



अंतर्राष्ट्रीय ऑटोमोटिव प्रौद्योगिकी केन्द्र
INTERNATIONAL CENTRE FOR AUTOMOTIVE TECHNOLOGY
[A Division of NATRiP Implementation Society (NATIS), Govt. of India]

C O T G 0012

Date : 11th January 2024

TYPE APPROVAL CERTIFICATE

Cert	Report	Specs	Drg	Total
04	15	127	16	162 pgs

FOR

Retro-fit Emission Control Devices (RECD) Compliance

1. Based on the verification of documents & trials conducted on RECD model "C2-CS1800-R12" (Family designation C2-R12) for below mentioned manufacturer and it is certified that the following RECD model complies with the provisions of Type Approval of CPCB System Procedure for Retro-fit Emission Control Devices (RECD) Compliance to Diesel Power Generating Set Engines Up to Gross Mechanical Power 800 kW, as per NGT Order/report "Report filed in O.A. No. 681/2018 dated 6.08.2019".

Documental Reference		RECD Manufacturer		
Current Certificate		M/s Chakr Innovation Pvt. Ltd. Survey No. 236, Hissa No. 7 and Survey No. 237 Hinjewadi, Taluka Mulshi, Pune, Maharashtra - 411057 Plant : Hinjewadi, Pune		
RECD Family Designation		Engine Manufacturer		Tested Engine Model
C2-R12		M/s Cummins India Limited		KTA-38-G17
RECD Model			Engine Cubic Capacity	Gross Engine Power
C2-CS1800-R12			38000 cm ³	797 kW @ 1500 rpm
Engine Baseline emissions	CPCB Stage -II	Class of RECD	Class II	Engine Manufacturing Date
				January 2023
S. No.	Item Description	Parent RECD Type		
		Annexure-II		
		RECD suitable for Phase I Certified Diesel Generator engine / engine families		Annexure-III





2. Validity of the Certificate

This Type Approval Certificate is valid for Genset engine CPCB Stage -II effective from 01.07.2014 to 30.06.2023.	a.	As per System and procedure for Emission Compliance of Retro-fit Emission Control Devices(RECD) for Diesel Power Generating Set Engines up to Gross Mechanical power 800kW as per NGT Order/report "Report filed in O.A. No. 681/2018 dated 06.08.2019 or until further amendment in the MoEFCC rule, whichever is earlier.
	b.	No change in specified RECD technical specification.

3. It is certified that the above RECD Model (Details listed in Annexure-II) comply with the emission limits for Retro-fit Emission Control Devices (RECD) to Diesel Power Generating Set Engines having Gross Mechanical Power 500.3kW to 765.8kW, as prescribed under the following rules, notified by Ministry of Environment, Forest and Climate Change (MoEFCC), Govt. of India:

Rule No.	Description	Date
CPCB-PCLS/12/2021-22	System and procedure for Emission Compliance of Retro-fit Emission Control Devices(RECD) for Diesel Power Generating Set Engines up to Gross Mechanical power 800kW as per NGT Order/report "Report filed in O.A. No. 681/2018 dated 6.08.2019	01.02.2022

4. COP : COP shall be completed by 30.06.2024 as per CPCB Procedure, for details refer COP Annexure-I.

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COP Annexure-I




Criteria*	COP Required
RECD Manufacturer/Importer/Retrofitter	RECDs fitted on engines of all ratings shall be subjected to the verification of CoP once for every 500 units per family or once a year, whichever is earlier Wherever applicable, RECDs fitted on engines of all ratings of engines shall be subjected to the verification of PCD once every CoP-year by PCD family (ies) representative RECD(s). Such demonstration is PCD family dependent and irrespective of combined volumes produced and sold under such family (ies)

* As Applicable

Annexure-II

S No	Item Description	Parent RECD Type
		Type 1
1	Manufacturing Plant address	M/s Chakr Innovation Private Limited, Survey No. 236 & 237, Hissa No.7, Taluka - Mulshi, Rajiv Gandhi Infotech Park, Hinjewadi Phase -1, Pune, Maharashtra - 411057
2	Manufacturer's trade name or mark	Chakr Innovation Private Limited
3	RECD family designation	C2-R12
4	RECD type/model designation	C2-CS1800-R12
5	RECD Category (Domestic/Imported)	Domestic
6	Class of RECD	Class II
7	Type Identification of the RECD	Continuous
8	Location of type ID marking	Refer Specification no. CIPL/TA/C2-CS1800-R12 dtd. 26.12.2023 Clause no 1.8
9	Identifying part number(s) of the RECD	C2-CS1800-R12-V2.3
10	Engine/ Engine Family for which the RECD is intended (application range)	KTA-38-G17
11	PM Reduction Efficiency of the RECD	77.50%
12	Designed for fitment to an engine meeting the emissions requirements of (Regulation and Stage):	CPCB Stage -II

ICAT Ref No.	2023-1732; IOCS No: 172174
Base Engine Type Approval Certificate number	ARAI/MoEF/DGTA/CIPL-F30/2018-30"
Test Report Reference	CTOET 0011 dt. 08/01/2024

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Annexure-III

List of applicable engine(s) as per 771(E) dtd. 11.12.2013 and GSR 232(E) dtd. 31.03.2014 Phase II certified In -Use DG sets for corresponding RECD models of RECD Family.

