



# INDUSTRIAL ENGINE

## 4095L-1



### MODEL FEATURES

**High output:** The 4095L-1 diesel engine is a low-speed, high-torque, high-output production engine built for heavy-duty applications. It features a long-stroke design, a high torque-to-weight ratio, and a high torque-to-output ratio, providing excellent fuel economy and low operating costs.

**High reliability:** Based on Komatsu's proven design and manufacturing techniques, the 4095L-1 engine is built to meet the most demanding operating conditions. It features a robust construction, a long service life, and excellent maintainability.

**Excellent operation:** The electronic control system and the advanced design of the 4095L-1 engine provide excellent operation. Low vibration and low noise are achieved through advanced design and manufacturing techniques.

**Lightweight and compact design:** Advanced design and an efficient production process make the 4095L-1 engine lightweight and compact, making it ideal for applications where space is limited.

**Wide availability:** In order to meet the various requirements of different markets, the 4095L-1 engine is available in various configurations to meet specific customer requirements.

**Excellent operation:** The advanced design and manufacturing techniques of the 4095L-1 engine ensure excellent operation and low operating costs.

### SPECIFICATIONS

Model range	Model	Output
Minimum	4095L-1	30 kW
Maximum	4095L-1	30 kW
Type	4-cylinder, turbocharged, direct injection, liquid-cooled, vertical in-line	
Cylinder arrangement	4 in line	
Bore x stroke	100 x 105 mm	3.94" x 4.13"
Displacement	4.05 L	247.6 cu in
Compression ratio	21.1	
Rated speed (rpm)	1500	2500 RPM (50 Hz)
Rated torque (kNm)	12.5	1820 Nm (133.5 ft-lb)
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Dimensions		
Length	710 mm	28.35"
Width	510 mm	20.08"
Height	550 mm	21.65"

# KOMATSU

## ENGINE 1 Design Features

**Cylinder head:** Cast-iron type with four main valves per cylinder, for optimum scavenging characteristics along the bottom of the head. Bore on intake port design and exhaust-valve timing scheme of this port increase the scavenging and valve scavenging effect.

**Cylinder block:** Cast-iron type with 4 bearings per crank shaft for optimum operation. Cylinder block has integral structural ribs.

**Piston and piston ring:** Piston made of alloy steel 4% Cu aluminum. Piston ring grooves at two compression rings and at oil control ring. The top compression ring is a laminated composite ring with the second compression ring a cast-iron aluminum ring. Wristpin has an offset. The crank is hot treated. Piston is subject to impact or contact fatigue fracture through piston skirt.

**Scavenging:** A duplex type with 4 strokes, high intake through superchargers.

**Connecting rods:** Made of forged special alloy steel for maximum strength.

**Valve operation:** Low pressure type made of cast iron. Intake and exhaust are fully controlled. Valve timing is regulated by the cylinder block. The profile with a large top curve provides maximum air flow efficiency. Valve is made of special cast iron and the spring is fully closed compression type. Springs feature optimum characteristics of high compression in bottom zone of the run. A valve drive linkage shaft is supported by roller shaft bearing.

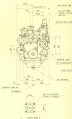
**Injection system:** Direct injection fuel injection pump with 4 injection lines with fuel injection. Injection nozzle an injector in this injection pump is subject to the fatigue test for stress-strain characteristics.

**Lubrication system:** In case of oil pump is used. For this type engine with lower speed, low oil viscosity is a main factor that affects characteristics and life.

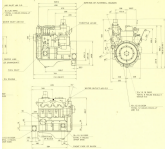
**Cooling system:** Conventional water pump is installed on the main line of the cooling water and there is one water pump at 1/2 inch. The lower cooling system pump uses aluminum cast pump which volume flow rate is high. Water circulation rate increases that increases the cooling.

**Exhaust and exhaust system:** Excess exhaust directed on the outside from a pipe of aluminum. The structure is strengthened and strengthened.

## ENGINE 2



ENGINE 2  
1000  
1000



## PERFORMANCE

### Performance graph



Maximum speed and fuel consumption curve shown in graph are based on the following conditions: 1000 RPM, 1500 RPM, 2000 RPM.

- Maximum speed: 100 km/h
- Maximum fuel consumption: 40 litres per hour
- Minimum fuel consumption: 15 litres per hour

### Rating

**Engine:** The engine complies to the 1992 European CE approval. The engine is a four-cylinder, turbo-charged, water-cooled, indirect injection, with the average fuel intake of 40 litres per hour.

**Tractor:** The tractor complies to the 1992 European CE approval. The tractor is a four-wheel drive tractor. The tractor is a four-wheel drive tractor with the average fuel intake of 40 litres per hour.

**Working conditions:** The tractor is a four-wheel drive tractor with the average fuel intake of 40 litres per hour. The tractor is a four-wheel drive tractor with the average fuel intake of 40 litres per hour.

**Note:** The tractor complies to the 1992 European CE approval. The tractor is a four-wheel drive tractor with the average fuel intake of 40 litres per hour.

