

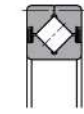
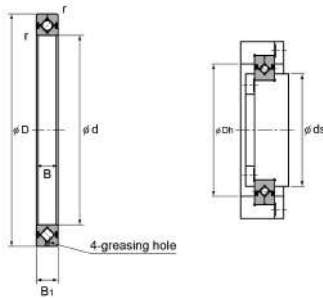


### Crossed Roller Bearings:

Crossed Roller Bearings are compact bearings with their rollers alternately crossed at right angles to each other between inner and outer rings. They can take loads from any directions at the same time such as radial, thrust and moment loads. The rollers make line-contact with raceway surfaces, and, therefore, elastic deformation due to bearing loads is very small. These bearings are widely used where they require compactness, high rigidity and high rotational accuracy. In addition, bearings made of stainless steel or those with inner and outer rings provided with mounting holes are also available.

Prefix and Corresponding Description For Crossed Roller Bearings	
Prefix	Description of Prefix
RA	Separable Outer Ring Type
RA-C	Single-Split Type
RB	Separable Outer Ring Type
RE	Two-Piece Inner Ring Type
RU	Integrated Inner/Outer Ring Type
SX	Compact Type

Suffix and Corresponding Description For Crossed Roller Bearings	
Suffix	Description of Suffix
C0,CC0,C1	Radial Clearance ( See Clearance Table)
G	The counterbore holes of the inner and outer rings face opposite direction
X	Inner ring tapped hole (through hole)
UU	Rubber Seal
No Symbol	ISO Normal
P6	ISO Class 6
P5	ISO Class 5
P4	ISO Class 4
P2	ISO Class 2

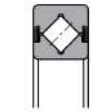
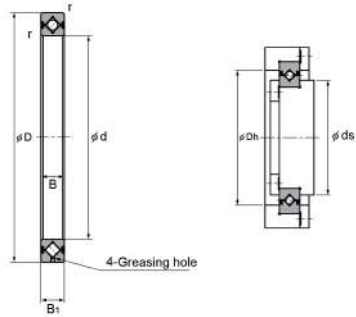


Model RA



Model RA...UU

Boundary Dimensions (mm)				Shoulder Height		Basic Load Rating (Radial)		Shaft Diameter	Bearing Designation	Mass Approx (kg)	
Inner Diameter	Outer Diameter	Roller Pitch Circle Diameter	Width	r	ds	Dh	C <sub>r</sub>				C <sub>0r</sub>
d	D	dp	B B1	(min)	(max)	(min)	(KN)	(KN)			
50	66	57	8	0.5	53.5	60.5	5.1	7.19	50	RA 5008	0.08
60	76	67	8	0.5	63.5	70.5	5.68	8.68	60	RA 6008	0.09
70	86	77	8	0.5	73.5	80.5	5.98	9.8	70	RA 7008	0.1
80	96	87	8	0.5	83.5	90.5	6.37	11.3	80	RA 8008	0.11
90	106	97	8	0.5	93.5	100.5	6.76	12.4	90	RA 9008	0.12
100	116	107	8	0.5	103.5	110.5	7.15	13.9	100	RA 10008	0.14
110	126	117	8	0.5	113.5	120.5	7.45	15	110	RA 11008	0.15
120	136	127	8	0.5	123.5	130.5	7.84	16.5	120	RA 12008	0.17
130	146	137	8	0.5	133.5	140.5	7.94	17.6	130	RA 13008	0.18
140	156	147	8	0.5	143.5	150.5	8.33	19.1	140	RA 14008	0.19
150	166	157	8	0.5	153.5	160.5	8.82	20.6	150	RA 15008	0.2
160	186	172	13	0.8	165	179	23.3	44.9	160	RA 16013	0.59
170	196	182	13	0.8	175	189	23.5	46.5	170	RA 17013	0.64
180	206	192	13	0.8	185	199	24.5	49.8	180	RA 18013	0.68
190	216	202	13	0.8	195	209	24.9	51.5	190	RA 19013	0.69
200	226	212	13	0.8	205	219	25.8	54.7	200	RA 20013	0.71

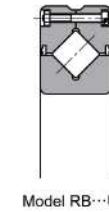
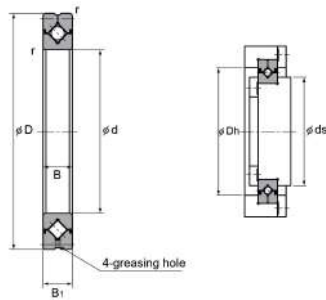


