6 KW POWERTRAIN

PMSM (Permanent Magnet Synchronous Motor) MOTOR

RATED POWER	6 KW
PEAK POWER	8 KW
RATED TORQUE	30 NM
PEAK TORQUE	85 NM
RATED VOLTS	48 V
VOLTAGE CONSTANT	48 V
RATED CURRENT	63 A
MAX CURRENT	200 A
NO LOAD SPEED	3900 TO 4500 RPM
RATED SPEED	3900 RPM
MAX SPEED	4100 TO 4500 RPM
NO LOAD CURRENT	6.5 TO 7.5 A
NO. OF POLES	5
CERTIFICATION	IP 67
EFFICIENCY	95%

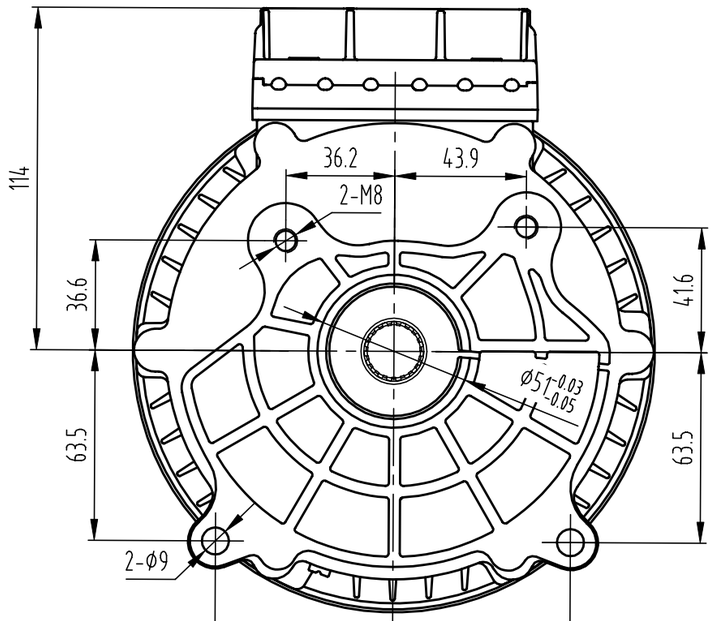
PMSM (Permanent Magnet Synchronous Motor) CONTROLLER

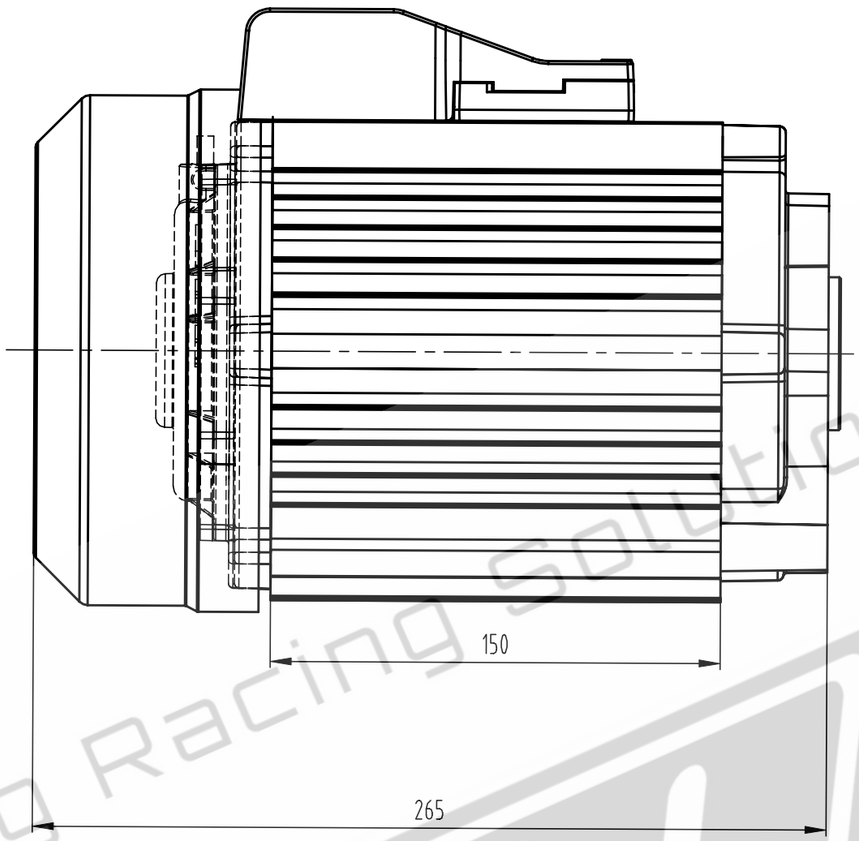
RATED CURRENT OUTPUT (DC/A)	100 A
MAX CURRENT OUTPUT (DC/A)	200 A
RATED POWER	6 KW
PEAK POWER	8 KW
VOLTS	48 V
UNDER VOLTAGE	42.5±0.5 V
THROTTE VOLTAGE	1.2-4.3 V
BRAKE LEVEL	LOW
ENVIRONMENT TEMP	-20℃ TO 100℃
LOW BATTERY VOLTAGE CUT-OFF	41 V
FULL CHARGE BATTERY VOLTAGE CUT-OFF	90 V
RENEGERATIVE BRAKING	YES
ANTI SLIP DOWN PROTECTION	YES
OVER TEMPERATURE CUTT-OFF	YES
SOFT START	YES
HIGH TORQUE	YES
OVER CURRENT CUTT-OFF	YES
SHORT CIRCUIT CUTT-OFF	YES
COOLING	FAN
MAX. OPERATING TEMP. OF CONTROLLER	120℃
DRY WEIGHT	2.5 KG
THREE-SPEED REGULATION FUNCTION	SPORT MODE, NORMAL MODE, ECO MODE
CAN MODE	CAN 2.0B 500kbps
CERTIFICATION	IP 67
CONTROLLER SIZE	290 X 180 X 80 mm

