

# VHB120 Introduction

## External/Internal presentation



# Agenda

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# 1

Value proposition

# Messaging

Primary messaging

## Key message

INTRODUCING VHB120

# Fully charged flexibility

Spotless cleaning, easy to operate and battery powered. Let's roll!

## Value proposition

Nilfisk VHB120 helps the food and manufacturing industry, as well as larger facilities that require excellent spot-cleaning during every operation by providing a compact and agile battery-powered cleaning unit.

# Message house

## Fully-charged flexibility

Spotless cleaning, easy to operate, and battery powered. Let's roll!

Value proposition Nilfisk VHB120 helps the food and manufacturing industry, as well as larger facilities that require excellent spot-cleaning during every operation by providing a compact and agile battery-powered cleaning unit.				
Messaging themes	Maximised flexibility	Absolute versatility	Overall ease	Optimised workplace conditions
Value statements	Get no less than full battery-powered flexibility and mobility.	Compact and agile for every daily cleaning job, you can think of.	Go for optimal cleaning productivity and efficiency with total ease.	Benefit from an optimal, safe, and ergonomic cleaning unit for workplace health and safety.
Proof points	<ul style="list-style-type: none"><li>• New technology ensures optimal Lithium Ion battery-powered efficiency</li><li>• Nilfisk batteries deliver up to 120 minutes of cleaning on one battery charge.</li><li>• Off-board shelf charger delivers 90% charge in less than two hours</li><li>• Dual motors that can be operated independently to tailor power and run time.</li></ul>	<ul style="list-style-type: none"><li>• Tailored and targeted for cleaning applications across diverse industrial settings</li><li>• Compact design enables effective cleaning for high-traffic industrial environments</li><li>• The small footprint makes makes this machine ideal for spot cleaning during normal business operations</li><li>• Manageable weight makes it easy to transport and load into service trucks and vans</li><li>• Compatible with a wide range of standard Nilfisk industrial hoses and accessories</li></ul>	<ul style="list-style-type: none"><li>• Simple to set up, operate and maintain</li><li>• QR code linked to instructions and user guides</li><li>• Fast and easy battery changes</li><li>• Convenient user interface placement and color-coded touch points</li><li>• Easily maneuverable for any operator</li><li>• Optional Bluetooth for remote start/stop</li></ul>	<ul style="list-style-type: none"><li>• High quality standard and optional filters protect the operator and work environment</li><li>• M-H Class filtration for hazardous dust</li><li>• ACD certification for combustible dust</li><li>• An ergonomic design ensures a safe and comfortable operation</li><li>• Cordless machines enhance safety by reducing the risk of trip and fall injuries</li><li>• Nilfisk's recycling program ensures proper handling of end-of-life batteries, reducing environmental impact</li></ul>

# 2

Primary application and use

# Battery IVACs segment & application



## Warehousing & Logistics

Battery solution originally designed for this environment, where normally there are vast places without electrical plug, and floor cleaning is not enough (high-reach places, shelf).



## Pharmaceutical packaging

Cable represent a risk of trip and fall, especially in narrow places around packaging machines.



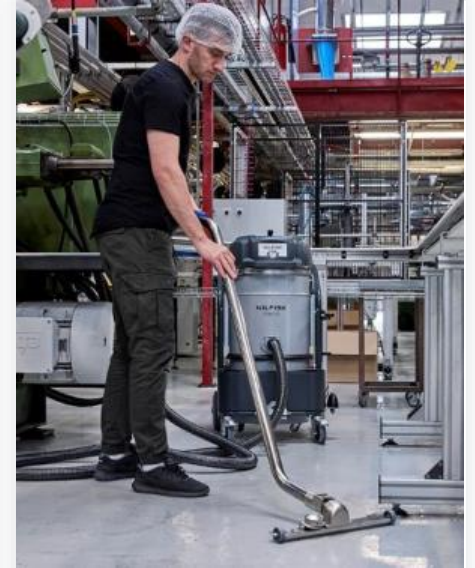
## Food production/ general cleaning

General cleaning in finished goods warehouse. Machines are available for non combustible dust. With combustible dust, in non zoned atex areas use model VHB120 ACD.



## Cement processing

General cleaning, floor cleaning in packaging and warehouse area.



## Manufacture

Floor Cleaning in assembly, packing and shipping area.



# Warehouse and logistic application

Jobs to be done / relevant areas



## ✓ Solid debris/stickers

- Pellets, dust, wood chips, pieces.



## ✓ Hard-to-reach areas

- High up wracking, cable trays and venting.
- Places where power is scarce and long extensions need to be run.



## ✓ Tight spaces

- In between wracking, under pallets.
- Under conveyors and automated packaging areas.



## ✓ High-traffic areas

- Areas with forklifts and high footfall.





