

型式认可证书  
CERTIFICATE OF TYPE APPROVAL

兹证明本证书所述制造厂具备按照下列标准的要求生产本证书所列产品的能力和条件。

This is to certify that the manufacturer stated in the certificate meets the requirements of the standards listed below and is available with the ability and conditions to produce the products described in the certificate.

制造厂/Manufacturer

FPT Industrial S.P.A.

地址/Address

Via Puglia, 15 10156 Torino, Italy

产品名称/Product

柴油机  
Diesel Engine  
船用高速主柴油机  
Marine High-Speed Main Diesel Engine

认可标准/Approval Standard

1. 中国船级社《钢质海船入级规范》（2018）及其修改通报第3篇第9章  
Chapter 9, Part Three of China Classification Society Rules for Classification of Sea-Going Steel Ships 2018 and its Amendments

用于/Intended for

船舶与海上设施/Ships and Offshore Installations

产品明细/Product Description

船用高速主柴油机/Marine High-Speed Main Diesel Engine (M0001)

名称/Name	属性(值)/Value	单位/Unit
型号/Type	Refer to Attachments	
额定功率/Rated Power	Refer to Attachments	kW
额定转速/Rated Speed	Refer to Attachments	rpm
气缸数目/No. Of Cylinder	Refer to Attachments	
气缸直径/Cylinder Bore	Refer to Attachments	mm
活塞行程/Piston Stroke	Refer to Attachments	mm
超负荷功率(110%)/Overload Output (110%)	Refer to Attachments	kW
超负荷转速/Overload Speed	Refer to Attachments	rpm

证书有效期至/This Certificate is valid until 2024年06月19日/ Jun. 19, 2024

发证机构 中国船级社米兰办事处  
Issued by CCS Milan Office

签发日期 2020年06月16日  
Date Jun. 16, 2020

本证书根据中国船级社规范和相关规定签发。所有证书页为一个整体，必须同时使用。纸质证书每页均须由本社盖章方为有效，电子证书含数字签名方为有效，本证书复印件无效。任何单位和个人均不应摘录或节选本证书的部分内容。有关方对所持证书的真实性有疑问时，可以向我社检验机构咨询。This Certificate is issued pursuant to the Rules of the Society and related regulation. All pages of the certificate are taken as a whole and are used simultaneously. No paper certificate page is valid without bearing the stamp of the Society, no electronic certificates is valid without the digital signature, and no copied form of the certificate is regarded as valid. Any part of the certificate is not to be extracted or abridged by any unit or individual in any form. Related parties who are doubted about the authenticity of the certificate may inquire of the Society or its offices.



**批准的图纸/Approved Drawings**

图纸批准号/ Drawings Approval No. : NP10A03638, NP13A02983, NP14A01942

**产品认可试验报告/ Approval Test Report**

试验报告编号/ Test Report No. : 2005CS01995  
试验报告日期/ Test Report Date : 2005-04-08  
试验单位/ Laboratory: IVECO S.p.A.  
试验单位地址/ Test Address: Pregnana Milanese, Italy

试验报告编号/ Test Report No. : 2004CS013121  
试验报告日期/ Test Report Date : 2004-07-28  
试验单位/ Laboratory: IVECO S.p.A.  
试验单位地址/ Test Address: Pregnana Milanese, Italy

试验报告编号/ Test Report No. : 2011CS013721  
试验报告日期/ Test Report Date : 2011-11-24  
试验单位/ Laboratory: FPT Industrial S.p.A  
试验单位地址/ Test Address: Pregnana Milanese, Italy

试验报告编号/ Test Report No. : R-0001  
试验报告日期/ Test Report Date : 2011-11-01  
试验单位/ Laboratory: FIAT Powertrain Technologies (Shanghai) Management Co.,Ltd.  
试验单位地址/ Test Address: Shanghai, China

试验报告编号/ Test Report No. : R-0002  
试验报告日期/ Test Report Date : 2011-11-16  
试验单位/ Laboratory: FPT Industrial S.p.A  
试验单位地址/ Test Address: Pregnana Milanese, Italy

