

U.S. CONSUMER PRODUCT SAFETY COMMISSION
LOG OF MEETING

SUBJECT: Commissioner Feldman and staff met with representatives of the National Electrical Manufacturers Association (NEMA)

DATE OF MEETING: March 5, 2024

LOG ENTRY SOURCE: COPF Staff

LOCATION: Teleconference

CPSC ATTENDEE(S): Commissioner Feldman, Doug Dziak, Thomas Fuller, and John Mitchell

NON-CPSC ATTENDEES: Stephen L. Gordon Jr. (NEMA), Todd Kookan (Lincoln Electric), Gretchen Lange (Lincoln Electric), Bruce Albrecht (Miller Electric Mfg.), Tina Chan Gonzalez (Illinois Tool Works), Cheri Falvey (Crowell & Morning LLP), Jessica Gilbert (Crowell & Morning LLP), Dane Pedersen (Bracewell LLP), Mike Madsen (Miller Electric Mfg.), and Justin Manteuffel (GenTent).

SUMMARY OF MEETING: Commissioner Feldman and staff met with representatives of NEMA to discuss the proposed portable generators rule.

MATERIALS RECEIVED AT THE MEETING: NEMA provided the attached slides.

CPSC Meeting

Arc Welding Subcommittee of NEMA

March 5, 2023



Agenda

- Introductions
- Background on Rulemaking Change
- Arc Welding Equipment and why this is Important to the NEMA Members
- Discussion of Proposed Definition to Delineate Consumer Products from Industrial



Introductions

- Cheryl Falvey and Jessica Gilbert, Crowell & Moring
- Stephen Gordon, Director, Government Affairs, NEMA
- Tina Chan Gonzalez, Associate General Counsel, Miller Electric
- Bruce Albrecht, Vice President, Innovation, Chief Technology Officer, Miller Electric and NEMA Arc Welding Subcommittee Chairman
- Gretchen Lange, Associate General Counsel, Litigation, Lincoln Electric
- Todd Kookan, Lincoln Electric, Member NEMA Arc Welding Subcommittee



Background on Rulemaking Change



Exemption for Arc Welding Equipment

- On November 21, 2016, the Commission published a notice of proposed rulemaking to address unreasonable risks of injury and death from carbon monoxide (CO) poisoning associated with portable generators.
- The November 21, 2016, NPR expressly excluded “[g]enerators that are part of welding machines” because “they are not typically used by consumers.” See 81 Fed. Reg. 83580 at fn. 78.
- Five years later, on April 20, 2023, the Commission issued the SNPR, which for the first time did not exclude engine-driven welders from the definition of “portable generator.”
- Exclusion based on five incidents involving engine-driven welders over an eighteen-year period.
- Deleting the exclusion created concern that all spark-ignited engine-driven welders, regardless of size, weight, noise, price, intended use, and other factors demonstrating that these machines are not “consumer products,” would be regulated like traditional portable generators.



Arc Welders: Use in Construction and Infrastructure

- Engine Driven Welders are first in & out on construction of structural iron buildings that do not yet have a power.
- Welds are performed to the American Welding Society D1.1 Structural Welding Code and inspected by a CWI.

Set down
by crane
using lift
eye



Pulled
in by
truck
using
trailer
hitch



- Used in locations where it is impractical to have utility power such as construction of bridges, highways. Authorities Having Jurisdiction prohibit power on the ground - ANSI Z49.1. Lower voltage lighting can be powered while three shifts are used while erecting the structural iron.



Engine Driven Arc Welders

- Auxiliary power has an industrial purpose to run tools to create strong, compliant welds, and keep the site dry and well lit, among other things.

Lift eye for crane placement

Holes for industrial fork lift



Grinder

Photo 1: Typical Welding Application with a Grinder Attached with Auxiliary Power

