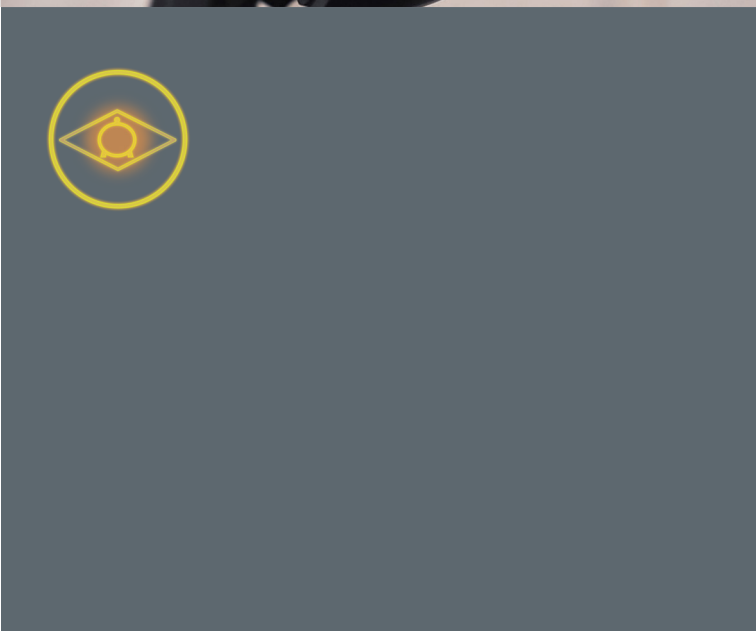


## Sound Level Measurements

### Services



Depending on the local conditions, EMA Indutec systems or other machines can produce a sound pressure level that can cause noise-induced hearing loss. At a level of more than 85 dB(A), the operating personnel must wear hearing protection.

Alternatively, sound protection measures can be installed.

As a service, and at the customer's request, we can produce sound measurement reports for our own systems and for any other machines and systems.

The measurements are carried out according to the current standards and regulations and, if necessary, according to the customer's specifications.:

- DIN 45635: Noise measurements on machines
- DIN EN ISO 3746:2011: Acoustics: Method using an enveloping measurement surface
- IEC 804/DIN EN 60804: Integrating-averaging sound level meters
- Directive 2006/42/EG
- Directive 2003/10/EG

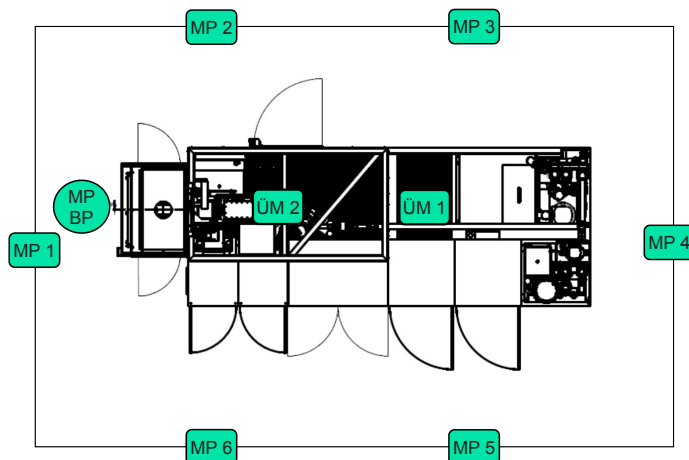
### Protocols

For each measured machine you will receive a meaningful protocol. In our company we evaluate the measured values at the individual measuring points for you.

This evaluation is made available to you as a measurement report.

The protocol is also an important part of your machine documentation.

### Example



### Measuring protocol (example):

Mittlerer Schalldruckpegel	LCpeak	Messfläche der quaderförmigen Hüllfläche
Bedienplatz	74,33 dB	Länge 8,00 m
Messpunkt 1	73,83 dB	Breite 4,00 m
Messpunkt 2	68,94 dB	Höhe 4,20 m
Messpunkt 3	71,54 dB	Oberfläche Quader Gesamt
Messpunkt 4	77,70 dB	132,80 m²
Messpunkt 5	74,23 dB	
Messpunkt 6	69,28 dB	
über Maschine 1	69,09 dB	
über Maschine 2	69,09 dB	
	72,00 dB	
		Mittlerer Schalldruckpegel:
		ΔL= 72,00 dB

Berechnung ohne Korrekturfaktor K1 & K2!

LWA= 72,00 + 10 lg 132,8

**LWA= 74,13 dB**

### Measured values (example):

Hall base level 52,38 dB(A)  
 Equivalent continuous noise level MP 1-6: 72,58 dB(A)  
 (according to DIN IEC 804) MP BP: 74,33 dB(A)  
 MP ÜM: 69,09 dB(A)

### Measuring points:

- Measuring points (MP) 1 – 6 are recorded at a distance of 1.0 m from the system and 1.6 m above the ground.
- Measuring point BP is at the operating station, 1.6 m above the ground.
- Measuring points ÜM 1 – 2 are recorded 1.0 m above the system.

### Soundproofed workroom

