

General parameters\Axis - general parameters			
31	X1-X2 safety distance between axis	308.00	mm
1374	X2-X3 safety distance between axis	138.00	mm
1375	X3-X4 safety distance between axis	308.00	mm

General parameters\Feeder - General parameters			
63	Feeder location delay time	1.20	mm
64	Maximum width of location pulse	5.00	mm
65	Feeder search range	6.00	mm
892	12mm tape pickup point offset (version 8.1)	16.00	mm
1255	Tray size in X	0.00	mm
1256	Tray size in Y	0.00	mm
1282	First threshold of components quantity alert	0	mn
1283	Second threshold of components quantity alert	0	cps

General parameters\Strips management			
1165	Shift in X of the first strip	0.00	mm
1166	Shift in Y of the first strip	0.00	mm
1199	Analysis window dimension in X	0.00	mm
1200	Analysis window dimension in Y	0.00	mm
1167	Step in X between 2 strips	0.00	mm

General parameters\Pick-up			
70	Number of pick-up tests	3	
71	Number of test for component recycling	1	
73	Feeder correction validation	NO	
207	Trolley corrections validation	NO	
74	Maximum feeder correction in X	1.00	mm
75	Maximum feeder correction in Y	1.00	mm
76	Number of Y increment/feed time in ms	30	Inc/ms
199	Pick Up Altitude for demo mode	20.00	mm
1307	Stop picking if feeder qty=0	NO	
1308	Stop picking if no batch in the feeder	NO	
1309	Set to NONE if matrix tray is empty	NO	
1321	Replace small components in matrix tray (matrix step<9mm)	NO	
1372	Percentage of tolerance of X pick-up coordinate (for pipette head)	25	%
1373	Percentage of tolerance of Y pick-up coordinate (for pipette head)	25	%

General parameters\Nozzle magazine - General parameters			
472	Blowing when changing nozzle	NO	

General parameters\Placement			
1000	Z displacement max for mode 5,6,7 if MCC3	1.01	mm

General parameters\Pressure - general parameter			
890	Delay before turret command	5	
891	Delay after turret command for pressure	15	
746	Value of pressure sensor for stoppered filters	2400	
747	Value of pressure sensor for pump start up	1400	
1320	Unknown range of pressure sensor	0	
748	Component presence test after placement (2 :No)	1	
1395	Gain du capteur de pression - Head 1	0	
1396	offset du capteur de pression - Head 1	0	
1397	Gain du capteur de pression - Head 2	0	
1398	offset du capteur de pression - Head 2	0	

General parameters\Pressure offset threshold to detect present component			
116	Nozzle 1	120	
117	Nozzle 2	220	
118	Nozzle 3	200	
119	Nozzle 4	300	
120	Nozzle 5	300	
121	Nozzle 6	300	
122	Nozzle 7	300	
201	Nozzle 8	300	
202	Nozzle 9	300	
473	Nozzle 10	180	
474	Nozzle 11	180	
475	Nozzle 12	180	
476	Nozzle 13	300	
477	Nozzle 14	300	
478	Nozzle 15	300	
479	Nozzle 16	300	
480	Nozzle 17	300	
481	Nozzle 18	300	
482	Nozzle 19	300	
483	Nozzle 20	180	
484	Nozzle 21	300	
485	Nozzle 22	300	
486	Nozzle 23	300	
487	Nozzle 24	300	
488	Nozzle 25	300	
489	Nozzle 26	300	
490	Nozzle 27	300	
491	Nozzle 28	300	
492	Nozzle 29	300	
493	Nozzle 30	300	
494	Nozzle 31	300	
495	Nozzle 32	300	
819	Nozzle 33	300	
820	Nozzle 34	300	
821	Nozzle 35	300	
822	Nozzle 36	300	
823	Nozzle 37	300	
824	Nozzle 38	300	
825	Nozzle 39	300	
826	Nozzle 40	300	
827	Nozzle 41	300	
828	Nozzle 42	300	
829	Nozzle 43	300	
830	Nozzle 44	300	
831	Nozzle 45	300	
832	Nozzle 46	300	
833	Nozzle 47	300	
834	Nozzle 48	300	
835	Nozzle 49	300	
836	Nozzle 50	300	
837	Nozzle 51	300	
838	Nozzle 52	300	
839	Nozzle 53	300	
840	Nozzle 54	300	
841	Nozzle 55	300	

842	Nozzle 56	300	
843	Nozzle 57	300	
844	Nozzle 58	300	
845	Nozzle 59	300	
846	Nozzle 60	300	
847	Nozzle 61	300	
848	Nozzle 62	300	
849	Nozzle 63	300	
850	Nozzle 64	300	
1225	Nozzle 65	300	
1226	Nozzle 66	300	
1227	Nozzle 67	300	
1228	Nozzle 68	300	
1229	Nozzle 69	300	
1230	Nozzle 70	300	

General parameters\Pressure offset threshold to detect absent component			
123	Nozzle 1	50	
124	Nozzle 2	50	
125	Nozzle 3	60	
126	Nozzle 4	50	
127	Nozzle 5	50	
128	Nozzle 6	50	
129	Nozzle 7	50	
759	Nozzle 8	50	
760	Nozzle 9	50	
761	Nozzle 10	60	
762	Nozzle 11	50	
763	Nozzle 12	50	
764	Nozzle 13	50	
765	Nozzle 14	50	
766	Nozzle 15	50	
767	Nozzle 16	50	
768	Nozzle 17	50	
769	Nozzle 18	50	
770	Nozzle 19	50	
771	Nozzle 20	50	
772	Nozzle 21	50	
773	Nozzle 22	50	
774	Nozzle 23	50	
775	Nozzle 24	50	
776	Nozzle 25	50	
777	Nozzle 26	50	
778	Nozzle 27	50	
779	Nozzle 28	50	
780	Nozzle 29	50	
781	Nozzle 30	50	
782	Nozzle 31	50	
783	Nozzle 32	50	
851	Nozzle 33	50	
852	Nozzle 34	50	
853	Nozzle 35	50	
854	Nozzle 36	50	
855	Nozzle 37	50	
856	Nozzle 38	50	
857	Nozzle 39	50	
858	Nozzle 40	50	
859	Nozzle 41	50	
860	Nozzle 42	50	
861	Nozzle 43	50	
862	Nozzle 44	50	
863	Nozzle 45	50	
864	Nozzle 46	50	
865	Nozzle 47	50	
866	Nozzle 48	50	
867	Nozzle 49	50	
868	Nozzle 50	50	
869	Nozzle 51	50	
870	Nozzle 52	50	
871	Nozzle 53	50	
872	Nozzle 54	50	
873	Nozzle 55	50	

874	Nozzle 56	50	
875	Nozzle 57	50	
876	Nozzle 58	50	
877	Nozzle 59	50	
878	Nozzle 60	50	
879	Nozzle 61	50	
880	Nozzle 62	50	
881	Nozzle 63	50	
882	Nozzle 64	50	
1231	Nozzle 65	50	
1232	Nozzle 66	50	
1233	Nozzle 67	50	
1234	Nozzle 68	50	
1235	Nozzle 69	50	
1236	Nozzle 70	50	

General parameters\Pressure offset threshold to detect obstructed filter or nozzle			
932	Nozzle 1	0	
933	Nozzle 2	0	
934	Nozzle 3	0	
935	Nozzle 4	0	
936	Nozzle 5	0	
937	Nozzle 6	0	
938	Nozzle 7	0	
939	Nozzle 8	0	
940	Nozzle 9	0	
941	Nozzle 10	0	
942	Nozzle 11	0	
943	Nozzle 12	0	
944	Nozzle 13	0	
945	Nozzle 14	0	
946	Nozzle 15	0	
947	Nozzle 16	0	
948	Nozzle 17	0	
949	Nozzle 18	0	
950	Nozzle 19	0	
951	Nozzle 20	0	
952	Nozzle 21	0	
953	Nozzle 22	0	
954	Nozzle 23	0	
955	Nozzle 24	0	
956	Nozzle 25	0	
957	Nozzle 26	0	
958	Nozzle 27	0	
959	Nozzle 28	0	
960	Nozzle 29	0	
961	Nozzle 30	0	
962	Nozzle 31	0	
963	Nozzle 32	0	
964	Nozzle 33	0	
965	Nozzle 34	0	
966	Nozzle 35	0	
967	Nozzle 36	0	
968	Nozzle 37	0	
969	Nozzle 38	0	
970	Nozzle 39	0	
971	Nozzle 40	0	
972	Nozzle 41	0	
973	Nozzle 42	0	
974	Nozzle 43	0	
975	Nozzle 44	0	
976	Nozzle 45	0	
977	Nozzle 46	0	
978	Nozzle 47	0	
979	Nozzle 48	0	
980	Nozzle 49	0	
981	Nozzle 50	0	
982	Nozzle 51	0	
983	Nozzle 52	0	
984	Nozzle 53	0	
985	Nozzle 54	0	
986	Nozzle 55	0	

987	Nozzle 56	0	
988	Nozzle 57	0	
989	Nozzle 58	0	
990	Nozzle 59	0	
991	Nozzle 60	0	
992	Nozzle 61	0	
993	Nozzle 62	0	
994	Nozzle 63	0	
995	Nozzle 64	0	
1237	Nozzle 65	0	
1238	Nozzle 66	0	
1239	Nozzle 67	0	
1240	Nozzle 68	0	
1241	Nozzle 69	0	
1242	Nozzle 70	0	

General parameters\Automatic conveyor			
1176	X coordinate for automatic conveyor sensor	24.90	mm
1177	Y coordinate for automatic conveyor sensor	950.00	mm
1178	Conveyor play	0.50	mm
1180	Conveyor minimum width	45	mm
1179	Conveyor maximum width	460	mm
1245	Y head coordinate - conveyor width (1/10mm)	2498	
1186	Conveyor fast speed	255	
1187	Conveyor slow speed	60	
1389	Maximum speed	100	%
1390	Maximum current	15	%
1391	Acceleration time	100	ms
1392	Threshold of the stop detection	40	%
1393	Filter of the stop detection	255	ms

General parameters\Optical sensor			
1247	Unknown range of optical sensor	30	%
1248	Optical threshold detection	200	

General parameters\Electrical test			
609	Test plate orientation	180°	
175	Number of tests to indicate faulty feeder	3	

General parameters\Miscellaneous			
1384	Y difference between turret and pipette	12.500	mm
1394	Number of vision tests before pickup before rejection	3	

General parameters\Calibration - general parameters			
711	Thickness of thin component	0.15	mm
710	Thickness of thick component	5.15	mm

General parameters\Vision - general parameter			
315	Binary LUT Threshold	100	NG
316	Rejection level	90	NG
744	Board alignment with correlation- Level analysis -Acceptance level	30	%
745	Board alignment with correlation- Edge analysis -Acceptance level	30	%
758	Window analysis dimension	4	mm
1385	Increasing of the analysing window for the second mark	4.00	mm

General parameters\Labels Print			
1193	Label width	0.00	mm
1194	Label height	0.00	mm
1195	Barcode position in X	0.00	mm
1196	Barcode position in Y	0.00	mm
1197	Reference position in X	0.00	mm
1198	Reference position in Y	0.00	mm
1189	Barcode width	0	
1190	Barcode height	0	
1249	Reel code identifier		
1181	Barcode generator	Not installed	
1188	Barcode type	Datamatrix	
1257	Size bar code label name	16	

General parameters\Automatic change program			
1123	Format	-1f	
1124	Type	1D barcode	
1125	Orientation	Horizontal	
1131	ECC200 family (Datamatrix)	ECC200	
1132	ECC200 family size (Datamatrix)	All	
1126	Beginning of band (in X)	0.000	mm
1130	Beginning of band (in Y)	0.000	mm
1127	Band length (L)	0.000	mm

General parameters\Diagnosis			
1310	Nozzles/nozzle holders - Warning threshold of component rejects.	1	%
1311	Nozzles/nozzle holders - Fault threshold of component rejects.	2	%
1312	Tape feeders - Warning threshold of component rejects.	1	%
1313	Tape feeders - Fault threshold of component rejects.	2	%
1314	Matrix feeders - Warning threshold of component rejects.	1	%
1315	Matrix feeders - Fault threshold of component rejects.	2	%
1316	Stick feeders - Warning threshold of component rejects.	1	%
1317	Stick feeders - Fault threshold of component rejects.	2	%
1318	Other feeders - Warning threshold of component rejects.	1	%
1319	Other feeders - Fault threshold of component rejects.	2	%

General parameters\Free parameters			
386	Free 1	0	
387	Free 2	0	
388	Free 3	0	
389	Free 4	0	
390	Coefficient for 2 heads pressure test	0	%
391	Free 6	0	
392	Free 7	0	
393	Free 8	0	
394	Free 9	0	
395	Free 10	0	
396	Free 11	0	
397	Free 12	0	
398	Free 13	0	
399	Free 14	60	
400	Free 15	0	
401	Free 16	0	
402	Free 17	0	
403	Free 18	0	
404	Free 19	0	
405	Free 20	0	
573	Free 21	0	
574	Free 22	0	
575	Free 23	0	
576	Feeding mode (4: feeding before pickup)	0	
577	Matrix tray position (4 : Head n°1, 5 : Head n°2, 6 : Head n°3, 7 : Head n°4)	0	
578	Free 26	0	
579	Free 27	0	
580	Free 28	0	
581	0 : Normal modes // 1 : Old blow // 2 : old PCB locking // 3 : the 2 old modes	0	
582	Joystick (= 2 si installé)	2	

Head 1\General parameters			
0	Distance X between each pipette	19.60	mm
1	Distance Y between each pipette	25.00	mm
2	X reference coordinate	708.52	mm
3	Y reference coordinate	254.17	mm
631	X coordinate for pipette heads obstacle (0 if no obstacle)	0.000	mm
632	Z coordinate for pipette heads obstacle (0 if no obstacle)	0.000	mm

Head 1\Axis			
4	X axis maximum dimension	3754000	Inc
5	Y axis maximum dimension	1958000	Inc
6	Z axis maximum dimension	28000	Inc
7	Theta axis maximum dimension	175000	Inc
10	Theta stop thickness	0	Inc
11	Theta axis position for component pick up	87500	Inc
12	Number of increment by encoder loop, Theta axis	51200	Inc
13	Systematic correction theta during initialisation	8000	Inc

Head 1\Offset nozzle/reference mark			
163	Offset nozzle/reference point in X - Front	48.10	mm
164	Offset nozzle/reference point in Y - Front	111.99	mm
165	Offset nozzle/reference point in X - Rear	48.00	mm
166	Offset nozzle/reference point in Y - Rear	-40.64	mm

Head 1\Feeder - Zones			
437	Zone 10, beginning coordinate	304.00	mm
438	Zone 10, end coordinate	654.50	mm
439	Zone 10, coordinate in Y	16.50	mm
440	Zone 10, Average pick up altitude	20.58	mm
465	Zone 80, beginning coordinate	656.50	mm
466	Zone 80, end coordinate	305.50	mm
467	Zone 80, coordinate in Y	962.46	mm
468	Zone 80, Average pick up altitude	20.46	mm

Head 1\Nozzle magazine 1			
633	X coordinate of the nozzle magazine	212.77	mm
634	Y coordinate of the nozzle magazine mark	141.04	mm
635	X coordinate of the first nozzle, first row (Digit)	230.91	mm
636	Y coordinate of the first nozzle, first row (Digit)	153.00	mm
473	First nozzle first row coordinate in X (CN)	230.69	mm
474	First nozzle first row coordinate in Y (CN)	153.00	mm
475	Nozzle exchange altitude	23.80	mm
477	Offset X between nozzles	19.60	mm
478	Offset Y between nozzles	18.00	mm
480	Number of column in X	10	
479	Number of row in Y	4	
481	Orientation	180.00	°

Head 1\Nozzle magazine 8			
637	X coordinate of the nozzle magazine	212.59	mm
638	Y coordinate of the nozzle magazine mark	751.67	mm
639	X coordinate of the first nozzle, first row (Digit)	230.98	mm
640	Y coordinate of the first nozzle, first row (Digit)	763.74	mm
482	First nozzle first row coordinate in X (CN)	230.92	mm
483	First nozzle first row coordinate in Y (CN)	763.71	mm
484	Nozzle exchange altitude	24.68	mm
486	Offset X between nozzles	19.60	mm
487	Offset Y between nozzles	18.00	mm
489	Number of column in X	10	
488	Number of row in Y	4	
490	Orientation	180.00	°

Head 1\Pick-up			
15	Feed time synchro value	40	ms

Head 1\Placement			
16	Placement altitude	24.95	mm
18	Z altitude for calibration plate	24.48	mm
19	Offset for fast placement	0.0000	mm

Head 1\Vision			
22	X vision speed	500	mm/s
23	Y vision speed	1500	mm/s

Head 1\Front camera			
26	Calibration disk diameter	15.00	mm
27	Pixel dimension in X	0.03173	mm
28	Pixel dimension in Y	0.03165	mm
29	Gain	20	
30	Offset	30	
31	Binary threshold	120	NG
32	Minimum contrast threshold	15	NG
33	Camera angle	179.90	°
629	Camera angle (parked mode)	179.97	°
34	Image dimension in X	2560	Pix
35	Image dimension in Y	1920	Pix
36	Cross position in X	1280	Pix
37	Cross position in Y	960	Pix
40	Serial number	23197733	
90	X coordinate of the front camera	478.20	mm
91	Y coordinate of the front camera	166.25	mm
92	Z coordinate of the back camera	8.50	mm
93	Security maximum altitude	0.00	mm
335	X coordinate of the reference mark 1	674.45	Pix
336	Y coordinate of the reference mark 1	956.76	Pix
337	X coordinate of the reference mark 2	1885.60	Pix
338	Y coordinate of the reference mark 2	963.28	Pix

Head 1\PCB camera			
41	Calibration disk diameter	2.00	mm
42	Pixel dimension in X	0.01770	mm
43	Pixel dimension in Y	0.01760	mm
44	Gain	60	
45	Offset	50	
46	Binary threshold	100	NG
47	Minimum contrast threshold	20	NG
48	Camera angle	-0.01	°
49	Image dimension in X	1280	Pix
50	Image dimension in Y	960	Pix
51	Cross position in X	640	Pix
52	Cross position in Y	480	Pix
53	Serial number	23717697	

Head 1\Back camera			
94	X coordinate of the back camera	478.27	mm
95	Y coordinate of the back camera	777.10	mm
97	Calibration disk diameter	15.00	mm
98	Pixel dimension in X	0.03162	mm
99	Pixel dimension in Y	0.03156	mm
100	Gain	25	
101	Offset	30	
102	Binary threshold	120	NG
103	Minimum contrast threshold	15	NG
104	Camera angle	-0.05	°
630	Camera angle (parked mode)	0.03	°
105	Image dimension in X	2560	Pix
106	Image dimension in Y	1920	Pix
107	Cross position in X	1280	Pix
108	Cross position in Y	960	Pix
109	Serial number	23764145	
339	X coordinate of the reference mark 1	1885.83	Pix
340	Y coordinate of the reference mark 1	962.49	Pix
341	X coordinate of the reference mark 2	674.14	Pix
342	Y coordinate of the reference mark 2	957.44	Pix

Head 1\Correction			
115	X offset, Pipette n° 1	-0.000	mm
116	Y offset, Pipette n° 1	0.000	mm
117	Z offset, Pipette n° 1	0.00	mm
118	X offset, Pipette n° 2	0.002	mm
119	Y offset, Pipette n° 2	-0.019	mm
120	Z offset, Pipette n° 2	0.00	mm
121	X offset, Pipette n° 3	0.001	mm
122	Y offset, Pipette n° 3	-0.021	mm
123	Z offset, Pipette n° 3	0.00	mm
124	X offset, Pipette n° 4	0.000	mm
125	Y offset, Pipette n° 4	-0.030	mm
126	Z offset, Pipette n° 4	0.00	mm
127	X offset, Pipette n° 5	0.014	mm
128	Y offset, Pipette n° 5	0.013	mm
129	Z offset, Pipette n° 5	0.00	mm
130	X offset, Pipette n° 6	0.017	mm
131	Y offset, Pipette n° 6	0.003	mm
132	Z offset, Pipette n° 6	0.00	mm
133	X offset, Pipette n° 7	0.012	mm
134	Y offset, Pipette n° 7	-0.002	mm
135	Z offset, Pipette n° 7	0.00	mm
136	X offset, Pipette n° 8	0.013	mm
137	Y offset, Pipette n° 8	-0.003	mm
138	Z offset, Pipette n° 8	0.00	mm

Head 1\Excentricity			
139	Nozzle holder n° 1 in X	-0.005	mm
140	Nozzle holder n° 1 in Y	-0.016	mm
141	Nozzle holder n° 2 in X	-0.007	mm
142	Nozzle holder n° 2 in Y	0.027	mm
143	Nozzle holder n° 3 in X	0.016	mm
144	Nozzle holder n° 3 in Y	-0.006	mm
145	Nozzle holder n° 4 in X	-0.018	mm
146	Nozzle holder n° 4 in Y	0.016	mm
147	Nozzle holder n° 5 in X	-0.017	mm
148	Nozzle holder n° 5 in Y	-0.005	mm
149	Nozzle holder n° 6 in X	-0.005	mm
150	Nozzle holder n° 6 in Y	-0.034	mm
151	Nozzle holder n° 7 in X	0.023	mm
152	Nozzle holder n° 7 in Y	0.001	mm
153	Nozzle holder n° 8 in X	-0.032	mm
154	Nozzle holder n° 8 in Y	-0.017	mm

