



SPECIFICATION ELECTROLYSER BGMAC35- A36-33P

| | |
|-------------------------|--|
| Electricity consumption | 44,11 KW/Hr Max. 30,47 KW/Hr Min. |
| Entrance | 12 VDC - 110VA - 220VAC |
| Nominal pressure | 70 a 830 mBar |

PRODUCTION AND TECHNICAL DATA

| | | |
|--------------------------|-------------------|--------------------|
| HHO production capacity: | 59372,7 Lt of HHO | |
| | 890 LPM Min | 989,55 LPM Max. |
| | 1.012,4 | MBH |

| | |
|-------------------------|---------------------------|
| Water consumption: | 21,7 LPM |
| Type of operation: | Continuous |
| Intermittent duty cycle | Configurable without user |
| Weight of The Reactor: | 30 kg = 66 Lb |

| | | |
|--------------------------|----------------------|-------------|
| System pressure: | 8 psi min. | 12 psi max. |
| Service time / Lifespan: | 100,000 hours of use | |
| Reactor temperature: | 25°C min. | 55°C max. |

| | | |
|---------------------|-------------|-------------|
| Burner temperature: | 1000°F min. | 1832°F max. |
| Relative humidity: | 37% min. | 47% max. |

MATERIALS

Outer casing: Made of cast iron and stainless steel, which provides strength and durability to the equipment.
Gas burner: Heat and corrosion resistant bronze.
HHO gas coupling systems: Austenitic steel, natural rubber gaskets, stainless steel safety screws and nuts.

DESCRIPTION

The Electrolyzer W BGMAC35: A36-33P, is an intelligent system designed to control and stabilize its own electrochemical reactor adapted to boilers and heaters. This device operates through the principle of electrolysis to decompose the liquid water molecule into hydrogen and oxygen (HHO) in a gaseous state. The system allows to control the ignition and shutdown automatically, adapted to the user's thermal storage system. It is composed of the following materials: Bronze alloy, 69mm diameter burnt structure, 37mm high. FLARE type connection, an internal volumetric capacity of 6.4cm³. Manual ignition system with electronic control.

COMPONENTES GENERALES

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|------------------------------|---|
| External structure: | Estructura resistente de acero inoxidable |
| Reactor: | Internal HHO Generating System |
| Power cable: | Conexion: NEMA 3 PINS |
| Cable Reference: | 18AWG 10 A 250V |
| Approximate weight: | 30 kg = 66 lb Per Cell |
| Security System: | Flashback Arrestor System |
| Leak sensor: | HHO SENSOR |
| Max. Temperature Op.: | 80°C = 176°F = 353.15°K |
| Catalyst: | KOH al 90% - Caustic Potash |

CHARACTERISTICS

✓ Included in the power cable set ✓ Designed with an intelligent system SMART REGULUS CONTROL UNIT (SRCU): that controls and stabilizes its own electrochemical reactor. ✓ Made of Austenitic Steel, resistant rubber gaskets, high-density PVC sheets, stainless steel screws and safety nuts. ✓ Compatible with a variety of input voltages, including 12VDC, 110VAC and 220VAC, allowing it to be adapted to different electrical systems. ✓ Fuel Type: Alkaline Aqueous Solution. ✓ Incorporates an HHO sensor to monitor the gas concentration and ensure optimal operation. ✓ Stainless steel safety screws and nuts. ✓ Equipped with control and monitoring systems to ensure safe and stable operation. ✓ Incorporates a flashback prevention system (Flashback Arrestor System) to avoid possible flashbacks. ✓ Includes an additional safety system with a leak sensor to prevent possible gas leaks.

| AC RATING/CELL: | | DC RATING/CELL: | |
|------------------|-------|------------------|--------|
| Min Voltage (V): | 122 V | Min Voltage (V): | 12 V |
| Max Voltage (V): | 125 V | Max Voltage (V): | 13,7 V |
| Max Current (A): | 7 A | Max Current (A): | 75 |
| Min Freq. (Hz): | 55 Hz | Number of Feeds: | 4 |
| Max Freq. (Hz): | 63 Hz | | |

OPERATIONAL BENEFITS

✓ **Energy savings:** with an electric stove, it would consume 668.48 kWh, with 12 hours of use, at an average cost of US \$175.939 , while the equipment consumes 44.11kWh, with the same hours would cost US\$11,592.8 per year, recovering the investment in a matter of months. ✓ **Clean energy** source for equipment and machinery, reducing operating costs and emissions of polluting gases. ✓ **Clean and sustainable alternative** for industrial uses, heating and cooking systems.

