# Certificate



**mdc medical device certification GmbH**
certifies that

**Andreas Hettich GmbH & Co. KG**
**Föhrenstraße 12**
**78532 Tuttlingen**
**Germany**

for the scope

**Design, development, manufacturing, distribution and servicing of laboratory centrifuges for IVD applications and general laboratory use, centrifuges for separation of blood components for transfusion purposes and microbiological incubators for IVD applications and general laboratory use**

has introduced and applies a

## Quality Management System

The mdc audit has proven that this quality management system meets all requirements of the following standard

## EN ISO 13485

Medical devices – Quality management systems – Requirements for regulatory purposes

EN ISO 13485:2016 + AC:2018 + A11:2021 - ISO 13485:2016

| | |
|---|---|
| Valid from | 2022-10-25 |
| Valid until | 2025-10-24 |
| Registration no. | D1459300003 |
| Report no. | P21-01967-222238 |
| Stuttgart | 2022-10-25 |

Head of Certification Body

DAkkS Deutsche Akkreditierungsstelle D-ZM-16002-06-00

mdc medical device certification GmbH
Kriegerstraße 6
D-70191 Stuttgart, Germany
Phone: +49-(0)711-253597-0
Fax: +49-(0)711-253597-10
Internet: http://www.mdc-ce.de

ZERTIFIKAT ◆ CERTIFICATE ◆ 認證證書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

TÜV SÜD Management Service

# CERTIFICATE

**The Certification Body**
**of TÜV SÜD Management Service GmbH**

certifies that

**Andreas Hettich GmbH & Co. KG**
**Föhrenstr. 12**
**78532 Tuttlingen**
**Germany**

has established and applies
a Quality Management System for

**Development, production and distribution of laboratory equipment, accessories, spare parts with the associated services**.

An audit was performed, Order No. **707111087**.

Proof has been furnished that the requirements according to

## ISO 9001:2015

are fulfilled.

The certificate is valid from **2021-06-10** until **2024-06-09**.

Certificate Registration No.: **12 100 59604 TMS**.

Head of Certification Body
Munich, 2021-05-27

IAF MEMBER OF MULTILATERAL RECOGNITION ARRANGEMENT

DAkkS Deutsche Akkreditierungsstelle D-ZM-14143-01-00

MS/01-01/2019

ZERTIFIKAT ◆ CERTIFICATE ◆ 認證證書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

TÜV SÜD Management Service

# CERTIFICATE

**The Certification Body**
**of TÜV SÜD Management Service GmbH**

certifies that

**Andreas Hettich GmbH & Co. KG**
**Föhrenstr. 12**
**78532 Tuttlingen**
**Germany**

has established and applies
an Environmental Management System for

**Development, production and distribution of laboratory equipment, accessories, spare parts with the associated services**.

An audit was performed, Order No. **707111087**.

Proof has been furnished that the requirements according to

## ISO 14001:2015

are fulfilled.

The certificate is valid from **2021-05-26** until **2024-05-25**.

Certificate Registration No.: **12 104 59604 TMS**.

Head of Certification Body
Munich, 2021-05-27

IAF MEMBER OF MULTILATERAL RECOGNITION ARRANGEMENT

DAkkS Deutsche Akkreditierungsstelle D-ZM-14143-01-00

MS/01-01/2019

Andreas Hettich GmbH & Co. KG | Föhrenstraße 12 | 78532 Tuttlingen | Germany

To our customers

Michael Eberhard

+49 7461 705 1318
Michael.Eberhard@hettichlab.com
www.hettichlab.com

Dear Customer

Tuttlingen, 22.07.2021

**RoHS 2011/65 / EU conformity and compliance with the Delegated Directive (EU) 2015/863**

We hereby inform you that Andreas Hettich GmbH & Co. KG manufactures and delivers the products of the product groups

- Medical devices according to Directive 93/42/EEC, as well as their accessories and spare parts from July 22nd, 2014
- In-Vitro diagnostic devices according to Directive 98/79/EC, as well as their accessories and spare parts from July 22nd, 2016

conformal to EU Directive 2011/65/EU of the European Parliament and the Council of June 8th, 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS II) as well as to the Delegated Directive (EU) 2015/863 of the Commission from March 31, 2015 amending Annex II of Directive 2011/65/EU.

The EC declarations of conformity for these products contain the 2011/65/EC and (EU) 2015/863 as applicable directives. They are part of the technical documentation of every product supplied.

Best regards,
**Andreas Hettich GmbH & Co. KG**

i.A. Michael Eberhard
Head of Regulatory & Quality Affairs

Andreas Hettich GmbH & Co. KG | Postfach 260 | 78503 Tuttlingen | Germany

Christian von der Grün

+49 7461 705 1318
christian.vondergruen@hettichlab.com
www.hettichlab.com

CUSTOMER INFORMATION

## TRANSITION PHASE - MDR 2017/745 AND IVDR 2017/746

Tuttlingen, 09.04.2020

Dear valued Customer,

Andreas Hettich GmbH & Co. KG as legal manufacturer is required to comply with EU Medical Device Regulation 2017/745 and EU In-Vitro Diagnostic Medical Device Regulation 2017/746 for the following medical devices / in vitro diagnostic medical devices:

| | |
|---|---|
| Medical Devices | ROTO SILENTA 630 RS, ROTIXA 500 RS, ROTANTA 460; ROTANTA 460R, ROTANTA 460RC; ROTANTA 460RF |
| IVD Medical Devices | EBA 200; EBA 200S, EBA 270, EBA 280; EBA 280S, MIKRO 220; MIKRO 220R, UNIVERSAL 320; UNIVERSAL 320R, MIKRO 185, MIKRO 200; MIKRO 200R, ROTOFIX 32A, ROTINA 380; ROTINA 380R, ROTINA 420; ROTINA 420R, HAEMATOKRIT 200; HETTCUBE ff. |

We started already our transition phase in the beginning of 2019 and are currently under implementation of the new requirements.

Our current EN ISO 13485:2016 Certificate, MDSAP Certificate and CE-Certificate MDD 93/42/EEC Annex II remains valid until the end of the transition phase for our in vitro diagnostic devices under IVDR 2017/746 until **26.05.2022** and for our medical devices under MDR 2017/745 until **26.05.2024**.

We will publish the successful transition of our product portfolio on our web page as soon as available.

Mit freundlichen Grüßen / Best regards,
Andreas Hettich GmbH & Co. KG

i.A.

Christian von der Grün
Head of Regulatory & Quality Affairs

ALLG000104

BENCHTOP CENTRIFUGE

# ROTINA 380 | 380 R


## HIGH SPEED WITH SPACE SAVING DESIGN

High performance unit supporting a wide array of accessories for multiple applications in just one rotor. Its size and performance make it the ideal bench top centrifuge for most clinical, research and industrial laboratories.

This unit is available with refrigeration and a temperature range from -20 °C to +40 °C (ROTINA 380 R).

