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 Kramer 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. Due to the pioneering innovation and constantly striving to improve and meet our customer’s requirements has led to the new generation KD70 WIP dedusters which sets another standard in high containment in the production of highly active and potent products.
As an option, two types of WIP diverters are available:

1. The 2 way manual or automatic diverter KV2010/20 WIP for integral wash down and optional sensors for bin change.

2. For diverting from 2 up to 12 positions, the V5000 WIP is available with integral wash down and optional jam sensors.

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

**WIP DIVERTERS**

- 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

**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, all tools are needed
- Efficient manual or automatic Wash-in-Place cleaning
- High-Confinement for OEB5 applications ≤ 0.1 μg/m³ (including peripherals)
- Atex Zone II 3/-D 140°

**OPERATOR INTERFACE**

- Easy to use touchscreen control KC7070
- The main screen contains all functions to easily operate the deduster, metal detector, and diverter.
- Fully compliant with 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 all of the most popular tablet presses

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

**WATER SUPPLY**

- Water supply piping for the metal detector and peripheral equipment is routed through the metal detector support column.
- The tablet test sample dispenser KT2010 is an innovation that allows for easy contained metal detector sample tablet insertion without breaking containment.

**CONNECTION PANEL**

- The utility connections for dust collection, water, air and wiring are all conveniently located on the back of the machine in one place.
- Optimal water drain system which is manually or automatically actuated allowing for easy handling of the dust collection or water drain.

**DESIGN**

- Hygienic design enclosures for operator panel KC7070 and Medibox KM7070 for easy cleaning.
- Optimal ventilation for hot water/steam condensed liquids and gaseous carry-over prevention in areas of dust and dirt.
- Dust tight and protection against water jet tests in IP65 protection class.

**TABLET DISPENSER**

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

**WEB MWP SERIES**

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

**INLET**

- The optional water drain system which is manually or automatically actuated allowing for easy handling of the dust collection or water drain.
- Optimal water drain system which is manually or automatically actuated allowing for easy handling of the dust collection or water drain.
- Dust tight and protection against water jet tests in IP65 protection class.
- Weight loss during cleaning through free drainage of water.
- Weight loss during cleaning through free drainage of water.
- Electrical failure for manual assembly and disassembly are avoided.
- 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

#### Dimensions

<table>
<thead>
<tr>
<th>Model</th>
<th>400</th>
<th>800</th>
<th>1200</th>
<th>1600</th>
<th>1200</th>
<th>1600</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight kg</td>
<td>110*</td>
<td>130*</td>
<td>150*</td>
<td>170*</td>
<td>320*</td>
<td>340*</td>
</tr>
<tr>
<td>Outlet height X mm</td>
<td>905</td>
<td>1308</td>
<td>1711</td>
<td>2114</td>
<td>1334</td>
<td>1737</td>
</tr>
<tr>
<td>Inlet height mm</td>
<td>471</td>
<td>471</td>
<td>471</td>
<td>471</td>
<td>471</td>
<td>471</td>
</tr>
<tr>
<td>Conveying height mm</td>
<td>834</td>
<td>837</td>
<td>1240</td>
<td>1643</td>
<td>863</td>
<td>1266</td>
</tr>
<tr>
<td>Overall height (with H-Filter) Z mm</td>
<td>1514</td>
<td>1917</td>
<td>2320</td>
<td>2723</td>
<td>2320</td>
<td>2723</td>
</tr>
<tr>
<td>Overall height (without H-Filter) Y mm</td>
<td>1186</td>
<td>1589</td>
<td>1992</td>
<td>2395</td>
<td>1992</td>
<td>2395</td>
</tr>
<tr>
<td>Max/Min tablet diameter mm</td>
<td>3 - 35</td>
<td>3 - 35</td>
<td>3 - 35</td>
<td>3 - 35</td>
<td>3 - 35</td>
<td>3 - 35</td>
</tr>
<tr>
<td>Max/Min capsule size mm</td>
<td>14.3 - 26 (size 000 - 4)</td>
<td>14.3 - 26 (size 000 - 4)</td>
<td>14.3 - 26 (size 000 - 4)</td>
<td>14.3 - 26 (size 000 - 4)</td>
<td>14.3 - 26 (size 000 - 4)</td>
<td>14.3 - 26 (size 000 - 4)</td>
</tr>
<tr>
<td>Dedusting path m</td>
<td>6</td>
<td>11</td>
<td>15</td>
<td>19</td>
<td>15</td>
<td>19</td>
</tr>
</tbody>
</table>

#### 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, 100 - 150, 200 - 250, 300 - 350, 400 - 450
- **Air extraction (p=10-20bar) l/min**: 50 - 100, 100 - 150, 200 - 250, 300 - 350
- **Noise emission (1m distance) dB(A)**: < 68, < 68, < 68, < 68, < 68
- **Protection rating, drive unit and controller IP**: 65, 65, 65, 65, 65, 65
- **Explosion protection ATEX 9A/9/EG**: Zone II 3/D 140*, Zone II 3/D 140*
- **OEL Level**: OEB5 < 0.1 μg/m, OEB5 < 0.1 μg/m
- **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**: • •

#### Verteiller Options

- **2 way diverter KV2010 manual WIP**: • • • • • •
- **2 way diverter KV2020 automatic WIP**: • •
- **2-12 way diverter V5000 WIP**: • •

#### Metal Detector Options

- **Cera TRS/PW21 N WIP 100x40 mm**: •
- **Detection sensitivity**: Ferrous 0.25 - Non-Ferrous 0.30 - S. Steel 0.40

#### Conveying Capacity (All Conveying Ranges)

<table>
<thead>
<tr>
<th>Size</th>
<th>Tablets/hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Round Ø 8.2 x 2.3 mm</td>
<td>6'300'000</td>
</tr>
<tr>
<td>Round Ø 9.1 x 3.2 mm</td>
<td>1'900'000</td>
</tr>
<tr>
<td>Round Ø 12.1 x 3.7 mm</td>
<td>574'000</td>
</tr>
<tr>
<td>Round Ø 16 x 4 mm</td>
<td>3'78'000</td>
</tr>
<tr>
<td>Round Ø 23.4 x 5.7 mm</td>
<td>140'000</td>
</tr>
<tr>
<td>Oblong 16.3 x 7.6 x 5.7 mm</td>
<td>770'000</td>
</tr>
<tr>
<td>Capsules 19.5 x 7 mm, Nr. 1</td>
<td>816'000</td>
</tr>
</tbody>
</table>

subject to change without prior notice – picture may vary from actual product.

* these values can differ depending on installed peripherals.