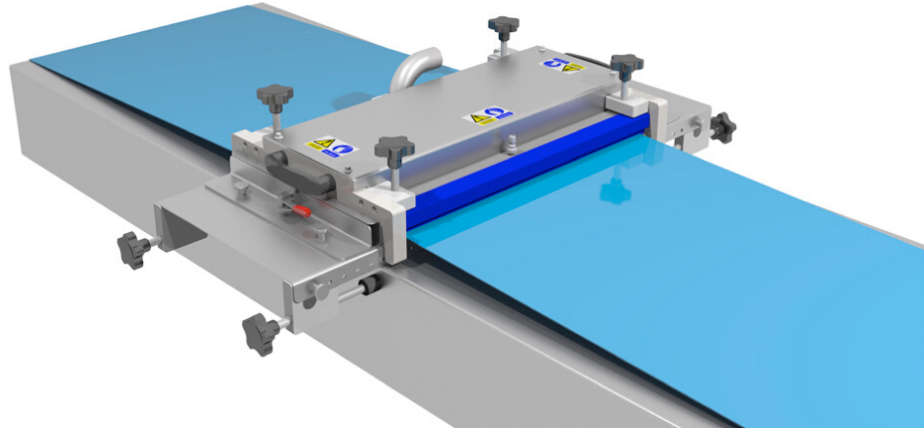


KHD TECHNOLOGY GERMANY

Portable Systems for Flat Belts



KHD BL3 / KHD BS2

PORTABLE STEAM CLEANING FOR FLAT BELTS

KHD has two types of portable systems for cleaning flat conveyor belts, Brush and Brushless. Both types are designed for cleaning flat belts (webs) in a wide range of environments, from dry environments where wet cleaning has to be avoided, to damp and wet environments. The systems use steam to break down debris and oils, sanitising as they work. An efficient vacuum draws away the debris and moisture to leave the belt dry.

The Brushless System (KHD BL3) is best suited to clean light debris, oils and many confectionary products such as chocolate. The Brush System (KHD BS2) has a rotating food grade brush to help shift more stubbornly adhered debris, such as thicker deposits of caramel and pastry. The speed and ease in which the belt cleaners fit to each belt make these very cost-effective and useful belt cleaning solutions for multiple belts.

The cleaning heads use the power of steam from portable steam generator technology without resorting to chemicals, using as little as 13-26 litres of tap water per hour. These are powerful and environmentally attractive tools for the food industry.

KHD TECHNOLOGY GERMANY

**Portable Systems
for Flat Belts**

PRODUCT FEATURES

- Full width steam clean
- Vacuum removal of debris and moisture leaving the belt dry
- Portable and fully adjustable for use on different belts
- Good for dry environments
- Minimal water usage - from only 13 litres per hour
- FDA contact materials
- Quick and easy set up
- Robust and hygienic design

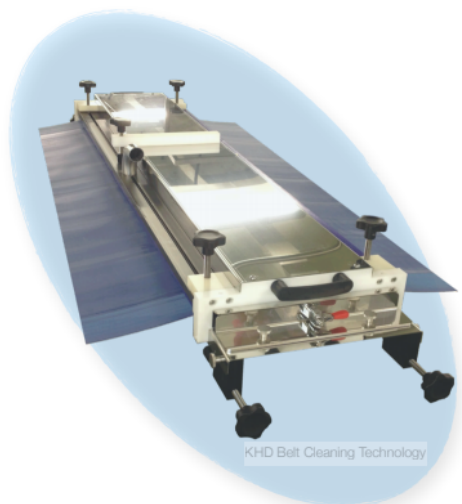
BENEFITS

- Improves line productivity (availability)
- Speeds up conveyor cleaning
- Saves on maintenance and labour costs
- Frees-up sanitation stuff
- Improves sterility - kills microorganisms
- Maintains or increases product shelf life
- Extends life of conveyor belts

KHD TECHNOLOGY GERMANY

**Portable Systems
for Flat Belts**

SYSTEM COMPONENTS



**KHD Conveyor Cleaning Head
Portable Flat Belt Cleaner
(Model shown is KHD BL3)**

+



optional
Wet Vacuum

+



optional
**KHD Doman Steam Generator
Belt Cleaning Specification
(Model shown is KHD18)**

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**Portable Systems
for Flat Belts**

STEAM GENERATOR



Steam for cleaning is typically generated using a generator such as the specially manufactured boiler for KHD by Doman. This powerful machine retains all the features for general steam cleaning, and is re-engineered to include features for working with KHD belt cleaning equipment. Alternatively you can use your steam supply.

