

TECHNICAL PRODUCT LINE

For Consumer
& Technical Products



Innovations. Made in Berlin. Since 1919.



Specialization is the key. Since 1919, KORSCH has focused on our core competency of tablet compression technology.

This focus and resulting experience base is the foundation for the broadest and most innovative product line for tablet compression equipment.

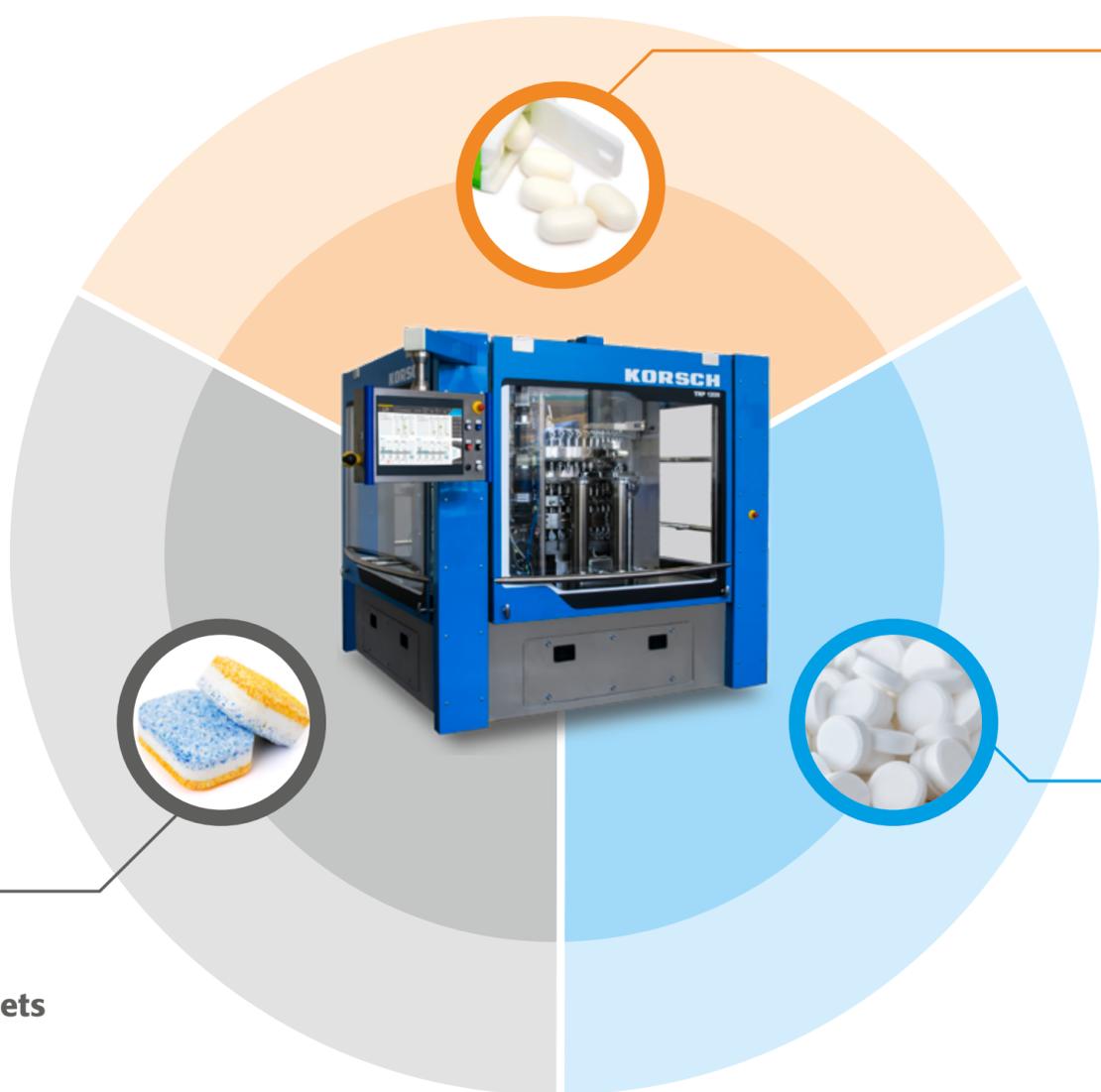
For more than 40 years, KORSCH has developed new technology for the technical markets, including large formats, multi-layer, ringed pellets, and special shapes – all designed to operate in harsh, 24/7 environments.