## HIGHLIGHTS

- RPM: 50 - 15,000 min $^{-1}$
  Adjustable in increments of 10
- RCF: 50 - 24,400
  Adjustable in increments of 1
- max. capacity: 4 x 290 ml
- choice of 9 rotors
- IVDR-conform according to regulation (EU) 2017/746
- max. noise level of 54 dB(A) with rotor 1760
- easy operation with keypad and control knob
- 98 program memories for more individuality
- 9 individual acceleration and 10 deceleration stages
- model 380 R coolable from -20 to +40 °C with pre-cooling function

## FEATURES

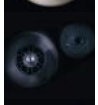
- metal housing and lid
- viewing port in the lid
- powered one-hand lid lock
- lid dropping protection
- emergency lid lock release
- stainless steel chamber
- automatic rotor recognition
- brushless drive
- error display
- display in °C and °F possible
- imbalance switch-off
- backlit panel with actual values of all parameters
- auditory message after completion of the centrifugation run

## TECHNICAL DATA

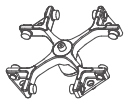
| | **ROTINA 380**<br>non-refrigerated | **ROTINA 380 R**<br>refrigerated |
|---|---|---|
| voltage *) | 200 – 240 V 1 ~ | 200 – 240 V 1 ~ |
| frequency | 50 – 60 Hz | 50 – 60 Hz |
| consumption | 650 VA | 1,300 VA |
| emission, immunity | EN/IEC 61326-1, class B | EN/IEC 61326-1, class B |
| max. capacity | 4 x 290 ml | 4 x 290 ml |
| max. RPM | 15,000 $min^{-1}$ | 15,000 $min^{-1}$ |
| max. RCF | 24,400 | 24,400 |
| running time | 1 – 99 h: 59 min: 59 sec, ∞ continuous run, short cycle mode | 1 – 99 h: 59 min: 59 sec, ∞ continuous run, short cycle mode |
| dimensions (W x D x H) | 457 x 600 x 418 mm | 457 x 750 x 418 mm |
| weight | approx. 51 kg | approx. 81 kg |
| noise level | 54 dB (A) with rotor 1760 | 54 dB (A) with rotor 1760 |
| temperature control, infinitely variable | - | from -20 to +40 °C |
| **Cat. No.** | **1701** | **1706** |
| | | |
| 100 – 127 V 1 ~ / 50 – 60 Hz *) | 1701-01 | 1706-01 |
| consumption | 700 VA | 1,400 VA |
| emission, immunity | FCC class B | FCC class B |
| weight | approx. 58.5 kg | approx. 88.5 kg |

*) Other voltages on request.

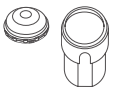
## AVAILABLE ROTORS

| **SWING-OUT ROTORS** | angle | max. RPM | max. capacity | Cat. No. | page |
|---|---|---|---|---|---|
|  swing-out rotor, 4-place | 90° | 5,000 $min^{-1}$ | 4 x 290 ml | **1754** | 3 |
|  swing-out rotor, 4-place | 90° | 4,000 $min^{-1}$ | 4 x 290 ml | **1798** | 5 |
|  swing-out rotor, 6-place | 90° | 4,000 $min^{-1}$ | 6 x 50 ml | **1726** | 8 |
|  swing-out rotor, 2-place | 90° | 4,000 $min^{-1}$ | 10 plates | **1760** | 9 |
|  swing-out rotor, 2-place | 90° | 5,100 $min^{-1}$ | 12 plates | **1770** | 9 |
| **ANGLE ROTORS** | | | | | |
|  angle rotor, 6-place | 45° | 10,000 \| 11,000 $min^{-1}$ | 6 x 94 ml | **1720** | 10 |
|  angle rotor, 6-place | 45° | 10,000 \| 11,000 $min^{-1}$ | 6 x 94 ml | **1792** | 11 |
|  angle rotor, 30-place | 45° | 15,000 $min^{-1}$ | 30 x 2 ml | **1789-A** | 12 |

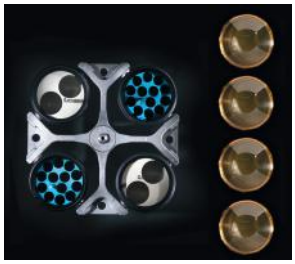
# SWING-OUT ROTOR, 4-PLACE | 1754



| Rotor | |
|---|---|
| max. RPM I max. RCF | 5,000 min$^{-1}$ I 4,863 |
| max. capacity | 4 x 290 ml |
| run-up I run-down, braked in sec | 42 I 27 |
| angle I max. noise level | 90° I 60 dB (A) |
| temperature in °C [1] | 0 |
| **Cat. No.** | **1754** |



| Bucket | |
|---|---|
| lid bioseal [5] | 1751 |
| **Cat. No.** | **1752** |



| Vessels | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| capacity in ml | | 1.5 | 2.0 | 3 | 4 | 5 | 6 | 7 | 9 | 15 | 20 | 25 | 45 | 50 | 94 | 100 |
| Ø x L in mm | | 11 x 38 | 11 x 38 | 10 x 60 | 12 x 60 | 12 x 75 | 12 x 82 | 12 x 100 | 14 x 100 | 17 x 100 | 21 x 100 | 24 x 100 | 31 x 100 | 34 x 100 | 38 x 102 | 40 x 115 |
| max. RCF [2] | top / bottom | 3,494 / 4,779 | 3,494 / 4,779 | 4,779 | 4,668 | 4,668 | 4,668 | 4,668 | 4,668 | 4,668 | 4,668 | 4,668 | 4,668 | 4,668 | 4,807 | 4,640 |
| radius in mm | top / bottom | 125 / 171 | 125 / 171 | 171 | 167 | 167 | 167 | 167 | 167 | 167 | 167 | 167 | 167 | 167 | 172 | 166 |
| **Cat. No.** | | **microliter tubes** | | **tubes [2]** | | | | | | | | | | | | |

| Adapter | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| boring Ø x L in mm | | 11.2x39.5 | 11.2x39.5 | 11.2x39.5 | 12.5 x 56 | 12.5 x 56 | 12.5 x 56 | 12.5 x 56 | 17.5 x 62 | 17.5 x 62 | 25.5 x 81 | 25.5 x 81 | 35.5 x 81 | 35.5 x 81 | 38.5 x 80 | 41 x 97 |
| vessels per rotor | | 144 | 144 | 72 | 96 | 96 | 96 | 96 | 52 | 52 | 24 | 24 | 12 | 12 | 8 | 4 |
| **Cat. No.** | | **1761** | **1761** | **1761** | **1762-A** | **1762-A** | **1762-A** | **1762-A** | **1763-A** | **1763-A** | **1764** | **1764** | **1765** | **1765** | **1777** | **1767** |

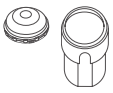
| Vessels | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| capacity in ml | | 100 | 250 | 1.1–1.4 | 2.6–3.4 | 2.7–3 | 4–5.5 | 4.5–5 | 4.5–5 | 4.9 | 4.9 | 7.5–8.5 | 9–10 | 10 | 1.6–5 | 4–7 |
| Ø x L in mm | | 44 x 100 | 65 x 115 | 8 x 66 | 13 x 65 | 11 x 66 | 15 x 75 | 11 x 92 | 11 x 92 | 13 x 90 | 13 x 90 | 15 x 92 | 16 x 92 | 15 x 102 | 13 x 75 | 13 x 100 |
| max. RCF [2] | | 4,640 | 4,640 | 4,668 | 4,668 | 4,668 | 4,668 | 4,668 | 4,668 | 4,668 | 4,668 | 4,668 | 4,668 | 4,668 | 4,668 | 4,668 |
| radius in mm | | 166 | 166 | 167 | 167 | 167 | 167 | 167 | 167 | 167 | 167 | 167 | 167 | 167 | 167 | 167 |
| **Cat. No.** | | **tubes [2]** | | **blood collection tubes / urine tubes** | | | | | | | | | | | | |

| Adapter | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| boring Ø x L in mm | | 45 x 87 | 66 x 104.5 | 9 x 49 | 13.5 x 54 | 12.5 x 56 | 17.5 x 62 | 12.5 x 56 | 13.2 x 72 | 13.5 x 54 | 13.2 x 72 | 17.5 x 62 | 17.5 x 62 | 17.5 x 62 | 13.5 x 54 | 13.5 x 54 |
| vessels per rotor | | 4 | 4 | 96 | 64 | 96 | 52 | 96 | 76 | 64 | 76 | 52 | 52 | 52 | 64 | 64 |
| **Cat. No.** | | **1766** | **1768** | **1781** | **1783-A** | **1762-A** | **1763-A** | **1762-A** | **1787** | **1783-A** | **1787** | **1763-A** | **1763-A** | **1763-A** | **1783-A** | **1783-A** |

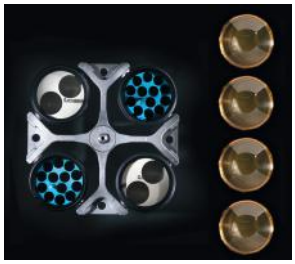
1) For cooled versions: Lowest temperature achievable with precooling and max. speed.
2) Please note that the RCF values indicated refer only to rotor performance. The max. permissible RCF of tubes used should be verified with the individual manufacturers. The max. RCF for glass tubes annotated with footnote 2) is 4,000.
5) Tested by TÜV in conformity with DIN EN 61010, section 2 - 020.

