Table of Contents

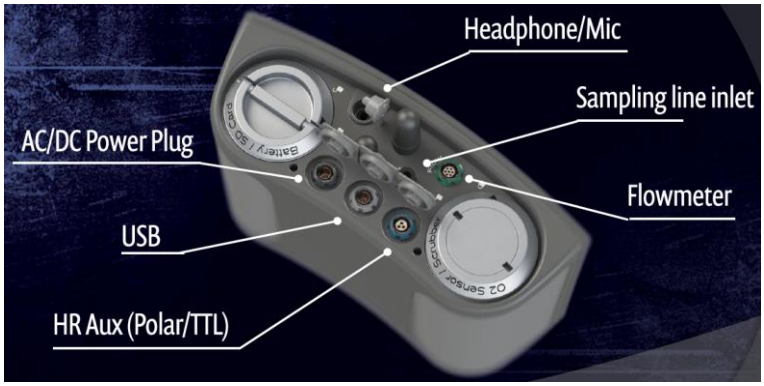
*Complete information to be found in the **K5 User Manual.***

Below a small step-by-step guide for the daily use of the K5.

1. Preparation

Connect K5 to mains or connect battery.

Connect gas sample line and flowmeter to K5.



2. Warmup

Power on the K5

Note: After power on, the K5 sampling pump is always active to ensure optimal warm-up time (sampling pump goes into a 2 min standby when any command on screen is selected).

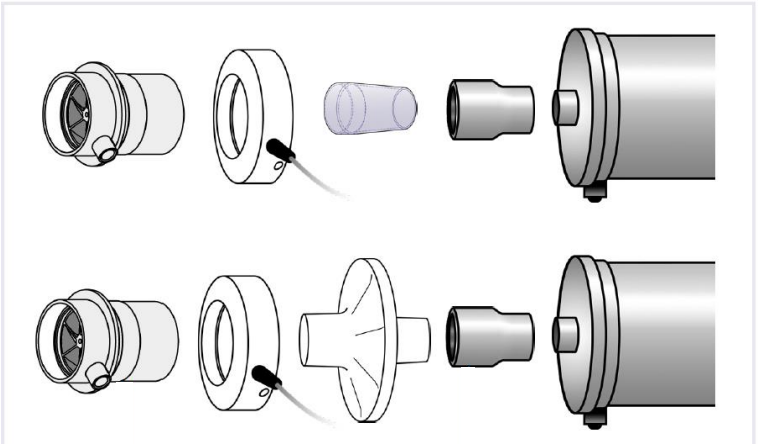
Warm-up times:

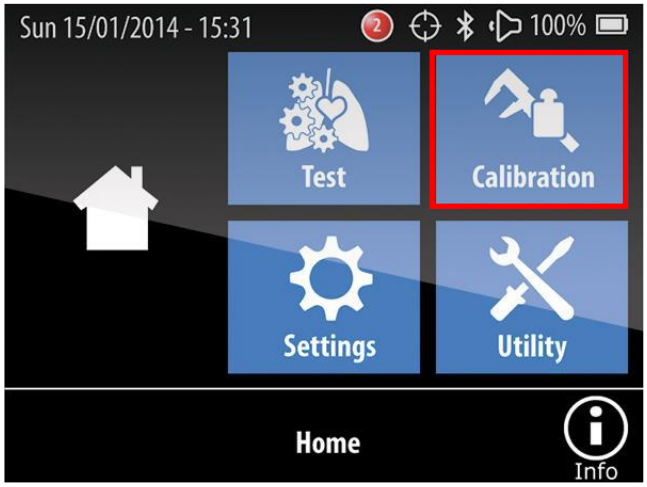
Calibration	Warm-up time from power on at 20°C (min)	Recommended Interval	Note
Flowmeter	0	Daily or whenever the turbine is replaced	Recommended after cleaning and disinfection
Scrubber	20	Before each test	ONLY if the test is performed indoor
Reference Gas (Mix)*	30	Daily	ONLY if Mixing Chamber tests are performed
Reference Gas (BxB and Delay)*	60	Daily	ONLY if BxB tests are performed

*Reference gas calibrations are test mode specific. If test mode is changed, calibration must be performed for that testing mode

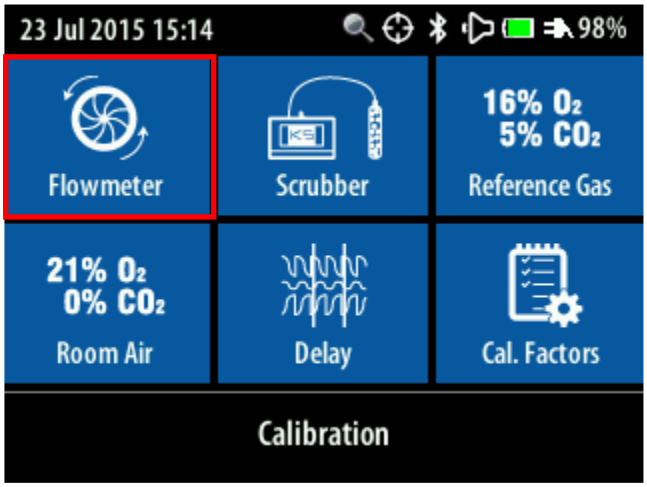
3. Flowmeter Calibration

Patient side:
Connect syringe via filter or plast adapter and the rubber adapter
Note:
The patient symbol on the opto-reader:

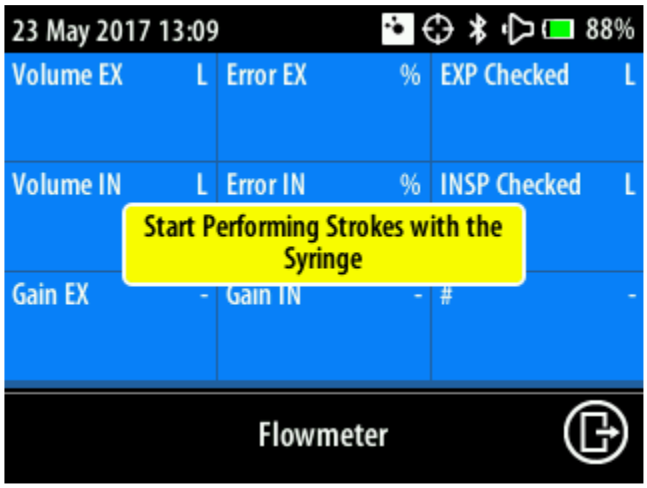




Press **Calibration** on the K5 main menu



Press **Flowmeter** and follow the instructions on the screen – fill and empty the 3-litre syringe completely at various speed.



4. Gas Calibration

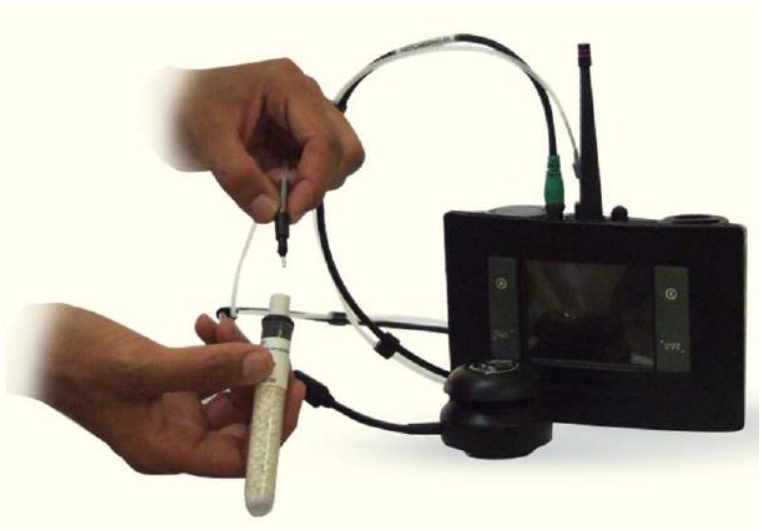
The gas calibration is a 2-step process involving a **zero-gas** calibration and a **reference-gas** calibration.
The **reference-gas** calibration includes the **room air** calibration and the **delay** calibration, so these are not needed unless the **reference-gas** is not available.
If both **Mix** and **BxB** mode are used, the **reference-gas** calibration must be performed for both modes.

Note:

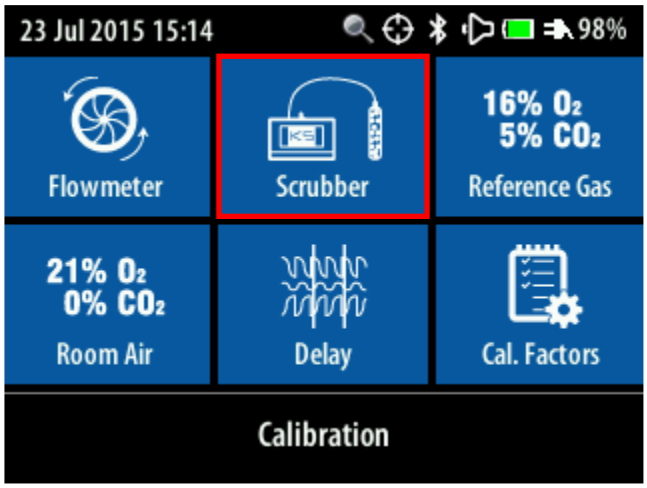
- Sampling line must be replaced after 100 tests or 6 months (whichever comes first).
- It is recommended to swap sampling lines between consecutive tests to allow drying and maintain sampling line efficiency.

Zero calibration

Connect gas sample tip to CO2 scrubber container.



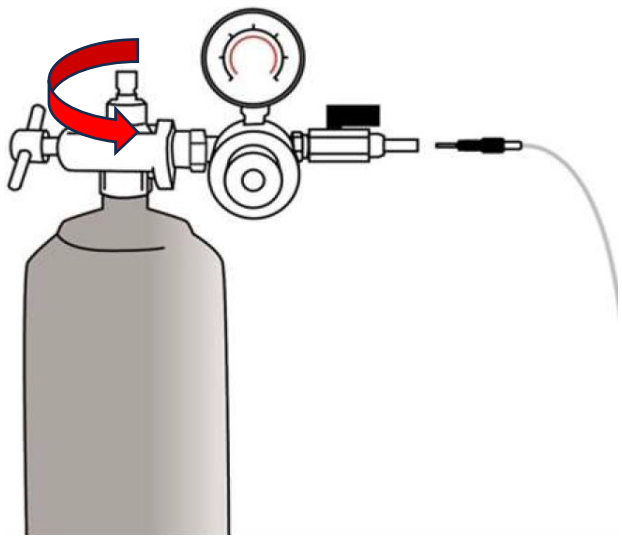
Press **Calibration** on the K5



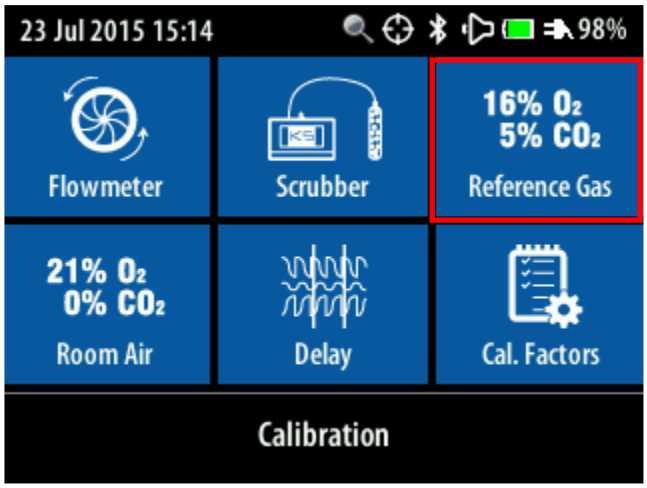
Press **Scrubber** and follow the instruction on the screen.

Reference gas calibration

Connect gas sample tip to calibration port on calibration cylinder.
Open main valve.



Press **Calibration** on the K5



Press **Reference Gas**

Select **BxB and Delay** or **Mix** and follow the prompts on the screen telling when to open and close the gas valve.

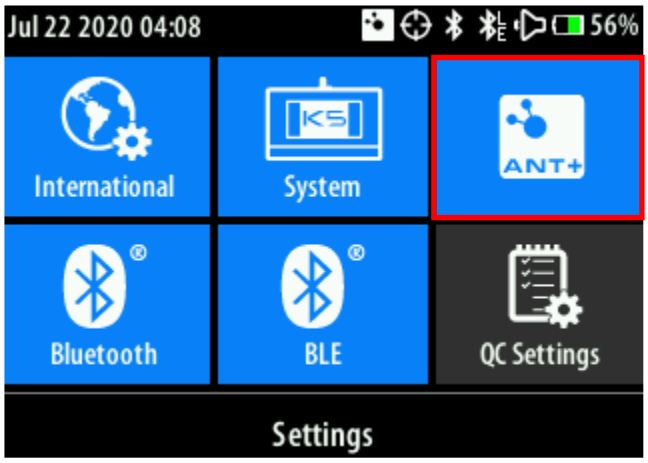
5. Other Calibration

Room Air calibration is optional, since part of the Reference gas calibration. However, can be used if the gas calibration tank is not available.

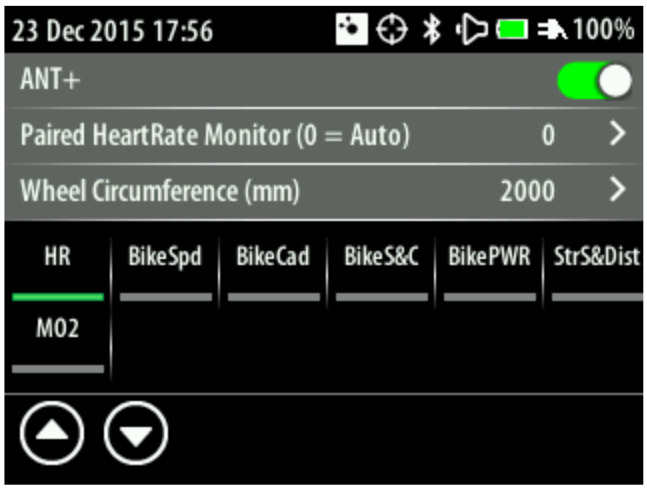
Delay calibration is also optional, since part of the Reference gas calibration for BxB. However, can be used if the gas calibration tank is not available. Breathe in and out according to the beeps given by K5.

6. ANT+ connection

Enter Settings from the main menu.



Select **ANT+**



Enable ANT+

Turn on the ANT+ profiles to use:

Enabled:	
Disabled:	

- HR (Heart Rate, Garmin, smartLAB hrm W, etc.)
- BikeSpd (Bike Speed)
- BikeCad (Bike Cadence)
- BikeS&C (Bike Speed and Cadence)
- BikePWR (Bike Power and Torque)
- StrS&Dist (stride-based speed and distance)
- MO2 (Muscle Oxygen Profile)

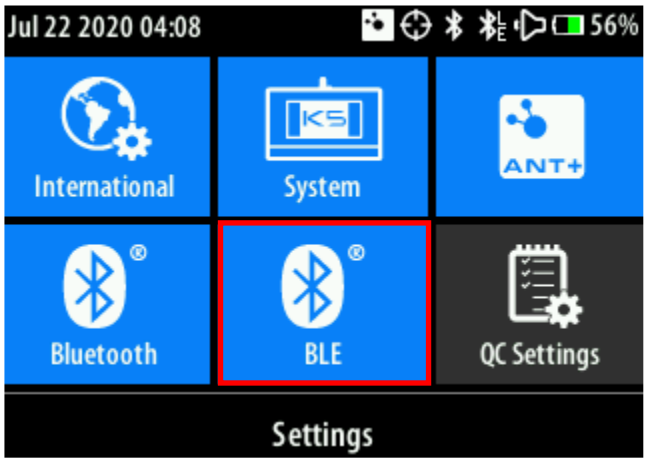
In Paired HeartRate Monitor it can be set if the strongest pulse belt shall be picked up (=0), or a specific one.

RSSI = "Received Signal Strength Indicator". (-15 is stronger than -34)

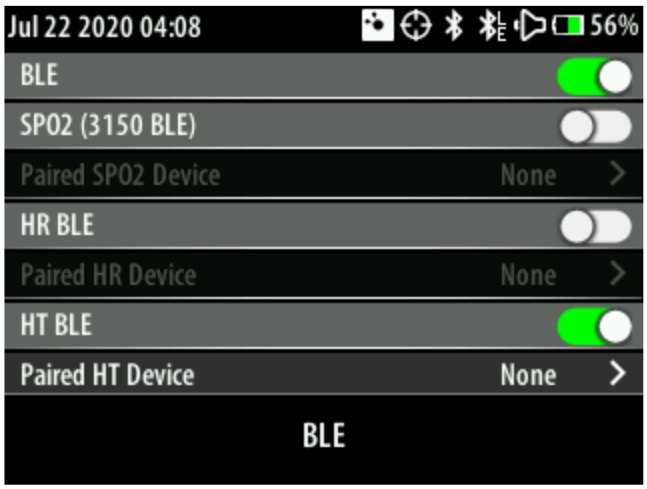
Tip: In **Utility** - **Control Panel** the HR readings can be checked.

7. Bluetooth connection (BLE)

Enter Settings from the main menu.



Select **BLE.**



Enable BLE.

Turn on the BLE sensors to use:

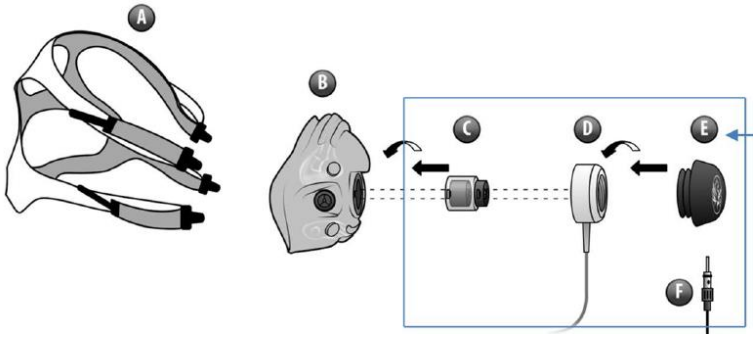
- SPO2 (Nonin® WristOx2 3150).
- HR BLE (Heart Rate, Polar H7, H9, H10, smartLAB hrm W, etc.)
- HT BLE (Health Temperature sensor)

Pair the sensor(s) by selecting **Paired xx Device**

Tip: In **Utility** - **Control Panel** the SpO2 and HR readings can be checked.