KORSCH Technical Presses are used successfully all over the world and are supported by a global network of sales and service specialists.

www.korsch.de

KORSCH Technical Line – Superior Performance for Every Application

Technical rotary presses must be workhorses – in the most demanding environments, they must be productive, efficient and extremely reliable. They are frequently used to process aggressive or abrasive materials, and very large formats. The products they are used to manufacture include salt and detergent tabs, ceramic rings for catalysts, effervescent tablets, fertilizer tablets, or alkaline battery pellets, as well as some specialty consumer products. The technical line permits each machine to be configured to meet specific customer needs.



CONFECTIONARY / FOOD

- Sweetener
- Chewing Gum
- Candies
- Bouillon Cubes
- Coffee Tabs

CHEMICAL INDUSTRY

- Catalysts
- Ceramic Oxide Components
- Blanks for Electronic Industry
- Salt-Tablets
- Magnets
- Fertilizer Tablets
- Sintered Metal Components
- Battery Pellets (AA, AAA, C, D)
- Battery Button Cells
- Airbag Tablets

DETERGENT INDUSTRY

- Dishwasher Tablets
- Laundry Detergent Tablets
- Multi-Layer Detergent Tablets
- Cleaning Tablets

A Special Solution for each Application

- Large formats up to 64 mm diameter
- Roller guided press tools facilitate deep fill and insertion depth capability and high ejection forces
- Effective handling of press material with gravity feeder and power feeder options
- Rotary star valve for product flow regulation
- Optimal feeding with bypass in material feed tube

- Low tamping force measurement and control capability for multi-layer formats
- On-demand layer sampling at production speeds
- Absolute separation of layers – closed feeder design
- Dust extraction to prevent cross contamination

- Available with a center pin in the lower punch for ring production
- Innovative center pin design avoids powder migration in the cams
- Punch and center pin fracture monitoring
- Specialized configuration with two independently controlled lower punches for special shapes

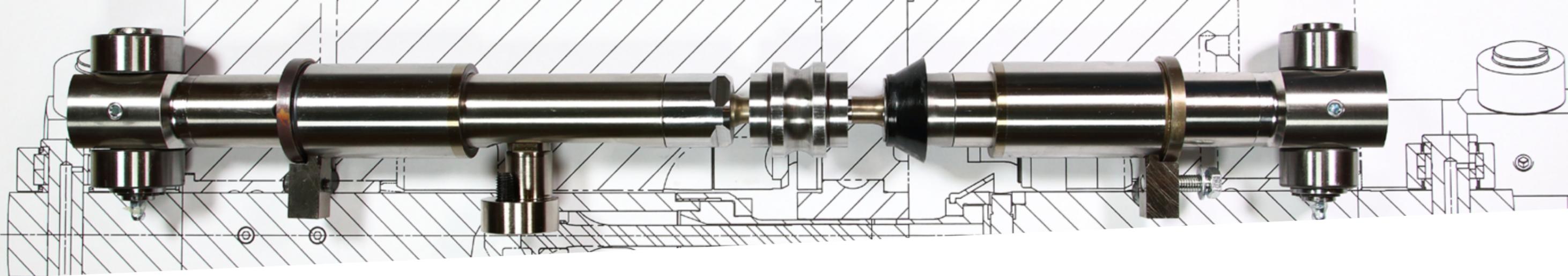
The Technical Line The Benefits at a Glance



- A Special Solution for Each Application
- All Requirements of Technical Products Addressed
- Intuitive Controls with Smart-Touch HMI

MADE IN
GERMANY

KORSCH
The Specialist.



Designed to Perform

Robust Design

KORSCH Technical Presses are built to operate in the most demanding production environments, with maximum efficiency and uptime. The robust design and meticulous selection of materials and surface treatments, ensure extended run durations in any 24/7 production setting.

Press Tools

Roller guided or standard mushroom head press tools are available depending on machine model. Punch holders with rollers offer guidance on both sides and shafts with patented heavy duty profile heads permitting extremely high loads and eliminating wear on press tools and compression rollers.

High Output Capability

KORSCH Technical Presses are built to run a top speed, with precision cam tracks, long filling lengths, and robust pre, main, and ejection stations. KORSCH is expert in the discharge handling and can deliver tablets to any downstream equipment line.

