



Hellenic Gas Transmission System Operator S.A.
357-359 Messogion Av., GR 152 31 Halandri
Tel.: 213 088 4000
Fax: 210 674 9504
Email: desfa@desfa.gr

TECHNICAL SPECIFICATION

Doc No: DSF-SPC-QAC-007

Rev. 1

Page 1 of 9

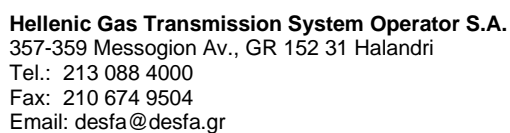
HIGH PRESSURE (HP) TRANSMISSION SYSTEMS

ODORIZING PLANT

JUNE 2021

This document is the property of DESFA S.A. and shall not be reproduced, copied or used for any purpose, other than for which it is specially furnished

1	Second Issue	30-06-2021	KD	DK	TPI
0	First Issue	05-04-2011	PQ DPT.		V.G.
REV	DESCRIPTION	DATE	PRPD	CHKD	APVD



Doc No: DSF-SPC-QAC-007

Rev. 1

Page 2 of 9

[illegible]



Hellenic Gas Transmission System Operator S.A.
357-359 Messogion Av., GR 152 31 Halandri
Tel.: 213 088 4000
Fax: 210 674 9504
Email: desfa@desfa.gr

TECHNICAL SPECIFICATION


Doc No: DSF-SPC-QAC-007

Rev. 1

Page 3 of 9

Table Of Contents

1	SCOPE AND OBJECTIVES.....	4
2	REFERENCES	5
3	FUNCTIONAL REQUIREMENTS	6
4	TECHNICAL DOCUMENTATION AND CERTIFICATION.....	9
5	COMPLIANCE WITH THE EU DIRECTIVES	9

	Hellenic Gas Transmission System Operator S.A. 357-359 Messogion Av., GR 152 31 Halandri Tel.: 213 088 4000 Fax: 210 674 9504 Email: desfa@desfa.gr	TECHNICAL SPECIFICATION
Doc No: DSF-SPC-QAC-007	Rev. 1	Page 4 of 9

1. SCOPE AND OBJECTIVES

This Specification covers the minimum requirements for odorizing units for the injection of odorant such as Tetrahydrothiophene (THT) into natural gas and is to be considered an integral part of Odorizing Plant Material Requisition.

The intent is to permit the use of Manufacturer/Vendor's basic standard design, proven successful in similar services, but as amended herein.

Compliance with this specification does not relieve the vendor of the responsibility for furnishing equipment of proper design and construction and fully suitable for all specified operating conditions.

Exceptions to this and other applicable specifications and standards shall be clearly stated in the Manufacturer/Vendor's proposals.

Manufacturer/Vendor shall either submit a list of exceptions or a statement to the effect that its proposal is in full accordance with these standards. In this latter case the purchaser shall assume that the proposal includes the cost of the requirements of these standards.

Manufacturer/Vendor is responsible for ensuring that materials supplied by its sub-vendors comply with the requirements of the standards mentioned below including all relevant EU Directives and DESFA specifications.

- EU DIRECTIVE 2014/68/EU PED
- EU DIRECTIVE 2014/34/EU ATEX
- EU DIRECTIVE 2014/30/EU EMC
- EU DIRECTIVE 2014/35/EU LVD
- EU DIRECTIVE 305/2011 CPD
- IEC 60034
- IEC 60072
- IEC 60079
- IEC 60085



Hellenic Gas Transmission System Operator S.A.
357-359 Messogion Av., GR 152 31 Halandri
Tel.: 213 088 4000
Fax: 210 674 9504
Email: desfa@desfa.gr

TECHNICAL SPECIFICATION

Doc No: DSF-SPC-QAC-007

Rev. 1

Page 5 of 9

- EN 60529
- DIN 30650
- Job Specification No DSF-SPC-MEC-016
- Job Specification No DSF-SPC-ELE-001
- Job Specification No DSF-SPC-MEC-006
- Job Specification No DSF-SPC-QAC-005
- Job Specification No DSF-SPC-QAC-006

2. REFERENCES

2.1 Reference Documents

Job Spec. No. DSF-SPC-MEC-016

[Positive Displacement Pumps - Controlled Volume]

Job Spec. No. DSF-SPC-ELE-001

[General Notes for Electrical Equipment and Materials]

Job Spec. No. DSF-SPC-MEC-006

[External Painting]

Job Spec. No. DSF-SPC-QAC-005

[Shop Inspection of Equipment and Materials for NGT Project]

Job Spec. No. DSF-SPC-QAC-006

[Inspection and Test Instructions]

2.2 Reference Codes and Standards

EU DIRECTIVE 2014/68/EU PED

[Pressure Equipment Directive]

EU DIRECTIVE 2014/34/EU ATEX

[Equipment Explosive Atmospheres Directive]

EU DIRECTIVE 2014/30/EU EMC



Hellenic Gas Transmission System Operator S.A.
357-359 Messogion Av., GR 152 31 Halandri
Tel.: 213 088 4000
Fax: 210 674 9504
Email: desfa@desfa.gr

TECHNICAL SPECIFICATION

Doc No: DSF-SPC-QAC-007

Rev. 1

Page 6 of 9

[Electromagnetic Compatibility Directive]

EU DIRECTIVE 2014/35/EU LVD

[Low Voltage Directive]

