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13.09.2023– TK HFG MENKE

Certificate of Conformity

HANSA-FLEX hereby declares that the products of the product range

TGFISO

are capable of meeting the requirements of the following standards and rules concerning the "exposure to the pressure medium":

- DIN EN ISO 4413 „Hydraulic fluid power – General rules and safety requirements for systems and their components“ – 2011-04
  - 5.4.6.5.3 – Protection against failure
    - 5.4.6.5.3.2 If the failure of a hose assembly can constitute a fluid-ejection hazard …, it shall be shielded by suitable means (…)

- DIN EN ISO 12100 „Safety of machinery - General principles for design - Risk assessment and risk reduction” – 2011-03
  - 6.2.10 - Preventing hazards from pneumatic and hydraulic equipment
    Pneumatic and hydraulic equipment of machinery shall be designed so that:
    - List 3 - no hazardous fluid jet ... results from leakage;

- DIN EN ISO 16092-1 „Machine tools safety – Presses – Part 1: General safety requirements - 2019-08“
  - 5.8.3 - Hazards caused by liquid spraying out under high pressure.
    Hoses adjacent to the operator's station are covered with an additional cover, e.g. g. protective screens or hose-in-hose systems, so that the risk resulting from damage to the hoses is reduced.

- DIN EN 474-1 „Earth-moving machinery – Safety – Part 1: General requirements – 2023-03“
    - 4.3.2.2 - Pipes and hoses.
      Pipes and hoses installed inside the cabin and containing liquids with a pressure above 5 MPa or temperatures above 60 °C must be provided with a protective device in accordance with EN ISO 3457, Section 9.
      Fixed parts or components of the machine that are attached between pipes or hoses and the machine operator and that deflect a dangerous jet of liquid are sufficient protective devices.
    - See also the similar description under point 4.18 Hydraulic fluid systems.

- DIN EN ISO 3457 „Earth-moving machinery – Guards – Definitions and requirements – 2009-06“
    - Section 9 - Hose protection.
      9.1 Heating hoses and hydraulic hoses with liquids whose nominal operating pressure exceeds 5,000 kPa or whose temperature exceeds 60 °C and which are within a distance of 1 m from the operator and in which, in the event of a defect, a jet of liquid will hit the operator at the driver's seat must be provided with hose protection.

See also the Rules of the German Employer's Liability Insurance Association:

- DGUV Regel 113-020 „Hydraulik-Schlauchleitungen und Hydraulik-Flüssigkeiten – Regeln für den sicheren Einsatz (Hydraulic hose lines and hydraulic fluids - rules for safe use) – 10/2017“

- DGUV Information 209-070 „Sicherheit bei der Hydraulik-Instandhaltung (Safety in hydraulic maintenance) – 06/2019“

Please note the following:

- This declaration applies to hoses according to EN 853 to EN 857, ISO 18752 and SAE J517 up to a max. working pressure of 420 bar, and for special hoses that are manufactured based on the standards mentioned, up to a max. working pressure of 500 bar. In the case of standard hoses, the maximum working pressures specified in the standards must not be exceeded. In the case of special hoses, the maximum working pressures specified in the data sheets must not be exceeded.
- The installation instructions for the TGFISO must be followed.
- The use of the TGFISO in the field of water jet technology and in the area of high-pressure technology (for example on rescue equipment with a working pressure higher than 420 bar) is not recommended.
- This declaration does **not** apply to the product line **TGFISO K** (with Velcro fastener). The articles with Velcro fastener can be used for the bundling, but do not provide the above mentioned protective functions.

Mit freundlichen Grüßen
HANSA-FLEX AG

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