

XV7.2KX Variable Speed Drive Compressor R600a 100-127V 50/60Hz



General

Code number	108H7214
Electronic unit (detached) - XV-Frequency Input: Frequency signal (connector cable assembly req'd)	105N5150, 20 pcs: 105N5151
Electronic unit (attached) - XV-AEO/Freq. Inputs: Modbus, thermostat, frequency signal	105N5312, 50 pcs: 105N5313
Approvals	UL 60335-2-34
Compressors on pallet	175

Application

Application	LBP			
Frequency	Hz	50	60	
Evaporating temperature	°F	-31 to 32	-31 to 32	
Voltage range	V	90 - 135	90 - 135	
Max. condensing temperature continuous (short)	°F	140 (158)	140 (158)	
Max. winding temperature continuous (short)	°F	257 (275)	257 (275)	

Cooling requirements

Frequency	Hz	50			60		
Application		LBP	MBP	HBP	LBP	MBP	HBP
32°C		S	-	-	S	-	-
38°C		S	-	-	S	-	-
43°C		S	-	-	S	-	-

Remarks: HST capable (High starting torque, start against differential pressure)

All measured performance data include losses caused by electronic unit.

Features

Speed range	rpm	1000 - 4000
Protections		current / speed / temperature
External speed control		frequency signal 5V, 0-200Hz

Motor

Motor type		permanent magnet
LRA (rated after 4 sec. UL984)	A	electronic cut off
Maximum current	A	2.5
Resistance, all 3 windings (25°C)	Ω	10.0

Design

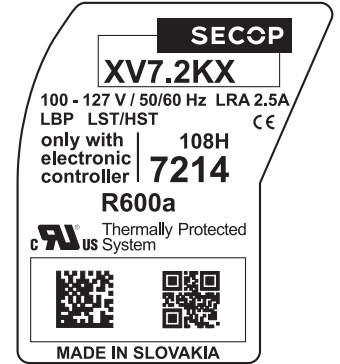
Displacement	cu.in	0.44
Oil quantity (type)	fl.oz.	3.9 (5 cSt mineral)
Maximum refrigerant charge	oz.	5.3
Free gas volume in compressor	fl.oz.	30.4
Weight	lbs.	10.8

Dimensions

Height	inch	A	4.17
		B	3.98
Suction connector	location/I.D. in. angle	C	0.252-0.259 11°
	material comment		Copper Rubber plug
Process connector	location/I.D. in. angle	D	0.252-0.259 15°
	material comment		Copper Rubber plug
Discharge connector	location/I.D. in. angle	E	0.191-0.198 0°
	material comment		Copper Rubber plug

Mounting accessories

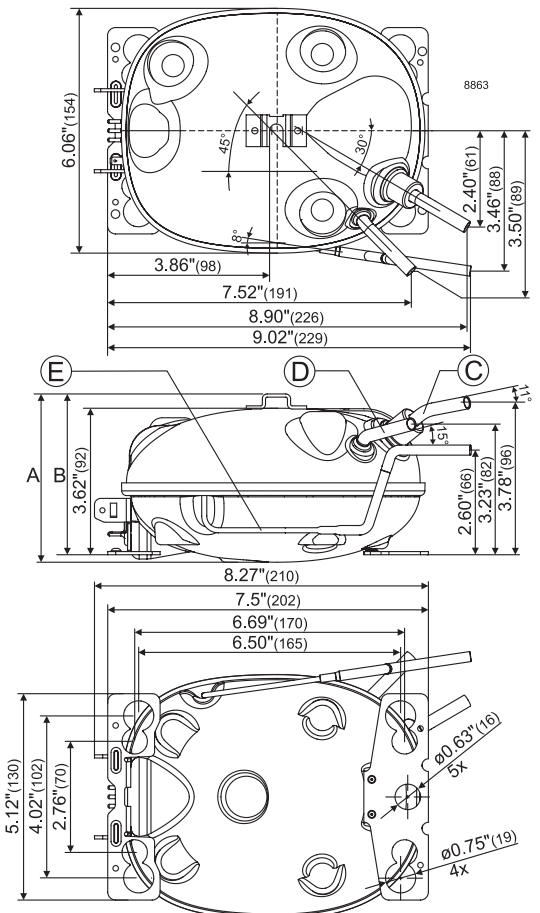
		Code number
Bolt joint for one compressor	Ø: 5/8 in	118-1917
Bolt joint in quantities	Ø: 5/8 in	118-1918
Snap-on in quantities	Ø: 5/8 in	118-1919



yellow warning label is placed separately



- S = Static cooling normally sufficient
- O = Oil cooling
- F₁ = Fan cooling 1.5 m/s (compressor compartment temperature equal to ambient temperature)
- F₂ = Fan cooling 3.0 m/s necessary
- SG = Suction gas cooling normally sufficient
- = not applicable in this area



