

KOHLER®

Discover the Difference The Kohler Advantage

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Agenda

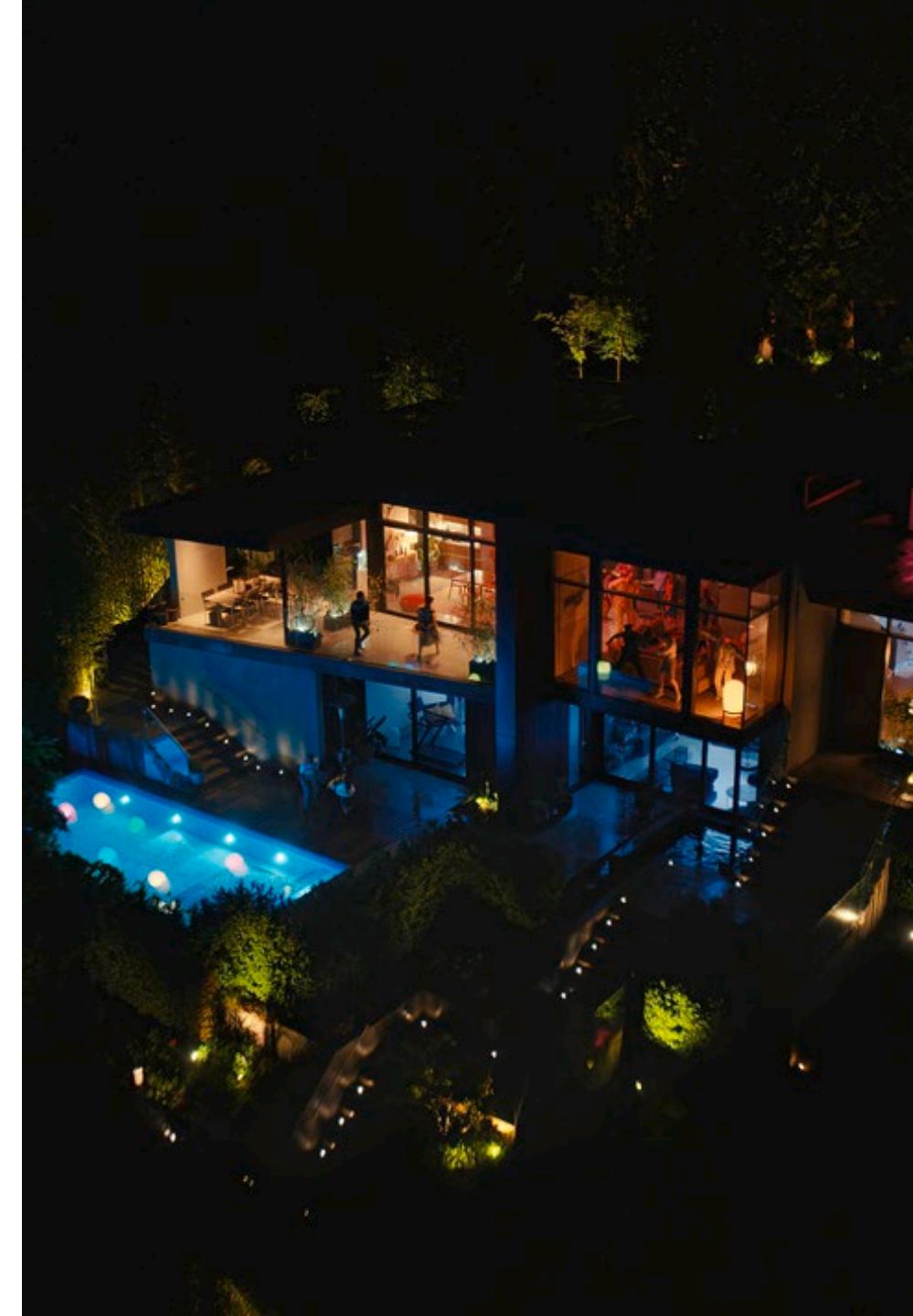
1. Introductions

2. Products

- Key features and Benefits
- Competitive advantage
- Special applications

