



# Training epMotion 5070/5075

**Jana Hermanska**

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# New Hardware



epMotion 5075 with MultiCon

## What is new?

- > New PC for for epMotion 5070 and 5075 (Touchscreen)
- > EasyCon for epMotion 5070
- > MultiCon for epMotion 5075 (based on Windows 7)
- > More worktable positions (5075)
- > CleanCap for epMotion 5075 (UV and Hepa)
- > Exchangeable dedicated dispensing tools on 5070 (2)
- > Software Assistants
- > New waste tub for liquid waste
- > Generally faster movement during application run (30%)

# What is new?

- Data based system
- New design
- Preprogrammed assistents
- Selecting workbench by programming applications
- Re-use/Restore tips function for all versions
- Undo/redo function during programming commands
- Programming replicates by irregular pattern
- Counting tips before start of the application
- It is possible to program bigger volume as the size of the tools (multistep liquid transfer)
- New position for deleting commands or labware during programming
- New labware – ReservoirRack 3
- New delete functions

# New types of epMotion

> epMotion 5070	5070	}	EasyCon
> epMotion 5070f	5070 CB		
> epMotion 5075l	5075 LH	}	MultiCon
> epMotion 5075v	5075 VAC		
> epMotion 5075t	5075 TMX		
> epMotion 5075m	5075 MagSep		
> epMotion 5075vt	5075 VAC TMX		



# New Combinations



epMotion 5070 with EasyCon



epMotion 5075 with MultiCon



# New types of epMotion 5070



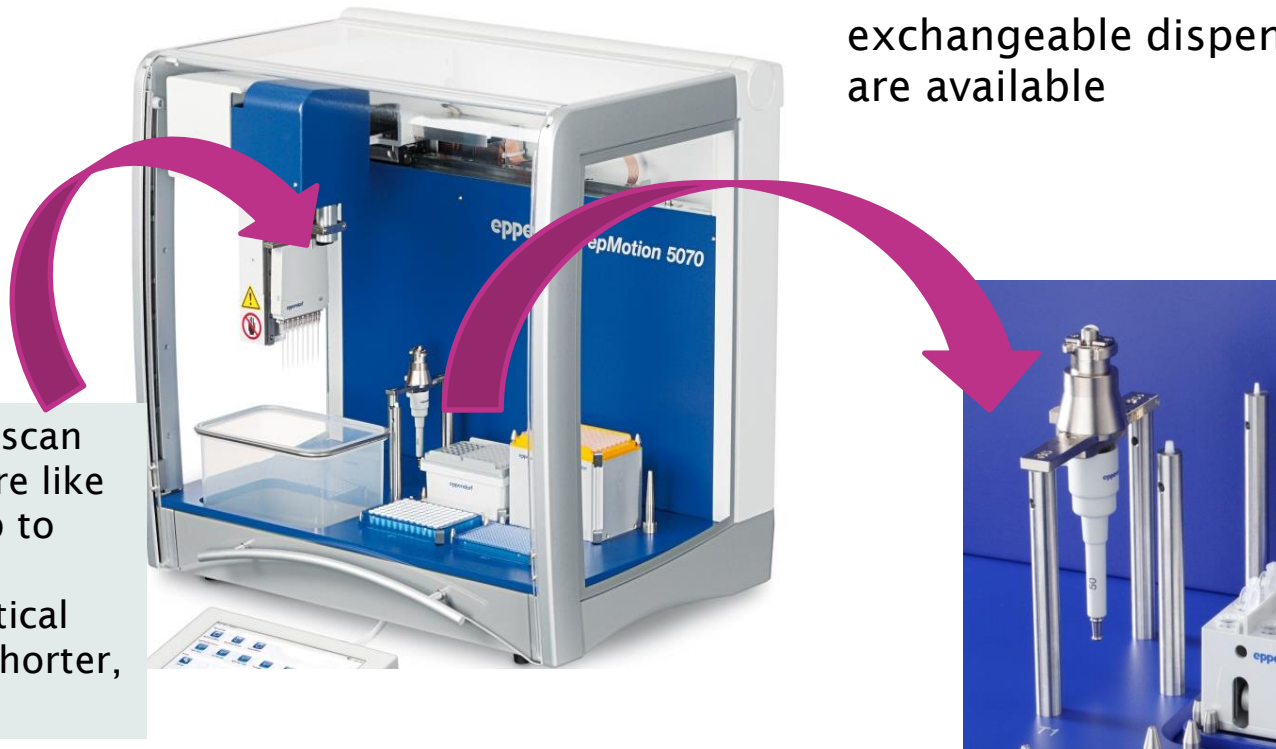
5070 and 5070f with EasyCon



Touchscreen, but usable with Mouse, too

# New epMotion 5070

2 holder for automatic  
exchangeable dispensing tools  
are available



It is possible to scan  
the same labware like  
on the 5075 (up to  
126 mm high),  
because the Optical  
sensor tube is shorter,  
now.