Differences between Engine Driven Arc Welders and Portable Generators

	Engine-Driven Welders	Portable Generators
MSRP	\$2,500 to \$9,700 (largest volume of units sold is in the range of \$7,000 - \$7,500)	Largest volume of units sold is around \$1,000 ¹³
Use Environments	<p>Job sites with extreme elements (high temperature (-20 degrees C to +40 degrees C)/humidity/salt/fog/dust/debris)</p> <p>Not compatible with CO sensor to the use environment at job sites, EMI, welding gasses, and grinding dust</p> <p>Welding equipment is not designed to meet home noise ordinances</p>	<p>Residential without extreme elements</p> <p>Compatible with CO sensor</p> <p>Some portable generators often need to meet local ordinances on noise</p>
End Markets	<p>Construction</p> <p>Maintenance and repair</p> <p>Farm and ranch</p>	Home use for emergency power
Portability	Approximately 200 pounds up to 700 pounds	Typically, 50 – 250 pounds
Design Standard and Scope	<p>ANSI/IEC 60974-1: Industrial and professional welding power sources that are not intended for use by laymen in residential settings</p> <p>ANSI/IEC 60974-6: Welding power sources not exceeding 7.5 kVA for use by laymen in residential sources</p>	<p>ANSI/PGMA G300: Portable generators intended for multiple uses and movability (engine driven welding power sources are expressly excluded from the definition of portable generator)</p> <p>UL 2201 scope only includes portable generators (no reference to engine-driven welders)</p>
Units sold	Significantly lower volume than portable generators	Approximately 2.1 million units per year. ¹⁴



Discussion of Revised Exemption and Definition



New Proposed Exemption

- Embraces the existing OSHA and EPA regulatory schemes for commercial/industrial welding products
 - OSHA requires that welding power sources be “listed and labeled” after NRTL testing
- Allows for an exclusion for industrial arc welding products
 - Covers only industrial engine-driven welding equipment certified by a NRTL to UL 551, CSA 22.2 Specification 60 or ANSI/IEC 60974-1, and
 - Using an engine rated under EPA’s 40 CFR 1054 rating scheme
- Utilizes existing product labeling readily observable to confirm compliance
 - NRTL certifications are routinely included on product packaging
- Ensures the exclusion does not create a loophole for cheap imports



Existing Industrial Standards and Timing

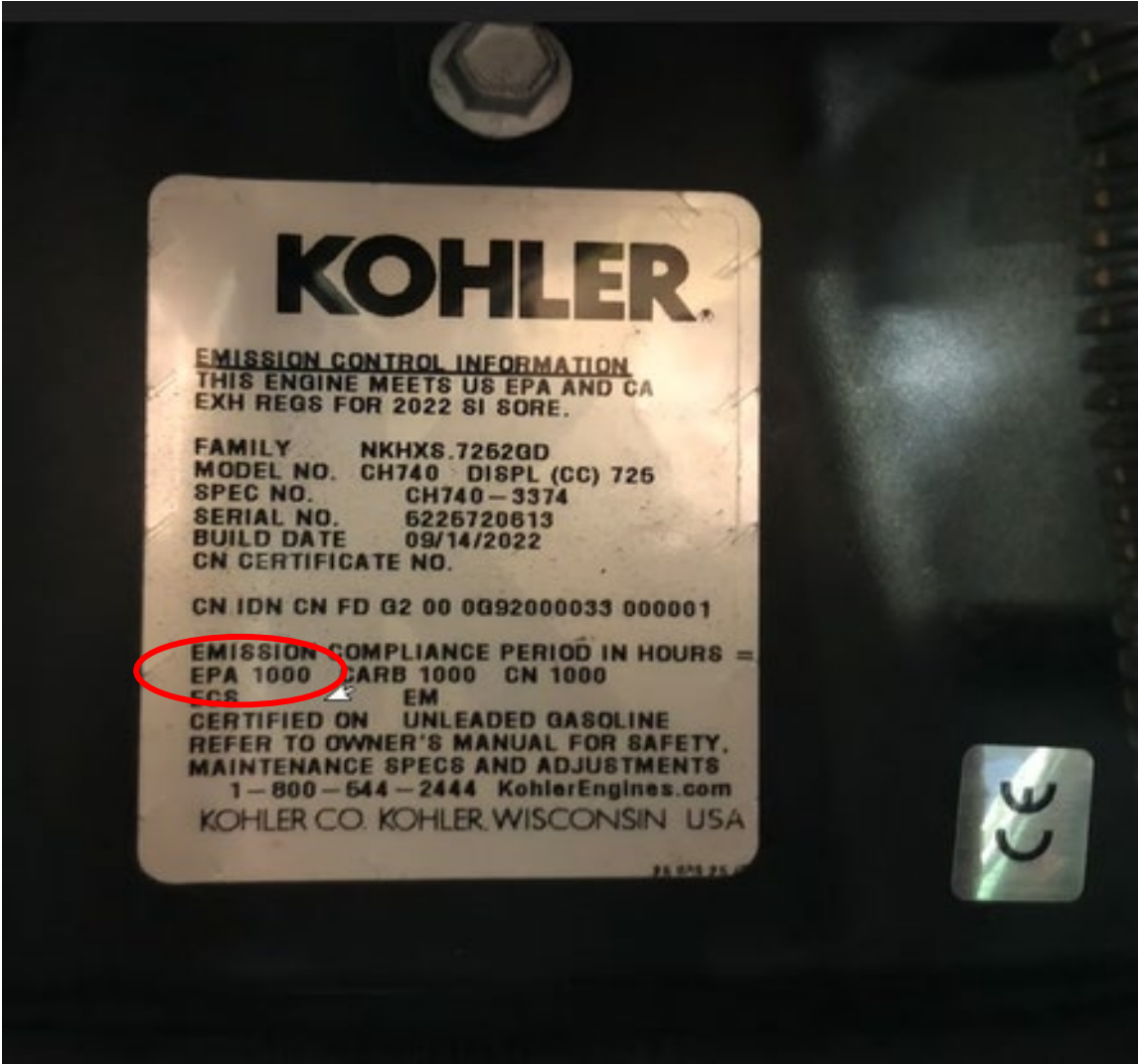
- To date, arc welding equipment must be certified by a NRTL to UL 551/CSA 22.2 Specification 60 or ANSI/IEC 60974-1 to meet OSHA's requirements. After June 30, 2026, industrial equipment manufacturers of engine-driven arc welders must have transitioned to certify to the requirements of ANSI/IEC 60974-1.
- NEMA has proposed that all current engine driven welders which are NRTL certified be given until June 30, 2026 to meet the applicable EPA Commercial engine requirements. Any new products entering the market after the effective date of the Proposed Rule must be NRTL certified, to ANSI/IEC 60974-1 and the engine must be compliant with the requirements of the EPA Commercial class.



