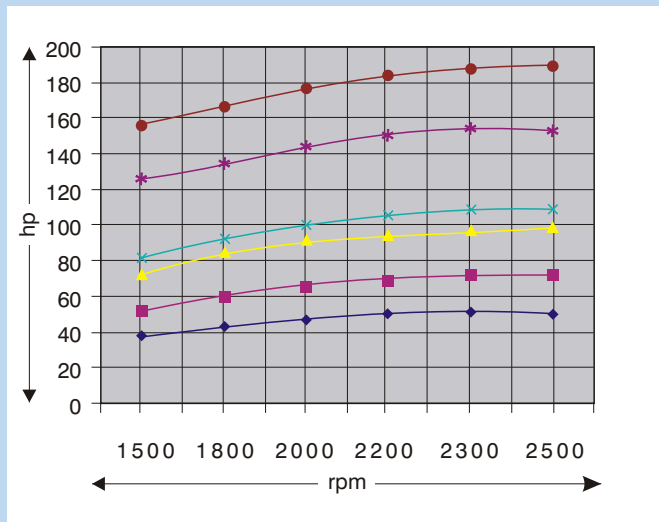
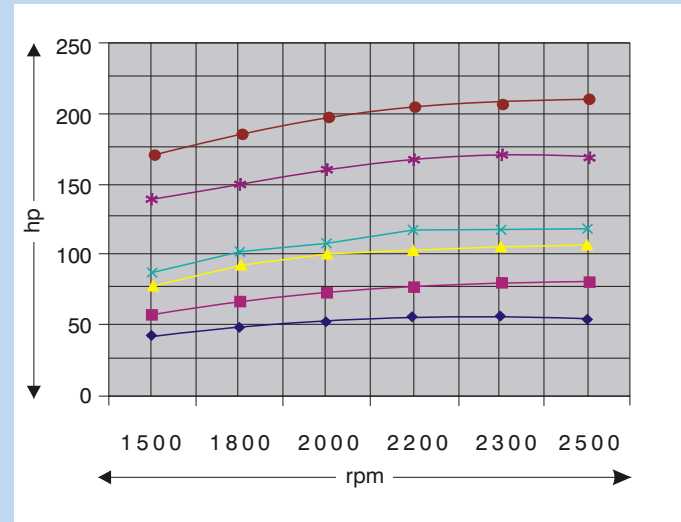


Horse power ratings as per IS 10002/BS:5514/DIN 6271/ISO 3046

Continuous Power Curve



Fuel Stop Power Curve



KIRLOSKAR OIL ENGINES LIMITED

Khadki, Pune - 411 003, India. Tel.: +91(20) 2581 0341, 2581 5341.

Fax: +91(20) 2581 3208, 2581 0209.

E-mail: kgpi@koel.co.in www.kirloskar.com/kgpi/home.html



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ZONAL OFFICES

● Ground Floor, D Block, Pruthvi Tower, Jodhpur Char Rasta, Ahmedabad - 380 015. Phone : +91(79) 2692 9687, 2692 4687. ● 2nd Floor, Shri Lakshmi Complex, 15, St. Marks Road, Bangalore - 560 001. Phone : +91(80) 2558 7562, 2558 7566, 2558 7569, 2558 7570. Fax : +91(80) 2558 7559. ● Nelson Tower, 1st Floor, 2nd Wing, 117, Nelson Manickam Road, Chennai - 600 029. Phone : +91(44) 2374 4624, 2374 4661, 2374 4875, 2374 4874. Fax : +91(44) 2374 4625. ● 8th Floor, Poonam Building, Flat Nos. 8A & 8B, 5/2, Russel Street, Kolkata - 700 071. Phone : +91(33) 2217 0858, 2217 0860, 2217 0861. Fax : +91(33) 2217 0859. ● UCO Bank Building, Parliament Street, New Delhi - 110 001. Phone : +91(11) 2371 1786, 2371 8544, 2371 9490, 2331 9484, 2331 9473. Fax : +91(33) 2371 0159.

