



Power Generation Engines - 6.4 up to 15.000 kW

LE/SL/SQ/SS/SK-series

SB/SA/SH/SR-series

SU/KU/GSR-series

- Dependable and durable in power generation
- Engines for continuous, prime and stand-by operation
- Available in high and medium speed
- Wide range of outputs
- Available as gas and diesel solution
- Suitable for cogeneration of energy



Advanced technology

Your partner in reliable, durable engines for all power generation applications.

Global Reach

As a globally operating company with subsidiaries in all parts of the world, our goal is to help you wherever you need it. Our engines are made to perform even under the toughest conditions and are known for their durability and reliability.

Reliable engines

The Mitsubishi diesel and gas engine line up for power generation comprises of engines from 5 kW to 15000 kW*. These engines can be found in a multitude of applications including generator sets for stand-by or emergency power, prime power for peak shaving or base load power plants. We have a relentless focus on product quality and production management which makes us a reliable partner for our OEM's. The engines are built to last and with ease of maintenance in mind, they have easy access points to key components.

Application engineering

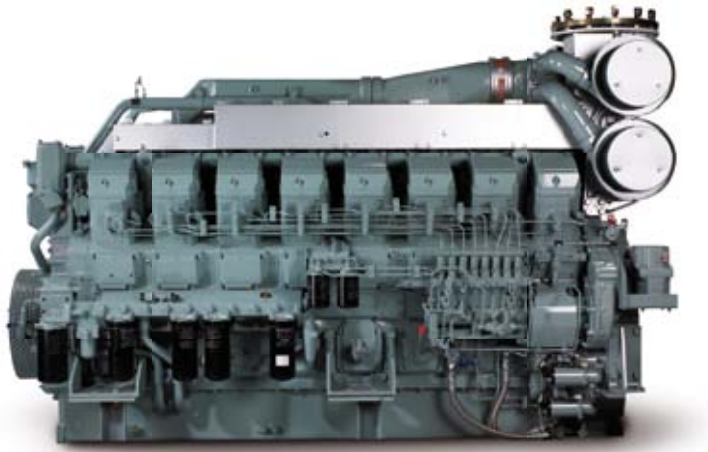
A dedicated application engineer with vast knowledge of our engines and your needs, will offer support in your design process from beginning to end to help choose and implement the right engine. We believe in personal attention in order to find the most suitable solution for you.

Logistic

For OEM's logistic efficiency is vital. We work with our OEM's in various ways to find the best possible logistic setups in order to ensure a smooth and cost efficient production flow fitting your personal needs.

* More information on engines above 5880 kW available upon request.





S16R-PTA: High speed diesel engine available in all ratings including continuous operation

MODEL RANGE

Power Generation Engines: 6.4 up to 5880 kW					
	10 kW	50 kW	100 kW	1.000 kW	10.000 kW
	6 LE-SERIES 18				
	9 SL-SERIES 29				
		19 SQ-SERIES 25			
		28 SS-SERIES 46			
		42 SK-SERIES 90			
			275 SB-SERIES 450		
			330 SA-SERIES 910		
			800 SH-SERIES 1190		
			445 SR-SERIES 2170		
			1090 SU-SERIES 3790		
			3760 KU-SERIES 5880		
			315 GSR-SERIES 1565		
				3650 KU-SERIES 5750	

