


**3L/T-2100F-BF-CS Series**  
**3L/T-2100F-BF-S6 Series**

Quick Spec	
<b>Product Scope</b>	
Size Range	1/2" - 6" 150# Flanged Ends
Port Type	Full Port
Port Type	L-Port or T-Port 3-Way
Port Orientation	Side Entry
Pressure Rating	150# Flanges - Class 150
Temperature Range	-20°F to +400°F
Materials	Carbon or SS body with SS Trim, RPTFE seats, PTFE / Viton seals
Operator	Manual Operator
Mounting Pad	ISO 5200 Direct Mount (1/2" - 4")
<b>Design Standards</b>	
Pipe Ends	ASME B16.5
<b>Testing Standards</b>	
Pressure Testing	Shell API 598; seat 80 psi air under water
<b>Approvals</b>	
CE (1.25" [SN40] and larger on special order)	

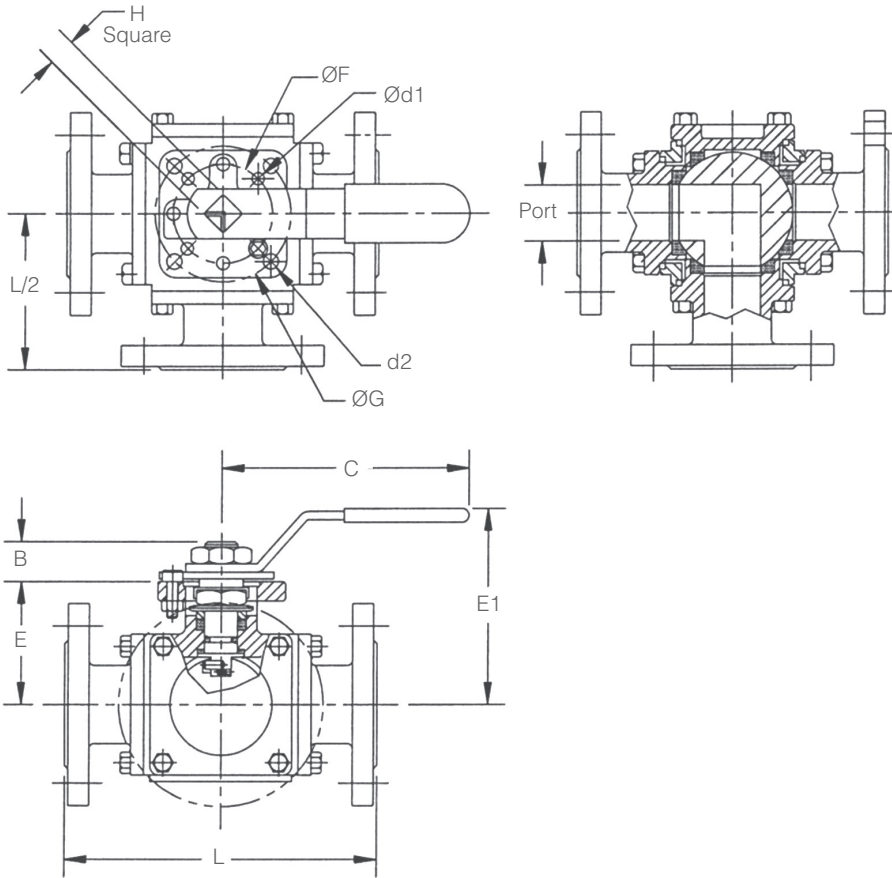
**Features**

- Bolted body construction
- Investment cast body
- ISO 5211 actuator mounting pad
  - direct mount 1/2" - 4"
  - bracket & coupler 6"
- Blow-out proof stem
- 4-seat design
- Adjustable, live loaded PTFE packing
- Secondary stem seal O-ring 1/2" - 2"
- Extra deep packing chamber 2-1/2" - 6"
- Ball - seat alignment pin 1/2" - 2"; integral ball stem 2-1/2" - 6"
- Trunnion design 2-1/2" - 6"
- Locking provisions
- Optional 180° rotation available

Three-way ball valves provide shut-off or directional flow control with a wide selection of flow patterns. A single 3-way can replace several 2-way's, saving valuable space and simplifying piping. Flow may be mixed, diverted, or shut off. With side entry 3-ways there is always mixing when switching positions, which facilitates switching between safety devices or pumps.