EPA Commercial Engine Classifications

Table 1 to § 1054.107–Nominal Useful Life Periods

Nonhandheld			
	Residential	Extended life residential ¹	Commercial
Class I	125	250	500
Class II	250	500	1,000

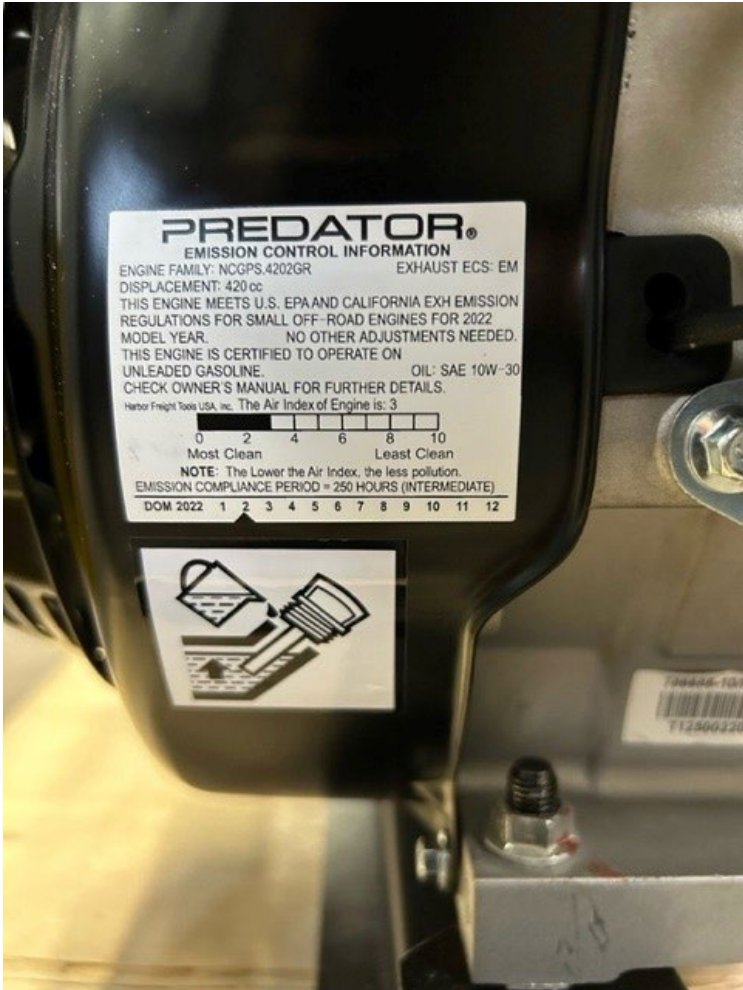
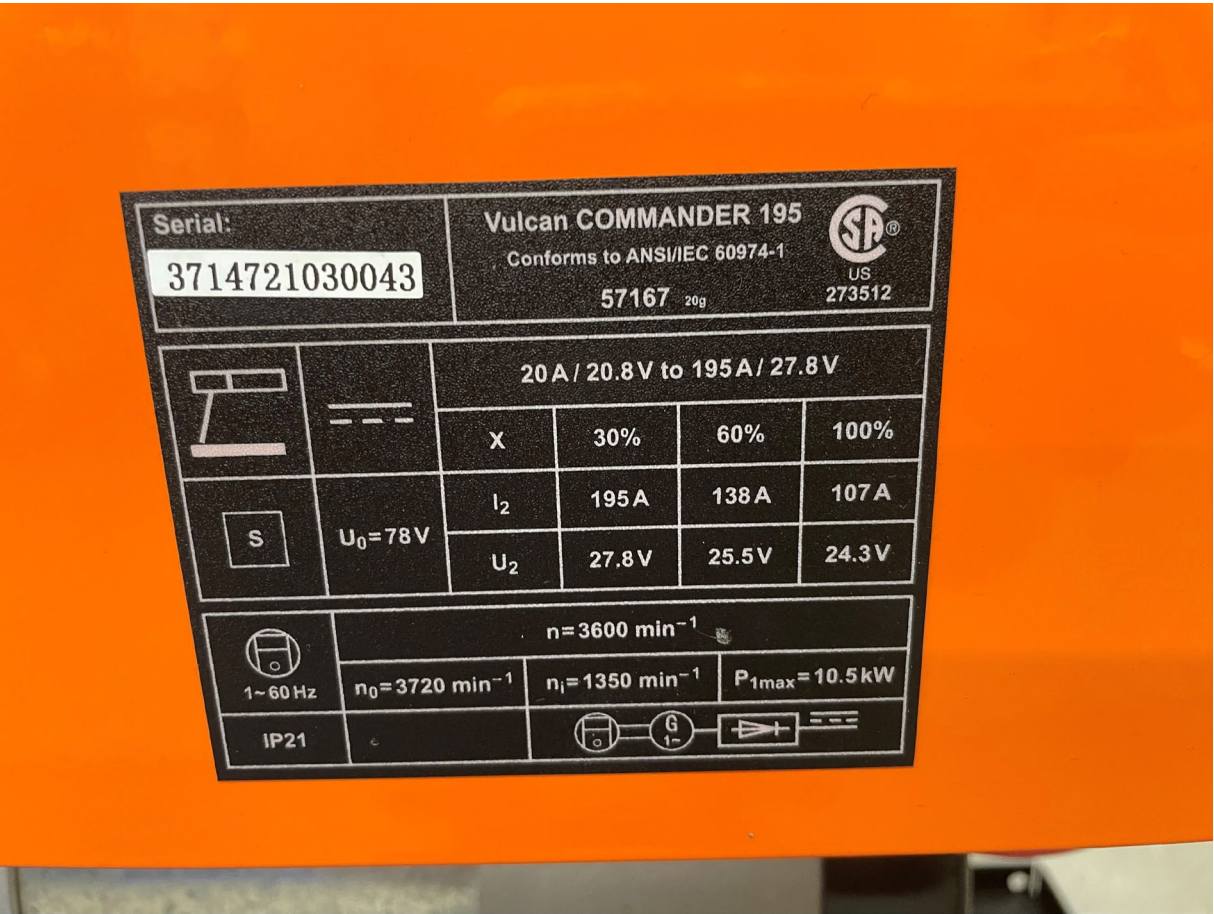


Practical Effect of the Proposed Exemption

- The following welding power sources would be outside the scope of the rule:
 - Spark ignited engine driven welders certified by a NRTL to UL 551/CSA 22.2 Specification 60 or ANSI/IEC 60974-1 and that by June 30, 2026 also has an EPA commercial engine classification
- The following welding power sources would be in scope of the rule:
 - Spark ignited engine driven welders that are not certified
 - Spark ignited engine driven welders certified to ANSI/IEC 60974-6
 - Spark ignited engine driven welders certified to UL 551 (until June 30, 2026) or ANSI/IEC 60974-1 that do not have an EPA commercial rated engine



