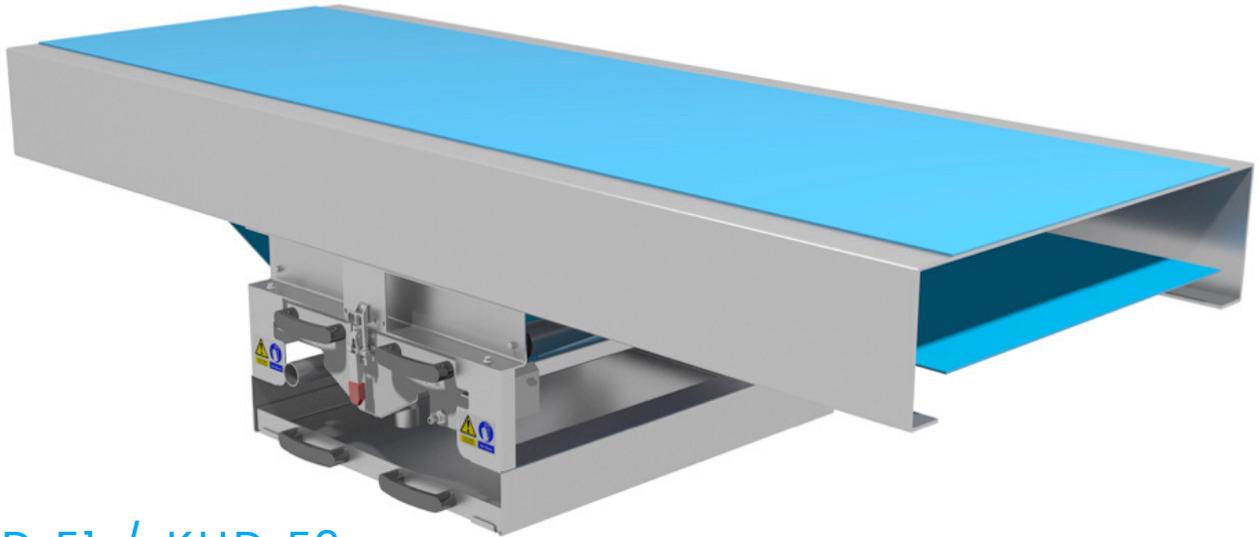


KHD TECHNOLOGY GERMANY

KHD Fixed Systems for Flat Conveyor Belts



KHD F1 / KHD F2

OUR FIXED SYSTEMS FOR FLAT BELTS

The Fixed Systems 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 it works. An efficient vacuum draws away the debris and moisture to leave the belt dry. An optional motorised brush is also available.

Fixed Systems are available in two versions; single-sided and two sided cleaning. These devices have been developed for cleaning in place.

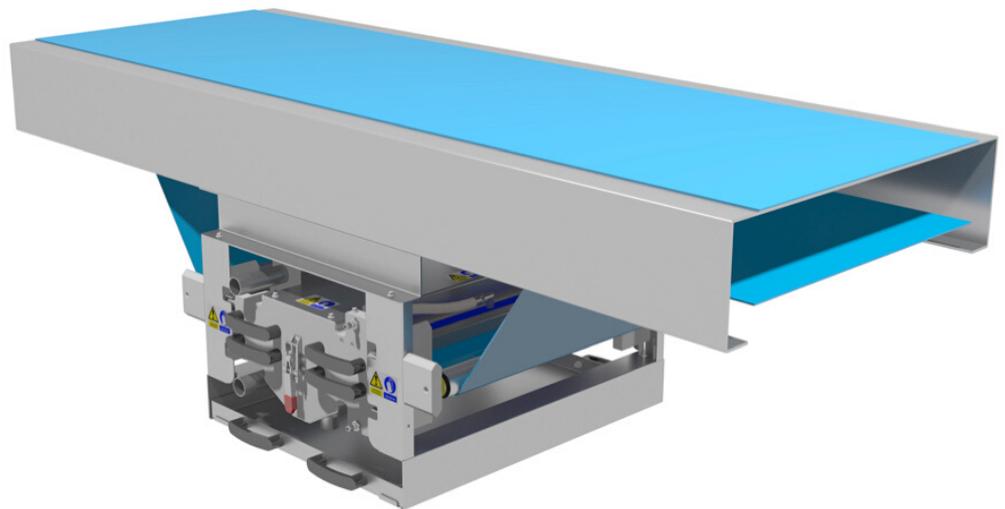
KHD TECHNOLOGY GERMANY

KHD Fixed Systems for Flat Conveyor Belts

Crucially, KHD has designed the devices for simple and quick cleaning of the cleaning equipment, the source of cross-contamination and reliability in other fixed systems. These are ideally suited to cleaning light debris, oils and many confectionary products such as chocolate.

