

[illegible]

Thiele-Small Parameters

Measurement method

Added mass

Free Air Measurement

4: 240628_imp 10

Added mass measurement

5: 240628_imp 11

Added mass (g): 17,220

Manually Entered Values

Voice Coil DC Resistance (ohm): 3,800

Effective Area (cm²): 176,71

Air Temperature (Celsius): 20

Air Pressure (mbar): 1013,25

Calculate Parameters

Write Parameters to File

Motional Impedance (Ritter 3PC)

R₀ (ohm): 84,81

C_{MES} (uF): 77,7

L₀ (mH): 4,097

β: 0,0169

ω₀: 2645,9

Blocked Impedance (T-F)

dR (ohm): -0,013

L_{EB} (uH): 9,1

L_E (mH): 0,215

R_{SS} (ohm): 100000,00

K_E (S-H): 0,0389

Simplified Model Parameters

R_E 3,787 ohm

L_E 43,9 uH

R_{ES} 71,22 ohm

R₂ 7,15 ohm

C_{MES} 77,7 uF

L₂ 64,3 uH

L_{CES} 4,14 mH

R₃ 1,08 ohm

L₃ 74,8 uH

R_E 3,787 ohm

f_s 280,7 Hz

M_{MS} 2,34 g

Z_{min} 4,032 ohm

Q_{MS} 9,757

C_{MS} 0,137 mm/N

f_{min} 1 231 Hz

Q_{ES} 0,519

R_{MS} 0,424 kg/s

f₃ 4 169 Hz

Q_{TS} 0,493

V_{AS} 6,08 litres

L_E (l₃) 0,101 mH

F_{TS} 569,8 Hz

Bl 5,493 Tm

Dd 15,00 cm

L_P 106,19 dB (1W/1m)

Eta 25,28 %

Sd 176,7 cm²

Added mass 17,220 g

Secondary measurement: 240628_imp 11

Air temperature 20,0 C, pressure 1 013,25 mbar giving density 1,2041 kg/m³, c 343,2 m/s

DAEX30HESF-4 High Efficiency Steered Flux Exciter with Shielding 30 mm Exciter 40W 4 Ohm

PARAMETERS

Impedance	4 ohms
Re	3.8 ohms
Le	0.31 mH
Fs	300 Hz
Qms	N/A
Qes	N/A
Qts	N/A
Mms	N/A
Cms	N/A
Sd	N/A
Vd	N/A
BL	N/A
Vas	N/A
Xmax	N/A
VC Diameter	30 mm
SPL	N/A
RMS Power Handling	40 watts
Usable Frequency Range (Hz)	N/A

IMPEDANCE/PHASE

Page 2

Thiele-Small Parameters

Measurement method
 Added mass

Free Air Measurement
 6: 240628_DAEX13CT

Added mass measurement
 7: 240628_DAEX13CT_mass
 Added mass (g): 4,100

Manually Entered Values
 Voice Coil DC Resistance (ohm): 3,600
 Effective Area (cm²): 176,71
 Air Temperature (Celsius): 20
 Air Pressure (mbar): 1013,25

Calculate Parameters
Write Parameters to File

Motional Impedance (Ritter 3PC)
 R₀ (ohm): 8,01
 C_{MES} (uF): 256,2
 L₀ (mH): 0,131
 β: 0,0300
 ω₀: 8104,9

Blocked Impedance (T-F)
 dR (ohm): 0,368
 L_{EB} (uH): 21,7
 L_E (mH): 0,018
 R_{SS} (ohm): 1,22
 K_E (S-H): 10,0000

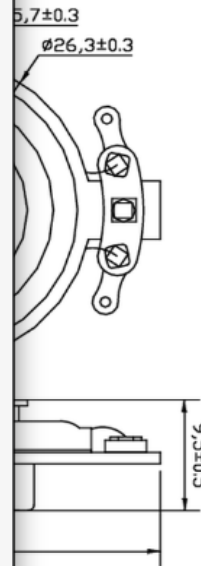
Simplified Model Parameters
 R_E 3,968 ohm L_E 21,7 uH
 R_{ES} 6,06 ohm R₂ 1,25 ohm
 C_{MES} 256,2 uF L₂ 16,4 uH
 L_{CES} 0,13 mH R₃ 0,05 ohm
 L₃ 2 835 315,7 uH

