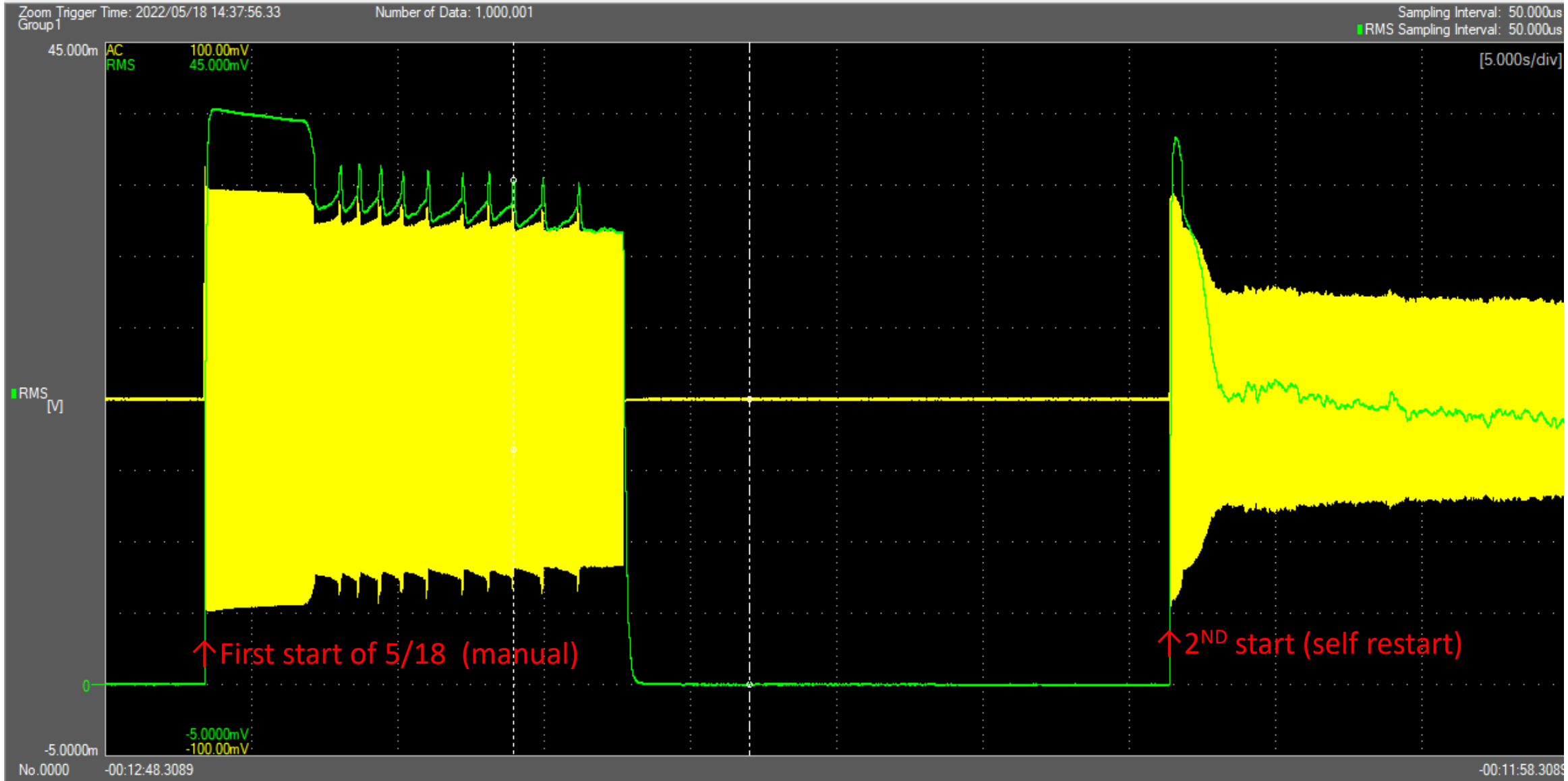
1st Manual start of 5/18. , never got < 30A in 15 sec, then tripped on internal overload. (flow went to 0, red light remained on)

The overload auto-reset 20 seconds later and motor self started (labeled 2nd start), dropped to 20Arms in 2 seconds, then slowly dropped to 13A over next few minutes (next slide)

Note erratic spikes spaced 0.4 to 0.8 seconds during the first start.

