

# TOTAL POWER SOLUTION!

SINCE 1961  
**Bokuk**  
BOKUK ELECTRIC IND. CO., LTD.



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# ABOUT BOKUK INTRODUCE

"BOKUK" is since its founding in 1961 a leading company in power industry of Korea, and we can supply system design, manufacturing, installation and commissioning. Our products are manufactured with high quality and technology that is strictly controlled in accordance with international standards.

Now, AC Generator, Diesel/Gas Generator Set, Gas CHP System, Gas Turbine Generator set, Diesel/Gas Power Package, Solar Power System and various Electrical apparatus are in our production line and it is proposed to various business field as industrial plant, power plant, building, hospital, Oil & Gas plant, Military business and others.

## **Power solution with various experience.**

For the customers who want power engineering development solutions to problems, accurate and reliable performance to be reflected according to project requirement.

## **Support for global customers**

Have a variety of resources for the design and manufacturing. Meet the requirements of global customers to solve the problem of product design and system engineering.

## **Reliable quality and delivery compliance**

Reliable product quality based on quality management system and delivery compliance to keep the promise to customers.

## **Increasing investments in Research & Development**

With excellent researchers and research and development facilities, new and advanced technology and product for leading power industry are developed.



# COMMITTED TO OUR CUSTOMERS

“  
We will start our new take-off to be  
Global Company BOKUK!”

"Total Power Solution Provider!" It was our general dream and target for last 50 years, and now it is to be a new aim for us at the business field of power solution for next 50 years. "BOKUK" was a representative symbol of reliable power generation equipment supplier in Korea so far, and it is realized at the international market too of more than 30 countries through delivering innovation and quality in collaboration with the customers.

AC Generator, Diesel/Gas Generator set, Diesel Power Package/Plant, Gas engine CHP system, Gas Turbine Generator set, PV Power Generation System and various Control panels & Electrical apparatus are in current product line of BOKUK, and we are also providing perfect services as site installation and commissioning by highly talented engineers in accordance with contract condition.

"BOKUK" is not stayed in the position of equipment supplier only, and we are responding to every challenge of all our customers with great partnership and always assisting your business with quality product and service.

Sincerely look forward to participating in your various projects in near future.

Chairman **Kiyoung Kwak**

起榮



# COMPANY CERTIFICATION



Registration of tap material supplier



Quality certificate of diesel engine generator and gasoline engine generator (Q-Mark)



Quality certificate of solar power generator system (Q-Mark)



Certificate of appointment as a good product (Solar power generator diagnosis system for each module)



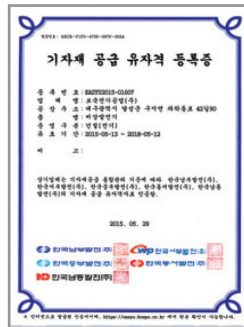
Certificate of appointment as a good product (Diesel generator that applied the rotor diagnosis function)



Certificate of business in the exporting company internet (WEBSEAL)



Certificate of group standard mark



Registration of qualified equipment supplier



Korean Register of Shipping Design Approval Certificate (Alternator)



Russian Maritime Register of Shipping Type Approval Certificate (Alternator)



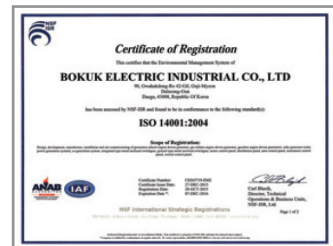
Certificate of appointment in advancing to the overseas supply market (G-PASS company)



Certificate of OHSAS 18001



ISO-9001



ISO-14001

# COMPANY HISTORY



**Nov. 1992**  
Registered to KEPCO as a generator equipment company

**Nov. 1992**  
Awarded the Export Tower of one million dollar, Day of Trading

**May. 1995**  
Award the Certificate of Approval ISO 9001 by Bureau Veritas Quality International

**Nov. 1996**  
Completed 12 island power plants for KEPCO. (Korea Electric Power Corporation)

1961

**Aug. 1961**  
Bokuk was founded by Mr. Kwak, Jong Bo.

**Feb. 1984**  
Selected as a promising Enterprise by the Industrial Advancement Administration

**Mar. 1988**  
Established Technical Research Institute.

**Dec. 1989**  
Registered as an Official Supply and Services Business for U.S Military.



1992

1999

**May. 1999**  
Chosen as a prospective exporting small company (Small and Medium Industry Promotion Corporation)

**Apr. 2000**  
Award the Certificate of merit for High Quality Product by the Electric Industry Association.

**Feb. 2002**  
Acquired ISO 14001 Environment Certificate.

**Nov. 2002**  
Awarded the Export Tower of five million dollar, Day of Trading

**Nov. 2004**  
Chosen as an Innovation Leading Company (No. 56377, Ministry of Commerce, Industry, and Energy)





**Aug. 2006**

Register Patent (No. 10-0617557 / No. 10-0629308)  
"A Generator using Insulation Apparatus" / "A Generator having Bracket band Heater".

**Dec. 2006**

Certificated as an Excellent Product by Public Procurement Service. (No.2006204)

**Jun. 2007**

Acquire Certificate of New Excellent Product (NEP) for Gas Co-Generation System.

2006

2008

2014

2016

2019

**Mar. 2014**

Appointed as "Authorized Distributor" of medium speed engine of GE Transportation

**July. 2014**

Acquired Q-Mark for Photo Voltaic Power Generation System



**Mar. 2015**

Our Chairman elected as a Chairman of KEMC (Korea Electrical Manufacturers Cooperative)

**Dec. 2015**

Awarded \$ 20 million Export prize on Trading Day

**2016**

Award "The top of export industry" from government



**Dec. 2008**

Received a Prize of President for Company management.

**Nov. 2009**

Received a certificate of Defense Quality Management System

**Feb. 2010**

Received a certificate of Nuclear Power Quality Guarantee

**Aug. 2011**

50th Anniverary of the foundation.

**Nov. 2011**

Awarded \$10 million Export prize on Trading Day

**July. 2012**

Acquired ISO 18001 (OHSAS18001:2007) Health and Safety Management System Certificate.

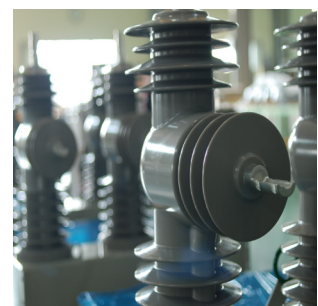
**Sep. 2013**

Acquired Certification of "Trusted Partner" from KEPCO.



**2019**

New patent with vibration isolation and anti-resonance generator



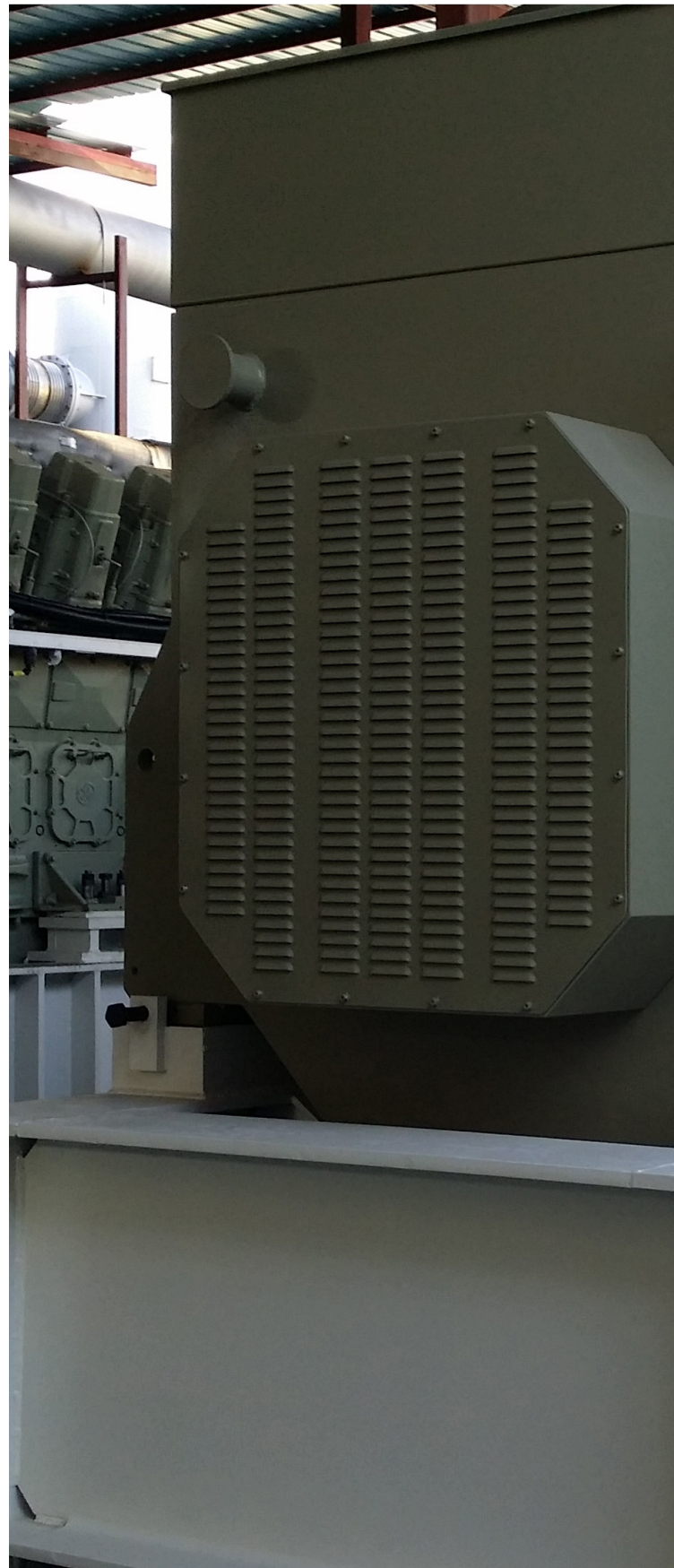
# MAIN PERFORMANCE

## BISKRA/JIJEL CCPP



### Algeria/Jijel & Biskra Project

Project	Jijel & Biskra
Client	SONELGAZ
Customer	Hyundai Engineering Co., Ltd.
Location	Algeria (2015)
Specification & Quantity	• 3Ph, 6.6kV, 50Hz, 1000rpm • Total 25.2MW (6 x Prime 4.2MW)
Remarks	Emergency & Commercial Power

