2019

SCISSOR LIFT PRESENTATION
content

01 STRUCTURE
02 HYDRAULIC SYSTEM
03 ELECTRICAL AND POWER SOURCE
04 LIMIT TEST
05 PERFORMANCE
06 MAINTENANCE
PART ONE

STRUCTURE
① Patented frame structure platform, use 3MM antiskid steel, with excellent antiskid property, tough design, no droop for long time use
② Use 35*35*2MM rail, high intensity, no deformation for long time use
③ Longer Extended Platform (ZS12-1m), suitable for different working condition better
① Raise the extension platform, to avoid clutter blocking the extension pathway
② Railed type turnover door, easy to operate, safety, no deformation for long time use
③ Option for foldable type (ZS12 series)
④ Patented super strong foot plate, easy and smoothly operation
Scissor

① Wider Link (ZS12-910MM) For Less Waggle, More safety, More stability
② On Scissor driving parts, like Slider, link etc., use free lubrication, free maintenance design
③ Scissor and platform joint by slider directly; simple, tough design, strong and suitable for long time use
① Use 4mm high Tensile strength steel
② With reinforce on link
③ With extra 5mm steel reinforce at scissor link which joint with cylinder. By calculation, the safety factor on pivoting point is much bigger than CE standard, make equipment running more stable and safety
Drive Chassis

① Patented frame structure chassis, tough design, durability, protectiveness, anticollision, super strong for long time use.
② Use 8mm steel slide rail, durability for long time use; inside design for anticollision
③ No outstanding bolt or components on both side of chassis for anticollision
④ Drive unit with protection plate for anticollision
Drive Chassis

① swivel-out type tray design, top two plate with disassembly design, all components within arms reach, easy for maintenance

② Patent Pothole protect design, use spring inside of air spring, add the weight of rod and plate to reset, simple, reliable, low fault rate

③ Ladder with antiskid steel, with lifting lug design, easy to install; with slot design, easy to disassembly

④ EXMILE no-marking rubber tyre, with perfect durability, abrasion-resistant.
HYDRAULIC SYSTEM

PART TWO
Use top international brand to confirm the top international quality level, low fault rate
Hydraulic System

Use gradual change throttle on cylinder to avoid big impact force when scissor down to bottom.

Use top Italy ALFAGOMMA brand hose, the bursting pressure of hoses, including fittings, at least 4 times than the maximum pressure of system, most is 6-8 times (CE is 3 times)

With oil-addition design on drive system, to avoid trembles and abnormal noise when downhill or steering, which caused by motor lack of oil absorption

With damping hole design on braking system to reduce the brake impact
02 | Hydraulic System

Compare with international major brand, working time extend 20-30%, battery life extend 20-30%

Max Electric Current
15%

Working Time
20-30%

Battery Life
20-30%

Under the condition of full load, the max electric current of ZMG AWP is 15% lower than other brand. (ZS12 series is 170A, other brands is 200A).
PART THREE

ELECTRICAL AND POWER SOURCE
Electrical Components and Power Source

Use top international brand to confirm the top international quality level, low fault rate

ECU-PCU | Motor controller | Angle Sensor | Pressure Transducer | Level Sensor
---|---|---|---|---
DeltaTech Controls | CURTIS | Honeywell | Danfoss | 沃感科技
Limit Switch | Emergency Stop | Battery | Charger | DC Motor
Overload Protection
When the platform is overloaded, the overload protection system will alarm, and at the same time, scissor lifts will stop lifting and moving.

Tilt Alarm
When the tilt angle of the scissor lifts is greater than the safe value (tilt angle 3°, side tilt angle 1.5°), the safety system will alarm, and at the same time, scissor lifts will stop lifting and moving.

Emergency Lowering system
In the event of power outage or emergency, the lifting platform can be lowered by manually pulling the emergency lowering device.

Safety Bracket
This device can ensure operator's safety when the operator is overhauling the scissor lifts.

