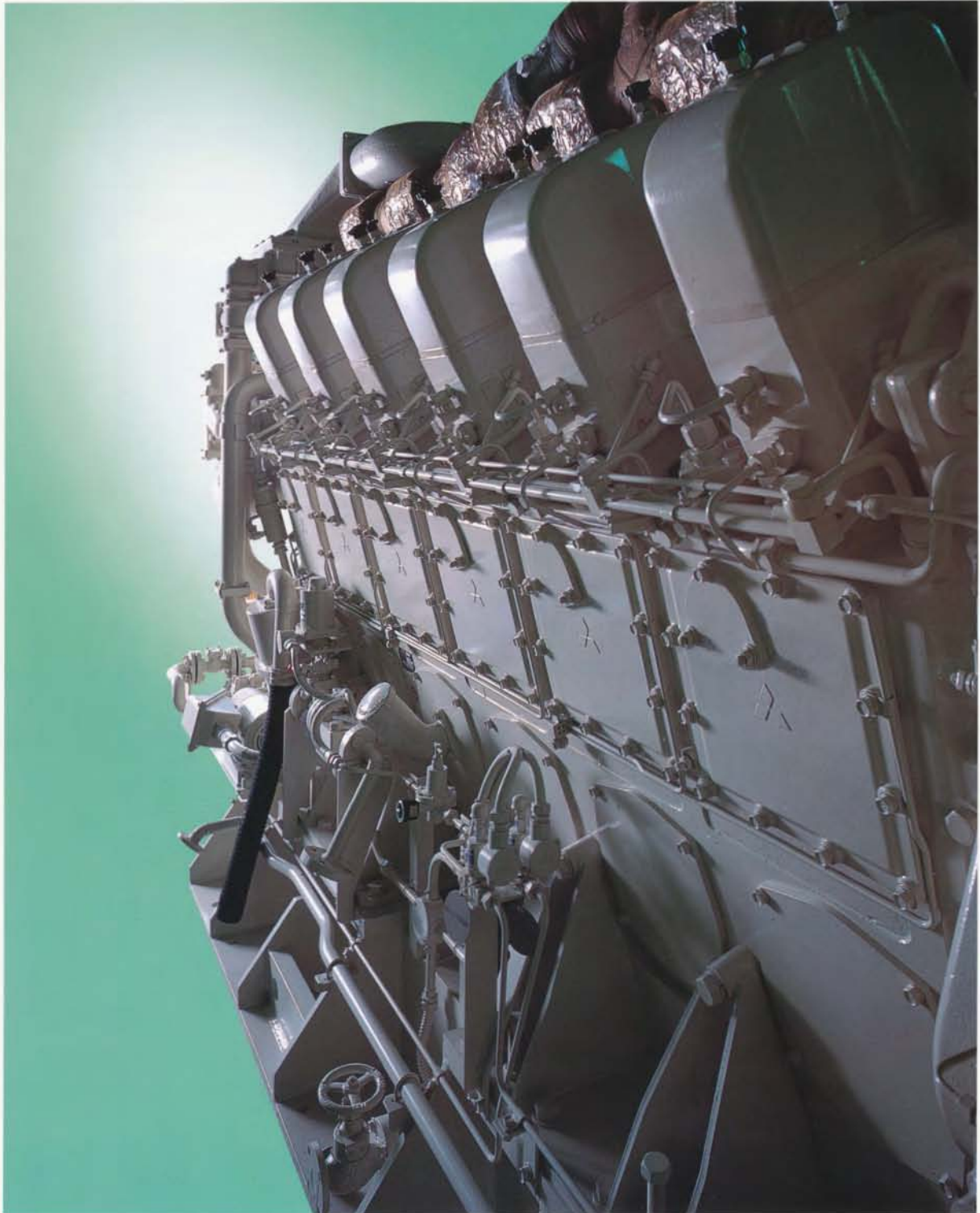


# MITSUBISHI DIESEL ENGINES

