CATERPILLAR®

C18 ACERT™ Fire Pump

522 bkW/700 bhp @ 1750 rpm

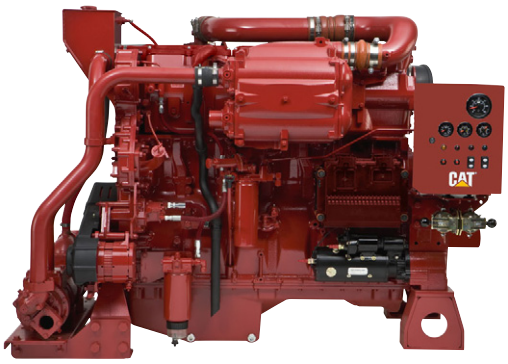

Image shown may not reflect actual engine

CATERPILLAR ENGINE SPECIFICATIONS

I-6, 4-Stroke-Cycle Diesel

Bore.....145.0 mm (5.71 in)
Stroke.....183.0 mm (7.2 in)
Displacement..... 18.1 L (1,104.53 in3)
Aspiration.....Turbocharged Aftercooled
Compression Ratio.....16.3:1
Rotation (from flywheel end)..... Counterclockwise
Weight, Net Dry (approximate kg. lb).. 1673 kg (3688 lb)

FEATURES

Worldwide Supplier Capability

Caterpillar
- Casts engine blocks, heads, cylinder liners, and flywheel housings
- Machines critical components
- Assembles complete engine
- Factory-designed systems built at Caterpillar ISO 9001:2000 certified facilities

Ownership of these manufacturing processes enables Caterpillar to produce high quality, dependable product.

Testing

Prototype testing on every model:
- proves computer design
- verifies system torsional stability
- functionality tests every model

Every Caterpillar engine is dynamometer tested under full load to ensure proper engine performance.

Full Range of Attachments

Wide range of bolt-on system expansion attachments, factory designed and tested.

Unmatched Product Support Offered Through Worldwide Caterpillar Dealer Network

More than 1,800 dealer outlets
Caterpillar factory-trained dealer technicians service every aspect of your industrial engine
99.7% of parts orders filled within 24 hours worldwide
Caterpillar parts and labor warranty
Preventive maintenance agreements available for repair before failure options

Scheduled Oil Sampling program matches your oil sample against Caterpillar set standards to determine:
- internal engine component condition
- presence of unwanted fluids
- presence of combustion by-products

Web Site

For all your industrial power requirements, visit www.cat-industrial.com.

STANDARD ENGINE EQUIPMENT

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Air Inlet System

Dual turbocharger: front and rear inlet, 237.0 mm (5 in)
Separate Circuit Aftercooled (SCAC)

Charging System

Charging alternator 24 volt, 50 amp

Control System

Electronic governing, PTO speed control
Programmable ratings
Cold mode start strategy
Automatic altitude compensation
Power compensation for fuel temperature
Programmable low and high idle and total engine limit (TEL)
Electronic diagnostics and fault logging
Engine monitoring and protection system (speeds, temperature, pressure)
J1939 Broadcast (diagnostic, engine status and control)

Cooling System

Thermostats and housing, vertical outlet
Jacket water pump, gear driven, centrifugal
Heat exchanger (installed)
Expansion tank

Exhaust System

Exhaust manifold, dry
Dual turbo: exhaust elbow, dry 203 mm (8 in)

Flywheels and Flywheel Housing

Flywheel, SAE #1
Flywheel housing, SAE #1
SAE standard rotation

Fuel System

Electronic unit injector
Fuel filter, secondary, mid-mount (LH 2 micron high performance)
Fuel transfer pump, LH front
Fuel priming pump, LH mid-mount
Fuel sample valve, mounted on fuel filter base
Primary filter / water separator

Instrumentation

Instrument panel, LH
Engine oil pressure gauge
Voltmeter gauge
Water temperature gauge
Tachometer / engine hour meter

Lube System

Crankcase breather, front valve cover
Oil cooler, RH (dual)
Oil filter, RH
Oil pan, front sump
Oil filler, LH front
Oil dipstick, LH front
Oil pump