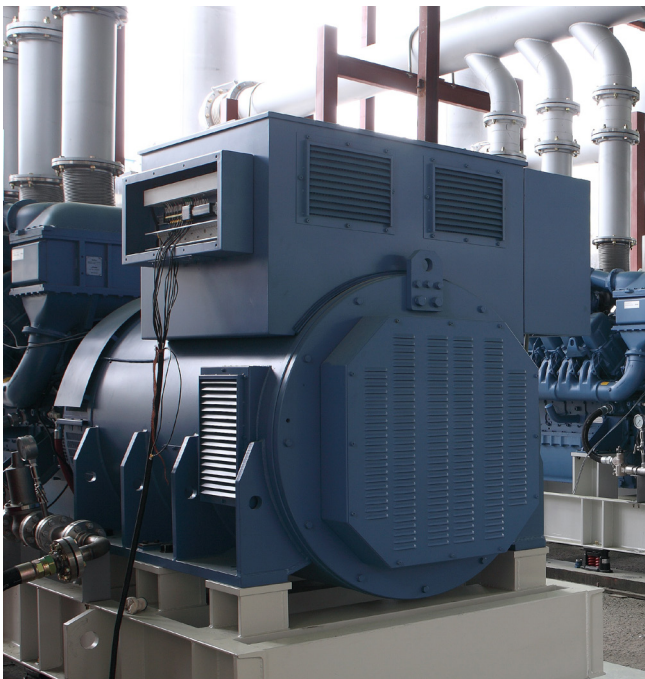






# MAIN PERFORMANCE

## SCPP PROJECT



### Algeria / SCPP Project

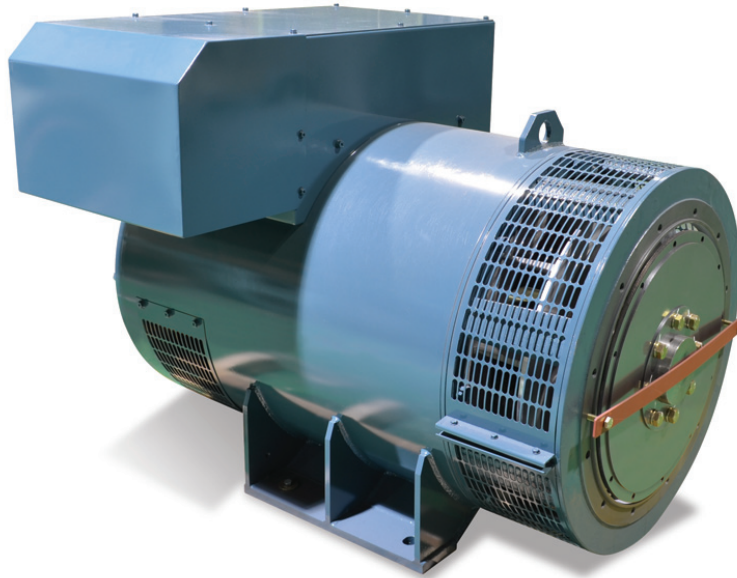
Project	SCPP Project
Client	SONELGAZ
Customer	Hanwha E&C
Location	Algeria (2014)
Specification & Quantity	<ul style="list-style-type: none"><li>• 3Ph, 6.6kV, 50Hz, 1,500rpm</li><li>• Total 15MVA (6 x 2.5MVA)</li></ul>
Remarks	Emergency & Commercial Power





# MAIN PRODUCTS

## AC GENERATOR



### FEATURES

#### Easy Accessibility to Components

The robust mechanical construction gives good access to the generator output connections and allows the user to inspect the various components with ease.

#### Class H Insulation System

Insulation materials meet class H requirements and all rotating components are epoxy resins impregnated and high voltage parts such as the stator are vacuum-impregnated. Class F, Class B also available(option)

#### Voltage Regulator

At no-load and full-load, 0.5% voltage regulation is guaranteed by precise Automatic voltage Regulator. Standard features include under-speed protection, over-excitation shutdown, stability adjustment to optimize transient performance and full encapsulation for superior moisture protection.

#### Optimized Electrical Designs

All main windings are 2/3 pitch to eliminate third harmonic content of the output waveform. Main rotor has the damper winding.

#### Parallel Operation (option)

Alternators can perform parallel operation together with main power or other generator according the requirement.

#### Auxiliary Winding System

The effect of load characteristic is little and stable power can be supplied to motor and nonlinear load, because the power of AVR is supplied from auxiliary winding not main stator winding. - "PMG" also available(option)

#### Extended Protection degree

The standard protection degree of our alternator shall be IP21, and IP55 also available optionally.

#### Digital Surge Tester

All poor insulation problems are removed, because insulation of coil to ground and coil to coil can be checked by D12R digital surge tester.

#### Simple Control Panel (built-in type)

The alternator attached control panel & circuit breaker at terminal box can be operated and checked voltage, current, output and possible to on and off circuit breaker without separate panel.

#### Designing Requirements

All alternators are designed and manufactured to meet various application as NEMA MG-1, ISO 8528, JEM 1354, KEMC 1354, KEMC 1111, IEC and IEEE.

## 50Hz LOW VOLTAGE ALTERNATOR

Ratings at 0.8 P.F., 3Ø, 4 Poles, 50Hz, 1500rpm									
Model	Stand-by		Continuous				Voltage [V]		
	Class H/150°C		Class H/125°C		Class F/105°C		Y	YY	△
	kVA	kW	kVA	kW	kVA	kW			
BK5-20	22	18	20	16	18	14	380 ~ 415	200 ~ 208	220 ~ 240
BK5-30	33	26	30	24	28	22			
BK5-40	44	35	40	32	36	29			
BK5-50	55	44	50	40	45	36			
BK5-60	66	53	60	48	54	43			
BK5-70	77	62	70	56	63	50			
BK5-80	88	70	80	64	73	58			
BK5-100	110	88	100	80	90	72			
BK5-125	138	110	125	100	112	90			
BK5-150	165	132	150	120	135	108			
BK5-165	182	145	165	132	150	120			
BK5-200	220	176	200	160	180	144	380 ~ 415	220 ~ 240	
BK5-230	253	202	230	184	210	168			
BK5-260	286	229	260	208	235	188			
BK5-285	314	251	285	228	255	204			
BK5-300	330	264	300	240	270	216			
BK5-360	396	317	360	288	325	260			
BK5-415	457	365	415	332	375	300			
BK5-455	501	400	455	364	405	324			
BK5-500	550	440	500	400	450	360			
BK5-600	660	528	600	480	545	436			
BK5-680	750	600	680	544	615	492			
BK5-745	823	658	745	596	675	540			
BK5-800	880	704	800	640	720	576			
BK5-910	1001	801	910	728	820	656			
BK5-1050	1155	924	1050	840	950	760			
BK5-1275	1403	1122	1275	1020	1150	920			
BK5-1380	1518	1214	1380	1104	1250	1000			
BK5-1500	1650	1320	1500	1200	1375	1100			
BK5-1700	1870	1496	1700	1360	1550	1240			
BK5-2000	2200	1760	2000	1600	1800	1440			
BK5-2300	2530	2024	2300	1840	2000	1600			
BK5-2800	3080	2464	2800	2240	2500	2000			
BK5-3000	3300	2640	3000	2400	2750	2200			
BK5-3400	3750	3000	3400	2720	3063	2450			
BK5-3800	4180	3344	3800	3040	3450	2760			

**\* Note**

- Above data may change according to manufacturer's technical policy without prior notice.
- Medium speed alternators(720/750rpm or 900/1000rpm) are also available.

# MAIN PRODUCTS

## 60Hz LOW VOLTAGE ALTERNATOR

Ratings at 0.8 P.F., 3Ø, 4 Poles, 60Hz, 1800rpm									
Model	Stand-by		Continuous				Voltage [V]		
	Class H/150°C		Class H/125°C		Class F/105°C		Y	YY	△
	kVA	kW	kVA	kW	kVA	kW			
BK6-20	25	20	23	18	20	16	380 ~ 440	200 ~ 220	220 ~ 254
BK6-30	38	30	34	27	31	25			
BK6-40	50	40	45	36	41	33			
BK6-50	63	50	57	45	50	40			
BK6-60	75	60	68	55	63	50			
BK6-75	94	75	85	68	75	60			
BK6-90	113	90	102	82	94	75			
BK6-100	125	100	114	91	103	82			
BK6-130	163	130	148	118	131	105			
BK6-150	188	150	170	136	156	125			
BK6-175	219	175	199	159	181	145			
BK6-200	250	200	227	182	206	165	380	220	
BK6-250	313	250	284	227	250	200			
BK6-275	344	275	313	250	281	225			
BK6-300	375	300	341	273	313	250			
BK6-320	400	320	364	291	338	270			
BK6-360	450	360	409	327	375	300			
BK6-400	500	400	455	364	413	330			
BK6-450	563	450	511	409	463	370			
BK6-500	625	500	568	455	513	410			
BK6-550	688	550	625	500	563	450			
BK6-600	763	610	693	554	625	500			
BK6-660	825	660	750	600	688	550			
BK6-750	938	750	852	682	775	620			
BK6-800	1000	800	909	727	825	660			
BK6-900	1125	900	1023	818	938	750			
BK6-1000	1250	1000	1136	909	1038	830			
BK6-1250	1563	1250	1420	1136	1250	1000			
BK6-1400	1750	1400	1591	1273	1450	1160			
BK6-1500	1875	1500	1705	1364	1550	1240			
BK6-1750	2188	1750	1989	1591	1813	1450			
BK6-2000	2500	2000	2273	1818	2000	1600			
BK6-2250	2813	2250	2557	2045	2250	1800			
BK6-2500	3125	2500	2841	2273	2500	2000			
BK6-3000	3750	3000	3409	2727	3125	2500			
BK6-3400	4250	3400	3891	3113	3538	2830			

**\* Note**

- Above data may change according to manufacturer's technical policy without prior notice.
- Medium speed alternators(720/750rpm or 900/1000rpm) are also available.

## 50Hz MEDIUM VOLTAGE ALTERNATOR (3.3kV/6.6kV)

Ratings at 0.8 P.F., 3Ø, 4 Poles, 50Hz, 1500rpm							
Model	Stand-by		Continuous				Voltage [V]
	Class H/150°C		Class H/125°C		Class F/105°C		
	kVA	kW	kVA	kW	kVA	kW	Y
BK5-260H	286	229	260	208	236	189	3300 6600
BK5-330H	363	290	330	264	300	240	
BK5-400H	440	352	400	320	364	291	
BK5-460H	506	405	460	368	418	335	
BK5-550H	605	484	550	440	500	400	
BK5-680H	748	598	680	544	618	495	
BK5-800H	880	704	800	640	727	582	
BK5-1000H	1100	880	1000	800	909	727	
BK5-1100H	1210	968	1100	880	1000	800	
BK5-1350H	1485	1188	1350	1080	1227	982	
BK5-1500H	1650	1320	1500	1200	1364	1091	
BK5-1600H	1760	1408	1600	1280	1455	1164	
BK5-1800H	1980	1584	1800	1440	1636	1309	
BK5-2000H	2200	1760	2000	1600	1818	1455	
BK5-2350H	2585	2068	2350	1880	2136	1709	
BK5-2500H	2750	2200	2500	2000	2273	1818	
BK5-3100H	3410	2728	3100	2480	2818	2255	
BK5-3500H	3850	3080	3500	2800	3182	2545	
BK5-4200H	4620	3696	4200	3360	3818	3055	
BK5-4600H	5060	4048	4600	3680	4182	3345	
BK5-5200H	5720	4576	5200	4160	4727	3782	
BK5-5750H	6325	5060	5750	4600	5227	4182	

**\* Note**

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2. Medium speed alternators(720/750rpm or 900/1000rpm) are also available.