As standard, the KHD Doman models have auto external water feed, auxiliary electrical socket for external equipment, simple interlock for integrating steam control to other equipment, 24VDC output for KHD equipment, panel control for steam functions, wetness control, high and low steam power, fine variable steam control, integrated 40L water tank, long life electrolytic water softener, factory visible alarm beacon and centralised E Stop.

KHD TECHNOLOGY GERMANY

**Portable Systems
for Flat Belts**

No other portable steam generator has been this well thought out, and no other steam generator is uncompromisingly engineered for both specialised applications and general cleaning.



KHD Doman models are available from 9kW to 72kW.

KHD TECHNOLOGY GERMANY

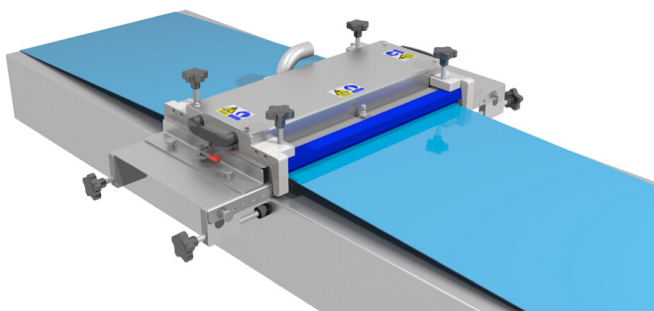
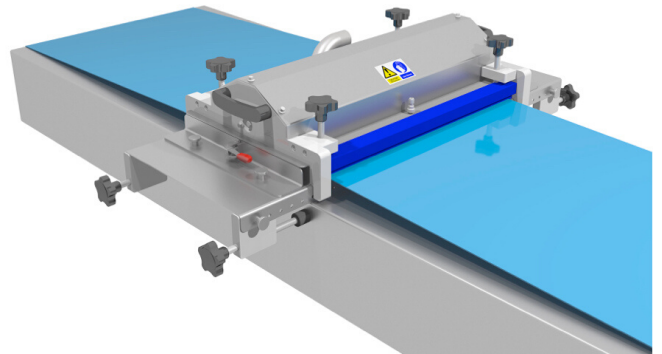
**Portable Systems
for Flat Belts**

THE CONVEYOR CLEANING HEAD

Steam from the generator is fed to the conveyor cleaning head for applying to the moving conveyor.

A vacuum is attached to remove the debris and moisture.

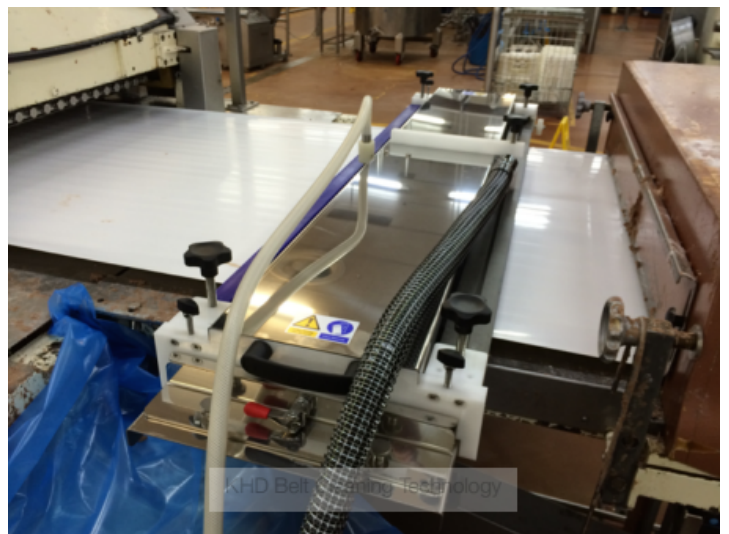
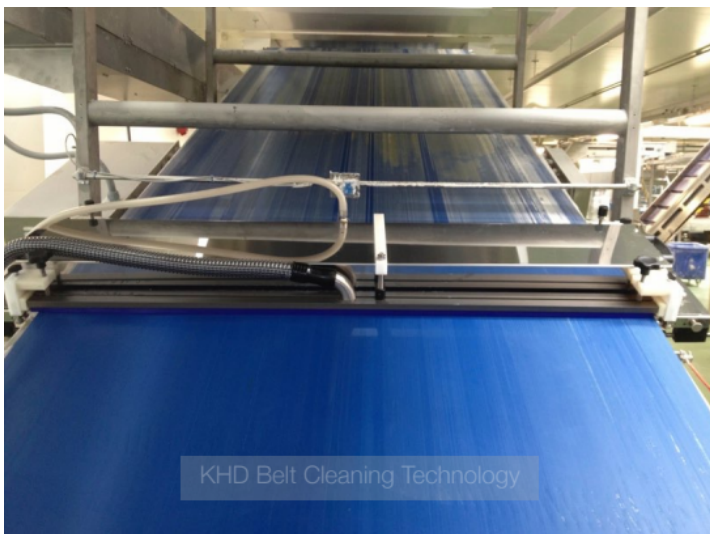
The KHD cleaning heads have many design features that make this the most usable portable belt cleaners available for cleaning flat belts in the food industry.