# SWING-OUT ROTOR, 4-PLACE | 1754

| Rotor | |
|---|---|
| max. RPM I max. RCF | 5,000 min$^{-1}$ I 4,863 |
| max. capacity | 4 x 290 ml |
| run-up I run-down, braked in sec | 42 I 27 |
| angle I max. noise level | 90° I 60 dB (A) |
| temperature in °C [1] | 0 |
| **Cat. No.** | **1754** |



| Bucket | |
|---|---|
| lid bioseal [5] | 1751 |
| **Cat. No.** | **1752** |



| Vessels | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| capacity in ml | 4 – 7 | 4 – 7 | 8 | 8.5 – 10 | 5 | 15 | 50 | 12 | 25 | 30 | 50 | 50 | 14 | 10 | 30 |
| Ø x L in mm | 13x100 | 16x75 | 16x125 | 16x100 | 17x59 | 17x120 | 29 x 115 | 17x100 | 25x90 | 25x110 | 29x115 | 29x115 | 16,5x106 | 16x80 | 26x95 |
| max. RCF [2] | 4,668 | 4,668 | 4,668 | 4,668 | 4,863 | 4,863 | 4,863 | 4,696 | 4,528 | 4,528 | 4,752 | 4,752 | 4,668 | 4,668 | 4,807 |
| radius in mm | 167 | 167 | 167 | 167 | 174 | 174 | 174 | 168 | 162 | 162 | 170 | 170 | 167 | 167 | 172 |
| **Cat. No.** | **blood collection tubes / urine tubes** | | | | **-** | **tubes with screw cap** | | | | | | | | | |

| Adapter | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| boring Ø x L in mm | 13.2x72 | 17.5x62 | 17.5x62 | 17.5x62 | 17x52 | 17x84 | 30x84 | 17x78 | 26.5x72 | 26.5x72 | 30x80 | 30x80 | 17.5x62 | 17.5x62 | 26.5x70 |
| vessels per rotor | 76 | 52 | 12 | 52 | 32 | 36 | 16 | 36 | 20 | 20 | 16 | 16 | 52 | 52 | 24 |
| **Cat. No.** | **1787** | **1763-A** | **1763-A** | **1763-A** | **1738** | **1771-A** | **1772-A** | **1773** | **1779** | **1779** | **1774-A** | **1774-A** | **1763-A** | **1763-A** | **1775** |

21) Adapter must be loaded as illustrated.
+ E2110-A

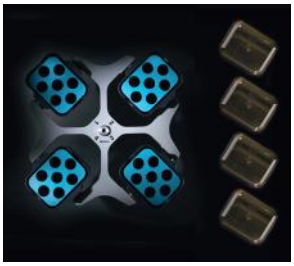
| Vessels | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| capacity in ml | 50 | 85 | 94 | 175 | 175 | 200 | 225 | 250 | 290 |
| Ø x L in mm | 29x107 | 38x106 | 38x102 | 61 x 118 | 62 x 144 | 60 x 130 | 61 x 137 | 61 x 122 | 62 x 137 |
| max. RCF [2] | 4,752 | 4,807 | 4,807 | 4,863 | 4,863 | 4,863 | 4,863 | 4,863 | 4,863 |
| radius in mm | 170 | 172 | 172 | 174 | 174 | 174 | 174 | 174 | 174 |
| **Cat. No.** | **tubes with screw cap** | | | **Falcon** | **Nalgene** | **Nunc®** | **Falcon** | **5127** [24] | **-** [24] |

3.3) When using these tubes, bucket 1752 or 5051 cannot be closed with lid 1751 or 5053.

| Adapter | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| boring Ø x L in mm | 30 x 80 | 38.5 x 80 | 38.5 x 80 | 62 x 111 | 62 x 111 | 62 x 111 | 62 x 111 | 62 x 100 | 62 x 100 |
| vessels per rotor | 16 | 8 | 8 | 4 | 4 | 4 | 4 | 4 | 4 |
| **Cat. No.** | **1774-A** | **1777** | **1777** | **1782** | **1778** | **1778** | **1782** | **1769** | **1769** |

1) For cooled versions: Lowest temperature achievable with precooling and max. speed.
2) Please note that the RCF values indicated refer only to rotor performance. The max. permissible RCF of tubes used should be verified with the individual manufacturers. The max. RCF for glass tubes annotated with footnote 2) is 4,000.
3.3) When using these tubes, bucket 1752 or 5051 cannot be closed with lid 1751 or 5053.
5) Tested by the TÜV in conformity with DIN EN 61010, section 2 - 020.
21) Adapter must be loaded as illustrated.
24) At temperatures of over +40 °C and / or when not filled to capacity, bottles may warp during centrifugation.

# SWING-OUT ROTOR, 4-PLACE | 1798



| Rotor | |
|---|---|
| max. RPM I max. RCF | 4,000 min$^{-1}$ I 2,898 |
| max. capacity | 4 x 100 ml |
| run-up I run-down, braked in sec | 24 I 17 |
| angle I max. noise level | 90° I 55 dB (A) |
| temperature in °C [1] | -8 |
| **Cat. No.** | **1798** |

| Bucket | |
|---|---|
| lid | 5053 |
| **Cat. No.** | **5051** |

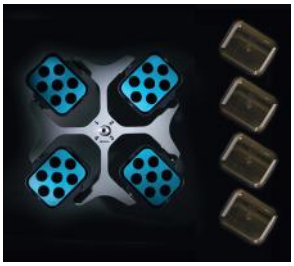
| Vessels | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| capacity in ml | 1.5 | 2 | 1.5 | 2 | 3 | 5 | 6 | 7 | 9 | 15 | 25 | 50 | 100 | 100 |
| Ø x L in mm | 11 x 38 | 11 x 38 | 11 x 38 | 11 x 38 | 10 x 60 | 12 x 75 | 12 x 82 | 12 x 100 | 14 x 100 | 17 x 100 | 24 x 100 | 34 x 100 | 40 x 115 | 44 x 100 |
| max. RCF [2] top / bottom | 1,950 / 2,826 | 1,950 / 2,826 | 2,826 | 2,826 | 2,737 | 2,773 | 2,773 | 2,755 | 2,773 | 2,755 | 2,755 | 2,755 | 2,755 | 2,755 |
| radius in mm | 109 / 158 | 109 / 158 | 158 | 158 | 153 | 155 | 155 | 154 | 155 | 154 | 154 | 154 | 154 | 154 |
| **Cat. No.** | **microliter tubes** | | | | **tubes [2]** | | | | | | | | | |
| **Adapter** | | | | | | | | | | | | | | |
| boring Ø x L in mm | 12.5 x 42 | 12.5 x 42 | 11.5 x 50 | 11.5 x 50 | 11 x 44 | 12.5 x 42 | 12.5 x 42 | 12.5 x 86 | 16 x 50 | 17.5 x 86 | 26 x 86 | 36 x 86 | 42 x 86 | 45.5 x 86 |
| vessels per rotor | 160 | 160 | 64 | 64 | 80 | 80 | 80 | 80 | 48 | 48 | 20 | 8 | 4 | 4 |
| **Cat. No.** | **5257** | **5257** | **5281** | **5281** | **5267** | **5227** | **5227** | **5247 [15]** | **5264** | **5248 [15]** | **5242** | **5243** | **5249** | **5262** |

