DATA SHEET
Synchronous Alternator

Customer	:	Notes:	
Customer reference	:		
Product line	: AG10-355MI80AI	Product code	: 14417012
Area classification	: Safe		1010291619

General data

Frame (IEC)	: 355	Degree of protection	: IP23
Insulation Class	: 180°C (H)	Mounting style	: B3T
THD (L-L, no load)	: ≤ 3%	Number of poles	: 4
Stator winding pitch	: 5/6	Type of Pole	: Salient
Altitude	: up to 1000 m.a.s.l	Rated speed - 50 Hz	: 1500 rpm
Number of Leads	: 12	Nominal rotation - 60 Hz	: 1800 rpm
Power factor	: 0.8 to 1.0	Overspeed	: 2250 rpm
Excitation system	: Brushless with Auxiliary Coil	Approx. weight	: 2688 kg
Cooling	: IC01	Overload	: 1.1x In per 1h each 6h
		Momentary Overload	: 1.5x In per 30s

	Frequency and number of phases	50 Hz				60 Hz				
		3ph			1ph	3ph				1ph
Voltages (V)	Y (series star) connection	**380**	**400**	**415**	**-**	**380**	**416**	**440**	**480**	**-**
	YY (parallel star) connection	190	200	208	-	190	208	220	240	-
	Δ (series delta) connection	220	230	239	-	220	240	254	277	-
	ΔΔ (parallel delta) connection	110	115	120	-	110	120	127	138	-
	Zig-zag or single phase delta	-	-	-	-	-	-	-	-	-
Output power (kVA)	Continuous 80/40	1000	1040	988		1040	1115	1168	1280	
	Continuous 105/40	1146	1192	1131		1192	1278	1338	1466	
	Continuous 125/40	**1250**	**1300**	**1235**		**1300**	**1394**	**1460**	**1600**	
	Standby 150/40	1300	1400	1330		1450	1528	1600	1660	
	Standby 163/27	1350	1450	1377		1480	1575	1670	1720	
Electrical data (FP=0.8 / Continuous 125/40 (H)) Satured reactances values	Xd(%) Dir. axis synchronous reactance	285.0	257.5	244.6		386.2	325.7	305.0	264.09	
	X'd(%) Dir. axis transient reactance	19.0	17.6	16.8		24.4	21.4	20.0	18.09	
	X"d(%) Dir. axis subtrans. reactance	14.0	12.7	12.1		17.5	15.4	14.4	13.06	
	Xq(%) Quad. axis sync. reactance	106.0	92.5	87.9		156.8	111.6	115.5	94.89	
	X"q(%) Quad. axis subtrans. react.	14.0	13.4	12.7		18.4	26.7	15.1	13.73	
	X2(%) Negative sequence reactance	14.0	13.1	12.4		17.9	21.1	14.8	13.4	
	X0(%) Zero sequence reactance	2.0	2.1	2.0		2.9	2.6	2.4	2.18	
	T'd(ms) Short Circ.Trans.time const.	163.0	162.6	162.6		163.8	163.2	163.3	162.6	
	T"d(ms) Short Circ. Sub. time const.	1.0	1.2	1.2		1.5	1.2	1.3	1.2	
	T'do(ms) Open Circ. time const Trans	2471	2396	2396		2621	2497	2514	2396.5	
	T"do(ms) Open Circ. time const Subt	2.0	2.0	2.0		2.1	2.0	2.0	2.0	
	Ta(ms) Armature time const.	37	35	35		48	38	39	35.51	
	uc(V) Full load excitation voltage	49.0	50.4	50.4		41.8	45.3	43.0	45.24	
	ic(A) Full load excitation current	4.0	4.2	4.2		3.5	3.7	3.6	3.77	
	ic(A) No load excitation current	1.0	1.2	1.2		0.8	1.0	0.9	1.07	
	Icc(A) Sustained Short-Circ. Current	5698	5629	5154		5925	5759	5747	5773.5	
	Kcc Short-circuit ratio	0.35	0.39	0.41		0.26	0.3	0.33	0.38	

