



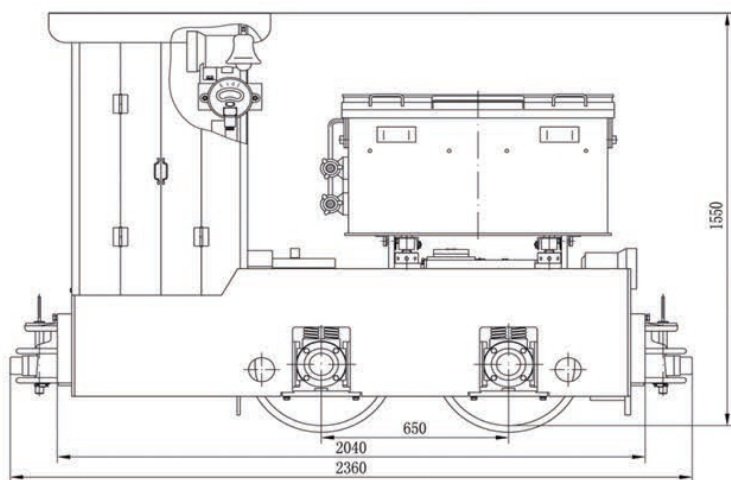
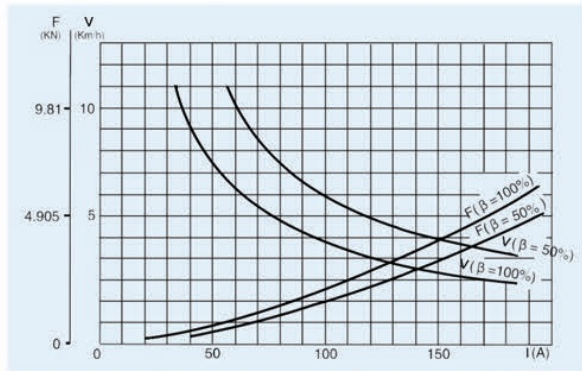
# Contents

2.5T Battery Locomotive	1
5T Battery Locomotive	3
8T Battery Locomotive	5
12T Battery Locomotive	7
15T Battery Locomotive	9
18T Battery Locomotive	11
25T Battery Locomotive	13
1.5T Trolley Locomotive	15
3T Trolley Locomotive	17
7T Trolley Locomotive	19
10T Trolley Locomotive	21
14T Trolley Locomotive	23
20T Trolley Locomotive	25
30T Trolley Locomotive	27
Charger	29
Rectifier Transformer	30
DC Traction Motor	31
AC Frequency Converter Traction Motor	32
Lead- acid Battery	33
Spare Parts	34

蓄电池电机车产品相关参数表 Battery motor vehicle product related parameters table																	
整备重量 (t)	轨距 (mm)	小时制牵 引力	小时制 速度	最大牵 引力	额定电 压(V)	牵引电机功率 kW * 台数	总长 (mm)	总宽 (mm)	轨面至 顶棚高	牵引高 度(mm)	轴距 (mm)	轮径 (mm)	蓄电池组容 量(Ah五小	最小曲 线半径	调速方式	制动方式	传动方式
weight (t)	gauge (mm)	Hour traction (kn)	Hourly speed (km/h)	Maximum traction (kn)	Rated voltage (V)	Traction motor power kW * number of units	Total length (mm)	Total width (mm)	Rail to ceiling height (mm)	Tractio n height (mm)	Wheelba se (mm)	Wheel diamete r (mm)	Battery capacity (Ah five- hour rate)	Minimum curve radius (m)	Speed mode	Brake mode	transfer method
2.5	457 600 762 900	2.55	4.54	6.13	48	3.5*1	2360	914 914 1076 1214	1550	320	650	Φ460	330	5	电阻调速、斩波调速 Resistance speed, chopping speed	机械制动 Mechanical brake	二级传动 Secondary drive
5	600 762 900	7.06	7	12.26	90	7.5 * 2	2860	920 1082 1220	1550	210/320	850	Φ520	385	6	电阻调速、斩波调速 Resistance speed, chopping speed	机械制动 Mechanical brake	二级传动 Secondary drive
8	600 762 900	11.18	7.8	19.62	110或132	11 * 2	4420	1054 1216 1354	1600	320/430	1150	Φ680	440	7	电阻调速、斩波调速、变频调速 Resistance speed, chopping speed, frequency control	机械制动、电气制动 Mechanical brake, electric brake	一级传动 First stage drive
8	600 762 900	12.83	7.8	19.62	110或132	11 * 2	4850	1054 1216 1354	1600	320/430	1150	Φ680	440	7	电阻调速、斩波调速、变频调速 Resistance speed, chopping speed, frequency control	机械制动、电气制动 Mechanical brake, electric brake	一级传动 First stage drive
8	600 762 900	11.18	7.8	19.62	140或144	15 * 2	4420	1050 1212 1350	1600	320/430	1150	Φ680	440	7	电阻调速、斩波调速、变频调速 Resistance speed, chopping speed, frequency control	机械制动、电气制动 Mechanical brake, electric brake	二级传动 Secondary drive
8	600 762 900	12.83	7.8	19.62	140或144	15 * 2	4850	1050 1212 1350	1600	320/430	1150	Φ680	440	7	电阻调速、斩波调速、变频调速 Resistance speed, chopping speed, frequency control	机械制动、电气制动 Mechanical brake, electric brake	二级传动 Secondary drive
12	600 762 900	16.48	8.7	29.43	192	22 * 2	4740	1050 1212 1350	1600	320/430	1220	Φ680	560	10	电阻调速、斩波调速、变频调速 Resistance speed, chopping speed, frequency control	机械制动、电气制动、空气制动 Mechanical brake, electric brake, air brake	二级传动 Secondary drive
12	600 762 900	16.48	8.7	29.43	192	22 * 2	5100	1050 1212 1350	1600	320/430	1220	Φ680	560	10	电阻调速、斩波调速、变频调速 Resistance speed, chopping speed, frequency control	机械制动、电气制动、空气制动 Mechanical brake, electric brake, air brake	二级传动 Secondary drive
15	600 762 900	18.93	9.6	36.18	256	30 * 2	5200	1500	1920	320/430	1400	Φ680	620	15	变频调速 frequency control	机械制动、电气制动、空气制动 Mechanical brake, electric brake, air brake	二级传动 Secondary drive
18	600 762 900	25.68	10.32	44.145	208	40 * 2	5100	1500	1900	320/430	2100	Φ680	730	20	变频调速 frequency control	机械制动、电气制动、空气制动 Mechanical brake, electric brake, air brake	二级传动 Secondary drive
25	762 900	50.4	9	65	288	65 * 2	6800	1500	2060	320/430	2300	Φ760	730	25	变频调速 frequency control	机械制动、电气制动、空气制动 Mechanical brake, electric brake, air brake	二级传动 Secondary drive
45	762 900	89	8.7	115	540	110*2	8020	1500	2400	320/430	2800	Φ840	620	30	变频调速 frequency control	机械制动、电气制动、空气制动 Mechanical brake, electric brake, air brake	带防溜车制动 With anti-slip car brake