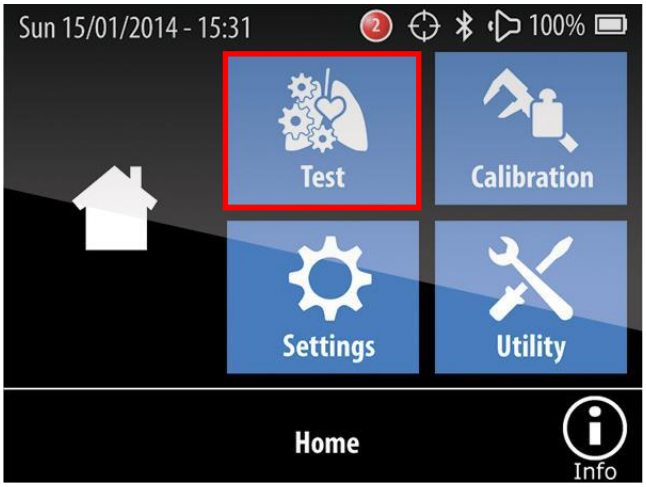
8. Subject preparation

Mount facemask on subject:

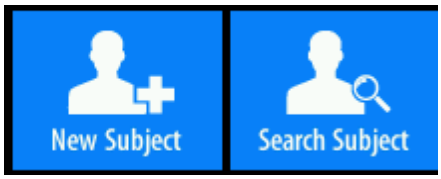


Mount K5 on back of subject

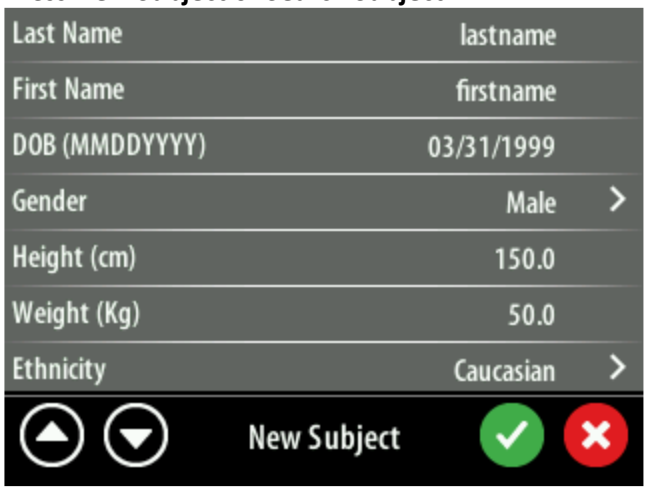
9. Test (stand-alone)



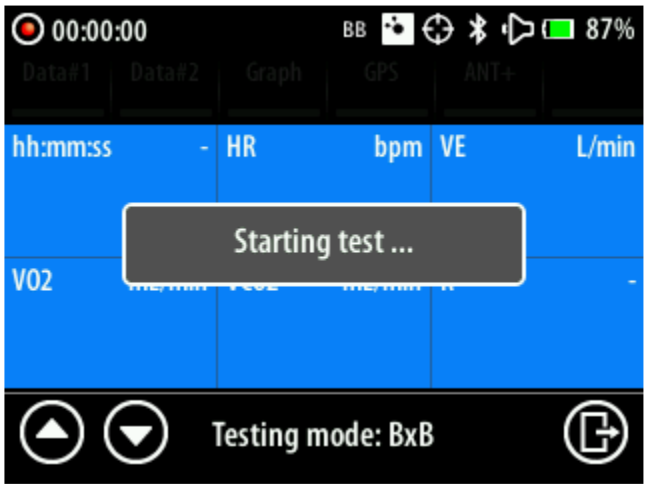
Press **Test** on main menu



Press **New Subject** or **Search Subject.**



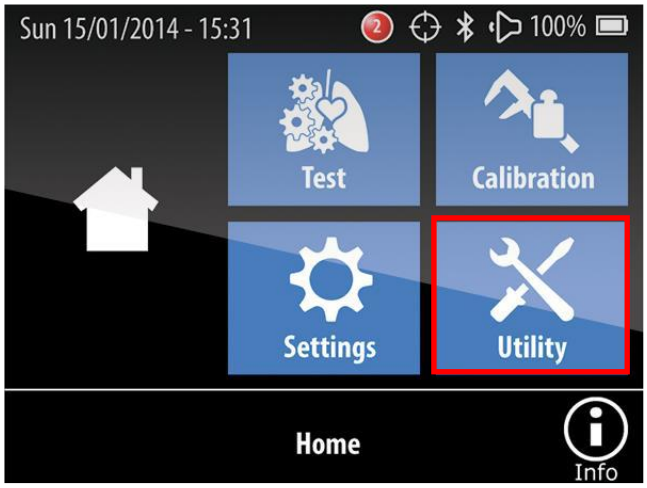
Press **BxB** or **Mix**



Press the **REC** button to start the recording but recommended to wait approx. 1 minute to flush internal chambers.
Note: when the REC LED is **blinking** data are **not** stored.

To stop a test: Press the REC button again or the icon:

10.Export Test from K5 to SD card



Press **Utility.**

Press **Database.**

Press **Search.**

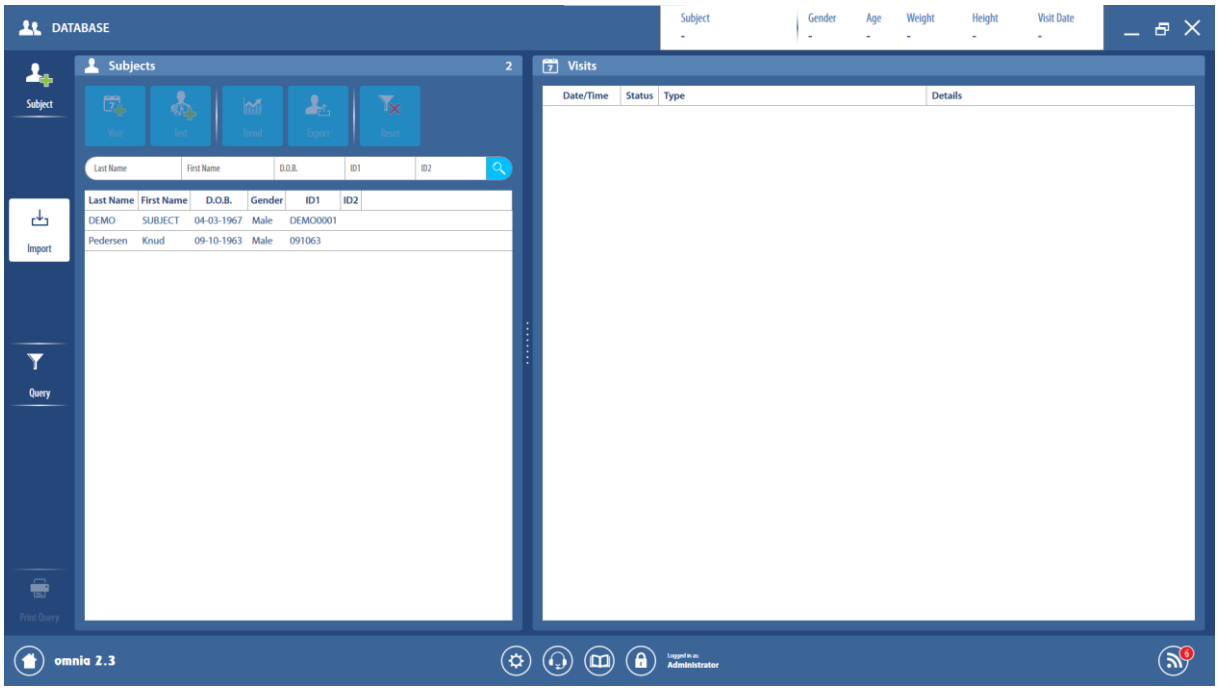
Search by **Subject**, **Date** or **Type.**

Select **TXT** or **CSV** file format.

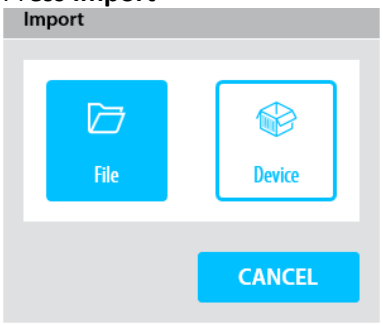
Press √ to export data.

11.Import Test from K5 to OMNIA

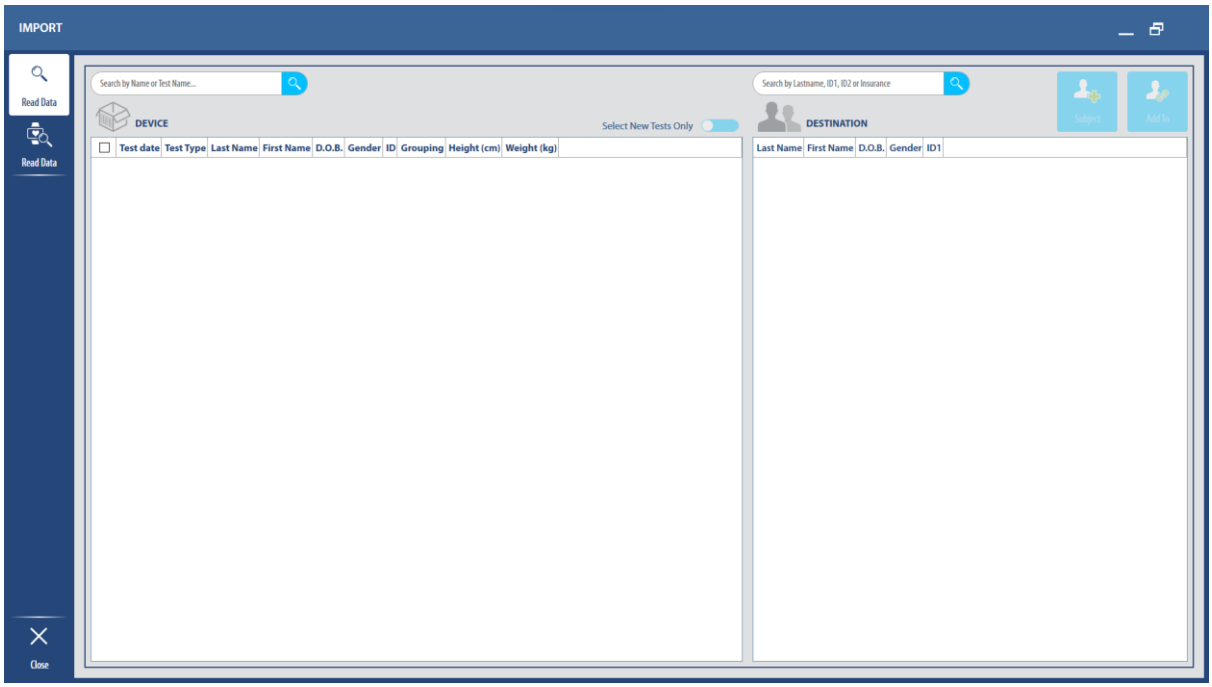
Connect OMNIA to K5 via Bluetooth or USB cable.
Go to home menu and select **Database**.



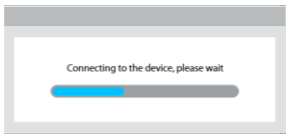
Press **Import**

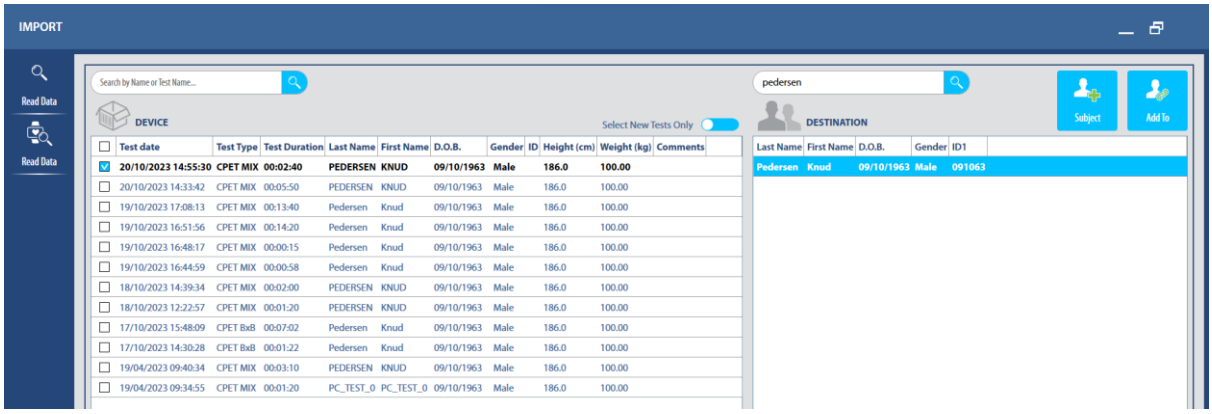


Select **Device**



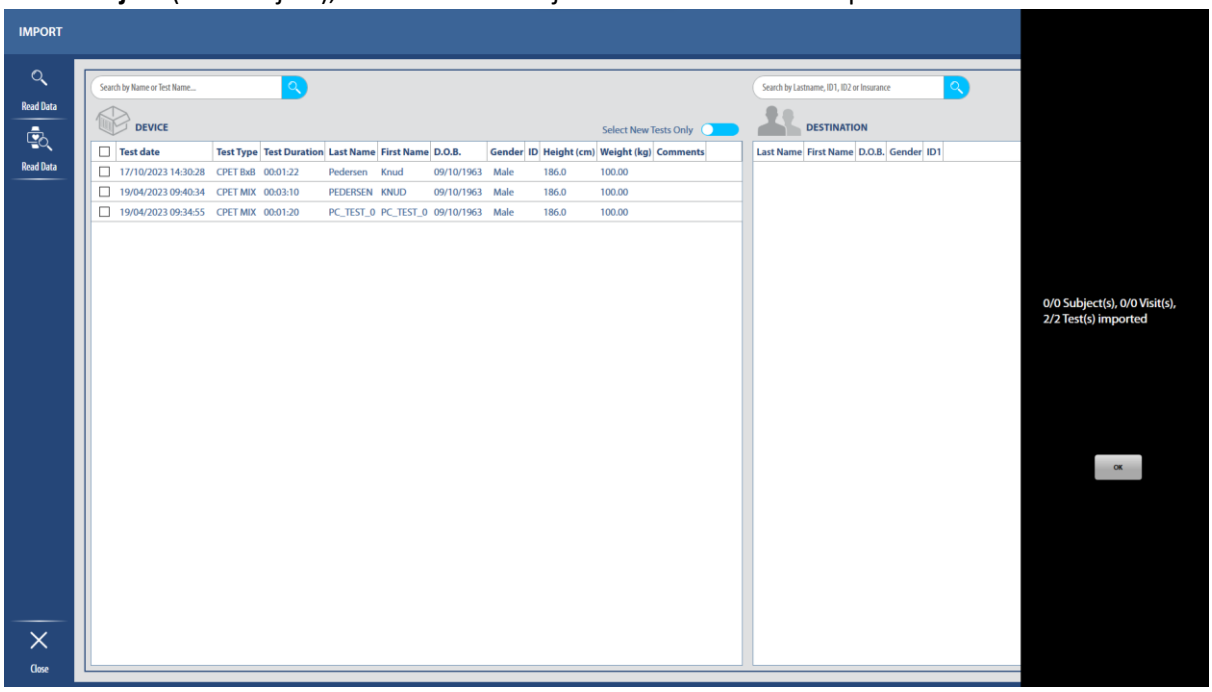
Press **Read Data**



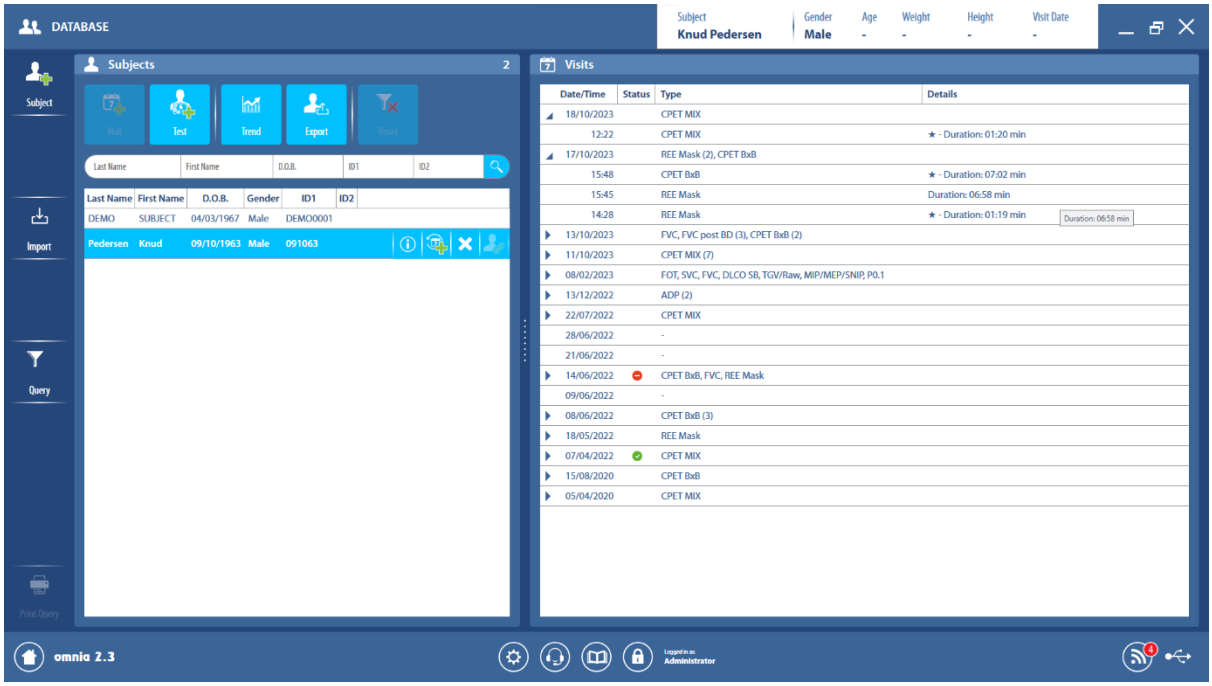


Select the Test(s) to import.

Press **Subject** (Add subject), or **Search** the subject in the Database and press **Add To**.



Go to **Database** and check that the new test(s) are present.