UNIT: kW

■ Diesel engines ■ Gas engines

LE- & SL2- & SQ2-series

		L2E	L3E	S3L2	S4L2	S4Q2	
Type		4-cycle, water-cooled, diesel engine	4-cycle, water-cooled, diesel engine	4-cycle, water-cooled, diesel engine	4-cycle, water-cooled, diesel engine	4-cycle, water-cooled, diesel engine	
Aspiration		Natural aspiration	Natural aspiration	Natural aspiration	Natural aspiration	Natural aspiration	
Number of cylinders		2	3	3	4	4	
Bore and stroke mm		76 x 70	76 X70	78 x 92	78 x 92	88 X 103	
Displacement cc		635	952	1318	1758	2505	
Combustion system		Swirl chamber	Swirl chamber	Swirl chamber	Swirl chamber	Swirl chamber	
Fuel		Diesel fuel (ASTM No. 2-0)	Diesel fuel (ASTM No. 2-0)	Diesel fuel (ASTM No. 2-0)	Diesel fuel (ASTM No. 2-0)	Diesel fuel (ASTM No. 2-0)	
Dry weight kg		73	87	135	155	195	
Generator output (ISO3046, gross) kW	50 Hz (1500 rpm)	St-by	—	7,5	10,8	15,4	21,0
		Prime	—	6,4	9,7	13,8	19,5
	60 Hz (1800 rpm)	St-by	—	9,3	13,4	18,8	25,0
		Prime	—	8,0	12,0	17,0	23,5
	50 Hz (3000 rpm)	St-by	9,9	15,4	21,2	28,8	—
		Prime	8,5	13,3	18,3	25,8	—
	60 Hz (3600 rpm)	St-by	11,3	17,7	—	—	—
		Prime	9,9	15,6	—	—	—
Emission compliance*		—	—	—	—	EU Stage 3A	
Dimensions mm	L x W x H	449 x 426 x 524	556 x 426 x 539	580 x 436 x 573	669 x 436 x 573	707 x 504 x 633	

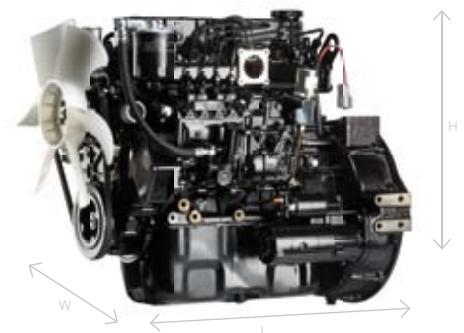
* not applicable for all outputs



LE-series



SL-series

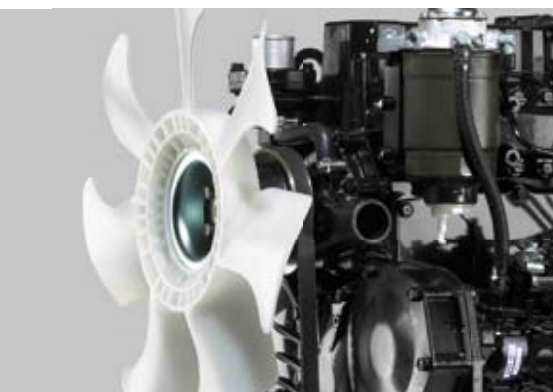


SQ-series

SS- & SK-series

		S4S	S4S-DT	S4K-(DT)	S6K-(DT)	
Type		4-cycle, water-cooled, diesel engine	4-cycle, water-cooled, diesel engine	4-cycle, water-cooled, diesel engine	4-cycle, water-cooled, diesel engine	
Aspiration		Natural-aspirated	Turbocharged	NA (TC)	NA (TC)	
Number of cylinders		4	4	4	6	
Bore and stroke mm		94 x120	94 x 120	102 x 130	102 x 130	
Displacement cc		3331	3331	4249	6373	
Combustion system		Swirl chamber	Direct injection	Direct injection	Direct injection	
Fuel		Diesel fuel (ASTM No. 2-D)	Diesel fuel (ASTM No. 2-D)	Diesel fuel (ASTM No. 2-D)	Diesel fuel (ASTM No. 2-D)	
Dry weight kg		245	250	350	475	
Generator output (ISO3046, gross) kW	50 Hz (1500 rpm)	St-by	31,6	39,0	46.7 (59.7)	70.5 (89.7)
		Prime	28,7	37,5	42.7 (54.7)	64.0 (81.6)
	60 Hz (1800 rpm)	St-by	36,5	46,2	—	—
		Prime	34,2	44,5	—	—
	50 Hz (3000 rpm)	St-by	—	—	—	—
		Prime	—	—	—	—
	60 Hz (3600 rpm)	St-by	—	—	—	—
		Prime	—	—	—	—
Emission compliance*		EU Stage 3A	EU Stage 3A	—	—	
Dimensions mm	L x W x H	781 x 593 x 710	781 x 593 x 821	894 x 741 x 929	1163 x 741 x 976	