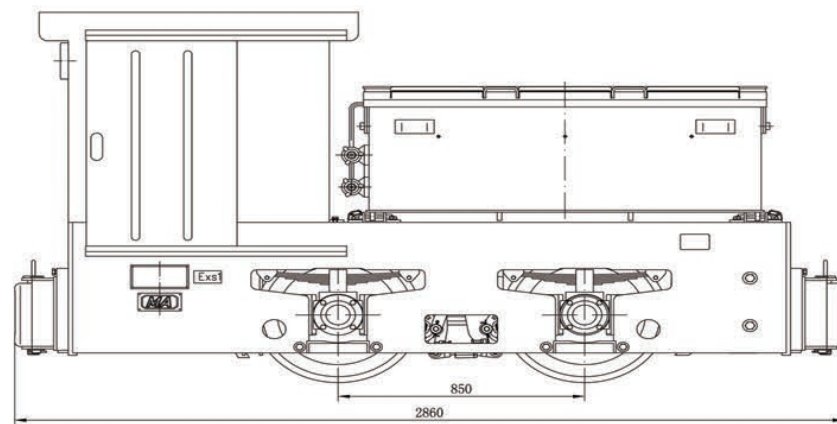
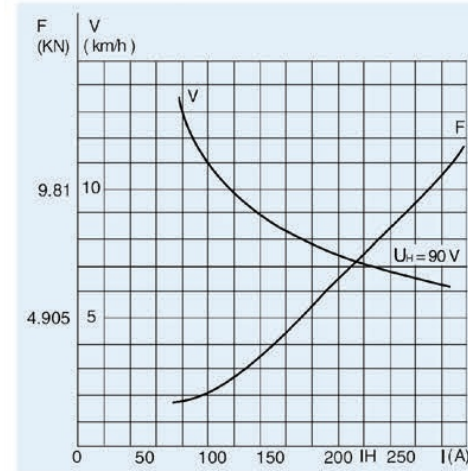
## 2.5T Battery Locomotive



- Frame:**  
Constructed in welded steel and suspended by spring on grease bearing seats with tapered roller bearings.
- Speed control:**  
In order to achieve continuous and stepless speed regulation, they have an electronic speed controller with high reliability.
- Brakes:**  
Mechanical drum brake to the coupler.
- Sanders:**  
Mechanical sanding system to the rails.
- Battery:**  
The battery housing is constructed in steel plating with an interior anti- acid covering. Each device has 24 pcs series storage lead acid batteries.
- Buffers:**  
The locomotive has two buffers with spring shock absorbers to achieve complete shock absorption against collisions.

Adhesive Weight	2.5 tons
Track Gauge	457,600, 762 or 900 mm
Hourly System Traction	2.55 kN
Max. Traction	6.13 kN
Hourly System Speed	4.54 km/h
Supply Voltage	48V
Capacity of Traction Battery	308 or 330 Ah (5 hours capacity)
Power of Electric Motor	3.5 kW×1
Length	2360 mm
Width	914, 1076 or 1214mm
Height	1550 mm
Wheelbase	650mm
Wheel Diameter	Φ460mm
Height of Traction	320 mm
Min. Turning Radius	5m
Speed Regulating Mode	Resistance or IGBT
Braking Mode	Mechanical Brake

## 5T Battery Locomotive



### Frame:

Constructed in welded steel and suspended by leaf spring on grease bearing seats with tapered roller bearings.

### Speed control:

In order to achieve continuous and stepless speed regulation, they have an electronic speed controller with high reliability.

### Brakes:

Mechanical brake to the four wheels by brake shoes.

### Sanders:

Pneumatic sanding system to the rails.

### Battery:

The battery housing is constructed in steel plating with an interior anti-acid covering. Each device has 45 pcs series storage lead acid batteries.

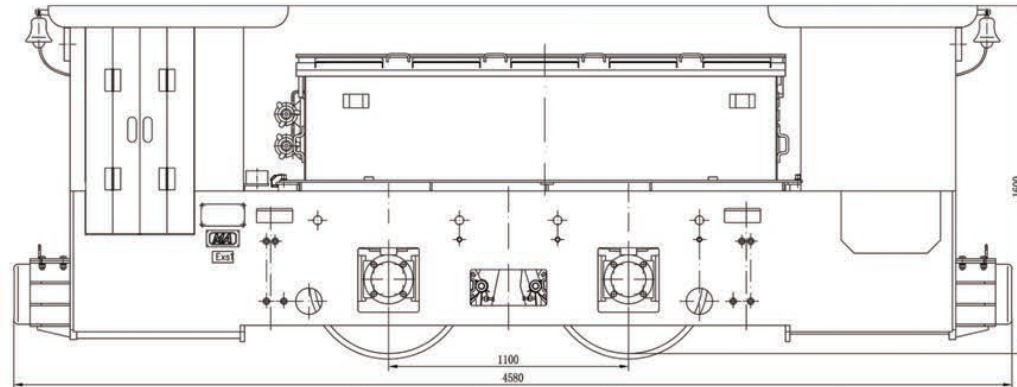
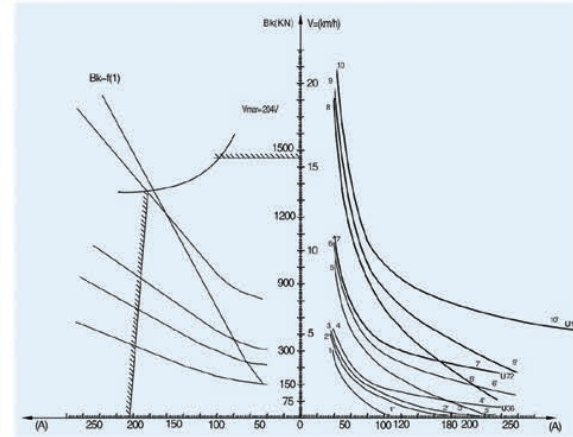
### Buffers and motor suspension:

The locomotive has two buffers with spring shock absorbers to achieve complete shock absorption against collisions. Equally, the motor is suspended from the chassis by a springs brace.

Adhesive Weight	5 tons
Track Gauge	600, 762 or 900mm
Hourly System Traction	7.06 kN
Max. Traction	12.26 kN
Hourly System Speed	7 km/h
Supply Voltage	90 V
Capacity of Traction Battery	330Ah or 385 Ah (5 hours capacity)
Power of Electric Motor	7.5kW×2
Length	2960 mm or 2860mm
Width	920,1082or 1220mm
Height	1550mm
Wheelbase	850mm
Wheel Diameter	Φ520mm
Height of Traction	210 or 320mm
Min. Turning Radius	6m
Speed Regulating Mode	Resistance or IGBT
Braking Mode	Mechanical Brake



## 8T Battery Locomotive



### Frame

Constructed in welded steel and suspended by leaf springs or rubber studs on grease bearing seats with tapered roller bearings.

### Speed control

In order to achieve continuous and stepless speed regulation, they have an electronic speed controller with high reliability.

The AC converters convert the DC from batteries into AC and the controller adjusts the speed of AC motors by the power frequency of the AC converter.

### AC motor

Compared with DC motors, the 3 phases AC motors have no carbon brushes and any other quick - wear parts. Double cabs type of 8 tonner battery locomotives have double cabs that have better field of vision for the operators.

### Brakes

Pneumatic brake to the four wheels by brake shoes. Stop brake by manual mechanical brake.

### Sanders

Pneumatic (or mechanical) sanding system to the rails.

### Battery

The battery housing is constructed in steel plating with an interior anti- acid covering. Each device has 55 to 72 pcs series storage lead- acid batteries.

