

X [mm]	F [N]	-F [N]
-15	-3,67	-3,76
-14	-3,55	-3,65
-13	-3,36	-3,48
-12	-2,98	-3,08
-11	-2,23	-2,27
-10	-1,12	-1,14
-9	0,63	0,59
-8	2,44	2,33
-7	4,22	4,08
-6	5,64	5,54
-5	6,82	6,85
-4	7,38	7,45
-3	7,62	7,68
-2	7,77	7,8
-1	7,84	7,86
0	7,87	7,87
1	7,86	7,84
2	7,8	7,77
3	7,68	7,62
4	7,45	7,38
5	6,85	6,82
6	5,54	5,64
7	4,08	4,22
8	2,33	2,44
9	0,59	0,63
10	-1,12	-1,14
11	-2,23	-2,27
12	-3,08	-2,98
13	-3,48	-3,36
14	-3,65	-3,55
15	-3,76	-3,67

Symmetrisch 2X25Wdg. 10A

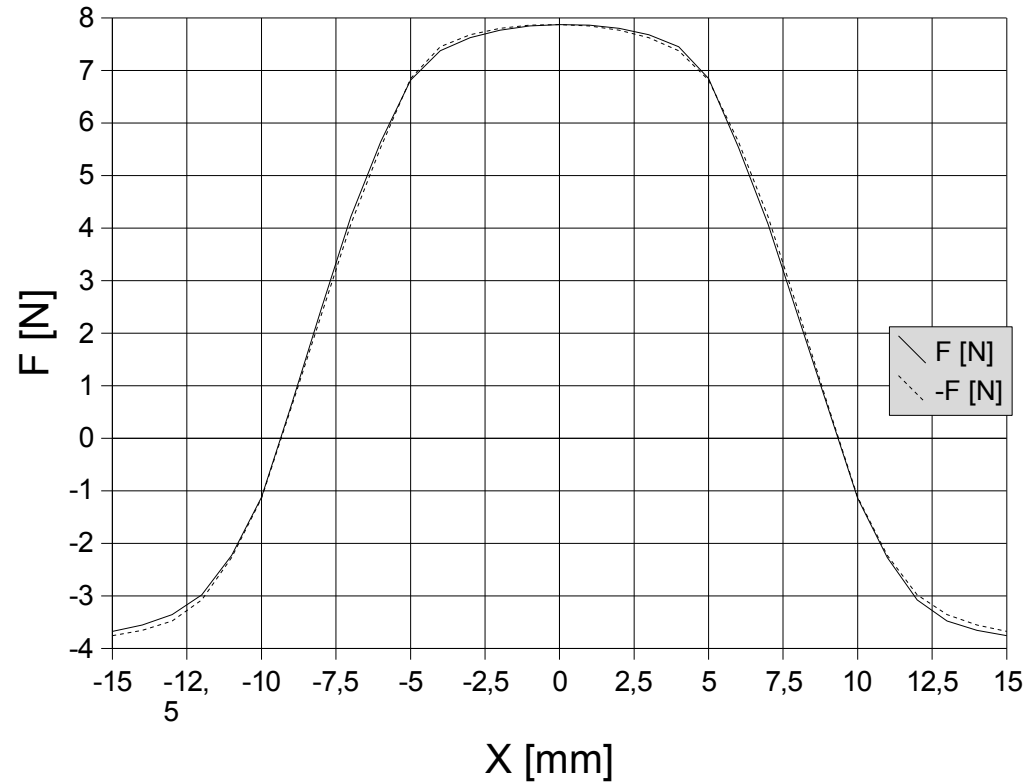
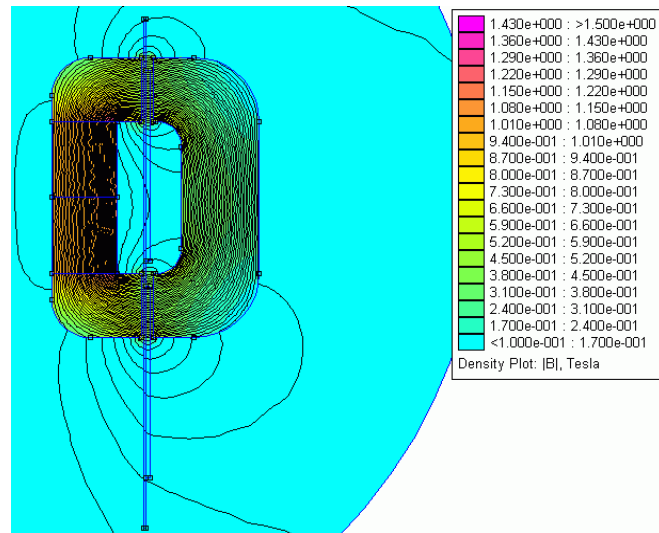
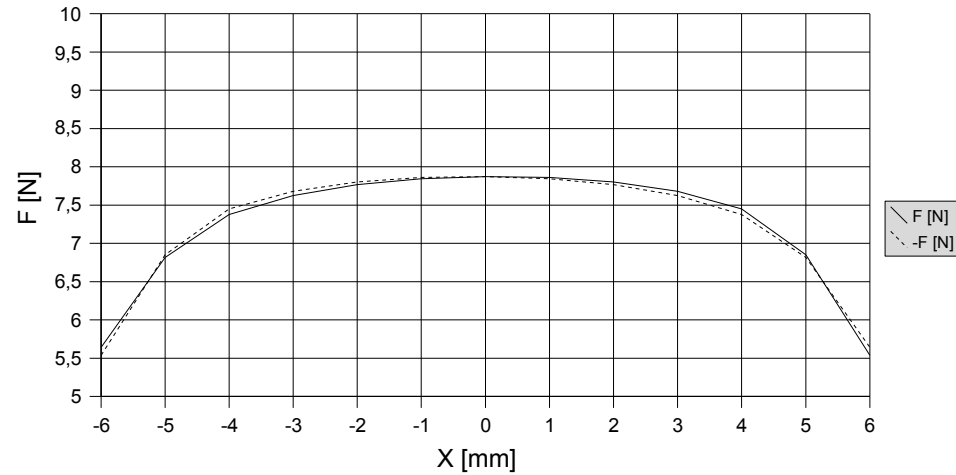


Tabelle1

X [mm]	F [N]	-F [N]	Symmetry [%]	Linearity [%]
-6	5,64	5,54	1,32	-28,35
-5	6,82	6,85	-0,41	-13,42
-4	7,38	7,45	-0,93	-6,33
-3	7,62	7,68	-0,71	-3,17
-2	7,77	7,8	-0,43	-1,35
-1	7,84	7,86	-0,22	-0,37
0	7,87	7,87	0,00	0,00
1	7,86	7,84	0,22	-0,16
2	7,8	7,77	0,43	-0,92
3	7,68	7,62	0,71	-2,46
4	7,45	7,38	0,93	-5,40
5	6,85	6,82	0,41	-13,00
6	5,54	5,64	-1,32	-29,67

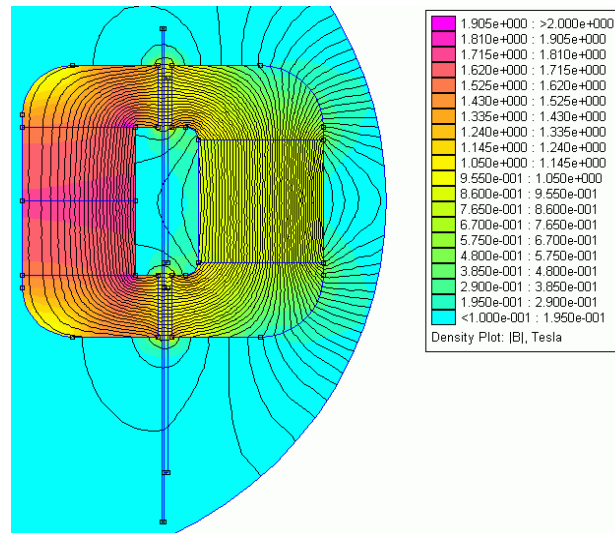
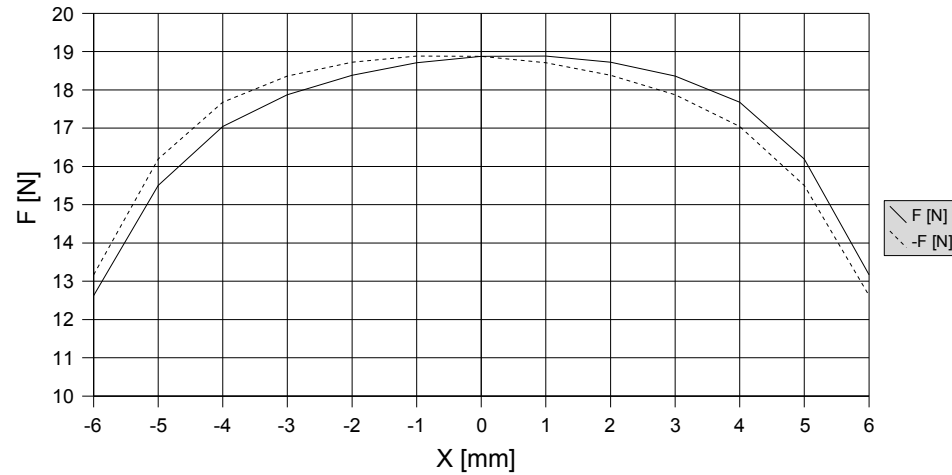
Überhang symmetrisch 50Wdg. 10A, VC D25x15, NdFeB innen D20xd10x2H6



