KORSCH

X3

MAXIMIZING
MID-RANGE
PRODUCTION

X 3

One Common Platform – Two Machine Models

The X 3 is a breakthrough in the small-scale and mid-range tablet press segment, designed from the ground up to incorporate the latest KORSCH advancements. The machine features enhanced accessibility, ergonomics, and a compact design with an integrated control cabinet. The shared X 3 platform offers the option of a single-layer press (SFP) or a single- and bi-layer press (MFP). Both machines share fully interchangeable turrets and product contact parts.

KORSCH

Intuitive Controls with Smart-Touch HMI

The state-of-the-art control system offers an intuitive interface, supported by comprehensive on-board help and numerous multimedia support files for operation, maintenance, and troubleshooting procedures.

At its core, a fully integrated SIEMENS control system merges PLC and motion controls in a single platform. Its open architecture, which allows unrestricted data access, is key to enabling Industry 4.0. Additionally, it provides extensive diagnostic support – including remote access.

PharmaControl® – Press Force Control System

The X 3 uses the proven PharmaControl® press force control system to monitor individual compression forces and to provide precise tablet weight control. The Smart-Touch HMI displays average and single forces on each punch station in real time.

The optional single-tablet rejection system will reliably reject an individual tablet from a known punch station across the full speed range and build a reject log which may be viewed in real time and included in the electronic batch report.

The Ergonomic Design Enhances Ease of Operation

The X 3 leverages the combination of form and function to maximize performance. There is unrestricted access to the compression zone due to the ability to fully open the windows on three sides (without corner columns), allowing for easy and ergonomic changeover.
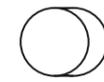
⊕ Optimal access for cleaning

⊕ Flexible machine layout

⊕ Tool-free assembly/ disassembly

⊕ Minimal vibration

X 3 SFP

Dedicated Single-Layer
Mid-Range Production

X 3 SFP

Offering a 40 kN pre and 80 kN main compression capability, a maximum press speed of 120 rpm, and an extended feeder length, the SFP is geared for mid-range production, with a maximum output of 345,600 single-layer tablets per hour. The superior access to the compression zone permits the fastest changeover times for maximum efficiency and uptime. Due to its size, the X 3 is the ideal tablet press for continuous production.

⊕ Precise control through
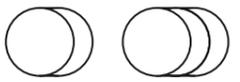IO-Link communication

⊕ Industry 4.0 ready

⊕ Open software
architecture

⊕ Dies or segments

X 3 MFP

Flexible Single- and Bi-Layer
Mid-Range Production

X 3 MFP

Offering single- and bi-layer capability in a single machine, and an exchangeable turret design, the X 3 MFP offers unprecedented flexibility with a maximum output of 345,600 single-layer tablets per hour or 172,800 bi-layer tablets per hour. The modular feeders, compression stations, and cam courses permit the press to be reconfigured for every application using an innovative, patented design.

⊕ Integrated cooled
electrical cabinet

⊕ Advanced torque drive

⊕ Contamination free
machine base and
multi-function column

⊕ Clean and transparent
design concept

Containment Solutions

As a system provider KORSCH offers customized, fully integrated containment solutions, including related peripherals and make/break connections, with centralized negative pressure control and dust collection system. KORSCH coordinates all utility interfaces, including but not limited to integration with centralized dust collection systems, supply water, and waste drain connection.

DryCon® Execution

· OEB 3/4
· Ergonomic placement of glove ports and RTP permits contained access to the compression zone
· Negative pressure control and integrated vacuum wand for dry cleaning
· KORSCH misting allows the bonding of surface dust with purified water
· Eliminates requirements for PPE in production
· Formal SMEPAC testing for containment level certification
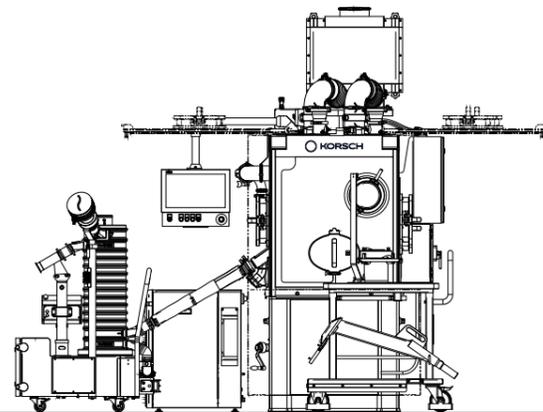
WipCon® Execution

· OEB 5
· Isolator with extra working space
· Recipe driven wash-in-place capability
· Turnkey system with fully integrated peripherals and containment valves
· Maximum layout flexibility
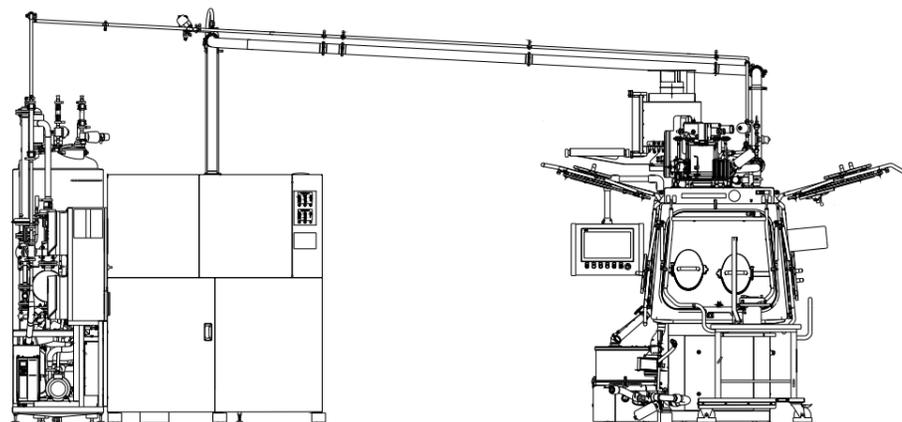
Integrated Machine Layout