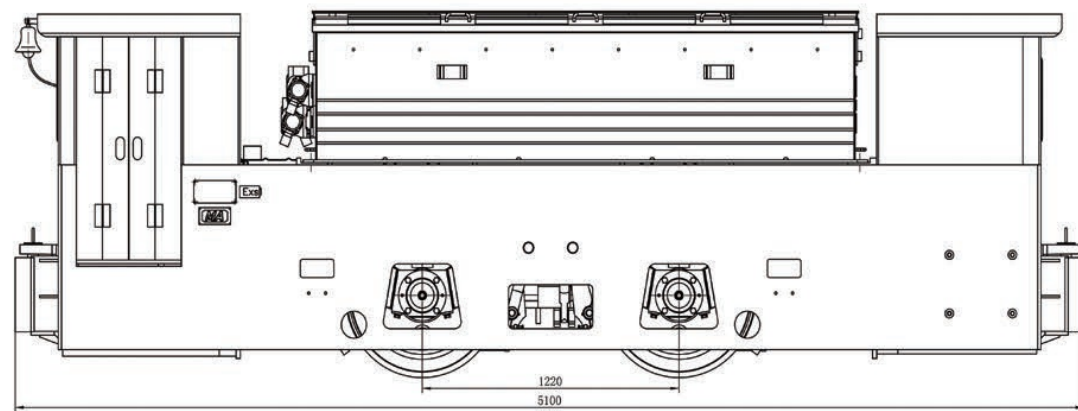
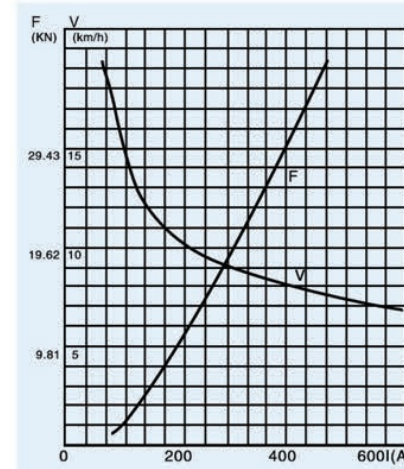
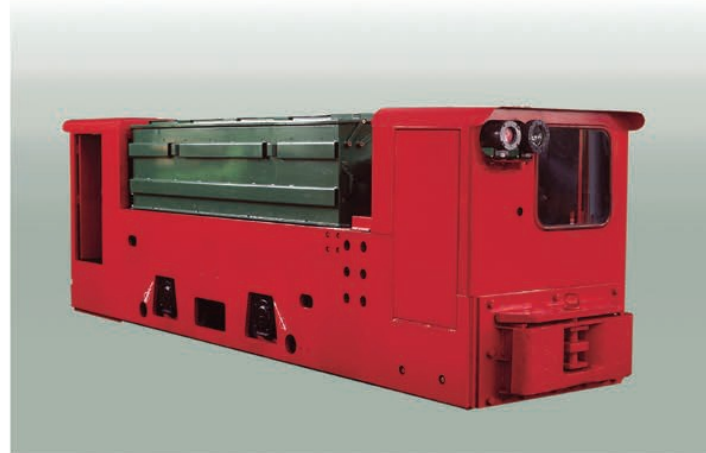
### Buffers and motor suspension

The locomotive has two buffers with spring shock absorbers to achieve complete shock absorption against collisions. Equally, the motor is suspended from the chassis by a springs brace.

Adhesive Weight	8 tons							
Track Gauge	600, 762 or 900mm							
Hourly System Traction	11.18 kN		12.83 kN		13.12 kN			
Max. Traction	19.62 kN				20.8 kN			
Hourly System Speed(km/h)	6.2	7.5	7.8		7.7			
Supply Voltage	110V	132V	140V	144V	110V	132V	140V	144V
Capacity of Traction Battery	370 Ah or 440 Ah							
Power of Electric Motor	11kW×2		15kW×2		15kW×2			
Length	4420,4430, 4470,4580 or 4850 mm							
Width	1050,1054, 1212, 1216, 1350 ,1354 or 1356mm							
Height	1550 or 1600mm							
Wheelbase	1100 or 1150mm							
Wheel Diameter	Φ600 or Φ680mm							
Height of Traction	210,320 or 430mm							
Min. Turning Radius	7m							
Speed Regulating Mode	Resistance or IGBT				AC Converter			
Braking Mode	Mechanical Brake				Mechanical and Electric Brake			



## 12T Battery Locomotive



### Frame

Constructed in welded steel and suspended by leaf springs or rubber studs on grease bearing seats with tapered roller bearings.

### Speed control

In order to achieve continuous and stepless speed regulation, they have an electronic speed controller with high reliability.

The AC converters convert the DC from batteries into AC and the controller adjusts the speed of AC motors by the power frequency of the AC converter.

### AC motor

Compared with DC motors, the 3 phases AC motors have no carbon brushes and any other quick-wear parts.

Double cabs type of 12 tonner battery locomotives have double cabs that have better field of vision for the operators.

### Brakes

Pneumatic brake to the four wheels by brake shoes. Stop brake by manual mechanical brake.

### Sanders

Pneumatic (or mechanical) sanding system to the rails.

### Battery

The battery housing is constructed in steel plating with an interior anti-acid covering. Each device has 96pcs- 128pcs series storage lead acid batteries.

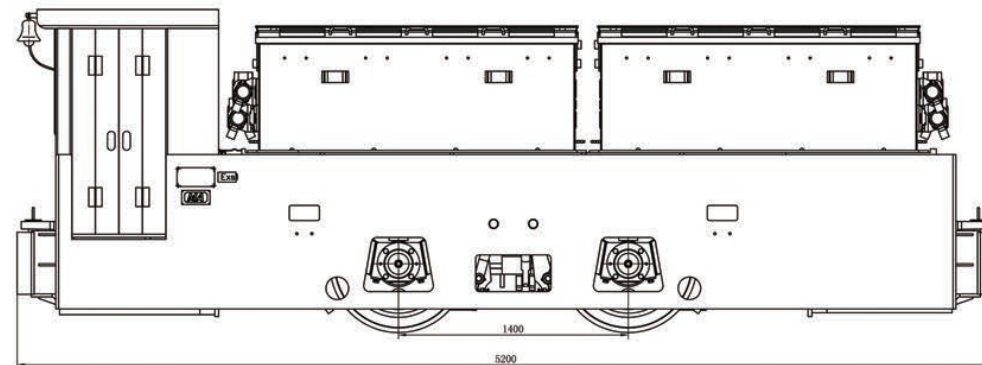
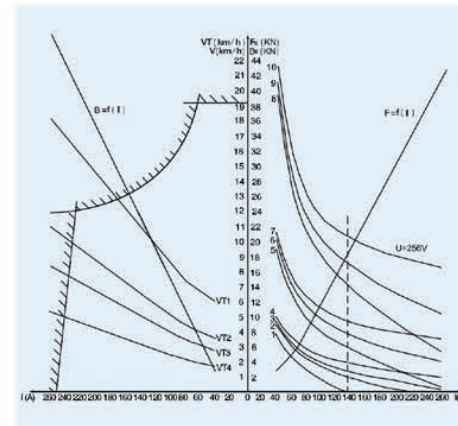
### Buffers and motor suspension

The locomotive has two buffers with spring shock absorbers to achieve complete shock absorption against collisions. Equally, the motor is suspended from the chassis by a spring brace.

Adhesive Weight	12 tons				
Track Gauge	600, 762 or 900mm				
Hourly System Traction	16.48kN	18.93kN	16.748 kN	22 kN	15.96 kN
Max. Traction	29.43 kN		31.2kN		32kN
Hourly System Speed(km/h)	8.7	9.6	8.7	9	14.03
Max. Speed	/	/	/	/	28 km/h
Supply Voltage	192V	256V	192V		216V
Capacity of Traction Battery	560Ah (5 hours capacity)				
Power of Electric Motor	22 kW×2	30 kW×2	22 kW×2	30 kW×2	30 kW×2
Length	4740,5100,5250mm				5100mm
Width	1050,1212,1350,1450mm				1090, 1212 or 1350mm
Height	1600 or 1900mm				1900mm
Wheelbase	1220 or 1750mm				1750mm
Wheel Diameter	Φ680mm				
Height of Traction	320 or 430mm				
Min. Turning Radius	10 or 15m				10m
Speed Regulating Mode	Resistance or IGBT		AC Converter		
Braking Mode	Mechanical, Air ,Electric Brake				



## 15T Battery Locomotive



### Frame

Constructed in welded steel and suspended by leaf spring or rubber studs on grease bearing seats with tapered roller bearings.

### Speed control

In order to achieve continuous and stepless speed regulation, they have an electronic speed controller with high reliability.

The AC converters convert the DC from batteries into AC and the controller adjusts the speed of AC motors by the power frequency of the AC converter.

### AC motor

Compared with DC motors, the 3 phases AC motors have no carbon brushes and any other quick-wear parts.

### Double cabs type

15 tonner battery locomotives have double cabs that have better field of vision for the operators.

### Brakes

Pneumatic brake to the four wheels by brake shoes. Stop brake by manual mechanical brake.

### Sanders

Pneumatic (or mechanical) sanding system to the rails.

### Battery

The battery housing is constructed in steel plating with an interior anti-acid covering. Each device has 128 pcs series storage lead acid batteries.

