Global Solution Provider

50Hz

kirloskar
Oil Engines

About Us

- Kirloskar Oil Engines Limited, founded in 1946 and popularly known as KOEL, possesses more than 7 decades of engineering excellence.
- India's leading manufacturer of diesel engines and generating sets.
- Manufacturing facilities located at Kagal, Nashik and Rajkot (India).
- Annual production of over 225,000 diesel engines from 4 hp to 11,000 hp and 12,000 generating sets.
- Independent research & engineering cell using high end engine design software and emission testing labs.
- Engines used for more than 100 different applications and supplied to over 50+ countries.
- A brand associated with trust.

Manufacturing Facilities

- Engines & generating sets are fully manufactured by us at our state of the art plant at Kagal located near the city of Kolhapur in India.
- Critical components like crankcase, crankshaft, camshaft, cylinder head, connecting rod, gear casing and many more are manufactured in-house.
- Adopting the principles of Toyota Production systems, we utilize the best combination of man, machine and method for efficiency, speed and high quality.
- At Kirloskar, we believe that industry and environment can and must coexist in a mutually beneficial way. This thought has been brought into practice whereby not only are our generating sets eco-friendly, but they are also manufactured in an eco-friendly way.

In pursuance of Zero Defect –

- Total Quality Management Systems (TQMs) – A combination of ISO9001, ISO14001 and OHSAS 18001 for quality, environment and safety.
- Quality First principle being the chosen value system, KOEL continuously takes various measures to pursue Zero defect product.

Thoughtful Design. Unmatched Features. Immense Benefits.

Kirloskar generating sets have been designed giving highest consideration to end users, offering unmatched features and immense benefits to them. From easy installation and increased reliability to faster service, lower maintenance costs and increased uptimes. Kirloskar generating sets offer distinct advantages which set new standards in engineering.
That's Kirloskar Generating Sets for You !

- **Unmatched Features**
- **Low fuel consumption**
- **Extended service intervals**
- **Low maintenance cost**
- **Easy installation**
- **500 hours service interval*** subject to usage of 15W40-CI4 grade oil.