SpeakerMotor_symmetrical_NdFeB_D20xd10x2H6,fem

X [mm]	F [N]	-F [N]	Symmetry [%]	Linearity [%]
-6	12,62	13,17	-2,90	-33,14
-5	15,51	16,2	-3,66	-17,87
-4	17,04	17,68	-3,36	-9,73
-3	17,87	18,36	-2,61	-5,33
-2	18,38	18,73	-1,83	-2,64
-1	18,71	18,88	-0,89	-0,88
0	18,88	18,88	0,00	0,00
1	18,88	18,71	0,89	0,01
2	18,73	18,38	1,83	-0,81
3	18,36	17,87	2,61	-2,73
4	17,68	17,04	3,36	-6,37
5	16,2	15,51	3,66	-14,21
6	13,17	12,62	2,90	-30,24

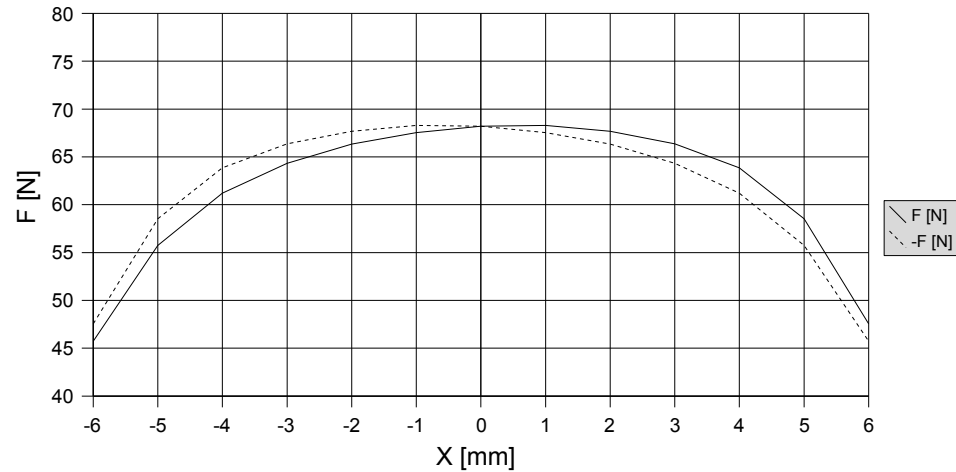
Überhang symmetrisch 50Wdgd. 10A, VC D25x15, NdFeB38 außen D50xd30xH10



SpeakerMotor_symmetrical_NdFeB38_D50xd30xH10,fem

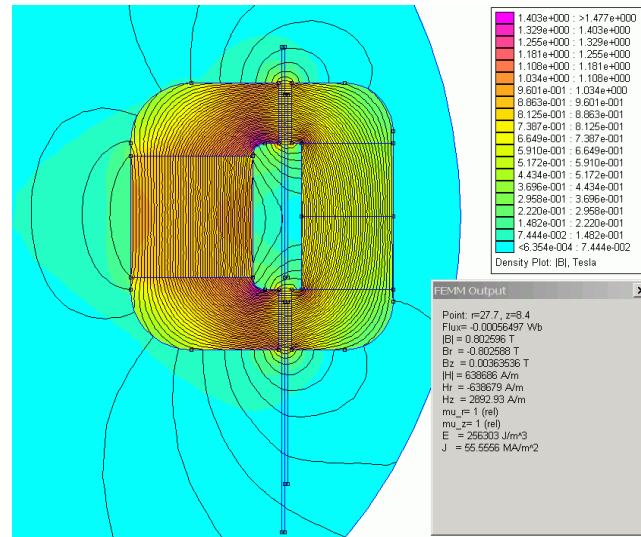
X [mm]	F [N]	-F [N]	Symmetry [%]	Linearity [%]
-6	45,73	47,55	-2,66	-32,96
-5	55,73	58,52	-4,09	-18,30
-4	61,2	63,86	-3,91	-10,28
-3	64,32	66,38	-3,02	-5,70
-2	66,33	67,69	-2,00	-2,76
-1	67,55	68,29	-1,09	-0,97
0	68,21	68,21	0,00	0,00
1	68,29	67,55	1,09	0,11
2	67,69	66,33	2,00	-0,77
3	66,38	64,32	3,02	-2,69
4	63,86	61,2	3,91	-6,37
5	58,52	55,73	4,09	-14,20
6	47,55	45,73	2,66	-30,29

Überhang symmetrisch 50Wdg. 10A, VC D25x15, NdFeB38 innen D50xd30xH10



50Wdg, 0,2mm² 5mm
3,9Tm 3,9m

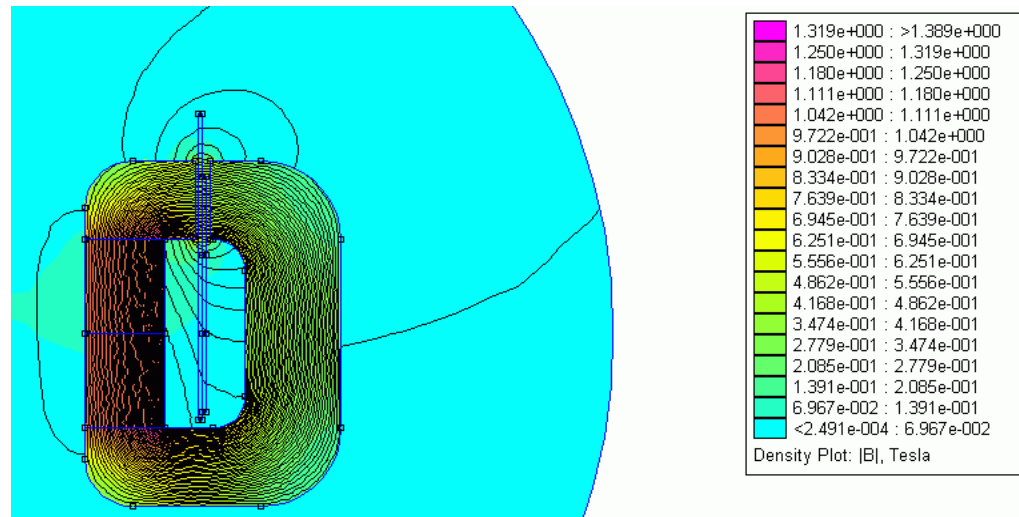
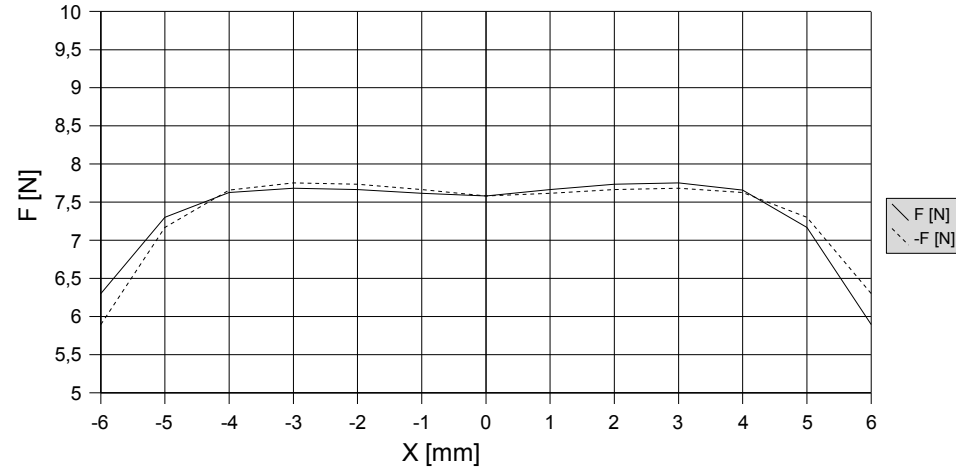
D(Draht) [mm] **0,3**
DVC [mm] **25**
HVC [mm] **30**
Feld, typ, [T] **0,8**
Lagen **1**
Wdg, **100**
A(Draht) [mm²] **0,07**
L(Draht) [m] **7,85**
Rdc [Ω] **1,89**
BL [Tm] **6,28**
Masse VC [g] **4,39**



SpeakerMotor_symmetrical_NdFeB38_D50xd30xH10i,fem

X [mm]	F [N]	-F [N]	Symmetry [%]	Linearity [%]
-6	6,3	5,89	5,35	-16,92
-5	7,3	7,17	1,78	-3,69
-4	7,63	7,66	-0,43	0,58
-3	7,68	7,75	-0,92	1,35
-2	7,66	7,73	-0,91	1,10
-1	7,62	7,66	-0,64	0,45
0	7,58	7,58	0,00	0,00
1	7,66	7,62	0,64	1,09
2	7,73	7,66	0,91	2,01
3	7,75	7,68	0,92	2,26
4	7,66	7,63	0,43	1,00
5	7,17	7,3	-1,78	-5,47
6	5,89	6,3	-5,35	-22,26

