DATA SHEET
Synchronous Alternator

Customer	:	Notes:	
Customer reference	:		
Product line	: AG10-315MI30AI	Product code	: 14419205
Area classification	: Safe		1010276444

General data

Frame (IEC)	: 315	Degree of protection	: IP23
Insulation Class	: 180°C (H)	Mounting style	: B15T
THD (L-L, no load)	: ≤ 3%	Number of poles	: 4
Stator winding pitch	: 2/3	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	: 1516 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	-	-	-	190 - 200	-	-	-	-	220 - 240
Output power (kVA)	Continuous 80/40	600	600	522	346	608	649	672	740	388
	Continuous 105/40	687	687	598	397	710	743	770	850	445
	Continuous 125/40	**750**	**750**	**653**	**433**	**760**	**811**	**840**	**925**	**485**
	Standby 150/40	822	822	715	474	810	876	920	1010	531
	Standby 163/27	856	856	745	495	868	926	958	1056	553
Electrical data (FP=0.8 / Continuous 125/40 (H)) Satured reactances values	Xd(%) Dir. axis synchronous reactance	132.9	106.9	93.0	177.2	266.9	264.8	247.6	133.61	330.2
	X'd(%) Dir. axis transient reactance	13.2	11.6	10.1	17.6	22.7	18.4	17.2	14.9	22.9
	X"d(%) Dir. axis subtrans. reactance	9.7	8.3	7.2	12.9	16.8	13.4	12.5	10.67	16.7
	Xq(%) Quad. axis sync. reactance	43.5	32.7	28.4	58.0	126.5	95.4	61.2	50.37	81.6
	X"q(%) Quad. axis subtrans. react.	7.8	8.3	7.2	10.3	15.7	23.0	9.5	9.79	12.6
	X2(%) Negative sequence reactance	8.7	8.3	7.2	11.6	16.2	18.2	11.0	10.23	14.6
	X0(%) Zero sequence reactance	1.6	1.4	1.2	2.1	2.8	2.2	2.1	1.78	2.8
	T'd(ms) Short Circ.Trans.time const.	136.2	131.1	131.1	181.6	180.1	73.4	171.7	157.27	228.9
	T"d(ms) Short Circ. Sub. time const.	0.6	0.4	0.4	0.8	1.4	1.5	0.8	0.48	1.1
	T'do(ms) Open Circ. time const Trans	1386	1225	1225	1847	2142	968	1826	1471.09	2435
	T"do(ms) Open Circ. time const Subt	1.6	1.5	1.5	2.1	2.1	1.9	2.0	1.8	2.6
	Ta(ms) Armature time const.	12	10	10	15	20	14	15	13.08	20
	uc(V) Full load excitation voltage	70.0	68.0	68.0	70.0	67.0	67.3	65.0	70.0	65.0
	ic(A) Full load excitation current	3.5	3.4	3.4	3.5	2.8	3.3	3.1	3.5	3.1
	ic(A) No load excitation current	1.1	0.9	0.9	1.5	0.5	1.0	0.9	1.4	1.2
	Icc(A) Sustained Short-Circ. Current	3419	3248	2725	3248	3464	3359	3307	3337.81	3031
	Kcc Short-circuit ratio	0.5	0.63	1.08	0.67	0.42	0.51	0.58	0.76	0.77

	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	0.8	1.0	0.8	1.0
Efficiency (%)	25% of load	90.3	92.4	89.5	91.8	89.5	91.8	83.1	85	91.9	93.6	91.3	93.2	91	92.9	90.4	92.5	83.7	85.4
	50% of load	93.6	95.2	93.2	94.9	93.2	95	86.1	87.6	94.6	95.9	94.3	95.7	94.1	95.6	93.9	95.4	86.6	88
	75% of load	94.3	95.9	94.1	95.7	94.1	95.8	86.8	88.2	95.1	96.3	94.9	96.3	94.6	96.3	94.7	96.2	87	88.6
	100% of load	94.4	96	94.2	96	94.2	96	86.8	88.3	95	96.3	95	96.4	95.1	96.4	94.9	96.4	87.5	88.7
	125% of load	94.1	95.9	94	95.9	94	96	86.6	88.2	94.7	96.1	94.8	96.2	94.9	96.4	94.7	96.4	87.3	88.7