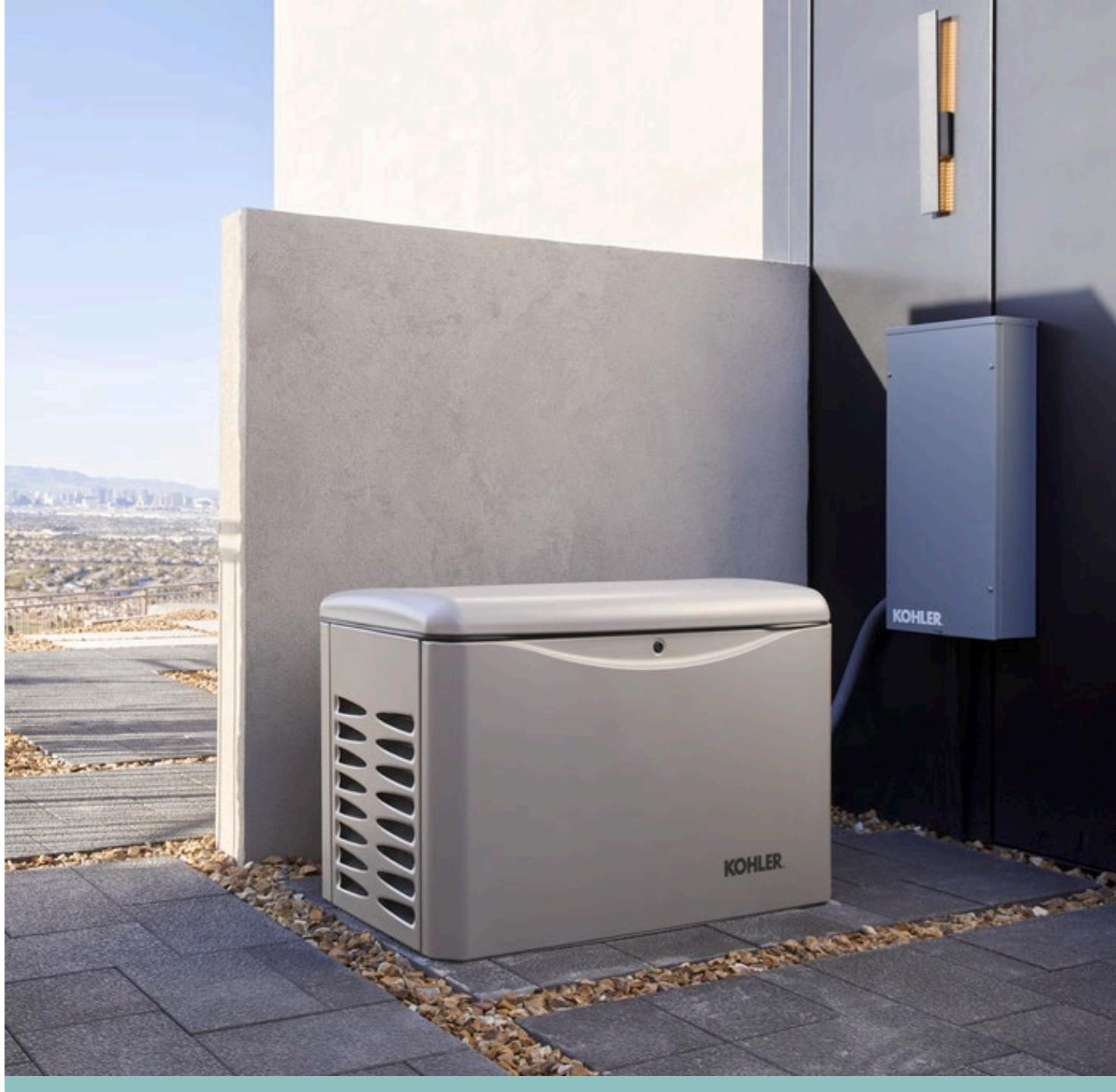
3. Quality

- Mfg
- Warranty



KOHLER®

The Kohler Difference



RCA

14RCA



20RCA



26RCA



- **CH740 – Ultra durable**
- **Prime/off grid rated**

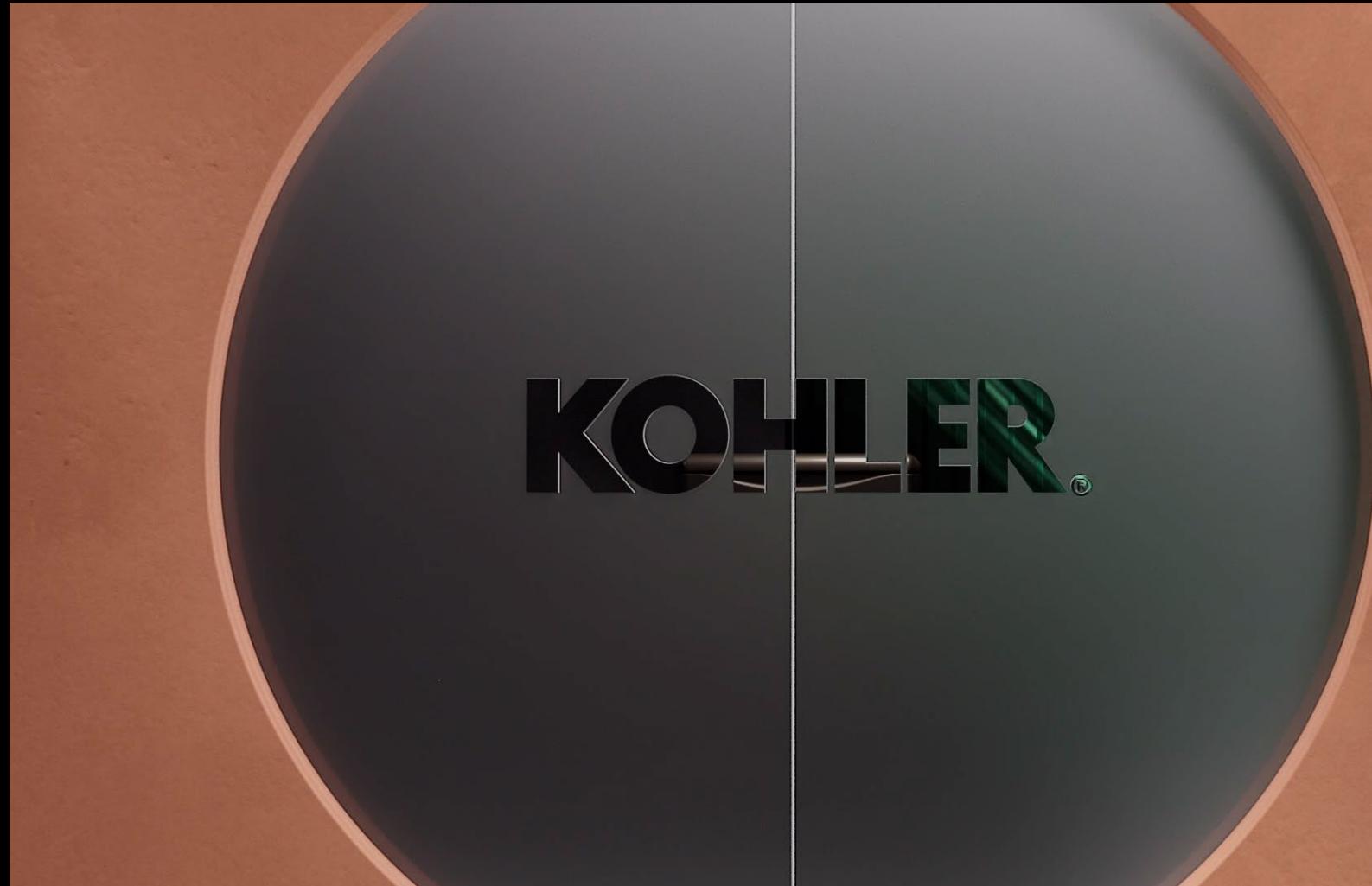
- **Proven CH1000**
- **Most popular model**