1000 rpm

115V, 60Hz, static cooling, pcond = 95°F, Tsuc = 90°F, Tliq = 95°F

Evap. temp. in °F	-49	-40	-30	-20	-13	-10	0	10	14	20	30	32	40	45	50
Capacity in BTU/h			82.2	114	144	159	214	281	310	356	440	457			
Power cons. in W			14.3	16.8	18.9	19.8	22.8	25.6	26.5	27.7	28.9	29.0			
Current cons. in A			0.30	0.34	0.38	0.39	0.45	0.49	0.51	0.53	0.55	0.55			
EER in BTU/Wh			5.76	6.76	7.61	8.01	9.40	11.0	11.7	12.9	15.2	15.8			

1200 rpm

115V, 60Hz, static cooling, pcond = 95°F, Tsuc = 90°F, Tliq = 95°F

Evap. temp. in °F	-49	-40	-30	-20	-13	-10	0	10	14	20	30	32	40	45	50
Capacity in BTU/h			99.1	137	172	190	256	334	367	420	516	536			
Power cons. in W			17.3	20.4	22.9	24.0	27.5	30.8	31.8	33.2	34.5	34.6			
Current cons. in A			0.35	0.41	0.45	0.47	0.53	0.59	0.61	0.63	0.66	0.66			
EER in BTU/Wh			5.72	6.69	7.53	7.93	9.29	10.9	11.5	12.7	15.0	15.5			

1300 rpm

115V, 60Hz, static cooling, pcond = 95°F, Tsuc = 90°F, Tliq = 95°F

Evap. temp. in °F	-49	-40	-30	-20	-13	-10	0	10	14	20	30	32	40	45	50
Capacity in BTU/h			108	148	187	206	276	360	396	452	554	575			
Power cons. in W			18.9	22.2	24.9	26.1	29.9	33.3	34.5	35.9	37.3	37.3			
Current cons. in A			0.38	0.44	0.49	0.51	0.58	0.64	0.66	0.69	0.71	0.71			
EER in BTU/Wh			5.70	6.67	7.50	7.89	9.25	10.8	11.5	12.6	14.9	15.4			

1500 rpm

115V, 60Hz, static cooling, pcond = 95°F, Tsuc = 90°F, Tliq = 95°F

Evap. temp. in °F	-49	-40	-30	-20	-13	-10	0	10	14	20	30	32	40	45	50
Capacity in BTU/h			124	171	216	237	318	413	453	517	630	654			
Power cons. in W			21.9	25.8	28.9	30.3	34.6	38.5	39.8	41.4	42.9	42.9			
Current cons. in A			0.43	0.50	0.56	0.58	0.66	0.74	0.76	0.79	0.82	0.82			
EER in BTU/Wh			5.68	6.63	7.46	7.84	9.18	10.7	11.4	12.5	14.7	15.2			

1800 rpm

115V, 60Hz, static cooling, pcond = 95°F, Tsuc = 90°F, Tliq = 95°F

Evap. temp. in °F	-49	-40	-30	-20	-13	-10	0	10	14	20	30	32	40	45	50
Capacity in BTU/h			148	204	256	282	376	488	535	609	741	768			
Power cons. in W			26.6	31.3	35	36.6	41.9	46.7	48.2	50.1	51.8	51.9			
Current cons. in A			0.51	0.59	0.66	0.69	0.79	0.88	0.91	0.94	0.97	0.97			
EER in BTU/Wh			5.58	6.52	7.32	7.69	8.98	10.5	11.1	12.2	14.3	14.8			