* not applicable for all outputs



Fan



SS-series

SB3- & SA3-series

		S6B3-PTA	S6A3-PTA	S6A3-PTAA
Type		4 cycle water-cooled, turbocharged diesel engine	4 cycle water-cooled, turbocharged diesel engine	4 cycle. water-cooled, diesel engine
Aspiration		Aftercooler	Aftercooler	Turbocharged with Air-to-Air cooling system
Number of cylinders		6	6	6
Bore x stroke mm		135 x 170	150 x 175	150 x 175
Displacement Ltr		14,60	18,56	18,56
Combustion system		Direct injection	Direct injection	Direct injection
Fuel		Diesel fuel oil (ASTM No. 2-D)	Diesel fuel oil (ASTM No. 2-D)	Diesel fuel oil (ASTM No. 2-D)
Dry weight kg		1550	1790	1648
Stand-by power rating output kWm hp	50Hz 1500rpm	360 (483)	430 (576)	473 (63-4)
	60Hz 1800rpm	400 (536)	490 (657)	516 (692)
Prime power rating output kWm hp	50Hz 1500rpm	325 (436)	390 (523)	430 (577)
	60Hz 1800rpm	360 (483)	440 (590)	460 (617)
Continuous 'C' power rating output kWm hp	50Hz 1500rpm	275 (369)	330 (442)	—
	60Hz 1800rpm	305 (409)	375 (503)	—
Emission compliance		—	—	—
Dimensions mm	L x W x H	1397 x 887 x 1282	1576 x 938 x 1319	1576 x 938 x 1319



Manual stop lever



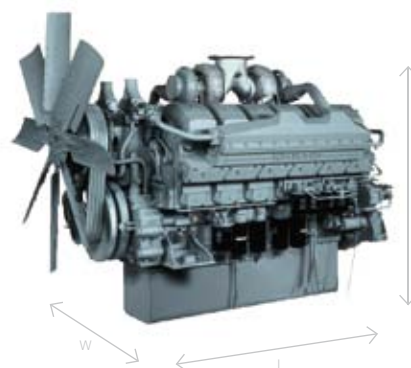
Fresh water pump

SA2- & SH-series

		S12A2-PTA	S12H-PTA
Type		4 cycle water-cooled, turbocharged diesel engine	4 cycle water-cooled, turbocharged diesel engine
Aspiration		Aftercooler	Aftercooler
Number of cylinders		12V	12V
Bore x stroke mm		135 x 170	150 x 175
Displacement Ltr		14,60	18,56
Combustion system		Direct injection	Direct injection
Fuel		Diesel fuel oil (ASTM No. 2-D)	Diesel fuel oil (ASTM No. 2-D)
Dry weight kg		2920	4190
Stand-by power rating output kWm hp	50Hz 1500rpm	724 (970)	980 (1314)
	60Hz 1800rpm	821 (1100)	1080 (1448)
Prime power rating output kWm hp	50Hz 1500rpm	656 (880)	890 (1193)
	60Hz 1800rpm	731 (980)	980 (1314)
Continuous 'C' power rating output kWm hp	50Hz 1500rpm	589 (790)	800 (1072)
	60Hz 1800rpm	612 (820)	880 (1180)
Emission compliance		—	—
Dimensions mm	L x W x H	1816 x 1382 x 1542	1954 x 1472 x 1694