CONTROL AND MANAGEMENT MEASURES

MODE OF OPERATION

Preventions: Read the entire manual for safe and correct use of the W electrolyzer for the production of OxyHydrogen, including the handling of flammable gases and the necessary safety measures. In Inspection of **Connections:** Before each use, verify that all connections are properly tightened and do not present gas leaks.

Regular Maintenance: Only the manufacturer can perform regular maintenance to ensure optimal operation and extend the life of the device. Opening the equipment by unauthorized personnel is prohibited.

The 1/2" water hose should be connected to the back of the electrolyzer, add the caustic potash (90% KOH) to the tank by opening the top cover, then connect the cable (18 AWG 10A) to the side connector (3 pin NEMA). Then, turn on the system with the RED switch, wait for the lights to turn blue, turn on the button next to the display of the equipment and oxyhydrogen production will start. Make sure the 1/4" hose is connected to the HHO outlet next to the control display. Start or stop HHO production with the same button next to the display, lights turn green when producing, and blink when charging the system, and to turn off the unit just press the RED button.

| Nat Gas Boiler | |
|--------------------------|------------------|
| Boiler Size Output (MBH) | 1940 |
| Efficiency | 0,9 |
| Boiler Input | 2155,6 |
| Nat Gas (MBH) | 0,98 |
| | 2200 |
| therms | 22 |
| Year --12 hr day | 2190 |
| | 48.170 |
| | |
| Therm Cost | \$ 1,25 |
| Cost/ year | \$ 60.213 |

| #2 Oil Boiler | |
|--------------------------|-------------------|
| Boiler Size Output (MBH) | 1940 |
| Efficiency | 0,85 |
| | 2282,4 |
| #2 Oil | 1,396 |
| CF / hr | 1635 |
| therms / hr | 16 |
| Year --12 hr day | 2190 |
| therms/ year | 35.805 |
| | |
| #2 Oil Cost | \$ 3,24 |
| Cost/ year | \$ 116.079 |

| Electric Boiler | |
|--------------------------|-------------------|
| Boiler Size Output (MBH) | 1940 |
| Efficiency | 0,85 |
| MBH | 2282,4 |
| KW | 669,48 |
| | |
| KW/ hr | |
| Year --12 hr day | 2190 |
| KW/ year | 1.466.161 |
| KW required | |
| \$/ KW | \$ 0,12 |
| Cost/ year | \$ 175.939 |

| EFENA Oxi-Hydrogen 1000 MBH | |
|-----------------------------|--------------------|
| Boiler Size Output (MBH) | 1053 |
| Efficiency | 0,95 |
| MBH | 1000 |
| MBH/HR/ cell unit | 28,92 |
| # Cell Units | 35 |
| KW/ hr | 44,11 |
| Year --12 hr day | 2190 |
| KW/ year | 96.607 |
| KW required (US\$/KWh) | \$ 5,29 |
| \$/ KW | \$ 0,12 |
| Cost/ year | \$ 11.592,8 |

| EFENA Oxi-Hydrogen 750 MBH | |
|----------------------------|-------------------|
| Boiler Size Output (MBH) | 1053 |
| Efficiency | 0,95 |
| MBH | 750 |
| MBH/HR/ cell unit | 28,92 |
| # Cell Units | 26 |
| KW/ hr | 33,7 |
| Year --12 hr day | 2190 |
| KW/ year | 73.876 |
| KW required | |
| \$/ KW | \$ 0,12 |
| Cost/ year | \$ 8.865,1 |

| | |
|--------------|------------|
| Boiler Cost | \$ 44.219 |
| 1 year Cost | \$ 104.432 |
| 5 year Cost | \$ 345.282 |
| 10 year Cost | \$ 646.345 |