# EasyCon next generation

For epMotion 5070  
and 5070f

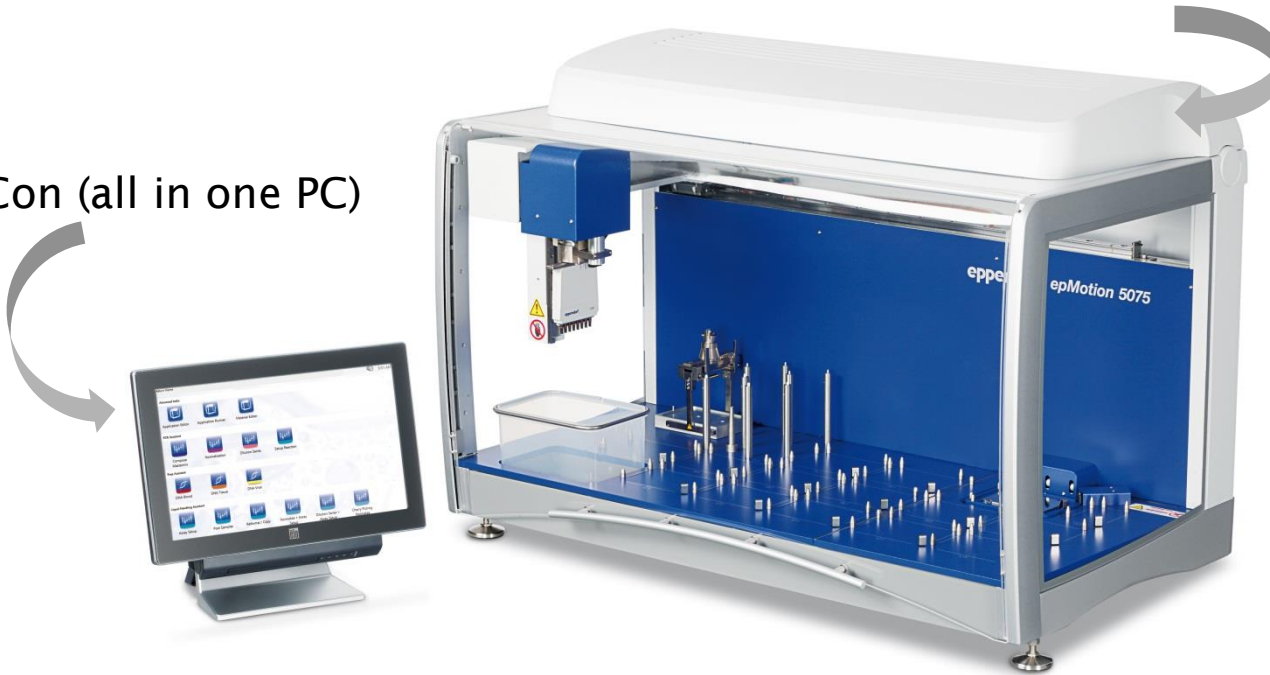


Touch Screen and epBlue Software

# New types of epMotion 5075

CleanCap (is available for all epMotion 5075 types)

MultiCon (all in one PC)

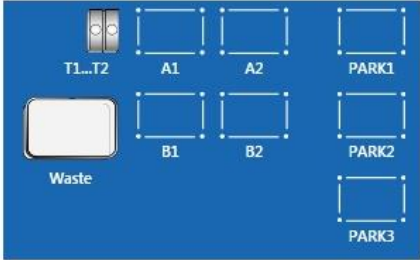


epMotion 5075mc with MultiCon and CleanCap

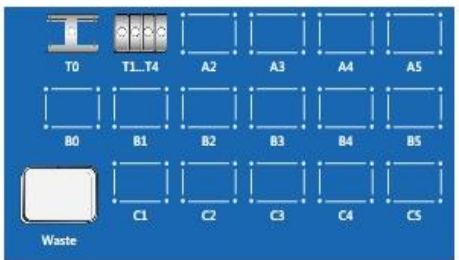
# New epMotion 5075 Versions

- epMotion 5070 - epMotion 5070 with 2 holders for dispensing tools
- epMotion 5070f - epMotion CB version
- epMotion 5075l - epMotion LH with 15 worktable position; up to 3 thermomodules
- epMotion 5075m - epMotion MagSep version with magnetic finger module; up to 2 thermom.
- epMotion 5075t - epMotion with integrated TMX and up to 2 thermomodules
- epMotion 5075v - epMotion with Vacuum and up to 3 thermomodules
- epMotion 5075 vt - epMotion with TMX and VAC; up to 2 thermomodules
- epMotionl;m;v;vt with a „c“ means this is an epMotion with CleanCap