Model RA...C



Model RA...CUU

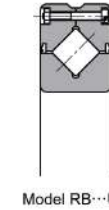
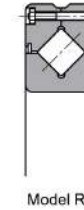
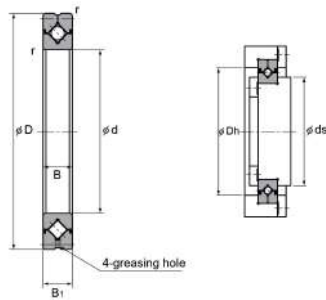
Boundary Dimensions (mm)				Shoulder Height		Basic Load Rating (Radial)		Shaft Diameter	Bearing Designation	Mass Approx (kg)	
Inner Diameter	Outer Diameter	Roller Pitch Circle Diameter	Width	r	ds	Dh	C <sub>r</sub>				C <sub>or</sub>
d	D	dp	B B1	(min)	(max)	(min)	(KN)				(KN)
50	66	57	8	0.5	53.5	60.5	5.1	7.19	50	RA 5008C	0.08
60	76	67	8	0.5	63.5	70.5	5.68	8.68	60	RA 6008C	0.09
70	86	77	8	0.5	73.5	80.5	5.98	9.8	70	RA 7008C	0.1
80	96	87	8	0.5	83.5	90.5	6.37	11.3	80	RA 8008C	0.11
90	106	97	8	0.5	93.5	100.5	6.76	12.4	90	RA 9008C	0.12
100	116	107	8	0.5	103.5	110.5	7.15	13.9	100	RA 10008C	0.14
110	126	117	8	0.5	113.5	120.5	7.45	15	110	RA 11008C	0.15
120	136	127	8	0.5	123.5	130.5	7.84	16.5	120	RA 12008C	0.17
130	146	137	8	0.5	133.5	140.5	7.94	17.6	130	RA 13008C	0.18
140	156	147	8	0.5	143.5	150.5	8.33	19.1	140	RA 14008C	0.19
150	166	157	8	0.5	153.5	160.5	8.82	20.6	150	RA 15008C	0.2
160	186	172	13	0.8	165	179	23.3	44.9	160	RA 16013C	0.59
170	196	182	13	0.8	175	189	23.5	46.5	170	RA 17013C	0.64
180	206	192	13	0.8	185	199	24.5	49.8	180	RA 18013C	0.68
190	216	202	13	0.8	195	209	24.9	51.5	190	RA 19013C	0.69
200	226	212	13	0.8	205	219	25.8	54.7	200	RA 20013C	0.71