The speed and ease in which the belt cleaners fit to existing or new conveyors makes this a very cost-effective and useful belt cleaning solution.

The cleaning heads use the power of steam from portable steam boiler 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

KHD Fixed Systems for Flat Conveyor Belts

PRODUCT FEATURES

- Full width steam clean, available as single or two sided cleaning
- Vacuum removes debris and moisture leaving belt dry
- Optional brush
- Dedicated to one belt
- Good for dry environments
- Minimal water usage – from only 13 litres per hour
- FDA contact materials
- Quick and easy installation
- Robust and hygienic design
- Quick and easy to remove cleaning heads for clean-down
- Opportunities for cleaning during production

BENEFITS

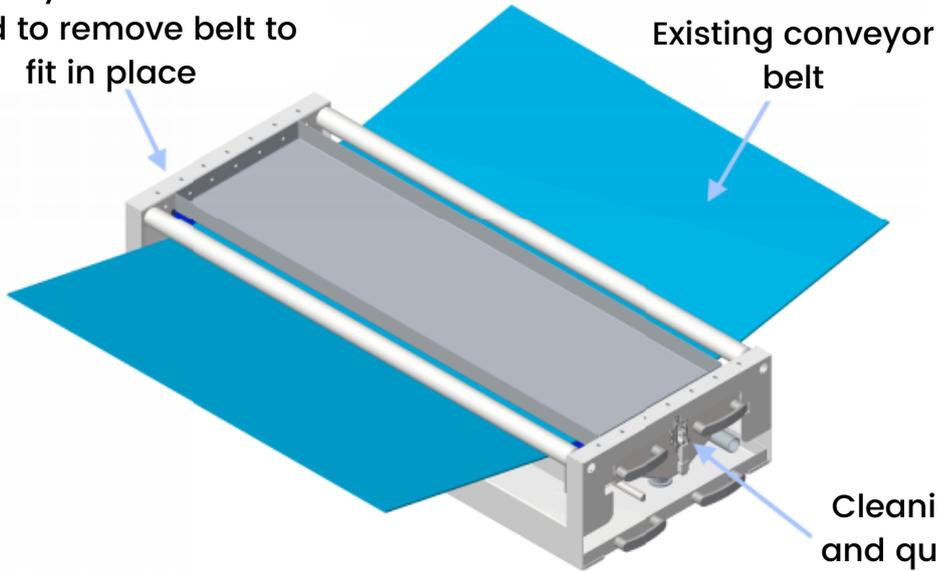
- Improves line productivity (availability)
- Speeds-up belt cleaning
- Saves on maintenance and labor costs
- Frees-up sanitation staff
- Improves sterility – kills microorganisms
- Maintains or increases product shelf life
- Extends life and trouble-free running of conveyor belts

KHD TECHNOLOGY GERMANY

KHD Fixed Systems for
Flat Conveyor Belts

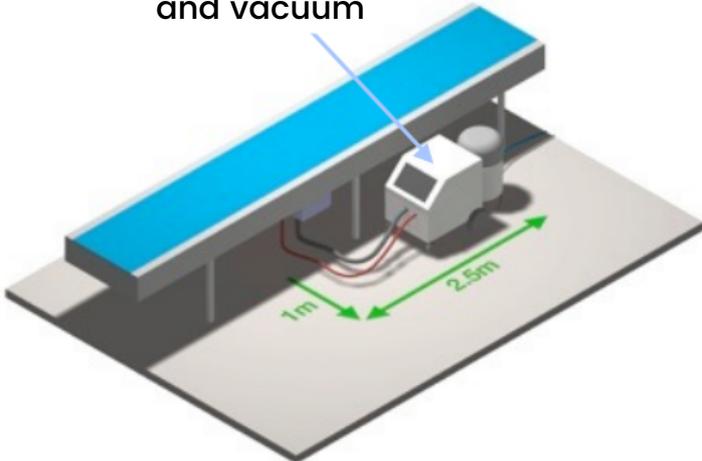
SINGLE HEAD SYSTEM MODULE

Bolt-on module for fixing
to existing or new
conveyor frames. No
need to remove belt to
fit in place