Lube oil filters



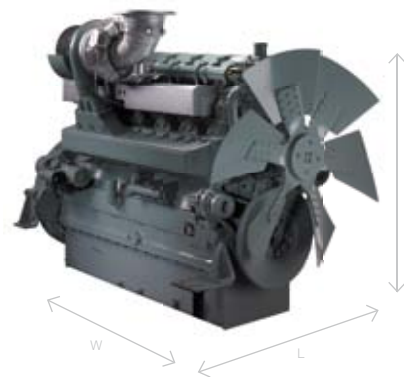
SH-series

SR-series, 6 cylinder

		S6R-PTA	S6R2-PTA	S6R2-PTAA
Type		4 cycle water-cooled, turbocharged diesel engine	4 cycle water-cooled, turbocharged diesel engine	4 cycle water-cooled, diesel engine
Aspiration		Aftercooler	Aftercooler	Turbocharged with Air-to-Air cooling system
Number of cylinders		6	6	6
Bore x stroke mm		170 x 180	170 x 220	170 x 220
Displacement Ltr		24,51	29,96	29,96
Combustion system		Direct injection	Direct injection	Direct injection
Fuel		Diesel fuel oil (ASTM No. 2-D)	Diesel fuel oil (ASTM No. 2-D)	Diesel fuel oil (ASTM No. 2-D)
Dry weight kg		2300	2400	2370
Stand-by power rating output kWm hp	50Hz 1500rpm	570 (764)	655 (878)	710 (951)
	60Hz 1800rpm	665 (851)	—	—
Prime power rating output kW hp	50Hz 1500rpm	515 (690)	595 (798)	645 (865)
	60Hz 1800rpm	595 (798)	—	—
Continuous 'C' power rating output kWm hp	50Hz 1500rpm	445 (597)	515 (690)	—
	60Hz 1800rpm	510 (684)	—	—
Emission compliance		—	—	—
Dimensions mm	L x W x H	1690 x 1041 x 1498	1690 x 1077 x 1578	1690 x 1077 x 1578



Turbocharger



S6R-series

SR-series, 12 cylinder

		S12R-PTA	S12R-PTA2	S12R-PTAA2	S12R-F1PTAW2
Type		4 cycle water-cooled, turbocharged diesel engine	4 cycle water-cooled, turbocharged diesel engine	4 cycle water-cooled, diesel engine	4 cycle water-cooled, turbocharged diesel engine
Aspiration		Aftercooler	Aftercooler	Turbocharged with Air-to-Air cooling system	Intercooler
Number of cylinders		12V	12V	12V	12V
Bore x stroke mm		170 x 180	170 x 180	170 x 180	170 x 180
Displacement Ltr		49,03	49,03	49,03	49,03
Combustion system		Direct injection	Direct injection	Direct injection	Direct injection
Fuel		Diesel fuel oil (ASTM No. 2-D)	Diesel fuel oil (ASTM No. 2-D)	Diesel fuel oil (ASTM No. 2-D)	Diesel fuel oil (ASTM No. 2-D)
Dry weight kg		4800	4800	4966	5270
Stand-by power rating output kWm hp	50Hz 1500rpm	1220 (1635)	1315 (1763)	1404 (1882)	1462 (1960)
	60Hz 1800rpm	1320 (1769)	1470 (1971)	1596 (2139)	—
Prime power rating output kWm hp	50Hz 1500rpm	1110 (1488)	1195 (1602)	1277 (1711)	1329 (1782)
	60Hz 1800rpm	1190 (1595)	1340 (1796)	1447 (1940)	—
Continuous 'C' power rating output kWm hp	50Hz 1500rpm	990 (1327)	—	—	—
	60Hz 1800rpm	1020 (1367)	—	—	—
Emission compliance		—	—	—	—
Dimensions mm	L x W x H	2325 x 1360 x 1565	2325 x 1360 x 1565	2520 x 1360 x 1862	2491 x 1457 x 1647