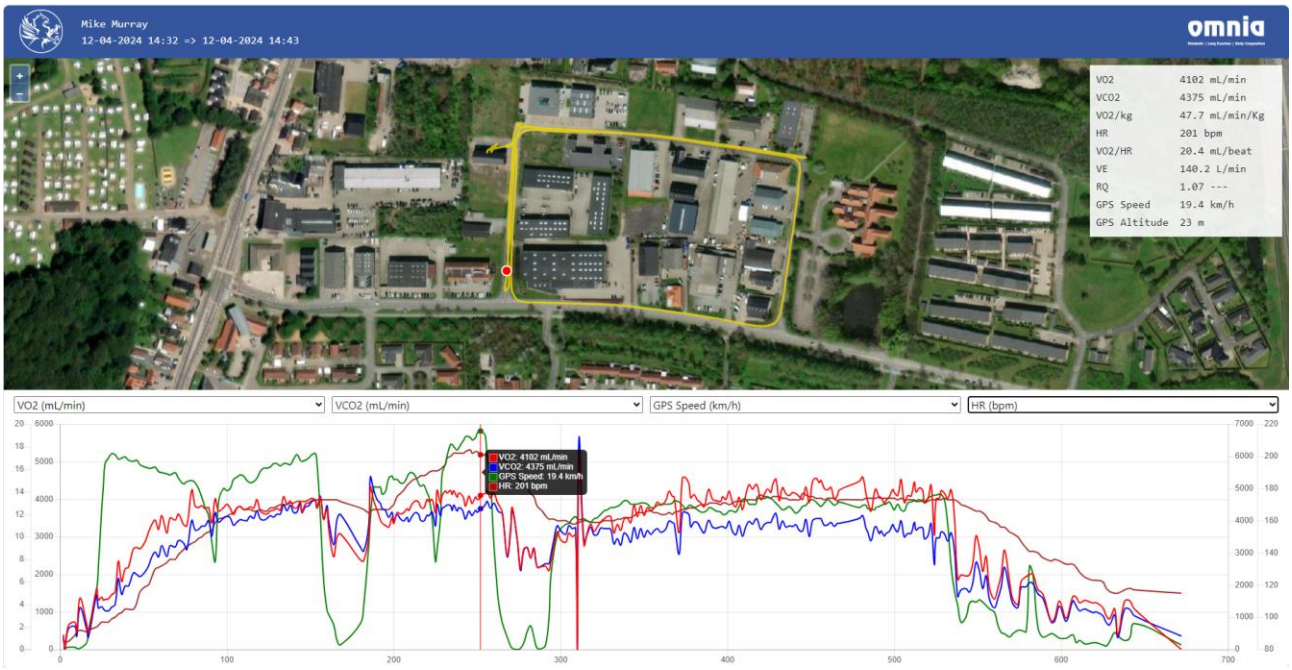
12.Examples

Running with Foot Stride sensor and GPS:

t hh:mm:ss	VO2/kg mL/min/Kg	VO2 mL/min	VCO2 mL/min	RQ ---	VE L/min	Rf 1/min	VT L(btps)	FeO2 %	FeCO2 %	FiO2 %	FiCO2 %	HR bpm	Power (---)	Speed (---)	Grade (---)	Phase ---	Stride Count ---	Stride Distance m	Stride Cadence 1/min	GPS Speed km/h	GPS Altitude m	Stride Speed m/s	Cadence 1/min
04:02	46.7	4015	4202	1.05	142.2	42.9	3.317	17.49	3.60	20.91	0.06	202	---	---	---	None	293	1008	94	18.6	23	5.83	198
04:03	44.4	3818	4051	1.06	137.2	44.4	3.086	17.53	3.60	20.91	0.06	203	---	---	---	None	295	1018	94	18.9	23	5.86	198
04:05	47.5	4083	4302	1.05	138.5	42.3	3.277	17.34	3.78	20.91	0.06	204	---	---	---	None	297	1027	94	18.9	23	5.89	198
04:06	46.5	3999	4229	1.06	140.5	45.8	3.068	17.46	3.67	20.91	0.06	204	---	---	---	None	299	1036	94	18.8	23	5.92	198
04:07	45.2	3888	4166	1.07	138.8	47.6	2.915	17.50	3.66	20.91	0.06	202	---	---	---	None	302	1049	94	18.6	23	5.94	165
04:09	47.2	4061	4321	1.06	141.3	46.9	3.014	17.42	3.73	20.91	0.06	203	---	---	---	None	303	1054	94	18.8	23	5.94	165
04:10	46.5	3998	4263	1.07	143.8	45.5	3.163	17.53	3.61	20.91	0.06	203	---	---	---	None	305	1064	94	19.2	23	5.94	165
04:11	46.5	4000	4304	1.08	142.3	47.2	3.011	17.49	3.69	20.91	0.06	202	---	---	---	None	307	1071	94	19.4	23	5.94	165
04:12	47.7	4102	4375	1.07	140.2	45.5	3.084	17.35	3.80	20.91	0.06	201	---	---	---	None	310	1085	94	19.4	23	5.97	165
04:14	48.2	4142	4440	1.07	145.9	46.5	3.137	17.46	3.71	20.91	0.06	201	---	---	---	None	312	1094	94	19.2	23	6.00	165
04:15	48.4	4163	4515	1.08	149.2	48.0	3.108	17.51	3.69	20.91	0.06	201	---	---	---	None	313	1098	94	18.9	23	6.00	165
04:16	49.3	4240	4603	1.09	144.8	42.6	3.403	17.34	3.87	20.91	0.06	200	---	---	---	None	314	1102	92	17.1	23	5.94	165

Performance | 9P Panel | 9P Panel 5th Ed | 9P Panel AG DEU | Cardio (Clinical) | Thresholds | POETTS 9P | QC

Geotag:

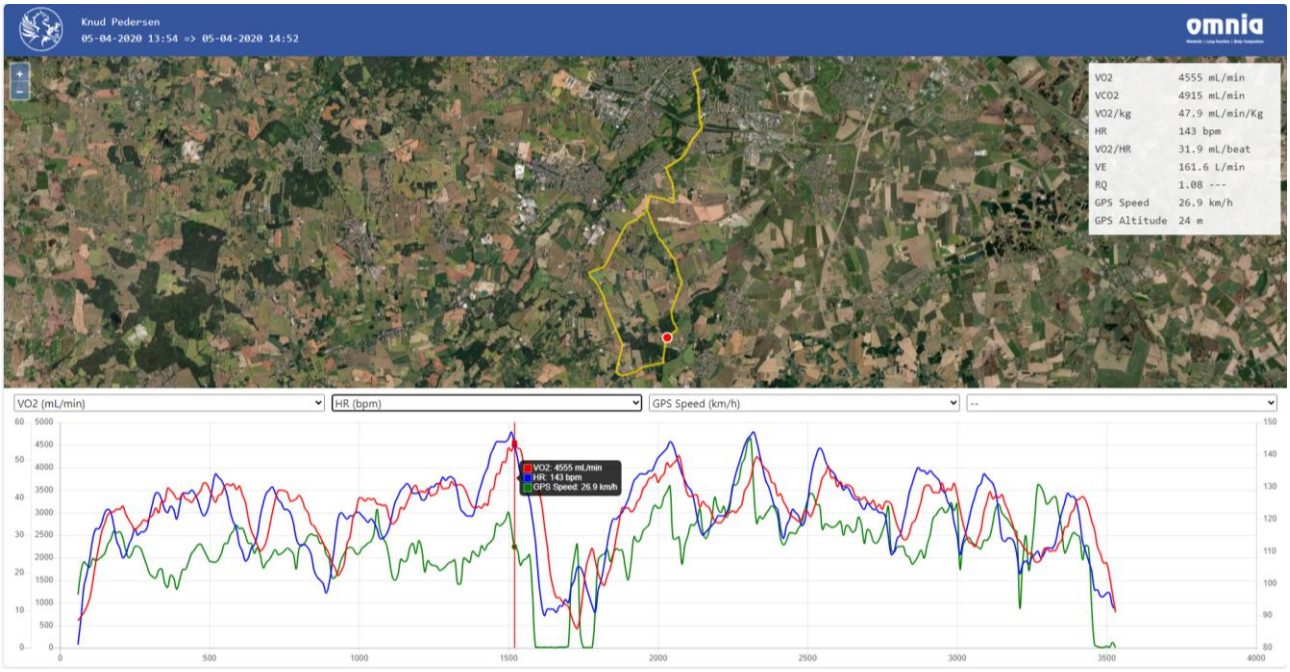


Cycling with left sided cycle power meter and GPS:

t hh:mm:ss	VO2/kg mL/min/Kg	VO2 mL/min	VCO2 mL/min	RQ ---	VE L/min	Rf 1/min	VT L(btps)	FeO2 %	FeCO2 %	FiO2 %	FiCO2 %	HR bpm	Power (---)	Speed (---)	Grade (---)	Phase ---	Left Balance %	Bike Torque@crank Nm	GPS Altitude m	GPS Speed km/h	Bike Power Watt
05:30	31.5	2994	2934	0.98	94.4	37.1	2.544	17.16	3.75	20.93	0.04	128	75	0	0	Exercise	---	---	16	20.6	---
05:40	34.3	3256	3212	0.99	102.8	36.9	2.786	17.16	3.77	20.93	0.04	126	75	0	0	Exercise	86	23.0	16	21.0	199.0
05:50	34.1	3242	3210	0.99	101.9	36.6	2.784	17.14	3.80	20.93	0.04	123	75	0	0	Exercise	---	---	17	17.3	---
06:00	37.3	3544	3544	1.00	111.6	37.0	3.016	17.14	3.83	20.93	0.04	122	75	0	0	Exercise	44	54.5	18	16.1	405.0
06:10	36.8	3492	3526	1.01	109.9	36.4	3.019	17.13	3.87	20.93	0.04	124	75	0	0	Exercise	85	55.4	19	19.3	192.0
06:20	36.0	3419	3500	1.02	108.5	35.6	3.048	17.15	3.89	20.93	0.04	123	75	0	0	Exercise	85	21.8	17	18.6	181.2
06:30	34.8	3307	3455	1.04	107.4	35.8	3.000	17.22	3.88	20.93	0.04	120	100	0	0	Exercise	53	93.0	22	15.6	515.5
06:40	34.9	3312	3499	1.06	109.9	36.8	2.986	17.29	3.84	20.93	0.04	124	100	0	0	Exercise	95	88.3	22	18.0	549.0
06:50	36.0	3416	3598	1.05	114.2	38.2	2.990	17.32	3.80	20.93	0.04	128	100	0	0	Exercise	95	32.2	22	20.8	271.7
07:00	34.8	3302	3465	1.05	110.3	38.1	2.895	17.32	3.79	20.93	0.04	128	100	0	0	Exercise	---	---	23	20.9	---

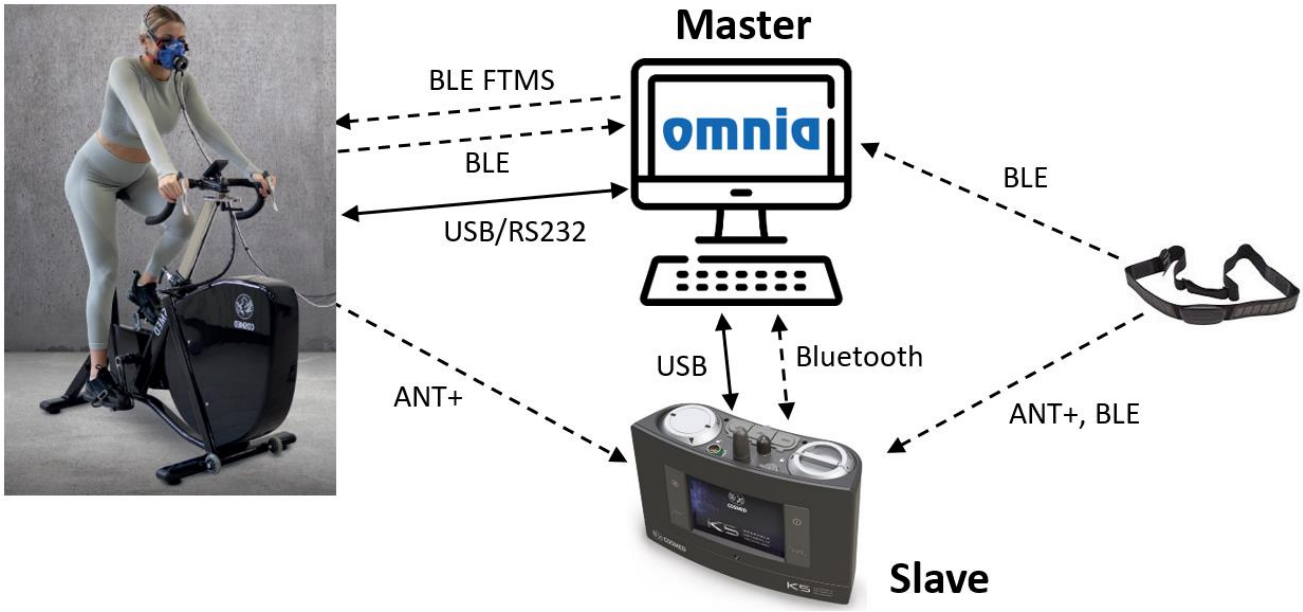
Performance | 9P Panel | 9P Panel 5th Ed | 9P Panel AG DEU | Cardio (Clinical) | Thresholds | POETTS 9P | QC

Geotag:

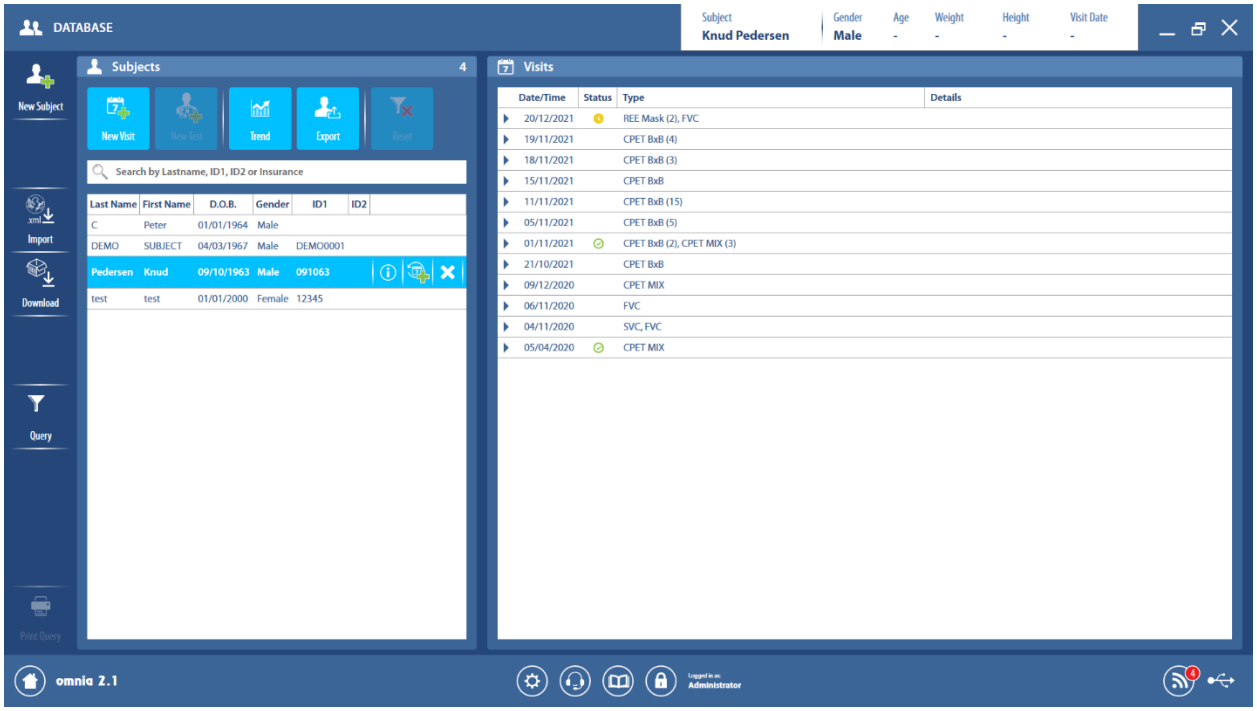


13.Test (via OMNIA)

Connect OMNIA to K5 via Bluetooth or USB cable.
E.g. connect ergometer via USB/RS232 or Bluetooth BLE FTMS (Fitness Machine Service).
FTMS is a newer standard available on many new ergometers, e.g. used for Zwift.

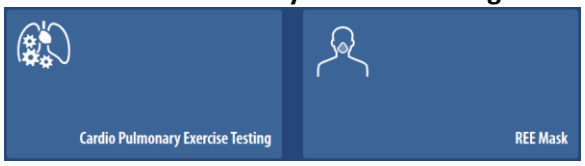


Go to home menu and select **Database**.

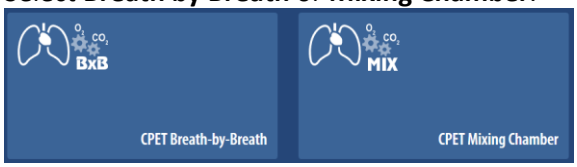


Select **New Subject**.
Select **New Visit**.
Select **New Test**.
Select **Metabolic**.

Select **Cardio Pulmonary Exercise Testing**.

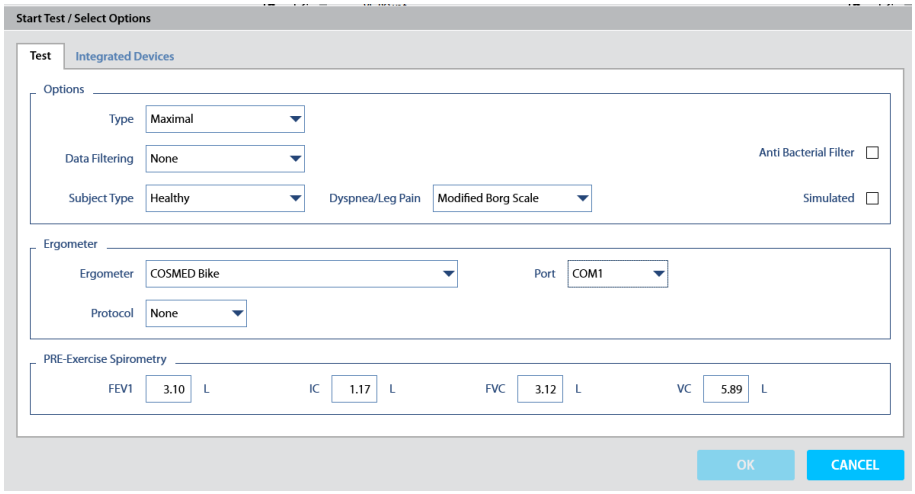


Select **Breath by Breath** or **Mixing Chamber**.