**Seat Tightness Note:** If closed port pressure exceeds open port pressure, the ball may be forced slightly off the seat in some port configurations / ball positions. This would allow a small amount of mixing from all ports, which may or may not be a problem, depending upon sensitivity of process to mixing. Occurrence may vary depending upon flow and ambient conditions.

**Cross Section / Dimension Drawing 1/2" - 2"**

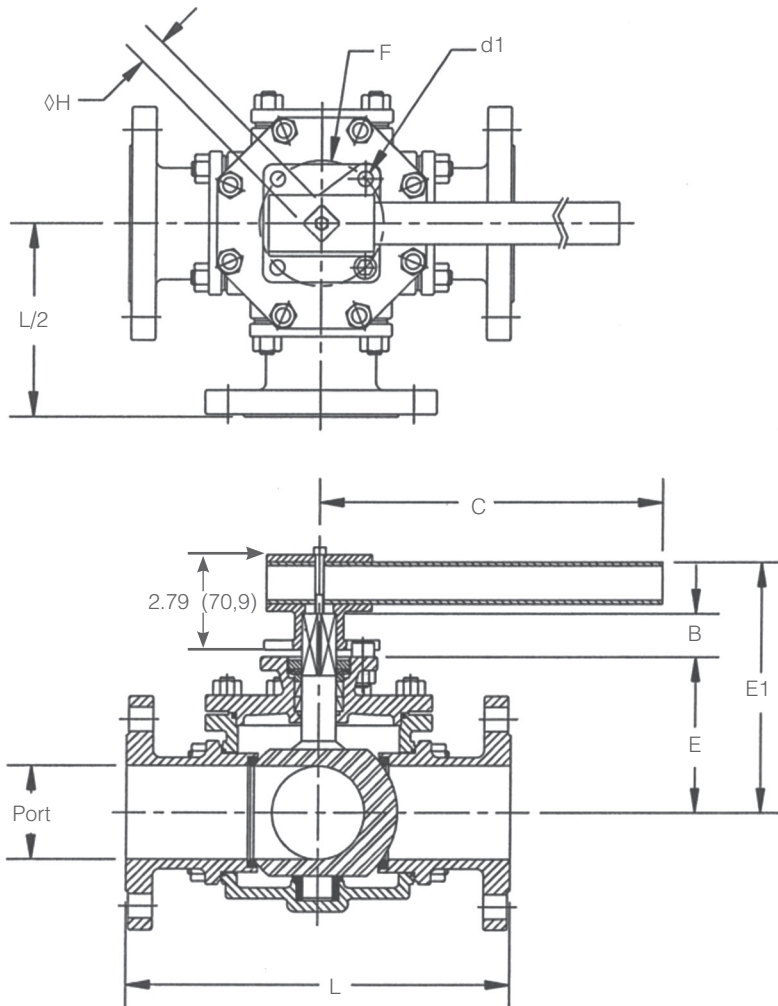


Materials of Construction (1/2" - 2")		
Part	Stainless Steel	Carbon Steel
Body	CF8M	WCB
Caps, End & Blind	CF8M	WCB
Bolts, Caps	GR. B8	Gr. B7
Gasket, Caps	PTFE	
Ball	SS 316	
Seats	RPTFE	
Stem	SS316	
Pin, Ball Alignment	SS 316	
Thrust Washer, Stem	RPTFE	
O-Ring, Stem	Viton	
Packing, Stem	PTFE	
Gland	SS 304	
Spring Washer, Gland	SS 301	
Nut, Stem	SS304	
Lockwasher, Saddle		
Spacer, Handle		
Plate, Stop		
Nut, Handle		
Handle		
Cover, Handle	Vinyl	
Pin, Ball Alignment	SS316	

