

# NARROW AISLE, SINGLE, DOUBLE REACH TRUCK

**CAPACITY:** 1.3—2.0 tonne

R15SX | R17SX | R22SX

SERIES 5195

## Design

At Linde, we understand narrow aisle applications. The result, over 70 years of designing and manufacturing the most reliable forklift trucks in the industry. At any location across the globe, you will see a Linde forklift operating in any environment. Extensive testing and design result in the most efficient electric trucks in the market. Cutting-edge technology leads to a competitive edge. Linde warehouse products are recognized as the highest potential cost of operation gains in the industry.

## Performance

Controlled acceleration, smooth maneuvering and responsive braking are all active functions for travel including cushioned hydraulic functions. Variable steering resistance gives the reassuring feeling of maintaining perfect control of the truck while the truck status is continuously monitored on an informative display. At a glance, the operator can check steering angle, battery state, operating hours, motor temperature or servicing due.

## Comfort

Tailored to the operator, the Linde Ergo-concept ensures the operator has enough room to comfortably move within the operator compartment. Not being locked in a position, the operator can move and still be within the frame of the truck thereby reducing fatigue and improving productivity. Visibility in all load handling functions is enhanced with a clear view overhead guard, not obstructed by a metal structure.

## Reliability/Durability

Before you take delivery of a new Linde truck, it has been through a series of product-proving tests through various applications to assure you of its dependability. Linde's AC and controllers run cooler, double-sealed electrical components, CAN bus communications result in very little moving parts.