| Vessels | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| capacity in ml | 1.1 – 1.4 | 2.6 – 3.4 | 2.7 – 3 | 4 – 5.5 | 4.5 – 5 | 4.9 | 7.5 – 8.5 | 9 – 10 | 10 | 1.6 – 5 | 4 – 7 | 4 – 7 | 8.5 – 10 |
| Ø x L in mm | 8 x 66 | 13 x 65 | 11 x 66 | 15 x 75 | 11 x 92 | 13 x 90 | 15 x 92 | 16 x 92 | 15 x 102 | 13 x 75 | 13 x 100 | 16 x 75 | 16 x 100 |
| max. RCF [2] | 2,737 | 2,808 | 2,773 | 2,773 | 2,773 | 2,808 | 2,773 | 2,755 | 2,755 | 2,808 | 2,808 | 2,773 | 2,755 |
| radius in mm | 153 | 157 | 155 | 155 | 155 | 157 | 155 | 154 | 154 | 157 | 157 | 155 | 154 |
| **Cat. No.** | **blood collection tubes / urine tubes** | | | | | | | | | | | | |
| **Adapter** | | | | | | | | | | | | | |
| boring Ø x L in mm | 11 x 44 | 13.5 x 52 | 12.5 x 42 | 16 x 50 | 12.5 x 42 | 13.5 x 52 | 16 x 50 | 17.6 x 86 | 17.6 x 86 | 13.5 x 52 | 13.5 x 52 | 16 x 50 | 17.5 x 86 |
| vessels per rotor | 80 | 48 | 80 | 48 | 80 | 48 | 48 | 44 | 44 | 48 | 48 | 48 | 48 |
| **Cat. No.** | **5267** | **5268** | **5227** | **5264** | **5227** | **5268** | **5264** | **5258** | **5258** | **5268** | **5268** | **5264** | **5248** |

| Vessels | | | | | | | |
|---|---|---|---|---|---|---|---|
| capacity in ml | 30 | 50 | 15 | 12 | 30 | 50 | 1 – 8 |
| Ø x L in mm | 25 x 110 | 29 x 115 | 17 x 120 | 17 x 100 | 25 x 110 | 29 x 115 | simple / multiple |
| max. RCF [2] top / bottom | 2,755 | 2,826 | 2,898 | 2,898 | 2,755 | 2,755 | 1,735 / 2,737 |
| radius in mm | 154 | 158 | 162 | 162 | 154 | 154 | 97 / 153 |
| **Cat. No.** | **tubes with screw cap** | | | | | | **cyto chambers** |
| **Adapter** | | | | | | + 2 x 6316 | |
| boring Ø x L in mm | 26 x 86 | 30 x 86 | 17 x 90 | 17 x 90 | 26 x 86 | 36 x 86 | - |
| vessels per rotor | 20 | 8 | 28 | 28 | 20 | 8 | 8 |
| **Cat. No.** | **5266** | **5259** | **6306** | **6306** | **5266** | **5243** | **5280** |

1) For cooled versions: Lowest temperature achievable with precooling and max. speed.
2) Please note that the RCF values indicated refer only to rotor performance. The max. permissible RCF of tubes used should be verified with the individual manufacturers. The max. RCF for glass tubes annotated with footnote 2) is 4,000.
3.3) When using these tubes, bucket 1752 or 5051 cannot be closed with lid 1751 or 5053.
15) Also available with decanting aid. (Cat. No. 5247-91 or 5248-91).

# SWING-OUT ROTOR, 4-PLACE | 1798



| Rotor | |
|---|---|
| max. RPM I max. RCF | 4,000 min$^{-1}$ I 3,095 |
| max. capacity | 4 x 290 ml |
| run-up I run-down, braked in sec | 24 I 17 |
| angle I max. noise level | 90° I 56 dB (A) |
| temperature in °C [1] | -8 |
| **Cat. No.** | **1798** |

| Bucket | |
|---|---|
| lid bioseal [5] | 5093 |
| **Cat. No.** | **5092** |

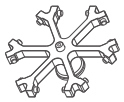
| Vessels | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| capacity in ml | 5 | 6 | 7 | 15 | 25 | 50 | 100 | 100 | 250 | 15 | 30 | 50 | 12 | 25 | 30 |
| Ø x L in mm | 12 x 75 | 12 x 82 | 12 x 100 | 17 x 100 | 24 x 100 | 34 x 100 | 44 x 100 | 40 x 115 | 65 x 115 | 17 x 120 | 25 x 110 | 29 x 115 | 17 x 100 | 25 x 90 | 25 x 110 |
| max. RCF [2] | 3,005 | 3,005 | 3,005 | 2,952 | 2,898 | 2,952 | 2,952 | 2,952 | 3,095 | 3,095 | 2,898 | 3,095 | 3,005 | 2,826 | 2,898 |
| radius in mm | 168 | 168 | 168 | 165 | 162 | 165 | 165 | 165 | 173 | 173 | 162 | 173 | 168 | 158 | 162 |
| **Cat. No.** | **tubes [2]** | | | | | | | | | **tubes with screw cap** | | | | | |
| **Adapter** | | | | | | | | | | | | | | | |
| boring Ø x L in mm | 12.8 x 45 | 12.8 x 45 | 13.2 x 82 | 17.5 x 60.7 | 25.5 x 82 | 35.5 x 85 | 45.5 x 85 | 42 x 85 | 66 x 103 | 17 x 85 | 25.5 x 82 | 30 x 85 | 17.5 x 82 | 26 x 73 | 25.5 x 82 |
| vessels per rotor | 48 | 48 | 48 | 32 | 16 | 4 | 4 | 4 | 4 | 28 | 16 | 8 | 28 | 12 | 16 |
| **Cat. No.** | **5128** | **5128** | **5120** | **5136** | **5122** | **5124** | **5125** | **5126** | **1791** | **5129** | **5122** | **5123** | **5121** | **5134** | **5122** |

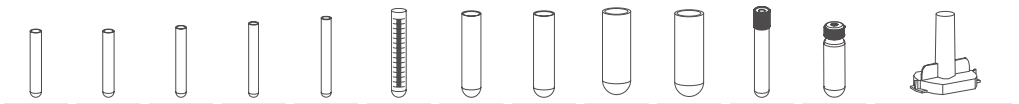
| Vessels | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| capacity in ml | 50 | 10 | 250 | 290 | 1.1 – 1.4 | 2.6 – 3.4 | 2.7 – 3 | 4 – 5.5 | 4.5 – 5 | 4.9 | 7.5 – 8.5 | 9 – 10 | 10 | 1.6 – 5 | 4 – 7 |
| Ø x L in mm | 29 x 115 | 16 x 80 | 61 x 122 | 62 x 137 | 8 x 66 | 13 x 65 | 11 x 66 | 15 x 75 | 11 x 92 | 13 x 90 | 15 x 92 | 16 x 92 | 15 x 102 | 13 x 75 | 16 x 75 |
| max. RCF [2] | 3,023 | 2,952 | 3,095 | 3,095 | 2,540 | 2,540 | 2,540 | 2,952 | 3,005 | 2,952 | 2,952 | 2,952 | 2,952 | 2,540 | 2,952 |
| radius in mm | 169 | 165 | 173 | 173 | 142 | 142 | 142 | 165 | 168 | 165 | 165 | 165 | 165 | 142 | 165 |
| **Cat. No.** | **tubes with screw cap** | | **5127 [24]** | **- [24]** | **blood collection tubes / urine tubes** | | | | | | | | | | |
| **Adapter** | | | | | | | | | | | | | | | |
| boring Ø x L in mm | 30 x 99 | 17.5 x 60.7 | 66 x 103 | 66 x 103 | 13.2 x 54.5 | 13.2 x 54.5 | 13.2 x 54.5 | 17.5 x 60.7 | 13.2 x 82 | 13.5 x 60.7 | 17.5 x 60.7 | 17.5 x 60.7 | 17.5 x 60.7 | 13.2 x 54.5 | 17.5 x 60.7 |
| vessels per rotor | 8 | 32 | 4 | 4 | 48 | 48 | 48 | 32 | 48 | 32 | 32 | 32 | 32 | 48 | 32 |
| **Cat. No.** | **5135** | **5136** | **6319** | **6319** | **5138** | **5138** | **5138** | **5136** | **5120** | **5137** | **5136** | **5136** | **5136** | **5138** | **5136** |

