

## Overview of Tokyo Metro's rolling stock fleet

Line	Track Gauge	Electrification	Series	Trainset	Number of trainsets (cars)	Operation start	Carbody	Rolling Stock Performance	Bogies	Traction Inverter	Brake Equipment	Power Supply	Signalling system, Telecommunication system
Ginza Line	1,435 mm	600 V DC Third-rail	1000	6	40 (240)	2012 ~2017	Aluminum-alloy	Acceleration 0.92 m/s <sup>2</sup> (3.3 km/h/s)  Deceleration (service/emergency) 1.11/1.25 m/s <sup>2</sup> (4.0/4.5 km/h/s)  Maximum design speed 80 km/h	Mono-link guide type Bolster type Single axle steering bogies	Traction inverter (VVVF inverter) (MM: PMSM)	Foundation brake equipment: Tread brake unit + Disc brake unit (single-disc brake)  Electric command electro-pneumatic blended brake (regenerative brake)  Security braking device Snow proof braking device  TCMS (TIS) trainset comprehensive blending control (electro-pneumatic blended brake control of regenerative brake on a total trainset)	Auxiliary power supply (Static inverter)  Alkaline batteries	CS-ATC (Cab Signal-continuous induction type Automatic Train Control),  Radio communication system (space wave type)
Marunouchi Line	1,435 mm	600 V DC Third-rail	02	6	50 (300)	1988 ~1995	Aluminum-alloy	Acceleration 0.89 m/s <sup>2</sup> (3.2 km/h/s)  Deceleration (service/emergency) 1.11/1.39 m/s <sup>2</sup> (4.0/5.0 km/h/s)  Maximum design speed 80 km/h	[#01~06,08~19] Metal-rubber cushion guide type Bolster bogies	[#01~19] Traction inverter (VVVF inverter) (MM: PMSM)	Electric command electro-pneumatic blended brake (regenerative brake)  Security braking device Snow proof braking device	[#01~19] Power supply for auxiliary electric devices: Motor-generator; Power supply for HVAC; Auxiliary power supply (Static inverter)  Alkaline batteries	CS-ATC (Cab Signal-continuous induction type Automatic Train Control),  Radio communication system (inductive radio type)
									[#07] Conical bonded rubber type guide Bolsterless bogies(cars: 02-107, 207), PQ (L/V) monitoring bogies (car: 02-307), and Metal-rubber cushion guide type Bolster bogies (other cars)				
									[#20~53] Mono-link guide type Bolsterless bogies	[#20~53] Traction inverter (VVVF inverter)	[#20~53] Power supply for auxiliary electric devices: Auxiliary power supply (Static inverter); Power supply for HVAC; Auxiliary power supply (Static inverter)  Alkaline batteries		
									2000			6	4 (24)
02 (branch line)	3	6 (18)	1996	Aluminum-alloy	Acceleration 0.89 m/s <sup>2</sup> (3.2 km/h/s)  Deceleration (service/emergency) 1.11/1.39 m/s <sup>2</sup> (4.0/5.0 km/h/s)  Maximum design speed 80km/h	Mono-link guide type Bolsterless bogies	Traction inverter (VVVF inverter)	Electric command electro-pneumatic blended brake (regenerative brake)  Security braking device Snow proof braking device	Auxiliary power supply (Static inverter)  Alkaline batteries	CS-ATC (Cab Signal-continuous induction type Automatic Train Control),  Radio communication system (inductive radio type)			
Hibiya Line	1,067 mm	1,500 V DC Overhead catenary	03	8	11 (88)	1988 ~1994	Aluminum-alloy	Acceleration 0.92 m/s <sup>2</sup> (3.3 km/h/s)  Deceleration (service/emergency) 1.03/1.25 m/s <sup>2</sup> (3.7/4.5 km/h/s)  Maximum design speed 110 km/h	[#01~08] SU Minden type (plate-type guiding arm on one side with U-shaped rubber pad) Bolsterless bogies	Traction inverter (VVVF inverter)	[#01~08,35,36] Electric command electro-pneumatic blended brake (regenerative brake until just before stopping)  Security braking device Snow proof braking device	[#01~08,35,36] Auxiliary power supply (Static inverter)  Alkaline batteries	CS-ATC (Cab Signal-continuous induction type Automatic Train Control) Tobu type ATIS (Automatic Train Stop) Tokyu type CS-ATC,  Radio communication system (inductive radio type) Tobu-Tokyu types radio communication system (space wave type)
