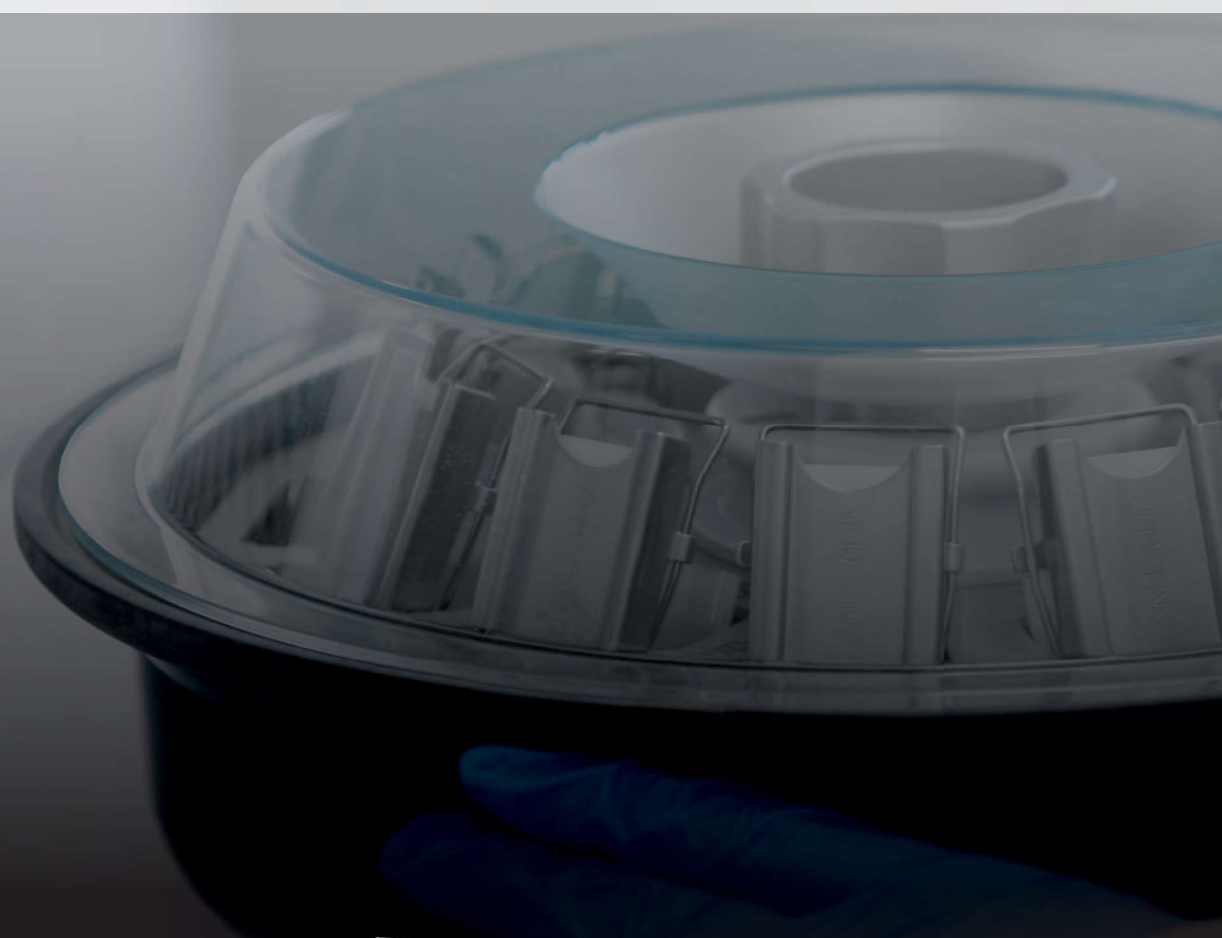


# EQUIPMENT

The useful addition



**CYTO SYSTEM**  
on page 180



**ROLLING CABINET**  
on page 185



**BLOOD BANK  
ACCESSORIES**  
on page 185



# 08

# HETTICH CYTO SYSTEM

## Cytological preparations – safe and economic

Increased demands on security or flexibility as well as time and cost pressures represent a large challenge for today's cytology laboratory. Hettich's three cyto systems are available to tackle these challenges. Reliable, flexible and cost-saving solutions – all IVDR-conform according to regulation (EU) 2017/746.

