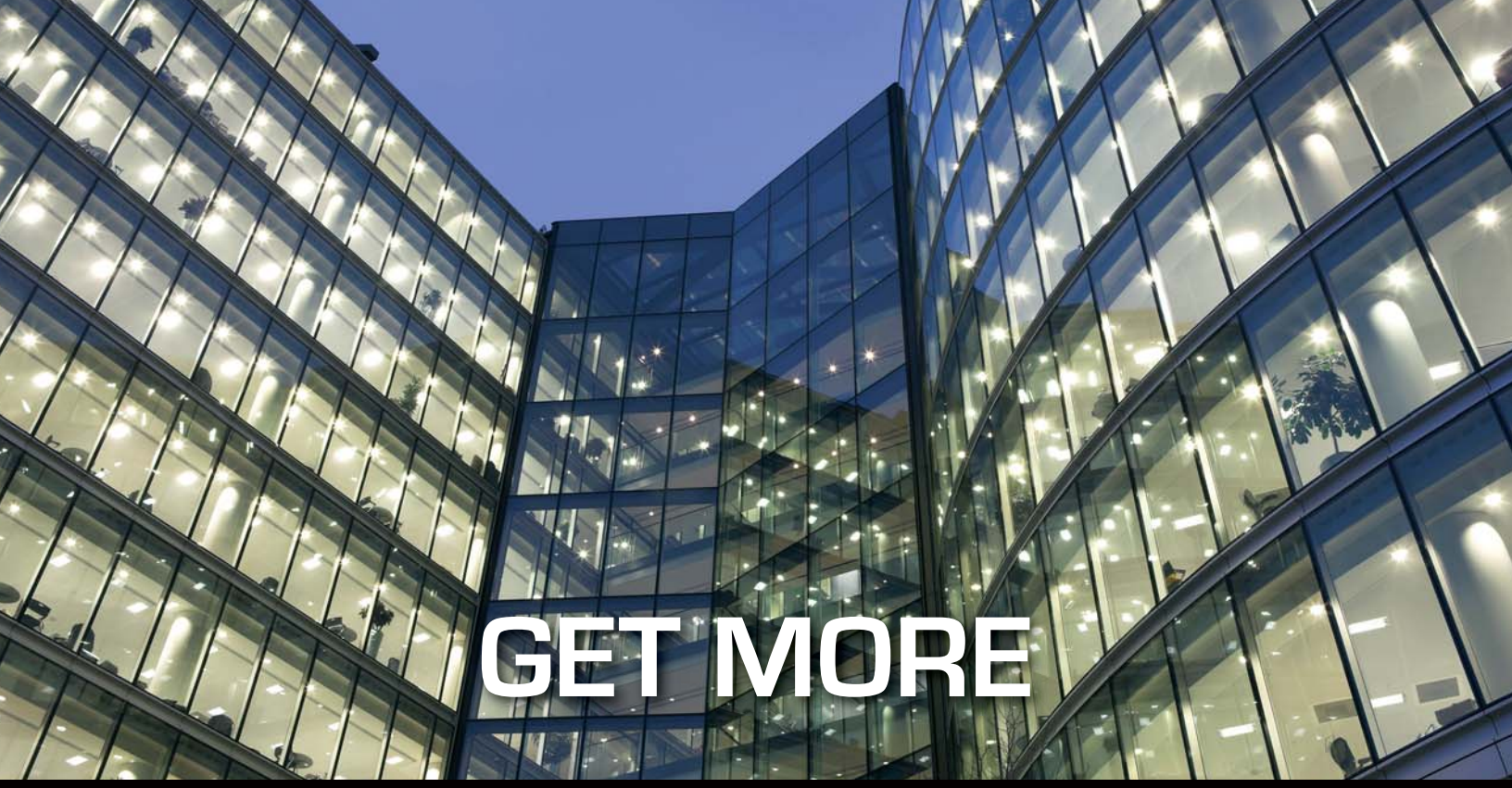


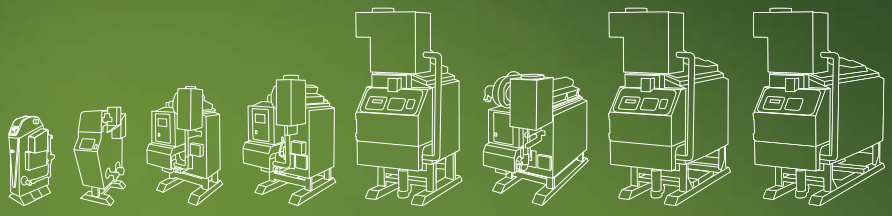
GET MORE

KN-Series gas-fired condensing cast-iron boilers with HeatNet Integrated Boiler Management System deliver environmentally friendly solutions for any size commercial challenge, with industry-proven durability, reliability and performance.

AND LEAVE LESS

HydroTherm®

KN SERIES



MADE IN THE USA

Installing KN-fidence

with Our Complete Line of Gas-Fired High-Efficiency Condensing Cast-Iron Boilers

In today's commercial hydronics market, size does matter—the volume of the public space in a building; the boiler's mechanical room footprint; and the level of emissions a unit releases all have to be considered. So how do architects, engineers, contractors, and building owners get the big-time performance needed to tackle any size commercial application while reducing their impact on the environment?

The KN-Series is purposefully engineered to be big and little where it matters most. Our boilers are specially designed to generate 200,000 – 3,000,000 BTUs and adapt to changes in the operating environment—with minimal moving parts and a small footprint—while retaining high efficiency. The HeatNet Integrated Boiler Control Platform constantly monitors performance, allowing our boilers to operate at up to 99% efficiency with high system turndown. Coupled