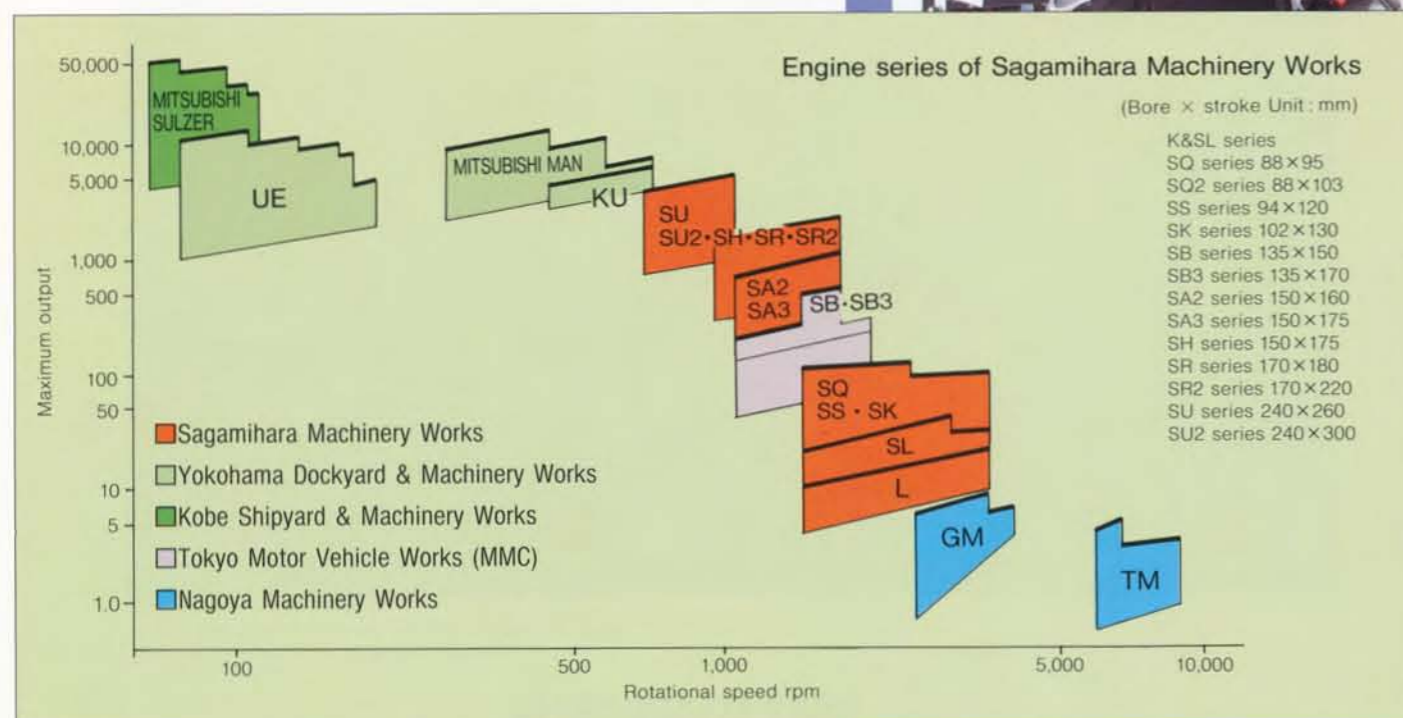
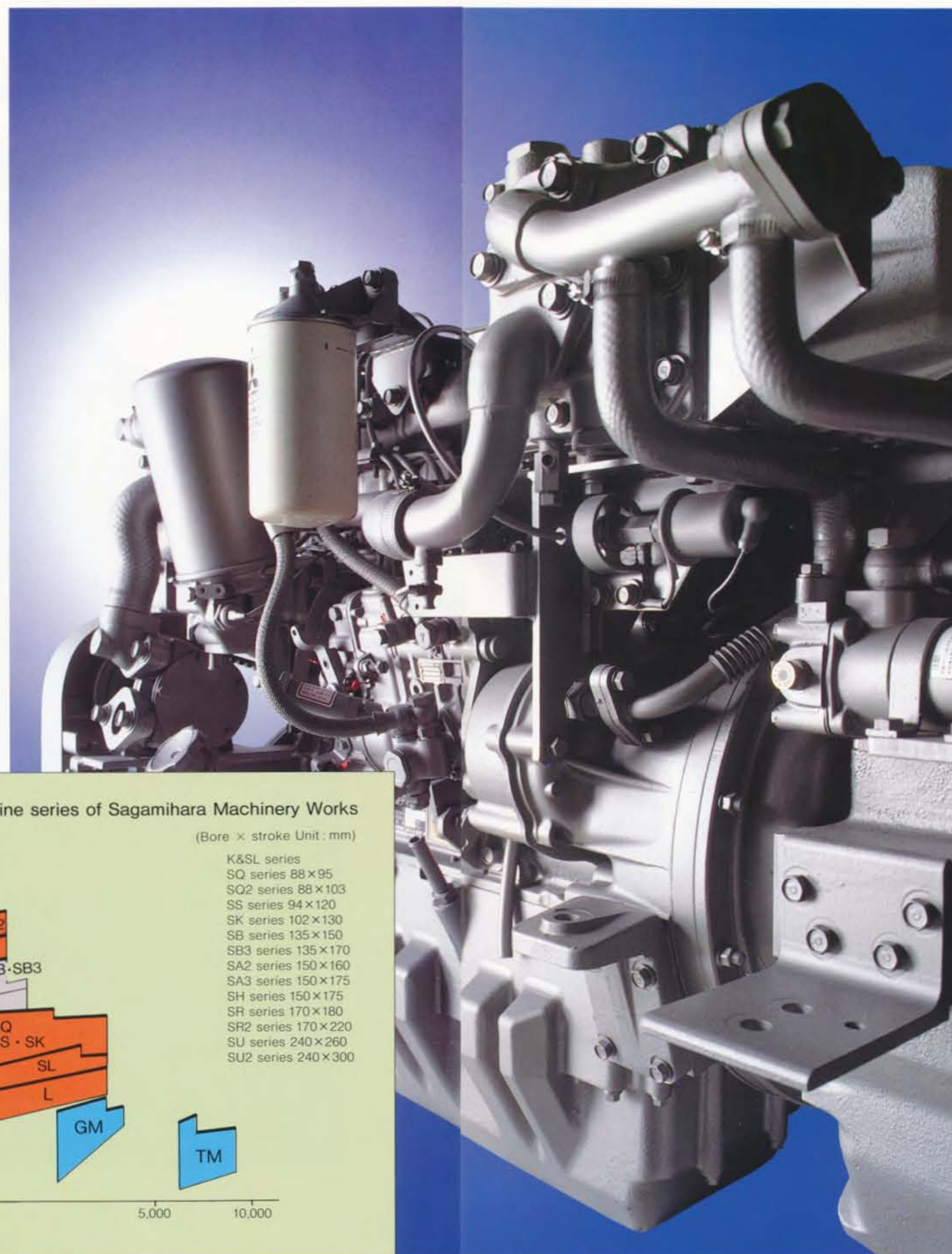