Mixing chamber is more accurate than Breath-by-Breath especially at high breathing frequency but requires the exercise level to be stable for approx. 2 minutes.

Press **Start**.



Select **Ergometer** type if exercise device shall be controlled by Omnia.

USB:

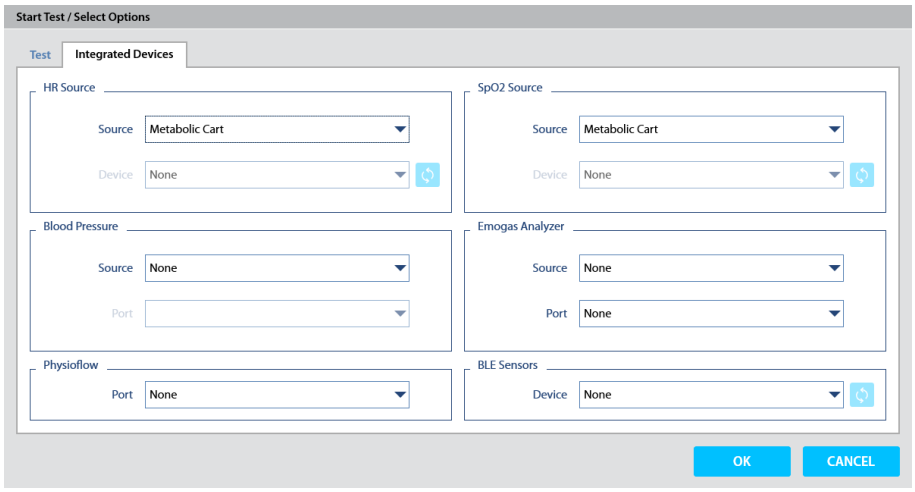
Set the **Ergometer** = "*name of ergometer driver*" and set the **Port** to the Com port of the connection to the computer (e.g. via USB to serial).

Bluetooth:

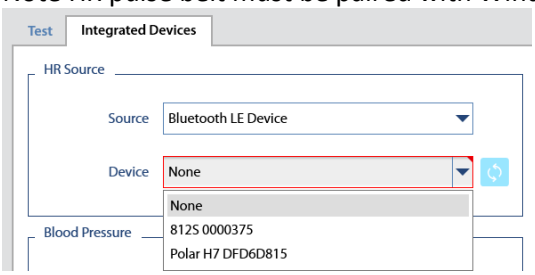
Set the **Ergometer** = "Fitness Machine BLE", if the ergometer is connected to the computer via Bluetooth, and select the Device.

Note Ergometer must be paired with Windows first – see section 21.

Select a **Protocol** (New protocols can be defined in **Utility** – **Metabolic Protocols**, see section 16).

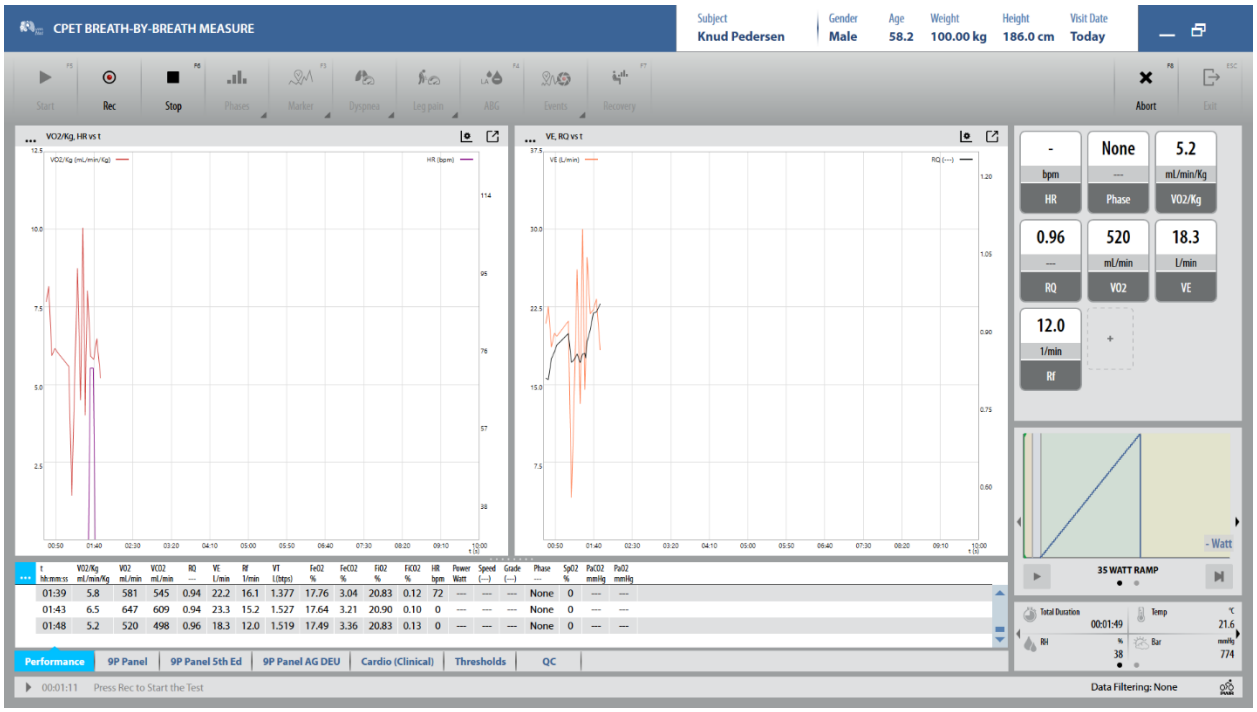


On tab **Integrated Devices** select **HR Source** to “Metabolic Cart”, if HR is coming from ANT+ or Bluetooth receiver inside K5.
Set **Source** = “Bluetooth LE Device”, if HR pulse belt is connected to the computer via Bluetooth, and select the Device.
Note HR pulse belt must be paired with Windows first – see section 21.

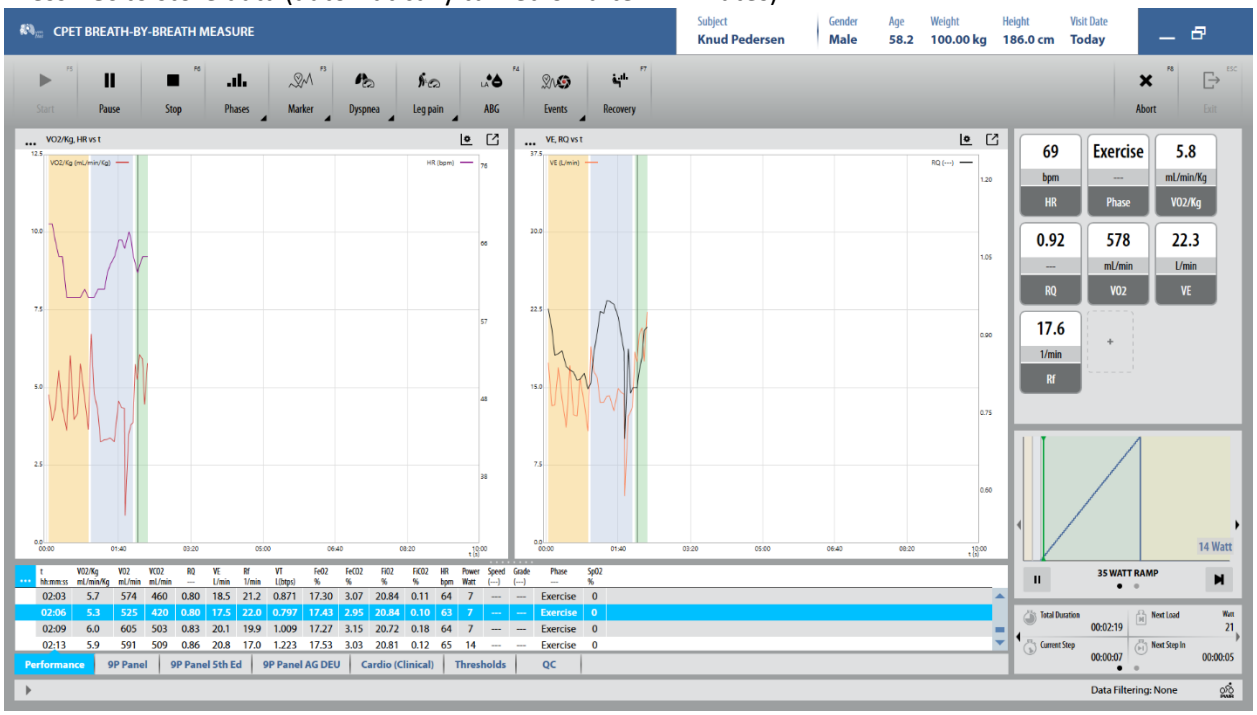


If other Bluetooth sensors are available, they can be selected in **BLE Sensors**.

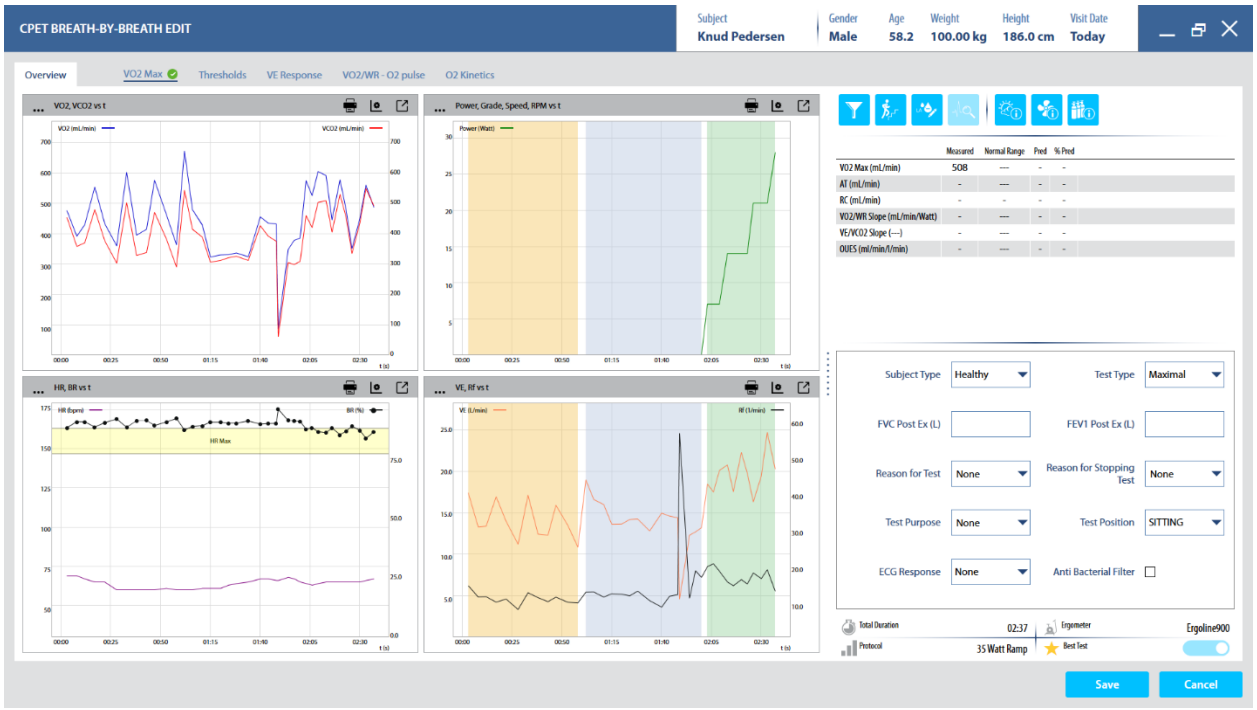
Press **OK**.
Press **Rec** to store data (automatically turned on after 2 minutes) but recommended to wait approx. 1 minute to flush internal chambers.



Press **Rec** to store data (automatically turned on after 2 minutes).



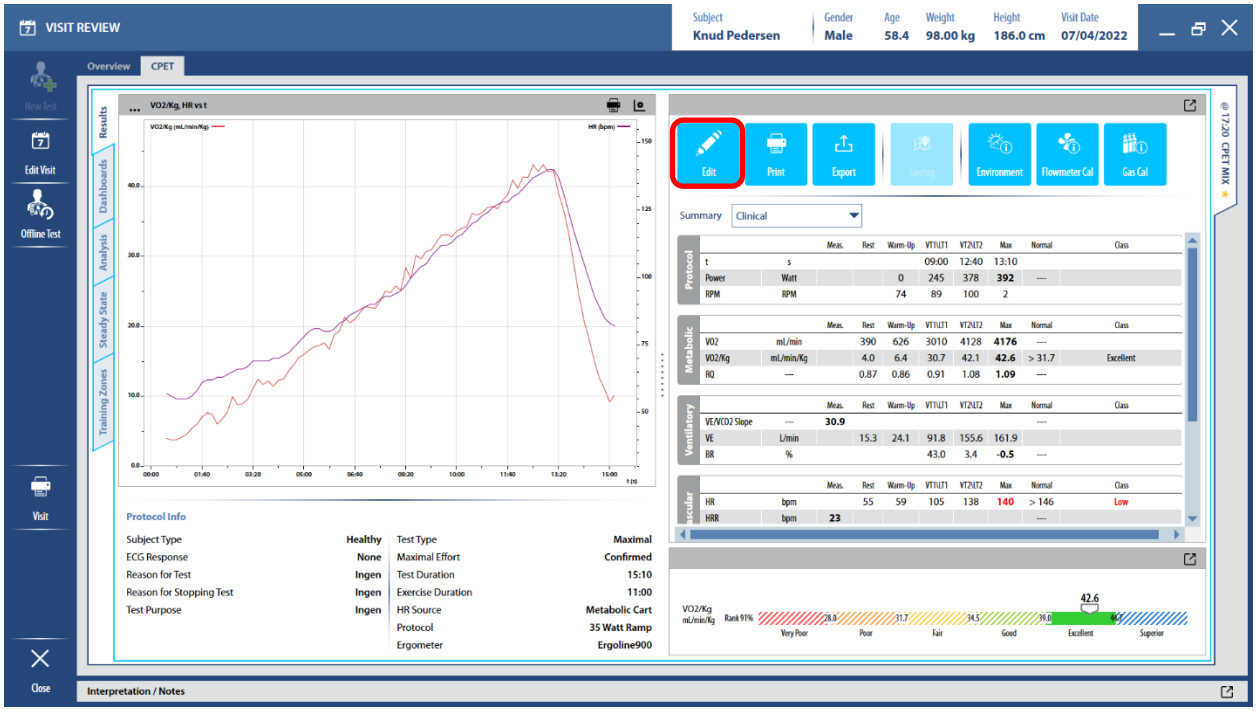
Press **Stop** when finished.



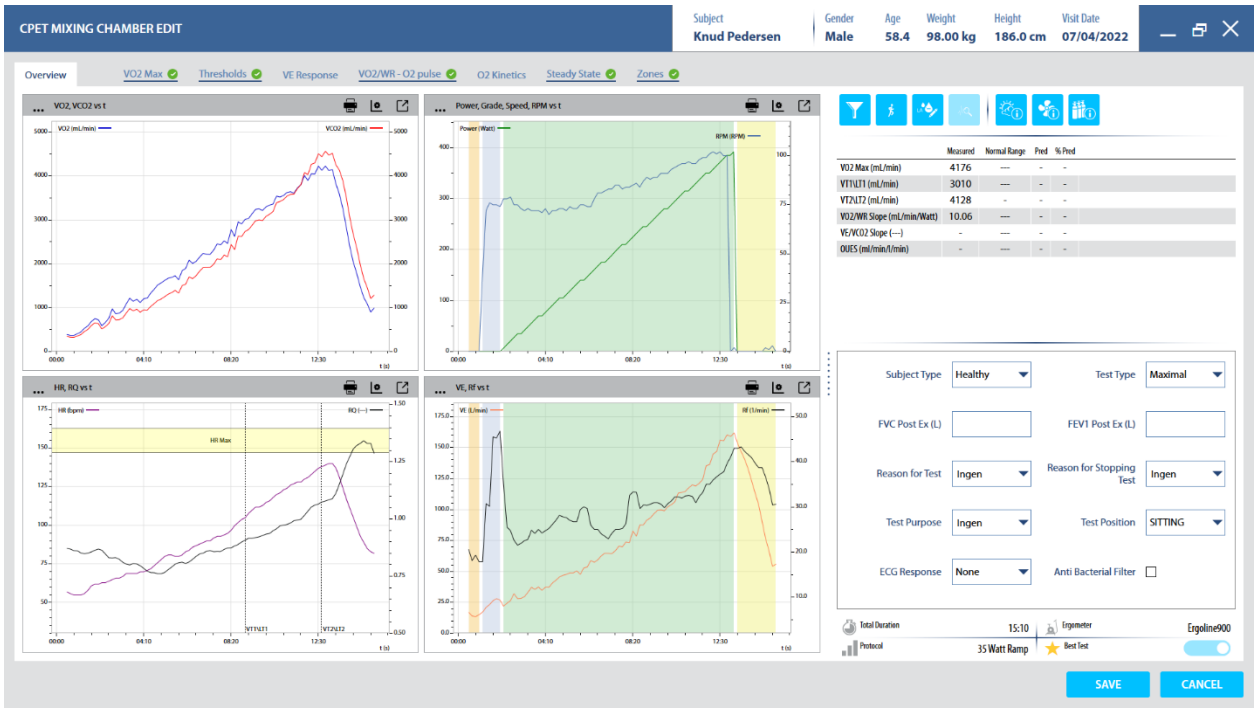
Press Save (e.g. first check/set VO2 max, Threshold, VE Response…)

14.Edit Test

Go to home menu and select **Database** and select test to edit.
Select CPET.