As standard the Brush and Brushless Systems are fully portable between different belts, fully and quickly adjustable for structure width, fully adjustable for Brush contact (brush version), have 24VDC power (brush version) from the steam generator, enable a simple operation, quick release 24VDC cord, low weight with robust hygienic construction.

KHD TECHNOLOGY GERMANY

**Portable Systems
for Flat Belts**



**The KHD BL3 System
(Brushless)**

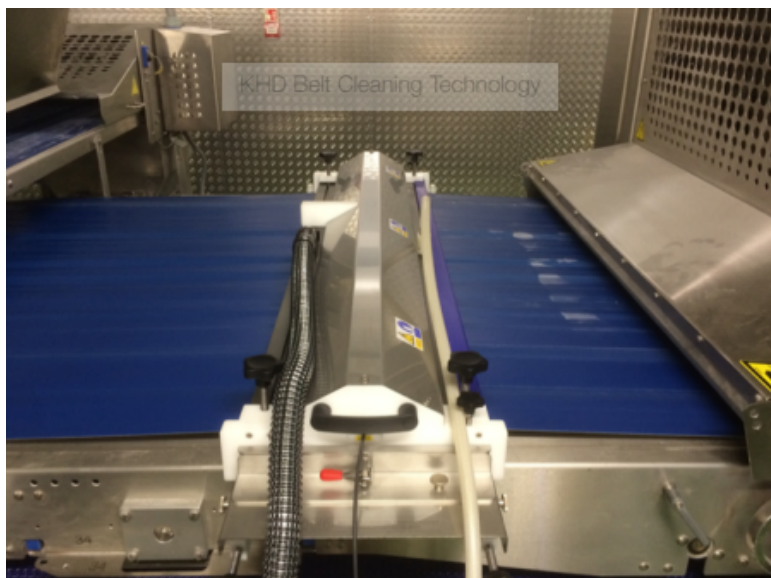


KHD TECHNOLOGY GERMANY

Portable Systems
for Flat Belts



The KHD BS2 System
(Brush)



KHD TECHNOLOGY GERMANY

**Portable Systems
for Flat Belts**

TECHNICAL SPECIFICATIONS

KHD BL3

Cleaning characteristics	Steam manifolds across full width Vacuum debris removal and drying
Weight (for lifting)	10kg for the 850mm model 21kg for the 1500mm model
Belt contact materials	Squeegees - FDA approved PU and silicone

KHD BS2

Power supply (cleaning head)	New 24VDC model (optional three-phase / 200 Watt also available)
Cleaning characteristics	Steam manifolds across full width Rotating food grade brush Vacuum debris removal and drying
Weight (for lifting)	14kg for the 850mm model 25kg for the 1500mm model
Washdown	Stainless steel IP66 motor
Belt contact materials	Squeegees - FDA approved PU and silicone Brush - Blue Polyester, open fill pattern for easy cleaning

KHD TECHNOLOGY GERMANY

**Portable Systems
for Flat Belts**

TECHNICAL SPECIFICATIONS

KHD BL3 + KHD BS2

Steam hose	Silicone insulated stainless steel reinforced PTFE. High temp Hansen quick release collars
Conveyor belt widths	Virtually any size
Mounting onto conveyor structure - width	Standard arrangement uses a slim tray inserted under the belt and clamped to the conveyor structure. Unless otherwise specified the tray is supplied to fit a structure 200mm wider than the maximum designed belt width. The standard tray overhangs the maximum conveyor structure width by 100mm each side.
Compatible steam boilers (min)	Minimum: KHD 9kW (KHD belt cleaning spec) Typical specification: KHD 18kW (KHD belt cleaning spec) Up to 72kW available
Boiler power supply	Depends on model
Water usage (driest setting)	Doman KHD9 - 13 L/hr Doman KHD18 - 26 L/hr
Water usage (wettest setting)	Doman KHD9 - 18 L/hr Doman KHD18 - 35 L/hr
Steam characteristics	9-10 Bar operating pressure