### SYSTEM 1

System 1 is particularly suitable for a high sample throughput thanks to its 12-place rotor. In addition, the autoclavable swing-out rotor with a TÜV certified, bioseal rotor lid provides maximum safety. This system can be used in two proven Hettich benchtop centrifuges, offers comprehensive accessories and is very easy to handle. The end result is an optimal cell presentation.



**Compatible for models:**

UNIVERSAL 320 / 320 R |  
ROTOFIX 32 A

**Benefits:**

- Closed, autoclavable rotor with Bio-Seal lid
- 12-place swing-out rotor for maximum sample throughput
- Large selection of cytochambers for single and multiple use. Re-usable cytochambers are autoclavable
- Easy handling
- Good cell representation

### SYSTEM 2

This system offers you the highest possible flexibility. On the one hand, volumes between 1 and 8 ml can be prepared while up to 8 cell sediments can fit on a single slide. In addition, this accessory can be used in many Hettich centrifuges, often without rotor replacement. This accessory is inexpensive and is characterized by a high, representative cell yield.



**Compatible for models:**

ROTOFIX 32 A | UNIVERSAL 320 /  
320 R | ROTINA 380 / 380 R | ROTINA  
420 / 420 R | ROTANTA 460 / 460 R |  
ROTIXA 500 RS

**Benefits:**

- Large variety of accessories
- Flexible sample volumes
- Can be used with and without filter cards, depending on application and requirements.
- Very high cell yield

### SYSTEM 3

System 3 combines the easy handling of System 1 with the flexibility and price advantage of System 2. It can operate in a variety of Hettich centrifuges and, like System 1, requires only a single centrifugation step to arrive at a dry cell pellet. The three different sediment size options give a distinct advantage.



**Compatible for models:**

ROTOFIX 32 A | ROTINA 420 / 420 R |  
UNIVERSAL 320 / 320 R

**Benefits:**

- Easy handling
- Ideal for small sample volumes
- Can be used with and without filter cards, depending on application and requirements (dry or moist cell sediment).

## Assembly of a complete cyto insert

SYSTEM 1	SYSTEM 2	SYSTEM 3
<p>cyto chamber with filter card</p> <p>Clips</p> <p>swing-out rotor, 12-place</p>	<p>lid</p> <p>ring</p> <p>cyto chamber</p> <p>Slide carrier with filter card</p> <p>bucket</p>	<p>lid</p> <p>cyto chamber</p> <p>Slide carrier with filter card and ring</p> <p>bucket</p>
<b>MOST POPULAR</b>		

## SYSTEM 1 – rotor and accessories

### — SWING-OUT ROTOR

<p><b>Swing-out rotor, 12-place</b> For ROTOFIX 32 A   UNIVERSAL 320 / 320 R</p>	+	<p><b>Lid bioseal<sup>5)</sup></b></p>												
<table border="1"> <tr> <td>max. RPM   max. RCF</td> <td>2,000 min<sup>-1</sup>   438</td> </tr> <tr> <td>max. capacity</td> <td>12 cyto chambers</td> </tr> <tr> <td>run-up   run-down, braked in sec</td> <td>19   18</td> </tr> <tr> <td>Angle</td> <td>90°</td> </tr> <tr> <td><b>Cat. No.</b></td> <td><b>1515-A</b></td> </tr> </table>	max. RPM   max. RCF	2,000 min <sup>-1</sup>   438	max. capacity	12 cyto chambers	run-up   run-down, braked in sec	19   18	Angle	90°	<b>Cat. No.</b>	<b>1515-A</b>		<table border="1"> <tr> <td><b>Cat. No.</b></td> <td><b>INCLUSIVE</b></td> </tr> </table>	<b>Cat. No.</b>	<b>INCLUSIVE</b>
max. RPM   max. RCF	2,000 min <sup>-1</sup>   438													
max. capacity	12 cyto chambers													
run-up   run-down, braked in sec	19   18													
Angle	90°													
<b>Cat. No.</b>	<b>1515-A</b>													
<b>Cat. No.</b>	<b>INCLUSIVE</b>													
		<p><b>Stand</b></p>												
		<table border="1"> <tr> <td><b>Cat. No.</b></td> <td><b>1528</b></td> </tr> </table>	<b>Cat. No.</b>	<b>1528</b>										
<b>Cat. No.</b>	<b>1528</b>													