Secondary measurement: 240628_DAEX13CT_mass
 Air temperature 20.0 C. pressure 1 013.25 mbar air density 1.2041 kg/m³. c 343.2 m/s

Parameters Summary:
 R_E 3,968 ohm f_S 862,4 Hz M_{MS} 0,20 g
 Z_{min} 4,027 ohm Q_{MS} 8,417 C_{MS} 0,174 mm/N
 f_{min} 2 580 Hz Q_{ES} 5,509 R_{MS} 0,126 kg/s
 f₃ 14 785 Hz Q_{TS} 3,330 V_{AS} 7,71 litres
 L_E (f₃) 0,028 mH F_{TS} 259,0 Hz Bl 0,874 Tm
 Dd 15,00 cm L_P 111,59 dB (1W/1m) Eta 87,66 %
 Sd 176,7 cm² Added mass 4,100 g

DAEX13CT-4 Coin Type 13mm Exciter 3W 4 Ohm

DAEX13CT-4



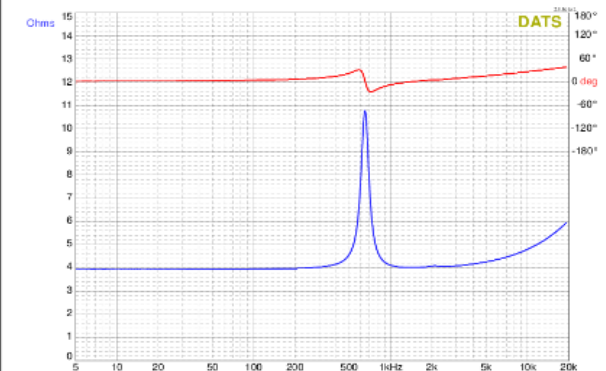
ES
 meter, about 3/8" high
 quick, secure installation
 mass D amplifiers