试验报告编号/ Test Report No. : 2003CS014916  
试验报告日期/ Test Report Date : 2004-01-26  
试验单位/ Laboratory: FPT Industrial S.p.A  
试验单位地址/ Test Address: Pregnana Milanese, Italy

试验报告编号/ Test Report No. : 2006CS014983  
试验报告日期/ Test Report Date : 2006-04-20  
试验单位/ Laboratory: FPT Industrial S.p.A  
试验单位地址/ Test Address: Pregnana Milanese, Italy

试验报告编号/ Test Report No. : 2009CS013847  
试验报告日期/ Test Report Date : 2010-01-11  
试验单位/ Laboratory: FPT Industrial S.p.A  
试验单位地址/ Test Address: Pregnana Milanese, Italy

试验报告编号/ Test Report No. : 2011CS013721  
试验报告日期/ Test Report Date : 2011-12-13  
试验单位/ Laboratory: FPT Industrial S.p.A  
试验单位地址/ Test Address: Pregnana Milanese, Italy

试验报告编号/ Test Report No. : 2010CS011588  
试验报告日期/ Test Report Date : 2010-04-15  
试验单位/ Laboratory: FPT Industrial S.p.A  
试验单位地址/ Test Address: Pregnana Milanese, Italy

试验报告编号/ Test Report No. : 2005CS013016  
试验报告日期/ Test Report Date : 2005-07-13  
试验单位/ Laboratory: FPT Industrial S.p.A  
试验单位地址/ Test Address: Pregnana Milanese, Italy

试验报告编号/ Test Report No. : 2004CS014642  
试验报告日期/ Test Report Date : 2005-02-07  
试验单位/ Laboratory: FPT Industrial S.p.A  
试验单位地址/ Test Address: Pregnana Milanese, Italy

试验报告编号/ Test Report No. : 2008CS013781  
试验报告日期/ Test Report Date : 2008-10-05  
试验单位/ Laboratory: FPT Industrial S.p.A  
试验单位地址/ Test Address: Pregnana Milanese, Italy

### 认可后的产品检验方式/ Method of Product Inspection after Approval

按规范认可后应进行产品检验的产品/The product should be inspected in term of the rules:  
认可后的产品检验应由本社验船师根据本社规范规定按批准的产品检验计划进行检验, 经检验合格后由本社颁发船用产品证书。

After approval, product inspection should be carried out by the Surveyor of the Society in accordance with the approved product inspection scheme, and the Marine Product Certificate will be issued by the Society upon satisfactory inspection.

### 认可保持条件/ Maintenance Requirements of Approval

1. 型式认可后, 如果产品及其重要零部件的设计、所用材料或制造方法有所改变, 且影响到产品的主要特性、特征; 或产品的性能指标有所更改, 且超过认可的范围, 则有关图纸和文件应经检验机构审批。并在检验机构认为必要时, 经本社检验人员见证有关试验和进行检查, 其结果应能证实仍符合认可条件。

After type approval, if there are changes to the design, materials used or manufacturing method of the product and important components and such changes affect major characteristics and properties of the product, or property indexes of the product are changed and exceed the scope of approval, related drawings and documents are to be examined and approved by the concerned survey office. Where deemed necessary by the survey office, the surveyor to the Society will go to witness relevant tests and conduct inspection and the results should be able to demonstrate compliance with the approval conditions.

2. 工厂的质量管理体系应保持有效运行, 并且与认可时一致。如果质量管理体系发生改变, 应经原体系认证机构审核并报本社批准。

The quality management system of the factory shall be ensure effective operation, and shall be the same as the situation of approval. If there are any changes to the quality management system, auditing of the original certification organization for quality management system and the society's approval shall be obtained.

3. 认可证书有效期内, 如果出现可能导致本社取消认可的情况, 工厂应及时采取有效的纠正措施。

Within the validity of the approval certificate, if cases occur that may cause the Society to withdraw the approval, the manufacturer should take corrective actions in a prompt and effective manner.