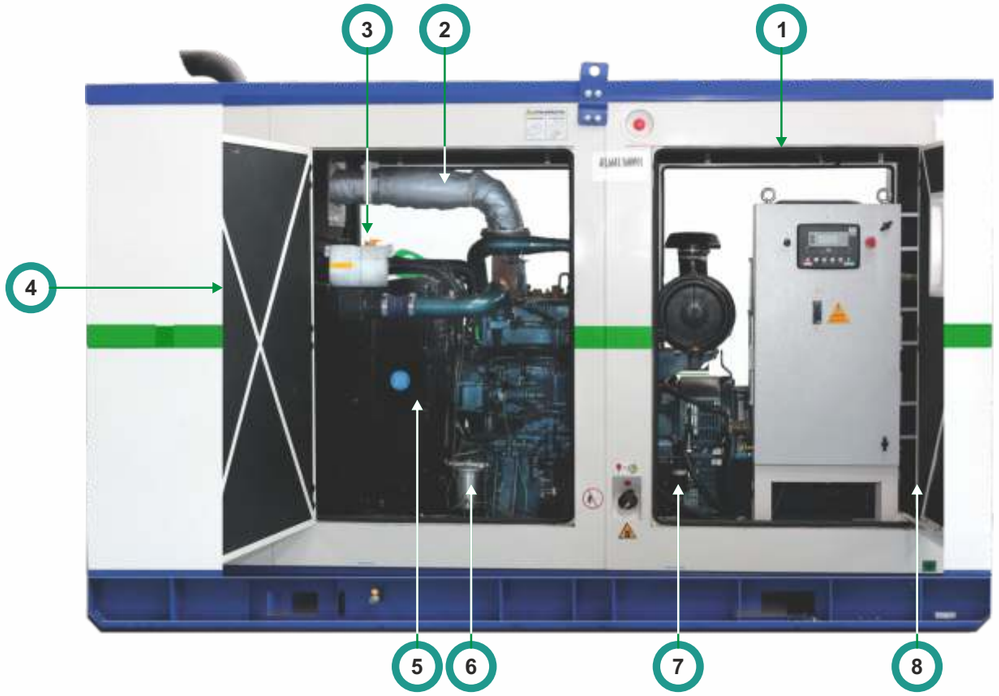
* Except 1010 kVA

External Features

1. **Door for radiator access**
   Access to radiator for faster service.
2. **Silencer mounted inside canopy**
   Improved safety & reduced sound level
3. **Mesh on exhaust tail pipe**
   Prevents entry of pests / rodents
4. **Top lifting arrangement**
   Easy to lift by crane
5. **Emergency stop switch**
   Easily accessible on canopy for stopping
6. **Glass window on canopy**
   Easy to read generating set parameters & safe
7. **Stainless steel door hinges**
   Heavy-duty, anti-corrosive & long lasting
8. **Fuel tank full with indicator lamp**
   Prevents fuel spillage / wastage & improves safety
9. **Lockable fuel filling spout**
   Ease for refueling
10. **Stainless steel door locks**
    High durability & improved security
11. **Coolant drain arrangement**
    Easy access for faster service
12. **Pockets for forklift** Facilitates easy handling & installation

Provision of gland plate
Easy cable entry & improved safety

Internal Features



1. **High quality door rubber beading**
   Better sound attenuation & ingress protection
2. **Heat insulated exhaust line**
   Improved engine cooling efficiency & serviceability
3. **Coolant level sensor**
   Supplementary engine protection
4. **High quality PU foam**
   Superior sound attenuation, long life, dust resistant & fire retardant
5. **Guard for rotating parts**
   Enhanced safety
6. **Water separator as a standard feature**
   Prevents water entry into engine
7. **Lube oil drain pump**
   Faster oil drain, reduces downtime, eliminates need of additional tray
8. **Control panel door stopper**
   Facilitates service & improves safety

Longer fuel tank breather tube
Prevents fuel spillage due to overfilling

Dual Fuel gauge (Mechanical + Electrical)
Easy fuel level reading while re-fueling

