



TECHNISCHE DATEN

Ergänzungsblatt zu
0001 0061 (W 0148-0)

SPECIFICATION DATA

Supplement to
0001 0062 (W 0148-0)

CARACTERISTIQUES TECHNIQUES

Complément au
0001 0063 (W 0148-0)

DATOS TÉCNICOS

Hoja complementaria para
0001 0064 (W 0148-0)

DEUTZ MOTOR

Waldhofstraße 1
62699 Viernheim (Hessen)

FL 413 FR
FL 413 F
BFL 413 F/FC

SPECIFICATION DATA
 (subject to change)

Construction system - description
 Division - production
 Inseal - (subject to change) COL

Metric		Units					
No. of stations Minimum working		1					
No. of lines Minimum Minimum rate		100000 100000 100000					
Production rate Minimum/Maximum		1000	1000	1000	1000	1000	1000
Maximum weight (kg) (1000 kg) (kg) (maximum weight)		1000	1000	1000	1000	1000	1000
Maximum size (mm) (1000 mm)	Maximum	1000	1000	1000	1000	1000	1000
	Light and weight	1000	1000	1000	1000	1000	1000
Automatic using (kg) (1000 kg)		1000	1000	1000	1000	1000	1000
No. of lines (1000 kg) Minimum		1000					
No. of stations working speed (kg) (kg)		1000					
No. of stations (kg) (kg) (kg) (kg) (kg)		1000					
Maximum weight referred to full consumption		1					
Working method		1000 - 1000					
No. of stations working (kg) (kg) (kg)		1000 1000 1000					
Maximum weight (kg) (kg)		1000					

10 - 10000 kg
 100 - 100000 kg

Combustion system: direct injection
 Injection production
 Exhaust (exhaust system): DCL

Item			Fuel flow						
No. of cylinders No. of total cylinders		6/6	18.0						
No. of valves Valves Compression ratio		12/24 16.7	16.7						
Injection speed Max. injection pressure		7000 800	100	160	200	250	300	350	400
Injection timing (°) at operating and max. injection pressure		180 180	1.30	1.30	1.30	1.30	1.30	1.30	1.30
Injection angle (°) relative to axis	Timing only	180	1.30	1.30	1.30	1.30	1.30	1.30	1.30
	Injection angle only	180 180	1.30 1.30	1.30 1.30	1.30 1.30	1.30 1.30	1.30 1.30	1.30 1.30	1.30 1.30
Injection velocity (m/s) Nozzle		1750 1750	1.30	1.30	1.30	1.30	1.30	1.30	1.30
No. of fuel jets No. of jets		6/6	18.0						
No. of fuel injection points Injection angle		12/24	18.0						
Spray fan angle (Maximum and min. angle)		120/120	18.0						
Spray angle measured at fuel injection		75	18.0						
Nozzle orifice			18.0						
No. of fuel injection points Injection angle No. of jets No. of jets		12/24 12/24	18.0						
Injection velocity (m/s) Nozzle		1750	18.0						

120 = relative angle
 180 = fan angle

SPECIFICATION DATA

(subject to alterations)

Combustion system: direct injection
Direction of rotation:

 (viewed toward flywheel): **CCW**

Model		MP 6L-40 F						
		5V 1712						
No. of cylinders (M4 adapter housing)	Size	120 / 120 6,578 162 / 1						
Bore/Stroke (mm) Capacity Compression ratio	mm litres	120 / 120 6,578 162 / 1						
Rotational speed Max. piston speed	1/min m/s	1800 8,5	1800 7,8	2000 9,0*	2100 9,5*	2200 10,0	2300 10,5	2500 11,25
Continuous rating ("B" to DIN 6072) (50% load without electrical load)	litre kW hp	97 132 181	98 132 181	101 138 187	107 146 199	112 154 208	-- -- --	-- -- --
Intermittent rating ("B" to DIN 6072)	heavy duty	litre kW hp	102 138 187	107 146 199	112 154 208	117 162 220	122 168 228	127 174 236
	light duty max.	litre kW hp	107 146 199	108 148 202	112 154 208	116 160 216	120 165 224	124 171 232
Automatic rating (DIN 15000) max.	litre kW hp	-- -- --	-- -- --	-- -- --	-- -- --	167 227 307	177 240 324	177 240 324
Max. torque (DIN 15000) at speed	litre Nm	716 1750 - 1800						
Min. sustained working speed slong speed	1/min 1/min	1000 1000						
Specific fuel consumption (automatic rating and max. torque)	g/kWh g/kWh	270 260						
Loss of consumption as referred to fuel consumption	%	0						
Starting method		EL						
Max. coefficient of friction of universal joint (for ring / flywheel and oil at 60°C)	deg. mm	15 / 15 15 / 15						
Shipping volume (gross weight packing)	m ³	1,80						