	Power factor	0.8	1.0	0.8	1.0	0.8	1.0			0.8	1.0	0.8	1.0	0.8	1.0	0.8	1.0		
Efficiency (%)	25% of load	90.8	92.7	90.7	92.6	90.7	92.6			91.8	93.5	91.8	93.4	91.7	93.4	91.6	93.4		
	50% of load	93.6	95	93.6	95	93.6	95.1			94.1	95.4	94.2	95.5	94.3	95.6	94.3	95.6		
	75% of load	94	95.4	94.1	95.5	94.2	95.5			94.4	95.6	94.6	95.8	94.7	95.9	94.8	96		
	100% of load	93.9	95.3	94	95.5	94.1	95.5			94.1	95.4	94.4	95.6	94.6	95.8	94.8	96		
	125% of load	93.5	95	93.7	95.2	93.7	95.2			93.6	95	94	95.4	94.3	95.6	94.5	95.8		

Other characteristics

Air flow	: 2.04 m³/s
Exciter stator winding resistance at 20ºC	: 10.5 ohm
Stator winding resistance at 20ºC	: 0.00135 ohm
Rotor winding resistance	: 3.64 ohm
Stator winding layers	: 2
Inertia WR²	: 21.1 kgm²
NDE Bearing	: 6318 C3
DE bearing	: 6322 C3
Flange	: NOT APPLICABLE
Coupling disc	: NOT APPLICABLE

Automatic voltage regulator

Accuracy (stability)	: +/- 0.5%
Rated current	: 7 A
Analog input	: Yes
Digital input	: No
Peak current	: 10 A/10 s
Droop / TC	: Yes
Dynamic recovery	: 8 to 500 ms
U/F	: Yes
Internal voltage adjustment	: +/- 15%
External voltage adjustment	: +/- 10%
Transient recovery time for ΔU=20%	: 500 ms

According to:

IEC 60034
NBR 5117
NEMA MG1
VDE530
ISO 8528
CSA

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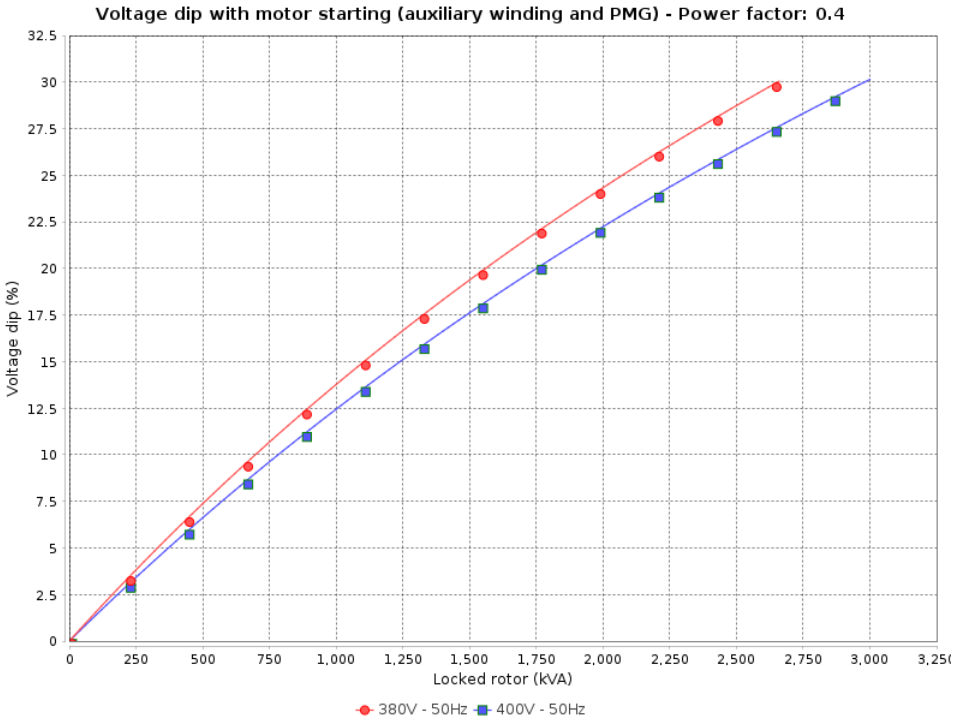

