MCoil's transformer-core coils combine both lowest distortion rate and precise pulse signal with low internal resistance, even under highest output levels.Therefore they have been the benchmark for extremely precise and powerful but deep bass performance for more than 25 years!

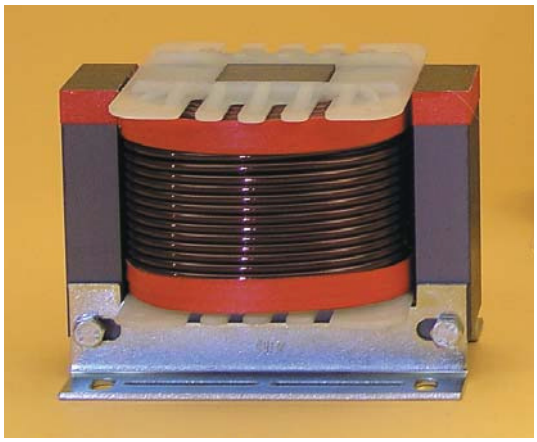
We are very pleased to present a completely revised and expanded model series, now meeting frequent customer requests for smaller dimensions, too.

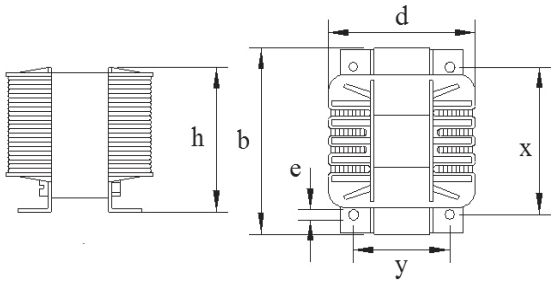
The outstanding features of this series can be considerably enhanced yet by the appliance of Baked Wiring Treatment or Vacuum Impregnation.

Baked Wiring Treatment is marked **BT** in the following table. Vacuum impregnated coils are marked **VT**.

Please find detailed information on the advantages of different coil technologies on pages 30 to 32. Key words are:
Feron Core • OFC-Copper• Solid Core

Technical specifications:
Core material: FERON
Grain-oriented silicon iron 0.35 mm
OFC-Copper 99.99% pure





Body	b	h	d	x	y	e
	Dimensions (mm)					
T66	66	52	56	51	45	4,8
T84	84	60	59,5	65	48	4,8
T96	96	69	76,1	85	62	5,8
T106	106	81	88	84	56	5,8
T130	130	100	106	104	73	5,8
T150	150	115	121	130	87	7

BT100
Transformer-core coils, baked varnish wire Ø 1,00 mm

Inductance [mH] ±3%	RDC [Ohm]	Body	[€]
10	0,74	T84	50,90
12	0,81	T84	51,90
15	0,90	T84	52,90
18	1,04	T84	53,90
22	1,14	T84	54,90

BT140
Transformer-core coils, baked varnish wire Ø 1,40 mm

Inductance [mH] ±3%	RDC [Ohm]	Body	[€]
1,0	0,11	T66	34,90
1,2	0,12	T66	35,50
1,5	0,13	T66	35,90
1,8	0,14	T66	36,50
2,0	0,11	T84	47,90
2,2	0,12	T84	48,90
2,7	0,17	T84	49,90
3,0	0,19	T84	50,90
3,3	0,22	T84	51,90
3,9	0,25	T96	61,90
4,7	0,27	T96	62,90
5,6	0,30	T96	63,90
6,8	0,32	T96	64,90
8,2	0,35	T96	65,90
10	0,39	T96	67,50
12	0,45	T96	68,90

BT125
Transformer-core coils, baked varnish wire Ø 1,25 mm

Inductance [mH] ±3%	RDC [Ohm]	Body	[€]
2,0	0,19	T66	35,90
2,2	0,21	T66	36,50
2,7	0,23	T66	36,90
3,0	0,24	T66	37,50
3,3	0,27	T84	49,90
3,9	0,29	T84	50,90
4,7	0,31	T84	51,90
5,6	0,34	T84	52,90
6,8	0,39	T84	53,90
8,2	0,43	T84	54,90
10	0,49	T96	65,90
12	0,55	T96	66,90
15	0,61	T96	68,50
18	0,67	T96	69,90
22	0,76	T96	71,90