- **CH1006 – Most powerful**
- **Quietest – 56dBA at exercise**
- **Exceptionally durable w/ first to market low level oil shutoff and 300 hour oil change option**

Stylish RCA Generators are the most customizable with 10 exclusive colors and 3 Camo enclosures

New 26kW

*The most powerful,
quietest in its class
and exceptionally
durable*

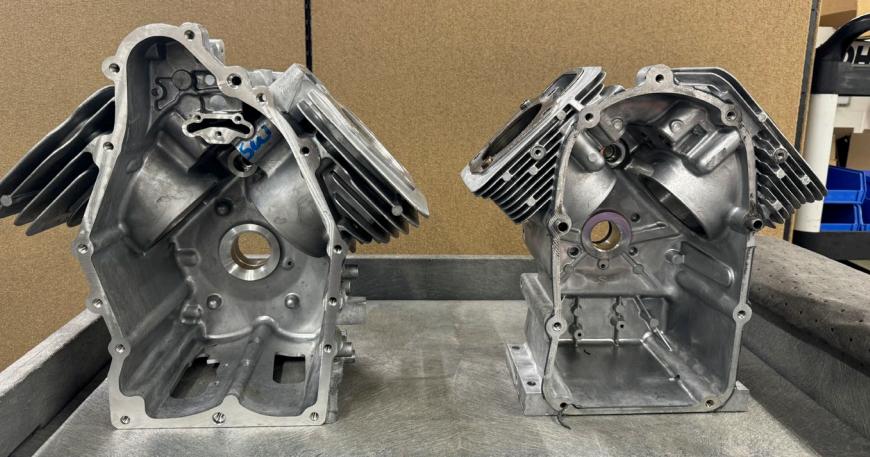


26RCA - Competitive Review – Engine Components

Kohler(Commercial Grade) vs. Competitor A(Purpose Built)

Crankcase

- Larger fins for cooler operation - overall structure



Cylinder Heads

- Larger fins for cooler operation



Crankshaft

- Larger bearings



Ignition coils

- Dedicated timing for LP/NG



- Better fuel economy & performance

Industrial grade engine and generator heritage equates to generators built to last

26RCA Competitive Review – AC Starting

Background: Peak motor starting kVA was the traditional metric for ability to start large loads(ie AC units). This can often be confused with Locked rotor amps, or is compared at different voltage dips.

An alternative and real-world residential application is a generator supporting home electrical loads while starting an air conditioner

Test Results:

Amps	Kohler	Competitor A	Competitor B
NG	81	66	75
LP	92	79	75

- NG - The [Kohler 26RCA](#) delivered 23% more amps while still starting the AC unit vs Competitor A, and 8% more than Competitor B
- Kohler can power another 15 amp circuit over competition while still starting the AC unit



- LP - The [Kohler 26RCA](#) delivered 16% more amps while still starting the AC unit vs Competitor A, and 23% more than Competitor B

KOHLER



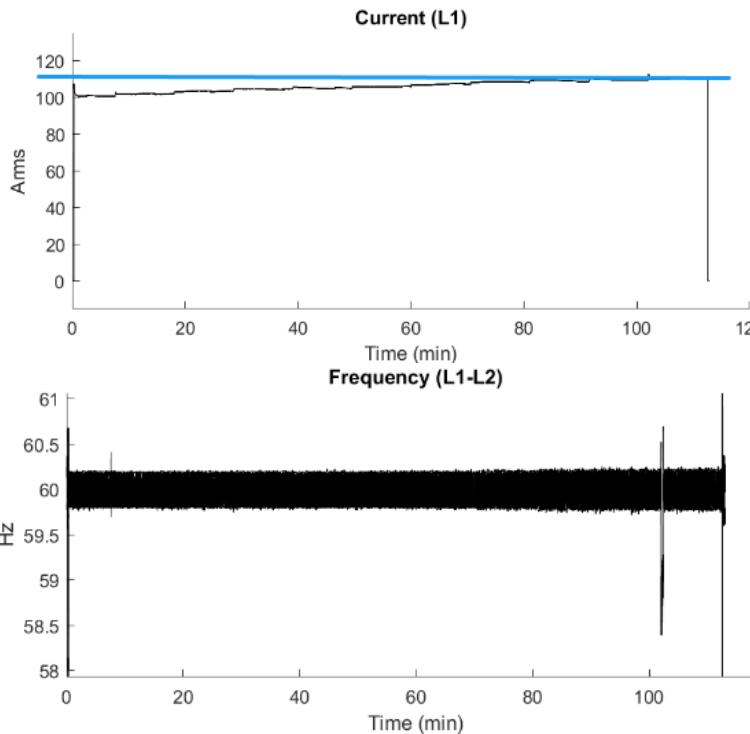
Test Procedure: Understand max preload on a generator while still starting a 5 ton Air conditioner.
Trane model 2TTB3060A1000AA was used for testing

26RCA Competitive Review – Power

Background: The Kohler 26RCA is the most powerful air-cooled generator in its class