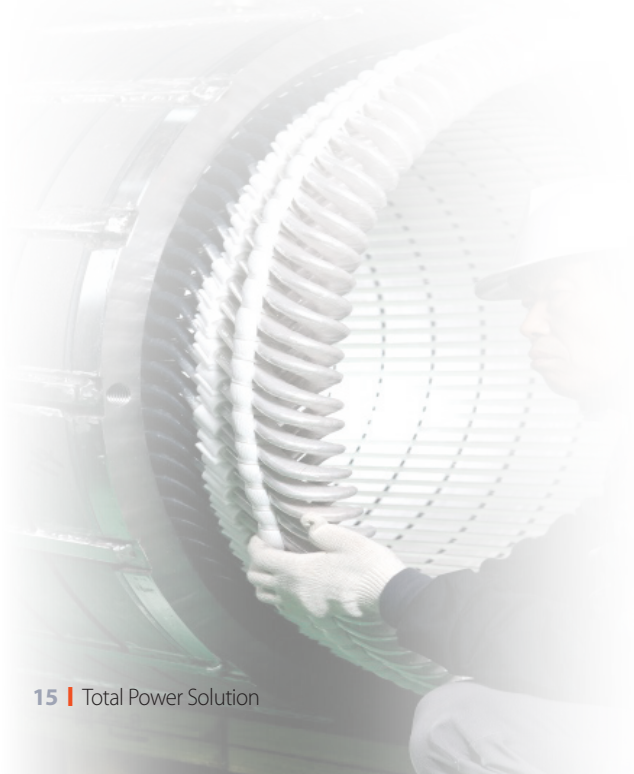
# MAIN PRODUCTS

## 60Hz MEDIUM VOLTAGE ALTERNATOR (3.3kV/6.6kV)

Ratings at 0.8 P.F., 3Ø, 4 Poles, 60Hz, 1800rpm							
Model	Stand-by		Continuous				Voltage [V]
	Class H/150°C		Class H/125°C		Class F/105°C		
	kVA	kW	kVA	kW	kVA	kW	
BK6-280H	350	280	318	255	289	231	3300 6600
BK6-350H	438	350	398	318	362	289	
BK6-420H	525	420	477	382	434	347	
BK6-480H	600	480	545	436	496	397	
BK6-550H	688	550	625	500	568	455	
BK6-700H	875	700	795	636	723	579	
BK6-900H	1125	900	1023	818	930	744	
BK6-1000H	1250	1000	1136	909	1033	826	
BK6-1150H	1438	1150	1307	1045	1188	950	
BK6-1360H	1700	1360	1545	1236	1405	1124	
BK6-1600H	2000	1600	1818	1455	1653	1322	
BK6-1870H	2338	1870	2125	1700	1932	1545	
BK6-2100H	2625	2100	2386	1909	2169	1736	
BK6-2600H	3250	2600	2955	2364	2686	2149	
BK6-2700H	3375	2700	3068	2455	2789	2231	
BK6-3100H	3875	3100	3523	2818	3202	2562	
BK6-3700H	4625	3700	4205	3364	3822	3058	
BK6-4600H	5750	4600	5227	4182	4752	3802	
BK6-5000H	6250	5000	5682	4545	5165	4132	
BK6-5700H	7125	5700	6477	5182	5888	4711	

**\*Note**

1. Above data may change according to manufacturer's technical policy without prior notice.
2. Medium speed alternators(720/750rpm or 900/1000rpm) are also available.





## 50Hz MEDIUM VOLTAGE ALTERNATOR (11kV)

Ratings at 0.8 PF, 3Ø, 4 Poles, 50Hz, 1500rpm							
Model	Stand-by		Continuous				Voltage [V]
	Class H/150°C		Class H/125°C		Class F/105°C		
	kVA	kW	kVA	kW	kVA	kW	
BK5-450EH	500	400	450	360	400	320	11000
BK5-550EH	600	480	550	440	500	400	
BK5-700EH	775	620	700	560	625	500	
BK5-800EH	880	704	800	640	725	580	
BK5-900EH	1000	800	900	720	800	640	
BK5-1000EH	1100	880	1000	800	900	720	
BK5-1300EH	1425	1140	1300	1040	1175	940	
BK5-1500EH	1650	1320	1500	1200	1375	1100	
BK5-1700EH	1875	1500	1700	1360	1550	1240	
BK5-2000EH	2200	1760	2000	1600	1800	1440	
BK5-2300EH	2500	2000	2300	1840	2100	1680	
BK5-2750EH	3000	2400	2750	2200	2500	2000	
BK5-3200EH	3500	2800	3200	2560	2900	2320	
BK5-3750EH	4100	3280	3750	3000	3400	2720	
BK5-4450EH	4800	3840	4450	3560	4000	3200	

## 60Hz MEDIUM VOLTAGE ALTERNATOR (11kV)

Ratings at 0.8 PF, 3Ø, 4 Poles, 60Hz, 1800rpm							
Model	Stand-by		Continuous				Voltage [V]
	Class H/150°C		Class H/125°C		Class F/105°C		
	kVA	kW	kVA	kW	kVA	kW	
BK6-450EH	563	450	513	410	463	370	11000
BK6-580EH	725	580	650	520	600	480	
BK6-700EH	875	700	800	640	725	580	
BK6-800EH	1000	800	900	720	825	660	
BK6-900EH	1125	900	1000	800	925	740	
BK6-1100EH	1375	1100	1250	1000	1138	910	
BK6-1400EH	1750	1400	1600	1280	1450	1160	
BK6-1500EH	1875	1500	1705	1364	1563	1250	
BK6-1600EH	2000	1600	1813	1450	1650	1320	
BK6-1800EH	2250	1800	2050	1640	1875	1500	
BK6-2100EH	2625	2100	2375	1900	2150	1720	
BK6-2400EH	3000	2400	2750	2200	2500	2000	
BK6-2800EH	3500	2800	3175	2540	2875	2300	
BK6-3300EH	4125	3300	3750	3000	3375	2700	
BK6-4000EH	5000	4000	4500	3600	4125	3300	
BK6-4600EH	5750	4600	5300	4240	4800	3840	

**\* Note**

- Above data may change according to manufacturer's technical policy without prior notice.
- Medium speed alternators(720/750rpm or 900/1000rpm) are also available

# MAIN PRODUCTS

## DIESEL ENGINE GENERATOR

With Digital Control System



### FEATURES

#### ENGINE

- DOOSAN diesel engine.
- Four cycle, water cooled
- Direct injection fuel system
- 24V D.C starting and charging alternator
- Replaceable fuel filter, oil filter and dry element air filter
- Direct coupled cooling radiator and fan
- Starting battery (lead acid) including rack and connection cables.
- Flexible fuel connection hoses and manual oil sump drain valve.
- Industrial type exhaust silencer and bellows.
- Jacket water heater (option)

#### ALTERNATOR

- BOKUK alternator
- Brushless, single bearing system, 4poles.
- Insulation Class H.
- Degree of protection IP21 (standard)
- Aux-winding type exciting system.
- Epoxy resins and vacuum impregnation.
- Precise automatic voltage regulator

#### STEEL BASE FRAME

- Heavy-duty fabricated steel base frame for completer generator set.
- Anti vibration pads or spring between the engine and alternator feet and the base frame.

### STANDARD CONTROL SYSTEM

#### FEATURES

- Automatic engine starting and stopping.
- Graphical icon type LCD display.
- PC configurable via MS-Windows based software.
- Simple selector switching type control operation.

#### MEASUREMENT DISPLAY

Generator phase-neutral voltage	Battery voltage
Generator phase-phase voltage	Engine running hour
Generator current L1, L2, L3	Power factor
Generator frequency Hz	Apparent power
Engine speed RPM	Active power
Engine lub. Oil pressure (Psi & bar&Kpa)	Reactive power
Engine coolant temperature (°C&°F)	

#### ALARM & PROTECTION

Generator voltage low	Engine speed low
Generator voltage high	Engine speed high
Generator frequency, high/low	Engine lub, Oil pressure low
Emergency stop	Engine coolant temp high
Battery voltage low	Engine start failure
Battery voltage high	Sensor failure
Generator over current	



# MAIN PRODUCTS

## CUMMINS Diesel Engine (40kW~3,465kW)

GENERATOR SET					ENGINE								OTHERS	
Model	Output(kW)				Engine Model		Output(kWm)				No of Cylinder	Fuel Consumption (ℓ/h)(*1)	Dimension (LxWxH) (mm)	Net Weight (kg)
	Standby		Prime		50Hz	60Hz	Standby		Prime					
	50Hz	60Hz	50Hz	60Hz			50Hz	60Hz	50Hz	60Hz				
BLA-50	44	50	40	45	4BT3.3-G3	4BT3.3-G3	51	60	46	54	I-4	15.0	1810x720x1280	900
BLA-60	53	60	48	55	S3.8-G7	S3.8-G10	64.9	73	59.6	66	I-4	18.0	1900x800x1300	1050
BLA-85	70	85	64	74	QSB5-G3	QSB5-G3	94	108	81	94	I-4	29.0	2000x800x1350	1180
BLA-100	88	100	80	91	QSB5-G5	QSB5-G5	113	131	97	113	I-6	34.0	2000x800x1460	1260
BLA-150	132	150	120	136	QSB7-G3	QSB7-G3	174	186	151	163	I-6	48.0	2380x1000x1500	1650
BLA-175	145	175	132	159	QSB7-G4	QSB7-G4	196	214	168	184	I-6	52.0	2380x1000x1650	1870
BLA-200	175	200	157	182	QSB7-G5	QSB7-G5	213	242	182	208	I-6	59.0	2550x1000x1680	2250
BLA-250	220	250	200	227	QSL9-G3	QSL9-G3	257	297	227	262	I-6	77.0	2900x1000x1700	2450
BLA-275	244	275	220	250	QSL9-G4	QSL9-G4	279	321	245	282	I-6	82.0	3050x1000x1700	3100
BLA-300	264	300	240	273	QSL9-G7	QSL9-G7	300	346	271	312	I-6	89.0	3100x1000x1800	3750
BLA-360	317	360	288	327	QSX15-G4	QSX15-G4	407	455	366	414	I-6	107.3	3160x1000x1900	3530
BLA-400	358	400	325	364	QSX15-G4	QSX15-G4	407	455	366	414	I-6	107.3	3260x1430x1940	3530
BLA-450	400	450	364	409	QSX15-G6	QSX15-G7	459	511	414	463	I-6	120.0	3260x1430x1940	3630
BLA-500	440	500	400	455	QSX15-G8	QSX15-G9	500	563	444	507	I-6	135.9	3260x1430x1940	3750
BLA-600	528	600	480	545	VTA28-G5	VTA28-G5	612	671	560	608	V-12	173.0	4000x1680x2300	6150
BLA-800	700	800	637	727	QSK23-G3	QSK23-G3	768	895	701	809	I-6	212.0	4100x1900x2500	7100
BLA-900	800	900	728	818	QST30-G3	QST30-G3	895	1007	806	910	V-12	228.0	4150x1900x2500	7100
BLA-1000	890	1000	810	909	QST30-G4	QST30-G4	970	1112	880	1007	V-12	267.0	4350x1900x2500	7650
BLA-1000	-	1000	-	909	KTA38-G4	KTA38-G4	-	1112	-	1007	V-12	271.0	4350x1900x2500	7650
BLA-1250	1120	1250	1020	1123	KTA50-G3	KTA50-G3	1227	1380	1097	1220	V-16	330.0	5120x1900x2620	10600
BLA-1500	1320	1500	1114	1288	KTA50-G8	KTA50-G9	1429	1656	1200	1384	V-16	392.0	5340x1900x2620	12100
BLA-1750	1496	1750	1360	1591	QSK60-G4	QSK60-G6	1915	2180	1730	1975	V-16	521.0	6170x2450x2730	17300
BLA-2000	1760	2000	1600	1818	QSK60-G4	QSK60-G6	1915	2180	1730	1975	V-16	521.0	6170x2450x2730	18000
BLA-2250	2015	2250	1619	1860	QSK60-G13	QSK60-G14	2164	2447	1727	1981	V-16	598.0	6250x2450x2750	19000
BLA-2500	-	2500	-	2273	QSK78-G7	QSK78-G7	-	2763	-	2502	V-18	672.0	6925x2750x3360	23000
BLA-2800	2380	2835	2165	2580	QSK78-G9	QSK78-G8	2539	3028	2304	2737	V-18	701.0	6925x2750x3360	23000
BLA-3400	2980	3465	2660	2970	QSK95-G4	QSK95-G2	3245	3767	2883	3213	V-16	915.0	6850x2400x3400	25000

\*Note

1. Fuel consumption is based on Standby 100% output (60Hz).
2. Rated Speed: 1,500 RPM(50Hz)/1,800 RPM(60Hz)
3. Above data may change according to manufacturer's technical policy without prior notice.