Innovative Pothole Protection
Active pothole protection provides decreased ground clearance, makes movement and operation more stable and safer.
LIMIT TEST

PART FOUR
Full load Lift-down fatigue test

After 99854 time cycle test, parts usage

ZMG pass 100,000 times cycle test
Major brand in world can pass 40,000-50,000 times test
Very few Top international brand can pass 100,000 times test

Used frequency calculate:
Use 5 times per hour
Use 40 hours per week
Use 50 weeks per year
Every year use 10000 cycle time
Pass 100,000 cycle test, means can work at least 10 years, top quality in the world
04 Stability tests

Side Pull Stability Test

Forward Pull Stability Test

Sheet 6-1 Record sheet of stability test

<table>
<thead>
<tr>
<th>Test Item</th>
<th>NO. 1</th>
<th>Test load center</th>
<th>Small platform Balance weight kg</th>
<th>Big platform Balance weight kg</th>
<th>The angle of chassis (deg)</th>
<th>Max. Lateral Forces (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Side Pull (Side of oil tank)</td>
<td>1</td>
<td>330kg</td>
<td>120</td>
<td>200</td>
<td>2.0</td>
<td>705</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>320kg</td>
<td>120</td>
<td>200</td>
<td>2.0</td>
<td>705</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>330kg</td>
<td>120</td>
<td>200</td>
<td>2.0</td>
<td>705</td>
</tr>
<tr>
<td>Side Pull (Side of battery)</td>
<td>1</td>
<td>320kg</td>
<td>120</td>
<td>200</td>
<td>2.0</td>
<td>705</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>320kg</td>
<td>120</td>
<td>200</td>
<td>2.0</td>
<td>705</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>320kg</td>
<td>120</td>
<td>200</td>
<td>2.0</td>
<td>705</td>
</tr>
<tr>
<td>Forward pull</td>
<td>1</td>
<td>330kg</td>
<td>120</td>
<td>200</td>
<td>3.5</td>
<td>741</td>
</tr>
</tbody>
</table>
Kerb and depression tests

More test result and Video, pls contact service@zmglift.com
PART FIVE

Performance
Working Time

Cycle Test: Full loaded, scissors up and down

**ZMG**: 67 cycles

**International major brand**: 58 cycles

**International Top brand**: 60 cycles

Comparing with international major brand: ZMG is 16% higher

Comparing with International Top Brand: ZMG is 11% higher

**Remark**: Because battery performance is affected by temperature, above testing data is based on new battery, 25°C.
Cycle Test: Fully loaded, high speed driving 100m, up and down 13 cycles and then low speed driving 100m.

Remark: Because battery performance is affected by temperature, the above test data is based on a new battery at 25°C.
<table>
<thead>
<tr>
<th>Model (Platform Height-10m)</th>
<th>International Major Brand</th>
<th>International Top Brand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Speed km/h</td>
<td>2.85</td>
<td>3.1</td>
</tr>
<tr>
<td>Speed-Raised km/h</td>
<td>0.73</td>
<td>0.75</td>
</tr>
<tr>
<td>Extension Platform Length (m)</td>
<td>0.9</td>
<td>0.9</td>
</tr>
<tr>
<td>Lift Capacity (kg)</td>
<td>318</td>
<td>320</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>2615</td>
<td>2812</td>
</tr>
<tr>
<td>Gradeability 25%</td>
<td>Slow</td>
<td>Front wheels can, Rear wheels can’t</td>
</tr>
<tr>
<td>Battery</td>
<td>Fully loaded, scissors up and down cycles</td>
<td>58 times</td>
</tr>
<tr>
<td></td>
<td>Fully loaded, high speed driving 100m, up and down 13 cycles and then low speed driving 100m</td>
<td>2 cycles + 1 high speed driving 100m + 4 lifting up and down</td>
</tr>
</tbody>
</table>
MAINTENANCE PART SIX
Easy to Service and Maintenance

New generation, high reliability, low faults, fault code and description clearly show on display meter.

Swivel-out type tray design, top two plate with disassembly design, all components within arms reach, easy for maintenance.

With numbered wiring system, make our machines the easiest to troubleshoot and repair.
2019
THANKS FOR ATTENTION