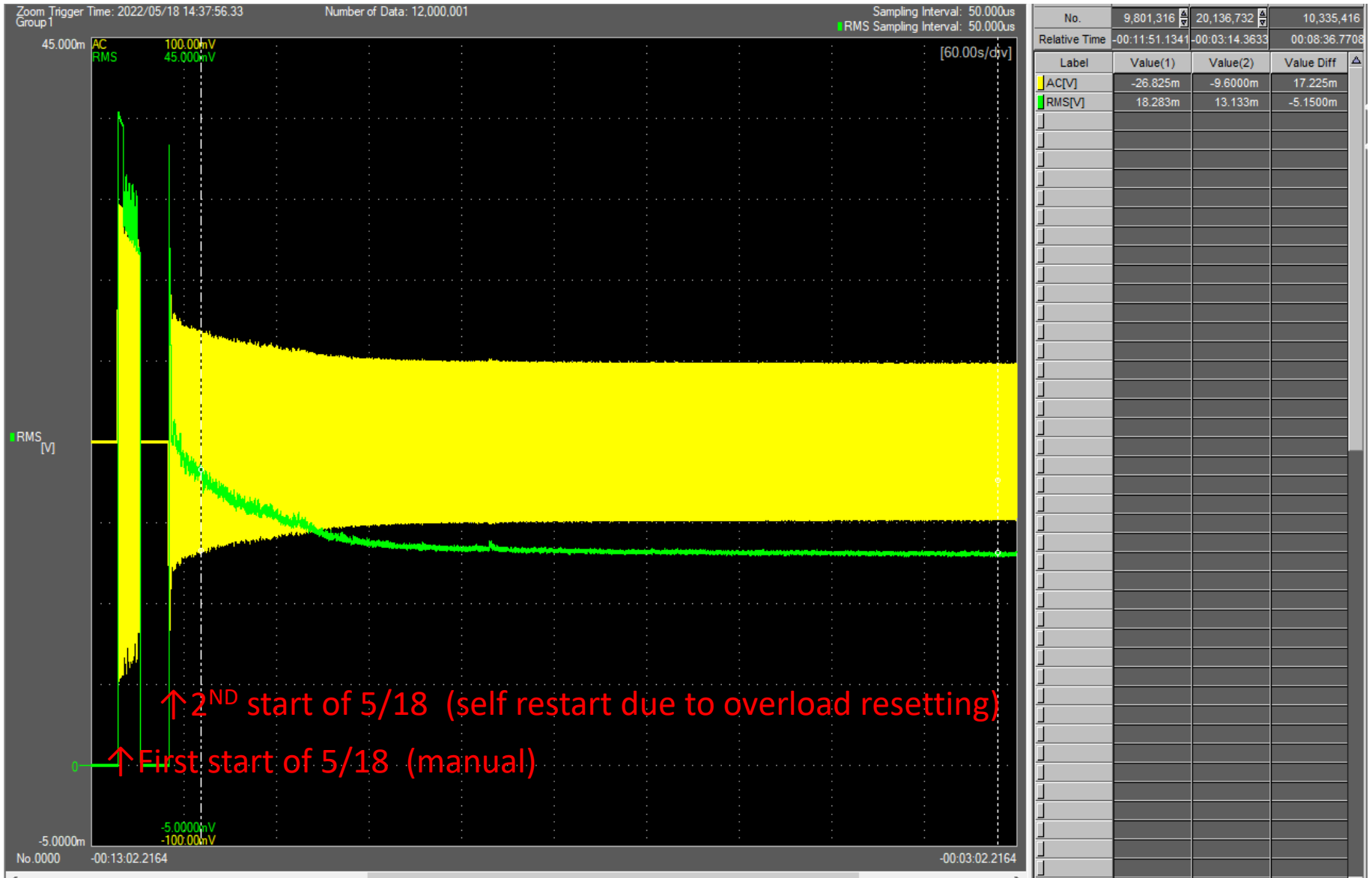
5 SEC / DIV



Same as last slide, but zoomed out to 60sec/div.

