SP 3500 SERIES

Four-Point

Specifications
High-Level Order Picker
### Manufacturer
Crown Equipment Corporation

### Type
SP 3571-1.25

### General Information

<table>
<thead>
<tr>
<th>1.1</th>
<th>Manufacturer</th>
<th>Crown Equipment Corporation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2</td>
<td>Type</td>
<td>SP 3571-1.25</td>
</tr>
<tr>
<td>1.3</td>
<td>Power</td>
<td>electric</td>
</tr>
<tr>
<td>1.4</td>
<td>Operator Type</td>
<td>order picker</td>
</tr>
<tr>
<td>1.5</td>
<td>Load Capacity*</td>
<td>Qt 1.25</td>
</tr>
<tr>
<td>1.6</td>
<td>Load Centre</td>
<td>cm 600</td>
</tr>
<tr>
<td>1.7</td>
<td>Load Distance</td>
<td>mm 545</td>
</tr>
<tr>
<td>1.8</td>
<td>Wheel Base</td>
<td>y mm 2225</td>
</tr>
</tbody>
</table>

#### Weights

| 2.1 | Weight less battery | kg | see table 3 |
| 2.2 | Axle Load w. load, front / rear | kg | see table 3 |
| 2.3 | Axle Load w.o. load, front / rear | kg | see table 3 |

#### Tyres

<table>
<thead>
<tr>
<th>3.1</th>
<th>Tyres Type</th>
<th>polyurethane</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.2</td>
<td>Tyres front</td>
<td>Ø 300 x 140</td>
</tr>
<tr>
<td>3.3</td>
<td>Tyres rear</td>
<td>Ø 150 x 110</td>
</tr>
<tr>
<td>3.4</td>
<td>Additional Wheels</td>
<td>Ø 255 x 75</td>
</tr>
<tr>
<td>3.5</td>
<td>Wheels number (x=driven) front/rear</td>
<td>1x + 1/2</td>
</tr>
<tr>
<td>3.6</td>
<td>Track Width front</td>
<td>b1  mm 762</td>
</tr>
<tr>
<td>3.7</td>
<td>Track Width rear</td>
<td>b1  mm see table 3</td>
</tr>
</tbody>
</table>

#### Mast

<table>
<thead>
<tr>
<th>4.2</th>
<th>Mast</th>
<th>collapsed height</th>
<th>h1 mm</th>
<th>see table 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.3</td>
<td>Free Lift</td>
<td>front</td>
<td>h2 mm</td>
<td>see table 3</td>
</tr>
<tr>
<td>4.4</td>
<td>Lift Height</td>
<td>extended height</td>
<td>h3 mm</td>
<td>see table 3</td>
</tr>
<tr>
<td>4.5</td>
<td>Mast</td>
<td>extended height</td>
<td>h4 mm</td>
<td>see table 3</td>
</tr>
</tbody>
</table>

#### Dimensions

<table>
<thead>
<tr>
<th>4.7</th>
<th>Overhead Guard Height lowered</th>
<th>h7 mm 240</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.8</td>
<td>Operator Stand Height lowered</td>
<td>h8 mm 75</td>
</tr>
<tr>
<td>4.14</td>
<td>Operator Stand Height raised</td>
<td>h12 mm see table 3</td>
</tr>
<tr>
<td>4.15</td>
<td>Fork Height lowered</td>
<td>h13 mm 75</td>
</tr>
<tr>
<td>4.20</td>
<td>Headlength</td>
<td>b  mm 1920</td>
</tr>
<tr>
<td>4.21</td>
<td>Overall Width front / rear</td>
<td>b1/b2 mm 1220 / see table 3</td>
</tr>
</tbody>
</table>

#### Perform.

<table>
<thead>
<tr>
<th>5.1</th>
<th>Travel Speed w./w.o. load</th>
<th>km/h</th>
<th>see table 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.2</td>
<td>Lift Speed w./w.o. load</td>
<td>m/s 0.22/0.36</td>
<td></td>
</tr>
<tr>
<td>5.3</td>
<td>Lowering Speed w./w.o. load</td>
<td>m/s 0.38/0.41</td>
<td></td>
</tr>
</tbody>
</table>

#### Motors

<table>
<thead>
<tr>
<th>6.1</th>
<th>Traction Motor 60 min. rating</th>
<th>kW</th>
<th>3.9</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.2</td>
<td>Lift Motor 15% on time</td>
<td>kW 2 x 2.5</td>
<td></td>
</tr>
<tr>
<td>6.3</td>
<td>Max. Battery Size</td>
<td>bxwxh 920 x 360 x 790</td>
<td></td>
</tr>
<tr>
<td>6.4</td>
<td>Battery Voltage nominal capacity K5</td>
<td>V/Ah 24V / 500-800</td>
<td></td>
</tr>
<tr>
<td>6.5</td>
<td>Battery Weight minimum</td>
<td>kg 690</td>
<td></td>
</tr>
</tbody>
</table>

