



## ARK-NGB 850 N5

Powered by **Baudouin**

# 12M33

PowerKit Natural Gas Engine

- WATER COOLED
- 3 PHASE
- 50 HZ
- DIESEL



### GENERAL CHARACTERISTICS



|                  |          | Continuous <sup>1</sup> | Prime <sup>2</sup> | Standby <sup>3</sup> |
|------------------|----------|-------------------------|--------------------|----------------------|
| Power            | kVA / kW | 850 / 680               | 1000 / 800         | N/A                  |
| Speed            | r.p.m    | 1500 dev/dk             |                    |                      |
| Standard Voltage | V        | 400/230VAC              |                    |                      |
| Power Factor     | Cos Phi  | 0,8                     |                    |                      |

#### <sup>1</sup> Continuous Power (COP)

Continuous operating power under constant load. The average load value can be 100%. It cannot be overloaded.

#### <sup>2</sup> Prime Power (PRP)

It is a form of operation under variable load as a constant power supply. The average load must be 70% 10% overload every 12 hours is permitted when operating under variable load for 24 hours.

#### <sup>3</sup> Standby Power (ESP)

A variable-load limited-time behavior in the event of a loss of a reliable mains supply. It is used as a backup to the network energy and overloading is not allowed.

**Arkent Generator** holds following certificates: **ISO 9001:2015, CE, TS ISO8528-5, TS ISO 8528-13, TS ISO 8528-4, ISO 10002:2014, ISO 14001:2015, ISO 45001:2018, Noise Directive 2000/14/EC G3 class ISO 8528-5/15.10.2015 ISO 8528-13/13.04.2018**

Arkent Generator products are manufactured according to following EEC standards:

|                          |                     |
|--------------------------|---------------------|
| Machinery Directive      | 2006/42/EC          |
|                          | EN ISO 12100:2016   |
| Low Voltage Directive    | 2014/35/EU          |
| Noise Directive          | 2000/14/EC          |
| Controlgear & Switchgear | TS ISO 8528-4 :2015 |
| Generating Sets          | TS ISO 8528-5 :2015 |
| Safety                   | TS EN 12601 :2013   |




**Engine Technical Data 1500 r.p.m.**

|                                               |                                       |
|-----------------------------------------------|---------------------------------------|
| Brand:                                        | BAUDOUIN                              |
| Power PRP [kW]:                               | 765                                   |
| Model:                                        | 12M33G10N0/5                          |
| N° of Cylinders / Valves:                     | 12/48                                 |
| Engine Type:                                  | 4                                     |
| Displacement [lt] :                           | 39,2                                  |
| Hava Emiř Sistemi :                           | Turbocharger Intercooler              |
| Bore x Stroke [mm] :                          | 150x185                               |
| Compression Ratio:                            | 11:1                                  |
| Air Filter:                                   | Heavy Duty                            |
| Cooling Method:                               | Water Cooled (water + %50 antifreeze) |
| Total Coolant Capacity (Lt):                  | 240                                   |
| Governor Type :                               | ECU                                   |
| Electrical System:                            | 24VDC                                 |
| Charging Alternator Current:                  | 55                                    |
| Oil Capacity [lt] :                           | 146                                   |
| Exhaust Gas Flow PRP [m3/min] :               | 159,74                                |
| Maximum Exhaust Gas Outlet Temperature [°C] : | ≤564                                  |
| Combustion Air Flow PRP [m3/min] :            | 45,19                                 |
| Cooling Air Flow PRP [m3/min] :               | N/A                                   |
| Starter Power (kW) :                          | 8,5                                   |
| Standard Battery Voltage VDC :                | 24VDC                                 |
| Standard Battery Capacity :                   | 4x105Ah                               |
| Standard Battery Type :                       | Maintenance-Free Lead Acid            |

**Fuel consumption / Mechanical efficiency ISO3046/1**

|                                 | Continuous |         |         | Prime  | Standby |
|---------------------------------|------------|---------|---------|--------|---------|
|                                 | 100%       | 75%     | 50%     | 100%   | 100%    |
| Fuel Consumption LHV - (KW)     | 1904,68    | 1479,46 | 1054,61 | 2204,2 | N/A     |
| Motor mechanical efficiency (%) | 40,16      | 38,78   | 36,27   | 40,83  | N/A     |
| Motor thermal efficiency (%)    | 46         | 47      | 49      | 45     | N/A     |

Fuel consumption tolerance +/- %5

Values Assumed to be Pipeline Natural Gas - MN ≥ 80.

**Alternator Data**

|                                                   |                |
|---------------------------------------------------|----------------|
| Brand:                                            | NEKRA          |
| Model :                                           | ARK 6E         |
| Voltage :                                         | 400 /230 VAC   |
| Number of Phase :                                 | 3              |
| Power Factor:                                     | 0,8            |
| Number of Poles:                                  | 4              |
| Connection Type:                                  | Star           |
| Bearing:                                          | Single Bed     |
| Insulation Class:                                 | H              |
| Protection Class:                                 | IP23           |
| Winding:                                          | 2/3            |
| Control System :                                  | Self-Warned    |
| Voltage Regulator :                               | Electronic AVR |
| Efficiency 4/4 400VAC 50Hz (cosφ=1) :             | 96,1           |
| Voltage Regulation :                              | ±%1            |
| THD:                                              | <%5            |
| Apparent Power [kVA] Prime 400VAC 50Hz 125°C/40°C | 1030           |