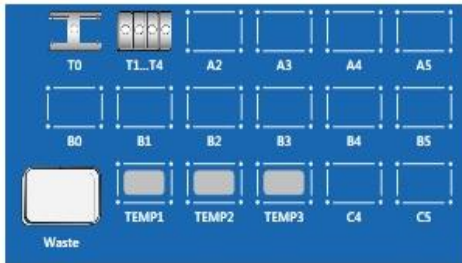
# Some of possible Worktable Versions



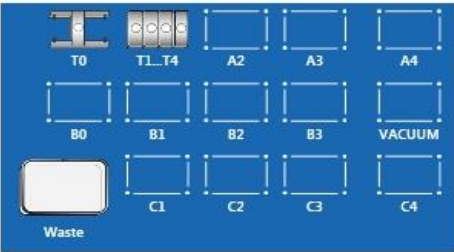
5070 or 5070f



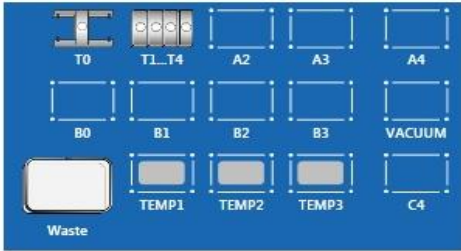
5075I



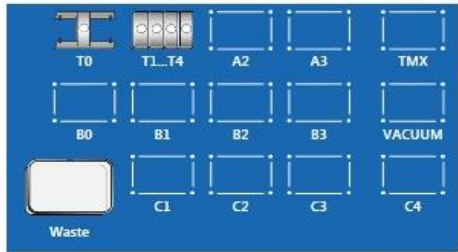
5075I with 3 thermomodules



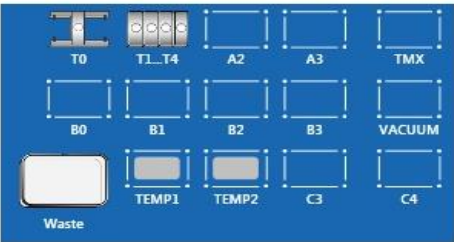
5075v



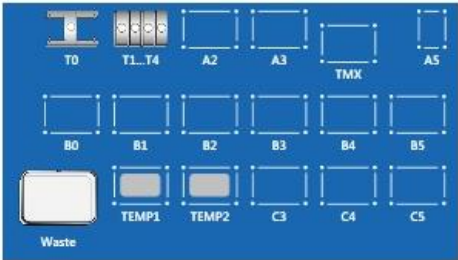
5075v with 3 thermomodules



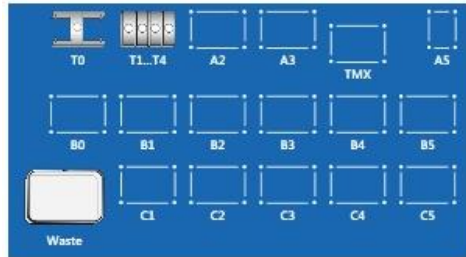
5075vt



5075vt with 2 thermom.



5075t with 2 thermomodules



5075m



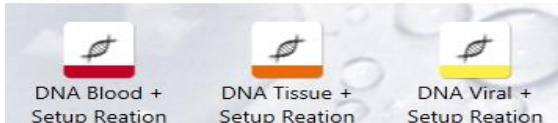
# epMotion 5075m



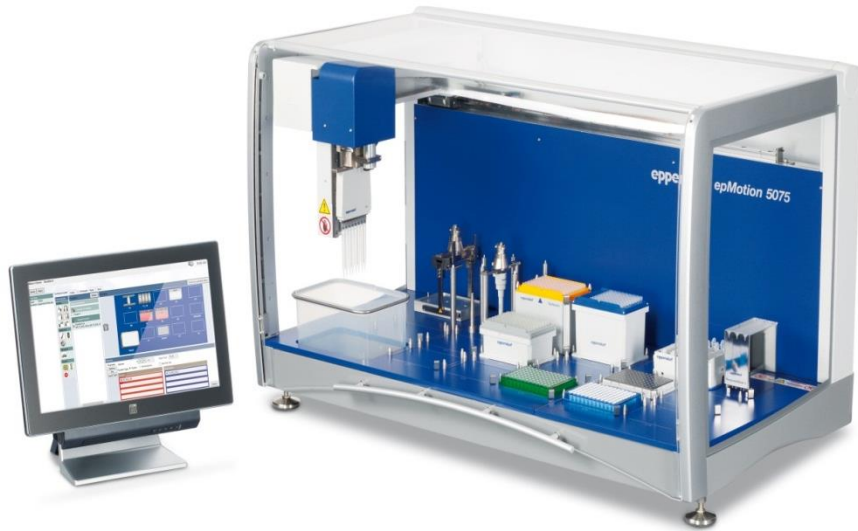
It is an epMotion 5075 with Magnet finger module

Worktable with 14,5 positions.  
Position A 4 is a MagSep station  
It is possible to integrate 2 thermal modules

## Prep & PCR Assistant



# epMotion 5075t



epMotion 5075t is  
an epMotion 5075  
with TMX

Worktable with 14,5 positions.  
TMX is integrated on position A 4  
It is possible to integrate 2 thermal  
modules  
New Position, half position for  
reservoir rack 3, only

# epMotion 5075v



epMotion 5075v is an epMotion 5075 with vacuum station

Worktable with 12 positions

VAC is on position B 4

It is possible to integrate up to 3 thermal modules

# epMotion 5075vt



Worktable with 12 positions  
TMX is on position A 4  
VAC is on position B 4  
It is possible to integrate up  
to 2 thermal modules

epMotion 5075 with VAC  
and TMX and CleanCap



# CleanCap



## Technical Data

Hepa Filter: Filter class EN 1822

UV-Lamp:

UV performance 8,6 W

Intensity in a distance of 1 m 39  $\mu\text{W}/\text{cm}^2$

CleanCap (HEPA-filter (3) and UV-light)  
(2 lamps) optional for each type of  
epMotion 5075

# Assistants of epMotion 5070

## PCR Assistant

- Compose Mastermix
- Normalization
- Dilution Series
- Setup Reaction

## Liquid Handling Assistant

- Assay Setup

For epMotion 5070 the PCR Assistant and the Liquid Handling Assistant are available.