#### Type of Controller
AC traction

* Capacity derating is dependant upon the combination of lift height, outside straddle width, platform width and load centre (fork length)

** Max. 305 mm greater than outside straddle width

*** Assumes 200 mm clearance

**** Assumes 400 mm clearance

***** Power unit direction

---

**Table 1** Travel Speed (km/h) with/without load

![Unguided Travel Speed Graph](image)

![Guided Travel Speed Graph](image)
1. Manufacturer: Crown Equipment Corporation
2. Type: SP 3581-0.625 TT
3. Power: electric
4. Operator Type: order picker
5. Load Capacity: 0.625
6. Load Centre: 1200
7. Load Distance: 1300
8. Wheel Base: 2980
9. Weight: see table 4
10. Axle Load: see table 4
11. Tyres Type: polyurethane
12. Tyres: front Ø 520 x 140
13. Tyres: rear Ø 200 x 95
14. Additional Wheels: castor wheels Ø 255 x 75
15. Wheels: number (x=driven) front/rear 1x + 1/2
16. Track Width: front b10 mm 762
17. Track Width: rear b11 mm see table 4
18. Mast: collapsed height h1 mm see table 4
19. Free Lift: h2 mm see table 4
20. Lift Height: h3 mm see table 4
21. Mast: extended height h4 mm see table 4
22. Overhead Guard Height: h6 mm 2400
23. Operator Stand Height: lowered h7 mm 330
24. Operator Stand Height: raised h8 mm see table 4
25. Fork Height: lowered h9 mm 165
26. Headlength: l2 mm 1920
27. Overall Width: front/rear b1/b2 mm 1230 / see table 4
28. Platform Width: standard b3 mm 1220
29. Fork Dimension: standard thxwxl mm 50 x 100 x 1370
30. Width Across Forks: min. - max. b5 mm 610 - 760
31. Inside Straddle Width: b6 mm see table 4
32. Width Across Guide Rollers: in 6.5 mm increments b7 mm see table 4
33. Ground Clearance: with load below mast m1 mm 62
34. Working Asie Width: minimum A1 mm see table 4
35. Turning Radius: W1 mm 3041
36. Length Across Outrigger: with/without guide rollers l1 mm 3545 / 3380
37. Transfer Asie Width: 1220 x 1830 length A2 mm 4190
38. Lift Speed: w/o load m/s 0.27/0.36
39. Lowering Speed: w/o load m/s 0.38/0.41
40. Service Brake: electro-magnetic, regenerative
41. Traction Motor: 60 min. rating kW 3.9
42. Lift Motor: 15% on time kW 2 x 2.5
43. Battery Voltage: nominal capacity K5 V/Ah 24V/500-800
44. Battery Weight: minimum kg 690

Table 2  Travel Speed (km/h) with/without load
### Table 3

<table>
<thead>
<tr>
<th></th>
<th>Weight SP 3571</th>
<th>Axle Load</th>
<th>Axle Load</th>
<th>Track Width</th>
<th>Mast</th>
<th>Free Lift</th>
<th>Mast</th>
<th>Operator Stand Height</th>
<th>Overall Width</th>
<th>Inside Straddle Width</th>
<th>Width Across Guide Rollers</th>
<th>Working Aisle Width</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>less battery</td>
<td>w. load, front</td>
<td>w. load, rear</td>
<td>w.o. load, front</td>
<td>w.o. load, rear</td>
<td>rear, in 25 mm increments</td>
<td>collapsed height</td>
<td>raised</td>
<td>rear, in 25 mm increments</td>
<td>in 25 mm increments</td>
<td>in 6.5 mm increments</td>
<td>minimum</td>
</tr>
<tr>
<td></td>
<td>kg</td>
<td>kg</td>
<td>kg</td>
<td>kg</td>
<td>kg</td>
<td>b11 mm</td>
<td>h1 mm</td>
<td>h12 mm</td>
<td>b2 mm</td>
<td>b4 mm</td>
<td>b6 mm</td>
<td>Ast mm</td>
</tr>
</tbody>
</table>