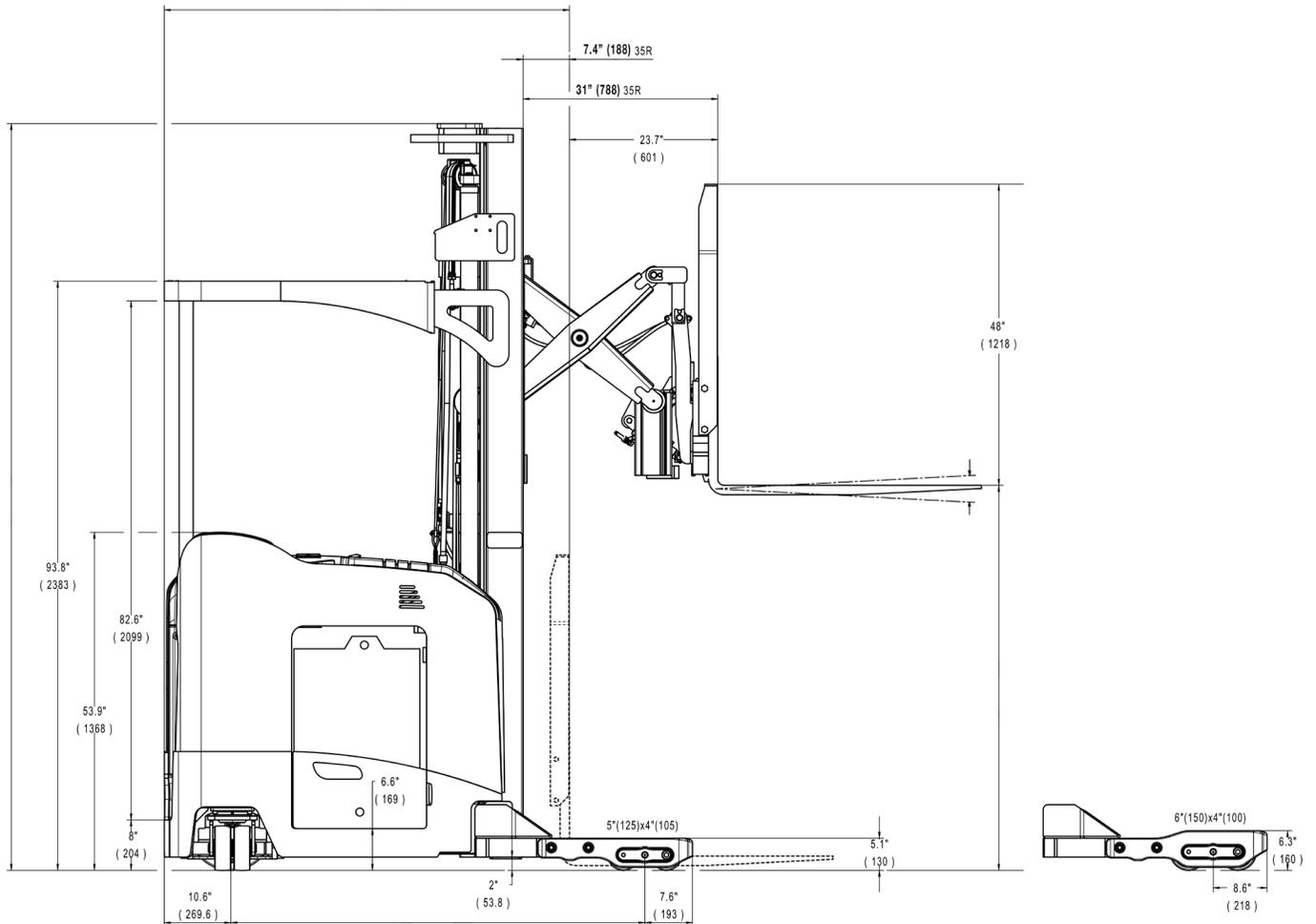
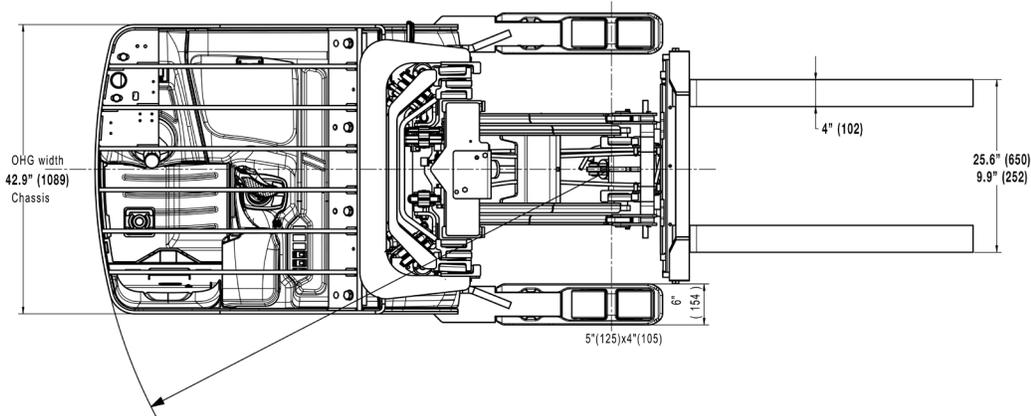
## Serviceability

The service compartment allows full access to the main components. A 2-piece cover provides noise reduction and full access to key components. On-board diagnostics allows Linde technicians to quickly and effectively check and address truck systems. CAN bus electronics integrate truck systems with reduced wiring and electrical connections for better reliability with less componentry to maintain. Easy access with minimal moving parts improves your cost of operation over the life of the truck.

