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Quality Changes the World

## EMPTY CONTAINER HANDLER

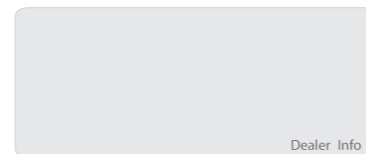


Quality Changes the World



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# **SANY**

## **EMPTY CONTAINER HANDLER**

### **ACHIEVEMENT OF PROFESSIONAL QUALITY**

PRODUCT SERIES

01

SAFE AND RELIABLE

03

HIGH-EFFICIENCY

05

ENERGY-SAVING

07



# FULL RANGE OF PRODUCTS

Empty container handler has been used in ports, wharfs and storage yards to handle, transfer and stack empty containers of various specifications. SANY classic series offers loads of configurations for your choice, including the combinations of duplex and triplex mast, hurdling and double spreaders. It is equipped with anti-rollover and safety technology, automatic fire extinguishing and the patented warning system for mast clamping and blocking. Its world class performance makes it to be your solid partner.

## Enjoy the World Class Performance from China's No.1 Logistics Equipment Supplier

### Product Range:

V/H Series Empty Container Handler  
Twin Container Handler  
Heavy Container Handler

### Work Perfectly with:

6/7/8 Layers ISO Standard Empty Container 20'/40'  
ISO Standard Twin Container 20'/40'  
ISO Standard Heavy Container 20' /40' /45'



## SAFE AND RELIABLE

### 1 Anti-Rollover Protection

Adopt intelligent control technology, detect real-time working condition and control traveling speed with the changing height of load to prevent the rollover.

### 2 Extra High Mast Design

The F-type mast is creatively developed to reduce the shaking. Its anti-bending, twist resisting and high rigidity triple the safety of your lifting job.

### 3 Patented Mast Clamping Alarm Technology

The monitoring device can detect the blocking and sound the alarm. The main electronic control system can also stop the dangerous operations to prevent further damage.

### 4 Automatic Fire Extinguisher

The add-on pipeline network automatic fire extinguisher comes with the strong spray can activate the fire alarm, anti-flaming and fire extinction functions to ensure the safety of the operator.

### 5 Advanced Structure Design

Jointly designed by the technical teams from China and Germany, the equipment is assured to be highly reliable and durable by adopting full-digit prototype design system, going through FEA, dynamics simulation analysis, as well as strict endurance and vibration tests.

### 6 Reliable Power System

Equipped with world famous engines such as VOLVO and CUMMINS which are quite reliable, and have strong power, combining the advanced power matching and control technology, the equipment is greatly optimized in dynamic performance. Regular maintenance for the engine and gearbox is highly recommended to extend the service life.





## HIGH-EFFICIENCY

- 1 Patented Technology on the Spreader Horizontal Slew**

Aligning and lifting container more conveniently and quickly. It greatly reduces the friction between tyre and the ground, save fuel consumption and costs.
- 2 Efficient Control**

The centralized joystick has inching control function. It can realize fine tuning to millimeter precision easily. All the spreaders' motions are under proportional control, providing an experience of man-machine unification.  
The machine also has multi-motion linkage design so that it can operate faster and more efficiently
- 3 Comfortable Operation**

The operator-oriented design includes an all-round visibility for different working conditions. The controlling devices are placed in designated positions to ease the fatigue of operators.
- 4 Hurdling Twin Container Spreader**

Hurdling and twin container spreaders are developed to meet customers' needs. It can vertically rotate  $\pm 4^\circ$  to improve alignment efficiency.



# ENERGY-SAVING

## 1 Hydraulic Load Sensing System

Optional system, Automatically adjust the pump displacement according to the load, realizing high precision flow control. Greatly energy saving and consumption reduction.

## 2 Dynamic Power Matching Control System

Automatically recognize dynamic power and adjust engine speed according to load change. The output power automatically adjust according to load and work conditions, greatly reducing energy consumption.

## 3 Lightweight Design

Optimize the structure to make it lighter and stronger.