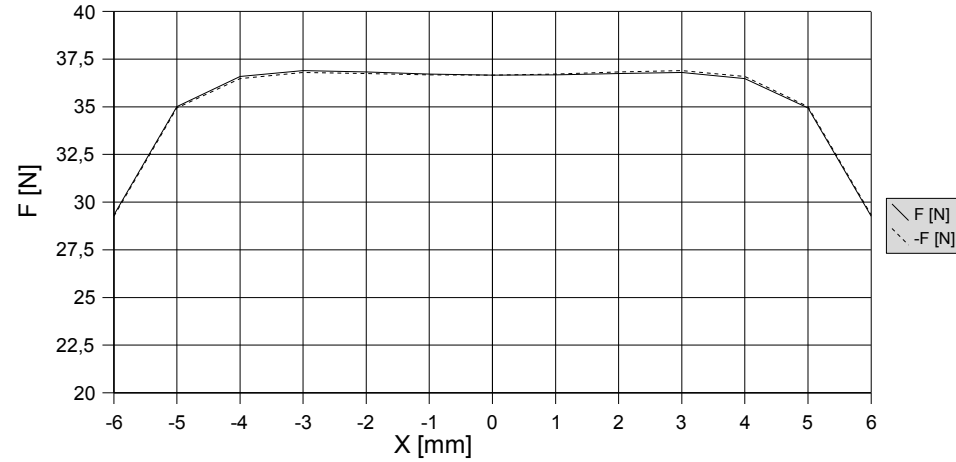
Asymmetrisch 50Wdgd. 10A, VC im Mittelbereich gedehnt



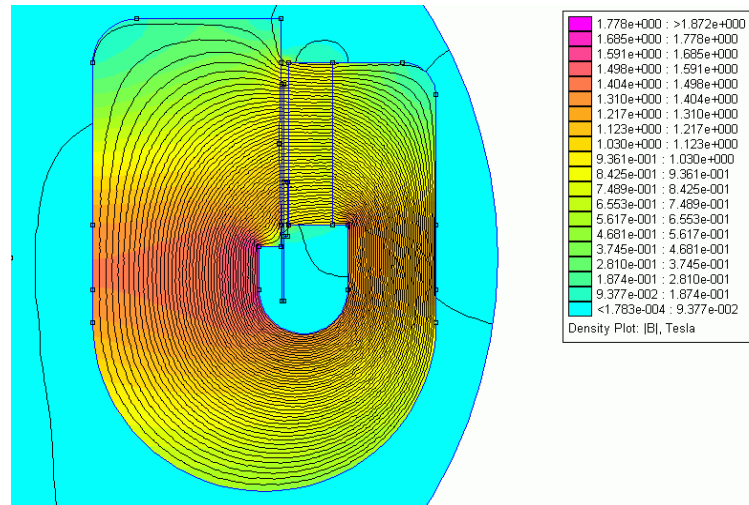
SpeakerMotor_asymmetrical_NdFeB_D20xd10x2H6,FEM

X [mm]	F [N]	-F [N]	Symmetry [%]	Linearity [%]
-6	29,33	29,25	0,22	-20,00
-5	35,02	34,94	0,22	-4,50
-4	36,6	36,49	0,30	-0,18
-3	36,9	36,8	0,26	0,64
-2	36,83	36,75	0,23	0,46
-1	36,72	36,68	0,12	0,15
0	36,67	36,67	0,00	0,00
1	36,68	36,72	-0,12	0,03
2	36,75	36,83	-0,23	0,22
3	36,8	36,9	-0,26	0,38
4	36,49	36,6	-0,30	-0,49
5	34,94	35,02	-0,22	-4,72
6	29,25	29,33	-0,22	-20,21

Unterhang radial magnetisiert 25Wdg. 10A



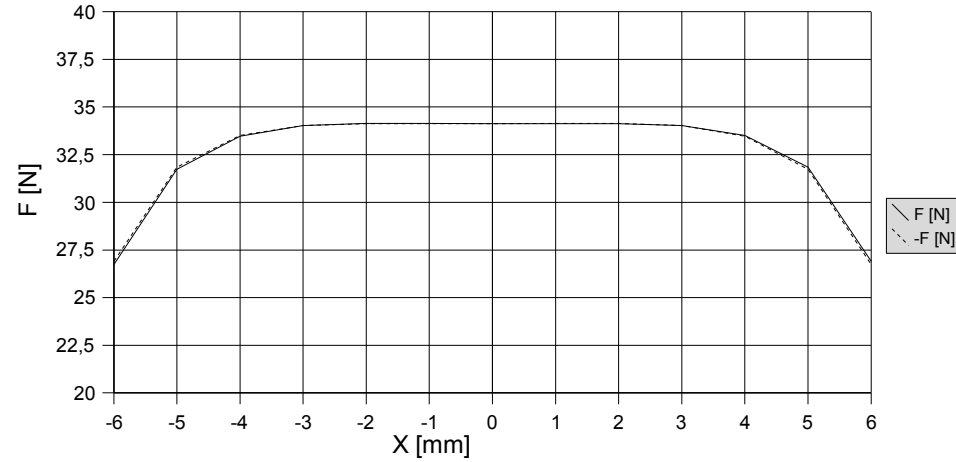
25Wdg, 0,2mm² 5mm
3,9Tm 3,9m



SpeakerMotor_underhang_NdFeB_L15xB4xH4,fem

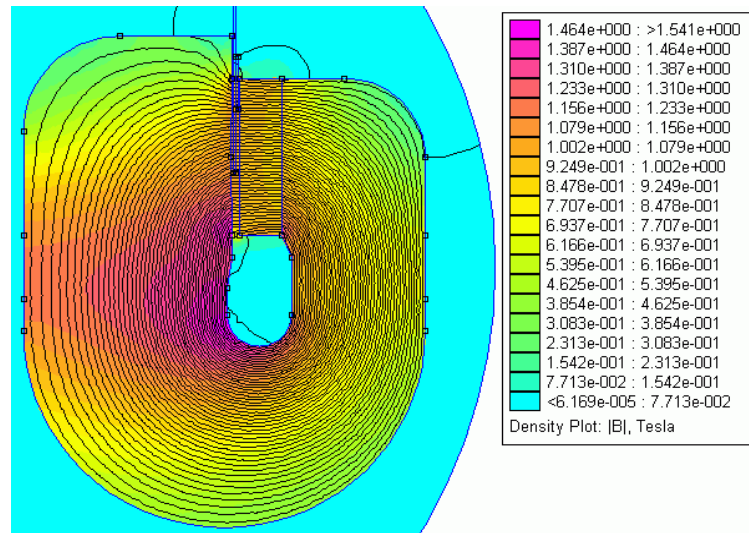
X [mm]	F [N]	-F [N]	Symmetry [%]	Linearity [%]
-6	26,74	26,9	-0,47	-21,64
-5	31,74	31,84	-0,30	-7,01
-4	33,46	33,51	-0,14	-1,95
-3	34,03	34,03	-0,02	-0,29
-2	34,14	34,13	0,04	0,05
-1	34,14	34,13	0,03	0,03
0	34,13	34,13	0,00	0,00
1	34,13	34,14	-0,03	0,00
2	34,13	34,14	-0,04	0,01
3	34,03	34,03	0,02	-0,28
4	33,51	33,46	0,14	-1,81
5	31,84	31,74	0,30	-6,71
6	26,9	26,74	0,47	-21,17

Unterhang radial magnetisiert VC D50xL5, 25Wdg. 10A



25Wdg,
3,9Tm

0,07075mm
3,9m



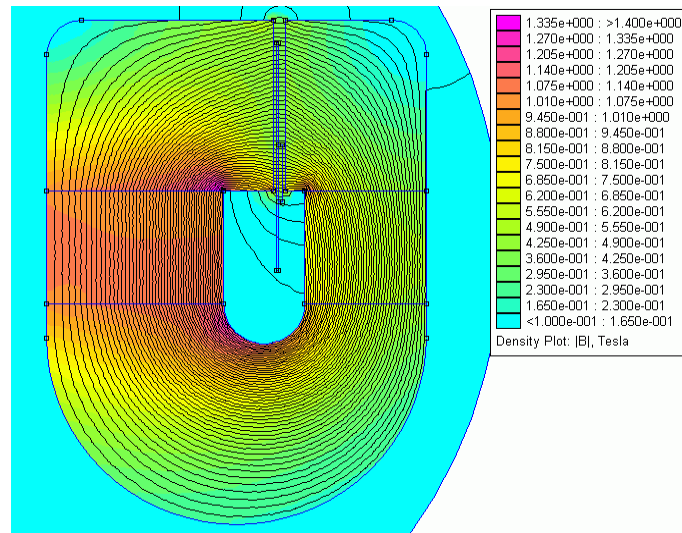
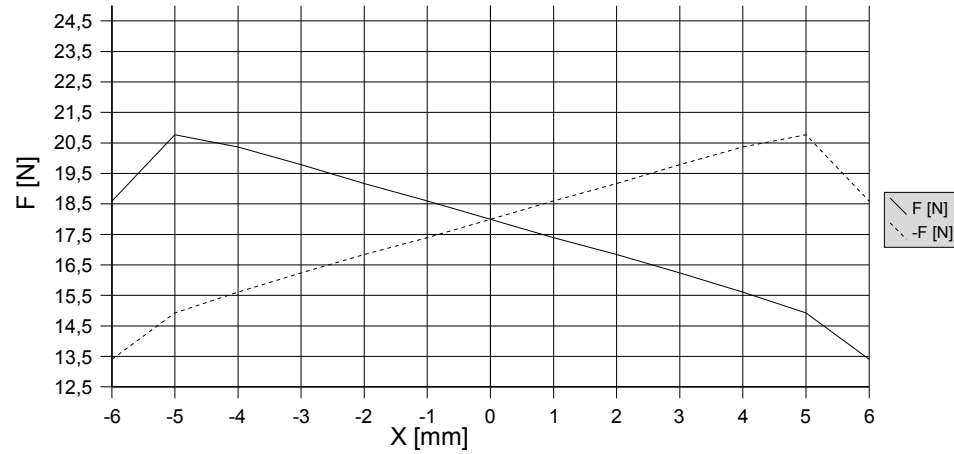
SpeakerMotor_underhang_NdFeB_L15xB4xH4,fem