4. 在认可证书有效期内, 本社检验人员可在未经事先通知的情况下对工厂的产品制造过程进行审核, 以验证产品的生产是否符合业经本社批准的图纸和文件。工厂应予以配合。

Within the validity of the approval certificate, the surveyor to the Society may pay unannounced audit to the manufacturing process of the product in order to confirm whether it is in compliance with the drawings and documents approved by the Society. The factory should provide an active cooperation and necessary for the surveyor.

5. 如果属于获得型式认可B 模式证书, 且无需颁发船用产品证书/等效证明文件的情况, 证书获得者应接受本社每年一次的定期审核, 定期审核日为认可证书期满之日对应的每一周年日, 检查工作应在周年日的前后三个月内进行。

If belong to the situation of the product has type approval mode B certificate, and marine product certificate/equivalent document is not necessary, those who have obtained the certificate should be subject to periodical audit every year. The date of periodical audit shall be each anniversary date which corresponds to the date of expiry of the relevant certificate and the periodical audit shall be done within a time span of three months before and after the annual surveillance date.

### 备注/Remarks

1. 本社已审核了产品厂无石棉声明, 但本社的审核不免除产品厂按照合同关系向订货方保证产品无石棉的责任。

The declaration of asbestos-free submitted by manufacturer has been reviewed by the Society. However, liability of the manufacturer to guarantee the products are asbestos-free to purchaser under contract will not be exempted.

2. 本证书由原型式认可证书 (No. ML19PTB00020) 换新并替代原证书。

This certificate is renewed from and supersedes the previous Type Approval Certificate No. ML19PTB00020.

中国船级社米兰办事处

CCS Milan Office

注: 本证书含有附页, 共13页

Note: The certificate is attached with additional 13 page(s)

## Diesel Engine Technical Particulars

## 1) General data

Product Name	Marine diesel engine					Engine family
	Engine Type	Cycle	Configuration	Number of cylinders [#]	Cylinder bore [mm]	
F4GE0606A*E	4 Stroke	In-line	6	104	132	N67MNAM15
F4GE0606B*E						
F4GE0606C*E						
F4GE0606D*E						
F4GE0606E*E						
F4GE0606F*E						
F4GE0656A*E	4 Stroke	In-line	6	104	132	N67MNSM22
F4GE0656B*E						
F4GE0656D*E						
F4GE0656E*E						
F4GE0686A*E	4 Stroke	In-line	6	104	132	N67MNTM28
F4GE0686B*E						
F4GE0686C*E						
F4GE0686D*E						
F4HE0686A*E	4 Stroke	In-line	6	104	132	N67ENTM45
F4HE0686A*F						
F4HE0686B*E						
F4HE0686B*F						
F4HE0686C*E						
F4HE0686C*F						
F4HE0686D*E						
F4HE0686D*F						
F4HE0686G*E						
F4HE0686G*F						

Product Name	Marine diesel engine					
Engine Type	Cycle	Configuration	Number of cylinders	Cylinder bore	Stroke	Engine family
			[#]	[mm]	[mm]	
F2CE0686M*A	4 Stroke	In-line	6	117	135	C87ENTM38
F2CE0686M*B						
F2CE0686A*A						
F2CE0686A*B						
F2CE0686B*A						
F2CE0686B*B						
F2CE0686C*A						
F2CE0686C*B						
F2CE0686D*A						
F2CE0686D*B						
F2CE0686E*A						
F2CE0686E*B						
F2CE0686F*A						
F2CE0686F*B						
F2CE0686H*A						
F2CE0686H*B						
F2CE0686G*A						
F2CE0686G*B						

Engine Family C87ENTM38 :

Engine \*A use turbocharger type Holset HE551

Engine \*B use turbocharger type Holst HX40

Product Name	Marine diesel engine					
Engine Type	Cycle	Configuration	Number of cylinders	Cylinder bore	Stroke	Engine family
			[#]	[mm]	[mm]	
F2CH0686A*A	4 Stroke	In-line	6	117	135	C87ENTM62
F2CJ0686B*Q						
F2CH0686P*A						
F2CJ0686C*Q						
F2CH0686B*A						
F2CJ0686D*Q						
F2CH0686C*A						
F2CJ0686E*Q						
F2CH0686D*A						
F2CJ0686F*Q						
F2CH0686E*A						
F2CH0686F*A						
F2CH0686G*A						
F2CH0686H*A						
F2CH0686J*A						
F2CH0686L*A						

