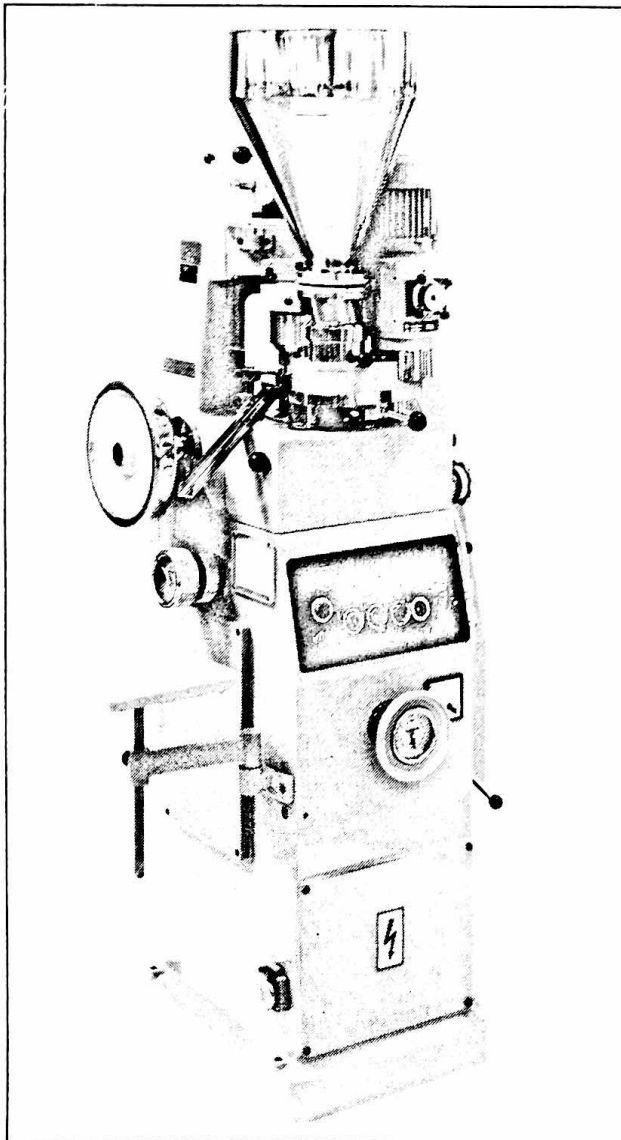


KORSCH

PH100/DMS RESEARCH TABLET PRESS

The KORSCH PH100 DMS is a unique, small scale research press which is intended for initial feasibility and product development. The 3 or 6 station rotary design permits high speed compression analysis with minimal set-up and changeover time. The PH100 can be operated with very small material quantities - and is fully operational in a reduced tool configuration. The PH100 may be fully instrumented for the evaluation of upper main compression force, lower main compression force, ejection force, and tablet scrape-off force. The machine is configured for standard IPT B tooling, and is offered with a gravity feeder and a 2 paddle force feeder, which are easily interchanged.



KORSCH PH100/DMS Research Tablet Press

TECHNICAL FEATURES

The PH100/DMS has a 40 kN compression capability, and a fixed precompression rail which provides a slight initial tamping in place of a precompression roller. The press may be operated in a speed range of 15-90 RPM. The machine is offered with 3 or 6 press stations and replaceable guide bushings in the upper turret, which protect against any damage caused by tight punches or worn keyways. At maximum speed, the PH100 can generate a dwell time of 27 msec - travel time across a standard IPT B head flat. The PH100 is provided with a standard gravity feeder and a 2 paddle variable speed feeder. The press may be provided with a hydraulic force overload system which will permit the lower compression roller to back off at a preset compression setpoint. This will prevent damage to the tools and to the machine. The PH100 is extremely easy to disassemble, clean, and set-up, and a complete changeover can be accomplished in only a fraction of the time required to clean a larger rotary press. The PH100 is ideal for the production of small clinical batches - and is configured with a dust extraction nozzle to maintain a clean die table over the duration of an extended run. The PH100 offers the technical features of a larger rotary machine while maintaining the simplicity and ease of use of a smaller research press.