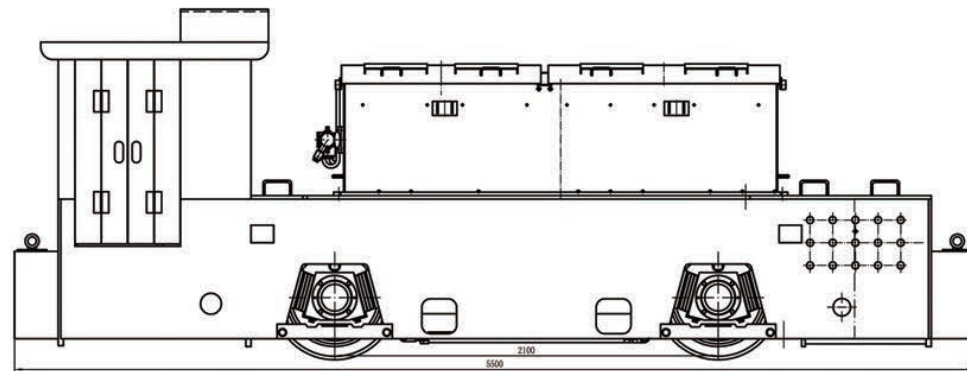
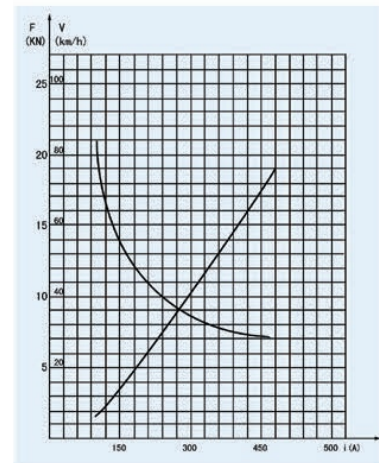
### Buffers and motor suspension

The locomotive has two buffers with spring shock absorbers to achieve complete shock absorption against collisions. Equally, the motor is suspended from the chassis by a spring brace.

Adhesive Weight	15 tons	
Track Gauge	600, 762 or 900mm	
Hourly System Traction	18.93 kN	20.92 kN
Max. Traction	36.18 kN	39 kN
Hourly System Speed	9.6 km/h	9.6km/h
Supply Voltage	256 V	
Capacity of Traction Battery	620Ah (5 hour capacity)	
Power of Electric Motor	30kW×2	
Length	5200mm	
Width	1500mm	
Height	1920mm	
Wheelbase	1400mm	
Wheel Diameter	Φ680mm	
Height of Traction	320 or 430 mm	
Min. Turning Radius	15m	
Speed Regulating Mode	Resistance or IGBT	AC Converter
Braking Mode	Mechanical, Air ,Electric Brake	



## 18T Battery Locomotive



### Frame

Constructed in welded steel and suspended by leaf spring or rubber studs on grease bearing seats with tapered roller bearings.

### Speed control

In order to achieve continuous and stepless speed regulation, they have an electronic speed controller with high reliability.

The AC converters convert the DC from batteries into AC and the controller adjusts the speed of AC motors by the power frequency of the AC converter.

### AC motor

Compared with DC motors, the 3 phases AC motors have no carbon brushes and any other quick-wear parts.

### Double cabs type

18 tonner battery locomotives have double cabs that have better field of vision for the operators.

### Brakes

Pneumatic brake to the four wheels by brake shoes. Stop brake by manual mechanical brake.

### Sanders

Pneumatic (or mechanical) sanding system to the rails.

### Battery

The battery housing is constructed in steel plating with an interior anti-acid covering. Each device has 104 pcs series storage lead acid batteries.

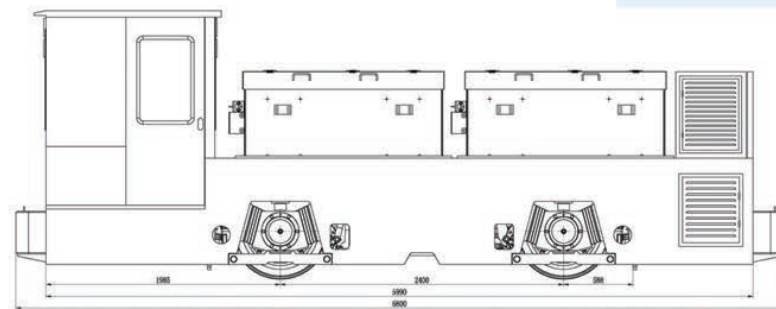
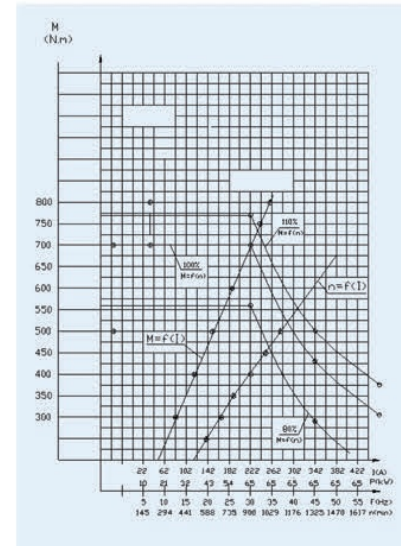
### Buffers and motor suspension

The locomotive has two buffers with spring shock absorbers to achieve complete shock absorption against collisions. Equally, the motor is suspended from the chassis by a spring brace.

Adhesive Weight	18 tons	
Track Gauge	762 or 900mm	
Hourly System Traction	29.4 kN	30.74 kN
Max. Traction	44.145 kN	46.8 kN
Hourly System Speed	9.8 km/h	9.8 km/h
Supply Voltage	208 V	
Capacity of Traction Battery	730Ah (5 hour capacity)	
Power of Electric Motor	40 kW×2	45 kW×2
Length	5500mm	
Width	1500mm	
Height	1900mm	
Wheelbase	2100mm	
Wheel Diameter	Φ600mm	
Height of Traction	320 or 430 mm	
Min. Turning Radius	20m	
Speed Regulating Mode	Resistance or IGBT	AC Converter
Braking Mode	Mechanical, Air ,Electric Brake	Mechanical, Air ,Electric Brake



## 25T Battery Locomotive



### Frame

Constructed in welded steel and suspended by leaf spring or rubber studs on grease bearing seats with tapered roller bearings.

### Speed control

In order to achieve continuous and stepless speed regulation, they have an electronic speed controller with high reliability.

The AC converters convert the DC from batteries into AC and the controller adjusts the speed of AC motors by the power frequency of the AC converter.

### AC motor

Compared with DC motors, the 3 phases AC motors have no carbon brushes and any other quick-wear parts.

### Double cabs type

25 tonner battery locomotives have double cabs that have better field of vision for the operators.

### Brakes

Pneumatic brake to the four wheels by brake shoes. Stop brake by manual mechanical brake.

### Sanders

Pneumatic (or mechanical) sanding system to the rails.

### Battery

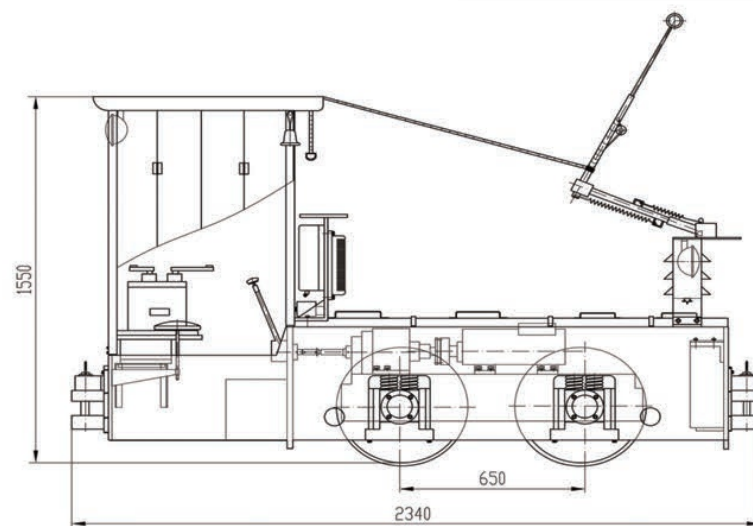
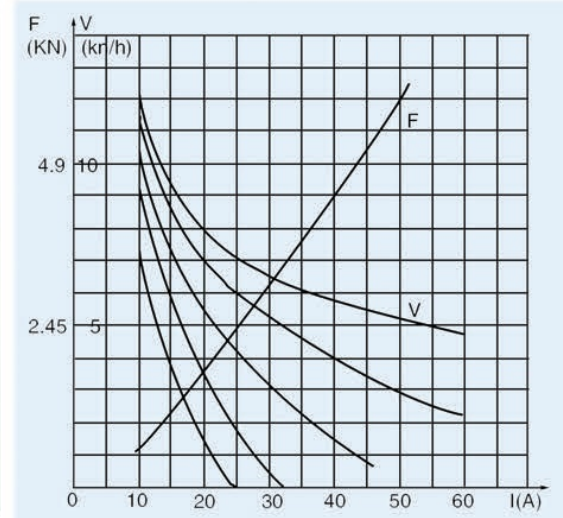
The battery housing is constructed in steel plating with an interior anti-acid covering. Each device has 144 pcs series storage lead acid batteries.