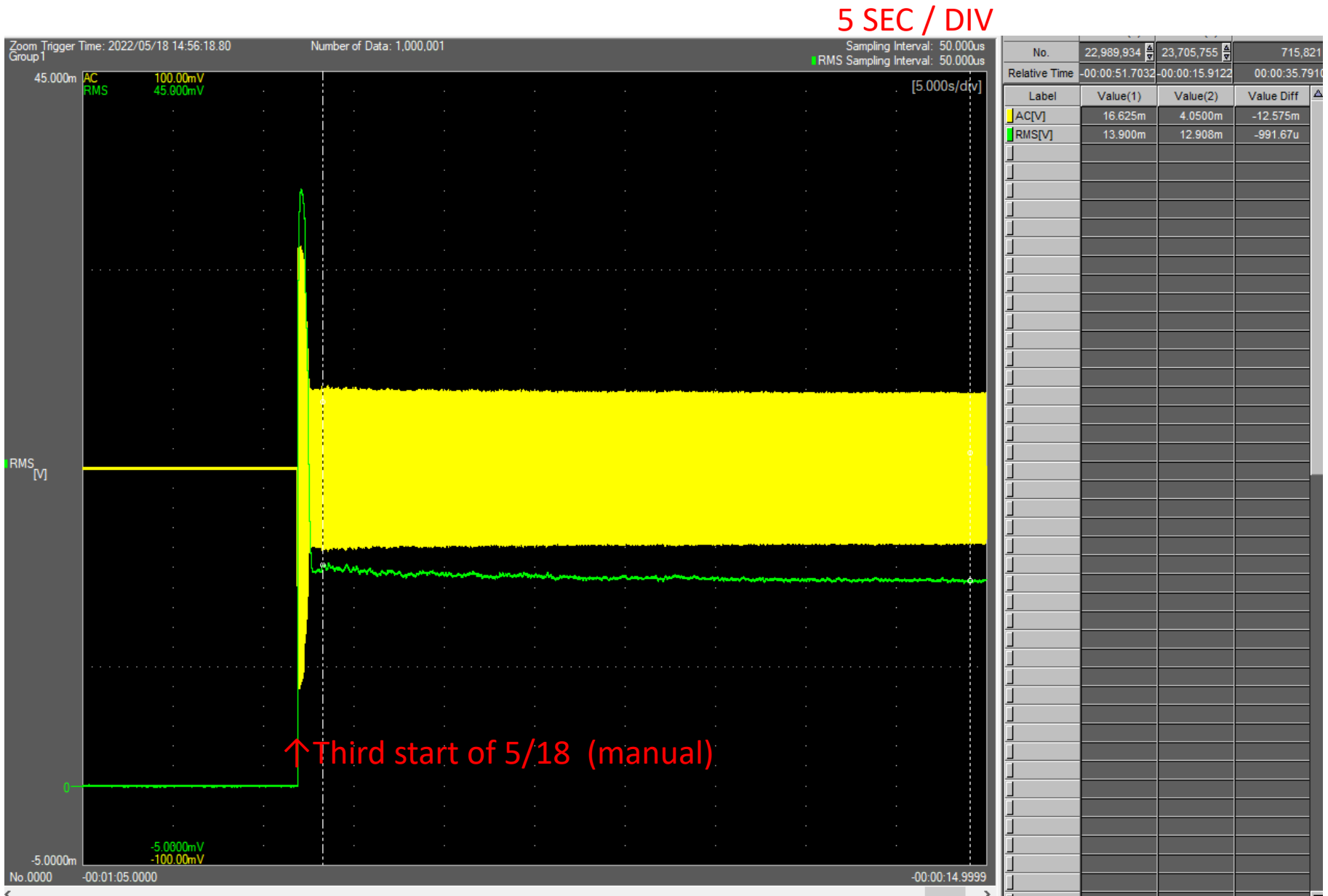
2ND start (when overload reclosed) current dropped to 20Arms in 2 seconds, then slowly dropped to 13A over next few minutes