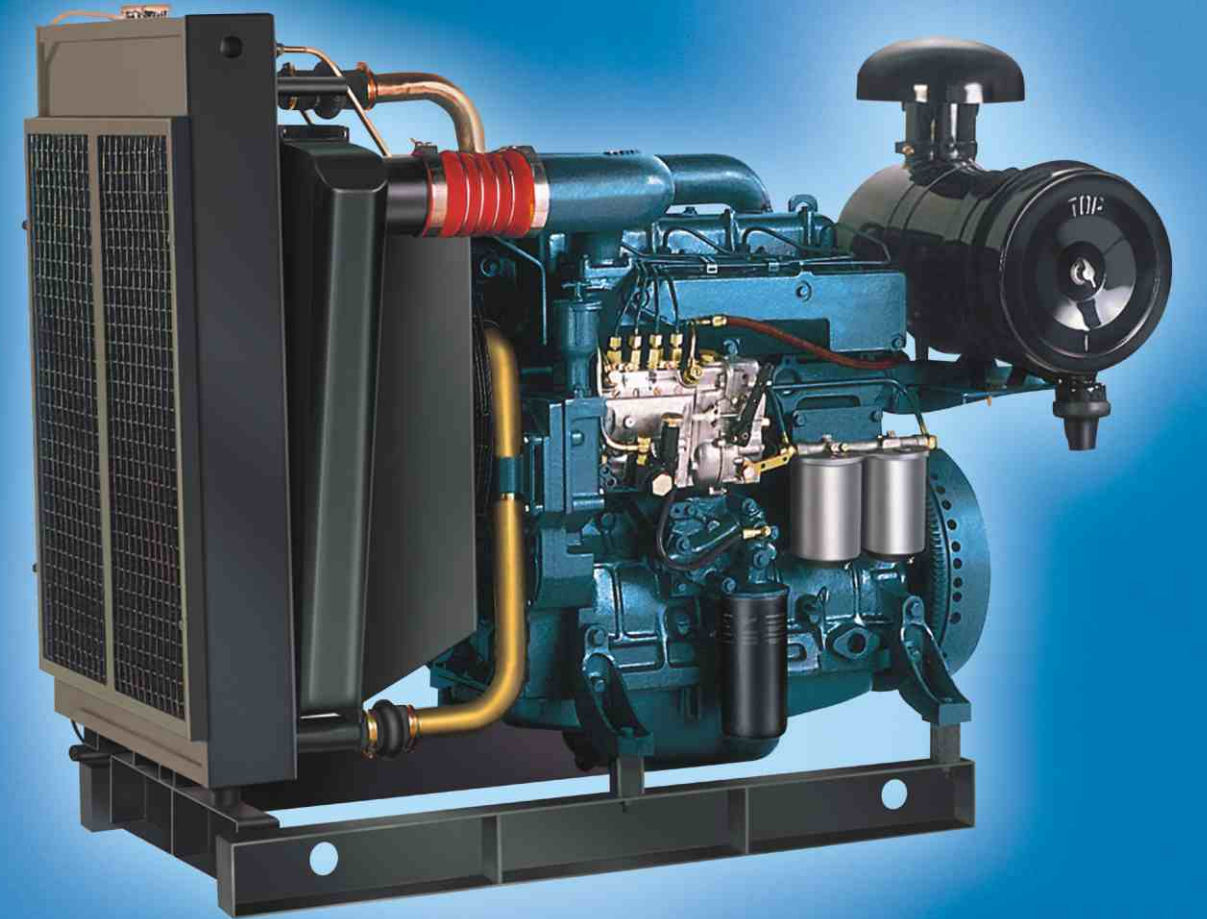
AREA OFFICES

● 1/A, Unit III, Station Square, Bhubaneswar - 751 001. Phone : +91(674) 253 2096. Fax : +91(674) 253 0382. ● Door No. 39-5392, Padmashree, Panampally Nagar, H.B. Colony, Kanayannur Taluk, Dist. Ernakulam, Cochin - 682 036. Phone : +91(484) 231 6687, 231 6653. Fax : +91(484) 231 6652. ● G S Road, Bangagarh, Opp. IDBI, Guwahati - 781 005. Telefax : +91(361) 256 2894, 256 6284, 245 1587. ● 37-38 Lasudia Mori, Near TCI Petrol Pump, Opp. Gurudwara, Dewas Naka, Indore - 452 010. Phone : +91(731) 280 2307, 280 2308. ● D-24, Durlabh Niwas, Subhash Marg, 'C' Scheme, Jaipur - 302 001. Phone : +91(141) 236 1789, 236 3389. Fax : +91(141) 236 8148. ● 498/143 KA, Main Faizabad Road, Near IT College Crossing, Upper Floor of State Bank of Indore, Lucknow - 226 007. Phone : +91(522) 232 3130, 278 9633, 278 9565. Fax : +91(522) 278 9764. ● 408, 4th Floor, Savitri Complex, G T Road, Ludhiana - 141 001. Phone : +91(161) 253 1372, 253 1848, 254 6667, 254 6668. Fax : +91(161) 254 3847. ● 110, Corporate Park, Swastik Mill Compound, Sion-Trombay Road, Chembur, Mumbai - 400 071. Phone : +91(22) 2528 9866, 2528 7584, 2527 5075. Fax : +91(22) 2527 8029. ● 7-20, NDR Godown Complex, Goods Shed Road, Moosapet, Hyderabad-500018. Phone: +91(40) 23801562, 163.

NOTE : As continuous developments are contemplated, the information and illustrations are subject to change and are not binding.
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Enriching Lives



R1040 SERIES

WELL THOUGHT - OUT ENGINES



Product Support :

Kirloskar has one of the most extensive service networks in India. Almost 90% of Kirloskar medium engines are within a 100 kilometre periphery of a Kirloskar Service Dealer. 198 Service Dealership locations provide relentless service to the customers. The location of the dealerships and their infrastructure is continually assessed based on the Kirloskar engine population build-up in each territory, and the emerging service needs of the customers. Out of these, 68 Service Dealership locations provide 24-hour service. The number of Service Dealerships that provide 24-hour service are growing day by day. Additionally, Kirloskar Territory Managers, Service Engineers and Technicians are stationed at 21 Kirloskar Area Offices. A well spread out service network manned by about 1,545 Kirloskar trained engineers and technicians ensures prompt service and easy availability of genuine spare parts, thus enabling highest up time for Kirloskar engines.