# Food industry application

Jobs to be done / relevant areas



## ⊗ Processing

- Operation: raw material treatment (separation, roasting, sterilisation, filtration)
- IVS Used: CTS-ATEX/ ACD
- JTBD for VHB120: n/a



## ✓ Primary packaging

- Final product packed in direct contact with its packaging
- IVS already used: White Line/ R Series
- Job-To-Be-Done for VHB120: around packaging lines in open space



## ✓ Secondary packaging

- Case, Wrapping, Boxing, primary packaging units grouped in a multiple container (normally the smaller sellable units) + Inspection and coding
- IVS already used: R-Series
- Job-To-Be-Done for VHB120: along production line and around equipment



## ✓ Tertiary packaging and logistic

- Palletisation and warehouse stocking
- IVS used: n/a
- Job-To-Be-Done for VHB120: cleaning floor, below shelves, overhead cleaning



# Pharma industry

## Jobs to be done / relevant areas



### ⊗ Processing

- Operation: raw material treatment (separation, roasting, sterilization, filtration)
- IVS Used: IVT1000 CR
- JTBD for VHB120: NA



### ⊗ Primary packaging

- Operation: raw material treatment (separation, roasting, sterilisation, filtration)
- IVS Used: IVT1000 CR
- JTBD for VHB120: NA



### ✓ Secondary packaging

- Casing, Cartooning, Wrapping, Boxing, primary packaging units grouped in a multiple container (normally the smaller sellable units) + Inspection and coding
- IVS Used: White, others
- Job-To-Be-Done for VHB120: Along production line and around equipment, for general cleaning



### ✓ Tertiary packaging and logistic

- Palletization and warehouse stocking
- IVS Used: NA
- Job-To-Be-Done for VHB120: cleaning floor, below shelves, overhead cleaning



# Cement industry

Jobs to be done / relevant areas



## Processing

- Operation:
- JTBD:
- IVS Used: NA
- JTBD for VHB120: NA



## Primary packaging

- Operation:
- IVS Used: Heavy Duty, Series 37-39  
+ separator
- Job-To-Be-Done for VHB120: limited, cleaning around conveyors, floor cleaning along packaging machine corridor



## Secondary packaging

- NA

## Tertiary packaging and logistic

- Operation:
- IVS Used: NA
- Job-To-Be-Done for VHB120: floor cleaning with fixed-floor kit





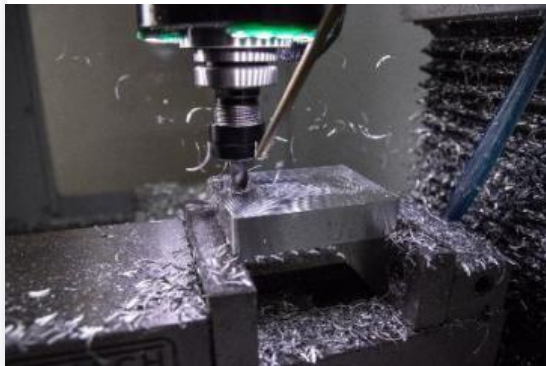
# Manufacturing

Jobs to be done / relevant areas



## Metal, fabrication and welding

- Operation: machining metal part
- IVS Used: Oil Range
- JTBD for VHB120: NA



## Assembly in-line

- Operation:
- IVS Used: S3B
- Job-To-Be-Done for VHB120: dust floor removal along corridor and around assembly station



## Assembly island

- Operation:
- IVS Used: NA
- Job-To-Be-Done for VHB120: floor cleaning around assembly island



## Packing & shipping

- Operation:
- IVS Used: NA
- Job-To-Be-Done for VHB120: floor cleaning, big solid part collection through the bag, label removal from the floor



# 3

Key features and benefits

# Key features and benefits

## Safety

*Reduction of trip hazards through cordless design*

- **Cordless design** – means reduced trip hazard risk for operators and reduction in downtime.
- **Ergonomic focused accessories** – under wracking extension to reach without bending.
- **Avoid restrictions on working at height** – high reach kit allows operators to work safely from the ground.



## Productivity

*Everything within arms reach*

- **Accessories storage solution on machine** – space to store every accessory required for a project.
- **Better management of hoses** – with on board hose holder included as standard.



## Comfort

*Increasing comfort to improve productivity*

- **Reduced weight accessories where possible** – e.g. part plastic floor nozzle and painted aluminium pipe.
- **Accessories produced to fit with 40mm diameter** – for a focus on flexibility and easy handling.



## Performance

*Having the power to achieve specific tasks*

- **Fit for purpose long life components** – motorhead has a zero % failure rate, combat 2 battery comes with 5 year warranty.
- **2 motors to achieve required power** – chose correct setting for suitable requirement.





# Key features and design

Vacuum gauge for a constant monitoring of the performance and filtration efficiency

Manual filter shaker for a fast, easy and efficient operation

High efficiency filters: M-Class (as standard); M-Class PTFE or HEPA 14 upstream filter (as option)

Large container capacity: 37L



Rounded shape for an easy cleaning of the overall surface

Quiet – only 71 dB(A) level noise

Easy and fast service: everything is enclosed but still easily accessible

Easy to rotate 360° thanks to the big handle and maneuvering wheels

# VHB120

The new Compact and Agile battery powered cleaning unit



## Product and features

### Main features

- Lithium-ion technology: 1 battery up to 120 min autonomy
- Cordless machine allows for safe and easy cleaning in high-traffic areas and tight or out-of-reach spaces



## Job-To-Be-Done

### Application

- Collect solid spilt material such as dry powder, granular material, deposited dust, spillages from accidents, woodchip, cardboard and small q.ty of liquid.