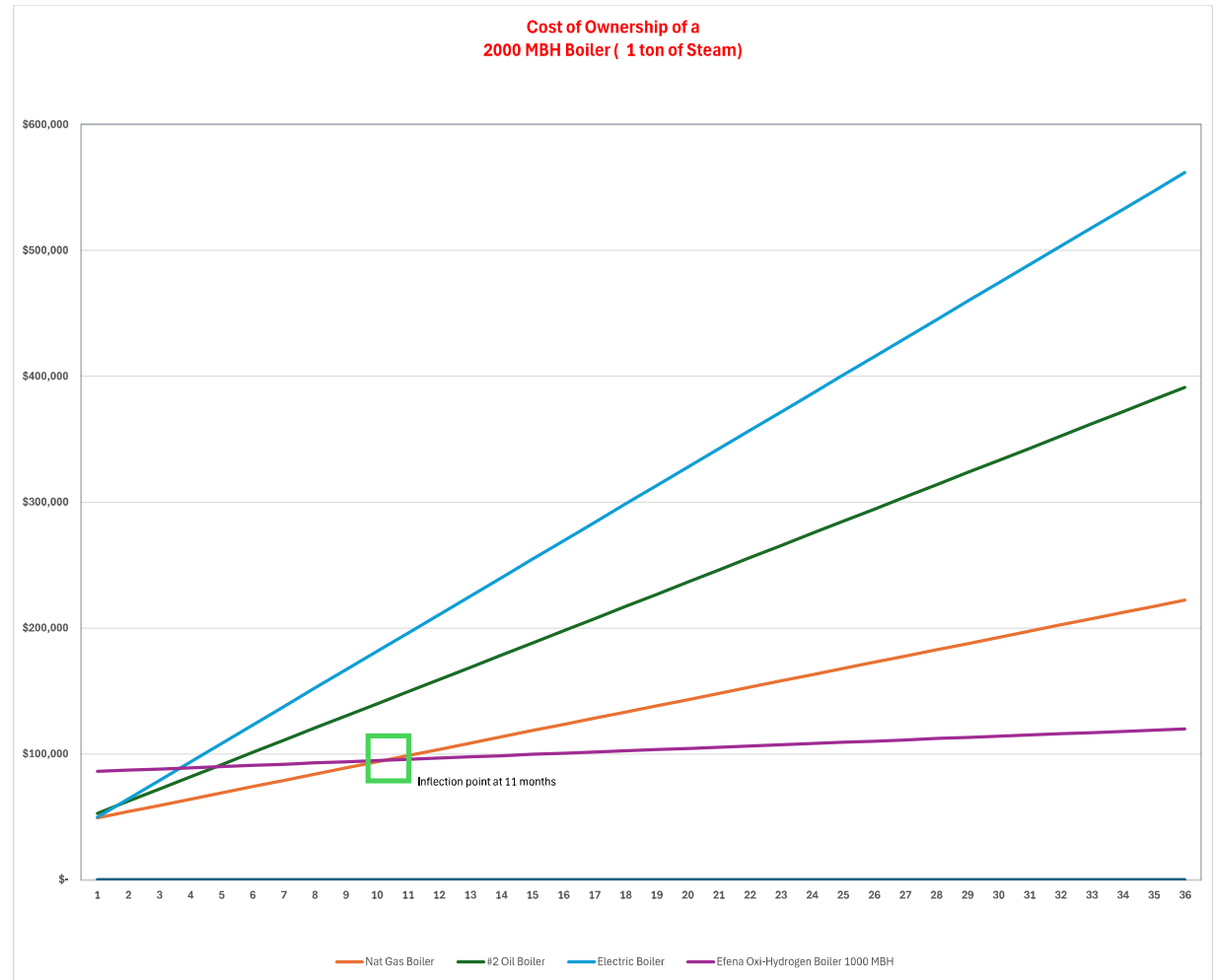
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|--------------|--------------|
| Boiler Cost | \$ 43.000 |
| 1 year Cost | \$ 159.079 |
| 5 year Cost | \$ 623.396 |
| 10 year Cost | \$ 1.203.792 |

| | |
|--------------|--------------|
| Boiler Cost | \$35.000 |
| 1 year Cost | \$ 210.939 |
| 5 year Cost | \$ 914.697 |
| 10 year Cost | \$ 1.794.393 |