X [mm]	F [N]	-F [N]	Symmetry [%]	Linearity [%]
-6	18,59	13,4	28,80	3,28
-5	20,77	14,93	32,44	15,39
-4	20,37	15,61	26,42	13,16
-3	19,79	16,24	19,73	9,94
-2	19,17	16,84	12,97	6,52
-1	18,6	17,4	6,67	3,32
0	18	18	0,00	0,00
1	17,4	18,6	-6,67	-3,35
2	16,84	19,17	-12,97	-6,46
3	16,24	19,79	-19,73	-9,79
4	15,61	20,37	-26,42	-13,27
5	14,93	20,77	-32,44	-17,06
6	13,4	18,59	-28,80	-25,52

25Wdg, 0,2mm² 5mm
3,9Tm 3,9m

Tabelle1

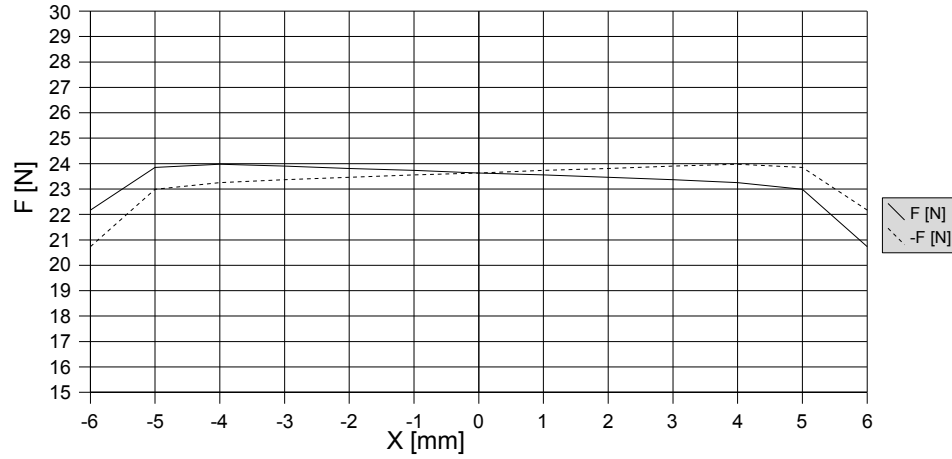
Unterhang axial magnetisiert 25Wdg. 10A, VC D50x5, NdFeB38 innen D40xd20xH10



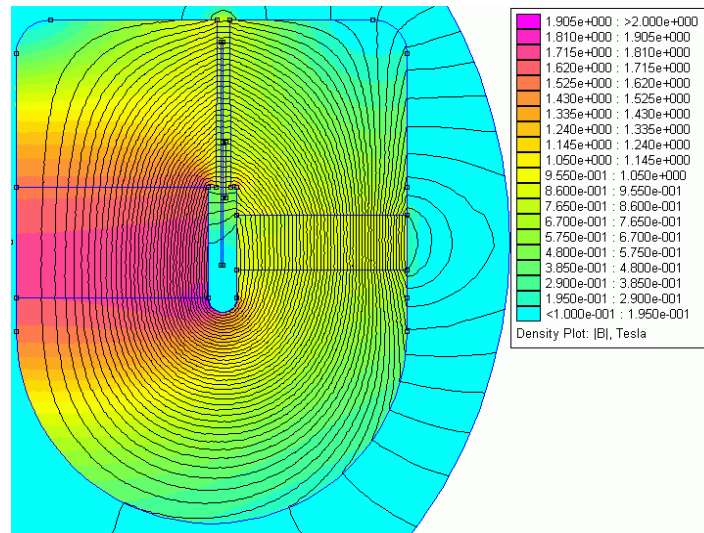
SpeakerMotor_underhang_NdFeB_D40xd20xH10,fem

X [mm]	F [N]	-F [N]	Symmetry [%]	Linearity [%]
-6	22,17	20,74	6,06	-6,18
-5	23,85	22,99	3,64	0,91
-4	23,97	23,25	3,07	1,45
-3	23,9	23,36	2,28	1,15
-2	23,81	23,46	1,49	0,75
-1	23,73	23,55	0,75	0,42
0	23,63	23,63	0,00	0,00
1	23,55	23,73	-0,75	-0,34
2	23,46	23,81	-1,49	-0,74
3	23,36	23,9	-2,28	-1,13
4	23,25	23,97	-3,07	-1,62
5	22,99	23,85	-3,64	-2,73
6	20,74	22,17	-6,06	-12,24

Unterhang axial magnetisiert 25Wdg. 10A, VC D38x5, NdFeB38 außen D70xd40xH5



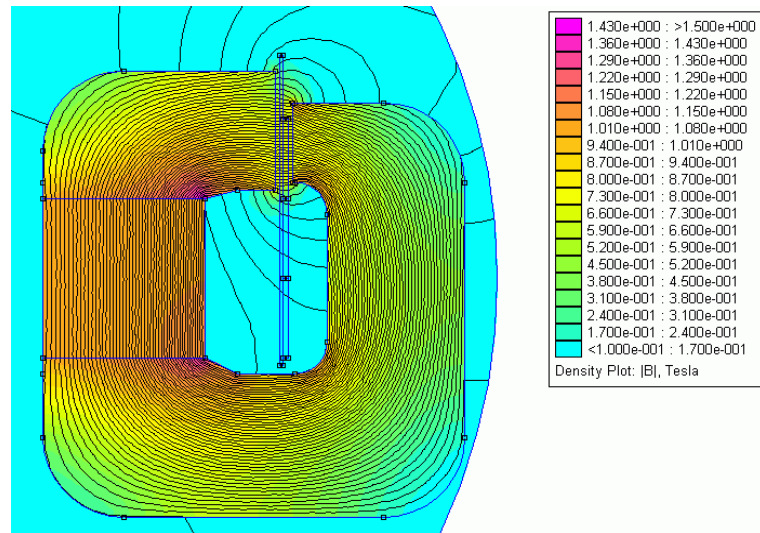
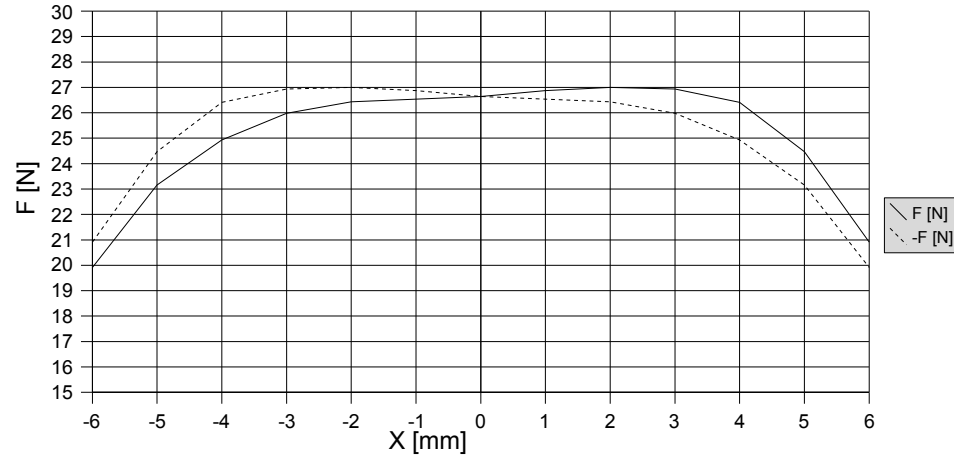
25Wdg, 0,2mm² 5mm
3,9Tm 3,9m



SpeakerMotor_underhang_NdFeB_D60xd40xH5,fem

X [mm]	F [N]	-F [N]	Symmetry [%]	Linearity [%]
-6	19,91	20,91	-3,76	-25,25
-5	23,16	24,47	-4,92	-13,06
-4	24,93	26,41	-5,55	-6,43
-3	25,98	26,94	-3,60	-2,48
-2	26,43	27	-2,13	-0,79
-1	26,54	26,87	-1,25	-0,37
0	26,64	26,64	0,00	0,00
1	26,87	26,54	1,25	0,88
2	27	26,43	2,13	1,34
3	26,94	25,98	3,60	1,11
4	26,41	24,93	5,55	-0,87
5	24,47	23,16	4,92	-8,14
6	20,91	19,91	3,76	-21,50

