



The complete solution for the hearing health of professionals exposed to noise



COTRAL Micra 3D[®] for food processing environment

3D customised hearing protection made of blue Crylit[®]

3D digital manufacture based on ear impressions

5-year guarantee

The COTRAL Micra 3D[®] Agro protection, made of Crylit[®], fulfil the **stringent requirements of the food processing industry**. Easily identifiable by their colour and detectable by your security gates, they are appreciated for their comfort and their ease of use.

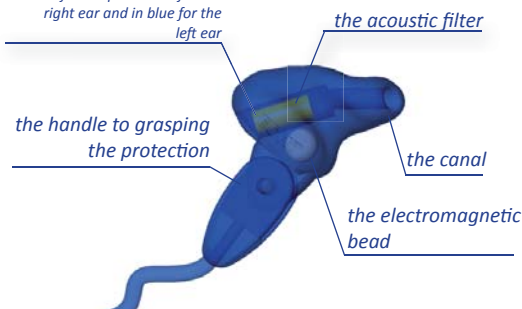
They are manufactured in 3D based on a scan of the impressions taken directly at your site by your COTRAL Prevention Technician. The digital manufacturing means that you benefit from customised protection with great precision (100 microns) for unparalleled comfort, without having to worry about storing the impressions which are kept in the COTRAL's database.

For 6 you key points

- The ear impressions for each employee are taken at your company, according to your needs.
- Information is given to raise employee's awareness of the risks of noise during the impression taking.
- Simple maintenance to ensure that your protections remain effective and comfortable to wear.
- ATAG+ to select the filter according to your hearing ability, your environment and your function...
- Maintenance and monitoring of the efficacy of your acoustic filters for 100% safety.
- The possibility to manage your fleet of protections online.

Description

the alphanumerical code written on the protection in red for the protection for the right ear and in blue for the left ear



Your guarantees

- Your protections are **certified** according to standard EN 352-2:2003.
- Your protections are **guaranteed for 5 years** (refer to the recommendations of use).
- An after-sales service at **www.cotral.co.uk "customer area"** or by telephone at **+33 (0) 2 31 69 05 13**.

You will appreciate

- the **electromagnetic bead detectable** by your security gates.
- the metal pinch clip, the cord and the blue handle are all easy to locate.
- **AUDITOOLS:** A online box with free downloadable documents at www.cotral.co.uk for hearing health management.



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COTRAL Micra 3D[®] for food processing environment

3D customised hearing protection made of blue Crylit[®]
 8 certified models with this protection
 SNR between 20 and 32 dB

The acoustic filters

High-pitched sounds become harmful at 85 dB(A) and more, low-pitched sounds from 100 dB(A) upwards. The most sensitive frequencies are between 2000 Hz and 6000 Hz with a maximum at 4000 Hz.

Directly incorporated in the protection, the XS filter completely fulfil the needs for protection in an industrial environment. They offer marked attenuation at high frequencies and less attenuation at medium and low frequencies.

8 models are certified
 (standard NF EN 352-2:2003).

It is essential for the protection to reduce noise to below the regulatory thresholds without the attenuation's being excessively high. One should not ignore the significance of communication and the need to hear warning signals.

Source: standard EN 458

Choice of the filters

Each technician uses the ATAG+ analysis method. Developed by Laboratoire COTRAL, it allows selection of the filters according to the LEQ (mean intensity for 8 hours of exposure), the low and high frequencies, the wearing habits and the hearing losses of each user.

Choose the COTRAL Micra 3D[®] Agro that you need:

		63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	HML (dB)	SNR(dB)
XS5	Mf (dB)	9,6	10,6	12,3	18,9	23,4	28,3	32,1	32,8	H	23,5
	Sf (dB)	5,2	4,1	4,3	3,3	5,0	5,8	3,8	7,0	M	17,0
	APVf (dB)	4,3	6,4	8,0	15,6	18,3	22,4	28,4	25,8	L	11,1
XS7	Mf (dB)	13,6	13,5	15,1	19,7	25,9	32,9	33,8	37,5	H	26,1
	Sf (dB)	4,9	5,0	4,5	4,9	6,7	4,7	5,2	7,0	M	18,1
	APVf (dB)	8,7	8,5	10,5	14,8	19,2	28,2	28,6	30,4	L	13,1
XS11	Mf (dB)	13,0	13,4	17,1	20,4	25,8	33,1	34,7	33,1	H	27,0
	Sf (dB)	4,4	4,4	4,8	4,4	4,9	4,3	5,2	5,8	M	19,5
	APVf (dB)	8,6	9,0	12,3	16,0	20,9	28,8	29,4	27,3	L	14,3
XS18	Mf (dB)	16,1	17,1	19,2	22,9	27,8	33,1	35,2	37,0	H	27,6
	Sf (dB)	7,2	6,5	4,9	5,8	6,4	4,3	4,8	7,3	M	20,6
	APVf (dB)	8,9	10,6	14,3	17,0	21,4	28,8	30,5	29,7	L	15,9
XS21	Mf (dB)	15,7	16,4	18,9	22,4	26,8	32,4	36,0	36,4	H	28,3
	Sf (dB)	6,6	5,5	4,3	5,0	5,0	3,2	4,1	4,1	M	20,9
	APVf (dB)	9,1	10,9	14,6	17,3	21,8	29,2	31,9	32,3	L	16,3
XS30	Mf (dB)	18,2	17,9	20,2	25,4	29,6	34,2	38,6	37,2	H	30,2
	Sf (dB)	6,0	5,5	5,5	5,1	4,7	4,2	5,4	4,9	M	23,1
	APVf (dB)	12,1	12,4	14,7	20,3	24,8	30,0	33,2	32,3	L	17,4
XS35	Mf (dB)	17,5	19,3	21,3	27,8	31,3	35,7	39,1	36,5	H	31,0
	Sf (dB)	5,5	5,1	3,5	5,5	5,7	5,3	2,9	3,4	M	24,9
	APVf (dB)	11,9	14,1	17,8	22,3	25,7	30,4	36,1	33,1	L	19,7
XSP	Mf (dB)	26,7	28,8	27,6	33,6	33,2	35,3	40,2	40,6	H	32,1
	Sf (dB)	5,4	5,1	4,7	5,4	5,3	4,3	4,3	5,6	M	28,7
	APVf (dB)	21,3	23,6	22,8	28,2	27,9	31,1	35,9	35,0	L	25,8
XNP	Mf (dB)	26,7	27,7	26,9	31,1	34,6	35,6	40,9	40,9	H	32,8
	Sf (dB)	4,7	4,5	4,3	3,7	4,6	4,5	3,8	5,0	M	29,4
	APVf (dB)	23,0	23,2	22,6	27,4	30,0	31,1	37,1	35,9	L	25,7

Mf (dB) : Affaiblissement - Dämmung - gemiddelde demping - average attenuation
 Sf (dB) : Ecart type - Standardabweichung - standaard afwijking - standard deviation
 APVf (dB) : Mf - Sf

