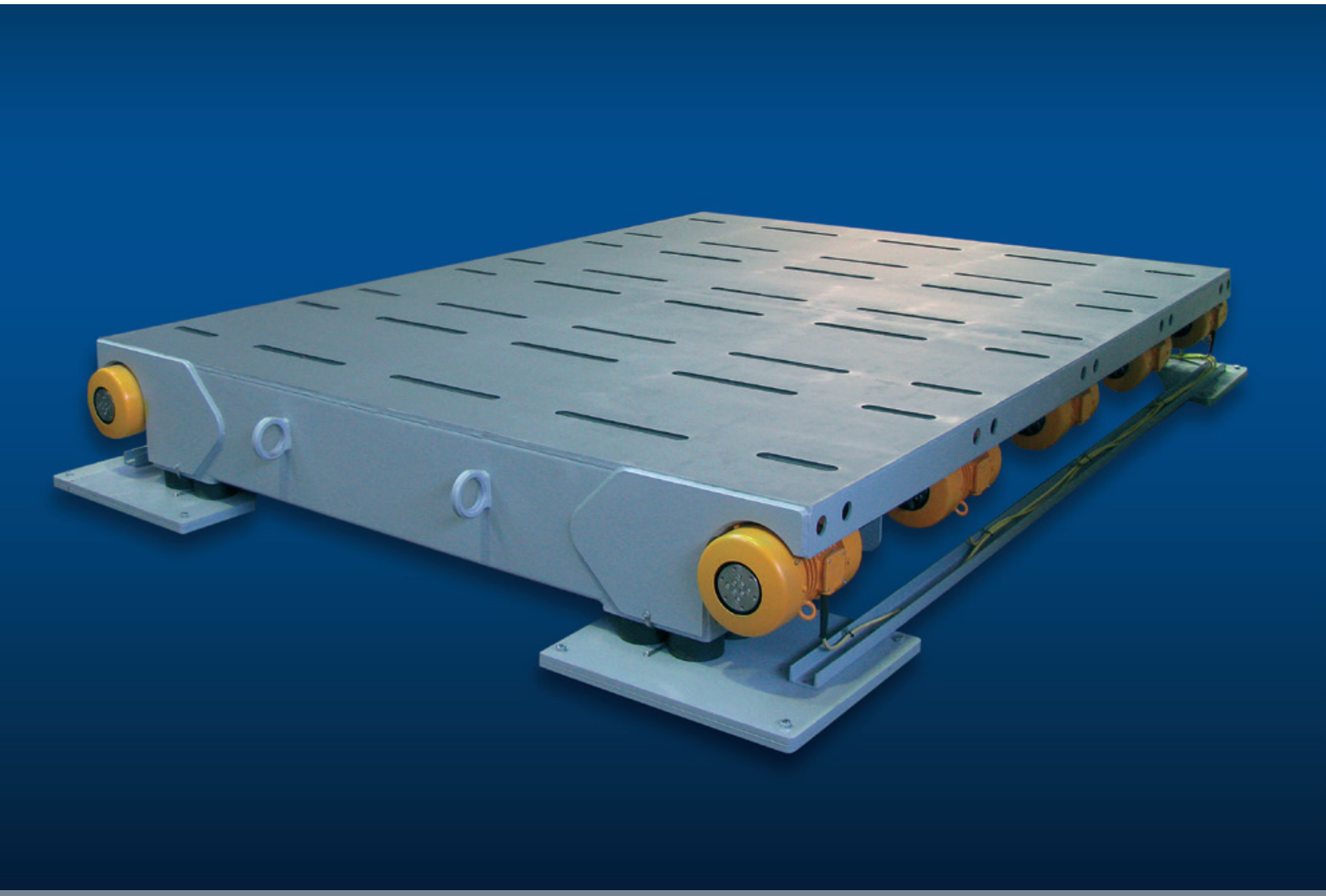
KNAUER ENGINEERING



VIBRATING TABLES

Powerful vibration tables for
all vibrating tasks

ENGLISH

VIBRATING TABLES for various fields of applications

Vibrating tables are performing today a wide range of tasks reliably in many industries, such as e.g.

