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- **Customer:** PM - AV
- **Test request:** PM sound noise test request
- **Order:**

Unit under test:

☒ motor	- Model:	PLM90B14/1225
☐ pump	- Part #	53004HD00
☐ pump unit	- Serial #	20071227 00011
	- Power / Current	2.2 kW / 12.7 A
	- Duty point	

Standards:

- **UNI EN 12639 May 2002** (base norm)
Noise test code - Liquid pumps and pump units - Grade 2 and grade 3 of accuracy
- **UNI EN ISO 9614-1 November 1997** (noise test procedure)
Acoustics - Determination of sound power levels of noise sources using sound intensity Measurement at discrete points
- **UNI EN ISO 11203 October 1997** (sound pressure calculation)
Acoustics - Noise emitted by machinery and equipment - Determination of emission sound pressure levels at a workstation and at other specified positions from the sound power level
- **UNI EN ISO 4871 October 1998** (report)
Acoustics - Declaration and verification of noise emission values of machinery and equipment

- **Accuracy Grade:** ☐ 1 - Precision ☒ **2 - Engineering** ☐ 3 - Survey

- **Filter Bandwidth:** ☒ **1 / 1 octave** ☐ 1 / 3 octave
- **Range:** **125 ÷ 8000 Hz**

Operating conditions:

Test reference:

O. m.	Capacity [l/min]	Total Head [m H ₂ O]	P1 motor [kW]	P1 pump [kW]	U test [V]	Speed [rpm]	Operating Mode
1	-	-	-	-	230	-	1 [50Hz]
2	-	-	-	-	-	-	
3	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-

Installation conditions

Installation of the source on testing laboratory, over a reflecting plane surface, in the middle of the measurement grid.

Measurement instrumentation

- Dual channel, real time Frequency Analyzer Bruel&Kjaer, model 2144, serial 1697760
- Intensimetric Sound Probe Bruel&Kjaer, model 3548, serial 1696184
- Couple of microphones Bruel&Kjaer, size 1/2", model 4181, serial 1698245
- Intensimetric Calibrator Bruel&Kjaer, model 3541, serial 2295760
- Pistonophone Bruel&Kjaer, model 4228, serial 2245283

Form Id.:	Revision:	Procedure:	TL Operator	TL Manager	Approved
R&D/TLM001	B 061121	R&D/TLP007	AC	FC	
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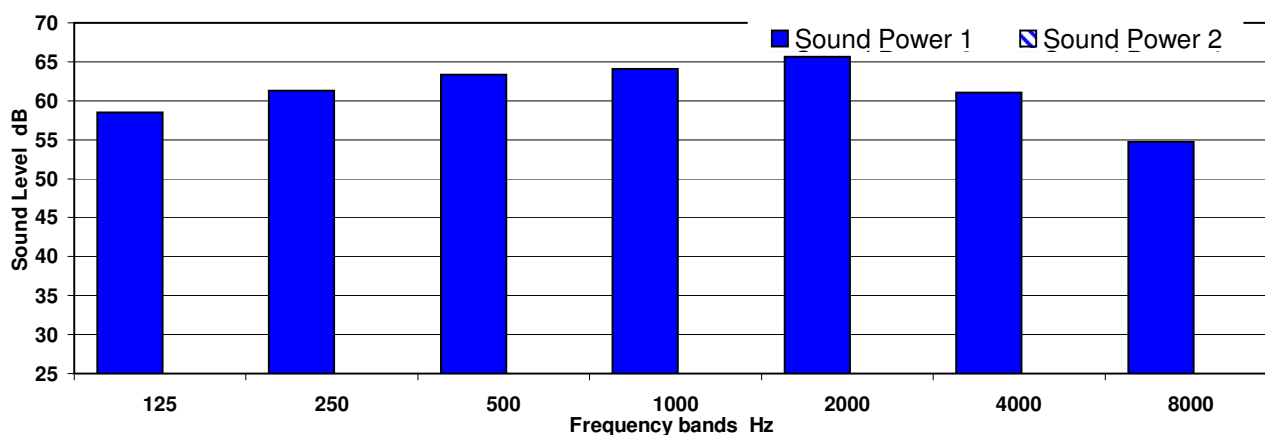
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Measured Sound Power level L_{WA} and Sound Pressure level L_{pA} : data by frequency bands

sound pressure calculation from sound power, in compliance with ISO 11203 - 6.2.1, 6.2.3									
F.bands (Hz)	125	250	500	1000	2000	4000	8000		
1 L_{WA} dB	58.5	61.3	63.3	64.1	65.7	61.0	54.8		
L_{pA} dB	56.4	59.2	61.2	61.9	63.6	58.9	52.7		
2 L_{WA} dB	-	-	-	-	-	-	-		
L_{pA} dB	-	-	-	-	-	-	-		
3 L_{WA} dB	-	-	-	-	-	-	-		
L_{pA} dB	-	-	-	-	-	-	-		
4 L_{WA} dB	-	-	-	-	-	-	-		
L_{pA} dB	-	-	-	-	-	-	-		



SOUND EMISSION VALUES DECLARED DISSOCIATED, in compliance with ISO 4871	1	2	3	4
A-weighted measured sound power level L_{WA} dB (reference 1 pW)	70.2	-	-	-
Estimated uncertainty K_{WA} dB	2.5	-	-	-
A-weighted sound pressure level L_{pA} dB (ref. 20 μ Pa) average on meas. Surface	68.1	-	-	-
Estimated uncertainty K_{pA} dB	2.5	-	-	-

Emission sound pressure level L_{pA} in defined positions - referenced to UNI EN ISO 4871, INTRODUCTION, b)

measured by B&K type 2236 s/n 16 206, at 1 meter from the source surface							
position	room	¹ shaft	² fan	³ left	⁴ right	⁵ upper	average
L_{pA} dB	47.0	58.5	63.2	63.0	63.0	63.3	62.2
		-	-	-	-	-	-
		-	-	-	-	-	-
		-	-	-	-	-	-

Compliance Statement

All requirements of the "Noise Tests - R&D/TLP007" procedure have been satisfied.

Form Id.: R&D/TLM001	Revision: B 061121	Procedure: R&D/TLP007	TL Operator AC	TL Manager FC	Approved
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