Head 1\Offset reference mark/rotation axis - Single - Front camera			
179	Offset in X, Nozzle holder n° 1	9.853	mm
180	Offset in Y, Nozzle holder n° 1	12.319	mm
181	Offset in X, Nozzle holder n° 2	-9.754	mm
182	Offset in Y, Nozzle holder n° 2	12.334	mm
183	Offset in X, Nozzle holder n° 3	9.712	mm
184	Offset in Y, Nozzle holder n° 3	12.462	mm
185	Offset in X, Nozzle holder n° 4	-9.898	mm
186	Offset in Y, Nozzle holder n° 4	12.476	mm
187	Offset in X, Nozzle holder n° 5	9.844	mm
188	Offset in Y, Nozzle holder n° 5	-12.692	mm
189	Offset in X, Nozzle holder n° 6	-9.764	mm
190	Offset in Y, Nozzle holder n° 6	-12.695	mm
191	Offset in X, Nozzle holder n° 7	9.706	mm
192	Offset in Y, Nozzle holder n° 7	-12.558	mm
193	Offset in X, Nozzle holder n° 8	-9.911	mm
194	Offset in Y, Nozzle holder n° 8	-12.557	mm

Head 1\Offset reference mark/rotation axis - Single - Back camera			
227	Offset in X, Nozzle holder n° 1	9.862	mm
228	Offset in Y, Nozzle holder n° 1	12.304	mm
229	Offset in X, Nozzle holder n° 2	-9.753	mm
230	Offset in Y, Nozzle holder n° 2	12.317	mm
231	Offset in X, Nozzle holder n° 3	9.716	mm
232	Offset in Y, Nozzle holder n° 3	12.450	mm
233	Offset in X, Nozzle holder n° 4	-9.899	mm
234	Offset in Y, Nozzle holder n° 4	12.459	mm
235	Offset in X, Nozzle holder n° 5	9.850	mm
236	Offset in Y, Nozzle holder n° 5	-12.717	mm
237	Offset in X, Nozzle holder n° 6	-9.764	mm
238	Offset in Y, Nozzle holder n° 6	-12.711	mm
239	Offset in X, Nozzle holder n° 7	9.715	mm
240	Offset in Y, Nozzle holder n° 7	-12.584	mm
241	Offset in X, Nozzle holder n° 8	-9.904	mm
242	Offset in Y, Nozzle holder n° 8	-12.584	mm

Head 1\Offset reference mark/rotation axis - Block - Front camera			
203	Offset in X, Nozzle holder n° 1	9.842	mm
204	Offset in Y, Nozzle holder n° 1	12.313	mm
205	Offset in X, Nozzle holder n° 2	-9.764	mm
206	Offset in Y, Nozzle holder n° 2	12.321	mm
207	Offset in X, Nozzle holder n° 3	9.714	mm
208	Offset in Y, Nozzle holder n° 3	12.458	mm
209	Offset in X, Nozzle holder n° 4	-9.879	mm
210	Offset in Y, Nozzle holder n° 4	12.467	mm
211	Offset in X, Nozzle holder n° 5	9.843	mm
212	Offset in Y, Nozzle holder n° 5	-12.699	mm
213	Offset in X, Nozzle holder n° 6	-9.766	mm
214	Offset in Y, Nozzle holder n° 6	-12.694	mm
215	Offset in X, Nozzle holder n° 7	9.707	mm
216	Offset in Y, Nozzle holder n° 7	-12.557	mm
217	Offset in X, Nozzle holder n° 8	-9.894	mm
218	Offset in Y, Nozzle holder n° 8	-12.551	mm

Head 1\Offset reference mark/rotation axis - Block - Back camera			
251	Offset in X, Nozzle holder n° 1	9.853	mm
252	Offset in Y, Nozzle holder n° 1	12.303	mm
253	Offset in X, Nozzle holder n° 2	-9.754	mm
254	Offset in Y, Nozzle holder n° 2	12.317	mm
255	Offset in X, Nozzle holder n° 3	9.730	mm
256	Offset in Y, Nozzle holder n° 3	12.437	mm
257	Offset in X, Nozzle holder n° 4	-9.870	mm
258	Offset in Y, Nozzle holder n° 4	12.458	mm
259	Offset in X, Nozzle holder n° 5	9.834	mm
260	Offset in Y, Nozzle holder n° 5	-12.706	mm
261	Offset in X, Nozzle holder n° 6	-9.758	mm
262	Offset in Y, Nozzle holder n° 6	-12.700	mm
263	Offset in X, Nozzle holder n° 7	9.721	mm
264	Offset in Y, Nozzle holder n° 7	-12.574	mm
265	Offset in X, Nozzle holder n° 8	-9.904	mm
266	Offset in Y, Nozzle holder n° 8	-12.572	mm

Head 1\Head position during calibration			
533	X Position during calibration, pipette n° 1	1053393	Inc
541	Y Position during calibration, pipette n° 1	830259	Inc
534	X Position during calibration, pipette n° 2	1053391	Inc
542	Y Position during calibration, pipette n° 2	830299	Inc
535	X Position during calibration, pipette n° 3	1053395	Inc
543	Y Position during calibration, pipette n° 3	830302	Inc
536	X Position during calibration, pipette n° 4	1053394	Inc
544	Y Position during calibration, pipette n° 4	830316	Inc
537	X Position during calibration, pipette n° 5	1053367	Inc
545	Y Position during calibration, pipette n° 5	780229	Inc
538	X Position during calibration, pipette n° 6	1053369	Inc
546	Y Position during calibration, pipette n° 6	780245	Inc
539	X Position during calibration, pipette n° 7	1053373	Inc
547	Y Position during calibration, pipette n° 7	780263	Inc
540	X Position during calibration, pipette n° 8	1053372	Inc
548	Y Position during calibration, pipette n° 8	780262	Inc

Head 1\Calibration - general parameters			
343	Offset placement axis/PCB camera in X	49.593	mm
344	Offset placement axis/PCB camera in Y	-12.488	mm
345	Offset placement axis/nozzle camera in X	178.000	mm
346	Offset placement axis/nozzle camera in Y	0.000	mm
347	Optical axis position in X	0	Pix
348	Optical axis position in Y	0	Pix
349	Reference mark thickness	6.67	mm
350	Optical distance	372.00	mm
353	Thermal correction in X	0.0000	mm/°C
354	Thermal correction in Y	0.0000	mm/°C

Head 1\Reject boxes			
355	X coordinate of reject box n° 1	601.00	mm
356	Y coordinate of reject box n° 1	197.50	mm
357	Z coordinate of reject box n° 1	3.00	mm
358	X coordinate of reject box n° 2	601.00	mm
359	Y coordinate of reject box n° 2	197.50	mm
360	Z coordinate of reject box n° 2	3.00	mm
361	X coordinate of reject box n° 3	601.00	mm
362	Y coordinate of reject box n° 3	197.50	mm
363	Z coordinate of reject box n° 3	3.00	mm
364	X coordinate of reject box n° 4	601.00	mm
365	Y coordinate of reject box n° 4	197.50	mm
366	Z coordinate of reject box n° 4	3.00	mm
367	X coordinate of reject box n° 5	601.00	mm
368	Y coordinate of reject box n° 5	197.50	mm
369	Z coordinate of reject box n° 5	3.00	mm
370	X coordinate of reject box n° 6	601.00	mm
371	Y coordinate of reject box n° 6	197.50	mm
372	Z coordinate of reject box n° 6	3.00	mm
373	X coordinate of reject box n° 7	601.00	mm
374	Y coordinate of reject box n° 7	197.50	mm
375	Z coordinate of reject box n° 7	3.00	mm
376	X coordinate of reject box n° 8	601.00	mm
377	Y coordinate of reject box n° 8	197.50	mm
378	Z coordinate of reject box n° 8	3.00	mm

Head 1\Electrical test			
409	X Test plate	711.79	mm
410	Y Test plate	204.45	mm
411	Z Test plate	19.70	mm

Head 1\Miscellaneous			
414	Clearance X coordinate	428.50	mm
415	Clearance Y coordinate	788.50	mm
416	Pick Up Altitude for demo mode	0.00	mm
420	Minimum X movement with joystick head 1	400.00	mm
421	Maximum X movement with joystick	500.00	mm
425	Z detect with fast mode	0.00	mm
426	component test height for pipette n°1	0.00	mm
427	component test height for pipette n°2	0.56	mm
428	component test height for pipette n°3	0.60	mm
429	component test height for pipette n°4	0.65	mm
430	component test height for pipette n°5	0.54	mm
431	component test height for pipette n°6	0.47	mm
432	component test height for pipette n°7	0.57	mm
433	component test height for pipette n°8	0.52	mm

Head 1\Pipette card			
379	Configuration transmitter gain	1	
380	Optical captor gain n° 1	234	
381	Optical captor gain n° 2	233	
382	Optical captor gain n° 3	227	
383	Optical captor gain n° 4	229	
384	Optical captor gain n° 5	228	
385	Optical captor gain n° 6	219	
386	Optical captor gain n° 7	232	
387	Optical captor gain n° 8	224	
388	High+Glancing Mode : High gain	250	
389	High+Glancing Mode : Low gain	250	
390	High mode : High gain	250	
391	High mode : Low gain	0	
392	Glancing Mode : High gain	0	
393	Glancing Mode : Low gain	250	

Head 1\Vision card (front camera)			
394	Back lighting gain	100	
397	Intermediate lighting gain	100	
395	Front lighting gain	100	
396	Glancing lighting gain	100	
398	Free 2	0	
399	Free 3	0	
400	Free 4	0	
401	Free 5	0	
402	Free 6	0	
403	Free 7	0	
404	Free 8	0	
405	Free 9	0	
406	Free 10	0	
407	Free 11	0	
408	Free 12	0	

Head 1\Vision card (back camera)			
549	Back lighting gain	100	
552	Intermediate lighting gain	100	
550	Front lighting gain	100	
551	Glancing lighting gain	100	
553	Free 2	0	
554	Free 3	0	
555	Free 4	0	
556	Free 5	0	
557	Free 6	0	
558	Free 7	0	
559	Free 8	0	
560	Free 9	0	
561	Free 10	0	
562	Free 11	0	
563	Free 12	0	

Head 2\General parameters			
0	Distance X between each pipette	19.60	mm
1	Distance Y between each pipette	25.00	mm
2	X reference coordinate	1191.54	mm
3	Y reference coordinate	254.08	mm
631	X coordinate for pipette heads obstacle (0 if no obstacle)	0.000	mm
632	Z coordinate for pipette heads obstacle (0 if no obstacle)	0.000	mm

Head 2\Axis			
4	X axis maximum dimension	4370000	Inc
5	Y axis maximum dimension	1958000	Inc
6	Z axis maximum dimension	28000	Inc
7	Theta axis maximum dimension	175000	Inc
10	Theta stop thickness	0	Inc
11	Theta axis position for component pick up	87500	Inc
12	Number of increment by encoder loop, Theta axis	51200	Inc
13	Systematic correction theta during initialisation	8000	Inc

Head 2\Offset nozzle/reference mark			
163	Offset nozzle/reference point in X - Front	-110.30	mm
164	Offset nozzle/reference point in Y - Front	40.46	mm
165	Offset nozzle/reference point in X - Rear	-110.70	mm
166	Offset nozzle/reference point in Y - Rear	-112.51	mm

Head 2\Feeder - Zones			
437	Zone 10, beginning coordinate - Parked mode	311.50	mm
438	Zone 10, end coordinate - Parked mode	656.50	mm
439	Zone 10, Y coordinate - Parked mode	16.50	mm
440	Zone 10, Average pick up altitude - Parked mode	20.56	mm
441	Zone 20, beginning coordinate	815.00	mm
442	Zone 20, end coordinate	1166.00	mm
443	Zone 20, coordinate in Y	16.49	mm
444	Zone 20, Average pick up altitude	20.56	mm
461	Zone 70, beginning coordinate	1166.00	mm
462	Zone 70, end coordinate	814.50	mm
463	Zone 70, coordinate in Y	962.52	mm
464	Zone 70, Average pick up altitude	20.41	mm
465	Zone 80, beginning coordinate - Parked mode	656.50	mm
466	Zone 80, end coordinate - Parked mode	311.00	mm
467	Zone 80, Y coordinate - Parked mode	962.50	mm
468	Zone 80, Average pick up altitude - Parked mode	20.44	mm

Head 2\Nozzle magazine 2			
633	X coordinate of the nozzle magazine	754.49	mm
634	Y coordinate of the nozzle magazine mark	141.15	mm
635	X coordinate of the first nozzle, first row (Digit)	772.84	mm
636	Y coordinate of the first nozzle, first row (Digit)	153.00	mm
473	First nozzle first row coordinate in X (CN)	772.82	mm
474	First nozzle first row coordinate in Y (CN)	152.98	mm
475	Nozzle exchange altitude	24.95	mm
477	Offset X between nozzles	19.60	mm
478	Offset Y between nozzles	18.00	mm
480	Number of column in X	10	
479	Number of row in Y	4	
481	Orientation	180.00	°

Head 2\Nozzle magazine 7			
637	X coordinate of the nozzle magazine	755.24	mm
638	Y coordinate of the nozzle magazine mark	751.79	mm
639	X coordinate of the first nozzle, first row (Digit)	773.89	mm
640	Y coordinate of the first nozzle, first row (Digit)	763.76	mm
482	First nozzle first row coordinate in X (CN)	772.79	mm
483	First nozzle first row coordinate in Y (CN)	763.79	mm
484	Nozzle exchange altitude	24.70	mm
486	Offset X between nozzles	19.60	mm
487	Offset Y between nozzles	18.00	mm
489	Number of column in X	10	
488	Number of row in Y	4	
490	Orientation	180.00	°

Head 2\Pick-up			
15	Feed time synchro value	40	ms

Head 2\Placement			
16	Placement altitude	24.96	mm
18	Z altitude for calibration plate	24.50	mm
19	Offset for fast placement	0.0000	mm

Head 2\Vision			
22	X vision speed	500	mm/s
23	Y vision speed	1500	mm/s

Head 2\Front camera			
26	Calibration disk diameter	15.00	mm
27	Pixel dimension in X	0.03176	mm
28	Pixel dimension in Y	0.03168	mm
29	Gain	20	
30	Offset	30	
31	Binary threshold	120	NG
32	Minimum contrast threshold	15	NG
33	Camera angle	180.00	°
34	Image dimension in X	2560	Pix
35	Image dimension in Y	1920	Pix
36	Cross position in X	1280	Pix
37	Cross position in Y	960	Pix
40	Serial number	22951079	
90	X coordinate of the front camera	1021.26	mm
91	Y coordinate of the front camera	166.29	mm
92	Z coordinate of the back camera	8.50	mm
93	Security maximum altitude	0.00	mm
335	X coordinate of the reference mark 1	673.01	Pix
336	Y coordinate of the reference mark 1	961.62	Pix
337	X coordinate of the reference mark 2	1886.98	Pix
338	Y coordinate of the reference mark 2	958.28	Pix

Head 2\PCB camera			
41	Calibration disk diameter	2.00	mm
42	Pixel dimension in X	0.01774	mm
43	Pixel dimension in Y	0.01763	mm
44	Gain	25	
45	Offset	50	
46	Binary threshold	100	NG
47	Minimum contrast threshold	20	NG
48	Camera angle	-0.08	°
49	Image dimension in X	1280	Pix
50	Image dimension in Y	960	Pix
51	Cross position in X	640	Pix
52	Cross position in Y	480	Pix
53	Serial number	23622309	

Head 2\Back camera			
94	X coordinate of the back camera	1021.33	mm
95	Y coordinate of the back camera	777.05	mm
97	Calibration disk diameter	15.00	mm
98	Pixel dimension in X	0.03178	mm
99	Pixel dimension in Y	0.03167	mm
100	Gain	20	
101	Offset	30	
102	Binary threshold	120	NG
103	Minimum contrast threshold	15	NG
104	Camera angle	-0.03	°
105	Image dimension in X	2560	Pix
106	Image dimension in Y	1920	Pix
107	Cross position in X	1280	Pix
108	Cross position in Y	960	Pix
109	Serial number	23703593	
339	X coordinate of the reference mark 1	1886.82	Pix
340	Y coordinate of the reference mark 1	958.62	Pix
341	X coordinate of the reference mark 2	673.13	Pix
342	Y coordinate of the reference mark 2	961.41	Pix

Head 2\Other head (parked mode)			
111	X coordinate of the front camera of the substituted head	478.26	mm
112	Y coordinate of the front camera of the substituted head	166.12	mm
113	X coordinate of the back camera of the substituted head	478.30	mm
114	Y coordinate of the back camera of the substituted head	776.97	mm

Head 2\Correction			
115	X offset, Pipette n° 1	0.000	mm
116	Y offset, Pipette n° 1	0.000	mm
117	Z offset, Pipette n° 1	0.00	mm
118	X offset, Pipette n° 2	-0.005	mm
119	Y offset, Pipette n° 2	-0.012	mm
120	Z offset, Pipette n° 2	0.00	mm
121	X offset, Pipette n° 3	-0.000	mm
122	Y offset, Pipette n° 3	-0.014	mm
123	Z offset, Pipette n° 3	0.00	mm
124	X offset, Pipette n° 4	0.000	mm
125	Y offset, Pipette n° 4	-0.013	mm
126	Z offset, Pipette n° 4	0.00	mm
127	X offset, Pipette n° 5	0.011	mm
128	Y offset, Pipette n° 5	0.006	mm
129	Z offset, Pipette n° 5	0.00	mm
130	X offset, Pipette n° 6	0.021	mm
131	Y offset, Pipette n° 6	0.003	mm
132	Z offset, Pipette n° 6	0.00	mm
133	X offset, Pipette n° 7	0.020	mm
134	Y offset, Pipette n° 7	-0.001	mm
135	Z offset, Pipette n° 7	0.00	mm
136	X offset, Pipette n° 8	0.020	mm
137	Y offset, Pipette n° 8	0.001	mm
138	Z offset, Pipette n° 8	0.00	mm

Head 2\Excentricity			
139	Nozzle holder n° 1 in X	0.013	mm
140	Nozzle holder n° 1 in Y	0.037	mm
141	Nozzle holder n° 2 in X	0.021	mm
142	Nozzle holder n° 2 in Y	0.011	mm
143	Nozzle holder n° 3 in X	-0.012	mm
144	Nozzle holder n° 3 in Y	0.009	mm
145	Nozzle holder n° 4 in X	-0.026	mm
146	Nozzle holder n° 4 in Y	-0.012	mm
147	Nozzle holder n° 5 in X	0.052	mm
148	Nozzle holder n° 5 in Y	-0.004	mm
149	Nozzle holder n° 6 in X	0.008	mm
150	Nozzle holder n° 6 in Y	-0.011	mm
151	Nozzle holder n° 7 in X	-0.023	mm
152	Nozzle holder n° 7 in Y	0.004	mm
153	Nozzle holder n° 8 in X	0.007	mm
154	Nozzle holder n° 8 in Y	-0.004	mm

Head 2\Offset reference mark/rotation axis - Single - Front camera			
179	Offset in X, Nozzle holder n° 1	9.716	mm
180	Offset in Y, Nozzle holder n° 1	12.632	mm
181	Offset in X, Nozzle holder n° 2	-9.894	mm
182	Offset in Y, Nozzle holder n° 2	12.606	mm
183	Offset in X, Nozzle holder n° 3	9.732	mm
184	Offset in Y, Nozzle holder n° 3	12.483	mm
185	Offset in X, Nozzle holder n° 4	-9.880	mm
186	Offset in Y, Nozzle holder n° 4	12.440	mm
187	Offset in X, Nozzle holder n° 5	9.751	mm
188	Offset in Y, Nozzle holder n° 5	-12.386	mm
189	Offset in X, Nozzle holder n° 6	-9.864	mm
190	Offset in Y, Nozzle holder n° 6	-12.414	mm
191	Offset in X, Nozzle holder n° 7	9.754	mm
192	Offset in Y, Nozzle holder n° 7	-12.547	mm
193	Offset in X, Nozzle holder n° 8	-9.845	mm
194	Offset in Y, Nozzle holder n° 8	-12.574	mm

Head 2\Offset reference mark/rotation axis - Single - Back camera			
227	Offset in X, Nozzle holder n° 1	9.707	mm
228	Offset in Y, Nozzle holder n° 1	12.615	mm
229	Offset in X, Nozzle holder n° 2	-9.887	mm
230	Offset in Y, Nozzle holder n° 2	12.592	mm
231	Offset in X, Nozzle holder n° 3	9.724	mm
232	Offset in Y, Nozzle holder n° 3	12.467	mm
233	Offset in X, Nozzle holder n° 4	-9.876	mm
234	Offset in Y, Nozzle holder n° 4	12.427	mm
235	Offset in X, Nozzle holder n° 5	9.745	mm
236	Offset in Y, Nozzle holder n° 5	-12.402	mm
237	Offset in X, Nozzle holder n° 6	-9.872	mm
238	Offset in Y, Nozzle holder n° 6	-12.425	mm
239	Offset in X, Nozzle holder n° 7	9.749	mm
240	Offset in Y, Nozzle holder n° 7	-12.563	mm
241	Offset in X, Nozzle holder n° 8	-9.853	mm
242	Offset in Y, Nozzle holder n° 8	-12.582	mm

