

TYPE APPROVAL CERTIFICATE

This is to certify:

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

with type designation(s)
FC250H / H250H

Issued to

Danfoss Power Solutions II, LLC
Van Wert, OH, USA

is found to comply with

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

DNV class programme DNV-CP-0183 – Type approval – Flexible non-metallic hoses

Application :

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

Temperature range: -49°C up to +150°C / -55°F up to +302°F

Max. working press.: 210 bar / 3050 psi

Sizes: DN5 up to DN22

Issued at **Hamburg** on **2022-04-07**

This Certificate is valid until **2027-04-06**.

DNV local station: **Houston, Approval CMC**

Approval Engineer: **Christian Kaemmer**

for **DNV**

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.

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

Aeroquip FC250H / Weatherhead H250H-Series:

Flexible non-metallic hose consisting of synthetic inner rubber tube, 1 steel wire braid reinforcement and synthetic rubber cover.

Fire resistant acc. to ISO 15540 in combination with Fire Sleeve 624.

Inner tube:	chlorinated polymethylene synthetic rubber
Reinforcement:	single steel wire braid
Cover:	black polyester braided synthetic rubber
Couplings:	FJ3114-xx crimp fittings, carbon-steel
Fire sleeve:	624, Single layer braided fiberglass tubing impregnated and overlaid with a special fuel, lube oil and hydraulic oil resistant silicone rubber

Size and pressure range:

Hose Part Number		DN	Hose I.D.		Hose O.D. max		Maximum working pressure	
			mm	inch	mm	inch	[bar]	psi
FC250H-04	H250H-04	5	4.8	0.19	11.8	0.46	210	3050
FC250H-06	H250H-06	8	7.9	0.31	15	0.59	157	2300
FC250H-08	H250H-08	10	10.3	0.41	17.7	0.7	140	2050
FC250H-10	H250H-10	12	12.7	0.50	20.1	0.79	122	1750
FC250H-12	H250H-12	16	15.9	0.62	23.5	0.93	105	1500
FC250H-16	H250H-16	22	22.2	0.88	30.4	1.20	56	800

Production places

- Danfoss Power Solutions II LLC, 1225 W. Main Street, Van Wert, Ohio, USA
- Danfoss Power Solutions II LLC, 1830 Highway 201 South Spur, Mountain Home, Arkansas 72653, USA

Responsibility

Danfoss Power Solutions II, Van Wert 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 covered by this type-approval certificate are type approved for hydraulics, air gasoline, fuel and lubricating oil, hydraulic fluids.

Flexible hoses are only to be used in short lengths up to 1.5 m where it is necessary due to vibrations or flexible mounting of the machinery. The hoses 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, fresh water cooling applications, lube oil, fuel oil and petroleum base hydraulic oil.

The hoses are not to be used for suction. The use of hose assemblies is not permitted in permanently pressurized starting air lines of diesel engines.

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

Proof pressure test, Change in length test, Burst pressure test, Impulse Pressure test, Fire test, Dimensional Check, Cold Flexibility test, Oil Resistance test, Cover Adhesion test, Ozone resistance test.

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, each hose assembly is to be marked with:

Marking	Example
Manufacturer's name	Aeroquip by Danfoss Weatherhead by Danfoss
Type, Name	FC250H-12 H250H12
Maximum working pressure M.A.W.P.	105 bar
Date YYYY-MM-DD	2022-04-01

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>