

GOK

Komponenten • Lösungen • Systeme



Data sheet – Hose assemblies for oil firing installations

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Hose assemblies according to EN ISO 6806 type 1

Hose assemblies for liquid fuel oils for use in oil burners, but not for installation between the burner pump and nozzle block, maximum admissible pressure PS 10 bar, maximum temperature of operating media 100 °C.

Notice: Type 2 hose assemblies according to EN ISO 6806 are not covered by this data sheet.

Requirements according to DIN 4755 (excerpt)

- Hose assemblies must comply with EN ISO 6806 and corresponding pressure class for the intended installation location (PS ...).
- Hose assemblies according to EN ISO 6806 may be used only as flexible lines in the burner area if their use is technically permitted.
- Non-metallic hose assemblies may not be used if
 - they are installed and mounted in such a way that they cannot exceed a maximum temperature of 100 °C during operation,
 - are installed with a bend radius no less than 5 times the outside diameter of the hose part or in accordance with the manufacturer's instructions (i.e. without including a metal wire mesh),
 - they have a maximum length of 1.5 m, and
 - with connection to the burner, they are guided from the side of the heat generator to the burner where the turning point for the swivelling of the burner is located. They are to be installed without torsion.

Requirements according to DWA-A 791 (excerpt):

In oil lines, short hose assemblies (max. 1.5 m) may be used for the connection to pump units if they comply with EN ISO 6806 or DIN EN 14585-1 and are installed either above the collection area of the tank or a safety device is available, such as a leak detection system according to EN 13160-4. It is necessary to ensure that any fuel oil that escapes can be detected by the safety device. The safety device must switch off the pump if oil is discharged.

Connections for hose assemblies according to EN ISO 6806 and their matching part:

- Coupling nut G 3/8 with inside taper 60° according to E DIN EN 12514:2022 appendix J;
- Threaded connection according to E DIN EN 12514:2022.
- Pipe sockets in the dimensions according to EN 10305-1 to -4 or EN 10305-6 for compression fittings according to EN ISO 8434-1;
- Hose fittings according to ISO 12151-2 with compression fitting according to EN ISO 8434-1;
- Hose fittings according to ISO 12151-4 with screw-in compression fitting according to EN ISO 6149-1, -2 or -3.



Operating media

The GOK hose assemblies are available in the Standard and Bio versions.

The Standard hose assembly is suitable for oil firing installations with liquid fuel oil of the fuel oil bio type of up to 20% (V/V) FAME and a maximum temperature of 70 °C.

The Bio hose assembly fulfils the requirement for odour tightness and is suitable for oil firing installations with FAME, fuel oil, fuel oil bio and vegetable oil.

For the list of operating media, see:

http://www.gok-online.de/assets/web/download/technische%20dokumentation/Betriebsmedien_1113.pdf

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Description:

	<p>They consist of:</p> <ul style="list-style-type: none"> • an oil-resistant inner hose made from NBR/PVC, and/or in case of the Bio version an inner layer of PA11 and a rubber lining made of HNBR; • an externally galvanised metal wire mesh; • corrosion-resistant hose fittings as a screw element equipped with clear marking according to EN ISO 6806.
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Storage and use

- Storage: Cool, dry and low dust; avoid direct sunlight or UV radiation; shield nearby sources of heat. Do not use any ozone-forming lighting fixtures in the immediate proximity.
- The ideal storage conditions are temperatures between +15 and +25 °C and a relative air humidity of less than 65 %.
- Transport the hose assembly in the correct way, e.g. avoid impact between the hose and hose assembly and do not damage the sealing surfaces.
- In particular, the hose assembly must not come into contact with substances that could cause it damage such as acids, alkalis or solvents.
- Maximum storage duration 2 years

Minimum bending radii for hose assemblies

Nominal inner diameter in mm	Minimum bending radius in mm		Notice
	Standard	Bio	
4.0	---	80	The hoses may not be bent with bending radii less than the minimum bending radii defined in the adjacent table, measured at the internal side of the bend.
5.0	50	---	
5.8	---	80	
6.0	---	120	
6.3	60	---	
8.0	75	160	
10.0	80	---	

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Assembly instructions for GOK hose assemblies for oil firing installations

The incorrect installation of hose assemblies can cause a variety of trip accidents and damage to machinery.