Cleaning head easily
and quickly withdraws
for cleaning and
maintenance

Portable steam boiler
and vacuum

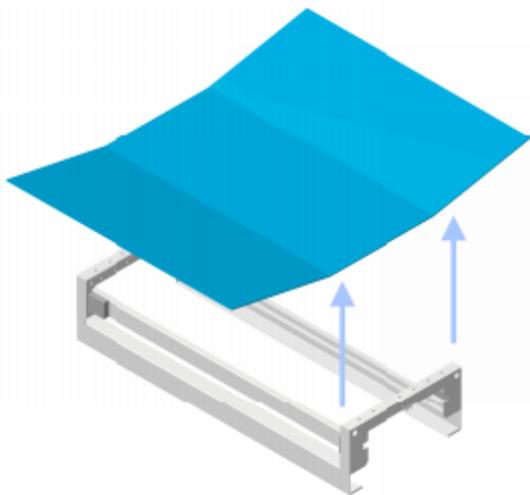


Steam boiler vacuum and
attachments vary;
Boiler and vacuum may also sit
under the conveyor (requires 780mm
clearance for 9kW steam generator,
840mm clearance for 18kW generator)

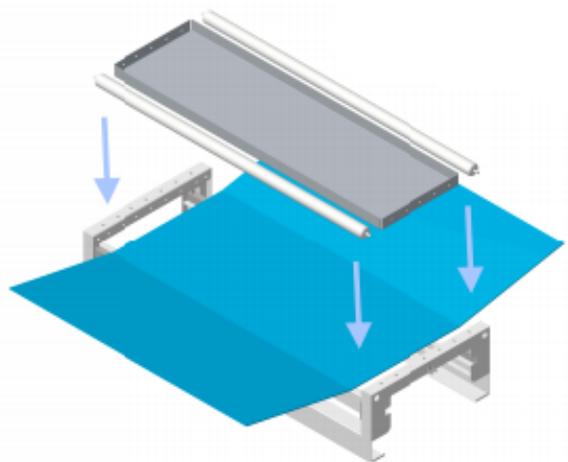
KHD TECHNOLOGY GERMANY

KHD Fixed Systems for
Flat Conveyor Belts

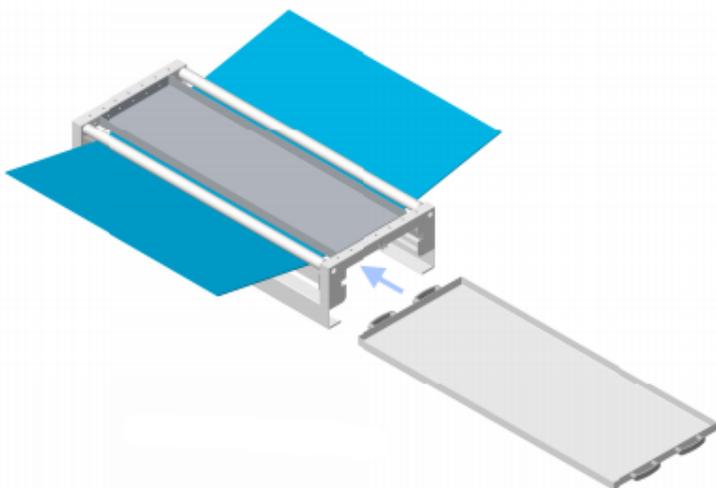