## ■ MTU Diesel Engine (364kW~3,300kW)

Model	GENERATOR SET				ENGINE								OTHERS	
	Output(kW)				Engine Model		Output(kWm)				No of Cylinder	Fuel Consumption (ℓ/h)(*1)	Dimension (LxWxH) (mm)	Net Weight (kg)
	Standby		Prime		50Hz	60Hz	Standby		Prime					
	50Hz	60Hz	50Hz	60Hz			50Hz	60Hz	50Hz	60Hz				
<b>BTA-450</b>	400	450	364	409	10V1600G70F	10V1600G70S	448	551	407	465	V-10	121.0	3280x1320x2100	4100
<b>BTA-500</b>	440	500	400	455	10V1600G80F	10V1600G80S	493	561	448	511	V-10	125.0	3280x1320x2100	4300
<b>BTA-550</b>	520	550	472	500	12V1600G70F	12V1600G70S	576	613	524	561	V-12	140.0	3420x1320x2030	4550
<b>BTA-600</b>	580	600	527	550	12V1600G80F	12V1600G80S	634	668	576	608	V-12	151.0	3420x1320x2030	4690
<b>BTA-700</b>	560	700	510	630	12V2000G25	12V2000G45	635	780	580	710	V-12	196.0	3800x1450x2200	5864
<b>BTA-800</b>	685	800	620	725	12V2000G65	12V2000G85	765	890	695	810	V-12	222.0	4000x1450x2200	6456
<b>BTA-900</b>	800	900	725	818	16V2000G25	16V2000G45	890	1010	810	915	V-16	246.0	4400x1920x2350	8018
<b>BTA-1000</b>	880	1000	800	909	16V2000G65	16V2000G85	975	1115	890	1010	V-16	272.0	4400x1920x2350	8068
<b>BTA-1200</b>	1000	1200	905	1080	18V2000G65	18V2000G85	1100	1310	1000	1191	V-18	320.0	4700x2400x2700	9706
<b>BTA-1250</b>	1130	1250	1010	-	18V2000G76F	18V2000G76S	1235	1371	1102	-	V-18	320.0	4700x2400x2700	9706
<b>BTA-1600</b>	1450	1600	1300	1400	12V4000G23	12V4000G43	1575	1736	1420	1520	V-12	414.0	5300x2100x2846	12853
<b>BTA-1750</b>	1600	1750	1450	1591	12V4000G63	12V4000G83	1750	1910	1575	1736	V-12	470.0	5500x2100x2846	13895
<b>BTA-2100</b>	1840	2100	1670	1865	16V4000G23	16V4000G43	1965	2280	1798	2020	V-16	550.0	6100x2400x2846	17287
<b>BTA-2300</b>	2000	2300	1800	2100	16V4000G63	16V4000G83	2185	2500	1965	2280	V-16	624.0	6400x2400x3487	18885
<b>BTA-2500</b>	-	2500	-	-	-	16V4000G83L	-	2740	-	-	V-16	624.0	6400x2400x3487	18885
	2270	2500	2064	2273	20V4000G23	20V4000G43	2420	2740	2200	2490	V-20	634.0	6900x2720x3487	20894
<b>BTA-2800</b>	2500	2800	2260	2540	20V4000G63	20V4000G83	2670	3010	2420	2740	V-20	718.0	7200x3360x3487	23920
<b>BTA-3300</b>	2650	3300	2400	2800	20V4000G63L	20V4000G83L	2850	3490	2590	3010	V-20	866.0	7200x3160x3937	24750

**\* Note**

1. Fuel consumption is based on Standby 100% output (60Hz).
2. Rated Speed: 1,500 RPM(50Hz)/1,800 RPM(60Hz)
3. Above data may change according to manufacturer's technical policy without prior notice.



# MAIN PRODUCTS

## PERKINS Diesel Engine (24kW~2,000kW)

GENERATOR SET					ENGINE							OTHERS	
Model	Output(kW)				Engine Model	Output(kWm)				No of Cylinder	Fuel Consumption (ℓ/h)(*1)	Dimension (LxWxH) (mm)	Net Weight (kg)
	Standby		Prime			Standby		Prime					
	50Hz	60Hz	50Hz	60Hz		50Hz	60Hz	50Hz	60Hz				
BPA-30	26	31	24	28	1103A-33G	30.4	35.4	27.7	32.2	I-3	9.5	1600x800x1250	800
BPA-47	40	47	36	43	1103A-33TG1	45.6	53.9	41.3	48.8	I-3	14.3	1600x800x1300	800
BPA-60	53	60	48	55	1103A-33TG2	59.3	67.5	53.8	61.2	I-3	18.2	1600x700x1200	1000
BPA-100	90	101	81	92	1104C-44TAG2	103	117.5	93.6	106.8	I-4	29.7	1900x800x1400	1050
BPA-135	120	135	108	122	1106A-70TG1	131.4	148.5	118.3	133.5	I-6	38.8	1900x800x1400	1050
BPA-150	132	150	120	135	1106A-70TAG2	144.1	163.8	131	147.4	I-6	40.7	2250x900x1600	1550
BPA-175	160	175	144	158	1106A-70TAG3	175.2	191.7	157.7	172.5	I-6	51.7	2400x900x1600	1550
BPA-200	176	200	160	180	1206D-E70TTAG1	192	223.6	175	201.6	I-6	61.1	2500x1100x1700	2000
BPA-220	206	220	185	200	1506A-E88TAG2	223	237	201	216	I-6	59.5	2500x1100x1800	2200
BPA-250	226	250	206	230	1506A-E88TAG3	245	279	223	252	I-6	69.8	2550x1100x1800	2250
BPA-300	-	309	-	282	1506D-E88TAG5	-	336	-	306	I-6	86.0	2650x1150x1750	2700
BPA-310	270	310	246	280	1506A-E88TAG5	293	339	268	306	I-6	85.7	2650x1150x1750	2700
BPA-350	320	350	280	320	2206C-E13TAG2	349	381	305	349	I-6	90.0	3200x1350x2150	3100
BPA-400	-	400	-	350	2206D-E13TAG3	-	435	-	381	I-6	102.0	3200x1350x2150	3200
BPA-450	400	450	364	400	2506C-E15TAG1	435	490	396	435	I-6	114.0	3400x1350x2250	3450
BPA-500	-	500	-	455	2506C-E15TAG3	-	543	-	495	I-6	132.0	3400x1350x2250	3700
BPA-550	-	550	-	-	2506C-E15TAG4	-	597	-	-	I-6	146.0	3400x1350x2250	3800
BPA-600	520	600	480	545	2806C-E18TAG3	565	652	522	592	I-6	158.0	3400x1450x2300	4300
BPA-660	627	-	570	-	2806A-E18TTAG4	660	-	598	-	I-6	197.0	4100x1700x2600	4950
BPA-700	656	660	597	600	4006-23TAG2A	721	702	658	638	I-6	196.0	3900x1750x2300	6200
BPA-750	718	755	641	680	4006-23TAG3A	786	839	705	759	I-6	224.0	3900x1750x2300	6200
BPA-800	-	800	-	722	4006-23TAG4	-	886	-	805	I-6	233.0	4000x1750x2300	6300
BPA-900	-	900	-	810	4008TAG2	-	948	-	842	I-8	250.0	4650x2050x2450	6450
BPA-1100	1100	1100	1000	1000	4012-46TWG2A	1166	1166	1055	1055	V-12	298.0	4650x2100x2650	9050
BPA-1300	1320	1330	1200	1200	4012-46TAG2A	1285	1395	1170	1267	V-12	344.0	4900x2200x2650	10500
BPA-1500	1500	1500	1350	1350	4012-46TAG3A	1579	1583	1436	1440	V-12	390.0	4900x2200x2700	10500
BPA-1600	1600	-	1480	-	4016-61TRG1	1684	-	1558	-	V-16	401.0	6650x2800x3300	12200
BPA-1800	1800	-	1600	-	4016-61TRG2	1895	-	1684	-	V-16	463.0	6650x2800x3300	13200
BPA-2000	2000	-	1800	-	4016-61TRG3	2083	-	1875	-	V-16	529.0	6650x2800x3300	14200

**\*Note**

1. Fuel consumption is based on Standby 100% output (60Hz).
2. Rated Speed: 1,500 RPM(50Hz)/1,800 RPM(60Hz)
3. Above data may change according to manufacturer's technical policy without prior notice.

## ■ MITSUBISHI Diesel Engine (520kW~2,000kW)

GENERATOR SET					ENGINE						OTHERS		
Model	Output(kW)				Engine Model	Output(kWm)				No of Cylinder	Fuel Consumption (ℓ/h)(*1)	Dimension (LxWxH) (mm)	Net Weight (kg)
	Standby		Prime			Standby		Prime					
	50Hz	60Hz	50Hz	60Hz		50Hz	60Hz	50Hz	60Hz				
<b>BMA-600</b>	520	600	470	542	S6R-PTA	570	655	515	595	I-6	153.0	3600x1450x1700	5200
<b>BMA-800</b>	680	800	620	727	S12A2-PTA	746	850	679	761	V-12	190.0	3900x1600x2170	6500
<b>BMA-900</b>	770	900	700	820	S12A2-PTA2	840	950	764	864	V-12	230.0	3960x1650x2400	6700
<b>BMA-1000</b>	924	1000	840	909	S12H-PTA	1020	1120	930	1020	V-12	241.0	4300x1650x2400	8200
<b>BMA-1250</b>	1122	1250	1020	1136	S12R-PTA	1220	1320	1110	1190	V-12	280.0	4750x1850x2830	10400
<b>BMA-1350</b>	1214	1350	1104	1228	S12R-PTA2	1315	1470	1195	1340	V-12	325.0	4750x1850x2830	10400
<b>BMA-1500</b>	1300	1500	1182	1364	S12R-PTAA2	1404	1596	1277	1387	V-12	350.0	5025x2182x3056	11970
<b>BMA-1600</b>	1496	1600	1360	1455	S16R-PTA	1620	1750	1480	1590	V-16	386.0	5310x1850x2830	12600
<b>BMA-1800</b>	1660	1800	1510	1637	S16R-PTA2	1790	1950	1630	1775	V-16	435.0	5400x2650x3200	14500
<b>BMA-2000</b>	1760	2000	1600	1800	S16R-PTAA2	1895	2105	1684	1895	V-16	469.0	6000x2400x3200	15600

**\* Note**

1. Fuel consumption is based on Standby 100% output (60Hz).
2. Rated Speed : 1,500 RPM(50Hz)/1,800 RPM(60Hz)
3. Above data may change according to manufacturer's technical policy without prior notice.



# MAIN PRODUCTS

## SCANIA Diesel Engine (202kW~660kW)

GENERATOR SET					ENGINE							OTHERS	
Model	Output(kW)				Engine Model	Output(kWm)				No of Cylinder	Fuel Consumption (ℓ/h)(*1)	Dimension (LxWxH) (mm)	Net Weight (kg)
	Standby		Prime			Standby		Prime					
	50Hz	60Hz	50Hz	60Hz		50Hz	60Hz	50Hz	60Hz				
<b>BSC-245</b>	223	245	202	223	DC09 072A (02-11)	249	276	226	251	I-5	65.0	2780x1020x1600	2430
<b>BSC-265</b>	245	265	223	240	DC09 072A (02-12)	273	300	248	273	I-5	71.0	2780x1020x1600	2450
<b>BSC-285</b>	264	285	240	260	DC09 072A (02-13)	294	321	267	292	I-5	77.0	2850x1020x1600	2480
<b>BSC-320</b>	288	320	261	291	DC09 072A (02-14)	317	358	289	325	I-5	86.0	2850x1020x1600	2520
<b>BSC-360</b>	325	360	295	327	DC13 072A (02-11)	356	406	326	372	I-6	91.0	3200x1120x1980	2870
<b>BSC-400</b>	365	400	331	364	DC13 072A (02-12)	403	449	365	410	I-6	103.0	3200x1120x1980	2870
<b>BSC-440</b>	400	440	364	400	DC13 072A (02-13)	438	487	403	445	I-6	113.0	3200x1120x1980	3010
<b>BSC-540</b>	486	540	440	491	DC16 49A (10-28C)	531	584	483	531	V-8	140.0	3100x1316x1970	3450
<b>BSC-575</b>	-	575	-	520	DC16 49A (10-28D)	-	617	-	561	V-8	148.0	3200x1316x1970	3590
<b>BSC-610</b>	570	610	500	554	DC16 072A (02-12)	634	678	578	619	V-8	158.0	3200x1316x1920	3770
<b>BSC-650</b>	615	650	560	590	DC16 072A (02-13)	680	704	621	642	V-8	165.0	3200x1316x1920	3770
<b>BSC-660</b>	-	660	-	600	DC16 072A (02-13)	680	704	621	642	V-8	165.0	3200x1316x1920	3770

**\*Note**

1. Fuel consumption is based on Standby 100% output (60Hz).
2. Rated Speed : 1,500 RPM(50Hz)/1,800 RPM(60Hz)
3. Above data may change according to manufacturer's technical policy without prior notice.



