

**TEST REPORT****SABS****MICROBIOLOGY DEPARTMENT 7218**

**Panache Manufacturing World  
Attention: Mr Ivan du Plooy  
108 Mitcham Road  
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Melbourne Australia**

U verw/Your ref: IduPlooy

Ons verw/Our ref: 17/37

Navrae/Enquiries: 428-6172/3

Datum/Date: 2004-09-27

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**Microbiological Analysis – Panache S10 Industrial Hand Dryer****1. SAMPLES RECEIVED**

Panache S10 Industrial Hand Dryer fitted with two (2) serial Antibacterial Gel Cartridges was submitted for microbiological analysis to determine the antibacterial efficacy.  
Received on 14 September 2004 and test commenced on 17 September 2004.

**2. TEST REQUESTED**

Test the efficacy of the Antibacterial Gel Cartridges in filtering / inhibiting microorganisms entering the hand dryer as well as being discharged from hand dryer outlet nozzle.

**3. METHOD OF TEST****3.1 Settle plates**

To determine the level of microbial contamination in the test facility using 1 hour contact times using standard plate count agar.

**3.2 Test expelled air from outlet nozzle**

Four series of tests were carried out, normal 20 cycles and a double 40-second cycle:

- a) No bacterial filter Cartridge fitted / cycle time 20 seconds.
- b) No bacterial filter Cartridge fitted / cycle time 40 seconds.
- c) Two serial Antibacterial Gel Cartridge fitted / cycle time 20 seconds.
- d) Two serial Antibacterial Gel Cartridge fitted / cycle time 40 seconds

4. Results.../

**1 Dr Lategan Road Groenkloof, Private Bag X191 Pretoria 0001, Tel: +27 (012) 428-7911, Fax: +27 (012) 344-1568.**

This test was performed by Testing and Conformity Services (Pty) Ltd, an affiliate of the SABS.  
This report relates only to the specific sample(s) tested as identified herein. It does not imply SABS approval of the quality and/or performance of the item(s) in question and the test results do not apply to any similar item that has not been tested.  
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**4. RESULTS – Antibacterial Gel Cartridge Tests****4.1 Settle Plates – 60 minute**

Plate number	Description of placement of plates	Total Micro-organism count
<b>2004-09-20</b>	<b>Room</b>	
1	Left side front	14
2	Left side back	30
3	Center	10
4	Right side front	15
5	Right side back	8
<b>Average</b>		<b>15</b>

**4.2 No Antibacterial Gel Cartridge (cycle time 20 / 40 seconds)**

Sample Replicates	Total viable bacteria count 20 seconds time cycle	Total viable bacteria count 40 seconds time cycle	Micro-organisms isolated
1	35	32	Staphylococci, Micrococci, Spore forming Bacilli and fungi
2	20	28	
3	27	19	
4	24	25	
5	17	30	
<b>Average</b>	<b>25</b>	<b>26</b>	

**4.3 Two series Antibacterial Gel Cartridge fitted (cycle time 20 / 40 seconds)**

Sample Replicates	Total viable bacteria count 20 seconds time cycle	Total viable bacteria count 40 seconds time cycle	Micro-organisms isolated
1	1	0	Bacilli
2	0	0	
3	0	0	
4	0	0	
5	0	0	
<b>Average</b>	<b>0,2</b>	<b>0</b>	

**Percentage reduction:**

Two series Antibacterial Gel Cartridge fitted, cycle time 20 seconds – 99,2% reduction

Two series Antibacterial Gel Cartridge fitted, cycle time 40 seconds – 100% reduction

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**Remarks:**

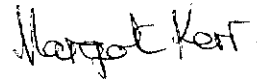
- a) Settle plate isolation of microorganisms commonly present – Staphylococcus, bacterial spores and fungi.
- b) The Panache S10 Industrial Hand Dryer fitted with two serial Antibacterial Gel Cartridges effectively filtered / removed microorganisms entering and exiting the dryer unit.
- c) No microorganisms were expelled from the nozzle of the Panache S10 Hand Dryer using the standard 40-second cycle time.
- d) The average reduction of the micro –organisms using the 20 - second cycle was 99,2% and using the 40 second cycle was 100 %
- e) The average overall reduction of microorganisms achieved was 99,6 %.

**Conclusion:**

The Panache S10 Industrial Hand Dryer fitted with the 2 serial Antibacterial Gel Cartridge is highly effective in reducing microorganisms expelled from the outlet of the Hand Dryer unit.



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**Microbiological Analysis – Panache S10 Industrial Hand Dryer****1. SAMPLES RECEIVED**

Panache S10 Industrial Hand Dryer fitted with a single Antibacterial Gel Cartridge submitted for microbiological analysis to determine the antibacterial efficacy.  
Tested on 27 September 2004

**2. TEST**

Test the efficacy of the Antibacterial Gel Cartridges in filtering using a spiked aerosol challenge of *Staphylococcus epidermidis*.

**3. METHOD OF TEST****3.1 Test expelled air from outlet nozzle – with spiked aerosol**

Single and two series Antibacterial Gel Cartridges were tested at normal 20 second and a 40-second cycle:

- a) Single Antibacterial Gel Cartridge fitted / cycle times 20 and 40 seconds.
- b) Two serial Antibacterial Gel Cartridge fitted / cycle times 20 and 40 seconds

4. Results.../

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**4. RESULTS – Antibacterial Gel Cartridge Tests****4.1 Aerosol spiked with *Staphylococcus epidermidis* ( $2 \times 10^3$  / 0,5 ml)****Only One - Antibacterial Gel Cartridge fitted (cycle time 20 / 40 seconds)**

Sample Replicates	Total viable bacteria count 20 seconds time cycle	Total viable bacteria count 40 seconds time cycle	Micro-organisms isolated
1	24	1	<i>Staphylococcus epidermidis</i>
2	13	4	
3	25	1	
4	34	2	
5	22	2	
Average	24	2	

**Percentage reduction:****Single Antibacterial Gel Cartridge fitted on inlet only, cycle time 20 seconds – 98,8 % reduction****Single Antibacterial Gel Cartridge fitted, cycle time 40 seconds – 99,9 % reduction****4.2 Aerosol spiked with *Staphylococcus epidermidis* ( $2 \times 10^3$  / 0,5 ml)****Two series Antibacterial Gel Cartridge fitted (cycle time 20 / 40 seconds)**

Sample Replicates	Total viable bacteria count 20 seconds time cycle	Total viable bacteria count 40 seconds time cycle	Micro-organisms isolated
1	0	0	None
2	0	0	
3	0	0	
4	0	0	
5	0	0	
Average	0	0	

**Percentage reduction:****Two series Antibacterial Gel Cartridge fitted, cycle time 20 seconds – 100% reduction****Two series Antibacterial Gel Cartridge fitted, cycle time 20 seconds – 100% reduction****Remarks:**

- The Panache S10 Industrial Hand Dryer fitted with a single Antibacterial Gel Cartridges effectively filtered / reduced bacterial numbers entering and exiting the dryer unit.
- The average reduction of the microorganisms using the 20 and 40 second cycles was 99.3%.

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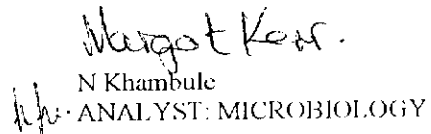
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**Conclusion:**

The comparative study using a single and two (2) series Antibacterial Gel Cartridge achieved excellent reduction in microorganisms expelled from the outlet of the Hand Dryer unit.



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