# Safety and advanced technology.

Mitsubishi Heavy Industries, Ltd., General Machinery & Special Vehicle Headquarters.

Since our establishment in 1917, we have developed and produced various kinds of diesel engine, ranging in Capacity from 0.5 to 66,000 horsepower, in order to meet our customers needs for general-purpose and special-purpose engines.

Mitsubishi's advanced research and development and production techniques, which we have developed over the years, have been highly evaluated both in Japan and abroad, and are used in various applications. Mitsubishi's engines are used in a wide range of ways, such as generators for day and night use, peak shavings and emergencies; main power sources of water treatment facilities, irrigation, and fire extinguisher pumps; as well as the main engines of construction and agricultural machines; and the main engines of giant tankers, high-speed cargo ships, passenger ships, fishing boats and work boats.



## OUTLINE OF THE COMPANY

Capital: 228.5bil. yen (As of Mar. 31, '01)

Employees: 37,754 (As of Apr. 1, '01)

Annual Sales: 2,637.7bil. yen (Apr. 1, '00~Mar. 31, '01)

### Research and Development Centers

Advanced Technology Research Center  
Nagasaki Research & Development Center  
Takasago Research & Development Center  
Hiroshima Research & Development Center  
Yokohama Research & Development Center  
Nagoya Research & Development Center