All pervasive IT in operations:

Having foreseen the power of IT to transform businesses, way back in 1998, KOEL installed the world's leading Enterprise-wide Solution (ERP) Oracle. This installation is noted to be one of the most comprehensive installations of Oracle in the manufacturing industry. The installation of ERP in 1998 was followed up with net enabled business processes in 2000. With this initiative, Kirloskar Service Dealers, OEMs, Area Sales Offices, Suppliers and the Logistic Providers form a digital community that is ever ready to respond to each customer need efficiently. The Service Dealerships are able to respond to customer needs quickly and efficiently by accessing round-the-clock latest service information and parts' availability over the internet, 24 hours a day,



Kirloskar engines: Prime movers to your business.

Kirloskar Oil Engines Limited, founded in 1946 and popularly known as KOEL is India's leading manufacturer of the finest and widest range of diesel engines - from 3 hp to 800 hp, and from 2400 hp to 11,000 hp. The engines are branded as 'Kirloskar'. With annual manufacturing volumes exceeding 200,000 engines, Kirloskar engines are available in both air-cooled and liquid-cooled versions. The main engine manufacturing plant is at Pune, and other manufacturing locations are Nashik, Ahmednagar, Rajkot, Indore and Kolhapur. Kirloskar engines are used as prime movers in Industrial, Agriculture, Power Generation as well as Marine applications. The engine manufacturing facilities are continually upgraded and improved to ensure the requisite quality at competitive costs. Critical components like crankcases, crankshafts, camshafts, gear casing, cylinder heads and connecting rods are manufactured in-house. KOEL also manufactures for its exclusive use, special purpose machines to achieve critical degrees of precision that international specifications demand. The prestigious ISO 9001 certification for Quality Management Systems in 1992 and ISO 14001 certification for Environmental Management Systems in 1999 are proof of Kirloskar's commitment to quality and environment. KOEL is the first engine manufacturing company in India to be awarded the ISO 14001 certification. At Kirloskar, we believe that the industry and the environment can, and must, coexist in a mutually beneficial way. Bringing this thought into practice, is what has driven us to manufacture engines that are not only eco-friendly, but are also manufactured in an environment-friendly way.