## PCR Assistant

- Compose Mastermix
- Normalization
- Dilution Series
- Setup Reaction

## Liquid Handling Assistant

- Assay Setup

## Prep & PCR Assistant

- > DNA Blood + Setup Reaction
- > DNA Tissue + Setup Reaction
- > DNA Viral + Setup Reaction

# Assistants

File

epBlue Studio

- Application Editor
- Application Runner
- Labware Editor
- Log Viewer
- Settings

PCR Assistant

- Compose Mastermix
- Normalization
- Dilution Series
- Setup Reactions

Prep & PCR Assistant

- DNA Blood + Setup Reaction
- DNA Tissue + Setup Reaction
- DNA Viral + Setup Reaction

Liquid Handling Assistant

- Normalization

## Next generation EasyCon

- The software of the EasyCon is similar to the software of epMotion 5073 and 5075.
- epMotion 5070 with EasyCon is working fully automated
- It is possible to work with different assistants, like Compose Mastermix, .....
- The icons of the commands are new coloured



# New PC - MultiCon



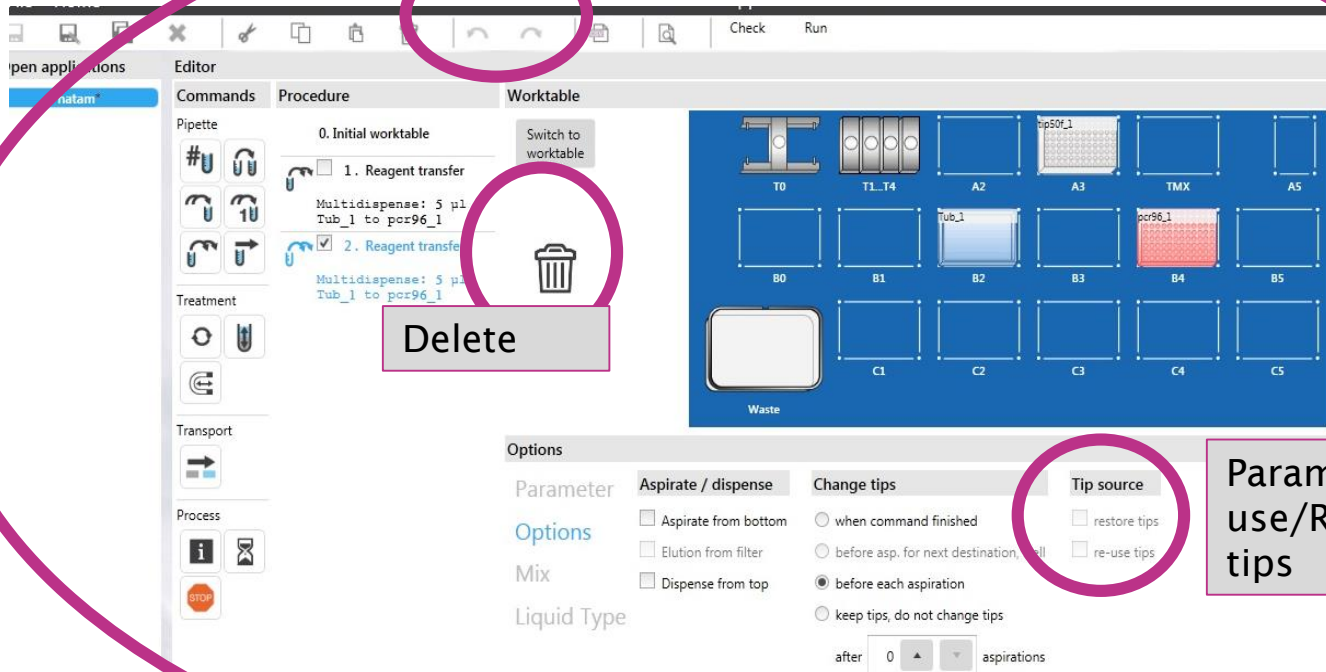
- All in one PC
- Touchable Screen
- Different assistants are available
- New design
- Mouse
- Keyboard