Head 2\Offset reference mark/rotation axis - Block - Front camera			
203	Offset in X, Nozzle holder n° 1	9.700	mm
204	Offset in Y, Nozzle holder n° 1	12.622	mm
205	Offset in X, Nozzle holder n° 2	-9.890	mm
206	Offset in Y, Nozzle holder n° 2	12.599	mm
207	Offset in X, Nozzle holder n° 3	9.731	mm
208	Offset in Y, Nozzle holder n° 3	12.478	mm
209	Offset in X, Nozzle holder n° 4	-9.863	mm
210	Offset in Y, Nozzle holder n° 4	12.432	mm
211	Offset in X, Nozzle holder n° 5	9.739	mm
212	Offset in Y, Nozzle holder n° 5	-12.385	mm
213	Offset in X, Nozzle holder n° 6	-9.868	mm
214	Offset in Y, Nozzle holder n° 6	-12.417	mm
215	Offset in X, Nozzle holder n° 7	9.755	mm
216	Offset in Y, Nozzle holder n° 7	-12.553	mm
217	Offset in X, Nozzle holder n° 8	-9.836	mm
218	Offset in Y, Nozzle holder n° 8	-12.573	mm

Head 2\Offset reference mark/rotation axis - Block - Back camera			
251	Offset in X, Nozzle holder n° 1	9.702	mm
252	Offset in Y, Nozzle holder n° 1	12.614	mm
253	Offset in X, Nozzle holder n° 2	-9.890	mm
254	Offset in Y, Nozzle holder n° 2	12.597	mm
255	Offset in X, Nozzle holder n° 3	9.730	mm
256	Offset in Y, Nozzle holder n° 3	12.468	mm
257	Offset in X, Nozzle holder n° 4	-9.874	mm
258	Offset in Y, Nozzle holder n° 4	12.433	mm
259	Offset in X, Nozzle holder n° 5	9.729	mm
260	Offset in Y, Nozzle holder n° 5	-12.391	mm
261	Offset in X, Nozzle holder n° 6	-9.876	mm
262	Offset in Y, Nozzle holder n° 6	-12.418	mm
263	Offset in X, Nozzle holder n° 7	9.753	mm
264	Offset in Y, Nozzle holder n° 7	-12.555	mm
265	Offset in X, Nozzle holder n° 8	-9.848	mm
266	Offset in Y, Nozzle holder n° 8	-12.576	mm

Head 2\Offset reference mark/rotation axis - Park - Single - Other front head camera			
565	Offset in X, Nozzle holder n° 1	9.713	mm
566	Offset in Y, Nozzle holder n° 1	12.626	mm
567	Offset in X, Nozzle holder n° 2	-9.893	mm
568	Offset in Y, Nozzle holder n° 2	12.604	mm
569	Offset in X, Nozzle holder n° 3	9.728	mm
570	Offset in Y, Nozzle holder n° 3	12.475	mm
571	Offset in X, Nozzle holder n° 4	-9.881	mm
572	Offset in Y, Nozzle holder n° 4	12.439	mm
573	Offset in X, Nozzle holder n° 5	9.747	mm
574	Offset in Y, Nozzle holder n° 5	-12.394	mm
575	Offset in X, Nozzle holder n° 6	-9.869	mm
576	Offset in Y, Nozzle holder n° 6	-12.422	mm
577	Offset in X, Nozzle holder n° 7	9.751	mm
578	Offset in Y, Nozzle holder n° 7	-12.554	mm
579	Offset in X, Nozzle holder n° 8	-9.852	mm
580	Offset in Y, Nozzle holder n° 8	-12.577	mm

Head 2\Offset reference mark/rotation axis - Park - Single - Other rear head camera			
597	Offset in X, Nozzle holder n° 1	9.721	mm
598	Offset in Y, Nozzle holder n° 1	12.614	mm
599	Offset in X, Nozzle holder n° 2	-9.892	mm
600	Offset in Y, Nozzle holder n° 2	12.588	mm
601	Offset in X, Nozzle holder n° 3	9.736	mm
602	Offset in Y, Nozzle holder n° 3	12.457	mm
603	Offset in X, Nozzle holder n° 4	-9.880	mm
604	Offset in Y, Nozzle holder n° 4	12.424	mm
605	Offset in X, Nozzle holder n° 5	9.753	mm
606	Offset in Y, Nozzle holder n° 5	-12.419	mm
607	Offset in X, Nozzle holder n° 6	-9.873	mm
608	Offset in Y, Nozzle holder n° 6	-12.442	mm
609	Offset in X, Nozzle holder n° 7	9.758	mm
610	Offset in Y, Nozzle holder n° 7	-12.578	mm
611	Offset in X, Nozzle holder n° 8	-9.854	mm
612	Offset in Y, Nozzle holder n° 8	-12.597	mm

Head 2\Offset reference mark/rotation axis - Park - Block - Other front head camera			
581	Offset in X, Nozzle holder n° 1	9.701	mm
582	Offset in Y, Nozzle holder n° 1	12.619	mm
583	Offset in X, Nozzle holder n° 2	-9.896	mm
584	Offset in Y, Nozzle holder n° 2	12.595	mm
585	Offset in X, Nozzle holder n° 3	9.732	mm
586	Offset in Y, Nozzle holder n° 3	12.475	mm
587	Offset in X, Nozzle holder n° 4	-9.861	mm
588	Offset in Y, Nozzle holder n° 4	12.432	mm
589	Offset in X, Nozzle holder n° 5	9.741	mm
590	Offset in Y, Nozzle holder n° 5	-12.395	mm
591	Offset in X, Nozzle holder n° 6	-9.873	mm
592	Offset in Y, Nozzle holder n° 6	-12.423	mm
593	Offset in X, Nozzle holder n° 7	9.757	mm
594	Offset in Y, Nozzle holder n° 7	-12.549	mm
595	Offset in X, Nozzle holder n° 8	-9.839	mm
596	Offset in Y, Nozzle holder n° 8	-12.573	mm

Head 2\Offset reference mark/rotation axis - Park - Block - Other rear head camera			
613	Offset in X, Nozzle holder n° 1	9.710	mm
614	Offset in Y, Nozzle holder n° 1	12.612	mm
615	Offset in X, Nozzle holder n° 2	-9.892	mm
616	Offset in Y, Nozzle holder n° 2	12.588	mm
617	Offset in X, Nozzle holder n° 3	9.733	mm
618	Offset in Y, Nozzle holder n° 3	12.462	mm
619	Offset in X, Nozzle holder n° 4	-9.863	mm
620	Offset in Y, Nozzle holder n° 4	12.424	mm
621	Offset in X, Nozzle holder n° 5	9.738	mm
622	Offset in Y, Nozzle holder n° 5	-12.408	mm
623	Offset in X, Nozzle holder n° 6	-9.874	mm
624	Offset in Y, Nozzle holder n° 6	-12.433	mm
625	Offset in X, Nozzle holder n° 7	9.760	mm
626	Offset in Y, Nozzle holder n° 7	-12.568	mm
627	Offset in X, Nozzle holder n° 8	-9.840	mm
628	Offset in Y, Nozzle holder n° 8	-12.588	mm

Head 2\Head position during calibration			
533	X Position during calibration, pipette n° 1	2335086	Inc
541	Y Position during calibration, pipette n° 1	828180	Inc
534	X Position during calibration, pipette n° 2	2335093	Inc
542	Y Position during calibration, pipette n° 2	828206	Inc
535	X Position during calibration, pipette n° 3	2335082	Inc
543	Y Position during calibration, pipette n° 3	828212	Inc
536	X Position during calibration, pipette n° 4	2335071	Inc
544	Y Position during calibration, pipette n° 4	828212	Inc
537	X Position during calibration, pipette n° 5	2335061	Inc
545	Y Position during calibration, pipette n° 5	778164	Inc
538	X Position during calibration, pipette n° 6	2335042	Inc
546	Y Position during calibration, pipette n° 6	778171	Inc
539	X Position during calibration, pipette n° 7	2335039	Inc
547	Y Position during calibration, pipette n° 7	778183	Inc
540	X Position during calibration, pipette n° 8	2335035	Inc
548	Y Position during calibration, pipette n° 8	778179	Inc

Head 2\Calibration - general parameters			
343	Offset placement axis/PCB camera in X	-109.382	mm
344	Offset placement axis/PCB camera in Y	-12.466	mm
345	Offset placement axis/nozzle camera in X	178.000	mm
346	Offset placement axis/nozzle camera in Y	0.000	mm
347	Optical axis position in X	0	Pix
348	Optical axis position in Y	0	Pix
349	Reference mark thickness	6.83	mm
350	Optical distance	372.00	mm
353	Thermal correction in X	0.0000	mm/°C
354	Thermal correction in Y	0.0000	mm/°C

Head 2\Reject boxes			
355	X coordinate of reject box n° 1	1144.00	mm
356	Y coordinate of reject box n° 1	196.00	mm
357	Z coordinate of reject box n° 1	3.00	mm
358	X coordinate of reject box n° 2	1144.00	mm
359	Y coordinate of reject box n° 2	196.00	mm
360	Z coordinate of reject box n° 2	3.00	mm
361	X coordinate of reject box n° 3	1144.00	mm
362	Y coordinate of reject box n° 3	196.00	mm
363	Z coordinate of reject box n° 3	3.00	mm
364	X coordinate of reject box n° 4	1144.00	mm
365	Y coordinate of reject box n° 4	196.00	mm
366	Z coordinate of reject box n° 4	3.00	mm
367	X coordinate of reject box n° 5	1144.00	mm
368	Y coordinate of reject box n° 5	196.00	mm
369	Z coordinate of reject box n° 5	3.00	mm
370	X coordinate of reject box n° 6	1144.00	mm
371	Y coordinate of reject box n° 6	196.00	mm
372	Z coordinate of reject box n° 6	3.00	mm
373	X coordinate of reject box n° 7	1144.00	mm
374	Y coordinate of reject box n° 7	196.00	mm
375	Z coordinate of reject box n° 7	3.00	mm
376	X coordinate of reject box n° 8	1144.00	mm
377	Y coordinate of reject box n° 8	196.00	mm
378	Z coordinate of reject box n° 8	3.00	mm

Head 2\Electrical test			
409	X Test plate	711.75	mm
410	Y Test plate	204.50	mm
411	Z Test plate	19.62	mm

Head 2\Miscellaneous			
414	Clearance X coordinate	1129.50	mm
415	Clearance Y coordinate	788.50	mm
416	Pick Up Altitude for demo mode	0.00	mm
420	Minimum X movement with joystick head 1	1000.00	mm
421	Maximum X movement with joystick	1100.00	mm
425	Z detect with fast mode	0.00	mm
426	component test height for pipette n°1	0.41	mm
427	component test height for pipette n°2	0.24	mm
428	component test height for pipette n°3	0.45	mm
429	component test height for pipette n°4	0.41	mm
430	component test height for pipette n°5	0.45	mm
431	component test height for pipette n°6	0.46	mm
432	component test height for pipette n°7	0.46	mm
433	component test height for pipette n°8	0.37	mm

Head 2\Pipette card			
379	Configuration transmitter gain	1	
380	Optical captor gain n° 1	228	
381	Optical captor gain n° 2	231	
382	Optical captor gain n° 3	233	
383	Optical captor gain n° 4	233	
384	Optical captor gain n° 5	230	
385	Optical captor gain n° 6	226	
386	Optical captor gain n° 7	227	
387	Optical captor gain n° 8	226	
388	High+Glancing Mode : High gain	200	
389	High+Glancing Mode : Low gain	200	
390	High mode : High gain	200	
391	High mode : Low gain	0	
392	Glancing Mode : High gain	0	
393	Glancing Mode : Low gain	200	

Head 2\Vision card (front camera)			
394	Back lighting gain	100	
397	Intermediate lighting gain	100	
395	Front lighting gain	100	
396	Glancing lighting gain	100	
398	Free 2	0	
399	Free 3	0	
400	Free 4	0	
401	Free 5	0	
402	Free 6	0	
403	Free 7	0	
404	Free 8	0	
405	Free 9	0	
406	Free 10	0	
407	Free 11	0	
408	Free 12	0	

Head 2\Vision card (back camera)			
549	Back lighting gain	100	
552	Intermediate lighting gain	100	
550	Front lighting gain	100	
551	Glancing lighting gain	100	
553	Free 2	0	
554	Free 3	0	
555	Free 4	0	
556	Free 5	0	
557	Free 6	0	
558	Free 7	0	
559	Free 8	0	
560	Free 9	0	
561	Free 10	0	
562	Free 11	0	
563	Free 12	0	

Head 3\General parameters			
0	Distance X between each pipette	19.60	mm
1	Distance Y between each pipette	25.00	mm
2	X reference coordinate	1822.46	mm
3	Y reference coordinate	253.80	mm
631	X coordinate for pipette heads obstacle (0 if no obstacle)	0.000	mm
632	Z coordinate for pipette heads obstacle (0 if no obstacle)	0.000	mm

Head 3\Axis			
4	X axis maximum dimension	4646000	Inc
5	Y axis maximum dimension	1958000	Inc
6	Z axis maximum dimension	28000	Inc
7	Theta axis maximum dimension	175000	Inc
10	Theta stop thickness	0	Inc
11	Theta axis position for component pick up	87500	Inc
12	Number of increment by encoder loop, Theta axis	51200	Inc
13	Systematic correction theta during initialisation	8000	Inc

Head 3\Offset nozzle/reference mark			
163	Offset nozzle/reference point in X - Front	49.30	mm
164	Offset nozzle/reference point in Y - Front	112.21	mm
165	Offset nozzle/reference point in X - Rear	48.66	mm
166	Offset nozzle/reference point in Y - Rear	-40.97	mm

Head 3\Feeder - Zones			
445	Zone 30, beginning coordinate	1465.50	mm
446	Zone 30, end coordinate	1816.50	mm
447	Zone 30, coordinate in Y	16.51	mm
448	Zone 30, Average pick up altitude	20.60	mm
449	Zone 40, beginning coordinate - Parked mode	1972.50	mm
450	Zone 40, end coordinate - Parked mode	2320.50	mm
451	Zone 40, Y coordinate - Parked mode	16.52	mm
452	Zone 40, Average pick up altitude - Parked mode	20.61	mm
453	Zone 50, beginning coordinate - Parked mode	2320.40	mm
454	Zone 50, end coordinate - Parked mode	1974.50	mm
455	Zone 50, Y coordinate - Parked mode	962.33	mm
456	Zone 50, Average pick up altitude - Parked mode	20.60	mm
457	Zone 60, beginning coordinate	1817.50	mm
458	Zone 60, end coordinate	1466.50	mm
459	Zone 60, coordinate in Y	962.31	mm
460	Zone 60, Average pick up altitude	20.70	mm

Head 3\Nozzle magazine 3			
633	X coordinate of the nozzle magazine	1653.74	mm
634	Y coordinate of the nozzle magazine mark	140.76	mm
635	X coordinate of the first nozzle, first row (Digit)	1672.05	mm
636	Y coordinate of the first nozzle, first row (Digit)	152.85	mm
473	First nozzle first row coordinate in X (CN)	1671.95	mm
474	First nozzle first row coordinate in Y (CN)	152.74	mm
475	Nozzle exchange altitude	24.25	mm
477	Offset X between nozzles	19.60	mm
478	Offset Y between nozzles	18.00	mm
480	Number of column in X	10	
479	Number of row in Y	4	
481	Orientation	180.00	°

Head 3\Nozzle magazine 6			
637	X coordinate of the nozzle magazine	1653.62	mm
638	Y coordinate of the nozzle magazine mark	751.81	mm
639	X coordinate of the first nozzle, first row (Digit)	1671.94	mm
640	Y coordinate of the first nozzle, first row (Digit)	763.95	mm
482	First nozzle first row coordinate in X (CN)	1671.86	mm
483	First nozzle first row coordinate in Y (CN)	763.98	mm
484	Nozzle exchange altitude	24.72	mm
486	Offset X between nozzles	19.60	mm
487	Offset Y between nozzles	18.00	mm
489	Number of column in X	10	
488	Number of row in Y	4	
490	Orientation	180.00	°

Head 3\Pick-up			
15	Feed time synchro value	40	ms

Head 3\Placement			
16	Placement altitude	25.17	mm
18	Z altitude for calibration plate	24.73	mm
19	Offset for fast placement	0.0000	mm

Head 3\Vision			
22	X vision speed	500	mm/s
23	Y vision speed	1500	mm/s

Head 3\Front camera			
26	Calibration disk diameter	15.00	mm
27	Pixel dimension in X	0.03178	mm
28	Pixel dimension in Y	0.03167	mm
29	Gain	20	
30	Offset	30	
31	Binary threshold	120	NG
32	Minimum contrast threshold	15	NG
33	Camera angle	179.84	°
34	Image dimension in X	2560	Pix
35	Image dimension in Y	1920	Pix
36	Cross position in X	1280	Pix
37	Cross position in Y	960	Pix
40	Serial number	22951080	
90	X coordinate of the front camera	1551.44	mm
91	Y coordinate of the front camera	166.44	mm
92	Z coordinate of the back camera	8.50	mm
93	Security maximum altitude	0.00	mm
335	X coordinate of the reference mark 1	674.30	Pix
336	Y coordinate of the reference mark 1	960.50	Pix
337	X coordinate of the reference mark 2	1885.68	Pix
338	Y coordinate of the reference mark 2	959.48	Pix

Head 3\PCB camera			
41	Calibration disk diameter	2.00	mm
42	Pixel dimension in X	0.01771	mm
43	Pixel dimension in Y	0.01761	mm
44	Gain	30	
45	Offset	50	
46	Binary threshold	100	NG
47	Minimum contrast threshold	20	NG
48	Camera angle	-0.03	°
49	Image dimension in X	1280	Pix
50	Image dimension in Y	960	Pix
51	Cross position in X	640	Pix
52	Cross position in Y	480	Pix
53	Serial number	23717699	

Head 3\Back camera			
94	X coordinate of the back camera	1551.41	mm
95	Y coordinate of the back camera	777.16	mm
97	Calibration disk diameter	15.00	mm
98	Pixel dimension in X	0.03178	mm
99	Pixel dimension in Y	0.03175	mm
100	Gain	20	
101	Offset	30	
102	Binary threshold	120	NG
103	Minimum contrast threshold	15	NG
104	Camera angle	-0.04	°
105	Image dimension in X	2560	Pix
106	Image dimension in Y	1920	Pix
107	Cross position in X	1280	Pix
108	Cross position in Y	960	Pix
109	Serial number	23703606	
339	X coordinate of the reference mark 1	1885.46	Pix
340	Y coordinate of the reference mark 1	958.00	Pix
341	X coordinate of the reference mark 2	674.68	Pix
342	Y coordinate of the reference mark 2	961.53	Pix

Head 3\Other head (parked mode)			
111	X coordinate of the front camera of the substituted head	2094.31	mm
112	Y coordinate of the front camera of the substituted head	166.28	mm
113	X coordinate of the back camera of the substituted head	2094.40	mm
114	Y coordinate of the back camera of the substituted head	777.41	mm

Head 3\Correction			
115	X offset, Pipette n° 1	0.000	mm
116	Y offset, Pipette n° 1	-0.000	mm
117	Z offset, Pipette n° 1	0.00	mm
118	X offset, Pipette n° 2	0.007	mm
119	Y offset, Pipette n° 2	-0.007	mm
120	Z offset, Pipette n° 2	0.00	mm
121	X offset, Pipette n° 3	0.010	mm
122	Y offset, Pipette n° 3	-0.024	mm
123	Z offset, Pipette n° 3	0.00	mm
124	X offset, Pipette n° 4	0.001	mm
125	Y offset, Pipette n° 4	-0.030	mm
126	Z offset, Pipette n° 4	0.00	mm
127	X offset, Pipette n° 5	0.040	mm
128	Y offset, Pipette n° 5	0.027	mm
129	Z offset, Pipette n° 5	0.00	mm
130	X offset, Pipette n° 6	0.035	mm
131	Y offset, Pipette n° 6	0.019	mm
132	Z offset, Pipette n° 6	0.00	mm
133	X offset, Pipette n° 7	0.034	mm
134	Y offset, Pipette n° 7	-0.000	mm
135	Z offset, Pipette n° 7	0.00	mm
136	X offset, Pipette n° 8	0.034	mm
137	Y offset, Pipette n° 8	-0.018	mm
138	Z offset, Pipette n° 8	0.00	mm

Head 3\Excentricity			
139	Nozzle holder n° 1 in X	-0.003	mm
140	Nozzle holder n° 1 in Y	0.010	mm
141	Nozzle holder n° 2 in X	-0.009	mm
142	Nozzle holder n° 2 in Y	0.010	mm
143	Nozzle holder n° 3 in X	0.023	mm
144	Nozzle holder n° 3 in Y	-0.022	mm
145	Nozzle holder n° 4 in X	0.005	mm
146	Nozzle holder n° 4 in Y	0.018	mm
147	Nozzle holder n° 5 in X	-0.005	mm
148	Nozzle holder n° 5 in Y	0.029	mm
149	Nozzle holder n° 6 in X	0.024	mm
150	Nozzle holder n° 6 in Y	-0.022	mm
151	Nozzle holder n° 7 in X	0.010	mm
152	Nozzle holder n° 7 in Y	0.015	mm
153	Nozzle holder n° 8 in X	0.027	mm
154	Nozzle holder n° 8 in Y	0.011	mm