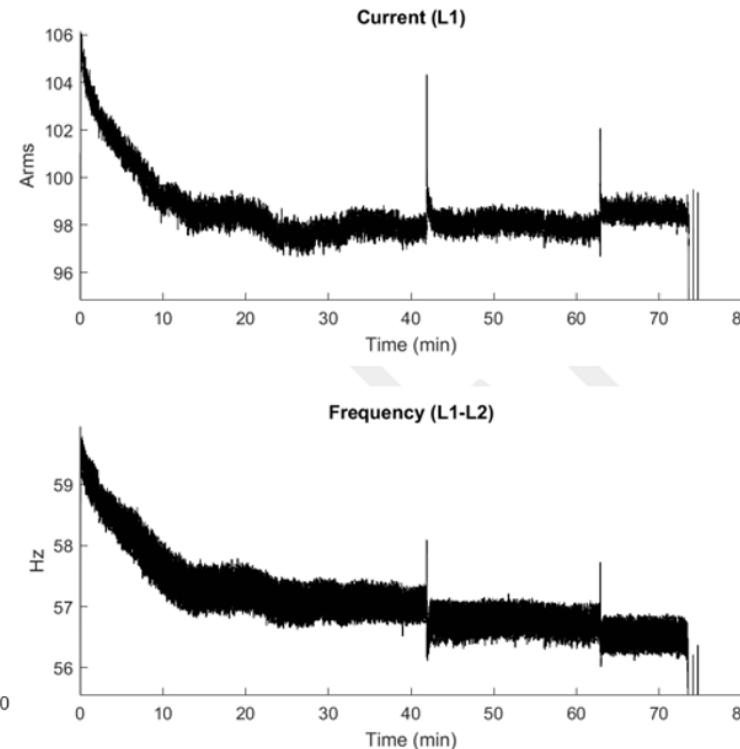


Kohler



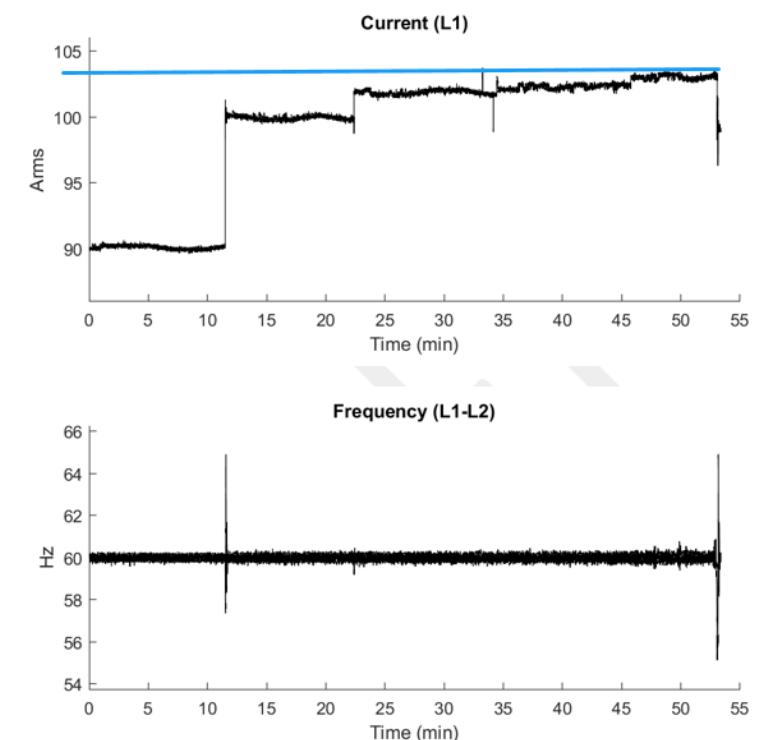
Kohler pulls 109 amps with stable frequency

Competitor A



Competitor A current and frequency drops over time

Competitor B



Competitor B pulls up to 104 amps and stable frequency

26RCA Competitive Review – Enclosure Cooling

Background: Kohler durability is supported by cool running engine and alternator with overall superior enclosure air flow. A cooler overall unit will last longer in extreme environments

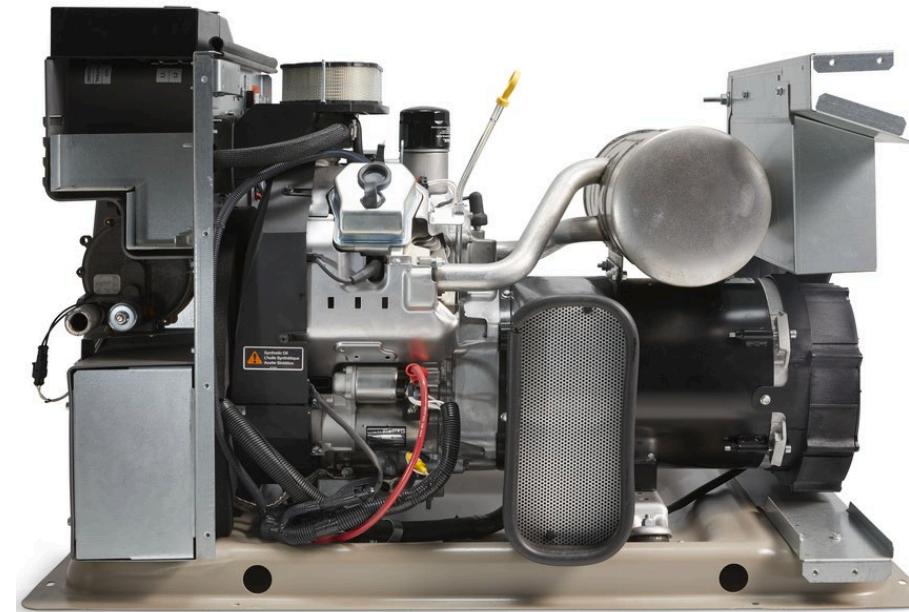
New 26RCA cooling design reduced existing alternator temperatures by 23% while providing more power

Test Results:

Max Temp Rise(F)	Kohler 26RCA	Competitor A
Max Temp Rise(F)	208	226
Amps Tested	105	92

- The **Kohler 26RCA** alternator temperatures were *8% less when tested at 14% higher load* than Competitor A

*Temp Rise is noted in change of temperature over ambient conditions during the test



Test Procedure: UL2200 Temperature Test. Unit is run at load until all temperatures are stable for 3 consecutive 15 min data points. Temperatures are then taken by the rotor and stator. Max Temp is used for rated value

