

# TYPE APPROVAL CERTIFICATE

Certificate No:  
**TAM00000S4**  
Revision No:  
**2**

## This is to certify:

That the Air Starter

with type designation(s)

**A15, A17, A25, A27, A45, A47, A48, S30, S38, A47Z, A28**

Issued to

**GALI INTERNACIONAL, S.A.**

**Sentmenat, Spain**

is found to comply with

**DNV rules for classification – Ships Pt.4 Ch.5 Rotating machinery – driven units**

**DNV rules for classification – Ships Pt.4 Ch.6 Piping systems**

## Application :

Products approved by this certificate are accepted for installation on all vessels classed by DNV.

Type	Max. operating pressure [bar]	Design Pressure [bar]	Max. power [kW]	Speed at max. power [rpm]	Max. torque [Nm]
A15	30	33	15	4000	66
A17	40	44	16,5	4000	88
A25	30	33	25	3500	133
A27	40	44	30	2800	188
A45	30	33	66	2300	540
A47	30	33	66	2300	540
A48	40	44	95	2200	925
S30	30	33	41.5	2500	305
S38	30	33	42	2500	360
A47Z	30	33	66	2300	540
A28	30	33	27	2750	225

Issued at **Hamburg** on **2023-01-11**

for **DNV**

This Certificate is valid until **2028-01-10**.

DNV local unit: **Barcelona FIS**

Approval Engineer: **Christian Kaemmer**

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**Sven Klinger**  
**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

Air starters suitable for starting diesel engines, gas and dual fuel engines.

Based on a pair of geared rotors placed on the motor body, the rotors turn the force given by means of pressurized air into a torque. The torque is transmitted to the output shaft by a reduction mechanism. De-pressurized starting air is let to atmosphere. The head, motor body and the exhaust silencer are permanently opened to atmosphere.

**Main components:** Motor body, rotors, frontal cover, shaft & driving pinion, head, main valve, inlet elbow, exhaust silencer, nozzle.

**Accessories:** Filter set for A15 [for starter type series A15 & A17]  
Filter set for A25 [for starter type series A25, A27, A28]  
Filter set for A45 [for starter type series A45, A47 & A48, A47Z]  
Filter set for S30/S38 [for starter type series S30 & S38]

## Application/Limitation

The starter series are type approved for application in pipe class II and III-piping systems.  
The starter series are approved as starting device for diesel engines, gas and dual fuel engines.  
The running (working) pressure of the starter must not exceed the max. operating pressure.

## Installation

The selection of the air starters for the corresponding application and the right installation are to be in accordance with the instructions of the manufacturer.

## Type Approval documentation

Technical datasheets 310817 MCE- I + D – 34-1; Performance certificate A27, starter no. 6699 dated 2017-09-22  
Drawings no.: 5115000/A15; 5117000/A17; 5125500/A25; 5127000/A27; 5145000/A45; 5147799.002/A47;  
5148000/A48; 5148000.01/A48; 5130M6A92/S30; 51386000/S38;  
Instruction & Explanation Sheet FR-I+D 34b; Legacy GL Approval Certificates 94 714-97 HH & 37676-85 HH.  
Performance Test AS-DG-001 dated 2017-09-22; FR-VER-02p dated 2019-05-10; Hydrostatic Test FR-PRO-19f dated 2019-05-10; Type Approval Assessment Report dated 2019-05-10.

TAM00000S4 rev 2:

Official declaration 221124MCE-C-DG-01\_en-1 regarding pressure ratings  
Component techn. file No: 5115068; 5125068; 51306403; 5145068; 5147068  
Techn. Drawing A27 / 5127-DCO; A28 / 5128-DCO  
Techn. Performance Datasheet A27; A28

Type Approval Assessment Report incl. pressure test dated 2022-12-28

## Tests carried out

Function Test, Hydrostatic Pressure Test

## Production testing

The air starter shall be subject to a pressure test at 1.5 times the max. design pressure and shall be delivered with the pressure test report with reference to this type approval certificate.

A function test must be carried out with the air starter running at Gali test bench or with the air starter installed at the engine in the engine maker's premises.



Job Id: **262.1-031383-2**  
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### Marking of product

For traceability to this Type Approval, the air starters are to be marked with:

Manufacturer's short sign
Type
Serial-No.
Max Operating Pressure
Design Pressure
Sense of Turn

### Periodical assessment

For retention of the Type Approval, a DNV Surveyor shall perform periodical assessment to verify that the conditions for the Type Approval are complied with. Refer to the Class Programme DNV-CP-0338, Sec.4.

To check the validity of this certificate, please look it up in <https://approvalfinder.dnv.com>