SIMPLE INSTALLATION



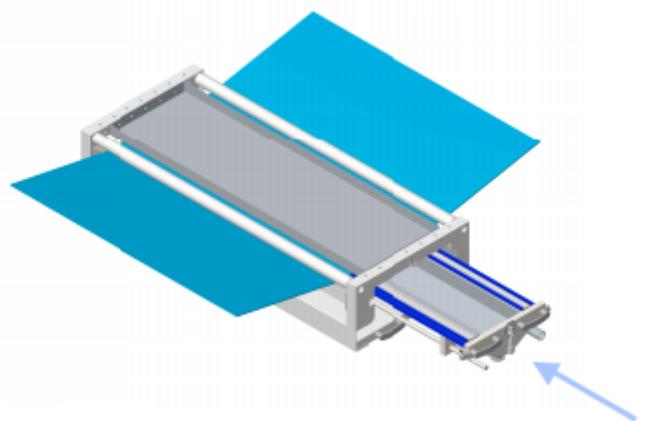
1. Sub-frame bolted in place



2. Idler rollers and tray added
(Fully welded and hygienically sealed tray now available as part mounting brackets)



3. Drip tray slid into place



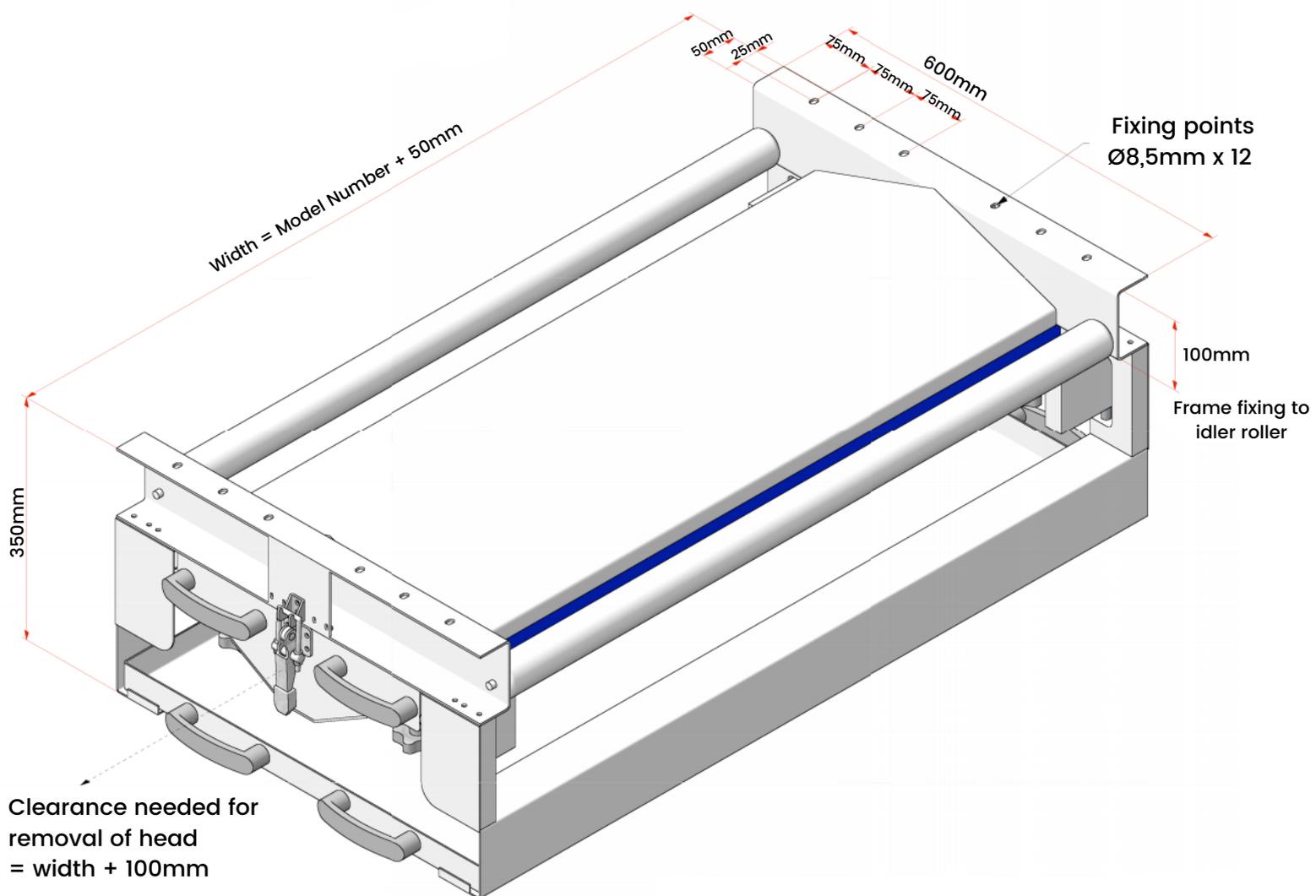
4. Cleaning head slid into position

KHD TECHNOLOGY GERMANY

KHD Fixed Systems for
Flat Conveyor Belts

SINGLE FIXED HEAD SYSTEM - KHD FI

(Some features removed for clarity)