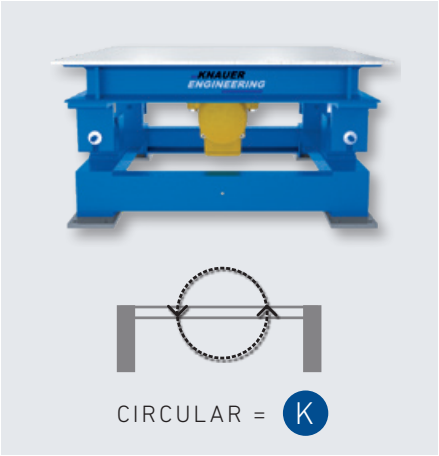
- Compact
- Loosen
- Transport
- Empty
- De-aerate
- Separate
- Fill
- Sort

Functional principle

Basically correlating dimensioned unbalance motors, also called vibrators, set the table top of the vibrating table in oscillation. A vibration isolating elastic support between table top and base frame of the vibrating table avoid that unwanted vibrations will get into the base frame and as a result into the floor. By adjusting the unbalances on the unbalance motors during standstill the oscillation amplitude can be adapted to the application.

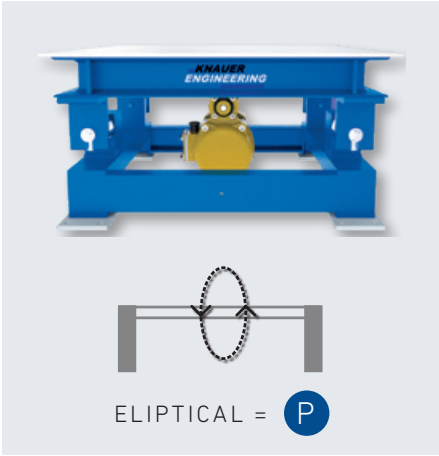
When using an electric control with frequency inverter furthermore the vibration frequency can be changed during operation. Both parameter – oscillation amplitude and frequency – have influence on the vibration intensity and allow an adaption to the different scopes. Depending on the scope different directions of movement of the table top can be necessary:

VT K unbalance motor



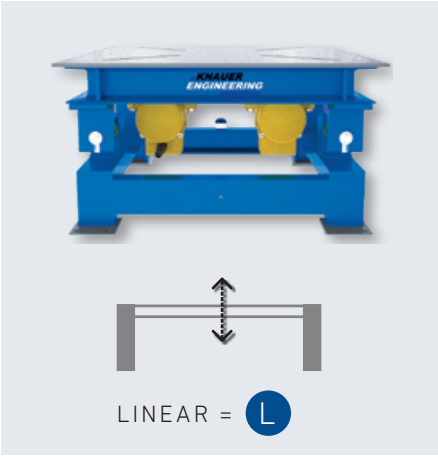
The unbalance motor or external motor sets the table top in circular oscillation. It oscillates in vertical and horizontal direction.

VT P pendulum vibrator



The pendulum vibrator sets the table top in almost linear (elliptical) oscillation. The infinitely variable adjustable direction of introduced force allows e.g. a specific transport of mediums on the table top.

VL L linear vibrator



Two unbalance motors (external vibrators) which operate synchronous and in opposite direction create a linear movement of the table top. The result is a vertical directed harmonic oscillation.

If you have questions, do not hesitate to contact us for consultation: **Tel. +49 (0)8171 6295-0**

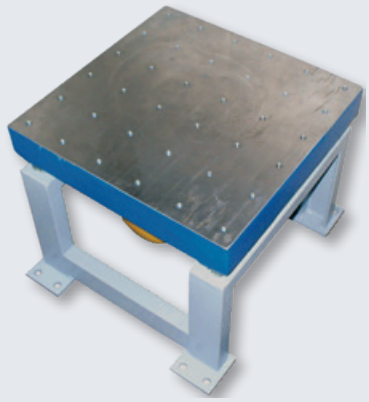
In most of the different applications the mediums which shall be moved are in moulds or containers. These can be either fixed to the table or freestanding on the table. When the moulds or containers are placed freestanding on the table the vibration effects are stronger: Due to the shocks the acceleration values are higher than when the mould or container is fixed to the table. On the other side when the moulds and containers are being fixed to the table the results on are more reproducible because the mould / container has to follow the given oscillation of the table. Another advantage: The lower noise level.