### — CYTO CHAMBERS

<p><b>Cyto chambers (disposable)</b></p>	<p><b>Cyto chambers (re-usable, autoclavable)</b></p>																								
<table border="1"> <tr> <td>capacity in ml</td> <td>0.5</td> <td>0.2</td> </tr> <tr> <td>area in mm<sup>2</sup></td> <td>28.3</td> <td>28.3</td> </tr> <tr> <td>∅ in mm</td> <td>6</td> <td>6</td> </tr> <tr> <td><b>Cat. No.</b></td> <td><b>1531 (50 pcs.)</b> <b>1534 (500 pcs.)</b></td> <td><b>1532 (50 pcs.)</b></td> </tr> </table>	capacity in ml	0.5	0.2	area in mm <sup>2</sup>	28.3	28.3	∅ in mm	6	6	<b>Cat. No.</b>	<b>1531 (50 pcs.)</b> <b>1534 (500 pcs.)</b>	<b>1532 (50 pcs.)</b>	<table border="1"> <tr> <td>capacity in ml</td> <td>0.5</td> <td>6<sup>18)</sup></td> </tr> <tr> <td>area in mm<sup>2</sup> / (L x W) in mm</td> <td>28.3</td> <td>13.4 x 22</td> </tr> <tr> <td>∅ in mm</td> <td>6</td> <td>-</td> </tr> <tr> <td><b>Cat. No.</b></td> <td><b>1538 (12 pcs.)</b></td> <td><b>1536 (12 pcs.)</b></td> </tr> </table>	capacity in ml	0.5	6 <sup>18)</sup>	area in mm <sup>2</sup> / (L x W) in mm	28.3	13.4 x 22	∅ in mm	6	-	<b>Cat. No.</b>	<b>1538 (12 pcs.)</b>	<b>1536 (12 pcs.)</b>
capacity in ml	0.5	0.2																							
area in mm <sup>2</sup>	28.3	28.3																							
∅ in mm	6	6																							
<b>Cat. No.</b>	<b>1531 (50 pcs.)</b> <b>1534 (500 pcs.)</b>	<b>1532 (50 pcs.)</b>																							
capacity in ml	0.5	6 <sup>18)</sup>																							
area in mm <sup>2</sup> / (L x W) in mm	28.3	13.4 x 22																							
∅ in mm	6	-																							
<b>Cat. No.</b>	<b>1538 (12 pcs.)</b>	<b>1536 (12 pcs.)</b>																							
+	+																								
<p><b>Clips (autoclavable)</b></p>	<p><b>Clips (autoclavable)</b></p>																								
<table border="1"> <tr> <td><b>Cat. No.</b></td> <td><b>1524 (4 pcs.)</b></td> <td><b>1524 (4 pcs.)</b></td> </tr> </table>	<b>Cat. No.</b>	<b>1524 (4 pcs.)</b>	<b>1524 (4 pcs.)</b>	<table border="1"> <tr> <td><b>Cat. No.</b></td> <td><b>1524 (4 pcs.)</b></td> <td><b>1524 (4 pcs.)</b></td> </tr> </table>	<b>Cat. No.</b>	<b>1524 (4 pcs.)</b>	<b>1524 (4 pcs.)</b>																		
<b>Cat. No.</b>	<b>1524 (4 pcs.)</b>	<b>1524 (4 pcs.)</b>																							
<b>Cat. No.</b>	<b>1524 (4 pcs.)</b>	<b>1524 (4 pcs.)</b>																							
+	+																								
<p><b>Filter cards</b></p>	<p><b>Filter cards / seals</b></p>																								
<table border="1"> <tr> <td><b>Cat. No.</b></td> <td><b>filter card white (inclusive)</b></td> <td><b>filter card brown (inclusive)</b></td> </tr> </table>	<b>Cat. No.</b>	<b>filter card white (inclusive)</b>	<b>filter card brown (inclusive)</b>	<table border="1"> <tr> <td><b>Cat. No.</b></td> <td><b>1539 (200 pcs.)</b></td> <td><b>1537 (100 pcs.)</b></td> </tr> </table>	<b>Cat. No.</b>	<b>1539 (200 pcs.)</b>	<b>1537 (100 pcs.)</b>																		
<b>Cat. No.</b>	<b>filter card white (inclusive)</b>	<b>filter card brown (inclusive)</b>																							
<b>Cat. No.</b>	<b>1539 (200 pcs.)</b>	<b>1537 (100 pcs.)</b>																							