146四孔变档电机霍尔

电压V	功率W	转速r/min	磁钢高度mm	引出线长度mm	引出线截面积mm²	霍尔线长度mm	引出线端子型号	霍尔端子型号
/	/	/	/	/	/	/	OT200A	DJ7031A-2.8-21

线色	黑		红	蓝	绿	黄
功能	霍尔线电源-		霍尔线电源+	霍尔信号		
针位	1	2	3	4	5	6
插件示意图	DJ7031A-2.8-11					

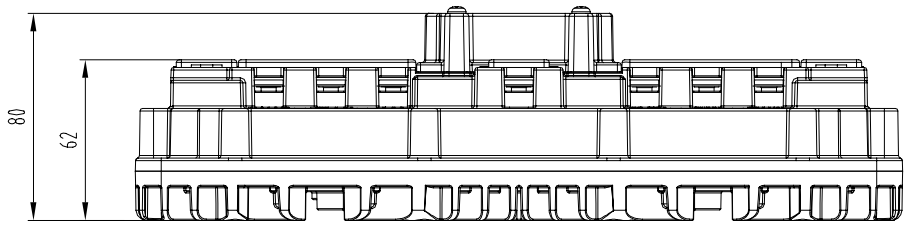


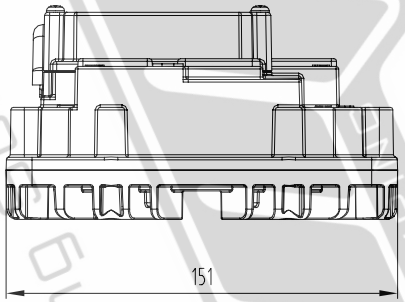


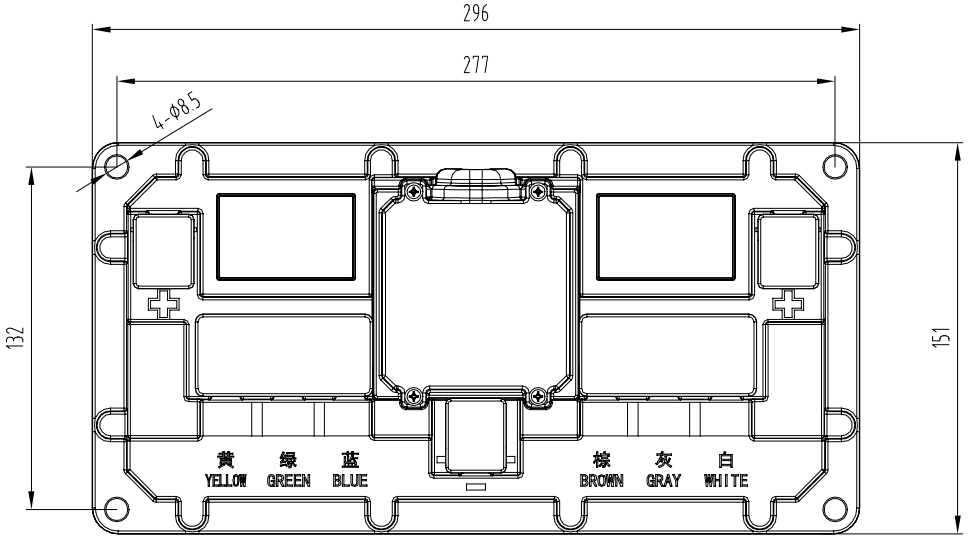
借通用件登记
描 图
校 描
旧底图总号
签 字
日 期

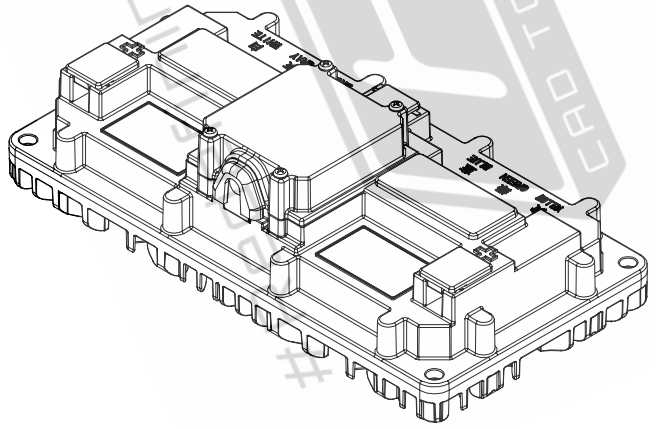
标记	处数	更改文件号	日期
设 计		王江	
审 核			
批 准			

材 料	146永磁同步电机
比 例	1:2
日 期	2020/9/21
	146四孔变档电机霍尔
	台州市大泰机电有限公司









标记	处数	更改文件号	签字	日期			
设计			标准化		图样标记	重量	比例
							1:2
审核							
工艺			日期	2020/4/5	共 页	第 页	