									[#35,36,39] Mono-link guide type Bolsterless bogies				
13000	7	29 (203)	2017~	Aluminum-alloy	Acceleration 0.92 m/s <sup>2</sup> (3.3 km/h/s)  Deceleration (service/emergency) 1.03/1.25 m/s <sup>2</sup> (3.7/4.5 km/h/s)  Maximum design speed 110 km/h	Mono-link guide type Bolster type Single axle steering bogies	Traction inverter (VVVF inverter) (MM: PMSM)	Foundation brake equipment: Tread brake unit + Disc brake unit (double-disc brake)  Electric command electro-pneumatic blended brake (regenerative brake until just before stopping)  Security braking device Snow proof braking device TCMS (TIS) trainset comprehensive blending control (electro-pneumatic blended brake control of regenerative brake on a total trainset)	Auxiliary power supply (Static inverter)  Alkaline batteries	CS-ATC (Cab Signal-continuous induction type Automatic Train Control) Tobu type ATIS (Automatic Train Stop) Tokyu type CS-ATC,  Radio communication system (inductive radio type) Tobu-Tokyu types Radio communication system (space wave type)			

Tozai Line	1,067 mm	1,500 V DC Overhead catenary	05	10	30 (300)	1991 ~2005	Aluminum-alloy	[#14~33] Acceleration 0.92 m/s <sup>2</sup> (3.3 km/h/s)  Deceleration (service/emergency) 0.97/1.39 m/s <sup>2</sup> (3.5/5.0 km/h/s)  Maximum design speed 110 km/h	[#14] ES Minden type (plate-type guiding arm on one side with revised U-shaped rubber pad); Bolsterless bogies	[#14~18.21] Traction inverter (VVVF inverter) (MM: PMSM)	[#14~18.21] Electric command electro-pneumatic blended brake (regenerative brake until just before stopping)  Security braking device Snow proof braking device  TCMS (TIS) trainset comprehensive blending control (electro-pneumatic blended brake control of regenerative brake on a total trainset)	[#14~24] Auxiliary power supply (Static inverter)  Alkaline batteries	CS-ATC (Cab Signal-continuous induction type Automatic Train Control) (digital) JRE type ATS-P (Automatic Train Stop - Pattern type) Toyo rapid Railway type WS-ATC (Way side Signal-continuous induction Automatic Train Control),  Radio communication system (inductive radio type) JRE type Radio communication system (space wave type)	
								[#19~43] Mono-link guide type Bolsterless bogies	[#19,20,22~43] Traction inverter (VVVF inverter)	[#19,20,22~39] Electric command electro-pneumatic blended brake (regenerative brake)  Security braking device Snow proof braking device	[#25~30] DC-DC converter  Alkaline batteries			
								[#34~43] Acceleration 0.92 m/s <sup>2</sup> (3.3 km/h/s)  Deceleration (service/emergency) 0.97/1.39 m/s <sup>2</sup> (3.5/5.0 km/h/s)  Maximum design speed 120 km/h		[#40~43] Electric command electro-pneumatic blended brake (regenerative brake until just before stopping)  Security braking device Snow proof braking device	[#31~43] Auxiliary power supply (Static inverter)  Alkaline batteries			
