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the

SITE POWER

SITE POWER

190

Transformers

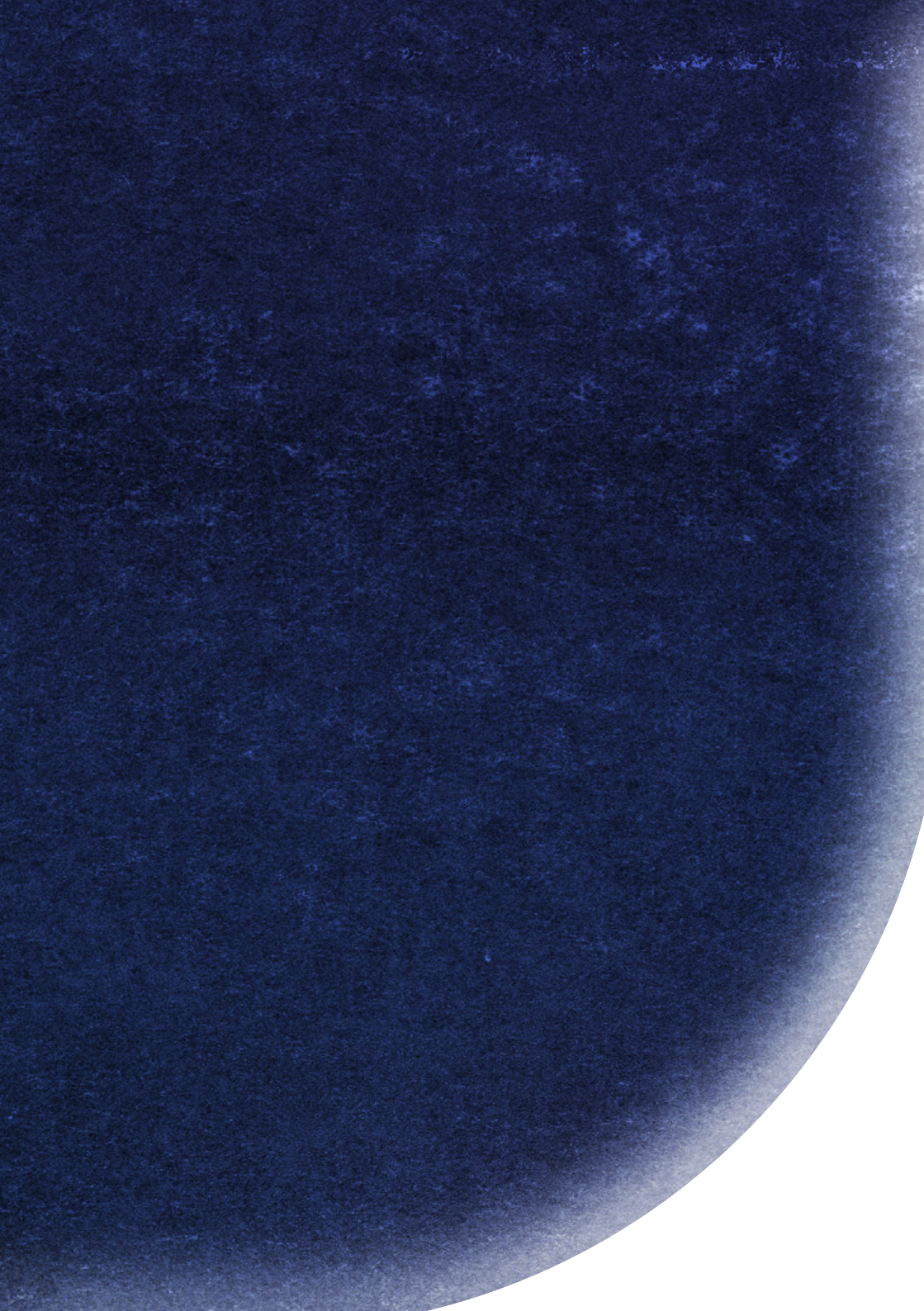
193

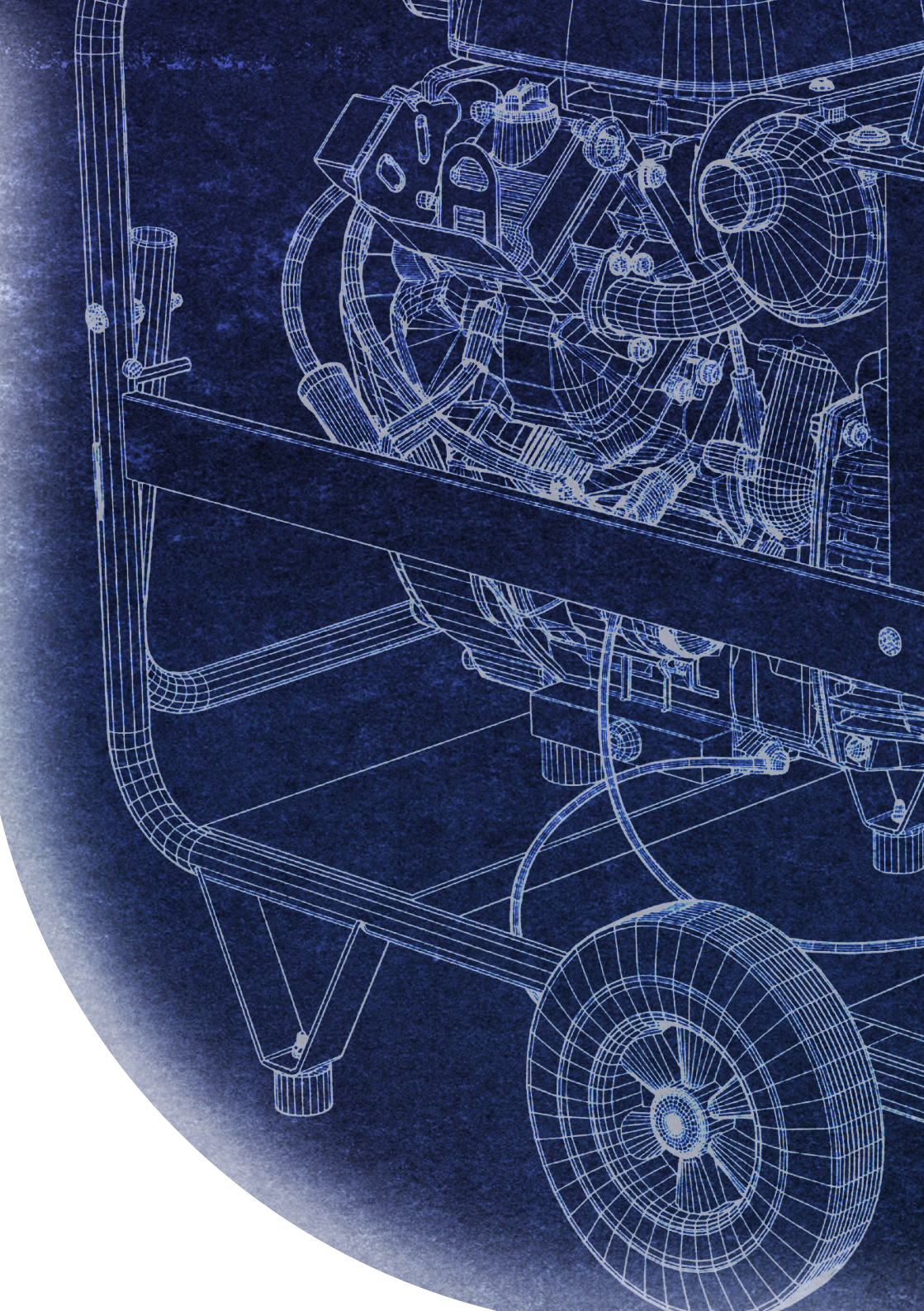
Cables

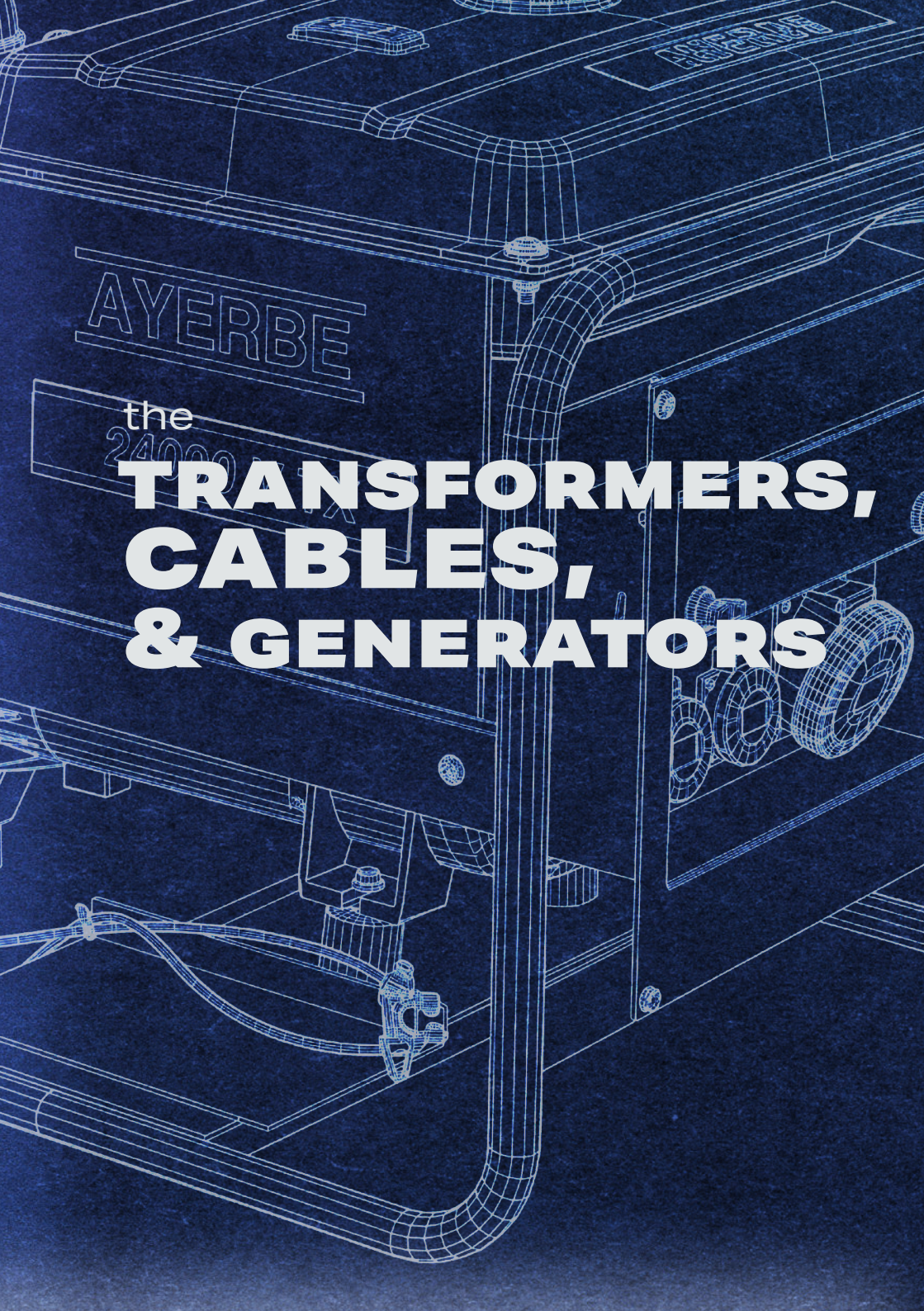
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Generators

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the

TRANSFORMERS, CABLES, & GENERATORS



Site tools run on 110 V, but the mains on site is 230 V or 400 V, and often nowhere near the work. A transformer drops the mains to 110 V. A generator makes the power where there is no mains. Cable carries it to the tool. Pick a unit big enough for all the tools you run at once.

WHAT IT DOES

Drops mains power to 110 V for site tools, or makes the power where there is no mains. The 3.3 and 5 kVA transformers run on single-phase 230 V and give 110 V for hand tools. The 10 kVA runs on three-phase 400 V and gives 110 V for several tools at once; one version also gives 400 V for the big machines. The Ayerbe generator runs the same tools off-grid.