Head 3\Offset reference mark/rotation axis - Single - Front camera			
179	Offset in X, Nozzle holder n° 1	9.855	mm
180	Offset in Y, Nozzle holder n° 1	12.662	mm
181	Offset in X, Nozzle holder n° 2	-9.750	mm
182	Offset in Y, Nozzle holder n° 2	12.655	mm
183	Offset in X, Nozzle holder n° 3	9.784	mm
184	Offset in Y, Nozzle holder n° 3	12.523	mm
185	Offset in X, Nozzle holder n° 4	-9.814	mm
186	Offset in Y, Nozzle holder n° 4	12.520	mm
187	Offset in X, Nozzle holder n° 5	9.836	mm
188	Offset in Y, Nozzle holder n° 5	-12.353	mm
189	Offset in X, Nozzle holder n° 6	-9.747	mm
190	Offset in Y, Nozzle holder n° 6	-12.364	mm
191	Offset in X, Nozzle holder n° 7	9.780	mm
192	Offset in Y, Nozzle holder n° 7	-12.485	mm
193	Offset in X, Nozzle holder n° 8	-9.818	mm
194	Offset in Y, Nozzle holder n° 8	-12.494	mm

Head 3\Offset reference mark/rotation axis - Single - Back camera			
227	Offset in X, Nozzle holder n° 1	9.870	mm
228	Offset in Y, Nozzle holder n° 1	12.678	mm
229	Offset in X, Nozzle holder n° 2	-9.736	mm
230	Offset in Y, Nozzle holder n° 2	12.671	mm
231	Offset in X, Nozzle holder n° 3	9.800	mm
232	Offset in Y, Nozzle holder n° 3	12.537	mm
233	Offset in X, Nozzle holder n° 4	-9.798	mm
234	Offset in Y, Nozzle holder n° 4	12.539	mm
235	Offset in X, Nozzle holder n° 5	9.843	mm
236	Offset in Y, Nozzle holder n° 5	-12.341	mm
237	Offset in X, Nozzle holder n° 6	-9.741	mm
238	Offset in Y, Nozzle holder n° 6	-12.342	mm
239	Offset in X, Nozzle holder n° 7	9.788	mm
240	Offset in Y, Nozzle holder n° 7	-12.478	mm
241	Offset in X, Nozzle holder n° 8	-9.806	mm
242	Offset in Y, Nozzle holder n° 8	-12.470	mm

Head 3\Offset reference mark/rotation axis - Block - Front camera			
203	Offset in X, Nozzle holder n° 1	9.853	mm
204	Offset in Y, Nozzle holder n° 1	12.660	mm
205	Offset in X, Nozzle holder n° 2	-9.750	mm
206	Offset in Y, Nozzle holder n° 2	12.653	mm
207	Offset in X, Nozzle holder n° 3	9.790	mm
208	Offset in Y, Nozzle holder n° 3	12.520	mm
209	Offset in X, Nozzle holder n° 4	-9.808	mm
210	Offset in Y, Nozzle holder n° 4	12.518	mm
211	Offset in X, Nozzle holder n° 5	9.831	mm
212	Offset in Y, Nozzle holder n° 5	-12.356	mm
213	Offset in X, Nozzle holder n° 6	-9.750	mm
214	Offset in Y, Nozzle holder n° 6	-12.362	mm
215	Offset in X, Nozzle holder n° 7	9.785	mm
216	Offset in Y, Nozzle holder n° 7	-12.482	mm
217	Offset in X, Nozzle holder n° 8	-9.816	mm
218	Offset in Y, Nozzle holder n° 8	-12.493	mm

Head 3\Offset reference mark/rotation axis - Block - Back camera			
251	Offset in X, Nozzle holder n° 1	9.868	mm
252	Offset in Y, Nozzle holder n° 1	12.672	mm
253	Offset in X, Nozzle holder n° 2	-9.738	mm
254	Offset in Y, Nozzle holder n° 2	12.667	mm
255	Offset in X, Nozzle holder n° 3	9.805	mm
256	Offset in Y, Nozzle holder n° 3	12.536	mm
257	Offset in X, Nozzle holder n° 4	-9.798	mm
258	Offset in Y, Nozzle holder n° 4	12.541	mm
259	Offset in X, Nozzle holder n° 5	9.835	mm
260	Offset in Y, Nozzle holder n° 5	-12.337	mm
261	Offset in X, Nozzle holder n° 6	-9.738	mm
262	Offset in Y, Nozzle holder n° 6	-12.347	mm
263	Offset in X, Nozzle holder n° 7	9.795	mm
264	Offset in Y, Nozzle holder n° 7	-12.469	mm
265	Offset in X, Nozzle holder n° 8	-9.803	mm
266	Offset in Y, Nozzle holder n° 8	-12.471	mm

Head 3\Offset reference mark/rotation axis - Park - Single - Other front head camera			
565	Offset in X, Nozzle holder n° 1	9.866	mm
566	Offset in Y, Nozzle holder n° 1	12.667	mm
567	Offset in X, Nozzle holder n° 2	-9.729	mm
568	Offset in Y, Nozzle holder n° 2	12.663	mm
569	Offset in X, Nozzle holder n° 3	9.795	mm
570	Offset in Y, Nozzle holder n° 3	12.528	mm
571	Offset in X, Nozzle holder n° 4	-9.794	mm
572	Offset in Y, Nozzle holder n° 4	12.530	mm
573	Offset in X, Nozzle holder n° 5	9.842	mm
574	Offset in Y, Nozzle holder n° 5	-12.332	mm
575	Offset in X, Nozzle holder n° 6	-9.735	mm
576	Offset in Y, Nozzle holder n° 6	-12.337	mm
577	Offset in X, Nozzle holder n° 7	9.783	mm
578	Offset in Y, Nozzle holder n° 7	-12.467	mm
579	Offset in X, Nozzle holder n° 8	-9.801	mm
580	Offset in Y, Nozzle holder n° 8	-12.467	mm

Head 3\Offset reference mark/rotation axis - Park - Single - Other rear head camera			
597	Offset in X, Nozzle holder n° 1	9.860	mm
598	Offset in Y, Nozzle holder n° 1	12.663	mm
599	Offset in X, Nozzle holder n° 2	-9.734	mm
600	Offset in Y, Nozzle holder n° 2	12.661	mm
601	Offset in X, Nozzle holder n° 3	9.790	mm
602	Offset in Y, Nozzle holder n° 3	12.522	mm
603	Offset in X, Nozzle holder n° 4	-9.799	mm
604	Offset in Y, Nozzle holder n° 4	12.529	mm
605	Offset in X, Nozzle holder n° 5	9.831	mm
606	Offset in Y, Nozzle holder n° 5	-12.337	mm
607	Offset in X, Nozzle holder n° 6	-9.737	mm
608	Offset in Y, Nozzle holder n° 6	-12.343	mm
609	Offset in X, Nozzle holder n° 7	9.775	mm
610	Offset in Y, Nozzle holder n° 7	-12.473	mm
611	Offset in X, Nozzle holder n° 8	-9.805	mm
612	Offset in Y, Nozzle holder n° 8	-12.469	mm

Head 3\Offset reference mark/rotation axis - Park - Block - Other front head camera			
581	Offset in X, Nozzle holder n° 1	9.867	mm
582	Offset in Y, Nozzle holder n° 1	12.679	mm
583	Offset in X, Nozzle holder n° 2	-9.731	mm
584	Offset in Y, Nozzle holder n° 2	12.672	mm
585	Offset in X, Nozzle holder n° 3	9.792	mm
586	Offset in Y, Nozzle holder n° 3	12.536	mm
587	Offset in X, Nozzle holder n° 4	-9.792	mm
588	Offset in Y, Nozzle holder n° 4	12.544	mm
589	Offset in X, Nozzle holder n° 5	9.834	mm
590	Offset in Y, Nozzle holder n° 5	-12.322	mm
591	Offset in X, Nozzle holder n° 6	-9.735	mm
592	Offset in Y, Nozzle holder n° 6	-12.328	mm
593	Offset in X, Nozzle holder n° 7	9.787	mm
594	Offset in Y, Nozzle holder n° 7	-12.454	mm
595	Offset in X, Nozzle holder n° 8	-9.796	mm
596	Offset in Y, Nozzle holder n° 8	-12.459	mm

Head 3\Offset reference mark/rotation axis - Park - Block - Other rear head camera			
613	Offset in X, Nozzle holder n° 1	9.856	mm
614	Offset in Y, Nozzle holder n° 1	12.666	mm
615	Offset in X, Nozzle holder n° 2	-9.745	mm
616	Offset in Y, Nozzle holder n° 2	12.659	mm
617	Offset in X, Nozzle holder n° 3	9.791	mm
618	Offset in Y, Nozzle holder n° 3	12.519	mm
619	Offset in X, Nozzle holder n° 4	-9.789	mm
620	Offset in Y, Nozzle holder n° 4	12.526	mm
621	Offset in X, Nozzle holder n° 5	9.825	mm
622	Offset in Y, Nozzle holder n° 5	-12.332	mm
623	Offset in X, Nozzle holder n° 6	-9.735	mm
624	Offset in Y, Nozzle holder n° 6	-12.339	mm
625	Offset in X, Nozzle holder n° 7	9.782	mm
626	Offset in Y, Nozzle holder n° 7	-12.467	mm
627	Offset in X, Nozzle holder n° 8	-9.800	mm
628	Offset in Y, Nozzle holder n° 8	-12.469	mm

Head 3\Head position during calibration			
533	X Position during calibration, pipette n° 1	3281666	Inc
541	Y Position during calibration, pipette n° 1	829037	Inc
534	X Position during calibration, pipette n° 2	3281645	Inc
542	Y Position during calibration, pipette n° 2	829047	Inc
535	X Position during calibration, pipette n° 3	3281636	Inc
543	Y Position during calibration, pipette n° 3	829087	Inc
536	X Position during calibration, pipette n° 4	3281658	Inc
544	Y Position during calibration, pipette n° 4	829103	Inc
537	X Position during calibration, pipette n° 5	3281590	Inc
545	Y Position during calibration, pipette n° 5	778980	Inc
538	X Position during calibration, pipette n° 6	3281601	Inc
546	Y Position during calibration, pipette n° 6	779004	Inc
539	X Position during calibration, pipette n° 7	3281594	Inc
547	Y Position during calibration, pipette n° 7	779042	Inc
540	X Position during calibration, pipette n° 8	3281601	Inc
548	Y Position during calibration, pipette n° 8	779085	Inc

Head 3\Calibration - general parameters			
343	Offset placement axis/PCB camera in X	49.481	mm
344	Offset placement axis/PCB camera in Y	-12.497	mm
345	Offset placement axis/nozzle camera in X	178.000	mm
346	Offset placement axis/nozzle camera in Y	0.000	mm
347	Optical axis position in X	0	Pix
348	Optical axis position in Y	0	Pix
349	Reference mark thickness	6.63	mm
350	Optical distance	372.00	mm
353	Thermal correction in X	0.0000	mm/°C
354	Thermal correction in Y	0.0000	mm/°C

Head 3\Reject boxes			
355	X coordinate of reject box n° 1	1486.00	mm
356	Y coordinate of reject box n° 1	197.50	mm
357	Z coordinate of reject box n° 1	3.00	mm
358	X coordinate of reject box n° 2	1486.00	mm
359	Y coordinate of reject box n° 2	197.50	mm
360	Z coordinate of reject box n° 2	3.00	mm
361	X coordinate of reject box n° 3	1486.00	mm
362	Y coordinate of reject box n° 3	197.50	mm
363	Z coordinate of reject box n° 3	3.00	mm
364	X coordinate of reject box n° 4	1486.00	mm
365	Y coordinate of reject box n° 4	197.50	mm
366	Z coordinate of reject box n° 4	3.00	mm
367	X coordinate of reject box n° 5	1486.00	mm
368	Y coordinate of reject box n° 5	197.50	mm
369	Z coordinate of reject box n° 5	3.00	mm
370	X coordinate of reject box n° 6	1486.00	mm
371	Y coordinate of reject box n° 6	197.50	mm
372	Z coordinate of reject box n° 6	3.00	mm
373	X coordinate of reject box n° 7	1486.00	mm
374	Y coordinate of reject box n° 7	197.50	mm
375	Z coordinate of reject box n° 7	3.00	mm
376	X coordinate of reject box n° 8	1486.00	mm
377	Y coordinate of reject box n° 8	197.50	mm
378	Z coordinate of reject box n° 8	3.00	mm

Head 3\Electrical test			
409	X Test plate	1917.02	mm
410	Y Test plate	204.22	mm
411	Z Test plate	19.84	mm

Head 3\Miscellaneous			
414	Clearance X coordinate	1501.50	mm
415	Clearance Y coordinate	788.50	mm
416	Pick Up Altitude for demo mode	0.00	mm
420	Minimum X movement with joystick head 1	1500.00	mm
421	Maximum X movement with joystick	1600.00	mm
425	Z detect with fast mode	0.00	mm
426	component test height for pipette n°1	0.53	mm
427	component test height for pipette n°2	0.48	mm
428	component test height for pipette n°3	0.67	mm
429	component test height for pipette n°4	0.55	mm
430	component test height for pipette n°5	0.57	mm
431	component test height for pipette n°6	0.58	mm
432	component test height for pipette n°7	0.52	mm
433	component test height for pipette n°8	0.45	mm

Head 3\Pipette card			
379	Configuration transmitter gain	1	
380	Optical captor gain n° 1	225	
381	Optical captor gain n° 2	224	
382	Optical captor gain n° 3	233	
383	Optical captor gain n° 4	225	
384	Optical captor gain n° 5	233	
385	Optical captor gain n° 6	235	
386	Optical captor gain n° 7	230	
387	Optical captor gain n° 8	232	
388	High+Glancing Mode : High gain	200	
389	High+Glancing Mode : Low gain	200	
390	High mode : High gain	200	
391	High mode : Low gain	0	
392	Glancing Mode : High gain	0	
393	Glancing Mode : Low gain	200	

Head 3\Vision card (front camera)			
394	Back lighting gain	100	
397	Intermediate lighting gain	100	
395	Front lighting gain	100	
396	Glancing lighting gain	100	
398	Free 2	0	
399	Free 3	0	
400	Free 4	0	
401	Free 5	0	
402	Free 6	0	
403	Free 7	0	
404	Free 8	0	
405	Free 9	0	
406	Free 10	0	
407	Free 11	0	
408	Free 12	0	

Head 3\Vision card (back camera)			
549	Back lighting gain	100	
552	Intermediate lighting gain	100	
550	Front lighting gain	100	
551	Glancing lighting gain	100	
553	Free 2	0	
554	Free 3	0	
555	Free 4	0	
556	Free 5	0	
557	Free 6	0	
558	Free 7	0	
559	Free 8	0	
560	Free 9	0	
561	Free 10	0	
562	Free 11	0	
563	Free 12	0	

Head 4\General parameters			
0	Distance X between each pipette	19.60	mm
1	Distance Y between each pipette	25.00	mm
2	X reference coordinate	2361.81	mm
3	Y reference coordinate	254.26	mm
631	X coordinate for pipette heads obstacle (0 if no obstacle)	0.000	mm
632	Z coordinate for pipette heads obstacle (0 if no obstacle)	0.000	mm

Head 4\Axis			
4	X axis maximum dimension	5262000	Inc
5	Y axis maximum dimension	1958000	Inc
6	Z axis maximum dimension	28000	Inc
7	Theta axis maximum dimension	175000	Inc
10	Theta stop thickness	0	Inc
11	Theta axis position for component pick up	87500	Inc
12	Number of increment by encoder loop, Theta axis	51200	Inc
13	Systematic correction theta during initialisation	8000	Inc

Head 4\Offset nozzle/reference mark			
163	Offset nozzle/reference point in X - Front	-110.00	mm
164	Offset nozzle/reference point in Y - Front	40.85	mm
165	Offset nozzle/reference point in X - Rear	-110.10	mm
166	Offset nozzle/reference point in Y - Rear	-111.96	mm

Head 4\Feeder - Zones			
449	Zone 40, beginning coordinate	1972.50	mm
450	Zone 40, end coordinate	2323.50	mm
451	Zone 40, coordinate in Y	16.50	mm
452	Zone 40, Average pick up altitude	20.42	mm
453	Zone 50, beginning coordinate	2325.00	mm
454	Zone 50, end coordinate	1974.00	mm
455	Zone 50, coordinate in Y	962.52	mm
456	Zone 50, Average pick up altitude	20.39	mm

Head 4\Nozzle magazine 4			
633	X coordinate of the nozzle magazine	2196.92	mm
634	Y coordinate of the nozzle magazine mark	140.95	mm
635	X coordinate of the first nozzle, first row (Digit)	2215.28	mm
636	Y coordinate of the first nozzle, first row (Digit)	152.97	mm
473	First nozzle first row coordinate in X (CN)	2214.86	mm
474	First nozzle first row coordinate in Y (CN)	152.94	mm
475	Nozzle exchange altitude	24.21	mm
477	Offset X between nozzles	19.60	mm
478	Offset Y between nozzles	18.00	mm
480	Number of column in X	10	
479	Number of row in Y	4	
481	Orientation	180.00	°

Head 4\Nozzle magazine 5			
637	X coordinate of the nozzle magazine	2196.70	mm
638	Y coordinate of the nozzle magazine mark	752.06	mm
639	X coordinate of the first nozzle, first row (Digit)	2215.15	mm
640	Y coordinate of the first nozzle, first row (Digit)	764.01	mm
482	First nozzle first row coordinate in X (CN)	2214.89	mm
483	First nozzle first row coordinate in Y (CN)	763.98	mm
484	Nozzle exchange altitude	24.81	mm
486	Offset X between nozzles	19.60	mm
487	Offset Y between nozzles	18.00	mm
489	Number of column in X	10	
488	Number of row in Y	4	
490	Orientation	180.00	°

Head 4\Pick-up			
15	Feed time synchro value	40	ms

Head 4\Placement			
16	Placement altitude	25.05	mm
18	Z altitude for calibration plate	24.56	mm
19	Offset for fast placement	0.0000	mm

Head 4\Vision			
22	X vision speed	500	mm/s
23	Y vision speed	1500	mm/s

Head 4\Front camera			
26	Calibration disk diameter	15.00	mm
27	Pixel dimension in X	0.03167	mm
28	Pixel dimension in Y	0.03161	mm
29	Gain	20	
30	Offset	30	
31	Binary threshold	120	NG
32	Minimum contrast threshold	15	NG
33	Camera angle	179.92	°
629	Camera angle (parked mode)	180.02	°
34	Image dimension in X	2560	Pix
35	Image dimension in Y	1920	Pix
36	Cross position in X	1280	Pix
37	Cross position in Y	960	Pix
40	Serial number	23193039	
90	X coordinate of the front camera	2094.18	mm
91	Y coordinate of the front camera	166.57	mm
92	Z coordinate of the back camera	8.50	mm
93	Security maximum altitude	0.00	mm
335	X coordinate of the reference mark 1	673.00	Pix
336	Y coordinate of the reference mark 1	963.05	Pix
337	X coordinate of the reference mark 2	1886.98	Pix
338	Y coordinate of the reference mark 2	957.00	Pix

Head 4\PCB camera			
41	Calibration disk diameter	2.00	mm
42	Pixel dimension in X	0.01773	mm
43	Pixel dimension in Y	0.01763	mm
44	Gain	50	
45	Offset	50	
46	Binary threshold	100	NG
47	Minimum contrast threshold	20	NG
48	Camera angle	0.07	°
49	Image dimension in X	1280	Pix
50	Image dimension in Y	960	Pix
51	Cross position in X	640	Pix
52	Cross position in Y	480	Pix
53	Serial number	23664174	

Head 4\Back camera			
94	X coordinate of the back camera	2094.29	mm
95	Y coordinate of the back camera	777.71	mm
97	Calibration disk diameter	15.00	mm
98	Pixel dimension in X	0.03181	mm
99	Pixel dimension in Y	0.03170	mm
100	Gain	15	
101	Offset	30	
102	Binary threshold	120	NG
103	Minimum contrast threshold	15	NG
104	Camera angle	-0.18	°
630	Camera angle (parked mode)	-0.09	°
105	Image dimension in X	2560	Pix
106	Image dimension in Y	1920	Pix
107	Cross position in X	1280	Pix
108	Cross position in Y	960	Pix
109	Serial number	23342787	
339	X coordinate of the reference mark 1	1884.73	Pix
340	Y coordinate of the reference mark 1	958.02	Pix
341	X coordinate of the reference mark 2	675.17	Pix
342	Y coordinate of the reference mark 2	962.00	Pix

Head 4\Correction			
115	X offset, Pipette n° 1	-0.000	mm
116	Y offset, Pipette n° 1	0.000	mm
117	Z offset, Pipette n° 1	0.00	mm
118	X offset, Pipette n° 2	0.003	mm
119	Y offset, Pipette n° 2	0.008	mm
120	Z offset, Pipette n° 2	0.00	mm
121	X offset, Pipette n° 3	0.002	mm
122	Y offset, Pipette n° 3	-0.019	mm
123	Z offset, Pipette n° 3	0.00	mm
124	X offset, Pipette n° 4	-0.002	mm
125	Y offset, Pipette n° 4	-0.017	mm
126	Z offset, Pipette n° 4	0.00	mm
127	X offset, Pipette n° 5	0.025	mm
128	Y offset, Pipette n° 5	0.029	mm
129	Z offset, Pipette n° 5	0.00	mm
130	X offset, Pipette n° 6	0.029	mm
131	Y offset, Pipette n° 6	0.023	mm
132	Z offset, Pipette n° 6	0.00	mm
133	X offset, Pipette n° 7	0.023	mm
134	Y offset, Pipette n° 7	0.011	mm
135	Z offset, Pipette n° 7	0.00	mm
136	X offset, Pipette n° 8	0.030	mm
137	Y offset, Pipette n° 8	0.019	mm
138	Z offset, Pipette n° 8	0.00	mm