ART1145

Dimensions, Inches														
Size	Port	L	E	B	E1	C	ISO 5211	d1	F	ISO 5211	d2	G	H	Weight. Lb
1/2"	0.59	5.98	1.65	0.43	4.2	5.12	F03	0.24	1.42	F04	0.24	0.65	0.354	7.6
3/4"	0.79	6.57	1.91	0.55	4.4	6.50	F04	0.24	1.65	F05	0.28	1.97	0.433	9.0
1"	0.98	7.48	2.19	0.55	4.7	6.50	F04	0.24	1.65	F05	0.28	1.97	0.433	13
1-1/4"	1.26	8.19	2.48	0.67	4.7	8.07	F05	0.28	1.97	F07	0.36	2.76	0.551	19
1-1/2"	1.50	8.66	2.91	0.63	5.1	8.07	F05	0.28	1.97	F07	0.36	2.76	0.551	28
2"	1.97	9.96	3.66	0.83	5.6	12.80	F07	0.36	2.76	F10	0.45	4.02	0.669	47

Dimensions, mm														
Size	Port	L	E	B	E1	C	ISO 5211	d1	F	ISO 5211	d2	G	H	Weight. Kg
DN15	15	152	42	11	105	130	F03	6,0	36	F04	6,0	42	9	3,5
DN20	20	167	48,5	14	110	165	F04	6,0	42	F05	7,1	50	11	4,1
DN25	25	190	55,5	14	118	165	F04	6,0	42	F05	7,1	50	11	6,0
DN32	32	208	63	17	118	205	F05	7,1	50	F07	9,2	70	14	8,5
DN40	38	220	73,5	16	128	205	F05	7,1	50	F07	9,2	70	14	12,5
DN50	50	253	92,5	21	140	325	F07	9,2	70	F10	11,4	102	17	21,4

**Cross Section / Dimension Drawing 2-1/2" - 4"**


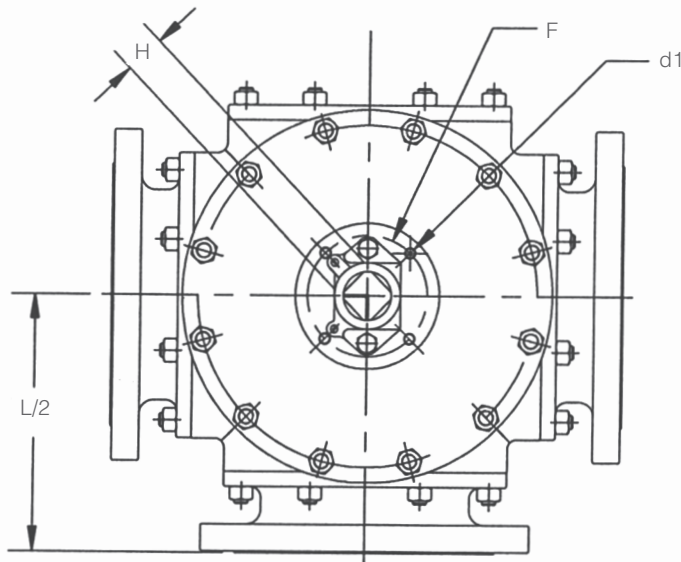
Materials of Construction (2-1/2" - 4")		
Part	Stainless Steel	Carbon Steel
Body	CF8M	WCB
Caps, End & Blind	CF8M	WCB
Bonnet	CF8M	WCB
Studs, Body & Bonnet	Gr. B8	Br. B7
Nuts, Body & Bonnet	Gr. 8	Gr. 2H
Gasket, Caps & Bonnet	PTFE	
Ball - Stem	SS316	
Seats	RPTFE	
Bearing, Trunnion	PTFE+SS	
O-Ring, Stem	Viton	
Packing, Stem	PTFE	
Gland	SS304	
Spring Washer, Gland	SS301	
Nut, Packing	SS304	
Head, Handle	DI 65-45-12	
Lever, Handle	Carbon Steel	
Bolt, Handle	SS304	
Pin, Stop		
Nut, Stop Pin		

