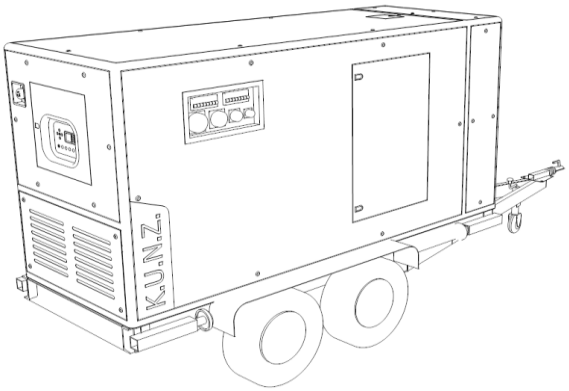
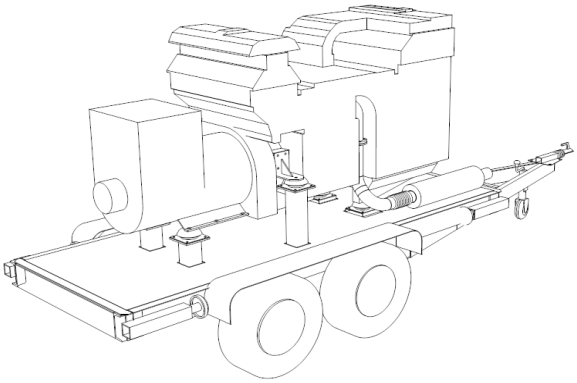
KZM20PS

Prime **19 kVA**

Diesel Generating Sets





Voltage	Prime*		Standby*		Ampere
	kVA	kW	kVA	kW	
380-415	19	15,2	22	17,6	27

Prime Rating Applicable for supplying continuous electrical power at variable load for unlimited hours. This model can supply 10% overload power for a period of 1 hour in 12 hours operation as it is defined in ISO 3046.

Standby Rating Applicable for supplying continuous power ar variable load in the event of a utility power failure and overload is not allowed as it is defined in ISO 8528-3.

Standard Generator Features

- AMF, Automatic mains failure unit
- Heavy duty type, 6 cylinder, water cooled engine
- 50°C tropical type radiator
- Starter motor
- Lead acid battery
- Charging alternator
- Battery charge redressor
- Heavy duty, brushless type alternator
- Base frame with anti-vibration units
- Industrial type silencers
- Flexible exhaust compensator
- Block water heater unit
- Control panel with digital-automatic main control module
- Fan, fan drive, charging alternator drive and all rotating parts covered
- Radiator matrix covered by metal mesh against the mechanical damages
- Fabricated and welded steel base frame
- Anti-vibration mountings
- Engine and alternator manufacturer test reports
- Factory load, performance and function tests

Optional Features

- Cable drum
- Working accesories compartment
- Light tower
- Protection circuit breaker
- Air start
- Remote type radiator
- External type fuel tank
- Automatic fuel transfer system
- Residential silencer

Dimensions & Weight

Sound Attenuated	Dry Weigt kg	Length mm	Width mm	Height mm	Tank Capacity L

K.U.N.Z. Handels-&Produktions GmbH

Headquarter
Oskar-von-Miller-Strasse 29
68309 Mannheim, Deutschland
Tel. : +49 621 - 76 217 733
Faks: +49 621 - 76 217 734

U.K. Branch
1 Canada Square Canary Wharf, Floor 37
London, United Kingdom
Tel. : +44 (0) 20 7718 0185
Faks: +44 (0) 20 7718 0001

Turkey Branch
Mansuroglu Mh. 295/2 Sk. Ege Sun Plaza
A Blok No:1 K:6 D:652 Bayraklı, 35535
İzmir
Telefax. : +90 232 461 66 91

Truly Global, Fully Reliable

Engine Technical Data

Manufacturer	PERKINS
Model	404D-22G
Type	4 cycle, water-cooled
Number of cylinders	4
Cylinder arrangement	Vertical in-line
Displacement, Liters	2,216
Bore X Stroke, mm	84 X 100
Compression Ratio	23.3:1
Combustion System	Indirect injection
Aspiration	Natural Aspiration
Rotation	Clockwise viewed from front
Gross engine power, kWb	20,6
Fan Power, kWm	0,3
BMEP gross, bar	6,50
Combustion air flow, m³ / min	1,45
Exhaust gas temp.(after turbo), °C	505
Exhaust gas flow (after turbo),m³ / n	3,94
Mean piston speed, m / s	5,0