# SDCE90K7 Electric Container Handler



Scan for Demo    Scan for VR

## High safety

- ◆ Low fire hazard: No diesel power source, avoiding fire hazards caused by high temperature environment in the engine room, pipeline aging, oil leakage, etc. during engine operation.
- ◆ Power source redundancy: According to the different requirements of driving, hydraulic steering, braking and other systems, it is equipped with different motor drives, which is safer than the single power drive of diesel vehicles.
- ◆ Safety pre-alarm: The high-voltage part is designed with a safety alarm system to detect and classify faults such as insulation, leakage, overvoltage, and overtemperature, and take measures such as interruption and current limit to ensure the safety of equipment and personnel.

## Easy maintenance

- ◆ Diesel container handler's engine and transmission require particular and regular maintenance by service engineer.
- ◆ The lithium battery of ECH is in no need of maintenance and only the motor cooling system needs to be regularly supplemented with coolant.
- ◆ The installation of central battery has a sliding rail that can be pushed out by one person, it's convenient for disassembly and assembly.
- ◆ The product design has multiple inspection ports, it's easy for battery and circuit inspection and repair.

## fast charging

- ◆ Fully charged in 60 minutes: Equipped with dual-gun fast charger
- ◆ Automatic charge, charge at any time: Equipped with automatic charging device. No need for personnel. Can be charged at any time.

## cost saving

- ◆ The cost of single container reduces 60%
- ◆ After a year save 280,000 CNY
- ◆ After 5 years save 1,399,000 CNY

## Configuration Parameter

Parameter	SDCE90K7	Rmark
Overall weight	43t	
Charging time	1h	Fast charging
Working time	≥ 10h	Continuous operation
Lithium battery	329kwh	Lithium Iron Phosphate can reduce electricity
Max Lifting Weight	9000kg	
Noise in Cab	≤ 68dB	Subject to Reality
Max Stacking layer	7 Layers(8'6") or 6 Layers(9'6")	Equivalent
Max lifting speed (Load/Unload)	450/600 mm/s	Equivalent
Max lowering speed (Load/Unload )	550/600mm/s	Equivalent
Max travelling speed	20km/h	Satisfy the needs of clients
0-20km/h Speeding time	≤ 8s	
Gradeability(Load/Unload)	≥ 20%/ ≥ 25%	Satisfy the needs of clients
Max Lifting Height	18750mm	Equivalent



# SDCY90K7V1 V Series Container Handler

## 01 Safe And Reliable

- Real-time display of lifting height, Dynamic anti-rollover protection
- technology , Automatic fire protecting and extinguishing, safe and worry-free.

## 02 Fast Response

- The response time of each action is less than 400ms,smooth operation.

## 03 High Efficient Operation

- Max. hoisting speed 600mm/s, Max.working efficiency 60 containers per hour.

## 04 Long Lifetime

- Mast structure is highly rigid without cracking more than 30000 hours, lead the industry.