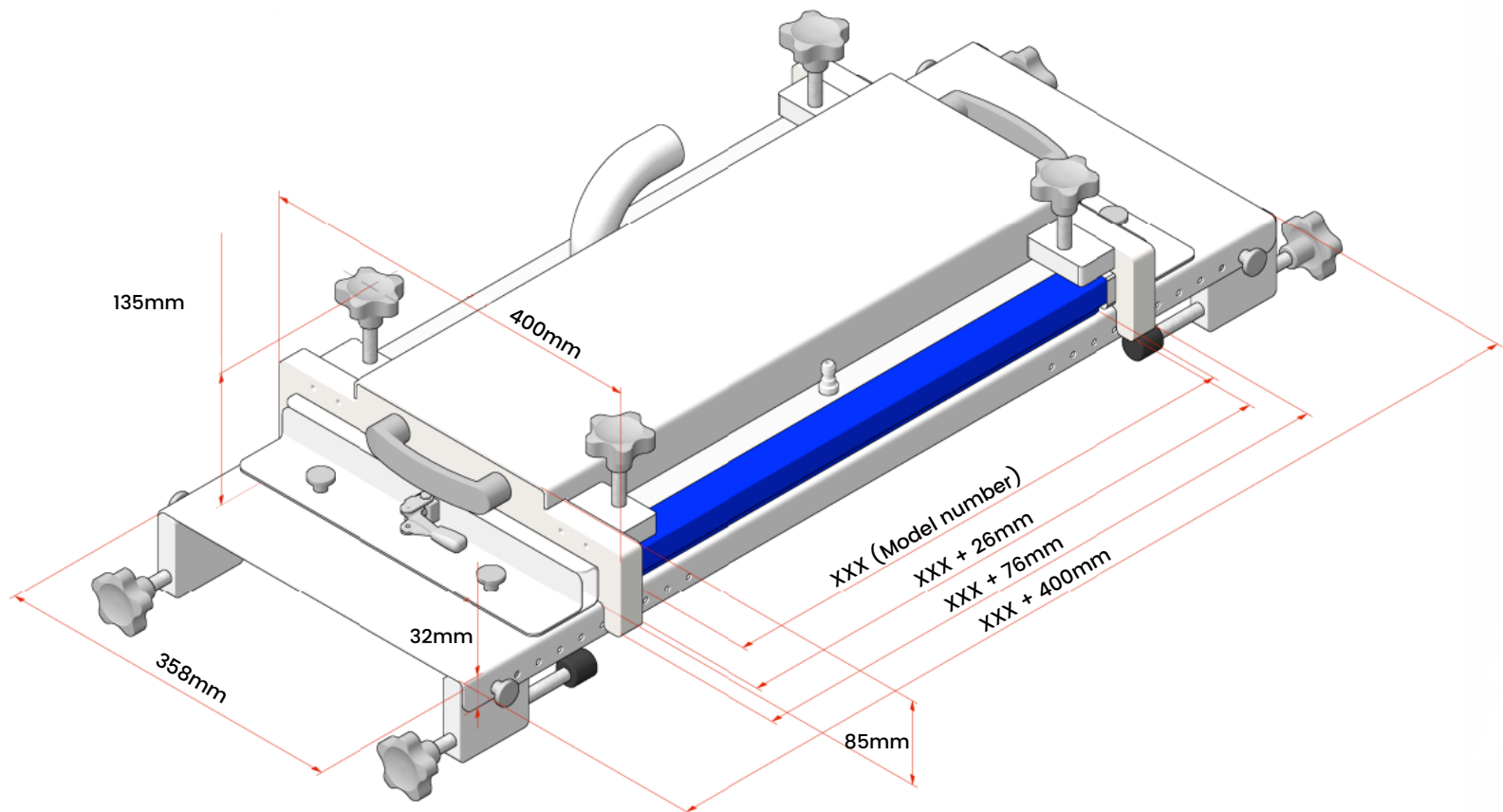
KHD Belt Cleaning Specification for Doman boilers preserves the general cleaning functionality of the boiler, but adds additional performance and functionality.