**Logistic**



**Manufacturing**



**Food**



## Key feature and selling points

### Selling point

- New Nilfisk CVI
- Autonomy: easy swappable battery
- Safety: avoid trips and fall due to cords and cable
- Ergonomics full operator visibility and compactness for narrow places
- Performance: best in class Lithium Ion Battery on the market



## Range

### Models and Options

- M-H Class filtration
- ACD Combustible dust
- Multi-Segment: available in M-H Class, Longopac® (B&C)
- Bluetooth\* remote Start&Stop
- SmartClean for reduced power consumption and longer battery duration
- Hybrid mode: working with cable connected to network

# VHB120 Pre-View



## Advantages

- Additional accessories can be attached on the side.
- User Interface and Battery position allows for simple electrical configuration.
- **Better ergonomics for battery removal.**



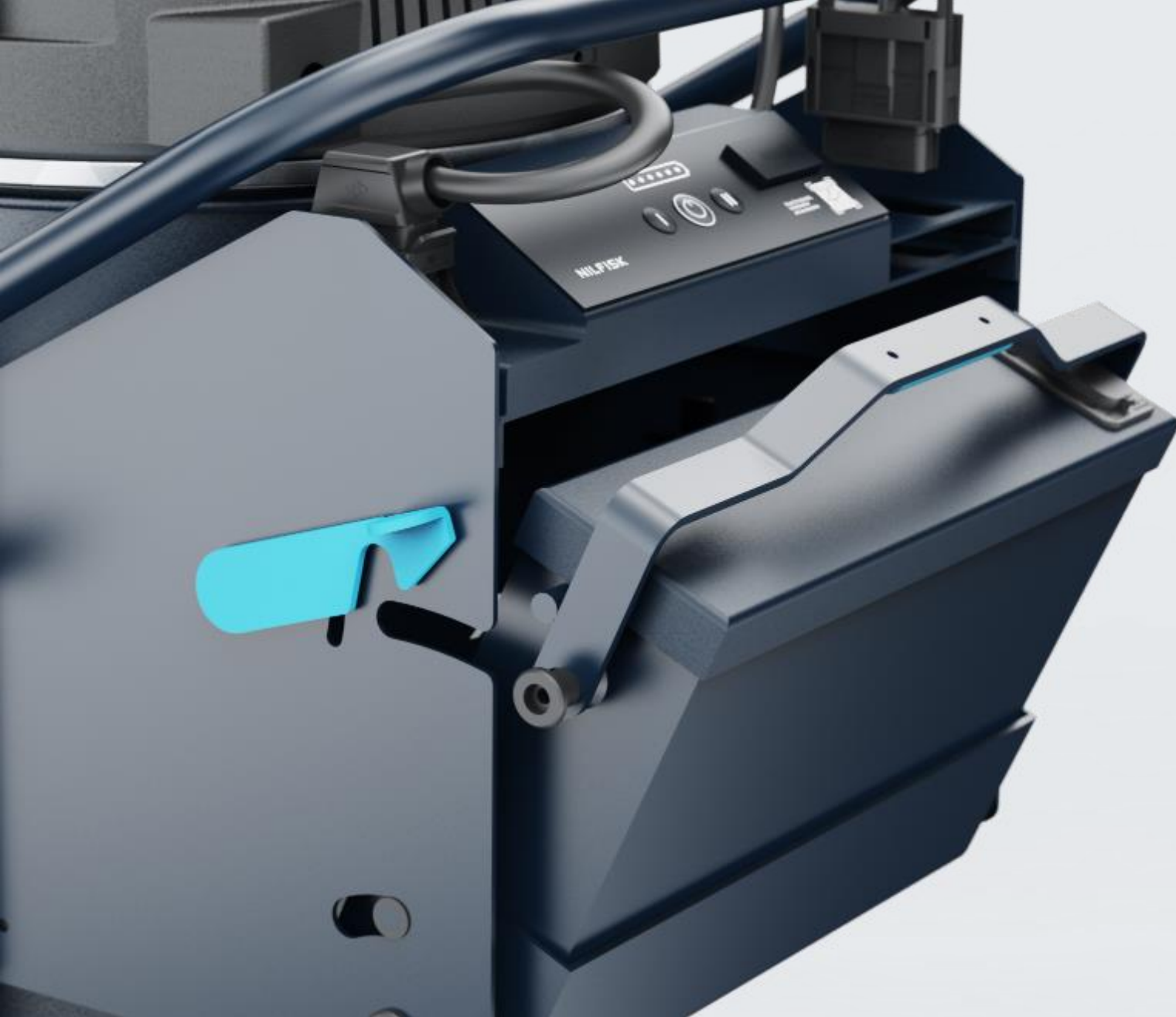


**Working hour  
counter**

**Removable modular  
User Interface box  
for simplicity of  
service**

**QR Code linking to  
product page**





### **Latest improvements:**

Simplified locking system

→ Allows 1 hand unlocking

Slots for battery tray stop positions

Spring pin to retain the tray in open position

→ Easier battery insertion

# VHB120 Longopac® MC-HC

- Implement family trolley from Surface Preparation (Same as SP102)
- Same User Interface case as base version
- Hose holder same position as base version
- Suitable for hazardous dust, preventing operator being in contact with collected dust





# Messaging main take-away

Primary messaging

## Key message

INTRODUCING VHB120

# Fully charged flexibility

Spotless cleaning, easy to operate and battery powered. Let's roll!