High efficiency LED lamp
Extra bright & low power consumption

SMF batteries

TECHNICAL SPECIFICATIONS - 3 PHASE, 4 WIRE, 0.8 PF

50 Hz

GENERATING SETS

Model		Open	17W50	22W50	33W50	44W50-3	44W50-4	69W50	91W50	110W50	138W50	176W50	220W50	275W50	352W50	440W50	550W50	660W50	825W50	1111W50
		SAE	17WS50	22WS50	33WS50	44WS50-3	44WS50-4	69WS50	91WS50	110WS50	138WS50	176WS50	220WS50	275WS50	352WS50	440WS50	550WS50	660WS50	825WS50	1111WS50
Voltage	L-L	V	380 400 415	380 400 415	380 400 415	380 400 415	380 400 415	380 400 415	380 400 415	380 400 415	380 400 415	380 400 415	380 400 415	380 400 415	380 400 415	380 400 415	380 400 415	380 400 415	380 400 415	380 400 415
	L-N	V	220 230 240	220 230 240	220 230 240	220 230 240	220 231 240	220 230 240	220 230 240	220 230 240	220 230 240	220 230 240	220 230 240	220 230 240	220 230 240	220 230 240	220 230 240	220 230 240	220 231 240	220 230 240
Standby Power Output	ESP	kVA	16.5	22	33	44	44	69	91	110	138	176	220	275	352	440	550	660	825	1111
		kW	13.2	17.6	26.4	35.2	35.2	55	72.6	88	110	140.8	176	220	281.6	352	440	528	660	888.8
Prime Power Output	PRP	kVA	15	20	30	40	40	62.5	82.5	100	125	160	200	250	320	400	500	600	750	1010
		kW	12	16	24	32	32	50	66	80	100	128	160	200	256	320	400	480	600	808
Fuel consumption (at % of PRP)	50%	L/Hr	2.0	2.6	3.7	5.1	5.1	7.6	9.7	10.7	15.5	19.1	24	29.8	40.5	46.4	61.2	70.7	83	120.6
	75%	L/Hr	2.7	3.6	5.1	6.9	6.9	10.8	13.8	17.7	20.7	25.0	31.9	41.9	55.3	61.6	75.6	92.7	115	161
	100%	L/Hr	3.4	4.7	6.7	9.1	9.1	14.4	18.3	22.5	26.8	34.0	42.3	55.1	70.8	80.4	97	123.7	152	208
Fuel Tank Capacity	Open	L	65	65	80	95	95	150	150	225	225	280	310	310	530	530	665	900	650	425
	SAE	L	43	43	75	95	95	150	150	225	225	350	310	310	530	530	860	930	990	900
Sound Level at 7m	SAE	dB(A)	70	70	70	70	70	70	70	70	70	70	70	70	70	70	75	75	80	80
Dimensions (LxWxH) (as per GA drawing)	Open	cm	141 x 104 x 133	141 x 104 x 133	150 x 109 x 134	175 x 109 x 136	175 x 109 x 136	211 x 106 x 146	211 x 106 x 146	224 x 104 x 160	224 x 104 x 160	259 x 133 x 173	311 x 154 x 170	311 x 154 x 170	339 x 166 x 220	339 x 166 x 220	365 x 184 x 235	379 x 178 x 236	398 x 230 x 240	454 x 210 x 251
	SAE	cm	198 x 97 x 123	198 x 97 x 123	218 x 101 x 145	256 x 111 x 146	256 x 111 x 170	297 x 116 x 166	297 x 116 x 166	327 x 116 x 193	327 x 116 x 193	372 x 116 x 211	437 x 162 x 198	436 x 167 x 223	498 x 211 x 228	498 x 211 x 228	525 x 212 x 257	566 x 211 x 257	580 x 230 x 253	687 x 230 x 250
Dry weight (net) approx.	Open	kg	650	700	790	840	840	1100	1200	1450	1510	1910	2320	2320	4250	4550	4750	5200	5880	8650
	SAE	kg	920	970	1100	1310	1310	1630	1950	2120	2180	2720	3440	3670	6000	6300	7100	7830	7850	13200

KIRLOSKAR ENGINE (LIQUID COOLED, 4 STROKE, DIESEL ENGINE)

Model			2R1040	2R1040	3R1040	3R1040TA	4R1040	4R1040TC	4R1040TA	4K1080TA	4K1080TA	6K1080TA	6SL1500TA	6SL8800TA	DV8	DV8	DV10	DV12	DV12ETAG12	DV16 ETA G1
Engine output	PRP	hp	27	27	42	56	56	83	105	156	156	200	248	310	400	490	608	750	901	1210
Cyls & configuration			2 - Inline	2 - Inline	3 - Inline	3 - Inline	4 - Inline	4 - Inline	4 - Inline	4 - Inline	4 - Inline	6 - Inline	6 - Inline	6 - Inline	8 - V	8 - V	10 - V	12 - V	12 - V	16 - V
Bore x Stroke		mm	105 x 120	105 x 120	105 x 120	105 x 120	105 x 120	105 x 120	105 x 120	105 x 125	105 x 125	105 x 125	118 x 135	118 x 135	130 x 150	130 x 150	130 x 150	130 x 150	130 x 150	130 x 150
Compression ratio			18:1	18:1	18:1	18:1	18:01	18:1	18:1	15.5:1	15.5:1	15.5:1	17.5:1	17.5:1	16.5:1	16.5:1	16.5:1	16.5:1	16.5:1	16.5:1
Displacement		L	2.08	2.08	3.12	3.12	4.16	4.16	4.16	4.32	4.32	6.48	8.86	8.86	15.91	15.91	19.9	23.88	23.88	31.86
Aspiration			Natural	Natural	Natural	TA	Natural	TC	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA	TA
Starting System (DC)		V	12	12	12	12	12	12	12	12	12	12	24	24	24	24	24	24	24	24
Governor			Mechanical	Mechanical	Mechanical	Mechanical	Mechanical	Mechanical	Mechanical	Electronic	Electronic	Electronic	Electronic	Electronic	Electronic	Electronic	Electronic	Electronic	Electronic	Electronic
Governing class as per ISO8528-5			G2	G2	G2	G2	G2	G2	G2	G2	G2	G2	G2	G3	G3	G3	G3	G3	G3	G3
Lub oil sump capacity - refill		L	5.5	5.5	7.5	7.5	9.5	9.5	9.5	14	14	18	21	21	38	38	42	42	53	130
Coolant capacity		L	10	10	12	12	24	24	24	49	54	54	43	43	123	123	133	144	166	180