Other characteristics

Air flow	: 2.79 m³/s
Exciter stator winding resistance at 20ºC	: 15.26 ohm
Stator winding resistance at 20ºC	: 0.00295 ohm
Rotor winding resistance	: 2.1 ohm
Stator winding layers	: 2
Inertia WR²	: 7.94 kgm²
NDE Bearing	: 6316 2RS
DE bearing	
Flange	: SAE 0
Coupling disc	: SAE 14

Automatic voltage regulator

Accuracy (stability)	: +/- 0.5%
Rated current	: 5 A
Analog input	: Yes
Digital input	: No
Peak current	: 7 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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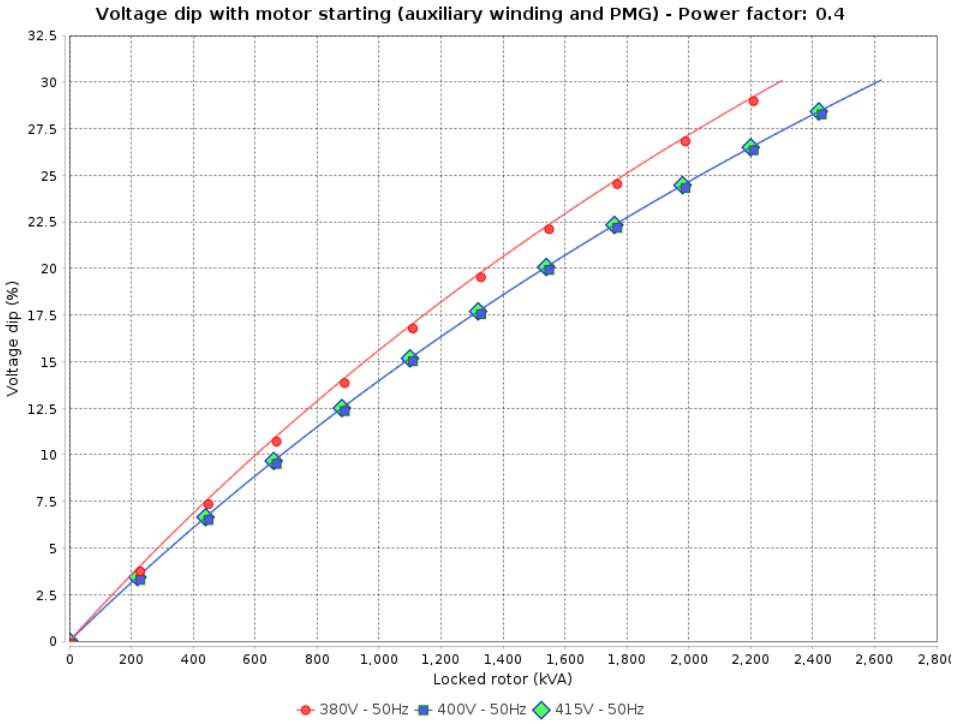