Head 4\Excentricity			
139	Nozzle holder n° 1 in X	0.003	mm
140	Nozzle holder n° 1 in Y	0.017	mm
141	Nozzle holder n° 2 in X	0.030	mm
142	Nozzle holder n° 2 in Y	-0.041	mm
143	Nozzle holder n° 3 in X	0.025	mm
144	Nozzle holder n° 3 in Y	-0.034	mm
145	Nozzle holder n° 4 in X	0.009	mm
146	Nozzle holder n° 4 in Y	-0.026	mm
147	Nozzle holder n° 5 in X	-0.008	mm
148	Nozzle holder n° 5 in Y	-0.013	mm
149	Nozzle holder n° 6 in X	0.009	mm
150	Nozzle holder n° 6 in Y	0.018	mm
151	Nozzle holder n° 7 in X	-0.010	mm
152	Nozzle holder n° 7 in Y	0.020	mm
153	Nozzle holder n° 8 in X	0.020	mm
154	Nozzle holder n° 8 in Y	0.036	mm

Head 4\Offset reference mark/rotation axis - Single - Front camera			
179	Offset in X, Nozzle holder n° 1	9.827	mm
180	Offset in Y, Nozzle holder n° 1	12.514	mm
181	Offset in X, Nozzle holder n° 2	-9.781	mm
182	Offset in Y, Nozzle holder n° 2	12.531	mm
183	Offset in X, Nozzle holder n° 3	9.704	mm
184	Offset in Y, Nozzle holder n° 3	12.328	mm
185	Offset in X, Nozzle holder n° 4	-9.890	mm
186	Offset in Y, Nozzle holder n° 4	12.355	mm
187	Offset in X, Nozzle holder n° 5	9.774	mm
188	Offset in Y, Nozzle holder n° 5	-12.494	mm
189	Offset in X, Nozzle holder n° 6	-9.825	mm
190	Offset in Y, Nozzle holder n° 6	-12.469	mm
191	Offset in X, Nozzle holder n° 7	9.664	mm
192	Offset in Y, Nozzle holder n° 7	-12.694	mm
193	Offset in X, Nozzle holder n° 8	-9.940	mm
194	Offset in Y, Nozzle holder n° 8	-12.671	mm

Head 4\Offset reference mark/rotation axis - Single - Back camera			
227	Offset in X, Nozzle holder n° 1	9.819	mm
228	Offset in Y, Nozzle holder n° 1	12.515	mm
229	Offset in X, Nozzle holder n° 2	-9.786	mm
230	Offset in Y, Nozzle holder n° 2	12.531	mm
231	Offset in X, Nozzle holder n° 3	9.701	mm
232	Offset in Y, Nozzle holder n° 3	12.330	mm
233	Offset in X, Nozzle holder n° 4	-9.899	mm
234	Offset in Y, Nozzle holder n° 4	12.351	mm
235	Offset in X, Nozzle holder n° 5	9.766	mm
236	Offset in Y, Nozzle holder n° 5	-12.500	mm
237	Offset in X, Nozzle holder n° 6	-9.829	mm
238	Offset in Y, Nozzle holder n° 6	-12.475	mm
239	Offset in X, Nozzle holder n° 7	9.655	mm
240	Offset in Y, Nozzle holder n° 7	-12.694	mm
241	Offset in X, Nozzle holder n° 8	-9.945	mm
242	Offset in Y, Nozzle holder n° 8	-12.688	mm

Head 4\Offset reference mark/rotation axis - Block - Front camera			
203	Offset in X, Nozzle holder n° 1	9.821	mm
204	Offset in Y, Nozzle holder n° 1	12.522	mm
205	Offset in X, Nozzle holder n° 2	-9.779	mm
206	Offset in Y, Nozzle holder n° 2	12.536	mm
207	Offset in X, Nozzle holder n° 3	9.713	mm
208	Offset in Y, Nozzle holder n° 3	12.340	mm
209	Offset in X, Nozzle holder n° 4	-9.883	mm
210	Offset in Y, Nozzle holder n° 4	12.363	mm
211	Offset in X, Nozzle holder n° 5	9.765	mm
212	Offset in Y, Nozzle holder n° 5	-12.482	mm
213	Offset in X, Nozzle holder n° 6	-9.813	mm
214	Offset in Y, Nozzle holder n° 6	-12.439	mm
215	Offset in X, Nozzle holder n° 7	9.662	mm
216	Offset in Y, Nozzle holder n° 7	-12.665	mm
217	Offset in X, Nozzle holder n° 8	-9.928	mm
218	Offset in Y, Nozzle holder n° 8	-12.659	mm

Head 4\Offset reference mark/rotation axis - Block - Back camera			
251	Offset in X, Nozzle holder n° 1	9.810	mm
252	Offset in Y, Nozzle holder n° 1	12.516	mm
253	Offset in X, Nozzle holder n° 2	-9.790	mm
254	Offset in Y, Nozzle holder n° 2	12.526	mm
255	Offset in X, Nozzle holder n° 3	9.709	mm
256	Offset in Y, Nozzle holder n° 3	12.324	mm
257	Offset in X, Nozzle holder n° 4	-9.880	mm
258	Offset in Y, Nozzle holder n° 4	12.347	mm
259	Offset in X, Nozzle holder n° 5	9.761	mm
260	Offset in Y, Nozzle holder n° 5	-12.492	mm
261	Offset in X, Nozzle holder n° 6	-9.836	mm
262	Offset in Y, Nozzle holder n° 6	-12.464	mm
263	Offset in X, Nozzle holder n° 7	9.655	mm
264	Offset in Y, Nozzle holder n° 7	-12.687	mm
265	Offset in X, Nozzle holder n° 8	-9.934	mm
266	Offset in Y, Nozzle holder n° 8	-12.683	mm

Head 4\Head position during calibration			
533	X Position during calibration, pipette n° 1	4671537	Inc
541	Y Position during calibration, pipette n° 1	831681	Inc
534	X Position during calibration, pipette n° 2	4671539	Inc
542	Y Position during calibration, pipette n° 2	831662	Inc
535	X Position during calibration, pipette n° 3	4671544	Inc
543	Y Position during calibration, pipette n° 3	831718	Inc
536	X Position during calibration, pipette n° 4	4671556	Inc
544	Y Position during calibration, pipette n° 4	831713	Inc
537	X Position during calibration, pipette n° 5	4671487	Inc
545	Y Position during calibration, pipette n° 5	781627	Inc
538	X Position during calibration, pipette n° 6	4671482	Inc
546	Y Position during calibration, pipette n° 6	781633	Inc
539	X Position during calibration, pipette n° 7	4671488	Inc
547	Y Position during calibration, pipette n° 7	781668	Inc
540	X Position during calibration, pipette n° 8	4671487	Inc
548	Y Position during calibration, pipette n° 8	781638	Inc

Head 4\Calibration - general parameters			
343	Offset placement axis/PCB camera in X	-108.289	mm
344	Offset placement axis/PCB camera in Y	-12.496	mm
345	Offset placement axis/nozzle camera in X	178.000	mm
346	Offset placement axis/nozzle camera in Y	0.000	mm
347	Optical axis position in X	0	Pix
348	Optical axis position in Y	0	Pix
349	Reference mark thickness	6.61	mm
350	Optical distance	372.00	mm
353	Thermal correction in X	0.0000	mm/°C
354	Thermal correction in Y	0.0000	mm/°C

Head 4\Reject boxes			
355	X coordinate of reject box n° 1	2030.00	mm
356	Y coordinate of reject box n° 1	196.60	mm
357	Z coordinate of reject box n° 1	3.00	mm
358	X coordinate of reject box n° 2	2030.00	mm
359	Y coordinate of reject box n° 2	196.60	mm
360	Z coordinate of reject box n° 2	3.00	mm
361	X coordinate of reject box n° 3	2030.00	mm
362	Y coordinate of reject box n° 3	196.60	mm
363	Z coordinate of reject box n° 3	3.00	mm
364	X coordinate of reject box n° 4	2030.00	mm
365	Y coordinate of reject box n° 4	196.60	mm
366	Z coordinate of reject box n° 4	3.00	mm
367	X coordinate of reject box n° 5	2030.00	mm
368	Y coordinate of reject box n° 5	196.60	mm
369	Z coordinate of reject box n° 5	3.00	mm
370	X coordinate of reject box n° 6	2030.00	mm
371	Y coordinate of reject box n° 6	196.60	mm
372	Z coordinate of reject box n° 6	3.00	mm
373	X coordinate of reject box n° 7	2030.00	mm
374	Y coordinate of reject box n° 7	196.60	mm
375	Z coordinate of reject box n° 7	3.00	mm
376	X coordinate of reject box n° 8	2030.00	mm
377	Y coordinate of reject box n° 8	196.60	mm
378	Z coordinate of reject box n° 8	3.00	mm

Head 4\Electrical test			
409	X Test plate	1916.78	mm
410	Y Test plate	204.30	mm
411	Z Test plate	19.67	mm

Head 4\Miscellaneous			
414	Clearance X coordinate	2202.50	mm
415	Clearance Y coordinate	788.50	mm
416	Pick Up Altitude for demo mode	0.00	mm
420	Minimum X movement with joystick head 1	2000.00	mm
421	Maximum X movement with joystick	2100.00	mm
425	Z detect with fast mode	0.00	mm
426	component test height for pipette n°1	0.52	mm
427	component test height for pipette n°2	0.58	mm
428	component test height for pipette n°3	0.61	mm
429	component test height for pipette n°4	0.61	mm
430	component test height for pipette n°5	0.60	mm
431	component test height for pipette n°6	0.63	mm
432	component test height for pipette n°7	0.49	mm
433	component test height for pipette n°8	0.51	mm

Head 4\Pipette card			
379	Configuration transmitter gain	1	
380	Optical captor gain n° 1	217	
381	Optical captor gain n° 2	222	
382	Optical captor gain n° 3	218	
383	Optical captor gain n° 4	220	
384	Optical captor gain n° 5	224	
385	Optical captor gain n° 6	222	
386	Optical captor gain n° 7	220	
387	Optical captor gain n° 8	224	
388	High+Glancing Mode : High gain	250	
389	High+Glancing Mode : Low gain	250	
390	High mode : High gain	250	
391	High mode : Low gain	0	
392	Glancing Mode : High gain	0	
393	Glancing Mode : Low gain	250	

Head 4\Vision card (front camera)			
394	Back lighting gain	100	
397	Intermediate lighting gain	100	
395	Front lighting gain	100	
396	Glancing lighting gain	100	
398	Free 2	0	
399	Free 3	0	
400	Free 4	0	
401	Free 5	0	
402	Free 6	0	
403	Free 7	0	
404	Free 8	0	
405	Free 9	0	
406	Free 10	0	
407	Free 11	0	
408	Free 12	0	

Head 4\Vision card (back camera)			
549	Back lighting gain	100	
552	Intermediate lighting gain	100	
550	Front lighting gain	100	
551	Glancing lighting gain	100	
553	Free 2	0	
554	Free 3	0	
555	Free 4	0	
556	Free 5	0	
557	Free 6	0	
558	Free 7	0	
559	Free 8	0	
560	Free 9	0	
561	Free 10	0	
562	Free 11	0	
563	Free 12	0	

Motor X1\Rate			
0	Rate 1 ; speed	2000	mm/s
9	Rate 1 ; acceleration	20000	mm/s ²
47	Rate 1 ; jerk	450	mm/s ³
1	Rate 2 ; speed	1200	mm/s
10	Rate 2 ; acceleration	10000	mm/s ²
48	Rate 2 ; jerk	450	mm/s ³
2	Rate 3 ; speed	1200	mm/s
11	Rate 3 ; acceleration	10000	mm/s ²
49	Rate 3 ; jerk	450	mm/s ³
3	Rate 4 ; speed	1200	mm/s
12	Rate 4 ; acceleration	7500	mm/s ²
50	Rate 4 ; jerk	450	mm/s ³
4	Rate 5 ; speed	1200	mm/s
13	Rate 5 ; acceleration	4000	mm/s ²
51	Rate 5 ; jerk	450	mm/s ³
5	Rate 6 ; speed	1200	mm/s
14	Rate 6 ; acceleration	3000	mm/s ²
52	Rate 6 ; jerk	450	mm/s ³
6	Rate 7 ; speed	1200	mm/s
15	Rate 7 ; acceleration	2000	mm/s ²
53	Rate 7 ; jerk	450	mm/s ³
7	Rate 8 ; speed	500	mm/s
16	Rate 8 ; acceleration	1000	mm/s ²
54	Rate 8 ; jerk	450	mm/s ³
8	Rate 9 ; speed	120	mm/s
17	Rate 9 ; acceleration	3000	mm/s ²
55	Rate 9 ; jerk	450	mm/s ³
41	Rate 10 ; speed	100	mm/s
42	Rate 10 ; acceleration	500	mm/s ²
56	Rate 10 ; jerk	450	mm/s ³
40	Joystick slow speed	3	mm/s
32	Joystick slow acceleration	2000	mm/s ²
44	Slow joystick jerk	930	mm/s ³
39	Joystick fast speed	80	mm/s
43	Joystick fast acceleration	2000	mm/s ²
45	Fast joystick jerk	930	mm/s ³
33	Zero search speed	200	mm/s
34	Zero search acceleration	4000	mm/s ²
46	Zero search jerk	930	mm/s ³

Motor X1\Synchro point			
18	Reference synchro. point 1	End	
22	Synchro point value 1	27	ms
19	Reference synchro. point 2	End	
23	Synchro point value 2	0	ms
57	Reference synchro. point 3	End	
69	Synchro point value 3	0	ms
58	Reference synchro. point 4	End	
70	Synchro point value 4	0	ms
59	Reference synchro. point 5	End	
71	Synchro point value 5	0	ms

Motor X1\General parameters			
64	Maximum dimension for positive displacement	3754000	Inc
65	Minimum dimension for positive displacement	800	Inc
66	Maximum dimension for zero search	3804000	Inc
67	Minimum dimension for zero search	3804000	Inc
90	Zero search coordinate	400000	Inc
91	Zero search range	99000	Inc
36	Zero encoder coordinate	465227	Inc
63	Total number of encoder increments	40000	Inc
35	Number of increments per joystick step	20	Inc
68	Encoder resolution	2000	Inc/mm

Motor X1\Digital filter			
24	Proportional coefficient kp	500	
25	Integrative coefficient ki	1	
26	Derivative coefficient	5000	
27	Integration limit	2000	
28	Velocity scale factor	0	
29	Inertia compensation	13000	
31	Drag limit	500	
37	Time delay before integration	10	ms
38	Stabilisation delay	5	ms
30	Static coefficient reduction	0	%
88	Static coefficient reduction threshold	0	
89	Joystick coefficient reduction	0	%

Motor Y1\Rate			
0	Rate 1 ; speed	2000	mm/s
9	Rate 1 ; acceleration	20000	mm/s ²
47	Rate 1 ; jerk	1000	mm/s ³
1	Rate 2 ; speed	1200	mm/s
10	Rate 2 ; acceleration	10000	mm/s ²
48	Rate 2 ; jerk	500	mm/s ³
2	Rate 3 ; speed	1200	mm/s
11	Rate 3 ; acceleration	8000	mm/s ²
49	Rate 3 ; jerk	500	mm/s ³
3	Rate 4 ; speed	1200	mm/s
12	Rate 4 ; acceleration	6000	mm/s ²
50	Rate 4 ; jerk	500	mm/s ³
4	Rate 5 ; speed	1200	mm/s
13	Rate 5 ; acceleration	4000	mm/s ²
51	Rate 5 ; jerk	500	mm/s ³
5	Rate 6 ; speed	1200	mm/s
14	Rate 6 ; acceleration	3000	mm/s ²
52	Rate 6 ; jerk	500	mm/s ³
6	Rate 7 ; speed	1200	mm/s
15	Rate 7 ; acceleration	2000	mm/s ²
53	Rate 7 ; jerk	500	mm/s ³
7	Rate 8 ; speed	500	mm/s
16	Rate 8 ; acceleration	1200	mm/s ²
54	Rate 8 ; jerk	500	mm/s ³
8	Rate 9 ; speed	120	mm/s
17	Rate 9 ; acceleration	3000	mm/s ²
55	Rate 9 ; jerk	500	mm/s ³
41	Rate 10 ; speed	100	mm/s
42	Rate 10 ; acceleration	500	mm/s ²
56	Rate 10 ; jerk	500	mm/s ³
40	Joystick slow speed	3	mm/s
32	Joystick slow acceleration	2000	mm/s ²
44	Slow joystick jerk	600	mm/s ³
39	Joystick fast speed	81	mm/s
43	Joystick fast acceleration	2000	mm/s ²
45	Fast joystick jerk	600	mm/s ³
33	Zero search speed	200	mm/s
34	Zero search acceleration	4000	mm/s ²
46	Zero search jerk	600	mm/s ³

Motor Y1\Synchro point			
18	Reference synchro. point 1	End	
22	Synchro point value 1	27	ms
19	Reference synchro. point 2	End	
23	Synchro point value 2	0	ms
57	Reference synchro. point 3	End	
69	Synchro point value 3	0	ms
58	Reference synchro. point 4	End	
70	Synchro point value 4	0	ms
59	Reference synchro. point 5	End	
71	Synchro point value 5	0	ms

Motor Y1\General parameters			
64	Maximum dimension for positive displacement	1958000	Inc
65	Minimum dimension for positive displacement	0	Inc
66	Maximum dimension for zero search	1960000	Inc
67	Minimum dimension for zero search	1960000	Inc
90	Zero search coordinate	61000	Inc
91	Zero search range	40000	Inc
36	Zero encoder coordinate	169608	Inc
63	Total number of encoder increments	20000	Inc
35	Number of increments per joystick step	10	Inc
68	Encoder resolution	2000	Inc/mm

Motor Y1\Digital filter			
24	Proportional coefficient kp	1500	
25	Integrative coefficient ki	10	
26	Derivative coefficient	5000	
27	Integration limit	2000	
28	Velocity scale factor	30	
29	Inertia compensation	14000	
31	Drag limit	2000	
37	Time delay before integration	10	ms
38	Stabilisation delay	5	ms
30	Static coefficient reduction	0	%
88	Static coefficient reduction threshold	0	
89	Joystick coefficient reduction	0	%

Motor Z1\Rate			
0	Rate 1 ; speed	600	mm/s
9	Rate 1 ; acceleration	40000	mm/s ²
47	Rate 1 ; jerk	1000	mm/s ³
95	Rate 1 ; drag error	40	Inc
1	Rate 2 ; speed	500	mm/s
10	Rate 2 ; acceleration	40000	mm/s ²
48	Rate 2 ; jerk	1000	mm/s ³
96	Rate 2 ; drag error	40	Inc
2	Rate 3 ; speed	500	mm/s
11	Rate 3 ; acceleration	40000	mm/s ²
49	Rate 3 ; jerk	1000	mm/s ³
97	Rate 3 ; drag error	40	Inc
3	Rate 4 ; speed	500	mm/s
12	Rate 4 ; acceleration	40000	mm/s ²
50	Rate 4 ; jerk	1000	mm/s ³
98	Rate 4 ; drag error	40	Inc
4	Rate 5 ; speed	400	mm/s
13	Rate 5 ; acceleration	30000	mm/s ²
51	Rate 5 ; jerk	1000	mm/s ³
99	Rate 5 ; drag error	40	Inc
5	Rate 6 ; speed	400	mm/s
14	Rate 6 ; acceleration	30000	mm/s ²
52	Rate 6 ; jerk	1000	mm/s ³
100	Rate 6 ; drag error	40	Inc
6	Rate 7 ; speed	400	mm/s
15	Rate 7 ; acceleration	20000	mm/s ²
53	Rate 7 ; jerk	1000	mm/s ³
101	Rate 7 ; drag error	40	Inc
7	Rate 8 ; speed	400	mm/s
16	Rate 8 ; acceleration	5000	mm/s ²
54	Rate 8 ; jerk	1000	mm/s ³
102	Rate 8 ; drag error	40	Inc
8	Initialization speed	200	mm/s
17	Initialization acceleration	20000	mm/s ²
55	Initialization jerk	1000	mm/s ³
103	Drag error for initialization	40	Inc
41	Z contact speed	50	mm/s
42	Z contact acceleration	10000	mm/s ²
56	Z contact jerk	1000	mm/s ³
104	Drag error for z contact	40	Inc
92	Nozzles changing speed	600	mm/s
93	Nozzles changing acceleration	40000	mm/s ²
94	Nozzles changing jerk	1000	mm/s ³
105	Nozzles changing drag value	40	Inc
121	Z Run speed fast placement	400	mm/s
122	Z Run acceleration fast placement	10000	mm/s ²
123	Z Run jerk fast placement	1000	mm/s ³
124	Z Run drag error fast placement	40	Inc

Motor Z1\Synchro point			
18	Reference synchro. point 1	Beginning	
22	Synchro point value 1	20	ms
19	Reference synchro. point 2	End	
23	Synchro point value 2	0	ms
57	Reference synchro. point 3	End	
69	Synchro point value 3	0	ms
58	Reference synchro. point 4	End	
70	Synchro point value 4	0	ms
59	Reference synchro. point 5	End	
71	Synchro point value 5	0	ms