with low NOx and CO_2 emissions, as well as significant reduction in energy consumption, the KN-Series' complete line of condensing, cast-iron boilers is an environmentally friendly, cost-effective option for every application.

Greener Way to Go

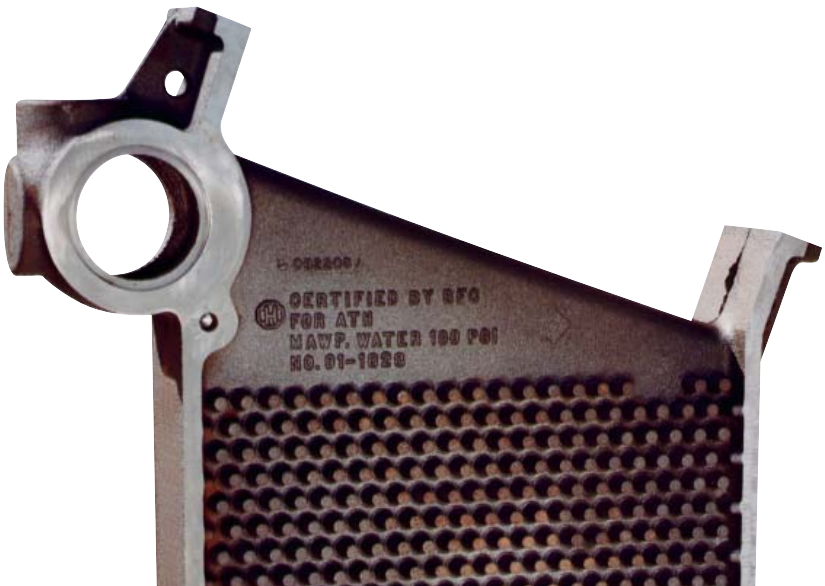
Fabrication to application, KN-Series boilers are an environmentally friendly option for your light commercial and commercial installations. Our specially designed cast-iron heat exchangers are manufactured utilizing over 90% post-consumer recycled materials and are completely recyclable themselves! Once installed, boilers operate at up to 99% efficiency, while producing low NOx and CO_2.

- **Completely assembled boilers in total use over 80% post-consumer recycled materials**
- **Plastic components made from 40% post-consumer recycled materials**
- **LEED Certified**
- **92.7% AHRI Certified thermal efficiency on all models with up to 99% maximum at full turndown**

Cast-Iron Revival

Cast-iron brings more to the table than you'd expect. The key to the KN-Series revolutionary design is our high-mass, durable, cast-iron heat exchanger, which holds heat energy longer than traditional materials used in condensing boilers. Its superior longevity and reliability helps increase its cost effectiveness, in terms of installation, maintenance and energy consumption.