Large Formats, Deep Filling

Technical applications require often very large tablet sizes in diameter as well as in thickness that cannot be produced with standard tablet presses. The KORSCH Technical Line offers up to 64 mm tablet diameter and up to 60 mm filling depth depending on the model. Machines are customized to the product. Special solutions for material feed and tablet discharge are available.

Heavy Tonnage

The KORSCH Technical Line offers up to 250 kN compression force capability depending on the model.

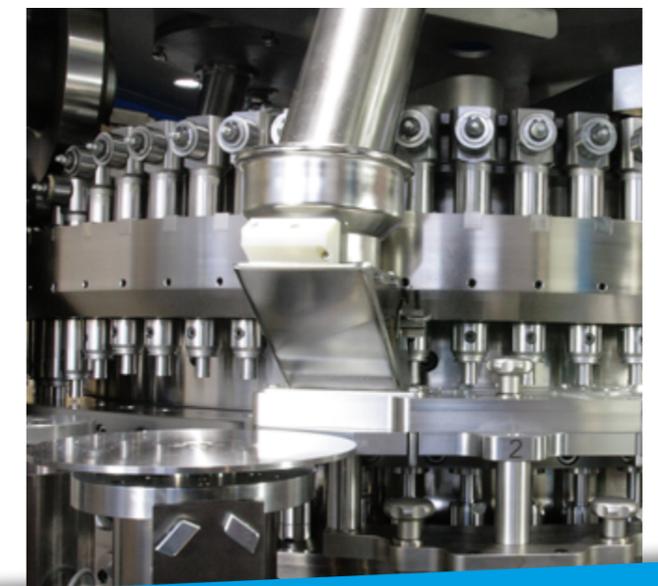
- XT 600: up to 100 kN
- TRP 700: up to 120 kN
- TRP 900: up to 200 kN
- TRP 1200: up to 100 kN



Superior Wear Resistance

KORSCH Technical Presses are designed to stand up to the most abrasive products – with advanced surface treatments on the turret, die table, and press interior. Hardened steel guide bushings and cam track dramatically extend the life of the turrets and press tools.

- Shafts with roller guidance on both sides
- Ejection cams for high ejection forces
- Shaft tightness control
- Main bearing with temperature monitoring





Intuitive Controls with Smart HMI

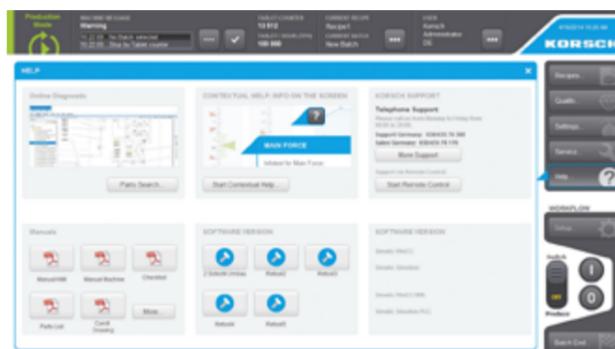
KORSCH Technical Presses are offered with both a Siemens PLC and Allen-Bradley PLC platform. A common, user friendly HMI presents an intuitive and graphical view of key process parameters. With login security, a product recipe capability, automatic weight control with tablet rejection, and a range of electronic audit trails to track alarms, events, and rejects,

the KORSCH control system offers a simple yet powerful interface. KORSCH offers seamless integration to upstream and downstream equipment, and the ability to pass process parameters to a central SCADA system. The integrated help capability permits immediate access to machine manuals, drawings, and schematics at a touch of a button.

Integrated Help Capability

The Smart-Touch HMI sets a new standard for integrated help, and offers an extensive library of support documents to simplify, streamline, and supplement the operation of the machine, within the HMI.

- Direct link to support documents, including manuals, drawings, and schematics
- Multi-media support files (videos, pictures) to support equipment procedures (when available, machine change-over, calibration, etc.)
- Access to an electronic spare parts catalog
- Troubleshooting and diagnostic support



Network and SCADA Integration

The control system may be fully integrated to a central client network or SCADA system to permit real-time monitoring and acquisition of critical process parameters, centralized login, centralized product recipe management, and centralized batch data storage using a standard OPC server.