Mounting System

Front and rear support

Power Take-Offs

Flywheel and stub shaft

Protection System

Stop-Start System, automatic (compatible with NFPA 20 requirements, able to be energized from either of two battery sources and capable of manual starter actuation)

Starting System

24 volt, LH electric starting motor
Jacket water heater (3 kW, 120-240 volt)

General

Vibration damper and guard
Paint, Caterpillar fire pump red
Lifting eyes
Automatic variable timing, electronic
Electronic installation kit, 70 pin connector (connectors, pins, sockets)
Literature, Owner and Operator's Manual

PERFORMANCE CURVES

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IND - E - DM9853-01

English

Engine Torque lb•ft

Performance curve is not shown since fire pump technical data is published at constant speed (rpm).

Engine Power bhp

Below data is shown from 100% load to 10% load.

BSFC lb/bhp-hr

Engine Speed rpm

Engine Speed rpm	Engine Power bhp	Engine Torque lb•ft	BSFC lb/bhp-hr	Fuel Rate gal/hr
1750	700	2101	.358	35.8
1750	630	1891	.365	32.9
1750	560	1681	.370	29.6
1750	525	1575	.373	27.9
1750	490	1471	.377	26.4
1750	70	210	.492	4.9
1750	350	1050	.400	20.0
1750	280	840	.399	16.0
1750	210	631	.398	11.9
1750	175	525	.398	9.9
1750	140	420	.409	8.2
1750	420	1260	.386	23.2

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RATINGS AND CONDITIONS

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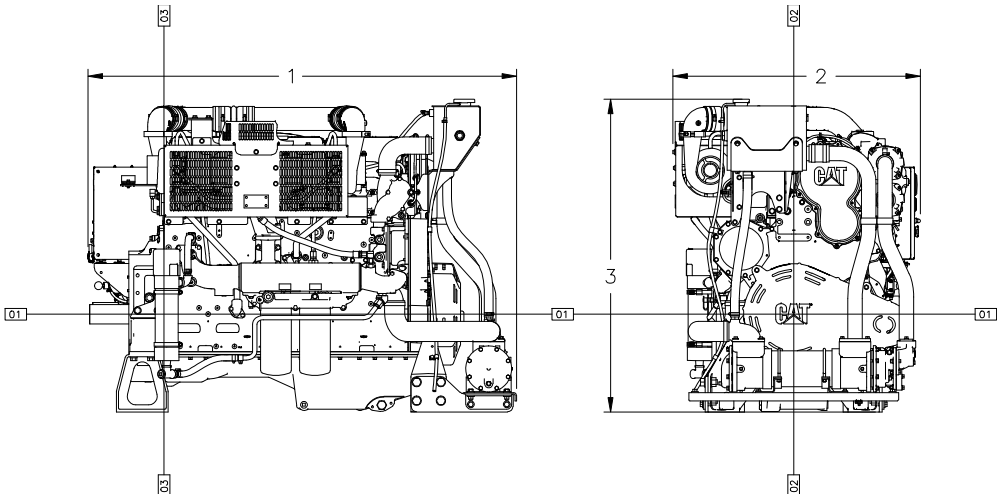
Standby Fire Pump Ratings represent the output which may be utilized to drive stationary fire pumps where the pumping equipment has been sized according to NFPA 20 guidelines and for expected use of 30 hours per year where pump demand is about 90% or less of the certified power. Standby fire pump ratings are not equivalent to IND-E or any other standard Industrial ratings.

Engine Performance Diesel Engines — 7 liter and higher
All rating conditions are based on SAE J1995, inlet air standard
conditions of 99 kPa (29.31 in. Hg) dry barometer and 25ºC (77ºF)
temperature. Performance measured using a standard fuel with fuel
gravity of 35º API having a lower heating value of 42,780 kJ/kg
(18,390 btu/lb) when used at 29º C (84.2º F) with a density of 838.9 g/L.



Engine Dimensions	
(1) Length	74.37 in
(2) Width	42.95 in
(3) Height	54.32 in

Note: Do not use for installation design. See general dimension drawings for detail (Drawing # null).

Performance Number: DM9853-01

Feature Code: C18DF02 Arr. Number: 3149713

Materials and specifications are subject to change without notice.

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The International System of Units (SI) is used in this publication.