台州市大泰机电有限公司

永磁同步电机控制器

借通用件登记

描 图

校 描

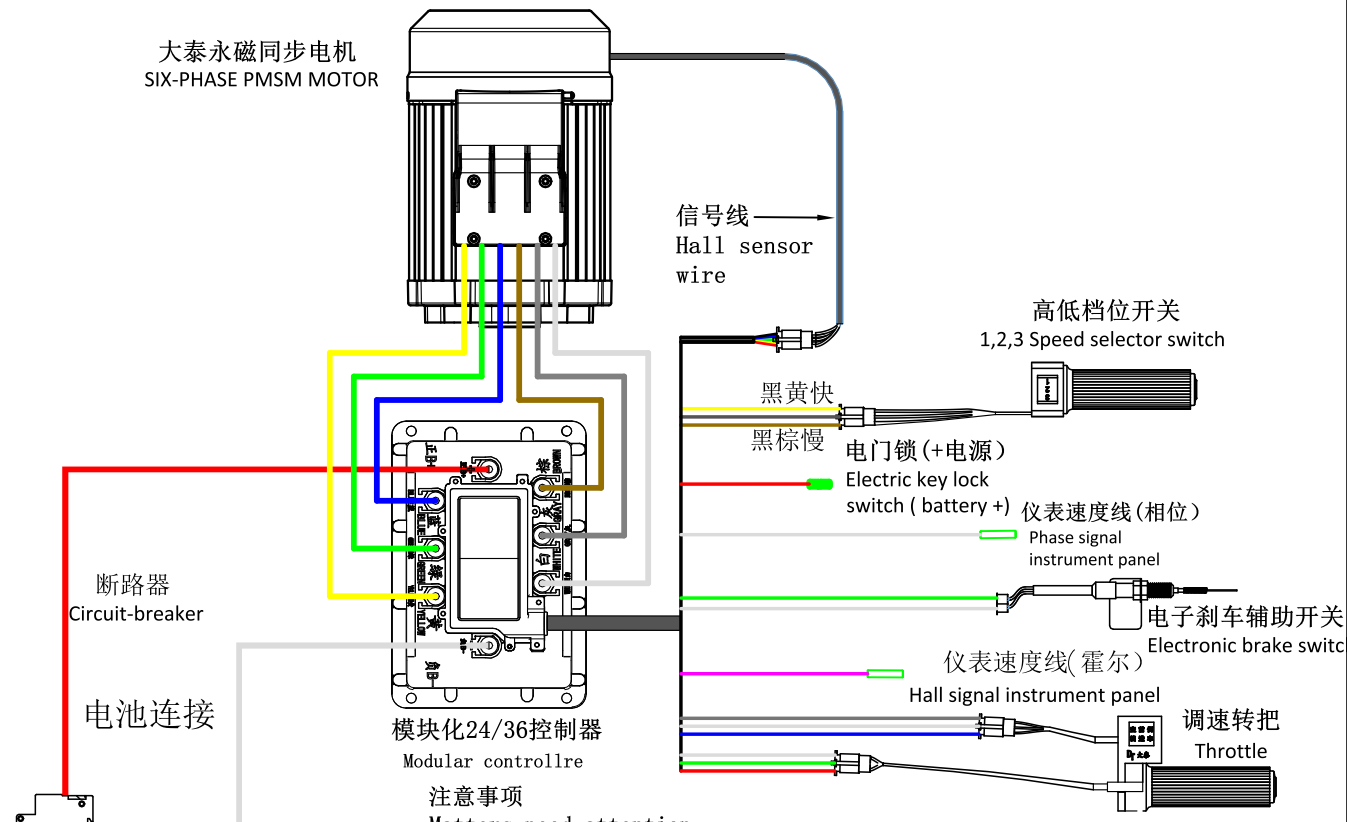
旧底图总号

签 字

日 期

大泰六相永磁同步电机(模块化）控制器成套电驱动接线图

DATAI SIX-PHASE PMSM MOTOR AND MODULAR CONTROLLER DIAGRAM OF WIRING



注意事项

Matters need attention

1.必须按要求正确接线

Wiring must be correct as required

2.接线插件必须紧固不得松卸

The wiring plug-in must be tight and not loose

3.螺丝必须拧紧不得松动

The screw must be tightened without looseness

4.安装时安装位置必须通风防水

When installing the controller, the installation position must be ventilated and waterproof