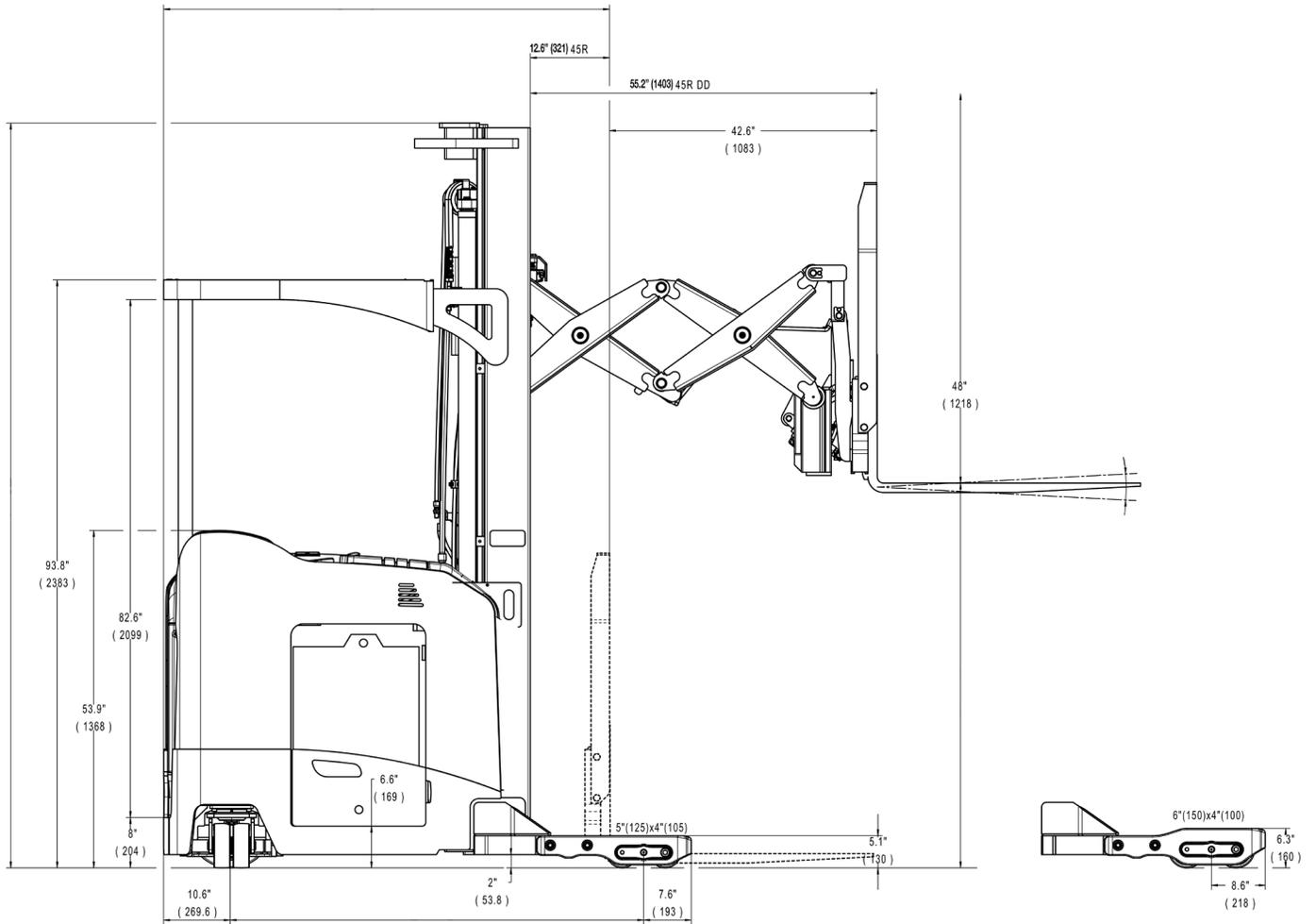