- **5 times the wall thickness of stainless steel and aluminum**
- **Accepts 10:1 range of water flows (Variable Volume Systems)**
- **100 PSI maximum working pressure**



Tru-Flow™ Fuel/Air Coupling

Responsive to changing conditions and able to adapt to the unexpected, Tru-Flow™ Fuel/Air Coupling helps keep KN-Series boilers running cleanly and efficiently. This unique control system constantly measures the combustion air and fine-tunes the amount of fuel being released to match, ensuring the proper mixture at all firing rates.

Working in conjunction with the integrated HeatNet boiler management system, Tru-Flow helps match load conditions to boiler output, providing efficiencies of up to 99% with full burner modulation. Tru-Flow constantly regulates the flow of both fuel and air to achieve an optimal one-to-one fuel mixture, and automatically adjusts itself if one of the flows is compromised, ensuring continuous safe and reliable operation.

Made in the USA

From raw materials to the state-of-the-art digital control system, the complete KN-Series product offering is proudly manufactured at our facility in Boyertown, Pennsylvania. Utilizing decades of foundry and manufacturing expertise, KN-Series boilers are cast, machined, wired, and assembled to the tightest tolerances possible, resulting in a finished product that's all American in terms of innovation, reliability, and craftsmanship.

Integrated Boiler Management System

Intelligence Built In

HeatNet, Hydrotherm's proprietary integrated boiler management system, is the driving force behind Hydrotherm's energy optimization philosophy for its high-efficiency equipment. HeatNet is designed for precise system control and is standard on all KN-Series boilers.

Through continuous monitoring of several system characteristics, including boiler temperatures, limit circuit inputs, and overall system demands, HeatNet modulates boiler firing rates to maximize turndown ratios to maintain peak efficiency regardless of the load.

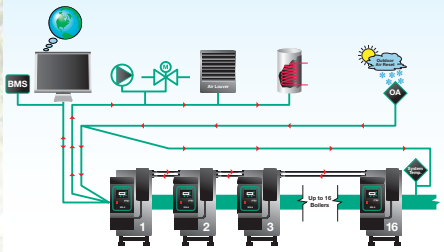
Versatile

In addition to maintaining peak efficiency in our stand-alone boilers, HeatNet can operate as part of a multi-boiler Master/Member network of up to 16 boilers, where typical Master/Member systems using 2, 3, 4 or 5 boiler configurations can see total turndown ratio of 10, 15, 20, or even 25:1 or more depending on the number of units in the application.

HeatNet can also function as a boiler management system, incorporating a mix of both condensing and non-condensing boilers, or in base-load applications with existing boilers, eliminating the need for costly additional third-party, wall-mounted control platforms.

HeatNet "learns" the optimal firing rates of a given application, thereby determining the system's load for maximum energy efficiency. The variable control settings for Mod/Max firing rates allow technicians to adjust the maximum firing rates, enabling all boilers to run at extremely efficient levels until all units in the sequence have fired. HeatNet keeps the firing rate as low as possible, taking advantage of increased efficiencies at lower inputs. Boiler firing rotations can be programmed for First On/First Off, First On/Last Off or "True Rotation." HeatNet also modulates the local boiler pump for Primary/Secondary systems, ensuring optimum boiler Delta T.