The multi-function column is located at the rear of the machine, and it includes the electrical cabinet, the dust extraction, and main energy supplies.

The water-cooled torque drive and electrical cabinet do not require ambient air and permit a completely sealed machine exterior preventing cross-contamination and heat transfer into the production area.

Low Noise and Vibration due to Patented Design

The combination of compression roller stations and an isolated carrier plate eliminates all vibrations from the headpiece and the machine base. As a result, noise emissions are reduced to below 80 dB(A), and no vibrations are transmitted to individual machine components or to the floor.

Technical Data X 3

Description		Turret with Dies			
Punch Stations	Number	37	34	16/28	16/23
Tooling	EU/TSM	BBS	BB	B	D
Main Compression Force	kN	80	80	80	80
Precompression Force	kN	40	40	40	40
Tamping Force	kN	5/20	5/20	5/20	5/20
Max. Tablet Diameter	mm	11	13	16	25
Max. Filling Depth, 1st Layer	mm	18	18	18	22
Max. Filling Depth, 2nd Layer	mm	10	10	10	10
Turret Speed, Single-Layer	rpm	5 – 120	5 – 120	5 – 120	5 – 100
Turret Speed, Bi-Layer	rpm	5 – 60	5 – 60	5 – 60	5 – 50
Max. Tablet Output, Single-Layer	tabs./h	266,400	244,800	115,200/ 201,600	96,000/ 138,000
Max. Tablet Output, Bi-Layer	tabs./h	133,200	122,400	57,600/ 100,800	48,000/ 69,000
Pitch Circle Diameter	mm	325	325	325	325
Max. Tablet Thickness	mm	8.5	8.5	8.5	8.5
Machine Net Weight	kg	3,000	3,000	3,000	3,000
Machine Dimensions	L x W x H	1,728 x 900 x 1,920 mm identical for all versions			
Total Connected Electrical Load	kVA	27	27	27	27
Average Power Consumption	kW	3 – 7	3 – 7	3 – 7	3 – 7

Description		Turret with Segments		
Punch Stations	Number	48	36	27
Tooling	EU/TSM	D12	B	D
Main Compression Force	kN	80	80	80
Precompression Force	kN	40	40	40
Tamping Force	kN	5/20	5/20	5/20
Max. Tablet Diameter	mm	11	16	25
Max. Filling Depth, 1st Layer	mm	18	18	22
Max. Filling Depth, 2nd Layer	mm	10	10	10
Turret Speed, Single-Layer	rpm	5 – 120	5 – 120	5 – 100
Turret Speed, Bi-Layer	rpm	5 – 60	5 – 60	5 – 50
Max. Tablet Output, Single-Layer	tabs./h	345,600	259,200	162,000
Max. Tablet Output, Bi-Layer	tabs./h	172,800	129,600	81,000
Pitch Circle Diameter	mm	325	325	325
Max. Tablet Thickness	mm	8.5	8.5	8.5
Machine Net Weight	kg	3,000	3,000	3,000
Machine Dimensions	L x W x H	1,728 x 900 x 1,920 mm identical for all versions		
Total Connected Electrical Load	kVA	27	27	27
Average Power Consumption	kW	3 – 7	3 – 7	3 – 7

Technical modifications reserved

KORSCH tablet presses meet all fundamental requirements of the Machinery, ATEX, EMC, and Ecodesign Directives, as well as current GMP and FDA regulations. KORSCH tablet presses are delivered with CE marking and comply with the requirements of 21 CFR Part 11.

Peripheral equipment belonging to the machine also complies with these regulations.

The technical specifications included in this document represent optimal parameters and are dependent on product quality and machine settings. The maximum compression force varies in relation to tablet/punch size, and output; the maximum output in relation to material, tablet/ punch size, and compression force. The average electrical power consumption depends on the production parameters.
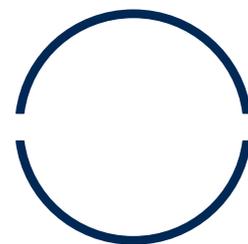
Focused on Tablets, Driven by Innovation

Specialization makes the difference: For over 100 years, we have focused on what we love and do best: tableting!

Experience is key: Thousands of successfully completed projects form the foundation of the largest and most innovative product portfolio in the industry.

We offer the perfect solution and expertise for a wide range of requirements: from special presses for R&D, to rotary presses for scale-up operations and medium batch production, all the way to high-performance presses for 24/7 operation.

Our tablet presses are successfully in use worldwide every day, supported by a global team of specialists in service, process optimization, and sales.

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