On the following pages you can find exemplary presented numerous proven applications of vibrating tables. Based on our long-time experience we will find suitable solutions also for your application, even if it has not been mentioned here.

VIBRATING TABLE standard

VT 4.4 6P

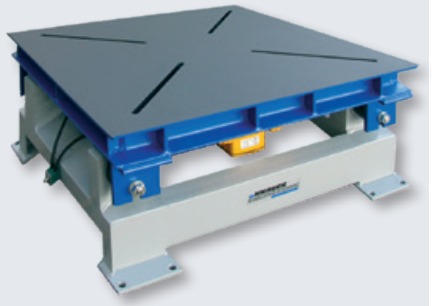
Vibrating table with elliptical movement of the table surface, e.g. for the production of small concrete elements. Available with or without mounting option for the mould.



Length	400 mm
Width	400 mm
Height	350 mm
Oscillation frequency	50 Hz
Centrifugal force	max. 6 kN
Movement	

VT 7.7 20K

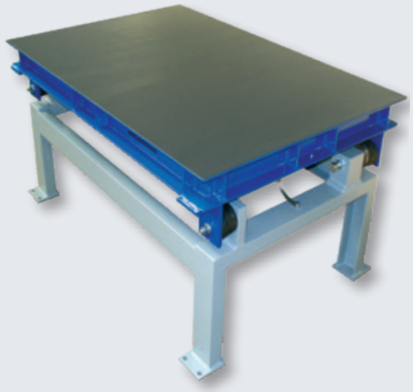
Vibrating table with circular movement of the table surface, e.g. for the production of small concrete elements. Available with or without mounting option for the mould.



Length	700 mm
Width	700 mm
Height	350 mm
Oscillation frequency	30 – 100 Hz
Centrifugal force	max. 20 kN
Movement	

VT 12.8 40L

Vibrating table with vertical movement of the table surface, e.g. for the production of small concrete elements. Available with or without mounting option for the mould.



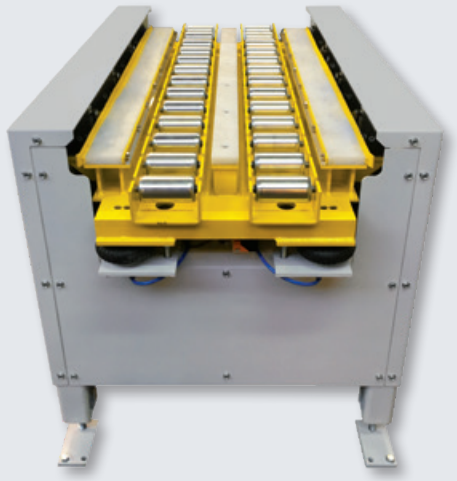
Length	1200 mm
Width	800 mm
Height	750 mm
Oscillation frequency	30 – 100 Hz
Centrifugal force	max. 40 kN
Movement	

Type	Dimensions	Movement	Max. Load	Oscillation frequency	Centrifugal force
VT 4.4	400 x 400 mm	P K	50 kg	20 – 50 / 100 Hz	6 – 10 kN
VT 5.5	500 x 500 mm	P K L	50 kg	20 – 50 / 100 Hz	6 – 20 kN
VT 7.7	700 x 700 mm	P K L	200 kg	20 – 50 / 100 Hz	24 – 40 kN
VT 8.8	800 x 800 mm	P K L	400 kg	20 – 50 / 100 Hz	24 – 40 kN
VT 10.10	1000 x 1000 mm	P K L	500 kg	20 – 50 / 100 Hz	24 – 40 kN
VT 12.5	1200 x 500 mm	P K L	500 kg	20 – 50 / 100 Hz	24 – 40 kN
VT 12.8	1200 x 800 mm	L	500 kg	20 – 50 / 100 Hz	24 – 40 kN
VT 20.15	2000 x 1500 mm	L	1000 kg	20 – 50 / 100 Hz	48 – 80 kN
VT 30.15	3000 x 1500 mm	L	1000 kg	20 – 50 / 100 Hz	48 – 80 kN