### Table 4

<table>
<thead>
<tr>
<th></th>
<th>Weight SP 3581</th>
<th>Axle Load</th>
<th>Axle Load</th>
<th>Track Width</th>
<th>Mast</th>
<th>Free Lift</th>
<th>Mast</th>
<th>Operator Stand Height</th>
<th>Overall Width</th>
<th>Inside Straddle Width</th>
<th>Width Across Guide Rollers</th>
<th>Working Aisle Width</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>less battery</td>
<td>w. load, front</td>
<td>w. load, rear</td>
<td>w.o. load, front</td>
<td>w.o. load, rear</td>
<td>rear, in 25 mm increments</td>
<td>collapsed height</td>
<td>raised</td>
<td>rear, in 25 mm increments</td>
<td>in 25 mm increments</td>
<td>in 6.5 mm increments</td>
<td>minimum</td>
</tr>
<tr>
<td></td>
<td>kg</td>
<td>kg</td>
<td>kg</td>
<td>kg</td>
<td>kg</td>
<td>b11 mm</td>
<td>h1 mm</td>
<td>h12 mm</td>
<td>b2 mm</td>
<td>b4 mm</td>
<td>b6 mm</td>
<td>Ast mm</td>
</tr>
</tbody>
</table>
SP 3571/3581 Models

Technical Information

Standard Equipment
1. Crown’s Access 1 2 3® Comprehensive System Control
2. Crown manufactured AC traction motor
3. Electronic steering
4. Linear speed control for gradual reduction in speed as platform is raised
5. Two-speed lift and lower with soft start and stop
6. High speed lifting is automatically cut out when forks are 305 mm from max. elevation
7. High speed lowering is automatically cut out when forks are 380 mm from the floor
8. Programmable lift/lower cut outs
9. Intelligent Braking System (IBS)
10. Crown’s Information Display
   • PIN code access capable
   • Standard steer wheel position indicator
   • Start up and run time diagnostics
   • Hour meters / travel distance / stop watch
   • Battery discharge indicator with lift interrupt
   • 3 selectable traction performance profiles
   • Access 1 2 3 onboard diagnostic with real time troubleshooting capabilities
11. Soft urethane twist grip with “cam grip”
12. 10° angled steering wheel with soft feel spinner
13. Storage compartment
14. Crown’s anti-fatigue floor mat
15. Clear visibility platform window
16. Clear visibility mast design
17. Key switch
18. Horn
19. Strobe light
20. Hinged, lift off steel power unit doors
21. SBE 320 battery connector
22. Battery roll out function, with 0 50 mm battery compartment rollers
23. Top battery access for service
24. Removable steel battery side covers
25. Adjustable battery retainer
26. Emergency power disconnect
27. Egress system
28. Crown’s InfoPoint® feature
29. Colour-coded wiring
30. Poly drive tyre, castor and load wheels
31. Pin mounted fully forged cantilever forks
32. Hinged side and rear gates with power inhibit

Optional Equipment
1. End of aisle control system (rail guidance required)
2. Aisle guide wheels for rail guidance
3. Enhanced steer wheel position indicator
4. Battery retainer interlock switch
5. Work lights, dome lights and two-speed fans
6. Hand adjustable spotlights
7. Mast mounted spotlights
8. Flashing amber light
9. Audible travel alarm
10. Zone Select key switch
11. Fork raise cutout with or without override and/or lower cutout with override
12. Corrosion conditioning
13. Freezer conditioning
14. Power source for accessories
15. Overhead guard with 50 x 50 mm steel mesh cover or Plexiglas cover
16. Extended operator compartment height of 2185 mm (may increase collapsed height and will increase extended height by 180 mm)
17. Wire mesh screen (std. with freezer conditioning)
18. Work Assist™ Accessories
   • Clip pad and hook
   • Plate
   • Pocket
   • Clamp
   • Tube
19. Poly or Vulkollan non-marking drive tyre
20. Vulkollan load wheels
21. Pallet clamps
   - Euro pallet (150 mm centre stringer width)
   - Chep pallet (100 mm centre stringer width)
   - GMA pallet (38 mm centre stringer width)
22. Variation of different platforms
23. Pallet detection sensor
24. Cart locking options
25. Box section forks 75 x 150 x 1370, 1525, 1830 and 2135 mm (may be required if platform / cart is used)
26. InfoLink ready

Human Factor
The operator area is designed for maximum visibility and stability for increased operator confidence and comfort. The operator platform features a large window (0.7 m²) for excellent visibility. A Crown designed clear-view mast gives the operator one forward and two peripheral windows for maximum visibility when the platform is lowered. The full free lift mast provides unobstructed visibility through the window when raised.

A low-profile power unit, low placement of the lower cross brace, and an outer C-channel rail assembly also contribute to excellent visibility. A soft urethane twist grip is solidly mounted to the truck console to provide excellent stability for the operator during travel, plugging and braking.

The steering wheel is angled at 10° and recessed to maximise the operator’s posture neutral at all times.