Brief specifications

Models	3R1040	4R1040	4R1040T	4R1040TA	6R1080	6R1080T	6R1080TA
Engine Description	Vertical Liquid-cooled, compression Ignition four stroke cycle diesel engines				Vertical liquid-cooled , compression Ignition, four stroke cycle diesel engines		
	NA	NA	Turbo	Turbo After	NA	Turbo	Turbo After
Bore x Stroke (mm)	105 x 120				105 x 125		
Displacement (cc)	3120	4160	4160	4160	6480	6480	6480
Compression Ratio	18 : 1	18 : 1	17 : 1	17 : 1	17.6 : 1	17.6 : 1	14.5 : 1
Direction of Rotation	Counter-clockwise (looking at flywheel end)						
Speed- Max Operating (rpm)	2500						
Min. operating (rpm)	1500						
Dry weight of engine, with Radiator, without Bell housing	398	494	521	550	700	700	850
Dry weight of engine with flywheel & SAE3 Flywheel Housing & Radiator	424	522	550	580	775	775	900
Weight of standard flywheel for (kg)	41	41	41	41	41	41	41

Approximate shipping specifications with standard equipment

Model	Net Weight (kg)	Gross Weight (kg)	Packing case size (mm)
3R1040	398	550	1433 x 864 x 1143
4R1040	494	600	1433 x 864 x 1143
4R1040T	521	730	1433 x 864 x 1143
4R1040TA	550	870	1433 x 864 x 1143
6R1080	700	865	1740 x 1117 x 1320
6R1080T	700	1150	1740 x 1117 x 1320
6R1080TA	850	1310	1740 x 1117 x 1320



User advantages

Benefits of the same engine family covering the output range 38 to 189 BHP and variety of equipment:

- Lowest possible parts stocking to meet any field service need. 85% components are common throughout the R1040 engine family.
- As the R1040 engine family also has a very wide operating speed range upto 2500 rpm, the need for training of maintenance personnel is minimized.
- Better logistics support is possible due to lower weight and volume of equipment and individual engine parts, lower frequency of workshop attendance, extended MTOBs, faster maintenance, extended diesel and lube oil top-up intervals.
- Agency Certification by institutions like R&D Dighi, Pune, ARAI Pune for engines used in Defence, Mining and Government sectors.

Optional equipment.

- Residential type exhaust silencer.
- Heat exchanger cooling arrangement.
- Holset type flexible coupling with following unfinished bore flanges.

Engine Model	Unfinished bore / Coupling Type
2R1040	25 mm (0.12 RB)
3R860/3R1040	25 mm (0.12 RB)
4R1040	25 mm (0.12 RB)
4R1040T	30 mm (0.20 RB)
6R1080T/TA	30 mm (0.24 RB)

- Provision for gear driven hydraulic pump.
- Belt / gear driven compressor.
- Automatic engine shut-down arrangement in case of low lube oil pressure, high cylinder head temperature, V belt-failure and engine over speed (details on request)
- Industrial Power Take-Offs (Twin Disc type)#

Standard equipment

- In line vertical liquid cooled diesel engine
 - Anti clockwise rotation (looking from flywheel end).
 - 12V electric starting with starter, without wiring,
 - Battery charging Alternator
 - MICO fuel pump
 - Lube oil cooler
 - Lube oil filter 'Spin on type'
 - Twin bowl fuel filter
 - Dry type air cleaner with pre-cleaner
 - Exhaust silencer
 - Expansion bellow
 - Engine Control panel and wiring harness
 - Fuel pipes
 - Radiator, radiator fan
 - Flywheel with starter ring
 - Engine foots suitable for rigid mounting
 - Standard oil filling and raised dipstick arrangement
 - Special lube oil sumps to suit high inclinations (details on request)
 - Flywheel housing (SAE4,3,2 and 1)
 - 24V electrical starting system
 - Cold starting aid for engine starting below minus 5°C down to minus 20°C (details on request)
 - Mud filter and water separator
 - Holset / equivalent coupling
- #Note: Selection depends on application, rpm and torque to be transmitted. Consult KOEL R&E for proper selection.