2100 rpm

115V, 60Hz, static cooling, pcond = 95°F, Tsuc = 90°F, Tliq = 95°F

Evap. temp. in °F	-49	-40	-30	-20	-13	-10	0	10	14	20	30	32	40	45	50
Capacity in BTU/h			172	236	296	326	435	563	617	702	851	881			
Power cons. in W			31.2	36.7	41.1	43	49.2	54.8	56.6	58.8	60.8	60.9			
Current cons. in A			0.59	0.69	0.77	0.80	0.92	1.02	1.05	1.09	1.13	1.13			
EER in BTU/Wh			5.52	6.43	7.22	7.58	8.85	10.3	10.9	11.9	14.0	14.5			

2500 rpm

115V, 60Hz, static cooling, pcond = 95°F, Tsuc = 90°F, Tliq = 95°F

Evap. temp. in °F	-49	-40	-30	-20	-13	-10	0	10	14	20	30	32	40	45	50
Capacity in BTU/h			204	279	350	385	514	664	727	825					
Power cons. in W			37.4	44.0	49.2	51.5	58.9	65.6	67.8	70.5					
Current cons. in A			0.69	0.81	0.91	0.95	1.09	1.21	1.25	1.29					
EER in BTU/Wh			5.46	6.35	7.12	7.48	8.72	10.1	10.7	11.7					

3000 rpm

115V, 60Hz, static cooling, pcond = 95°F, Tsuc = 90°F, Tliq = 95°F

Evap. temp. in °F	-49	-40	-30	-20	-13	-10	0	10	14	20	30	32	40	45	50
Capacity in BTU/h			237	322	404	445	595	771	845	961					
Power cons. in W			44.5	52.4	58.8	61.7	71	79.6	82.5	86.1					
Current cons. in A			0.80	0.94	1.06	1.11	1.27	1.42	1.47	1.53					
EER in BTU/Wh			5.33	6.15	6.88	7.21	8.38	9.68	10.2	11.2					

3500 rpm

115V, 60Hz, static cooling, pcond = 95°F, Tsuc = 90°F, Tliq = 95°F

Evap. temp. in °F	-49	-40	-30	-20	-13	-10	0	10	14	20	30	32	40	45	50
Capacity in BTU/h			269	365	458	505	677	879	964	1096					
Power cons. in W			51.5	60.8	68.4	71.9	83.2	93.7	97.2	102					
Current cons. in A			0.91	1.07	1.20	1.26	1.45	1.63	1.69	1.76					
EER in BTU/Wh			5.23	6.00	6.70	7.02	8.14	9.38	9.91	10.8					

4000 rpm

115V, 60Hz, static cooling, pcond = 95°F, Tsuc = 90°F, Tliq = 95°F

Evap. temp. in °F	-49	-40	-30	-20	-13	-10	0	10	14	20	30	32	40	45	50
Capacity in BTU/h			302	408	512	565	758	986	1082						
Power cons. in W			58.5	69.2	78	82.1	95.3	108	112						
Current cons. in A			1.02	1.20	1.35	1.42	1.64	1.84	1.91						
EER in BTU/Wh			5.16	5.89	6.56	6.88	7.96	9.16	9.67						

1000 rpm 115V, 60Hz, static cooling, pcond = 35°C, Tsuc = 32°C, Tliq = 35°C

Evap. temp. in °C	-45	-40	-35	-30	-25	-23.3	-20	-15	-10	-6.7	-5	0	5	7.2	10
Capacity in W			23.3	31.1	42.1	46.5	55.9	72.3	90.9	104	112	134			
Power cons. in W			14.0	16.3	18.9	19.8	21.6	24.2	26.5	27.7	28.2	29.0			
Current cons. in A			0.29	0.33	0.38	0.39	0.43	0.47	0.51	0.53	0.54	0.55			
COP in W/W			1.66	1.92	2.23	2.35	2.59	2.98	3.43	3.77	3.96	4.62			

1200 rpm 115V, 60Hz, static cooling, pcond = 35°C, Tsuc = 32°C, Tliq = 35°C

Evap. temp. in °C	-45	-40	-35	-30	-25	-23.3	-20	-15	-10	-6.7	-5	0	5	7.2	10
Capacity in W			28.1	37.5	50.5	55.7	66.8	86	108	123	131	157			
Power cons. in W			17.0	19.7	22.9	24.0	26.1	29.2	31.8	33.2	33.7	34.6			
Current cons. in A			0.35	0.39	0.45	0.47	0.51	0.56	0.61	0.63	0.64	0.66			
COP in W/W			1.65	1.90	2.21	2.32	2.56	2.94	3.38	3.71	3.90	4.54			

