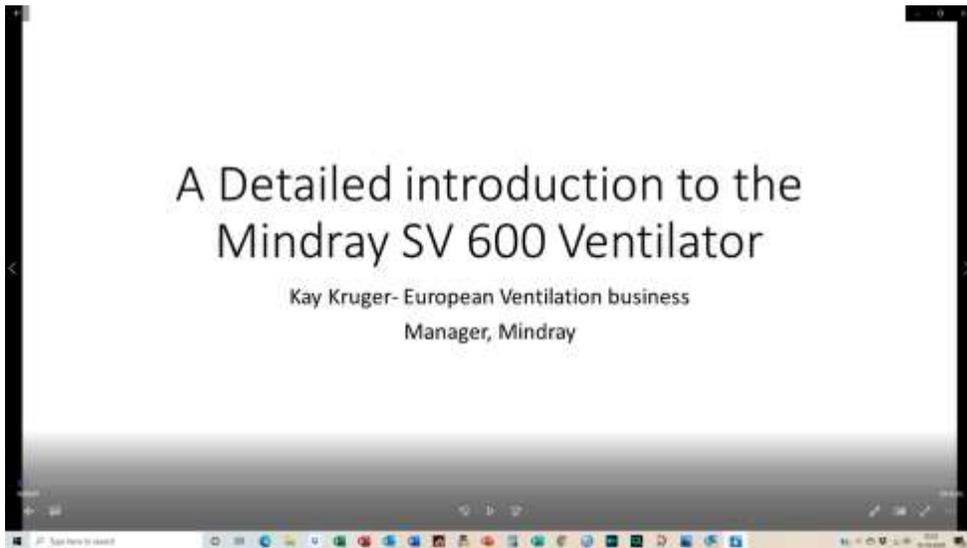


## Mindray detail PART ONE



[00:00:16] To turn the machine on, you could see on off button. It goes through Self-test and once that is completed, you can see the instructions on the screen for the system check.



[00:00:38] So you need to have the breathing circuit connected to the ventilator and the 'Y' piece capped off. If it's not capped, you can push it into the port on the side. Once that is done, you go to "Continue".





[00:02:11] After that, the next the next step would be to set up the ventilation. You want to start with so we have different modes available, the modes that are mostly used here on the main screen, and then you can go to the desired mode in the case, for instance, "Pressure, Assist, Control", go with the settings so we would reduce oxygen to in this case 49%, pressure, it's a delta P, so it's the pressure over PEEP what is always displayed in that small green window here. So this green window provides additional information about all the settings. In that case itself, our PEEP is 5, our inspiratory pressure is 20. Right. Just to make sure that, because some ventilators use different displays of the pressure set, just to make sure that there is a good understanding of the settings here. Also, there are some warnings. So if you increase certain values you see here, then you get a warning. In that case, peak inspiratory pressure is too high because of our alarm settings to our alarm settings are limiting the maximum pressure. Right. And says if you want to change that, go to the alarm settings once you have set up the ventilation and you want to connect the patient. The assist would default to ON, with it off the ventilator is in a purely mandatory mode.



[00:03:58] Also, the Pressure assist control is actually we have an assist control mode.

[00:04:05] So if you switch it off, it's a purely mandatory controlled mode. Controlled ventilation assist means the patient can trigger a breath.



[00:04:16] Default is a assist as well

[00:04:26]

[00:04:38] OK, once you confirm by clicking on OK, it'll take over the settings, right, um, the three dots here are to access additional modes of ventilation that are not displayed on the main screen. The more modes of ventilation that can be used. Once have your patient set up and intubated and connected, you can go to "start ventilation".



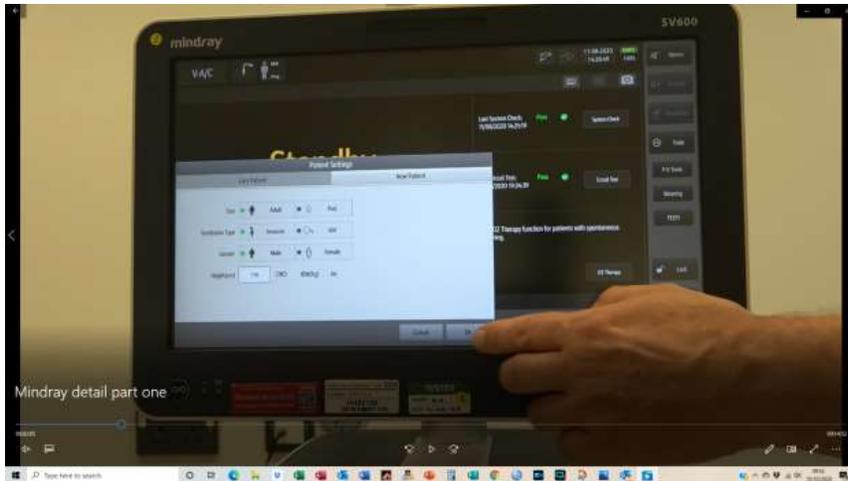
[00:05:17] The ventilator will start with the settings that we have confirmed here. You will see on the top screen the monitoring options that we see here. It is currently set as "pressure assist control ventilation". You see also it's an adult with sixty six kg ideal body weight in between. You can see the E.T. tube symbol. This icon can provide access to "artificial airway compensation".