Tozai Line	1,067 mm	1,500 V DC Overhead catenary	07	10	6 (60)	1993 ~1994	Aluminum-alloy	Acceleration 0.92 m/s <sup>2</sup> (3.3 km/h/s)  Deceleration (service/emergency) 0.97/1.39 m/s <sup>2</sup> (3.5/5.0 km/h/s)  Maximum design speed 110 km/h	Mono-link guide type Bolsterless bogies	[#01,02,05,06] Traction inverter (VVVF inverter)	[#01,02,05,06] Electric command electro-pneumatic blended brake (regenerative brake)  Security braking device Snow proof braking device	Auxiliary power supply (Static inverter)  Alkaline batteries	CS-ATC (Cab Signal-continuous induction type Automatic Train Control) (digital) JRE type ATS-P (Automatic Train Stop - Pattern type) Toyo rapid Railway type WS-ATC (Way side Signal-continuous induction Automatic Train Control),  Radio communication system (inductive radio type) JRE type radio communication system (space wave type)	
								[#03,04] Traction inverter (VVVF inverter) (MM: PMSM)		[#03,04] Electric command electro-pneumatic blended brake (regenerative brake until just before stopping)  Security braking device Snow proof braking device  TCMS (TIS) trainset comprehensive blending control (electro-pneumatic blended brake control of regenerative brake on a total trainset)				
Tozai Line	1,067 mm	1,500 V DC Overhead catenary	15000	10	16 (160)	2010 ~2017	Aluminum-alloy	Acceleration 0.92m/s <sup>2</sup> (3.3km/h/s)  Deceleration (service/emergency) 0.97/1.39 m/s <sup>2</sup> (3.5/5.0 km/h/s)  Maximum design speed 110 km/h	[#01~12,14~16] Mono-link guide type Bolster bogies	Traction inverter (VVVF inverter)	Electric command electro-pneumatic blended brake (regenerative brake until just before stopping)  Security braking device Snow proof braking device	Auxiliary power supply (Static inverter)  Alkaline batteries	CS-ATC (Cab Signal-continuous induction type Automatic Train Control) (digital) JRE type ATS-P (Automatic Train Stop - Pattern type) Toyo rapid Railway type WS-ATC (Way side Signal-continuous induction Automatic Train Control),  Radio communication system (inductive radio type) JRE type radio communication system (space wave type)	
								[#13] PQ (L/V) monitoring bogies (car: 15713), and Mono-link guide type Bolster bogies (other cars)						
Chiyoda Line	1,067 mm	1,500 V DC Overhead catenary	6000	10	1 (10)	1971	Aluminum-alloy	Acceleration 0.92 m/s <sup>2</sup> (3.3 km/h/s)  Deceleration (service/emergency) 1.02/1.30 m/s <sup>2</sup> (3.7/4.7 km/h/s)  Maximum design speed 100 km/h	[#02] S Minden type (plate-type guiding arm on one side) Bolster bogies	Traction inverter (VVVF inverter)	Electric command electro-pneumatic blended brake (regenerative brake)  Security braking device Snow proof braking device	Power supply for auxiliary electric devices: Motor-generator; Power supply for HVAC; Auxiliary power supply (Static inverter)  Alkaline batteries	CS-ATC (Cab Signal-continuous induction type Automatic Train Control) (Digital - Automatic Train Stop - Pattern type),  Radio communication system (inductive radio type) JRE, Odakyu types radio communication system (space wave type)	
								[#01~11,13~37] Mono-link guide type Bolster bogies						
								[#12] PQ(L/V) monitoring bogies (car: 16312), and Mono-link guide type Bolster bogies (other cars)						
Chiyoda Line	1,067 mm	1,500 V DC Overhead catenary	16000	10	37 (370)	2010 ~2017	Aluminum-alloy	Acceleration 0.92 m/s <sup>2</sup> (3.3 km/h/s)  Deceleration (service/emergency) 1.02/1.30 m/s <sup>2</sup> (3.7/4.7 km/h/s)  Maximum design speed 110 km/h	[#01~11,13~37] Mono-link guide type Bolster bogies	Traction inverter (VVVF inverter) (MM: PMSM)	Electric command electro-pneumatic blended brake (regenerative brake until just before stopping)  Security braking device Snow proof braking device  TCMS (TIS) trainset comprehensive blending control (electro-pneumatic blended brake control of regenerative brake on a total trainset)	Auxiliary power supply (Static inverter)  Alkaline batteries	CS-ATC (Cab Signal-continuous induction type Automatic Train Control) (Digital - Automatic Train Stop - Pattern type),  Radio communication system (inductive radio type) JRE, Odakyu types radio communication system (space wave type)	