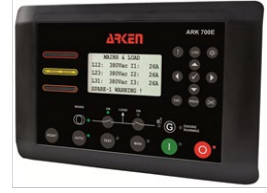
## Control Panel



ISO8528-4  
IP44  
ARK700E Control Unit  
DSE Control Unit (Optional)  
Emergency Stop Button  
Battery Charger 5Amp  
Governor  
Connection Bus (Under Panel)  
Control Relays  
Thermal & Magnetic Protection (Optional)

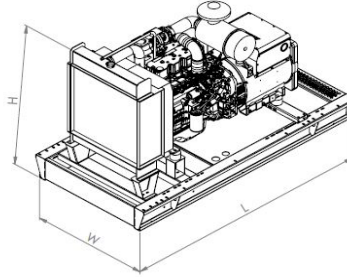
### Control Device Specifications

- IP65 Front Panel
- Automatic/Manual/Test operation modes
- CanBus J1939 ECU
- 2nd Language Selection
- Last 500 incident and alarm information record
- Statistical Record
- Grid and Generator phase order control
- Grid Voltage Control
- RS-485 Communication
- GPRS - Ethernet connection (Optional)
- Automatic transfer switching control and motor control

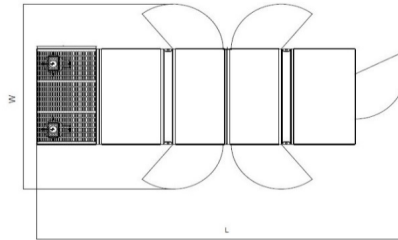
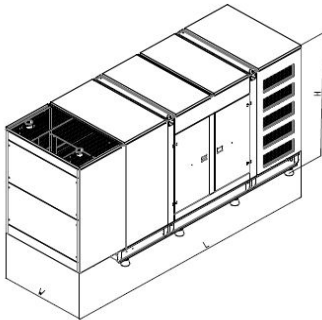


## Dimensions & Weights

|           | L [mm]<br>Length | W [mm]<br>Widht | H [mm]<br>Height | Dry Weight [kg] | Sound Level<br>dBA@7mt<br>Uygulanmıyor |
|-----------|------------------|-----------------|------------------|-----------------|----------------------------------------|
| Open Type | 4690             | 2245            | 2445             | 7850            |                                        |



|             | L [mm]<br>Length | W [mm]<br>Widht | H [mm]<br>Height | Dry Weight [kg] | Sound Level<br>dBA@7mt<br>Uygulanmıyor |
|-------------|------------------|-----------------|------------------|-----------------|----------------------------------------|
| Canopy Type | 6580             | 2450            | 2832             | 12490           |                                        |



Door Widths

W [mm] Widht  
4150



#### ENGINE

Arken Generator provides industrial engines that meet ISO 8528, ISO 3046 specifications; heavy duty type; oil, air or water-cooled depending on the requirements; low fuel consumption; with mechanical and/or electronical type of governor mounted on fuel pump to ensure precise speed adjustment and regulation; with oil, fuel and air filter system based on type; oil and fuel designed for heavy operational conditions in order to make sure the unit lasts a long time with high performance; 4-stroke; direct injection with all the limit and level sensors required for protection. The engine is supplied with all the necessary equipment for safe operation. Only engines designed for standby are not included in the production portfolio.

#### ALTERNATOR

Arken Generator uses original European brand alternators for its gensets, that complies with all international certificates, IEC 60034-1, ISO8258-3, EN55011, BS4999-5000 VDE 0530, depending on their power and requirements. The alternators, that has high efficiency and high performance for all conditions, have all the quality certificates and comply with world standards.

#### COOLING SYSTEM

In order to meet variations such as availability, ease of spare parts, high performance and maximum efficiency, Arken Generator selects its radiators from the original radiators of the engine company in the generator set or applies the radiators approved by the engine company to the generator sets.

#### FRAME

Arken Generator manufactures its own chassis for all generator sets based on international standards. The chassis are designed and manufactured from plate sheet or profile content to show high resistance to vibration and stresses.

#### FUEL SYSTEM

Pressure loss from gas mixer (mBar): 5  
Maximum suction pressure (mBar): 30  
Max. Gas inlet temperature (°C): 35  
Min/Max customer supply pressure before gas regulator (Bar): 0,02 / 0,04  
Min/Max supply pressure at motor inlet (mBar): 15 / 35  
Min. diameter of gas inlet pipe (mm): 24

#### CANOPY

To provide sound insulation (ISO8528-10:1998) and to protect the generator from the corrosive effects of external weather conditions, cabins or containers are used depending on the size of the generator or the degree of sound intensity. Although the priority when designing the cabinets is aimed only at the sound level, in addition to the conditions specified by ISO3046 and ISO8528 standards, the generator is designed to provide the declared power in tropical climate and 50°C ambient temperature, 30% relative humidity value and sea level. The cabins have features such as compact structure, low height, low noise level, easy access to the engine-alternator and control panel, two-point lifting, exhaust silencer hidden inside the cabin for safety and corrosion prevention, and the ability to be disassembled.

#### DOCUMENTATION

Arken Generator Maintenance and user manual, Engine Operation and maintenance manual, Operation and maintenance manual, Control device Operation and maintenance manual, Warranty card, Electrical diagram

#### WARRANTY

The warranty period starts from the date of receipt of the goods, 1 Years or 1000 hours.

