DNV·GL

Certificate No:
TAP00000GN

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Butterfly Valves

with type designation(s)
Tandem Butterfly Damper, Single Butterfly Damper

Issued to
HMT GmbH
Bocholt, Germany

is found to comply with
DNV GL rules for classification – Ships
DNV GL class programme DNVGL-CP-0186 – Type approval – Valves

Application :

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

Type:	Temperature range:	Max. working press.:	Sizes:
Tandem Butterfly Damper	**max. 400°C**	**50 mbar**	**DN 350, DN 400, DN 600, DN 700**
Single Butterfly Damper	**max. 400°C**	**50 mbar**	**DN 350, DN 400, DN 600, DN 700**

This Certificate is valid until **2021-08-07**.

Issued at **Hamburg** on **2016-08-08**

for **DNV GL**

DNV GL local station: **Essen**

Approval Engineer: **Guido Friederich**

Olaf Drews
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.

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Product description

HMT exhaust gas dampers are used for control and shut-off applications for installation within exhaust gas systems as well as hot flue and process gases. The exhaust gas dampers are of a butterfly valve design with additional mounted actuator. The HMT exhaust gas dampers are available in two different designs:

- Tandem design providing two combined disks for optimized flow characteristics and reduced pressure loss of exhaust gases and to ensure 100 % tightness in case of seal air use.
- Single design with one disk for standard control and shut-off applications.

All exhaust gas damper sizes are fabricated of either carbon or stainless steel depending on the requirements of the applied process. For mounting purpose into an exhaust gas duct all exhaust gas dampers are designed with a flange connection. The installation of the exhaust gas dampers can be made in horizontal, vertical or inclined position.

Application/Limitation

Installation of HMT exhaust gas dampers within exhaust gas and/or flue gas cleaning applications on ship's steam boiler and combustion systems. Design pressure and temperature conditions for HMT nominal sizes vary according to the different requirements of the applications. The range is listed as following:

Nominal HMT exhaust gas damper sizes:	DN 250 to DN 2500
Design pressure:	up to 250 mbar
Design temperature:	up to 650 °C

Type Approval documentation

- Type Approval Assessment Report / Manufacturer's Audit
- Test records of HMT exhaust gas damper tests
- Design drawings HMT exhaust gas dampers (DN 350, DN 400, DN 600, DN 700)
- Product description
- Welding Procedure Specifications (WPS)

Tests carried out

- Pressure test; - Tightness test

Marking of product

Marking of the product (valves)
For traceability to this type approval each HMT exhaust gas flap shall be marked on its type plate with the following minimum information:

- Manufacturer's name and/or trade mark; - Exhaust gas damper type designation
- Design pressure; - Design temperature

Periodical assessment

A condition for retention of the Type Approval Certificate in its validity period is that periodical assessments are successfully carried out. Periodical assessments will be carried out bi-yearly.
The objective of the periodical assessment is to verify that the conditions for the type approval have not been altered. The main scope of the periodical assessment will normally include:

- Verification of the TA applicant's production and quality system w.r.t ensuring continued consistent production of the type approved products at the TA applicant's own premises and at other companies that are given the responsibility for manufacturing of the products.
- Review of the TA documentation and that this is still used as a basis for the production
- Review of possible changes to the design, the material and the performance of the product
- Verification of the product marking