26RCA Competitive Review – Sound, Fuel Economy, Wind

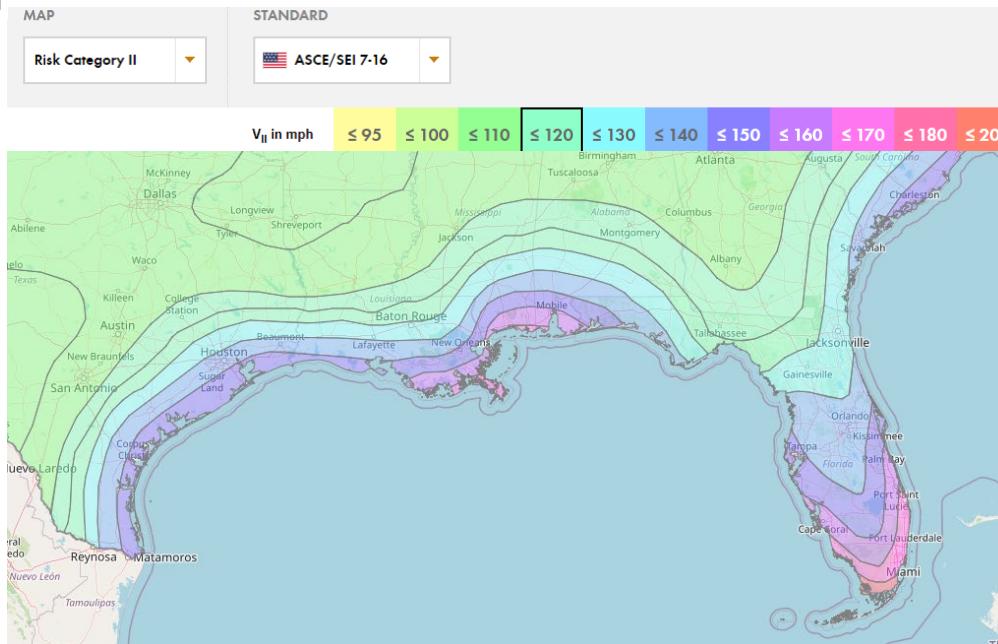
Sound

KOHLER 26RCA is the quietest generator in its class

		Kohler 26RCA	Competitor A	Competitor B
spec sheet	Exercise	56	57	63
	HSNL	67	67	65

Wind Ratings

	Kohler 26RCA	Competitor A	Competitor B
Max mph	181	150	186



Fuel Economy

KOHLER 26RCA is the most fuel efficient generator in its class. Important for LP applications

Fuel	Load	Kohler 26RCA	Competitor A	Competitor B
NG (CFH)	Exercise	67	-	122
NG	50%	180	188	206
NG	100%	290	333	323
LP (Gal/hr)	Exercise	0.9	-	1.3
LP	50%	2.3	2.1	2.6
LP	100%	3.5	3.6	4.7

Category II buildings are classified as single use residential buildings



26RCA Feature Review – Exercise

26kW Eco Exercise

- Factory default for the 26RCA
- Recommended for cold conditions <32F

Reduces opportunity for moisture to build within the crankcase/breather system

Monthly frequency recommended

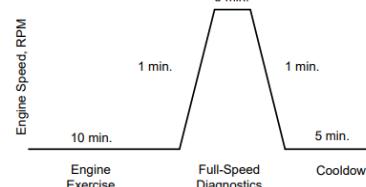
- 90 sec exercise
- 60 seconds high speed
 - 60 seconds required to fully prime oil pressure at low temperature and perform electrical diagnostics

30 seconds low speed – lower sound

- Reduces fuel usage
- 92% less fuel burn than 20RCA
- 70% less fuel burn than competitor
- Less overall run time on the unit

Other Available Exercises

- Standard Unloaded Exercise
 - Multiple speed exercise for 20 min. Quieter operation



- Unloaded Full speed
 - Ideal for customers who are concerned about change in sound due to speed
- Loaded Full speed
 - Performs actual transfer of house load for 20 min, then 5 min cool down



Competition

- Competition exercise strategy varies between extended or little to no exercise
- Kohler stance is 90 sec is proper balance of verifying proper operation vs minimizing fuel consumption, sound, and cold weather resilience

	Kohler	Competitor A	Competitor B
Exercise	90 sec	5 min	16 sec

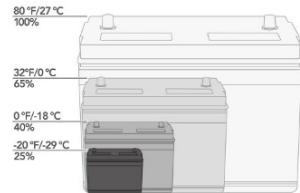
- Will move other models to this as standard as testing allows

RCA – Cold Weather Kits

Battery Heater Kit

Recommended for regions where the temperature regularly falls below -20°C (-4°F).

Batteries can lose cranking power when temperatures drop.



Fuel Regulator Heater Kit

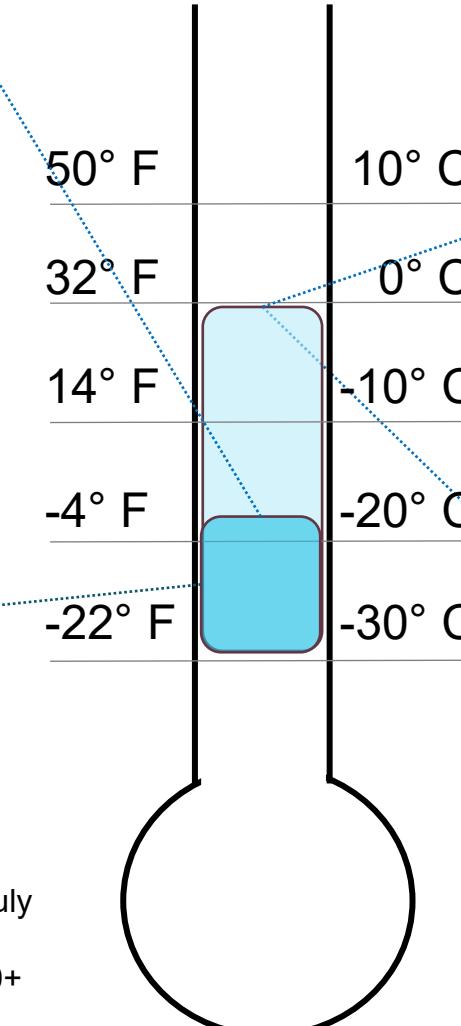
Recommended for reliable engine starting in temperatures from -18° to -29°C (0° to -20°F). Requires a continuous source of AC power backed up by the generator.