### Works

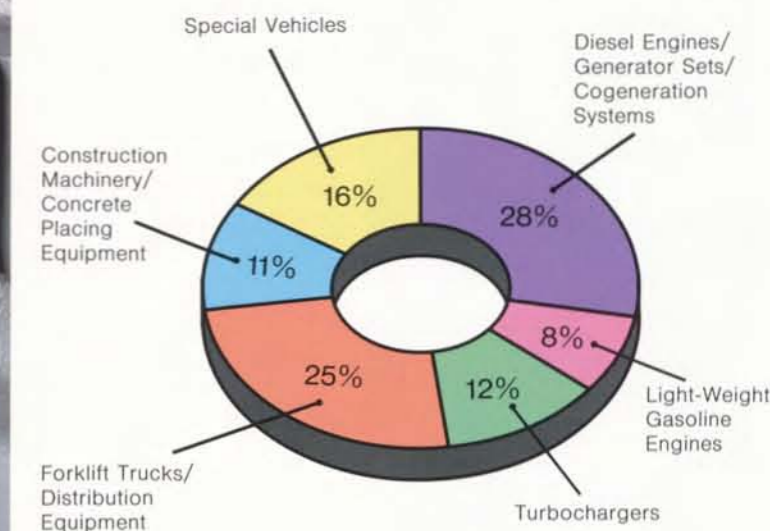
Nagasaki Shipyard & Machinery Works  
Kobe Shipyard & Machinery Works  
Shimonoseki Shipyard & Machinery Works  
Yokohama Dockyard & Machinery Works  
Hiroshima Machinery Works  
Takasago Machinery Works  
Nagoya Aerospace Systems Works  
Nagoya Guidance & Propulsion Systems Works  
Mihara Machinery & Transportation Systems Works

### Production and Sales Headquarters and Divisions

General Machinery & Special Vehicle Headquarters  
Air-Conditioning & Refrigeration Systems Headquarters  
Industrial Machinery Division  
Paper & Printing Machinery Division  
Machine Tool Division

## GENERAL MACHINERY & SPECIAL VEHICLE HEADQUARTERS

Production Distribution  
(Apr. 1, '00~Mar. 31 '01)



Model			S6B		S6B-2		S6B3		
			S6B-PTA	S6B-PTK	S6B-PTA2	S6B-PTK2	S6B3-PTA	S6B3-PTK	
SPECIFICATIONS	Type		4 cycle, watercooled, turbocharged diesel engine						
			Aftercooler	Intercooler	Aftercooler	Intercooler	Aftercooler	Intercooler	
	Cylinder arrangement piston bore × stroke (mm)		6-135 × 150		6-135 × 150		6-135 × 170		
	Total displacement (ℓ)		12.88		12.88		14.60		
	Combustion system		Direct injection						
	Dimensions	Length(mm)	1440	1447	1447		1397		
		Width (mm)	857		858	859	887	899	
		Height (mm)	1268		1231		1282	1263	
	Dry weight (kg)		1200		1220		1550		
	Starting system		Electric starting with cell motor: Air direct injection or air motor						
Fuel oil		Diesel fuel oil (ASTM No.2-D)							
GENERATOR	Standby power rating output mkW (HP)	50Hz 1500rpm	250 (335)	283 (380)	291 (390)	313 (420)	360 (483)	390 (523)	
		60Hz	1200rpm	157 (210)	209 (280)	—	—	260 (349)	300 (402)
			1800rpm	287 (385)	328 (440)	328 (440)	362 (485)	400 (536)	450 (603)
	Prime power rating output mkW (HP)	50Hz 1500rpm	224 (300)	257 (345)	261 (350)	283 (380)	325 (436)	355 (476)	
		60Hz	1200rpm	142 (190)	190 (255)	—	—	235 (315)	270 (362)
			1800rpm	261 (350)	298 (400)	298 (400)	328 (440)	360 (483)	410 (550)
	Continuous "C" power rating output mkW (HP)	50Hz 1500rpm	194 (260)	224 (300)	220 (295)	242 (325)	275 (369)	300 (402)	
		60Hz	1200rpm	119 (160)	160 (215)	—	—	210 (282)	245 (328)
			1800rpm	220 (295)	261 (350)	254 (340)	283 (380)	305 (409)	350 (469)
	INDUSTRIAL	Rated output mkW (HP)	1200rpm	134 (180)	179 (240)	—	—	235 (315)	270 (362)
			1500rpm	216 (290)	246 (330)	246 (330)	269 (360)	305 (409)	335 (449)
			1600rpm	224 (300)	261 (350)	261 (350)	283 (380)	320 (429)	355 (476)
1800rpm			246 (330)	283 (380)	283 (380)	313 (420)	345 (462)	390 (523)	
1900rpm			254 (340)	295 (395)	291 (390)	325 (435)	355 (476)	390 (523)	
2000rpm			254 (340)	310 (415)	295 (395)	336 (450)	360 (483)	395 (529)	
2050rpm			—	—	—	—	365 (489)	400 (536)	
2100rpm			261 (350)	317 (425)	—	—	—	—	
2300rpm			265(355)	328 (440)	—	—	—	—	