VIBRATING TABLES for concrete elements

VT 12.6

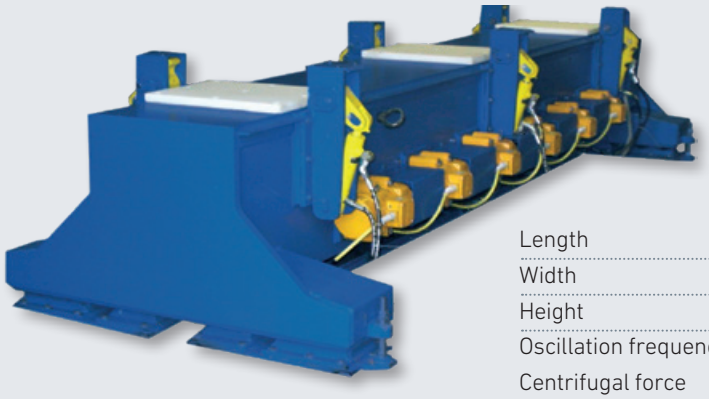
Vibrating table with vertical movement of the table top for the production of elements out of refractory material. The roller conveyors can be pneumatically lifted and lowered for easy transport of the moulds. The moulds can securely fixed to the table top by hydraulic clamps.



Length	1220 mm
Width	610 mm
Height	890 mm
Oscillation frequency	30 – 80 Hz
Centrifugal force	max. 100 kN
Movement	

VT 39.6 280L

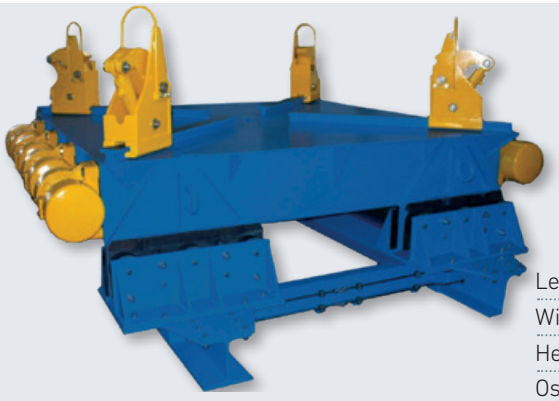
Vibrating table with vertical movement of the table surface e.g. For the production on concrete floor elements for pigpens. Available with or without mounting option (hydraulic clamps) for the mould.



Length	3900 mm
Width	600 mm
Height	665 mm
Oscillation frequency	30 – 80 Hz
Centrifugal force	max. 280 kN
Movement	

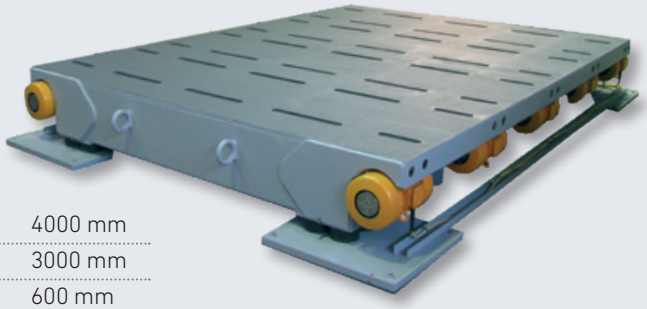
VT 32.31 352L

Vibrating table with vertical movement of the table surface e.g. for the production of large concrete pipes, with mounting option (hydraulic clamps) for the mould.