Recommended for **20RCA**



Testing

Cold start testing was done @ -30°C during July within cold chamber on a 26RCA. Recommended kit combination resulted in 30+ immediate starts over multiple days



Carburetor Heater Kit

Recommended for regions where the temperature regularly falls below 0°C (32°F).

OR

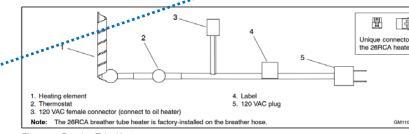


Figure 4 Breather Tube Heater



Picture of uniced mixer during cold testing

Oil Heater Kit

Recommended for regions where the temperature regularly falls below 0°C (32°F).

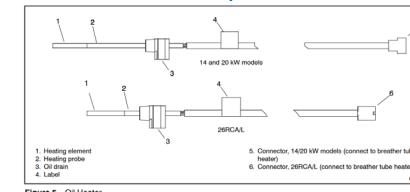


Figure 5 Oil Heater

Recommended for **14/20/26RCA**

RCA – Cold Weather Packages



Cold Weather Package – 14kW

GM110948-KP1-QS

Includes:

- Breather Tube & Oil Heater Kit
- Pressure Sensor Cover
- Alternator Weather Cover
- 3-Way Extension Cord
- & more!

Cold Weather Package – 20kW

GM110948-KP2-QS

Includes:

- Breather Tube & Oil Heater Kit
- Regulator Heater Kit
- Pressure Sensor Cover
- Alternator Weather Cover
- 3-Way Extension Cord
- & more!



Cold Weather Package – 26kW

GM110948-KP3-QS

Includes:

- Breather Tube & Oil Heater Kit
- ~~• Regulator Heater Kit~~
- Pressure Sensor Cover
- Wire harness integrated into genset harness for cleaning installation

Pre-installed CWP – 26kW

26RCA-QS50

Includes:

- Same as CWP
- Includes full 5-year premium warranty vs 90 days

>24KW

Small Frame RCL



Medium Frame RCL



Large Frame KGR/150EREESC



- Ultra durable 2.2L
- Quietest residential generator on the market
- Available for shipment

- Proven 6.2L NA architecture
- FRX permanent magnet excitation for outstanding voltage and frequency response

- Powerful 6.2LT/8.8LT
- Light commercial features

Small Frame RCL – Competitive Review

				
Brand	Kohler	Competitor A	Kohler	Competitor A
Power, 120/240V, 1P, 60 Hz (LPG/NG)	30/30 kW	32/32	38/38 kW	40/40
Amps LPG/NG @ 240 V Single-phase	125/125	133/133	159/159	167/167
Breaker(amps)	150	150	175	200
Engine Displacement	2.2L Turbo	4.5L	2.2L Turbo	4.5L
Engine - # of cylinders	Inline, 4-cylinder	Inline, 4-cylinder	Inline, 4-cylinder	Inline, 4-cylinder
Intake Air System	Turbo/CAC	NA	Turbo/CAC	NA
Engine RPM	1350/1800	1200/1800	1350/1800	1200/1800
Dimensions(LxWxH)	74 x 33 x 46	84 x 34 x 45	74 x 33 x 46	84 x 34 x 45
Reduced Setback (18")	Yes	yes	Yes	yes
Enclosure Material	Aluminum	Aluminum	Aluminum	Aluminum
181 MPH Wind Rated	Yes	150? 186 with wind load kit	Yes	150? 186 with wind load kit
Fuel consumption @50% NG CFH	187	240	233	289
Fuel consumptions @100% NG CFH	340	406	445	494
Fuel consumption @ 50% LPG Gal/hr	2.4	3.4	2.7	3.8
Fuel consumption @100% LPG Gal/hr	4.0	4.9	4.9	5.7
Sound Level - Normal Op at 7 meters (dBA)	60	64	60	64
Sound Level - Exercize at 7 Meters (dBA)	52	58	52	58
Standard Warranty	5 year Premium limited	5 year Limited	5 year Premium limited	5 year Limited
Availability	2 weeks	Not released for shipment	2 weeks	Not released for shipment



- Outstanding reliability reputation
- 30/38 RCLs have the smallest footprint
- Patented automotive style fan provides the quietest residential generator in the market
- Smaller engine provides lower fuel economy
- Single phase available for shipment

<12kW Products

6VSG



12Res



10/12ResV



- **24,36 & 48V DC Generator**
- **Ideal for charging DC battery banks**
- **Unit is variable speed based on the battery charging requirements**
- Is one of the quietest(57dBA) and most fuel efficient air cooled units
- **CH740 is prime rated.**
 - Longer life due to lower standard operating rpm
- **Compact size – 40”L x 28”W x 29”H**

- **CH740 Engine is prime rated**
- **Ideal for off grid applications**
- **ADC-RES controller has a sleep mode option to save battery life**

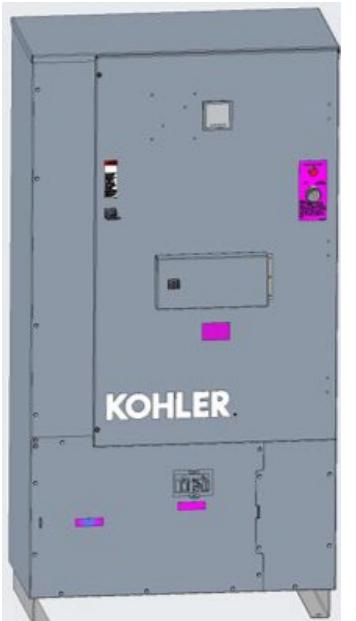
- **Entry level generator**
- **Ideal for those that only want to power the essentials**
- **Compact size – 40”L x 28”W x 29”H**
- **18” offset rated**