Motor Z1\General parameters			
64	Maximum dimension for positive displacement	28000	Inc
65	Minimum dimension for positive displacement	0	Inc
66	Maximum dimension for zero search	28000	Inc
67	Minimum dimension for zero search	28000	Inc
90	Zero search coordinate	500	Inc
91	Zero search range	156	Inc
36	Zero encoder coordinate - Pipette 1	500	Inc
114	Zero encoder coordinate - Pipette 2	427	Inc
115	Zero encoder coordinate - Pipette 3	473	Inc
116	Zero encoder coordinate - Pipette 4	517	Inc
117	Zero encoder coordinate - Pipette 5	502	Inc
118	Zero encoder coordinate - Pipette 6	512	Inc
119	Zero encoder coordinate - Pipette 7	532	Inc
120	Zero encoder coordinate - Pipette 8	551	Inc
63	Total number of encoder increments	15000	Inc
35	Number of increments per joystick step	3	Inc
68	Encoder resolution	1000	Inc/mm
106	Maximum time to maximum current	500	ms
107	Maximum current	600	
129	Z zero security sensor altitude - Pipette 1	1208	Inc
130	Z zero security sensor altitude - Pipette 2	1371	Inc
131	Z zero security sensor altitude - Pipette 3	1402	Inc
132	Z zero security sensor altitude - Pipette 4	1262	Inc
133	Z zero security sensor altitude - Pipette 5	1398	Inc
134	Z zero security sensor altitude - Pipette 6	1280	Inc
135	Z zero security sensor altitude - Pipette 7	1394	Inc
136	Z zero security sensor altitude - Pipette 8	1279	Inc

Motor Z1\Digital filter			
24	Proportional coefficient kp	3	
25	Integrative coefficient ki	7	
26	Derivative coefficient	35	
27	Integration limit	2560	
28	Velocity scale factor	1	
108	Inertia compensation KL1 (ACC)	600	
109	Inertia compensation KL2 (ACC)	600	
110	Lag limit before X,Y clearance	200	
31	Drag limit	2000	
111	Delta for drag error test	500	
37	Time delay before integration	10	ms
30	Friction force compensation	10	

Motor O1\Rate			
0	Rate 1 ; speed	4000	mm/s
9	Rate 1 ; acceleration	540000	mm/s ²
47	Rate 1 ; jerk	1000	mm/s ³
95	Rate 1 ; drag error	1	Inc
1	Rate 2 ; speed	3600	mm/s
10	Rate 2 ; acceleration	40000	mm/s ²
48	Rate 2 ; jerk	1000	mm/s ³
96	Rate 2 ; drag error	2	Inc
2	Rate 3 ; speed	1000	mm/s
11	Rate 3 ; acceleration	20000	mm/s ²
49	Rate 3 ; jerk	1000	mm/s ³
97	Rate 3 ; drag error	3	Inc
3	Rate 4 ; speed	1000	mm/s
12	Rate 4 ; acceleration	40000	mm/s ²
50	Rate 4 ; jerk	1000	mm/s ³
98	Rate 4 ; drag error	0	Inc
4	Rate 5 ; speed	500	mm/s
13	Rate 5 ; acceleration	40000	mm/s ²
51	Rate 5 ; jerk	1000	mm/s ³
99	Rate 5 ; drag error	0	Inc
5	Rate 6 ; speed	200	mm/s
14	Rate 6 ; acceleration	40000	mm/s ²
52	Rate 6 ; jerk	1000	mm/s ³
100	Rate 6 ; drag error	0	Inc
6	Rate 7 ; speed	600	mm/s
15	Rate 7 ; acceleration	20000	mm/s ²
53	Rate 7 ; jerk	1000	mm/s ³
101	Rate 7 ; drag error	0	Inc
7	Rate 8 ; speed	500	mm/s
16	Rate 8 ; acceleration	20000	mm/s ²
54	Rate 8 ; jerk	1000	mm/s ³
102	Rate 8 ; drag error	0	Inc
8	Rate 9 ; speed	400	mm/s
17	Rate 9 ; acceleration	10000	mm/s ²
55	Rate 9 ; jerk	1000	mm/s ³
103	Rate 9 ; drag error	0	Inc
41	Rate 10 ; speed	100	mm/s
42	Rate 10 ; acceleration	10000	mm/s ²
56	Rate 10 ; jerk	1000	mm/s ³
104	Rate 10 ; drag error	0	Inc
92	Nozzles changing speed	100	mm/s
93	Nozzles changing acceleration	10000	mm/s ²
94	Nozzles changing jerk	1000	mm/s ³
105	Nozzles changing drag value	0	Inc
121	Rate 10 ; speed	0	mm/s
122	Rate 10 ; acceleration	0	mm/s ²
123	Rate 10 ; jerk	0	mm/s ³
124	Rate 10 ; drag error	0	Inc

Motor O1\Synchro point			
18	Reference synchro. point 1	End	
22	Synchro point value 1	30	ms
19	Reference synchro. point 2	End	
23	Synchro point value 2	0	ms
57	Reference synchro. point 3	End	
69	Synchro point value 3	0	ms
58	Reference synchro. point 4	End	
70	Synchro point value 4	0	ms
59	Reference synchro. point 5	End	
71	Synchro point value 5	0	ms

Motor O1\General parameters			
64	Maximum dimension for positive displacement	175000	Inc
65	Minimum dimension for positive displacement	0	Inc
66	Maximum dimension for zero search	51200	Inc
67	Minimum dimension for zero search	51200	Inc
90	Zero search coordinate	0	Inc
91	Zero search range	0	Inc
36	Zero encoder coordinate	7000	Inc
63	Total number of encoder increments	8000	Inc
35	Number of increments per joystick step	2	Inc
68	Encoder resolution	142	Inc/mm
106	Maximum time to maximum current	0	ms
107	Maximum current	0	

Motor O1\Digital filter			
24	Proportional coefficient kp	3	
25	Integrative coefficient ki	4	
26	Derivative coefficient	25	
27	Integration limit	2560	
28	Velocity scale factor	1	
108	Inertia compensation KL1 (ACC)	600	
109	Inertia compensation KL2 (ACC)	600	
110	Lag limit before X,Y clearance	0	
31	Drag limit	5000	
111	Delta for drag error test	0	
37	Time delay before integration	0	ms
30	Friction force compensation	170	

Motor X2\Rate			
0	Rate 1 ; speed	2000	mm/s
9	Rate 1 ; acceleration	20000	mm/s ²
47	Rate 1 ; jerk	450	mm/s ³
1	Rate 2 ; speed	1200	mm/s
10	Rate 2 ; acceleration	10000	mm/s ²
48	Rate 2 ; jerk	450	mm/s ³
2	Rate 3 ; speed	1200	mm/s
11	Rate 3 ; acceleration	10000	mm/s ²
49	Rate 3 ; jerk	450	mm/s ³
3	Rate 4 ; speed	1200	mm/s
12	Rate 4 ; acceleration	7500	mm/s ²
50	Rate 4 ; jerk	450	mm/s ³
4	Rate 5 ; speed	1200	mm/s
13	Rate 5 ; acceleration	4000	mm/s ²
51	Rate 5 ; jerk	450	mm/s ³
5	Rate 6 ; speed	1200	mm/s
14	Rate 6 ; acceleration	3000	mm/s ²
52	Rate 6 ; jerk	450	mm/s ³
6	Rate 7 ; speed	1200	mm/s
15	Rate 7 ; acceleration	2000	mm/s ²
53	Rate 7 ; jerk	450	mm/s ³
7	Rate 8 ; speed	500	mm/s
16	Rate 8 ; acceleration	1000	mm/s ²
54	Rate 8 ; jerk	450	mm/s ³
8	Rate 9 ; speed	120	mm/s
17	Rate 9 ; acceleration	3000	mm/s ²
55	Rate 9 ; jerk	450	mm/s ³
41	Rate 10 ; speed	100	mm/s
42	Rate 10 ; acceleration	500	mm/s ²
56	Rate 10 ; jerk	450	mm/s ³
40	Joystick slow speed	3	mm/s
32	Joystick slow acceleration	2000	mm/s ²
44	Slow joystick jerk	930	mm/s ³
39	Joystick fast speed	80	mm/s
43	Joystick fast acceleration	2000	mm/s ²
45	Fast joystick jerk	930	mm/s ³
33	Zero search speed	200	mm/s
34	Zero search acceleration	4000	mm/s ²
46	Zero search jerk	930	mm/s ³

Motor X2\Synchro point			
18	Reference synchro. point 1	End	
22	Synchro point value 1	27	ms
19	Reference synchro. point 2	End	
23	Synchro point value 2	0	ms
57	Reference synchro. point 3	End	
69	Synchro point value 3	0	ms
58	Reference synchro. point 4	End	
70	Synchro point value 4	0	ms
59	Reference synchro. point 5	End	
71	Synchro point value 5	0	ms

Motor X2\General parameters			
64	Maximum dimension for positive displacement	4370000	Inc
65	Minimum dimension for positive displacement	0	Inc
66	Maximum dimension for zero search	4432000	Inc
67	Minimum dimension for zero search	4432000	Inc
90	Zero search coordinate	100000	Inc
91	Zero search range	99000	Inc
36	Zero encoder coordinate	914234	Inc
63	Total number of encoder increments	40000	Inc
35	Number of increments per joystick step	20	Inc
68	Encoder resolution	2000	Inc/mm

Motor X2\Digital filter			
24	Proportional coefficient kp	500	
25	Integrative coefficient ki	1	
26	Derivative coefficient	5000	
27	Integration limit	2000	
28	Velocity scale factor	0	
29	Inertia compensation	13000	
31	Drag limit	500	
37	Time delay before integration	10	ms
38	Stabilisation delay	5	ms
30	Static coefficient reduction	0	%
88	Static coefficient reduction threshold	0	
89	Joystick coefficient reduction	0	%

Motor Y2\Rate			
0	Rate 1 ; speed	2000	mm/s
9	Rate 1 ; acceleration	20000	mm/s ²
47	Rate 1 ; jerk	1000	mm/s ³
1	Rate 2 ; speed	1200	mm/s
10	Rate 2 ; acceleration	10000	mm/s ²
48	Rate 2 ; jerk	500	mm/s ³
2	Rate 3 ; speed	1200	mm/s
11	Rate 3 ; acceleration	8000	mm/s ²
49	Rate 3 ; jerk	500	mm/s ³
3	Rate 4 ; speed	1200	mm/s
12	Rate 4 ; acceleration	6000	mm/s ²
50	Rate 4 ; jerk	500	mm/s ³
4	Rate 5 ; speed	1200	mm/s
13	Rate 5 ; acceleration	4000	mm/s ²
51	Rate 5 ; jerk	500	mm/s ³
5	Rate 6 ; speed	1200	mm/s
14	Rate 6 ; acceleration	3000	mm/s ²
52	Rate 6 ; jerk	500	mm/s ³
6	Rate 7 ; speed	1200	mm/s
15	Rate 7 ; acceleration	2000	mm/s ²
53	Rate 7 ; jerk	500	mm/s ³
7	Rate 8 ; speed	500	mm/s
16	Rate 8 ; acceleration	1200	mm/s ²
54	Rate 8 ; jerk	500	mm/s ³
8	Rate 9 ; speed	120	mm/s
17	Rate 9 ; acceleration	3000	mm/s ²
55	Rate 9 ; jerk	500	mm/s ³
41	Rate 10 ; speed	100	mm/s
42	Rate 10 ; acceleration	500	mm/s ²
56	Rate 10 ; jerk	500	mm/s ³
40	Joystick slow speed	3	mm/s
32	Joystick slow acceleration	2000	mm/s ²
44	Slow joystick jerk	600	mm/s ³
39	Joystick fast speed	81	mm/s
43	Joystick fast acceleration	2000	mm/s ²
45	Fast joystick jerk	600	mm/s ³
33	Zero search speed	200	mm/s
34	Zero search acceleration	4000	mm/s ²
46	Zero search jerk	600	mm/s ³

Motor Y2\Synchro point			
18	Reference synchro. point 1	End	
22	Synchro point value 1	27	ms
19	Reference synchro. point 2	End	
23	Synchro point value 2	0	ms
57	Reference synchro. point 3	End	
69	Synchro point value 3	0	ms
58	Reference synchro. point 4	End	
70	Synchro point value 4	0	ms
59	Reference synchro. point 5	End	
71	Synchro point value 5	0	ms

Motor Y2\General parameters			
64	Maximum dimension for positive displacement	1958000	Inc
65	Minimum dimension for positive displacement	0	Inc
66	Maximum dimension for zero search	1960000	Inc
67	Minimum dimension for zero search	1960000	Inc
90	Zero search coordinate	100000	Inc
91	Zero search range	40000	Inc
36	Zero encoder coordinate	188751	Inc
63	Total number of encoder increments	20000	Inc
35	Number of increments per joystick step	10	Inc
68	Encoder resolution	2000	Inc/mm

Motor Y2\Digital filter			
24	Proportional coefficient kp	1500	
25	Integrative coefficient ki	10	
26	Derivative coefficient	5000	
27	Integration limit	2000	
28	Velocity scale factor	30	
29	Inertia compensation	14000	
31	Drag limit	2000	
37	Time delay before integration	10	ms
38	Stabilisation delay	5	ms
30	Static coefficient reduction	0	%
88	Static coefficient reduction threshold	0	
89	Joystick coefficient reduction	0	%

Motor Z2\Rate			
0	Rate 1 ; speed	600	mm/s
9	Rate 1 ; acceleration	40000	mm/s ²
47	Rate 1 ; jerk	1000	mm/s ³
95	Rate 1 ; drag error	40	Inc
1	Rate 2 ; speed	500	mm/s
10	Rate 2 ; acceleration	40000	mm/s ²
48	Rate 2 ; jerk	1000	mm/s ³
96	Rate 2 ; drag error	40	Inc
2	Rate 3 ; speed	500	mm/s
11	Rate 3 ; acceleration	40000	mm/s ²
49	Rate 3 ; jerk	1000	mm/s ³
97	Rate 3 ; drag error	40	Inc
3	Rate 4 ; speed	500	mm/s
12	Rate 4 ; acceleration	40000	mm/s ²
50	Rate 4 ; jerk	1000	mm/s ³
98	Rate 4 ; drag error	40	Inc
4	Rate 5 ; speed	400	mm/s
13	Rate 5 ; acceleration	30000	mm/s ²
51	Rate 5 ; jerk	1000	mm/s ³
99	Rate 5 ; drag error	40	Inc
5	Rate 6 ; speed	400	mm/s
14	Rate 6 ; acceleration	30000	mm/s ²
52	Rate 6 ; jerk	1000	mm/s ³
100	Rate 6 ; drag error	40	Inc
6	Rate 7 ; speed	400	mm/s
15	Rate 7 ; acceleration	20000	mm/s ²
53	Rate 7 ; jerk	1000	mm/s ³
101	Rate 7 ; drag error	40	Inc
7	Rate 8 ; speed	400	mm/s
16	Rate 8 ; acceleration	5000	mm/s ²
54	Rate 8 ; jerk	1000	mm/s ³
102	Rate 8 ; drag error	40	Inc
8	Initialization speed	200	mm/s
17	Initialization acceleration	20000	mm/s ²
55	Initialization jerk	1000	mm/s ³
103	Drag error for initialization	40	Inc
41	Z contact speed	50	mm/s
42	Z contact acceleration	10000	mm/s ²
56	Z contact jerk	1000	mm/s ³
104	Drag error for z contact	40	Inc
92	Nozzles changing speed	600	mm/s
93	Nozzles changing acceleration	40000	mm/s ²
94	Nozzles changing jerk	1000	mm/s ³
105	Nozzles changing drag value	40	Inc
121	Z Run speed fast placement	400	mm/s
122	Z Run acceleration fast placement	10000	mm/s ²
123	Z Run jerk fast placement	1000	mm/s ³
124	Z Run drag error fast placement	40	Inc

Motor Z2\Synchro point			
18	Reference synchro. point 1	Beginning	
22	Synchro point value 1	20	ms
19	Reference synchro. point 2	End	
23	Synchro point value 2	0	ms
57	Reference synchro. point 3	End	
69	Synchro point value 3	0	ms
58	Reference synchro. point 4	End	
70	Synchro point value 4	0	ms
59	Reference synchro. point 5	End	
71	Synchro point value 5	0	ms

Motor Z2\General parameters			
64	Maximum dimension for positive displacement	28000	Inc
65	Minimum dimension for positive displacement	0	Inc
66	Maximum dimension for zero search	28000	Inc
67	Minimum dimension for zero search	28000	Inc
90	Zero search coordinate	500	Inc
91	Zero search range	156	Inc
36	Zero encoder coordinate - Pipette 1	500	Inc
114	Zero encoder coordinate - Pipette 2	661	Inc
115	Zero encoder coordinate - Pipette 3	640	Inc
116	Zero encoder coordinate - Pipette 4	628	Inc
117	Zero encoder coordinate - Pipette 5	589	Inc
118	Zero encoder coordinate - Pipette 6	627	Inc
119	Zero encoder coordinate - Pipette 7	649	Inc
120	Zero encoder coordinate - Pipette 8	629	Inc
63	Total number of encoder increments	15000	Inc
35	Number of increments per joystick step	3	Inc
68	Encoder resolution	1000	Inc/mm
106	Maximum time to maximum current	500	ms
107	Maximum current	600	
129	Z zero security sensor altitude - Pipette 1	1311	Inc
130	Z zero security sensor altitude - Pipette 2	1101	Inc
131	Z zero security sensor altitude - Pipette 3	1180	Inc
132	Z zero security sensor altitude - Pipette 4	1215	Inc
133	Z zero security sensor altitude - Pipette 5	1223	Inc
134	Z zero security sensor altitude - Pipette 6	1112	Inc
135	Z zero security sensor altitude - Pipette 7	1284	Inc
136	Z zero security sensor altitude - Pipette 8	1177	Inc

Motor Z2\Digital filter			
24	Proportional coefficient kp	3	
25	Integrative coefficient ki	7	
26	Derivative coefficient	35	
27	Integration limit	2560	
28	Velocity scale factor	1	
108	Inertia compensation KL1 (ACC)	600	
109	Inertia compensation KL2 (ACC)	600	
110	Lag limit before X,Y clearance	200	
31	Drag limit	2000	
111	Delta for drag error test	500	
37	Time delay before integration	10	ms
30	Friction force compensation	10	

Motor O2\Rate			
0	Rate 1 ; speed	4000	mm/s
9	Rate 1 ; acceleration	540000	mm/s ²
47	Rate 1 ; jerk	1000	mm/s ³
95	Rate 1 ; drag error	1	Inc
1	Rate 2 ; speed	3600	mm/s
10	Rate 2 ; acceleration	40000	mm/s ²
48	Rate 2 ; jerk	1000	mm/s ³
96	Rate 2 ; drag error	2	Inc
2	Rate 3 ; speed	1000	mm/s
11	Rate 3 ; acceleration	20000	mm/s ²
49	Rate 3 ; jerk	1000	mm/s ³
97	Rate 3 ; drag error	3	Inc
3	Rate 4 ; speed	1000	mm/s
12	Rate 4 ; acceleration	40000	mm/s ²
50	Rate 4 ; jerk	1000	mm/s ³
98	Rate 4 ; drag error	0	Inc
4	Rate 5 ; speed	500	mm/s
13	Rate 5 ; acceleration	40000	mm/s ²
51	Rate 5 ; jerk	1000	mm/s ³
99	Rate 5 ; drag error	0	Inc
5	Rate 6 ; speed	200	mm/s
14	Rate 6 ; acceleration	40000	mm/s ²
52	Rate 6 ; jerk	1000	mm/s ³
100	Rate 6 ; drag error	0	Inc
6	Rate 7 ; speed	600	mm/s
15	Rate 7 ; acceleration	20000	mm/s ²
53	Rate 7 ; jerk	1000	mm/s ³
101	Rate 7 ; drag error	0	Inc
7	Rate 8 ; speed	500	mm/s
16	Rate 8 ; acceleration	20000	mm/s ²
54	Rate 8 ; jerk	1000	mm/s ³
102	Rate 8 ; drag error	0	Inc
8	Rate 9 ; speed	400	mm/s
17	Rate 9 ; acceleration	10000	mm/s ²
55	Rate 9 ; jerk	1000	mm/s ³
103	Rate 9 ; drag error	0	Inc
41	Rate 10 ; speed	100	mm/s
42	Rate 10 ; acceleration	10000	mm/s ²
56	Rate 10 ; jerk	1000	mm/s ³
104	Rate 10 ; drag error	0	Inc
92	Nozzles changing speed	100	mm/s
93	Nozzles changing acceleration	10000	mm/s ²
94	Nozzles changing jerk	1000	mm/s ³
105	Nozzles changing drag value	0	Inc
121	Rate 10 ; speed	0	mm/s
122	Rate 10 ; acceleration	0	mm/s ²
123	Rate 10 ; jerk	0	mm/s ³
124	Rate 10 ; drag error	0	Inc

Motor O2\Synchro point			
18	Reference synchro. point 1	End	
22	Synchro point value 1	30	ms
19	Reference synchro. point 2	End	
23	Synchro point value 2	0	ms
57	Reference synchro. point 3	End	
69	Synchro point value 3	0	ms
58	Reference synchro. point 4	End	
70	Synchro point value 4	0	ms
59	Reference synchro. point 5	End	
71	Synchro point value 5	0	ms