5) Tested by the TÜV in conformity with DIN EN 61010, section 2 - 020.  
18) This is the maximum capacity. The recommended quantity to be used per chamber is 4 ml.

# SYSTEM 2 – rotors and equipment

## — SWING-OUT ROTOR

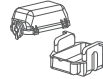
### Swing-out rotor, 4-place For ROTOFIX 32 A | UNIVERSAL 320 / 320 R



max. RPM   max. RCF	4,000 min <sup>-1</sup>   2,451
max. capacity	8 cyto chambers
run-up   run-down, braked in sec	22   25
angle	90°
<b>Cat. No.</b>	<b>1624</b>



### Bucket



lid	1661
<b>Cat. No.</b>	<b>1660</b>



### Swing-out rotor, 4-place For UNIVERSAL 320 / 320 R



max. RPM   max. RCF	5,000 min <sup>-1</sup>   2,879
max. capacity	8 cyto chambers
run-up   run-down, braked in sec	30   32
angle   temperature in °C <sup>1)</sup>	90°   -10
<b>Cat. No.</b>	<b>1494</b>



### Bucket



lid	1452
<b>Cat. No.</b>	<b>1452</b>



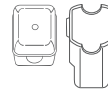
### Swing-out rotor, 4-place For ROTINA 380 / 380 R



max. RPM   max. RCF	4,000 min <sup>-1</sup>   2,898
max. capacity	16 cyto chambers
run-up   run-down, braked in sec	24   17
angle   temperature in °C <sup>1)</sup>	90°   -8
<b>Cat. No.</b>	<b>1798</b>



### Bucket



lid	5053
<b>Cat. No.</b>	<b>5051</b>

### Adapter



<b>Cat. No.</b>	<b>5280</b>
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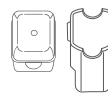
### Swing-out rotor, 4-place For ROTINA 420 / 420 R



max. RPM   max. RCF	4,000 min <sup>-1</sup>   2,898
max. capacity	16 cyto chambers
run-up   run-down, braked in sec	18   16
angle   temperature in °C <sup>1)</sup>	90°   -1
<b>Cat. No.</b>	<b>4753</b>



### Bucket



lid	5053
<b>Cat. No.</b>	<b>5051</b>

### Adapter



<b>Cat. No.</b>	<b>5280</b>
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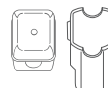
### Swing-out rotor, 4-place For ROTANTA 460 / 460 R / 460 RC / 460 RF



max. RPM   max. RCF	4,000 min <sup>-1</sup>   3,095
max. capacity	16 cyto chambers
run-up   run-down, braked in sec	40   45
angle	90°
<b>Cat. No.</b>	<b>5694</b>



### Bucket



lid	5053
<b>Cat. No.</b>	<b>5051</b>

### Adapter



<b>Cat. No.</b>	<b>5280</b>
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### Swing-out rotor, 4-place

For ROTANTA 460 / 460 R  
/ 460 RC / 460 RF



max. RPM   max. RCF	4,600 min <sup>-1</sup>   4,069
max. capacity	16 cyto chambers
run-up   run-down, braked in sec	75   88
angle   temperature in °C <sup>1)</sup>	90°   +10
<b>Cat. No.</b>	<b>5699-R</b>