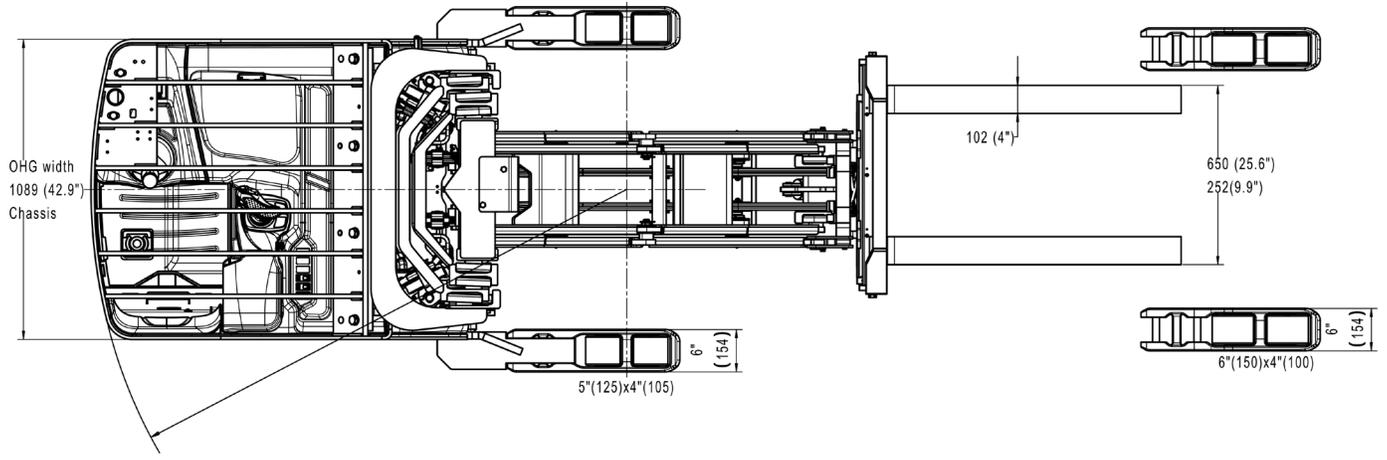
# REACH TRUCK TECHNICAL DATA

