DNV·GL

Certificate No:
TAP000019E

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Flexible Hoses of Non-Metallic Material with Permanently Fitted Couplings

with type designation(s)
Goldeniso/35 Xtraflex

Issued to
Manuli Hydraulics (Suzhou) Co., Ltd.
Suzhou Jiangsu, China

is found to comply with
DNV GL rules for classification – Ships Pt.4 Ch.6 Piping systems
DNV GL class programme DNVGL-CP-0183 – Type approval – Flexible hoses

Application :

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

Temperature range:	**-46°C to +121°C**
Max. working press.:	**350 bar**
Sizes:	**DN 10 to DN 51**

Issued at **Hamburg** on **2018-02-06**
This Certificate is valid until **2023-02-05**.
DNV GL local station: **Shanghai**

Approval Engineer: **Christian Kaemmer**

for **DNV GL**

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

Hose assemblies Goldeniso/35 Xtraflex with below components:

	Goldeniso/35 Xtraflex
Inner Tube	Oil resistant synthetic rubber
Reinforcement	Four high tensile steel spirals (DN6 – DN31) Six high tensile steel spirals DN38 – DN51)
Cover	Synthetic rubber
Fitting	MF+M00910; IP+M01500/ M01600/ M01800 Carbon Steel

Goldeniso/35 Xtraflex according to ISO 18752 -C/D; JIS K6349-3

Production places of hoses, hose end fittings and hose assemblies:

- Manuli Hydraulics Suzhou, No. 85. Xinglin Street Suzhou Industrial Park Suzhou JiangSu China.
- Manuli Hydraulics Polska S.A., ul. Brzezinska 50, 41-404 Myslowice, Poland

Responsibility

Manuli Hydraulics (Suzhou) Co., Ltd. takes the responsibility that the design and production of the hoses, hose end fittings and manufacturing of hose assemblies are in compliance with Rules, Standards and/or Regulations listed on page 1 of this certificate.

Application/Limitation

Hose assemblies are approved for use with mineral oils, synthetic ester based oils up to 100°C, glycols,polyglycols, mineral oils-water emulsions, water.

Flexible hoses are only to be used in short lengths where it is necessary for flexible mounting of the machinery. They shall not replace/be used where permanent piping is possible/required.

Installation

The hose assemblies must only be fitted in places where they are always accessible.

Flexible hoses of these types are not to be used on boiler fronts.

The hoses are to be mounted in accordance with the manufacturer’s instructions.

It must be possible to shut off from the system all flexible hoses used in systems for compressed air, lube oil, fuel oil and petroleum base hydraulic oil.

Hose assemblies with couplings made of carbon steel are not to be used at temperatures below -10°C unless the material is normalized.

Type Approval documentation

Tests carried out

Production testing
All hose assemblies shall be subject to a pressure test at 1.5 times the maximum working pressure and shall be delivered with the pressure test report with reference to the type approval certificate.

Marking of product
For traceability to this Type Approval, the products are to be marked with:

Manufacturer's name and trade mark
Specification or hose name
Hose size
Date code

Periodical assessment
For retention of the type approval certificate periodical assessments shall be carried out at production places by DNVGL surveyor.
The objective of the periodical assessment is to verify that the design and production conditions for the type approval have not been altered.

Main scope of the assessment:
- verification of the production and quality control system
- review of quality control documentation of recent deliveries
- review of drawings in production to verify any design changes which may have an impact on data specified in the type approval certificate, performance and range of application
- verification of the product marking

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

In connection with the renewal assessment, a surveyor shall witness / review test reports with respect to the following tests on every 3rd size appropriate test reports to be submitted:

- dimensional check, change in length test,
- pressure test with 1.5 times M.A.W.P. and burst test (witnessed by DNV GL surveyor)