WHY IT'S USED

110 V is safer if something goes wrong. The supply is earthed at its centre, so the most you can get across a fault is 55 V, not 230 V. Most site tools are built for 110 V and nothing else. If the site has no mains, or not enough, you need a generator. A transformer that is too small for the tools will trip or overheat.

WHAT SIZE?

Add up the tools you will run at the same time, then pick a unit bigger than that. One heavy-duty 32 A tool used on and off, like a breaker or core drill: 3.3 kVA. Two or three smaller 110 V tools: 5 kVA single phase. Several tools at once: 10 kVA three phase. Big 400 V machines: the 10 kVA that also gives 400 V.

3.3 KVA

110 V 3.3 kva transformer for small-medium tools.



5 KVA

Single phase 110 V for a couple of reduced-voltage tools.



10 KVA

Three phase 110 V for a full gang of reduced-voltage tools.



400 V

10 kVA unit supplying both 110 V and 400 V three phase.



SIZE TO THE LOAD

A transformer is rated in kVA, and that rating is a ceiling, not a suggestion. Add up every tool running off it at once and pick a unit that clears the total with headroom: pushed past its kVA, a transformer trips, runs hot, or sags the voltage until the tools stall. And mind start-up: a motor pulls several times its running current for a moment, which is what trips an undersized unit.

WHY 110 V

Site tools run at 110 volts for one reason: shock safety. The supply is centre-tapped to earth, so the most across a fault is 55 volts, not the full 110. That is why the transformer sits between mains and tools. Electricity at work falls under the General Application Regulations 2007 (S.I. 299 OF 2007). Keep leads dry and off traffic routes, RCD the supply, bin a damaged lead.

PHASE AND PLUGS

Match the unit to your mains and the tools you're plugging in. Most 110 V tools take a 16 A plug, heavy ones a 32 A, and the transformer needs an outlet for each. Single phase mains feeds the 2-5 kVA units; the 10 kVA units want three phase in, and one hands you 400 V out.

① **10 kVA:** 400 V supply for big machines, not single phase tools.

① **110 V CTE:** Centre-tapped to earth; a fault tops out at 55 V.

① **kVA:** Measurement of apparent power. Total amount of power used in a system.

① **kW:** Amount of power that is converted into usable output.





TRANSFORMER 3.3 KVA

110 V site power for a single 32 A heavy-duty tool. (2x 16 A available)

DAY 1	€10
+1 DAY	€5
WEEK	€20

VOLTAGE INPUT	230 V
VOLTAGE OUTPUT	110 V
PHASE	1
RATED POWER	3.3 kVA
OUTLETS	• 1 × 32 A
DUTY CYCLE	Intermittent



TRANSFORMER 5 KVA

Single phase 110 V site power for reduced-voltage tools.

DAY 1	€14
+1 DAY	€7
WEEK	€28

VOLTAGE INPUT	230 V
VOLTAGE OUTPUT	110 V
PHASE	1
RATED POWER	5 kVA
OUTLETS	• 2 × 110V 16A, • 1 × 110V 32A
DUTY CYCLE	Intermittent / Continuous



TRANSFORMER 10 KVA · 110/400 V

Mixed 110 V and 400 V site power from a single unit.

DAY 1	€40
+1 DAY	€20
WEEK	€80

VOLTAGE INPUT	400 V
VOLTAGE OUTPUT	110 V / 230 V multi-output
PHASE	3
RATED POWER	10 kVA
OUTLETS	• 4 × 110V/16A, • 2 × 110V/32A, • 2 × 400 V/32A; • 3 P+N+E input; all MCB protected
DUTY CYCLE	Continuous



TRANSFORMER 10 KVA • 110 V

110 V site power for
reduced-voltage tools.

DAY 1	€36
+1 DAY	€18
WEEK	€72

VOLTAGE INPUT	400 V
VOLTAGE OUTPUT	110 V
PHASE	3
RATED POWER	10 kVA
OUTLETS	• 4 × 110V 16A, • 2 × 110V 32A
DUTY CYCLE	Continuous