Product Name	Marine diesel engine					
Engine Type	Cycle	Configuration	Number of cylinders	Cylinder bore	Stroke	Engine family
			[#]	[mm]	[mm]	
F3BE0656C*A	4 Stroke	In-line	6	135	150	C13ENSM33
F3BE0656C*B						
F3BE0656D*B						
F3BE0656C*C						
F3BE0656D*C						
F3BE0656C*D						
F3BE0656D*D						
F3BE0656C*E						
F3BE0656D*E						
F3BE0656C*F						
F3BE0656D*F						
F3BE0656C*H						
F3BE0656D*H						

Product Name	Marine diesel engine					
Engine Type	Cycle	Configuration	Number of cylinders	Cylinder bore	Stroke	Engine family
			[#]	[mm]	[mm]	
F3BE0686C*R	4 Stroke	In-line	6	135	150	C13ENTM50-2
F3BE0686C*F						
F3BE0686D*F						
F3BE0686C*G						
F3BE0686D*G						
F3BE0686C*M						
F3BE0686D*M						
F3BE0686C*H						
F3BE0686D*H						
F3BE0686C*J						
F3BE0686D*J						
F3BE0686C*P						
F3BE0686D*P						
F3BE0686C*K						
F3BE0686D*K						
F3BE0686C*L						
F3BE0686C*N						
F3BE0686D*N						



Product Name	Marine diesel engine					
Engine Type	Cycle	Configuration	Number of cylinders	Cylinder bore	Stroke	Engine family
			[#]	[mm]	[mm]	
F3BH0686A*F	4 Stroke	In-line	6	135	150	F3BH0686
F3BH0686A*Q						
F3BH0686B*F						
F3BH0686B*Q						
F3BH0686C*F						
F3BH0686C*Q						
F3BH0686D*F						
F3BH0686D*Q						
F3BH0686E*F						
F3BH0686F*F						
F3BH0686G*F						
F3BH0686H*F						
F3BH0686L*F						

## 2) Type designations

Application Cycle	Intermittent Rating *					Continuous	Mean effective / Indicate pressure	Max. firing pressure	Engine Family
	E	A1	A2/B1	B2	C	D			
Engine Type	Time at full load is not exceed 8% of the duty cycle or ½ hour out of 6 hours with load factor up to 30% typical operation range from 250 to 1000 hours per year	Full throttle operation restricted within 10% of total use period. Cruising speed at engine rpm <90% of rated speed. Maximum usage 300 hours per year	Full throttle operation restricted within 10% of total use period. Cruising speed at engine rpm <90% of rated speed. Maximum usage 1000 hours per year	Full throttle operation restricted within 10% of total use period. Cruising speed at engine rpm <90% of rated speed. Maximum usage 1500 hours per year	Full throttle operation restricted within 25% of total use period. Cruising speed at engine rpm <90% of rated speed. Maximum usage 3000 hours per year	Max. Continuous Rating			
	Rating @ Speed [kW @ rpm]	Rating @ Speed [kW @ rpm]	Rating @ Speed [kW @ rpm]	Rating @ Speed [kW @ rpm]	Rating @ Speed [kW @ rpm]	Rating @ Speed [kW @ rpm]	[bar]	[bar]	
F4GE0606A*E	--	110 @ 2800	--	--	--	--	7.16	102	N67MNAM15
F4GE0606B*E	--	--	--	99.5 @ 2800	--	--	6.46	100	
F4GE0606C*E	--	--	--	--	--	92 @ 2800	5.97	98	
F4GE0606D*E	--	--	--	--	--	85 @ 2800	5.52	96	
F4GE0606E*E	--	--	--	--	--	80 @ 2100	6.93	95	
F4GE0606F*E	--	--	--	--	--	80 @ 2300	6.35	95	
F4GE0656A*E	--	162 @ 2800	--	--	--	--	10.52	109	N67MNSM22
F4GE0656B*E	--	--	--	--	132 @ 2300	--	10.44	135	
F4GE0656D*E	--	--	--	--	--	110 @ 2800	7.14	102	
F4GE0656E*E	--	--	147 @ 2800	--	--	--	9.6	105	
F4GE0686A*E	--	206 @ 2800	--	--	--	--	13.13	135	N67MNTM28
F4GE0686B*E	--	--	--	191 @ 2800	--	--	12.17	125	
F4GE0686C*E	--	--	--	--	170 @ 2800	--	10.83	109	
F4GE0686D*E	--	--	--	--	--	132 @ 2500	9.42	105	