				LINDE				
Characteristics	1.1	Manufacturer						
	1.2	Model designation		R17SX-24V	R17SX-36V	R22SX	R16SX	
	1.3	Power unit		Electric	Electric	Electric	Electric	
	1.4	Operation		Stand-on	Stand-on	Stand-on	Stand-on	
	1.5	Load capacity	Q	kg	1588	1588	2041	1361
	1.6	Load center	c	mm	600	600	600	600
	1.8	Axle center to fork face	x	mm	299	299	274	136
	1.9	Wheelbase	y	mm	1497	1548	1548	1548
	Weights	2.1	Service weight		kg	3410	3740	3980
2.3		Axle load without load, front (drive)/rear (load)		kg	2060	2280	2350	2350
2.4		Axle load, fork outreached with load, front (drive)/rear (load)		kg	910	1170	1050	635
2.5		Axle load, fork retracted with load, front (drive)/rear (load)		kg	1660	1900	1735	1860
Wheels	3.1	Tires, front/rear <sup>1</sup> C=cushion rubber, P=polyurethane			P/P	P/P	P/P	P/P
	3.2	Tire size, front (drive) wheel		mm	343x135	343x135	343x135	343x135
	3.3	Tire size, rear (load) wheel		mm	127x102	127x102	152x102	152x102
	3.5	Wheels, number front (drive)/rear (load) (X=driven)			1x+1/4	1x+1/4	1x+1/4	1x+1/4
	3.6	Track width, front (drive)	b <sub>10</sub>	mm	774	774	774	774
	3.7	Track width, rear (load)	b <sub>11</sub>	mm	1018	1119	1170	1170
Dimensions	4.1	Mast/fork carriage tilt, forward/backward		°	3/4	3/4	3/4	3/4
	4.2	Height of mast, lowered	h <sub>1</sub>	mm	2718	2718	2718	2718
	4.3	Free lift	h <sub>2</sub>	mm	1895	1895	2002	2002
	4.4	Lift	h <sub>3</sub>	mm	6096	6096	6096	6096
	4.5	Height of mast, extended	h <sub>4</sub>	mm	7155	7155	7155	7155
	4.7	Height of overhead guard (cabin)	h <sub>6</sub>	mm	2545	2545	2383	2383
	4.10	Height of reach legs	h <sub>8</sub>	mm	130	130	160	160
	4.19	Overall length	l <sub>1</sub>	mm	2566	2617	2675	2744
	4.20	Length to fork face	l <sub>2</sub>	mm	1491	1542	1549	1704
	4.21	Overall length	b <sub>1</sub> /b <sub>2</sub>	mm	1098/1142	1089/1243	1089/1294	1089/1294
	4.22	Fork dimensions	s <sub>e</sub> /l	mm	38*102*1067	38*102*1067	45*102*1067	38*102*1067
	4.23	Fork carriage to DIN 15 173, Class/Form A,B			2A	2A	2A	2A
	4.24	Width of fork carriage	b <sub>3</sub>	mm	838	838	838	838
	4.25	Fork spread, minimum/maximum	b <sub>5</sub>	mm	644/246	644/246	644/246	644/246
	4.26	Width between reach legs	b <sub>4</sub>	mm	865	966	1017	1017
	4.28	Reach travel	l <sub>4</sub>	mm	603	603	603	1047
	4.31	Ground clearance, mast	m <sub>1</sub>	mm	47	47	47	47
	4.32	Ground clearance, center of wheelbase	m <sub>2</sub>	mm	45	45	45	45
	4.33	Aisle width, with pallet 39.37" x 47.24" across forks	A <sub>st</sub>	mm	2913	2964	2965	3092
		Aisle width, with pallet 39.37" x 47.24" across forks	A <sub>st</sub>	mm	2713	2764	2765	2892
		Aisle width, with pallet 31.50" x 47.24" across forks	A <sub>st</sub>	mm	2976	3027	3032	3177
		Aisle width, with pallet 31.50" x 47.24" across forks	A <sub>st</sub>	mm	2776	2827	2832	2977
		Aisle width, with pallet 43.30" x 43.30" across forks	A <sub>st</sub>	mm	2962	3012	3015	3150
		Aisle width, with pallet 43.30" x 43.30" across forks	A <sub>st</sub>	mm	2762	2812	2815	2950
	4.35	Turning radius	W <sub>8</sub>	mm	1790	1841	1823	1840
	4.37	Length of chassis	l <sub>7</sub>	mm	1983	2034	2041	2058
Performance	5.1	Traveling speed, with/without load		km/h	10.5/13	10.5/13	10.5/13	10.5/13
	5.2	Lifting speed, with/without load		m/s	0.27/0.45	0.40/0.65	0.35/0.65	0.35/0.65
	5.3	Lowering speed, with/without speed		m/s	0.53/0.43	0.53/0.53	0.53/0.53	0.53/0.53
	5.4	Reach speed, with/without load		m/s	0.17/0.17	0.17/0.17	0.17/0.17	0.17/0.17
	5.8	Max climbing ability, with/without load, 5 min. rating		%	10/10	10/10	10/10	10/10
	5.10	Service brake			Electrical	Electrical	Electrical	Electrical
Drive	6.1	Drive motor, 60 minute rating		kW	4.9	6.6	6.6	6.6
	6.2	Lift motor, 15% rating		kW	9.3	15.4	15.4	15.4
	6.3	Battery according to IEC			60254-2	60254-2	60254-2	60254-2
	6.4	Battery voltage/rated capacity (5H)		V/Ah	24	36	36	36
	6.5	Battery weight (±5%)		kg	764	976	976	976