								[#12] PQ(L/V) monitoring bogies (car: 16312), and Mono-link guide type Bolster bogies (other cars)						
Chiyoda Line	1,067 mm	1,500 V DC Overhead catenary	05 (branch section)	3	4 (12)	1988 ~1991	Aluminum-alloy	Acceleration 0.92 m/s <sup>2</sup> (3.3 km/h/s)  Deceleration (service/emergency) 1.02/1.30 m/s <sup>2</sup> (3.7/4.7 km/h/s)  Maximum design speed 110 km/h	SU Minden type (plate-type guiding arm on one side with U-shaped rubber pad) Bolsterless bogies	Traction inverter (VVVF inverter)	Electric command electro-pneumatic blended brake (regenerative brake until just before stopping)  Security braking device Snow proof braking device	Auxiliary power supply (Static inverter)  Alkaline batteries	CS-ATC (Cab Signal-continuous induction type Automatic Train Control),  Radio communication system (inductive radio type)	

Yurakucho Line Fukutoshin Line	1,067 mm	1,500 V DC Overhead catenary	7000	Aluminum-alloy	10	6 (60)	1974 ~1983	Acceleration 0.92m/s <sup>2</sup> (3.3km/h/s)  Deceleration (service/emergency) 0.97/1.25m/s <sup>2</sup> (3.5/4.5km/h/s)  Maximum design speed 110km/h	[#01.02.04.05,10,18] S Minden type (plate-type guiding arm on one side) Bolster bogies (cars: 7100, 7700, 7800, 7900, 7000), and SU Minden type (plate-type guiding arm on one side with U-shaped rubber pad) Bolster bogies (other cars)	Traction inverter (VVVF inverter)	[#01.02.04.05,10,18] Electric command electro-pneumatic blended brake (regenerative brake until just before stopping)  Security braking device Snow proof braking device	[#01.02.04.05,10,18] Power supply for auxiliary electric devices: Motor-generator; Power supply for HVAC; Auxiliary power supply (Static inverter)  Alkaline batteries	CS-ATC (Cab Signal-continuous induction type Automatic Train Control) Tokyu type CS-ATC Tobu type D-ATC (Digital - Automatic Train Control) Seibu type ATS (Automatic Train Stop),  Radio communication system (inductive radio type) Tokyu-Tobu-Seibu types Radio communication system (space wave type)
					8	15 (120)	1974 ~1989		[#03.09,13,15,16,19] S Minden type (plate-type guiding arm on one side) Bolster bogies (cars: 7100, 7900, 7800, 7000), and SU Minden type (plate-type guiding arm on one side with U-shaped rubber pad) Bolster bogies (other cars)		[#03.09,13,15,16,19,20] Electric-command type Electric-air combined brake (regenerative brake)  Security braking device Snow proof braking device	[#03.09,13,15,16,19,20,27~34] Auxiliary power supply (Static inverter)  Alkaline batteries	
									[#20] SU Minden type (plate-type guiding arm on one side with U-shaped rubber pad) Bolster bogies		[#27.29,30,33,34] Electric command electro-pneumatic blended brake (regenerative brake until just before stopping)  Security braking device Snow proof braking device	[#28,31,32] Electric command electro-pneumatic blended brake (regenerative brake)  Security braking device Snow proof braking device	