Intermittent Rating only applies to the engine intended for special applications under operation instruction of the engine manufacturer.

Application Cycle	Intermittent Rating *					Continuous	Mean effective / Indicate pressure	Max. firing pressure	Engine Family
	E	A1	A2/B1	B2	C	D			
Engine Type	Time at full load is not exceed 8% of the duty cycle or ½ hour out of 6 hours with load factor up to 30% typical operation range from 250 to 1000 hours per year	Full throttle operation restricted within 10% of total use period. Cruising speed at engine rpm <90% of rated speed. Maximum usage 300 hours per year	Full throttle operation restricted within 10% of total use period. Cruising speed at engine rpm <90% of rated speed. Maximum usage 1000 hours per year	Full throttle operation restricted within 10% of total use period. Cruising speed at engine rpm <90% of rated speed. Maximum usage 1500 hours per year	Full throttle operation restricted within 25% of total use period. Cruising speed at engine rpm <90% of rated speed. Maximum usage 3000 hours per year	Max. Continuous Rating			
	Rating @ Speed [kW @ rpm]	Rating @ Speed [kW @ rpm]	Rating @ Speed [kW @ rpm]	Rating @ Speed [kW @ rpm]	Rating @ Speed [kW @ rpm]	Rating @ Speed [kW @ rpm]	[bar]	[bar]	
F4HE0686A*E	--	331 @ 3000	--	--	--	--	19.68	158	N67ENTM45
F4HE0686A*F	--	331 @ 3000	--	--	--	--	19.68	158	
F4HE0686B*E	--	--	309 @ 3000	--	--	--	18.38	153	
F4HE0686B*F	--	--	309 @ 3000	--	--	--	18.38	153	
F4HE0686C*E	--	--	--	272 @ 3000	--	--	16.18	136	
F4HE0686C*F	--	--	--	272 @ 3000	--	--	16.18	136	
F4HE0686D*E	--	--	--	--	257 @ 3000	--	15.28	135	
F4HE0686D*F	--	--	--	--	257 @ 3000	--	15.28	135	
F4HE0686G*E	--	--	--	--	--	195 @ 2300	15.13	135	
F4HE0686G*F	--	--	--	--	--	195 @ 2300	15.13	135	

Intermittent Rating only applies to the engine intended for special applications under operation instruction of the engine manufacturer.