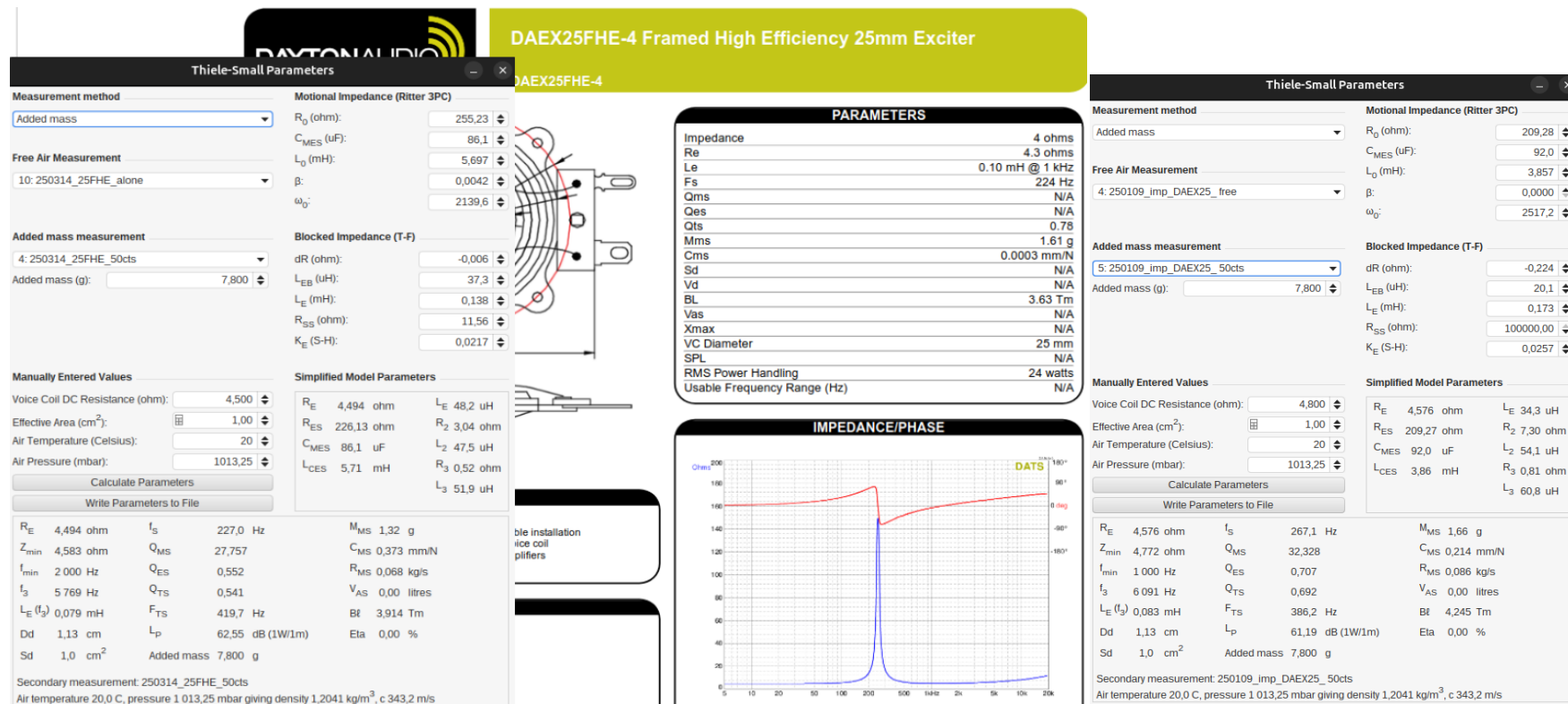
IONS
 audio

PARAMETERS

Impedance	4 ohms
Re	3.6 ohms
Le	0.04 mH @ 1 kHz
Fs	650 Hz
Qms	N/A
Qes	N/A
Qts	3.25
Mms	0.26 g
Cms	0.0002 mm/N
Sd	N/A
Vd	N/A
BL	1.12 Tm
Vas	N/A
Xmax	N/A
VC Diameter	13 mm
SPL	N/A
RMS Power Handling	3 watts
Usable Frequency Range (Hz)	N/A

IMPEDANCE/PHASE





Thiele-Small Parameters

Measurement method: **Added mass**

Free Air Measurement: 1: DAEX25VT-4 0.0 g

Added mass measurement: 2: DAEX25VT-4 2.0 g

Added mass (g): 2,080

Manually Entered Values:

Voice Coil DC Resistance (ohm): 3,400

Effective Area (cm²): 1,00

Air Temperature (Celsius): 20

Air Pressure (mbar): 1013,25

Calculate Parameters

Write Parameters to File

Motional Impedance (Ritter 3PC)

R₀ (ohm): 142,72

C_{MES} (uF): 99,6

L₀ (mH): 5,608

β: 0,0271

ω₀: 1978,7

Blocked Impedance (T-F)

dR (ohm): 0,211

L_{EB} (uH): 20,8

L_E (mH): 0,191

R_{SS} (ohm): 100000,00

K_E (S-H): 0,0232

Simplified Model Parameters

R_E 3,611 ohm L_E 29,2 uH

R_{ES} 95,62 ohm R₂ 7,99 ohm

C_{MES} 99,6 uF L₂ 55,9 uH

L_{CES} 5,70 mH R₃ 0,82 ohm

L₃ 63,0 uH

R_E 3,611 ohm f_S 211,2 Hz M_{MS} 1,56 g

Z_{min} 3,966 ohm Q_{MS} 12,638 C_{MS} 0,364 mm/N

f_{min} 1140 Hz Q_{ES} 0,477 R_{MS} 0,164 kg/s

f₃ 5198 Hz Q_{TS} 0,460 V_{AS} 0,00 litres

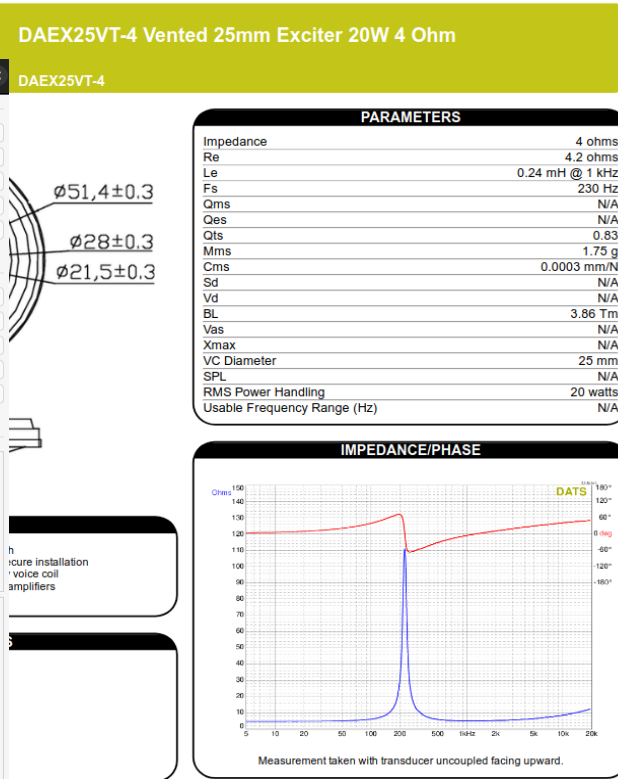
L_E (f₃) 0,083 mH F_{TS} 459,4 Hz Bl 3,959 Tm