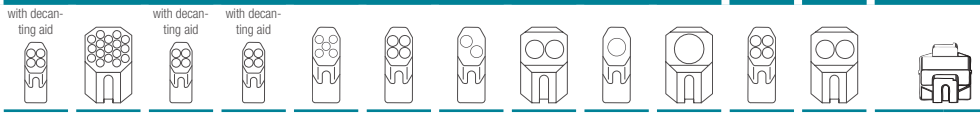
| Vessels | | | |
|---|---|---|---|
| capacity in ml | 4 – 7 | 8 | 8.5 – 10 |
| Ø x L in mm | 13 x 100 | 16 x 125 | 16 x 100 |
| max. RCF [2] | 3,005 | 3,059 | 2,952 |
| radius in mm | 168 | 171 | 165 |
| **Cat. No.** | **blood collection / urine tubes** | | |
| **Adapter** | | | |
| boring Ø x L in mm | 13.2 x 82 | 17.5 x 82 | 17.5 x 60.7 |
| vessels per rotor | 48 | 28 | 32 |
| **Cat. No.** | **5120** | **5121 [4]** | **5136** |

1) For cooled versions: Lowest temperature achievable with precooling and max. speed.
2) Please note that the RCF values indicated refer only to rotor performance. The max. permissible RCF of tubes used should be verified with the individual manufacturers.
The max. RCF for glass tubes annotated with footnote 2) is 4,000.
3.5) When using these tubes, bucket 5092 cannot be closed with lid 5053.
4) Please remove the spacer.
5) Tested by the TÜV in conformity with DIN EN 61010, section 2 - 020.
24) At temperatures of over +40 °C and / or when not filled to capacity, bottles may warp during centrifugation.

## SWING-OUT ROTOR, 6-PLACE | 1726

| Rotor |  |
|---|---|
| max. RPM I max. RCF | 4,000 min$^{-1}$ I 2,808 |
| max. capacity | 6 x 50 ml |
| run-up I run-down, braked in sec | 19 I 18 |
| angle I temperature in °C [1] | 90° I -6 |
| **Cat. No.** | **1726** |

| Vessels |  | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| capacity in ml | 5 | 5 | 6 | 7 | 9 | 15 | 20 | 25 | 45 | 50 | 8.5 x 10 | 30 | 1–8 |
| Ø x L in mm | 12x75 | 12x75 | 12x82 | 12x100 | 14x100 | 17x100 | 21x100 | 24x100 | 31x100 | 34x100 | 16x100 | 26x95 | simple / multiple |
| max. RCF [2] | 2,576 | 2,522 | 2,665 | 2,665 | 2,665 | 2,665 | 2,719 | 2,808 | 2,719 | 2,808 | 2,665 | 2,808 | 2,003 |
| radius in mm | 144 | 141 | 149 | 149 | 149 | 149 | 152 | 157 | 152 | 157 | 149 | 157 | 112 |
| **Cat. No.** | **tubes [2]** | | | | | | | | | | **-** | **-** | **cyto chambers** |

| + Carrier |  | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | with decanting aid | | with decanting aid | with decanting aid | | | | | | | | | |
| boring Ø x L in mm | 12.5x64.4 | 13.5x65 | 12.5x71.5 | 12.5x71.5 | 14.6x74 | 17.6x71.5 | 21.5x74 | 26x78 | 32x74 | 35x78 | 17.6x71.5 | 26x78 | - |
| vessels per rotor | 24 | 102 | 24 | 24 | 30 | 24 | 12 | 12 | 6 | 6 | 24 | 12 | 6 |
| **Cat. No.** | **1369-91** | **1372** | **1369-92** | **1369-92** | **1370** | **1369** | **1346** | **1745** | **1345** | **1746** | **1369** | **1745** | **1660** |

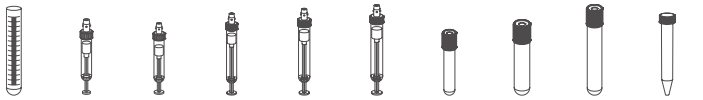
**CYTO** Cyto system available for this model.
More information on page 178

## SWING-OUT ROTOR, 6-PLACE | 1726

| Rotor |  |
|---|---|
| max. RPM I max. RCF | 4,000 min$^{-1}$ I 2,808 |
| max. capacity | 42 x 15 ml |
| run-up I run-down, braked in sec | 19 I 18 |
| angle I max. noise level | 90° I 54 dB (A) |
| temperature in °C [1] | -6 |
| **Cat. No.** | **1726** |

+ **Carrier** 

**Cat. No.** **1742**

| Vessels |  | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| capacity in ml | 15 | 2.6–3.4 | 4–5.5 | 7.5–8.5 | 9–10 | 10 | 1.6–5 | 4–7 | 8.5–10 | 15 |
| Ø x L in mm | 17x100 | 13x65 | 15x75 | 15x92 | 16x92 | 15x102 | 13x75 | 16x75 | 16x100 | 17x120 |
| max. RCF [2] | 2,808 | 2,683 | 2,683 | 2,808 | 2,808 | 2,808 | 2,683 | 2,683 | 2,808 | 2,808 |
| radius in mm | 157 | 150 | 150 | 157 | 157 | 157 | 150 | 150 | 157 | 157 |
| **Cat. No.** | **- [2]** | **blood collection tubes / urine tubes** | | | | | | | | **-** |

| + Spacer | | Spacer | Spacer | | | 21)  | Spacer | Spacer | | 21)  |
|---|---|---|---|---|---|---|---|---|---|---|
| boring Ø x L in mm | 17.6 x 78 | 17.6 x 78 | 17.6 x 78 | 17.6 x 78 | 17.6 x 78 | 17.6 x 78 | 17.6 x 78 | 17.6 x 78 | 17.6 x 78 | 17.6 x 78 |
| vessels per rotor | 42 | 42 | 42 | 42 | 42 | 18 | 42 | 42 | 42 | 18 |
| **Cat. No.** | **-** | **0716** | **0716** | **-** | **-** | **-** | **0716** | **0716** | **-** | **-** |

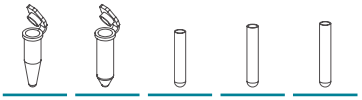
1) For cooled versions: Lowest temperature achievable with precooling and max. speed.
2) Please note that the RCF values indicated refer only to rotor performance. The max. permissible RCF of tubes used should be verified with the individual manufacturers. The max. RCF for glass tubes annotated with footnote 2) is 4,000.
21) Adapter must be loaded as illustrated.