Application Cycle	Intermittent Rating *					Continuous	Mean effective / Indicate pressure	Max. firing pressure	Engine Family
	E	A1	A2/B1	B2	C	D			
Engine Type	Time at full load is not exceed 8% of the duty cycle or ½ hour out of 6 hours with load factor up to 30% typical operation range from 250 to 1000 hours per year	Full throttle operation restricted within 10% of total use period. Cruising speed at engine rpm <90% of rated speed. Maximum usage 300 hours per year	Full throttle operation restricted within 10% of total use period. Cruising speed at engine rpm <90% of rated speed. Maximum usage 1000 hours per year	Full throttle operation restricted within 10% of total use period. Cruising speed at engine rpm <90% of rated speed. Maximum usage 1500 hours per year	Full throttle operation restricted within 25% of total use period. Cruising speed at engine rpm <90% of rated speed. Maximum usage 3000 hours per year	Max. Continuous Rating			
	Rating @ Speed [kW @ rpm]	Rating @ Speed [kW @ rpm]	Rating @ Speed [kW @ rpm]	Rating @ Speed [kW @ rpm]	Rating @ Speed [kW @ rpm]	Rating @ Speed [kW @ rpm]	[bar]	[bar]	
F2CE0686M*A	--	--	--	--	301 @ 2000	--	20.78	165	C87ENTM38
F2CE0686M*B	--	--	--	--	301 @ 2000	--	20.78	165	
F2CE0686A*A	--	--	--	--	--	279 @ 2000	19.23	157	
F2CE0686A*B	--	--	--	--	--	279 @ 2000	19.23	157	
F2CE0686B*A	--	--	--	--	--	243 @ 2000	16.75	142	
F2CE0686B*B	--	--	--	--	--	243 @ 2000	16.75	142	
F2CE0686C*A	--	--	--	--	--	220 @ 2000	15.16	130	
F2CE0686C*B	--	--	--	--	--	220 @ 2000	15.16	130	
F2CE0686D*A	--	--	--	--	--	206 @ 2000	14.20	124	
F2CE0686D*B	--	--	--	--	--	206 @ 2000	14.20	124	
F2CE0686E*A	--	--	--	--	--	161 @ 2000	11.10	104	
F2CE0686E*B	--	--	--	--	--	161 @ 2000	11.10	104	
F2CE0686F*A	--	--	--	--	--	147 @ 2000	10.13	95	
F2CE0686F*B	--	--	--	--	--	147 @ 2000	10.13	95	
F2CE0686H*A	--	--	--	--	--	140 @ 2000	9.65	91	
F2CE0686H*B	--	--	--	--	--	140 @ 2000	9.65	91	
F2CE0686G*A	--	--	--	--	--	141 @ 1780	10.92	95	
F2CE0686G*B	--	--	--	--	--	141 @ 1780	10.92	95	

Engine Family C87ENTM38 :

Engine \*A use turbocharger type Holset HE551

Engine \*B use turbocharger type Holst HX40

Intermittent Rating only applies to the engine intended for special applications under operation instruction of the engine manufacturer.

Application Cycle	Intermittent Rating *					Continuous	Mean effective / Indicate pressure	Max. firing pressure	Engine Family
	E	A1	A2/B1	B2	C	D			
Engine Type	Time at full load is not exceed 8% of the duty cycle or ½ hour out of 6 hours with load factor up to 30% typical operation range from 250 to 1000 hours per year	Full throttle operation restricted within 10% of total use period. Cruising speed at engine rpm <90% of rated speed. Maximum usage 300 hours per year	Full throttle operation restricted within 10% of total use period. Cruising speed at engine rpm <90% of rated speed. Maximum usage 1000 hours per year	Full throttle operation restricted within 10% of total use period. Cruising speed at engine rpm <90% of rated speed. Maximum usage 1500 hours per year	Full throttle operation restricted within 25% of total use period. Cruising speed at engine rpm <90% of rated speed. Maximum usage 3000 hours per year	Max. Continuous Rating			
	Rating @ Speed [kW @ rpm]	Rating @ Speed [kW @ rpm]	Rating @ Speed [kW @ rpm]	Rating @ Speed [kW @ rpm]	Rating @ Speed [kW @ rpm]	Rating @ Speed [kW @ rpm]	[bar]	[bar]	
F2CH0686A*A	--	456 @ 2530	--	--	--	--	24.84	161	C87ENTM62
F2CJ0686B*Q	--	456 @ 2530	--	--	--	--	24.84	161	
F2CH0686P*A	--	426 @ 2530	--	--	--	--	23.21	150	
F2CJ0686C*Q	--	426 @ 2530	--	--	--	--	23.21	150	
F2CH0686B*A	--	--	404 @ 2530	--	--	--	22.01	146	
F2CJ0686D*Q	--	--	404 @ 2530	--	--	--	22.01	146	
F2CH0686C*A	--	--	--	368 @ 2530	--	--	20.05	131	
F2CJ0686E*Q	--	--	--	368 @ 2530	--	--	20.05	131	
F2CH0686D*A	--	--	--	--	331 @ 2530	--	18.03	123	
F2CJ0686F*Q	--	--	--	--	331 @ 2530	--	18.03	123	
F2CH0686E*A	--	--	--	--	--	323 @ 2530	17.60	123	
F2CH0686F*A	--	--	--	--	--	242 @ 2530	13.18	114	
F2CH0686G*A	--	--	--	--	--	220 @ 2530	11.99	113	
F2CH0686H*A	--	--	--	--	--	162 @ 2530	8.83	93	
F2CH0686J*A	--	--	--	--	--	147 @ 2530	8.01	88	
F2CH0686L*A	--	--	--	--	--	141 @ 1780	10.41	69	