## Safety and Ergonomics:

- **Accessories:** wide range and compatible with all VHB 436 accessories



## Enlarging the range: multiplies segment

- **M-H Class** filtration
- **ACD** Combustible dust



## Smart functions

- **Bluetooth** remote Start&Stop
- **SmartClean** for reduced power consumption
- QR Code, Hour counter
- **Hybrid mode:** working with cable connected to power network

# Technical data battery family

		VHB120	VHB120 MC/HC
Battery type		Combat II – Lithium-Ion	Combat II – Lithium-Ion
Battery quantity		1 (swappable)	1 (swappable)
Battery voltage	V	36	36
Output battery voltage	V	33	33
Battery run time	min	120 min (SmartClean)	120 min (SmartClean)
Battery run time	min	60 min (Full power)	60 min (Full power)
Battery charge time (100%)	min	145	145
Battery charge time (90%)	min	115	115
Voltage (charge mode)	V	110-240	110-240
Frequency (charge mode)	Hz	50/60	50/60
Insulation class	Class	III	III
Rated power	kW	1,8	1,8
Max airflow	m³/h	280	280
Airflow with hose D50 – 3 m	L/min	4050	4050
Airflow with hose D50 – 3 m	m³/h	243	243
Vacuum max	mBar	136	136
Sound pressure level	dB(A)	71	71
Container capacity	L	37	37
Main filter area	cm²	16.500	16.500
HEPA filter area (optional)	cm²	35.000	35.000
Inlet	mm	50	50
Length x width x height	cm	56x57x102	64x60x128
Weight	kg	72	87

# VHB120 P/Ns

P/Ns	Model Name	Description
4022500039	VHB120 UKP	Standard version with container
4022500040	VHB120 LC ACD UKP	ACD version container
4022500041	VHB120 HC ACD UKP	LongoPac H Class ACD
4022500042	VHB120 MC UKP	LongoPac M Class
4022500043	VHB120 HC UKP	LongoPac H Class
4022500044	VHB120 PBS UKP	Standard version with container and Paper Bag System

# 4

## Accessories

# Recommendation on accessories diameter

## Application/Use case

- The recommended diameter for VHB accessories is **40 mm (increased air velocity and reduced cleaning time)**
- From test and validation carried out it has been proven that this is the best diameter for this kind of application (dust, small particles, crumbs, etc)
- Possible application: double suction points with bifurcation to maximise cleaning time
- For big parts/residual/wastage, the disposal bag is the suggested solution
- **Therefore, all the special accessories in this ppt are available in 40 mm version**



# Bluetooth remote connector (available after release)

## Description

- Removable Remote Start and Stop device (to be applied on the terminal part of the accessories)

## Application/Use case

- Very important device to optimise and avoid power wastage: when vacuum is not need, the operator can switch off the power without going back to the User Interface of the machine.
- From the remote connection both Full Power or Smart-Mode (reduced power) can be selected
- For safety and ergonomics: operator will not go back and forth to start and stop the IVAC

## Market info

- P/N: 4084001599





# Accessory holder

## Description

- More space to store the accessories, either parts from overhead kit to the standard ones.

## Application/Use case

- Removed the big handle in front of the machine to optimise the space and capacity for the accessory holder.

## Market info

- Included in base price of the machine.



# Suction hose support

## Description

- Ergonomic support to roll up the suction hose quickly and easily.

## Application/Use case

- Introduction of a large metal hose support on the side of the machine.
- Large enough to fit both D.50 (2 in.) and D.40 (1,5 inch). Preferred length 5m (16 ft). Suitable for more.
- Final treatment will be dark grey painted, like the motor head and chassis.

## Market info

- Included in base price of the machine.



# Overhead kit

## Description

- Telescopic kit for high reach places

## Application/Use case

- Up to 6 metre extension to reach piping, shelves etc.

## Market Info

- Telescopic kit 4072400765



**Note:** sleeve to be mounted on the final part of hose (PVC SuperElastic)



# Floor cleaning kit complete D40

## Description

- Lowered mobile floor cleaning nozzle

## Application/Use case

- Reduction 50-40 + standard handgrip 40 + super elastic hose D40 5m + sleeves + aluminum extension D40 MT0,5 Pin + mobile nozzle lower connection D40 MM300 complete
- To be used to reach underneath

## Market Info

- P/N: 4072200852 complete kit (see detailed list for split orders)

Component	Component description	Quantity	Un
Z7 22000	Reducer D50/40 FE	1	PC
Z7 22121	Handgrip D40 chrome PLT. complete	1	PC
4072200818	Flex hose D40 5M + sleeves	1	PC
4072200814	Aluminum extension D40 MT0,5 pin	1	PC
4072200819	Lower conn mob nozzle D40 MM300 complete	1	PC