5.拖车时必须切断电源开关

The power switch must be cut off when towing

6.为保护整车电器安全必须安装断路器

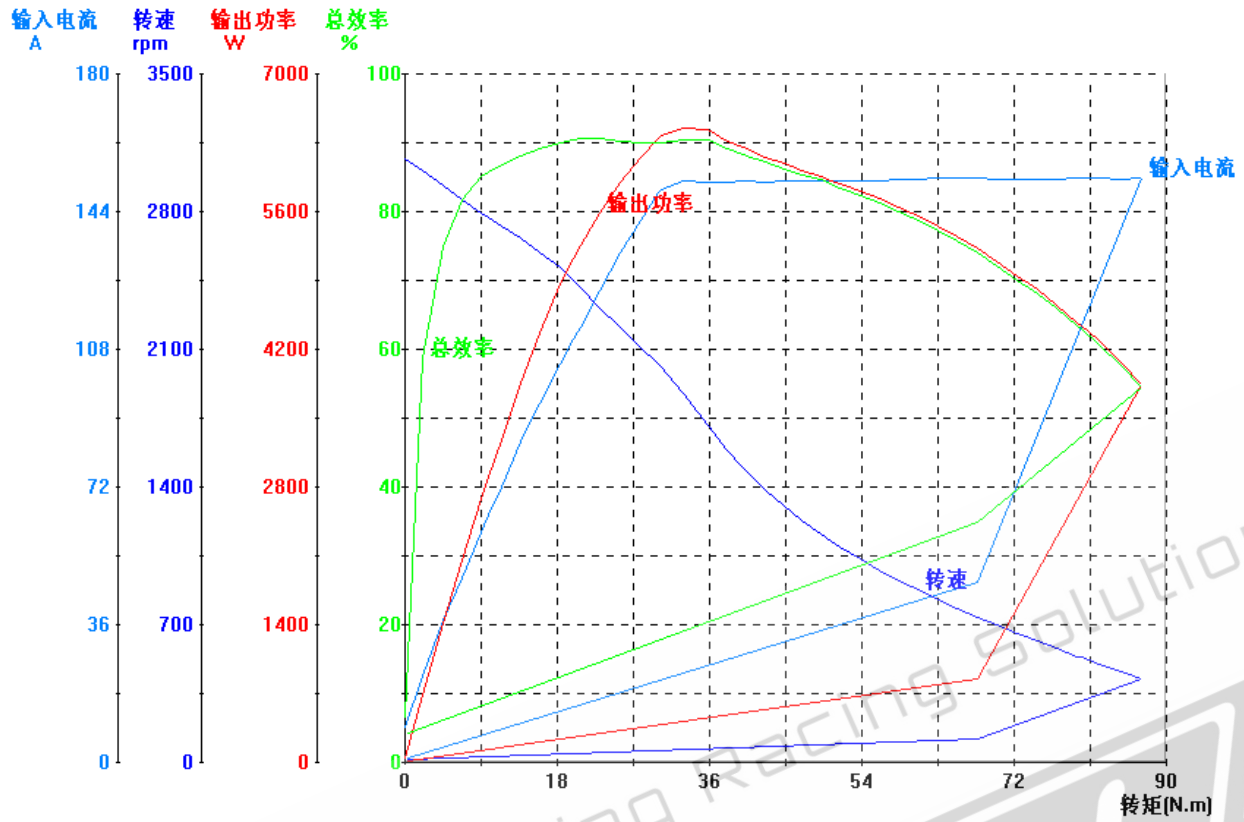
In order to protect the electrical safety of the whole vehicle, the circuit breaker must be installed

大泰 DATAI 六相永磁同步直流无刷控制器

线色	红	紫	棕白	红	绿	黑	蓝	黑	白	棕	黑	绿黄	黑	白	红	黑	黄	绿	蓝	棕	灰	白	黑	红	蓝	绿	黄	绿	黑
作用及功能	电门锁线	速度信号线相位	速度信号线霍尔	调速把电源正+	调速把信号线	调速把电源负-	倒车信号线	负线-	空档低电平	低速信号线	负线-	高速信号线	负线	刹车线低电平	电源正+	电源负-	电机相位线	电机相位线	电机相位线	电机相位线	电机相位线	电机相位线	霍尔线电源-	霍尔线电源+	霍尔信号	霍尔信号	霍尔信号	通过两线的断开或连接改变电机输出轴的转动方向	
插件示意图	1	1	1	1	2	3	1	2	3	1	2	3	1	2	1	1	1	1	1	1	1	1	1	2	3	4	5	1	1
				转把线			倒顺线			调速线			刹车线											霍尔线				调向线	
	4.0单孔插簧	4.0单孔插座	4.0单孔插座	DJ7031A-2.8-21			DJ7031A-2.8-21			DJ7031A-2.8-21			DJ7021-6.3-21		接线柱- 内ø6.5								DJ7031A-2.8-21				DJ7011-6.3-11	DJ7011-6.3-21

电机测试报告

客户名称(Customer):	大泰	额定电压(Voltage):	48V
产品名称(ProductName):	六相永磁同步电机	额定功率(Power rated):	8000W
电机型号(Type):	175-100.8-6	测试人员(Tester):	
测试日期(Test Date):	2022.12.05		