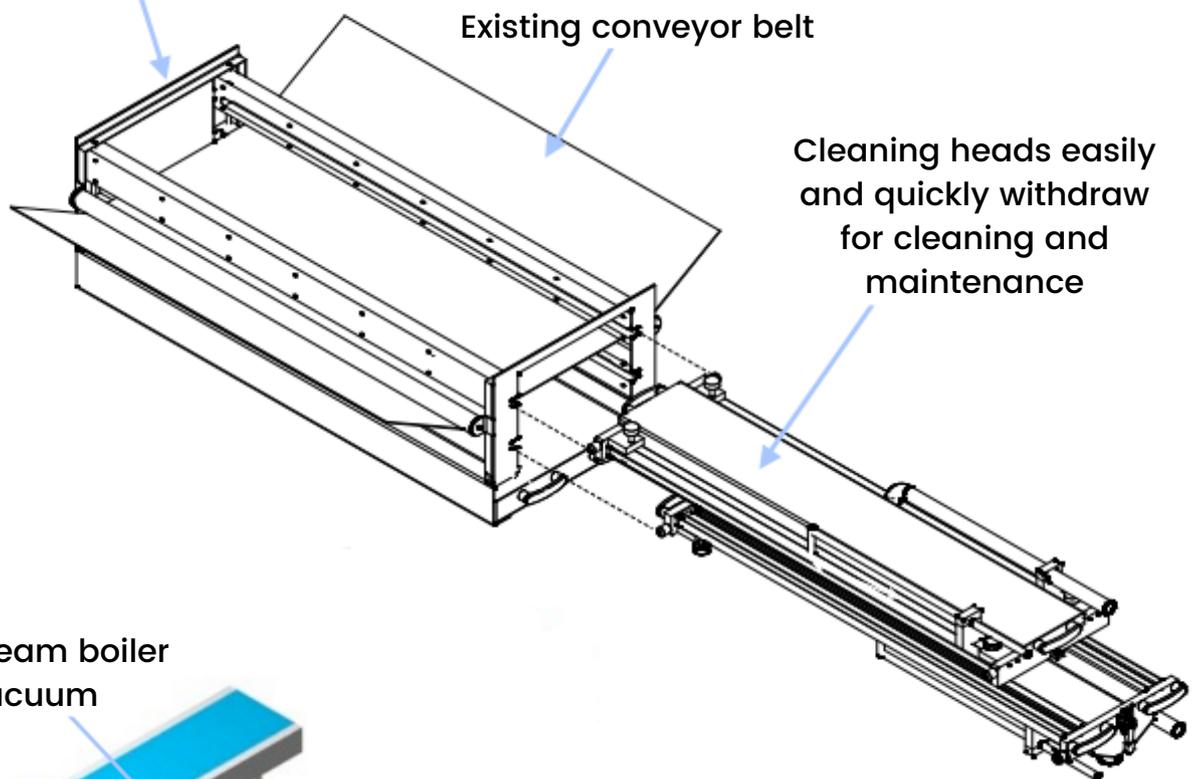


KHD TECHNOLOGY GERMANY

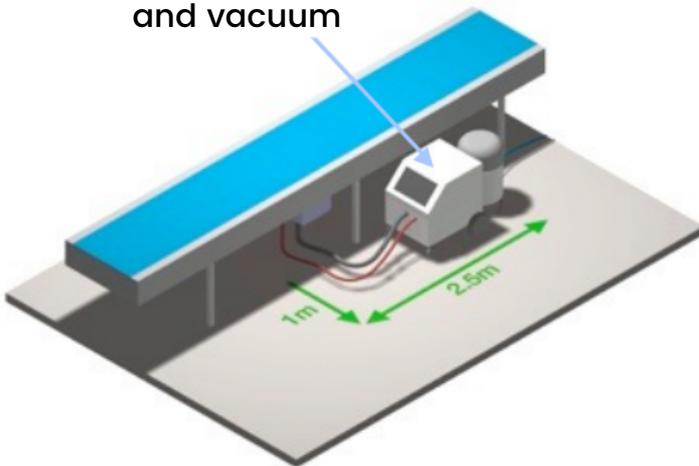
KHD Fixed Systems for
Flat Conveyor Belts

DUAL FIXED HEAD - KHD F2

Bolt-on module for fixing to existing
or new conveyor frames. No need to
remove belt to fit in place