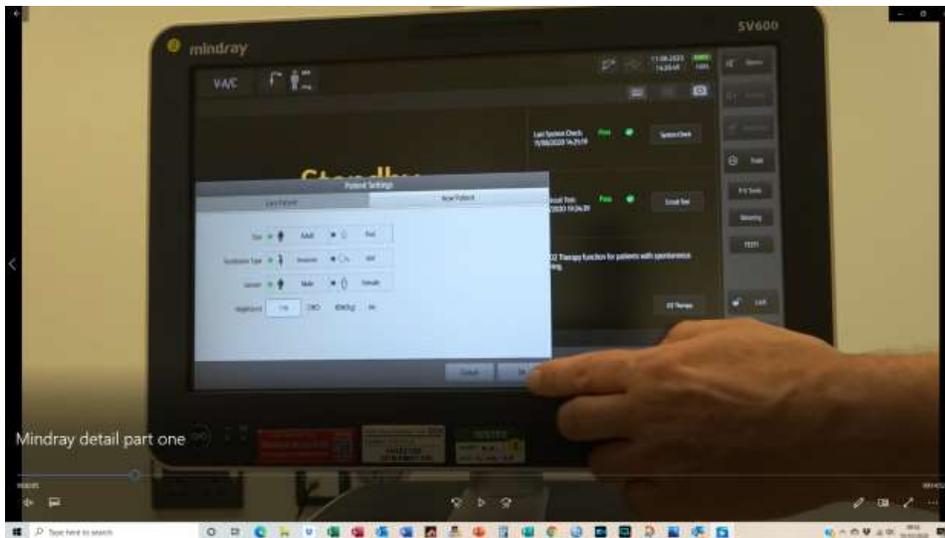
[00:05:47] So the automatic tube compensation means we can enable the tube compensation. For that we need to enter in the inner diameter of the tube and to determine whether it's the tracheostomy or endotracheal tube. And we can also set up the amount of compensation up to one hundred percent.



[00:06:11] By confirming "OK", you see now it's 8.5 mm ETT That's confirming that artificial compensation is activated. We have the airway pressure, the flow and the volume on the airway pressure. You see two lines now, a green and an orange line here on the top.



[00:06:36] You can see that the orange line is the airway pressure that is measured by the ventilator that is provided to the endotracheal tube and the orange line. The green line is the calculated pressure applied to the patient at the end of the tube. Right through knowing the inner diameter, we can calculate how much pressure actually is required to achieve the desired pressure. If the patient starts to breathe spontaneously and trigger, you can see that the icon on the top is changing to show the lung and also you see that great indicator showing it was a spontaneously triggered breath.



[00:07:40] Also clicking on the small area here, you can activate "Pulmosight". "Pulmosight" is actually a symbolized lung that shows changes in compliance and resistance and also shows spontaneous activities.



[00:07:59] So you see here reference for the resistance and compliance can be changed at the moment that we are measuring 13 and 27, which are out of range because they coloured also. You see that the trachea has that orange shading and the lung itself as well. That means respiratory resistance and compliance out of that range. You can change the range by going on that settings icon (a gear symbol).



[00:08:38] And then you can change the reference values either to the current measurements or enter them manually. If you confirm those you see as the pattern is now within the range, the lung symbol changes. So it's easy to detect changes over a

period of time because if the patient compliance is increasing or decreasing, they show different colours.



[00:09:13] Can you show us what it's been like when you take a breath? Yeah.

[00:09:23] So so you see that the diaphragm, it's a bit difficult to see here, there are modes where you can see it better, so especially in CPAP pressure control. You can see the spontaneous activities better. We're going to switch to that soon. But we also have on the left hand side of the mini trends, which is actually showing different settings like your tidal volume over a period of time.



[00:09:56] So you can see easily trends like.



[00:10:04] Those numbers you can't change other than going onto the settings right here, you can change the displayed mini trend, but just tapping on the indicator on the on the label of the current "mini trend", and then you can change to whatever trend you want to see here



[00:10:26] That's static compliance. I think we've got it already.