60 SEC / DIV



No.	9,801,316	20,136,732	10,335,416
Relative Time	-00:11:51.1341	-00:03:14.3633	00:08:36.7708
Label	Value(1)	Value(2)	Value Diff
AC[V]	-26.825m	-9.6000m	17.225m
RMS[V]	18.283m	13.133m	-5.1500m

3rd start (2nd manual start)Dropped to 13.9Arms in 2 seconds and eventually to 12.9A.



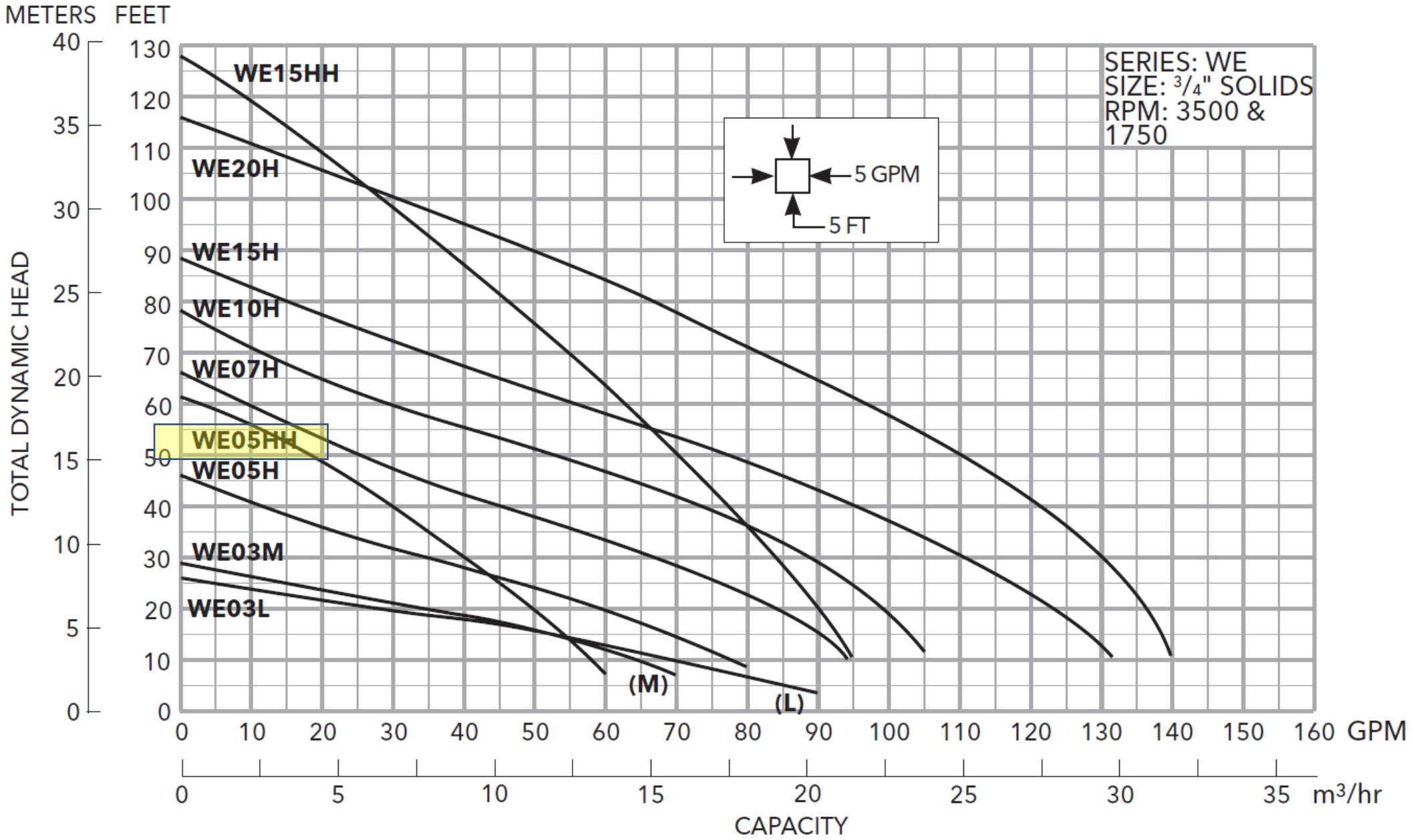
No.	22,989,934	23,705,755	715,821
Relative Time	-00:00:51.7032	-00:00:15.9122	00:00:35.791
Label	Value(1)	Value(2)	Value Diff
AC[V]	16.625m	4.0500m	-12.575m
RMS[V]	13.900m	12.908m	-991.67u