1300 rpm 115V, 60Hz, static cooling, pcond = 35°C, Tsuc = 32°C, Tliq = 35°C

Evap. temp. in °C	-45	-40	-35	-30	-25	-23.3	-20	-15	-10	-6.7	-5	0	5	7.2	10
Capacity in W			30.5	40.7	54.7	60.3	72.3	92.9	116	133	141	168			
Power cons. in W			18.5	21.5	24.9	26.1	28.4	31.7	34.5	35.9	36.5	37.3			
Current cons. in A			0.37	0.42	0.49	0.51	0.55	0.61	0.66	0.69	0.70	0.71			
COP in W/W			1.65	1.89	2.20	2.31	2.55	2.93	3.36	3.69	3.88	4.51			

1500 rpm 115V, 60Hz, static cooling, pcond = 35°C, Tsuc = 32°C, Tliq = 35°C

Evap. temp. in °C	-45	-40	-35	-30	-25	-23.3	-20	-15	-10	-6.7	-5	0	5	7.2	10
Capacity in W			35.3	47.0	63.2	69.6	83.2	107	133	151	161	192			
Power cons. in W			21.5	25.0	28.9	30.3	32.9	36.7	39.8	41.4	42.0	42.9			
Current cons. in A			0.42	0.49	0.56	0.58	0.63	0.70	0.76	0.79	0.80	0.82			
COP in W/W			1.64	1.88	2.19	2.30	2.53	2.91	3.33	3.66	3.84	4.46			

1800 rpm 115V, 60Hz, static cooling, pcond = 35°C, Tsuc = 32°C, Tliq = 35°C

Evap. temp. in °C	-45	-40	-35	-30	-25	-23.3	-20	-15	-10	-6.7	-5	0	5	7.2	10
Capacity in W			42.1	55.9	75.0	82.6	98.7	126	157	179	190	225			
Power cons. in W			26.1	30.3	35.0	36.6	39.8	44.4	48.2	50.1	50.9	51.9			
Current cons. in A			0.50	0.58	0.66	0.69	0.75	0.84	0.91	0.94	0.95	0.97			
COP in W/W			1.61	1.85	2.14	2.25	2.48	2.84	3.25	3.56	3.74	4.33			

2100 rpm 115V, 60Hz, static cooling, pcond = 35°C, Tsuc = 32°C, Tliq = 35°C

Evap. temp. in °C	-45	-40	-35	-30	-25	-23.3	-20	-15	-10	-6.7	-5	0	5	7.2	10
Capacity in W			49	64.9	86.9	95.6	114	146	181	206	219	258			
Power cons. in W			30.7	35.5	41.1	43	46.8	52.1	56.6	58.8	59.7	60.9			
Current cons. in A			0.58	0.67	0.77	0.80	0.87	0.97	1.05	1.09	1.11	1.13			
COP in W/W			1.60	1.83	2.12	2.22	2.44	2.80	3.20	3.50	3.66	4.24			

2500 rpm 115V, 60Hz, static cooling, pcond = 35°C, Tsuc = 32°C, Tliq = 35°C

Evap. temp. in °C	-45	-40	-35	-30	-25	-23.3	-20	-15	-10	-6.7	-5	0	5	7.2	10
Capacity in W			58.1	76.8	103	113	135	172	213	242	257				
Power cons. in W			36.8	42.6	49.2	51.5	56	62.4	67.8	70.5	71.5				
Current cons. in A			0.68	0.79	0.91	0.95	1.03	1.15	1.25	1.29	1.31				
COP in W/W			1.58	1.80	2.09	2.19	2.41	2.75	3.14	3.43	3.60				

3000 rpm 115V, 60Hz, static cooling, pcond = 35°C, Tsuc = 32°C, Tliq = 35°C

Evap. temp. in °C	-45	-40	-35	-30	-25	-23.3	-20	-15	-10	-6.7	-5	0	5	7.2	10
Capacity in W			67.4	88.5	119	130	156	199	248	282	299				
Power cons. in W			43.7	50.7	58.8	61.7	67.4	75.5	82.5	86.1	87.5				
Current cons. in A			0.79	0.91	1.06	1.11	1.20	1.35	1.47	1.53	1.55				
COP in W/W			1.54	1.75	2.02	2.11	2.32	2.64	3.00	3.27	3.42				