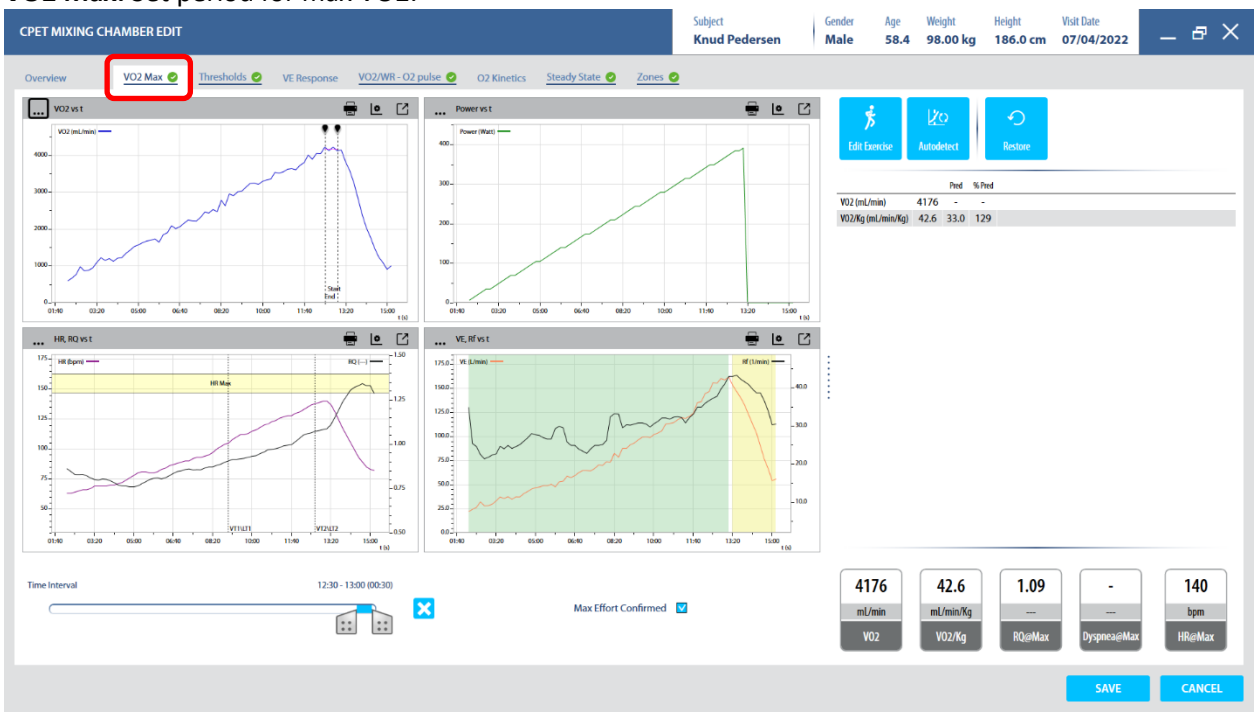


Press Edit

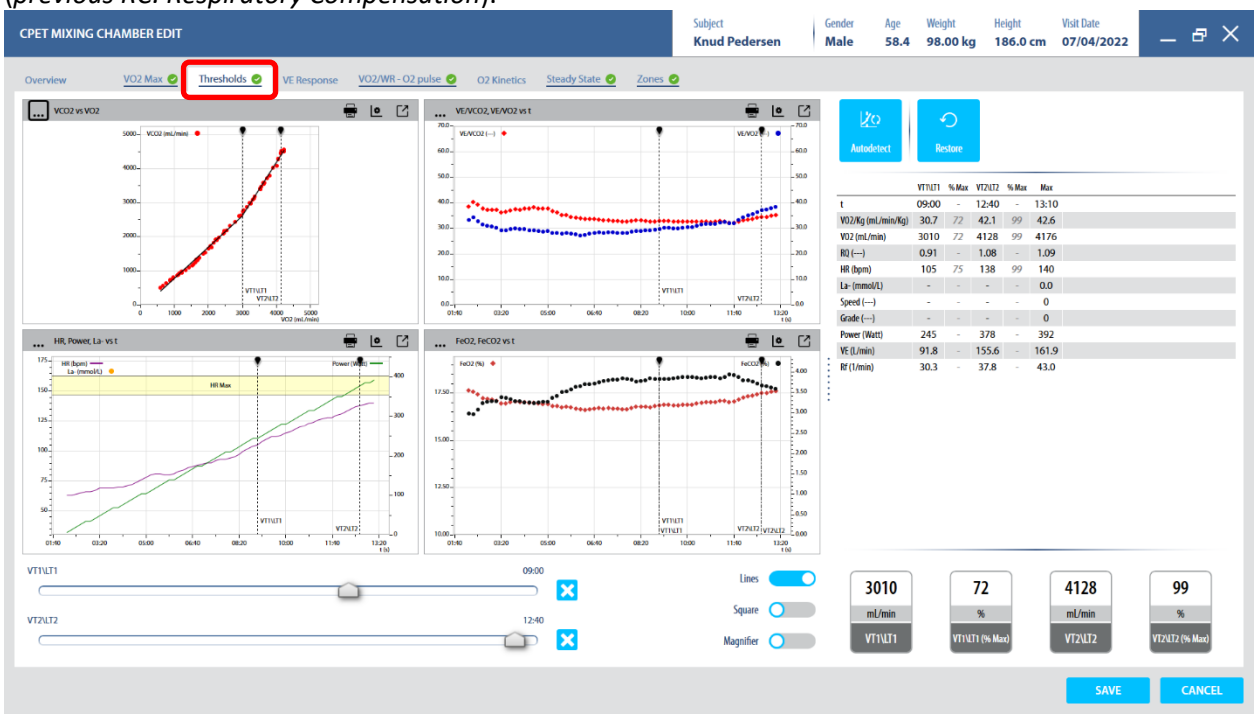


First check that the exercise period is correct. If not, press the Edit Exercise to change it. Note that the HR max is set to the value at the end of the exercise period.

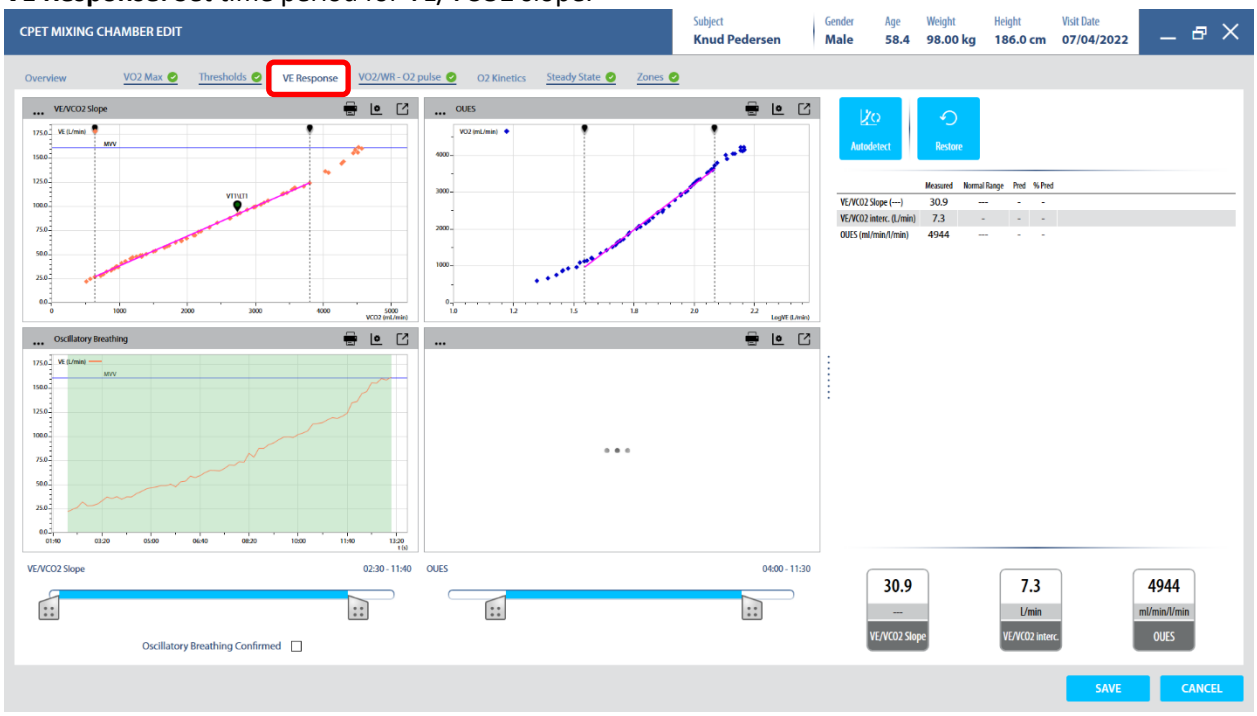
VO2 Max: Set period for max VO2.



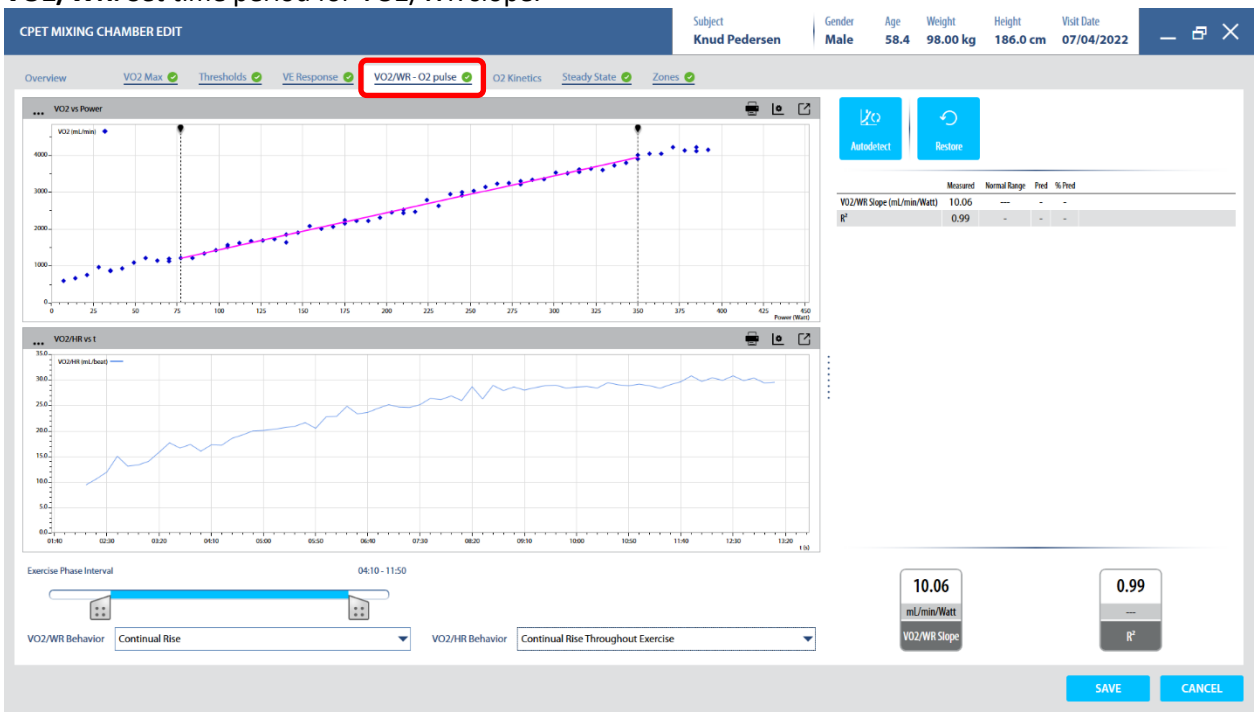
Thresholds: Set time for threshold 1 (LT1/VT1) (*previous AT: Anarobic Threshold*) and threshold 2 (LT2/VT2) (*previous RC: Respiratory Compensation*).



VE Response: Set time period for VE/VCO2 slope.

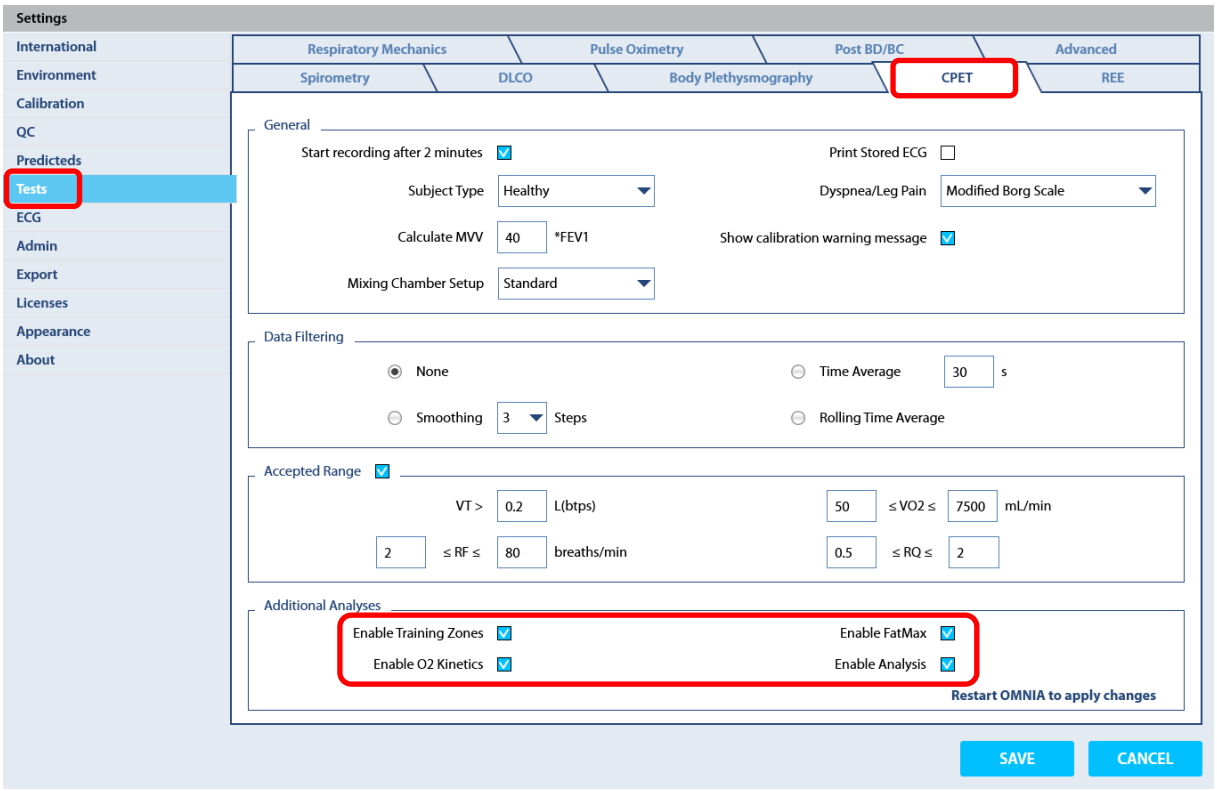


VO2/WR: Set time period for VO2/WR slope.

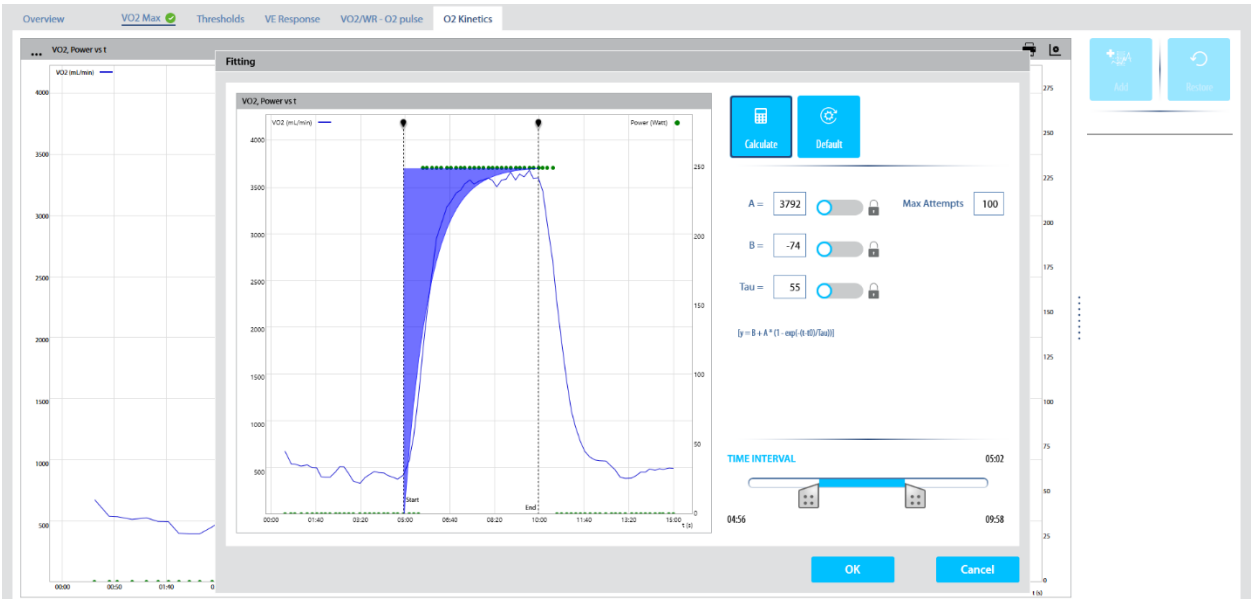


Extra analysis can be enabled in the settings. Go to Settings – Tests – CPET and enable/disable one or more of the following:

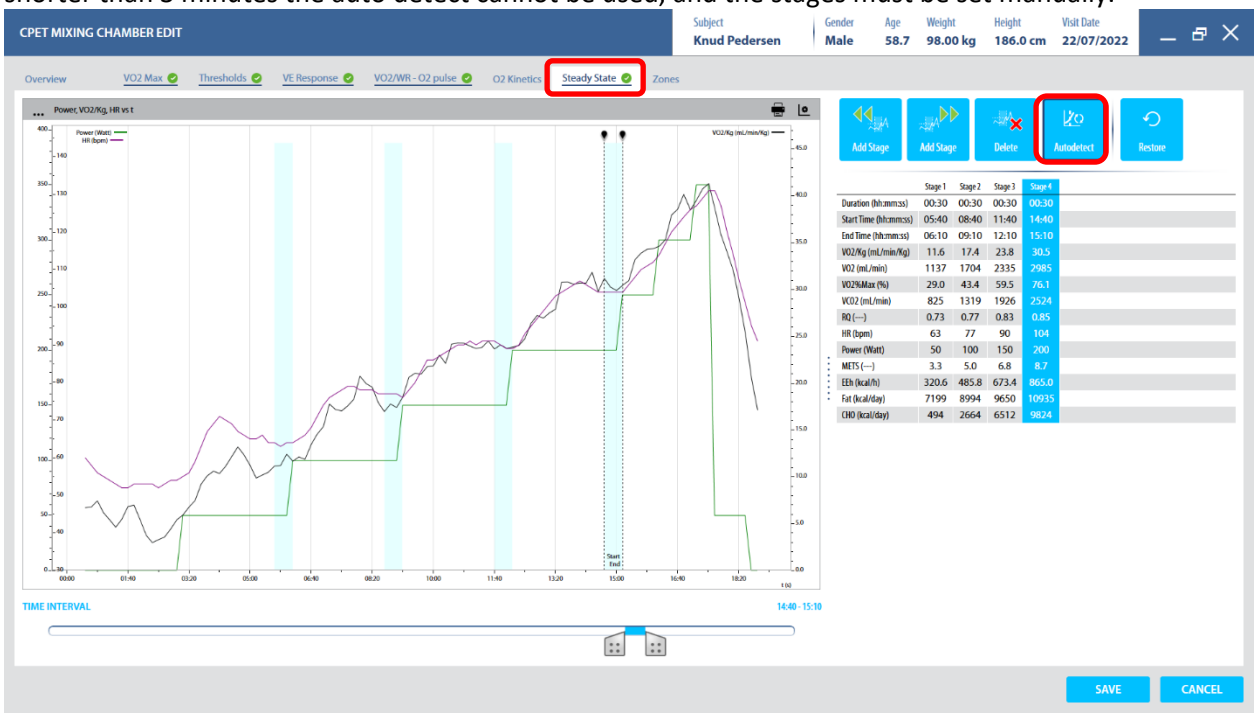
- Training zones (Steady State & Zones)
- O2 Kinetics
- FatMax



O2 kinetics: If exercise is performed as a step test, the response of the VO2 can be analysed.