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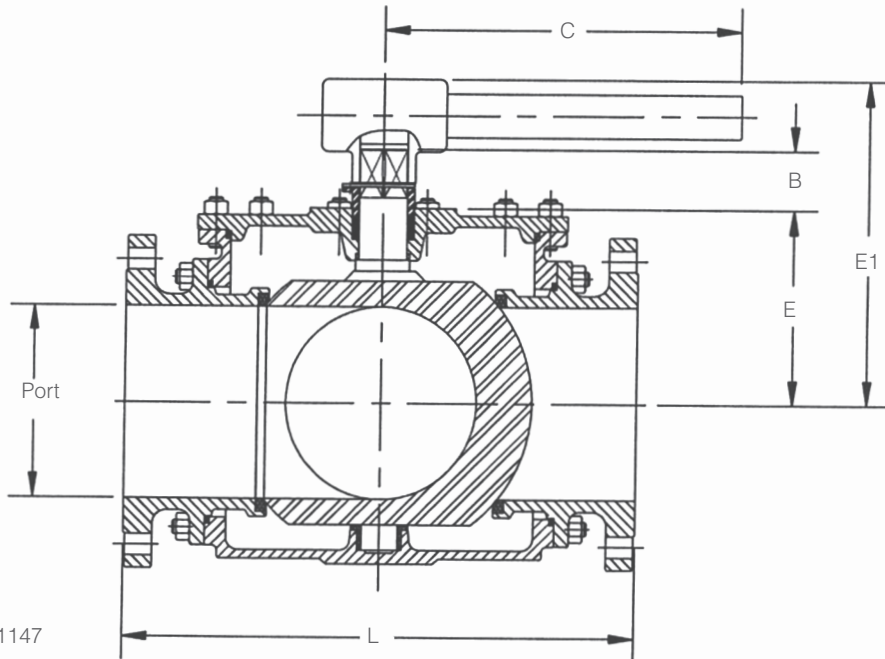
Dimensions, Inches											
Size	Port	L	E	B	E1	C	ISO 5211	d1	F	H	Weight, Lbs
2-1/2"	2.44	11.81	4.67	0.98	7.2	19.7	F10	0.43	4.02	0.866	63
3"	2.99	12.00	5.37	0.98	7.9	23.6	F10	0.43	4.02	0.866	78
4"	3.78	14.50	6.16	0.98	8.7	29.5	F10	0.43	4.02	0.866	142

Dimensions, mm											
Size	Port	L	E	B	E1	C	ISO 5211	d1	F	H	Weight, Kgs
DN65	62	300,0	118,5	25,0	183	500	F10	11,0	102,0	22,0	20
DN80	76	305,0	136,5	25,0	201	600	F10	11,0	102,0	22,0	36
DN100	96	368,5	156,5	25,0	221	750	F10	11,0	102,0	22,0	64

**Cross Section / Dimension Drawing 6"**



Materials of Construction (6")		
Part	Stainless Steel	Carbon Steel
Body	CF8M	WCB
Caps, End & Blind	CF8M	WCB
Bonnet	CF8M	WCB
Studs, Body & Bonnet	Gr. B8	Br. B7
Nuts, Body & Bonnet	Gr. 8	Gr. 2H
Gasket, Caps & Bonnet	PTFE	
Ball - Stem	SS316	
Seats	RPTFE	
Bearing, Trunnion	PTFE+SS	
O-Ring, Stem	Viton	
Packing, Stem	PTFE	
Gland	SS304	
Bolts, Gland	Gr. B8	Gr. B7
Head, Handle	DI 65-45-12	
Lever, Handle	Carbon Steel	
Bolt, Handle	SS304	
Plate, Stop		
Ret. Ring, Stop Plate		

