**设备验收报告**

**大冢材料科技（上海）有限公司**

**设备名称：Binder FD56 oven**

**验收日期：2019.6.21**

|  |  |
| --- | --- |
| **厂商：** | 东南科仪（隶属于广州市东南科创科技有限公司） |
| **设备型号：** | FD56 |
| **安装日期：** | 2019.6.21 |
| **验收人：** | 津曲理絵 |
| **验收结论：** | 合格 |

**附录：**

**技术参数1：Commodity name, Type and Quantity**

**产品名称，型号 及数量**

|  |  |  |
| --- | --- | --- |
| Commodity  产品名称 | Type  型号 | Quantity  数量 |
| **Binder 烤箱** | FD56 | 2 |

**技术参数2：Specific equipment Configuration and Accessories**

**具体设备组成及附件**

**oven:**

**烤箱：**

* Refer to below

**技术参数3：Instrument system and Main technical description**

* **仪器系统及主要技术描述**
* Refer to below

Data Sheet Model FD 56

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Technical specifications are subject to change.

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Model FD 56 | Drying and heating chambers with forced convection

A BINDER FD series Avantgarde.Line heating oven is always used when fast drying and sterilization is required. Thanks to its fully homogeneous

temperature distribution, quick dynamics and powerful fan, this heating oven saves valuable time.

BENEFITS

• Best energy efficiency on the market

• Excellent temporal and spatial temperature accuracy

• USB connection for recording data

• Temperature range up to 300 °C

Model 56 Model 56

MAIN FEATURES

• Temperature range: ambient temperature plus 10 °C to 300 °C

• Up to 30% lower energy consumption compared to conventional units

on the market

• High temperature accuracy thanks to APT.line™ technology

• Forced convection

• Controller with LCD display

• Electromechanical control of the exhaust air flap

• 2 chrome-plated racks

• Stackable

• Class 2 integrated independent adjustable temperature safety device

(DIN 12880) with visual alarm

• Ergonomic handle design

• USB port for recording data

ORDERING INFORMATION

Interior volume [L] Voltage Option model Version Art.-No.

Model FD 56

230 V 1~ ph 50/60 Hz Standard FD056-230V 9010-0303

60

120 V 1~ ph 60 Hz Standard FD056UL-120V 9010-0304

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TECHNICAL DATA

Description FD056-230V1 FD056UL-120V1

Article Number 9010-0303 9010-0304

Performance Data Temperature

Temperature range 10 °C above ambient temperature to [°C] 300 300

Temperature variation at 150 °C [± K] 1.7 1.7

Temperature fluctuation at 150 °C [± K] 0.3 0.3

Heating-up time to 150 °C [min] 15 15

Recovery time after 30 seconds door open at 150 °C [min] 4 4

Electrical data

Rated Voltage [V] 230 120

Power frequency [Hz] 50/60 60

Nominal power [kW] 1.1 1.2

Unit fuse [A] 6.3 12.5

Phase (Nominal voltage) 1~ 1~

Outer dimensions

Width net [mm] 560 560

Height net [mm] 625 625

Depth net [mm] 565 565

Wall clearance back [mm] 160 160

Wall clearance sidewise [mm] 100 100

Doors

Unit doors 1 1

Internal Dimensions

Width [mm] 400 400

Height [mm] 440 440

Depth [mm] 345 345

Measures

Interior volume [L] 60 60

Net weight of the unit (empty) [kg] 39 39

permitted load [kg] 70 70

Load per rack [kg] 30 30

Environment-specific data

Energy consumption at 150 °C [Wh/h] 290 290

Sound-pressure level [dB(A)] 43 43

Fixtures

Number of shelves (std./max.) 2/4 2/4

1 All technical data is specified for unloaded units with standard equipment at an ambient temperature of +22 °C ±3 °C and a power supply voltage fluctuation of ±10 %. The

temperature data is determined to BINDER factory standard following DIN 12880, observing the recommended wall clearances of 10 % of the height, width, and depth of the inner

chamber. Technical data refers to 100 % fan speed. All indications are average values, typical for units produced in series. We reserve the right to change technical specifications at

any time.

DIMENSIONS incl. fittings and connections [mm]

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OPTIONS AND ACCESSORIES

Designation Description \* Art.-No.

left

10 mm 01 8012-1276

30 mm 01 8012-1016

50 mm 01 8012-1020

right

10 mm 01 8012-1269

30 mm 01 8012-1015

50 mm 01 8012-1019

top

10 mm 01 8012-1263

30 mm 01 8012-1364

50 mm 01 8012-1380

Access port with silicone

plug

100 mm 01, 10 8012-1671

Analog output 4-20 mA for temperature values (output not adjustable) 02 8012-1624

Calibration certificate,

expanded for temperature; for extending the measurement in center of chamber to include another test temperature – 8012-1116

for temperature, measurement in center of chamber at specified temperature – 8012-1135

temperature measurement incl. certificate and 27 measuring points at specified temperature – 8012-1594

temperature measurement incl. certificate, 15- 18 measuring points at specified temperature – 8012-1573

Calibration certificate,

temperature

temperature measurement incl. certificate, 9 measuring points at specified temperature – 8012-1552

Class 3.1 independent

temperature safety

device

with visual alarm (DIN 12880) 04, 12 8012-1643

Clock battery-backed – 8012-1641

Data Logger Kit T 350: For continuous temperature logging from 0 °C to 350 °C; kit includes 1 data logger, Pt 100 sensor with 2 m

extension cable and 1 magnetic fixture for mounting to the BINDER unit 19 8012-0714