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Application Cycle	Intermittent Rating *					Continuous	Mean effective / Indicate pressure	Max. firing pressure	Engine Family
	E	A1	A2/B1	B2	C	D			
Engine Type	Time at full load is not exceed 8% of the duty cycle or ½ hour out of 6 hours with load factor up to 30% typical operation range from 250 to 1000 hours per year	Full throttle operation restricted within 10% of total use period. Cruising speed at engine rpm <90% of rated speed. Maximum usage 300 hours per year	Full throttle operation restricted within 10% of total use period. Cruising speed at engine rpm <90% of rated speed. Maximum usage 1000 hours per year	Full throttle operation restricted within 10% of total use period. Cruising speed at engine rpm <90% of rated speed. Maximum usage 1500 hours per year	Full throttle operation restricted within 25% of total use period. Cruising speed at engine rpm <90% of rated speed. Maximum usage 3000 hours per year	Max. Continuous Rating			
	Rating @ Speed [kW @ rpm]	Rating @ Speed [kW @ rpm]	Rating @ Speed [kW @ rpm]	Rating @ Speed [kW @ rpm]	Rating @ Speed [kW @ rpm]	Rating @ Speed [kW @ rpm]	[bar]	[bar]	
F3BE0656C*A	--	--	--	--	243 @ 1800	--	12.58	124	C13ENSM33
F3BE0656C*B	--	--	--	--	--	199 @ 1800	10.3	107	
F3BE0656D*B	--	--	--	--	--	199 @ 1800	10.3	107	
F3BE0656C*C	--	--	--	--	--	184 @ 1800	9.71	104	
F3BE0656D*C	--	--	--	--	--	184 @ 1800	9.71	104	
F3BE0656C*D	--	--	--	--	--	162 @ 1800	8.55	100	
F3BE0656D*D	--	--	--	--	--	162 @ 1800	8.55	100	
F3BE0656C*E	--	--	--	--	--	147 @ 1800	7.76	98	
F3BE0656D*E	--	--	--	--	--	147 @ 1800	7.76	98	
F3BE0656C*F	--	--	--	--	--	140 @ 1800	7.39	97	
F3BE0656D*F	--	--	--	--	--	140 @ 1800	7.39	97	
F3BE0656C*H	--	--	--	--	--	132 @ 1800	6.97	96	
F3BE0656D*H	--	--	--	--	--	132 @ 1800	6.97	96	