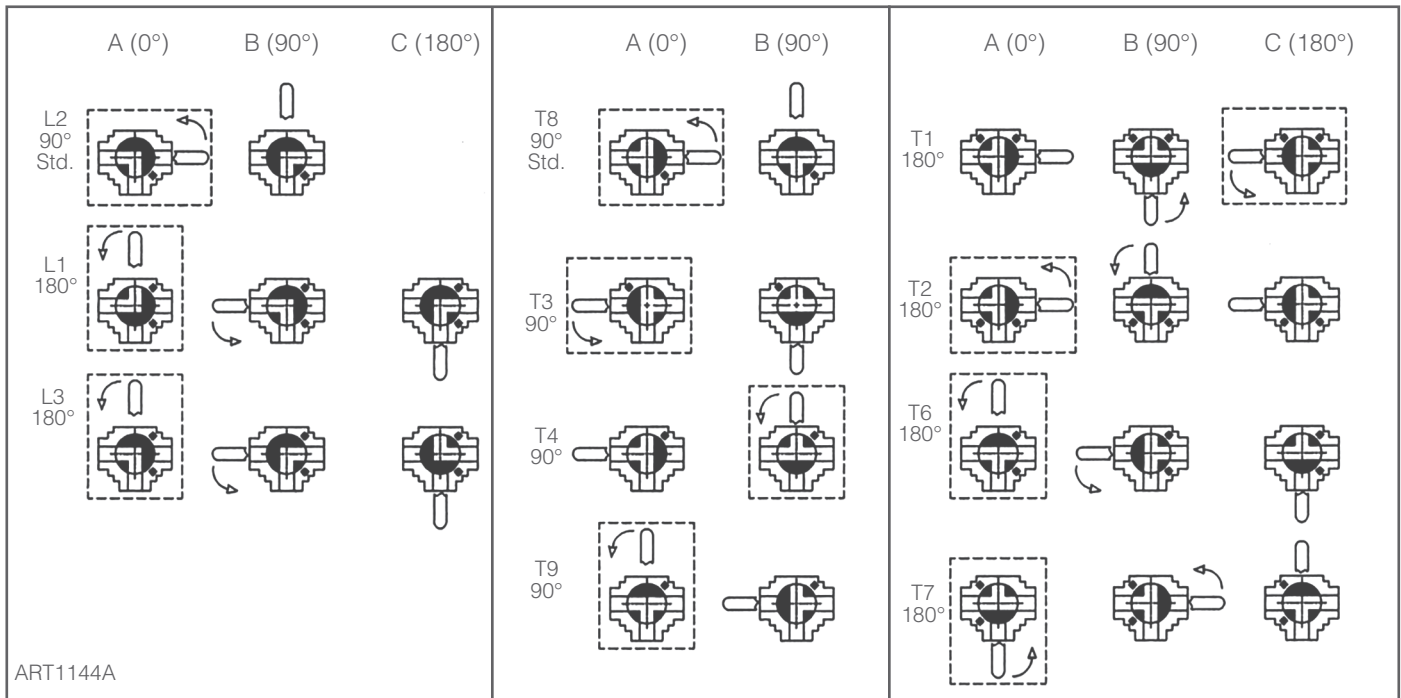


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Dimensions, Inches											
Size	Port	L	E	B	E1	C	ISO 5211	d1	F	H	Weight, Lbs
6"	5.90	16.81	6.28	2.40	11.6	47.25	F12	M12	4.92	1.417	275

Dimensions, mm											
Size	Port	L	E	B	E1	C	ISO 5211	d1	F	H	Weight, Kgs
DN150	150,0	427,0	159,5	62,0	294	1200	F12	M12	125,0	36,0	125

**Port Configuration**

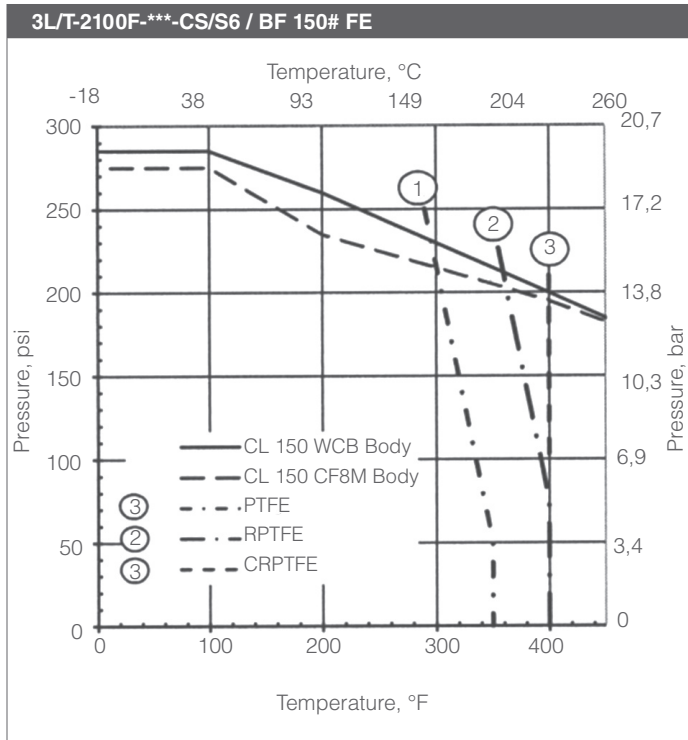


Dashed boxes show de-energized (start / fail) positions and arrows show sequence of positions (ABC or CBA) for UT-SR actuator with CW spring stroke, CCW air stroke.