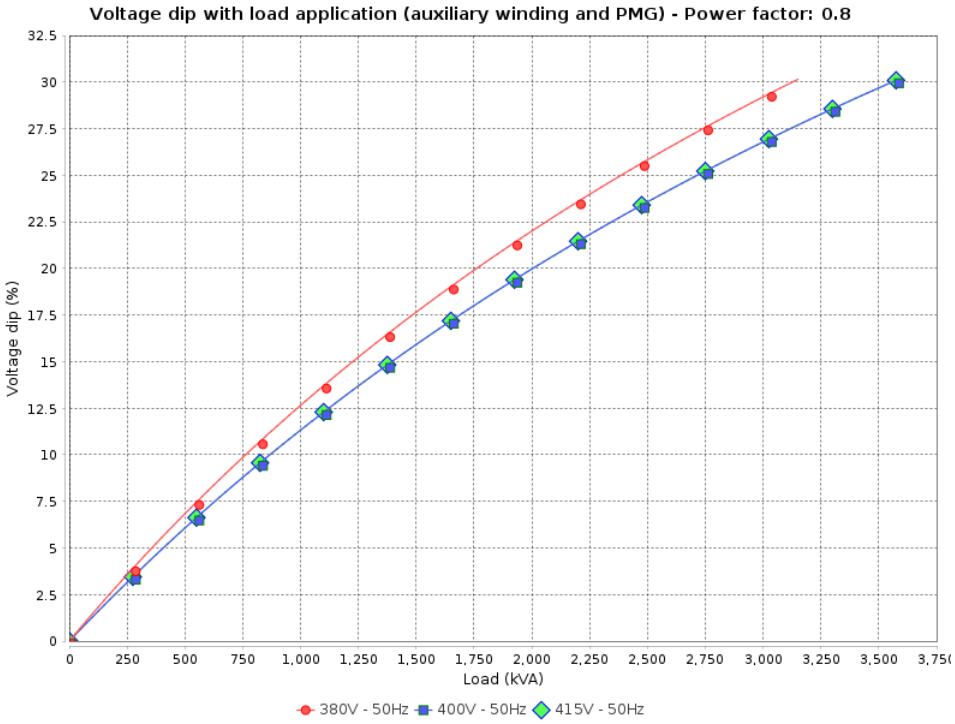

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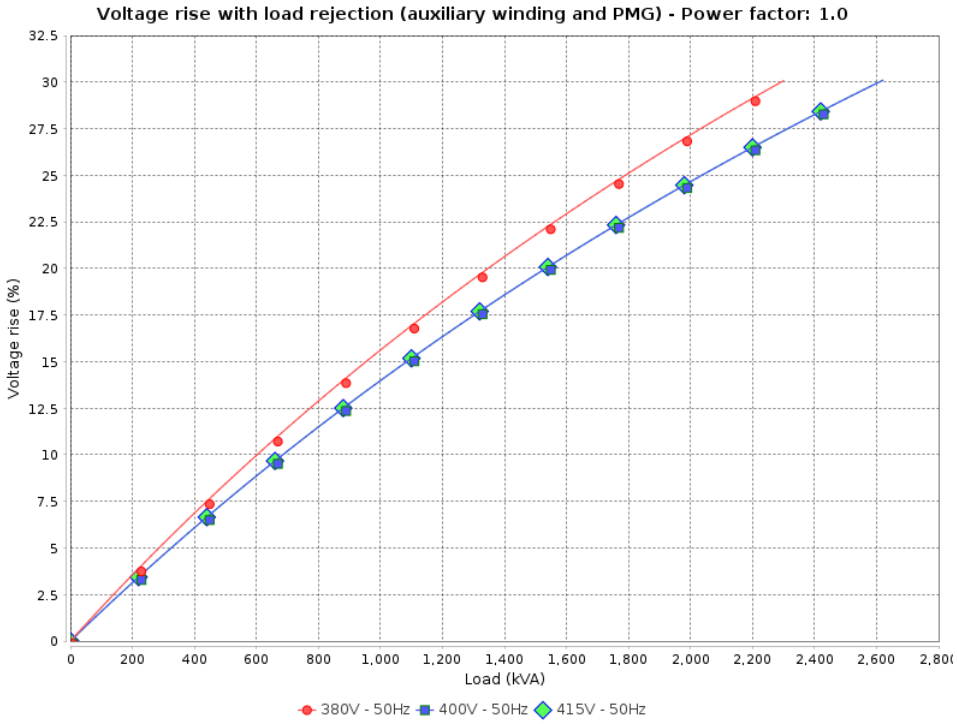