Did 1,13 cm L_P 62,14 dB (1W/1m) Eta 0,00 %

Sd 1,0 cm² Added mass 2,080 g

Secondary measurement: DAEX25VT-4 2.0 g

Air temperature 20,0 C, pressure 1 013,25 mbar giving density 1,2041 kg/m³, c 343,2 m/s



Thiele-Small Parameters

Measurement method: **Added mass**

Free Air Measurement: 1: VT25-4 #2 0.0 g

Added mass measurement: 2: VT25-4 #2 1.0 g

Added mass (g): 1,020

Manually Entered Values:

Voice Coil DC Resistance (ohm): 3,400

Effective Area (cm²): 1,00

Air Temperature (Celsius): 20

Air Pressure (mbar): 1013,25

Calculate Parameters

Write Parameters to File

Motional Impedance (Ritter 3PC)

R₀ (ohm): 1000000,00

C_{MES} (uF): 99,3

L₀ (mH): 5,445

β: 0,0915

ω₀: 1967,6

Blocked Impedance (T-F)

dR (ohm): 0,099

L_{EB} (uH): 25,6

L_E (mH): 0,237

R_{SS} (ohm): 100000,00

K_E (S-H): 0,0199

Simplified Model Parameters

R_E 3,499 ohm L_E 47,9 uH

R_{ES} 89,62 ohm R₂ 3,74 ohm

C_{MES} 99,3 uF L₂ 52,3 uH

L_{CES} 5,78 mH R₃ 0,64 ohm

L₃ 167,0 uH

R_E 3,499 ohm f_S 210,1 Hz M_{MS} 1,61 g

Z_{min} 3,956 ohm Q_{MS} 11,749 C_{MS} 0,357 mm/N

f_{min} 1140 Hz Q_{ES} 0,459 R_{MS} 0,181 kg/s

f₃ 5173 Hz Q_{TS} 0,441 V_{AS} 0,00 litres

L_E (f₃) 0,084 mH F_{TS} 475,9 Hz Bl 4,023 Tm

Did 1,13 cm L_P 62,16 dB (1W/1m) Eta 0,00 %

Sd 1,0 cm² Added mass 1,020 g

Secondary measurement: VT25-4 #2 1.0 g

Air temperature 20,0 C, pressure 1 013,25 mbar giving density 1,2041 kg/m³, c 343,2 m/s

XT25-4 SPECIFICATIONS

Electrical and Mechanical Properties

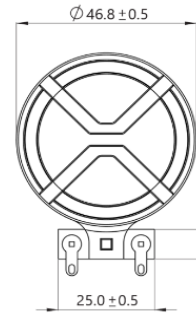
Rms Noise Test [W]	15
Long-term Max Power [W]	30
Frequency Range [Hz] ¹	40Hz – 19kHz
Nominal Impedance [Ohm]	4
DC Resistance [Ohm]	3.79
Le [mH] Re2 [Ohm] Le2 [mH]	0.07 2.87 0.05
Kms [N/mm]	6.05
Cms [mm/N]	0.17
Bl [N/A]	3.73
Motor Efficiency Factor β [dB] ²	5.65
Linear Xmax - IEC 60268 [mm]	± 1.4
Mechanical Xmax [mm]	± 3.0

Position Related Properties ³

	Magnet	Coil
Fs [Hz]	44.4	306
Mms [g]	75.2	1.58
Rms [Kg/s]	0.85	0.09
Qts	4.63	0.88
Qms	24.8	18.5
Qes	5.7	0.93