Right	Wrong	Notice
		<p>Do not arrange hose assemblies in a staggered position. This prevents the required torsion of the hose assembly.</p>
		<p>Do not subject the hose assembly to any tensile or compression stress. Ensure the tension-free assembly!</p>
		<p>Minimum bending radius: The hose assembly may not be bent smaller than the stated minimum bending radius. Avoid buckling under all circumstances.</p>
		<p>Install hose assembly freely to prevent external damage due to wear or possible temperature-related impact, for example.</p>

- Prevent the external metal wire mesh from contacting the operating medium.
- Disconnect hose assemblies on a non-pressurized basis.

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Care and maintenance

- Regular visual checks for laces, corrosion and damage to the external metal wire mesh.
- Damaged hose assemblies must be withdrawn from use; they should then be lacerated so that they are unusable and disposed of appropriately.

Damage, inspection procedure, assessments

Damage	Inspection procedure	Assessment / measures
Admissible age of the hose assembly or the hose has been exceeded and/or cannot be identified	Visual inspection	Withdraw
Wire breaks in the external metal wire mesh	Take a piece of cotton or wool and drag it over the full length of the hose assembly and then check for wire breaks	Withdraw
Deformation, layer separation, formation of dents, unequal changes in dimension when under pressure	Visual inspection	Withdraw
Damage	Inspection procedure	Assessment / measures
Leaks	Visual inspection	Withdraw
Damaged or deformed hose fittings	Visual inspection	Withdraw
Hose has come loose / slipped from fitting	Visual inspection	Withdraw
Failure to meet the minimum bending radius	Visual inspection	Withdraw / change installation

Marking

The hose assemblies feature the following details on the ferrule:

- Number of the ISO 6806 standard
- Value of the nominal inner diameter in mm
- Type 1
- Manufacturer's sign
- Quarter and year of manufacture

Lifespan

As the European Association for Control Unit Manufacturers, according to EN ISO 6806, Afecor recommends the replacement of hose assemblies used as a safety element every 5 years as a precaution.

The maximum storage duration is not considered.

Information on use

In addition to this manual, it is necessary to respect the national regulations, laws and installation guidelines.

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Literature:

- a) DIN 4755:2004-11, Oil firing installations – technical rules for oil firing installations (TRÖ) – inspection
- b) DIN EN 12514:2022-01, Components for supply systems for consuming units with liquid fuels; German version EN 12514:2020 + AC:2021
- c) DIN EN ISO 6806:2017-09, rubber hoses and hose assemblies for use in oil burners – requirement (ISO 6806:2017); German version EN ISO 6806:2017
- d) DIN EN ISO 8330-2022-07, Rubber and plastics hoses and hose assemblies – terms (ISO 8330:2022); German version EN ISO 8330:2022
- e) DIN EN ISO 8331:2017-03, rubber and synthetic hoses and hose assemblies – guidelines for the selection, storage, use and maintenance (ISO 8331:2016); German version EN ISO 8331:2016
- f) ISO/TS 17165-2:2018-04, Fluid technology – hydraulic hose assemblies – part 2: Use of hydraulic hose assemblies
- g) DWA-A 791, Technical Rules for water-endangering substances (TRwS 791) – fuel oil consumer installations. Part 1: Construction, operational requirements and decommissioning of fuel oil consumer installations
- h) BG RCI T 002:2018-07, Safe technology – hose assemblies – safe use
- i) DGUV rule 113-020:2017-10, Hydraulic hose assemblies and hydraulic liquids – rules for their safe use
- j) VG 95924-2:2020-09, hoses and hose assemblies – part 2: For fluid technology, fuels, coolants and air – age-related verification and preventive maintenance
- k) TRÖI 2.2, Technical rules for oil systems
- l) AFECOR: www.afecor.org/Designed%20Lifetime%20of%20Safety%20Relevant%20Controls.pdf

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