

“Technology for Life” is our guiding principle and our mission. Wherever they are deployed – in clinical settings, industry, mining or emergency services – Dräger products protect, support and save lives.

# Technology for Life



“Our business activity serves a higher purpose: we make technology for life.”



Stefan Dräger, CEO, Drägerwerk Verwaltungs AG

We help premature babies  
get a good start in life  
and a chance for healthy  
development.



We help firefighters and  
rescue workers breathe easy  
in the hottest situations.





Businesses trust us to protect people and the environment against invisible dangers.

Our work is driven by the awareness that every life is unique. Dräger products protect, support and save lives.



## Overview – a family business in its fifth generation



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**Heinrich Dräger, 1847 – 1917**  
Businessman  
Drägerwerk founder  
Manager 1889–1914



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**Dr. Bernhard Dräger, 1870 – 1928**  
Dr.-Ing. h. c.  
Co-founder of Drägerwerk  
Managing Director, 1902 – 1928



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**Dr. Heinrich Dräger, 1898 – 1986**  
Dr. med. h. c., Dr. agrar.  
Managing Director of Drägerwerk,  
1928 – 1984



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**Dr. Christian Dräger, born 1934**  
Dr. oec. Publ., Dipl.-Kfm.  
CEO,  
Drägerwerk AG 1984 – 1997



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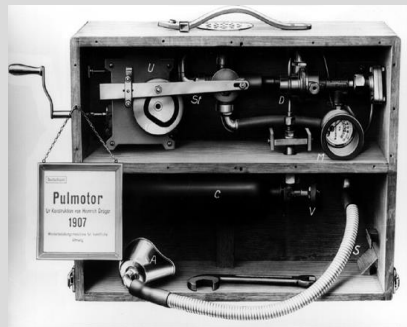
**Theo Dräger, born 1938**  
Dipl.-Kfm.  
CEO of Drägerwerk AG 1997 – 2005



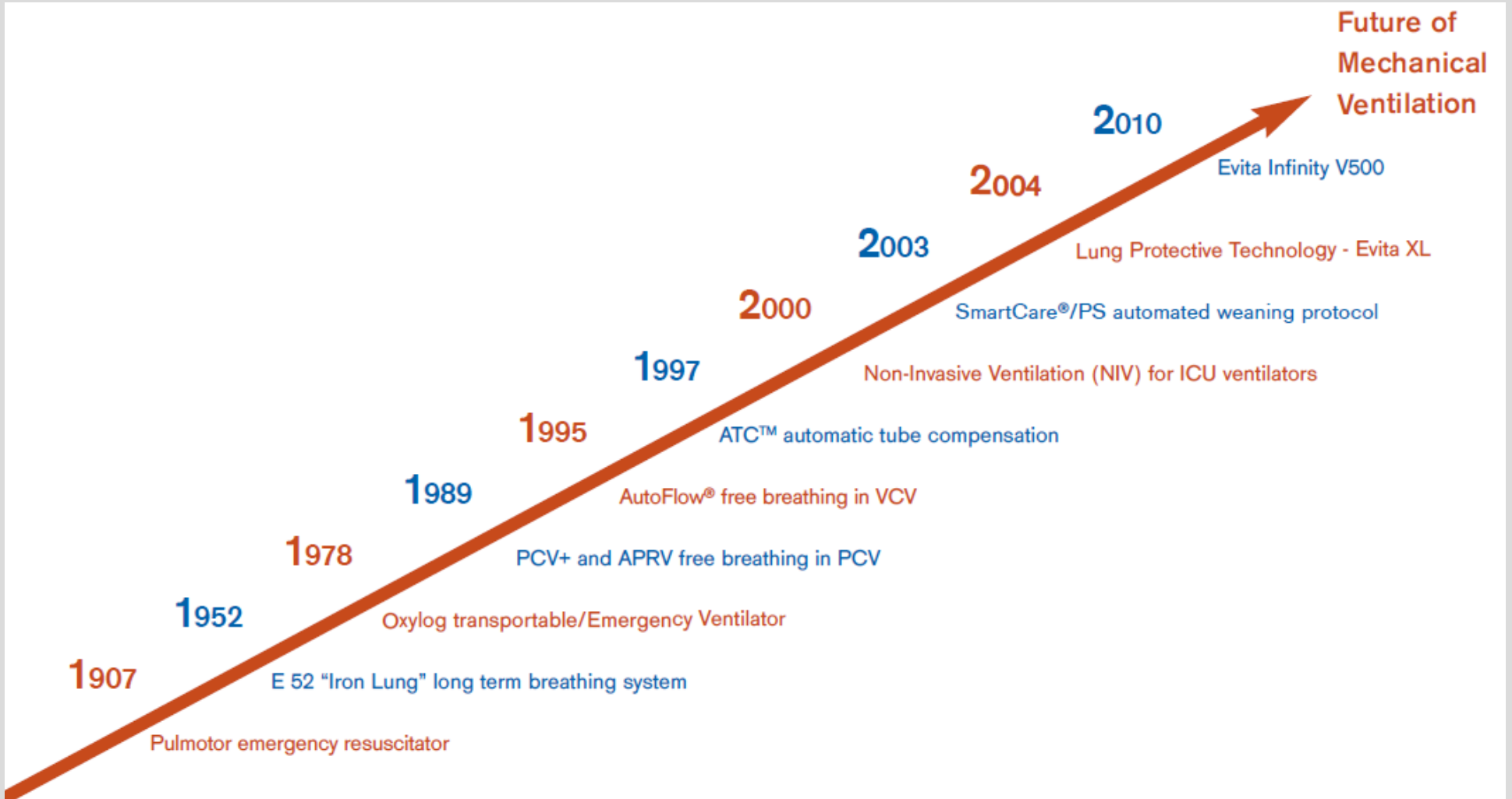
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**Stefan Dräger, born 1963**  
Dipl.-Ing. (BA)  
CEO since 1 July 2005