特征点	输入电压	输入电流	输入功率	电机电压 1	电机电流 1	驱动器输出功率 1	电机电压 2	电机电流 2	驱动器输出功率 2	驱动器输出总功率	转矩	转速	输出功率	控制器效率	电机效率	总效率	时间
	V	A	W	V	A	W	V	A	W	W	N.m	rpm	W	%	%	%	S
不加载点	52.936	9.1387	469.73	39.123	33.112	190.85	39.098	33.833	185.73	376.58	0.09	3061.5	29.914	80.2	7.9	6.4	0.000
最高效率点	50.106	123.12	6167.5	35.768	49.229	2974.4	35.715	49.784	2987.6	5962.0	23.11	2306.7	5581.3	96.7	93.6	90.5	29.98
最大输出功率点	47.055	151.68	7135.2	33.172	60.377	3415.7	33.112	60.842	3433.3	6849.1	32.90	1869.8	6441.2	96.0	94.0	90.3	41.98
最大转矩点	46.340	152.52	7049.6	14.169	169.67	3028.3	14.049	163.26	2979.9	6008.2	87.19	419.9	3833.4	85.2	63.8	54.4	110.9
结束点	52.851	0.7714	8.9624	0.0000	0.6621	0.0762	0.0000	0.6974	0.0000	0.0762	0.39	9.3	0.3767	0.8	200.0	4.2	116.9
负载点 1	52.463	64.389	3374.0	37.976	35.845	1622.0	37.937	36.494	1628.0	3250.0	10.00	2764.6	2891.6	96.3	88.9	85.6	13.07

负载点 2	51.318	110.42	5662.9	36.772	45.432	2734.7	36.729	45.980	2744.9	5479.7	20.00	2446.4	5116.5	96.7	93.4	90.3	25.9
负载点 3	47.482	148.66	7055.9	33.575	58.579	3382.3	33.522	59.078	3397.7	6780.0	30.00	2018.8	6338.3	96.1	93.5	89.8	38.6
负载点 4	46.724	151.71	7084.7	32.884	69.251	3369.5	32.818	69.416	3396.3	6765.8	40.00	1492.4	6247.4	95.5	92.3	88.2	50.4
负载点 5	46.469	151.73	7047.8	27.023	87.739	3296.5	26.948	87.740	3326.4	6622.9	50.00	1132.7	5926.2	94.0	89.5	84.1	63.9
负载点 6	46.390	152.29	7060.3	22.808	107.05	3244.9	22.720	106.56	3270.9	6515.9	60.00	888.2	5577.4	92.3	85.6	79.0	77.0
负载点 7	46.381	152.25	7054.5	19.357	128.07	3173.3	19.254	126.46	3189.3	6362.5	70.00	693.8	5084.3	90.2	79.9	72.1	90.0
负载点 8	46.359	152.50	7056.5	16.317	151.43	3094.4	16.201	147.39	3081.2	6175.6	80.00	529.1	4430.7	87.5	71.7	62.8	102.4

电机测试报告

客户名称(Customer): 大泰　　额定电压(Voltage): 48V

产品名称(ProductName): 六相永磁同步电机　　额定功率(Power rated): 8000W

电机型号(Type): 175-100.8-6　　测试人员(Tester):