Model RB

Model RB...UU

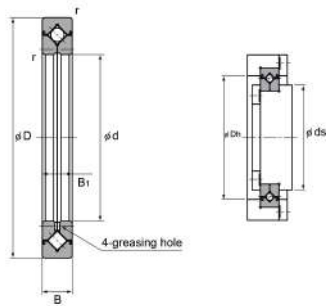
Boundary Dimensions (mm)					Shoulder Height		Basic Load Rating (Radial)		Shaft Diameter	Bearing Designation	Mass Approx
Inner Diameter	Outer Diameter	Roller Pitch Circle Diameter	Width	r	ds	Dh	C <sub>r</sub>	C <sub>0r</sub>			
d	D	dp	B B1	(min)	(max)	(min)	(KN)	(KN)			
20	36	27	8	0.5	23.5	30.5	3.23	3.1	20	RB 2008	0.04
25	41	32	8	0.5	28.5	35.5	3.63	3.83	25	RB 2508	0.05
30	55	41.5	10	0.6	37	47	7.35	8.36	30	RB 3010	0.12
35	60	46.5	10	0.6	41	51.5	7.64	9.12	35	RB 3510	0.13
40	65	51.5	10	0.6	46.5	57.5	8.33	10.6	40	RB 4010	0.16
45	70	56.5	10	0.6	51	61.5	8.62	11.3	45	RB 4510	0.17
50	80	64	13	0.6	57	72	16.7	20.9	50	RB 5013	0.27
60	90	74	13	0.6	67	82	18	24.3	60	RB 6013	0.3
70	100	84	13	0.6	77	92	19.4	27.7	70	RB 7013	0.35
80	120	98	16	0.6	88	110	30.1	42.1	80	RB 8016	0.7
90	130	108	16	1	98	118	31.4	45.3	90	RB 9016	0.75
100	140	119.3	16	1	109	129	31.7	48.6	100	RB 10016	0.83
100	150	123	20	1	113	133	33.1	50.9	100	RB 10020	1.45
110	135	121.8	12	0.6	117	128	12.5	24.1	110	RB 11012	0.4
110	145	126.5	15	0.6	119	136	23.7	41.5	110	RB 11015	0.75
110	160	133	20	1	120	143	34	54	110	RB 11020	1.56
120	150	134.2	16	0.6	127	141	24.2	43.2	120	RB 12016	0.72
120	180	148.7	25	1.5	133	164	66.9	100	120	RB 12025	2.62
130	160	144.5	15	0.6	137	152	25	46.7	130	RB 13015	0.72
130	190	158	25	1.5	143	174	69.5	107	130	RB 13025	2.82
140	175	154.8	16	1	147	162	25.9	50.1	140	RB 14016	1
140	200	168	25	1.5	154	185	74.8	121	140	RB 14025	2.96
150	180	164	13	0.6	157	172	27	53.5	150	RB 15013	0.68
150	210	178	25	1.5	164	194	76.8	128	150	RB 15025	3.16
150	230	188	30	1.5	169	211	100	156	150	RB 15030	5.3
160	220	188.6	25	1.5	173	204	81.7	135	160	RB 16025	3.14
170	220	191	20	1.5	184	198	29	62.1	170	RB 17020	2.21
180	240	210	25	1.5	195	225	84	143	180	RB 18025	3.44
190	240	211.9	25	1	202	222	41.7	82.9	190	RB 19025	2.99



Model RB

Model RB...UU

Boundary Dimensions (mm)					Shoulder Height		Basic Load Rating (Radial)		Shaft Diameter	Bearing Designation	Mass Approx
Inner Diameter	Outer Diameter	Roller Pitch Circle Diameter	Width	r	ds	Dh	C <sub>r</sub>	C <sub>0r</sub>			
d	D	dp	B B1	(min)	(max)	(min)	(KN)	(KN)			
200	260	230	25	2	215	245	84.2	157	200	RB 20025	4
200	280	240	30	2	221	258	114	200	200	RB 20030	6.7
200	295	247.7	35	2	225	270	151	252	200	RB 20035	9.6
220	280	250.1	25	2	235	265	92.3	171	220	RB 22025	4.1
240	300	269	25	2.5	256	281	68.3	145	240	RB 24025	4.5
250	310	277.5	25	2.5	265	290	69.3	150	250	RB 25025	5
250	330	287.5	30	2.5	269	306	126	244	250	RB 25030	8.1
250	355	300.7	40	2.5	275	326	195	348	250	RB 25040	14.8
300	360	328	25	2.5	315	340	76.3	178	300	RB 30025	5.9
300	395	345	35	2.5	322	368	183	367	300	RB 30035	13.4
300	405	351.6	40	2.5	326	377	212	409	300	RB 30040	17.2
350	400	373.4	20	2.5	363	383	54.1	143	350	RB 35020	3.9
400	480	440.3	35	2.5	422	459	156	370	400	RB 40035	14.5
400	510	453.4	40	2.5	428	479	241	531	400	RB 40040	23.5
450	500	474	25	1	464	484	61.7	182	450	RB 45025	6.6
500	550	524.2	25	1	514	534	65.5	201	500	RB 50025	7.3
500	600	548.8	40	2.5	526	572	239	607	500	RB 50040	26
500	625	561.6	50	2.5	536	587	267	653	500	RB 50050	41.7
600	700	650	40	3	627	673	264	721	600	RB 60040	29
700	815	753.5	45	3	731	777	281	836	700	RB 70045	46
800	950	868.1	70	4	836	900	468	1330	800	RB 80070	105
900	1050	969	70	4	937	1001	494	1490	900	RB 90070	120
1000	1250	1114	110	5	1057	1171	1220	3220	1000	RB 1000110	360
1250	1500	1365.8	110	5	1308	1423	1350	3970	1250	RB 1250110	440