INSTRUMENTATION

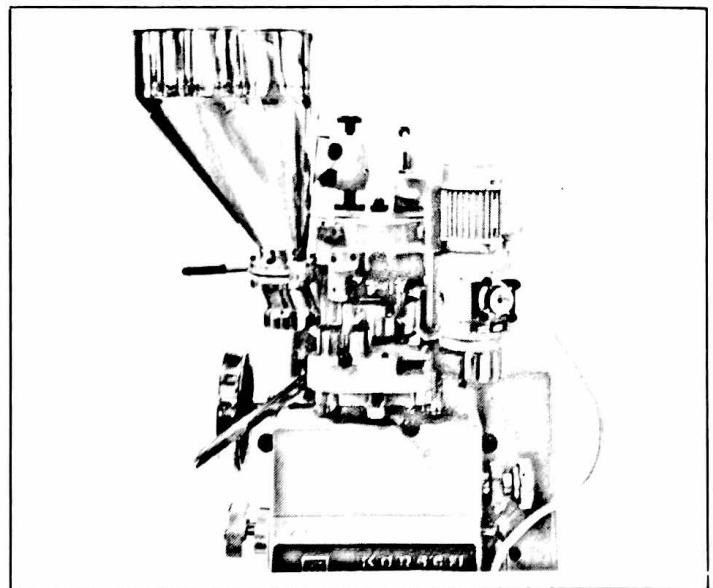
The PH100/DMS may be fully instrumented to permit product development and optimization under high speed rotary conditions. The PH100 may be instrumented for the measurement of upper compression force, lower compression force, ejection force, and tablet scrape-off force. Each point of measurement utilizes a precision, temperature compensated strain gauge, which has been specifically designed for the anticipated force range. The ejection cam utilizes a segmented design in which a single ejection event may be captured. A press force calibration kit, traceable to NIST standards, is available to periodically verify and validate the calibration of the system.

PUNCH TWIST MECHANISM

The PH100 may be equipped with the patented KORSCH Punch Twist Mechanism. The punch twist design provides the only mechanical solution to picking and sticking problems, and permits the development of 100% water soluble systems. The punch twist mechanism utilizes special guide bushings on the upper and lower turret which cause the punches to twist in opposite directions. This action permits the tablets to be disengaged from the punch face while maintaining a high surface quality. The punch twist is available on a series of larger KORSCH presses (20, 29, 53 station), to facilitate scale-up and production requirements.

KORSCH COMPRESSION RESEARCH SYSTEM

The KORSCH Compression Research System is a PC based data acquisition system which is designed specifically to support product research, development, and optimization. The CRS unit is fully compatible with the PH100, and is designed to draw data and generate reports automatically. Force peaks, area under the compression curve, compression contact time, and leading/trailing slopes can be analyzed. The menu driven system permits statistically designed experiments to be generated and implemented, with complete documentation of independent variables, dependent variables, and experiment constants. The system permits the entry of tablet sample data (tablet weight, thickness, hardness, friability, dissolution) for automatic correlation with the compression force profile. An automatic graphing module permits the relationships between parameters to be easily assessed. All experiments are maintained in a centralized data base which may be accessed at any time. In this way, previous data can be recalled and compared with current development efforts. The Compression Research System also contains an expert system which provides on-line technical support for the PH100. Included in the expert system are the full technical specifications, a review of the PH100 sub-systems, and the complete SOP's for the set-up, operation, and changeover of the machine. This technical support module serves as an on-line reference to support the operation of the machine, particularly, in those cases where there will be multiple users with varying degrees of experience with the press.



KORSCH PH100/DMS Power Feeder
and Product Hopper

KORSCH R&D LABORATORIES

The KORSCH R&D Laboratory has a fully instrumented PH100, 3 station machine with the punch twist mechanism - available for demonstration or product development trials. The press is configured for measurement of upper main compression, lower main compression, and tablet ejection force. The PH103/DMS TWIST is available for use with the KORSCH Compression Research System, which will generate a comprehensive report which fully characterizes a particular formulation. All results are reported in graphical form, thus allowing the correlation between any combination of independent and dependent variables to be determined. The KORSCH R&D Laboratories also maintain a fully instrumented EK-O (single punch press) for initial feasibility and development work, and fully instrumented, rotary machines for high speed analysis and product scale up.

TECHNICAL SPECIFICATIONS

Press Stations:	3 or 6
Tool Specification:	IPT B
Press Speed:	15-90 RPM
Maximum Compression Force:	40 kN
Maximum Tablet Diameter:	19 mm
Maximum Filling Depth:	15 mm
Maximum Tablet Thickness:	10 mm
Net Weight:	350 kg
Motor Power:	1.8 kw

For more information, please call
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