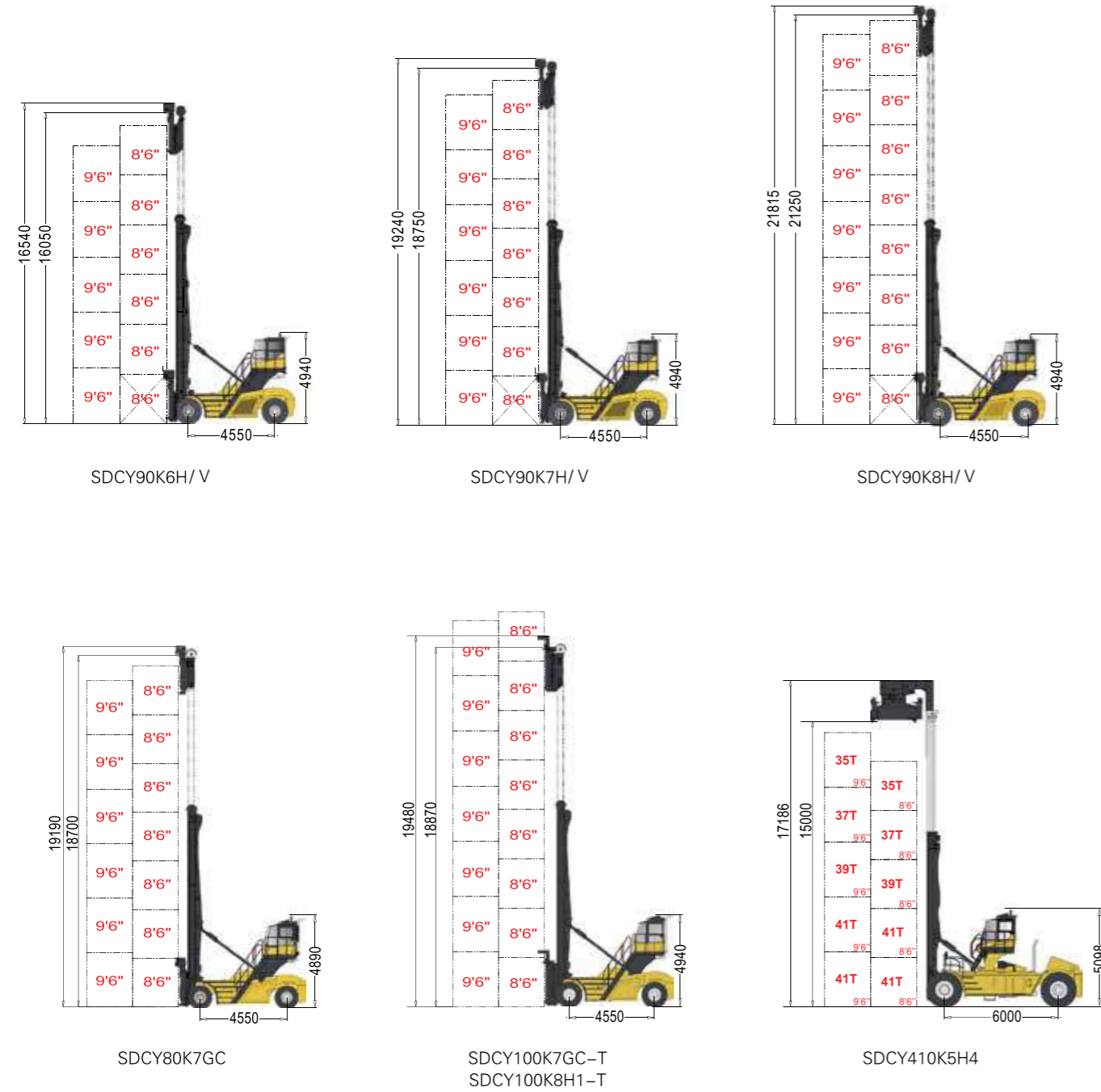
## 05 Excellent Performance

- Silicon oil fan, Intelligent control speed, Excellent heat dissipation ,
- Intelligent gearbox, Shift gears smoothly without impact