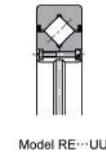
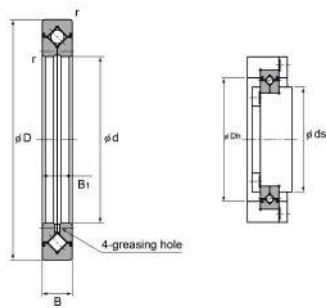


Model RE

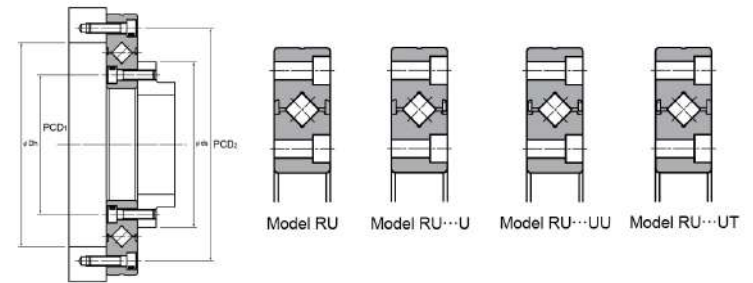
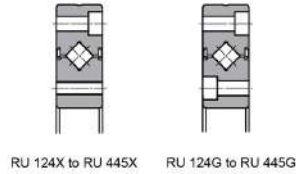
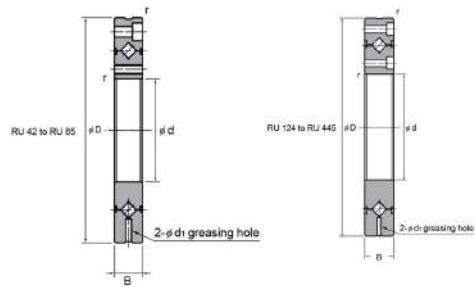


Model RE...UU

Boundary Dimensions (mm)				Shoulder Height			Basic Load Rating (Radial)		Shaft Diameter	Bearing Designation	Mass Approx
Inner Diameter	Outer Diameter	Roller Pitch Circle Diameter	Width	r	ds	Dh	C <sub>r</sub>	C <sub>or</sub>			
d	D	dp	B B1	(min)	(max)	(min)	(KN)	(KN)			
20	36	29	8	0.5	24.5	32.5	3.23	3.1	20	RE 2008	0.04
25	41	34	8	0.5	29.5	37.5	3.63	3.83	25	RE 2508	0.05
30	55	43.5	10	0.6	37.5	48.5	7.35	8.36	30	RE 3010	0.12
35	60	48.5	10	0.6	42.5	53.5	7.64	9.12	35	RE 3510	0.13
40	65	53.5	10	0.6	47.5	58.5	8.33	10.6	40	RE 4010	0.16
45	70	58.5	10	0.6	52.5	63.5	8.62	11.3	45	RE 4510	0.17
50	80	66	13	0.6	57.5	73	16.7	20.9	50	RE 5013	0.27
60	90	76	13	0.6	68	83	18	24.3	60	RE 6013	0.3
70	100	86	13	0.6	78	93	19.4	27.7	70	RE 7013	0.35
80	120	101.4	16	0.6	91	111	30.1	42.1	80	RE 8016	0.7
90	130	112	16	1	100	122	31.4	45.3	90	RE 9016	0.75
100	140	121.1	16	1	109	131	31.7	48.6	100	RE 10016	0.83
100	150	127	20	1	115	137	33.1	50.9	100	RE 10020	1.45
110	135	123.3	12	0.6	117	128	12.5	24.1	110	RE 11012	0.4
110	145	129	15	0.6	122	136	23.7	41.5	110	RE 11015	0.75
110	160	137	20	1	125	147	34	54	110	RE 11020	1.56
120	150	136	16	0.6	127	143	24.2	43.2	120	RE 12016	0.72
120	180	152	25	1.5	135	166	66.9	100	120	RE 12025	2.62
130	160	146	15	0.6	137	153	25	46.7	130	RE 13015	0.72
130	190	162	25	1.5	145	176	69.5	107	130	RE 13025	2.82
140	175	160	16	1	151	167	25.9	50.1	140	RE 14016	1
140	200	172	25	1.5	154	186	74.8	121	140	RE 14025	2.96
150	180	166	13	0.6	158	173	27	53.5	150	RE 15013	0.68
150	210	182	25	1.5	164	196	76.8	128	150	RE 15025	3.16
150	230	192	30	1.5	173	210	100	156	150	RE 15030	5.3
160	220	192	25	1.5	174	206	81.7	135	160	RE 16025	3.14
170	220	196.1	20	1.5	187	204	29	62.1	170	RE 17020	2.21
180	240	210	25	1.5	195	225	84	143	180	RE 18025	3.44
190	240	219	25	1	207	229	41.7	82.9	190	RE 19025	2.99
200	260	230	25	2	215	245	84.2	157	200	RE 20025	4