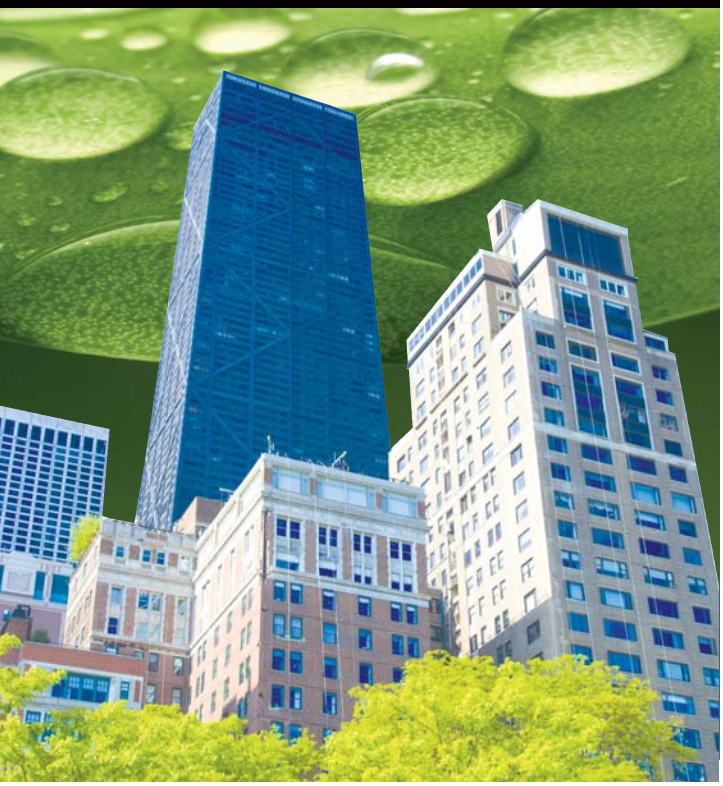
HeatNet 'On Board' Control, working in conjunction with the BMS, provides multi-function control of KN-Series boilers, circulator pumps, motorized or on/off isolation valves, combustion air louvers/dampers, domestic hot water storage tanks and outdoor air reset.



Straightforward

HeatNet's intuitive interface, with plug-and-play connections, speeds the installation, set-up, and diagnostic process for technicians. HeatNet's electronics are conveniently located in a self-contained control enclosure, with all internal components and terminal blocks easily accessible. The standard HeatNet control uses a Modbus protocol with optional protocessor boards for BACnet- and Lon Works-based building management systems. Its proprietary design allows for seamless flash drive or laptop-driven updateable firmware, adding continuous value and boiler system control without physical control platform updates that can make some equipment obsolete.

KN SERIES 26 2,600,000 BTUs



Joining the KN-16 as the latest addition to the growing family of the KN-Series boilers, the KN-26 produces 2,600,000 BTUs, while maintaining the features that have made the KN-Series boiler the most recognized appliance in the commercial boiler industry – long lasting durability and ultra-high condensing efficiencies all in a compact footprint.

The KN-26 puts the final piece into the most complete line of condensing boilers on the market. KN-Series boilers are built to meet the most challenging demands of today's condensing commercial boiler applications.

The KN-26 takes all of the successful attributes of the KN-30 boiler and incorporates them into a smaller size. The same tried and true system versatility and durability seen on all KN-Series boilers holds true for the KN-26. From single boiler applications to multiple boiler master/member networks controlled thru the HeatNet integrated control platform the KN-Series is the most versatile boiler for all types of applications including today's variable volume systems.

Premium efficiencies with high system turndown and low emissions make the KN-Series line of condensing cast-iron boilers the most cost effective option for every application.

KN-26 Specifications

	Nominal	Min	Max
Gas pressure, inches W.C.	7	3	14
Voltage, 208/230 V 3ph			
Flow, GPM		38	380
Temperature rise, °F		20*	100
Flue length, equiv. ft		6	120
Air inlet length, equiv. ft		0	120
Water volume, gals	36.4		
Flue diameter, in	8		
Current, amps	5.8		
Cv, GPM @ 1psid	240		
Boiler HP	72		
Input MBH	2600		
Output MBH	2410		
Fuel type	Nat. Gas / LP		
ASME design data max	100PSI / 250°F		
Supply/Return Pipe Size	4"		
Height	74 1/32"		
Length	79 3/4"		
Width	34"		
LBS (Shipping)	3120 lbs		

*Min/Max delta t reflects boiler operation at full input. For applications requiring operation above/below these parameters please consult factory.

Hybrid Boiler Systems

The concept of "hybrid", "base-load" or even "mixed-boiler" configurations is simple. Lower the upfront equipment cost of a condensing boiler plant by incorporating less expensive conventional equipment while optimizing the operational range of both in a specific application.