Portable steam boiler
and vacuum



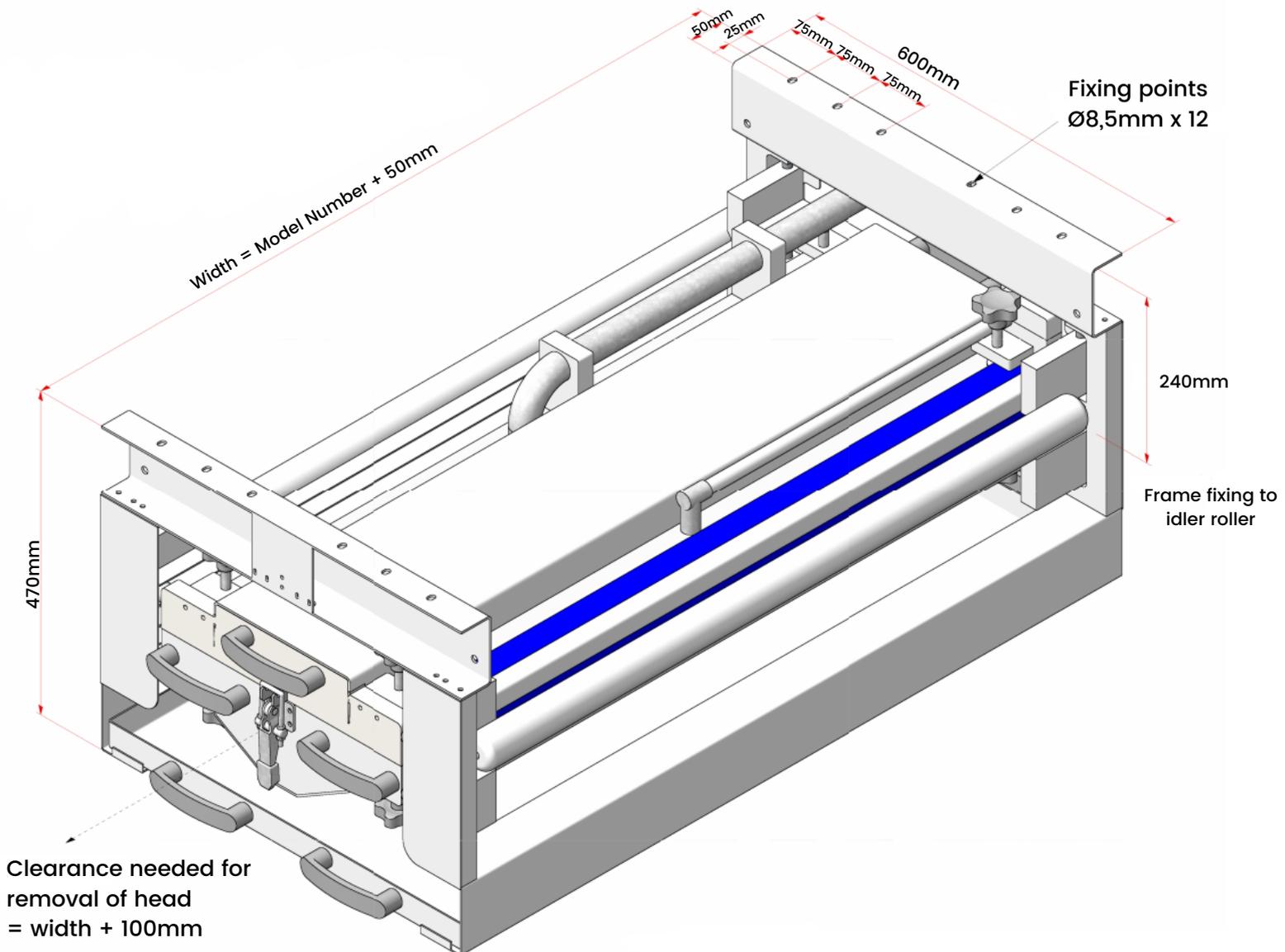
Steam boiler vacuum and
attachments vary;
Boiler and vacuum may
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conveyor.

KHD TECHNOLOGY GERMANY

KHD Fixed Systems for
Flat Conveyor Belts

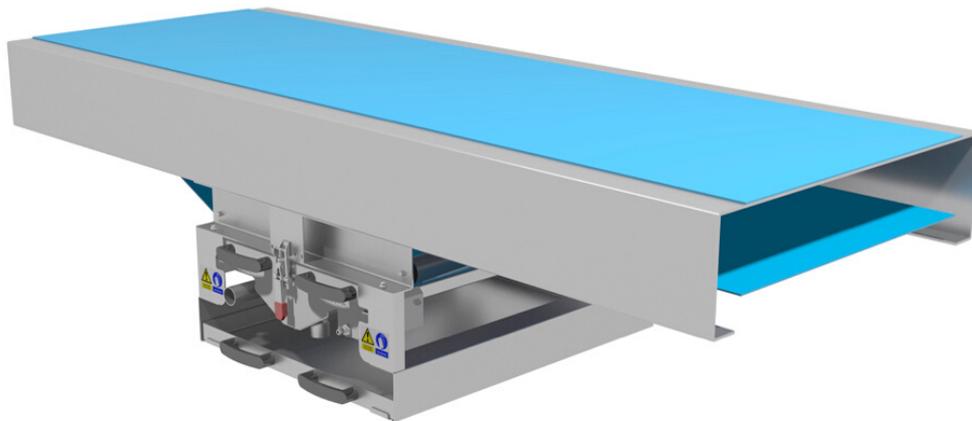
DUAL FIXED HEAD SYSTEM - KHD F2

(Some features removed for clarity)