Practical Effect: Covered by Rule



Appendix



Engine Driven Welder Ecosystem





Product Name	Bulldog 5500	Outback 145	Outback 185	Eagle 10,000 Plus (LE Engine)
Part #	K2708-2	K2707-2	K2706-2	K2343-4
MSRP (USD)	\$3,674	\$5,039	\$5,354	\$5,669
Applications	Maintenance and Repair, Ranch/Farm	Contractors, Maintenance and Repair, Ranch/Farm	Service Trucks, Fence contractors, Maintenance Crews, Farmers, Ranchers	Construction contractors, Maintenance crews, Farmers, Ranchers
Generator Power Type	AC	AC	AC	AC
Generator Power Voltage	120/240V	120/240V	120/240V	120/240V
Generator Power Hertz	60	60	60	60
Generator Power Phase	1	1	1	1
Continuous Generator Power (W)	4,000	4,250	5,200	9,000
Peak/Surge Generator Power (W)	5,500	4,750	5,700	10,500
Welding Process	SMAW	SMAW	SMAW	SMAW
CC Rated Welding Output	100A DC/25V/60%	100A DC/25V/60%	130A DC/25V/60%	210A/25V/100%
CV Rated Welding Output	-	-	-	-
CC Output Range	70 - 140 A	50 - 145 A	50 - 185A	40 - 225A
Engine Type	Kohler CH395	Kohler CH395	Kohler CH440	Lincoln Electric GV750
Horse Power @ Speed (RPM)	8.9 HP @ 3,600 RPM	8.9 HP @ 3,600 RPM	14 HP @ 3,600 RPM	22 HP @ 3,600 RPM
Engine Displacement (cu. in.)	16.9	16.9	26.2	45
Engine Cylinder(s)	1	1	1	2
Engine Cycle	4	4	4	4
Cooling Type	Air	Air	Air	Air
Ignition Type	Manual, Recoil Start, Manual Choke	Manual, Recoil Start, Manual Choke	Electric Start with Recoil Start, Manual Choke	Electric Start, Manual Choke
Engine Fuel Type	Gas	Gas	Gas	Gas
Fuel Capacity (Gal)	1.9	6.86	6.8	12
Oil Capacity (Qts)	1.2	1.2	1.2	1.6
Full Load Operating Speed (RPM)	3,600	3,400	3,400	2,100
High Idle Operating Speed (RPM)	3,750	3,750	3,750	3,700
Low Idle Operating Speed (RPM)	-	-	2,250	2,200
Fuel Consumption @ Full Load (gal/hr)	0.74	0.82	1.09	1.50
Fuel Consumption @ High Idle (gal/hr)	0.31	0.30	0.45	0.90
Fuel Consumption @ Low Idle (gal/hr)	-	-	0.22	0.40
Design	Tube Frame	Tube Frame	Tube Frame	Enclosed
Height (in)	25.6	25.6	25.6	29.9
Width (in)	21.8	21.8	21.8	21.5
Depth (in)	31.5	31.5	31.5	42.3
Weight (lbs)	198	234	295	514