with FAN for PTA

Model			S6A3		S12A2		S12H		
			S6A3-PTA	S6A3-PTK	S12A2-PTA	S12A2-PTK	S12H-PTA	S12H-PTK	
SPECIFICATIONS	Type		4 cycle, watercooled, turbocharged diesel engine						
			Aftercooler	Intercooler	Aftercooler	Intercooler	Aftercooler	Intercooler	
	Cylinder arrangement piston bore × stroke (mm)		6-150 × 175		12V-150 × 160		12V-150 × 175		
	Total displacement (ℓ)		18.56		33.93		37.11		
	Combustion system		Direct injection						
	Dimensions	Length(mm)	1576		1816		1954		
		Width (mm)	938		1382		1472		
		Height (mm)	1319		1542		1694		
	Dry weight (kg)		1790		2920		4190		
	Starting system		Electric starting with cell motor: Air direct injection or air motor						
Fuel oil		Diesel fuel oil (ASTM No.2-D)							
GENERATOR	Standby power rating output mkW (HP)	50Hz 1500rpm	430 (576)	475 (637)	724 (970)	783 (1050)	980 (1314)	1080 (1448)	
		60Hz	1200rpm	340 (456)	355 (476)	582 (780)	612 (820)	—	—
			1800rpm	490 (657)	525 (704)	855 (1146)	910 (1220)	1080 (1448)	1190 (1595)
	Prime power rating output mkW (HP)	50Hz 1500rpm	390 (523)	430 (576)	656 (880)	709 (950)	890 (1193)	980 (1314)	
		60Hz	1200rpm	305 (409)	320 (429)	530 (710)	552 (740)	—	—
			1800rpm	440 (590)	475 (637)	731 (980)	828 (1110)	980 (1314)	1080 (1448)
	Continuous "C" power rating output mkW (HP)	50Hz 1500rpm	330 (442)	380 (509)	589 (790)	604 (810)	800 (1072)	880 (1180)	
		60Hz	1200rpm	275 (369)	290 (389)	433 (580)	470 (630)	—	—
			1800rpm	375 (503)	410 (550)	612 (820)	701 (940)	880 (1180)	970 (1300)
	INDUSTRIAL	Rated output mkW (HP)	1200rpm	305 (409)	320 (429)	492 (660)	522 (700)	—	—
			1500rpm	370 (496)	420 (563)	619 (830)	671 (900)	840 (1126)	930 (1247)
			1600rpm	390 (523)	430 (576)	642 (860)	709 (950)	880 (1180)	970 (1300)
1800rpm			420 (563)	455 (610)	679 (910)	776 (1040)	930 (1247)	1030 (1381)	
1900rpm			420 (563)	470 (630)	701 (940)	806 (1080)	—	—	
2000rpm			420 (563)	475 (637)	716 (960)	836 (1120)	—	—	
2100rpm			—	—	731 (980)	858 (1150)	—	—	