# Celebrating 100 Years of Ventilation







# Ventilator Product Development



Manufacturer	Dräger	Tyco	Maquet	Viasys	Hamilton
Founded	1889 Dräger Corp	1913 Bennett Corp	1971 Elma Shonander	1954 Bird Corp	1983 Hamilton
First Vent	1907 Pulmotor	1968 MA-1	1971 Servo 900	1958 mark V11	1989 Amadeaus
Newest Platform	2010 V500	1998 PB840	2001 Servo I	2002 Avea	2007 G5/ S1 ?
Last Platform	1995E2/2003 Evita XL	1984 PB7200	1993 Servo 300	T Bird/ Bear 1000	2004 G Gold
Second Last Platform	1989 Erisa	1968 MA-1	1991 Servo 900		1999 Galileo
Bought/Sold	Never	1995 Nellcor	1972 Siemens	1990 Thermoelectron	Never
Bought/Sold	Never	1997 Mallinkrodt	2003 Gettinga	2001 Viasys	Never
Bought/Sold	Never	2000 Tyco		2009 Carefusion	Never

## Technology History

	Dräger	Tyco	Maquet	Viasys	Hamilton
APRV	1989	2001	2002	2002	2004
Active Exhalation	1992 Autoflow	2001 VC+	2003 PRVC	2002 PRVC	2004 PRVC
Airway Tuve Compensation	1997	2001	None	2002	None
PPS	1997	2006	None	None	2005
Neonatal	1997	2002	2002	2002	2004
NIV	2000	2001	2004	2004	2004
24/7 Clinical Support	2001	None	None	None	None
Automated Protocolized Weaning	2004	None	None	None	2004

Primary R & D Drivers:

Dräger invest 7% of revenue to Research and Development. Our goal is to improve patient outcomes and reduce cost. We achieve this by staying focused on development of new technologies.

Worldwide department of defense partnership: from ships to the battle field.