Length	3200 mm
Width	3100 mm
Height	1030 mm
Oscillation frequency	30 – 80 Hz
Centrifugal force	max. 352 kN
Movement	

VIBRATING TABLES various applications



Length	4000 mm
Width	3000 mm
Height	600 mm
Oscillation frequency	30 – 80 Hz
Centrifugal force	max. 400 kN
Movement	

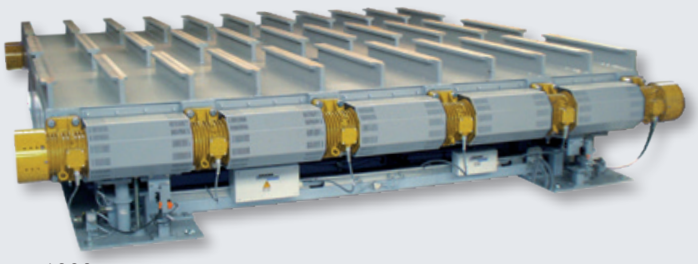
VT 40.30 400L

Vibrating table with vertical movement of the table surface e.g. for the production of machine racks out of polymer concrete. The elastic suspension is by rubber buffers in standard configuration. The table is equipped with 2 rows of each 5 vibrators and the vibrators of one row are coupled by shafts.

Length	3900 mm
Width	3100 mm
Height	1025 mm
Oscillation frequency	30 – 80 Hz
Centrifugal force	max. 440 kN
Movement	

VT 39.31 440L

Vibrating table with vertical movement of the table surface e.g. for the production of machine racks out of polymer concrete. The table is equipped with 4 rows of vibrators which are each driven by a servomotor. Hereby the oscillation amplitude can be infinitely variable adjusted during operation. Furthermore, this table has a pneumatic level control with air springs. For this application the table was laid out for high frequencies and small displacements.



Length	4000 mm
Width	4000 mm
Height	940 mm
Oscillation frequency	30 – 80 Hz
Centrifugal force	max. 720 kN
Movement	

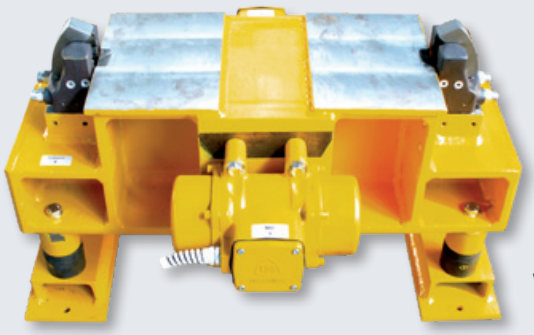
VT 40.40 720L

Vibrating table with vertical movement of the table surface e.g. for the production of large concrete elements, with mounting option (hydraulic clamps) for the mould.

VIBRATING BEAMS

VB 11.3 20L

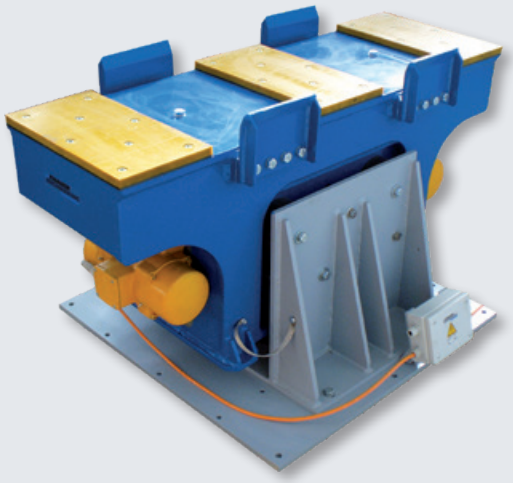
Vibrating beams with vertical movements, e.g. for the production of noise barrier elements out of concrete, with mounting option (hydraulic clamps) for the moulds. The vibrating beams have an elastic suspension with rubber buffers in standard configuration.



Length	1140 mm
Width	300 mm
Height	600 mm
Oscillation frequency	30 – 100 Hz
Centrifugal force	max. 20 kN
Movement	

VB 15.5 40L

By setting up several vibrating beams next to each other you will get a vibrating station for a long mould bracket as they are being used e.g. in the production of slatted floors. The support plates are out of Vulkollan and are damping the noise generation from the free riding mould bracket.