## MAN Diesel Engine (250kW~1,000kW)

GENERATOR SET					ENGINE							OTHERS		
Model	Output(kW)				Engine Model		Output(kWm)				No of Cylinder	Fuel Consumption (ℓ/h)(*1)	Dimension (LxWxH) (mm)	Net Weight (kg)
	Standby		Prime		50Hz	60Hz	Standby		Prime					
	50Hz	60Hz	50Hz	60Hz			50Hz	60Hz	50Hz	60Hz				
<b>BNA-360</b>	325	360	250	280	D2866 (LE203)	D2866 (LE201)	360	400	280	322	I-6	95.4	3150x1200x1830	2755
<b>BNA-370</b>	400	370	328	335	D2676 (LE223)	D2676 (LE221)	440	415	360	377	I-6	100.0	3200x1080x1660	2750
<b>BNA-450</b>	400	450	320	357	D2876 (LE203)	D2876 (LE201)	451	507	355	405	I-6	132.0	3200x1230x1950	2925
<b>BNA-480</b>	448	480	360	408	D2848 (LE213)	D2848 (LE211)	495	539	405	460	V-8	152.0	3000x1400x1920	3085
<b>BNA-520</b>	500	520	410	460	D2840 (LE203)	D2840 (LE201)	545	585	451	515	V-10	139.0	3100x1600x2040	3370
<b>BNA-600</b>	560	600	450	505	D2840 (LE213)	D2840 (LE211)	610	660	495	565	V-10	168.0	3200x1600x2040	3490
<b>BNA-650</b>	580	650	500	560	D2842 (LE203)	D2842 (LE201)	633	718	543	620	V-10	171.0	3340x1600x2040	3940
<b>BNA-750</b>	645	750	540	650	D2842 (LE213)	D2842 (LE211)	702	800	590	695	V-12	200.0	3400x1600x2040	4050
<b>BNA-1000</b>	800	1000	633	742	D2862 (LE223)	D2862 (LE221)	880	1117	700	836	V-12	248.0	3800x1561x2060	5600

**\* Note**

1. Fuel consumption is based on Standby 100% output (60Hz).
2. Rated Speed : 1,500 RPM(50Hz)/1,800 RPM(60Hz)
3. Above data may change according to manufacturer's technical policy without prior notice.

# MAIN PRODUCTS

## FIAT Diesel Engine (45kW~550kW)

GENERATOR SET					ENGINE							OTHERS	
Model	Output(kW)				Engine Model	Output(kWm)				No of Cylinder	Fuel Consumption (ℓ/h)(*1)	Dimension (LxWxH) (mm)	Net Weight (kg)
	Standby		Prime			Standby		Prime					
	50Hz	60Hz	50Hz	60Hz		50Hz	60Hz	50Hz	60Hz				
BFA-50	52	50	47	45	N45SM1A	60	67	54.5	61	I-4	16.9	1685x730x1215	925
BFA-60	70	60	64	55	N45TM1A	87	98	79.3	89.4	I-4	25.7	1865x800x1355	1045
BFA-85	76	85	69	77	N45TM1A	87	98	79.3	89.4	I-4	25.7	1845x800x1380	1065
BFA-90	86	90	78	82	N45TM2A	98	110	89.3	100.3	I-4	29.0	1845x800x1380	1075
BFA-100	-	100	-	90	N45TM2A	-	110	-	100.3	I-4	29.0	1895x800x1380	1155
BFA-115	110	115	100	105	N67TM2A	130	148	118.2	134.5	I-6	38.1	2265x800x1475	1220
BFA-130	-	130	-	118	N67TM2A	-	148	-	134.5	I-6	38.1	2265x800x1475	1220
BFA-150	138	150	125	136	N67TM3A	157	172.5	142.7	156.8	I-6	44.2	2345x800x1475	1280
BFA-175	-	175	-	159	N67TE2A	-	223	-	202.7	I-6	48.0	2450x800x1565	1575
BFA-200	176	200	160	182	N67TE2A	198	223	180	202.7	I-6	48.0	2450x800x1565	1770
BFA-250	229	250	208	227	C87TE1D	263	290	239	263.6	I-6	72.3	2700x1095x1685	2395
BFA-260	237	260	215	236	C87TE1D	263	290	239	263.6	I-6	72.3	2700x1095x1685	2415
BFA-275	264	275	240	250	C10TE1D	300	335	274	305	I-6	83.7	2780x1125x1795	2500
BFA-290	-	290	-	264	C10TE1D	-	335	-	305	I-6	83.7	2850x1125x1760	2535
BFA-300	-	300	-	271	C10TE1D	-	335	-	305	I-6	83.7	2900x1125x1760	2700
BFA-320	306	320	278	291	C13TE2A	345	385	314.9	352.2	I-6	91.0	3000x1125x1785	2805
BFA-330	-	330	-	300	C13TE2A	-	385	-	352.2	I-6	91.0	3000x1125x1785	2985
BFA-350	-	350	-	318	C13TE3A	-	423	-	384.5	I-6	108.7	3060x1300x1785	3003
BFA-360	360	360	328	327	C13TE3A	401	423	366.2	384.5	I-6	108.7	3060x1300x1785	3003
BFA-370	-	370	-	336	C13TE3A	-	423	-	384.5	I-6	108.7	3060x1300x1700	3003
BFA-400	387	400	347	364	C13TE6	435	490	395	445	I-6	112.0	3000x1225x1770	2915
BFA-425	-	425	-	376	C13TE6	-	490	-	445	I-6	112.0	3000x1225x1770	2915
BFA-440	430	440	389	400	C13TE7	480	510	436	464	I-6	123.3	3000x1225x1770	3055
BFA-450	-	450	-	406	C13TE7	-	510	-	464	I-6	123.3	3100x1225x1770	3055
BFA-500	525	500	474	455	CR16TE1W	570	601	513.9	541.2	I-6	143.0	3140x1165x1745	3285
BFA-550	-	550	-	550	CR16TE1W	-	601	-	541.2	I-6	143.0	3140x1165x1745	3340

**\*Note**

1. Fuel consumption is based on Standby 100% output (60Hz).
2. Rated Speed: 1,500 RPM(50Hz)/1,800 RPM(60Hz)
3. Above data may change according to manufacturer's technical policy without prior notice.

## GE Diesel Engine (1260kW~5070kW)

GENERATOR SET								
Model	Output(kW)							
	Emergency Standby Power		Limited Time Running Power		Prime Power		Continuous Power	
	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz
<b>BGE-1400</b>	-	-	-	-	-	-	1400	1260
<b>BGE-1600</b>	1920	1730	1760	1580	1600	1440	1600	1440
<b>BGE-2000</b>	-	-	2510	2260	2300	2070	2090	1880
<b>BGE-2100</b>	2560	2300	2340	2110	2130	1920	2130	1920
<b>BGE-2800</b>	-	-	3370	3030	3080	2780	2800	2520
<b>BGE-2900</b>	3800	3420	3510	3160	3210	2890	2920	2630
<b>BGE-3900</b>	5070	4560	4680	4200	4290	3860	3900	3500

Model	ENGINE									OTHERS			
	Engine Model	Output(kWm)								No of Cylinder	Fuel Consumption (ℓ/h)(*1)	Dimension (LxWxH) (mm)	Net Weight (kg)
		Emergency Standby Power		Limited Time Running Power		Prime Power		Continuous Power					
50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz				
<b>BGE-1400</b>	8V228	-	-	-	-	-	-	1453	1307	V-8	314.8/289.5	7393x2030x3050	30200
<b>BGE-1600</b>	6L250	1997	1798	1831	1648	1664	1498	1664	1498	L-6	347.2/329.1	6800x2060x3730	28350
<b>BGE-2000</b>	12V228	-	-	2615	2353	2397	2157	2179	1961	V-12	457/431.7	8765x2030x3050	35500
<b>BGE-2100</b>	8L250	2663	2397	2441	2198	2219	1998	2219	1998	L-8	468.7/416.5	8870x2060x3730	37600
<b>BGE-2800</b>	16V228	-	-	3486	3137	3196	2876	2905	2614	V-16	596/560	10000x2030x3050	48600
<b>BGE-2900</b>	12V250	3936	3543	3633	3271	3330	2998	3028	2726	V-12	646/576.3	12395x1905x3962	53954
<b>BGE-3900</b>	16V250	5249	4721	4846	4358	4442	3995	4038	3632	V-16	834/735.3	12395x1905x3962	63472

**\* Note**

1. Fuel consumption is based on Continuous 100% output (60Hz).
2. Rated Speed: 1,000 RPM(50Hz)/900 RPM(60Hz)
3. Above data may change according to manufacturer's technical policy without prior notice.



# MAIN PRODUCTS

## DIESEL ENGINE GENERATOR

With Digital Control System (Enclosure Type)



### FEATURES

#### CANOPY

- Lockable 5 or 6 doors for easy maintenance and operation
- Safety glass for watching of control panel.
- Direct-mounted to a sub-base fuel tank.
- Electrostatic polyester powder paint.
- Thermally insulated engine exhaust system.
- Easy cable access, lifting and moving
- Easy access to generator and engine control components for servicing.

#### ENGINE

- DOOSAN diesel engine.
- Four cycle, water cooled
- Direct injection fuel system
- 24V D.C starting and charging alternator
- Replaceable fuel filter, oil filter and dry element air filter
- Direct coupled cooling radiator and fan
- Starting battery (lead acid) including rack and connection cables.
- Flexible fuel connection hoses and manual oil sump drain valve.
- Industrial type exhaust silencer and bellows.
- Jacket water heater (option)

#### ALTERNATOR

- BOKUK alternator
- Brushless, single bearing system, 4poles.
- Insulation Class H.
- Degree of protection IP21 (standard)
- Aux - winding type exciting system.
- Epoxy resins and vacuum impregnation.
- Precised automatic voltage regulator

#### STEEL BASE FRAME

- Heavy-duty fabricated steel base frame for completer generator set.
- Antivibration pads or spring between the engine and alternator feet and the base frame.

### STANDARD CONTROL SYSTEM

#### FEATURES

- Automatic engine starting and stopping.
- Graphical icon type LCD display.
- PC configurable via MS-Windows based software.
- Simple selector switching type control operation.