S/C 501-31562 – identifies PUMP, SUBMERSIBLE, EFFLUENT, 1/2 HP, 115V, 14.5 AMP Goulds WE0511HH
More data on that pump in https://d1pkofokfruj4.cloudfront.net/media/upload/resource/z/Goulds-Pumps-WE-Series-Model-3885-Submersible-Effluent-Pump-Technical-Brochure.pdf

MODELS

Order Number	HP	Phase	Volts	RPM	Impeller Diameter (in.)	Maximum Amps	Locked Rotor Amps	KVA Code	Full Load Efficiency %	Resistance		Power Cable Size	Weight (lbs.)
										Start	Line-Line		
WE0311L	0.33	1	115	1750	5.38	10.7	30.0	M	54	11.9	1.7	16/3	56
WE0318L			208			6.8	19.5	K	51	9.1	4.2		
WE0312L			230			4.9	14.1	L	53	14.5	8.0		
WE0311M			115			10.7	30.0	M	54	11.9	1.7		
WE0318M			208			6.8	19.5	K	51	9.1	4.2		
WE0312M			230			4.9	14.1	L	53	14.5	8.0		
WE0511H	0.5		115		3.56	14.5	46.0	M	54	7.5	1.0	14/3	60
WE0518H			208			8.1	31.0	K	68	9.7	2.4	16/3	60
WE0512H			230			7.3	34.5	M	53	9.6	4.0		
WE0538H		3	200			4.9	22.6	R	68	NA	3.8	14/4	60
WE0532H			230			3.3	18.8	R	70	NA	5.8		
WE0534H			460			1.7	9.4	R	70	NA	23.2		
WE0537H			575			1.4	7.5	R	62	NA	35.3		
WE0511HH		1	115			14.5	46.0	M	54	7.5	1.0	14/3	60
WE0518HH			208			8.1	31.0	K	68	9.7	2.4		

Pump curve from https://d1pkofokfruj4.cloudfront.net/media/upload/resource/z/Goulds-Pumps-WE-Series-Model-3885-Submersible-Effluent-Pump-Technical-Brochure.pdf
PN WE0511HH. (Based on table previous slide, WE0511HH, WE0512HH, WE0518HH have same impeller but different voltage, presumably collectively described by WE05HH)



Calculate fluid power from previous pump curve
(FHP = gpm*hd/3960). Peaks at 0.31hp. With 0.54 pump efficiency this would create a BHP demand of 0.57bhp on the output of the motor which exceeds the steady state rating 0.5hp. For operation in the middle of the manufacture's range, the motor does not have a lot of margin in this design.

gpm	Head ft	Fluid HP
7.5	60	0.114
14.5	55	0.201
20	50	0.253
25	45	0.284
30	40	0.303
35	35	0.309
40	30	0.303
44.5	25	0.281
49	20	0.247
53	15	0.201
56	10	0.141
58	5	0.073