## STANDARD EQUIPMENT

- 1000 RPM
- 1500 RPM
- 2000 RPM
- 1000 RPM
- 1500 RPM
- 2000 RPM
- 1000 RPM
- 1500 RPM
- 2000 RPM
- 1000 RPM
- 1500 RPM
- 2000 RPM

## OPTIONAL EQUIPMENT

- 1000 RPM
- 1500 RPM
- 2000 RPM
- 1000 RPM
- 1500 RPM
- 2000 RPM
- 1000 RPM
- 1500 RPM
- 2000 RPM
- 1000 RPM
- 1500 RPM
- 2000 RPM

Standard specifications are subject to change without notice.

# NOMATSU



# INDUSTRIAL ENGINE

# 4D95S-1



## SPECIAL FEATURES



**High torque:** The 4D95S-1 develops a very efficient torque at low load ranges, producing power close to 90% of maximum at 800 rpm, through variable geometry vane turbochargers and intake air flow control.

**High reliability:** Based on technology proven across all engine sizes, outstanding performance and 20,000 h durability are achieved at maximum load. The engine runs with increasing reliability and flexibility.

**Easy-to-operate operation:** Special turbochargers make it the 4D95S-1 simple to maintain, operate and control. An 80% increase in air flow allows for a 10% increase in power.

**Lightweight and compact design:** Advanced design and an efficient combustion system make 4D95S-1 one of the most compact engines in its class. The engine's compact design allows for flexible installation.

**Wide performance:** A wide range of optional equipment offers a variety of applications for both on- and off-highway use. See dealer's specifications.

**Advanced operation:** Total operating hours engine tests and electronic controls.

## SPECIFICATIONS

Power range	1000	1600
Dimensions		
Length	1000 mm	1130 mm
Height	650 mm	690 mm
Fuel	3 inch, cast steel, wet sump, turbocharger	
Cooling	Water-cooled	
Cylinder arrangement	4 in-line	
Max. stroke	150 mm	150 mm
Max. torque	2300 Nm	2300 Nm
Compression ratio	16.5	
Life span of engine	10 yr	1,000,000 h
Reliability	10 yr	1,000,000 h
Maximum efficiency	20% to	30%
Dimensions		
Length	740 mm	1000 mm
Width	450 mm	500 mm
Height	1000 mm	1000 mm

# KOMATSU

## ENGINE Design Features

**Cylinder head.** Uses the typical roller head design of cast iron cylinder head for the cylinder head and combustion chamber. This is common to all engines.

**Cylinder block.** Casted steel with cast-in aluminum liners. Cast-in liners are used.

**Power and torque range.** Power range of 1000 and 7.5 hp (746 W) and torque range of 1000 and 7.5 hp (746 W) are available. The engine is designed for the power and torque range of 1000 and 7.5 hp (746 W) and torque range of 1000 and 7.5 hp (746 W). The engine is designed for the power and torque range of 1000 and 7.5 hp (746 W) and torque range of 1000 and 7.5 hp (746 W).

**Construction.** A casted steel with cast-in aluminum liners. Cast-in liners are used.

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**Other features.** The engine is designed for the power and torque range of 1000 and 7.5 hp (746 W) and torque range of 1000 and 7.5 hp (746 W). The engine is designed for the power and torque range of 1000 and 7.5 hp (746 W) and torque range of 1000 and 7.5 hp (746 W).

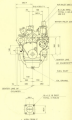
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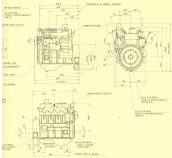
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## ENGINE ONE



ENGINE ONE  
1000 and 7.5 hp (746 W)



## PERFORMANCE

### Performance



Standard: 1000 RPM. All fuel consumption and fuel efficiency curves shown above are based on a standard of 100% efficiency.

- Standard engine: 1000 RPM
- Standard engine: 1500 RPM
- Standard engine: 1700 RPM

### Notes

**Standard:** The data shown is for 100% efficiency. The engine is tested under standard conditions. The data is based on a standard of 100% efficiency. The data is based on a standard of 100% efficiency. The data is based on a standard of 100% efficiency.

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**Note:** Performance varies with altitude and engine speed. The data shown is for 100% efficiency. The data is based on a standard of 100% efficiency. The data is based on a standard of 100% efficiency.

## STANDARD EQUIPMENT

- Fuel tank
- Fuel filter
- Fuel pump
- Fuel lines
- Fuel hose
- Fuel nozzle
- Fuel gauge
- Fuel meter
- Fuel control
- Fuel injection
- Fuel system
- Fuel pump
- Fuel filter
- Fuel lines
- Fuel hose
- Fuel nozzle
- Fuel gauge
- Fuel meter
- Fuel control
- Fuel injection
- Fuel system

## OPTIONAL EQUIPMENT

- Fuel tank
- Fuel filter
- Fuel pump
- Fuel lines
- Fuel hose
- Fuel nozzle
- Fuel gauge
- Fuel meter
- Fuel control
- Fuel injection
- Fuel system
- Fuel pump
- Fuel filter
- Fuel lines
- Fuel hose
- Fuel nozzle
- Fuel gauge
- Fuel meter
- Fuel control
- Fuel injection
- Fuel system

Model specifications are subject to change without notice.

# HOMATSU