Product Name	Eagle 10,000 Plus	Ranger 225	Ranger 250 GXT	Ranger 260MPX	Ranger 305 G
Part #	K2343-3	K2857-1	K2382-4	K3458-1	K1726-5
MSRP (USD)	\$5,999	\$5,999	\$7,559	\$7,139	\$9,029
Applications	Construction contractors, Maintenance crews, Farmers, Ranchers	Construction, Maintenance and Repair, Rental/Service Truck, Ranch/Farm	Construction, Maintenance and Repair, Rental/Service Truck, Ranch/Farm	Construction, Maintenance and Repair, Service Truck	Construction, Maintenance and Repair, Rental, Service Truck
Generator Power Type	AC	AC	AC	AC	AC
Generator Power Voltage	120/240V	120/240V	120/240V	120/240V	120/240V
Generator Power Hertz	60	60	60	60	60
Generator Power Phase	1	1	1	1	1
Continuous Generator Power (W)	9,000	9,500	10,000	9,500	9,500
Peak/Surge Generator Power (W)	10,500	10,500	11,000	10,000	12,000
Welding Process	SMAW	SMAW, TIG, MIG, Flux-Cored	SMAW, TIG, MIG, Flux-Cored	SMAW, TIG, MIG, Flux-Cored	SMAW, TIG, MIG, Flux-Cored
CC Rated Welding Output	210A/25V/100%	210A/25V/100%	250A/25V/100% (AC & DC)	260A/26V/100%	305A/29V/100%
CV Rated Welding Output	-	200A/20V/100%	250A/25V/100%	260A/26V/100%	300A/29V/100%
CC Output Range	40 - 225A	40 - 225A	50 - 250A	25 - 260A	20-305A
Engine Type	Kohler OHV Command CH730	Kohler OHV Command CH730	Kohler OHV Command CH730	Kohler OHV Command CH730	Kohler OHV Command CH730
Horse Power @ Speed (RPM)	23 HP @ 3,600 RPM	23 HP @ 3,600 RPM	23 HP @ 3,600 RPM	23.5 HP @ 3,600 RPM	23 HP @ 3,600 RPM
Engine Displacement (cu. in.)	44.2	44.2	44.2	44.2	44.2
Engine Cylinder(s)	2	2	2	2	2
Engine Cycle	4	4	4	4	4
Cooling Type	Air	Air	Air	Air	Air
Ignition Type	Electric Start, Manual Choke	Electric Start, Manual Choke	Electric Start, Manual Choke	Electric Start, Manual Choke	Electric Start, Manual Choke
Engine Fuel Type	Gas	Gas	Gas	Gas	Gas
Fuel Capacity (Gal)	12	12	12	11	12
Oil Capacity (Qts)	2	2	2	2	2
Full Load Operating Speed (RPM)	3,500	3,500	3,500	3,600	3,500
High Idle Operating Speed (RPM)	3,700	3,700	3,700	3,650	3,700
Low Idle Operating Speed (RPM)	2,200	2,200	2,400	2,400	2,400
Fuel Consumption @ Full Load (gal/hr)	1.50	1.50	1.74	1.60	1.70
Fuel Consumption @ High Idle (gal/hr)	0.90	0.90	0.90	0.80	1.00
Fuel Consumption @ Low Idle (gal/hr)	0.40	0.40	0.40	0.60	0.40
Design	Enclosed	Enclosed	Enclosed	Enclosed	Enclosed
Height (in)	29.9	29.9	29.9	26.0	29.9
Width (in)	21.5	21.5	21.5	20.0	21.5
Depth (in)	42.3	42.3	42.3	36.0	42.3
Weight (lbs)	514	514	602	446	510