 EL = electric starter
 EL = electric starter

SPECIFICATION DATA

(subject to alterations)

Combustion system: direct injection

Direction of rotation:

(viewed toward flywheel): CWL

Model		F 6L 60 F						
		B P 1+2						
No. of cylinders (B&P adapter housing)		Six						
Bore / Stroke Capacity Compression ratio		100 / 100 10,000 18.1						
Rotational speed Maximum speed		r/min 1500 1700						
Continuous rating ("N" to DIN 5230) (90 % mechanical capacity) B&P		100	120	150	160	180	—	—
		8.40	8.40	8.30	8.21	8.13	—	—
Intermittent rating ("N" to DIN 5230)	Heavy duty	100	120	150	160	180	200	—
	Light duty B&P	100	120	150	160	180	200	—
Autonomous rating (DIN 10000) B&P	EA	—	—	—	—	170	180	190
	EA	—	—	—	—	1.60	1.60	1.60
Max. torque (DIN 10000) at rated		9.07 1000						
Min. sustained working speed idling speed		r/min 500 500						
Specific fuel consumption (Autonomous rating and max. torque)		g/kwh g/kwh 170 150						
Type of consumption as referred to fuel consumption		%						
Starting method		EL						
Max. continuous limitation of standard rating for aux. flywheel and LH or RH side		B&P B&P 95.10 95.10						
Shipping volume (gross by packing)		m ³ 0.20						

EL = electric starter

EA = flywheel starter

ENGLISH

SPECIFICATION DATA
(subject to alterations)

Combustion system: direct injection
Direction of rotation:
(viewed toward flywheel) CCL

Model		SP 11-1017						
No. of cylinders (44° inlet valve timing)	Size	17V 1 11 2						
Bore (Stroke) Capacity (Compression ratio)	mm Inches	125 / 100 4 916 / 3 937 15.5 : 1						
Rotational speed Maximum speed	rpm r/min	1000	1500	2000	2500	3000	3500	3800
Continuous rating (7°C) @ 5000 RPM (34 % overload capacity) (BHP)	kW HP kW	52 70 5.0	90 120 6.6	120 160 9.0	160 210 11.8	190 250 13.7	—	—
Intermittent rating (7°C) @ 5000 RPM	heavy duty	52 70 kW	90 120 kW	124 164 kW	160 210 kW	201 270 kW	230 300 kW	—
	light duty (BHP)	52 70 kW	90 120 kW	114 154 kW	150 200 kW	191 250 kW	220 290 kW	250 330 kW
Autonomous rating (50% P1000) (BHP)	kW HP kW	—	—	—	—	22 29 kW	29 39 kW	35 47 kW
Max. torque (50% P1000) at speed	Nm Lbs-ft	90 66.2 - 68.0						
Min. sustained working speed lugging speed	rpm r/min	1000 500						
Specific fuel consumption (automotive rating and max. torque)	g/kWh g/HP-hr	200 140						
Loss of consumption as related to fuel consumption	%	7						
Starting method		EL						
Max. synchronous induction of alternator torque (for use) 1 flywheel and 124 or 154 Nm	kgm ft-lb	75 / 55 55 / 40						
Shipping volume (assembly packing)	m ³	3.87						

EL — electric starter
12 — 12V lead-acid battery

SPECIFICATION DATA
(subject to alterations)

Combustion system: direct injection
Direction of rotation:
forward (forward flywheel) - CCL

Model		FUEL USE							
No. of cylinders SAE cylinder loading		6/400	10% 1-1-2						
Bore / stroke Capacity Compression ratio		90/100 1000 16.1	100 / 100 10,000 16.1						
Optional speed Maximum speed		1000 1000	1000 6.5	1000 7.0	1000 6.7	1000 6.50	1000 6.30	1000 6.20	1000 6.10
Continuous rating (1" to 600 000) (1" to 1000 000) (1" to 1000 000)		100 100 100	1.0 1.0 6.0	1.0 1.0 6.0	1.0 1.0 6.0	1.0 1.0 6.0	1.0 1.0 6.0	1.0 1.0 6.0	1.0 1.0 6.0
Intermittent rating (1" to 2000 000)	heavy duty	100 100	1.0 1.0	1.0 1.0	1.0 1.0	1.0 1.0	1.0 1.0	1.0 1.0	1.0 1.0
	light duty peak	100 100 100	1.0 1.0 6.0	1.0 1.0 6.0	1.0 1.0 6.0	1.0 1.0 6.0	1.0 1.0 6.0	1.0 1.0 6.0	1.0 1.0 6.0
Alternative rating (2000 000) BHP		100 100 100	1.0 1.0 6.0	1.0 1.0 6.0	1.0 1.0 6.0	1.0 1.0 6.0	1.0 1.0 6.0	1.0 1.0 6.0	1.0 1.0 6.0
Max. torque (2000 000) at speed		100 100	1000 1000						
Min. sustained working speed idling speed		1000 1000	1000 1000						
Specific fuel consumption (continuous rating and max. torque)		g/kWh g/kWh	100 100						
Life oil consumption as referred to fuel consumption		%	1						
Starting method			EL						
Max. cylinder liner wear at end of 100000 and 1000000		mm mm	20/100 20/100						
Shipping volume (assembly packing)		m ³	1.0						

EL = electric starter
mm = the base size

SPECIFICATION DATA

(subject to alterations)

Combustion system: direct injection

Direction of rotation:

(viewed toward flywheel) O.C.L.