# R17-22SX TECHNICAL DRAWING



# R15SX TECHNICAL DRAWING



# MAST DIMENSIONS AND BATTERY SPECIFICATIONS

MAST DIMENSIONS			
Max Fork Height	Overall Lowered Height	Overall Height (Mast Extended) Highest Point w/42" Load Backrest	Free-lift (TOF)
mm	mm	mm	mm
5334	2413	6401	1590
6096	2718	7193	1895
6553	2870	7620	2047
6858	3023	7625	2199
7620	3327	8681	2504
8077	3531	8144	2707
9296	3785	9442	2961
9296	4089	10363	3266
9779	4242	10846	3419
10160	4394	11222	3571
10795	4699	11862	3876

## RIGHT ANGLE AISLE STACKING

R17SX - 24V					
Truck with 14.5" Battery Compartment and 34" ID					
3 Stage - 4" Between Loads					
Pallet Length (mm)	Pallet Width (mm)				
		915	1016	1118	1220
	915	2363	2388	2413	2464
	1016	2439	2464	2490	2540
	1118	2515	2540	2566	2617
1220	2617	2642	2667	2693	

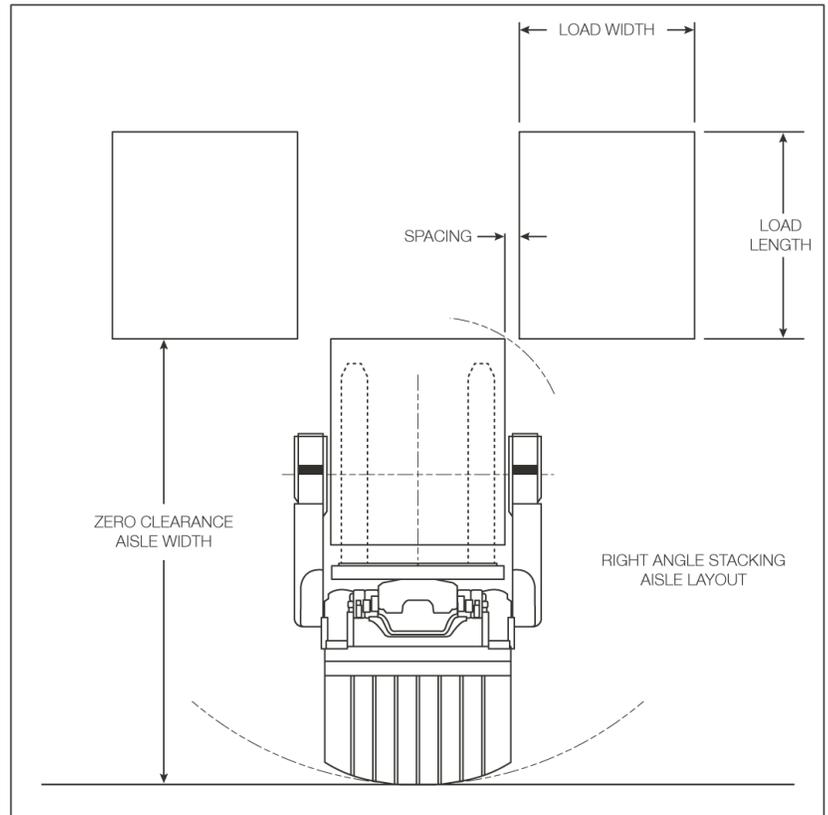
Add 2" for 16.5" battery compartment  
Add 2" for 18.5" battery compartment

R22SX					
Truck with 16.5" Battery Compartment and 40" ID					
3 Stage - 4" Between Loads					
Pallet Length (mm)	Pallet Width (mm)				
		915	1016	1118	1220
	915	2413	2439	2464	2515
	1016	2490	2515	2540	2591
	1118	2591	2617	2642	2667
1220	2667	2693	2718	2744	

Add 2" for 18.5" battery compartment  
Add 2" for 20.5" battery compartment

R15SX					
Truck with 16.5" Battery Compartment and 42" ID					
3 Stage - 4" Between Loads					
Pallet Length (mm)	Pallet Width (mm)				
		915	1016	1118	1220
	915	2540	2566	2591	2617
	1016	2617	2642	2667	2718
	1118	2718	2744	2769	2794
1220	2820	2845	2845	2871	

Add 2" for 18.5" battery compartment  
Add 2" for 20.5" battery compartment  
For right angle stack, add min. 6" clearance for ease of operation



Battery and Compartment Specifications								
Battery Specifications								
Battery Compartment Size	Battery Voltage	Maximum 6-hr Rate		Battery Dimensions			Min. Battery Weight	Max. Battery Weight
				"X" Max.	"Y" Max.	"Z" Max.		
		ah	kwh	mm	mm	mm	kg	kg
14.5"	24	1240	29.0	(985)	(362)	(775)	764	991
16.5"	36	775	27.2	(985)	(413)	(775)	976	1202
18.5"	36	1395	32.6	(985)	(467)	(775)	976	1202
21.5"	36	930	32.6	(985)	(540)	(775)	976	1202

