Tablet and Capsule Handling: a Krämer Innovation

Krämer invented the first vertical tablet deduster in 1975, launching the E79 worldwide. This first deduster was the beginning of Krämer's growth to become a leading equipment supplier to the pharmaceutical industry. In the worldwide market Krämer has become the leader in tablet dedusters and conveyors with over 6'000 machines in operation. The Krämer name has become synonymous with Swiss quality, reliability and customer support.

Since 1975 our focus has remained solely on what we know best: tablet dedusters and conveyors. We have never strayed far from our roots, making it our mission to develop and improve our tablet dedusters and conveyors to ensure our product portfolio consists of products that are modern, economical, and easy-to-use.

The knowledge and experience gained over the years allowed development of another in a long line of Krämer firsts, the WIP deduster in 2000. The pioneering innovation and constant striving to improve and meet our customer's requirements, has led to the new generation of KD70 WIP Series dedusters, which sets another standard in high containment in the production of highly active and potent products.

© EN 09/2019 Krämer AG - subject to change

Krämer AG
Grindelstrasse 23 · 8303 Bassersdorf
Schweiz
Phone +41 (44) 838 44 66 · Fax +41 (44) 838 44 60

Kraemer US, LLC
240 West Crescent Avenue
Allendale · New Jersey 07401-0577
USA
Phone +1 201 962 8200 · Fax +1 201 962 8197

www.kraemerag.com · sales@kraemerag.com

Krämer

SWISS MADE

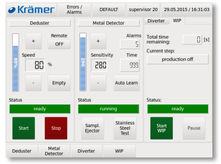
KD70

WIP SERIES



KD70 WIP SERIES

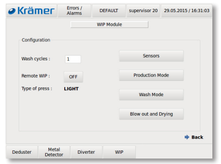
OPERATOR INTERFACE



Easy to use touchscreen control KC7070

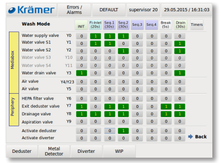
The main screen contains all functions to easily operate the deduster, metal detector and diverter.

+ Compliance with all relevant requirements of 21 CFR Part 11
+ Audit trail and event log
+ Login with password for three operating levels
+ Easy configuration of all operational parameters
+ Fully integratable with the most popular tablet presses
+ Easy configuration of all operational parameters with product management



WIP operation with easy well organized interface

+ Preconfigured or customer specific wash configurations
+ Individual adjustment of the various sensors
+ Easy to use WIP communication interface via remote control from the tablet press
+ Set-up of all WIP functions for reproducible cleaning recipes



Uncomplicated recipe configuration and management

+ Matrix view of all valves for easy graphical configuration of washing sequences
+ Valve management can also be configured for blow out and drying program

WIP DIVERTERS



As an option two types of WIP diverters are available:

+ The 2 way manual or automatic diverter KV2010/20 WIP for integral wash down and optional sensors for bin change
+ For diverting from 2 up to 12 positions the V5000 WIP diverter is available with integral wash down and optional jam sensor

Diverters are fully automatically controlled and programmed from the KC7070 touch screen. Three different diverter modes can be chosen:

+ Switch positions manually
+ Switch positions by timer
+ Change bin signal from the press

WATER SUPPLY



+ The water supply for the washing sequences of the interior of the deduster and peripheral equipment is routed through the metal detector support column

+ All cables and pneumatic tubes are routed through the metal detector support column

+ Optimum cleanability

FILTER



+ The optional HEPA filter class H14, manually or automatically actuated, ensures the highest safety for the operator

TABLET DISPENSER



+ The test tablet dispenser KT2010 is an innovation that allows for easy contained metal detector sample tablet insertion without breaking containment

Main Features

- Control of the deduster, metal detector, diverter and WIP functions with **one touch screen**
- **Controller** can be placed either on right or left side to guarantee best possible operation
- Quite operation **< 68 dB**
- Featuring an **acceleration sensor** that assures constant vibration, independent of the load / amount of tablets in the deduster
- **Vibration-free** housing, patented drive unit
- **Compact** design, minimum footprint
- Easy **assembly** and **disassembly**, no tools are needed
- Efficient manual or automatic **Wash-in-Place cleaning**
- **High-Containment** for OEB5 aplications (< 1 µg/m³), including peripherals
- **Atex** Zone II 2D/- Db 140 °C

CONNECTION PANEL



+ The utility connections for water, air and wiring are all conveniently located on the back of the machine

+ The optional 4 way drain valve system can be manually or automatically actuated allowing for easy handling of the dust collection and water drain

PRODUCT INLET



+ The product inlet utilizes a tri-clamp flange for dust tight connections and is rotatable 360° for proper orientation with the tablet press

INSPECTION WINDOW



+ Inspection windows in the deduster housing for optimum viewing of the product area during the dedusting and conveying process

DESIGN

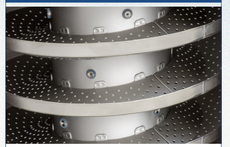


+ Hygienic design enclousures for controller KC7070 and mediabox KM7070 for easy cleanability

+ Sloped overhanging top for water runoff, enclosed hinges and gasketed doors prevent trapping of water and dirt