S. No.	Manufacturer Name & Address	Engine Family	Engine Model	Rated Gross Mechanical Declared Power	Type Approval Certificate Number
1	M/s. Baudouin (Weifang) Power Co. Ltd. Add : No. 197A, Fushou East Street., High-new Technology, Industrial Development Zone, Weifang, Shandong, China.	6M33D	6M33D660E310	660 kW	ICAT/MOEF/DGTA/IM P/BWPCL-6M33D/M-1736-E01 Dt. 05-06-2018
2			6M33D633E310	575 kW	
3			6M33D572E310	520 kW	
4		8M21G	8M21G688/5e3	550 kW	ICAT/MoEFCC/DGTA/IMP/BWPCL-8M21G/P-0401 Dt. 28-02-2020
5	Caterpillar India Pvt. Ltd 7th Floor, International Tech Park , Taramani Road, Taramani, Chennai, Tamilnadu 600 113	F12	CAT-C18-2GP-1	540 kW	ARAI/MoEF/DGTA/CIPL-F12/2017-05-E2 Dt. 28-06-2019
6	Cummins India Limited Cummins India Office Campus Tower A, 5th Floor Survey No. 21, Balewadi, Pune 411045	F54	KTA38-G12	797 kW	ARAI/MoEF/DGTA/CILP-F54/2015-24 Dt. 03-12-2015
7			KTA38-G13	736 kW	
8	Cummins India Ltd. Kothrud, Pune 411038	F33	QSK 19-G7	618 kW	ARAI/MoEF/DGTA/CILP-F33/2014-07-E1 Dt. 26-03-2015
9			QSK 19-G6	583 kW	
10	Cummins India Limited Dahanukar Colony, Kothrud, Pune- 411038, Maharashtra, India	F57	KTAA19-G13	551 kW	ARAI/MoEF/DGTA/CILP-F57/2017-28-E2 Dt. 07-10-2019
11			KTAA19-G12	532 kW	
12		F54	KTA38-G12	736 kW	ARAI/MoEF/DGTA/CIPL-F54/2018-24*
13		F30	KTA38-G17	797 kW	ARAI/MoEF/DGTA/CIPL-F30/2018-30*
14		F30	KTA38-G17	797 kW	ARAI/MoEF/DGTA/CILP-F30/2018-30-E1 Dt. 28-06-2019
15	KTA38-G11		797 kW		
16	KTA38-G12		736 kW		
17			KTA38-G10	736 kW	
18	FMTU power system pvt. Ltd. Gat No. 450/1/B1 & 1/B3 Part, Indospace Industrial Park, Mahalunge Chakan, Maharashtra Pune 410 501.	F6	12V1600G80F/3D	634 kW	ARAI/MoEF/DGTA/FMTU-F6/2021-01 Dt. 07-06-2021
19			10V1600G80F/3D	493 kW	
20			12V1600G10F/3B	524 kW	
21			12V1600G20F/3B	576 kW	
22			12V1600G70F/3D	576 kW	
23	Kirloskar Oil Engines Ltd. Khadki, Pune	F119	DV12ETA G11	663 kW	ARAI/MoEF/DGTA/KOELF119/2016-19-E2 Dt. 29-01-2019
24			DV16ETA G2	799 kW	
25		F115	DV12TA G2	551.6 kW	ARAI/MoEF/DGTA/KOELF115/2014-01-E1 Dt. 11-09-2019
26			DV12TA G1	531.7 kW	
27	M/s. Shandong Heavy Industry India Pvt. Ltd. Add: Survey No. 280/281, Hinjawadi Phase II, Village Mann, Taluka Mulshi, Pune - 411057, Maharashtra, India	8M21G	8M21G688/5e3	550 kW	ICAT/MoEFCC/DGTA/SHIPL-8M21G/P-0400 Dt. 28-02-2020

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Annexure-III Cont.					
S. No.	Manufacturer Name & Address	Engine Family	Engine Model	Rated Gross Mechanical Declared Power	Type Approval Certificate Number
28	Perkins India Private Limited 7th Floor, International Tech Park , Taramani Road, Taramani, Chennai- 600113 Tamil Nadu, India	F12	Perkins-2806DE18TAG1A	540 kW	ARAI/MoEF/DGTA/PIPL/F12/2017-07- E2 Dt. 28-06-2019
29		F14	4006D-E23TAG2S	732 kW	ARAI/MoEF/DGTA/PEL-F14/2018-08- E2 Dt. 16-05-2019
30			4006D-E23TAG2P	668 kW	
31			4008D-E30TAG2P	799 kW	
32			4008D-E30TAG1P	720 kW	
33	Scania Commercial Vehicles India Pvt. Ltd. Plot No.63 (part),64-66,88-97,Narsapur, KIADB Industrial Area, Achhatanahalli Village, Narsapur Hobli, Kolar Taluk, District Kolar, Karnataka, PIN-563 130	F1	DC16 071A 480	480 kW	ARAI/MoEF/DGTA/IMP/SCANIA-F1/2015-01-E1 Dt. 25-07-2017
34	Volvo India Private Limited Volvo Penta, Yalachahaly, Tavarekere Post, Hosakote TQ Bangalore, Karnataka-562	F12	TWD1653GE	564 kW	ARAI/MoEF/DGTA/IMP/VOLVO-F12/2014-02-E1 Dt. 30.06.2015
35			TED1652GE	522 kW	
36	Perkins Engines Company Ltd. Frank Perkins Way, Peterborough, PE1 SFQ, United Kingdom	F13	4006D-23TAG2A	667.8 kW	ARAI/MoEF/DGTA/PEL-F13/2015-05

Note: Engine details mentioned above are sourced from : www.cpcb.nic.in

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