[00:10:30] But it's the same for the monitoring parameters. We have the parameter displayed here. So you see that the current setup you can change if you want to go from mean airway pressure to to the frequency or to any other setting, just tap on it. Change

for spirometry. We can display up to two loops simultaneously. So the defaults are "pressure", "volume" and "flow/volume". You can change that as well.



[00:11:19] You can also store preferences.

[00:11:33] And then you can also display the stored references so you can compare changes in compliance, for instance, easily here.



[00:11:46] Clicking on that small arrow would also go back to one loop only. We've got a display of the parameters that are measured by the ventilator here and you see all parameters we can just by swiping through, we can go from one page to the the next page.



[00:12:10] So we are in a fix set up and cannot be changed. Especially for patients that are infectious and are in isolation rooms there is a very nice display because you see the most important parameters displayed in big values. You can change them if you feel the need that something is more important, but it gives you a good indication of the patient's status from a long way away. For the alarms, because we have different priorities, but disconnection is always one of the highest alert alarms, tube disconnect, right?



[00:13:00] But there are other alarms like changes in minute volume or tidal volume that would be displayed. If you go to the blinking alarm perimeter, you will go directly into the alarm section and will also automatically go to the alarm that was causing the threat to the perimeter, that was causing the alarm. And you can change it if you need to directly, or you can go manually into the alarms by going onto the alarm tab or you see the red "I" clicking on it will provide information about an old alarm. There is no current alarm, but there has been something in the history. And then if you have one that you can also see the alarm history and can easily switch to changing those alarms. Automatic alarm limit settings are available for the current parameters. The settings will be done automatically. The ranges are different by the parameter. Going to the recent alarms, you can also reset the alarm history here, just for your information, there's a full history of this. So even if you delete the alarm history here, every alarm, every event that is stored is still accessible by you at any time. And lastly, you can change the alarm volume, either by using the knob or by tapping on the icons.

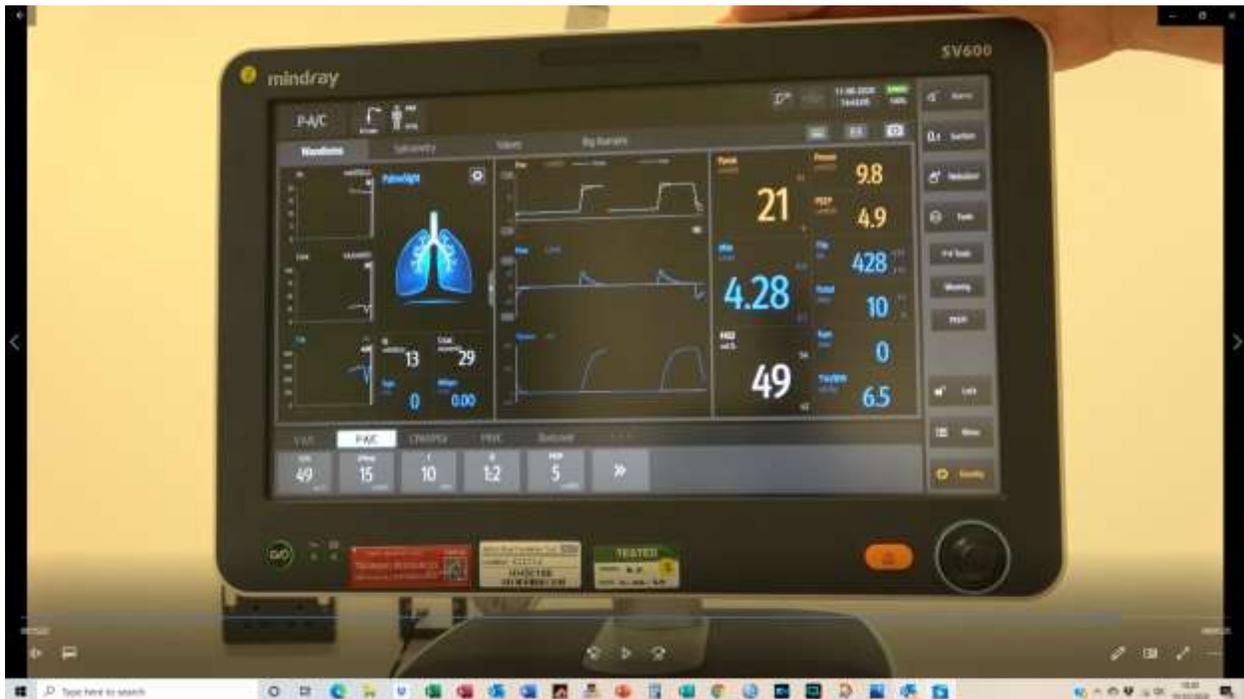


[00:14:56] Question: How long are the alarms stored for?