3500 rpm 115V, 60Hz, static cooling, pcond = 35°C, Tsuc = 32°C, Tliq = 35°C

Evap. temp. in °C	-45	-40	-35	-30	-25	-23.3	-20	-15	-10	-6.7	-5	0	5	7.2	10
Capacity in W			76.8	100	134	148	177	227	282	321	342				
Power cons. in W			50.6	58.8	68.4	71.9	78.7	88.6	97.2	102	104				
Current cons. in A			0.89	1.04	1.20	1.26	1.38	1.54	1.69	1.76	1.80				
COP in W/W			1.52	1.71	1.96	2.06	2.25	2.56	2.91	3.16	3.30				

4000 rpm 115V, 60Hz, static cooling, pcond = 35°C, Tsuc = 32°C, Tliq = 35°C

Evap. temp. in °C	-45	-40	-35	-30	-25	-23.3	-20	-15	-10	-6.7	-5	0	5	7.2	10
Capacity in W			86.1	112	150	165	198	255	317						
Power cons. in W			57.5	66.9	78	82.1	90	102	112						
Current cons. in A			1.00	1.16	1.35	1.42	1.55	1.74	1.91						
COP in W/W			1.50	1.68	1.92	2.02	2.20	2.50	2.83						

CECOMAF LBP

115V, 60Hz, static cooling

p evap = -25°C = -13°F T suc = 32°C = 90°F
 p cond = 55°C = 131°F T liq = 55°C = 131°F

Speed [rpm]	1000	1100	1300	1500	1800	2100	2500	3000	3500	4000
Capacity [W]	28.5	31.4	37.1	42.9	51.2	59.5	70.5	82.3	94.1	106
Capacity [BTU/h]	97.0	107	127	146	175	203	241	281	321	361
Power consumption [W]	20.4	22.5	26.6	30.7	36.9	43.2	51.5	61.8	72.1	82.4
Current consumption [A]	0.40	0.44	0.51	0.59	0.70	0.80	0.95	1.11	1.27	1.42
COP [W/W]	1.40	1.40	1.40	1.40	1.39	1.38	1.37	1.33	1.31	1.28
EER [BTU/Wh]	4.76	4.76	4.76	4.76	4.73	4.70	4.68	4.55	4.45	4.38

ASHRAE LBP

115V, 60Hz, static cooling

p evap = -23.3°C = -10°F T suc = 32.2°C = 90°F
 p cond = 54.4°C = 130°F T liq = 32.2°C = 90°F

Speed [rpm]	1000	1100	1300	1500	1800	2100	2500	3000	3500	4000
Capacity [W]	39.1	43.1	51.0	59.0	70.4	81.7	96.9	113	129	145
Capacity [BTU/h]	133	147	174	201	240	279	331	385	440	495
Power consumption [W]	21.6	23.8	28.3	32.7	39.3	46.0	54.8	65.8	76.7	87.7
Current consumption [A]	0.43	0.47	0.55	0.62	0.74	0.86	1.01	1.18	1.35	1.51
COP [W/W]	1.81	1.81	1.81	1.81	1.79	1.78	1.77	1.72	1.68	1.65
EER [BTU/Wh]	6.17	6.16	6.16	6.16	6.10	6.07	6.03	5.86	5.74	5.64

Optimization point

115V, 60Hz, static cooling

p evap = -25°C = -13°F T suc = 32°C = 90°F
 p cond = 35°C = 95°F T liq = 35°C = 95°F