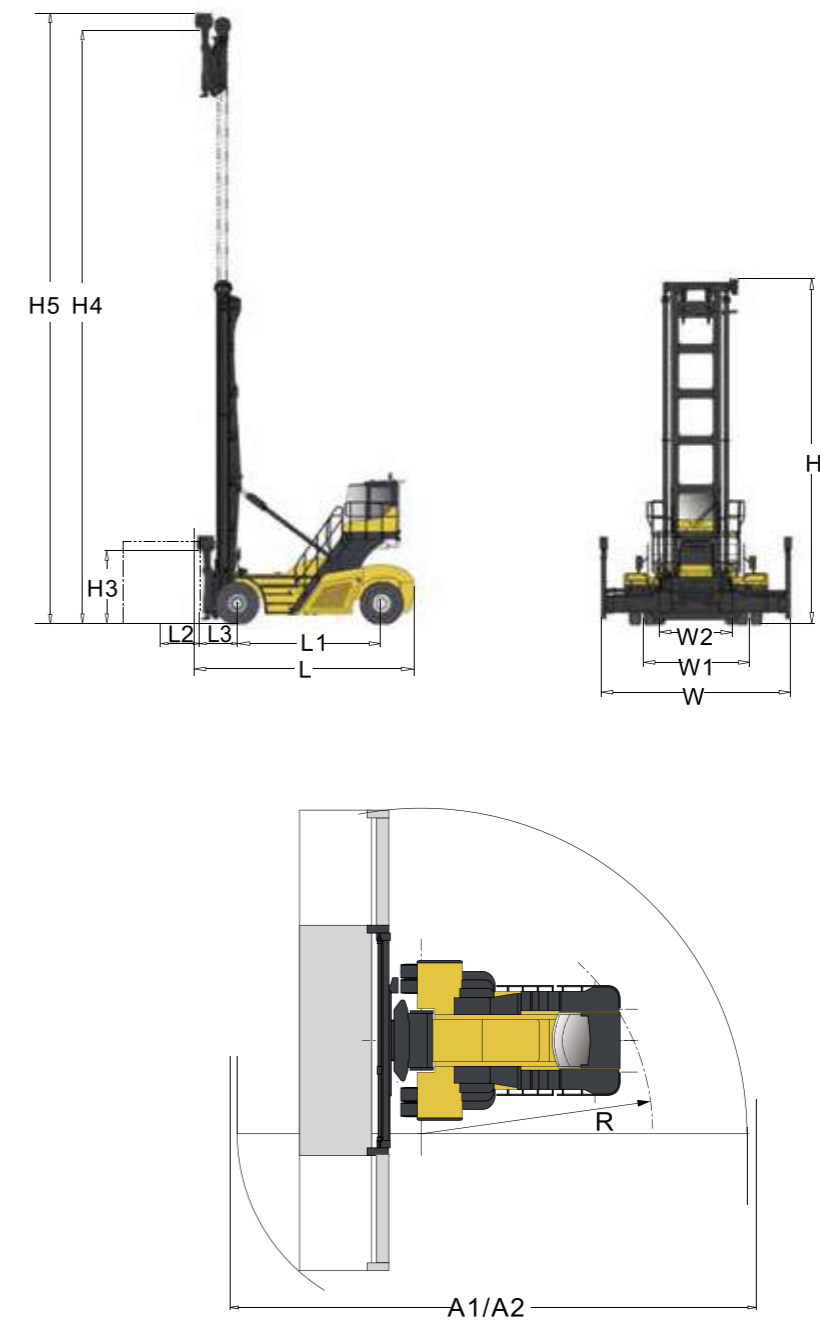




# LOAD CAPACITY DIAGRAM



# DIMENSIONS



# TECHNICAL PARAMETER

Parameter		Unit	SDCY90K8H1C	SDCY90K8H2	SDCY90K8H4	SDCY90K7H1C	SDCY90K7H2	SDCY90K7H4
engine	model	-	VOLVO TAD851VE	CUMMINS QSB 6.7	CUMMINS QSB 6.7	VOLVO TAD851VE	CUMMINS QSB 6.7	CUMMINS QSB 6.7
	rated capacity	kW/rpm	185/2200	164/2300	168/2200	185/2200	164/2300	168/2200
	max torque	Nm/rpm	1160/1350	949/1400	1044/1500	1160/1350	949/1400	1044/1500
	emission standard	-	III	III	IV	III	III	IV
gearbox model		-	CLARK 13.7HR32000	CLARK 13.7HR32000	CLARK 13.7HR32000	CLARK 13.7HR32000	CLARK 13.7HR32000	CLARK 13.7HR32000
axle model		-	KESSLER D81 PL488	KESSLER D81 PL488	KESSLER D81 PL488	KESSLER D81 PL488	KESSLER D81 PL488	KESSLER D81 PL488
spreader	model	-	SDJ90 II	SDJ90 II	SDJ90 II	SDJ90 II	SDJ90 II	SDJ90 II
	shift distance	mm	±600 mm	±600 mm	±600 mm	±600 mm	±600 mm	±600 mm
	application	-	ISO 20'/40'	ISO 20'/40'	ISO 20'/40'	ISO 20'/40'	ISO 20'/40'	ISO 20'/40'
tyre		-	14.00-24 28PR	14.00-24 28PR	14.00-24 28PR	14.00-24 28PR	14.00-24 28PR	14.00-24 28PR
overall weight		t	41			40		
rated capacity		t	9			9		
No. of stack		-	8 (8'6")			7 (8'6")		
max hoisting speed(unloaded/loaded)		mm/s	600/550			600/550		
max descending speed(unloaded/loaded)		mm/s	600/550			550/600		
max travelling speed(unloaded/loaded)		km/h	28/26			28/26		
gradeability(unloaded/loaded)		%	35/25			35/25		
overall length		mm	6900			6900		
wheel base		mm	4550			4550		
load center		mm	1220			1220		
front wheel distance		mm	1140			1140		
overall height(extracted H/Extended H5)		mm	12315/21740			10870/19240		
min ground clearance		mm	320			320		
min ground clearance for lock		mm	2250			2250		
max hoisting height for mast		mm	21250			18750		
overall width		mm	6038~12170			6038~12170		
front tyre distance		mm	3280			3280		
rear tyre distance		mm	2150			2150		
mast inclination angle(front α /back β )		°	2/4			2/4		
min turing radius		mm	6000			6000		
20' container aile width		mm	10000			10000		
40' container aile width		mm	14000			14000		