On-board OR on the USS CARL VINSON





# Introducing the Newest Generation...

**Dräger**

## Evita Infinity V500

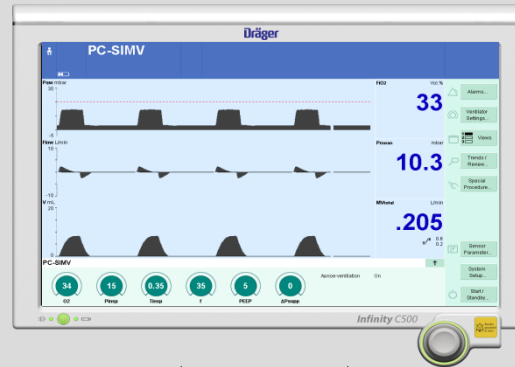


## Babylog VN500



## Identical User Interface - the Infinity C500 Designed and configured by you - the end-user

Infinity C500



Evita  
Infinity V500



Babylog  
Infinity VN500



# Unique Safety Feature – Independent Device Function

**Dräger**



Safety Display Window

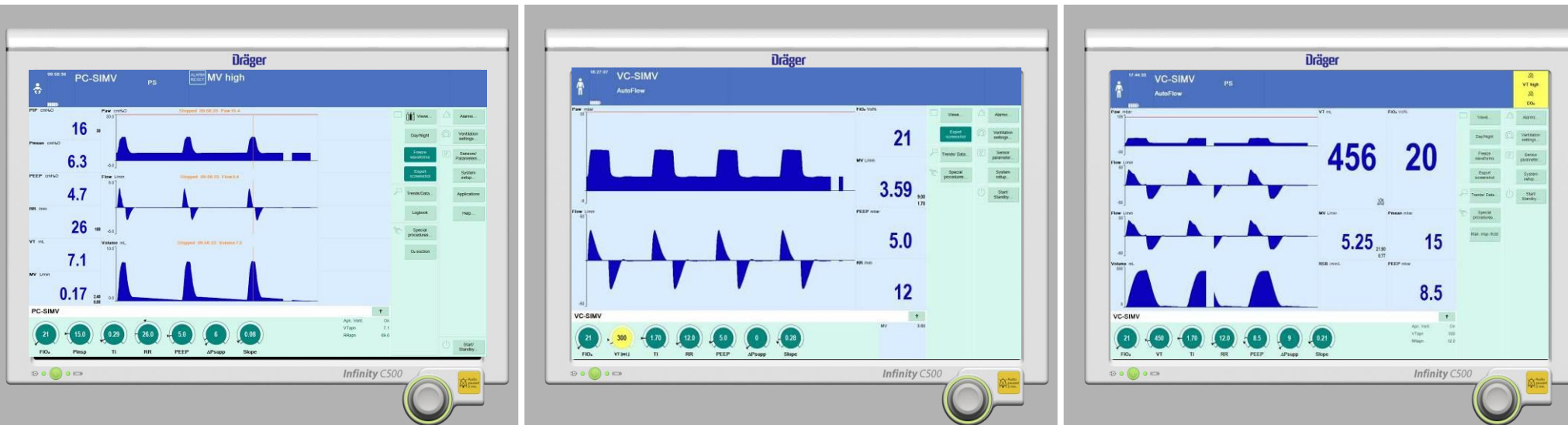
# The Infinity V-Series (V500 – VN500) Next Generation Critical Care Ventilator Systems

Dräger

- Sophisticated Simplicity Based On
  - Safety
  - The “My Vent” Concept
  - Clinical Performance
  - Integration
- Backed By The Best Support in the Industry  
Partners with ICON - 24/7 Bedside Support







## Simplicity through personalized configuration

## Complete operator's manual online with contextual help

# Export logbook, trends, and screenshots Export Configuration to copy to each ventilator in your fleet





Classification of Ventilator Modes:  
Update and Proposal for Implementation

Robert L Chatburn RRT-NPS FAARC

“ Ventilator manufacturers and the respiratory care academic community have not yet adopted a standardized system for classifying and describing ventilation modes.”

The question is why not ?

## Infinity V-Series

VC-AC
VC-SIMV
SPN-CPAP/PS
PC-AC
PC-SIMV

# Ventilation Modes – Evita V500

**Dräger**

## VC & PC MODES

VC-SIMV

VC-AC

VC-MMV

PC-SIMV

PC-AC

PC-APRV

PC-PSV

## Spontaneous Modes

SPN-CPAP/PS

SPN-CPAP/VS

SPN-CPAP

SPN-PPS

SMARTCARE





# Ventilation Modes – Babylog VN500

**Dräger**

## PC MODES

PC-SIMV

PC-AC

PC-SIMV with VG

PC-AC with VG

PC-APRV

PC-PSV

PC-PSV with VG

## Spontaneous Modes

SPN-CPAP

SPN-CPAP/PS

SPN-CPAP/VS

SPN-PPS



# Ventilation Enhancements

- AutoFlow / Volume Guarantee
- Variable Pressure Support
- Smart Pulmonary View
- ATC – Automatic Tubing Compensation
- NIV – Mask Ventilation
- SmartCare / PS – Automated Clinical Protocol in SPN-CPAP/PS
- Low Flow PV Loop
- O<sub>2</sub> Therapy
- AutoRelease in APRV