The steering wheel and spinner knob are covered with soft urethane to reduce grip force and insulate against vibration. Control location keeps the operator’s posture neutral at all times.

The anti-fatigue floor mat, made of a microcellular composition, absorbs shock and vibration. The brake pedal has a low-profile design and is flush with the floor mat when depressed.

Heavy-duty side gates, with three horizontal and one vertical support rail, communicate security to the operator. For additional safety, cut-out switches disengage truck operation when gates are raised. Two work lights, two dome lights and a two-speed fan are optional. Power-on key prevents unauthorised operation of the truck; start position initialises truck self-test. The information display panel provides concise, clear feedback for the operator during truck operation.

Access 1 2 3®
The Access 1 2 3 Comprehensive System Control is a modular communications and control system. It monitors all on-board sensors, makes decisions based on the sensor readings, and subsequently, controls all system movements safely and smoothly. All four modules are in constant communication with each other via a CAN (Control Area Network) bus so that real-time information is accessible to the system at all times.

• Interactive Display Module
• Traction Control Module
• Vehicle Control Module
• Steering Control Module

The display module provides concise, clear feedback for the operator. The display includes a full featured on-board service tool so service engineers can actively view inputs and outputs during truck operation. No laptop or service terminal is required.

Truck performance specifications (maximum travel speed, coast, plugging, acceleration, travel speed at height, and low speed lowering) are adjustable using Access 1 2 3. This enables customising truck performance to meet specific application or operator requirements.
Drive System
Crown has applied the latest generation AC drive system, enhanced with Access 1 2 3 technology. A Crown manufactured drive unit uses spiral bevel and helical gears from motor to drive wheel axle. Fixed, mounted drive motor does not rotate minimising wear on electrical cables. Crown’s AC Drive system dramatically improves travel speeds, acceleration and deceleration, thus increasing productivity. The standard linear speed control provides smooth travel speed transition as lift heights change and increases productivity.

Intelligent Braking System (IBS)
Crown’s patented Intelligent Braking System combines motor braking with optimum amounts of friction braking. The appropriate level of braking is applied dependent upon platform height, direction of travel, and truck weight. Braking force is automatically reduced as height increases and speed decreases. Optimum braking for the right elevation gives operators more confidence and better control, while eliminating abrupt stops and reducing platform sway. Braking can also be accomplished by proportional plugging which permits the operator to control the rate of deceleration when extended stopping distance is preferred.

Steering
Standard on the SP 3500 Series is electronic steering that is microprocessor based. Steering wheel rotation provides smooth, operator feedback. Steer effort is minimal, lock to lock is 4.5 turns. Drive wheel rotates a full 180° for maximum manoeuvrability. Auto centring drive tyre for trucks equipped with rail guidance.

Hydraulics
Heavy-duty motors and gear pumps are assembled into an integral unit. Crown manufactured solenoid type manifolds with built-in check and relief valves. Two-speed lowering/lifting with proportional soft-start/stop is standard on both models. Low-speed lowering/lifting is adjustable. Soft-start lowering feature reduces the harshness at the beginning and end of the lowering cycle. Maximum lowering speed is regulated by a pressure compensating flow control valve. Velocity fuses are used in all cylinders to stop lowering should the speed exceed a preset value due to a line rupture. A hydraulic accumulator is used to cushion raise and lower functions. Manual lowering control allows lowering of platform from ground level. Oil reservoir is designed with a 100 mesh screen at the fill location, a suction strainer, spin-on type 10 micron return line filter and a magnetic drain plug.

Mast Assembly
High visibility two- and three-stage masts feature nested rail design with lift cylinders positioned behind mast rails. Three-stage mast has a low centre cylinder for free lift. Routing of hoses and cables optimises visibility through mast. Built-in sensors detect chain slack and shut down primary lower function. Exclusive staging bumpers virtually eliminate platform impact as the mast stages. Negative rail drop allows shimming of mast rollers without major disassembly.

Power Unit
Power unit is fabricated from heavy-gauge steel. Lower skirt is 230 mm high and 20 mm thick for component protection. Rugged steel doors suspended on heavy-duty hinges protect power unit components. Doors swing wide or can be lifted off for unrestricted service access. Battery side covers are all steel. An optional battery retainer interlock switch is available. Top battery cover allows access for service.

Safety Shield
Safety glass to protect operator from chains and moving parts while in his normal operating position. Optional wire mesh shield (standard on freezer conditioning).

Safety Regulations
Conforms to European safety standards. Dimensions and performance data given may vary due to manufacturing tolerances. Performance is based on an average size vehicle and is affected by weight, condition of truck, how it is equipped and the conditions of the operating area. Crown products and specifications are subject to change without notice.