Fuel System

Type of injection system	Indirect injection
Fuel injector	Pintle Nozzle
Fuel injection Pump	Cassette Type
Delivery/hour at 1500rev/min, Lt	63
Governor type	Mechanical

- Mechanically governed cassette type fuel injection type
- Split element fuel filter

Electrical System

Alternator	12 Volt, 65 Amp
Starter motor (DC)	12 Volt
Starter motor power	2 kW

- Oil pressure and coolant temperature switches
- 12 volt shut off solenoid energised to run
- Glow plug cold start aid and heater/starter switch

Cooling System

Type	Tropical, heavy duty type
Ambient temperature, °C	50
Engine&Radiator coolant capacity	7
Pressure cap setting, kPa	0,125

- Thermostatically-controlled system with belt driven circulating pump and pusher fan
- Mounted radiator piping and guards

Lubrication System

Type	Pressurized
Capacity, Liters	10,6
Lub oil pressure (min), kPa	352-448

- Wet steel sump with filler and dipstick
- Spin-on full-flow lub oil filter

Fuel Consumption

liters per hour	%110 Load	4.1 L
	%100 Load	3.7 L
	%75 Load	2.7 L
	%50 Load	2.0 L
grams per kWh	%110 Load	244 g/kWh
	%100 Load	237 g/kWh
	%75 Load	238 g/kWh
	%50 Load	258 g/kWh

Model	Standby kW		Prime kW	
	Gross	Net	Gross	Net
404D-22G	**20,6**	**20,3**	**18,7**	**18,4**

K.U.N.Z. Handels-&Produktions GmbH

Headquarter
Oskar-von-Miller-Strasse 29
68309 Mannheim, Deutschland
Tel. : +49 621 - 76 217 733
Faks: +49 621 - 76 217 734

U.K. Branch
1 Canada Square Canary Wharf, Floor 37
London, United Kingdom
Tel. : +44 (0) 20 7718 0185
Faks: +44 (0) 20 7718 0001

Turkey Branch
Mansuroglu Mh. 295/2 Sk. Ege Sun Plaza
A Blok No:1 K:6 D:652 Bayraklı, 35535
İzmir
Telefax. : +90 232 461 66 91

K.U.N.Z. Handels- & Produktions GmbH

KZM20PS

Prime **19 kVA**

Diesel Generating Sets

Alternator Technical Data

Manufacturer	STAMFORD
Model	BCI184E
Type	4-Poles, Rotating Field, Brushless
Standby power at rated voltage, kVA	22
Efficiency, %	84
Power factor	0.8
Phase	3
Frequency, Hz	50
Speed, Rpm	1500
Voltage, V	380/415
Excitation	Self excited
Stator windings	2/3 Pitch factor
Regulation	AVR, Auto Voltage Regulator
Voltage Regulator	SX460
Voltage Regulation, %	± 1.5
R.F.I Suppression	BS EN 61000-6-2,BS EN 61000-6-4 VDE0875G, VDE 0875N
Waveform distortion	No Load <1.5% Non distorting balanced
Rotor	Dynamic balanced
Overspeed, Rpm	2250
Short circuit current	< 300%
TIF	Less than 50
Insultion class	H
Construction	Single bearing, direct coupled
Coupling	Flexible
Stator winding	Double layer concentric
Connection	WYE
Protection class	IP23
Cooling air volume,m³ / sec	0,095

Winding&Electrical Performance

All generator stators are wound to 2/3 pitch.This eliminates triplen harmonics on the voltage waveform and is found to be the optimum design for trouble-free supply of non-linear loads.The 2/3 pitch design avoid sexcessive neutral currents sometimes seen with higher winding pitches, when in parallel with the mains.A fully connected damper winding reduces oscillations during paralelling. This winding, with the 2/3 pitch and carefully selected pole and tooth designs, ensures very low waveform distortion.

Quaility Assurance

Generators are manufactured using production procedures having a quaility assurance level to BS EN ISO 9001.

