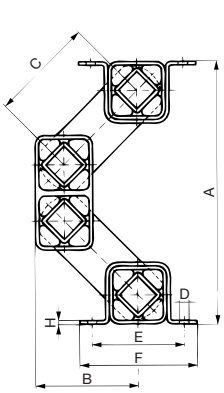
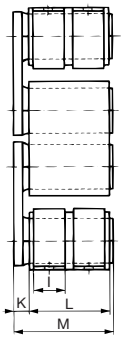
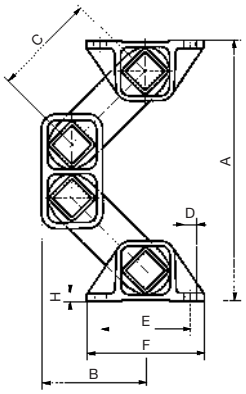
Oscillating Mounting

Type AB

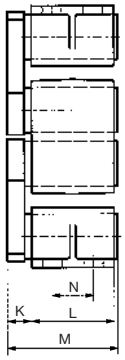


AB 15–38

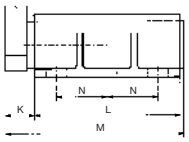




AB 45–50



AB 50-2



Art. No.	Type	G	A unloaded	A max. load	B unloaded	B max. load	C	D	E	F	H	I	K	L	M	N	Weight in kg
07 051 001	AB 15	50 – 160	165	120	70	89	80	Ø 7	50	65	2	25	10	40	52	–	0.67
07 051 002	AB 18	120 – 300	203	150	87	107	100	Ø 9	60	80	2.5	30	14	50	67	–	1.35
07 051 003	AB 27	250 – 800	230	170	94	114	100	Ø 11	80	105	3	35	17	60	80	–	2.65
07 051 004	AB 38	600 – 1600	295	225	120	144	125	Ø 13	100	125	4	40	21	80	104	–	6.20
07 051 054	AB 45	1200 – 3000	353	273	141	170	140	13x20	115	145	8	–	28	100	132	65	11.50
07 051 006	AB 50	2500 – 6000	380	280	150	180	150	17x27	130	170	12	–	35	120	160	60	19.12
07 051 050	AB 50-2	4200 – 10000	380	280	150	180	150	17x27	130	170	12	–	40	200	245	70	30.00

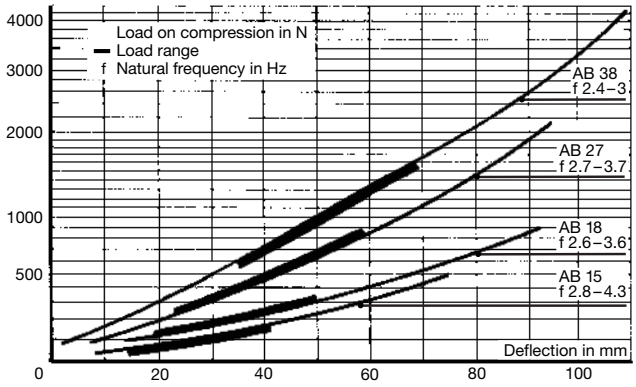
G = load capacity in N per mount

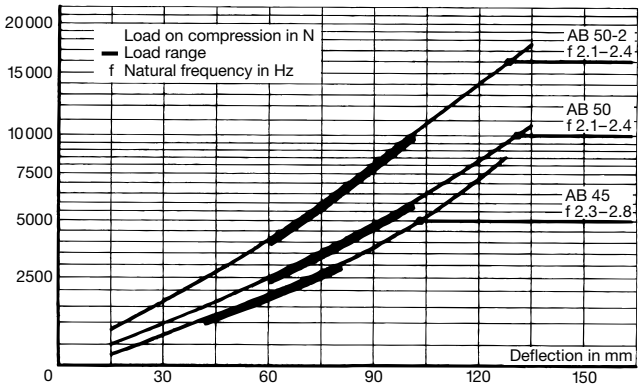
Material Structure

The double housings of types 15 to 45 are made out of light alloy profiles, for type 50 in nodular cast.

c_d	AB 15	AB 18	AB 27	AB 38	AB 45	AB 50	AB 50-2
vertical	10	18	40	60	100	190	320
horizontal	6	14	25	30	50	85	140

c_d = dynamic spring value in N/mm, in nominal load range at n_{err} = 960 min^{-1}, sw = 8 mm





Brackets BR

For the fixation of the oscillating elements type AB 15 to AB 38 it requires clamps, which are not included in the "AB" article no. They have to be ordered according the bystanding list.

