

Deutsche Akkreditierungsstelle GmbH

Annex to the Accreditation Certificate D-PL-11035-01-00
according to DIN EN ISO/IEC 17025:2005

Period of validity: 01.03.2016 to 21.01.2018

Date of issue: 01.03.2016

Holder of certificate:

DMT GmbH & Co. KG
Product Assessment Refrigeration & Air Quality
Am Technologiepark 1, 45307 Essen

for its

Testing Laboratory for refrigeration, air conditioning and heating technology
Accredited laboratory for Air Hygiene
Accredited measurement authority "workplace measurements"

Testing in the fields:

Testing laboratory for refrigeration, air conditioning and heating technology (Prüfstelle für Kälte-, Klima- und Wärmetechnik):
Determination of heating and cooling capacity of air conditioners, liquid chilling packages and heat pumps

Accredited laboratory for Air Hygiene (Prüfstelle für Lufthygiene):
Determination of air filtration and aerosol separation performance

Accredited measurement authority "workplace measurements" (Messstelle „Arbeitsplatzmessungen“):
Determination of aerosols and fiber dust in the air at work areas according to § 7, cl. 10 Hazardous Substances Ordinance (GefStoffV)
Determination of inorganic and organic gases and vapors in the air at work areas according to § 7, cl. 10 Hazardous Substances Ordinance (GefStoffV)
Determination of selected parameter in the air at work areas according to § 7, cl. 10 Hazardous Substances Ordinance (GefStoffV)

used abbreviations: see last page

**1 Testing at the laboratory for refrigeration, air conditioning and heating technology
(Prüfstelle Kälte-, Klima- und Wärmetechnik)**

1.1 Testing of ventilation and air conditioning systems

DIN EN 14511-3
2012-01 Air conditioners, liquid chilling packages and heat pumps with electrically driven compressors for space heating and cooling - Part 3: Test methods

2 Testing at the accredited laboratory for Air Hygiene (Prüfstelle Lufthygiene)

2.1 Testing of air filters and aerosol separators

DIN EN 779
2012-09 Particulate air filters for general ventilation - Determination of the filtration performance

DIN 18869-5
2007-08 Equipment for commercial kitchens - Components for ventilation - Part 5: Aerosol separators, requirements and testing

DIN EN 60335-2-69
2015-07 Household and similar electrical appliances - Safety - Part 2-69: Particular requirements for wet and dry vacuum cleaners, including power brush for commercial use, Annex AA: Particular requirements for vacuum cleaners and dust collectors for collecting hazardous dust

VDE 0700-69
Annex AA
2015-07

in connection with:

*TRGS 519
Attachment 7
January, 2014*

Asbestos: Demolition-, reconstruction or maintenance work - Requirements for use in ASI work according to number 8.2 paragraph 6 of the TRGS 519 appropriate industrial vacuum cleaners and portable dust collectors

**3 Testing at the accredited measurement authority "workplace measurements"
(Messstelle „Arbeitsplatzmessungen“)**

Below are the used measurement procedures (preferably according to TRGS 402 Annex 3 No. 3.1 cl. 7) which are performed by the testing laboratories and listed as follows:

| Group 1 Aerosols (without fiber dust) | Title | Technical specification | QM-Document | Comment |
|---|--|--|--------------------|--------------------|
| Components | | | VA /AA | |
| <u>A-dust</u> | respirable dust content | IFA 6068 2003-10 | MSA 1.2 | except of analysis |
| <u>I-dust</u> | inhalable dust content | IFA 7284 2003-10 | MSA 1.1 | |
| <u>metals incl. Chromium VI</u> | dust substances (Pb, Cd, Cr, Co, Cu, Mn, Ni, V, Zn), chromate | EN ISO 11885-E22 2009-09 IFA 6665 2006-10 | MSA 1.3 MSA 1.4 | |
| <u>Other aerosols</u> | benzo[a]pyrene - respirable dust content (I-dust) | ISO 11338-2 2003-02 BGI 505-25 1989-07 NIOSH 5506 1998-01 | MSA 1.7 | |
| <u>Crystalline fibrous dusts</u> | quartz | IFA 8522 1995-02 | MSA 1.6 | |

| Group 2 fiber dust | Title | Technical specification | QM-Document | Comment |
|---|---|----------------------------|---------------|--------------------|
| Components | | | VA /AA | |
| <u>Inorganic fiber dusts (except of asbestos)</u> | asbestos fibers - asbestos fibers and other inorganic fibers | BGI 505-46 2004-04 | MSA 2.1 | except of analysis |