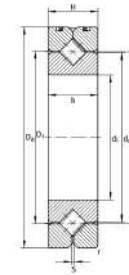
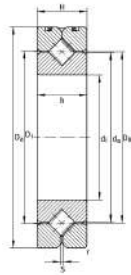
Boundary Dimensions (mm)					Shoulder Height		Basic Load Rating (Radial)		Shaft Diameter	Bearing Designation	Mass Approx
Inner Diameter	Outer Diameter	Roller Pitch Circle Diameter	Width	r	ds	Dh	C <sub>r</sub>	C <sub>0r</sub>			
d	D	dp	B B1	(min)	(max)	(min)	(KN)	(KN)			
200	280	240	30	2	221	258	114	200	200	RE 20030	6.7
200	295	247.7	35	2	225	270	151	252	200	RE 20035	9.6
220	280	250.1	25	2	235	265	92.3	171	220	RE 22025	4.1
240	300	272.5	25	2.5	258	284	68.3	145	240	RE 24025	4.5
250	310	280.9	25	2.5	268	293	69.3	150	250	RE 25025	5
250	330	287.5	30	2.5	269	306	126	244	250	RE 25030	8.1
250	355	300.7	40	2.5	275	326	195	348	250	RE 25040	14.8
300	360	332	25	2.5	319	344	75.5	178	300	RE 30025	5.9
300	395	345	35	2.5	322	368	183	367	300	RE 30035	13.4
300	405	351.6	40	2.5	326	377	212	409	300	RE 30040	17.2
350	400	376.6	20	2.5	365	386	54.1	143	350	RE 35020	3.9
400	480	440.3	35	2.5	422	459	156	370	400	RE 40035	14.5
400	510	453.4	40	2.5	428	479	241	531	400	RE 40040	23.5
450	500	476.6	25	1	465	486	61.7	182	450	RE 45025	6.6
500	550	526.6	25	1	515	536	65.5	201	500	RE 50025	7.3
500	600	548.8	40	2.5	526	572	239	607	500	RE 50040	26
500	625	561.6	50	2.5	536	587	267	653	500	RE 50050	41.7
600	700	650	40	3	627	673	264	721	600	RE 60040	29



Boundary Dimensions (mm)					Basic load rating (radial) (KN)			Shoulder Height		Shaft Diameter	Bearing Designation	Mass Approx
Inner Diameter	Outer Diameter	Roller Pitch Circle	Width	Greasing Hole	$r_{min}$	C	$C_{or}$	$d_s$	$D_h$			
d	D	dp	B	d1				(max)	(min)			
20	70	41.5	12	3.1	0.6	7.35	8.35	36	47	20	RU 42	0.29
35	95	66	15	3.1	0.6	17.5	22.3	59	74	35	RU 66	0.62
55	120	85	15	3.1	0.6	20.3	29.5	77	93	55	RU 85	1
80	165	124	22	3.1	1	33.1	50.9	114	134	80	RU 124 (G)	2.6
80	165	124	22	3.1	1	33.1	50.9	114	134	80	RU 124X	2.6
90	210	147.5	25	3.1	1.5	49.1	76.8	133	162	90	RU 148 (G)	4.9
90	210	147.5	25	3.1	1.5	49.1	76.8	133	162	90	RU 148X	4.9
115	240	178	28	3.1	1.5	80.3	135	161	195	115	RU 178 (G)	6.8
115	240	178	28	3.1	1.5	80.3	135	161	195	115	RU 178X	6.8
160	295	227.5	35	6	2	104	173	208	246	160	RU 228 (G)	11.4
160	295	227.5	35	6	2	104	173	208	246	160	RU 228X	11.4
210	380	297.3	40	6	2.5	156	281	272	320	210	RU 297 (G)	21.3
210	380	297.3	40	6	2.5	156	281	272	320	210	RU 297X	21.3
350	540	445.4	45	6	2.5	222	473	417	473	350	RU 445 (G)	35.4
350	540	445.4	45	6	2.5	222	473	417	473	350	RU 445X	35.4