Technical Specifications				
Valve Size	Operating Torque, in-lb	Flow Coefficient, Cv		
	285 psid	L-Port	T-Port Run	T-Port Branch
1/2"	147	13	25	9
3/4"	177	23	46	20
1"	288	35	70	25
1-1/4"	398	54	109	47
1-1/2"	636	81	162	62
2"	826	153	309	112
2-1/2"	1550	186	376	140
3"	1698	290	589	248
4"	2730	466	941	414
6"	5603	1595	3222	1150

RPTFE seats

Technical Specifications				
Valve Size	Operating Torque, Nm	Flow Coefficient, Kv		
	19,6 bar	L-Port	T-Port Run	T-Port Branch
DN15	16,6	11	22	8
DN20	20,0	20	40	17
DN25	32,5	30	60	22
DN32	45,0	46	94	41
DN40	71,9	69	139	53
DN50	93,3	132	266	96
DN65	175,1	160	323	121
DN80	191,8	249	506	214
DN100	308,5	401	809	356
DN150	633,1	1372	2771	989



Model	Size	Body Mat'l	1	2	3	4	5	6	7	8	9	10	11	12

Model Number	
3T-2100F	3 Way Ball Valve (T Port)
3L-2100F	3 Way Ball Valve (L Port)

Size	
050	1/2"
075	3/4"
100	1"
125	1-1/4"
150	1-1/2"
200	2"
250	2-1/2"
300	3"
400	4"
600	6"

Body Material	
CS	Carbon Steel
S6	Stainless Steel

1&2	Packing/Seat & End Connections
BF	PTFE/RPTFE, 150# Flange (standard)
GF	Graphite/CRPTFE, 150# Flange

3&4	Operation
HL	Lever Operated
NN	None
P1	UT-0A-DA STD
P2	UT-0-DA STD
P3	UT-1-DA STD
P4	UT-2-DA STD
P5	UT-2.5-DA STD
P6	UT-3-DA STD
P7	UT-3.5-DA STD
P8	UT-4-DA STD
PF	UT-4.5-DA STD
S1	UT-0-SR STD
S2	UT-1-SR STD
S3	UT-2-SR STD
S4	UT-2.5-SR STD
S5	UT-3-SR-STD
S6	UT-3.5-SR STD
S7	UT-4-SR STD
SF	UT-4/5-SR STD
S8	UT-5-SR STD
S9	UT-6-SR STD

3&4	Operation
M1	ER-1-2.5-4 110 VAC
M2	ER-2-5-4 110 VAC
M3	ER-3-5-4 110 VAC
M8	ER-4-10-4 110 VAC
M4	ER-6-15-4 (110 VAC)
M5	ER-10-15-4 110 VAC
M9	ER-15-30-4 (110 VAC)
MA	ER-20-12-4 (110 VAC)
M7	ER-38-14-4 (110 VAC)

5&6	Actuator Pressure
60	60 psi
80	80 psi
NN	N/A (no pneumatic actuator)
ZZ	Non-Standard

7&8	Solenoid Feature	Act. Type
00	None	
3A	3W 8551-120VAC N4 UT-0/5	SR
3C	3W EF8551-120VAc N7 UT-0/5	SR
3J	3W 8317G35-120VAC N4 UT-0/2.5	SR
3M	3W 8321G1-120VAC N4 UT-3/5	SR
3Q	3W EF8317G35-120VAC N7 UT-0/2.5	SR
3R	3W EF8321G1-120VAC N7 UT-3/5	SR
4A	4W 8551-120VAC N4 UT-0A	DA
4B	4W 8551-120VAC N4 UT-0/5	DA
4D	4W EF8551-120VAC N7 UT-0A	DA
4E	4W EF8551-120VAC N7 UT0/5	DA
ZZ	Non-Standard	

9&10	Limit Switch
00	None
AA	LS FMFB-5120-N4 to UT-0/3
AB	LS FMFB-5120-N4 to UT-3.5/7
AC	LS AMFB-5120-N7 to UT-0/3
AD	LS AMFB-510-N7 to UT-3.5/7
OZ	Non-Standard

11&12	Start Position
3A	T3A
3B	T3B
4A	T4A
4B	T4B
8A	T8A
8B	T8B
9A	T9A
9B	T9B
A2	L2A
B2	L2B