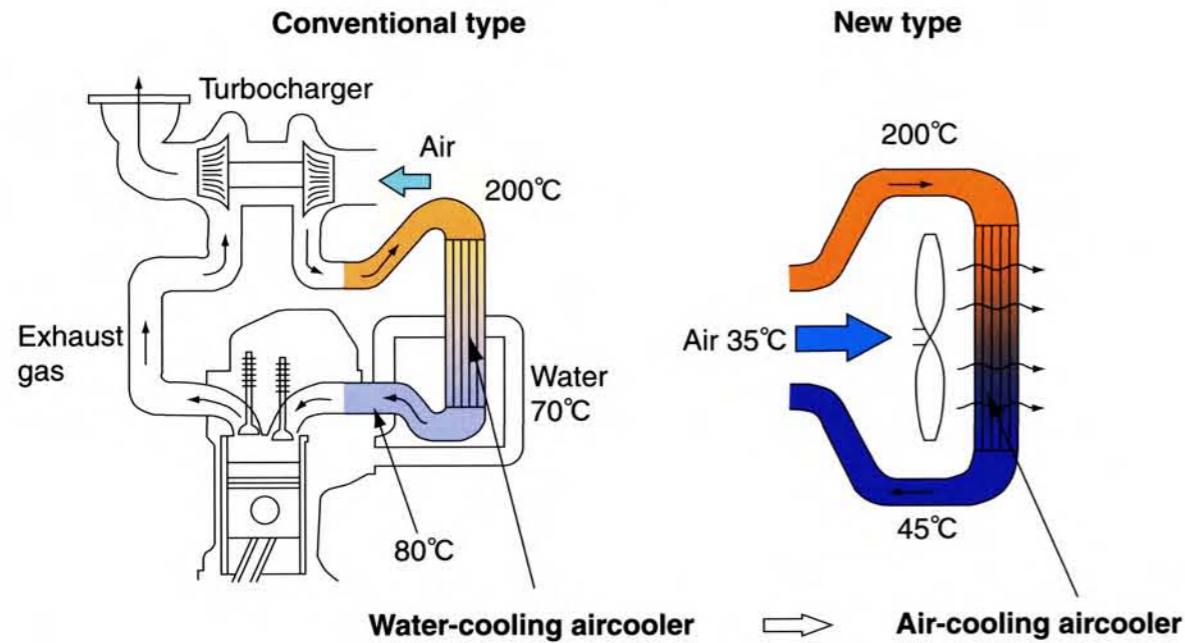
Model			S6R		S6R2		S12R		S12R-2		S16R		S16R-2		
			S6R-PTA	S6R-PTK	S6R2-PTA	S6R2-PTK	S12R-PTA	S12R-PTK	S12R-PTA2	S12R-PTK2	S16R-PTA	S16R-PTK	S16R-PTA2	S16R-PTK2	
SPECIFICATIONS	Type		4 cycle, watercooled, turbocharged diesel engine						4 cycle, watercooled, turbocharged diesel engine						
			Aftercooler	Intercooler	Aftercooler	Intercooler	Aftercooler	Intercooler	Aftercooler	Intercooler	Aftercooler	Intercooler	Aftercooler	Intercooler	
	Cylinder arrangement piston bore × stroke (mm)		6-170×180		6-170×220		12V-170×180		12V-170×180		16V-170×180				
	Total displacement (ℓ)		24.51		29.96		49.03		49.03		65.37				
	Combustion system		Direct injection						Direct injection						
	Dimensions	Length(mm)	1690				2325		2325		2880				
		Width (mm)	1041		1077		1360		1360		1360				
		Height (mm)	1498		1578		1565		1565		1810				
	Dry weight (kg)		2300		2400		4800		4880		6200		6300		
	Starting system		Electric starting with cell motor:Air direct injection or air motor						Electric starting with cell motor:Air direct injection or air motor						
Fuel oil		Diesel fuel oil (ASTM No.2-D)						Diesel fuel oil (ASTM No.2-D)							
GENERATOR	Standby power rating output mkW (HP)	50Hz	1000rpm	290 (389)	350 (469)	420 (563)	475 (637)	620 (831)	740 (992)	—	—	830 (1113)	980 (1314)	—	—
			1500rpm	555 (744)	600 (804)	635 (851)	705 (945)	1190 (1595)	1230 (1649)	1285 (1723)	1350 (1810)	1590 (2131)	1650 (2212)	1760 (2359)	1945 (2607)
		60Hz	1200rpm	410 (550)	460 (617)	520 (697)	580 (777)	820 (1099)	930 (1247)	—	—	1100 (1475)	1230 (1649)	—	—
			1800rpm	645 (865)	700 (938)	—	—	1336 (1791)	1400 (1877)	1420 (1903)	1600 (2145)	1700 (2279)	1860 (2493)	1900 (2547)	2110 (2828)
	Prime power rating output mkW (HP)	50Hz	1000rpm	260 (349)	315 (422)	380 (509)	430 (576)	560 (751)	670 (898)	—	—	750 (1005)	890 (1193)	—	—
			1500rpm	500 (670)	545 (731)	575 (771)	640 (858)	1080 (1448)	1120 (1501)	1165 (1562)	1230 (1649)	1450 (1944)	1500 (2011)	1600 (2145)	1765 (2366)
		60Hz	1200rpm	370 (496)	420 (563)	470 (630)	525 (704)	740 (992)	840 (1126)	—	—	1000 (1340)	1120 (1501)	—	—
			1800rpm	575 (771)	635 (851)	—	—	1140 (1528)	1270 (1702)	1290 (1729)	1460 (1957)	1540 (2064)	1690 (2265)	1725 (2312)	1920 (2574)
	Continuous "C" power rating output mkW (HP)	50Hz	1000rpm	235 (315)	285 (382)	325 (436)	375 (503)	480 (643)	570 (764)	—	—	640 (858)	760 (1019)	—	—
			1500rpm	430 (576)	475 (637)	495 (664)	555 (744)	960 (1287)	1010 (1354)	—	—	1300 (1743)	1350 (1810)	—	—
		60Hz	1200rpm	320 (429)	365 (489)	410 (550)	455 (610)	640 (858)	730 (979)	—	—	860 (1153)	970 (1300)	—	—
			1800rpm	490 (657)	550 (737)	—	—	970 (1300)	1100 (1475)	—	—	1310 (1756)	1460 (1957)	—	—
INDUSTRIAL	Rated output mkW (HP)	1000rpm	260 (349)	315 (422)	360 (483)	410 (550)	530 (710)	630 (845)	—	—	710 (952)	840 (1126)	—	—	
		1200rpm	355 (476)	400 (536)	450 (603)	500 (670)	710 (952)	800 (1072)	—	—	950 (1273)	1060 (1421)	—	—	
		1500rpm	475 (637)	520 (697)	545 (731)	610 (818)	1080 (1448)	1120 (1501)	—	—	1450 (1944)	1500 (2011)	—	—	
		1600rpm	500 (670)	550 (737)	—	—	1080 (1448)	1150 (1542)	—	—	1450 (1944)	1540 (2064)	—	—	
		1800rpm	550 (737)	605 (811)	—	—	1090 (1461)	1210 (1622)	—	—	1470 (1971)	1610 (2158)	—	—	