测试日期(Test Date): 2022.12.05

Number	输入电压	输入电流	输入功率	电机电压 1	电机电流 1	驱动器输出功率 1	电机电压 2	电机电流 2	驱动器输出功率 2	驱动器输出总功率	转矩	转速	输出功率	控制器效率	电机效率	总效率	时间
	V	A	W	V	A	W	V	A	W	W	N.m	rpm	W	%	%	%	S
1	52.936	9.1387	469.73	39.123	33.112	190.85	39.098	33.833	185.73	376.58	0.09	3061.5	29.914	80.2	7.9	6.4	0.0000
2	52.828	22.541	1166.7	38.869	32.999	533.06	38.838	33.712	529.75	1062.8	2.18	3002.7	684.21	91.1	64.4	58.6	2.9790
3	52.703	36.955	1877.7	38.566	33.453	879.18	38.534	34.130	876.11	1755.3	4.57	2932.8	1404.0	93.5	80.0	74.8	5.9750
4	52.617	47.946	2510.9	38.241	34.016	1200.9	38.203	34.689	1202.5	2403.4	6.86	2855.5	2049.7	95.7	85.3	81.6	8.9850
5	52.503	60.041	3148.3	38.023	35.232	1512.0	37.984	35.887	1517.1	3029.1	9.16	2787.1	2674.3	96.2	88.3	84.9	11.981
6	52.463	64.389	3374.0	37.976	35.845	1622.0	37.937	36.494	1628.0	3250.0	10.00	2764.6	2891.6	96.3	88.9	85.6	13.075
7	52.394	71.946	3766.3	37.894	36.910	1813.3	37.855	37.548	1820.7	3634.0	11.46	2725.5	3269.3	96.5	90.0	86.8	14.976
8	52.287	83.758	4376.8	37.750	38.993	2108.8	37.710	39.566	2114.4	4223.1	13.83	2658.8	3849.7	96.5	91.2	88.0	17.987
9	52.186	93.787	4891.7	37.583	41.038	2362.3	37.543	41.647	2373.7	4735.9	16.09	2586.1	4357.9	96.8	92.0	89.1	20.982
10	51.925	104.03	5399.9	37.257	43.680	2608.8	37.217	44.236	2618.4	5227.2	18.45	2514.9	4858.2	96.8	92.9	90.0	23.977
11	51.318	110.42	5662.9	36.772	45.432	2734.7	36.729	45.980	2744.9	5479.7	20.00	2446.4	5116.5	96.7	93.4	90.3	25.980
12	51.012	113.63	5795.3	36.528	46.314	2798.1	36.484	46.858	2808.6	5606.7	20.78	2411.9	5246.5	96.7	93.6	90.5	26.988
13	50.106	123.12	6167.5	35.768	49.229	2974.4	35.715	49.784	2987.6	5962.0	23.11	2306.7	5581.3	96.7	93.6	90.5	29.983
14	49.128	133.02	6532.9	34.957	52.594	3143.9	34.910	53.104	3156.5	6300.4	25.47	2206.2	5883.1	96.4	93.4	90.1	32.978
15	48.241	141.46	6822.8	34.216	55.687	3276.7	34.164	56.203	3291.2	6568.0	27.88	2104.4	6143.0	96.3	93.5	90.0	35.974
16	47.482	148.66	7055.9	33.575	58.579	3382.3	33.522	59.078	3397.7	6780.0	30.00	2018.8	6338.3	96.1	93.5	89.8	38.600
17	47.371	149.71	7090.0	33.481	59.002	3397.7	33.428	59.498	3413.3	6811.0	30.31	2006.3	6366.9	96.1	93.5	89.8	38.984
18	47.055	151.68	7135.2	33.172	60.377	3415.7	33.112	60.842	3433.3	6849.1	32.90	1869.8	6441.2	96.0	94.0	90.3	41.980
19	46.930	151.65	7113.9	33.033	62.231	3398.8	32.972	62.585	3418.1	6816.8	35.85	1710.8	6422.5	95.8	94.2	90.3	44.975
20	46.814	151.54	7091.1	32.937	65.371	3381.6	32.871	65.650	3405.2	6786.8	38.08	1583.0	6311.4	95.7	93.0	89.0	47.986
21	46.724	151.71	7084.7	32.884	69.251	3369.5	32.818	69.416	3396.3	6765.8	40.00	1492.4	6247.4	95.5	92.3	88.2	50.497
22	46.707	151.74	7083.5	32.874	69.999	3367.2	32.808	70.142	3394.6	6761.8	40.37	1475.0	6235.1	95.5	92.2	88.0	50.981
23	46.606	151.58	7061.4	31.345	74.169	3341.2	31.289	74.282	3370.5	6711.7	42.62	1377.9	6149.0	95.0	91.6	87.1	53.976
24	46.559	151.80	7064.6	29.914	78.321	3327.4	29.858	78.434	3358.1	6685.6	44.86	1295.8	6085.6	94.6	91.0	86.1	56.987
25	46.475	151.85	7053.8	28.643	82.257	3315.7	28.568	82.337	3345.0	6660.7	46.94	1223.8	6015.0	94.4	90.3	85.3	59.982
26	46.459	151.72	7045.7	27.407	86.321	3300.9	27.332	86.331	3330.4	6631.3	49.23	1154.4	5950.3	94.1	89.7	84.5	62.977