Transformer-core coils, wire Ø 2,00 mm

Inductance [mH] ±3%	RDC [Ohm]	Body	T200 [€]	VT200 [€]
0,47	0,05	T84	49,50	64,50
0,56	0,05	T84	49,90	64,90
0,68	0,06	T84	50,50	65,50
0,82	0,06	T84	50,90	65,90
1,0	0,07	T84	51,90	66,90
1,2	0,08	T84	52,90	67,90
1,5	0,09	T84	53,90	68,90
1,8	0,08	T96	61,90	76,90
2,0	0,09	T96	63,50	78,50
2,2	0,09	T96	64,90	79,90
2,7	0,10	T96	66,50	81,50
3,0	0,11	T96	67,90	82,90
3,3	0,10	T106	71,50	86,50
3,9	0,11	T106	73,50	88,50
4,7	0,14	T106	75,90	90,90
5,6	0,15	T106	78,50	93,50
6,8	0,18	T106	80,90	95,90
8,2	0,20	T106	83,50	98,50
10	0,22	T106	85,90	100,90
12	0,23	T130	95,90	110,90
15	0,28	T130	99,90	114,90
18	0,33	T130	104,90	119,90
22	0,37	T130	109,90	124,90
27	0,41	T130	116,90	131,90
33	0,48	T130	123,90	138,90
39	0,48	T150	151,90	166,90
47	0,58	T150	162,90	177,90

Transformer-core coils, wire Ø 2,50 mm

Inductance [mH] ±3%	RDC [Ohm]	Body	T250 [€]	VT250 [€]
1,0	0,04	T96	74,90	89,90
1,2	0,04	T96	76,90	91,90
1,5	0,05	T96	78,90	93,90
1,8	0,05	T96	80,90	95,90
2,0	0,06	T106	87,90	102,90
2,2	0,07	T106	89,90	104,90
2,7	0,07	T106	91,90	106,90
3,0	0,08	T106	93,90	108,90
3,3	0,08	T106	95,90	110,90
3,9	0,09	T106	98,90	113,90
4,7	0,08	T130	103,90	118,90
5,6	0,09	T130	107,90	122,90
6,8	0,12	T130	112,90	127,90
8,2	0,14	T130	117,90	132,90
10	0,16	T130	124,90	139,90
12	0,19	T130	131,90	146,90
15	0,17	T150	154,90	169,90
18	0,22	T150	167,50	182,50
22	0,25	T150	179,90	194,90

Transformer-core coils, wire Ø 3,00 mm

Inductance [mH] ±3%	RDC [Ohm]	Body	T300 [€]	VT300 [€]
1,0	0,03	T106	84,90	104,90
1,2	0,03	T106	88,90	109,90
1,5	0,04	T106	91,50	114,90
1,8	0,04	T106	93,90	119,90
2,0	0,05	T130	104,90	129,90
2,2	0,05	T130	106,90	134,90
2,7	0,06	T130	109,50	139,90
3,0	0,06	T130	111,90	144,90
3,3	0,07	T130	114,90	149,90
3,9	0,07	T130	117,90	154,90
4,7	0,08	T130	121,90	159,90
5,6	0,09	T130	126,90	164,90
6,8	0,10	T150	159,90	194,90
8,2	0,11	T150	167,60	199,90
10	0,12	T150	174,90	204,90
12	0,13	T150	182,50	214,90
15	0,15	T150	189,90	224,90

Transformer-core coils, wire 6 * 2 mm

Inductance [mH] ±3%	RDC [Ohm]	Body	T390 [€]	VT390 [€]
1,0	0,03	T130	149,90	164,90
1,2	0,03	T130	152,50	167,50
1,5	0,03	T130	154,90	169,90
1,8	0,04	T130	157,50	172,50
2,0	0,04	T130	159,90	174,90
2,2	0,04	T150	179,90	194,90
2,7	0,05	T150	184,90	199,90
3,0	0,05	T150	189,90	204,90
3,3	0,05	T150	194,90	209,90
3,9	0,06	T150	199,90	214,90

Choosing the right coil wire

The sound characteristics of a coil are not only determined by the coil core (see p. 32) and the manufacturing quality but also by the wire type used. In order to be able to offer you the right coil for each application we use **three types of wires** made of **three materials** of highest purity.