| | |
|--------------|------------|
| Boiler Cost | \$ 85.000 |
| 1 year Cost | \$ 96.593 |
| 5 year Cost | \$ 142.964 |
| 10 year Cost | \$ 200.928 |

| | |
|--------------|------------|
| Boiler Cost | \$ 63.143 |
| 1 year Cost | \$ 72.008 |
| 5 year Cost | \$ 107.468 |
| 10 year Cost | \$ 151.794 |

| Time In Months | Nat Gas Boiler | #2 Oil Boiler | Electric Boiler | Efena Oxi-Hydrogen Boiler 1000 MBH |
|----------------|------------------|-------------------|-------------------|------------------------------------|
| 1 | \$ 49.163 | \$ 52.673 | \$ 49.640 | \$ 85.966 |
| 2 | \$ 54.107 | \$ 62.347 | \$ 64.279 | \$ 86.932 |
| 3 | \$ 59.050 | \$ 72.020 | \$ 78.919 | \$ 87.898 |
| 4 | \$ 63.994 | \$ 81.693 | \$ 93.559 | \$ 88.864 |
| 5 | \$ 68.938 | \$ 91.366 | \$ 108.199 | \$ 89.830 |
| 6 | \$ 73.882 | \$ 101.040 | \$ 122.838 | \$ 90.796 |
| 7 | \$ 78.825 | \$ 110.713 | \$ 137.478 | \$ 91.762 |
| 8 | \$ 83.769 | \$ 120.386 | \$ 152.118 | \$ 92.729 |
| 9 | \$ 88.713 | \$ 130.059 | \$ 166.757 | \$ 93.695 |
| 10 | \$ 93.657 | \$ 139.733 | \$ 181.397 | \$ 94.661 |
| 11 | \$ 98.600 | \$ 149.406 | \$ 196.037 | \$ 95.627 |
| 12 | \$ 103.544 | \$ 159.079 | \$ 210.677 | \$ 96.593 |
| 13 | \$ 108.488 | \$ 168.752 | \$ 225.316 | \$ 97.559 |
| 14 | \$ 113.432 | \$ 178.426 | \$ 239.956 | \$ 98.525 |
| 15 | \$ 118.376 | \$ 188.099 | \$ 254.596 | \$ 99.491 |
| 16 | \$ 123.319 | \$ 197.772 | \$ 269.235 | \$ 100.457 |
| 17 | \$ 128.263 | \$ 207.446 | \$ 283.875 | \$ 101.423 |
| 18 | \$ 133.207 | \$ 217.119 | \$ 298.515 | \$ 102.389 |
| 19 | \$ 138.151 | \$ 226.792 | \$ 313.155 | \$ 103.355 |
| 20 | \$ 143.094 | \$ 236.465 | \$ 327.794 | \$ 104.321 |
| 21 | \$ 148.038 | \$ 246.139 | \$ 342.434 | \$ 105.287 |
| 22 | \$ 152.982 | \$ 255.812 | \$ 357.074 | \$ 106.253 |
| 23 | \$ 157.926 | \$ 265.485 | \$ 371.713 | \$ 107.220 |
| 24 | \$ 162.869 | \$ 275.158 | \$ 386.353 | \$ 108.186 |
| 25 | \$ 167.813 | \$ 284.832 | \$ 400.993 | \$ 109.152 |
| 26 | \$ 172.757 | \$ 294.505 | \$ 415.633 | \$ 110.118 |
| 27 | \$ 177.701 | \$ 304.178 | \$ 430.272 | \$ 111.084 |
| 28 | \$ 182.645 | \$ 313.852 | \$ 444.912 | \$ 112.050 |
| 29 | \$ 187.588 | \$ 323.525 | \$ 459.552 | \$ 113.016 |
| 30 | \$ 192.532 | \$ 333.198 | \$ 474.191 | \$ 113.982 |
| 31 | \$ 197.476 | \$ 342.871 | \$ 488.831 | \$ 114.948 |
| 32 | \$ 202.420 | \$ 352.545 | \$ 503.471 | \$ 115.914 |
| 33 | \$ 207.363 | \$ 362.218 | \$ 518.110 | \$ 116.880 |
| 34 | \$ 212.307 | \$ 371.891 | \$ 532.750 | \$ 117.846 |
| 35 | \$ 217.251 | \$ 381.564 | \$ 547.390 | \$ 118.812 |
| 36 | \$ 222.195 | \$ 391.238 | \$ 562.030 | \$ 119.778 |