Art. No.	Type	AB Type	Quantity per unit
01 500 002	BR 15	AB 15	2
01 500 003	BR 18	AB 18	2
01 500 004	BR 27	AB 27	2
01 500 005	BR 38	AB 38	4

Oscillating Mounting

Type AB

Typical Calculation

The size and number of the oscillating mountings types AB and AB-D are calculated as follows: oscillating weight (device consisting of drive units and the material conveyed) divided by the number of supports. The oscillating angle may thus be neglected. The excitation frequency must be at least 3 times higher than the natural frequency of the AB oscillating mountings to get an acceptable degree of vibration damping towards substructure.

Given:

Weight of the empty trough with drive unit	= 680 kg
Material on trough	= 200 kg
of this 20 % coupling effect	= 40 kg
Total weight of oscillating mass m	
(trough, driving unit and coupling)	= 720 kg
6 support points	

Wanted:

Loading per support $G = \frac{m \cdot g}{z} = \frac{720 \cdot 9.81}{6} = 1177.2$ N

Selected: 6 units of type AB 38

See formulas on page 67 for calculating the amplitudes, machine factors and insulation efficiency.

Installation Guidelines

The ROSTA oscillating elements types AB and AB-D have to be chosen according to the weight of the oscillating mass (see pages 68 and 71). They must be installed between the screen structure and the basement, according to the position of the centre of gravity (see following examples). The upper arm is the rocking arm of the oscillating unit. All elements should be mounted in the same direction, the upper arms being inclined in the direction of the material flow (see following examples). This way, the upper arms of the screen mounts support the linear motion of the screening machine. The lower arm acts as a vibration damper only partly executing the movement of the machine. However, due to its considerable spring deflection the lower arm guarantees a very low natural frequency of the screen mount. **In order to assure an optimal conveying of the material it is important to fix the AB and AB-D elements axis at right angles to the conveying direction (allowance: ±1°). (Fig. 1, section A)**

Drive Options

A. Circular Oscillator with One Unbalanced Motor

The unbalanced motor causes the device to perform elliptical oscillating movements of which the form is given by the distance between the centres of gravity of the motor and the screen device and the shape of the latter. Circular vibrating screens are mounted **(inclined)** according to the their function (see fig. 1).

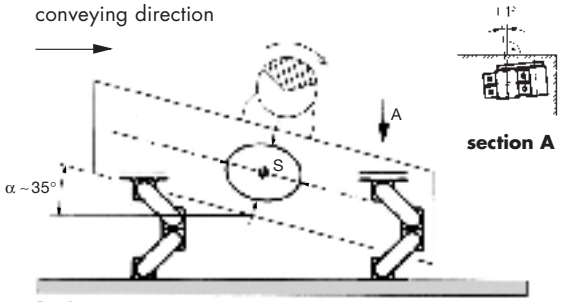


Fig. 1

B. Linear Oscillators with Two Unbalanced Motors

In case the device is supposed to perform linear oscillating movements, it is necessary to mount two unbalanced motors with rigid connection. The motors must rotate in opposite direction (to each other). The centres of gravity of the motors and the device must be on the same line, their inclination being generally 45° (see fig. 2).

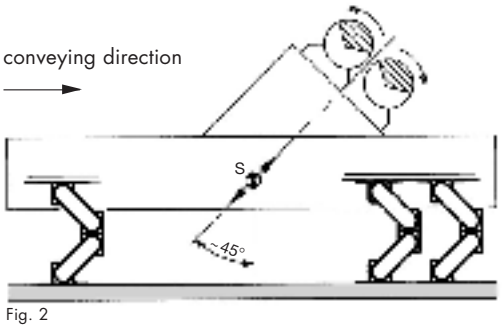


Fig. 2

C. Linear Oscillators with One Unbalanced Motor on Pendulum Mount

If the unbalanced motor is mounted on a pendulum mount, the device's oscillating movements are not exactly straight-line, but slightly elliptical. Their form depends on the distance between the centres of gravity of the motor and screen device and on the shape of the latter. Drives on pendulum mounts may be used only on smaller devices. Their inclination is usually 45° (see fig. 3).

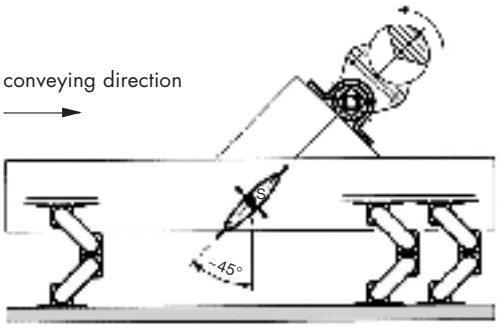


Fig. 3