- Transfer of process parameters via OPC server
- Central login, recipe, and batch data administration
- Remote monitoring from a central control room



PharmaControl® Press Force Control System

An advanced system to permit automatic weight regulation, the KORSCH PharmaControl® uses an advanced algorithm to provide precise feedback to the dosing cam, based on the individual measurement of compression force. The result is a system that reacts with both speed and accuracy to maintain the process in control, and reject any tablets which are outside of established tolerances.

- Press force monitoring and regulation for precise tablet weight control
- Single tablet rejection across the full speed range
- Real-time reject log and reject log report at batch end



TRP 1200



Triple Sided Technical Rotary Press for Large Formats and Deep Filling Depths

The KORSCH flagship for technical applications, the TRP 1200 offers a rugged, flexible, and advanced design that supports single-layer, bi-layer, tri-layer, and ringed formats. A patented turret segment changeover permits a full tool replacement in less than 2 hours, which offers an unprecedented level of

efficiency and uptime. Heavy tonnage compression columns, and a unique carrier plate design isolate vibration to ensure the lowest operating noise levels. The long feeder lengths and deep fill depth permit large formats with precise tablet weight control.



Special Applications

- Single-layer, bi-layer or tri-layer formats
- Ring tablets: turret including center pin holder
- Dishwashing tablets: star wheel tablet discharge and conveyor belt
- Ceramics and sintered metals: specialized configuration with two independently controlled lower punches for custom shapes
- Salt tablets: special surface treatments

Robust compression column design

Large windows for superior accessibility and visibility

Roller-guided punches

Dust extraction system permits extremely long run times before any maintenance or cleaning is required