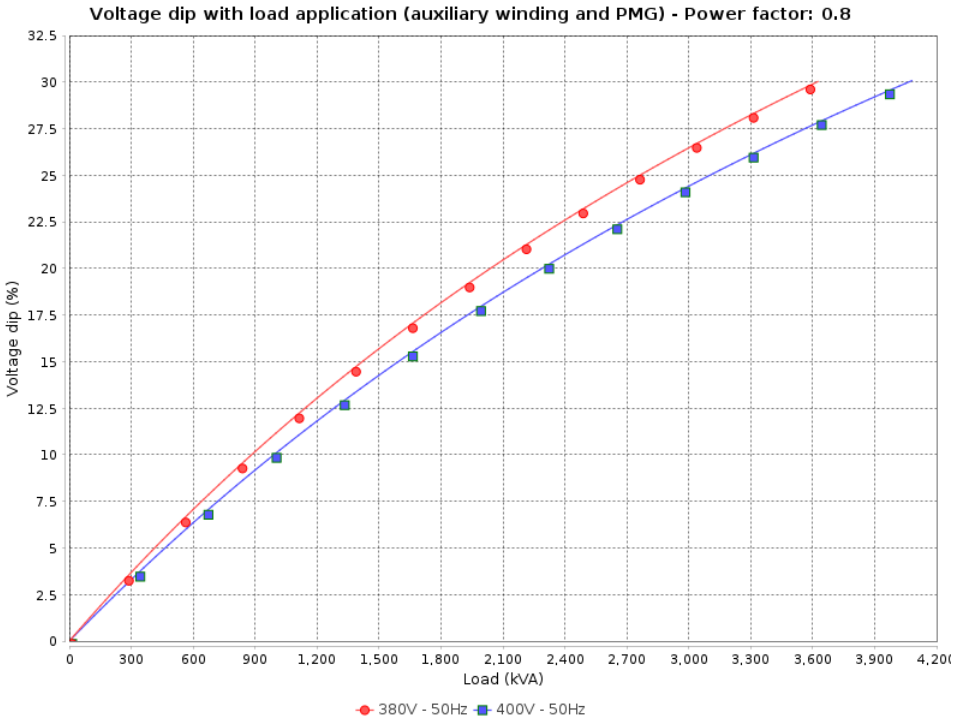

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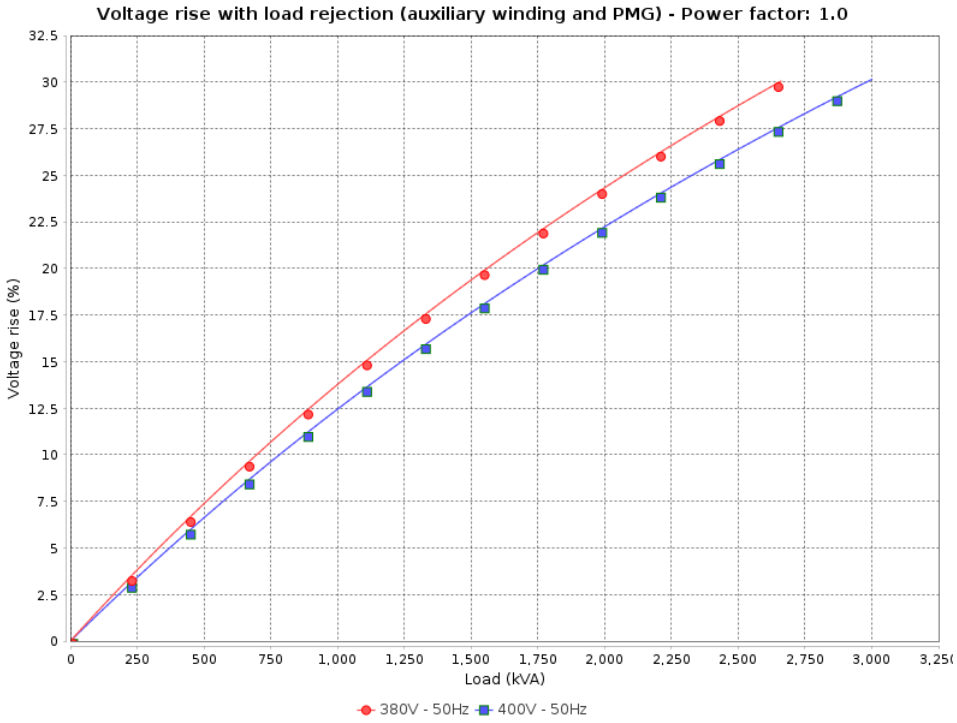