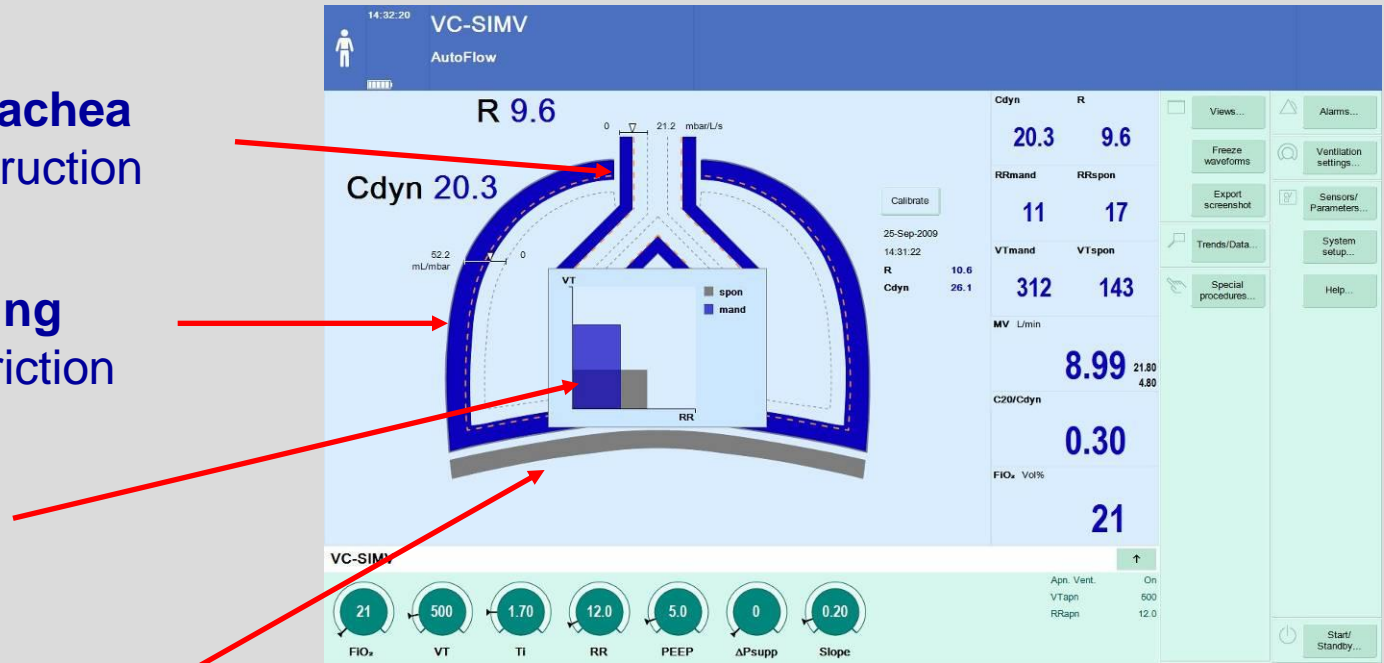
## New Tools: Smart Pulmonary View

**Anatomic analogy of trachea**  
• Indicating stage of obstruction

**Anatomic analogy of lung**  
• Indicating stage of restriction

**MV chart**  
• Spontaneous (grey)  
• Mandatory (blue)

**Anatomic analogy of diaphragm**  
• Indicating triggering



# Babylog VN500

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# Babylog VN500

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- “Smart” Proximal Flow Sensor / 2 cc’s
- Volume readout in cc/kg
- Dual pressure algorithms for machine and patient initiated breaths in Volume Guarantee
- Automatic Leak Adaptation
- Automatic Leak Compensation
- Full complement of modes
- NIV – Nasal CPAP & CMV
- Automatic Tube Compensation (ATC) (inspiration and exhalation)
- Weight related and patient category related start settings



## V500/VN500 Series Service Overview



The V500 platform requires that only 3 parts be replaced as part of it's service maintenance needs