V-belt drive



S12R-series

SR-series, 16 cylinder

		S16R-PTA	S16R-PTAA2	S16R-PTA2	S16R-F1PTAW2	S16R2-PTAW
Type		4 cycle water-cooled, turbocharged diesel engine	4 cycle. water-cooled, diesel engine	4 cycle water-cooled, turbocharged diesel engine	4 cycle water-cooled, turbocharged diesel engine	4 cycle water-cooled, turbocharged diesel engine
Aspiration		Aftercooler	Turbocharged with Air-to-Air cooling system	Aftercooler	Intercooled	Intercooled
Number of cylinders		16V	16V	16V	16V	16V
Bore x stroke mm		170 x 180	170 x 180	170 x 180	170 x 180	170 x 220
Displacement Ltr		65,37	65,37	65,37	65,37	80
Combustion system		Direct injection	Direct injection	Direct injection	Direct injection	Direct injection
Fuel		Diesel fuel oil (ASTM No. 2-D)	Diesel fuel oil (ASTM No. 2-D)	Diesel fuel oil (ASTM No. 2-D)	Diesel fuel oil (ASTM No. 2-D)	Diesel fuel oil (ASTM No. 2-D)
Dry weight kg		6200	6443	6300	6680	7750
Stand-by power rating output kWm hp	50Hz 1500rpm	1620 (2172)	1939 (2599)	1790 (2399)	1947 (2610)	2167 (2905)
	60Hz 1800rpm	1750 (2346)	2149 (2881)	1950 (2614)	—	—
Prime power rating output kWm hp	50Hz 1500rpm	1480 (1984)	1728 (2316)	1630 (2185)	1777 (2382)	1960 (2627)
	60Hz 1800rpm	1590 (2131)	1939 (2599)	1775 (2379)	—	—
Continuous 'C' power rating output kWm hp	50Hz 1500rpm	1330 (1783)	—	—	—	1680 (2252)
	60Hz 1800rpm	1360 (1823)	—	—	—	—
Emission compliance		—	—	—	—	—
Dimensions mm	L x W x H	2880 x 1360 x 1810	3075 x 1360 x 1862	2880 x 1360 x 1810	3045 x 1457 x 1810	3118 x 1478 x 2030