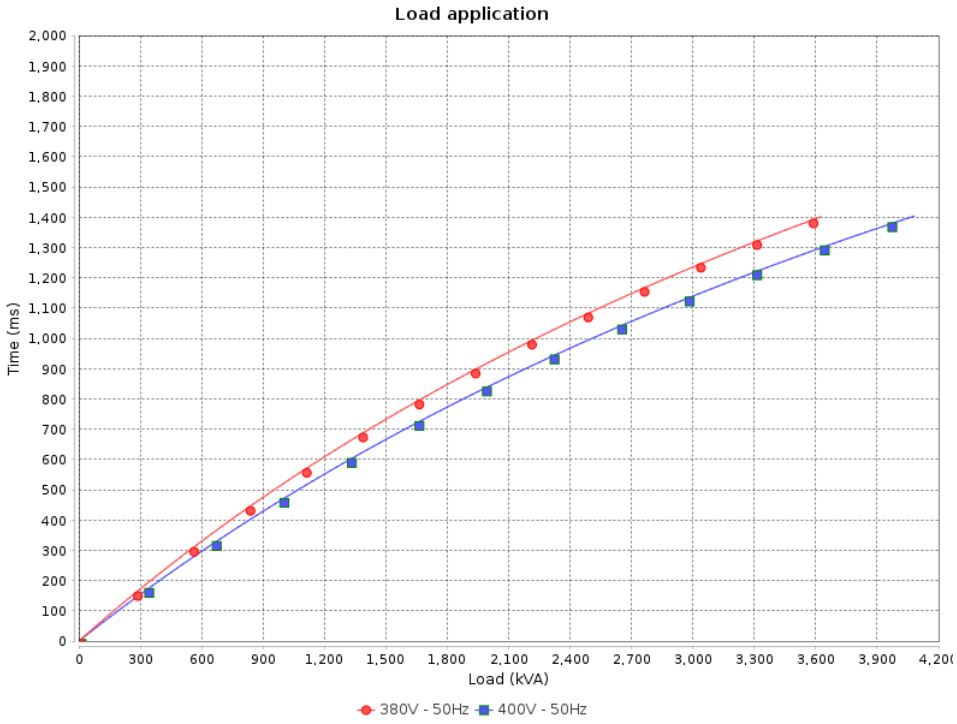

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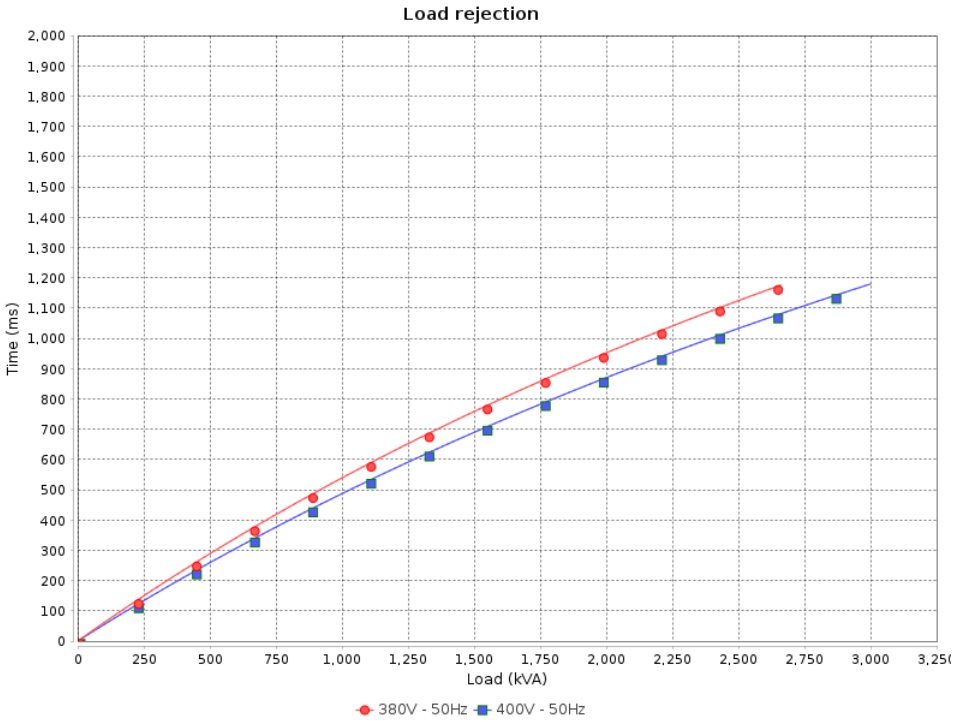