Motor O2\General parameters			
64	Maximum dimension for positive displacement	175000	Inc
65	Minimum dimension for positive displacement	0	Inc
66	Maximum dimension for zero search	51200	Inc
67	Minimum dimension for zero search	51200	Inc
90	Zero search coordinate	0	Inc
91	Zero search range	0	Inc
36	Zero encoder coordinate	7000	Inc
63	Total number of encoder increments	8000	Inc
35	Number of increments per joystick step	2	Inc
68	Encoder resolution	142	Inc/mm
106	Maximum time to maximum current	0	ms
107	Maximum current	0	

Motor O2\Digital filter			
24	Proportional coefficient kp	3	
25	Integrative coefficient ki	4	
26	Derivative coefficient	25	
27	Integration limit	2560	
28	Velocity scale factor	1	
108	Inertia compensation KL1 (ACC)	600	
109	Inertia compensation KL2 (ACC)	600	
110	Lag limit before X,Y clearance	0	
31	Drag limit	5000	
111	Delta for drag error test	0	
37	Time delay before integration	0	ms
30	Friction force compensation	170	

Motor X3\Rate			
0	Rate 1 ; speed	2000	mm/s
9	Rate 1 ; acceleration	20000	mm/s ²
47	Rate 1 ; jerk	450	mm/s ³
1	Rate 2 ; speed	1200	mm/s
10	Rate 2 ; acceleration	10000	mm/s ²
48	Rate 2 ; jerk	450	mm/s ³
2	Rate 3 ; speed	1200	mm/s
11	Rate 3 ; acceleration	10000	mm/s ²
49	Rate 3 ; jerk	450	mm/s ³
3	Rate 4 ; speed	1200	mm/s
12	Rate 4 ; acceleration	7500	mm/s ²
50	Rate 4 ; jerk	450	mm/s ³
4	Rate 5 ; speed	1200	mm/s
13	Rate 5 ; acceleration	4000	mm/s ²
51	Rate 5 ; jerk	450	mm/s ³
5	Rate 6 ; speed	1200	mm/s
14	Rate 6 ; acceleration	3000	mm/s ²
52	Rate 6 ; jerk	450	mm/s ³
6	Rate 7 ; speed	1200	mm/s
15	Rate 7 ; acceleration	2000	mm/s ²
53	Rate 7 ; jerk	450	mm/s ³
7	Rate 8 ; speed	500	mm/s
16	Rate 8 ; acceleration	1000	mm/s ²
54	Rate 8 ; jerk	450	mm/s ³
8	Rate 9 ; speed	120	mm/s
17	Rate 9 ; acceleration	3000	mm/s ²
55	Rate 9 ; jerk	450	mm/s ³
41	Rate 10 ; speed	100	mm/s
42	Rate 10 ; acceleration	500	mm/s ²
56	Rate 10 ; jerk	450	mm/s ³
40	Joystick slow speed	3	mm/s
32	Joystick slow acceleration	2000	mm/s ²
44	Slow joystick jerk	930	mm/s ³
39	Joystick fast speed	80	mm/s
43	Joystick fast acceleration	2000	mm/s ²
45	Fast joystick jerk	930	mm/s ³
33	Zero search speed	200	mm/s
34	Zero search acceleration	4000	mm/s ²
46	Zero search jerk	930	mm/s ³

Motor X3\Synchro point			
18	Reference synchro. point 1	End	
22	Synchro point value 1	27	ms
19	Reference synchro. point 2	End	
23	Synchro point value 2	0	ms
57	Reference synchro. point 3	End	
69	Synchro point value 3	0	ms
58	Reference synchro. point 4	End	
70	Synchro point value 4	0	ms
59	Reference synchro. point 5	End	
71	Synchro point value 5	0	ms

Motor X3\General parameters			
64	Maximum dimension for positive displacement	4646000	Inc
65	Minimum dimension for positive displacement	800	Inc
66	Maximum dimension for zero search	4820000	Inc
67	Minimum dimension for zero search	4820000	Inc
90	Zero search coordinate	4550000	Inc
91	Zero search range	99000	Inc
36	Zero encoder coordinate	4465665	Inc
63	Total number of encoder increments	40000	Inc
35	Number of increments per joystick step	20	Inc
68	Encoder resolution	2000	Inc/mm

Motor X3\Digital filter			
24	Proportional coefficient kp	500	
25	Integrative coefficient ki	1	
26	Derivative coefficient	5000	
27	Integration limit	2000	
28	Velocity scale factor	0	
29	Inertia compensation	13000	
31	Drag limit	500	
37	Time delay before integration	10	ms
38	Stabilisation delay	5	ms
30	Static coefficient reduction	0	%
88	Static coefficient reduction threshold	0	
89	Joystick coefficient reduction	0	%

Motor Y3\Rate			
0	Rate 1 ; speed	2000	mm/s
9	Rate 1 ; acceleration	20000	mm/s ²
47	Rate 1 ; jerk	1000	mm/s ³
1	Rate 2 ; speed	1200	mm/s
10	Rate 2 ; acceleration	10000	mm/s ²
48	Rate 2 ; jerk	500	mm/s ³
2	Rate 3 ; speed	1200	mm/s
11	Rate 3 ; acceleration	8000	mm/s ²
49	Rate 3 ; jerk	500	mm/s ³
3	Rate 4 ; speed	1200	mm/s
12	Rate 4 ; acceleration	6000	mm/s ²
50	Rate 4 ; jerk	500	mm/s ³
4	Rate 5 ; speed	1200	mm/s
13	Rate 5 ; acceleration	4000	mm/s ²
51	Rate 5 ; jerk	500	mm/s ³
5	Rate 6 ; speed	1200	mm/s
14	Rate 6 ; acceleration	3000	mm/s ²
52	Rate 6 ; jerk	500	mm/s ³
6	Rate 7 ; speed	1200	mm/s
15	Rate 7 ; acceleration	2000	mm/s ²
53	Rate 7 ; jerk	500	mm/s ³
7	Rate 8 ; speed	500	mm/s
16	Rate 8 ; acceleration	1200	mm/s ²
54	Rate 8 ; jerk	500	mm/s ³
8	Rate 9 ; speed	120	mm/s
17	Rate 9 ; acceleration	3000	mm/s ²
55	Rate 9 ; jerk	500	mm/s ³
41	Rate 10 ; speed	100	mm/s
42	Rate 10 ; acceleration	500	mm/s ²
56	Rate 10 ; jerk	500	mm/s ³
40	Joystick slow speed	3	mm/s
32	Joystick slow acceleration	2000	mm/s ²
44	Slow joystick jerk	600	mm/s ³
39	Joystick fast speed	81	mm/s
43	Joystick fast acceleration	2000	mm/s ²
45	Fast joystick jerk	600	mm/s ³
33	Zero search speed	200	mm/s
34	Zero search acceleration	4000	mm/s ²
46	Zero search jerk	600	mm/s ³

Motor Y3\Synchro point			
18	Reference synchro. point 1	End	
22	Synchro point value 1	27	ms
19	Reference synchro. point 2	End	
23	Synchro point value 2	0	ms
57	Reference synchro. point 3	End	
69	Synchro point value 3	0	ms
58	Reference synchro. point 4	End	
70	Synchro point value 4	0	ms
59	Reference synchro. point 5	End	
71	Synchro point value 5	0	ms

Motor Y3\General parameters			
64	Maximum dimension for positive displacement	1958000	Inc
65	Minimum dimension for positive displacement	0	Inc
66	Maximum dimension for zero search	1960000	Inc
67	Minimum dimension for zero search	1960000	Inc
90	Zero search coordinate	61000	Inc
91	Zero search range	40000	Inc
36	Zero encoder coordinate	168908	Inc
63	Total number of encoder increments	20000	Inc
35	Number of increments per joystick step	10	Inc
68	Encoder resolution	2000	Inc/mm

Motor Y3\Digital filter			
24	Proportional coefficient kp	1500	
25	Integrative coefficient ki	10	
26	Derivative coefficient	5000	
27	Integration limit	2000	
28	Velocity scale factor	30	
29	Inertia compensation	14000	
31	Drag limit	2000	
37	Time delay before integration	10	ms
38	Stabilisation delay	5	ms
30	Static coefficient reduction	0	%
88	Static coefficient reduction threshold	0	
89	Joystick coefficient reduction	0	%

Motor Z3\Rate			
0	Rate 1 ; speed	600	mm/s
9	Rate 1 ; acceleration	40000	mm/s ²
47	Rate 1 ; jerk	1000	mm/s ³
95	Rate 1 ; drag error	40	Inc
1	Rate 2 ; speed	500	mm/s
10	Rate 2 ; acceleration	40000	mm/s ²
48	Rate 2 ; jerk	1000	mm/s ³
96	Rate 2 ; drag error	40	Inc
2	Rate 3 ; speed	500	mm/s
11	Rate 3 ; acceleration	40000	mm/s ²
49	Rate 3 ; jerk	1000	mm/s ³
97	Rate 3 ; drag error	40	Inc
3	Rate 4 ; speed	500	mm/s
12	Rate 4 ; acceleration	40000	mm/s ²
50	Rate 4 ; jerk	1000	mm/s ³
98	Rate 4 ; drag error	40	Inc
4	Rate 5 ; speed	400	mm/s
13	Rate 5 ; acceleration	30000	mm/s ²
51	Rate 5 ; jerk	1000	mm/s ³
99	Rate 5 ; drag error	40	Inc
5	Rate 6 ; speed	400	mm/s
14	Rate 6 ; acceleration	30000	mm/s ²
52	Rate 6 ; jerk	1000	mm/s ³
100	Rate 6 ; drag error	40	Inc
6	Rate 7 ; speed	400	mm/s
15	Rate 7 ; acceleration	20000	mm/s ²
53	Rate 7 ; jerk	1000	mm/s ³
101	Rate 7 ; drag error	40	Inc
7	Rate 8 ; speed	400	mm/s
16	Rate 8 ; acceleration	5000	mm/s ²
54	Rate 8 ; jerk	1000	mm/s ³
102	Rate 8 ; drag error	40	Inc
8	Initialization speed	200	mm/s
17	Initialization acceleration	20000	mm/s ²
55	Initialization jerk	1000	mm/s ³
103	Drag error for initialization	40	Inc
41	Z contact speed	50	mm/s
42	Z contact acceleration	10000	mm/s ²
56	Z contact jerk	1000	mm/s ³
104	Drag error for z contact	40	Inc
92	Nozzles changing speed	600	mm/s
93	Nozzles changing acceleration	40000	mm/s ²
94	Nozzles changing jerk	1000	mm/s ³
105	Nozzles changing drag value	40	Inc
121	Z Run speed fast placement	400	mm/s
122	Z Run acceleration fast placement	10000	mm/s ²
123	Z Run jerk fast placement	1000	mm/s ³
124	Z Run drag error fast placement	40	Inc

Motor Z3\Synchro point			
18	Reference synchro. point 1	Beginning	
22	Synchro point value 1	20	ms
19	Reference synchro. point 2	End	
23	Synchro point value 2	0	ms
57	Reference synchro. point 3	End	
69	Synchro point value 3	0	ms
58	Reference synchro. point 4	End	
70	Synchro point value 4	0	ms
59	Reference synchro. point 5	End	
71	Synchro point value 5	0	ms

Motor Z3\General parameters			
64	Maximum dimension for positive displacement	28000	Inc
65	Minimum dimension for positive displacement	0	Inc
66	Maximum dimension for zero search	28000	Inc
67	Minimum dimension for zero search	28000	Inc
90	Zero search coordinate	500	Inc
91	Zero search range	156	Inc
36	Zero encoder coordinate - Pipette 1	500	Inc
114	Zero encoder coordinate - Pipette 2	410	Inc
115	Zero encoder coordinate - Pipette 3	392	Inc
116	Zero encoder coordinate - Pipette 4	376	Inc
117	Zero encoder coordinate - Pipette 5	464	Inc
118	Zero encoder coordinate - Pipette 6	457	Inc
119	Zero encoder coordinate - Pipette 7	378	Inc
120	Zero encoder coordinate - Pipette 8	429	Inc
63	Total number of encoder increments	15000	Inc
35	Number of increments per joystick step	3	Inc
68	Encoder resolution	1000	Inc/mm
106	Maximum time to maximum current	500	ms
107	Maximum current	600	
129	Z zero security sensor altitude - Pipette 1	1224	Inc
130	Z zero security sensor altitude - Pipette 2	1448	Inc
131	Z zero security sensor altitude - Pipette 3	1530	Inc
132	Z zero security sensor altitude - Pipette 4	1241	Inc
133	Z zero security sensor altitude - Pipette 5	1279	Inc
134	Z zero security sensor altitude - Pipette 6	1266	Inc
135	Z zero security sensor altitude - Pipette 7	1517	Inc
136	Z zero security sensor altitude - Pipette 8	1449	Inc

Motor Z3\Digital filter			
24	Proportional coefficient kp	3	
25	Integrative coefficient ki	7	
26	Derivative coefficient	35	
27	Integration limit	2560	
28	Velocity scale factor	1	
108	Inertia compensation KL1 (ACC)	600	
109	Inertia compensation KL2 (ACC)	600	
110	Lag limit before X,Y clearance	200	
31	Drag limit	2000	
111	Delta for drag error test	500	
37	Time delay before integration	10	ms
30	Friction force compensation	10	

Motor O3\Rate			
0	Rate 1 ; speed	4000	mm/s
9	Rate 1 ; acceleration	540000	mm/s ²
47	Rate 1 ; jerk	1000	mm/s ³
95	Rate 1 ; drag error	1	Inc
1	Rate 2 ; speed	3600	mm/s
10	Rate 2 ; acceleration	40000	mm/s ²
48	Rate 2 ; jerk	1000	mm/s ³
96	Rate 2 ; drag error	2	Inc
2	Rate 3 ; speed	1000	mm/s
11	Rate 3 ; acceleration	20000	mm/s ²
49	Rate 3 ; jerk	1000	mm/s ³
97	Rate 3 ; drag error	3	Inc
3	Rate 4 ; speed	1000	mm/s
12	Rate 4 ; acceleration	40000	mm/s ²
50	Rate 4 ; jerk	1000	mm/s ³
98	Rate 4 ; drag error	0	Inc
4	Rate 5 ; speed	500	mm/s
13	Rate 5 ; acceleration	40000	mm/s ²
51	Rate 5 ; jerk	1000	mm/s ³
99	Rate 5 ; drag error	0	Inc
5	Rate 6 ; speed	200	mm/s
14	Rate 6 ; acceleration	40000	mm/s ²
52	Rate 6 ; jerk	1000	mm/s ³
100	Rate 6 ; drag error	0	Inc
6	Rate 7 ; speed	600	mm/s
15	Rate 7 ; acceleration	20000	mm/s ²
53	Rate 7 ; jerk	1000	mm/s ³
101	Rate 7 ; drag error	0	Inc
7	Rate 8 ; speed	500	mm/s
16	Rate 8 ; acceleration	20000	mm/s ²
54	Rate 8 ; jerk	1000	mm/s ³
102	Rate 8 ; drag error	0	Inc
8	Rate 9 ; speed	400	mm/s
17	Rate 9 ; acceleration	10000	mm/s ²
55	Rate 9 ; jerk	1000	mm/s ³
103	Rate 9 ; drag error	0	Inc
41	Rate 10 ; speed	100	mm/s
42	Rate 10 ; acceleration	10000	mm/s ²
56	Rate 10 ; jerk	1000	mm/s ³
104	Rate 10 ; drag error	0	Inc
92	Nozzles changing speed	100	mm/s
93	Nozzles changing acceleration	10000	mm/s ²
94	Nozzles changing jerk	1000	mm/s ³
105	Nozzles changing drag value	0	Inc
121	Rate 10 ; speed	0	mm/s
122	Rate 10 ; acceleration	0	mm/s ²
123	Rate 10 ; jerk	0	mm/s ³
124	Rate 10 ; drag error	0	Inc

Motor O3\Synchro point			
18	Reference synchro. point 1	End	
22	Synchro point value 1	30	ms
19	Reference synchro. point 2	End	
23	Synchro point value 2	0	ms
57	Reference synchro. point 3	End	
69	Synchro point value 3	0	ms
58	Reference synchro. point 4	End	
70	Synchro point value 4	0	ms
59	Reference synchro. point 5	End	
71	Synchro point value 5	0	ms

Motor O3\General parameters			
64	Maximum dimension for positive displacement	175000	Inc
65	Minimum dimension for positive displacement	0	Inc
66	Maximum dimension for zero search	51200	Inc
67	Minimum dimension for zero search	51200	Inc
90	Zero search coordinate	0	Inc
91	Zero search range	0	Inc
36	Zero encoder coordinate	7000	Inc
63	Total number of encoder increments	8000	Inc
35	Number of increments per joystick step	2	Inc
68	Encoder resolution	142	Inc/mm
106	Maximum time to maximum current	0	ms
107	Maximum current	0	

Motor O3\Digital filter			
24	Proportional coefficient kp	3	
25	Integrative coefficient ki	4	
26	Derivative coefficient	25	
27	Integration limit	2560	
28	Velocity scale factor	1	
108	Inertia compensation KL1 (ACC)	600	
109	Inertia compensation KL2 (ACC)	600	
110	Lag limit before X,Y clearance	0	
31	Drag limit	5000	
111	Delta for drag error test	0	
37	Time delay before integration	0	ms
30	Friction force compensation	170	

Motor X4\Rate			
0	Rate 1 ; speed	2000	mm/s
9	Rate 1 ; acceleration	20000	mm/s ²
47	Rate 1 ; jerk	450	mm/s ³
1	Rate 2 ; speed	1200	mm/s
10	Rate 2 ; acceleration	10000	mm/s ²
48	Rate 2 ; jerk	450	mm/s ³
2	Rate 3 ; speed	1200	mm/s
11	Rate 3 ; acceleration	10000	mm/s ²
49	Rate 3 ; jerk	450	mm/s ³
3	Rate 4 ; speed	1200	mm/s
12	Rate 4 ; acceleration	7500	mm/s ²
50	Rate 4 ; jerk	450	mm/s ³
4	Rate 5 ; speed	1200	mm/s
13	Rate 5 ; acceleration	4000	mm/s ²
51	Rate 5 ; jerk	450	mm/s ³
5	Rate 6 ; speed	1200	mm/s
14	Rate 6 ; acceleration	3000	mm/s ²
52	Rate 6 ; jerk	450	mm/s ³
6	Rate 7 ; speed	1200	mm/s
15	Rate 7 ; acceleration	2000	mm/s ²
53	Rate 7 ; jerk	450	mm/s ³
7	Rate 8 ; speed	500	mm/s
16	Rate 8 ; acceleration	1000	mm/s ²
54	Rate 8 ; jerk	450	mm/s ³
8	Rate 9 ; speed	120	mm/s
17	Rate 9 ; acceleration	3000	mm/s ²
55	Rate 9 ; jerk	450	mm/s ³
41	Rate 10 ; speed	100	mm/s
42	Rate 10 ; acceleration	500	mm/s ²
56	Rate 10 ; jerk	450	mm/s ³
40	Joystick slow speed	3	mm/s
32	Joystick slow acceleration	2000	mm/s ²
44	Slow joystick jerk	930	mm/s ³
39	Joystick fast speed	80	mm/s
43	Joystick fast acceleration	2000	mm/s ²
45	Fast joystick jerk	930	mm/s ³
33	Zero search speed	200	mm/s
34	Zero search acceleration	4000	mm/s ²
46	Zero search jerk	930	mm/s ³

Motor X4\Synchro point			
18	Reference synchro. point 1	End	
22	Synchro point value 1	27	ms
19	Reference synchro. point 2	End	
23	Synchro point value 2	0	ms
57	Reference synchro. point 3	End	
69	Synchro point value 3	0	ms
58	Reference synchro. point 4	End	
70	Synchro point value 4	0	ms
59	Reference synchro. point 5	End	
71	Synchro point value 5	0	ms

Motor X4\General parameters			
64	Maximum dimension for positive displacement	5262000	Inc
65	Minimum dimension for positive displacement	0	Inc
66	Maximum dimension for zero search	5320000	Inc
67	Minimum dimension for zero search	5320000	Inc
90	Zero search coordinate	4950000	Inc
91	Zero search range	99000	Inc
36	Zero encoder coordinate	4913318	Inc
63	Total number of encoder increments	40000	Inc
35	Number of increments per joystick step	20	Inc
68	Encoder resolution	2000	Inc/mm

Motor X4\Digital filter			
24	Proportional coefficient kp	500	
25	Integrative coefficient ki	1	
26	Derivative coefficient	5000	
27	Integration limit	2000	
28	Velocity scale factor	0	
29	Inertia compensation	13000	
31	Drag limit	500	
37	Time delay before integration	10	ms
38	Stabilisation delay	5	ms
30	Static coefficient reduction	0	%
88	Static coefficient reduction threshold	0	
89	Joystick coefficient reduction	0	%