Of critical importance for any hybrid system is the sizing of the units. Meeting total BTU requirements with a combination of condensing and non-condensing units optimizes overall system performance by allowing condensing units to run exclusively on warmer days minimizing fuel usage with the non-condensing units running on high-load colder days.

Geographic location and the use of BIN hour temperature charts would ultimately determine the appropriate sizing of your condensing versus non-condensing boiler equipment.

Sizing

There are 2 key components that must play a part in optimizing a hybrid system application: outdoor reset control and the understanding of the performance band of condensing boilers (flue gas and return water temperatures below dew point of 130°) versus non-condensing boilers with varying boiler water loop temperatures.

Using BIN hour temperature charts we can determine that on average properly sized condensing units will run 74% of the time in full condensing mode which covers 40% of the buildings "Design Heating Load" thus leaving only 26% of run time in non-condensing mode**.

The highest efficiency units will run in condensing mode 74% of the time, maximizing efficiency while still providing equipment redundancy at a substantially reduced cost.

How to Control

HeatNet, Mestek's proprietary integrated boiler control platform makes boiler to boiler communication in all types of applications including hybrid designs with both high mass and low mass units seamless while optimizing system efficiency by prioritizing the firing rotation of all boilers in the sequence (up to 16 units) both condensing and non-condensing.

** Hypothetical scenario assuming a 4,500 MBH design load from which 40% (1800 MBH) can be concluded to be condensing with the remaining 2700 MBH being non-condensing. Varies depending on specific BIN data per geographic region.