			10000	Aluminum-alloy	10	36 (360)	2006 ~2010	Acceleration 0.92 m/s <sup>2</sup> (3.3 km/h/s)  Deceleration (service/emergency) 0.97/1.25 m/s <sup>2</sup> (3.5/4.5 km/h/s)  Maximum design speed 120 km/h	Mono-link guide type Bolster bogies	Traction inverter (VVVF inverter)	Electric command electro-pneumatic blended brake (regenerative brake until just before stopping)  Security braking device Snow proof braking device	Auxiliary power supply (Static inverter)  Alkaline batteries	CS-ATC (Cab Signal-continuous induction type Automatic Train Control) Tokyu type CS-ATC Tobu type D-ATC (Digital - Automatic Train Control) Seibu type ATS (Automatic Train Stop),  Radio communication system (inductive radio type) Tokyu-Tobu-Seibu types Radio communication system (space wave type)
Hanzomon Line	1,067 mm	1,500 V DC Overhead catenary	8000	Aluminum-alloy	10	19 (190)	1981 ~1994	Acceleration 0.92 m/s <sup>2</sup> (3.3 km/h/s)  Deceleration (service/emergency) 0.97/1.25 m/s <sup>2</sup> (3.5/4.5 km/h/s)  Maximum design speed 100 km/h	[#01~07] Mono-link guide type Bolsterless bogies (cars: 8601~07, 8701~07), and SU Minden type (plate-type guiding arm on one side with U-shaped rubber pad) Bolsterless bogies (other cars)	Traction inverter (VVVF inverter)	Electric command electro-pneumatic blended brake (regenerative brake until just before stopping)  Security braking device Snow proof braking device	Auxiliary power supply (Static inverter)  Alkaline batteries	CS-ATC (Cab Signal-continuous induction type Automatic Train Control) Tokyu type CS-ATC Tobu type ATS (Automatic Train Stop),  Radio communication system (inductive radio type) Tokyu-Tobe types Radio communication system (space wave type)
					08	10	2002 ~2003	Acceleration 0.92 m/s <sup>2</sup> (3.3 km/h/s)  Deceleration (service/emergency) 0.97/1.25 m/s <sup>2</sup> (3.5/4.5 km/h/s)  Maximum design speed 120 km/h	[#08~19] SU Minden type (plate-type guiding arm on one side with U-shaped rubber pad) Bolsterless bogies		Mono-link guide type Bolsterless bogies	Traction inverter (VVVF inverter)	Electric command electro-pneumatic blended brake (regenerative brake)  Security braking device Snow proof braking device
Namboku Line	1,067 mm	1,500 V DC Overhead catenary	9000	Aluminum-alloy	6	14 (84)	1991 ~2009	Acceleration 0.92m/s <sup>2</sup> (3.3km/h/s)  Deceleration (service/emergency) 0.97/1.25m/s <sup>2</sup> (3.5/4.5km/h/s)  Maximum design speed 110km/h	[#01] ES Minden type (plate-type guiding arm on one side with revised U-shaped rubber pad) Bolsterless bogies	Traction inverter (VVVF inverter)	[#01,09~21] Electric command electro-pneumatic blended brake (regenerative brake)  Security braking device Snow proof braking device	[#01,09~21] DC-DC converter  Alkaline batteries	CS-ATC (Cab Signal-continuous induction type Automatic Train Control),  Tokyo Metro-Saitama Railway, Tokyu types radio communication system (space wave type)
						2 (12)			[#09~21] Mono-link guide type Bolsterless bogies		[#22,23] Electric command electro-pneumatic blended brake (regenerative brake until just before stopping)  Security braking device Snow proof braking device	[#02~08,22,23] Auxiliary power supply (Static inverter)  Alkaline batteries	
						7 (42)			[#03,05,07] ES Minden type (plate-type guiding arm on one side with revised U-shaped rubber pad) Bolsterless bogies		[#02~08] Electric command electro-pneumatic blended brake (regenerative brake until just before stopping)  Security braking device Snow proof braking device	TCMS (TIS) trainset comprehensive blending control (electro-pneumatic blended brake control of regenerative brake on a total trainset)	