Motor Y4\Rate			
0	Rate 1 ; speed	2000	mm/s
9	Rate 1 ; acceleration	20000	mm/s ²
47	Rate 1 ; jerk	1000	mm/s ³
1	Rate 2 ; speed	1200	mm/s
10	Rate 2 ; acceleration	10000	mm/s ²
48	Rate 2 ; jerk	500	mm/s ³
2	Rate 3 ; speed	1200	mm/s
11	Rate 3 ; acceleration	8000	mm/s ²
49	Rate 3 ; jerk	500	mm/s ³
3	Rate 4 ; speed	1200	mm/s
12	Rate 4 ; acceleration	6000	mm/s ²
50	Rate 4 ; jerk	500	mm/s ³
4	Rate 5 ; speed	1200	mm/s
13	Rate 5 ; acceleration	4000	mm/s ²
51	Rate 5 ; jerk	500	mm/s ³
5	Rate 6 ; speed	1200	mm/s
14	Rate 6 ; acceleration	3000	mm/s ²
52	Rate 6 ; jerk	500	mm/s ³
6	Rate 7 ; speed	1200	mm/s
15	Rate 7 ; acceleration	2000	mm/s ²
53	Rate 7 ; jerk	500	mm/s ³
7	Rate 8 ; speed	500	mm/s
16	Rate 8 ; acceleration	1200	mm/s ²
54	Rate 8 ; jerk	500	mm/s ³
8	Rate 9 ; speed	120	mm/s
17	Rate 9 ; acceleration	3000	mm/s ²
55	Rate 9 ; jerk	500	mm/s ³
41	Rate 10 ; speed	100	mm/s
42	Rate 10 ; acceleration	500	mm/s ²
56	Rate 10 ; jerk	500	mm/s ³
40	Joystick slow speed	3	mm/s
32	Joystick slow acceleration	2000	mm/s ²
44	Slow joystick jerk	600	mm/s ³
39	Joystick fast speed	81	mm/s
43	Joystick fast acceleration	2000	mm/s ²
45	Fast joystick jerk	600	mm/s ³
33	Zero search speed	200	mm/s
34	Zero search acceleration	4000	mm/s ²
46	Zero search jerk	600	mm/s ³

Motor Y4\Synchro point			
18	Reference synchro. point 1	End	
22	Synchro point value 1	27	ms
19	Reference synchro. point 2	End	
23	Synchro point value 2	0	ms
57	Reference synchro. point 3	End	
69	Synchro point value 3	0	ms
58	Reference synchro. point 4	End	
70	Synchro point value 4	0	ms
59	Reference synchro. point 5	End	
71	Synchro point value 5	0	ms

Motor Y4\General parameters			
64	Maximum dimension for positive displacement	1958000	Inc
65	Minimum dimension for positive displacement	0	Inc
66	Maximum dimension for zero search	1960000	Inc
67	Minimum dimension for zero search	1960000	Inc
90	Zero search coordinate	100000	Inc
91	Zero search range	40000	Inc
36	Zero encoder coordinate	188686	Inc
63	Total number of encoder increments	20000	Inc
35	Number of increments per joystick step	10	Inc
68	Encoder resolution	2000	Inc/mm

Motor Y4\Digital filter			
24	Proportional coefficient kp	1500	
25	Integrative coefficient ki	10	
26	Derivative coefficient	5000	
27	Integration limit	2000	
28	Velocity scale factor	30	
29	Inertia compensation	14000	
31	Drag limit	2000	
37	Time delay before integration	10	ms
38	Stabilisation delay	5	ms
30	Static coefficient reduction	0	%
88	Static coefficient reduction threshold	0	
89	Joystick coefficient reduction	0	%

Motor Z4\Rate			
0	Rate 1 ; speed	600	mm/s
9	Rate 1 ; acceleration	40000	mm/s ²
47	Rate 1 ; jerk	1000	mm/s ³
95	Rate 1 ; drag error	40	Inc
1	Rate 2 ; speed	500	mm/s
10	Rate 2 ; acceleration	40000	mm/s ²
48	Rate 2 ; jerk	1000	mm/s ³
96	Rate 2 ; drag error	40	Inc
2	Rate 3 ; speed	500	mm/s
11	Rate 3 ; acceleration	40000	mm/s ²
49	Rate 3 ; jerk	1000	mm/s ³
97	Rate 3 ; drag error	40	Inc
3	Rate 4 ; speed	500	mm/s
12	Rate 4 ; acceleration	40000	mm/s ²
50	Rate 4 ; jerk	1000	mm/s ³
98	Rate 4 ; drag error	40	Inc
4	Rate 5 ; speed	400	mm/s
13	Rate 5 ; acceleration	30000	mm/s ²
51	Rate 5 ; jerk	1000	mm/s ³
99	Rate 5 ; drag error	40	Inc
5	Rate 6 ; speed	400	mm/s
14	Rate 6 ; acceleration	30000	mm/s ²
52	Rate 6 ; jerk	1000	mm/s ³
100	Rate 6 ; drag error	40	Inc
6	Rate 7 ; speed	400	mm/s
15	Rate 7 ; acceleration	20000	mm/s ²
53	Rate 7 ; jerk	1000	mm/s ³
101	Rate 7 ; drag error	40	Inc
7	Rate 8 ; speed	400	mm/s
16	Rate 8 ; acceleration	5000	mm/s ²
54	Rate 8 ; jerk	1000	mm/s ³
102	Rate 8 ; drag error	40	Inc
8	Initialization speed	200	mm/s
17	Initialization acceleration	20000	mm/s ²
55	Initialization jerk	1000	mm/s ³
103	Drag error for initialization	40	Inc
41	Z contact speed	50	mm/s
42	Z contact acceleration	10000	mm/s ²
56	Z contact jerk	1000	mm/s ³
104	Drag error for z contact	40	Inc
92	Nozzles changing speed	600	mm/s
93	Nozzles changing acceleration	40000	mm/s ²
94	Nozzles changing jerk	1000	mm/s ³
105	Nozzles changing drag value	40	Inc
121	Z Run speed fast placement	400	mm/s
122	Z Run acceleration fast placement	10000	mm/s ²
123	Z Run jerk fast placement	1000	mm/s ³
124	Z Run drag error fast placement	40	Inc

Motor Z4\Synchro point			
18	Reference synchro. point 1	Beginning	
22	Synchro point value 1	20	ms
19	Reference synchro. point 2	End	
23	Synchro point value 2	0	ms
57	Reference synchro. point 3	End	
69	Synchro point value 3	0	ms
58	Reference synchro. point 4	End	
70	Synchro point value 4	0	ms
59	Reference synchro. point 5	End	
71	Synchro point value 5	0	ms

Motor Z4\General parameters			
64	Maximum dimension for positive displacement	28000	Inc
65	Minimum dimension for positive displacement	0	Inc
66	Maximum dimension for zero search	28000	Inc
67	Minimum dimension for zero search	28000	Inc
90	Zero search coordinate	500	Inc
91	Zero search range	156	Inc
36	Zero encoder coordinate - Pipette 1	500	Inc
114	Zero encoder coordinate - Pipette 2	472	Inc
115	Zero encoder coordinate - Pipette 3	429	Inc
116	Zero encoder coordinate - Pipette 4	550	Inc
117	Zero encoder coordinate - Pipette 5	473	Inc
118	Zero encoder coordinate - Pipette 6	500	Inc
119	Zero encoder coordinate - Pipette 7	483	Inc
120	Zero encoder coordinate - Pipette 8	485	Inc
63	Total number of encoder increments	15000	Inc
35	Number of increments per joystick step	3	Inc
68	Encoder resolution	1000	Inc/mm
106	Maximum time to maximum current	500	ms
107	Maximum current	600	
129	Z zero security sensor altitude - Pipette 1	1329	Inc
130	Z zero security sensor altitude - Pipette 2	1265	Inc
131	Z zero security sensor altitude - Pipette 3	1330	Inc
132	Z zero security sensor altitude - Pipette 4	1258	Inc
133	Z zero security sensor altitude - Pipette 5	1205	Inc
134	Z zero security sensor altitude - Pipette 6	1209	Inc
135	Z zero security sensor altitude - Pipette 7	1253	Inc
136	Z zero security sensor altitude - Pipette 8	1296	Inc

Motor Z4\Digital filter			
24	Proportional coefficient kp	3	
25	Integrative coefficient ki	7	
26	Derivative coefficient	35	
27	Integration limit	2560	
28	Velocity scale factor	1	
108	Inertia compensation KL1 (ACC)	600	
109	Inertia compensation KL2 (ACC)	600	
110	Lag limit before X,Y clearance	200	
31	Drag limit	2000	
111	Delta for drag error test	500	
37	Time delay before integration	10	ms
30	Friction force compensation	10	

Motor O4\Rate			
0	Rate 1 ; speed	4000	mm/s
9	Rate 1 ; acceleration	540000	mm/s ²
47	Rate 1 ; jerk	1000	mm/s ³
95	Rate 1 ; drag error	1	Inc
1	Rate 2 ; speed	3600	mm/s
10	Rate 2 ; acceleration	40000	mm/s ²
48	Rate 2 ; jerk	1000	mm/s ³
96	Rate 2 ; drag error	2	Inc
2	Rate 3 ; speed	1000	mm/s
11	Rate 3 ; acceleration	20000	mm/s ²
49	Rate 3 ; jerk	1000	mm/s ³
97	Rate 3 ; drag error	3	Inc
3	Rate 4 ; speed	1000	mm/s
12	Rate 4 ; acceleration	40000	mm/s ²
50	Rate 4 ; jerk	1000	mm/s ³
98	Rate 4 ; drag error	0	Inc
4	Rate 5 ; speed	500	mm/s
13	Rate 5 ; acceleration	40000	mm/s ²
51	Rate 5 ; jerk	1000	mm/s ³
99	Rate 5 ; drag error	0	Inc
5	Rate 6 ; speed	200	mm/s
14	Rate 6 ; acceleration	40000	mm/s ²
52	Rate 6 ; jerk	1000	mm/s ³
100	Rate 6 ; drag error	0	Inc
6	Rate 7 ; speed	600	mm/s
15	Rate 7 ; acceleration	20000	mm/s ²
53	Rate 7 ; jerk	1000	mm/s ³
101	Rate 7 ; drag error	0	Inc
7	Rate 8 ; speed	500	mm/s
16	Rate 8 ; acceleration	20000	mm/s ²
54	Rate 8 ; jerk	1000	mm/s ³
102	Rate 8 ; drag error	0	Inc
8	Rate 9 ; speed	400	mm/s
17	Rate 9 ; acceleration	10000	mm/s ²
55	Rate 9 ; jerk	1000	mm/s ³
103	Rate 9 ; drag error	0	Inc
41	Rate 10 ; speed	100	mm/s
42	Rate 10 ; acceleration	10000	mm/s ²
56	Rate 10 ; jerk	1000	mm/s ³
104	Rate 10 ; drag error	0	Inc
92	Nozzles changing speed	100	mm/s
93	Nozzles changing acceleration	10000	mm/s ²
94	Nozzles changing jerk	1000	mm/s ³
105	Nozzles changing drag value	0	Inc
121	Rate 10 ; speed	0	mm/s
122	Rate 10 ; acceleration	0	mm/s ²
123	Rate 10 ; jerk	0	mm/s ³
124	Rate 10 ; drag error	0	Inc

Motor O4\Synchro point			
18	Reference synchro. point 1	End	
22	Synchro point value 1	30	ms
19	Reference synchro. point 2	End	
23	Synchro point value 2	0	ms
57	Reference synchro. point 3	End	
69	Synchro point value 3	0	ms
58	Reference synchro. point 4	End	
70	Synchro point value 4	0	ms
59	Reference synchro. point 5	End	
71	Synchro point value 5	0	ms

Motor O4\General parameters			
64	Maximum dimension for positive displacement	175000	Inc
65	Minimum dimension for positive displacement	0	Inc
66	Maximum dimension for zero search	51200	Inc
67	Minimum dimension for zero search	51200	Inc
90	Zero search coordinate	0	Inc
91	Zero search range	0	Inc
36	Zero encoder coordinate	7000	Inc
63	Total number of encoder increments	8000	Inc
35	Number of increments per joystick step	2	Inc
68	Encoder resolution	142	Inc/mm
106	Maximum time to maximum current	0	ms
107	Maximum current	0	

Motor O4\Digital filter			
24	Proportional coefficient kp	3	
25	Integrative coefficient ki	4	
26	Derivative coefficient	25	
27	Integration limit	2560	
28	Velocity scale factor	1	
108	Inertia compensation KL1 (ACC)	600	
109	Inertia compensation KL2 (ACC)	600	
110	Lag limit before X,Y clearance	0	
31	Drag limit	5000	
111	Delta for drag error test	0	
37	Time delay before integration	0	ms
30	Friction force compensation	170	

Serial card\Variator X1			
0	Current scale	50	
1	Static gain (Kp)	1000	
2	Integral gain (Ki)	5	
3	Minimum voltage	1800	
4	Maximum motor temperature	616	
5	Magnet step	64000	Inc
7	Motor angle - Front	29520	Inc
8	Autophasing output amplitude	100	

Serial card\Variator X1			
0	Current scale	45	
1	Static gain (Kp)	1000	
2	Integral gain (Ki)	5	
3	Minimum voltage	1800	
4	Maximum motor temperature	616	
5	Magnet step	64000	Inc
6	Motor angle - Rear	49190	Inc
8	Autophasing output amplitude	100	

Serial card\Variator Y1			
0	Current scale	165	
1	Static gain (Kp)	1000	
2	Integral gain (Ki)	20	
3	Minimum voltage	1800	
4	Maximum motor temperature	616	
5	Magnet step	64000	Inc
6	Motor angle	1800	Inc
8	Autophasing output amplitude	200	

Serial card\Variator X2			
0	Current scale	50	
1	Static gain (Kp)	1000	
2	Integral gain (Ki)	5	
3	Minimum voltage	1800	
4	Maximum motor temperature	616	
5	Magnet step	64000	Inc
7	Motor angle - Front	48910	Inc
8	Autophasing output amplitude	100	

Serial card\Variator X2			
0	Current scale	50	
1	Static gain (Kp)	1000	
2	Integral gain (Ki)	5	
3	Minimum voltage	1800	
4	Maximum motor temperature	616	
5	Magnet step	64000	Inc
6	Motor angle - Rear	4900	Inc
8	Autophasing output amplitude	100	

Serial card\Variator Y2			
0	Current scale	165	
1	Static gain (Kp)	1000	
2	Integral gain (Ki)	20	
3	Minimum voltage	1800	
4	Maximum motor temperature	616	
5	Magnet step	64000	Inc
6	Motor angle	62310	Inc
8	Autophasing output amplitude	200	

Serial card\Variator X3			
0	Current scale	50	
1	Static gain (Kp)	1000	
2	Integral gain (Ki)	5	
3	Minimum voltage	1800	
4	Maximum motor temperature	616	
5	Magnet step	64000	Inc
7	Motor angle - Front	63210	Inc
8	Autophasing output amplitude	100	

Serial card\Variator X3			
0	Current scale	50	
1	Static gain (Kp)	1000	
2	Integral gain (Ki)	5	
3	Minimum voltage	1800	
4	Maximum motor temperature	616	
5	Magnet step	64000	Inc
6	Motor angle - Rear	18100	Inc
8	Autophasing output amplitude	100	

Serial card\Variator Y3			
0	Current scale	165	
1	Static gain (Kp)	1000	
2	Integral gain (Ki)	5	
3	Minimum voltage	1800	
4	Maximum motor temperature	616	
5	Magnet step	64000	Inc
6	Motor angle	1410	Inc
8	Autophasing output amplitude	200	

Serial card\Variator X4			
0	Current scale	50	
1	Static gain (Kp)	1000	
2	Integral gain (Ki)	5	
3	Minimum voltage	1800	
4	Maximum motor temperature	616	
5	Magnet step	64000	Inc
7	Motor angle - Front	19000	Inc
8	Autophasing output amplitude	100	

Serial card\Variator X4			
0	Current scale	50	
1	Static gain (Kp)	1000	
2	Integral gain (Ki)	5	
3	Minimum voltage	1800	
4	Maximum motor temperature	616	
5	Magnet step	64000	Inc
6	Motor angle - Rear	36710	Inc
8	Autophasing output amplitude	100	

Serial card\Variator Y4			
0	Current scale	165	
1	Static gain (Kp)	1000	
2	Integral gain (Ki)	20	
3	Minimum voltage	1800	
4	Maximum motor temperature	616	
5	Magnet step	64000	Inc
6	Motor angle	61310	Inc
8	Autophasing output amplitude	200	

Serial card\Conveyor card			
2	Conveyor direction	Left->Right	
163	Maximun Locking speed 1&2	100	%
164	Maximun Locking power 1&2	100	%
165	Locking Acceleration time 1&2	100	ms
166	Locking threshold 1&2	80	%
167	Locking delay 1&2	100	ms
168	Locking 1&2 speed 1	100	%
169	Locking 1&2 speed 2	100	%
170	Locking 1&2 speed 3	50	%
171	Unlocking 1&2 speed 1	100	%
172	Unlocking 1&2 speed 2	50	%
173	Maximun Locking speed 3&4	100	%
174	Maximun Locking power 3&4	100	%
175	Locking Acceleration time 3&4	100	ms
176	Locking threshold 3&4	80	%
177	Locking delay 3&4	100	ms
178	Locking 3&4 speed 1	100	%
179	Locking 3&4 speed 2	100	%
180	Locking 3&4 speed 3	50	%
181	Unlocking 3&4 speed 1	100	%
182	Unlocking 3&4 speed 2	50	%
7	Maximum threshold without card	4095	
8	Maximum percentage to detect a board	50	%
15	Increments number per mm	62	Inc/mm
16	Power threshold (motor command card)	255	
161	X coordinate of the first sensor of the section 1	274.50	mm
162	Y coordinate of the first sensor of the section 1	251.25	mm

Conveyor card\Upstream section			
9	Captors number on the upstream section	12	
137	Maximum speed of upstream section	400	
138	Maximum current of upstream section	255	
139	Acceleration of upstream section	1000	
17	Distance n°1	44.0	mm
18	Distance n°2	44.0	mm
19	Distance n°3	44.0	mm
20	Distance n°4	44.0	mm
21	Distance n°5	45.0	mm
22	Distance n°6	44.0	mm
23	Distance n°7	45.0	mm
24	Distance n°8	44.0	mm
25	Distance n°9	44.0	mm
26	Distance n°10	44.0	mm
27	Distance n°11	44.0	mm
28	Distance n°12	51.5	mm
29	Distance n°13	0.0	mm
30	Distance n°14	0.0	mm

Conveyor card\Section 1			
10	Captors number on the section 1	11	
143	Maximum speed of section 1	420	
144	Maximum current of section 1	255	
145	Acceleration of section 1	1000	
57	Distance n°1	43.0	mm
58	Distance n°2	43.0	mm
59	Distance n°3	43.0	mm
60	Distance n°4	44.0	mm
61	Distance n°5	44.0	mm
62	Distance n°6	44.0	mm
63	Distance n°7	44.0	mm
64	Distance n°8	43.0	mm
65	Distance n°9	43.0	mm
66	Distance n°10	43.0	mm
67	Distance n°11	49.0	mm
68	Distance n°12	0.0	mm
69	Distance n°13	0.0	mm
70	Distance n°14	0.0	mm

Conveyor card\Section 2			
11	Captors number on the section 2	11	
146	Maximum speed of section 2	440	
147	Maximum current of section 2	255	
148	Acceleration of section 2	1000	
77	Distance n°1	43.0	mm
78	Distance n°2	43.0	mm
79	Distance n°3	43.0	mm
80	Distance n°4	44.0	mm
81	Distance n°5	44.0	mm
82	Distance n°6	44.0	mm
83	Distance n°7	44.0	mm
84	Distance n°8	43.0	mm
85	Distance n°9	43.0	mm
86	Distance n°10	43.0	mm
87	Distance n°11	53.0	mm
88	Distance n°12	0.0	mm
89	Distance n°13	0.0	mm
90	Distance n°14	0.0	mm

Conveyor card\Section 3			
12	Captors number on the section 3	14	
149	Maximum speed of section 3	460	
150	Maximum current of section 3	255	
151	Acceleration of section 3	1000	
97	Distance n°1	44.0	mm
98	Distance n°2	44.0	mm
99	Distance n°3	44.0	mm
100	Distance n°4	44.0	mm
101	Distance n°5	45.0	mm
102	Distance n°6	45.0	mm
103	Distance n°7	45.0	mm
104	Distance n°8	45.0	mm
105	Distance n°9	45.0	mm
106	Distance n°10	44.0	mm
107	Distance n°11	44.0	mm
108	Distance n°12	44.0	mm
109	Distance n°13	44.0	mm
110	Distance n°14	53.0	mm

Conveyor card\Section 4			
13	Captors number on the section 4	12	
152	Maximum speed of section 4	480	
153	Maximum current of section 4	255	
154	Acceleration of section 4	1000	
117	Distance n°1	44.0	mm
118	Distance n°2	44.0	mm
119	Distance n°3	44.0	mm
120	Distance n°4	44.0	mm
121	Distance n°5	45.0	mm
122	Distance n°6	44.0	mm
123	Distance n°7	45.0	mm
124	Distance n°8	44.0	mm
125	Distance n°9	44.0	mm
126	Distance n°10	44.0	mm
127	Distance n°11	44.0	mm
128	Distance n°12	51.5	mm
129	Distance n°13	0.0	mm
130	Distance n°14	0.0	mm

Conveyor card\Downstream section			
14	Captors number on the downstream section	10	
140	Maximum speed of downstream section	500	
141	Maximum current of downstream section	255	
142	Acceleration of downstream section	1000	
37	Distance n°1	45.0	mm
38	Distance n°2	45.0	mm
39	Distance n°3	45.0	mm
40	Distance n°4	45.0	mm
41	Distance n°5	45.0	mm
42	Distance n°6	45.0	mm
43	Distance n°7	45.0	mm
44	Distance n°8	45.0	mm
45	Distance n°9	45.0	mm
46	Distance n°10	0.0	mm
47	Distance n°11	0.0	mm
48	Distance n°12	0.0	mm
49	Distance n°13	0.0	mm
50	Distance n°14	0.0	mm