Mounting Hole Related			
Inner Ring		Outer Ring	
PCD <sub>1</sub>	Mounting Hole	PCD <sub>2</sub>	Mounting Hole
28	6-M3 through	57	6-Ø3.4 drilled through, Ø6.5 counter bore depth 3.3
45	8-M4 through	83	8-Ø4.5 drilled through, Ø8 counter bore depth 4.4
65	8-M5 through	105	8-Ø5.5 drilled through, Ø9.5 counter bore depth 5.4
97	10-Ø5.5 drilled through, Ø9.5 counter bore depth 5.4	148	10-Ø5.5 drilled through, Ø9.5 counter bore depth 5.4
97	10-M5 through	148	10-Ø5.5 drilled through, Ø9.5 counter bore depth 5.4
112	12-Ø9 drilled through, Ø14 counter bore depth 8.6	187	12-Ø9 drilled through, Ø14 counter bore depth 8.6
112	12-M8 through	187	12-Ø9 drilled through, Ø14 counter bore depth 8.6
139	12-Ø9 drilled through, Ø14 counter bore depth 8.6	217	12-Ø9 drilled through, Ø14 counter bore depth 8.6
139	12-M8 through	217	12-Ø9 drilled through, Ø14 counter bore depth 8.6
184	12-Ø11 drilled through, Ø17.5 counter bore depth 10.8	270	12-Ø11 drilled through, Ø17.5 counter bore depth 10.8
184	12-M10 through	270	12-Ø11 drilled through, Ø17.5 counter bore depth 10.8
240	16-Ø14 drilled through, Ø20 counter bore depth 13	350	16-Ø14 drilled through, Ø20 counter bore depth 13
240	16-M12 through	350	16-Ø14 drilled through, Ø20 counter bore depth 13
385	24-Ø14 drilled through, Ø20 counter bore depth 13	505	24-Ø14 drilled through, Ø20 counter bore depth 13
385	24-M12 through	505	24-Ø14 drilled through, Ø20 counter bore depth 13





Boundary Dimensions										Basic Load Rating				Limiting Speeds				Bearing Designation	Mass Approx (kg)
(mm)										(KN)				(rpm)					
D <sub>M</sub>	d <sub>i</sub>	D <sub>a</sub>	H	h	d <sub>a</sub>	D <sub>i</sub>	r (min)	S	Axial		Radial		with Standard Clearance		with Preload				
									Cr	Cor	Cr	Cor	Oil	Grease	Oil	Grease			
80	70	90	10	10	79.5	80.5	0.6	1.2	15.4	51	11	20.4	1910	955	955	475	SX011814	0.3	
102	90	115	13	13	101.5	102.5	1	1.2	25.5	91	18.3	36.5	1500	750	750	375	SX011818	0.4	
112	100	125	13	13	111.5	112.5	1	1.2	27	102	19.4	40.5	1360	680	680	340	SX011820	0.5	
135	120	150	16	16	134.4	135.5	1	1.5	38	146	27	59	1130	565	565	280	SX011824	0.8	
157	140	175	18	18	156.3	157.7	1.1	1.5	63	240	45	96	975	485	485	240	SX011828	1.1	
180	160	200	20	20	179.2	180.8	1.1	1.5	68	275	48.5	111	850	425	425	210	SX011832	1.7	
202	180	225	22	22	201.2	202.8	1.1	2	96	380	69	153	755	375	375	185	SX011836	2.3	
225	200	250	24	24	224.2	225.8	1.5	2	102	425	72	170	680	340	340	170	SX011840	3.1	
270	240	300	28	28	269.2	270.8	2	2	148	640	105	255	565	280	280	140	SX011848	5.3	
340	300	380	38	38	339.2	340.8	2.1	2.5	243	1 070	173	425	450	225	225	110	SX011860	12	
380	340	420	38	38	379.2	380.8	2.1	2.5	260	1 220	185	485	400	200	200	100	SX011868	13.5	
450	400	500	46	46	449	451	2.1	2.5	385	1 800	275	720	340	170	170	85	SX011880	24	