# Antistatic floor nozzle D40 300MM

## Description

- Compact floor cleaning nozzle + handgrip 40mm

## Application/Use case

- Floor cleaning
- Suitable with VHB120 ACD



## Market Info

- P/N: 4072200837 (nozzle) + handgrip 1 piece Z722121



# Scraper nozzle

## Description

- Scraper for removing labels from the floor

## Application/Use case

- Installed on the same scraper a metal sheet at the edge with the function to better scrape the floor.
- Scrapping nozzle complete with 5 blades (1 mounted, 4 replacement)

## Market Info

- P/N: 4072200816 (full kit) – 4072200817 (spare blade kit)





# Fixed floor nozzle

## Description

- Fixed nozzle connected to the front side of the VHB

## Application/Use case

- It allows cleaning floor on wide space (like warehouse, or manufacturing workshop)

## Market Info

- P/N: 4072200695



# Additional battery accessories



## Swappable second battery

P/N: 4083500561

## Delta-Q IC650 650 W Industrial Battery Charger



## Additional battery charger

P/N for UK: 4083902146



## Hybrid mode battery box

P/N for UK: 4083902145

Box to be installed in the place of the battery, that will give the possibility to connect the VHB120 directly to the network power connection single phase.

# 5

Internal info for sales

# Hands on – customer needs and benefits

Machine: VHB120

End-user: Warehousing and Logistics

## Why does the customer need the machine?

(Customer need formulated as “Safe ... / Increase ...” etc)

What are the features that help to fulfill customer need

i.e. **customer buying criteria**

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### Reduced time of cleaning:

- Flexible usage of machine in large areas with no access to wall sockets
- Easier maneuvering of the cord-less machine

- (Battery-driven machine)
- Same performance as cable machine
- Autonomy (work-time per 1 charge)
- Remote on/off switch - Bluetooth
- Swap battery

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### Increased safety of workplace:

- Prevent risk of personal injuries caused by tripping over the cable

- (Battery-driven machine)

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### Reduced TCO:

- Saving cost of extension cord
- No cable replacement
- Energy saving due to remote on/off switch

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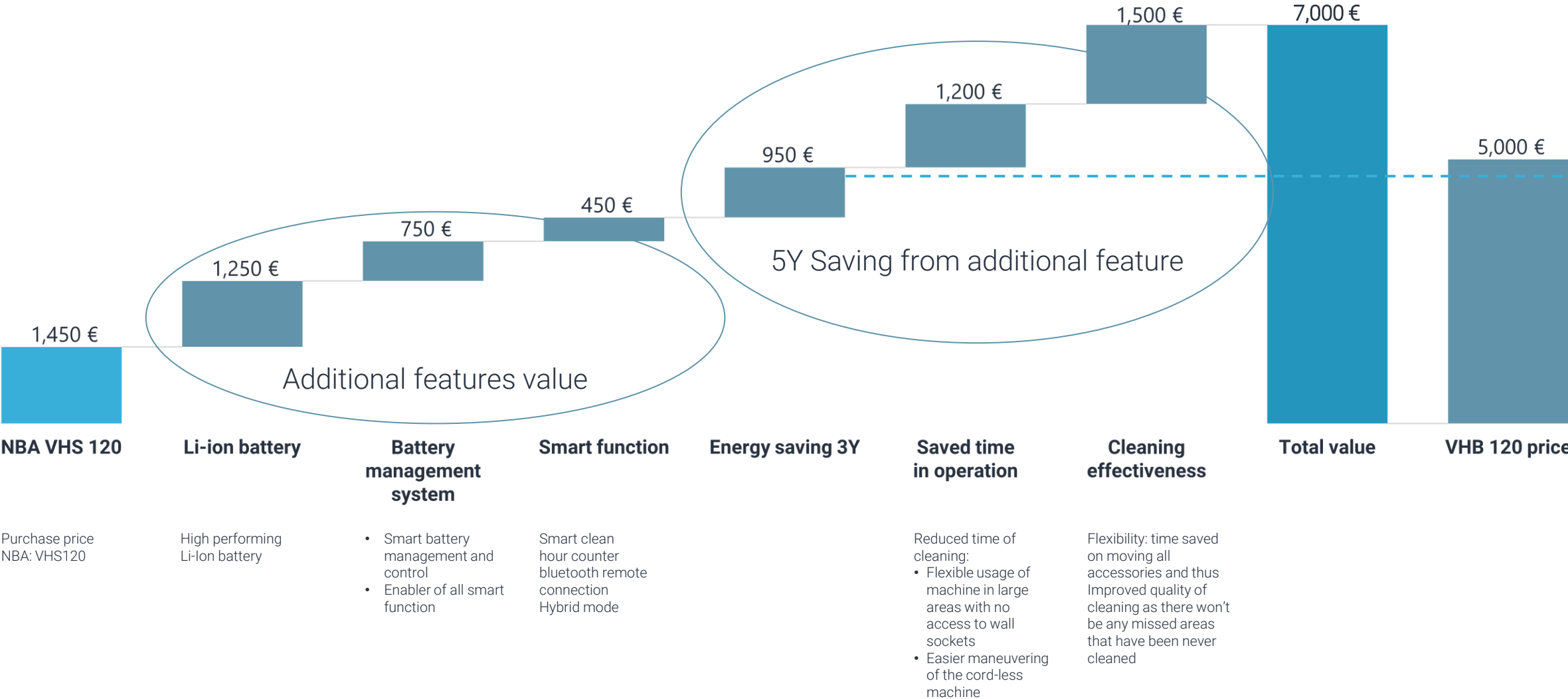
### Increase flexibility of use on the machine