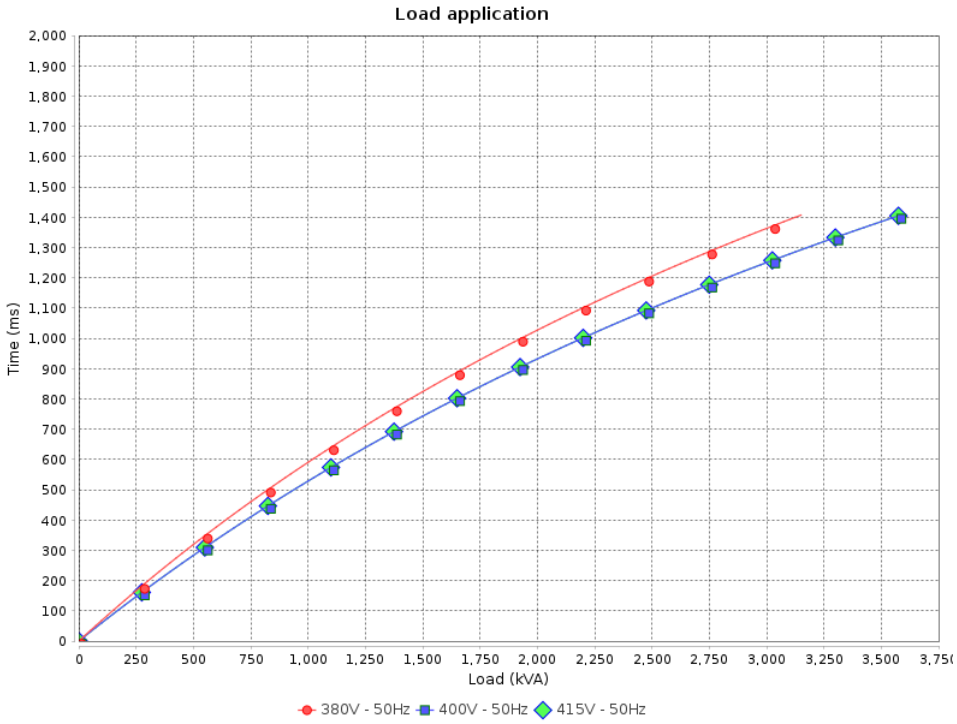

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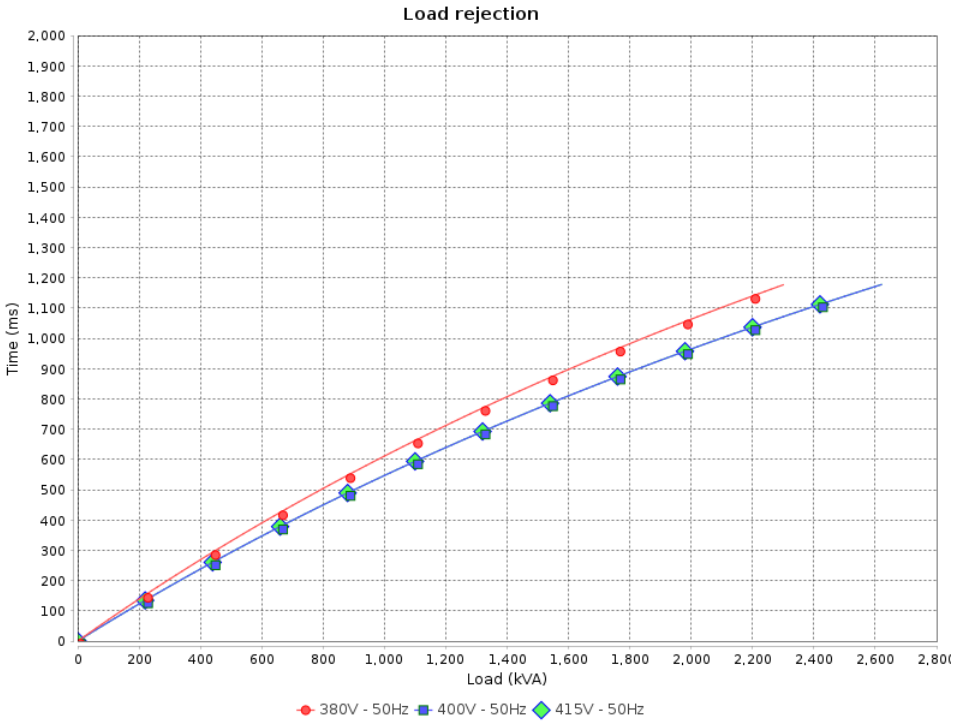