| Group 3 Inorganic gases and vapors | Title | Technical spezifikation | QM-Document | Comment |
|---|---|---|-------------|--------------------|
| Components | | | VA/AA | |
| <u>Continuous measurement technique</u> | continuous measurement of inorganic gases and vapors (CO, CO ₂ , NH ₃ , H ₂ S, NO, NO ₂) | IFA 9070 1991-09 | MSA 3.5 | except of analysis |
| <u>Hydrogen halides and other inorganic acids</u> | HCl; chlorides | NIOSH 7903 1994-08 | MSA 3.1 | |
| | HBr | | | |
| | hydrogen fluoride and fluorides | | | |
| | phosphoric acid | | | |
| | sulfuric acid aerosol or gaseous | | | |
| | nitric acid | | | |
| <u>Other volatiles hydrides</u> | ammonia | Internal standard 07/2461/NH ₃ 2008-12 | MSA 3.2 | |
| <u>Others</u> | ozon | Manual of company "Dräger" ("Dräger- Handbuch") | MSA 3.6 | |

Annex to the accreditation certificate D-PL-11035-01-00

| Group 4 (Organic gases and vapors) | Title | Technical spezifikation | QM-Document | Comment |
|--|--|---|-------------|--------------------|
| Components | | | VA /AA | |
| <u>Continuous measurement technique</u> | hydrocarbons - concentrations - continuous measurement | DIN EN 12619 2011-02 | MSA 4.4 | except of analysis |
| <u>resolvents</u> (aliphates, aromatics, LHKW, ketones, ester) | aliphates (e.g. heptane) | IFA 7732 2005-04 | MSA 4.3 | |
| | aromatics or halogenated hydrocarbons (e.g. benzol benzene or dichloromethane) | IFA 7733 2005-04 IFA 6265 2005-10 IFA 6600 2006-10 | MSA 4.1 | |
| | styrene | IFA 8635 2011-05 | MSA 4.11 | |
| | ketones (e.g. acetone) | IFA 7708 2005-04 | MSA 4.9 | |
| | acetate (e.g. ethyl acetate) | IFA 7322 2009-05 | MSA 4.6 | |
| <u>Alcohols</u> | alcohols (e.g. 2-propanol) | IFA 8415 1997-04 | MSA 4.5 | |
| <u>Aldehydes</u> | aldehyde (e.g. formaldehyde) | IFA 6045 2007-11 | MSA 4.2 | |
| <u>Phenols</u> | phenol, cresol, furaldehyde | IFA 8330 2010-12 IFA 7540 2010-08 | MSA 4.8 | |
| <u>Glycoles and derivates</u> | glycol ester, glycol ether, tetrahydrofurane | IFA 7569 2009-05 IFA 7335 2009-05 | MSA 4.7 | |
| <u>Amine</u> | aliphatic amine (e.g. diethylamine) | IFA 6072 2006-10 | MSA 4.10 | |
| <u>organic acids</u> | organic acids (e.g. acetic acid) | IFA 7320 1995-03 | MSA 4.13 | |

| Group 5 selected parameter | Title | Technical specification | QM-Document | Comment |
|--|----------------------------|---|---------------|--------------------|
| Components | | | VA /AA | |
| <u>Systems with two-phase sampling total account</u> | cooling lubricants | IFA 7750 1997-11 internal standard 07-06-014 2009-12 | MSA 1.5 | except of analysis |
| <u>DME</u> | emissions of diesel engine | BGI 505-44 1995-06 | MSA 5.1 | |

The listed procedures are in accordance with the requirements applying for determination of concentrations of hazardous substances. The competence for determination and evaluation of concentrations of hazardous substances in the air at work areas according to § 7, cl. 10 of Hazardous Substances Ordinance (GefStoffV) is confirmed related with the examination of sufficiently reports for

Group 1 (except of analysis)

Group 2 (except of analysis)

Group 3 (except of analysis)

Group 4 (except of analysis)

Group 5 (Systems with two-phase sampling total account: cooling lubricants, DME) (except of analysis).

Person in charge: Herr Dipl.-Ing. Weidenfeller

Deputy person in charge: Frau Dipl.-Ing. Selck

used abbreviations:

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|-----------|--|
| BAuA | Bundesanstalt für Arbeitsschutz und Arbeitsmedizin |
| BGI | Berufsgenossenschaftliche Informationen |
| GefStoffV | Hazardous substances ordinance (Gefahrstoffverordnung) |
| IFA | Institut für Arbeitsschutz |
| NIOSH | National Institute for Occupational Safety and Health |
| TRGS | Technische Regeln für Gefahrstoffe |