



Basic data

General

Configuration and number of cylinders	.....	In line 6
Working principle	.....	4 stroke
Bore x stroke	mm	115 x 144
Displacement	dm ³	9.0
Compression ratio	.....	17:1
Firing order	.....	1 - 5 - 3 - 6 - 2 - 4
Piston speed		
at 1500 r/min	m/s	7.2
at 1800 r/min	m/s	8.6
Rotation, seen from flywheel end	.....	Counter clockwise
Moment of inertia		
with flywheel for 14" coupling	kgm ²	2.6
Number of teeth on flywheel ring gear	.....	158
Weight approx., excl. oil and coolant	.....	17:1
D9, incl. fan	kg	825
DC9, incl. fan, radiator and expansion tank	kg	890

Lubrication system

Oil capacity, depending on oil sump	dm ³ , min	24
	max	31
Oil consumption	g/kWh	< 0.3
Oil change intervals	h	400
Oil grade	.....	CE or CF acc. to API CCMC D5 Acea E3-96
Oil Pressure		
Normal	bar	3 - 6
Minimum permitted	bar	0.7
Oil temperature		
Maximum permitted	°C	120
Oil cleaner	.....	Cyclone and centrifugal
Filtration	Micron	5 - 7
Oil filter for turbo charger	.....	Paper
Oil cooler	.....	Water cooled/Full flow



CID: 10003

Latest modification date: 980101

Injection system

Type	.....	Direct injection
Governor	.....	Mechanical, RSV
Optional	.....	Electronically controlled mechanical, RSV
Fuel filter	.....	Paper filter element

Cooling system

Coolant volume, excl. radiator	dm ³	18
Coolant temperature	°C	75 - 90
Number of thermostats	.....	1
Opening temperature	°C	79

Intake system

Permissible pressure drop in intake system with cleaned or new filter	mmWc	300
Permissible pressure drop in intake system with blocked (dirty) filter	mmWc	500

Electrical system, optional equipment

Type	.....	1-pole, 24 V, DC
Optional	.....	2-pole, 24 V, DC
Starter, standard equipment	.....	1-pole, 24 V - 4.0 kW
Optional	.....	2-pole, 24 V - 4.0 kW
Alternator, standard equipment	.....	1-pole, 28 V - 65 A
Optional	.....	2-pole, 28 V - 65 A
	.....	1-pole, 28 V - 90 A
Stop solenoid, optional equipment		
Needed power to pull	A	39
Needed power to hold	A	0.46



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Technical data and cooling equipment recommendation

DC9 50A, order ref 10-26

		1500 r/min		1800 r/min	
		PRP	ESP	PRP	ESP
Gross power	kW	247	273	272	291
Specific fuel consumption	g/kWh				
full load		194	196	199	202
3/4 load		194	195	197	197
1/2 load		198	197	202	201
Heat rejection	kW				
to cooling water		93	101	98	109
to exhaust gas		170	192	193	212
to surrounding air		22	25	25	27
Air consumption	kg/min	20	22	25	26
Exhaust flow	kg/min	21	23	26	27
Exhaust temperature	°C	470	482	440	460

		1500 r/min				1800 r/min			
		PRP		ESP		PRP		ESP	
		Air-on temp.		Air-on temp.		Air-on temp.		Air-on temp.	
		35 °C	50 °C	35 °C	50 °C	35 °C	50 °C	35 °C	50 °C
Radiator									
front area	m ²	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
weight	kg	47	47	47	47	47	47	47	47
Coolant pump flow	dm ³ /min	245	245	245	245	285	285	285	285
Coolant pressure	bar	2,5 ^{*)}	2,5 ^{*)}	2,5 ^{*)}	2,5 ^{*)}	2,5 ^{*)}	2,5 ^{*)}	2,5 ^{*)}	2,5 ^{*)}
Fan									
type		Puller	Puller	Pusher	Pusher	Puller	Puller	Pusher	Pusher
Ø	mm	711	711	711	711	711	711	711	711
power losses	kW	5	5	5	5	8	8	8	8
speed ratio		1:1.08	1:1.08	1:1.08	1:1.08	1:1.08	1:1.08	1:1.08	1:1.08
Air flow									
free air flow	m ³ /s	5.2	5.2	4.4	4.4	6.5	6.5	5.5	5.5
pressure reserve	mm Wc	19	16	15	12	19	16	15	12

*) All connected components, e.g. cab heaters and converter coolers, must be designed to withstand coolant pressure up to 4 bar.