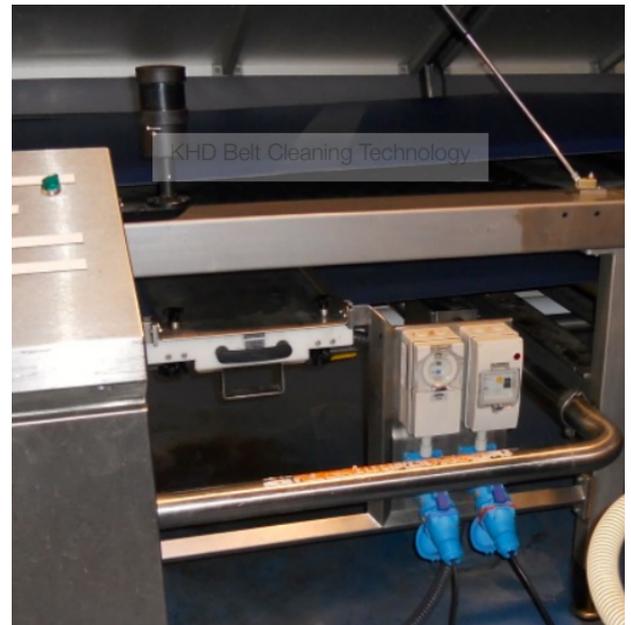


KHD TECHNOLOGY GERMANY

KHD Fixed Systems for
Flat Conveyor Belts

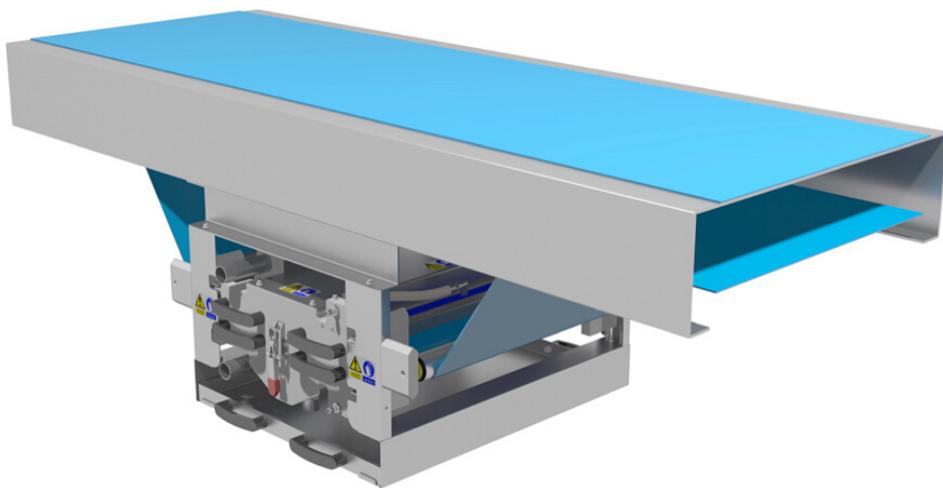


Single Head System – KHD F1

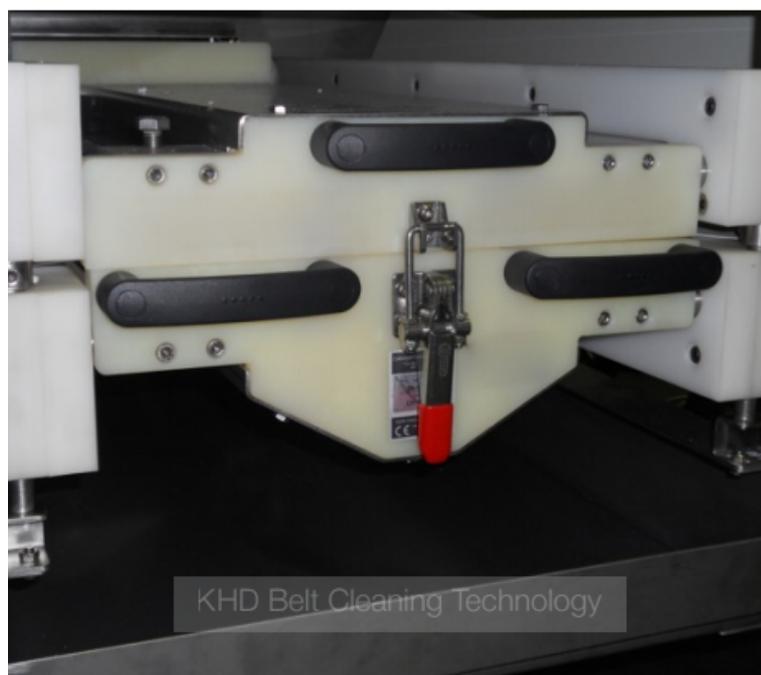


KHD TECHNOLOGY GERMANY

KHD Fixed Systems for
Flat Conveyor Belts



Dual Head System - KHD F2



KHD TECHNOLOGY GERMANY

KHD Fixed Systems for
Flat Conveyor Belts

BENEFITS IN MORE DETAIL

IMPROVES LINE PRODUCTIVITY (AVAILABILITY)

- Quicker cleaning cycles
- Rapid top-up cleaning of contact surface possible
- Opportunity for extended production
- Dry cleaning action leaves belts ready for use
- Opportunities for cleaning during production
- 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
- Quick and easy to set-up
- Device works tirelessly without supervision
- Significant reduction in labour to clean belts
- Visually clean belts gives greater confidence in cleaning progress
- Technology designed for unskilled staff

KHD TECHNOLOGY GERMANY

**KHD Fixed Systems for
Flat Conveyor Belts**

FREES-UP SANITATION STAFF

- Staff deployable to other sanitation duties
- Manual belt cleaning normally requires multiple staff at the same time, not required for automated cleaning

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

KHD TECHNOLOGY GERMANY

KHD Fixed Systems for Flat Conveyor Belts

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

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
- Designed as a tool for consistent application of HACCP principles
- EHDG approach to design characteristics (European Hygienic Design Group)

KHD TECHNOLOGY GERMANY

KHD Fixed Systems for Flat Conveyor Belts

TECHNISCHE DATEN

KHD F1 + KHD F2

Power supply	Brushless version - No electrics Brush version - 24VDC from steam generator
Cleaning characteristics	Cleans food contact side (F1) or both sides (F2) and edges of conveyor belt. Steam manifold across full width. Vacuum debris removal and drying. Optional motorised brush available.