Horse power ratings as per IS 10002/BS:5514/DIN 6271/ISO 3046

Engine	Rpm	Power HP	Continuous Rating ICXN	Power HP	Fuel Stop Power IFN
			Max Torque kg-m @ 1300-1400 rpm		Max Torque kg-m @ 1300-1400 rpm
3R1040	1500	38	18	42	20
	1800	43		47	
	2000	47		50	
	2200	50		54	
	2300	51		55	
4R1040	2500	52	25	56	28
	1500	52		57	
	1800	60		66	
	2000	65		70	
	2200	68		76	
4R1040T	2300	69	34	77	38
	2500	72		80	
	1500	72		79	
	1800	85		93	
	2000	92		101	
4R1040TA	2200	94	50	105	55
	2300	97		106	
	2500	99		110	
	1500	105		116	
	1800	-		-	
6R1080	2000	-	38	-	42
	2200	-		-	
	2300	-		-	
	2500	-		-	
	1500	79		88	
6R1080T	1800	92	60	102	67
	2000	97		108	
	2200	105		116	
	2300	107		117	
	2500	110		120	
6R1080TA	1500	126	73	139	81
	1800	133		146	
	2000	145		160	
	2200	150		165	
	2300	152		167	
6R1080TA	2500	153	210	168	210
	1500	156		171	
	1800	167		185	
	2000	178		198	
	2200	185		205	
2300	186	207			
2500	189	210			

Notes:

Continuous rating

- For NA engines as per ISO 3046 ICXN (NA - Naturally aspirated, TC - Turbocharged, TA - Turbo After Cooled)
- The power available for heavy continuous load. An over load of 10% is permissible for 1 hour for every 12 hours of consecutive running.

Fuel stop power rating

- As per power available for variable load/variable speed applications where the average load factor is as high as 70% (Approval from KOEL Engineering Dept. is essential for applying max. power rating to a particular application).

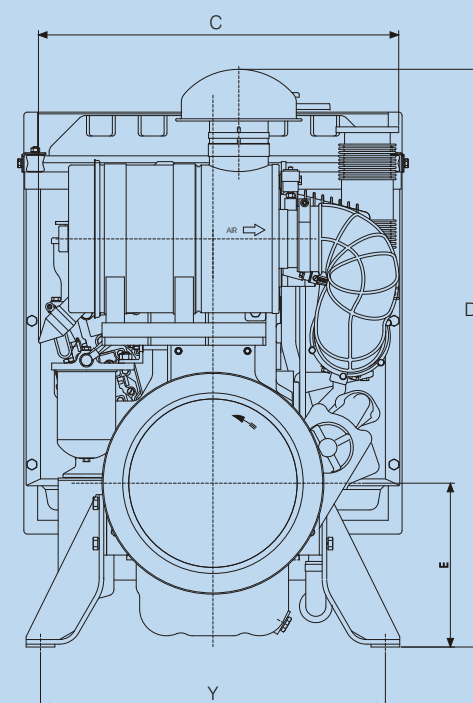
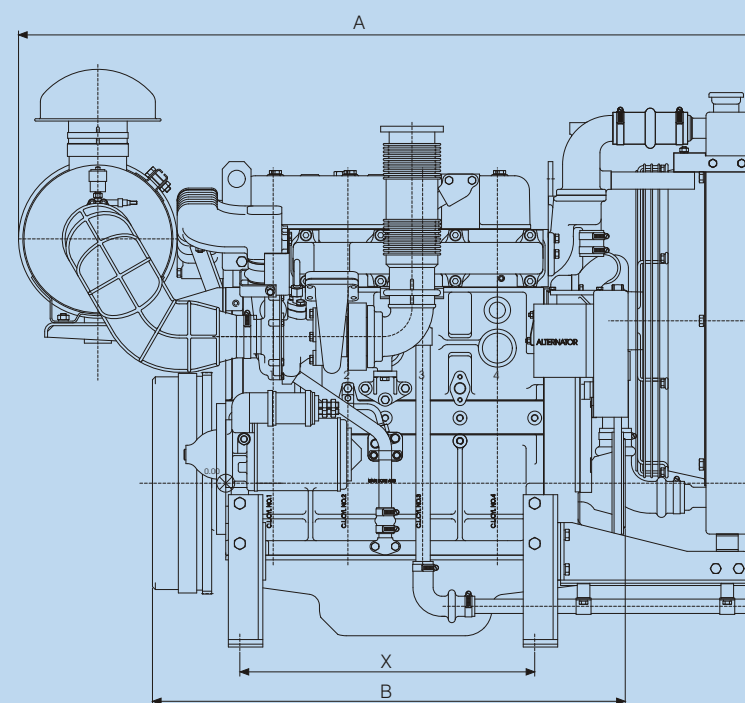
*As continuous developments are contemplated, the engine specifications are subject to change without prior notice.