Optional Equipment

- Optional Permanent Magnet Generator (PMG) provides an isolated power supply to the excitation control system
- Anti Condensation Heaters
- Air Filters
- RFI suppression to EC Standards
- SX421 or SA465 AVRs for parallel operation
- Quadrature Droop kit for Parallel Operation
- SA465 AVR with 1% Regulation and 2 Phase Sensing
- SX421 AVR with improved regulation 0.5% and 3 phase sensing

Terminals&Terminal Box

Standard generators feature a main stator with 6 ends brought out to the terminals, which are mounted on the frame at the non-drive end of the generator. A sheet steel terminal box contains the AVR and provides ample space for the customers wiring and gland arrangements.It has removable panels for easy access.

Shaft&Keys

All generator rotors are dynamically balanced to better than BS6861 :Part 1 Grade 2.5 for minimum vibration in operation. Two bearing generators are balanced with a half key.

Insulation / Impregnation

The insulation system is class 'H'
All wound components are impregnated with materials and processes designed specifically to provide the high build required for static windings and the high mechanical strength required for rotating components.

Standards

Newage Stamford industrial generators meet the requirements of **BS EN** 60034 and the relevent section of other international standards such as BS5000,VDE0530, NEMA MG1-32, IEC34, CSA C22.2-100, AS1359
Other standards and certifications can be considered on request

Model	Standby		Prime	
	kVA	kW	kVA	kW
BCI184E	**22,5**	**18**	**22,5**	**18**

K.U.N.Z. Handels-&Produktions GmbH

Headquarter
Oskar-von-Miller-Strasse 29
68309 Mannheim, Deutschland
Tel. : +49 621 - 76 217 733
Faks: +49 621 - 76 217 734

U.K. Branch
1 Canada Square Canary Wharf, Floor 37
London, United Kingdom
Tel. : +44 (0) 20 7718 0185
Faks: +44 (0) 20 7718 0001

Turkey Branch
Mansuroglu Mh. 295/2 Sk. Ege Sun Plaza
A Blok No:1 K:6 D:652 Bayraklı, 35535
İzmir
Telefax. : +90 232 461 66 91

Truly Global, Fully Reliable

Deepsea 7320 Control System

Description

- Deepsea 7320 is an Auto Mains(Utility) Failure Control module.
- The module is used to monitor a mains supply and automaticlly start a standby generator set.
- The module can also monitor an extensive number of engine parameters and it can display warnings, shutdown and engine status information on the back-lit LCD screen, illuminated LEDs, remote PC and via SMS text alerts.
- Selected timers and alarms can be altered by the user from the front panel.
- Alterations to the system are made using the 810 interface and a PC and it also provides real time diagnostic facilities

Specification

DC SUPPLY

Continuous Voltage Rating:	8 V to 35 V
Maximum Operating Current:	340 mA at 12 V, 160 mA at 24 V
Maximum Standby Current:	160 mA at 12 V, 80 mA at 24 V
Charge Fail/Excitation Range:	0 V to 35 V

MAINS(UTILITY) & GENERATOR

Voltage Range:	15 V - 333 V AC (L-N)
Frequency Range:	3,5 Hz to 75 Hz

OUTPUTS

Output A (Fuel):	15 A DC at supply voltage
Output B (Start):	15 A DC at supply voltage
Output C & D :	8 A 250 V (Volt free)

Input Functions display on LCD

Generator Volts	Volts L1-N, L2-N, L3-N
Generator Volts	Volts L1-L2, L2-L3, L3-L1
Generator Amps	Amps L1, L2, L3
Generator Frequency	Hz
Mains Volts	Volts L1-N, L2-N, L3-N
Mains Volts	Volts L1-L2, L2-L3, L3-L1
Mains Frequency	Hz
Engine Speed	RPM
Plant Battery Volts	Volts
Engine Hours Run	Hour
Generator total power	kVA L1, L2, L3,total
Generator total power	kW L1, L2, L3,total
Generator power factor	Cosφ L1, L2, L3,total

Features

- 4-Line back-lit LCD text display and five key menu navigation
- LED and LCD alarm indication
- 9 configurable inputs and 8 configurable outputs
- Configurable timers, alarms and event log (250)
- Fuel usage monitor and low fuel alarms
- Charge alternator failure alarm
- Manual speed and manual fuel pump control
- Engine exerciser and "Protections disabled" feature
- kW overload protection
- Power monitoring (kW, h, kV Ar, kv A h, kV Ar h)
- Load switching (load shedding and dummy load outputs)
- Automatic load transfer and unbalanced load protection
- Independent Earth Fault trip
- Support for up to three remote display units and USB connectivity
- Configurable display languages
- Remote SCADA monitoring
- User selectable RS232 and RS485 communications
- SMS messaging (external modem required)
- Additional display screens to help with modem diagnostics