1. Battery pack M7
  2. Air filter
  3. O2 particle filter
- \* No O2 Cell Replacement

# V500 PM maintenance parts at 2 year interval

Battery pack M7  
8415290



Fig. 106 Battery pack M7

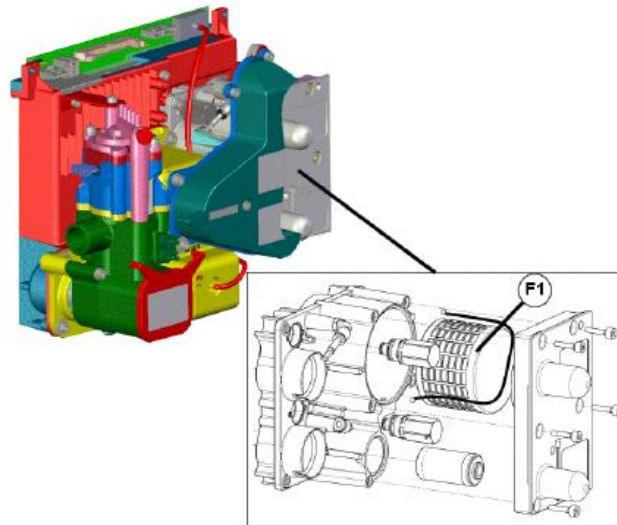
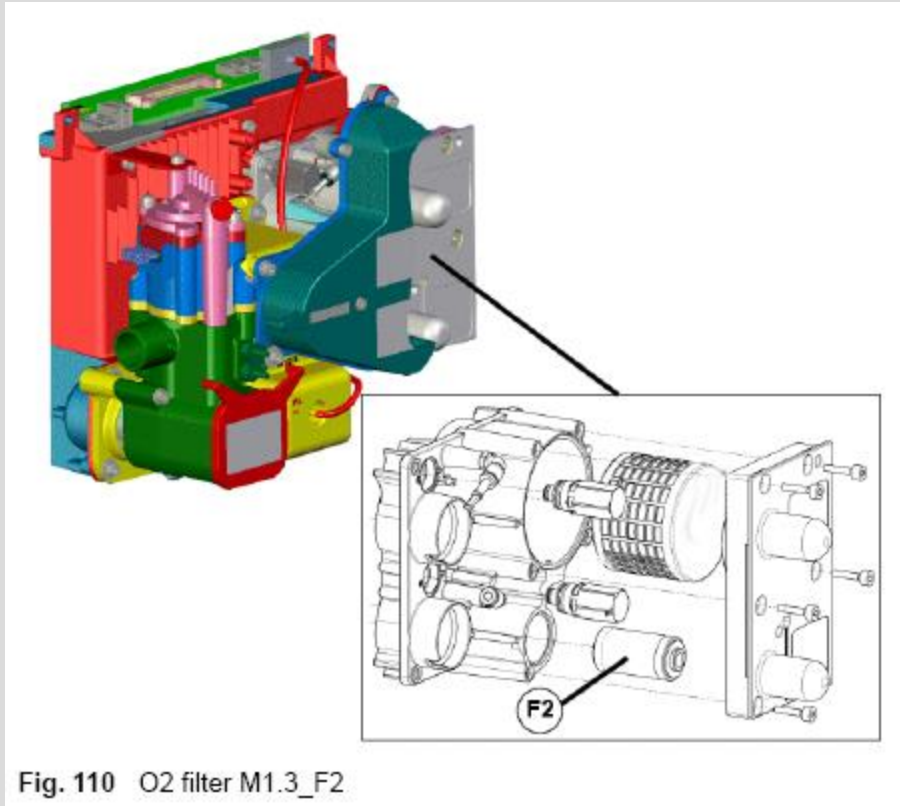


Fig. 115 Air filter M1.3\_F1

Air filter  
8418112

# V500 PM maintenance parts at 6 year interval



O2 particle filter  
8415127

# Cover removed in less than 2 minutes ....



30 seconds ..



45 seconds ..



1 minute ..



1 min. 20 sec ..



2 minutes ..



# All PM parts accessed in 4 min 30 seconds ☺



2 min. 20 sec ..



3 minutes ..



3 min. 20 sec ..



3 min. 45 sec ..



4 minutes ..



4 min. 30 sec ..

## **FDA market clearance for *SmartCare*® 2005**

## **FDA market clearance for *SmartCare*® claims 2008:**

- Decrease ICU length of stay by up to **20%**<sup>[1]</sup>
- Reduce overall ventilation time by **33%**<sup>[1]</sup>
- Reduce weaning duration by up to **40%**<sup>[1]</sup>
- Supports **100%** weaning protocol compliance<sup>[2]</sup>

***The ability to make these claims is unique to Draeger***

1 These results are based on a European Multi-center Randomized Trial with 144 patients demonstrating improved respiratory condition, with stable hemodynamic and neurologic status.