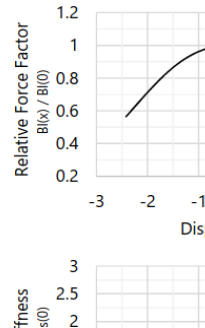
Physical Properties

Total Weight [g]	76.8
Outer Diameter [mm]	46.8
Total Height [mm]	21.5



Distortion Relevant Parameters

At higher amplitudes, excitors primarily from Bl(x) and Kms(x), to generate low harmonic and



Thiele-Small Parameters

Measurement method

Added mass

Free Air Measurement

1: Xcite XT25-4 0.0 g

Added mass measurement

2: Xcite XT25-4 2.0 g Al

Added mass (g): 2,080

Manually Entered Values

Voice Coil DC Resistance (ohm): 3,000

Effective Area (cm²): 1,00

Air Temperature (Celsius): 20

Air Pressure (mbar): 1013,25

Calculate Parameters

Write Parameters to File

Motional Impedance (Ritter 3PC)

R₀ (ohm): 89,85

C_{MES} (uF): 137,3

L₀ (mH): 1,815

β : 0,0000

ω_0 : 2982,8

Blocked Impedance (T-F)

dR (ohm): 0,370

L_{EB} (uH): 19,8

L_E (mH): 0,136

R_{SS} (ohm): 60235,29

K_E (S-H): 0,0203

Simplified Model Parameters

R_E 3,370 ohm L_E 33,7 uH

R_{ES} 89,85 ohm R₂ 4,96 ohm

C_{MES} 137,3 uF L₂ 41,8 uH

L_{CES} 1,82 mH R₃ 0,61 ohm

L₃ 54,5 uH

Parameters

R_E 3,370 ohm f_S 318,9 Hz M_{MS} 1,72 g

Z_{min} 3,568 ohm Q_{MS} 24,707 C_{MS} 0,145 mm/N

f_{min} 1 140 Hz Q_{ES} 0,927 R_{MS} 0,140 kg/s

f₃ 5 552 Hz Q_{TS} 0,893 V_{AS} 0,00 litres

L_E (f₃) 0,072 mH F_{TS} 357,0 Hz Bl 3,543 Tm

Dd 1,13 cm L_P 60,62 dB (1W/1m) Eta 0,00 %

Sd 1,0 cm² Added mass 2,080 g

Secondary measurement: Xcite XT25-4 2.0 g Al

Air temperature 20,0 C, pressure 1 013,25 mbar giving density 1,2041 kg/m³, c 343,2 m/s

XT32-4 SPECIFICATIONS

Electrical and Mechanical Properties

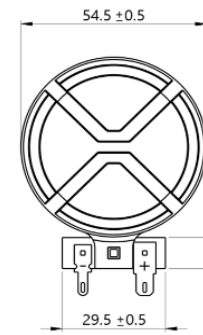
Rms Noise Test [W]	20
Long-term Max Power [W]	40
Frequency Range [Hz] ¹	35Hz – 17kHz
Nominal Impedance [Ohm]	4
DC Resistance [Ohm]	3.66
Le [mH] Re2 [Ohm] Le2 [mH]	0.07 2.38 0.05

Kms [N/mm]	8.47
Cms [mm/N]	0.12
Bl [N/A]	4.27
Motor Efficiency Factor β [dB] ²	6.97
Linear Xmax - IEC 60268 [mm]	± 1.6
Mechanical Xmax [mm]	± 3.5

Position Related Properties ³	Magnet	Coil
Fs [Hz]	40.5	312
Mms [g]	131	2.21
Rms [Kg/s]	0.85	0.20
Qts	4.78	0.87
Qms	18.7	21.9
Qes	6.42	0.91

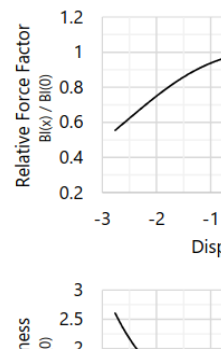
Physical Properties

Total Weight [g]	133
Outer Diameter [mm]	54.5
Total Height [mm]	24.8



Distortion Relevant Parameters

At higher amplitudes, excursions are primarily from $Bl(x)$ and $Kms(x)$ to generate low harmonic and intermodulation distortion.