### Buffers and motor suspension

The locomotive has two buffers with spring shock absorbers to achieve complete shock absorption against collisions. Equally, the motor is suspended from the chassis by a spring brace.

Adhesive Weight	25 tons
Track Gauge	762 or 900mm
Hourly System Traction	50.8kN
Max. Traction	65 kN
Hourly System Speed	8.95 km/h
Supply Voltage	288V
Capacity of Traction Battery	730Ah
Power of Electric Motor	65kW×2
Length	6800 mm
Width	1500 mm
Height	2060 mm
Wheelbase	2400 mm
Wheel Diameter	Φ680 mm
Height of Traction	320 or 430mm
Min. Turning Radius	25 m
Speed Regulating Mode	AC Frequency Converter
Braking Mode	Mechanical , Air and Electric Brake

## 1.5T Trolley Locomotive



### Frame

Constructed in welded steel and suspended by spring on grease bearing seats with tapered roller bearings.

### Speed control

In order to achieve continuous and stepless speed regulation, they have an electronic speed controller with high reliability.

### Brakes

Mechanical drum brake to the coupler.

### Sanders

Mechanical sanding system to the rails.

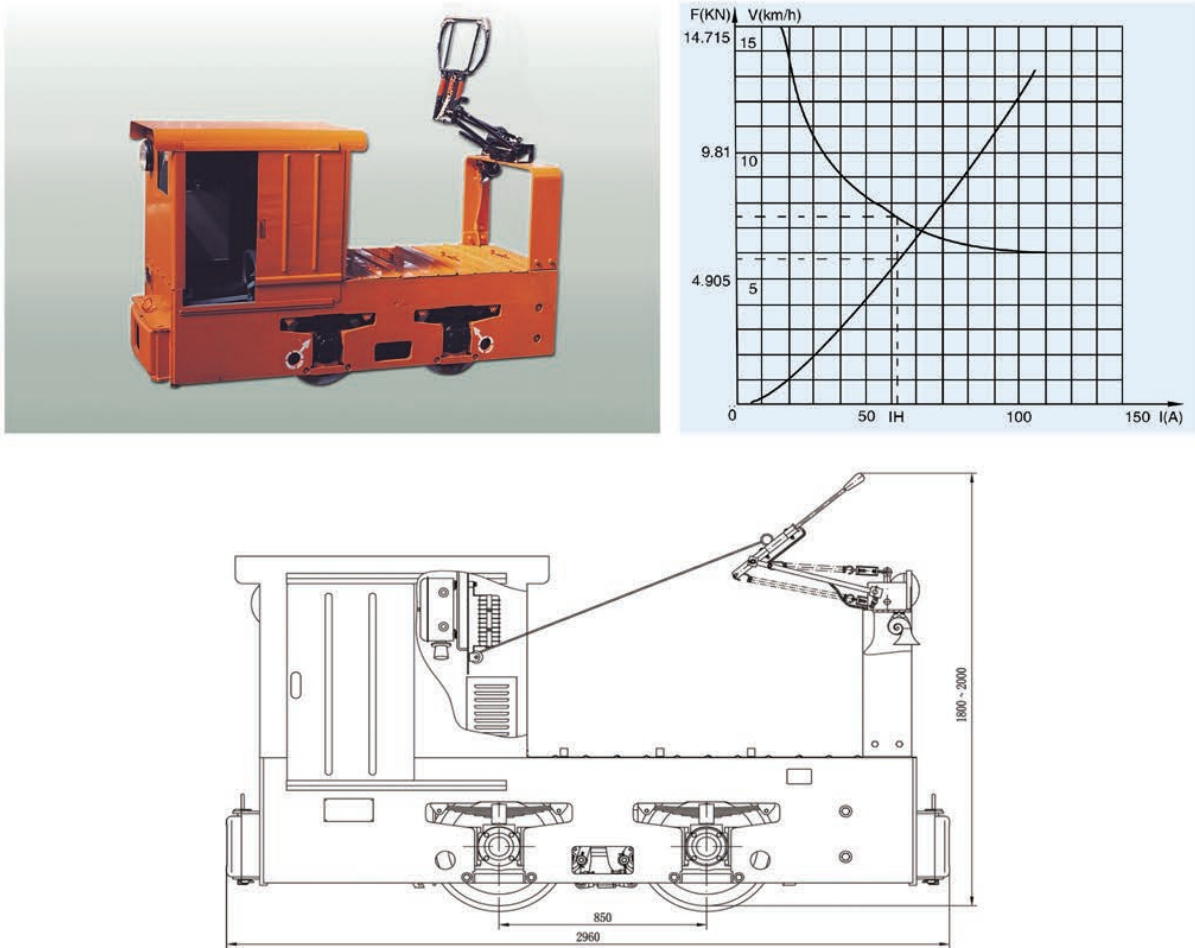
### Buffers

The locomotive has two buffers with spring shock absorbers to achieve complete shock absorption against collisions.

Adhesive Weight	1.5 tons	
Track Gauge	600, 762 or 900mm	
Hourly System Traction	2.55kN	3.24kN
Max. Traction	3.68kN	
Hourly System Speed	4.54km/h	6.6km/h
Voltage	100V	250V
Power of Electric Motor	3.5 kW ×1	6.5 kW ×1
Length	2340mm	2370mm
Width	950 or 1100mm	914, 1076 or 1214mm
Height	1550mm	
Wheelbase	650mm	
Wheel Diameter	Φ460mm	
Height of Pantograph	1600~2000mm	1800~2200mm
Height of Traction	320mm	210 or 320mm
Min. Turning Radius	5m	
Speed Regulating Mode	Resistance or IGBT	
Braking Mode	Mechanical Brake	



3T Trolley Locomotive



**Frame**  
Constructed in welded steel and suspended by leaf spring on grease bearing seats with tapered roller bearings.

**Speed control**  
In order to achieve continuous and stepless speed regulation, they have an electronic speed controller with high reliability.

