

TYPE APPROVAL CERTIFICATE

This is to certify:

That the **Weishaupt Monarch Oil Burner**

with type designation(s)

L series: L1, L3, L5, L7, L8, L9, L10

RL series: RL3, RL5, RL7, RL8, RL9, RL10, RL11 - RL30, RL40, RL50, RL60, RL70

M/MS series: M1, M3, M5 - MS7, MS8, MS9

RMS series: RMS7, RMS8, RMS9, RMS10, RMS11 - RMS30, RMS40, RMS50, RMS60, RMS70

Issued to

Max Weishaupt GmbH
Max-Weishaupt-Strasse 14
88475 Schwendi, Germany

is found to comply with

DNV rules for classification – Ships Pt.4 Ch.7 Pressure equipment

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Kind of burner:	Fuel(s):	Type/size:	Fuel consumption: [min. - max. kg/h]	Burner capacity: [min. - max. kW]
L series	Distillate	L1, L3, L5, L7, L8, L9, L10	6 - 380	70 - 4525
RL series	Distillate	RL3, RL5, RL7, RL8, RL9, RL10, RL11 - RL30, RL40, RL50, RL60, RL70	10 - 440	120 - 5240
M series	Residual	M1, M3, M5	8 - 102	90 - 1190
MS series	Residual	MS7, MS8, MS9	40 - 275	450 - 3095
RMS series	Residual	RMS7, RMS8, RMS9, RMS10, RMS11 - RMS30, RMS40, RMS50, RMS60, RMS70	40 - 978	450 - 11000

Issued at **Hamburg** on **2022-05-18**

This Certificate is valid until **2027-05-17**.

DNV local station: **Essen**

for **DNV**

Approval Engineer: **Arthur Ivombo**

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Jonathan Struwe
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Product description

Hinged monobloc design provided with cast aluminum housing, Weishaupt Monarch oil burners are of fully automatic pressure atomizing type covering a wide size/capacity range and a versatile operation regulation modus. The motor drives the fan and the fuel pump. The capacity regulation is controlled through the entire burner range by a single servomotor. Weishaupt Monarch oil burners can be used with almost any marine fuel (light, medium and heavy fuel oils).

For details of the oil burners (e.g. construction, design data, materials or dimensions) see approved drawings as listed below in "Type Approval documentation".

Place of production

Application/Limitation

The oil burners are approved within the scope of delivery according to DNV-RU-SHIP Pt.4 Ch.7 Sec.3 [4] 'Oil or gas burner and firing equipment', Sec.6 [7] 'Oil or gas burners' and Sec.7 [4.5] 'Constructional check' They are graded as pressure equipment class I, refer to RU-SHIP Pt.4 Ch.7 Sec.1 [Table 2].

All material used for pressurized parts shall be delivered with material certificates according to RU-SHIP Pt.4 Ch.7 Sec.1 [Table 5].

Manufacturing, workmanship and testing shall comply with RU-SHIP Pt.4 Ch.7 Sec.7.

This type approval covers the design and equipment of the burner. It includes the fuel oil preheating and sensors for indication, control and monitoring installed directly at the burner.

Electrical diagrams for the burner and heat generator are not part of this type approval. They shall be submitted for approval on a case by case and ship related basis covering the indicating, control, monitoring, alarm and safety equipment of burner and heat generator. However, only parts of the submitted electrical diagrams reflecting the configuration of the terminal block and plug board at oil burner have been considered. Further parts of wiring diagrams dealing with burner control and automation are not covered by this type approval.

The maximum burner capacity respectively fuel consumption depends on the fitted combustion head type, on the operation regulation modus and on the combustion chamber. In this connection, the firing chamber pressure of the heat generator shall be in the range prescribed by the manufacturer.

Flexible hoses for liquid fuel shall be type approved by DNV.

The fuel oil preheater, if fitted, and the equipment for control, monitoring, alarm and safety action installed at the burner are to be delivered with product certificates issued by DNV.

Type Approval documentation

Production testing

Each burner manufactured to this type approval is to be certified by DNV and delivered with a product certificate stating that at least the following examinations have been performed at the manufacturer's workshop:

- visual inspection and completeness check,
- pressure test of the fuel oil preheater, alternatively checking of its product certificate,
- pressure and tightness test of the burner,
- insulation resistance test,
- high voltage test,
- functional test of the safety related equipment.

Marking of product

For sake of traceability the products manufactured to this type approval are at least to be marked with:

- manufacturer's name and address,
- burner type designation, burner size and serial no.,
- year of manufacture,
- maximum burner capacity,
- fuels to be used,
- minimum and maximum fuel consumption,
- degree of protection,
- DNV's identifying mark.

Periodical assessment

The objective of the periodical assessment is to verify that the conditions for the type approval (TA) have not been altered.

The main scope of the periodical assessment will normally include:

- verification of the TA applicant's production and quality system with regard to ensuring continued consistent production of the TA products at the TA applicant's own premises and at other companies that are given the responsibility for manufacturing of the products,
- review of TA documentation and that this is still used as basis for the production,
- review of possible changes in the design, the materials and the performance of the product,
- verification of the product marking.

For retention of the TA certificate in its validity period the periodical assessments will be carried out every second year.

Unscheduled assessments for retention of the certificate may be carried out when there is reason to believe that the type approval applicant has not adhered to the obligations stipulated in the type approval certificate.

End of Certificate