# What is new?

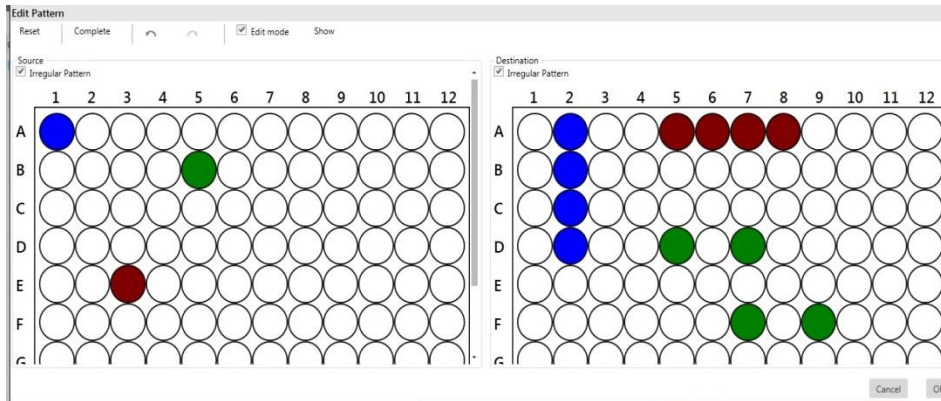
Redo/Undo

Delete

Parameter Re-use/Restore tips

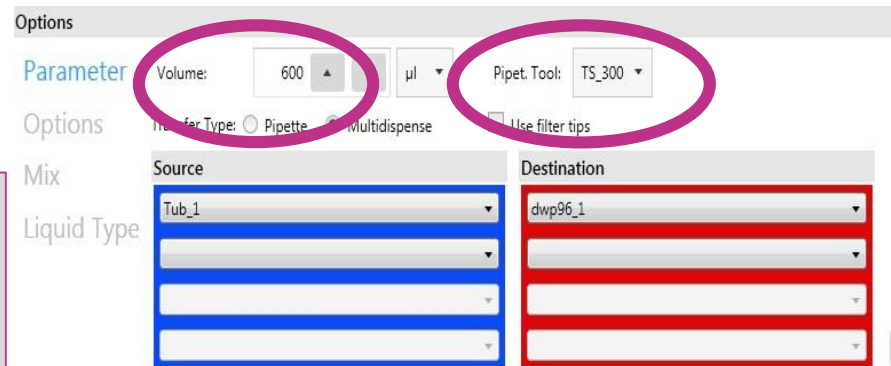


# What is new?



Irregular pattern with replicates

It is possible to program multistep liquid transfers ( e.g. 600  $\mu$ l with 300  $\mu$ l Dispensing tool)





# What is new?

The screenshot displays the Eppendorf software interface. At the top, there is a toolbar with icons for file operations and execution. Below this is the 'Worktable' section, which contains a grid of labware icons labeled T0, T1...T4, A2, A3, TMX, A5, B0, B1, B2, B3, B4, B5, C1, TEMP2 (2), C3, C4, C5, and Waste. A 'Switch to procedure' button is located on the left side of the worktable.

Below the worktable is the 'Labware' section, which lists various labware items with their quantities and paths:

Quantity	Labware Name	Path
24	Microtubes_E	dws/trth/Microtubes_E
24	PrepRack_2_0ml	dws/trth/PrepRack_2_0ml
96	Rack 0_2ml	dws/trth/Rack 0_2ml
24	Rack 0_5ml	dws/trth/Rack 0_5ml
	Rack 16mm	dws/trth/Rack 16mm
24	Rack_1_5ml	dws/trth/Rack_1_5ml

To the right of the labware list is the 'Properties' section, which is currently empty. Further to the right is the 'Placed labware' section, which lists labware items placed on the worktable with checkboxes:

- tip50\_1
- tip300\_1
- ResRack\_1
- Tub\_1
- tip1000\_1
- ResRack\_2

A pink oval highlights the checkboxes for tip50\_1, tip300\_1, and ResRack\_1 in the 'Placed labware' list. A callout box titled 'Placed labware' is shown below, with the checkbox for tip50\_1 checked, indicating that multiple items can be selected and deleted with one click.

It is possible to click to the checkboxes of the programmed labware and delete more than one with one click.