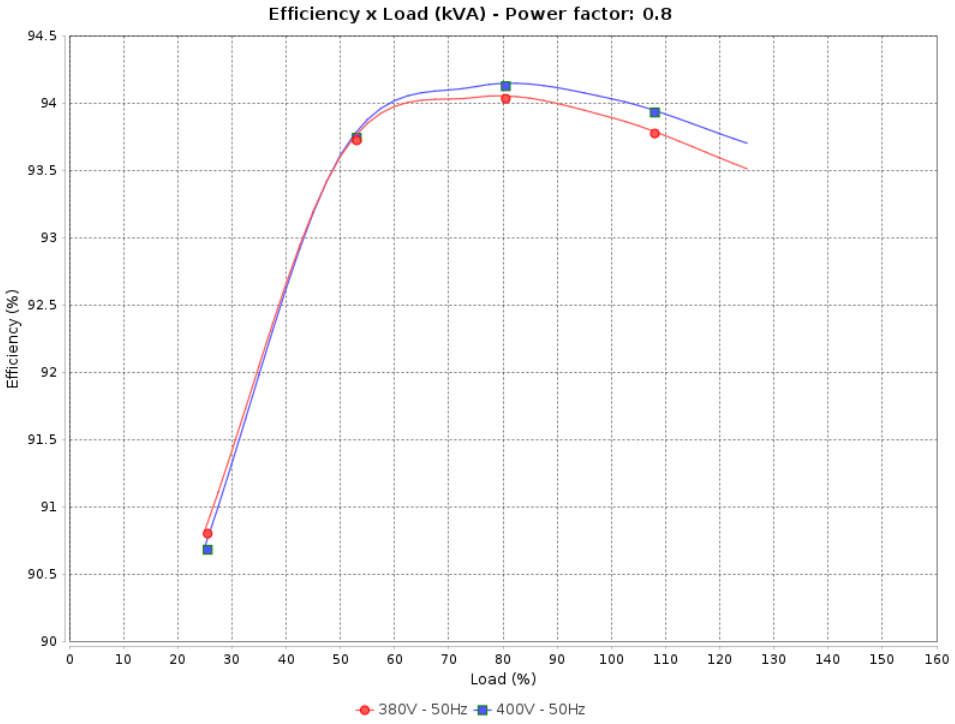

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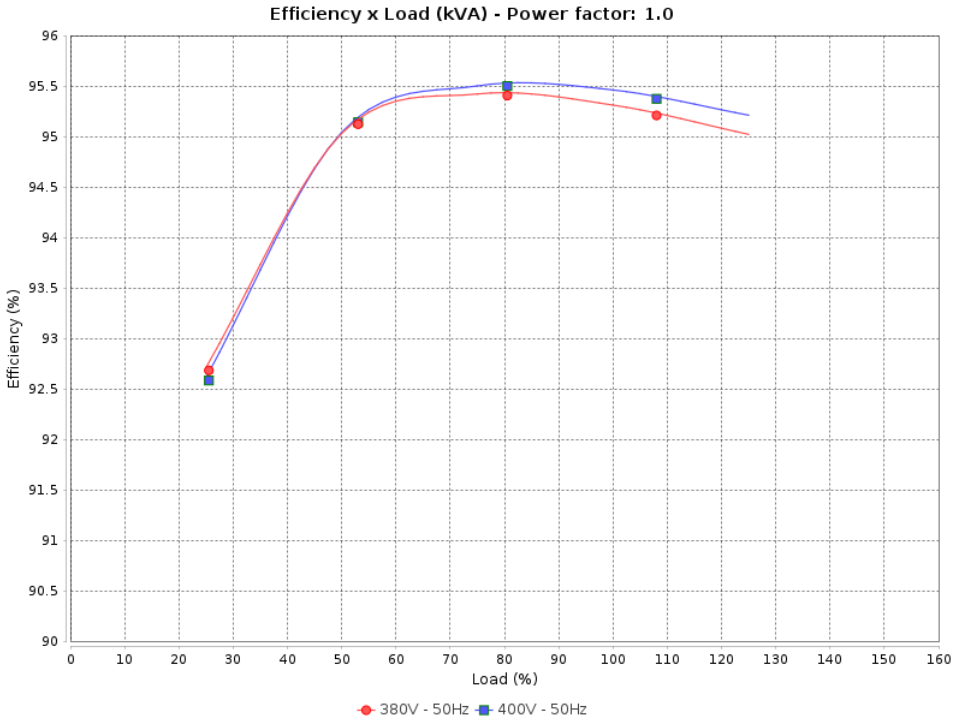