Miller Electric Spark-ignited Engine-driven Welder Portfolio

Category	Small Frame			Large Frame						Large Frame with Air Compressor	
											
Brand Model	Hobart Champion 145	Miller Fusion 185	Miller Blue Star 185	Hobart Champion Elite 225	Miller Bobcat 225	Miller Bobcat 260	Miller Bobcat 260	Miller Trailblazer 325	Miller Trailblazer 325	Miller Bobcat 200 Air Pak	Miller Trailblazer 302 Air Pak
Go-To-Market											
Primary Channel	Retail	GAWDA	GAWDA	Retail	GAWDA	GAWDA	Rental	GAWDA	GAWDA	GAWDA	GAWDA
Secondary Channel	-	-	-	GAWDA (Select Dist.)	-	Upfitter (Work Truck)	GAWDA	-	Rental	Upfitter (Work Truck)	-
Engine											
Brand	Briggs & Stratton	Kohler	Kohler	Kohler	Kohler	Kohler	Kohler	Kohler	Kohler	Kohler	Kohler
Type	Single Cylinder	Single Cylinder	Single Cylinder	Twin Cylinder	Twin Cylinder	Twin Cylinder	Twin Cylinder	Twin Cylinder	Twin Cylinder	Twin Cylinder	Twin Cylinder
Fuel Type	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	Gasoline	LP	Gasoline	LP	Gasoline	Gasoline
Fuel Delivery	Carb - Manual Choke	Carb - Manual Choke	Carb - Manual Choke	Carb - Manual Choke	Carb - eChoke	Carb - eChoke	Carb - Manual Choke	Carb - eChoke / EFI	Carb - Manual Choke	EFI	Carb - Manual Choke
Output											
Auxiliary Power	4.5KW Peak	6.5KW Peak	6.5KW Peak	11KW Peak	11KW Peak	11KW Peak	10.5KW Peak	12KW Peak	11.5KW Peak	8KW Peak	13KW Peak
Weld (Max Amps)	4KW Continuous 145	6.2KW Continuous 185	6.2KW Continuous 195	9.5KW Continuous 225	9.5KW Continuous 225	9.5KW Continuous 260	9KW Continuous 245	10.5KW Continuous 325	10KW Continuous 305	6.5KW Continuous 210	11KW Continuous 300
Dimensions											
Size	24.8 x 20.6 x 31.3 in (629 x 524 x 794 mm)	24.8 x 20.6 x 31.3 in (629 x 511 x 794 mm)	24.8 x 20.6 x 31.3 in (629 x 524 x 794 mm)	28 x 20 x 41 in (711 x 508 x 1041 mm)	28 x 20 x 40.5 in (711 x 508 x 1029 mm)	28 x 20 x 40.5 in (711 x 508 x 1029 mm)	28 x 20 x 40.5 in (711 x 508 x 1029 mm)	26.5 x 20.1 x 37.0 in. (673 x 511 x 941 mm)	26.5 x 20.1 x 37.0 in. (673 x 511 x 941 mm)	24.25 x 20 x 44.61 in (616 x 508 x 1133 mm)	28 x 20 x 59.625 in (838 x 508 x 1514 mm)
Weight	222 lb (101 kg)	242 lb (110 kg)	296 lb (134 kg)	490 lb (222 kg)	485 lb (220 kg)	501 lb (227 kg)	501 lb (227 kg)	460 lb (209 kg)	460 lb (209 kg)	514 lb (233 kg)	771 lb (350 kg)
Selling Price											
MSP	\$2,504	\$5,315	\$5,375	\$4,965	\$6,579	\$7,519	\$10,705	\$9,089	\$8,925	\$17,239	\$20,339