Intuitive Controls with Smart-Touch HMI

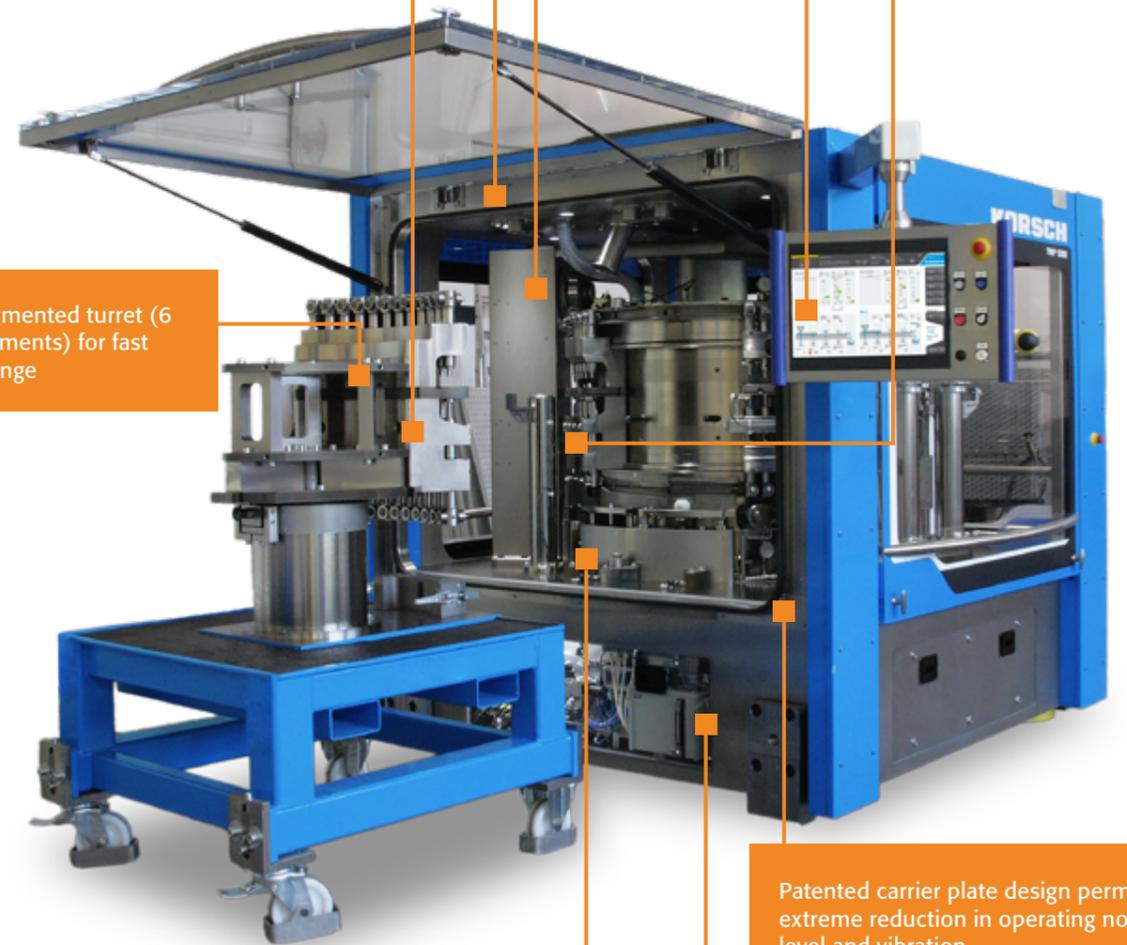
Quick-disconnect components

Segmented turret (6 segments) for fast change

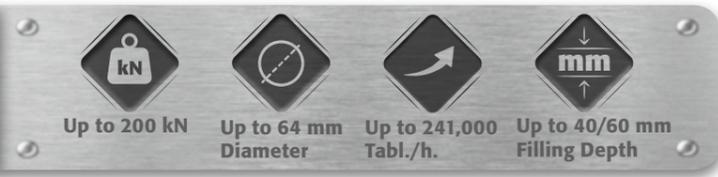
Lowered machine base for ergonomic die table height even

Patented carrier plate design permits extreme reduction in operating noise level and vibration

Large access panels in the base of the machine for maximum serviceability



TRP 700/900