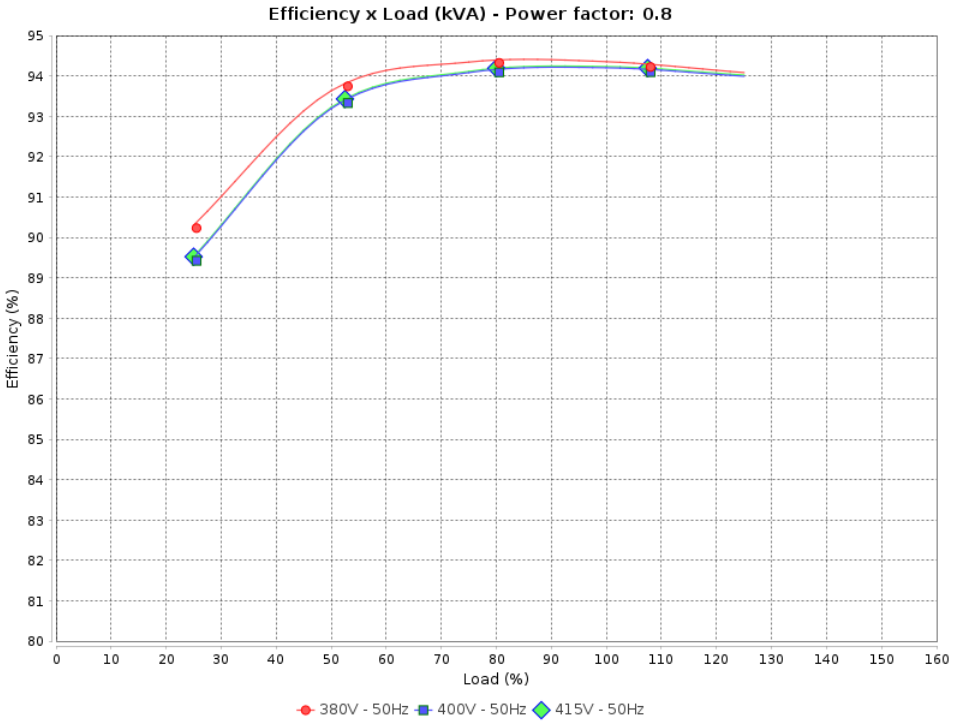

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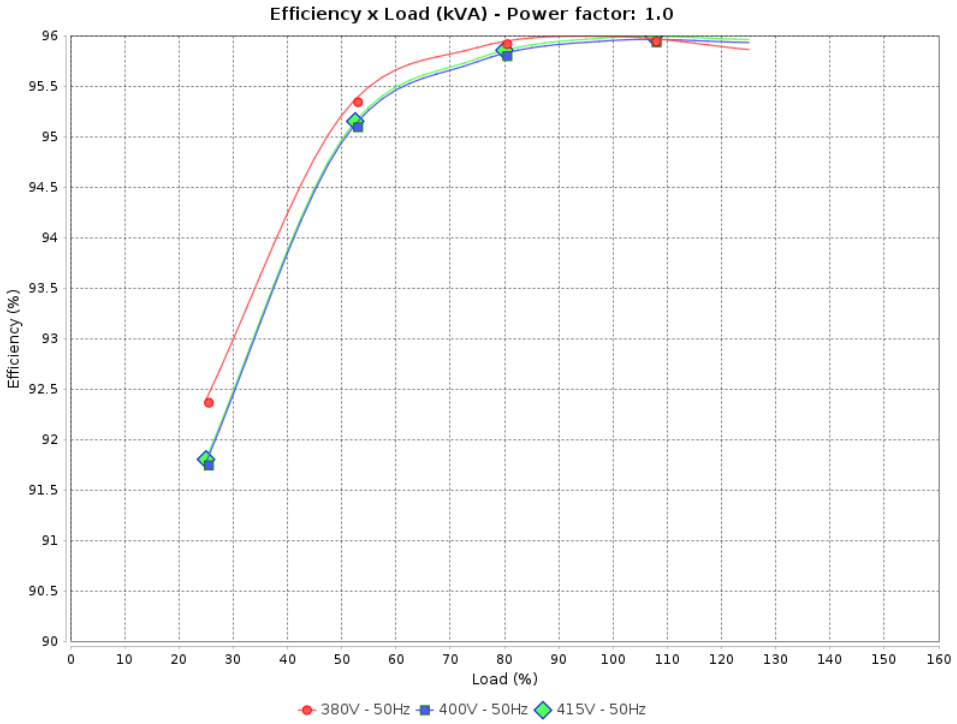