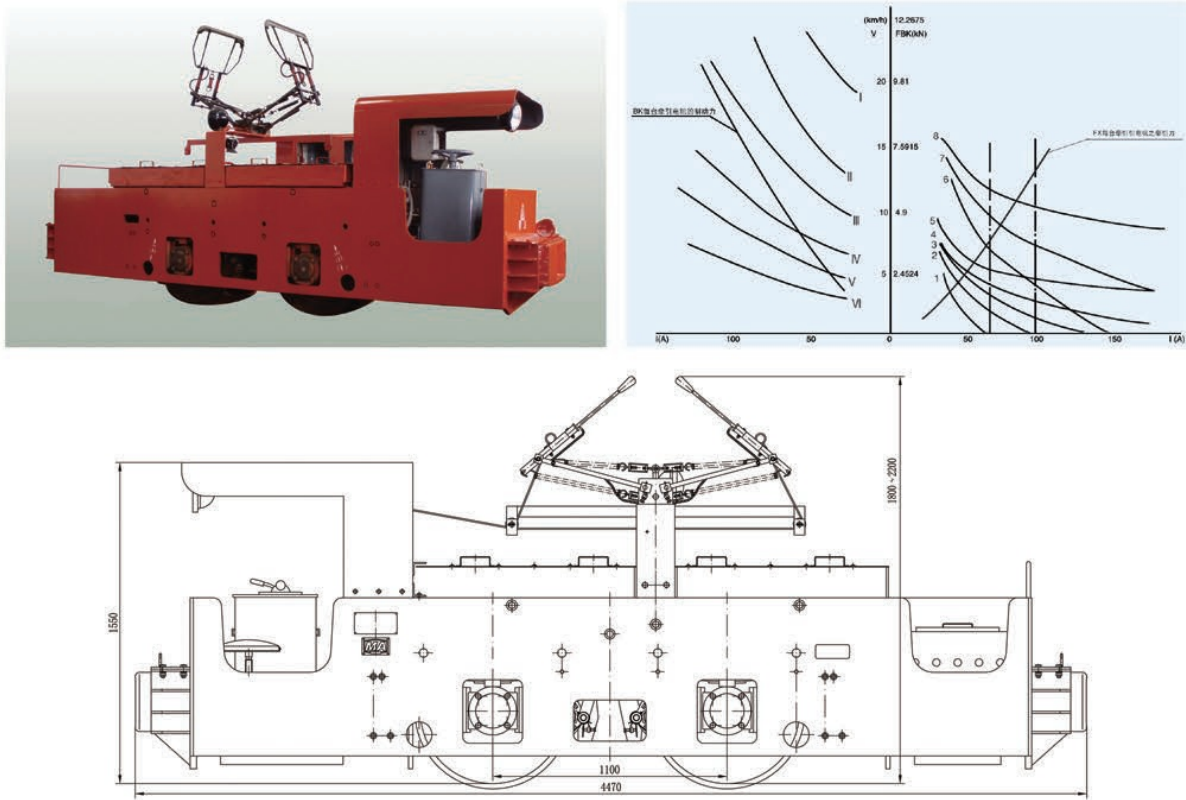
**Brakes**  
Mechanical brake to the four wheels by brake shoes.

**Sanders**  
Pneumatic sanding system to the rails.

**Buffers and motor suspension**  
The locomotive has two buffers with spring shock absorbers to achieve complete shock absorption against collisions. Equally, the motor is suspended from the chassis by a spring brace.

Adhesive Weight	3 tons		
Track Gauge	600, 762 or 900mm		
Hourly System Traction	4.704kN	6.1kN	5.74kN
Max. Traction	7.36kN		
Hourly System Speed	9.1km/h	10.6km/h	7.5km/h
Voltage	250V	550V	250V
Power of Electric Motor	12kW×1	24kW×1	6.5kW×2
Length	2960mm		2760mm
Width	940,920,1082 or 1220mm		
Height	1550mm		
Wheelbase	816mm	816mm	850mm
Wheel Diameter	Φ650mm	Φ650mm	Φ520mm
Height of Pantograph	1800~2200mm		
Height of Traction	210 or 320mm		
Min. Turning Radius	5.7m	5.7m	6m
Speed Regulating Mode	Resistance or IGBT		
Braking Mode	Mechanical Brake		

7T Trolley Locomotive



Frame

Constructed in welded steel and suspended by leaf spring or rubber studs on grease bearing seats with tapered roller bearings.

Speed control

In order to achieve continuous and stepless speed regulation, they have an electronic speed controller with high reliability.

The AC converters convert the DC from trolley line into AC and the controller adjusts the speed of AC motors by the power frequency of the AC converter.

AC motor

Compared with DC motors, the 3 phases AC motors that have no carbon brushes and any other quick- wear parts.

Brakes

Pneumatic brake to the four wheels by brake shoes. Stop brake by manual mechanical brake.

Sanders

Pneumatic (or mechanical) sanding system to the rails.

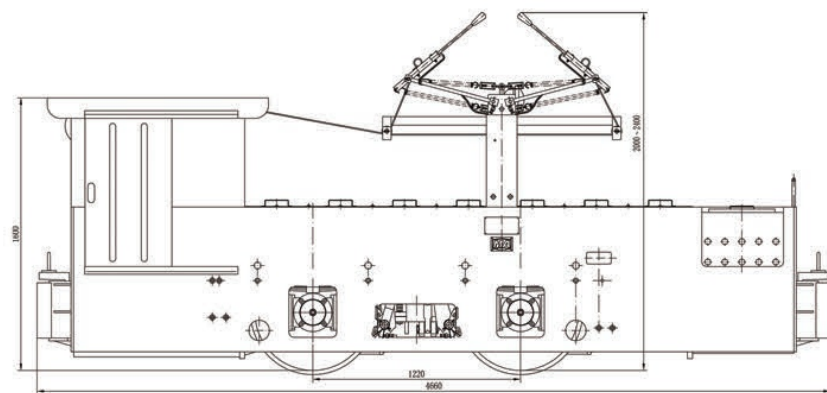
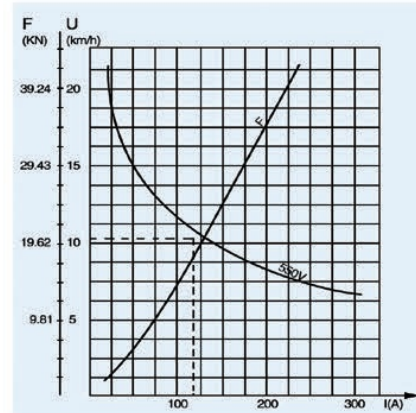
Buffers and motor suspension

The locomotive has two buffers with spring shock absorbers to achieve complete shock absorption against collisions. Equally, the motor is suspended from the chassis by a spring brace.

Adhesive Weight	7tons			
Track Gauge	600, 762 or 900mm			
Hourly System Traction	13.05kN	15.09kN	15.16kN	15.16kN
Max. Traction	17.2kN		18.2kN	
Hourly System Speed	11km/h		9.8km/h	
Voltage	250V	550V	250V	550V
Power of Electric Motor	21kW×2	24kW×2	22kW×2	22kW×2
Length	4470mm	4470mm	4470mm	4470mm
Width	1054,1216 or 1354 mm			
Height	1550mm			
Wheelbase	1100mm			
Wheel Diameter	Φ680mm			
Height of Pantograph	1800~2200mm			
Height of Traction	320/430mm			
Min. Turning Radius	7m			
Speed Regulating Mode	Resistance or IGBT		AC Converter	
Braking Mode	Mechanical Brake		Mechanical and Electric Brake	



## 10T Trolley Locomotive



### Frame

Constructed in welded steel and suspended by leaf spring or rubber studs on grease bearing seats with tapered roller bearings.

### Speed control

In order to achieve continuous and stepless speed regulation, they have an electronic speed controller with high reliability.

The AC converters convert the DC from trolley line into AC and the controller adjusts the speed of AC motors by the power frequency of the AC converter.

### AC motor

Compared with DC motors, the 3 phases AC motors that have no carbon brushes and any other quick-wear parts.

### Double cabs type

10 tonner trolley locomotives have double cabs that have better field of vision for the operators.

### Brakes

Pneumatic brake to the four wheels by brake shoes. Stop brake by manual mechanical brake.

### Sanders

Pneumatic (or mechanical) sanding system to the rails.