Model		MF 100, 100 P							
		107° 171°P							
No. of cylinders SAE intake housing	Size	100/100							
Bore/Stroke Capacity Compression ratio	mm inches	100/80 3.94/3.15 10.5:1							
Rotational speed Max. petrol speed	1/min rpm	1000 5.9	1600 9.8	2000 12.1	2700 16.2	3200 19.4	3700 22.5	3900 23.2	
Continuous rating ("N" as indicated) (30 °C ambient capacity) kW/P	kW	15.0	20.0	27.0	33.0	38.0	—	—	
	hp	20.0	27.0	36.0	44.7	51.0	—	—	
	hp	8.13	8.26	8.54	8.91	9.76	—	—	
Intermittent rating ("B" as O.N. 50%)	heavy duty	kW	17.0	21.2	27.0	31.0	35.0	38.0	—
		hp	22.7	28.8	36.0	41.0	46.0	51.0	—
	light duty kW/P	kW	17.0	22.0	28.0	33.0	38.0	37.0	37.0
hp	22.7	29.8	37.0	44.7	51.0	49.0	49.0		
hp	8.26	8.52	8.71	8.92	9.57	9.57	9.59		
Intermittent rating (O.N. 100%) kW/P	kW hp hp	— — —	— — —	— — —	— — —	27.0 36.0	38.0 51.0	38.0 51.0	
Max. torque (O.N. 100%) at speed	Nm ft-lbs	1000 738 (1000 - 1050)							
Min. sustained working speed idling speed	1/min rpm	700 500							
Specific fuel consumption intermittent rating and max. torque	g/kWh g/hp-h	200 140							
Loss of consumption as related to fuel consumption	%	1							
Starting method		E.L.							
Max. continuous indication of rotating torque for and 1/2 revolution for 1/2 minute	kgm ft-lb	20/100 150/750							
Shipping volume (assembly packing)	m ³	0.81							

 E.L. = electric starter
 100 = 100 lbs starter

ENGLISH

SPECIFICATION DATA

(subject to alterations)

Combustion system: direct injection

Direction of rotation

(viewed toward flywheel): CCL

Model		P 1014 4007							
No. of cylinders Cylinder arrangement		Size	1014 1730						
Bore / Stroke Capacity Compression ratio		mm litres	100 / 100 1010 10.1						
Maximum speed Mean piston speed		rpm m/s	1620 6.9	1800 7.9	2000 8.9	2100 9.3	2200 9.6	2300 9.9	2400 10.4
Continuous rating ("N" in DIN 6270) (75 % overload capacity) max.		kW CV	15.4 20.9 6.44	16.6 22.6 6.81	20.0 27.1 8.21	21.4 29.0 8.26	22.4 30.4 8.31	--	--
Intermittent rating ("N" in DIN 6270)	heavily-duty	kW CV	18.4 25.0	19.6 26.6	21.0 28.4	22.0 29.8	23.0 31.2	24.0 32.6	--
	lightly-duty DLEP	kW CV	17.0 23.0 7.15	18.0 24.4 7.54	20.1 27.3 8.04	21.6 29.1 8.45	22.7 30.8 8.70	23.7 32.3 9.00	24.0 32.6 9.21
Automatic rating (DIN 70020) DLEP		kW CV	--	--	--	--	20.0 27.0	23.0 31.2	24.0 32.6
Max. torque (DIN 70020) at 1500		Nm kgm	1200 1200						
Min. sustained working speed torque speed		rpm r/min	1600 1600						
Specific fuel consumption (automatic rating and max. torque)		g/kWh g/HPH	214 164						
Specific oil consumption as referred to fuel consumption		%	1						
Starting method			EL						
Max. continuous limitation of started engine: fan and flywheel and Lamp life side		deg. deg.	90 / 10 180 / 30						
Shipping volume (gross weight packing)		m ³	0.84						

EL = electric starter

VA = fan fan starter

SPRINKLER DATA
(subject to change)

Evolution system direct control
Direction of rotation
(clockwise/anticlockwise) CCW