Thiele-Small Parameters

Measurement method

Added mass

Free Air Measurement

5: Xcite XT32-4 0.0 g

Added mass measurement

6: Xcite XT32-4 2.0 g

Added mass (g):

2,080

Motional Impedance (Ritter 3PC)

R_0 (ohm):

89,85

C_{MES} (uF):

137,3

L_0 (mH):

1,815

β :

0,0000

ω_0 :

2982,8

Blocked Impedance (T-F)

dR (ohm):

0,370

L_{EB} (uH):

19,8

L_E (mH):

0,136

R_{SS} (ohm):

60235,29

K_E (S-H):

0,0203

Manually Entered Values

Voice Coil DC Resistance (ohm):

3,000

Effective Area (cm²):

1,00

Air Temperature (Celsius):

20

Air Pressure (mbar):

1013,25

Simplified Model Parameters

Results area

An error has occurred in TS parameter calculation

!

java.util.concurrent.ExecutionException:

java.lang.IllegalArgumentException: fromIndex(48) > toIndex(33) occurred, see Details for more information to report.

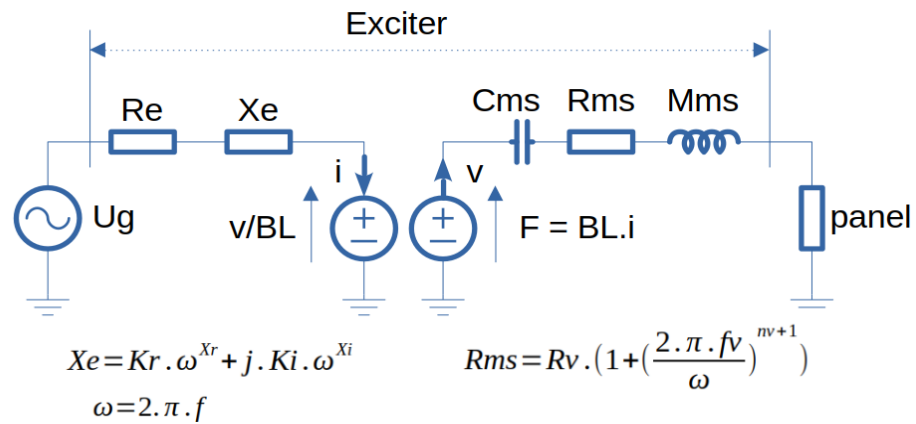
Save any unsaved measurements and restart REW

Fermer

Exit REW

Détails >>

Measurements									
Parameter	DAEX25FHE			DAEX25VT				XT25	XT32
	Sample A	Sample B	Sample C	Sample A	Sample B	Sample C	Sample D	Sample A	Sample A
Re	4,47		4,51	3,498	3,42	3,505	3,43	3,061	2,968
Xr	0,8895		0,8655	0,8527	0,8207	0,7942	0,8144	0,7614	0,8663
Xi	0,7933		0,8017	0,7647	0,7272	0,7129	0,7695	0,7368	0,7989
Kr	0,0001		0,000122	0,0001996	0,0002959	0,0003989	0,0003069	0,0004725	0,0001381
Ki	0,000714		0,00066	0,001013	0,001562	0,00184	0,0009604	0,001247	0,0006292
BL	3,67		3,63	4,094	4,382	4,172	4,075	3,797	4,053
Mms	1,235		1,273	1,543	1,738	1,529	1,542	1,719	2,207
Cms	0,4139		0,441	0,3553	0,3766	0,3771	0,3664	0,1445	0,1163
Rv	0,0408		0,0378	0,0936	0,1062	0,1194	0,07164	0,01	0,1278
fv	181		199	201	184,7	195	276	1702	360
nv	1		1	1	1	1	0,6	0,69	1,105



MODEL					
Parameter	DAEX25FHE	DAEX25VT	XT25	XT32	unit
Re	4,3	3,5	3	3	ohm
Xr	0,87	0,82	0,76	0,86	see model
Xi	0,8	0,74	0,74	0,8	see model
Kr	0,0001	0,0003	0,0005	0,0014	see model
Ki	0,0007	0,0013	0,0012	0,0006	see model
BL	3,65	4,2	3,8	4	Tm (=N/A)
Mms	1,3	1,6	1,7	2,2	g
Cms	0,43	0,37	0,14	0,12	mm/N
Rv	0,041	0,1	0,01	0,13	kg/s
fv	190	215	1700	360	Hz
nv	1	0,9	0,7	1,1	without