New! – Large node ATS – KUS models

Features

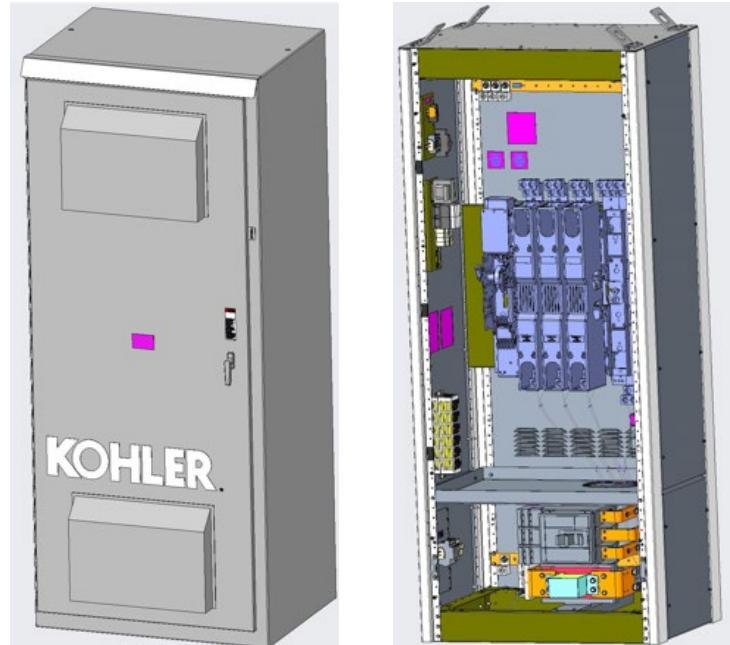
- Utility-side circuit breaker
- Standard fault 80% electronic trip circuit breakers
- Service disconnect standard on all KUS models
- External battery supply module – Unit requires 12vdc from a battery source for normal ATS operation
- Generator remote shutoff switch ready
- Accessory mounting assembly pre-installed
- 1-year standard warranty

400/600 Amp Frame



76"H x 40"W x 23"D

800 Amp Frame



90"H x 38"W x 28"D

Specification #	Amps	Phase	Voltage	Poles/Wire	Encl Type	Service Entrance	UL	cUL
KUS-DFNC-400WS-QS1	400	1Ph	240V	2Pole/3Wire	NEMA 3R	X	X	X
KUS-DCTC-400WS-QS1	400	3Ph	208V	3Pole/4Wire	NEMA 3R	X	X	X
KUS-DFNC-600WS-QS1	600	1Ph	240V	2Pole/3Wire	NEMA 3R	X	X	X
KUS-DCTC-600WS-QS1	600	3Ph	208V	3Pole/4Wire	NEMA 3R	X	X	X
KUS-DFNC-800WS-QS1	800	1Ph	240V	2Pole/3Wire	NEMA 3R	X	X	X
KUS-DCTC-800WS-QS1	800	3Ph	208V	3Pole/4Wire	NEMA 3R	X	X	X

AVAILABLE FOR ORDER

Warranty Competitive Review

	KOHLER	COMPETITOR A	COMPETITOR B
Travel & Labor	200 miles travel and travel labor	100 miles and 3 hours travel labor	100 miles and \$125 trip charge. One trip charge per claim
Warranty Transfer	Transferrable to same owner new location or new owner same location	Transferrable for owner of installation site only	Transferrable for owner of installation site only
Can Purchase Extended Warranty	Up until expiration of original warranty <i>(5-year parts, labor & travel up to 200 miles)</i>	12 Months after initial purchase	12 Months after initial purchase
Extended Warranties Available & Cost	5 Year - \$295 7 Year - \$695 10 Year - \$995	5 Year - \$495 7 Year - \$695 10 Year - \$995	10 Year - \$1,200
ATS Extended Warranty	Available	Not Available	Not Available
Battery Coverage	12-month, 18-month, 24-month (depending on battery)	No battery warranty	No battery warranty

Kohler Home Energy NA Locations

- ❖ **KOHLER, WI, USA - HEADQUARTERS**
 - All ATS mfg
- ❖ **MOSEL, WI, USA - INDUSTRIAL PLANT**
 - KGR/150ERESC
 - Controller and enclosure mfg for Mosel plant
- ❖ **HATTIESBURG, MS, USA – RESIDENTIAL PLANT**
 - All Air Cooled Production – RCA, ResV, etc
 - All RCL production
 - KT7000,CH740, & 1000/6 engine mfg



Mosel WI Plant



KOHLER

Hattiesburg MS Plant



Hattiesburg Manufacturing Quality

Cylinder Head Multi-Spindle Torque Machine

- Increases accuracy and efficiency with synchronized, uniform torque application.



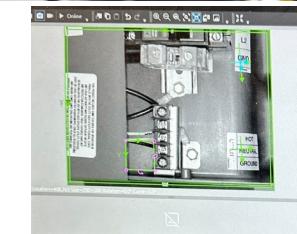
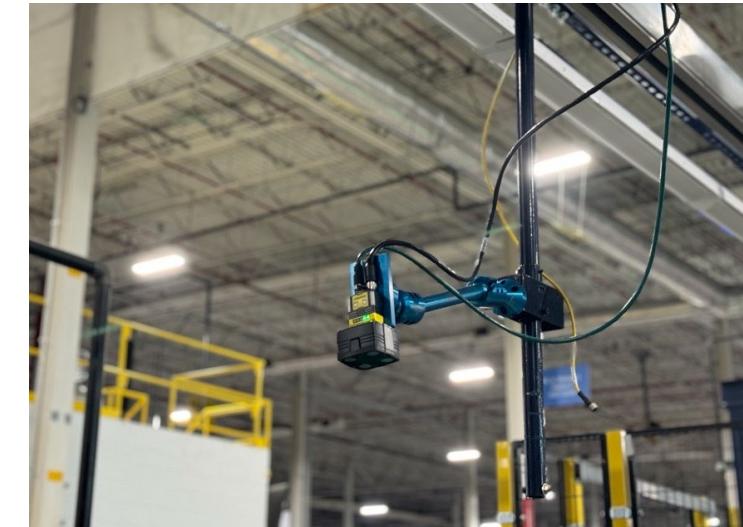
20/26kW Sub-Assembly Line

- KOHLER invested \$1M on this line to automate multiple procedures for increased quality and efficiency.
- Assemblies include mixers, closure plates, etc.