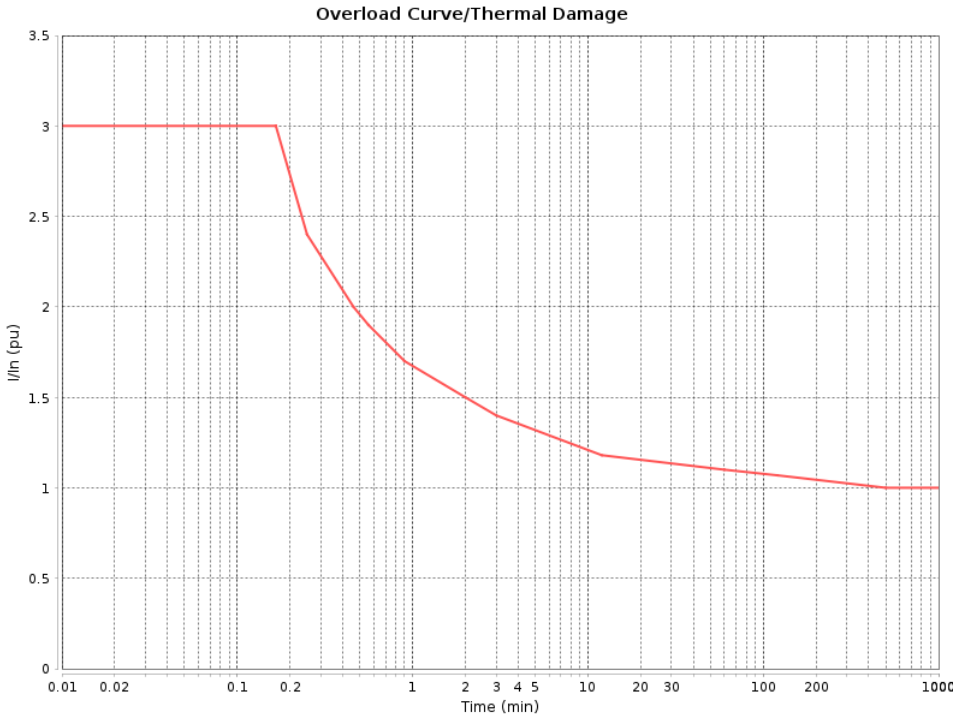

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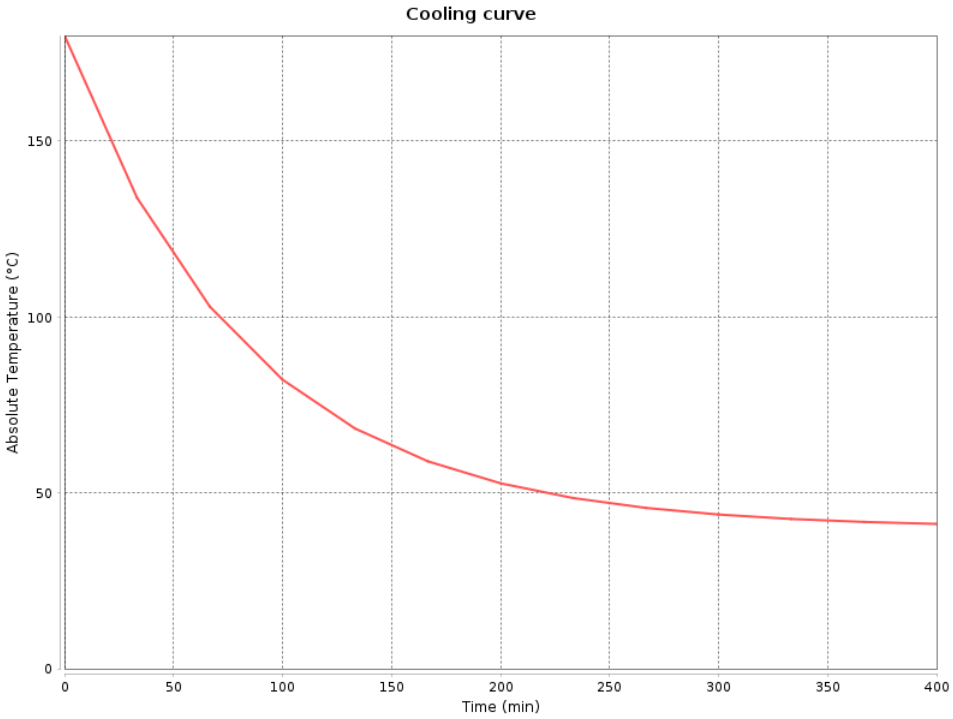

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