EU DIRECTIVE 305/2011 CPD

[Construction Products Directive]

IEC 60034

[Rotating Electrical Machines]

IEC 60072

[Dimensions and Output Series for Rotating Electrical Machines]

IEC 60085

[Electrical insulation - Thermal evaluation and designation]

EN 60079- Part 10

[Electrical Apparatus for Explosive Gas Atmospheres]

EN 60529

[Degrees of Protection provided by Enclosures]

DIN 30650

[Odorant Storage and Transportation Containers; Containers for Tetrahydrothiophene and other Odorants]

DIN 2353

[Non-soldering compression fittings with cutting ring - Complete fittings and survey]

API 675

[Positive Displacement Pumps - Controlled Valves]

3. FUNCTIONAL REQUIREMENTS

The dosing pump shall be capable to inject automatically into the gas line an amount of odorant which is proportional to the gas flow. Impulses will be received from the gas flow metering module at a rate proportional to the gas flow.

There shall be means of enabling the odorant concentration to be varied, as required.



Hellenic Gas Transmission System Operator S.A.
357-359 Messogion Av., GR 152 31 Halandri
Tel.: 213 088 4000
Fax: 210 674 9504
Email: desfa@desfa.gr

TECHNICAL SPECIFICATION

Doc No: DSF-SPC-QAC-007

Rev. 1

Page 7 of 9

The complete odorizing equipment shall be designed to allow containers of feed lines to be exchanged without odorant escape.

The flow monitoring device shall have a fail safe alarm function to monitor that the odorant is being injected. The device shall preferably be installed on the pressure side of the pump.

The equipment shall have a transparent intermediate transfer container through which the odorant shall pass between the main container and the pump unit.

The intermediate container shall be fitted with a burette for monitoring the actual injection rate and a level switch to produce a signal indicating that the level in the intermediate container is falling, i.e. the main container is empty.

Backflow through the pump into the intermediate container shall not be possible.

Pressure Build-up in the intermediate container shall be prevented by the use of pressure relief valves or similar.

3.1 DOSING PUMPS

Dosing pumps shall be according to API 675 and Job Spec. No. DSF-SPC-MEC-016. They shall be capable of operating without odorant for a period of 24 hours in the event of an empty container.

3.2 ELECTRICAL AND CONTROL EQUIPMENT

The selection of the electrical equipment shall be made in accordance with the applicable zone classification.

All electrical equipment shall have an impulse protection level, unless otherwise specified in the Material Requisition.

The control unit shall not generate any interfering signals which could cause failure or fault conditions of electronic or microcomputer based equipment.

The electronics to be located in the Station Control Panel shall have minimum enclosure protection to IP 20 (Station Control Panel to IP 52).

All other electrical equipment shall have a minimum enclosure protection of IP 54 in accordance with EN 60529.



Hellenic Gas Transmission System Operator S.A.
357-359 Messogion Av., GR 152 31 Halandri
Tel.: 213 088 4000
Fax: 210 674 9504
Email: desfa@desfa.gr

TECHNICAL SPECIFICATION

Doc No: DSF-SPC-QAC-007

Rev. 1

Page 8 of 9

3.3 CONTAINERS

If the equipment is to operate with exchangeable odorant containers, these shall be designed and constructed according to DIN 30650.

3.4 MATERIALS

All metal parts which will be in contact with odorant shall be of stainless steel having at least 17% chromium and 9% nickel by weight. All other components shall be of materials proven to be resistant to THT.

All piping connections shall be in accordance with DIN 2353 series S.

3.5 INSPECTION AND TESTING

Inspection & testing shall be according to specifications Job Spec. No. DSF-SPC-QAC-005 and DSF-SPC-QAC-006 and the Material Requisition.

The complete odorizing system shall be fully function (string) tested at the manufacturer's plant.

3.6 GUARANTEE AND WARRANTY


Unless exception is recorded by the vendor in his proposal, it shall be understood that he agrees to the following guarantees and warranties:

Unless otherwise specified in the Contract, all equipment and component parts shall be warranted by the Manufacturer/Vendor against defective materials, design, and/or workmanship for 1 year after being placed in service (but not exceeding 18 months after date of shipment).

The dosing unit shall be guaranteed for satisfactory performance at the unit rated horsepower and other operational conditions specified on the data sheets.

If any mal-performance or defects will occur during the guarantee and warranty period, vendor shall make all necessary alterations, repairs, and replacements free of charge, free on board from the factory.

Field labor charges, if any, shall be subject to negotiation between vendor and purchaser.

	Hellenic Gas Transmission System Operator S.A. 357-359 Messogion Av., GR 152 31 Halandri Tel.: 213 088 4000 Fax: 210 674 9504 Email: desfa@desfa.gr	TECHNICAL SPECIFICATION
Doc No: DSF-SPC-QAC-007	Rev. 1	Page 9 of 9

4. TECHNICAL DOCUMENTATION AND CERTIFICATION

Technical documentation shall be supplied as specified in the Material Requisition.

Certification requirements are specified in Specification Job Spec. No. DSF-SPC-QAC-006

5. COMPLIANCE WITH THE EU DIRECTIVES

Any equipment and /or assembly that comply with the "New Approach" directives shall be provided with:

- a. A physical CE marking and other information as required by the relevant directives.
- b. A declaration of conformity which lists all the directives with which the product complies.
- c. Any other information specified by the directive, e.g. user instructions.