Double-Sided Technical Rotary Press for Large Format, Heavy Tonnage, and Deep Filling Depths

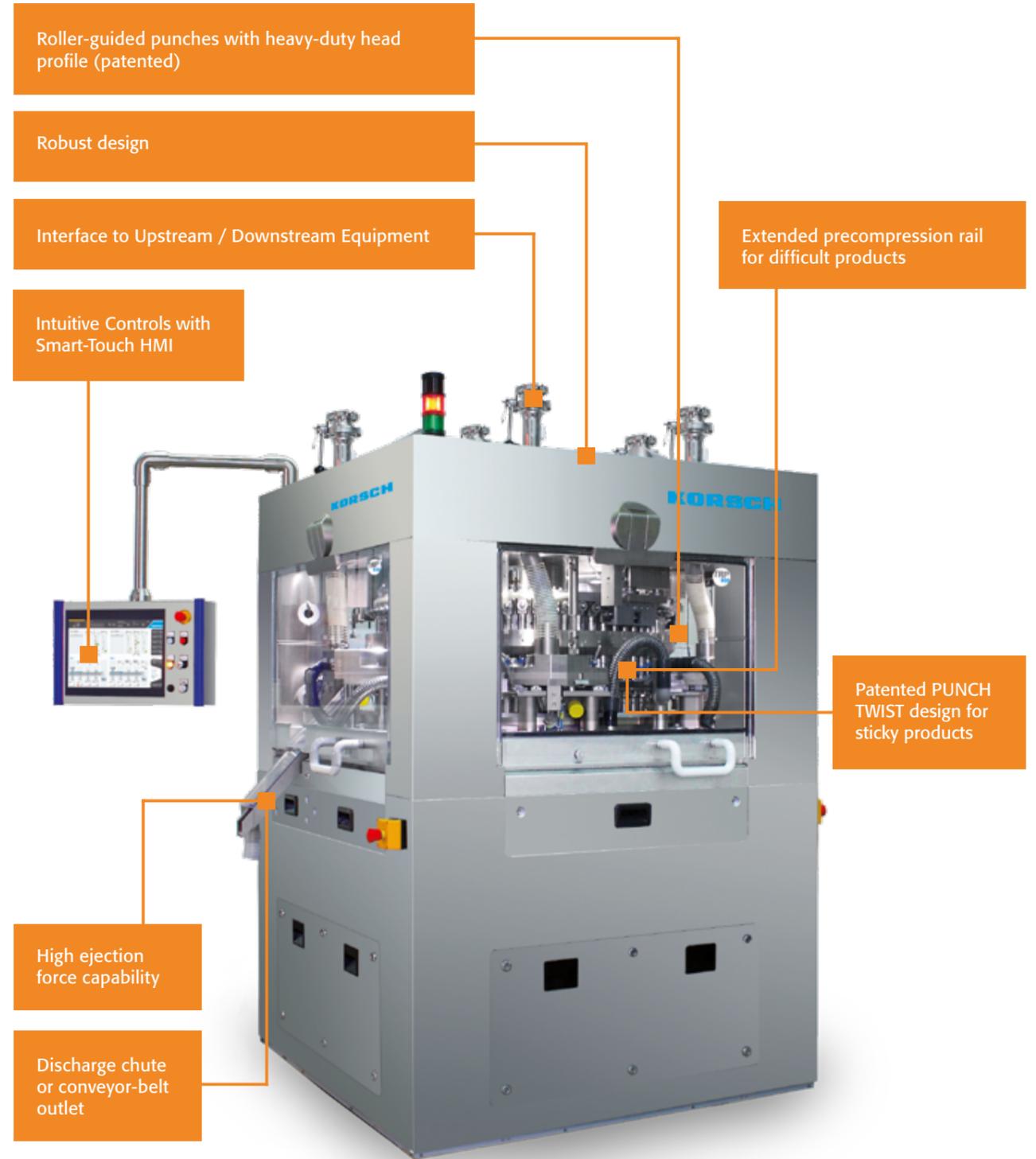
With a press force capability up to 100 kN (TRP 700) and 250 kN (TRP 900), the TRP 700 / 900 offer a rugged, flexible, and advanced design that supports single-layer, multi-layer, and ringed formats. The tool holders with double guide rollers, ensures smooth punch travel and no wear on the punch