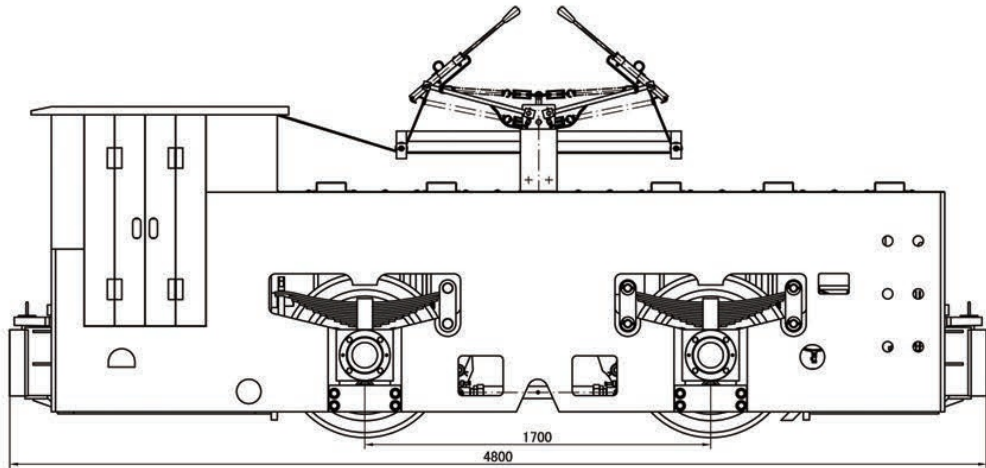
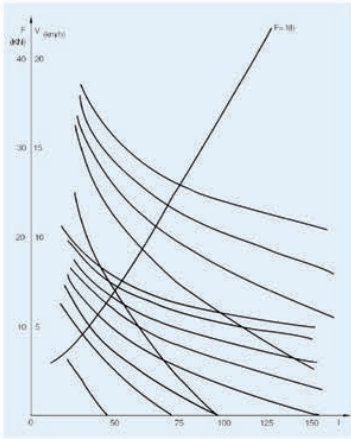
### Buffers and motor suspension

The locomotive has two buffers with spring shock absorbers to achieve complete shock absorption against collisions. Equally, the motor is suspended from the chassis by a spring brace.

Adhesive Weight	10tons					
Track Gauge	600, 762 or 900mm					
Hourly System Traction	13.05kN	18.93kN	15.09kN	18.93kN	15.16 kN	19.13 kN
Max. Traction	24.5kN			26 kN		
Hourly System Speed	11km/h	10.5 km/h	11km/h	10.5km/h	9.8km/h	10.59 km/h
Voltage	250V		550V		250 or 550V	
Power of Electric Motor	21kw×2	30kw×2	24kw×2	30kw×2	22kw×2	30kw×2
Length	4470, 4530,4660 or 4800mm					
Width	1050, 1054, 1212, 1216, 1350 or 1354mm					
Height	1550,1600 or 1660mm					
Wheelbase	1100 or 1220mm					
Wheel Diameter	Φ680mm					
Height of Traction	320/430mm					
Height of Pantograph	1800~2200, 1800~2400, 2000~2400mm					
Min. Turning Radius	7 or 10m					
Speed Regulating Mode	Resistance or IGBT			AC Converter		
Braking Mode	Mechanical, Electric Brake			Mechanical, Electric Brake		



14T Trolley Locomotive



**Frame**

Constructed in welded steel and suspended by leaf spring or rubber studs on grease bearing seats with tapered roller bearings.

**Speed control**

In order to achieve continuous and stepless speed regulation, they have an electronic speed controller with high reliability.

The AC converters convert the DC from trolley line into AC and the controller adjusts the speed of AC motors by the power frequency of the AC converter.

**AC motor**

Compared with DC motors , the 3 phases AC motors that have no carbon brushes and any other quick- wear parts.

**Center cab type**

14 tonner trolley locomotives have center cabs that have better field of vision for the operators.

**Brakes**

Pneumatic brake to the four wheels by brake shoes. Stop brake by manual mechanical brake.

**Sanders**

Pneumatic (or mechanical) sanding system to the rails.

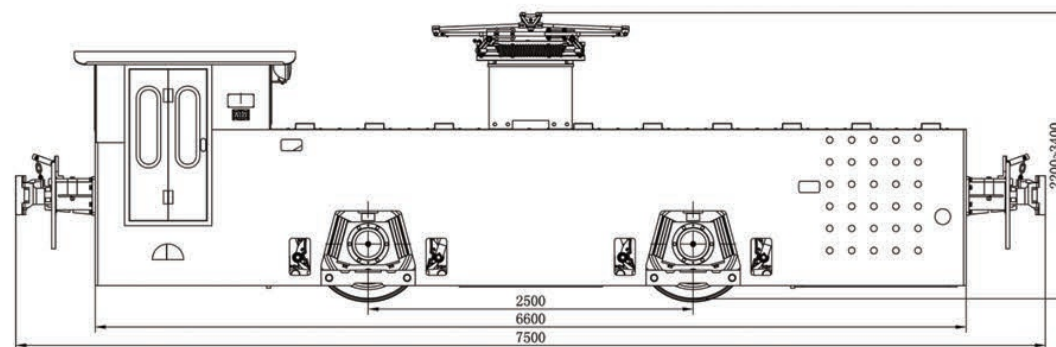
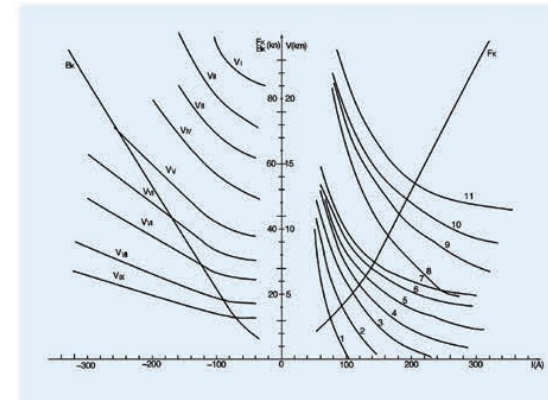
**Buffers and motor suspension**

The locomotive has two buffers with spring shock absorbers to achieve complete shock absorption against collisions. Equally, the motor is suspended from the chassis by a spring brace.

Adhesive Weight	14 tons	
Track Gauge	600, 762 or 900mm	
Hourly System Traction	26.68 kN	27.16 kN
Max. Traction	34.3 kN	36.4 kN
Hourly System Speed	12.87km/h	11.2 km/h
Voltage	250 or 550V	550V
Power of Electric Motor	52kW×2	45kW×2
Length	4800mm	
Width	1050,1212, or 1350mm	
Height	1700mm	
Wheelbase	1700mm	
Wheel Diameter	Φ760mm	
Height of Pantograph	2000~3200mm	
Height of Traction	320/430mm	
Min. Turning Radius	12m	
Speed Regulating Mode	Resistance or IGBT	Ac Converter
Braking Mode	Mechanical, Electric and Air Brake	



## 20T Trolley Locomotive



### Frame

Constructed in welded steel and suspended by leaf spring or rubber studs on grease bearing seats with tapered roller bearings.

### Speed control

In order to achieve continuous and stepless speed regulation, they have an electronic speed controller with high reliability.

The AC converters convert the DC from trolley line into AC and the controller adjusts the speed of AC motors by the power frequency of the AC converter.

### AC motor

Compared with DC motors, the 3 phases AC motors that have no carbon brushes and any other quick-wear parts.

### Brakes

Pneumatic brake to the four wheels by brake shoes. Stop brake by manual mechanical brake.

### Sanders

Pneumatic (or mechanical) sanding system to the rails.

