

 AIR RESOURCES BOARD	DEUTZ AG	EXECUTIVE ORDER U-R-013-0110
		New Off-Road Compression-Ignition Engines

Pursuant to the authority vested in the Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-02-003;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engines and emission control system produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	DISPLACEMENT (liters)	FUEL TYPE	USEFUL LIFE (hours)
2003	3DZXL01.2023	1.2	Diesel	3000, 5000
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION	
Indirect Diesel Injection			Loader, Compressor, Industrial Equipment	

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (CERT) for hydrocarbon (HC), oxides of nitrogen (NOx), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kw-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

RATED POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			HC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
8 ≤ kW < 19	Tier 1	STD	N/A	N/A	9.5	6.6	0.80	20	15	50
19 ≤ kW < 37	Tier 1	STD	N/A	N/A	9.5	5.5	0.80	20	15	50
		CERT	-	-	6.0	2.2	0.35	2	2	6

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.

Executed at El Monte, California on this 9TH day of December 2002.


 Allen Lyons, Chief
 Mobile Source Operations Division

Attachments 1 of 1

Manufacturer: DEUTZ AG
 Engine Category: Nonroad CI
 EPA Family Name: 3DZX101.2023
 Mfr. Family Name: F4M1008
 Process Code: New Submission

ENGINE MODEL SUMMARY FORM

U-R-813-0110

1. Engine code	2. Engine Model	3. BHP@	RPM	4. Fuel Rate @ Rated Power (mm ³ /stroke)	5. Fuel Rate (lbs./hr) Rated Power	6. Peak Torque @ RPM(NM)	7. Peak Torque (mm ² /stroke)	8. Fuel Rate (lbs./hr) @ Peak Torque	9. Emission Control Device (SAE J1930)
D22	F4M1008	30	3600	19.0	10.3	N/A	N/A	N/A	EM <i>IDF</i>
CD22.0	F4M1008	30	3600	19.0	10.3	67.2	19.5	7.6	EM
CD20.5	F4M1008	27	3200	18.5	9.6	66.2	19.0	7.2	EM
CD19.0	F4M1008	25	3000	18.5	8.9	67.2	19.0	6.1	EM
CD18/1	F4M1008	24	2500	19.0	8.4	66.2	19.2	5.9	EM
D13.0	F4M1008	17	1800	18.0	6.1	N/A	N/A	N/A	EM
D11.6	F4M1008	16	1800	19.0	5.4	N/A	N/A	N/A	EM