#### Pot core – first model

#### 1) Pure iron core



	1.813e+000 : >1.909e+000		
	1.718e+000 : 1.813e+000		
	1.623e+000 : 1.718e+000		
	1.527e+000 : 1.623e+000		
	1.432e+000 : 1.527e+000		
	1.336e+000 : 1.432e+000		
	1.241e+000 : 1.336e+000		
	1.145e+000 : 1.241e+000		
	1.050e+000 : 1.145e+000		
	9.545e-001 : 1.050e+000		
	8.590e-001:9.545e-001		
	7.636e-001:8.590e-001		
	6.681e-001:7.636e-001		
	5.727e-001:6.681e-001		
	4.773e-001 : 5.727e-001		
	3.818e-001 : 4.773e-001		
	2.864e-001 : 3.818e-001		
	1.909e-001 : 2.864e-001		
	9.549e-002:1.909e-001		
	<5.285e-005:9.549e-002		
Density Plot:  B , Tesla			



Current: 7.854 A Coil: 187 turns Diameter: 2mm Inductance = Flux/current = 58 mH

### Flux density [T] – vertical cross-section of the center column



📓 potcore.FEM 📓 realpotcore.FEM 🛢 instrukcja\_L4\_pot\_core fem 📓 instrukcja\_L2\_pot\_core\_bez\_szczelin.fem 🐶 instrukcja\_L2\_pot\_core\_bez\_szczelin.ars Untitled



## Flux density [T] – horizontal cross-section of the core

#### Pot core – second model 1 air gap



### Pot core – Pure Iron – single air gap Flux density [T] – vertical cross-section of the center column



### Pot core – second model 3 air gaps

<u>File Edit Zoom View Operation Plot X-Y</u>	Integrate Window <u>H</u> elp	_ 8 ×
) 🖉 💹 📜 其 📜 💶 📜		
instrukcja_L4_pot_core fem	Circuit Properties × Circuit Name Cewka Results Total current = 7.854 Amps Voltage Drop = 1.62063 Volts Flux/Current = 0.00942696 Henries Voltage/Current = 0.206345 Ohms Power = 12.7284 Watts OK OK OK OK OK OK OK OK OK OK	3.424e-001 : >3.604e-001   3.244e-001 : 3.424e-001   3.063e-001 : 3.244e-001   2.883e-001 : 3.063e-001   2.703e-001 : 2.883e-001   2.523e-001 : 2.703e-001   2.343e-001 : 2.523e-001   2.343e-001 : 2.523e-001   2.162e-001 : 2.343e-001   1.982e-001 : 2.162e-001   1.802e-001 : 1.982e-001   1.622e-001 : 1.802e-001   1.442e-001 : 1.622e-001   1.261e-001 : 1.442e-001   1.081e-001 : 1.261e-001   9.011e-002 : 1.081e-001   7.209e-002 : 9.011e-002   5.407e-002 : 7.209e-002   3.605e-002 : 5.407e-002   2.4644e-006 : 1.802e-002   Density Plot:  B , Tesla

## Pot core – Pure Iron – triple air gap Flux density [T] – vertical cross-section of the center column



😰 inetrukcia 14 not core fam 😰 inetrukcia 12 not core 3 escrelinu fam 🌆 Unitited 💭 inetrukcia 12 not core 3 escrelinu ane 📧 📖

#### Pot core – third model

#### Core: PA2 magnetic material from HKR





# L=9,4 mH

### Decrease number of turn from 187 to 180 turns

A File Fair Foow Alex Obelation Flot Y-A Turedlate Anudom Helb	- 8' X
Circuit Properties Circuit Name Cervica Results Total current = 7.854 Amps Voltage Drop = 1.55997 Volts Plux Linkage = 0.074873 VM Webers Flux/Current = 0.0983316 Herries Voltage/Current = 0.1985210 hms Power = 12.252 Watts Circuit 1800 turrens Diameter: 2mm Inductance = Flux	x x x x x x x x x x x x x x

# Femm software B [T] H [A/m]

#### X B-H Curve Data B-H Curve for: Hakron PA2 B, Tesla H, Amp/m 0.000000 0.000000 0.045000 1000.0000000 0.079000 2000.0000000 0.200000 5000.0000000 0.250000 7000.0000000 0.350000 10000.000000 0.450000 13500.00000 0.500000 17000.000000 Plot B-H Curve Log Plot B-H Curve Read B-H points from text file Cancel OK

# HKR manufacturer Technical data: B [mT] H [A/cm]



# Hard to read B-H curve points (!)

## **B-H curve written to FEMM software**