## SWING-OUT ROTOR, 6-PLACE | 1726

| Rotor | |
|---|---|
| max. RPM I max. RCF | 4,000 min$^{-1}$ I 2,325 |
| max. capacity | 72 x 4 ml |
| run-up I run-down, braked in sec | 19 I 18 |
| angle I max. noise level | 90° I 54 dB (A) |
| temperature in °C [1] | -6 |
| **Cat. No.** | **1726** |

+

| Bucket | |
|---|---|
| **Cat. No.** | **1366** |

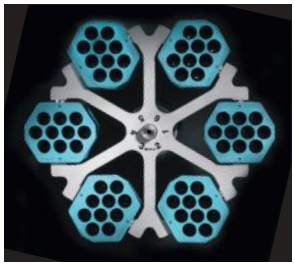


| Vessels | | | | | |
|---|---|---|---|---|---|
| capacity in ml | 1.5 | 2.0 | 1 | 3 | 4 |
| Ø x L in mm | 11 x 38 | 11 x 38 | 6 x 45 | 10 x 60 | 12 x 60 |
| max. RCF [2] | 2,325 | 2,325 | 2,308 | 2,290 | 2,290 |
| radius in mm | 130 | 130 | 129 | 128 | 128 |
| **Cat. No.** | **microliter tubes** | | **Rhesus** | **tubes [2]** | |

+

| Adapter | | | | | |
|---|---|---|---|---|---|
| boring Ø x L in mm | 11.5 x 38 | 11.5 x 38 | 6.5 x 23 | 10.5 x 23 | 12.5 x 44 |
| vessels per rotor | 54 | 54 | 180 | 72 | 72 |
| **Cat. No.** | **5277** | **5277** | **1357** | **1327** | **1326** |

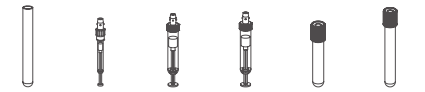
## SWING-OUT ROTOR, 6-PLACE | 1726



| Rotor | |
|---|---|
| max. RPM I max. RCF | 4,000 min$^{-1}$ I 2,808 |
| max. capacity | 60 x 9 ml |
| run-up I run-down, braked in sec | 19 I 18 |
| angle I max. noise level | 90° I 54 dB (A) |
| temperature in °C [1] | -6 |
| **Cat. No.** | **1726** |

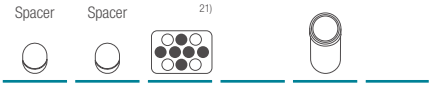
+

| Carrier | |
|---|---|
| **Cat. No.** | **1741** |



| Vessels | | | | | | |
|---|---|---|---|---|---|---|
| capacity in ml | 9 | 1.1 – 1.4 | 4.5 – 5 | 4.9 | 1.6 – 5 | 4 – 7 |
| Ø x L in mm | 14 x 100 | 8 x 66 | 11 x 92 | 13 x 90 | 13 x 75 | 13 x 100 |
| max. RCF [2] | 2,773 | 2,773 | 2,808 | 2,808 | 2,486 | 2,808 |
| radius in mm | 155 | 155 | 157 | 157 | 139 | 157 |
| **Cat. No.** | **- [2]** | **blood collection tubes / urine tubes** | | | | |

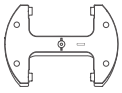
+




| Adapter | | | | | | |
|---|---|---|---|---|---|---|
| boring Ø x L in mm | 14.6 x 78 | 14.6 x 78 | 14.6 x 78 | 14.6 x 78 | 14.6 x 78 | 14.6 x 78 |
| vessels per rotor | 60 | 60 | 36 | 60 | 60 | 60 |
| **Cat. No.** | **0701** | **0701** | **-** | **-** | **6x0768 [16]** | **-** |

1) For cooled versions: Lowest temperature achievable with precooling and max. speed.
2) Please note that the RCF values indicated refer only to rotor performance. The max. permissible RCF of tubes used should be verified with the individual manufacturers.
The max. RCF for glass tubes annotated with footnote 2) is 4,000.
16) Packaging unit 10 pieces.
21) Adapter must be loaded as illustrated.

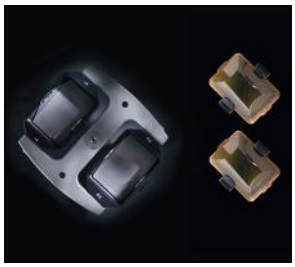
## SWING-OUT ROTOR, 2-PLACE | 1760

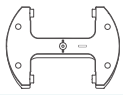
| Rotor |  |
|---|---|
| max. RPM I max. RCF | 4,000 min$^{-1}$ I 2,397 |
| max. capacity | 10 plates |
| run-up I run-down, braked in sec | 30 I 23 |
| angle I max. noise level | 90° I 54 dB (A) |
| temperature in °C [1] | -8 |
| **Cat. No.** | **1760** |

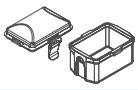
| Plates |  |  |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|---|---|
| W x D x H in mm | 128x86x15 | 128x86x17.5 | 128x86x22 | 128x86x44.5 | 128x86x46 | 128x86x83 | 84x59x11 | 124x82x20 | - |
| capacity in ml | - | - | - | - | - | - | - | - | 0.2 |
| max. RCF [2] | 2,397 | 2,397 | 2,397 | 2,397 | 2,397 | 2,397 | 2,397 | 2,397 | 2,397 |
| radius in mm | 134 | 134 | 134 | 134 | 134 | 134 | 134 | 134 | 134 |
| **Cat. No.** | **MTP** | **MTP** | **CP** | **DWP** | **MS** | **QP** | **Microtest plates** | **PCR plate** | **PCR strips** |

| Bucket |  |  |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|---|---|
| boring Ø x L in mm | - | - | - | - | - | - | - | - | - |
| plates / strips per rotor | 10 | 8 | 6 | 2 | 2 | 2 | 4 | 2 | 24 x 8 |
| **Cat. No.** | **1753-A** | **1753-A** | **1753-A** | **1753-A** | **1753-A** | **1753-A** | **1753-A** | **1753-A+1485** | **1753-A+1485** |

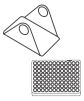
## SWING-OUT ROTOR, 2-PLACE | 1770



| Rotor |  |
|---|---|
| max. RPM I max. RCF | 5,100 min$^{-1}$ I 3,926 |
| capacity in ml | 12 plates |
| run-up I run-down, braked in sec | 65 I 30 |
| angle I temperature in °C [1] | 90° I -3 |
| **Cat. No.** | **1770** |

| Bucket |  |
|---|---|
| lid bioseal [5] | 4627 |
| **Cat. No.** | **4745** |

| Plates |  |  |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|---|---|
| W x D x H in mm | 128x86x15 | 128x86x17.5 | 128x86x22 | 128x86x44.5 | 128x86x46 | 128x86x83 | 84x59x11 | 124x82x20 | - |
| Ø x L in mm | - | - | - | - | - | - | - | - | 0,2 |
| max. RCF [2] | 3,926 | 3,926 | 3,926 | 3,926 | 3,926 | 3,926 | 3,926 | 3,926 | 3,926 |
| radius in mm | 135 | 135 | 135 | 135 | 135 | 135 | 135 | 135 | 135 |
| **Cat. No.** | **MTP** | **MTP** | **CP** | **DWP** | **MS** | **QP** | **Microtest plates** | **PCR plate** | **PCR strips** |

| Removal frame |  |  |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|---|---|
| boring Ø x L in mm | - | - | - | - | - | - | - | - | - |
| plates / strips per rotor | 12 | 10 | 8 | 2 | 2 | 2 | 4 | 2 | 24 x 8 |
| **Cat. No.** | **4626** | **4626** | **4626** | **4626** | **4626** | **4626** | **4626** | **4626 + 1485** | **4626 + 1485** |

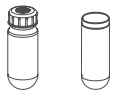
1) For cooled versions: Lowest temperature achievable with precooling and max. speed.
2) Please note that the RCF values indicated refer only to rotor performance. The max. permissible RCF of tubes used should be verified with the individual manufacturers. The max. RCF for glass tubes annotated with footnote 2) is 4,000.