ALTERNATOR (BRUSHLESS, SELF EXCITED, 4 POLE ALTERNATOR)

Make			Stamford	Stamford	Stamford	Stamford	Stamford	Stamford	Stamford	Stamford	Stamford	Stamford	Stamford	Stamford	Stamford	Stamford	Stamford	Stamford	Leroy Somer	Leroy Somer
Model			S0L2F1	S0L2M1	S1L2J1	S1L2N1	S1L2N1	UCI 224F1	UCI 224G1	UCI 274C1	UCI 274V1 / E1	UCI 274F1	UCI 274H1	UCI 274J1 / K1	HCI 444E1	HCI 444F1	HCI 544D1	HCI 544F1	LSA49.1M75	LSA49.1L11
No. of bearings			Single	Single	Single	Single	Single	Single	Single	Single	Single	Single	Single	Single	Single	Single	Single	Single	Single	Single
Insulation			Class H	Class H	Class H	Class H	Class H	Class H	Class H	Class H	Class H	Class H	Class H	Class H	Class H	Class H	Class H	Class H	Class H	Class H
Temp. rise at ambient 40°C		°C	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125
Wires			4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Ingress protection			IP23	IP23	IP23	IP23	IP23	IP23	IP23	IP23	IP23	IP23	IP23	IP23	IP23	IP23	IP23	IP23	IP23	IP23
AVR model			AS540	AS540	AS540	AS540	AS540	AS440	AS440	AS440	AS440	AS440	AS440	AS440	AS440	AS440	AS440	AS440	D350	D350
Voltage regulation		%	+/-1%	+/-1%	+/-1%	+/-1%	+/-1%	+/-1%	+/-1%	+/-1%	+/-1%	+/-1%	+/-1%	+/-1%	+/-1%	+/-1%	+/-1%	+/-1%	+/-1%	+/-1%

Notes -

DI - Auto start digital input is available as standard feature
SD- Shutdown
SAE : Sound Attenuated Enclosure
ESP : Emergency Standby Power rating
PRP : Prime Rated Power rating
CT : Current Transformer
LL : Line to Line
LN : Phase to Neutral
TC : Turbocharged
TA: Turbocharged Aftercooled
AVR : Automatic Voltage Regulator
MCB: Miniature Circuit Breaker
MCCB : Moulded Case Circuit Breaker

- The declared fuel consumption is calculated values with 0.845 specific gravity of diesel as per BS2869 class A2 and confirms to ISO3046 and has production tolerance of +5%.
- The declared weight and dimensions are approximate and for transportation purpose. Actual weight and dimensions are may vary as per the agreed scope. Mentioned height is without tail pipe

Definitions of Ratings as per ISO8528 -

PRP - PRP ratings are applicable for supplying continuous electrical power at variable load in lieu of commercial purchased power. There is no limitation to the annual hours of operation and this model can supply 10% overload for 1 hour in 12 hours.

ESP - ESP rating is defines as the maximum power available during a variable electrical power sequence, under the stated operating conditions, for which a generating set is capable of delivering in the event of utility power outage. This rating is applicable for 200hours of operation per year with the maintenance intervals and procedures being carried out. The permissible average power output over 24 hours of operation shall not exceed 70% of the ESP rating. No overload is permitted above ESP rating.

- For site conditions other than the standard reference conditions of ISO8528-1 the derating is applicable. Please contact nearest KOEL office for the available power calculation at given site conditions.
- The alternator models and controller models are of standard product and may vary as per the agreed scope.