heads or cams. Build for continuous 24/7 operation, the TRP 700/900 has proven to be effective across a wide range of formats and applications, delivering excellent product quality and unparalleled uptimes.



Special Applications

- Single and multi-layer executions (up to 5-layers) tablets
- AA, AAA, C, and D-size batteries: turret including center pin holder
- Picking and sticking products: upper and lower punch are twisted in opposite directions (TWIST option)
- The TRP 700 can be delivered as a single rotary press for R&D
- Dishwashing tablets: star wheel tablet discharge and conveyor belt
- Ceramics and sintered metals: specialized configuration with two independently controlled lower punches for custom shapes
- Salt tablets: special surface treatments



XT 600



Double-Sided Technical Rotary Press for Smaller Formats and Filling Depths

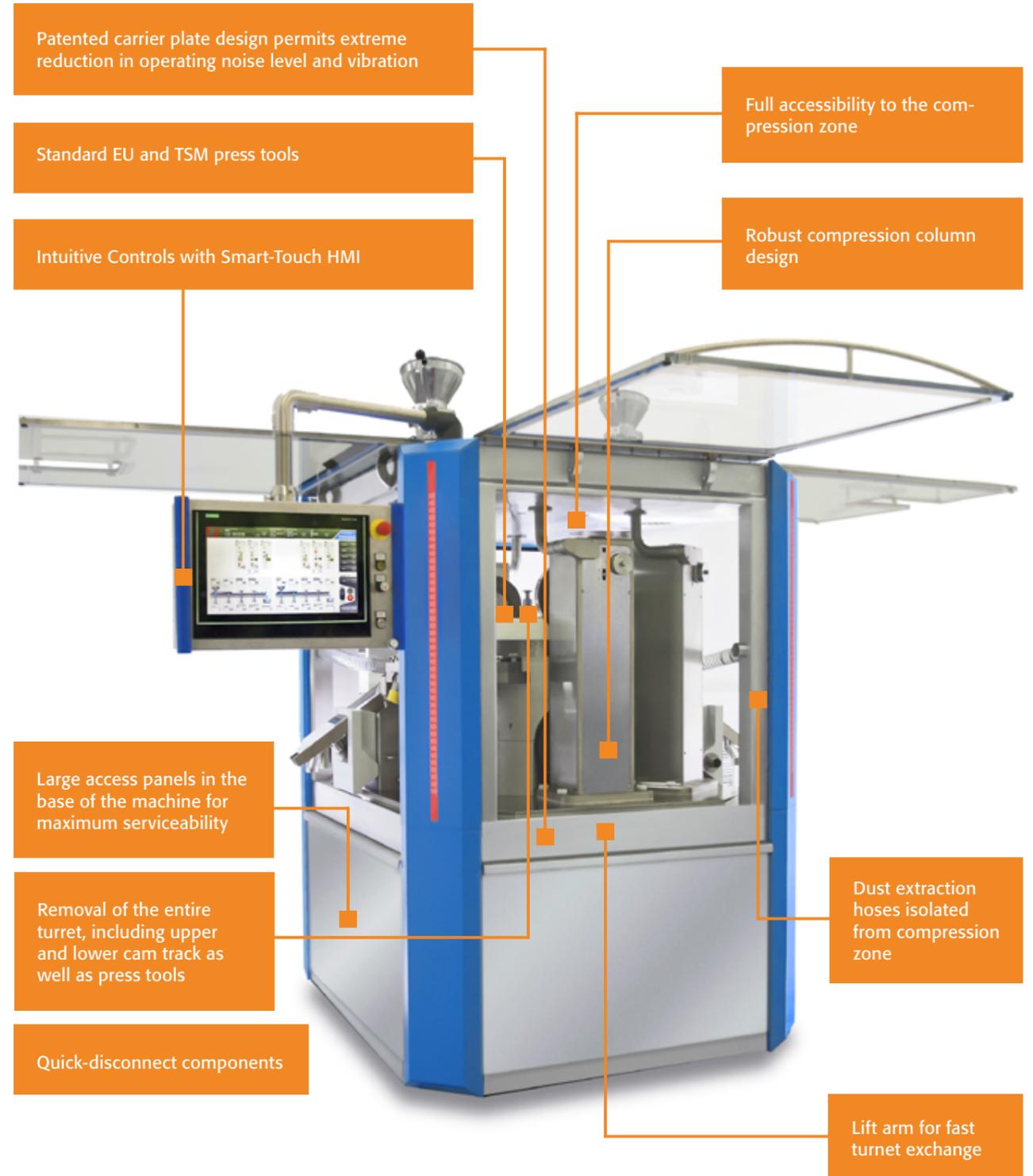
The XT 600 combines key features from proven KORSCH technology with a simple, modular, and cost-efficient design to offer a new standard in high volume production equipment. The robust design features a simplified and streamlined platform for both semi-attended and fully automated

production. The XT 600 offers a 100 kN pre and main compression capability and 100 RPM press speed capability. The robust and versatile XT 600 can be used for a wide range of applications including food, nutraceutical, and confectionary products.



Special Applications

- Bi-layer tablets: bi-layer conversion kit
- Ring tablets: turret including center pin holder
- Effervescent tablets: powder or liquid spraying to avoid sticking
- Containment OEB 3 execution for a higher level of operator safety



TRP 1200



Technical Rotary Press



Technical Data

KORSCH TRP 1200

Press Tools		D45	D35	D28
Number of Punch Stations		54	72	84
Main Compression Force max.	kN	100	100	100
Pre-compression Force max.	kN	20	20	20
Tablet Diameter max.	mm	44	34	27
Filling Depth max.	mm	40	40	40
Turret Speed max.	RPM	25	25	25
Tablet Output max.	tabs/h	243,000	324,000	378,000
Pitch Circle Diameter	mm	1,200	1,200	1,200
Tablet Thickness max.	mm	30	30	30
Machine Dimensions	mm/ L x W x H	2,450 x 2,160 x 2,240 – Dimensions are identical for all versions		
Net Weight of the Machine	kg	15,000	15,000	15,000
Total Electrical Load	kVA	50	50	50

Technical modifications reserved.

KORSCH tablet presses comply with the EC machinery directive, the current GMP and FDA regulations, as well as with the EMC guidelines. KORSCH tablet presses are delivered with CE certificate and meet the requirements of 21 CFR Part 11.

Peripherals delivered with KORSCH tablet presses also comply 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 varies in relation to material, tablet/punch size, and compression force.

