

# PRODUCT DATA

## High-level Pressure-field ¼-inch Microphone — Type 4941

*The High-level Pressure-field ¼-inch Microphone is specially designed for very high level measurements in frequency range 4 Hz to 20 kHz. The microphone can be exposed to maximum pressure of 201 dB peak.*

### USES

- Gunshot
- Fireworks
- Rockets

### FEATURES

- Sensitivity: 0.09 mV/Pa
- Frequency: 4 – 20000 Hz
- Dynamic Range: 59 – 184 dB
- Temperature: –40 to 150°C  
(–40 to 302°F)
- Polarization: 200 V External



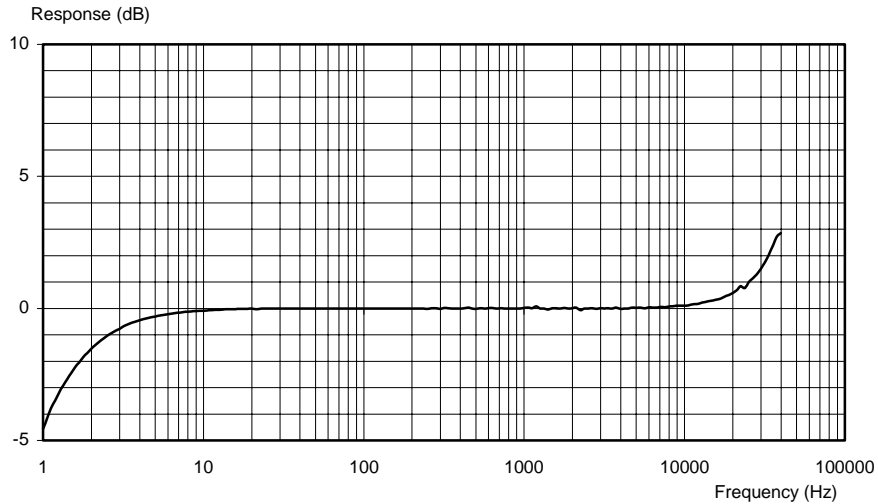
### Design

High-level Pressure-field ¼-inch Microphone Type 4941 has the same dimensions as other ¼-inch microphones but is equipped with a very thick diaphragm and a special backplate for use in high-level measurements.

### Calibration

The sensitivity can be measured at 250 Hz using Pistonphone Type 4228 with ¼-inch Adaptor DP 0775. The pressure-field response can be measured using Actuator UA 0033 with Adaptor DB 0264. The pressure-field response is equal to the actuator response.

Fig. 1 Type 4941 pressure-field response



## Specifications – High-level Pressure-field ¼-inch Microphone Type 4941

**Typical Uses:** Very high-level pressure measurements

**Nominal Diameter:** ¼"

**Open-circuit Sensitivity (250 Hz)\*:**  $-81 \pm 1$  dB re 1 V/Pa, 0.089 mV/Pa

**Polarization Voltage:** 200 V external

**0° incidence Free-field Response\*:**

$\pm 1$  dB 10 Hz to 8 kHz

$\pm 2$  dB 4 Hz to 20 kHz

**Lower Limiting Frequency (-3 dB):** 0.3 Hz to 3 Hz

**Pressure Equalization Vent:** Side vented

**Capacitance (Polarized):** 3.3 pF at 250 Hz

**Upper Limit of Dynamic Range (3% Distortion):** >184 dB SPL

**Upper Limit of Dynamic Range (10% Distortion):** >194 dB SPL

**Maximum Sound Pressure Level:** 201 dB (peak)

**Storage Temperature:**

**In case:**  $-30$  to  $70^\circ\text{C}$  ( $-22$  to  $158^\circ\text{F}$ ),

**Operating Humidity Range:** 0 to 100%RH (without condensation)

**Influence of Humidity:** <0.1 dB in the absence of condensation

### Dimensions

**Diameter with Grid:** 7 mm (0.27 in)

**Diameter without Grid:** 6.35 mm (0.25 in)

**Height with Grid:** 10.5 mm (0.41 in)

**Height without Grid:** 9 mm (0.35 in)

**Thread for Pre-amplifier Mounting:** 5.7 mm-60UNS

**Note:** All values are typical at  $23^\circ\text{C}$  ( $73.4^\circ\text{F}$ ), 101.3 kPa and 50% RH, unless measurement uncertainty or tolerance field is specified. All uncertainty values are specified at  $2\sigma$  (i.e., expanded uncertainty using a coverage factor of 2)

**CE** compliance with EMC Directive

### Environmental

**Operating Temperature Range:**  $-40$  to  $150^\circ\text{C}$  ( $-40$  to  $302^\circ\text{F}$ )

\*Individually calibrated

## Ordering Information

Type 4941 High-level Pressure-field ¼-inch Microphone

**Includes the following accessories:**

BC 0224 Calibration Chart†

†Quote microphone serial number if re-ordering

### OPTIONAL ACCESSORIES

Type 2670 ¼-inch Microphone Pre-amplifier

DP 0775 Calibration Adaptor for ¼-inch microphones

DB 0264 ¼-inch to ½-inch Adaptor

UA 0385 Nose Cone

EU 4000 Right-angle Adaptor

Brüel & Kjær reserves the right to change specifications and accessories without notice