Data Logger Software LOG ANALYZE software kit, configuration and evaluation software for all BINDER Data Logger Kits (incl. USB data

cable) 19 8012-0821

Door gasket made of FKM, silicone-free 03 8012-1648

Door lock lockable door handle – 8012-1665

Ethernet interface for Multi Management Software APT-COM™ – 8012-0988

Gas-tight option model Incl. additional measures for the greatest possible impermeability to gas; not in conjunction with access port or

interior lighting option 09 8012-1683

For faster heating up time and improved recovery time; max. 300 °C; not in conjunction with load management

Heating output, option

reinforced

230 V option model – 8012-1056

HEPA air filter On fresh air supply for unit; filter classification H14 (acc. to. EN 1822-1:2009, > 99.995% at 0.3 μm) – 8012-1050

Inert gas connection With gas inlet and outlet, Ø 10 mm, incl. additional measures for the greatest possible impermeability to gas; not in

conjunction with access port or interior lighting option – 8012-1689

Inner chamber,

reinforced max. total load 85 kg – 8012-1053

with lid made from 18/8 stainless steel, stackable, dimensions: 230 x 133 x 45 mm – 4022-0123

Instrument tray

with lid made from 18/8 stainless steel, stackable, dimensions: 315 x 215 x 60 mm – 4022-0124

with 15 W light bulb

Interior lighting 120 V option model – 8012-1632

230/240 V option model – 8012-1628

Measurement of air

exchange rate in accordance with ASTM D5374, definition and protocol according to ambient temperature – 8012-1195

Overheating alarm audible, can be switched off, adjustable limit on the independent temperature safety device – 8012-1636

pH-neutral detergent concentrated, for gentle remove of residual contaminants; 1 kg – 1002-0016

Pt 100 temperature

sensor additional flexible Pt 100, interior, for displaying the temperature on the unit display – 8012-1620

\* Notes › See last page

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Designation Description \* Art.-No.

chrome plated – 6004-0166

Rack

stainless steel – 6004-0150

Rack, heavy load Stainless steel, max. load per rack 50 kg – 6004-0198

Rubber pads set anti-slip feet – 8012-1887

Shelf, perforated Stainless steel – 6004-0182

Table on castors stable cart, casters with locking brakes, dimensions: W 1,000 x D 800 x H 780 mm – 9051-0018

viewing window (triple insulating glass) in door, 240 x 240 mm, and 15 W interior

Viewing window and 120 V option model – 8012-1702

interior lighting

230 V option model – 8012-1700

\* Notes › See last page

SERVICES

Designation Description \* Art.-No.

Installation services

Installation and set up of unit at operating location, connect to existing connections 13, 18 DL10-0100

Instruction unit function instructions for operation and programming of the controller 18 DL10-0500

Preventive maintenance

Preventive maintenance Executive of equipment inspection according to maintenance plan 14, 18 DL20-0200

Calibration services

Calibration temperature incl.

certificate including certificate, one measuring point in center of chamber at specified temperature 14, 16,

17, 18 DL30-0101

Measurement of air exchange rate including certificate (in accordance with ASTM D5374) 14, 16,

17, 18 DL33-0000

Temperature measurement 18

measuring points including certificate, 18 measuring points at specified temperature 14, 16,

17, 18 DL30-0118

Temperature measurement 27

measuring points including certificate, 27 measuring points at specified temperature 14, 16,

17, 18 DL30-0127

Temperature measurement 9

measuring points including certificate, 9 measuring points at specified temperature 14, 16,

17, 18 DL30-0109

Validation services

Execution of IQ/OQ in accordance with qualification folder 15, 18,

20 DL40-0100

Execution of IQ/OQ/PQ in accordance with customer's requirement, price: on request 15, 18 DL44-0500

Qualification folder IQ/OQ supporting documents for validation performed by customer, consisting of: IQ/OQ checklists, unit

schematics, QM certificate in accordance with ISO 9001

15, 18,

20 8012-0792

Qualification folder IQ/OQ/PQ supporting documents for validation performed by customer, in accordance with customer's

requirement, extension of Qualification folder IQ/OQ by chapter PQ 15, 18 8012-0943

Warranty service

Extension of the warranty from 2 to 3

years beginning with the date of delivery, wearing parts are not included – DL00-3041

Extension of the warranty from 2 to 5

years beginning with the date of delivery, wearing parts are not included – DL00-3042

\* Notes › See last page

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NOTES

01 Condensation may occur in the area around the access port. Access ports may be placed in custom locations for an additional charge.

02 UL mark is not granted when this option is used.

03 Heat resistant only to max. 200 °C.

04 Only available on units rated for 230 V.

06 Heating-up time may increase as a result of the lower heat conductivity.

07 The additional heat input may affect the temperature behavior.

09 Not in conjunction with the optional access port, door with window and interior lighting.

10 Not available on 23-liter units.

11 Not available on 23- or 53-liter units.

12 Only available on units rated for 230 V or 400 V.

13 Installation and connections take place at unit location; transport within the company only upon consultation.

14 We recommend a BINDER service contract to cover unit inspections, calibrations and validations.

15 OQ according to Yellow Paper = completed factory validation documentation of all OQ checklists.

16 Sensor calibration is performed in an accredited calibration laboratory.

17 Calibration is performed according to the BINDER factory standard.

18 Quoted prices do not include travel costs. Please refer to the chapter on BINDER Service for travel costs for your region. Quoted prices for services performed in Switzerland do not

include a country-specific added fee (available on request).

19 For additional accessories, refer to the Process documentation chapter.

20 When ordering IQ/OQ qualification folders and associated IQ/OQ execution on one order, we offer a 15 % discount for the item of the IQ/OQ folder.

When ordering IQ/OQ/PQ qualification folders and associated IQ/OQ/PQ execution on one order, we offer a 15 % discount for the item of the IQ/OQ/PQ folder.