#### Bucket

Cat. No.	5628
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#### Adapter

Cat. No.	5220-A
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#### Adapter

Cat. No.	5280
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### Swing-out rotor, 6-place

For ROTOFIX 32 A |  
UNIVERSAL 320 / 320 R



max. RPM   max. RCF	4,000 min <sup>-1</sup>   2,039
max. capacity	12 cyto chambers
run-up   run-down, braked in sec	22   25
angle	90°
<b>Cat. No.</b>	<b>1626</b>



#### Bucket

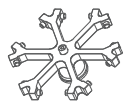
lid	1661
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<b>Cat. No.</b>	<b>1660</b>
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### Swing-out rotor, 6-place

Passend für ROTINA 380  
/ 380 R



max. RPM   max. RCF	4,000 min <sup>-1</sup>   2,003
max. capacity	12 cyto chambers
run-up   run-down, braked in sec	19   18
angle   temperature in °C <sup>1)</sup>	90°   -6
<b>Cat. No.</b>	<b>1726</b>



#### Bucket

lid	1661
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<b>Cat. No.</b>	<b>1660</b>
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### Swing-out rotor, 6-place

For ROTANTA 460 | 460 R |  
460 RC | 460 RF



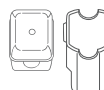
max. RPM   max. RCF	4,000 min <sup>-1</sup>   3,291
max. capacity	24 cyto chambers
run-up   run-down, braked in sec	38   46
angle   temperature in °C <sup>1)</sup>	90°   0
<b>Cat. No.</b>	<b>4446</b>



#### Bucket

lid	5053
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<b>Cat. No.</b>	<b>5051</b>
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#### Adapter

Cat. No.	5280
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### Swing-out rotor, 6-place

For ROTIXA 500 RS



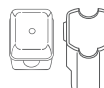
max. RPM   max. RCF	4,000 min <sup>-1</sup>   3,274
max. capacity	24 cyto chambers
run-up   run-down, braked in sec	33   50
angle   temperature in °C <sup>1)</sup>	90°   0
<b>Cat. No.</b>	<b>4296</b>



#### Bucket

lid	5053
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<b>Cat. No.</b>	<b>5051</b>
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#### Adapter

Cat. No.	5280
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## CYTO CHAMBERS

<b>Cyto chambers</b>						
capacity in ml	1	2	4	8	3 x 2	4 x 1
area in mm <sup>2</sup>	30	60	120	240	3 x 60	4 x 30
Ø in mm	6.2	8.7	12.4	17.5	3x8.7	4x6.2
<b>Cat. No.</b>	<b>1663-100</b> (100 pcs.)	<b>1664-100</b> (100 pcs.)	<b>1665-100</b> (100 pcs.)	<b>1666-100</b> (100 pcs.)	<b>1667-100</b> (100 pcs.)	<b>1668-100</b> (100 pcs.)
<b>+</b>	Slide carrier with ring	Slide carrier for two chambers	Slide carrier with ring	Slide carrier for two chambers	Slide carrier with ring	Slide carrier for two chambers
<b>Slide carrier (autoclavable)</b>						
<b>Cat. No.</b>	<b>1662</b>	<b>1670</b>	<b>1662</b>	<b>1670</b>	<b>1662</b>	<b>1670</b>
<b>+</b>						
<b>Filter cards for 1662</b>						
<b>Cat. No.</b>	<b>1675</b> (200 pcs.)	<b>1675</b> (200 pcs.)	<b>1675</b> (200 pcs.)	<b>1676</b> (100 pcs.)	<b>1677</b> (100 pcs.)	<b>1678</b> (100 pcs.)
<b>+</b>						
<b>Filter cards for 1670</b>						
<b>Cat. No.</b>	<b>1692</b> (200 pcs.)	<b>1692</b> (200 pcs.)	<b>1692</b> (200 pcs.)	<b>1691</b> (100 pcs.)	<b>1694</b> (100 pcs.)	<b>1693</b> (100 pcs.)