Model		SPRINKLER								
No. of positions (with address marking)		104	104							
Type of burner (output) (Watt/maximum)		104/1000	104/1000 1000 W							
Controlled speed (maximum/minimum)		7000/1000	1000	1000	1000	1000	1000	1000	1000	
Controlled speed (7000 W @ 1000 rpm) (2.5 W control voltage)		104/1000	1000	1000	1000	1000	1000	1000	1000	
Controlled speed (7000 W @ 1000 rpm) (2.5 W control voltage)	Speed 1000	104	1000	1000	1000	1000	1000	1000	1000	
	Speed 1000 1000	104/1000	1000	1000	1000	1000	1000	1000	1000	
Addressable using 24V control (with)		104/1000	1000	1000	1000	1000	1000	1000	1000	
Model		104/1000	1000	1000	1000	1000	1000	1000	1000	
No. of burner (with control) (Watt)		104/1000	104/1000 1000 W							
No. of burner (with control) (Watt)		104/1000	104/1000 1000 W							
Speed of controlled burner (with control)		104/1000	104/1000 1000 W							
Type of controlled burner (with control)		104/1000	104/1000 1000 W							
Control method		104/1000	104/1000 1000 W							
No. of burner (with control) (Watt)		104/1000	104/1000 1000 W							
No. of burner (with control) (Watt)		104/1000	104/1000 1000 W							
Control method		104/1000	104/1000 1000 W							

104 = control burner
 1000 = control burner

SPECIFICATION DATA

(subject to alterations)

Combustion system: direct injection

Direction of rotation

(viewed toward flywheel): CCL

Model		BF 10L 410 (70)						
		10 ¹ / 10 ²						
No. of cylinders (SAE adapter housing)		Size	10 ¹ / 10 ²					
Bore / Stroke Cylinder Compression ratio		mm mm ³	100 / 100 19,144 16.0 : 1					
Rotational speed Mean piston speed		1/min m/s	1000 8.0	1500 11.8	2000 15.7	2100 16.2	2500 19.0	3000 22.9
Continuous rating ("A" to DIN 5007) (30 °C, normal capacity) BMEP		MPa bar bar	-- -- --	0.79 0.97 9.4	0.80 0.92 9.0	0.81 0.93 8.6	0.81 0.93 8.6	-- -- --
Maximum rating (10 ¹ to DIN 5007)	heavy duty	MPa	--	0.81	0.81	0.81	0.81	0.81
		bar	--	0.80	0.80	0.80	0.80	
	light duty BMEP	MPa	--	0.78	0.80	0.80	0.80	0.81
		bar	--	0.76	0.78	0.78	0.77	0.79
Automotive rating (DIN 70020) BMEP		MPa bar bar	-- -- --	-- -- --	-- -- --	0.84 0.79 8.25	0.81 0.80 7.92	-- -- --
Max. torque (DIN 70020) at speed		Nm Nm ²	600 1700					
Min. sustained working speed lugging speed		1/min 1/min	1000 800					
Specific fuel consumption (automotive rating and max. torque)		g/kWh g/kWh	210 184					
Lube oil consumption as referred to fuel consumption		%	1					
Starting method			EL					
Max. permissible inclination of standard pump, car and / flywheel and LH or RH side		deg. deg.	10 ¹ / 00 20 ¹ / 00					
Displacement (asworthy parking)		m ³	0.90					

EL = electric starter

VM = five face starter

T-Motor
T-type engine
Motor au type T
Motor de cilindrada cu T



Multi-Cylinder
M-type engine
Motor au tip M
Motor de cilindrada cu M



	1000		1200		1500		1800		2000	
	A	B	A	B	A	B	A	B	A	B
1000 4 CYL	1000	875L	1200	950L	1500	1000L	1800	1150L	2000	1275L
1000 6 CYL	1000	975L	1200	1050L	1500	1100L	1800	1250L	2000	1375L
1000 8 CYL	1000	1075L	1200	1150L	1500	1200L	1800	1350L	2000	1475L
1200 4 CYL	1200	975L	1500	1100L	1800	1200L	2000	1300L	2200	1400L
1200 6 CYL	1200	1075L	1500	1200L	1800	1300L	2000	1400L	2200	1500L
1200 8 CYL	1200	1175L	1500	1300L	1800	1400L	2000	1500L	2200	1600L
1500 4 CYL	1500	1075L	1800	1200L	2000	1300L	2200	1400L	2400	1600L
1500 6 CYL	1500	1175L	1800	1300L	2000	1400L	2200	1500L	2400	1700L
1500 8 CYL	1500	1275L	1800	1400L	2000	1500L	2200	1600L	2400	1800L
1800 4 CYL	1800	1175L	2000	1300L	2200	1400L	2400	1600L	2600	1800L
1800 6 CYL	1800	1275L	2000	1400L	2200	1500L	2400	1700L	2600	1900L
1800 8 CYL	1800	1375L	2000	1500L	2200	1600L	2400	1800L	2600	2000L