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Application Cycle	Intermittent Rating *					Continuous	Mean effective / Indicate pressure	Max. firing pressure	Engine Family
	E	A1	A2/B1	B2	C	D			
Engine Type	Time at full load is not exceed 8% of the duty cycle or ½ hour out of 6 hours with load factor up to 30% typical operation range from 250 to 1000 hours per year	Full throttle operation restricted within 10% of total use period. Cruising speed at engine rpm <90% of rated speed. Maximum usage 300 hours per year	Full throttle operation restricted within 10% of total use period. Cruising speed at engine rpm <90% of rated speed. Maximum usage 1000 hours per year	Full throttle operation restricted within 10% of total use period. Cruising speed at engine rpm <90% of rated speed. Maximum usage 1500 hours per year	Full throttle operation restricted within 25% of total use period. Cruising speed at engine rpm <90% of rated speed. Maximum usage 3000 hours per year	Max. Continuous Rating			
	Rating @ Speed [kW @ rpm]	Rating @ Speed [kW @ rpm]	Rating @ Speed [kW @ rpm]	Rating @ Speed [kW @ rpm]	Rating @ Speed [kW @ rpm]	Rating @ Speed [kW @ rpm]	[bar]	[bar]	
F3BE0686C*R	--	--	--	--	383 @ 2000	--	17.80	158	C13ENTM50-2
F3BE0686C*F	--	--	--	--	--	368 @ 2000	17.14	157	
F3BE0686D*F	--	--	--	--	--	368 @ 2000	17.14	157	
F3BE0686C*G	--	--	--	--	--	323 @ 2000	15.35	154	
F3BE0686D*G	--	--	--	--	--	323 @ 2000	15.35	154	
F3BE0686C*M	--	--	--	--	--	294 @ 2000	13.97	147	
F3BE0686D*M	--	--	--	--	--	294 @ 2000	13.97	147	
F3BE0686C*H	--	--	--	--	--	279 @ 2000	13.26	145	
F3BE0686D*H	--	--	--	--	--	279 @ 2000	13.26	145	
F3BE0686C*J	--	--	--	--	--	243 @ 2000	11.55	143	
F3BE0686D*J	--	--	--	--	--	243 @ 2000	11.55	143	
F3BE0686C*P	--	--	--	--	--	220 @ 2000	10.45	140	
F3BE0686D*P	--	--	--	--	--	220 @ 2000	10.45	140	
F3BE0686C*K	--	--	--	--	--	206 @ 2000	9.79	137	
F3BE0686D*K	--	--	--	--	--	206 @ 2000	9.79	137	
F3BE0686C*L	--	--	--	367 @ 1800	--	--	19.37	159	
F3BE0686C*N	--	--	--	--	--	189 @ 1600	11.22	134	
F3BE0686D*N	--	--	--	--	--	189 @ 1600	11.22	134	

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Application Cycle	Intermittent Rating *					Continuous	Mean effective / Indicate pressure	Max. firing pressure	Engine Family
	E	A1	A2/B1	B2	C	D			
Engine Type	Time at full load is not exceed 8% of the duty cycle or ½ hour out of 6 hours with load factor up to 30% typical operation range from 250 to 1000 hours per year	Full throttle operation restricted within 10% of total use period. Cruising speed at engine rpm <90% of rated speed. Maximum usage 300 hours per year	Full throttle operation restricted within 10% of total use period. Cruising speed at engine rpm <90% of rated speed. Maximum usage 1000 hours per year	Full throttle operation restricted within 10% of total use period. Cruising speed at engine rpm <90% of rated speed. Maximum usage 1500 hours per year	Full throttle operation restricted within 25% of total use period. Cruising speed at engine rpm <90% of rated speed. Maximum usage 3000 hours per year	Max. Continuous Rating			
	Rating @ Speed [kW @ rpm]	Rating @ Speed [kW @ rpm]	Rating @ Speed [kW @ rpm]	Rating @ Speed [kW @ rpm]	Rating @ Speed [kW @ rpm]	Rating @ Speed [kW @ rpm]	[bar]	[bar]	
F3BH0686A*F	--	607 @ 2400	--	--	--	--	23.57	170	F3BH0686
F3BH0686A*Q	--	607 @ 2400	--	--	--	--	23.57	170	
F3BH0686B*F	--	--	551 @ 2400	--	--	--	21.39	165	
F3BH0686B*Q	--	--	551 @ 2400	--	--	--	21.39	165	
F3BH0686C*F	--	--	--	478 @ 2400	--	--	18.56	156	
F3BH0686C*Q	--	--	--	478 @ 2400	--	--	18.56	156	
F3BH0686D*F	--	--	--	--	441 @ 2400	--	17.12	150	
F3BH0686D*Q	--	--	--	--	441 @ 2400	--	17.12	150	
F3BH0686E*F	--	--	--	--	--	323 @ 2400	12.54	145	
F3BH0686F*F	--	--	--	--	--	294 @ 2400	11.41	137	
F3BH0686G*F	--	--	--	--	--	243 @ 2400	9.43	130	
F3BH0686H*F	--	--	--	--	--	220 @ 2400	8.54	120	
F3BH0686L*F	--	--	--	--	--	189 @ 2400	7.34	120	

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