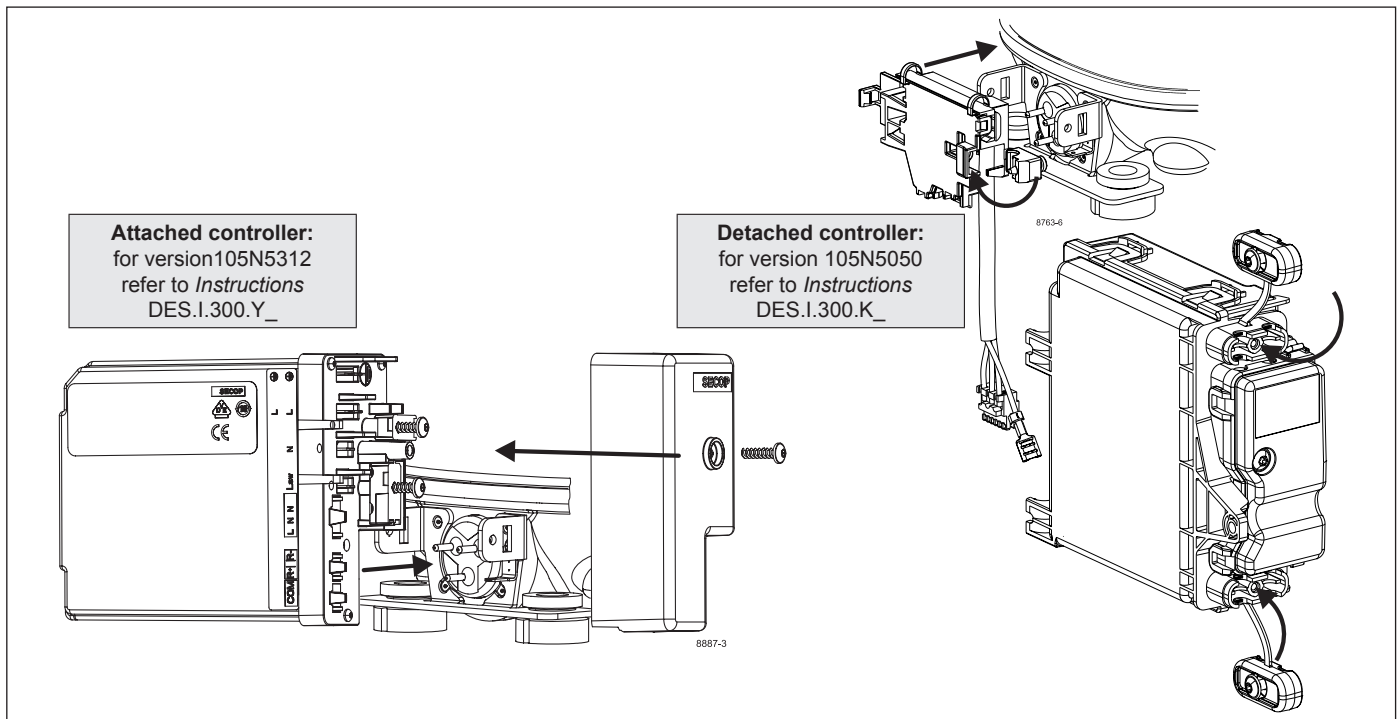
Speed [rpm]	1000	1100	1300	1500	1800	2100	2500	3000	3500	4000
Capacity [W]	42.1	46.3	54.7	63.2	75.0	86.9	103	119	134	150
Capacity [BTU/h]	144	158	187	216	256	296	350	404	458	512
Power consumption [W]	18.9	20.9	24.9	28.9	35.0	41.1	49.2	58.8	68.4	78.0
Current consumption [A]	0.38	0.41	0.49	0.56	0.66	0.77	0.91	1.06	1.20	1.35
COP [W/W]	2.23	2.22	2.20	2.19	2.14	2.12	2.09	2.02	1.96	1.92
EER [BTU/Wh]	7.61	7.57	7.50	7.46	7.32	7.22	7.12	6.88	6.7	6.56

Optimization point

115V, 60Hz, static cooling

p evap = -10°C = 14°F T suc = 32°C = 90°F
 p cond = 45°C = 113°F T liq = 45°C = 113°F

Speed [rpm]	1000	1100	1300	1500	1800	2100	2500	3000	3500	4000
Capacity [W]	81.0	88.7	104	119	141	163	193	224	256	288
Capacity [BTU/h]	276	303	355	407	482	558	658	766	874	982
Power consumption [W]	29.9	32.9	38.9	45.0	54.4	63.7	76.2	92.3	108	124
Current consumption [A]	0.57	0.63	0.74	0.85	1.01	1.18	1.40	1.63	1.87	2.11
COP [W/W]	2.71	2.70	2.67	2.65	2.60	2.56	2.53	2.43	2.36	2.31
EER [BTU/Wh]	9.25	9.20	9.11	9.05	8.87	8.75	8.63	8.30	8.07	7.89



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