# What is new?

## 4Commands - Log Viewer

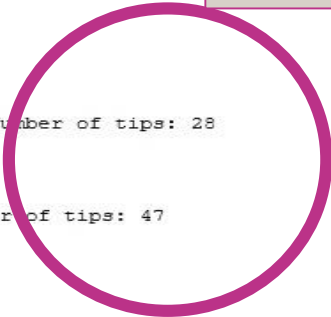
```

Content
Eppendorf epMotion 9/2/2013
-----
Method name and path : Re/Test/4Commands
Date of Run : 9/2/2013 10:05:07 AM
Last edit : 9/2/2013 10:05:02 AM
Firmware version : epMotion 11.28
Software version : 40.0.3.13

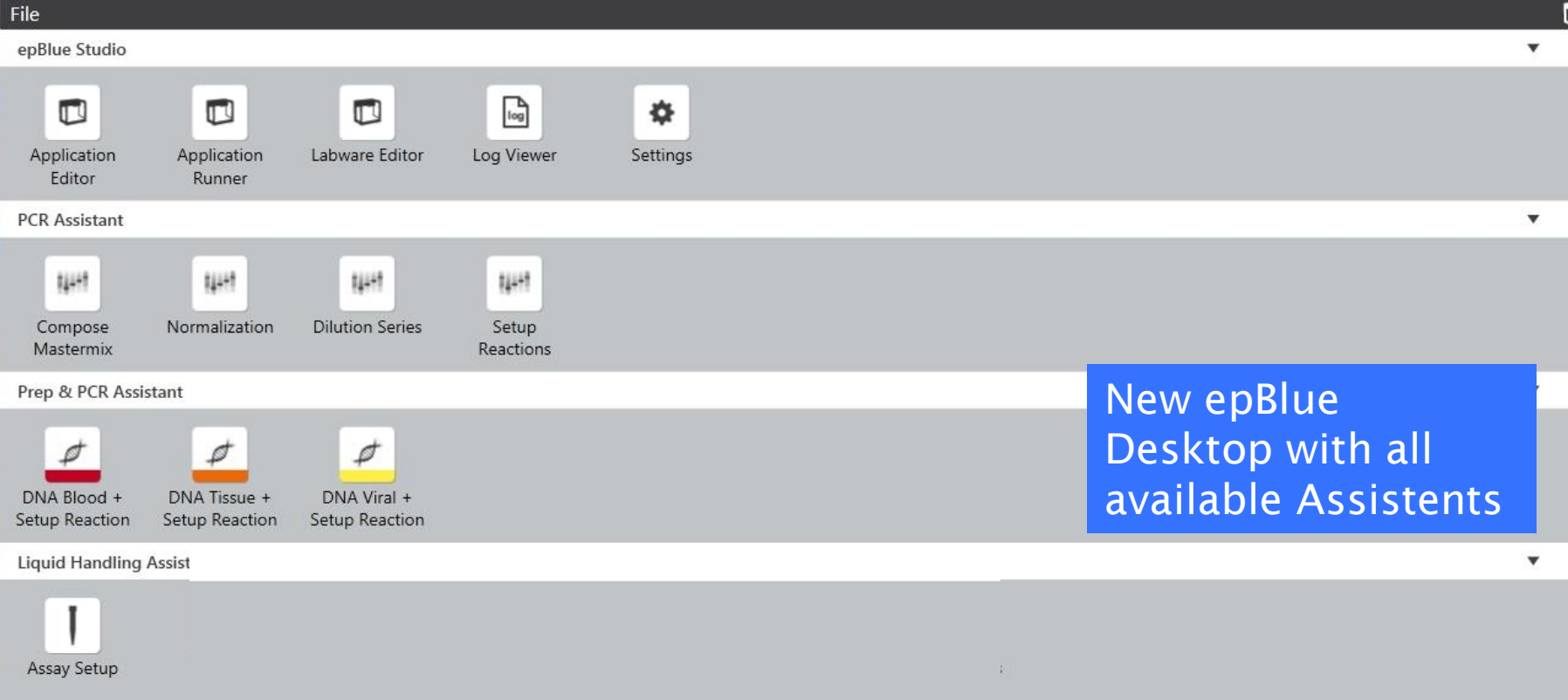
TIME----- COMMAND----- INFORMATION-----
10:05:07 AM Program Init
10:05:07 AM Program Collect
10:05:19 AM Program Check
10:05:19 AM Level sensor settings
                        Levels: ON
                        Tips: ON
                        Locations: OFF
10:05:43 AM Genuine Eppendorf tips found in slot A2
10:05:57 AM !Dialog Text: #Checking
                        Reply: 1
                        Answer: #Wiederholen
10:06:10 AM Genuine Eppendorf tips found in slot A2
10:06:25 AM Tip Scan Name: tip1000f_1, Labware: dws/tips/tip1000f, Number of tips: 28
10:06:40 AM !Dialog Text: #Checking
                        Reply: 1
                        Answer: #Wiederholen
10:06:51 AM Genuine Eppendorf tips found in slot A3
10:07:07 AM Tip Scan Name: tip300_1, Labware: dws/tips/tip300, Number of tips: 47
10:10:08 AM !Dialog Text: #Checking
                        Reply: 1
                        Answer: #Wiederholen
10:11:31 AM !Dialog Text: #Checking
                        Reply: 1
                        Answer: #Wiederholen
10:12:30 AM !Dialog Text: #Checking
                        Reply: 1
                        Answer: #Wiederholen
10:14:47 AM !Dialog Text: #Checking

```

Number of tips which are in the boxes before start of applications will shown at the beginning of the logfile.



# MultiCon



New epBlue Desktop with all available Assistents

















# MultiCon / EasyCon

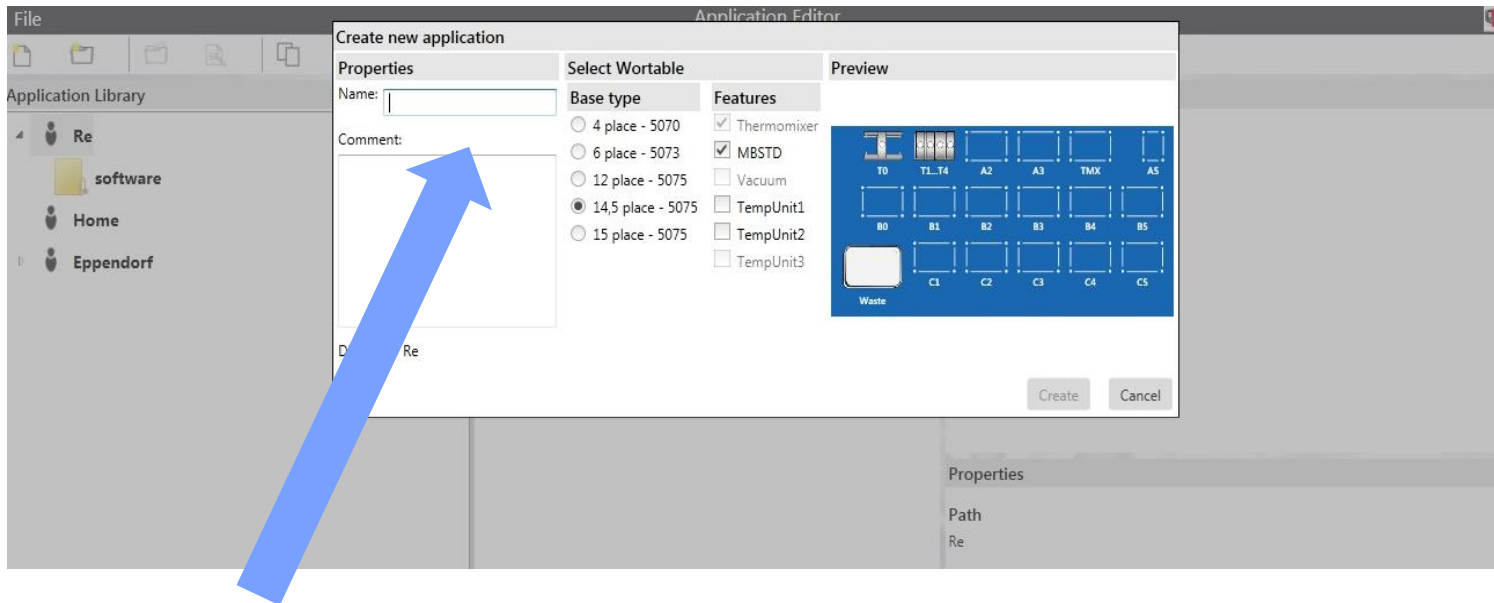
Posibilities to work with epMotion 5070 and 5075