# TECHNICAL PARAMETER

Parameter		Unit	SDCY90K6H1C	SDCY90K6H2	SDCY90K6H4	SDCY100K8H1-T	SDCY100K8-T
engine	model	-	VOLVO TAD851VE	CUMMINS QSB 6.7	CUMMINS QSB 6.7	VOLVO TAD851VE	CUMMINS QSB 6.7
	rated capacity	kW/rpm	185/2200	164/2300	168/2200	185/2200	164/2300
	max torque	Nm/rpm	1160/1350	949/1400	1044/1500	1160/1350	949/1400
	emission standard	-	III	III	IV	III	III
gearbox model		-	CLARK 13.7HR32000	CLARK 13.7HR32000	CLARK 13.7HR32000	CLARK 13.7HR32000	CLARK 13.7HR32000
axle model		-	KESSLER D81 PL488	KESSLER D81 PL488	KESSLER D81 PL488	KESSLER D81 PL489	KESSLER D81 PL488
spreader	model	-	SDJ90 II	SDJ90 II	SDJ90 II	SDJT90	SDJT90
	shift distance	mm	±600 mm	±600 mm	±600 mm	±300 mm	±300 mm
	application	-	ISO 20'/40'	ISO 20'/40'	ISO 20'/40'	ISO 20'/40'	ISO 20'/40'
tyre		-	14.00-24 28PR	14.00-24 28PR	14.00-24 28PR	14.00-24 28PR	14.00-24 28PR
overall weight		t	38.5			42	42
rated capacity		t	9			10	10
No. of stack		-	6 (8'6")			8 (8'6")	8 (8'6")
max hoisting speed(unloaded/loaded)		mm/s	600/550			500/400	500/400
max descending speed(unloaded/loaded)		mm/s	550/600			500/500	500/600
max travelling speed(unloaded/loaded)		km/h	28/26			27/23	28/26
gradeability(unloaded/loaded)		%	35/25			30/22	30/22
overall length		mm	6900			6900	7610
wheel base		mm	4550			4550	5000
load center		mm	1220			1220	1220
front wheel distance		mm	1140			1307	1240
overall height(extracted H/Extended H5)		mm	9520/16540			10843/19482	10870/19124
min ground clearance		mm	320			320	320
min ground clearance for lock		mm	2250			2351	2250
max hoisting height for mast		mm	16050			18876	18750
overall width		mm	6038~12170			6620~12750	6620~12750
front tyre distance		mm	3280			3280	3280
rear tyre distance		mm	2150			2150	2150
mast inclination angle(front α /back β )		°	2/4			2/4	2/4
min turing radius		mm	6000			6000	6600
20' container aile width		mm	10000			10000	10550
40' container aile width		mm	14000			14000	14100



# TECHNICAL PARAMETER

Parameter		Unit	SDCE100K7-T	SDCE100K9-T	SDCY90K7H1-B
engine	model	-	/	/	VOLVO TAD851VE
	rated capacity	kW/rpm	/	/	185/2200
	max torque	Nm/rpm	/	/	1160/1350
	emission standard	-	/	/	III
gearbox model		-	/	/	340TE17312
axle model		-	KESSLER D81 PL489	KESSLER D81 PL489	KESSLER D81 PL489
spreader	model	-	SDJT100H	SDJT90	SDJ90 II
	shift distance	mm	±300 mm	±300 mm	±600 mm
	application	-	ISO 20'/40'	ISO 20'/40'	ISO 20'/40'
tyre		-	14.00-24 28PR	14.00-24 28PR	14.00-24 28PR
overall weight		t	46	46.5	40
rated capacity		t	10	10	9
No. of stack		-	8 (8'6")	9 (8'6")	7 (8'6")
max hoisting speed(unloaded/loaded)		mm/s	600/550	600/550	600/550
max descending speed(unloaded/loaded)		mm/s	550/600	550/600	550/600
max travelling speed(unloaded/loaded)		km/h	28/26	28/26	28/26
gradeability(unloaded/loaded)		%	35/25	35/25	35/25
overall length		mm	7830	7610	6900
wheel base		mm	5000	5000	4550
load center		mm	1220	1220	1220
front wheel distance		mm	1470	1140	1140
overall height(extracted H/Extended H5)		mm	10870/19240	10870/19240	10870/19240
min ground clearance		mm	350	320	320
min ground clearance for lock		mm	2250	2250	2250
max hoisting height for mast		mm	18876	21278	18750
overall width		mm	6038~12170	6038~12170	6038~12170
front tyre distance		mm	3280	3280	3280
rear tyre distance		mm	2030	2030	2030
mast inclination angle(front α /back β )		°	2/4	2/4	2/4
min turing radius		mm	6600	6600	6000
20' container aile width		mm	10000	10000	10000
40' container aile width		mm	14000	14000	14000