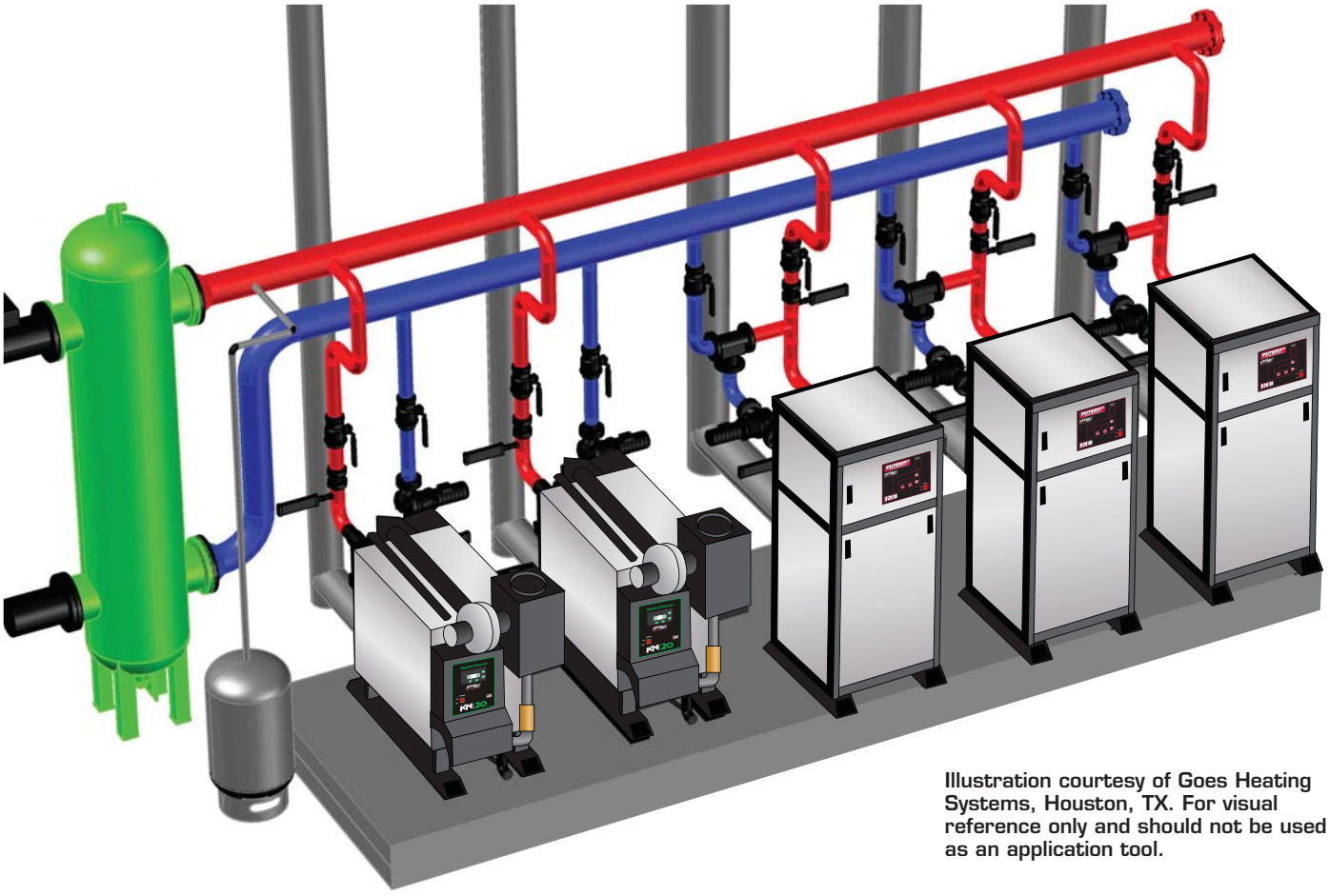
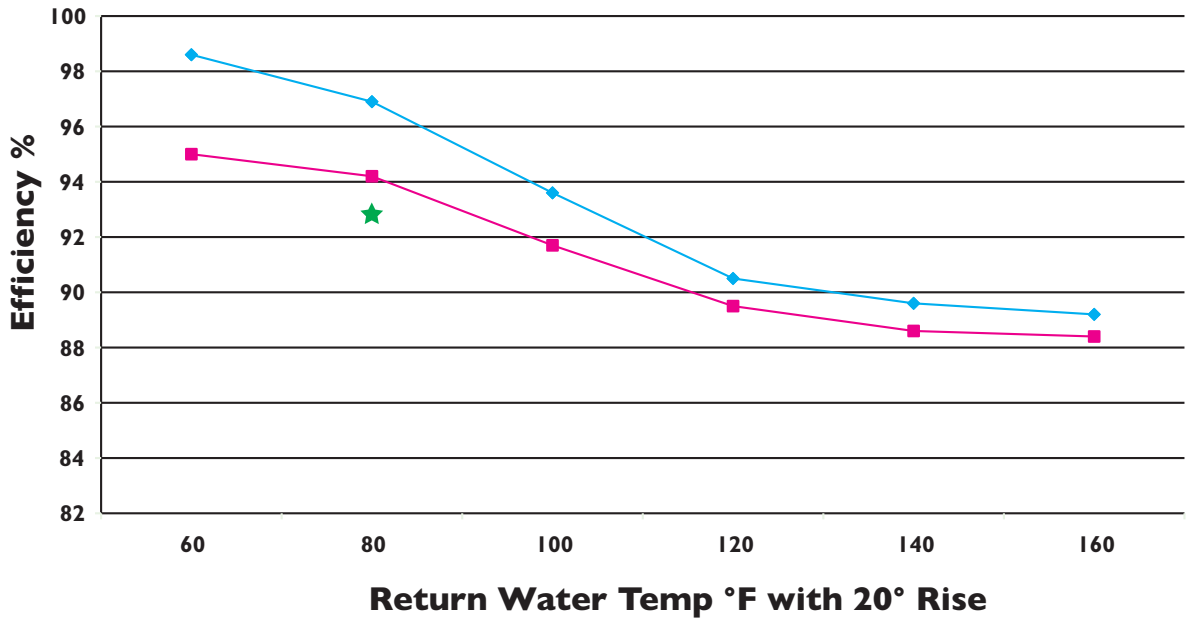


Illustration courtesy of Goes Heating Systems, Houston, TX. For visual reference only and should not be used as an application tool.

KN Series
Annual Mean Thermal Efficiency



★ – AHRI Certified 92.7% Efficient

■ – Annual Mean Thermal Efficiency is a calculated average utilizing cumulative run hours and corresponding load. (ASHRAE Degree Day & BIN Method/Fundamentals 19.17)

◆ – Maximum Modulation Efficiency (Low Fire)

Contact Info:

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KN SERIES

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