OFC copper
Coils that use oxygen-free copper (99.997% purity) as conductor material are characterised by a harmonic, stereophonic reproduction of music, rich in detail, and an excellent price/performance ratio.

Pure silver
Due to their ability to reproduce voices and instruments in a more dynamic, detailed, spatial manner and with more timbres compared to copper coils, silver coils of highest purity (type 99.99%) are highly appreciated and preferred by a number of audio enthusiasts.

SilverGold
99% silver + 1% gold = 100% music.
This does not only add up for capacitors such as the MCap® SUPREME SilverGold.Oil and audio cables, but also for coils. The high-purity gold (type 99.99%) changes the crystalline structure of silver and maximises its very good electric conductivity. Instruments and voices unfold their full range of timbres and their character is illuminated and becomes perceivable in all shades. On the one hand `crystal clear,´ the reproduction is at the same time vibrant and warm, embedded in a finely differentiated, location-true image. Purity and fine elegance combined with a vibrant character distinguish this exquisite material from all others!

SolidCore wires
The reproduction of music by coils made of **solid round wires** (also referred to as SolidCore) excels by natural vibrancy and fineness as well as highest tonal neutrality. Another benefit of round wire coils are their highly compact dimensions. Like all Mundorf coils, they are wound and mounted by hand with highest accuracy and precision using special machines in Germany.

OFC standard is the most cost-efficient, audio-compatible coil wire and available in diameters from 0.50 to 3.90mm. Coils made of this material, however, do not have an additional coil fixation and thus have a disadvantage with respect to sound compared to all other coil types manufactured by Mundorf: This is because electric current passing through a coil will always cause a vibration of the entire winding. Due to the microphonic effect (the conversion of mechanical oscillations to electric oscillations) these mechanical oscillations are added to the original signal as additional information. This results in an interference with and an alienation of the details of the original signal. On the one hand, this results in a loss of spatial quality and transparency of the music and on the other hand in an increase of distortions and tonal discolorations of the signal. This physically induced unwanted effect, however, can be eliminated completely by the use of baked varnish wire or by means of vacuum impregnation.

Baked varnish coils have a special, solid OFC round wire with an additional layer of varnish. After the coil has been wound, it is heated up by means of an electric impulse causing the additional layer to melt. When cooling down, the individual windings are firmly bonded together by the baked varnish and are thus prevented from vibrating and the original signal remains uncorrupted. Unfortunately, self-bonding wires are only available in diameters from 0.50 to 1.40mm.
Vacuum impregnation is another procedure, equally effective as heat bonding, which we offer for coils with larger wire diameters (2.00 to 3.90mm). In vacuum impregnation, the coil is first impregnated with a special lacquer up to the innermost windings under vacuum. Subsequently, the impregnated coil is dried at 130° Celsius. Thus the whole coil is baked into a very solid unit.

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Hepta strand

The use of a strand of **seven individually isolated OFC self-bonding wires** gives the reproduction of music a fine, smooth, harmonic character, which is rich in detail at the same time. These acoustic characteristics are praised and appreciated by our customers, in particular when it comes to the musical `cultivation´ of speaker chassis with a tendency to tonal sharpness or hardness without having a negative impact on qualities such as brilliance and richness in detail.
The character is mainly formed by the use of round wires as single conductors and their special stranding. The baked winding and the reinforced PA coil body together form a winding unit of **highest mechanical stability** and tranquillity. Distortions and discolorations of the music signal are thus largely eliminated. In addition, the large surface of the seven-fold strand improves the effective conductivity for higher-frequent AC (skin effect). Our 7 x 0.6mm strand corresponds to a round wire diameter of approx. 1.60mm.