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| Electricity consumption | 32,77 KW/Hr Max. 20,47 KW/Hr Min. |
| Entrance | 12 VDC - 110VA - 220VAC |
| Nominal pressure | 70 a 830 mBar |

PRODUCTION AND TECHNICAL DATA

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|--------------------------|-------------------------------|
| HHO production capacity: | 44105,5 Lt/Hr of HHO |
| | 630 LPM Min : 735,09 LPM Max. |
| | 752 MBH |

| | |
|-------------------------|---------------------------|
| Water consumption: | 16,17 Lt/min |
| Type of operation: | Continuous |
| Intermittent duty cycle | Configurable without user |

| | |
|------------------------|---------------|
| Weight of The Reactor: | 30 kg = 66 Lb |
|------------------------|---------------|

| | |
|------------------|--------------------------|
| System pressure: | 8 psi min. : 12 psi max. |
|------------------|--------------------------|

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| Service time / Lifespan: | 100,000 hours of use |
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| Burner temperature: | 1000°F min. : 1832°F max. |
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| Relative humidity: | 37% min. : 47% max. |
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MATERIALS

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Gas burner: Heat and corrosion resistant bronze.
HHO gas coupling systems: Austenitic steel, natural rubber gaskets, stainless steel safety screws and nuts.

DESCRIPTION

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COMPONENTES GENERALES

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| External structure: | Estructura resistente de acero inoxidable |
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| | |
|-----------------|--------------------------------|
| Reactor: | Internal HHO Generating System |
|-----------------|--------------------------------|

| | |
|---------------------|------------------------|
| Power cable: | Conexion: NEMA 3 PINS |
|---------------------|------------------------|

| | |
|-------------------------|-----------------|
| Cable Reference: | 18AWG 10 A 250V |
|-------------------------|-----------------|

| | |
|----------------------------|------------------------|
| Approximate weight: | 30 kg = 66 lb Per Cell |
|----------------------------|------------------------|

| | |
|-------------------------|----------------------------------|
| Security System: | Flashback Arrestor System |
|-------------------------|----------------------------------|

| | |
|---------------------|------------|
| Leak sensor: | HHO SENSOR |
|---------------------|------------|

| | |
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| Max. Temperature Op.: | 80°C = 176°F = 353.15°K |
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- ✓ Designed with an intelligent system SMART REGULUS CONTROL UNIT (SRCU): that controls and stabilizes its own electrochemical reactor.
- ✓ Made of Austenitic Steel, resistant rubber gaskets, high-density PVC sheets, stainless steel screws and safety nuts.
- ✓ Compatible with a variety of input voltages, including 12VDC, 110VAC and 220VAC, allowing it to be adapted to different electrical systems.
- ✓ Fuel Type: Alkaline Aqueous Solution.
- ✓ Incorporates an HHO sensor to monitor the gas concentration and ensure optimal operation.
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AC RATING/CELL:

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| Min Voltage (V): | 122 V |
| Max Voltage (V): | 125 V |
| Max Current (A): | 7 A |
| Min Freq. (Hz): | 55 Hz |
| Max Freq. (Hz): | 63 Hz |

DC RATING/CELL:

| | |
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| Min Voltage (V): | 12 V |
| Max Voltage (V): | 13,7 V |
| Max Current (A): | 75 |
| Number of Feeds: | 4 |

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✓ **Energy savings:** with an electric stove, it would consume 668.48 kWh, with 12 hours of use, at an average cost of US\$175.939 , while the equipment consumes 44.11kWh, with the same hours would cost US\$11,592.8 per year, recovering the investment in a matter of months. ✓ **Clean energy** source for equipment and machinery, reducing operating costs and emissions of polluting gases. ✓ **Clean and sustainable alternative** for industrial uses, heating and cooking systems.

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