- One machine can be used in various areas, for different kind of cleaning

- Multiple accessories storable at the machine
  - Hybrid construction, i.e can also operate with a cable
-

# Recap of benefits – VHB120 vs Next best alternative

Demonstrating benefit for a distribution center – cleaned are 1000 m<sup>2</sup>, expected lifetime 5 years



Purchase price  
NBA: VHS120

High performing  
Li-Ion battery

- Smart battery management and control
- Enabler of all smart function

Smart clean hour counter  
bluetooth remote connection  
Hybrid mode

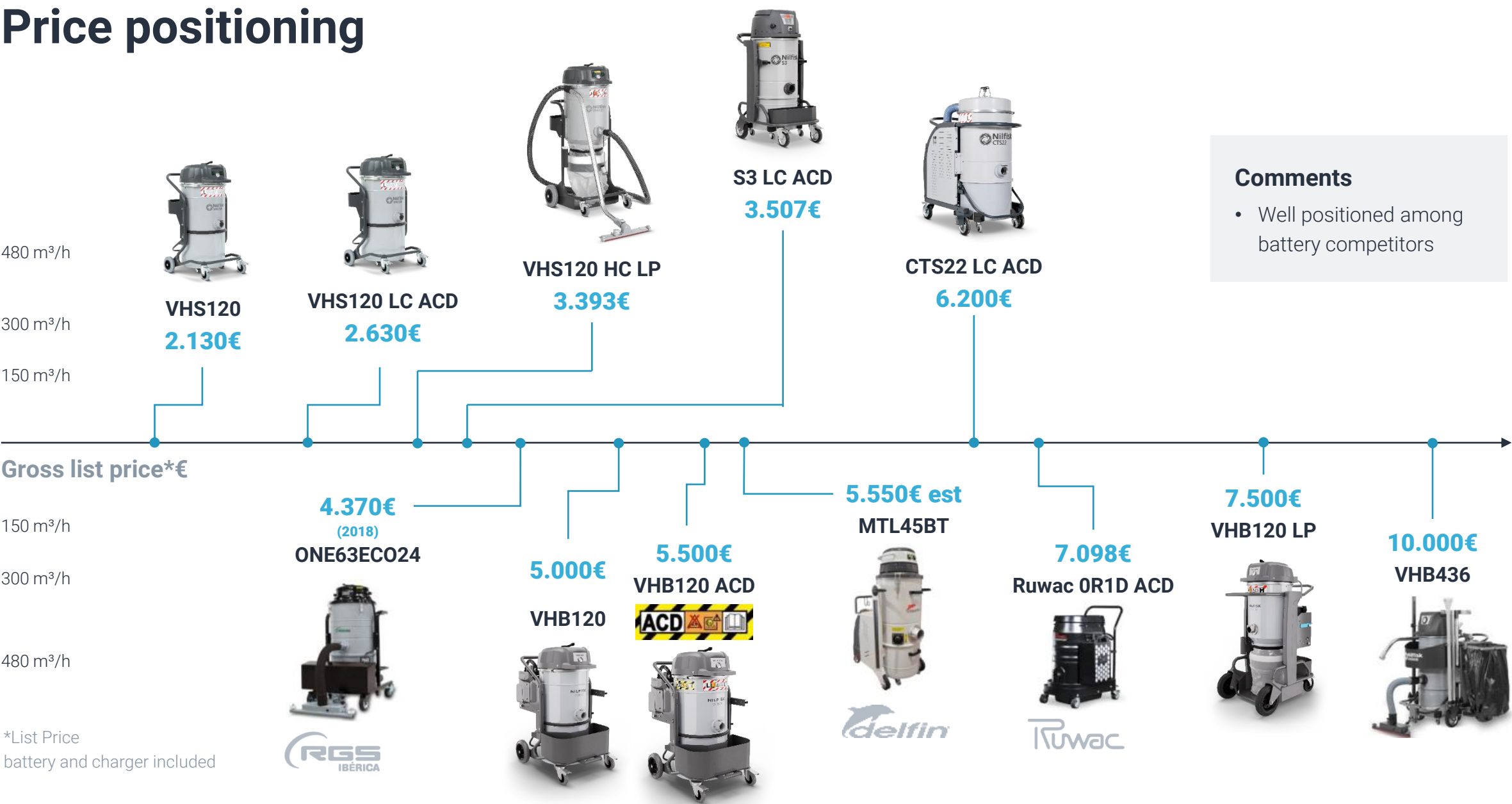
Reduced time of cleaning:

- Flexible usage of machine in large areas with no access to wall sockets
- Easier maneuvering of the cord-less machine

Flexibility: time saved on moving all accessories and thus Improved quality of cleaning as there won't be any missed areas that have been never cleaned



# Price positioning



## Comments

- Well positioned among battery competitors

# Cordless – Industrial vacuums

## Competition landscape



### Verhagen Leiden

*Most Powerful Battery ???*  
*Overengineered ???*

- Competitive?
- 2,6 kW, 48V
- 2 h running time
- 2,5 h charging time
- Not swappable
- 135 cm height