- Free programming of applications with „Application Editor“
- Working with „PCR Assistant“
- Working with „Liquid Handling Assistant“
- Working with „Prep & PCR Assistant“
- Programming of labware combinations , like tubes and racks with „Labware Editor“

# New Icons

	No of Sample		Pool One Destination		Temperature		Exchange
	Reagent Transfer		Mix		Thermo mixer		
	Sample Transfer		Transport		Comment		
	Dilute		Wait		User Intervention		
	Pool		Magnetic Bead Separation		Vacuum		

# Programming of an Application



Please, fill in a name

# Programming of an Application

The screenshot shows the 'test1 - Application Editor' window. On the left, a 'Labware Category' list is circled in pink, with a callout box labeled 'Labware folder'. The central 'Worktable' area displays a grid of positions (T0, T1...T4, A2, A3, TMX, A5, B0, B1, B2, B3, B4, B5, C1, C2, C3, C4, C5) with various labware items placed in them. A trash can icon is positioned above the 'Waste' position, with a callout box labeled 'Waste position for commands or labware'. On the right, a 'Placed Labware' list shows items like 'tip50f\_1', 'pcr96\_1', 'dwp96\_1', and 'reservoir\_1'. A grey box labeled 'Worktable allocation' is positioned to the right of the worktable.

Labware folder

Waste position for commands or labware

Worktable allocation

Pull the needed labware by touch or mouse to the position of the worktable



# Programming of an Application

Procedure

Pull the needed commands by touch or mouse to the position in the procedure





# Programming of an Application

The screenshot displays the Eppendorf software interface for programming an application. The interface is divided into several sections:

- Open applications:** Shows the current application name "hatam".
- Editor:**
  - Commands:** Includes icons for Pipette, Treatment, Transport, and Process.
  - Procedure:** Lists steps:
    - 0. Initial worktable
    - 1. Reagent transfer (unchecked)
    - 2. Reagent transfer (checked)
  - Worktable:** A grid of wells labeled T0, T1..T4, A2, A3, TMX, A5, B0, B1, B2, B3, B4, B5, C1, C2, C3, C4, C5, and Waste. Well B4 is highlighted in red.
- Options:**
  - Parameter:** Standard Liquid Type: Water (dropdown), Set Default button.
  - Options:** Change Parameter (checked).
  - Mix:**
    - Aspiration Speed: 15.4 mm/s
    - Dispense Speed: 33 mm/s
    - Blow Delay: 0 ms
    - Blow Speed: 44 mm/s
  - Liquid Type:**
    - Blow Movement: 0 % of max. movement
    - Initial Stroke: 100 % of max. stroke
    - Prewetting: 0 Cycles

Most of the parameters have the same functionality like before. Only some additional new functions are available, now.



# New Function

Options

Parameter Volume: 600  $\mu$ l Pipet. Tool: TS\_300

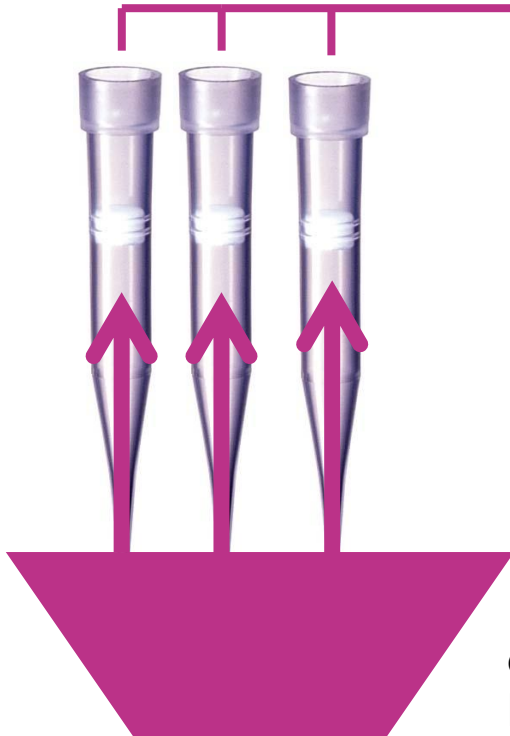
Options Transfer Type:  Pipette  Multidispense  Use filter tips

Mix	Source	Destination
Liquid Type	Tub_1	dwp96_1

It is possible to fill in volumes, which are exceed the maximum volume of the dispensing tools. The transfer step will accomplish several times.