Turbocharger



Diesel fuel lines

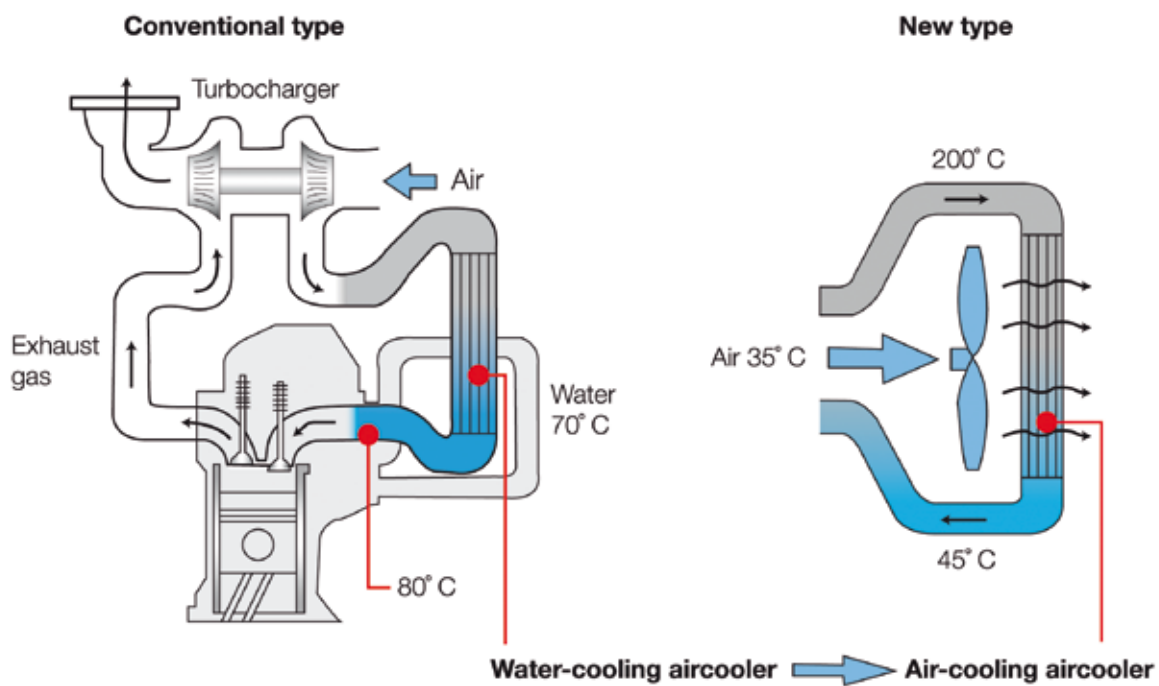


S16R-series

Cooling systems	
PTA	Air cooler (aftercooler) using engine cooling water
PTA2	Air cooler (aftercooler) using jacket water to cooler
PTAA2	Air-to-air cooling system
PTAW	2 circuit air to water cooling system
PTAW2	2 circuit air to water cooling system

Radiator Comparison

High power output is realized by the air-cooling type radiator with its increased air flow and effective cooling.

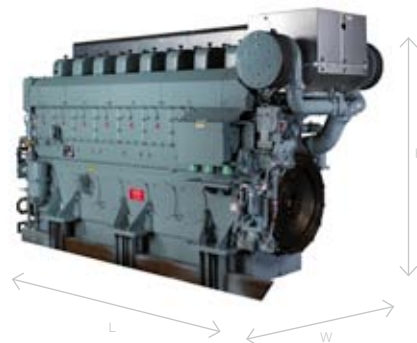


SU-series, 6, 8, 12 & 16 cylinder

		S6U-PTA	S6U2-PTA	S8U-PTA	S12U-PTA	S16U-PTA
Type		4 cycle, water-cooled, turbocharged diesel engine	4 cycle, water-cooled, turbocharged diesel engine	4 cycle, water-cooled, turbocharged diesel engine	4 cycle, water-cooled, turbocharged diesel engine	4 cycle, water-cooled, turbocharged diesel engine
Aspiration		Aftercooler	Aftercooler	Aftercooler	Aftercooler	Aftercooler
Number of cylinders		6	6	8	12V	16V
Bore x stroke mm		240 x 260	240 x 300	240 x 260	240 x 260	240 x 260
Displacement Ltr		70,6	81,4	94,1	141,2	188,2
Combustion system		Direct injection	Direct injection	Direct injection	Direct injection	Direct injection
Fuel		Diesel fuel oil (ASTM class 2-D); Heavy fuel oil (option)	Diesel fuel oil (ASTM class 2-D); Heavy fuel oil (option)	Diesel fuel oil (ASTM class 2-D); Heavy fuel oil (option)	Diesel fuel oil (ASTM class 2-D); Heavy fuel oil (option)	Diesel fuel oil (ASTM class 2-D); Heavy fuel oil (option)
Dry weight kg		8350	8650	11000	15500	20500
Stand-by power rating output kWm hp	50Hz 1000rpm	1259 (1688)	1395 (1870)	1678 (2250)	2518 (3375)	3357 (4500)
	60Hz 1200rpm	1351 (1812)		1802 (2416)	2703 (3623)	3604 (4831)
Prime power rating output kWm hp	50Hz 1000rpm	1214 (1627)	1306 (1751)	1619 (2170)	2429 (3256)	3238 (4340)
	60Hz 1200rpm	1288 (1727)	—	1717 (2302)	2576 (3453)	3434 (4603)
Continuous 'C' power rating output kWm hp	50Hz 1000rpm	1091 (1462)	1183 (1586)	1455 (1950)	2182 (2925)	2910 (3901)
	60Hz 1200rpm	1148 (1540)		1531 (2052)	2297 (3079)	3063 (4106)
Emission compliance		—	—	—	—	—
Dimensions mm	L x W x H	3380 x 1403 x 2104	3380 x 1403 x 2177	4222 x 1538 x 2179	3491 x 1795 x 2350	4557 x 1710 x 2473