# ATTACHMENT OPTIONS

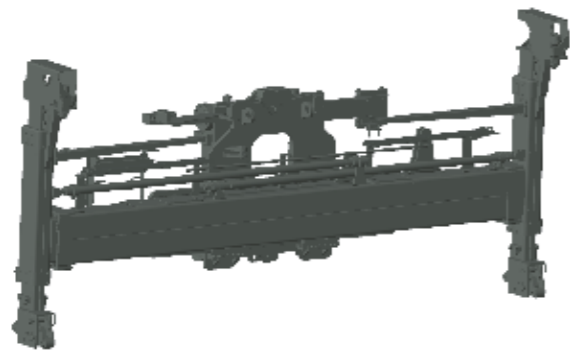
## Single Container Spreader

SANY SDJ90 series spreader is used for Empty Container Handler to stack, load and unload international standard 20' or 40' container. The product is mature in technology, steady and reliable, meeting working requirement in various ports and wharfs.

The new type can be turned over to meet more working conditions and easy to operate

### SDJ90C

Rated capacity	9t	Weight	4.4t
Application	ISO, WTP20/40 containers Side shift range ± 600mm		
Detector	Sensor detection	Lockpin type	Floating lock pin



### SANY classic spreader

#### SDJ90 II

Rated capacity	9t	Weight	4.6t
Application	ISO, WTP20/40 containers Side shift range ± 600mm		
Detector	Sensor detection	Lockpin type	ISO Floating lock pin



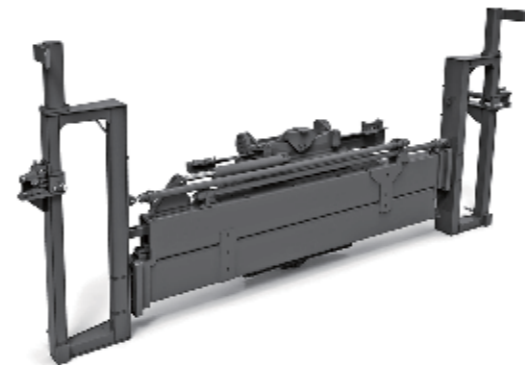
## Twin Container Spreader

SANY twin container spreader is used for Empty Container Handler to load and unload 20' or 40' twin container or single container. It gives operator a broad field of vision for positioning, which made it safe, steady and highly efficient.

Easy for alignment, safe and efficient.

### SDJT90

Rated capacity	10t	Weight	5t
Application	ISO, WTP20/40 containers Side shift range ± 300mm		
Detector	Sensor detection	Lockpin type	Front lock hook and bilateral auxiliary lock hook

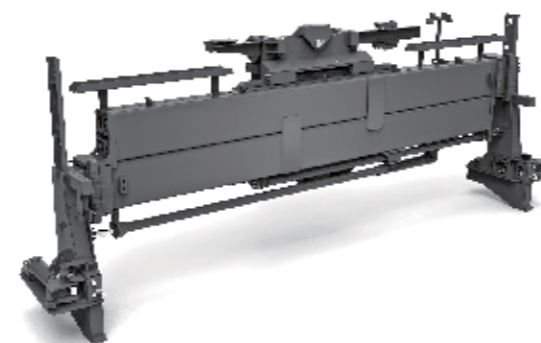


Applicable for twin container meeting customers' special

hurdling, requirement

### SDJT100-D1

Rated capacity	10t	Weight	6.2t
Application	ISO high 20/40 containers Side shift range ± 300mm		
Detector	Sensor detection	Lockpin type	Front lock hook and bilateral auxiliary lock hook



