

- A Silo wall
- B Welding plate
- C Knocker K...
- D Compressed-air hose
- E Sound insulation plate KSP...

Sound insulation hood KSH... existing out of:

- 1 Lid
- 2 Sound absorber
- 3 Pipe nut
- 4 Cable sleeve
- 5 Cable sleeve
- 6 Insulating material
- 7 Thread bolt
- 8 Hexagonal nut, self-locking, DIN 985
- 9 Hexagonal nut, DIN 934
- 10 Hexagonal nut, high, DIN 6330
- 11 Washer
- 12 Pressure spring
- 13 Tube
- 14 Insulation material
- 15 Edge protection
- 16 Clamping ring

All dimensions in mm

**SOUND INSULATION HOOD**

| Type        | KSH 40 | KSH 63 | KSH 80 | KSH100 | KSH125 | KSH160 |
|-------------|--------|--------|--------|--------|--------|--------|
| D           | 162    | 187    | 212    | 262    | 312    | 412    |
| L           | 243    | 273    | 328    | 415    | 525    | 614    |
| weight [kg] | 1,615  | 2,137  | 2,864  | 4,475  | 6,815  | 14,20  |

**SOUND INSULATION PLATE**

| Type        | KSP 40 | KSP 63 | KSP 80 | KSP100 | KSP125 | KSP160 |
|-------------|--------|--------|--------|--------|--------|--------|
| A           | 490    | 490    | 490    | 490    | 990    | 990    |
| B           | 490    | 490    | 490    | 490    | 990    | 990    |
| weight [kg] | 0,395  | 0,384  | 0,371  | 0,333  | 1,620  | 1,557  |

**General**

The Pneumatic Knocker has the greatest effect, when the impact is transmitted without damping to the silo wall. The undamped Knocker obtains a sound level of 120 to 135 dBA. The noise is transmitted to the silo wall and by sound conducted through solids it is probably passed on to the building. In case of full silos the oscillations of the silo wall are absorbed by the product.

If the impact is damped by means of rubber-elastic materials, the effect of the knocker decreases with the noise intensity. According to the theorem of momentum ( $F \cdot t = m \cdot v$ ) the force F decreases when the time becomes longer.

With a Pneumatic Knocker type K...-V1, with a striker bolt made of Vulkollan (PU), and with a sound insulation plate AP-SD... made of Vulkollan, which is clamped between Welding Plate AP and Knocker, the noise intensity is reduced about 5 dBA, but the effect of the Knocker diminishes as well.

The noise level can only be reduced essentially by sound absorption and therefore the following apparatus can be obtained:

Sound Insulation Hood

The sound insulation hood KSH... is put over the Knocker and with an elongation screwed on the bolt in the middle of the knocker. A rubber-edge protection, which accommodates to the shape of the silo, is clamped onto the contact surface facing the silo. In case of smaller silos the sheet of the sound insulation hood has to be accommodated to the silo shape. See to it, that there is no air gap between sound insulation hood and silo wall, because then the sound absorption is diminished normously. The sound insulation hood is fitted with a rubber insulator for the compressed-air hose and with a sound absorber for the scavenging air.

**SOUND ABSORBER**

| Part-No:   | 524001 | 524002 | 524003 | 524004 | 524005 | 524006 |
|------------|--------|--------|--------|--------|--------|--------|
| d          | R 1/8" | R 1/4" | R 3/8" | R 1/2" | R 3/4" | R 1"   |
| Type       | 2      | 2      | 1      | 2      | 2      | 2      |
| ∅ kl       | 8      | 9      |        | 18,5   | 20     | 25     |
| ∅ gr       | 11     | 14     |        | 24     | 29     | 36     |
| SW         |        |        | 22     |        |        |        |
| L          | 29     | 34     | 36     | 44     | 54     | 65     |
| weight[kg] | 0,008  | 0,015  | 0,034  | 0,067  | 0,128  | 0,203  |

**Sound Insulation Plate**

The sound insulation plate damps the sound reflection of the silo, without damping the oscillations caused by the Knocker. The special material manufactured for us has the following technical data:

- Sound Insulation : 41 dBA (at 1000 Hz)
- Sound Absorption : 25 dBA (at 1000 Hz)
- Vibration damp coefficient : 0,13 (at 200 Hz, 20°C)
- Surface weight : 4,3 kg/m<sup>2</sup>

The sound insulation plate has got a hole in the middle, so that it can be mounted round the sound insulation hood. In case of mounting the protective paper is removed and the sound insulation plate KSP is stuck to the silo wall. If a bigger surface has to be insulated, we deliver sound insulation plates SP.. made of the same material.

Type: SP 1/2 990 mm x 990 mm x 22 mm

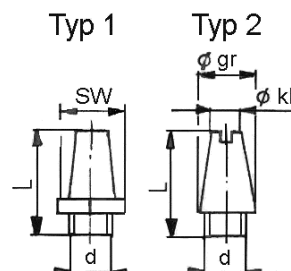
You should pay attention that there are no gaps between the plates, because then the effectiveness of sound absorption diminishes enormously.

The adhered sound insulation plates can additionally be fixed with a galvanized binding wire or can be painted in the required color graduation with a dispersion-colour without solvent.

Further measures

If sound conducted through solids is transferred from the silo to the building, the silos have to be suspended elastically. The working scope can also be shielded by sound absorbing walls.

In special cases please consult firms which are competent for sound insulation measures



Sound Absorber

In order to damp the deaeration noise of the solenoid valve sound absorbers are screwed into the deaeration borings of the solenoid Valves.