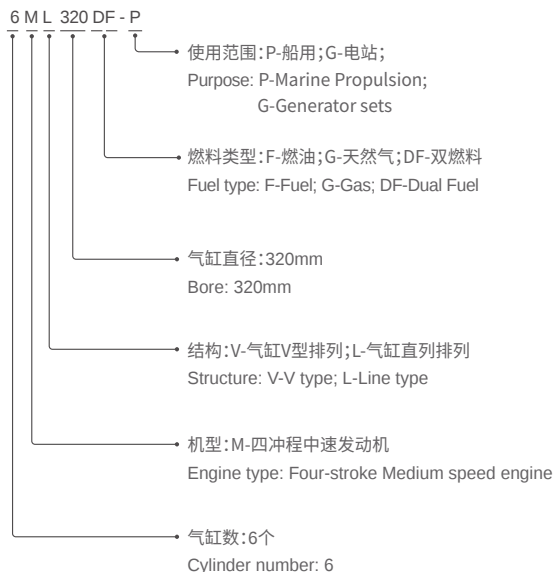


CPGC系列四冲程推进主机

CPGC Four-stroke Propulsion Engines



发动机型号说明 Engine type designation



M320系列四冲程发动机 M320 series four-stroke engine

基于60多年船用柴油机设计、制造、应用的丰富经验和知识积累,我们设计开发了320mm缸径全新的气体燃料发动机系列产品,包括纯天然气发动机和柴油-天然气双燃料发动机。

Based on more than sixty years of experience and knowledge accumulation in engine design, manufacture and application of Marine diesel engines, we have designed and developed a new series of 320mm cylinder diameter gas fuel engines, including pure natural gas engine and diesel-natural gas dual-fuel engine.

世界级的领先配置和超过4000小时的连续运转证实了新开发机型的可靠性与耐久性,设计开发的初衷就是为了让选择M320系列发动机的客户可以安心地使用并享受优质动力系统所赋予的价值和收益:

- 极低的NOx排放
- 已充分证实的可靠性
- 优良的加载特性
- 多种燃料的适应性,灵活地选择和切换
- 完善的岸基支持系统,全天候的服务24/7
- 支持本安型的舱室环境
- 标准化、集成化的接口给船厂施工带来便利

The world-class leading configuration and more than 4,000 hours of continuous operation confirmed the reliability and durability of the new development prototype engine. The original intention of the design and development is to satisfy the customers who choose M320 series engines to use them safely and enjoy the value and benefits of high-quality power systems:

- Low NOx emission
- Confirmed reliability and durability
- Good upload ability
- Adaptability of multiple fuels, flexible selection and switching
- Consummate shore-based support system, 24-hour service
- Support for Intrinsically safe cabin environment
- Standardized and integrated interfaces

ML320F-P

直列型燃油推进主机 In-line type diesel fuel (F) engine for Main Propulsion

缸径Bore: 320mm, 冲程Stroke: 420mm

IMO Tier II

转速speed	r/min	750
平均有效压力MEP	bar	23.7
缸数Cyl		功率kW
6		3000
7		3500
8		4000
9		4500

MCR点经济性指标Economical performance¹⁾

MCR	燃油消耗率BSFC	
	179g/kWh@100%负荷	177g/kWh@85%负荷
滑油消耗率Lube oil consumption 0.6g/kWh		

尺寸和重量Dimension and weight²⁾

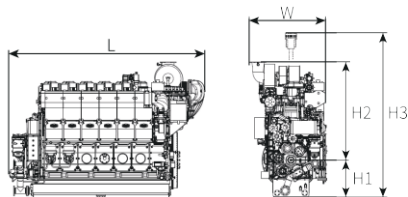
Cyl.No.		6	7	8	9
L	mm	5769	6289	6872	7392
W	mm	2370	2370	2500	2500
H1	mm	1150	1150	1150	1150
H2	mm	2817	2817	3010	3010
H3	mm	4912	4912	4912	4912
Dry mass	t	34.5	38.5	43	48

*1) 基于燃料低热值为42700kJ/kg; ISO工况条件

This based on diesel fuel with low heating value 42700 kJ/kg and ISO condition;

*2) 本尺寸仅作参考, 实际规格以具体项目协议书中定义的尺寸为准。

This size is only for reference. The actual size is subject to the size defined in the agreement of the specific project.



ML320DF-P

直列型双燃料推进主机 In-line type dual fuel (DF) engine for Main Propulsion

缸径Bore: 320mm, 冲程Stroke: 420mm

IMO Tier II & Tier III in gas mode

转速speed	r/min	750
平均有效压力MEP	bar	20.6
缸数Cyl		功率kW
6		2610
7		3045
8		3480
9		3915

MCR点经济性指标Economical performance¹⁾

MCR	Gas mode (>99% gas)	燃料消耗率BSFC 165.4g/kWh	能耗BSEC 7423kJ/kWh	热效率Efficiency 48.5%
	Diesel mode (100% Diesel)	燃油消耗率BSFC 185 g/kWh		
@100%				

滑油消耗率Lube oil consumption 0.6g/kWh

尺寸和重量Dimension and weight²⁾

Cyl.No.		6	7	8	9
L	mm	5769	6289	6872	7392
W	mm	2370	2370	2500	2500
H1	mm	1150	1150	1150	1150
H2	mm	2817	2817	3010	3010
H3	mm	4912	4912	4912	4912
Dry mass	t	35.5	39.5	44	48

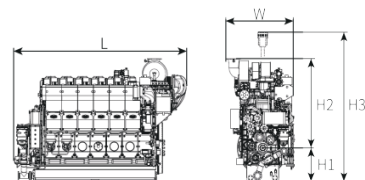
*1) 基于天然气低热值为44.87MJ/kg; 燃油低热值42700kJ/kg; ISO工况条件;

燃料消耗已考虑了微引燃油。

This based on the nature gas with low heating value 44.87MJ/kg, diesel fuel with low heating value 42700 kJ/kg and ISO condition, Micro-pilot fuel consumption already considered.

*2) 本尺寸仅作参考, 实际规格以具体项目协议书中定义的尺寸为准。

This size is only for reference. The actual size is subject to the size defined in the agreement of the specific project.



ML320G-P

直列型气体推进主机 In-line type gas (G) engine for Main Propulsion

缸径Bore: 320mm, 冲程Stroke: 420mm

IMO Tier III

转速speed	r/min	750
平均有效压力MEP	bar	19.2
缸数Cyl		功率kW
6		2430
7		2835
8		3240
9		3645

MCR点经济性指标Economical performance ¹⁾

MCR	燃气消耗率BSGC	能耗BSEC	热效率Efficiency
100%	161.1g/kWh	7229kJ/kWh	49.8%

滑油消耗率Lube oil consumption 0.6g/kWh

尺寸和重量Dimension and weight ²⁾

Cyl.No.		6	7	8	9
L	mm	5769	6289	6872	7392
W	mm	2370	2370	2500	2500
H1	mm	1150	1150	1150	1150
H2	mm	2817	2817	3010	3010
H3	mm	4912	4912	4912	4912
Dry mass	t	34	38	43	47

*1) 基于天然气低热值为44.87MJ/kg。

This based on the nature gas with low heating value 44.87MJ/kg;

*2) 本尺寸仅作参考, 实际规格以具体项目协议书中定义的尺寸为准。

This size is only for reference. The actual size is subject to the size defined in the agreement of the specific project.