Cylinder heads



SU-series

KU-series

		12KU30A	14KU30A	16KU30A	18KU30A
Type		4 cycle, V-type and trunk piston type , water-cooled, diesel engine	4 cycle, V-type and trunk piston type , water-cooled, diesel engine	4 cycle, V-type and trunk piston type , water-cooled, diesel engine	4 cycle, V-type and trunk piston type , water-cooled, diesel engine
Aspiration		turbocharged	turbocharged	turbocharged	turbocharged
Number of cylinders		12	14	16	18
Bore x stroke mm		300 x 380	300 x 380	300 x 380	300 x 380
Displacement Ltr		322	375	430	483
Combustion system		Direct injection	Direct injection	Direct injection	Direct injection
Fuel		Diesel fuel oil No.2 - No.6 - Heavy Fuel Oil*	Diesel fuel oil No.2 - No.6 - Heavy Fuel Oil*	Diesel fuel oil No.2 - No.6 - Heavy Fuel Oil*	Diesel fuel oil No.2 - No.6 - Heavy Fuel Oil*
Dry weight metric ton		2300	2300	2400	2400
Continuous 'C' power rating output	50Hz 750rpm	3920	4570	5230	5880
	60Hz 720rpm	3760	4390	5020	5650
NOx Emission ppm		710-780, O2:15%*	710-780, O2:15%*	710-780, O2:15%*	710-780, O2:15%*
Dimensions mm	L x W x H	6355 x 2900 x 3400	7145 x 2900 x 3720	7685 x 2900 x 3720	8225 x 2900 x 3720

* NOx value to be determined referring to local regulation



KU-series

GSR-series (Miller cycle*)

		GS6RPTK	GS6R2PTK	GS12RPTK	GS16RPTK	GS16R2PTK
Type		4-cycle, intercooled, Natural Gas engine	4-cycle, intercooled, Natural Gas engine	4-cycle, intercooled, Natural Gas engine	4-cycle, intercooled, Natural Gas engine	4-cycle, intercooled, Natural Gas engine
Aspiration		Turbocharged	Turbocharged	Turbocharged	Turbocharged	Turbocharged
Number of cylinders		6	6	12V	16V	16V
Bore x stroke mm		170x180	170x220	170x180	170x180	170x220
Displacement Ltr		24,52	29,96	49,03	65,37	79,9
Combustion system		Prechamber, Spark Ignited	Prechamber, Spark Ignited	Prechamber, Spark Ignited	Prechamber, Spark Ignited	Prechamber, Spark Ignited
Fuel		Natural Gas	Natural Gas	Natural Gas	Natural Gas	Natural Gas
Dry weight 50Hz / 60Hz kg		2400 / 2400	2650 / 2650	5350 / 5350	6770 / 6830	8105 / 7815
Continuous 'C' power rating output kWm hp	50Hz 1500rpm	363	na	722	959	1563
	60Hz 1200rpm	315	394	632	845	1031
Emission compliance		—	—	—	—	—
Dimensions mm	L x H x W	1989 x 1638 x 1123	1989 x 1718 x 1123	2396 x 2137 x 1832	2876 x 2137 x 1820	3422 x 2122 x 2164