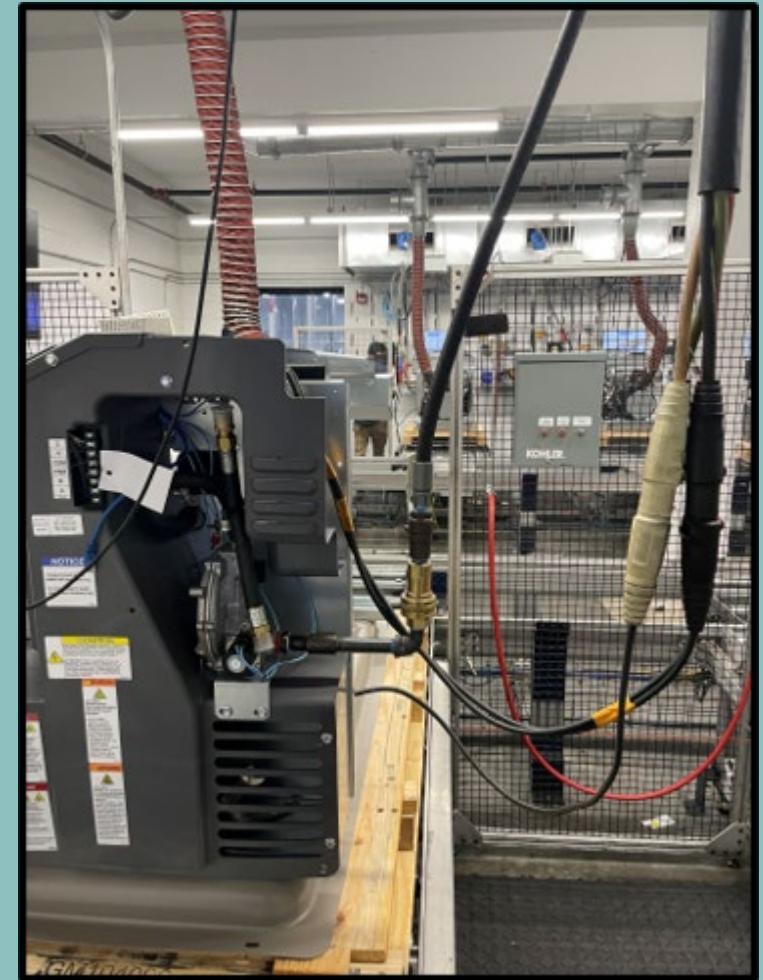
Cognex Cameras

- Multiple lines in Hattiesburg now utilize Cognex cameras to ensure accuracy, safety, and quality.
- Images are analyzed and proofed before unit can continue.



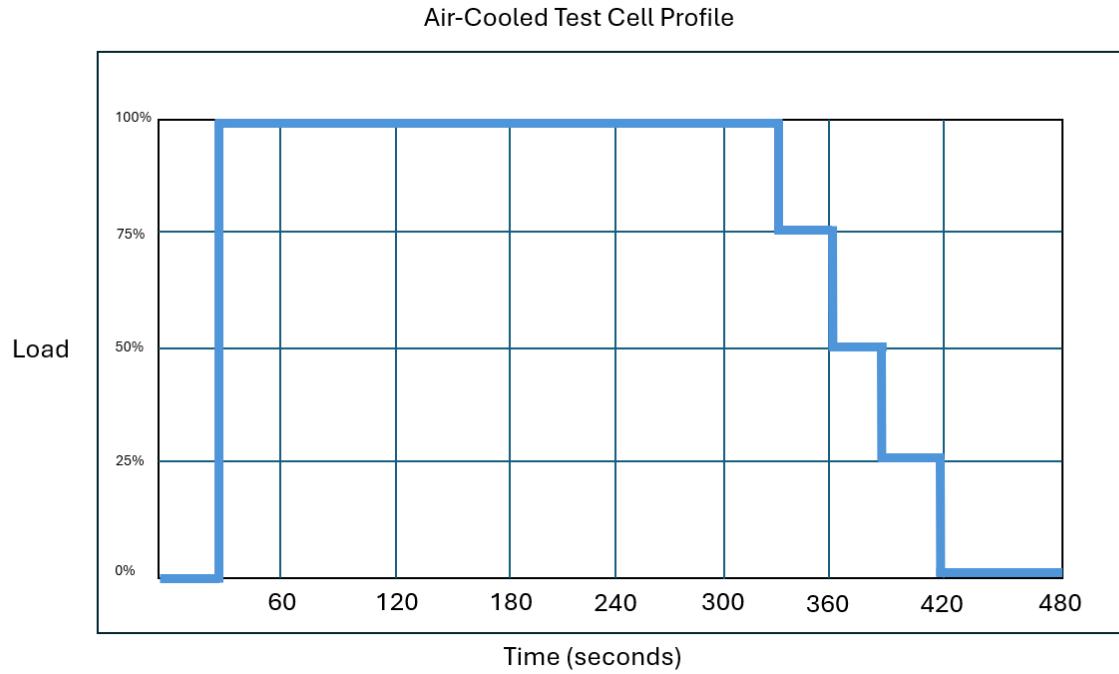
Generator Assembly Line – Process Controls

- **ATS/RDC2 Communication Test**
- **In-line regulator leak test**
- **Improved automation controls**
- **Manual Tests**
 - Ensure unit has power without USB by removing it
 - Check emergency stop functionality
- **Examples of Some RCA Tests**
 - Remote start test
 - Overspeed Shutdown Test
 - Low Oil Pressure Shutdown Test
 - High Engine Temperature Shutdown Test
 - Load Test



Production Test

- Each unit goes through 8-minute loaded test.





Questions