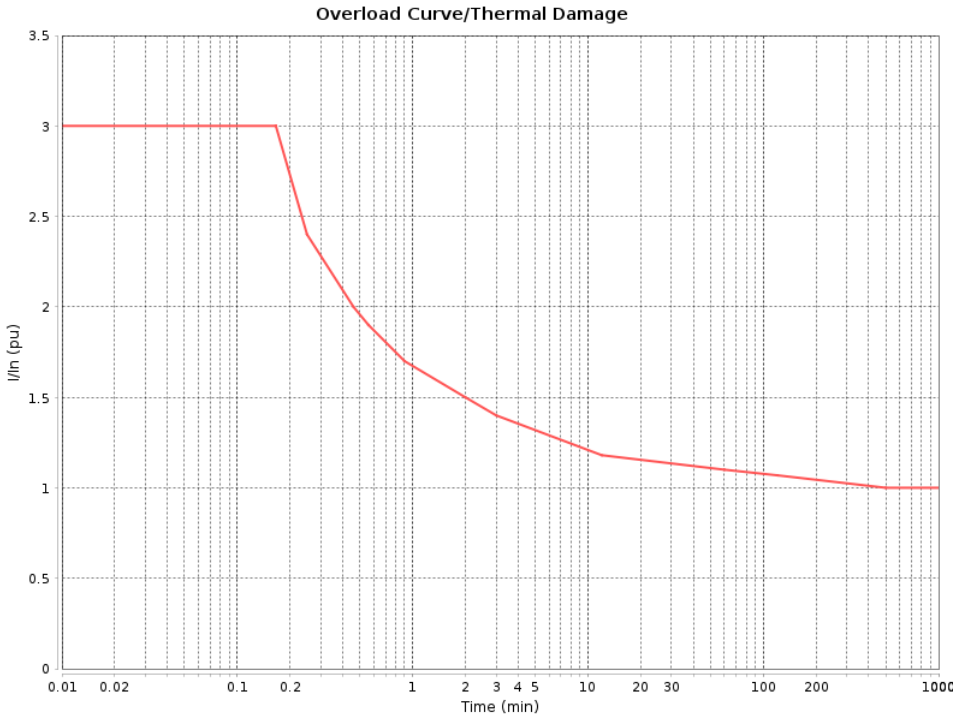

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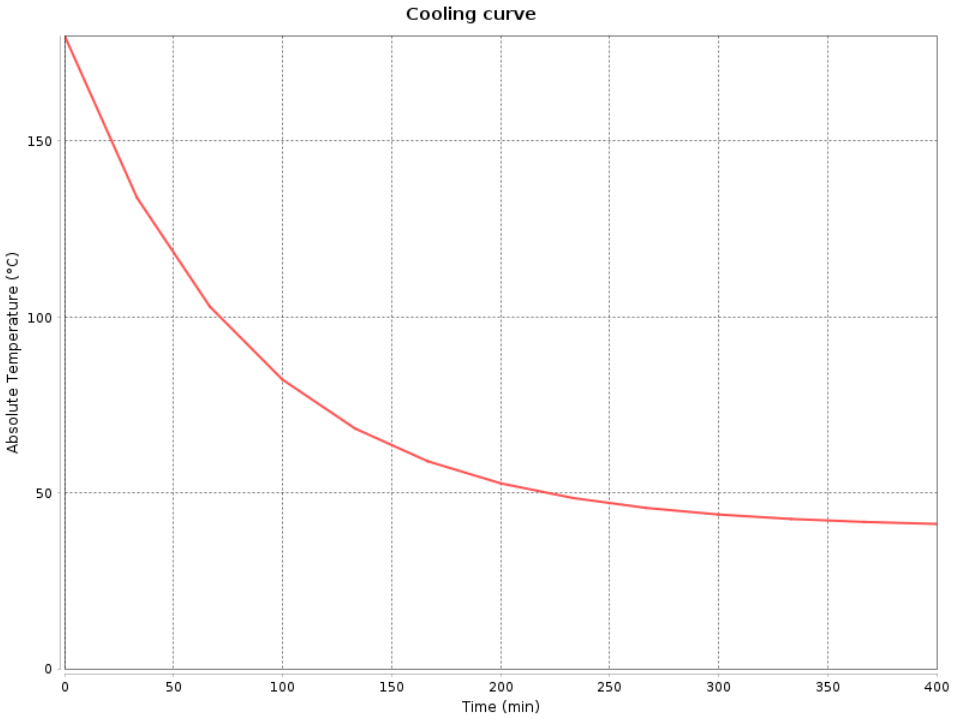

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