# AIR-to-AIR SERIES

New additions in the Mitsubishi Diesel Engine Series provide excellent power generating in Standby and Prime duty. An aftercooler, which is located between the turbocharger and the air manifold, is integrated with the engine mounted watercooled radiator. By means of this radiator heat-exchanging system, intake air is cooled efficiently, and the engine gains more power from equal displacement.

## Radiator Comparison

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



with FAN

Model		S6A3	S6R2	S12R	S16R	
		PTAA	PTAA	PTAA2	PTAA2	
SPECIFICATIONS	Type	4 cycle, watercooled, turbocharged with air-to-air cooling system, diesel engine				
	Cylinder arrangement piston bore × stroke (mm)	6-150×175	6-170×220	12V-170×180	16V-170×180	
	Total displacement (ℓ)	18.56	29.96	49.03	65.37	
	Combustion system	Direct injection				
	Dimensions	Length (mm)	1576	1690	2325	2880
		Width (mm)	938	1077	1360	1360
		Height (mm)	1319	1578	1565	1810
	Dry weight (kg)	1648	2370	4966	6443	
	Starting system	Electric starting with cell motor: Air direct injection or air motor				
	Fuel oil	Diesel fuel oil (ASTM No.2-D)				
GENERATOR	Standby power rating output m kW (HP)	50Hz 1500rpm	473 (634)	710 (951)	1404 (1882)	1895 (2540)
		1200rpm	—	—	—	—
		60Hz 1800rpm	516 (692)	—	1596 (2139)	2105 (2822)
	Prime power rating output m kW (HP)	50Hz 1500rpm	430 (577)	645 (865)	1277 (1711)	1684 (2258)
		1200rpm	—	—	—	—
		60Hz 1800rpm	460 (617)	—	1447 (1940)	1895 (2540)