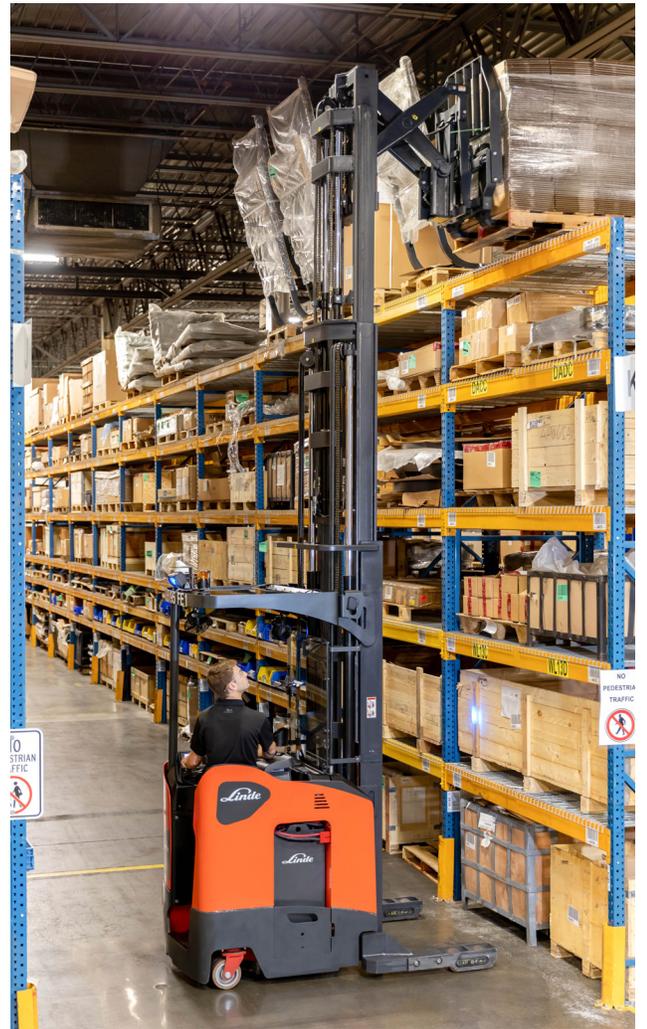
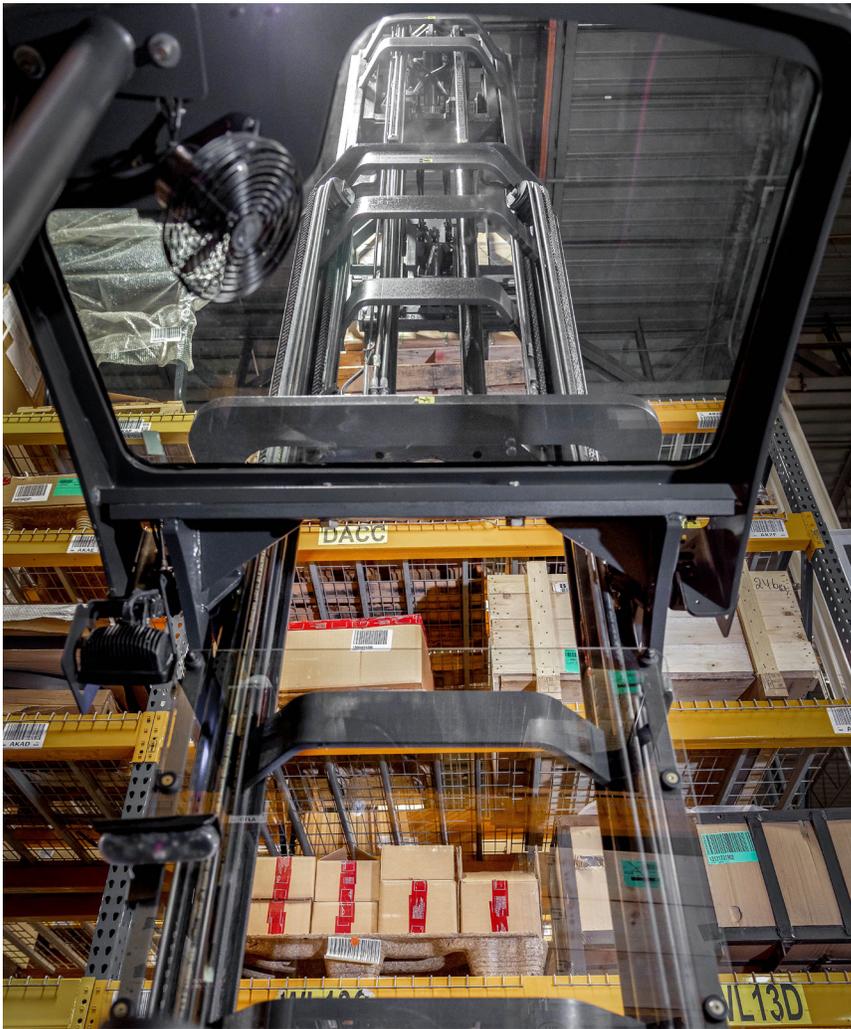
# STANDARD & OPTIONAL EQUIPMENT