+ Dust-tight and protection against water jet thanks to IP65 protection class

HELIX



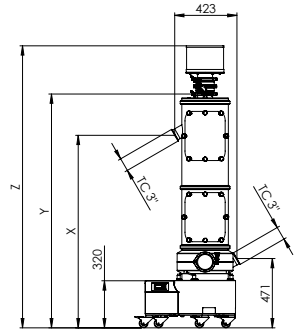
+ Helix with integral highly efficient washing nozzles for minimal water usage, less than 50 l/min

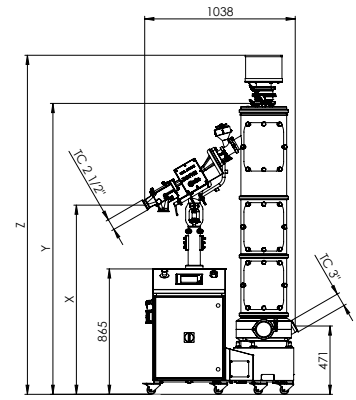
+ Innovative water supply through helix center column

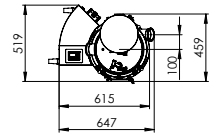
+ Modular helix for easy assembly and disassembly, no tools are needed

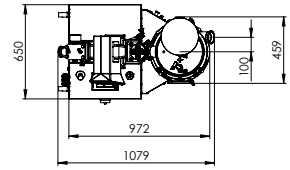
+ Helix is capable of handling tablets from diameter 3-35 mm as well as all sizes of capsules

KD70 WIP SERIES









		KD7070 Standalone - without metal detector				KD7075 Combined Unit - with metal detector	
Deduster model		**400**	**800**	**1200**	**1600**	**1200**	**1600**
DIMENSIONS							
Weight	kg	110*	130*	150*	170*	320*	340*
Outlet height X	mm	905	1308	1711	2114	1334	1737
Inlet height	mm	471	471	471	471	471	471
Conveying height	mm	434	837	1240	1643	863	1266
Overall height (with H-Filter) Z	mm	1514	1917	2320	2723	2320	2723
Overall height (without H-Filter) Y	mm	1186	1589	1992	2395	1992	2395
Max/Min tablet diameter	mm	3 - 35	3 - 35	3 - 35	3 - 35	3 - 35	3 - 35
Max/Min capsule size	mm	14.3 - 26 (size 000 - 4)				14.3 - 26 (size 000 - 4)	
Dedusting path	m	6	11	15	19	15	19
TECHNICAL DATA							
Power supply		100/240V - 50/60Hz				100/240V - 50/60Hz	
Peak current	A	1	1	1	1	3	3
Max. water consumption (p=2bar)	l/min	16	26	36	46	36*	46*
Compressed air (p=3-6bar)	l/min	50 - 100	50 - 100	50 - 100	50 - 100	50 - 100	50 - 100
Air extraction (p=10-20mbar)	m3/h	100 - 250	100 - 250	100 - 250	100 - 250	100 - 250	100 - 250
Noise emission (1m distance)	dB(A)	< 68	< 68	< 68	< 68	< 68	< 68
Protection rating, drive unit and controller	IP	65	65	65	65	65	65
Explosion protection ATEX 94/9/EG		Zone II 2D/- Db 140 °C				Zone II 2D/- Db 140 °C	
OEL Level		OEB5 (< 1 µg/m³)				OEB5 (< 1 µg/m³)	
Filter cartridge		HEPA class H14				HEPA class H14	
WIP CONFIGURATION							
M - manual washing		•	•	•	•	•	•
A - automatic washing						•	•
WIP OPTIONS							
Position supervision of valves						•	•
Compressed- and Air extraction supervision						•	•
Outflow valve system 4-way manual		•	•	•	•	•	•
Outflow valve system 4-way automatic						•	•
VERTEILER OPTIONEN							
2 way diverter KV2010 manual WIP		•	•	•	•	•	•
2 way diverter KV2020 automatic WIP						•	•
2-12 way diverter V5000 WIP						•	•
METAL DETECTOR OPTIONS							
Ceia THS/PH21 N WIP 100x40 mm						•	•
Detection sensitivity	mm					Ferrous 0.25 - Non-Ferrous 0.30 - S. Steel 0.40	
Lock Insight WiP 95x38 mm						•	•
Detection sensitivity	mm					Ferrous 0.30 - Non-Ferrous 0.35 - S. Steel 0.50	
CONVEYING CAPACITY (ALL CONVEYING RANGES)							
Round Ø 4.8 x 2.3 mm	tablets/hour	6'300'000				6'300'000	
Round Ø 9.1 x 3.2 mm	tablets/hour	1'800'000				1'800'000	
Round Ø 12.1 x 3.7 mm	tablets/hour	574'000				574'000	
Round Ø 16 x 4 mm	tablets/hour	378'000				378'000	
Round Ø 23.4 x 5.7 mm	tablets/hour	140'000				140'000	
Round Ø 25 x 7 mm	tablets/hour	95'000				95'000	
Oblong 16.3 x 7.6 x 5.7 mm	tablets/hour	770'000				770'000	
Capsules 19.5 x 7 mm, Nr. 1	capsules/hour	816'000				816'000	

subject to change without prior notice – picture may vary from actual product.
** these values can differ depending on installed peripherals.*