# ANGLE ROTOR, 6-PLACE | 1720

| Rotor | | |
|---|---|---|
| max. RPM | ROTINA 380 I 380 R | 10,000 min$^{-1}$ I 11,000 min$^{-1}$ |
| max. RCF | | 13,528 I 16,369 |
| max. capacity | | 6 x 94 ml |
| run-up / run-down, braked in sec | | 39 / 36 I 45 / 44 |
| angle I max. noise level | | 45° I 59 dB (A) |
| temperature in °C [1] | | +1 |
| **Cat. No.** | | **1720** |

| Vessels | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| capacity in ml | | 1.5 | 2.0 | 15 | 25 | 50 | 94 | 7.5 – 8.5 | 9 – 10 | 8.5 – 10 | 5 | 15 | 50 | 10 | 30 | 50 |
| Ø x L in mm | | 11 x 38 | 11 x 38 | 17 x 100 | 24 x 100 | 34 x 100 | 38 x 102 | 15 x 92 | 16 x 92 | 16 x 100 | 17 x 59 | 17 x 120 | 29 x 115 | 16 x 80 | 26 x 95 | 29 x 107 |
| max. RCF [2] | ROTINA 380 | 12,969 | 12,969 | 12,745 | 12,410 | 13,304 | 13,528 | 12,745 | 12,745 | 12,745 | 12,857 | 13,081 | 12,745 | 12,410 | 12,410 | 12,969 |
| max. RCF [2] | ROTINA 380 R | 15,692 | 15,692 | 15,422 | 15,016 | 16,098 | 16,369 | 15,422 | 15,422 | 15,422 | 15,557 | 15,828 | 15,422 | 15,016 | 15,016 | 15,692 |
| radius in mm | | 116 | 116 | 114 | 111 | 119 | 121 | 114 | 114 | 114 | 115 | 117 | 114 | 111 | 111 | 116 |
| **Cat. No.** | | **microliter tubes** | | **tubes [2]** | | | | **blood collection tubes / urine tubes** | | | **-** | **tubes with screw cap** | | | | |

| Adapter | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| boring Ø x L in mm | | 11.4 x 39 | 11.4 x 39 | 17.5 x 92 | 26 x 85 | 35 x 89 | 38.4 x 89 | 17.5 x 92 | 17.5 x 92 | 17.5 x 92 | 17 x 51 | 17 x 106 | 29.8 x 97 | 16.5 x 74 | 26 x 85 | 29 x 92 |
| vessels per rotor | | 24 | 24 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 12 | 6 | 6 |
| **Cat. No.** | | **1449** | **1449** | **1451** | **1447** | **1463** | **-** | **1451** | **1451** | **1451** | **1476** | **1466** | **1454** | **1448** | **1447** | **1446** |

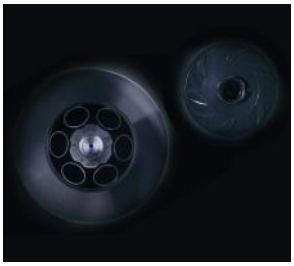


| Vessels | | | |
|---|---|---|---|
| capacity in ml | | 85 | 94 |
| Ø x L in mm | | 38 x 106 | 38 x 102 |
| max. RCF [2] | ROTINA 380 | 13,528 | 13,528 |
| max. RCF [2] | ROTINA 380 R | 16,369 | 16,369 |
| radius in mm | | 121 | 121 |
| **Cat. No.** | | **tubes with screw cap** | |

| Adapter | | | |
|---|---|---|---|
| boring Ø x L in mm | | 38.4x89 | 38.4x89 |
| vessels per rotor | | 6 | 6 |
| **Cat. No.** | | **-** | **-** |

1) For cooled versions: Lowest temperature achievable with precooling and max. speed.
2) Please note that the RCF values indicated refer only to rotor performance. The max. permissible RCF of tubes used should be verified with the individual manufacturers. The max. RCF for glass tubes annotated with footnote 2) is 4,000.

# ANGLE ROTOR, 6-PLACE | 1792



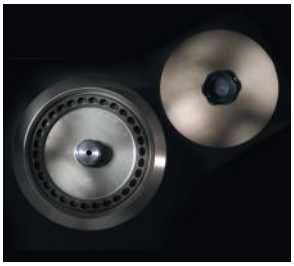
| Rotor | | | lid bioseal [5] |
|---|---|---|---|
| max. RPM | ROTINA 380 I 380 R | 10,000 min$^{-1}$ I 11,000 min$^{-1}$ | Cat. No. INCLUSIVE |
| max. RCF | | 13,640 I 16,504 | |
| max. capacity | | 6 x 94 ml | |
| run-up I run-down, braked in sec | | 40 / 37 I 48 / 44 | |
| angle I max. noise level | | 45° I 59 dB (A) | |
| temperature in °C [1] | | +4 | |
| **Cat. No.** | | **1792** | |

| Vessels | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| capacity in ml | | 1.5 | 2.0 | 15 | 25 | 50 | 94 | 7.5 – 8.5 | 9 – 10 | 10 | 8.5 – 10 | 5 | 15 | 50 | 10 | 30 |
| Ø x L in mm | | 11 x 38 | 11 x 38 | 17 x 100 | 24 x 100 | 34 x 100 | 38 x 102 | 15 x 92 | 16 x 92 | 15 x 102 | 16 x 100 | 17 x 59 | 17 x 120 | 29 x 115 | 16 x 80 | 26 x 95 |
| max. RCF [2] | ROTINA 380 | 13,081 | 13,081 | 12,857 | 12,522 | 13,416 | 13,640 | 12,857 | 12,857 | 12,857 | 12,857 | 12,745 | 13,081 | 13,304 | 12,857 | 12,522 |
| max. RCF [2] | ROTINA 380 R | 15,828 | 15,828 | 15,557 | 15,151 | 16,233 | 16,504 | 15,557 | 15,557 | 15,557 | 15,557 | 15,422 | 15,828 | 16,098 | 15,557 | 15,151 |
| radius in mm | | 117 | 117 | 115 | 112 | 120 | 122 | 115 | 115 | 115 | 115 | 114 | 117 | 119 | 115 | 112 |
| **Cat. No.** | | **microliter tubes** | | **tubes [2]** | | | | **blood collection tubes / urine tubes** | | | | **-** | **tubes with screw cap** | | | |
| **Adapter** | | | | | | | | | | | | | | | | |
| boring Ø x L in mm | | 11.4 x 39 | 11.4 x 39 | 17.5 x 92 | 26 x 85 | 35 x 89 | 38.2 x 89.6 | 17.5 x 92 | 17.5 x 92 | 17.5 x 92 | 17.5 x 92 | 17 x 51 | 17 x 106 | 29.8 x 97 | 16.5 x 74 | 26 x 85 |
| vessels per rotor | | 24 | 24 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 12 | 6 |
| **Cat. No.** | | **1449** | **1449** | **1451** | **1447** | **1463** | **-** | **1451** | **1451** | **1451** | **1451** | **1476** | **1466** | **1454** | **1448** | **1447** |

| Vessels | | | |
|---|---|---|---|
| capacity in ml | | 50 | 85 |
| Ø x L in mm | | 29 x 107 | 38 x 106 |
| max. RCF [2] | ROTINA 380 | 13,081 | 13,640 |
| max. RCF [2] | ROTINA 380 R | 15,828 | 16,504 |
| radius in mm | | 117 | 122 |
| **Cat. No.** | | **tubes with screw cap** | |
| **Adapter** | | | |
| boring Ø x L in mm | | 29 x 92 | 38.2 x 89.6 |
| vessels per rotor | | 6 | 6 |
| **Cat. No.** | | **1446** | **-** |

1) For cooled versions: Lowest temperature achievable with precooling and max. speed.
2) Please note that the RCF values indicated refer only to rotor performance. The max. permissible RCF of tubes used should be verified with the individual manufacturers. The max. RCF for glass tubes annotated with footnote 2) is 4,000.
5) Tested by TÜV in conformity with DIN EN 61010, section 2 - 020.