Weight	Depends on size Cleaning head approx. 10kg for 850mm Brushless model (Brush approx 3kg)
Washdown	Can be safely hosed down (No chlorinated cleaners) Brush version is IP6
Belt contact materials	Squeegees - FDA approved PU and silicone Brush version uses food grade brushes
Steam hose	Silicone insulated stainless steel reinforced PTFE High temperature Hansen quick release collar

KHD TECHNOLOGY GERMANY

KHD Fixed Systems for Flat Conveyor Belts

TECHNISCHE DATEN

KHD F1 + KHD F2

Conveyor belt widths	See drawings in this information pack
Mounting onto conveyor structure - width	See drawings in this information pack
Compatible steam boilers (minimum specification)	Minimum: Supervap 9kW (KHD belt cleaning spec*) Typical specification: Galaxy 18kW (KHD belt cleaning spec*)
Boiler power supply	Depends on model - three phase 5 x pin - 16A for 9kW, 32A for 18k
Water usage (driest setting)	Doman KHD 09 - 13 L/hr Doman KHD 18 - 26 L/hr
Water usage (wettest setting)	Doman KHD 09 - 18 L/hr Doman KHD 18 - 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

KHD Fixed Systems for Flat Conveyor Belts

Applications		Suitability	Comments
Belt Type	Plastic Mesh - Fine	✘ Use other models	Consider using the Jet System 4 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	Some	Suitable for top-up cleaning 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 F1 and F2 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 clean-ability. Lightly adhered debris and dust type debris can be removed at higher belt speeds.
	Medium	✓ Excellent	
	Fast	✓ Excellent	
Environment	Dry	✓ Excellent	The F1 and F2 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

**KHD Fixed Systems for
Flat Conveyor Belts**

GET IN CONTACT WITH US

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

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