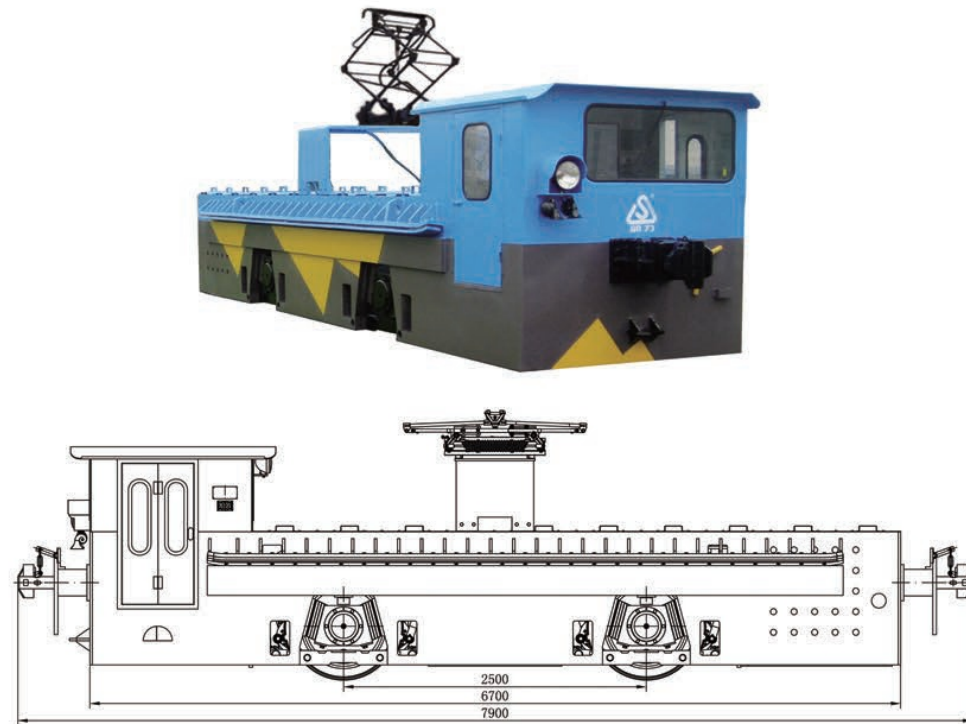
### Buffers and motor suspension

The locomotive has two buffers with spring shock absorbers to achieve complete shock absorption against collisions. Equally, the motor is suspended from the chassis by a spring brace.

Adhesive Weight	20 tons				
Track Gauge	600, 762 or 900mm				
Hourly System Traction	39.23 kN	37.3 kN	40.6 kN	41.04 kN	39.2kN
Max. Traction	49 kN		52 kN		52.9 kN
Hourly System Speed	15 km/h	14.4 km/h	10.5 km/h	12.5 km/h	18.6 km/h
Voltage	550V				750V
Power of Electric Motor	85kW×2	78kW×2	65kW×2	75kW×2	110kW×2
Length	7100 or 7400mm				7500mm
Width	1600 or 1750mm				2300mm
Height	1900mm				3340mm
Wheelbase	2200 or 2500mm				3000mm
Wheel Diameter	Φ840mm				
Height of Pantograph	2000~3200mm				4050~4500mm
Height of Traction	320/430mm				430mm
Min. Turning Radius	12, 25 or 30m				30m
Speed Regulating Mode	Resistance or IGBT		AC Converter		Resistance or IGBT
Braking Mode	Mechanical, Electric and Air Brake				



## 30T Trolley Locomotive



### Frame

Constructed in welded steel and suspended by leaf spring or rubber studs on grease bearing seats with tapered roller bearings.

### Speed control

In order to achieve continuous and stepless speed regulation, they have an electronic speed controller with high reliability.

The AC converters convert the DC from trolley line into AC and the controller adjusts the speed of AC motors by the power frequency of the AC converter.

### AC motor

Compared with DC motors, the 3 phases AC motors that have no carbon brushes and any other quick-wear parts.

### Brakes

Pneumatic brake to the four wheels by brake shoes. Stop brake by manual mechanical brake.

### Sanders

Pneumatic (or mechanical) sanding system to the rails.

### Buffers and motor suspension

The locomotive has two buffers with spring shock absorbers to achieve complete shock absorption against collisions. Equally, the motor is suspended from the chassis by a spring brace.

Adhesive Weight	30 tons	
Track Gauge	762 or 900mm	
Hourly System Traction	43kN	60kN
Max. Traction	72kN	78 kN
Hourly System Speed	13.2 km/h	12.73 km/h
Voltage	550V	
Power of Electric Motor	85kW×2	110kW×2
Length	7100mm	7900mm
Width	1410mm	1750mm
Height	1700mm	1900mm
Wheelbase	2200mm	2500mm
Wheel Diameter	Φ840mm	Φ840mm
Height of Pantograph	1900~2400mm	2400~3400mm
Height of Traction	320mm	780mm
Min. Turning Radius	32m	30m
Speed Regulating Mode	Resistance or IGBT	AC converter
Braking Mode	Mechanical, Electric and Air Brake	



Charger



AC Input Voltage	DC Output		Application of Locomotive Model	Note
	A	V		
380/660/1140V	90A	40- 72V	2.5t	General type
		60- 120V	5t	
		100- 190V	8t(110、132V)	
		110- 210V	8t(140、144V)	
		140- 290V	12t	
380/660/1140V	90A	71V	2.5t	Anti- explosion type
		132V	5t	
		162V	8t(110V)	
		194V	8t(132V)	
		210V	8t(140、144V)	
		280V	12t	

Rectifier Transformer



AC Input Voltage	Specification	Rated DC Output		Rectifier Line
		A	V(±5~10%)	
380/660/1140V	75/115	75A	115V	Three phase bridge
	100/115	100A	115V	
	150/115	150A	115V	
	100/275	100A	275V	
	200/275	200A	275V	
	300/275	300A	275V	
380/660/1140V	100/600	100A	600V	Three phase bridge
	200/600	200A	600V	
	300/600	300A	600V	
	400/600	400A	600V	
	500/600	500A	600V	
	600/600	600A	600V	



DC Traction Motor



Rated Data				Max. A	Max r/min	Kg
KW	V	A	r/min			
3.5	42	105	960	210	2400	134
3.5	42	105	960	210	2400	137
6.5	250	31.5	1190	63	2500	165
7.5	84	111	1130	222	2400	170
11	120	112	370	224	1300	485
15	130	136	1060	272	2230	362
20.6	250	95	600	190	1400	525
22	180	144	1190	288	2400	410
24	550	50.5	600	101	1400	545
30	550	61	1435	122	3014	410
52	550	106	1300	212	2800	610
1.9	550	4.45	1250	6.675	1400	80
1.1	90	16	1250	24	1400	110

AC Frequency Converter Traction Motor



Rated Data						Frequency Range (Hz)	Adjustment Range (r/min)	Rated Working Mode	Application of Locomotive Model
KW	V	A	N.m	Hz	r/min				
7	175	34.7	45	50	1450	5- 100	140- 2900	S <sub>2</sub> - 60min	CJY 3
15	100	121	95	50	1460	5- 100	140- 2920	S <sub>2</sub> - 60min	CTY8
22	140	112	140	50	1470	5- 100	140- 2940	S <sub>2</sub> - 60min	CTY12
22	130	150	350	40	590	4- 80	55- 1180	S <sub>2</sub> - 60min	CTY10
22	180	102	350	40	590	4- 80	55- 1180	S <sub>2</sub> - 60min	CJY 10
22	380	42	350	40	590	4- 80	55- 1180	S <sub>2</sub> - 60min	CJY 10
30	380	57	191	50	1470	5- 100	140- 2940	S <sub>2</sub> - 60min	CJY 10
45	380	84	286	50	1480	5- 100	140- 2960	S <sub>2</sub> - 60min	CJY 14
75	225	233	716	51	1000	5- 100	140- 2000	S <sub>2</sub> - 60min	CJY 20
110	400	199	1167	40	900	3- 80	140- 2334	S <sub>2</sub> - 60min	CJY 30



## Lead- acid Battery



5 Hours Rated Capacity(AH)	Rated Voltage (V)	Max. Dimension			Application of Locomotive Model	Battery Quantity of Every Power Device (PCS)
		Length	Width	Height		
330	2	137	181	464	CTY2.5 48V	24
385	2	137	181	464	CTY5 90V	45
330	2	137	181	464	CTY5 88V	44
385	2					
440	2	175	181	466	CTY8 110V	55
440	2	175	181	466	CTY8 132V	66
440	2	175	181	466	CTY8 140V	70
440	2	160	208	370	CTY8 144V	72
560	2	160	145	580	CTY12 192V	96
330	2	137	181	448	CTY2.5 48V	24
370	2	225	155	450	CTY5 90V	45
395	2	180	136	450	CTY5 90V	45
440	2	176	181	466	CTY8 140V	70
620	2	176	160	490	CTY15 256V	128

## Spare Parts



Armature



Anti- explosion Lamp



Axle



Resistor



Bevel Gear



Wheel Set



Spur Gear



Brush Box



IGBT Driver Controller



Leaf spring



Brush Holder Ring



Lord, Negative Pole Coil



Power Device



Resistor Driver Controller



Ac converter