## SYSTEM 3 – rotors and equipment

### SWING-OUT ROTORS

<b>Swing-out rotor, 4-place</b> For ROTOFIX 32 A   UNIVERSAL 320 / 320 R		+	<b>Bucket</b> lid		
	max. RPM   max. RCF			4,000 min <sup>-1</sup>   1,467	inclusive
	max. capacity			4 cyto chambers	<b>1680</b>
	run-up   run-down, braked in sec			20   25	
	angle			90°	
<b>Cat. No.</b>	<b>1624</b>				



<b>Swing-out rotor, 6-place</b> For ROTOFIX 32 A   UNIVERSAL 320 / 320 R		+	<b>Bucket</b> lid		
	max. RPM   max. RCF			5,000 min <sup>-1</sup>   1,842	inclusive
	max. capacity			6 cyto chambers	<b>1680</b>
	run-up   run-down, braked in sec			20   22	
	angle			90°	
<b>Cat. No.</b>	<b>1626</b>				



### CYTO CHAMBERS

<b>Cyto chambers</b>						
area in mm <sup>2</sup>	30	60	120			
Ø in mm	6.2	8.7	12.4			
<b>Cat. No.</b>	<b>1671-100</b> (100 pcs.)	<b>1672-100</b> (100 pcs.)	<b>1673-100</b> (100 pcs.)			
<b>+</b>	Slide carrier with ring	Slide carrier with ring	Slide carrier with ring			
<b>Slide carrier (autoclavable)</b>				<b>+</b>		
<b>Cat. No.</b>	<b>1662</b>	<b>1662</b>	<b>1662</b>	<b>Filter cards</b>		
				<b>Cat. No.</b>	<b>1696</b> (100 pcs.)	<b>1697</b> (100 pcs.)
						<b>1698</b> (100 pcs.)

## ROLLING CABINETS

All rolling cabinets are of sturdy design and feature castors and two locks. Any vibrations of the centrifuge are safely compensated for.



Low and narrow,  
with one drawer.  
Depth 650 mm

**Cat. No. 4612-A**

Low and wide,  
with one drawer.  
Depth 650 mm

**Cat. No. 4614-A**

High and narrow,  
with two drawers.  
Depth 650 mm

**Cat. No. 4613-A**

High and wide,  
with two drawers.  
Depth 650 mm

**Cat. No. 4615-A**

MODEL	ROTOFIX	UNIVERSAL		ROTINA		ROTINA		ROTANTA		ROTOFIX	
Model variant	32 A	320	320 R	380	380 R	420	420 R	460	460 R	46	46 H
4612-A + 4613-A	•	•	•	•	•	•		•		•	•
4614-A + 4615-A							•		•		

• Rolling cabinet is compatible for the marked model.

## ACCESSORIES FOR CENTRIFUGING BLOOD BAG SYSTEMS



### HettLiner

Blood bags can be secured in inserts using HettLiners. After centrifuging, they can be removed by their loops without disturbing the sediment.

**Cat. No. 4564**



### Compensatory weights (set)

If blood bag carriers are not filled to the same weight, then compensatory weights can be used to make up the difference. One set includes:  
40 balancing weights, 2 g each;  
20 balancing weights, 5 g each;  
10 balancing weights, 10 g each;  
5 balancing weights, 20 g each;  
5 balancing weights, 40 g each

**Cat. No. 4566**



### Balancing inserts\*

In case there are not enough blood bag systems to occupy every carrier of the rotor, empty carriers can be filled with balancing inserts. Taring weights supplied with the inserts may be used for fine balancing.

**4584-A** for insert 4559-A

**4587-A** for insert 4592-B

**4589-A** for insert 4516-A



### Loading aid

Secure your samples and avoid accidental spillage with the convenient Loading aid for centrifuge inserts. The Hettich Loading aid allows users to confidently hold and manage their samples without the risk of the inserts toppling over.

**Cat. No. 4509**

\* Can only be used for ROTO SILENTA 630 RS inserts.