## STANDARD

- Side stance position
- 24V system (includes 350 Amp battery connector)
- Single reach mast (610 extend) with 839 wide class II hook type carriage
- Double reach mast (610 extend) with 839 wide class II hook type carriage (R15SX)
- Tilting carriage: 3° forward / 4° backward
- Rear post operator protection
- Operator's overhead guard
- Comfort floormat
- Cushioning soft hydraulics
- Reduced travel speed with carriage extended
- Control handle with simultaneous hydraulic functions
- Forks 38 x 102 x 1067 class II hook type carriage (R17SX, R15SX)
- Forks 45 x 102 x 1067 class II hook type carriage (R22SX)
- 127 x 102 poly articulating tandem load wheels (R17SX, R15SX)
- 153 x 102 poly articulating tandem load wheels (R22SX)
- 343 x 135 polyurethane drive tire construction
- Integral side-shift standard
- 1067 L x 371 W x 985 H battery compartment
- AC traction, lift/lower and steering
- Standard connection
- Low step height
- Cup holder
- UL classification type "E"
- Key switch start
- Steering returns to 0 upon start
- Battery rollers
- Power disconnect
- Padded operator compartment
- Static strap
- Electronic horn
- 1067 load backrest
- AC traction, lift/lower steering
- Programmable traction speed and acceleration
- Electric power steering
- Dual polyurethane caster wheels
- Key switch
- LED display
  - Back lighting
  - Battery discharge indicator with lift interrupt
  - Hour meter; truck, traction and hoist pump
  - LED status indicators and symbols
  - Steer wheel angle graphic indication
  - Truck speed in mph or km/h

## OPTIONAL

- 36V electrical system
- UL classification "EE"
- Reverse steering
- Power lower unloaded
- Regenerative lower loaded (standard on the R15SX)
- Laser position indicator
- Camera system for extended lift heights
- Fork height indicator
- Safety glass mast guard
- See-through armored glass OHG
- Pin code / toggle switch
- Environmental construction
  - Cooler freezer conditioning: -26°F to 110°F
  - Corrosion
  - Food grade: 32°F to 110°F
- Various mast options available
- Various fork length options available
- Keyless start
- Poly siped tires
- Poly x groove tires
- 1220 load backrest extension
- Back-up / motion alarms
- Amber strobe light
- Blue spot front
- Blue spot back
- Operator desktop light
- Dual headlights
- Rear work light
  - Operator fan
  - RF utility pole
  - Parts manual
  - Service manual



# FEATURES

## Uptime

- CAN bus communication reduces wiring and electrical connections
- Stationary drive motor eliminates power cable flexing
- Full swing out service compartment doors give complete access to componentry
- Extended maintenance intervals to improve uptime and productivity
- AC motor technology no more commutating brushes
- LED lights reduce energy consumption, reduce heat and extend life
- Unitized frame and welded construction provide rigid strength and durability
- Operator console made of high impact plastic that is removable for service access



## Operator Compartment

- Low step height for easy entry / exit of the truck
- Large open compartment allows the operator to change position throughout the day
- Storage area and workspace are large enough for a clipboard and other items
- Adjustable steering and padded armrest for comfort
- Cushioned hydraulics result in little vibration to the operator
- The operator presence switch is pressure sensitive within the floor mat



## Chassis

- Increased foot room and low step height for operator comfort
- Large hinges allow added open access for service
- Suspended floor plate cushions the ride for the operator
- Larger operator compartment to reduce fatigue and allows the operator to change positions



## Controls

- The multifunction control handle's unique design, shape and angle reduce hand movement
- Simultaneous control of travel and hydraulic functions are fully proportional
- Mast functions and hydraulic functions are cushioned and proportional
- Forward or reverse steering is available
- Auto deceleration is adjustable
- Load cushioning is built into the reach and retract cylinders
- Adjustable armrest
- Programmable multifunction handle to match operator performance