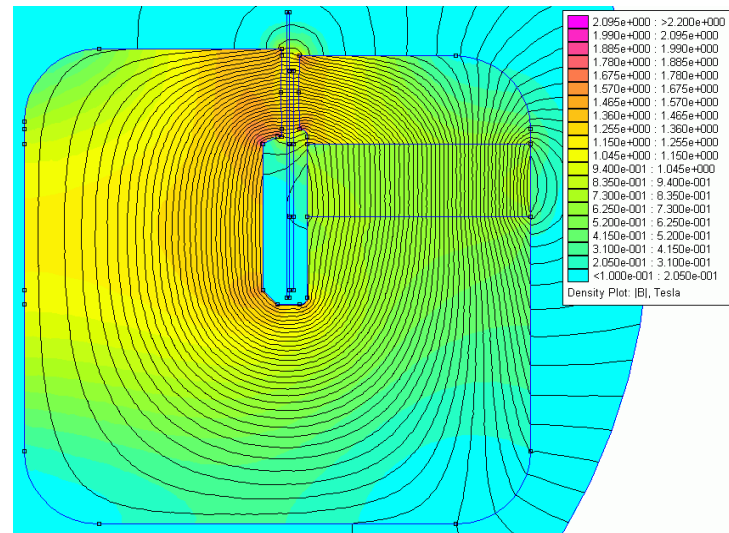
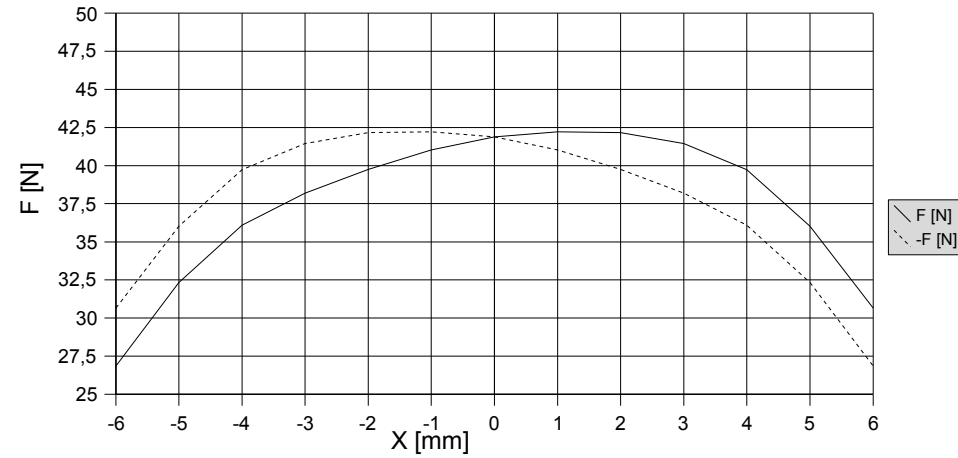
Überhang asymmetrisch 50WdG. 10A, VC D50x15, NdFeB38 innen D40xd20xH10



SpeakerMotor_asymmetrical_NdFeB_D40xd20xH10,FEM

X [mm]	F [N]	-F [N]	Symmetry [%]	Linearity [%]
-6	26,86	30,65	-9,04	-35,86
-5	32,34	36,02	-8,78	-22,77
-4	36,09	39,73	-8,69	-13,83
-3	38,2	41,44	-7,75	-8,79
-2	39,75	42,16	-5,77	-5,09
-1	41,02	42,22	-2,89	-2,06
0	41,88	41,88	0,00	0,00
1	42,22	41,02	2,89	0,83
2	42,16	39,75	5,77	0,67
3	41,44	38,2	7,75	-1,04
4	39,73	36,09	8,69	-5,14
5	36,02	32,34	8,78	-13,99
6	30,65	26,86	9,04	-26,82

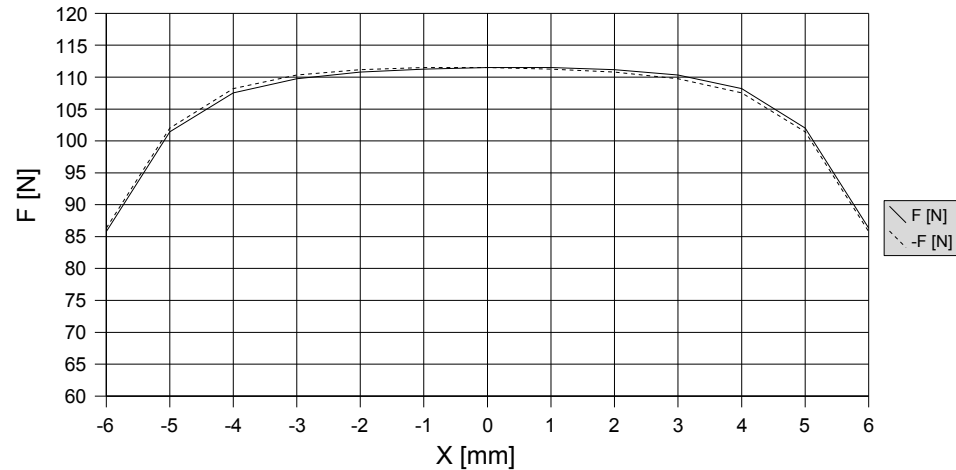
Überhang asymmetrisch 50WdG. 10A, VC D38x15, NdFeB38 außen D70xd40xH5



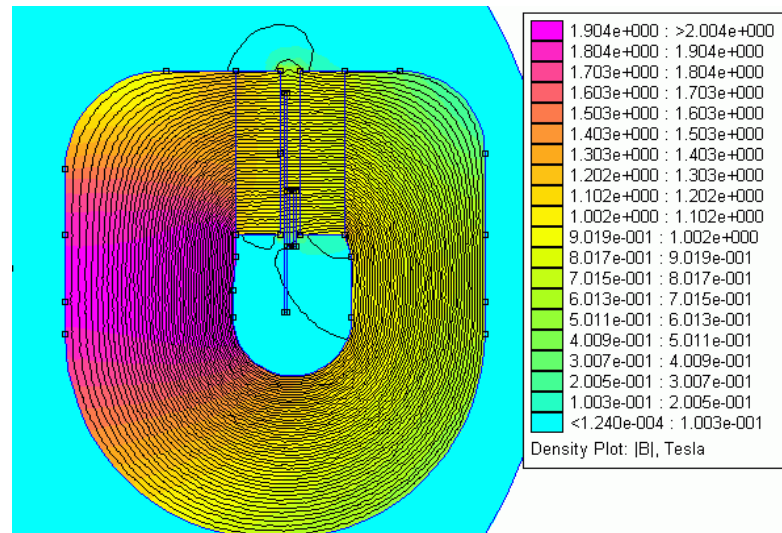
SpeakerMotor_asymmetrical_NdFeB_D60xd40xH5,FEM

X [mm]	F [N]	-F [N]	Symmetry [%]	Linearity [%]
-6	85,77	86,32	-0,50	-23,08
-5	101,42	102,02	-0,54	-9,04
-4	107,51	108,21	-0,62	-3,58
-3	109,77	110,35	-0,52	-1,56
-2	110,77	111,18	-0,36	-0,66
-1	111,27	111,48	-0,19	-0,21
0	111,51	111,51	0,00	0,00
1	111,48	111,27	0,19	-0,02
2	111,18	110,77	0,36	-0,29
3	110,35	109,77	0,52	-1,04
4	108,21	107,51	0,62	-2,96
5	102,02	101,42	0,54	-8,50
6	86,32	85,77	0,50	-22,58

Unterhang symmetrisch 75Wdg. 10A, VC D50x5, NdFeB38 außen/innen 4x4xH15



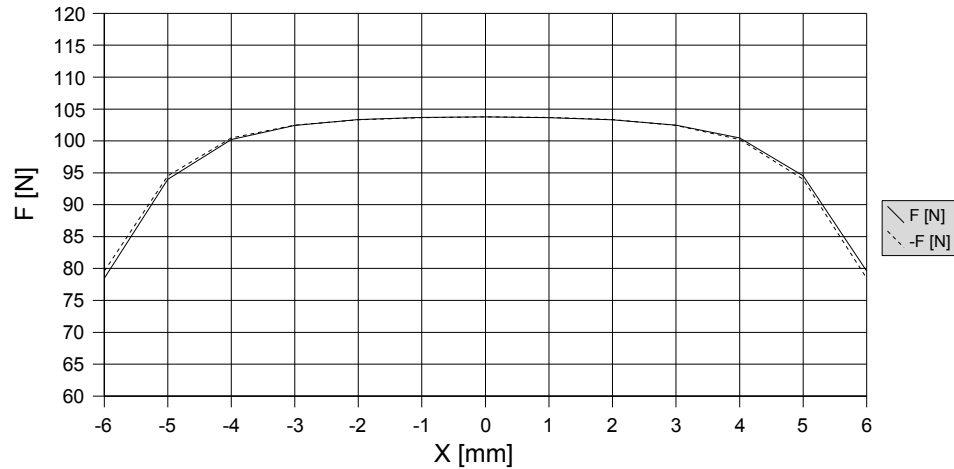
D(Draht)	0,2mm
DVC	50mm
HVC	5mm
Fluß, typ,	0,97T
Lagen	3
Wdg,	75
A(Draht)	0,03mm ²
L(Draht)	11,78m
Rdc	6,38Ohm
BL	11,43Tm
Masse VC	2,92g



SpeakerMotor_underhang_NdFeB_2xL15xB4xH4,FEM

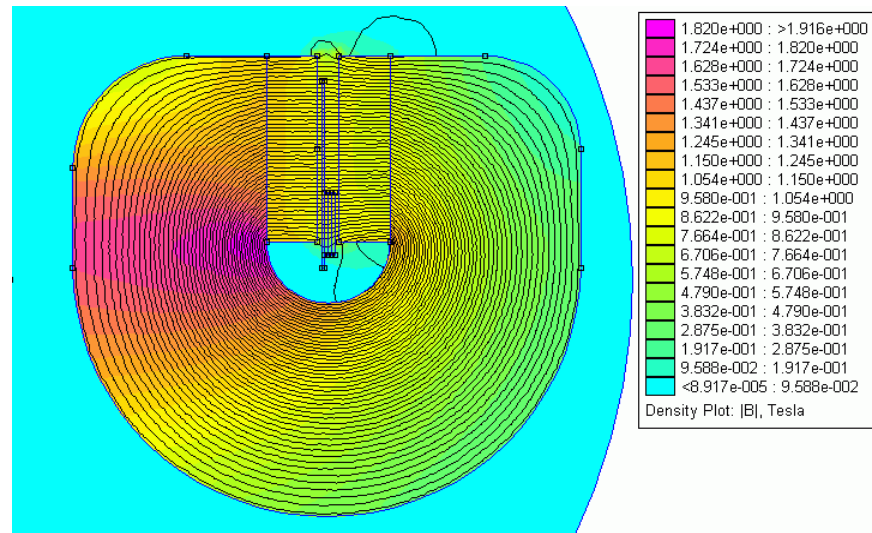
X [mm]	F [N]	-F [N]	Symmetry [%]	Linearity [%]
-6	78,46	79,61	-1,11	-24,39
-5	93,99	94,53	-0,52	-9,42
-4	100,23	100,46	-0,22	-3,41
-3	102,43	102,47	-0,05	-1,29
-2	103,33	103,3	0,03	-0,42
-1	103,68	103,66	0,02	-0,09
0	103,77	103,77	0,00	0,00
1	103,66	103,68	-0,02	-0,10
2	103,3	103,33	-0,03	-0,45
3	102,47	102,43	0,05	-1,25
4	100,46	100,23	0,22	-3,19
5	94,53	93,99	0,52	-8,90
6	79,61	78,46	1,11	-23,28