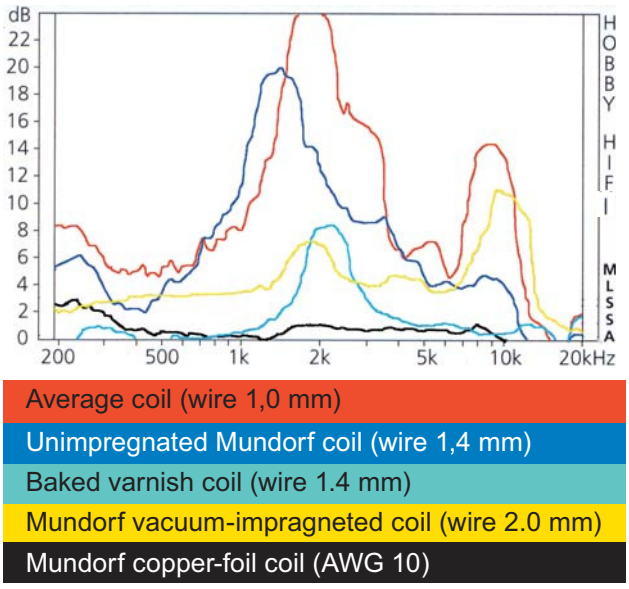
Foil coils

The reproduction of music by coils made of **solid metal foil** (also referred to as ribbon coils) excels by extraordinary dynamics, unparalleled detail and holographic spatial quality and lowest distortions and discolorations - Even finest nuances are represented in a realistic manner. Mundorf foil coils have thus become an integral part of many top-class audiophile products.

With its individual coils wound on each other, the foil coil corresponds to the **physically ideal coil** more than any other design. This is for example reflected in the quality of the coil which remains constant up to beyond 100 kilohertz. Furthermore, these coils are particularly **low-capacitive**, even though the similarity to a wound capacitor suggests the opposite so that even very high frequencies are isolated effectively. In addition, the large surface of the metal film improves the effective conductivity for higher-frequency alternating current (skin effect).

Another remarkable feature is the **high mechanical stability** of these coil types, which are carefully baked by hand: Due to the **large contact surface** between the individual windings and the viscoplastic isolation of the polypropylene foil the oscillations of the individual windings are eliminated effectively. These advantages can be seen clearly in the diagram shown below: Foil coils have the **lowest measured vibrations**. We offer copper foils in widths corresponding to round wire diameters of approx. 1.25mm • 1.60mm • 2.00mm and 2.50mm.

Vibrations of coils



Choosing the right coil core

The sound characteristics of a coil are not only determined by the coil wire (see p. 30) and the manufacturing quality but also by the coil core used. As the use of different cores results in coils with different advantages and disadvantages we offer **four core materials** and a total of seven core types. This enables us to manufacture exactly the right coil for each application.

In order to avoid microphonic effects, all Mundorf coils are wound on a coil body. This ensures mechanical stabilisation of the winding, decoupling of the coil from the board and, in addition, facilitates the manufacturing process.

Air coils

The ideal core material for coils is air. Air cored coils are, for physical reasons, superior to all metal core coils as far as accurate pulse reproduction and freedom from distortion are concerned. They can be used in all areas; either as highpass filter in the middle frequency range, as bass coil (with large conductor cross section) or in correcting components (with thin wire cross section).

Precision, dynamic, subtle tonal gradations, great detail and liveliness distinguish coils with air core from all others. In high-quality speakers, they are thus the basis for realistic and harmonic musical enjoyment. (from p. 33)

Core coils

Core coils have a metal core which reinforces the magnetic field. Compared to air coils, smaller, cheaper coils with higher inductivity and lower ohmic resistance can be realised. However, the metal core also affects the music signal (among other things due to unwanted distortions).