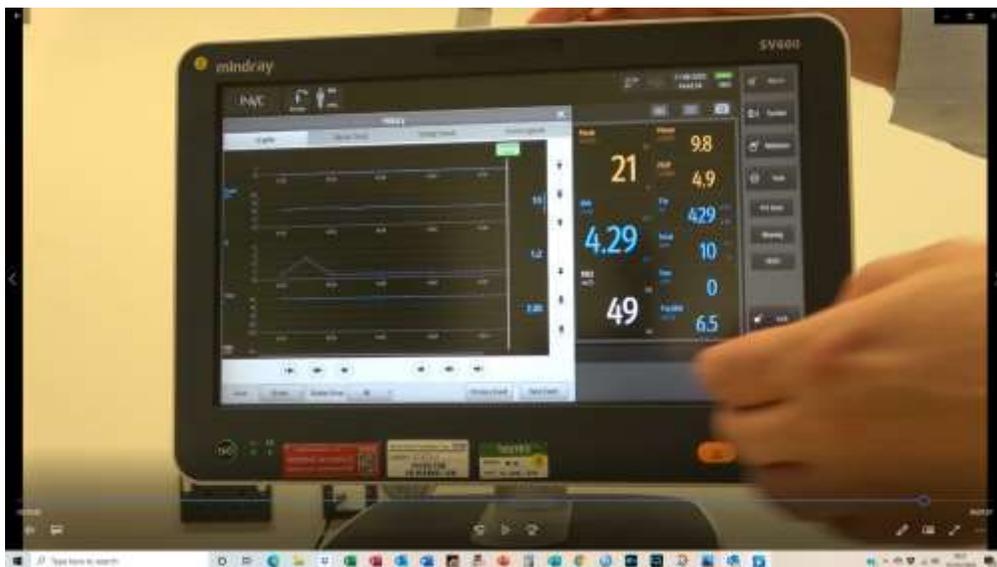
[00:15:09] It's actually and would need to look up. I think it's 50000 events, something like that. So it's usually good for a few years. Yes.

[00:15:23] To go into the history of see here, these smaller icons, right, and this one is the history, I can say you can go into the history, you see a graphic history where you

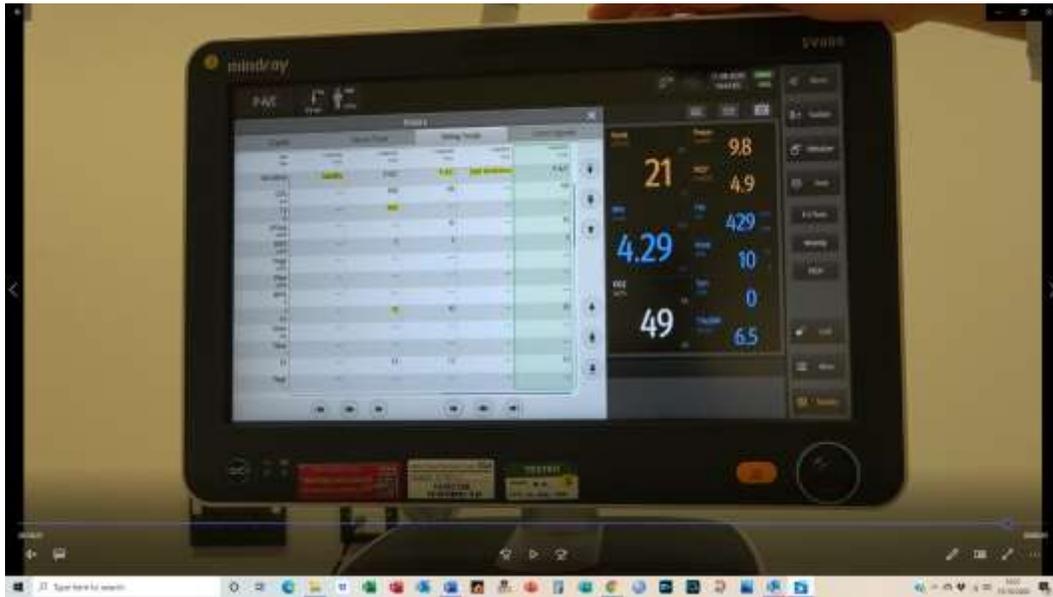
can scroll through it is numerically and graphically stored for all parameters of the ventilator.



[00:15:50] So you see here, you can also zoom in and out with time. All those changes can be done, but just swiping we've got only 10 minutes running times that I can't go further back (The ventilator had only been running for 10 minutes in the presentation), you can see also the tabular trend that you see here, we can go through all the parameters, setting trends, which actually displays all changes in the seconds.



[00:16:23] So if you need to see if someone has changed the effort to during the night shift several times, you can access that here.



[00:16:32] And then the event logbook, which includes actually either all in all events or only alarms, you can select it. But here you've got a full access of the history of the patient.