Length	1450 mm
Width	500 mm
Height	800 mm
Oscillation frequency	30 – 100 Hz
Centrifugal force	max. 40 kN
Movement	

VB 19.5 50L

Vibrating beams with vertical movement, e.g. for the production of railway sleepers out of concrete, without mounting option for the mould (free riding). The vibrating beams have an elastic suspension with rubber buffers in a special configuration (turned by 90°).

Length	1900 mm
Width	500 mm
Height	780 mm
Oscillation frequency	30 – 80 Hz
Centrifugal force	max. 50 kN
Movement	

VIBRATING FRAMES

Length	1400 mm
Width	1750 mm
Height	300 mm
Oscillation frequency	25 Hz
Centrifugal force	max. 19 kN
Movement	

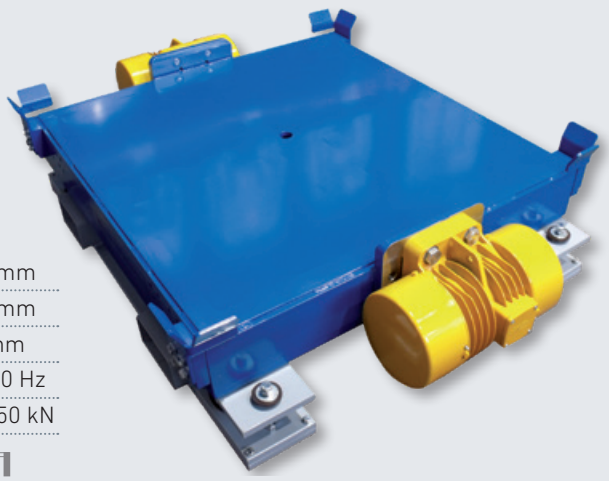
VF 12.8 19 L

Vibrating Frame with vertical oscillation at low frequency and medium amplitude for the compaction of bulk material on Euro pallets. Due to the open front side the vibrating frame can be loaded by apallet truck.

Length	1200 mm
Width	1200 mm
Height	365 mm
Oscillation frequency	15 – 50 Hz
Centrifugal force	max. 32 kN
Movement	

VF 12.12 32L

Vibrating frame with vertical oscillation at medium frequencies and amplitude for the compaction of bulk material in Big Bags. By adjusting the bracket, pallets of several different sizes can be securely placed on the frame.

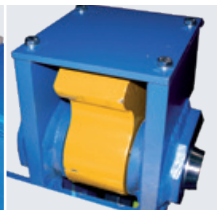


Length	1200 mm
Width	1200 mm
Height	400 mm
Oscillation frequency	15 – 30 Hz
Centrifugal force	max. 50 kN
Movement	

VF 12.12 50L

Vibrating frame with vertical oscillation at lower frequencies and big amplitude for the compaction of bulk material in Big Bags. By adjusting the bracket, pallets of several different sizes can be securely placed on the frame.

Details

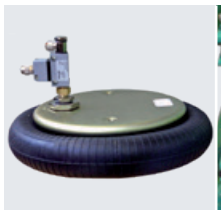



Hydraulic mould clamps

For the fast and easy fixation of the mould to the table, hydraulic clamps are ideally suited. A massive design and vibration resistant, strong hydraulic cylinder guarantee even under high G-forces a secure connection between mould and table.

Vibrator coupling

Vibrators mounted in one row should be coupled by shafts, to be able to introduce in phase centrifugal forces in different areas of the vibrating table. Only then, a harmonic vibration of the table is assured.




Pneumatic suspension / Level control

Besides rubber buffers often air bellows are being used for the elastic suspension. These have the advantage of lower resonance frequencies and further more they can be activated and controlled by valves and sensors in that way, that severe unsymmetrical load on the table can be compensated.


Power supply and control

Depending on the application different requirements are asked for the control of the vibrating table, e.g. additional level control, remote control, hydraulic clamping ect. Since **KNAUER ENGINEERING** itself plans, produces and furthermore programs the controls, individual requirements can be implemented fast and at low cost.

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