TRP 900



Technical Rotary Press



Technical Data

KORSCH TRP 900

Number of Tool Stations		23	31	43	45	47	49	59	67
Main Compression Force max.	kN	200	200	200	200	200	200	100	100
Pre-compression Force max.	kN	60	60	60	60	60	40	20	20
Tablet Diameter max.	mm	64	59	54	49	44	39	34	27
Filling Depth max.	mm	40 (60)	40 (60)	40 (60)	40 (60)	40 (60)	40 (60)	40 (60)	40 (60)
Turret Speed	RPM	5-30	5-30	5-30	5-30	5-30	5-30	5-30	5-30
Max. Production of Single-Layer-Tablets	tabs/h	104,400	140,400	154,800	162,000	169,200	176,400	212,400	241,200
Pitch Circle Diameter	mm	780	780	1,000	1,000	1,000	1,000	1,000	1,000
Die Diameter / Shoulder	mm	80/92	70/76	64/70	59/65	56/62	46/54	45/51	38/44
Max. Tablet Height for a Compression ratio of 1.6:1	mm	25/37	25/37	25/37	25/37	25/37	25/37	25/37	25/37
Max. Shaft / Head Diameter	mm	65/75	60/70	55/65	50/60	45/50	40/50	35/45	28/40
Upper-Punch Insertion Depth	mm	5/17	5/17	5/17	5/17	5/17	5/17	5/17	5/17
Machine Height	mm	2,555	2,555	2,555	2,555	2,555	2,555	2,555	2,555
Footprint	mm	1,500/1,500	1,500/1,500	1,500/1,500	1,500/1,500	1,500/1,500	1,500/1,500	1,500/1,500	1,500/1,500
Weight	kg approx.	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Total Connected Load	kVA	90	90	90	90	90	90	90	90

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TRP 700



Technical Rotary Press



Technical Data

KORSCH TRP 700

Number of Tool Stations		23	31	33	35	37	39	47	55
Main Compression Force max.	kN	100	100	100	100	100	100	100	100
Pre-compression Force max.	kN	40	40	40	40	40	40	20	20
Tablet Diameter max.	mm	64	59	54	49	44	39	34	27
Filling Depth max.	mm	40 (60)	40 (60)	40 (60)	40 (60)	40 (60)	40 (60)	40 (60)	40 (60)
Turret Speed	RPM	5-30	5-30	5-30	5-30	5-30	5-30	5-30	5-30
Max. Production of Single-Layer-Tablets	tabs/h	82,800	111,600	118,800	126,000	133,200	140,400	169,200	198,000
Pitch Circle Diameter	mm	780	780	780	780	780	780	780	780
Die Diameter / Shoulder	mm	80/92	70/76	64/70	59/65	56/62	46/54	45/51	38/44
Max. Tablet Height for a Compression Ratio of 1.6:1	mm	25/37	25/37	25/37	25/37	25/37	25/37	25/37	25/37
Max. Shaft / Head Diameter	mm	65/75	60/70	55/65	50/60	45/50	40/50	35/45	28/40
Upper-Punch Insertion Depth	mm	5/17	5/17	5/17	5/17	5/17	5/17	5/17	5/25
Machine Height	mm	2,240	2,240	2,240	2,240	2,240	2,240	2,240	2,240
Footprint	mm	1,400/ 1,400							
Weight	kg approx.	7,500	7,500	7,500	7,500	7,500	7,500	7,500	7,500
Total Connected Load	kVA	35	35	35	35	35	35	35	35

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XT 600



Technical Rotary Press



Technical Data

KORSCH XT 600

Number of Punch Stations		85	77	65	53
Number of Compression Stations Main/Pre		2/2	2/2	2/2	2/2
Press Tools	EU/TSM	BBS	BB	B	D
Main Compression Force	kN	60/100	60/100	60/100	60/100
Pre-compression Force	kN	60/100	60/100	60/100	60/100
Tamping Force	kN	20	20	20	20
Tablet Diameter max.	mm	11	13	16	25
Filling Depth max.	mm	18	18	18	22
Turret Speed, Single-Layer	RPM	10-100	10-100	10-100	10-80
Turret Speed, Bi-Layer	RPM	10-60	10-60	10-60	10-60
Tablet Output, Single-Layer max.	tabs/h	1,020,000	924,000	780,000	508,800
Tablet Output, Bi-Layer max.	tabs/h	306,000	277,200	234,000	190,800
Pitch Circle Diameter	mm	740	740	740	740
Tablet Thickness max.	mm	8,5	8,5	8,5	11
Machine Dimensions	mm/ L x W x H	1,720 x 1,420 x 2,000 – Dimensions are identical for all versions			
Net Weight of the Machine	kg	6,500	6,500	6,500	6,500
Total Electrical Load	kVA	35	35	35	35

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Standard compression rollers are suitable for most applications. Heavy duty compression rollers are available at no extra cost for high compression force applications.

KORSCH Global Service Network



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