#### MEASUREMENT DISPLAY

Generator phase-neutral voltage	Battery voltage
Generator phase-phase voltage	Engine running hour
Generator current L1, L2, L3	Power factor
Generator frequency Hz	Apparent power
Engine speed RPM	Active power
Engine lub. Oil pressure (Psi & bar&Kpa)	Reactive power
Engine coolant temperature	

#### ALARM & PROTECTION

Generator voltage low	Engine speed low
Generator voltage high	Engine speed high
Generator frequency, high/low	Engine lub, Oil pressure low
Emergency stop	Engine coolant temp high
Battery voltage low	Engine start failure
Battery voltage high	Sensor failure
Generator over current	

## DOOSAN Diesel Engine (14kW~660kW) (Enclosure type)

ITEM		MODEL	UNIT	BDS-20		BDS-30		BDS-50		BDS-60		BDS-90		BDS-130		BDS-175		BDS-200		BDS-250		BDS-275		
SET	Output	Standby (50Hz/60Hz)	kW	16	20	26	30	43	50	50	60	70	90	100	130	159	175	182	200	229	250	242	275	
		Prime (50Hz/60Hz)		14	18	24	27	40	45	45	55	64	82	91	118	130	145	155	175	208	227	214	250	
ENCLOSURE	Dimension	L	mm	2,200		2,400		2,500		2,850		2,800		3,000		3,310		3,400		3,830		3,830		
		W	mm	920		1,000		1,000		1,000		1,000		1,100		1,200		1,300		1,300		1,300		
		H	mm	1,350		1,730		1,830		1,560		1,560		1,730		1,690		1,950		2,000		2,000		
	Dry Weight				1,400		1,500		1,600		1,700		2,100		2,400		2,900		3,000		3,400		3,500	
	Fuel Tank Capacity				90		100		100.0		100.0		150.0		140.0		200.0		200.0		250.0		300.0	
ENGINE	Model			WP2.3D25E201	WP3.9D40E2	WP4.1D54E201	WP4.1D70E201	D1146	D1146T	P086TI-1 DE12T	P086TI	P126TI P126TI-3	P126TI-2											
	Output	Standby (50Hz/60Hz)	kWm	21	24	39	47	50	60	58	70	85	105	118	149	164	199	199	223	272	276	272	298	
		Prime (50Hz/60Hz)		18	22	36	43	45	54	53	64	77	96	107	125	149	180	177	205	241	252	241	278	
	Displacement		cc	2,300		2,300		4,100		4,100		8,071		8,071		8,071 11,051		8,071		11,051		11,051		
	Number of Cylinder		ea	4		4		4		4		6		6		6		6		6		6		
	Aspiration			Natural						Turbocharged						Turbo Intercooler								
	Coolant Capacity		l	5.0		5.0		13.0		13.0		14.0		14.0		14.0 19.0		14.0		19.0		19.0		
	Lube Oil Capacity		l	9.0		9.0		13.0		13.0		15.5		15.5		15.5 23.0		15.5		23.0		23.0		
	Fuel Consumption	Prime 50Hz	25%	l/hr	2.0		3.3		3.6		4.4		7.5		8.2		10.7		11.3		14.8		16.4	
			50%		2.6		4.6		5.1		6.1		11.3		13.6		19.0		21.1		27.0		30.0	
			75%		3.8		7.2		7.9		9.5		15.9		19.5		28.5		31.7		39.2		43.6	
			100%		4.8		9.3		10.2		12.6		20.6		25.9		38.8		43.1		52.3		58.1	
		Prime 60Hz	25%	2.1		4.2		4.6		5.5		8.9		11.4		15.1		13.8		18.3		20.3		
50%			3.1		5.7		6.3		7.6		13.6		18.1		24.9		25.1		32.6		36.2			
75%	4.5		8.7		9.6		11.5		19.0		24.9		34.9		37.7		47.1		52.3					
100%		5.6		11.3		12.5		15.0		24.7		32.5		45.8		50.6		63.3		70.3				
Battery		Ah	1x100		1x100		2x100		2x100		2x120		2x120		"2x120		2x120		2x150		2x150			

ITEM		MODEL	UNIT	BDS-300		BDS-320		BDS-330		BDS-360		BDS-400		BDS-450		BDS-500		BDS-550		BDS-610		BDS-660		
SET	Output	Standby (50Hz/60Hz)	kW	264	300	280	320	-	330	317	360	365	400	400	450	440	500	503	550	528	610	560	660	
		Prime (50Hz/60Hz)		240	273	255	291	-	305	286	327	322	364	364	409	400	455	456	500	480	555	508	600	
ENCLOSURE	Dimension	L	mm	3,830		4,100		4,100		4,100		4,100		4,100		4,100		4,400		4,400		4,750		
		W	mm	1,300		1,600		1,600		1,600		1,600		1,600		1,600		1,600		1,600		1,700		
		H	mm	2,000		2,150		2,150		2,150		2,150		2,150		2,150		2,200		2,200		2,350		
	Dry Weight				3,800		4,300		4,500		4,500		4,500		4,900		5,400		5,800		5,800		6,000	
	Fuel Tank Capacity				300.0		350.0		400.0		400.0		400.0		400.0		400.0		400.0		400.0		400.0	
ENGINE	Model			P126TI-2	DP126LA	DP126LA	DP126LB	P158LE	DP158LC	DP158LD	DP180LA	DP180LB	DP180LB DP222LA											
	Output	Standby (50Hz/60Hz)	kWm	294	342	321	375	-	375	362	402	414	458	449	513	510	556	552	615	612	661	612	737	
		Prime (50Hz/60Hz)		265	307	293	346	-	346	327	366	363	402	408	466	464	505	502	559	556	601	556	670	
	Displacement		cc	11,051		11,051		11,051		11,051		14,618		14,618		14,618		18,273		18,273		21,927		
	Number of Cylinder		ea	6		6		6		6		8		8		8		10		10		12		
	Aspiration			Turbo Intercooler																				
	Coolant Capacity		l	19.0		23.0		23.0		23.0		20.0		20.0		21.0		21.0		23.0				
	Lube Oil Capacity		l	23.0		44.0		44.0		44.0		28.0		22.0		22.0		34.0		34.0		40.0		
	Fuel Consumption	Prime 50Hz	25%	l/hr	16.9		17.9		17.9		20.2		23.7		27.6		30.3		35.4		38.6		38.6	
			50%		31.3		34.3		34.3		38.4		43.9		48.9		55.1		64.8		71.2		71.2	
			75%		47.0		51.1		51.1		57.1		65.1		72.9		83.4		94.2		103.8		103.8	
			100%		63.1		68.1		68.1		76.0		89.3		99.6		115.1		123.6		136.4		136.4	
		Prime 60Hz	25%	20.6		22.5		22.5		24.0		28.0		32.3		35.2		38.6		41.2		44.5		
50%			37.0		40.8		40.8		43.4		50.6		57.7		62.3		72.6		77.7		82.6			
75%	56.0		60.1		60.1		64.0		74.7		83.4		92.9		106.6		114.2		120.4					
100%		73.8		80.5		80.5		85.8		102.5		111.5		127.1		140.5		150.7		161.7				
Battery		Ah	2x150		2x200		2x200		2x200		2x200		2x200		2x200		2x200		2x200		2x200			

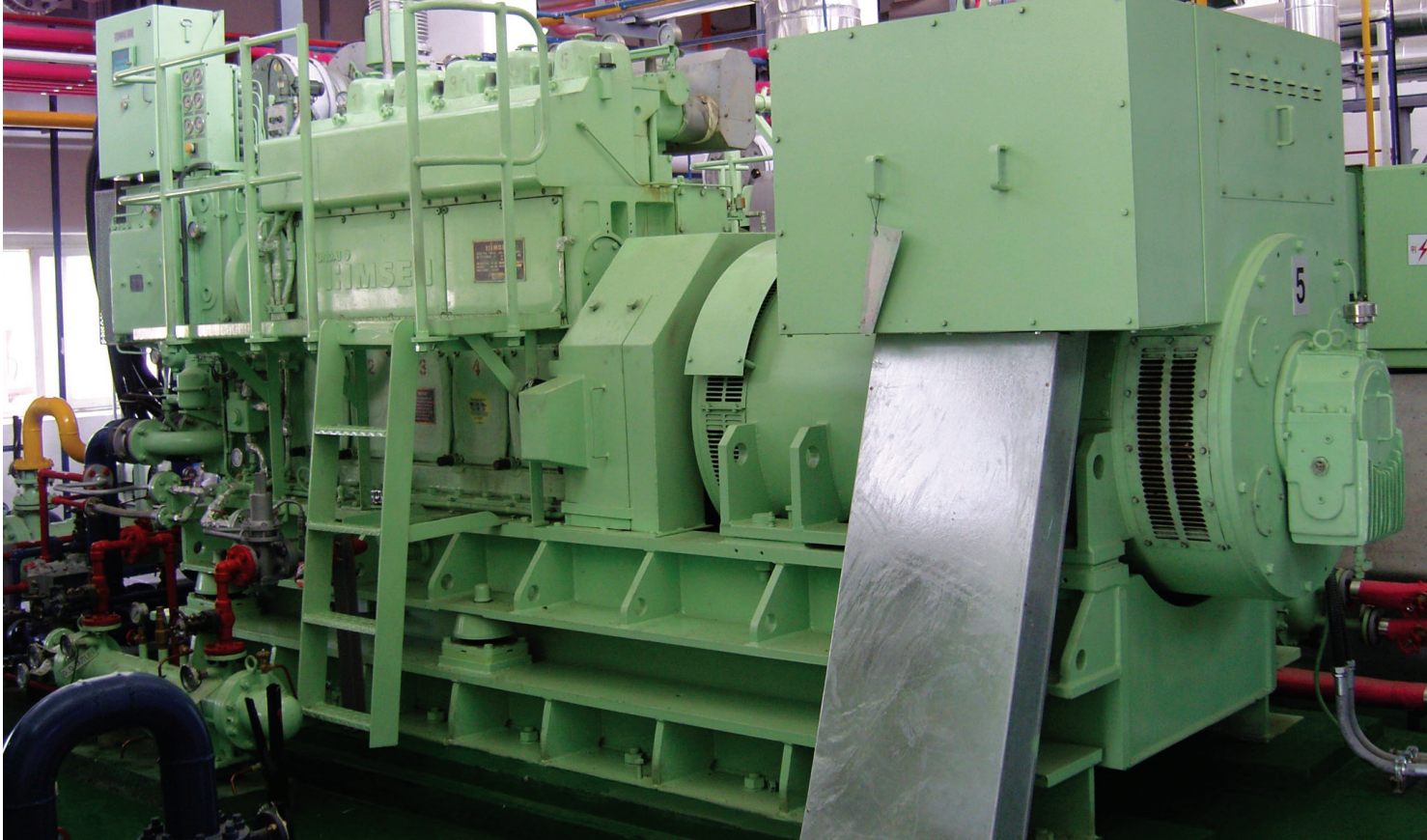
\* Note

1. Applied engine: BDS20~BDS50 (Weichai)/BDS60~BDS660 (Doosan)
2. Circuit Breaker : BDS20~BDS320 (MCCB)/BDS360~BDS660 (ACB, option)

3. As for noise level of each model, please contact sales/technical department of our company
4. Above data may be changed according to manufacturer's technical policy without prior notice

# MAIN PRODUCTS

## DIESEL / GAS POWER PLANT (PACKAGE)



### FEATURES

#### Power Plant Engineering

Not limited to emergency power sources Bokuk is one of electrical power sources wherever it requires high technology and all the processes of designing, production, installation and commissioning. It will be carried on through accumulated experience, technical help and advice for accurate performance the job demands

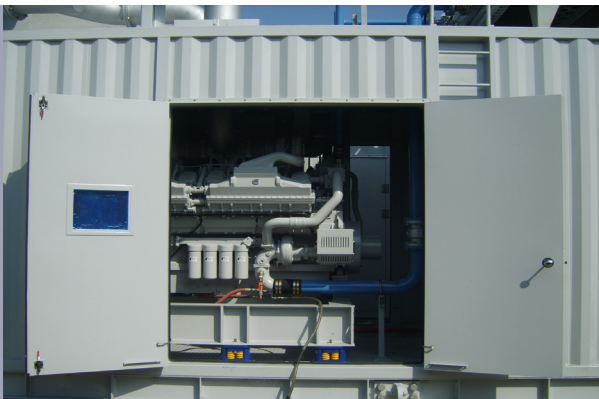
#### Application

- The Internal combustion power plant for the island
- Power generating systems for sewage treatment system
- Water supply and drainage pump stations
- Co-Generations system
- Continuous or Temporary Power plant