Unterhang symmetrisch 75Wdg. 10A, VC D50x5, NdFeB38 außen/innen 4x4xH15



75Wdg, 0,2mm² 5mm
3,9Tm 3,9m

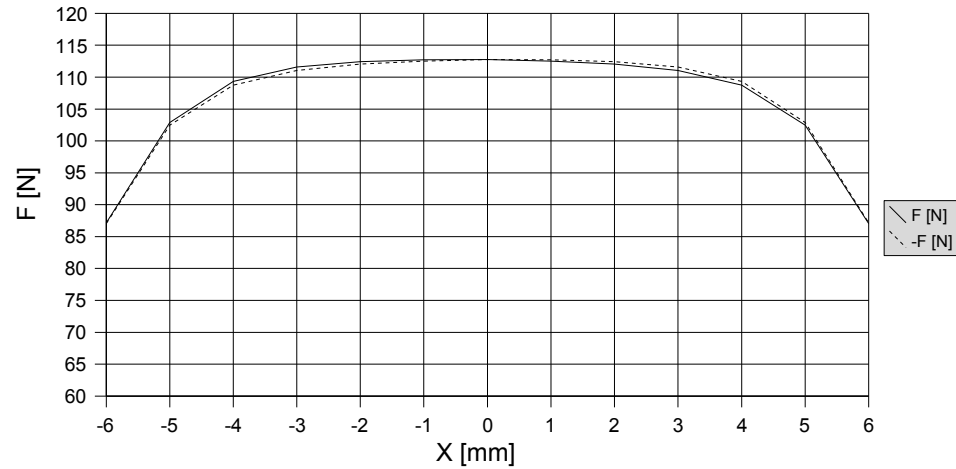
D(Draht) 0,2mm
DVC 50mm
HVC 5mm
Fluß, typ, 0,9T
Lagen 3
Wdg, 75
A(Draht) 0,03mm²
L(Draht) 11,78m
Rdc 6,38Ohm
BL 10,6Tm
Masse VC 2,92g



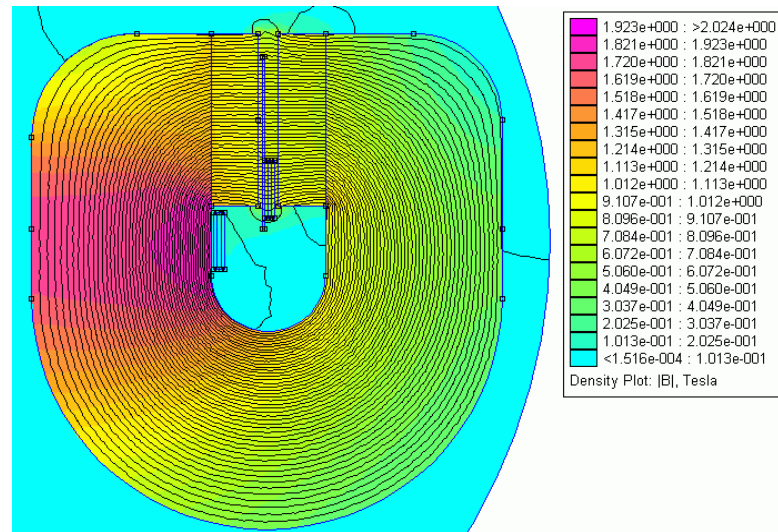
SpeakerMotor_underhang_NdFeB_2xL15xB4xH4_2,FEM

X [mm]	F [N]	-F [N]	Symmetry [%]	Linearity [%]
-6	87,18	87,03	0,14	-22,67
-5	102,9	102,48	0,38	-8,73
-4	109,31	108,76	0,49	-3,04
-3	111,58	111,03	0,49	-1,03
-2	112,44	112,04	0,35	-0,27
-1	112,73	112,53	0,18	-0,01
0	112,74	112,74	0,00	0,00
1	112,53	112,73	-0,18	-0,19
2	112,04	112,44	-0,35	-0,62
3	111,03	111,58	-0,49	-1,52
4	108,76	109,31	-0,49	-3,54
5	102,48	102,9	-0,38	-9,10
6	87,03	87,18	-0,14	-22,81

Unterhang symmetrisch 75Wdg. 10A, VC D50x5, NdFeB38 außen/innen 4x4xH15



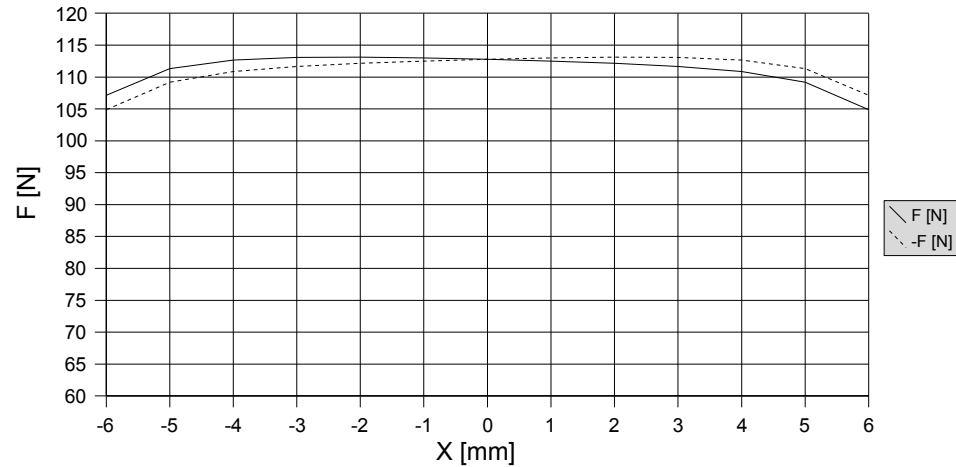
D(Draht)	0,2 mm
DVC	50 mm
HVC	5 mm
Fluß, typ,	0,9 T
Lagen	3
Wdg,	75
A(Draht)	0,03 mm ²
L(Draht)	11,78 m
Rdc	6,38 Ohm
BL	10,6 Tm
Masse VC	2,92 g



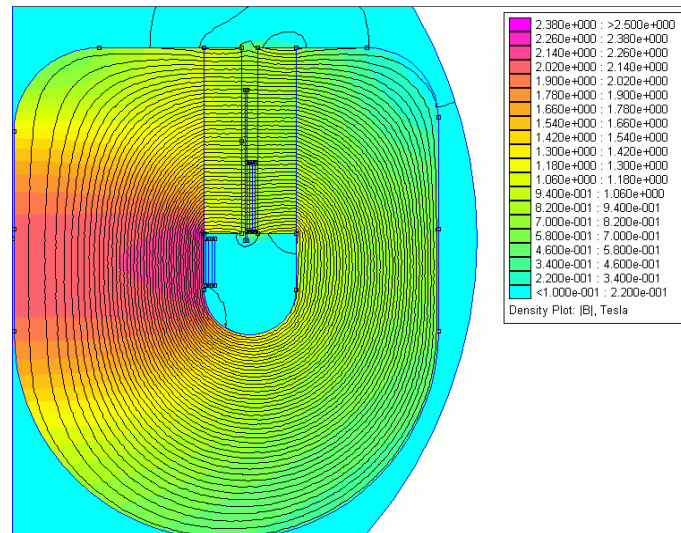
SpeakerMotor_underhang_NdFeB_2xL15xB4xH4_3,FEM

X [mm]	F [N]	-F [N]	Symmetry [%]	Linearity [%]
-6	107,14	104,88	2,00	-5,01
-5	111,34	109,21	1,88	-1,28
-4	112,66	110,85	1,61	-0,11
-3	113,06	111,67	1,24	0,24
-2	113,11	112,17	0,84	0,29
-1	112,99	112,51	0,43	0,18
0	112,79	112,79	0,00	0,00
1	112,51	112,99	-0,43	-0,24
2	112,17	113,11	-0,84	-0,55
3	111,67	113,06	-1,24	-0,99
4	110,85	112,66	-1,61	-1,71
5	109,21	111,34	-1,88	-3,17
6	104,88	107,14	-2,00	-7,01