Overall dimensions and installation drawings
(2R1040/3R860/3R1040/4R1040T/4R1040TA/6R1080T/6R1080TA Engines)

	A	B	C	D	E	X	Y
3R1040	1046	690	695	1087	285	600	383.5
4R1040	1140	823	650	1093	285	600	513.5
4R1040T	1281	823	650	1005	285	600	513.5
4R1040 TA	1490	823	900	1836	240	600	513.5
6R1080	1822	1137	909	1416	285	647	600
6R1080 T	1822	1137	909	1416	285	647	600
6R1080TA	1822	1137	1060	1416	285	647	600

All dimensions are in mm

- For 3R, 4R, 4RT, 4RTA there are 4 holes, 16 ∅ drill through for engine foot
- For 6R, 6RT, 6RTA there are 12 holes, 16 ∅ drill through for engine foot
- For 4RTA, 6R, 6RT, 6RTA there are 4 slots for mounting radiator on base plate
- These dimensions may vary from alternations depending on applications.



365 days a year, including a leap year. In the year 2005, KOEL is expanding the IT applications in the area of Customer Relationship Management [CRM]. The CRM Module will enable KOEL to actively address the needs of its existing as well as prospective customer base.

Liquid-cooled diesels, engineered to economise.

Maximum economy and reliability are the features of Kirloskar diesel engines. The power units are produced to meet the high precision and quality standards symbolised by the name Kirloskar. A strictly modular design ensures component standardisation which resolves many spare parts' supply problems. The R1040 engine series conform to Euro I & II/COM Stage I & II and US Tier I & II norms for off-road use.

Salient features

- Designed for heavy duty Industrial applications like Tractor, Mining, Earth Moving, Construction, Material handling, Automotive market segments.
- The Piston is designed to have centralised cavity. High air to fuel ratio, injectors with smaller spray holes and large number of holes ensure proper combustion of fuel.
- Piston continuously cooled by built-in oil jet spray for minimum liner piston wear. In-line gear driven MICO fuel pump with EP-RSV governor for ease of fuel setting and field servicing.
- Lower fuel consumption as compared to other engines in this class.
- Full flow plate type lube oil filter for maintaining optimum lube oil temperature.
- No external lube oil piping for engine lubrication.
- Lube oil coolers are of modern plate type design, which is compact and efficient.
- Rigid Load bearing crank case, acts as load bearing member for

application like tractor, fork lift etc.

- The rigid structure also ensures minimum cylinder bore distortion, low lube oil consumption, extended life of lube oil and reduced particulate emission.
- The rigid and integral cylinder head is equipped with replaceable valve seats and valve guides. The heads are provided with six bolts per cylinder to ensure uniform clamping. Steel backbone cylinder head gasket ensures proper sealing.
- Crankshaft is of forged alloy steel with hardened journals and pins.
- Rigid engine structure and crowned gears in gear train substantially reduce the engine noise.
- Ability to take drive from both engine ends to meet specific application requirement.
- High back up torque provision for engine-mounted, belt or gear-driven compensatory, gear driven hydraulic pump to meet specific application requirements for compact installation.
- All maintenance points like fuel pump, fuel lift pump, lube oil filling, dipstick, fuel and lube oil filters on one side for easy maintenance. Injectors are housed outside rocker cover to enable easy maintenance.
- Wet liners ensure low cost of maintenance as compared to engines with dry liners. Also wet liners are easy to replace at site without any special tooling.
- Meeting prevailing emission norms and capable to meet likely future emission norms.
- MTBO of minimum 8000 hours Low operating cost as compared to other engines in its class (lube oil change period of 400 hours, low fuel and lube oil consumption).
- Turbocharged and Turbo After cooled versions available for 4 and 6 cylinder engines.

R1040 SERIES