EXTENSION LEAD 400 V • 25 M • 32 A • 63 A

CONDUCTOR AREA 2.5 MM ²	
DAY 1	€12
+1 DAY	€6
WEEK	€24

CONDUCTOR AREA 4 MM ²	
DAY 1	€14
+1 DAY	€7
WEEK	€28

CONDUCTOR AREA 6 MM ²	
DAY 1	€16
+1 DAY	€8
WEEK	€32



EXTENSION LEAD 230 V • 25 M • 16 A • 32 A

CONDUCTOR AREA 4 MM ²	
DAY 1	€12
+1 DAY	€6
WEEK	€24



EXTENSION LEAD 110 V • 15 M • 16 A • 32 A

CONDUCTOR AREA 2.5 MM ²	
DAY 1	€4
+1 DAY	€2
WEEK	€8

CONDUCTOR AREA 4 MM ²	
DAY 1	€6
+1 DAY	€3
WEEK	€12



AYERBE
AY-24000
V TX E

Site power for heavier three phase kit on off-grid jobs.

DAY 1	€140
+1 DAY	€70
WEEK	€280

FUEL TYPE	Petrol
FUEL USE	4.2 L/h
MAX KVA	24.0 kVA
NOISE LEVEL	99 / 76 @ 7m dB(A)
PHASE	3
RATED KVA	22 kVA
RUNTIME	6.5h
START	Electric
OUTLETS	2x 230 V 1× 3 phase





AYERBE AY-9500 KT MN

DAY 1	€60
+1 DAY	€30
WEEK	€120

Site power for single phase tools on off-grid jobs.



FUEL TYPE	Petrol
FUEL USE	2.1 L/h
MAX KVA	9.5 kVA
NOISE LEVEL	97 / 74 @ 7m dB(A)
PHASE	1
RATED KVA	8 kVA
RUNTIME	3 h
START	Manual
OUTLETS	2x 230 V, 3 phase



AYERBE AY-20000 V TX E

DAY 1	€100
+1 DAY	€50
WEEK	€200

Site power for single and three phase tools off-grid.



FUEL TYPE	Petrol
FUEL USE	3.9 L/h
MAX KVA	20.0 kVA
NOISE LEVEL	99 / 76 @ 7m dB(A)
PHASE	3
RATED KVA	18 kVA
RUNTIME	6.5 h
START	Electric
OUTLETS	2x 230 V 1x, 3 phase



GENERATOR 15 KVA

Site power for heavier three phase kit on off-grid jobs.

DAY 1	€74
+1 DAY	€37
WEEK	€148



AC VOLTAGE:	230V / 400 V 3-phase, 50Hz
CONTINUOUS AC OUTPUT:	14 kW
MAXIMUM AC OUTPUT:	15 kW
DC OUTPUT:	12 V / 8.3 A
ENGINE POWER:	16 kW 997cc
GENERATOR POWER:	15 kW
STARTING SYSTEM:	Electric Start
FUEL CONSUMPTION:	Up to 2.8L/H
NOISE LEVEL:	74 dB(A)
FUEL TANK CAPACITY:	25L
DIMENSIONS:	1200x670x875
WEIGHT:	310.0 kg

- OUTLETS
- 1 × 220 V, 32 A
 - 1 × 380 V



GENERATOR 22 KVA

Site power for heavier three phase kit on off-grid jobs.

DAY 1 €150

+1 DAY €75

WEEK €300



AC VOLTAGE: 230V / 400 V,
3-phase, 50 Hz

**CONTINUOUS
AC OUTPUT:** 20 kW

**MAXIMUM AC
OUTPUT:** 21 kW

DC OUTPUT: 12 V / 8.3 A

ENGINE POWER: 22 kW, 1387 cc

**GENERATOR
POWER:** 21 kW

**STARTING
SYSTEM:** Electric Start

**FUEL
CONSUMPTION:** Up to 2.8 L/h

NOISE LEVEL: 74 dB(A)

**FUEL TANK
CAPACITY:** 25 L

WEIGHT: 330 kg

OUTLETS

- 1 × 220 V, 32 A
- 1 × 380 V