Unterhang symmetrisch 75Wdg. 10A, VC D50x5, NdFeB38 außen/innen 4x5xH20



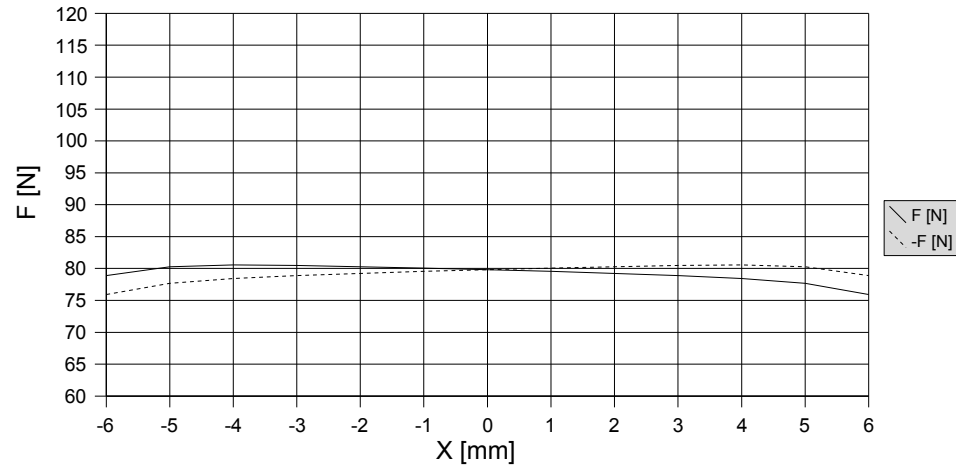
D(Draht)	0,21 mm
DVC	50 mm
HVC	8 mm
Fluß, typ,	0,9T
Lagen	2
Wdg,	76,19
A(Draht)	0,03mm²
L(Draht)	11,97m
Rdc	5,87Ohm
BL	10,77Tm
Masse VC	3,27g



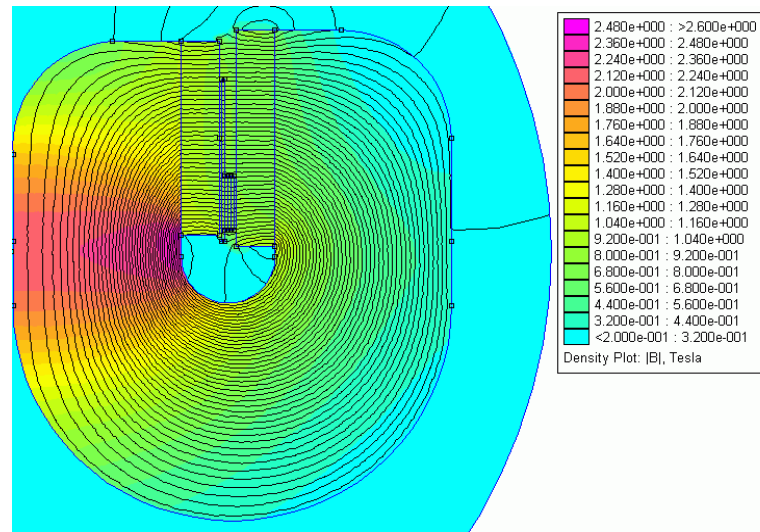
SpeakerMotor_underhang_NdFeB_2xL20xB5xH4_CC,FEM

X [mm]	F [N]	-F [N]	Symmetry [%]	Linearity [%]
-6	78,9	75,9	3,76	-1,13
-5	80,27	77,66	3,27	0,58
-4	80,55	78,43	2,65	0,94
-3	80,48	78,9	1,98	0,85
-2	80,29	79,24	1,32	0,61
-1	80,07	79,53	0,67	0,33
0	79,8	79,8	0,00	0,00
1	79,53	80,07	-0,67	-0,33
2	79,24	80,29	-1,32	-0,71
3	78,9	80,48	-1,98	-1,13
4	78,43	80,55	-2,65	-1,71
5	77,66	80,27	-3,27	-2,68
6	75,9	78,9	-3,76	-4,89

Unterhang symmetrisch 75Wd. 10A, VC D40x5, NdFeB40 D48xd41xH20+D38xd31xH18



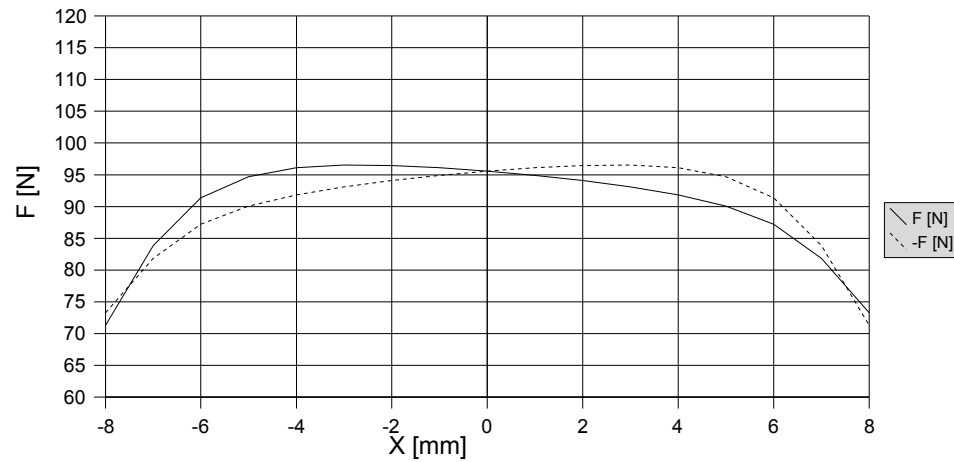
D(Draht)	0,2mm
DVC	40mm
HVC	5mm
Fluß, typ,	0,8T
Lagen	3
Wdg,	75
A(Draht)	0,03mm ²
L(Draht)	9,42m
Rdc	5,1Ohm
BL	7,54 Tm
Masse VC	2,34g



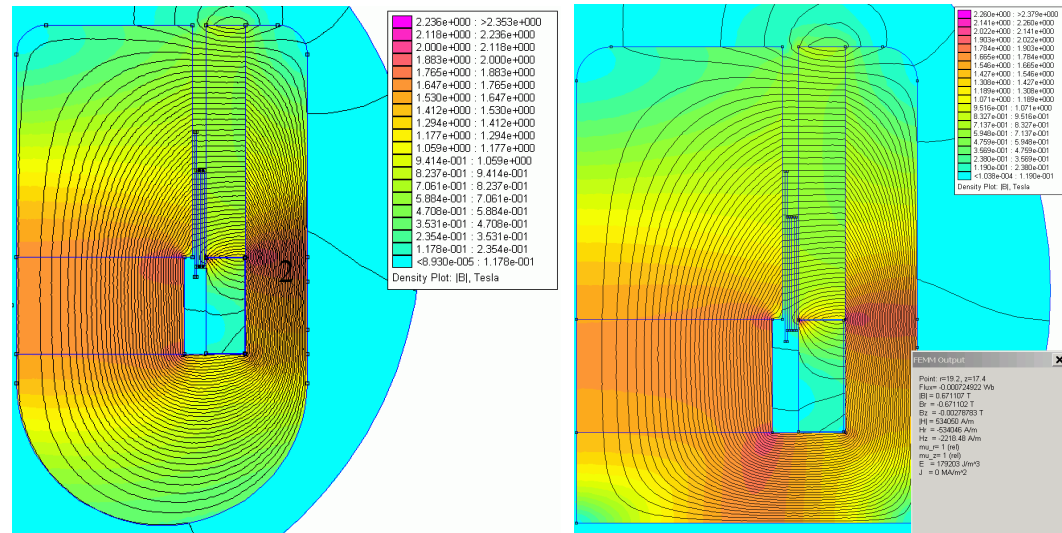
SpeakerMotor_underhang_NdFeB_D48xd41xH20+D38xd31xH18,fem

X [mm]	F [N]	-F [N]	Symmetry [%]	Linearity [%]
-8	71,32	73,27	-2,04	-25,37
-7	83,87	81,85	2,11	-12,23
-6	91,38	87,22	4,35	-4,37
-5	94,71	90,08	4,85	-0,89
-4	96,09	91,84	4,45	0,56
-3	96,53	93,11	3,59	1,02
-2	96,46	94,09	2,48	0,94
-1	96,09	94,9	1,26	0,56
0	95,56	95,56	0,00	0,00
1	94,9	96,09	-1,26	-0,70
2	94,09	96,46	-2,48	-1,54
3	93,11	96,53	-3,59	-2,57
4	91,84	96,09	-4,45	-3,89
5	90,08	94,71	-4,85	-5,74
6	87,22	91,38	-4,35	-8,72
7	81,85	83,87	-2,11	-14,35
8	73,27	71,32	2,04	-23,33