Steady State: Use Auto detect or select stages manual.
The load profile is used to auto detect 30 seconds periods at the end of each interval. If the intervals are shorter than 3 minutes the auto detect cannot be used, and the stages must be set manually.

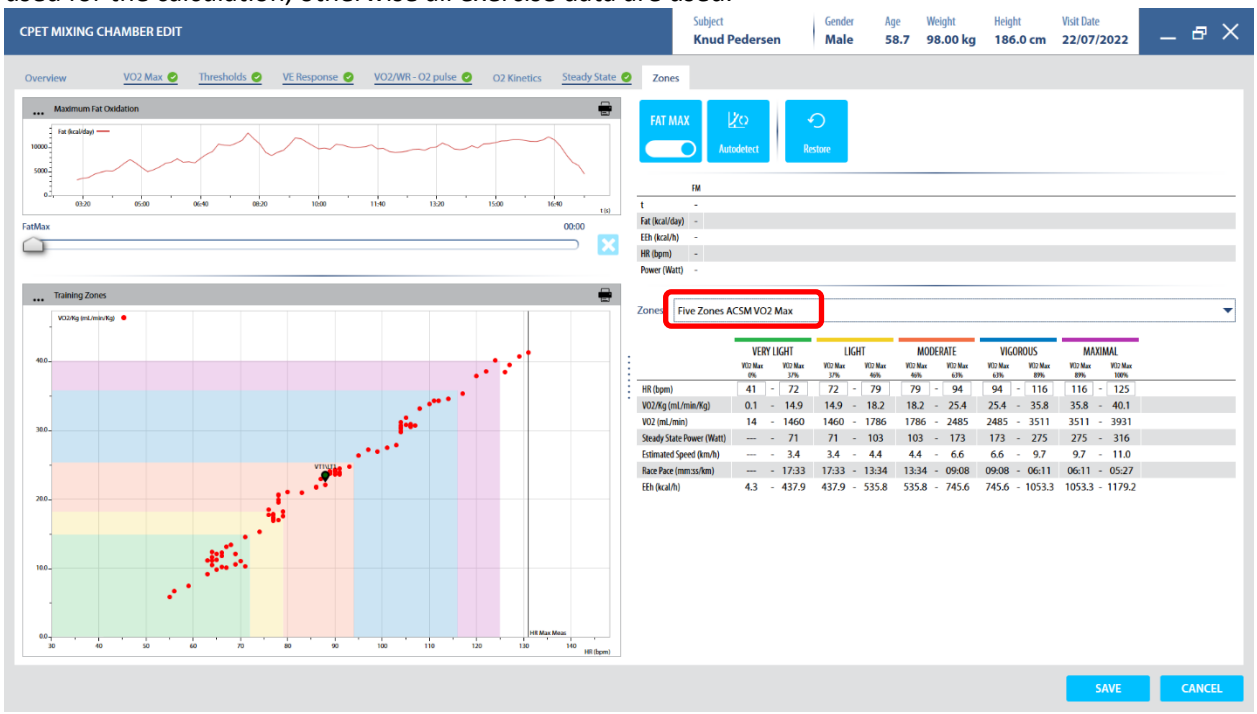


When stages are defined an extra TAB (Steady Stage) will be available when exporting the test to Excel:

	A	B	C	D	E	F	G	H	I
1	**Parameter**	**um**	**Stage 1**	**Stage 2**	**Stage 3**	**Stage 4**	**Stage 5**	**Stage 6**	**Stage 7**
2	Duration	hh:mm:ss	00:30	00:30	00:30	00:30	00:30	00:31	00:30
3	Start Time	hh:mm:ss	05:40	08:40	11:40	14:40	15:40	16:40	17:11
4	End Time	hh:mm:ss	06:10	09:10	12:10	15:10	16:10	17:11	17:41
5	VO2/Kg	mL/min/Kg	11.6	17.4	23.8	30.5	34.2	39.1	40.5
6	VO2	mL/min	1137	1704	2335	2985	3350	3831	3974
7	VO2%Max	%	29	43.4	59.5	76.1	85.4	97.6	101.3
8	VCO2	mL/min	825	1319	1926	2524	2865	3406	3727
9	RQ	---	0.73	0.77	0.83	0.85	0.86	0.89	0.94
10	HR	bpm	63	77	90	104	111	124	129
11	Power	Watt	50	100	150	200	250	300	350
12	METS	---	3.3	5	6.8	8.7	9.8	11.2	11.6
13	EEh	kcal/h	320.6	485.8	673.4	865	973	1121.2	1175.9
14	Fat	kcal/day	7199	8994	9650	10935	11551	10170	5975
15	CHO	kcal/day	494	2664	6512	9824	11801	16738	22246
16									

Data | Results | **Steady State**

Zones: can be used to determine training zones based on various protocols. If Steady State is set, these are used for the calculation, otherwise all exercise data are used.



OMNIA comes with:

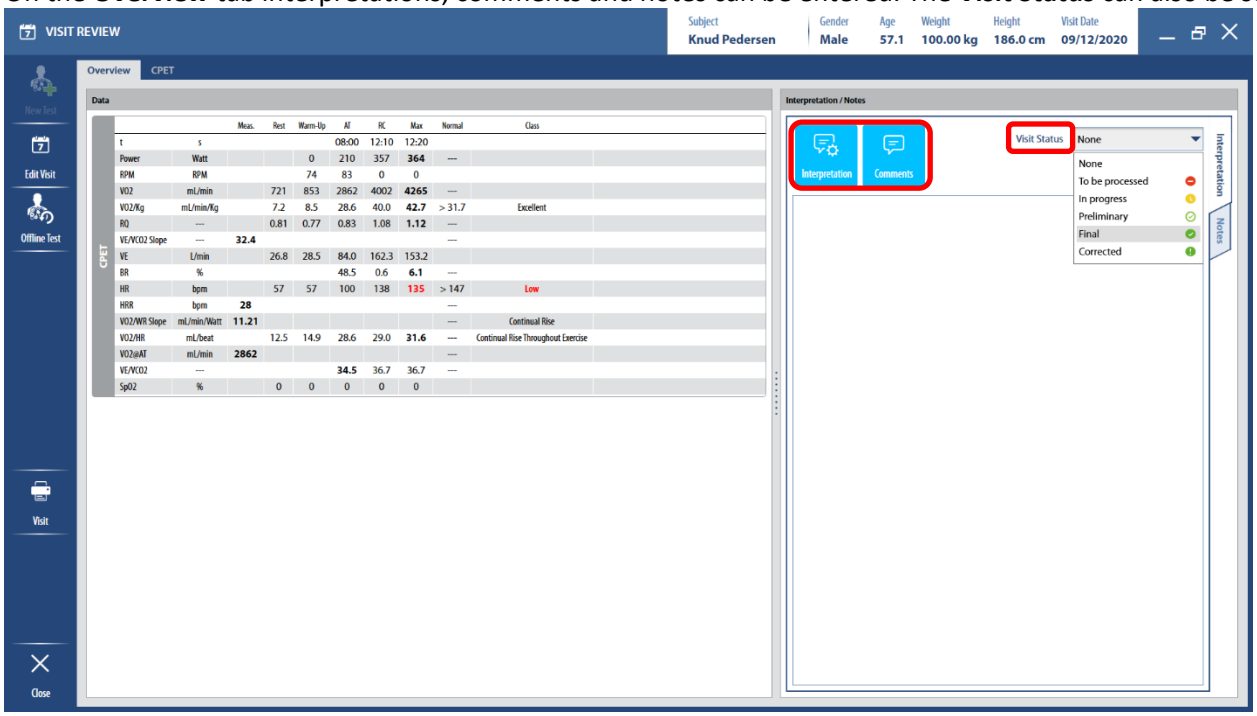
- Five Zones ACMS based on VO2 max (requires VO2 max is set).
- Three Zones based on threshold 1 and 2 (requires VT1/LT1 and VT2/LT2 is set under Threshold).
- Fat Zone based on Fatmax (requires Fat Max is enabled and set).

More zones can be defined in **Utility** – **Training Zones Protocols**.

15. Viewing a Test

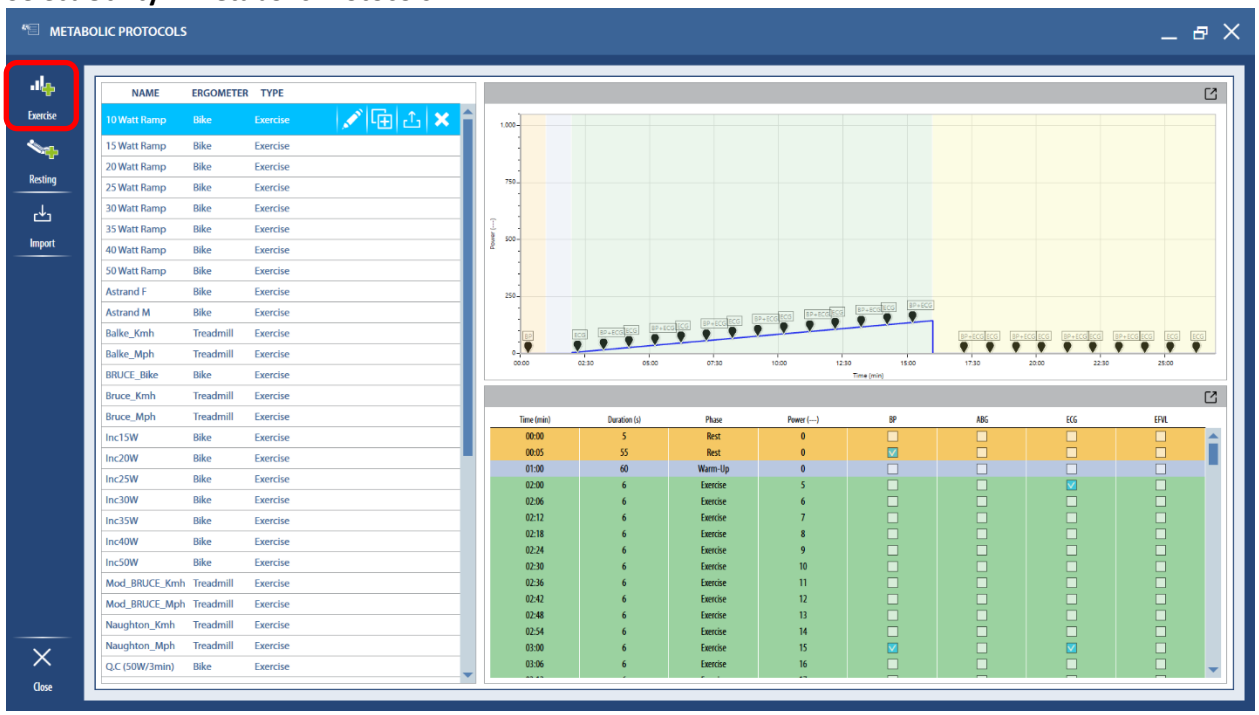
At the top various test can be selected with an overview to the left.
At the left various tabs can be selected to view the test in various ways (Results, Dasboard…)
If a test contains several manoeuvres of same type (on the same day) – they can be selected via tabs on the right.

On the **Overview** tab interpretations, comments and notes can be entered. The **Visit Status** can also be set.



16.Configure protocol

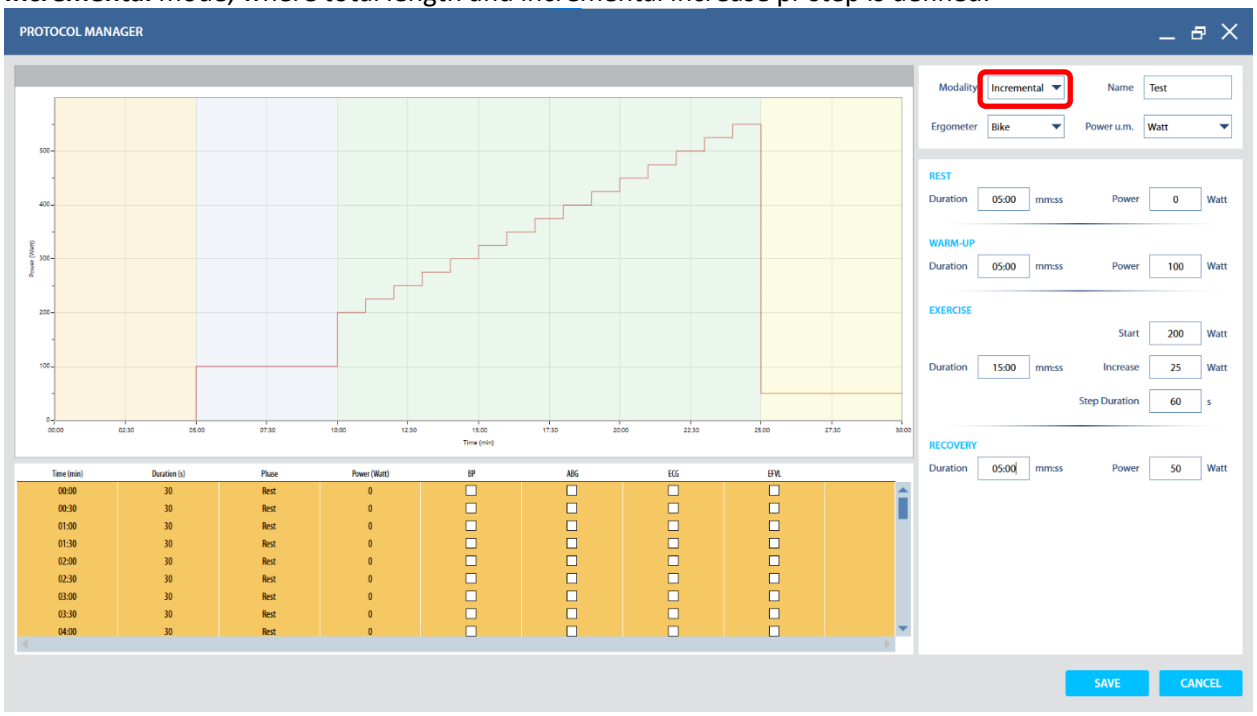
Select **Utility** – **Metabolic Protocols**.



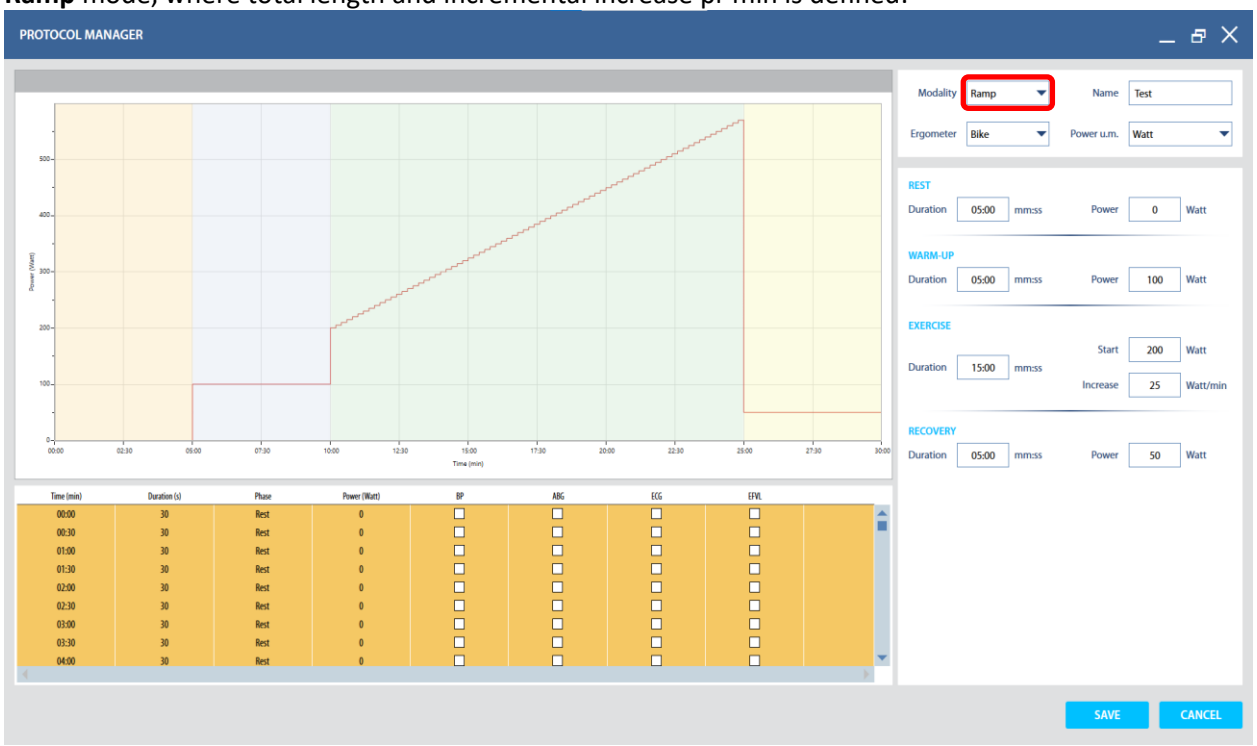
Select **+Exercise** to define a new.