#### \* Note

1. Rated Speed : 1500/1800 rpm or 720/750/900/1000 rpm
2. Fuel : Diesel oil or HFO
3. Unit Capacity : 500kW~6,000kW (Parallel : 10MW~100MW)





## FEATURES

### Diesel / Gas Power Package

- Accumulated Power System Technology by various experience
- Precise and practical design in accordance with customer's requirement
- Economical and best performance on site condition
- Unit or Parallel operation according to project requirement
- Continuous or Temporary Power plant

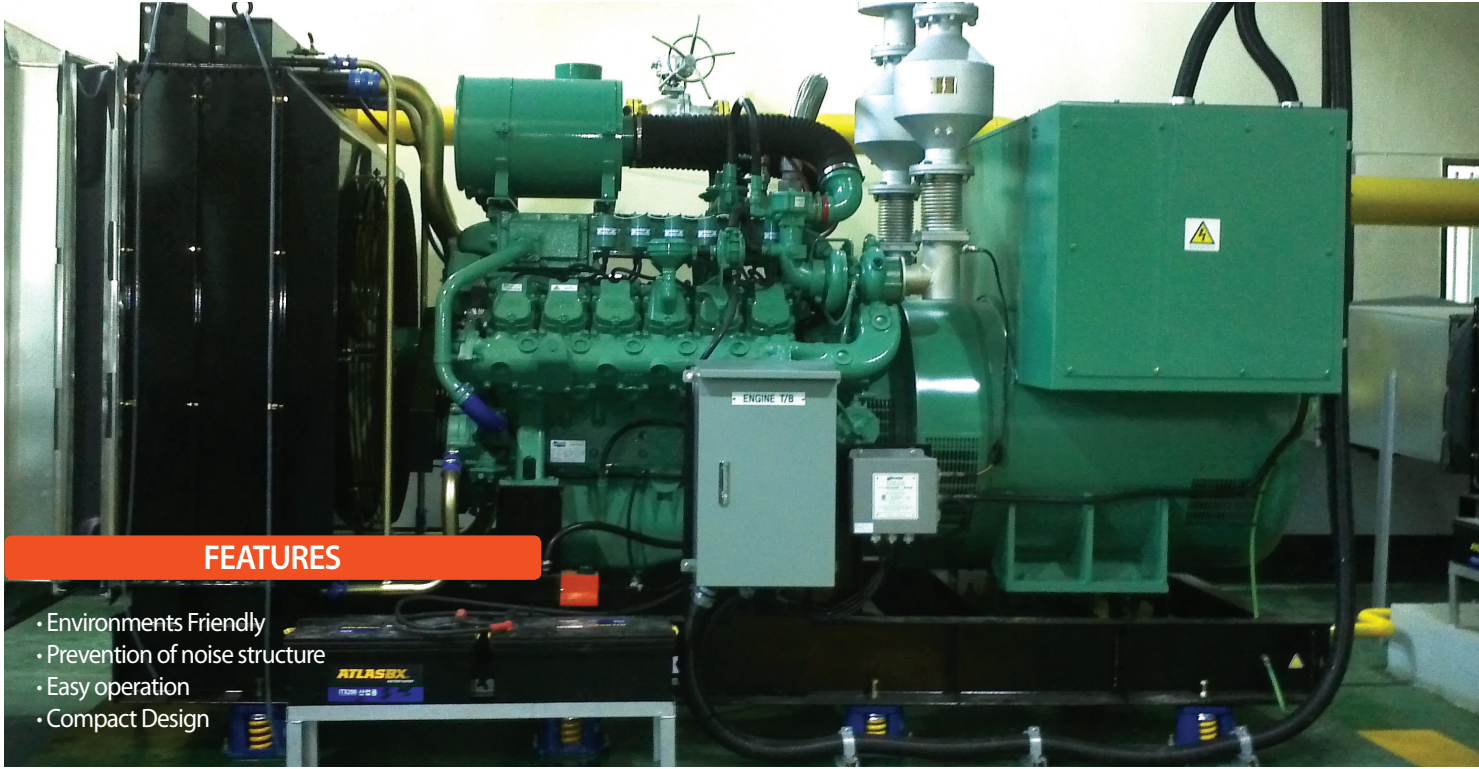
\* Note

1. Rated Speed: 1500/1800 rpm or 720/750/900/1000 rpm
2. Fuel: Diesel oil or HFO
3. Unit Capacity: 500kW~3,000kW



# MAIN PRODUCTS

## GAS ENGINE GENERATOR



### FEATURES

- Environments Friendly
- Prevention of noise structure
- Easy operation
- Compact Design

## Doosan Engine

			BGG-130 (50Hz/60Hz)	BGG-170 (50Hz/60Hz)	BGG-230 (50Hz/60Hz)	BGG-290 (50Hz/60Hz)	BGG-350 (50Hz/60Hz)	
Electric Output	Standby	kW	121/143	170/198	220/264	280/330	342/396	
	Prime	kW	110/130	154/180	199/240	254/330	301/360	
	Continuous	kW	98/117	138/162	178/216	227/270	278/324	
	Voltage	V	380					
	Frequency	Hz	50/60					
Generator	Type	Brushless						
	phase	3φ4W						
	Pole	4						
	Power Factor	0.8						
Engine	Model		GE08TIR	GE12TIR	GV158TIR	GV180TIR	GV222TIR	
	Type	Radiator water cooled, 4stroke, turbo charger & intercooler						
	Displacement	cc	8071	11051	14618	18273	21927	
	Rated Speed	rpm	1500/1800					
	No.Cylinder		6	6	8	10	12	
	Compression ratio		10.5 : 1					
	Coolant Capacity	Liter	12	19	20	23	23	
Lube Oil Capacity	Liter	7~21	20~23	17~21	28~35	33~40		
Fuel Type	Type	Natural Gas						
	LHV	kcal/Nm3	9318					
	Pressure	kPa	5					
	Flow rate	Nm3/h	34/39	47/51	66/67	82/87	99/100	
Skid Type Size	Dimension(LxWxH)	mm	3000X1150X1800	3000X1150X1800	3300X1500X1850	3450X1620X1990	3600X1620X1990	
	Weight	kg	2100	2100	3000	5000	5000	



## MAN Engine

			BGG-130T (50Hz/60Hz)	BGG-170T (50Hz/60Hz)	BGG-230T (50Hz/60Hz)	BGG-290T (50Hz/60Hz)	BGG-350T (50Hz/60Hz)
Electric Output	Continuous	kW	-/130	182/174	245/235	-/300	357/355
	Voltage	V	400/480				
	Frequency	Hz	50/60				
Generator	Type		Brushless				
	phase		3φ4W				
	Pole		4				
	Power Factor		1 / 0.8				
Engine	Model		-/8.1L CAC	E3066 L9/11.1L CAC	E3042 D4/14.6L CAC	-/18.3L CAC	E3042 L9/21.9L CAC
	Type		Radiator water cooled, 4stroke, turbo charger & intercooler				
	Displacement	Liter	/8.1	12.36/11.1	22.56/14.6	-/18.3	22.56 / 21.9
	Rated Speed	rpm	1500/1800				
	No.Cylinder		-/6	6/6	12/8	-/10	12/12
Fuel Type	Type		Natural Gas				
	Pressure	kPa	1.74~2.79				
	Flow rate	Nm3/h	-/39.7	49/56.1	65.4/78.2	-/92	92.2/109.3
Skid Type Size	Dimension (LxWxH)	mm	-	3400X1700X2100/ 3067X1591X2026	4000X1700X2200/ 4064X2506X2404	-	4000X1700X2200/ 4369X2760X2413
	Weight	kg	-/2562	3096	4055	4741	5228

## CUMMINS Engine

			BGG-1000C (50Hz/60Hz)	BGG-1250C (50Hz/60Hz)	BGG-1400C (50Hz/60Hz)	BGG-1750C (50Hz/60Hz)	BGG-2000C (50Hz/60Hz)
Electric Output	Continuous	kW	995/1000	1200/1250	1400/1400	1750/1750	2000/2000
	Voltage	V	220/380				
	Frequency	Hz	50/60				
Generator	Type		Brushless				
	phase		3φ4W				
	Pole		4				
	Power Factor		1				
Engine	Model		QSK60G	QSK60G/QSV91G	QSK60G	QSV91G	QSV91G
	Type		Radiator water cooled, 4stroke, turbo charged				
	Displacement	cc	60000	60000/91600	60000/60300	91600	91600
	Rated Speed	rpm	1500/1800				
	No.Cylinder		16	16 / 18	16	18	18
	Compression ratio		13.7 : 1 / 12.7:1	13.7:1 / 12:1	13.7:1 / 11.4:1	12:1	12.5:1
	Coolant Capacity	Liter	215	215 / 719	215	719	557
Lube Oil Capacity	Liter	380	380 / 560	380	560	550	
Fuel Type	Type		Natural Gas				
	LHV	mJ/Nm3	33.44				
	Pressure	kPa	20				
	Fuel Consumption	kW	2425/2412	2836/3327	3270/3795	4513/4600	4513/4600
Skid Type Size	Dimension(LxWxH)	mm	5120X2320X2770	5120X2320X2770	5120X2320X2770	5921X1720X3136	5921X1720X3136
	Weight	kg	14440/15625	15625/19337	15625/13924	19633/21089	19633/21089

# MAIN PRODUCTS

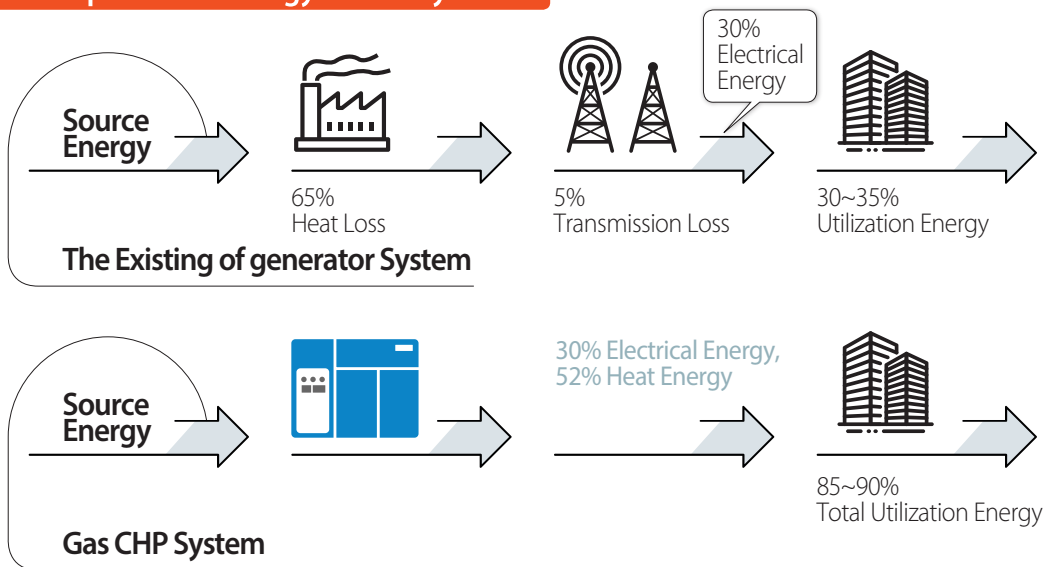
## GAS CHP SYSTEM

### FEATURES

- Environments friendly
- Prevention of noise structure
- Inexpensive and quick maintenance
- Excellent durability
- Economical high efficiency