Overview of North American Welding Power Source Standards

- Equipment manufacturers have historically designed and constructed welding power sources to meet U.S. and Canadian standards (UL 551 and CSA C22.2 No. 60, respectively). These standards:
 - Have similar requirements, but are not identical
 - apply to all welding power sources, regardless of user type
 - have not kept up with technological advancements in welding power sources and are being sunset by 2026
- There has been an effort to adopt the more modern international IEC standards and harmonize throughout North America.
 - ANSI/IEC 60974-1 for industrial and professional use was first adopted in 2008 and harmonized throughout North America in 2019
 - ANSI/IEC 60974-6 for use by laymen was first adopted and harmonized throughout North America in 2019

Why do NEMA Members Certify to Welding Power Source Standards?

- OSHA requires that all electrical equipment be approved.
 - For a product to be approved, manufacturers must work with a third party Nationally Recognized Testing Laboratory (NRTL) to certify the product and apply the NRTL mark to the product.
 - In a letter from OSHA to NEMA dated March 8, 2010, OSHA stated “29 CFR 1910.399 and its associated provisions require that NRTLs test and certify the components of arc welding equipment, including power sources and wire feeders”.
- Our industrial customers need assurance that our products are safe in the hands of their employees and are capable of reliably “getting the job done” for critical welds on infrastructure.
 - Meeting the requirements of ANSI/IEC 60974-1 for industrial and professional use assures this.



Arc Welding Equipment

Why this is Important to NEMA Members



Arc Welders: Use in Construction and Infrastructure

- Engine Driven Welders are first in & out on construction of structural iron buildings that do not yet have a power.
- Welds are performed to the American Welding Society D1.1 Structural Welding Code and inspected by a CWI.

Set down
by crane
using lift
eye



Pulled
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- Used in locations where it is impractical to have utility power such as construction of bridges, highways. Authorities Having Jurisdiction prohibit power on the ground - ANSI Z49.1. Lower voltage lighting can be powered while three shifts are used while erecting the structural iron.

Arc Welders: Use in Agriculture

- Used to quickly deploy repair resources for on site repair in hard to reach locations in agriculture but also rail, construction, maintenance and marine equipment.



Auxiliary Power Assists Multiple Welding Operations

- Auxiliary power has an industrial purpose to run tools to create strong, “code-compliant” welds, and keep the site dry and well lit, among other things.

Welding



Grinding



Engine Driven Arc Welders

- Auxiliary power has an industrial purpose to run tools to create strong, compliant welds, and keep the site dry and well lit, among other things.

Lift eye for crane placement

Holes for industrial fork lift



Grinder

Photo 1: Typical Welding Application with a Grinder Attached with Auxiliary Power