27	46.469	151.73	7047.8	27.023	87.739	3296.5	26.948	87.740	3326.4	6622.9	50.00	1132.7	5926.2	94.0	89.5	84.1	63.985
28	46.488	151.75	7051.9	26.259	90.556	3287.9	26.185	90.541	3318.4	6606.3	51.53	1089.6	5878.3	93.7	89.0	83.4	65.988
29	46.473	151.76	7049.6	25.202	94.892	3273.8	25.121	94.778	3302.8	6576.6	53.85	1029.1	5801.9	93.3	88.2	82.3	68.983
30	46.440	151.96	7054.1	24.268	99.398	3263.7	24.189	99.151	3291.2	6554.9	56.13	973.7	5721.9	92.9	87.3	81.1	71.979
31	46.410	152.17	7058.7	23.399	103.87	3253.1	23.310	103.49	3279.8	6532.9	58.43	922.2	5641.7	92.6	86.4	79.9	74.974
32	46.390	152.29	7060.3	22.808	107.05	3244.9	22.720	106.56	3270.9	6515.9	60.00	888.2	5577.4	92.3	85.6	79.0	77.075
33	46.381	152.34	7061.0	22.552	108.43	3241.4	22.465	107.89	3267.1	6508.6	60.68	873.5	5549.6	92.2	85.3	78.6	77.985
34	46.299	152.47	7053.9	21.731	113.23	3227.5	21.638	112.52	3253.2	6480.7	63.02	825.7	5448.4	91.9	84.1	77.2	80.980
35	46.364	152.61	7068.8	20.942	117.94	3212.7	20.847	116.98	3235.4	6448.1	65.31	781.5	5343.7	91.2	82.9	75.6	83.975
36	46.352	152.68	7069.7	20.159	123.06	3197.0	20.059	121.80	3216.3	6413.4	67.74	737.0	5226.7	90.7	81.5	73.9	86.986
37	46.381	152.25	7054.5	19.363	128.02	3173.4	19.260	126.42	3189.5	6362.8	69.98	694.1	5085.5	90.2	79.9	72.1	89.981
38	46.381	152.25	7054.5	19.357	128.07	3173.3	19.254	126.46	3189.3	6362.5	70.00	693.8	5084.3	90.2	79.9	72.1	90.005
39	46.367	152.39	7057.8	18.626	133.57	3156.3	18.517	131.47	3167.4	6323.8	72.43	651.9	4943.4	89.6	78.2	70.0	92.976
40	46.367	152.37	7055.3	17.889	138.88	3137.8	17.775	136.23	3143.0	6280.8	74.81	612.7	4799.3	89.0	76.4	68.0	95.987
41	46.366	152.37	7053.8	17.178	144.44	3117.6	17.065	141.23	3116.9	6234.4	77.16	574.7	4642.4	88.4	74.5	65.8	98.982
42	46.360	152.50	7057.1	16.433	150.47	3097.7	16.318	146.56	3086.3	6184.0	79.61	535.1	4460.3	87.6	72.1	63.2	101.98
43	46.359	152.50	7056.5	16.317	151.43	3094.4	16.201	147.39	3081.2	6175.6	80.00	529.1	4430.7	87.5	71.7	62.8	102.46
44	46.352	152.48	7053.3	15.704	156.50	3077.0	15.586	151.79	3054.4	6131.4	82.06	497.6	4274.6	86.9	69.7	60.6	104.99
45	46.363	152.31	7045.9	14.922	162.96	3051.4	14.802	157.43	3015.8	6067.3	84.67	457.6	4057.1	86.1	66.9	57.6	107.98
46	46.340	152.52	7049.6	14.169	169.67	3028.3	14.049	163.26	2979.9	6008.2	87.19	419.9	3833.4	85.2	63.8	54.4	110.98
47	52.329	46.740	2432.3	6.3191	118.86	1071.1	6.1605	112.37	1004.3	2075.4	67.77	119.1	845.21	85.3	40.7	34.7	113.97
48	52.851	0.7714	8.9624	0.0000	0.6621	0.0762	0.0000	0.6974	0.0000	0.0762	0.39	9.3	0.3767	0.8	200.0	4.2	116.99