# ANGLE ROTOR, 30-PLACE | 1789-A



| Rotor |  | | Lid bioseal[5], phenol-resistant |  |
|---|---|---|---|---|
| max. RPM I max. RCF | 15,000 min$^{-1}$ I 24,400 min$^{-1}$ | | Cat. No. | INCLUSIVE |
| max. capacity | 30 x 2 ml | | | |
| run-up I run-down, braked in sec | 24 I 24 | | | |
| angle I max. noise level | 45° I 60 dB (A) | | | |
| temperature in °C[1] | +4 | | | |
| Cat. No. | 1789-A | | | |

| Vessels |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|
| capacity in ml | 0.2 | 0.4 | 0.5 | 0.8 | 1.5 | 2 | 0.5 |
| Ø x L in mm | 6 x 18 | 6 x 45 | 8 x 30 | 8 x 45 | 11 x 38 | 11 x 38 | 10.7 x 36 |
| max. RCF[2] | 24,400 | 24,400 | 24,400 | 24,400 | 24,400 | 24,400 | 23,394 |
| radius in mm | 97 | 97 | 97 | 97 | 97 | 97 | 93 |
| Cat. No. | microliter tubes | | | | | | Pediatric |
| **Adapter** |  |  |  |  |  | |  |
| boring Ø x L in mm | 6 x 40 | 6 x 40 | 8 x 40 | 8 x 40 | 10.2 x 19.3 | 11.2 x 40.9 | 11.2 x 40.9 |
| vessels per rotor | 30 | 30 | 30 | 30 | 30 | 30 | 15 |
| Cat. No. | 2024 | 2024 | 2023 | 2023 | 2031[7] | - | 0788[17] |

1) For cooled versions: Lowest temperature achievable with precooling and max. speed.
2) Please note that the RCF values indicated refer only to rotor performance. The max. permissible RCF of tubes used should be verified with the individual manufacturers. The max. RCF for glass tubes annotated with footnote 2) is 4,000.
5) Tested by the TÜV in conformity with DIN EN 61010, section 2 - 020.
7) For centrifugation at high speeds, we recommend to use form-fitting, phenol-resistant adapters. Cat. No. 2031.
17) Packaging unit 15 pieces.

## CERTIFICATIONS / REGISTRATIONS

Product certification:

www.tuev-sued.de/ps-zert

Product registration:

according to regulation (EU) 2017/746

Company certifications:

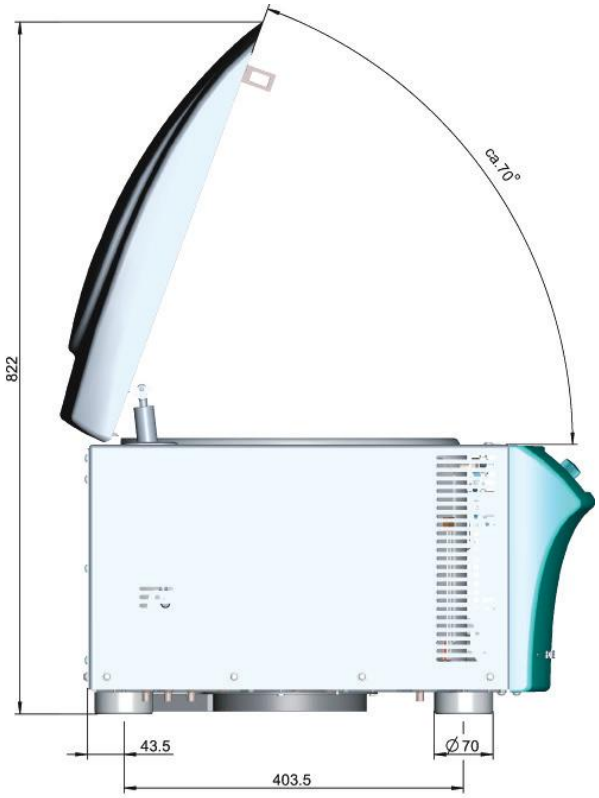
## DOWNLOADS

Operating manual – ROTINA 380 I 380 R

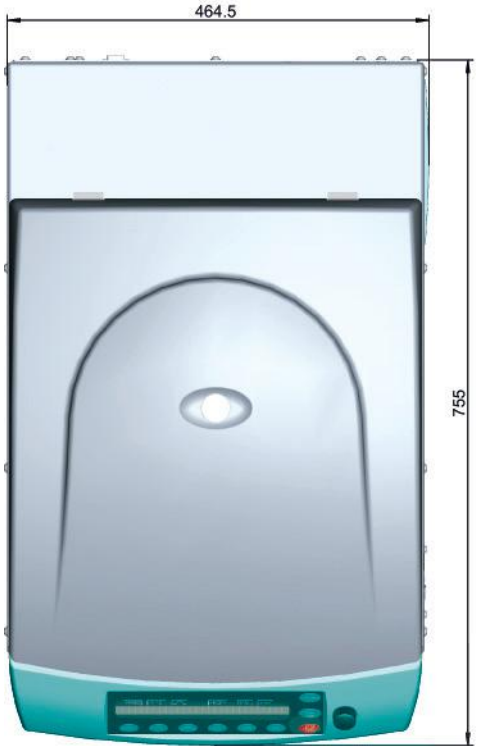
General Catalog

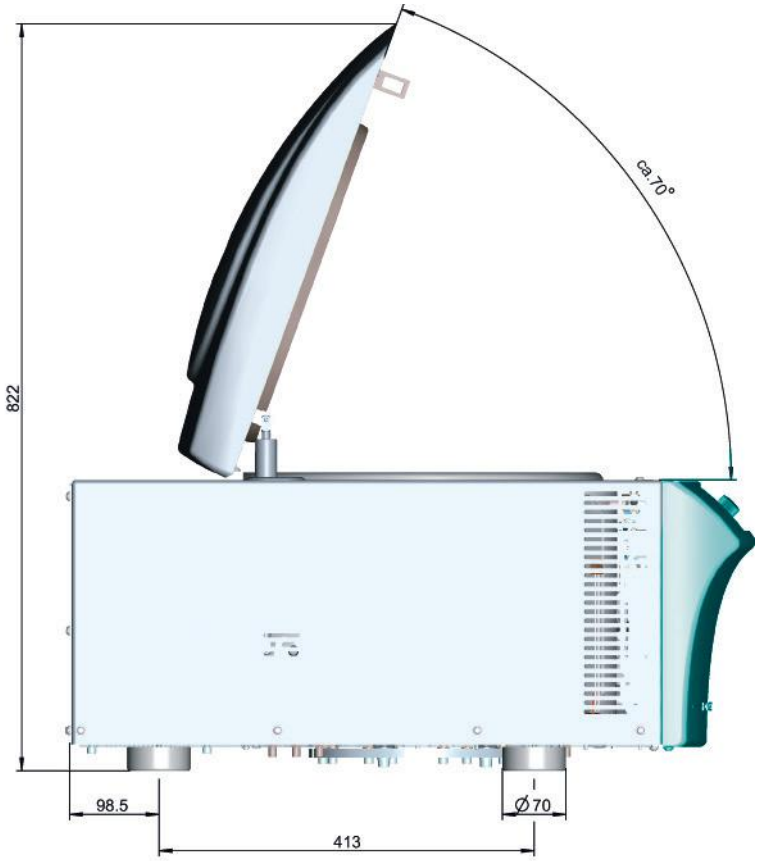
## DIMENSIONS





## DIMENSIONS


DS.1122-EN

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