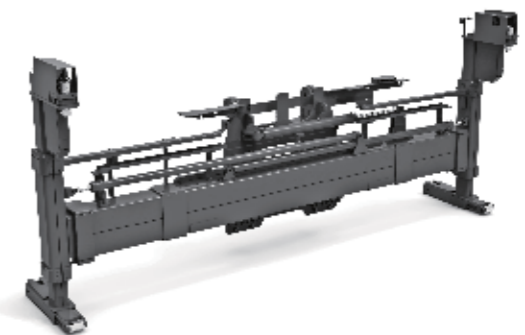
## Hurdling Spreader

SANY hurdling spreader is a loading and unloading attachment specially used for container truck with fence to transport containers. SANY developed and manufactured the single and twin hurdling container series attachments, perfectly solving the problems under special work conditions.

Special loading and unloading attachments for Fencing Truck

### SDJ90C1

Rated capacity	9t	Weight	5t
Application	ISO, WTP20/40 containers Side shift range ± 600mm		
Detector	Sensor detection	Lockpin type	ISO Floating lock pin



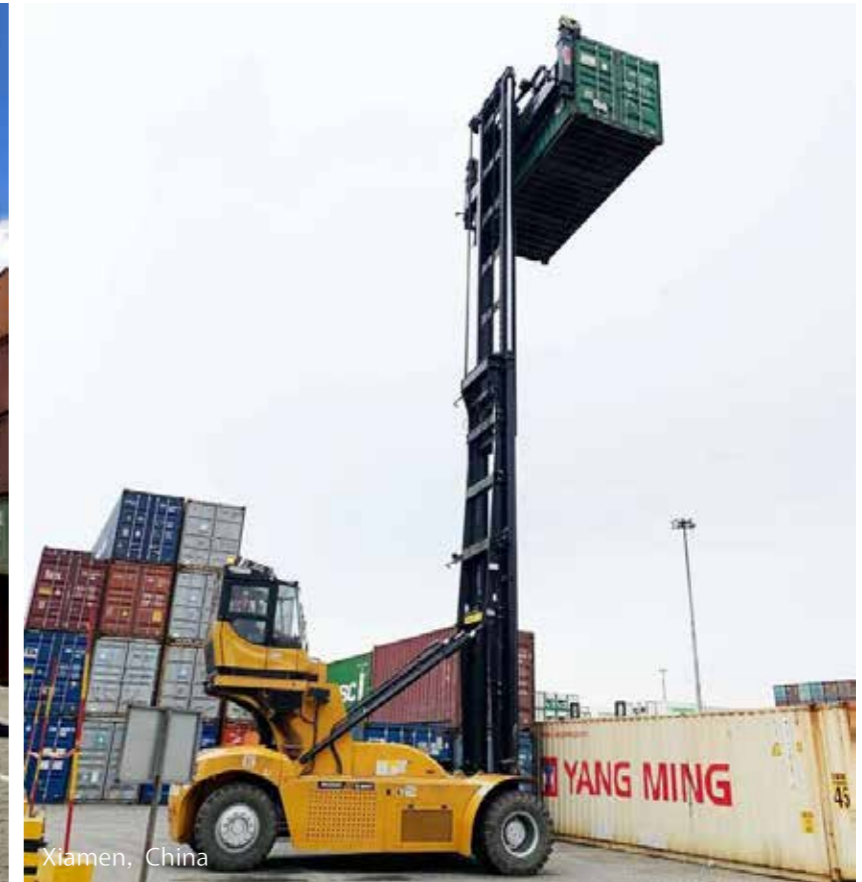
ALL FOR CUSTOMERS,  
ALL FROM INNOVATION