Model			S6U		S6U2		S8U		S12U		S16U		
			S6U-PTA	S6U-PTK	S6U2-PTA	S6U2-PTK	S8U-PTA	S8U-PTK	S12U-PTA	S12U-PTK	S16U-PTA	S16U-PTK	
SPECIFICATIONS	Type		4 cycle, watercooled, turbocharged diesel engine				4 cycle, watercooled, turbocharged diesel engine						
			Aftercooler	Intercooler	Aftercooler	Intercooler	Aftercooler	Intercooler	Aftercooler	Intercooler	Aftercooler	Intercooler	
	Cylinder arrangement piston bore × stroke (mm)		6-240 × 260		6-240 × 300		8-240 × 260		12V-240 × 260		16V-240 × 260		
	Total displacement (ℓ)		70.6		81.4		94.1		141.2		188.2		
	Combustion system		Direct injection				Direct injection						
	Dimensions	Length (mm)	3380				4222		3491		4557		
		Width (mm)	1403				1538		1795		1710		
		Height (mm)	2104		2177		2179		2350		2473		
	Dry weight (kg)		8300		8600		11000		15500		20500		
	Starting system		Air direct injection				Air direct injection						
Fuel oil		Diesel fuel oil: Heavy fuel oil				Diesel fuel oil: Heavy fuel oil							
GENERATOR	Standby power rating output mkW (HP)	50Hz	750rpm	890 (1193)	971 (1302)	1042 (1397)	1116 (1496)	1186 (1590)	1294 (1735)	1780 (2386)	1942 (2603)	2373 (3181)	2589 (3471)
			1000rpm	1259 (1688)	1352 (1812)	1395 (1870)	1485 (1991)	1678 (2250)	1802 (2416)	2518 (3375)	2703 (3623)	3357 (4500)	3604 (4831)
		60Hz	900rpm	1128 (1512)	1220 (1635)	1256 (1684)	1338 (1794)	1503 (2015)	1627 (2181)	2255 (3023)	2440 (3271)	3007 (4031)	3254 (4362)
			1200rpm	1352 (1812)	1421 (1905)	—	—	1802 (2416)	1895 (2540)	2703 (3623)	2842 (3810)	3604 (4831)	3789 (5079)
	Prime power rating output mkW (HP)	50Hz	750rpm	809 (1085)	890 (1193)	947 (1270)	1015 (1361)	1079 (1446)	1186 (1590)	1618 (2169)	1780 (2386)	2157 (2892)	2373 (3181)
			1000rpm	1214 (1627)	1297 (1739)	1306 (1751)	1391 (1865)	1619 (2170)	1728 (2316)	2429 (3256)	2593 (3476)	3238 (4340)	3457 (4634)
		60Hz	900rpm	1091 (1462)	1173 (1572)	1194 (1601)	1276 (1710)	1455 (1950)	1564 (2097)	2182 (2925)	2346 (3145)	2910 (3901)	3128 (4193)
			1200rpm	1288 (1727)	1370 (1836)	—	—	1717 (2302)	1826 (2448)	2576 (3453)	2740 (3673)	3434 (4603)	3653 (4897)
	Continuous "C" power rating output mkW (HP)	50Hz	750rpm	728 (976)	809 (1085)	858 (1150)	918 (1231)	971 (1302)	1079 (1446)	1456 (1952)	1618 (2169)	1942 (2603)	2157 (2892)
			1000rpm	1091 (1462)	1165 (1562)	1183 (1586)	1259 (1688)	1455 (1950)	1553 (2082)	2182 (2925)	2330 (3123)	2910 (3901)	3107 (4165)
		60Hz	900rpm	985 (1320)	1066 (1429)	1074 (1440)	1185 (1588)	1313 (1760)	1422 (1906)	1969 (2639)	2133 (2859)	2625 (3519)	2844 (3812)
			1200rpm	1149 (1540)	1230 (1649)	—	—	1531 (2052)	1641 (2200)	2297 (3079)	2461 (3299)	3063 (4106)	3281 (4398)
INDUSTRIAL	Rated output mkW (HP)	900rpm		1027 (1377)	1104 (1480)	1141 (1530)	1216 (1630)	1370 (1836)	1472 (1974)	2054 (2754)	2209 (2961)	2739 (3672)	2945 (3948)
		1000rpm		1143 (1532)	1220 (1636)	1268 (1700)	1350 (1810)	1524 (2043)	1627 (2181)	2286 (3064)	2440 (3271)	3048 (4086)	3254 (4362)
		1200rpm		1212 (1625)	1290 (1729)	—	—	1617 (2167)	1720 (2305)	2425 (3251)	2579 (3458)	3233 (4334)	3439 (4610)

# MITSUBISHI DIESEL ENGINES



 **MITSUBISHI HEAVY INDUSTRIES, LTD.**

General Machinery & Special Vehicle Headquarters

Industrial Engine Section, Engine Sales Department, Engine Operation

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Telefax +49 (0) 4 21 6 75 32 - 20