* also available as Lean-Burn



Common rail



GSR-series

KU-gas

		12KU30A GSI	14KU30A GSI	16KU30A GSI	18KU30A GSI
Type		4 cycle, V-type and trunk piston type, water-cooled, gas engine	4 cycle, V-type and trunk piston type, water-cooled, gas engine	4 cycle, V-type and trunk piston type, water-cooled, gas engine	4 cycle, V-type and trunk piston type, water-cooled, gas engine
Aspiration		turbocharged	turbocharged	turbocharged	turbocharged
Number of cylinders		12	14	16	18
Bore x stroke mm		300 x 380	300 x 380	300 x 380	300 x 380
Displacement Ltr		322	375	430	483
Combustion system		Direct injection	Direct injection	Direct injection	Direct injection
Fuel		Natural Gas*	Natural Gas*	Natural Gas*	Natural Gas*
Dry weight metric ton		2300	2300	2400	2400
Continuous 'C' power rating output kW	50Hz 750rpm	3800	4450	5100	5750
hp	60Hz 720rpm	3650	4250	4900	5500
NOx Emission ppm		320 or less (O2: 0%), 92 or less (O2:15%)*	320 or less (O2: 0%), 92 or less (O2:15%)*	320 or less (O2: 0%), 92 or less (O2:15%)*	320 or less (O2: 0%), 92 or less (O2:15%)*
Dimensions mm	L x W x H	6355 x 2900 x 3400	7145 x 2900 x 3720	7685 x 2900 x 3720	8225 x 2900 x 3720

* Also available with Micro-Pilot injection, for gas fuels such as coal mine, methane, digester and landfill.



KU installed in Pakistan

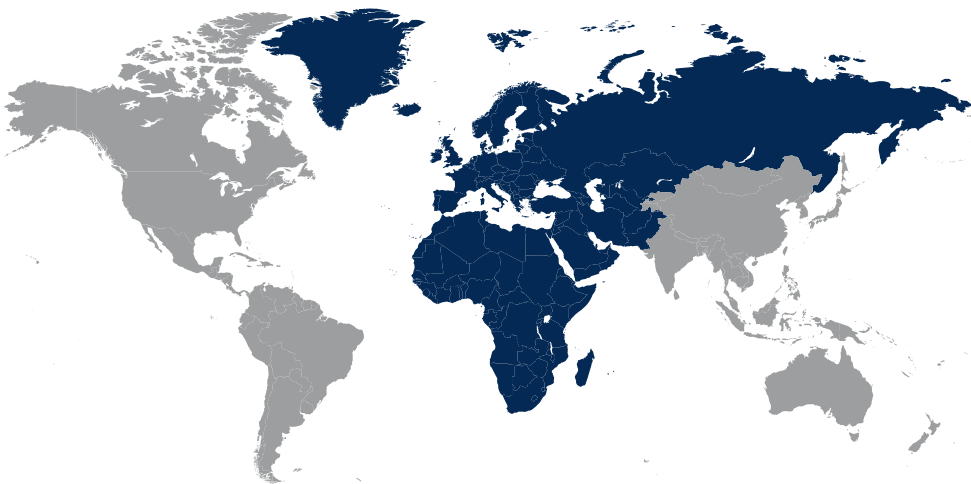
Mitsubishi Turbocharger and Engine Europe B.V. reserves the right to modify any characteristic or specification without prior notice and without incurring any obligation. The illustrations may include optional equipment and/ or accessories. All information in this brochure is based on the latest information available at the time of printing. Unless mentioned otherwise, the information mentioned is owned by Mitsubishi Turbocharger And Engine Europe B.V.. Text, lay-out, illustrations, scripts, articles and other items in this brochure are protected by copyright.

Your loyal, reliable partner since 1917

In 1917, Mitsubishi Heavy Industries (MHI) became the first Japanese company to develop and build a diesel engine, and since then has steadfastly pioneered technologies for the reciprocating engine. MHI offers a broad line-up, ranging from construction machinery and marine engines to engines for power generation. In recent years, the company has been involved in the general development of advanced gas turbines, rocket engines, and other types of internal combustion engines, even as it continues to look at the true significance and its decades-long quest to further refine the reciprocating engine.



GL Systems Certification



MITSUBISHI TURBOCHARGER AND ENGINE EUROPE B.V.

Headquarters Engine, Genset & Powerplant Division Europe, Middle East and Africa

Damsluisweg 2
1332 EC Almere
P.O. Box 30101
1303 AC Almere
The Netherlands

Phone: +31 (0)36 5388311
Fax: +31 (0)36 5388342

www.mtee.eu