# ADD-ON OPTIONS

FOUNCTION	BRAND CODE		NOTE
Heat preservation device for extremely cold district	SANY	13816299	It is mainly used in such extremely cold district as Russia. It is recommended for district where the temperature is below -15 like North America, Russia and Europe. It is a must for district where the temperature is below -30 .
Automatic centralized lubrication system	SANY	12913519	Equipped with electric lubrication pump to provide automatic lubrication to chassis and mast.
Cab assistant seat	SANY	12774971	Cab assistant seat
Cab roof protection frame	SANY	14225897	Provide protection to the cab to prevent the driver from being injured after dropping container
Spreader automatic lubrication system	SANY	13856374	Equipped with electric lubrication pump to provide automatic lubrication to spreader.
3m visible reversing radar system	SANY	14434244	The reversing image is displayed on the display screen in the cab, including a 3-meter reversing radar
5m visible reversing radar system	SANY	12764589	The reversing image is displayed on the display screen in the cab, including a 5-meter reversing radar
Spin lock counter	SANY	11446031	Spin lock counter of the spreader
Engine timer (by hour)	SANY	11446498	Timer for the engine' s working hours
Amplifying alarm system	SANY	11447670	Including the amplifier and the alarm
Tire pressure monitoring system	SANY	13835471	Detect real-time tire pressure and alarm
Cab tri-color spreader lamp	SANY	12308787	The tri-color lamp in the cab indicating the conditions of the spreader: open, closed, working status.
Rear counterweight alarm lamp	SANY	11447452	One alarm lamp for the rear counterweight
Air suspension seat	Grammer	130903000027	Air suspension damping seat

Cab reading lamp	SANY	11447665	Hella fluorescent lamp, installed on the top of the cab.
12V power supply	SANY	11446544	Provide 12V power socket (on the top of the electric control cabinet in the cab)
24V power supply	SANY	11447574	Provide 24V power socket (on the top of the electric control cabinet in the cab)
Amplifying alarm system	SANY	11447670	Including the amplifier and the alarm
Walkie talkie device	SANY	11994939	Install walkie talkie
Walkie talkie	SANY	14105115	Provide wireless calls
RPIS installing surpport	SANY	12719277	Install RPIS surpport
Radio	SANY	13206553	Including radio, speaker and antenna.
Terminal support	SANY	14226042	Wireless terminal installation device
Power fire cut off system	SANY	13336684	In conjunction with the automatic fire extinguishing system which detects fire, cuts off the main power supply, and stops the engine automatically.
Mobile APP detection system	SANY	13873318	For equipment working condition detection, alarm information query and troubleshooting guide, maintenance reminder, historical data query, etc., a GCP account is required.
ABC Dry powder fire extinguisher(2KG)	-	A229900004007	ABC Dry powder fire extinguisher MFZL-2 type(2KG)
Cigarette lighter	-	B249900000096	12V power external socket
Water-based fire extinguisher	dafo	60328536	Fire extinguishers imported from abroad provide stable and efficient fire extinguishing in the engine compartment

# Shots from the Jobsites





# Shots from the Jobsites



Shanghai, China



Shanghai, China



Port of Ningbo



Port of Shanghai



Dammam, Saudi Arabia



Sydney, Australia



Taiwan



Port of Taicang

# SERVICE

## Carefree Service



**品质改变世界 服务创造价值**  
Quality Changes the World Service Creates value



Support Service: **+86-4008-87-8318**



**Service vision:**

Exceed customer expectation and industry standards.

**Service mission:**

All for client, create value for customer

**Service commitment:**

- (1) Reply customer within 15 minutes.
- (2) Reach main service area within 2 hours.
- (3) Solve general problems and provide regular parts within one day.
- (4) Solve customer complaints with two days.
- (5) Solve all issues within 7 days.

**Service value:**

Innovation、Excellence、Clients、Cooperation、Respect、Passion、Honesty、Responsibility

**Service advantage:**

“Professional service power” : Sany has offices in over 200 countries and regions, with 11 subsidiaries and 35 service points in domestic together. Setting up the parts warehouse can cover the world range, Forming the four in one of parts supply and guarantee system by headquarters warehouse, regional center warehouse, provincial and prefecture-level city, Accommodating 80000 kinds of parts to ensure fully customer service requirements in time.

“Professional operation and maintenance system” : Sany has invested tens of million of RMB to build “Sany Customer cloud APP” ,which enable customers to monitor the running status and parameters of the equipment in real time anywhere in the world. In addition, it provides online consultation, community communication, accessories mall, one-click repair, maintenance reservation, product knowledge learning and other value-added service. So the customer can easily enjoy the highest quality of service in any place of the world.