Kirloskar Green Generating Set Specifications

Control System Features and Safeties

Controller Module	DSE4522 A2	DSE7320MKII
Models	17W50, 22W50, 33W50, 44W50, 69W50, 91W50, 110W50, 138W50, 176W50	220W50, 275W50, 352W50, 440W50, 550W50, 660W50, 825W50, 1111W50
	17WS50, 22WS50, 33WS50, 44WS50, 69WS50, 91WS50, 110WS50, 138WS50, 176WS50	220WS50, 275WS50, 352WS50, 440WS50, 550WS50, 660WS50, 825WS50, 1111WS50
On display screen		
Generating set Volts, Amps. Hz	✓	✓
Generating set kW, kVA, kVAr	✓	✓
Generating set per phase PF	✓	✓
generating set kWHr meter	✓	✓
Earth current (A)	No	✓
Grid (Mains) Voltage (L-L)	✓	✓
Battery Voltage (V)	✓	✓
Engine start attempts	No	✓
Engine Temperature (°C)	✓	✓
Engine speed (RPM)	✓	✓
Engine Run Hours (Hours & Min.)	✓	✓
Lube oil Pressure (kPa, PSI, bar)	✓	✓
Diesel fuel level (%)	✓	✓
Communication ports		
RS485	Yes	✓
RS232	No	✓

✓ - Available No – Not available ---- - Not applicable WR –Warning SD- Shutdown Ind – Indication DI – Digital Input

Controller Module	DSE4522 A2				DSE7320MKII			
Protections	WR	SD	Ind	DI	WR	SD	Ind	DI
Low oil pressure	No	✓	✓	-----	✓	✓	✓	-----
High coolant temperature	✓	✓	✓	-----	✓	✓	✓	-----
Low fuel level	✓	✓	✓	-----	✓	No	✓	-----
Low coolant level	No	✓	✓	-----	No	✓	✓	-----
Under / over speed	✓	✓	✓	-----	✓	✓	✓	-----
Low / high battery voltage	✓	No	✓	-----	✓	No	✓	-----
Low charge alternator	✓	No	✓	-----	✓	No	✓	-----
Emergency stop	No	✓	✓	-----	No	✓	✓	-----
Fail to start/ stop warning	✓	No	✓	-----	✓	No	✓	-----
Auto remote start/stop DI	----	----	----	✓	----	----	----	✓
Under / over voltage	✓	✓	✓	-----	✓	✓	✓	-----
Under / over frequency	✓	✓	✓	-----	✓	✓	✓	-----
Over kW / Overcurrent	No	✓	✓	-----	No	✓	✓	-----
Low load	No	No	No	-----	✓	✓	✓	-----
Incorrect phase sequence	No	No	No	No	No	✓	✓	-----
Reverse power	No	No	No	No	No	✓	✓	-----
Short circuit	No	No	No	No	No	✓	✓	-----
Earth fault	No	No	No	No	No	✓	✓	-----

✓ - Available No – Not available ---- - Not applicable WR –Warning SD- Shutdown Ind – Indication DI – Digital Input

Customize Your Power Needs - Optional Accessories

Generating set

- External bulk fuel tank of 1000L, 5000L, 10000L, 15000L
- Fuel transfer pump
- Fuel priming manual pump
- Fire extinguisher

Engine

- Cold start kit
- Battery isolator switch
- 1000hrs service interval kit for select ratings
- Jacket water heater 220V - 240V AC
- Lube oil temperature sensor

Alternator

- Alternator space heater
- Permanent magnet exciter (PMG) (for select ratings)
- Alternator inlet louver filters
- Droop current transformer (for select ratings)

Controls

- Static battery charger 12V 5A / 24V 10A
- ATS panel
- Dummy load bank
- Remote monitoring unit
- Synchronization panel for higher kVA solutions

Why Kirloskar?

Rich Heritage of

over a century

of engineering excellence

Designing and manufacturing diesel engines

since 1946

Annual sales of nearly

200,000 engines

Global presence covering more than

50+ countries

State-of-the-art

R&D and manufacturing facilities

Reliable Engines for Every Need!

Liquid Cooled Diesel Generating Sets

Global Presence

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