Manual mode, where each step is defined manual:

Incremental mode, where total length and incremental increase pr step is defined:

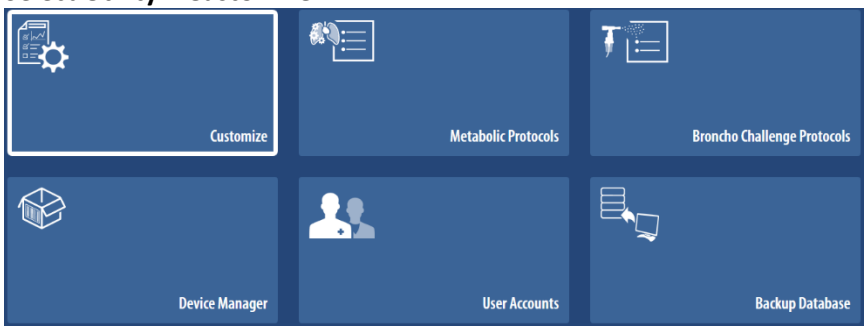


Ramp mode, where total length and incremental increase pr min is defined:

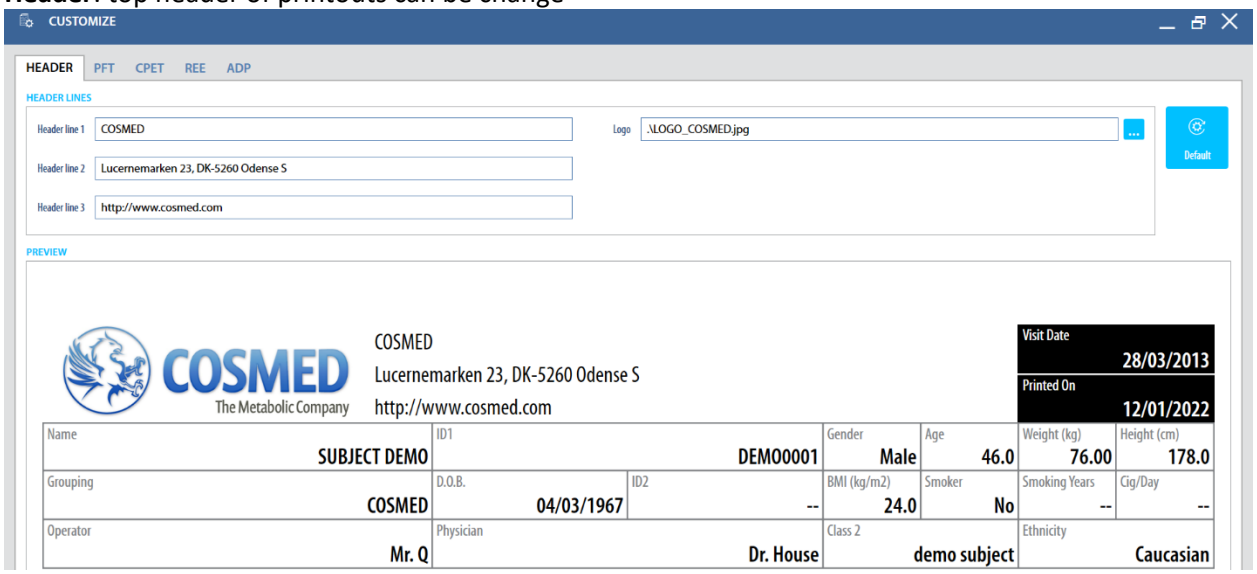


17.Customize

Select **Utility** – **Customize**.

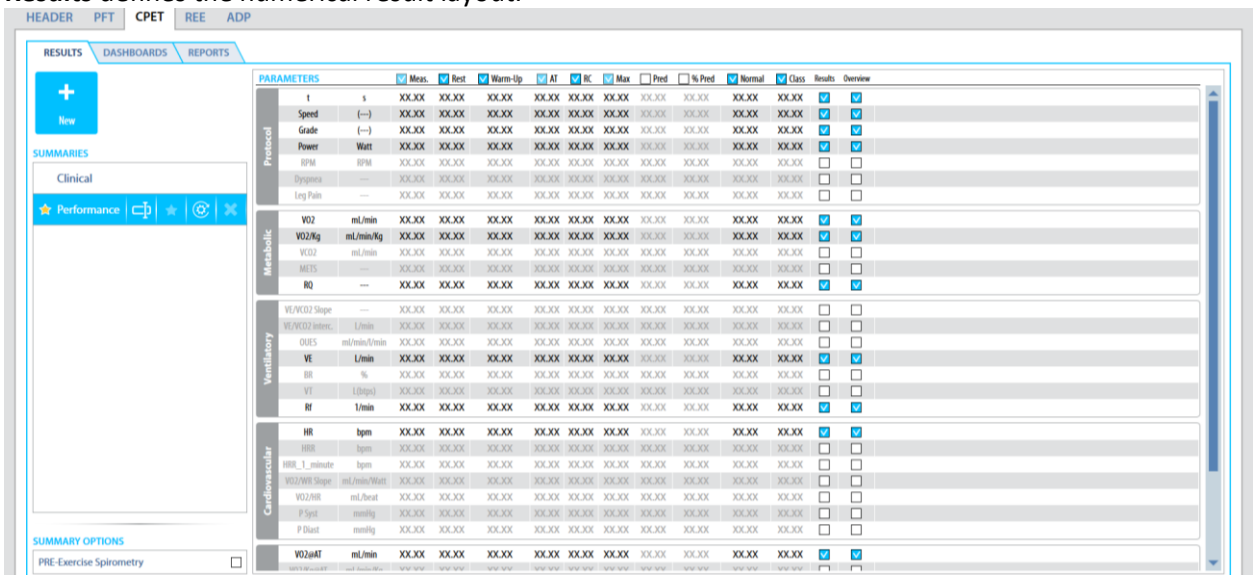


Header: top header of printouts can be change

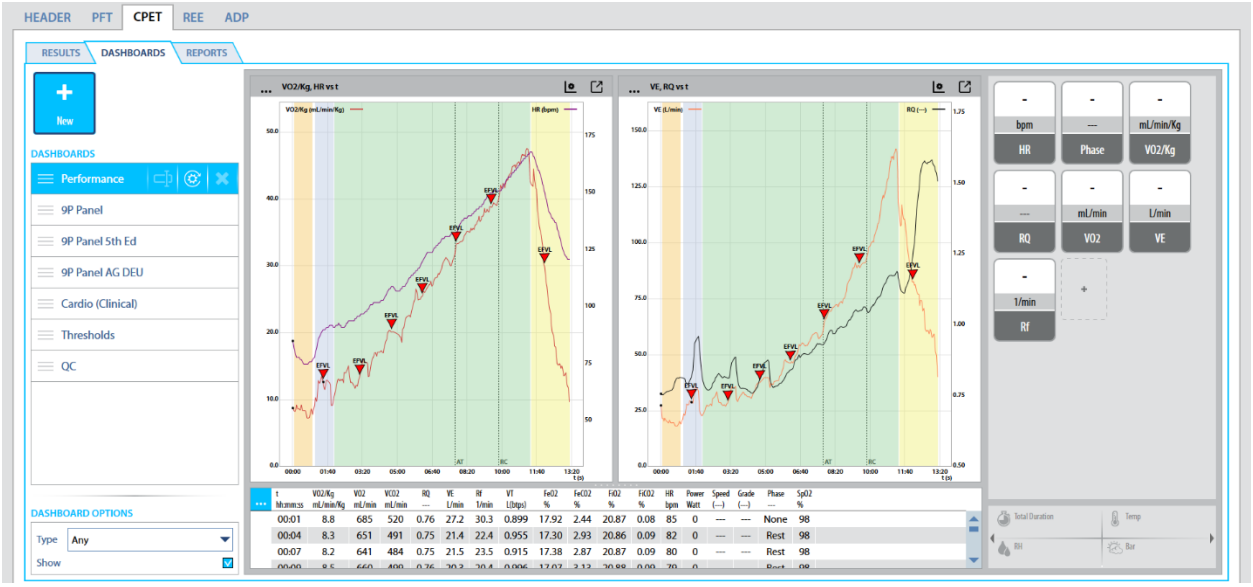


Select **CPET** to customize CPET layout on screen and print.

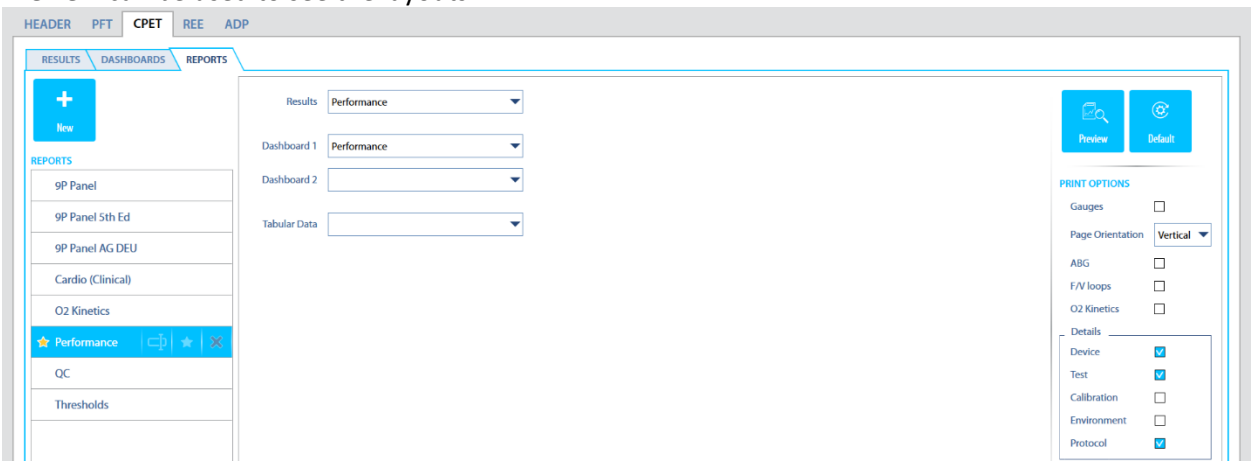
Results defines the numerical result layout.



Dashboards defines the graphical layout in the Omnia software, but can also be used as templates for the printouts.



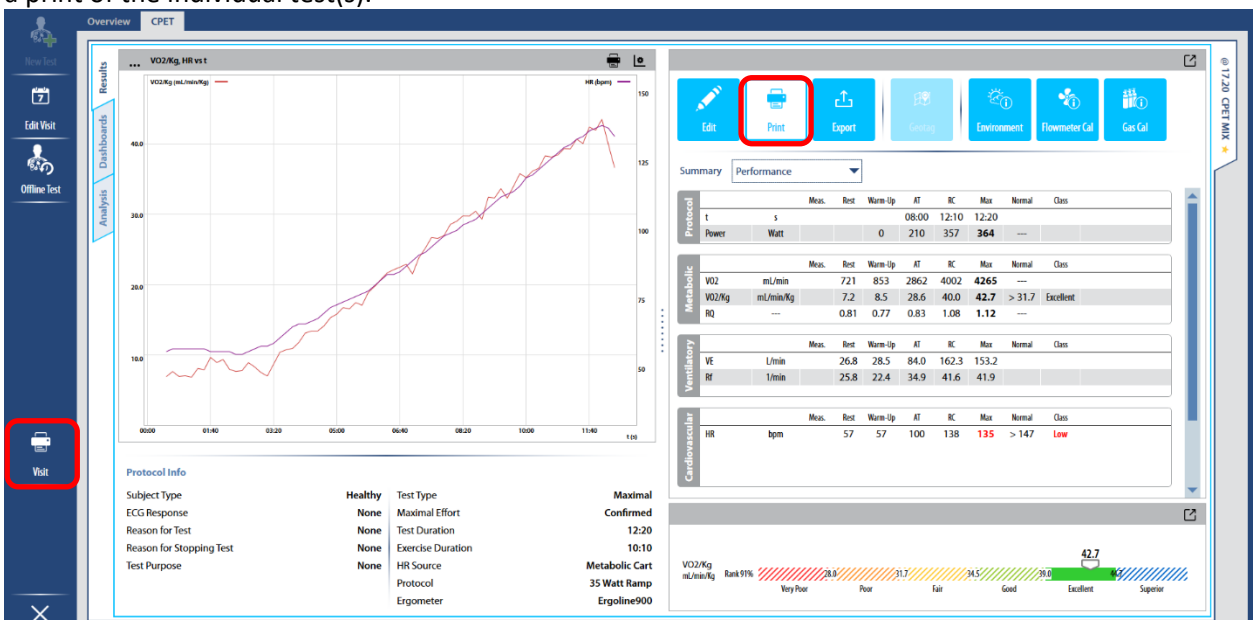
Reports defines the print layouts.
Preview can be used to see the layouts



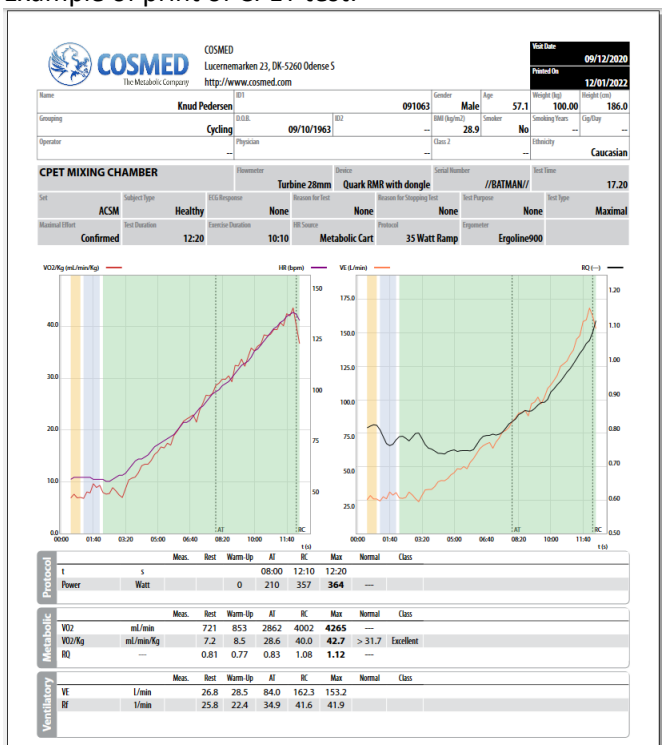
18. Print

Select Test from **Database**

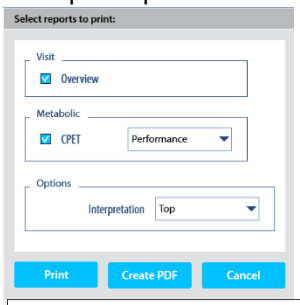
Visit or **Print** can be used to print the results. Visit is the top level corresponding to an overview, and Print is a print of the individual test(s).

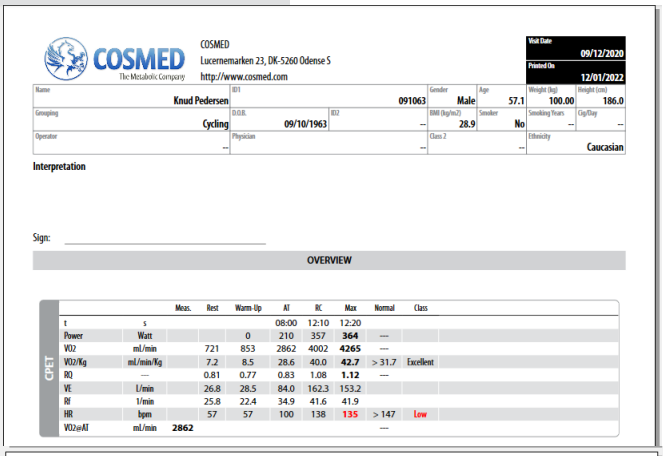


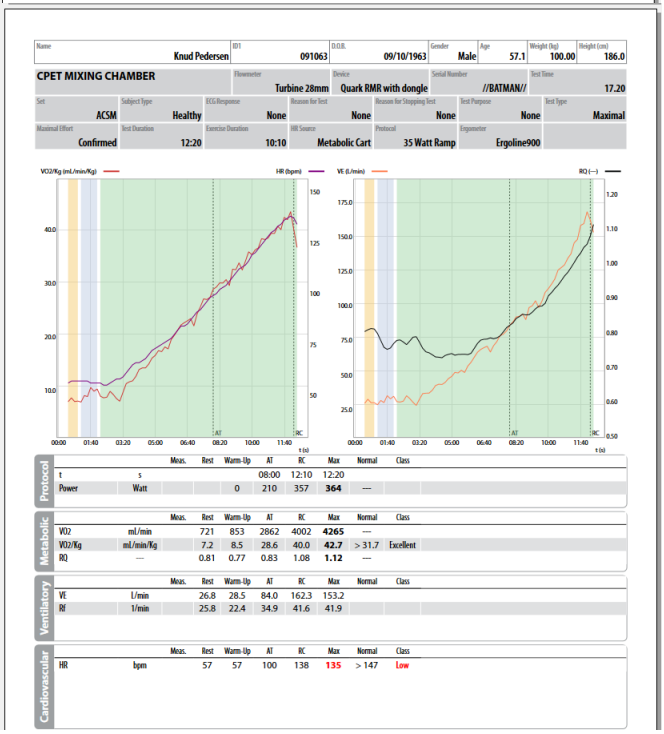
Example of print of CPET test:



Example of print of Visit:



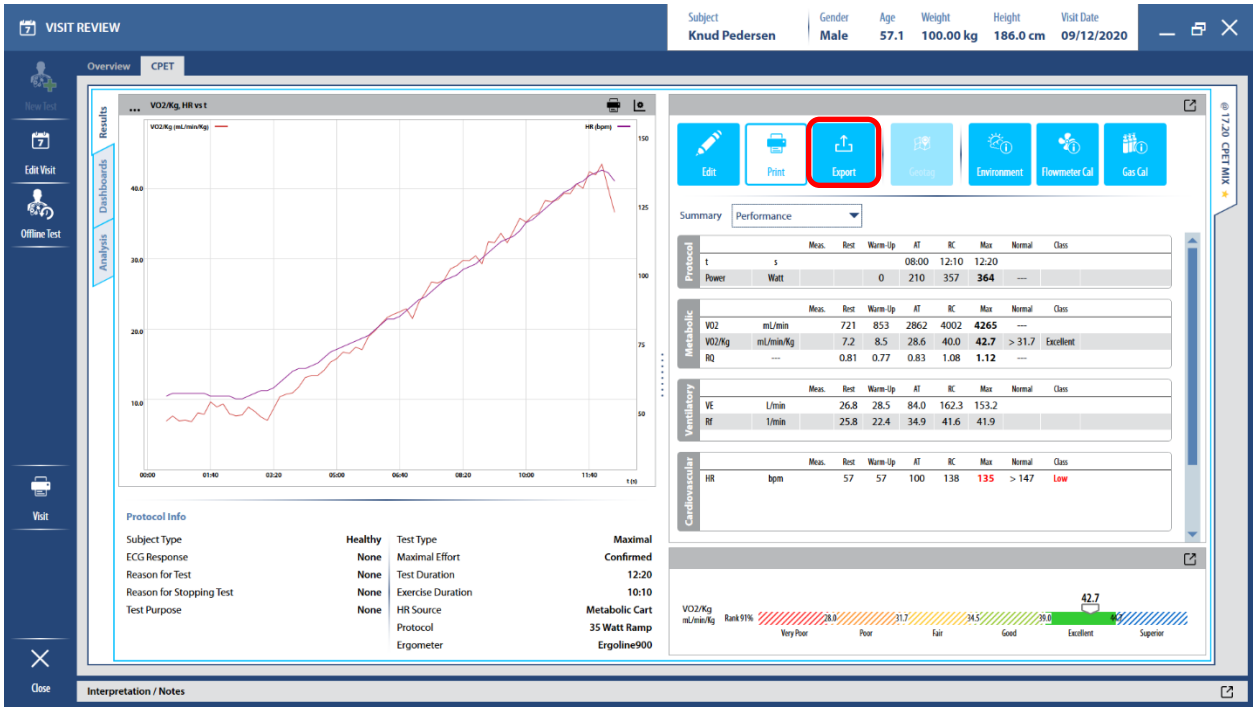




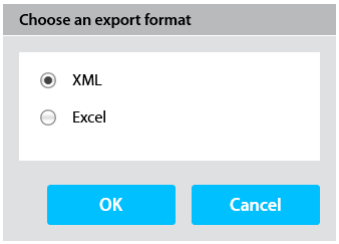
See “OMNIA print layout.pdf” for details on how to configure the print layout.