### Ruwac – end 2022

*Aggressive Comm*

- 1,9 kW, ACD, M-H
- 3 models 48V (base, LP, Mini in SS, ) + swap battery
- Up to 2h running time



### Delfin MTL 45BT

- 420 mm- 24V- 0,8 kW
- 2,5 h running time
- 6,5 h charging time!!! (Acid Battery)
- Not swappable
- 116 cm height
- Poor performance: 215 mc/h and 118 mbar



### RGS ONE63ECO24

- 460 mm, 1,3kw,
- 24 V x 2 battery
- Not swappable
- 138 cm height
- Poor communication, not shown at any exhibition



### VHB120

- 400 mm, 36V, 1,6 kW
- 2h min running time
- 2h charging time
- 103 cm height

# Battery IVACs segment & application

Segments to explore



## VHB120

### Rear door Lorries

currently a long extension has to be trailed into long wheelbase lorries to vacuum, VHB120 could be put on a tail lift and easily wheeled in for access.



## VHB120

### Construction



S3 already being sold in, Longopack would make this a lot more viable especially with H&S benefits.



## VHB120

### Contract cleaners

Ability to lift the machine into a van or even car and (potential) price point makes smaller contract cleaners a target market for the VHB120.

Coming soon

# Sales channels

The new Compact and Agile battery powered cleaning unit

Sales channels



## Leasing

- In order to avoid having to apply for capex, some sales teams having success offering 2 years leasing on machines.
- This is working well as a foot in the door with getting the machine into larger organisations who want to test before purchasing more for other locations. (E.G. ICA Sweden).



## Selling paired with a scrubber / sweeper

- Research showed that customers wanted to minimise the number of times they have to apply for capex.
- If a customer is already applying for expenditure to purchase a sweeper or scrubber, it is a great time to assess whether a VHB would benefit them.



## Selling to larger organisations as a 'project machine'

- Organisations like KBS in Amazon are moving the machines between locations to complete 'cleaning projects'.
- These are projects which cannot be completed by other machines due to constraints of power sources, high reach areas, under wracking or conveyors etc.



## Selling to contract cleaners as a differentiator against competition

- Some contract cleaners who have purchased VHB436 are using it to show customers they can clean areas they haven't previously been able to reach.
- We can use this as a sales angle for contract cleaners to differentiate themselves vs competition who don't have a battery machine.



# VHB120 & VHB 436

## Nilfisk VHB120 Battery

*Compact & agile battery*

*powered cleaning unit*

*Inc 1 x hot swap battery, off board charger, 2 x motors, hose and accessory storage (up to 3 x batteries available)*



- **Designed for spot cleaning** in multiple industrial environments.
- Ideal solution for high pressure areas where space and safety are paramount (manufacture / pharma / etc.)
- **Hot swap battery** system allows for continuous usage for rental.
- Light enough to be lifted by two persons into a van or car
- **Up to 120 min continuous running.**

## Nilfisk VHB436 Battery

*High performance battery powered*

*cleaning station*

*Inc 2 x combat 2 batteries, on board charger, 3 x motors, hose and accessory storage (up to 3 x batteries available)*



- **Designed for deep cleaning** in high traffic or large industrial environments.
- Ideal solution for areas with high density or large debris (metal filings, large wood chips etc.)
- Sealed battery system to reduce operator misuse.
- Capable of dual operator usage to perform multiple tasks with one unit simultaneously.
- **Up to 180 min continuous running.**



# Technical data battery family (VHB120 vs VHB 436)

		VHB120	VHB120 MC/HC	VHB436	VHB436 3B
P/Ns				4022500000	4022500001
Battery type		Combat II – Lithium-Ion	Combat II – Lithium-Ion	Combat II – Lithium-Ion	Combat II – Lithium-Ion
Battery quantity		1 (swappable)	1 (swappable)	2	3
Battery voltage	V	36	36	36	36
Output battery voltage	V	33	33	33	33
Battery run time	min	120 min (EcoMode)	120 min (EcoMode)	146 (2 motors)	190 (2 motors)
Battery run time	min	60 min (Full power)	60 min (Full power)	93 (3 motors)	147 (3 motors)
Battery charge time (100%)	min	145	145	200	270
Battery charge time (90%)	min	115	115	120	180
Voltage (charge mode)	V	110-240	110-240	110-240	110-240
Frequency (charge mode)	Hz	50/60	50/60	50/60	50/60
Insulation class	Class	III	III	III	III
Rated power	kW	1,8	1,8	2,4	2,4
Max airflow	m³/h	280	280	437	437
Airflow with hose D50 – 3 m	L/min	4050	4050	6.333	6.333
Airflow with hose D50 – 3 m	m³/h	243	243	380	380
Vacuum max	mBar	136	136	130	130
Sound pressure level	dB(A)	71	71	71	71
Container capacity	L	37	37	50	50
Main filter area	cm²	16.500	16.500	19.500	19.500
HEPA filter area (optional)	cm²	35.000	35.000	24.000	24.000
Inlet	mm	50	50	70	70
Length x width x height	cm	56x57x102	64x60x128	105x60x125	105x60x125
Weight	kg	55	87	125	135