2 Wesley, E.; Effect on the duration of mechanical ventilation of identifying patients capable of breathing spontaneously. N Engl J Med 335:1864, December 19, 1996

# AutoRelease

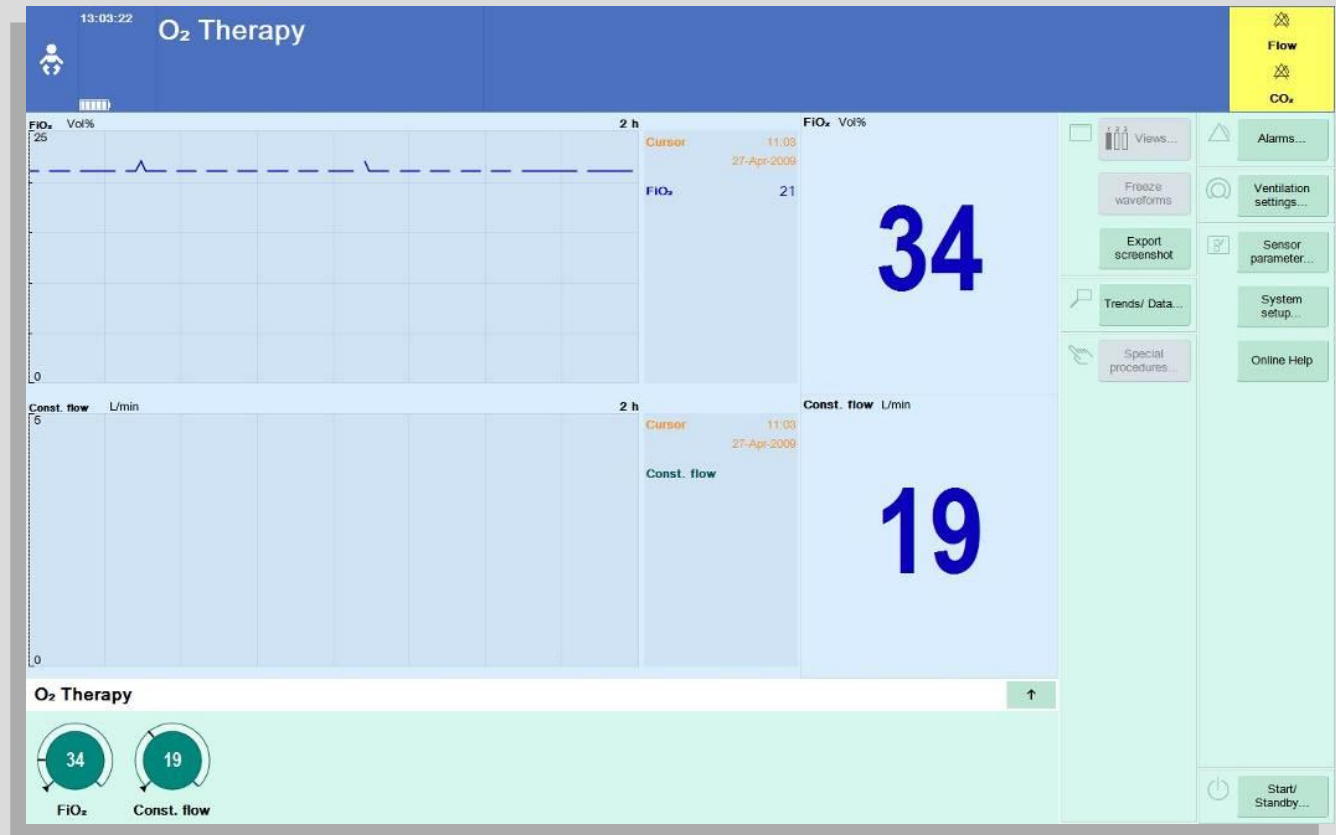
Eliminates the guesswork of APRV by:

- Dynamic adjustment of release time with changing respiratory mechanics
- Optimizing lung volume to improve gas exchange



# High Flow Oxygen therapy

Uses standard accessories with performance comparable to stand alone systems!



# Professional Development and Education



Dedicated Respiratory Care Sales and Support Team

CEU Programs

Unique Clinical Application Resources

[www.intensivecareonline.com](http://www.intensivecareonline.com)



**Thank you for your attention!**