Alarm Channels

- Under/over generator voltage
- Over-current
- Under/over generator frequency
- Under/over speed
- Charge fail
- Emergency stop
- Low oil pressure
- High engine temperature
- Fail to start
- Low/high DC battery voltage
- Reverse power
- Generator phase rotation error
- Generator short-circuit protection
- Loss of speed sensing signal
- Mains out of limits

Optional Input Functions

Engine Oil pressure	kPa
Fuel level	%
Engine Temperature	°C

K.U.N.Z. Handels-&Produktions GmbH

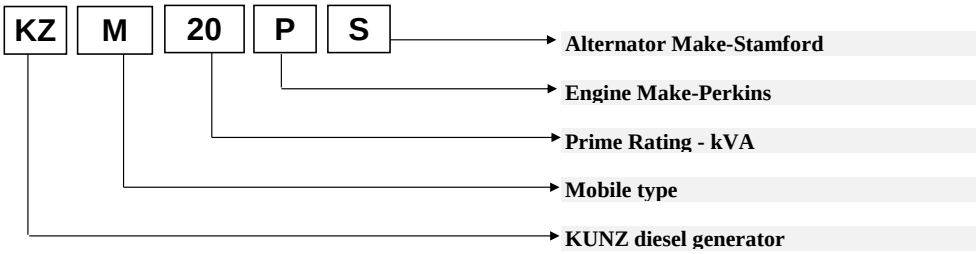
Headquarter
Oskar-von-Miller-Strasse 29
68309 Mannheim, Deutschland
Tel. : +49 621 - 76 217 733
Faks: +49 621 - 76 217 734

U.K. Branch
1 Canada Square Canary Wharf, Floor 37
London, United Kingdom
Tel. : +44 (0) 20 7718 0185
Faks: +44 (0) 20 7718 0001

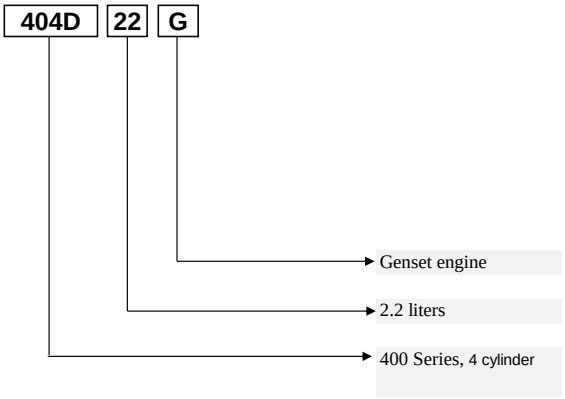
Turkey Branch
Mansuroglu Mh. 295/2 Sk. Ege Sun Plaza
A Blok No:1 K:6 D:652 Bayraklı, 35535
İzmir
Telefax. : +90 232 461 66 91

Model Codes and General Information

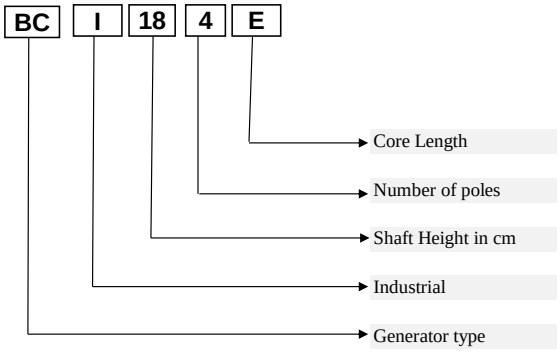
Kunz Diesel Generator



Perkins 1100 Series Diesel Engine



Newage / Stamford Alternator



K.U.N.Z. Handels-&Produktions GmbH

Headquarter
Oskar-von-Miller-Strasse 29
68309 Mannheim, Deutschland
Tel. : +49 621 - 76 217 733
Faks: +49 621 - 76 217 734

U.K. Branch
1 Canada Square Canary Wharf, Floor 37
London, United Kingdom
Tel. : +44 (0) 20 7718 0185
Faks: +44 (0) 20 7718 0001

Turkey Branch
Mansuroglu Mh. 295/2 Sk. Ege Sun Plaza
A Blok No:1 K:6 D:652 Bayraklı, 35535
İzmir
Telefax. : +90 232 461 66 91

Truly Global, Fully Reliable