# VHB120: 2P2S (New version)

## People

## Performance

## Service

## Sustainability

Key value	Enablers	Key value	Enablers	Key value	Enablers	Key value	Enablers
Designed for optimal safe, ergonomic and efficient use	<ul style="list-style-type: none"> <li>Mobile cleaning station with controls and accessories conveniently in reach for the operator.</li> <li>Low frame with optimal operator visibility (1mt max height!).</li> <li>Large range of ergonomic accessories</li> <li>Easy transport with ergonomic lifting points and compact reduced weight design.</li> <li>Bluetooth for remote Start&amp;Stop.</li> </ul>	Optimal cleaning productivity	<ul style="list-style-type: none"> <li>Up to 2 hours of cleaning on one charge</li> <li>Easy swappable lithium-ion battery system (&lt;13kg!) enables continuous cleaning.</li> <li>Off board charger delivering in less than 2 hours to 90% charge.</li> <li>Hybrid mode: optional cable for power network connection.</li> </ul>	Time efficient maintenance	<ul style="list-style-type: none"> <li>Colour coded touchpoints, filter clean guidance on machine and easy access design for faster and more convenient routine maintenance.</li> <li>Easy disassembly and part replacement with minimal tool use required.</li> <li>0 consumables.</li> </ul>	Durability and longevity	<ul style="list-style-type: none"> <li>Highly durable and easily replaceable industrial grade parts</li> <li>Long life filter replaced 1 time per year</li> <li>5 year guarantee on batteries.</li> </ul>
Intuitive and simple to operate	<ul style="list-style-type: none"> <li>Intuitive user interface in optimal reach and control position.</li> <li>Easily accessible instructions and user guides via QR-code.</li> <li>Color-coded touchpoints.</li> </ul>	Excellent cleaning efficiency	<ul style="list-style-type: none"> <li>Identical performance of a single phase cabled IVAC.</li> <li>High performance. Vacuum up to 136 mbar.</li> <li>Flow rate up to 243 m³/h.</li> </ul>	Nilfisk Field service set-up	<ul style="list-style-type: none"> <li>Fast and efficient service and support from certified Nilfisk experts.</li> <li>Global availability of spare parts and field service.</li> </ul>	Circularity	<ul style="list-style-type: none"> <li>Nilfisk take back end-of-life batteries and ensures proper and responsible disposal/recycling.</li> </ul>
Safe working environment	<ul style="list-style-type: none"> <li>M-H class filtration for safe retention of the finest particles.</li> <li>Cordless design reduce risk of trip hazards.</li> <li>ACD certified for combustible dust in not classified zone.</li> </ul>	Agile and manoeuvrable solution	<ul style="list-style-type: none"> <li>Compact frame with small turning circle.</li> <li>Lightweight high reach accessories kit and flexible hose, scraper with integrated suction.</li> <li>Low profile floor nozzle.</li> </ul>	Easy and Smart Service	<ul style="list-style-type: none"> <li>Counter hour visible from User Interface.</li> <li>QR code linking to web-product page user manual, videos, info.</li> </ul>	Reduce CO <sub>2</sub> emissions	<ul style="list-style-type: none"> <li>SmartClean mode: possibility to optimise power consumption reducing voltage power when full vacuum is not needed.</li> </ul>

# Value proposition

## People

- The improved design and range of ergonomic accessories makes easier for workers to clean **safely** and more **ergonomics** throughout their shift.
- Cordless battery powered design allows cleaning in areas without power and **reduces risk of trips**.
- All in one cleaning station puts everything within reach for the operator, reducing trips across and improving **safety** and efficiency.
- Easy of use: QR code for instruction, intuitive User Interface and colored touch-point.

## Performance

- **Maximised equipment utilisation** for cleaning:
  - Up to 2 h runtime in SmartClean Mode
  - 2h charging time
  - Swappable battery: a second battery can be charged off-line
- **Cleaning effectiveness:**
  - Excellent performance either for big particles and significant quantity
  - Vacuum up to 130 mbar
  - Flow-rate up to 243 m³/h

## Sustainability

- **Reduce CO<sub>2</sub> impact** through EcoMode: less energy required
- **Minimised material wastage:** reduced spare and consumable parts:
  - The VHB120 is designed with a long-life span with a 5-year warrantee on batteries and high durability industrial grade components.
- **Circularity:** Nilfisk will take back batteries at end of life to ensure proper and responsible disposal.

### Nilfisk VHB120 Battery

Compact & agile battery powered cleaning unit

## Service

- The VHB120 motorhead has almost zero failure rate after a year in the market.
- **Few consumables** – bags are optional and filter has long life.
- **Easy to access** routine maintenance.

### Nilfisk VHB120 Battery

Compact & agile battery powered cleaning unit

# Summary product benchmark

Feature	Nilfisk VHB120	Ruwac R01 D ACD	Comment
Dimension/maneuverability	+	-	Heavier, lee agile
Battery replacement	=	=	Similar action
Container empty safety	+	-	No wheels
Maintenance (filter)	+	-	Extremely complex
Additional features	+++	-	Hour counter, smartclean, hybrid mode, B/T
Price	+	-	

Thank you!