Unterhang axial magnetisiert 25WdG. 10A, VC D38x5, NdFeB38 außen D70xd40xH5



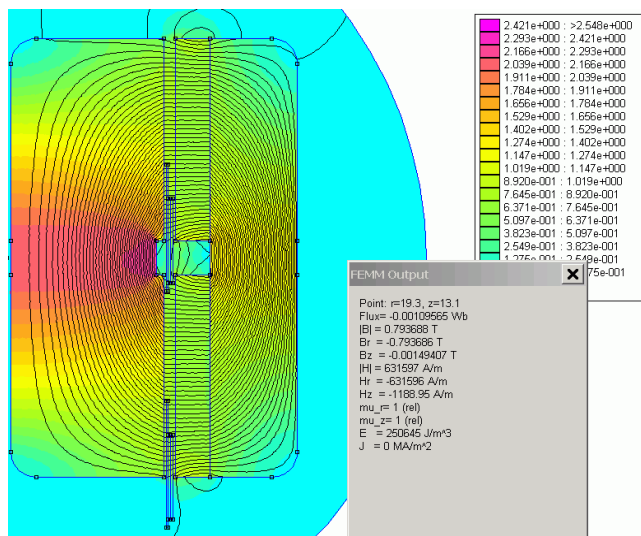
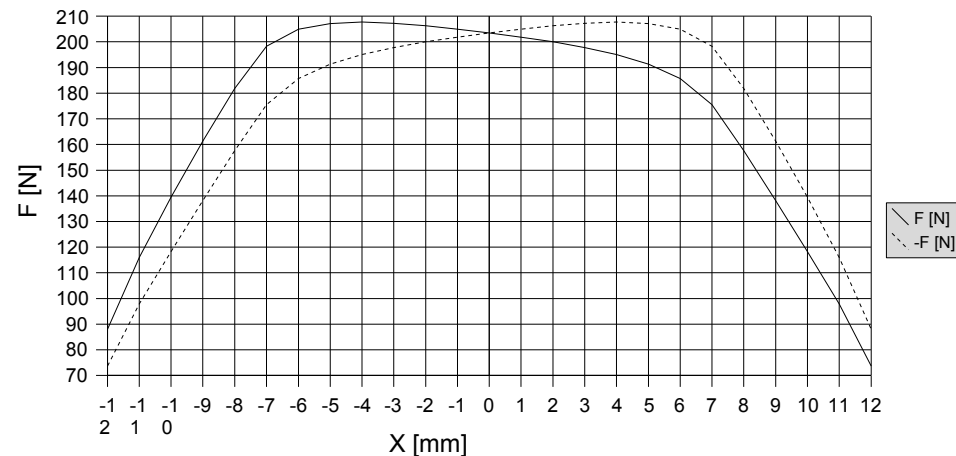
- D(Draht) **0,2mm**
- DVC **38mm**
- HVC **10mm**
- Feld, typ, **0,8T**
- Lagen **2**
- Wdg, **100**
- A(Draht) **0,03mm²**
- L(Draht) **11,94m**
- Rdc **6,46Ohm**
- BL **9,55Tm**
- Masse VC **2,96g**



SpeakerMotor_underhang_NdFeB40_D47.6xd38.6xH24.fem
SpeakerMotor_underhang_NdFeB40_D47.6xd38.6xH24_Aura_NS65.png

X [mm]	F [N]	-F [N]	Symmetry [%]	Linearity [%]
-12	88,02	73,72	7,03	-56,73
-11	115,97	97,94	8,86	-42,99
-10	139,44	118,31	10,38	-31,45
-9	161,26	138,06	11,41	-20,72
-8	181,79	157,68	11,85	-10,63
-7	198,29	175,5	11,20	-2,52
-6	204,93	185,68	9,46	0,75
-5	207,14	191,35	7,76	1,83
-4	207,65	195,03	6,20	2,08
-3	207,18	197,76	4,63	1,85
-2	206,22	199,97	3,07	1,38
-1	204,94	201,81	1,54	0,75
0	203,41	203,41	0,00	0,00
1	201,81	204,94	-1,54	-0,79
2	199,97	206,22	-3,07	-1,69
3	197,76	207,18	-4,63	-2,78
4	195,03	207,65	-6,20	-4,12
5	191,35	207,14	-7,76	-5,93
6	185,68	204,93	-9,46	-8,72
7	175,5	198,29	-11,20	-13,72
8	157,68	181,79	-11,85	-22,48
9	138,06	161,26	-11,41	-32,13
10	118,31	139,44	-10,38	-41,84
11	97,94	115,97	-8,86	-51,85
12	73,72	88,02	-7,03	-63,76

Unterhang radial magnetisiert 100WdG. 10A, VC D38x5, NdFeB40 außen D47,6xd38,6xH24



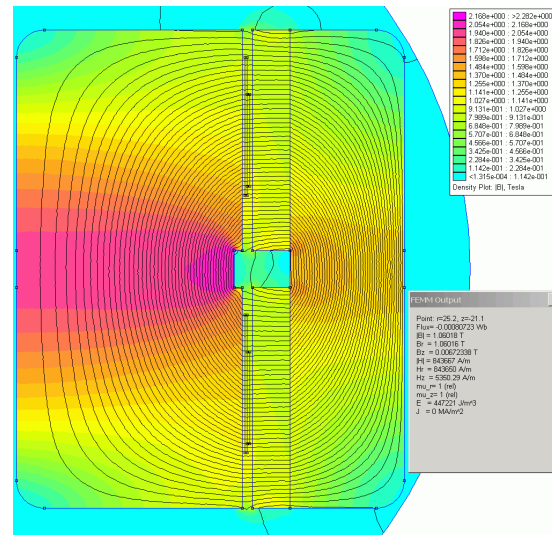
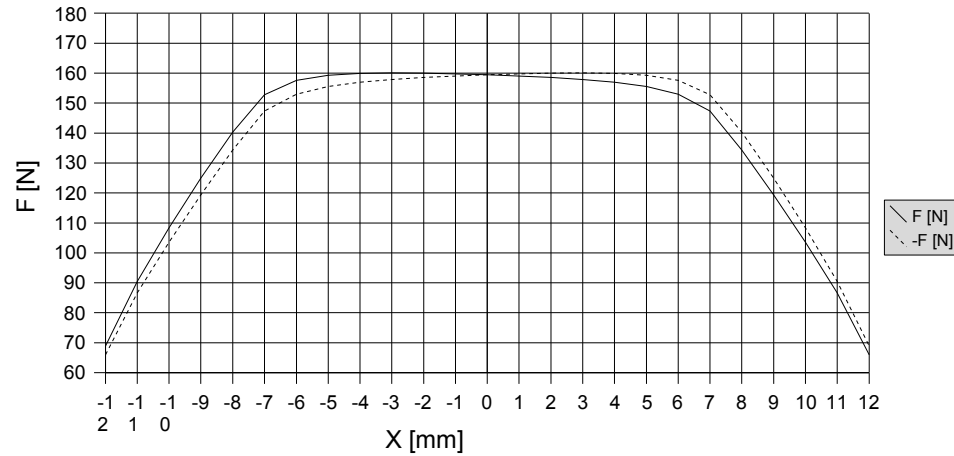
SpeakerMotor_underhang_2xNdFeB40_D47,6xd38,6xH24,fem

D(Draht) [mm]	0,2
DVC [mm]	38
HVC [mm]	20
Feld, typ, [T]	0,8
Lagen	1
Wdg,	100
A(Draht) [mm ²]	0,03
L(Draht) [m]	11,94
Rdc [Ω]	6,46
BL [Tm]	9,55
Masse VC [g]	2,96

X [mm]	F [N]	-F [N]	Symmetry [%]	Linearity [%]
-12	68,94	65,99	1,85	-56,77
-11	90,49	86,63	2,42	-43,25
-10	108,35	103,55	3,01	-32,05
-9	124,91	119,32	3,50	-21,67
-8	140,37	134,39	3,75	-11,97
-7	152,83	147,32	3,46	-4,15
-6	157,61	152,96	2,92	-1,16
-5	159,26	155,55	2,33	-0,13
-4	159,96	156,98	1,87	0,32
-3	160,11	157,91	1,38	0,41
-2	159,99	158,56	0,90	0,34
-1	159,77	159,06	0,45	0,20
0	159,46	159,46	0,00	0,00
1	159,06	159,77	-0,45	-0,25
2	158,56	159,99	-0,90	-0,56
3	157,91	160,11	-1,38	-0,97
4	156,98	159,96	-1,87	-1,55
5	155,55	159,26	-2,33	-2,45
6	152,96	157,61	-2,92	-4,07
7	147,32	152,83	-3,46	-7,61
8	134,39	140,37	-3,75	-15,72
9	119,32	124,91	-3,50	-25,17
10	103,55	108,35	-3,01	-35,06
11	86,63	90,49	-2,42	-45,67
12	65,99	68,94	-1,85	-58,61

D(Draht) [mm]	0,2
DVC [mm]	50
HVC [mm]	20
Feld, typ, [T]	1
Lagen	1
Wdg,	100
A(Draht) [mm ²]	0,03
L(Draht) [m]	15,71
Rdc [Ω]	8,5
BL [Tm]	15,71
Masse VC [g]	3,9

Unterhang radial magnetisiert 50Wdg. 10A, 2xVC D50x10, NdFeB40 außen D58,4,6xd51,4xH24



SpeakerMotor_underhang_2xNdFeB40_D58,4xd51,4xH24_VC50_1Layer,fem

X [mm]	F [N/m]	F[N] mirrored	Symmetry [%]	Linearity [%]
-2,4	1,165	1,150	1,40	6,18
-2,2	1,154	1,141	1,25	5,22
-2,0	1,146	1,132	1,19	4,41
-1,8	1,136	1,125	1,01	3,57
-1,6	1,129	1,119	0,94	2,92
-1,4	1,122	1,113	0,84	2,27
-1,2	1,116	1,108	0,71	1,74
-1,0	1,110	1,104	0,57	1,22
-0,8	1,107	1,102	0,46	0,86
-0,6	1,103	1,099	0,39	0,53
-0,4	1,100	1,097	0,24	0,28
-0,2	1,098	1,097	0,13	0,12
0,0	1,097	1,097	0,00	0,00
0,2	1,097	1,098	-0,13	-0,02
0,4	1,097	1,100	-0,24	0,03
0,6	1,099	1,103	-0,39	0,14
0,8	1,102	1,107	-0,46	0,40
1,0	1,104	1,110	-0,57	0,65
1,2	1,108	1,116	-0,71	1,03
1,4	1,113	1,122	-0,84	1,44
1,6	1,119	1,129	-0,94	1,98
1,8	1,125	1,136	-1,01	2,56
2,0	1,132	1,146	-1,19	3,22
2,2	1,141	1,154	-1,25	3,97
2,4	1,150	1,165	-1,40	4,78

Magnetostat_NdFeB_03,FEM

magnetostat, vertical magnetised