19.Export

Select Test from **Database**



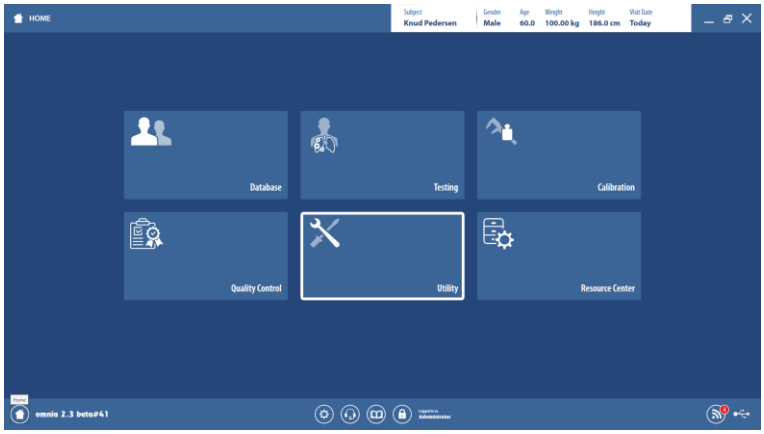
Press Export and select format.
XML can be used to export test to another Omnia s/w.
Excel is a fixed format to be used for further analysis via EXCEL.



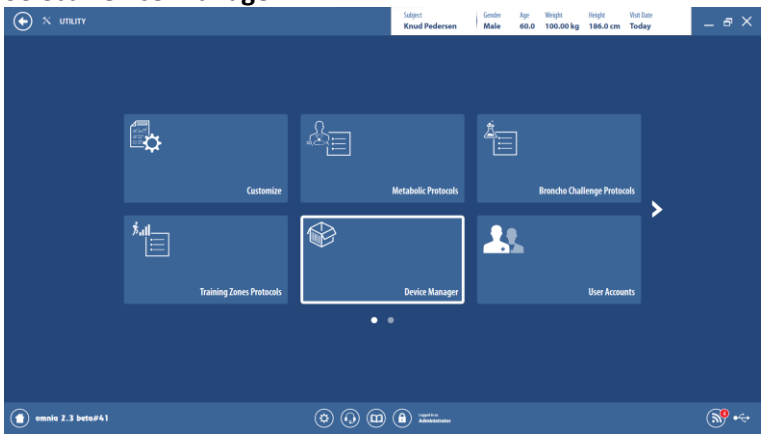
20.Connect device

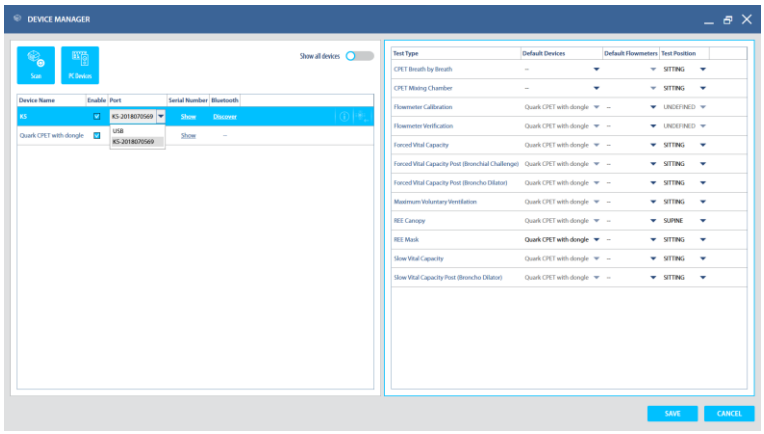
Mount USB cable (REF C04117-01-12) between K5 and computer:

Power on the K5.
Wait until Main Menu is shown on K5.
Start **OMNIA.**
Select **Utility.**

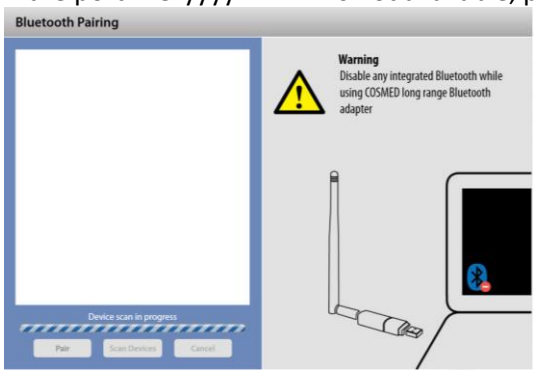


Select **Device Manager.**

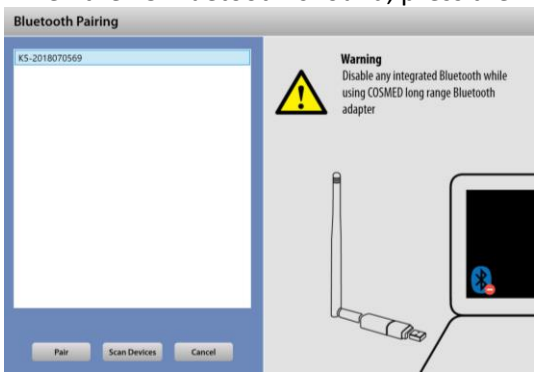


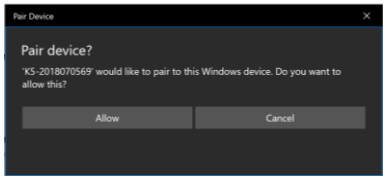


The Port can either be USB or K5-yyyyxxxxxx (Wireless via Bluetooth).
If the port “K5-yyyyxxxxxx” is not available, press the **Discover** to make a Bluetooth connection.

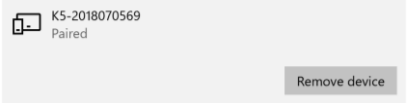


When the K5 Bluetooth is found, press the “K5-yyyyxxxxxx” and select **Pair**.

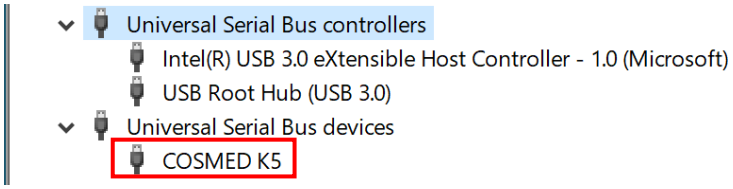




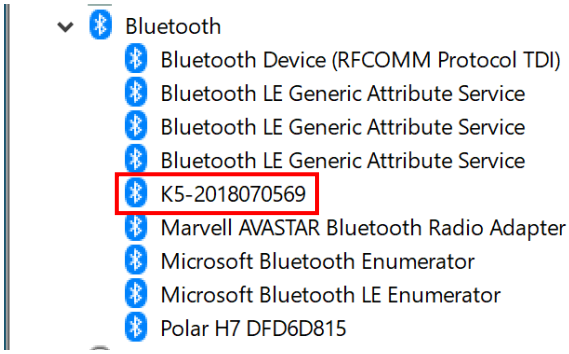
In windows “Bluetooth & other devices” you can see the paired connection and – if needed – troubleshoot.



The USB connection to the K5 is shown in Device Manager:



Similar with the Bluetooth:

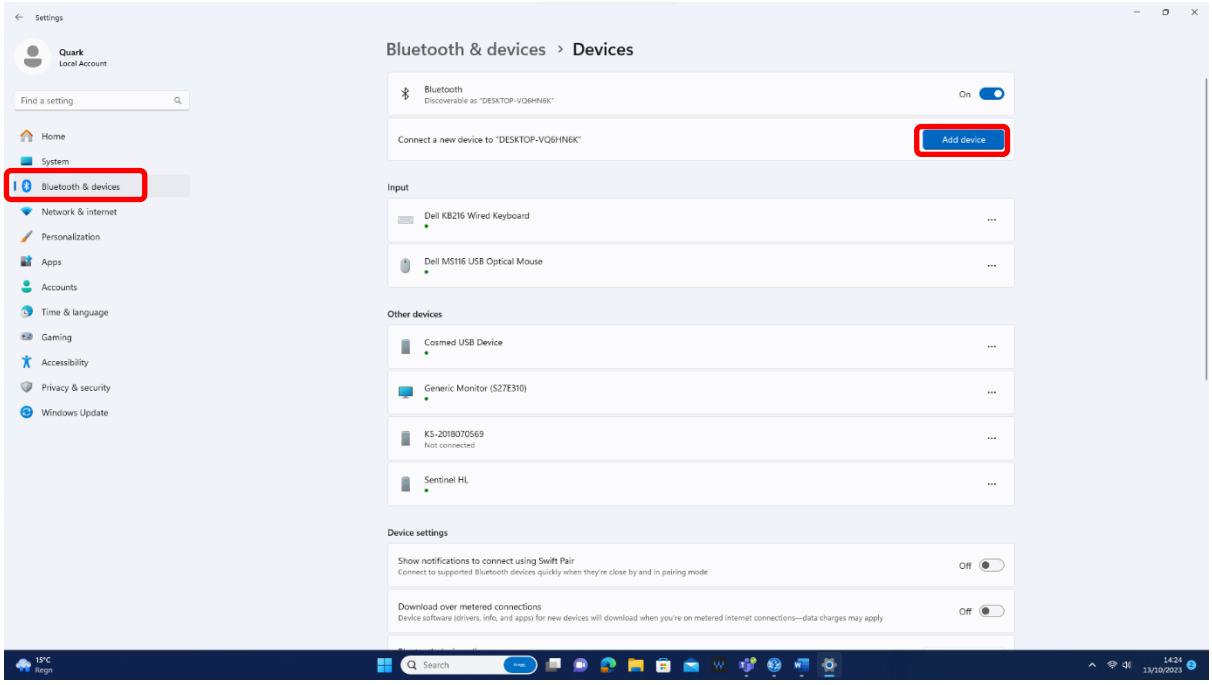


Note: it takes some time before the Bluetooth is found.

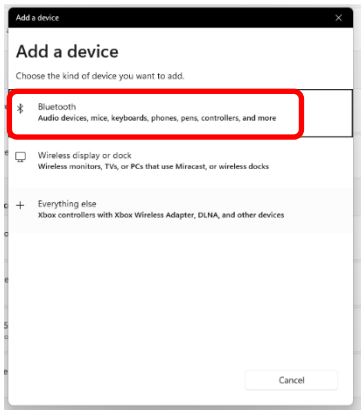
21.Bluetooth pairing in Windows

Go to Windows settings.

Select **Bluetooth & devices**



Select **Add device**



Select **Bluetooth**

Note: Windows 11 is not always supporting the Bluetooth LE receiver inside the computer. It may detect standard Bluetooth but can have problems in detecting BLE devices (Bluetooth Smart). Check that the driver is up to date and that the Bluetooth Device Discovery is set to Advanced.

22.Cleaning

Complete information to be found in the **Cleaning & Disinfection User Manual.**

Below some relevant information for the K5.

Any reusable parts must be cleaned and disinfected immediately after use unless otherwise specified

Detergent and disinfectant agents for manual reprocessing:

Tested for material compatibility and disinfection efficacy:

The manual reprocessing instructions provided by COSMED have been validated for material compatibility and disinfection efficacy by third-party independent laboratories, making use of specific agents:

• Detergent: enzymatic detergent (e.g. Cidezyme®/Enzol®, Johnson & Johnson).

• High-Level disinfectant: ortho-phthalaldehyde 0.55% (e.g. CIDEX® OPA Solution, Johnson & Johnson).

• Low/High-Level* disinfectant: AHP® (Accelerated Hydrogen Peroxide) spray (e.g. Oxivir® Tb RTU, Sealed Air). *Depending on contact time.

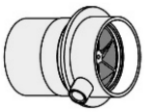
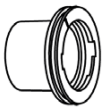
Tested for material compatibility only:

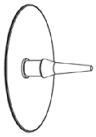
The below listed agents are known to be compatible with the materials of the reusable parts listed in this manual. This list is not exhaustive and other agents may also be found compatible.

• Detergent and Low-Level disinfectant: Clinell Universal Wipes, GAMA Healthcare

• Detergent and Low-Level disinfectant: CaviWipes, Metrex

• High-Level disinfectant: Revital-Ox Resert, STERIS

REF and Description	Image	Level of Disinfection	Materials	Reprocessing Group	Notes
C05270-01-05 Turbine T3		High	Fan blades: plastic film (PET) Axes: metal (stainless steel) Conveyor: plastic (PC) Enclosure: clear plastic (MABS)	C	Do not place under running water or compressed air. Do not use Accelerated Hydrogen Peroxide (AHP) disinfectants (such as Revital-Ox Resert, STERIS). Scrub only external surfaces.
C02120-01-05 Turbine 2000		High	Fan blades: plastic film (PET) Axes: metal (stainless steel) Conveyor: plastic (PC) Enclosure: clear plastic (MABS)	C	Do not place under running water or compressed air. Do not use Accelerated Hydrogen Peroxide (AHP) disinfectants (such as Revital-Ox Resert, STERIS). Scrub only external surfaces.
C04349-01-06 Optoelectronic reader 2000 / T3		Low	Enclosure: plastic (ABS) Gasket: plastic (nitrile rubber) Cable: TPE plastic	A	
C05068-01-08 Wind Shield Turbine T3			Plastic (ABS)	C	N/A
C02155-02-08 Closing ring for optoelectronic reader 2000		High	Plastic (ABS)	C	Before reprocessing remove sampling line.
C02107-02-08 Wind Shield for Turbine 2000		High	Plastic (ABS)	C	Before reprocessing remove sampling line.
C02106-02-08 Mouthpiece adapter for Turbine 2000		Low	Plastic (ABS)	C	If only used for calibration, follow instructions in section 2.1.4 in Cleaning & Disinfection User Manual. Reprocessing Interval: monthly
C04254-01-08 Sampling line		High	Tip: plastic (Nylon) and metal (stainless steel)	B	Do not submerge. Do not use automated reprocessing
A-800-XXX-XXX Mask without inspiratory valves		High	Mask: blue elastomer (silicone rubber) and clear plastic (PC)	C	Steam sterilization can be used on the face mask only (free from any adapters, brace set or valves) following manual cleaning: • Type of Cycle: Gravity Displacement • Type of Load: Wrapped Method • Temperature: 132-135 °C • Cycle Time: 10-15 min Compete details and updates on manufacturer's website www.rudolphkc.com
A-800-XXX-XXX Mask without inspiratory valves		High	Mask: blue elastomer (silicone rubber) and clear plastic (PC)	C	Steam sterilization can be used on the face mask only (free from any adapters, brace set or valves) following manual cleaning: • Type of Cycle: Gravity Displacement • Type of Load: Wrapped Method • Temperature: 132-135 °C • Cycle Time: 10-15 min

REF and Description	Image	Level of Disinfection	Materials	Reprocessing Group	Notes
					Compete details and updates on manufacturer's website www.rudolphkc.com
A-800-900-030 Mask brace set		Low	PP plastic, Nylon fabric, PU foam	B	Can remain connected to the face mask and be reprocessed as per the face mask instructions.
C04194-01-20 Mask inspiratory valve frame		High	Plastic (ABS)	C	N/A
C04245-01-20 Mask inspiratory valve membrane		High	Elastomer (silicone rubber)	C	N/A
C04381-01-08 Mask adapter for Turbine 2000		High	Plastic (ABS)	C	N/A
C02466-01-20 VO2max ID28 / T3 flowmeter mask adapter		High	Plastic (ABS)	C	N/A
C02839-01-20 RMR ID18 flowmeter mask adapter		High	Plastic (ABS)	C	N/A
C05085-01-20 Mask/filter adapter		High	Plastic (POM)	C	N/A
A-800-900-02X Head cap		Low	Headgear: plastics (PU Foam, Nylon UBL Gray and Nylon Fabric Red) Headgear Hook: plastic (Nylon) Headgear Strap Clips (4): plastic (PP)	D	Do not iron

Phase / Group	Pre-treatment	Cleaning 	Disinfection 	Drying
A	Wipe soil with a moist sponge or towel	Wipe with a soft cloth sprayed with disinfectant solution. Dispose the soft cloth.	Repeat cleaning Wipe with a soft cloth moistened with water. Dispose the soft cloth.	Let air dry
B		Wipe with a soft cloth sprayed with disinfectant solution for 30 seconds.	Wipe with a soft cloth sprayed with disinfectant solution for 30 seconds.	
C	Rinse in water at 22-40°C	Soak for 3 minutes in a detegrent solution at room temperature (>22°C). Using a soft bristle brush, scrub the submergerd part during the 3 minutes. Wipe while rinsing for 5 minutes in water. Inspect all surfaces and part features to ensure that it is visibly clean, repeat Cleaning if not.	Soak in disinfectant solution at room temperature (>22°C) for 12 minutes. Rinse three (3) times in a volume of room temperature (>22°C) water, large enough to completely submerge the part, for at least 3 minutes for each rinsing cycle.	Dry immediately after the disinfection steps by using filtered air (oil-free, low germ and low particle) or dab with a lint free cloth and let air dry. Inspect all surfaces and part features to ensure that they are visibly dry, repeat Drying if not.
D			Repeat Cleaning	