# New Function

## Multistep liquid transfer



e.g. Programmed were 900  $\mu$ l by a 300  $\mu$ l tool = 3 steps each with 300  $\mu$ l filling volume inside, are carried out.



# Programming of an Application

The screenshot displays the software interface for programming an application. It includes a toolbar at the top with icons for file operations and execution (Check, Run). The main workspace is divided into several sections:

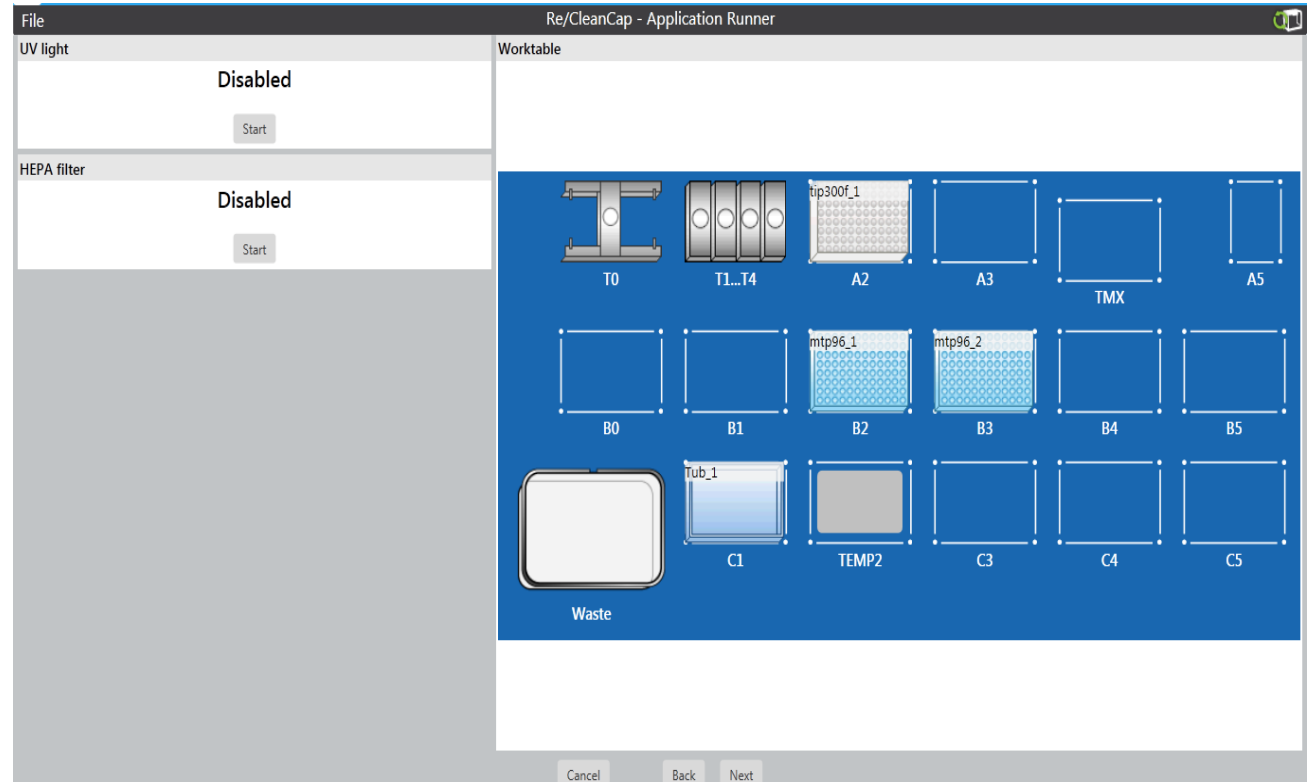
- Open applications:** Shows a single application named 'hatam'.
- Editor:** Contains a 'Commands' panel with pipette and treatment icons, a 'Procedure' panel with two steps:
  - Initial worktable
  - Reagent transfer (checked) with parameters: Multidispense: 5 µl, Tub\_1 to pcr96\_1.
- Worktable:** A grid of wells labeled T0, T1..T4, A2, A3, TMX, A5, B0, B1, B2, B3, B4, B5, C1, C2, C3, C4, C5, and Waste. Well B4 is highlighted in red.
- Options:** A panel with settings for:
  - Aspirate / dispense:**
    - Aspirate from bottom
    - Elution from filter
    - Dispense from top
  - Change tips:**
    - when command finished
    - before asp. for next destination, well
    - before each aspiration
    - keep tips, do not change tips
  - Tip source:**
    - restore tips
    - re-use tips

Pipette tips will be restored to the position of the box they were removed from. Restored pipette tips will be reused. The pipette tips will be reused in an application for the same source vessel.

Restore Tips  
Re-use Tips

# Programming of an Application

Buttons for UV light and HEPA filter visible before start of an application, when a CleanCup is integrated.





Thank you for your attention!

Brno, únor 2014