### Comparison of energy efficiency



### Application



## DOOSAN Engine

		BGC-130 (50Hz/60Hz)	BGC-170 (50Hz/60Hz)	BGC-230 (50Hz/60Hz)	BGC-290 (50Hz/60Hz)	BGC-350 (50Hz/60Hz)	
Continuous electric output	kW	108/128	148/171	195/231	248/294	300/354	
Speed	rpm	1,500/1,800	1,500/1,800	1,500/1,800	1,500/1,800	1,500/1,800	
Combined Efficiency	%	88.4/88.7	88.6/89.6	88.2/87.7	88.0/87.3	88.7/88.3	
Electrical Efficiency	%	34.6/33.8	34.7/33.8	34.8/33.3	34.4/33.0	33.6/32.9	
Thermal Efficiency	%	53.8/54.9	53.9/55.8	53.4/54.4	53.6/54.3	55.1/54.4	
Fuel Consumption	Nm <sup>3</sup> /h	28.6/34.7	39.1/46.3	51.3/63.5	66.1/81.5	81.8/98.4	
Total Thermal Energy Output	kcal/h	144,500/178,900	197,800/242,500	257,100/324,200	332,800/415,400	423,100/511,700	
Water Flow Rate	m <sup>3</sup> /h	7.4/9.2	10.2/12.5	13.2/16.7	17.1/21.4	21.8/26.3	
Supply-Return Temp	°C	70/90	70/90	70/90	70/90	70/90	
Engine Model		GE08TIC	GE12TIC	GV158TIC	GV180TIC	GV222TIC	
Generator Specification	Voltage	V	380/220				
	Type		Brushless, Double Bearing type				
	Phase		3Φ4W				
	Pole		4				
	Efficiency	%	94/95	94/95	94/95	95/96	95/96
Noise	dB(A)	< 75					
Fuel	Type		Natural Gas				
	LHV	kcal/Nm <sup>3</sup>	9,393				
Gas pressure from engine inlet	kPa			5.5			
Package Size	Dimensions(L X W X H)	m	3.36X2.15X2.1	3.36X2.15X2.2	3.5X2.15X2.2	4.0X2.4X2.5	4.0X2.4X2.5
	Weight	kg	6,000	6,500	7,500	8,000	8,500

## MAN Engine

		BGC-130M (50Hz/60Hz)	BGC-170M (50Hz/60Hz)	BGC-230M (50Hz/60Hz)	BGC-290M (50Hz/60Hz)	BGC-350M (50Hz/60Hz)	
Continuous electric output	kW	64/65	103/105	197/200	252/283	-/384	
Speed	rpm	1,500/1,800	1,500/1,800	1,500/1,800	1,500/1,800	-/1,800	
Combined Efficiency	%	89.2/87.8	85.8/86.1	85.5/86.1	84.2/86	-/87.9	
Electrical Efficiency	%	36.1/35.9	36.7/35.3	36.6/35.3	37/36.5	-/37.6	
Thermal Efficiency	%	53.1/51.9	49.1/50.8	48.9/50.8	47.2/49.5	-/50.3	
Fuel Consumption	Nm <sup>3</sup> /h	16/16.7	26/27.3	49.6/52.3	62.8/71.6	-/94.2	
Total Thermal Energy Output	kcal/h	80,840/80,840	115,357/126,224	219,847/240,745	268,330/320,993	-/441,180	
Water Flow Rate	m <sup>3</sup> /h	4.2/4.2	5.6/6.5	11.3/12.4	13.8/15.6	-/22.7	
Supply-Return Temp	°C	70/90	70/90	70/90	70/90	70/90	
Engine Model		E0834 LE302	E0836 LE202	E2876 LE302	E2848 LE322	-/332	
Generator Specification	Voltage	V	380/220				
	Type		Brushless, Double Bearing type				
	Phase		3Φ4W				
	Pole		4				
	Efficiency	%	94/95	94/95	94/95	95/96	95/96
Noise	dB(A)	< 75					
Fuel	Type		Natural Gas				
	LHV	kcal/Nm <sup>3</sup>	9,318				
Gas pressure from engine inlet	kPa			5			
Package Size	Dimensions(L X W X H)	m	3.36X2.15X2.1	3.36X2.15X2.2	3.5X2.15X2.2	4.0X2.4X2.5	4.0X2.4X2.5
	Weight	kg	6,000	6,500	7,500	8,000	8,500

\* Note

- Noise level is based on 7m distance from enclosure.
- 5% tolerance for energy consumption and electric outputs listed
- The data given in this subject to change without notice
- Emission is possible less than Nox 50ppm

# MAIN PRODUCTS

## GAS TURBINE GENERATOR (1MW~5MW)

### FEATURES

Capable of converting the expansion of combustion gas into direct rotary power.

Offer high output with minimum space usage, Both the gas turbine and system are compact and 99.3% start-up reliability.

This turbine is environmentally-friendly, as it discharges colorless and low-pollution gas without causing vibration.

#### High Reliability

- 99.3% start-up reliability due to simplicity of the turbine and system architecture

#### Powerful Design

- Maximum output is assured with minimum space usage.

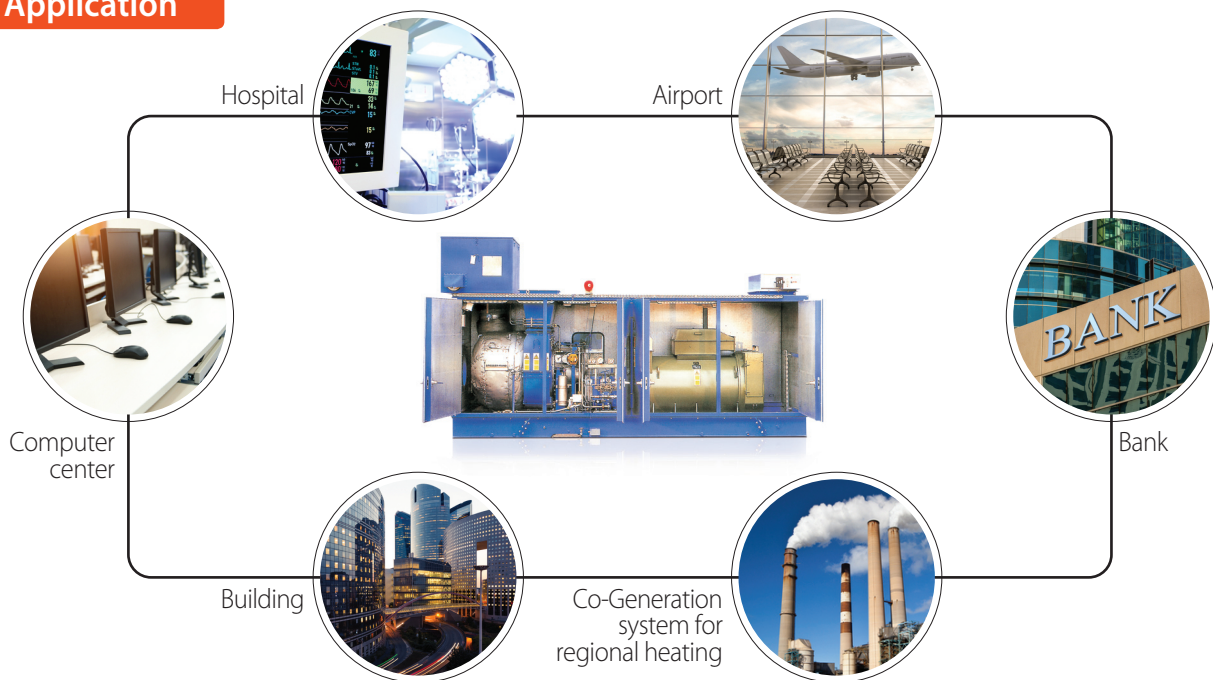
#### Environmentally-Friendly

- Quiet performance with low-pollution and no vibration.



<With Siemens Gas Turbine>

### Application



# PHOTOVOLTAIC POWER SYSTEM

## FEATURES

ITEM	TYPE	
	Grid Connected(On-Grid) Type	Stand-Alone(Off-Grid) Type
<b>Main equipment</b>	Solar module Module structure (if need) Inverter Junction box Cable	Solar module Module structure(if need) Inverter & related item Battery Charge controller Junction box Cable Others
<b>Application</b>	House, building, plant & other places with grid power	Area at no grid power

### Application



### SMAFA(Solar Monitoring and Fault Analysis) system (option)



# MAIN PRODUCTS

## SOLID INSULATED LOAD BREAK SWITCH



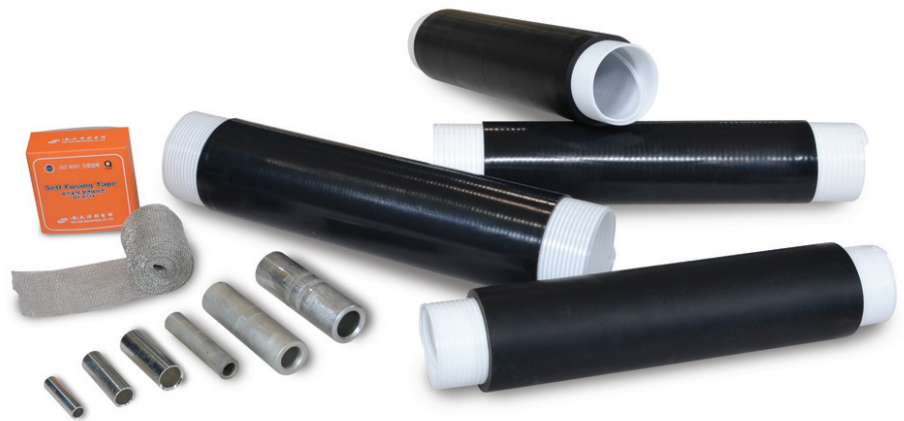
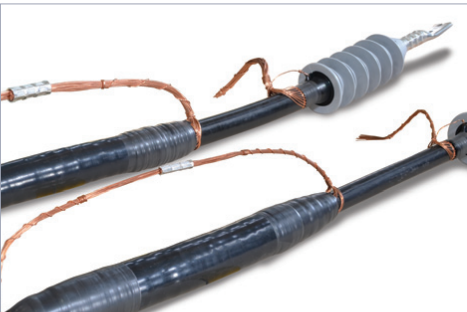
### Application

	Rated voltage	25.8kV	
	Rated current	630A	
	Rated frequency	60Hz	
	Short time withstand current	12.5 kA/1sec	
	Rated short circuit making current	32.5kA(peak)	
Performance	Load (100%)	630A	
	Load( 5%)	31.5A	
	Zero voltage open and close performance	5000 time	
Dielectric strength	AC withstand voltage	To ground	60kV/1min
		Pole to pole	60kV/1min
		Phase to phase	60kV/1min
	Impulse withstand voltage	To ground	150kVp
		Pole to pole	150kVp
		Phase to phase	150kVp
	Rated control power	AC220V	
		DC24V	
	Weight	110kg	

# 23KV COLD SHRINKABLE SPLICE JOINT

## FEATURES

- Reduce installation time and faulty construction using one piece termination
- Using liquid silicone rubber
- Used for various cable
- Directly use after installation
- 100% water proof
- Easy to install



## Application

Rated voltage			23kV
Rated frequency			60Hz
Short time withstand current			40kA/0.17sec
Continuous current rating equal to that of cable rating			
Short time current rating equal to that of cable rating up to 35kV			
Shield design meets IEEE Standard 592, Latest revision			
Connectors meet ANSI C 119.4 Class A and Class 3 ratings			
Zero voltage open and close performance			5000 time
Dielectric strength	AC withstand voltage	To ground	52kV/1min
	DC withstand voltage		105kV/15min
	Impulse withstand voltage		150kV
	Impulse withstand voltage (130°C)		150kV
	Partial discharge		3PC/26.4kV



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