KHD TECHNOLOGY GERMANY

Portable Systems
for Flat Belts

KHD BELT CLEANING TECHNOLOGY

(Some features removed for clarity)



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**Portable Systems
for Flat Belts**

BENEFITS IN MORE DETAIL

IMPROVES LINE PRODUCTIVITY (AVAILABILITY)

- Quicker cleaning cycles
- Opportunity for rapid top-up cleaning
- Extended production
- Dry cleaning action leaves belts ready for use
- Reduces risk of shutdown due to quality and sanitation issues
- Eliminate cross-contamination, allowing faster product changeover

SAVES ON MAINTENANCE AND LABOUR COSTS

- Cleaning in place
- Portable and easy to set-up on multiple belts
- Device works tirelessly without supervision
- Significant reduction in labor to clean belts
- Visually clean belts gives greater confidence in cleaning progress
- Technology designed for unskilled staff

FREES-UP SANITATION STAFF

- Staff deployable to other sanitation duties
- Reduced staff compared with manual belt cleaning

KHD TECHNOLOGY GERMANY

**Portable Systems
for Flat Belts**

IMPROVES STERILITY - KILLS MICROORGANISMS AND REMOVES DEBRIS

- proven in Independent lab tests by Campden BRI (formerly known as CCFRA - Campden and Chorleywood Food Research Association)
- Steam kills microorganisms
- Does not require chemicals
- Environmentally attractive technology

MAINTAINS OR INCREASES PRODUCT SHELF LIFE

- A powerful tool for maintaining environmental quality especially on high risk side of production
- Targeted cleaning of contact surfaces eliminates cross-contamination

EXTENDS LIFE OF CONVEYOR BELTS

- Reduces energy for running belts
- Cleaner belts work better; clean and trouble-free belts not on the radar for expensive replacement
- Belts benefit from regular cleaning for proper traction and alignment, especially oil and sugar based contamination

KHD TECHNOLOGY GERMANY

**Portable Systems
for Flat Belts**

IMPROVED CUSTOMER CREDIBILITY

- Visually cleaner belts
- Visible use of new technology that directly benefits product quality
- Higher quality with fewer product returns
- Demonstrating commitment to improved quality, especially in difficult to clean dry environments

DESIGN

- Robust high quality components and construction
- Easy to use, quick to set up
- Portable and adjustable to fit multiple belts
- Designed as a tool for consistent application of HACCP principles
- EHDG approach to design characteristics (European Hygienic Design Group)

KHD TECHNOLOGY GERMANY

Portable Systems for Flat Belts

Anwendung		Eignung	Kommentare
Belt Type	Plastic Mesh - Fine	✗ Use other models	Consider using the Jet System for these types of belts.
	Plastic Mesh - Open	✗ Use other models	
	Metal Mesh	✗ Use other models	
	Wire (ladder style)	✗ Use other models	
	Modular Closed Flat-Top	Unknown	Early prototypes successfully cleaned the contact surface of modular flat-top belts. Note, the reverse side cannot be adequately cleaned and may require a special version.
	Continuous Flat	✓ Excellent	The Brush and Brushless belt cleaners were specifically designed to clean these types of belts
Belt Speed	Slow	✓ Excellent	The greater the contact time for steam the better and faster the debris removal. The type of debris has a significant impact on cleanability. Lightly adhered debris and dust type debris can be removed at higher belt speeds.
	Medium	✓ Excellent	
	Fast	✓ Excellent	
Environment	Dry	✓ Excellent	The Brush and Brushless belt cleaners were specifically designed to clean in this environment.
	Damp	✓ Excellent	As a general rule, if the cleaning regime is a factory wide foam clean and hose down there is limited potential. Using the system in this environment will not eliminate need for wet cleaning with chemical.
	Wet	✓ Excellent	
Markets	Bakeries	✓ Excellent	
	Dry Goods	✓ Excellent	
	Confectionery	✓ Excellent	
	Fruit and Vegetables	Unknown	
	Pharmaceutical	Unknown	
	Raw Meats and Fish	✗ Very Limited	As a general rule, if the cleaning regime is a factory wide foam clean and hose down there is limited potential. Using the system in this environment will not eliminate need for wet cleaning with chemical.

KHD TECHNOLOGY GERMANY

**Portable Systems
for Flat Belts**

GET IN CONTACT WITH US

**WOULD YOU LIKE TO SCHEDULE A DEMONSTRATION OF
OUR PRODUCTS AT YOUR LOCATION?**

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