Ferrite cores are sintered from a metal plastic powder. The German-made ferrite material HP3616 used by us offers a significantly higher performance than the Asian cores used in many other products. It is characterised by low basic distortions and rapid magnetic reversibility (= change of field direction). The music signal is hardly delayed so that coils with ferrite cores are perfect for use in correcting components (as so-called peaking coils) and in the middle frequency range.
So far the only ferrite material tested by us HP3616 meets our high demands regarding resilience and distortion making it suitable even for use in the middle-low frequency and bass range for lower amplifier performance. (from p. 41)

Aronit cores (also known as P cores) consist of high-density metal-ceramics-powder. The German-made Wicon ferrite rods produce extremely low distortion, even at very high loadings. Due to their highly compact dimensions, their low internal resistance and their excellent price/performance ratio they are particularly suitable as bass and subwoofer coils and for PA applications. (from p. 44)

Feron cores consist of an iron-silicon alloy (also called electrical sheets). Our high-performance transformer plates are rolled and tampered several times using special procedures so that all crystals are oriented in the same direction (grain oriented) and a uniform crystal-lattice structure is obtained. Mundorf Feron core coils thus differ from conventional, similar looking coils in a measurable and audible way.
They stand out due to minimum basic distortion, magnetic reversal losses and distortions while having a high performance and are thus suitable for flexible applications. (from p. 46)

Zero ohm coils (ZOC) are a speciality of our company. In the ZOC, an air gap is calibrated and precisely adjusted by hand between two sheet metal packages made of Feron. The air gap determines the inductivity of the coil and demands great care in the manufacturing process. The high production costs of the ZOC are always justified when maximum faithfulness in pulse reproduction of the playback is required. This special form of the Feron core coil helps to realise lower internal resistances as compared to other core types. (from p. 48)

Capacitors

Capacitors (Latin term: condensus = compressor) are capacitive, i.e. they store electric charge. The physical unit of measure for capacity [C] (Latin term: capacitas = capacity) is Farad [F] (in honour of the English physicist and chemist Michael Faraday). Capacitors consist of two electrodes (surfaces conducting electricity) which are arranged close to each other, and a dielectric (insulating layer) in between.

Capacitors (abbr. cap) are frequency-dependent resistors. This is an important property for audio applications because capacitors can filter out low frequencies (i.e. low tones) from music signals. As the filter effect decreases with increasing frequency, the reverse conclusion is: The lower the capacity, the higher the filter effect (i.e. the higher the separating frequency).

Coils

Coils (also referred to as inductors) are inductive, i.e. they influence the current flowing through them by their own magnetic field. The physical unit of measure for inductivity [L] (Latin term: inductio = induce) is Henry [H] (in honour of the US-American physicist Joseph Henry). Coils consist of a wire wound around a core (ideally air).

Similar to capacitors, coils are frequency-dependent resistors. Their filter effect increases with increasing frequency allowing for the elimination of high frequencies (= high tones), i.e. the higher the inductivity, the lower the separating frequency.

Resistors

Resistors (R) (Latin term: resistere = to resist) reduce the current flowing through them by converting part of the energy into heat. The physical unit of measure indicating electric resistance is [Ω] (according to the German physicist Georg Simon Ohm).

The effect which is important for audio applications is that resistors attenuate the entire audio signal irrespective of the frequency. The higher the resistance value, the more energy is converted.

Stereophony

Lowest tolerances of components used in the left and right signal path are fundamental for realistic and stereophonic (Greek stereos = spatial) music reproduction. Only if the characteristics of both channels are close to identical, each musician can be exactly allocated and an according spatial reproduction is possible.

Richness of detail

The conversion of mechanical into electrical vibrations is referred to as microphonic effect. This effect results in vibrations added to the electric music signal thus overlaying and alienating it. On the one hand, the transparency and stereophony of reproduction decreases, and on the other hand, distortions and tonal irritations increase significantly. Therefore, mechanically solid and vibration-damping components are a vital prerequisite for audiophile music reproduction.

Raw materials & processing

Lowest tolerances and highest mechanical stability can only be guarantied by using raw materials of highest quality and pureness, maximum accuracy regarding to controls as well as utmost precision and continuity in production. Furthermore, these characteristics which apply for all products made by MUNDORF ensure highest audio pleasure.