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M Metron

SOCMA
华南重工



堆高机
DG SERIES
Empty Container Handler



技术先进 精益求精

Advanced Technology Excellent Truck Quality

集多元化优点于一身，安全可靠、高效精准、操控平稳，凭借人机合一的先进设计理念，全面集成化、灵活快速的操作系统，使您轻松实现高效的生产运作，当之无愧成为您最好的选择！

With multiple advantages, the truck has high safety / high efficiency / high precision and high stability performances. Integrated operating system ensure the truck highly productive.

先进的电气控制系统及 Can-bus 通讯技术

Full Can-bus Control System

DG90堆高机是具有整车Can-bus系统控制的。发动机、变速箱、电气系统、液压系统、载荷安全控制系统、吊具等全面集成在Can-bus系统中，对设备进行实时监控。DG90堆高机目前使用最先进的集成微型保险丝盒单元，控制箱美观，细小。所有的保险丝都集中放置，自带故障灯，保险丝损坏灯自动亮起提示，排障迅速。

Dg90 empty container handler is equipped with full Can-bus control system. The engine/ transmission/ electric system/ hydraulic system/loading safety system/ spreader system are all integrated in the Can-bus system, all devices are monitored at real time. Parker control units ensure the system is reliable and flexible.

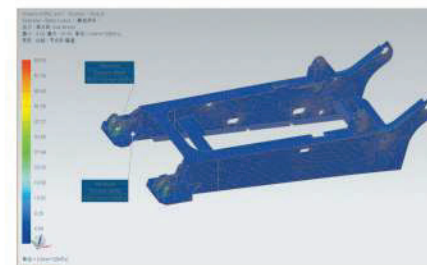


平稳的动力转向 Smooth Power Steering

液压动力转向系统，即使堆高机在静止的情况下也可在两限位块之间转向，操作灵活精确，转向力极微。在管路上装有防撞阀，保护系统安全。坚固耐用的转向桥通过弹性球形衬套和车体连接，以适应不平路面。转向限位块防止油缸超行程动作。

Hydrostatic power steering allows full steering lock to be attained even at standstill. Accurate maneuverability with minimum effort. Cab-mounted anti-kick valve. Heavy-duty steer axle mounted to the chassis via spherelastic bushes allowing axle articulation over uneven ground. Steering lock stops preventing cylinder over stroke.

先进的设计手段 Rigorous design process



通过先进的有限元分析、以精准的数据支持为设计基础，确保了门架和车架系统结构合理，性能优良，具有卓越的整机可靠性和稳定性。

FEM analysis supported design provides high strength of chassis and mast, making whole truck stable and robust.

新型提升门架 Innovative lift mast

超宽视野门架设计具有革命性的意义；与现有的其它堆高机设计方案比较，本系列堆高机的内门架固定在车架上，而外门架提升。门架的前方视野极佳，同时具有很强的抗扭能力，保证在最大高时的堆垛能力。

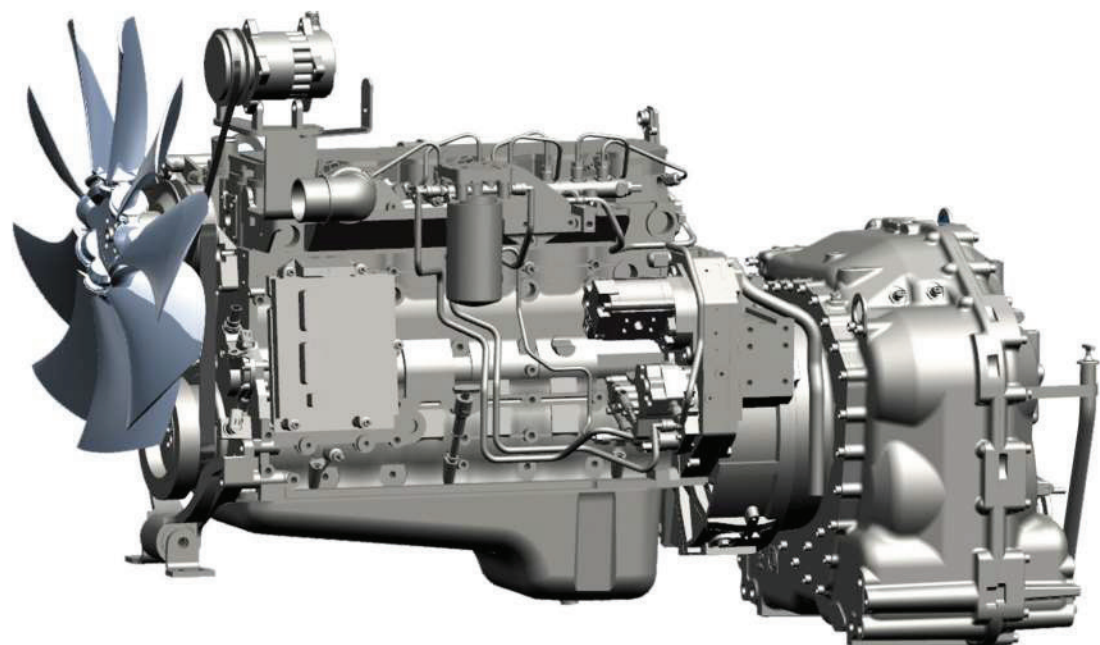
The design of the ultra-wide clear view lift mast qualifies as revolutionary : in contrast to established fork truck design principles, the inner mast is pivoted on the chassis whereas it is the outer mast that telescopes. Increased forward visibility. Mast construction extremely stiff in torsion, guaranteeing perfect load elevation up to maximum lift.



高端配置 见证品质

Market Leader Powerful Engine

- ① 全电控电喷式柴油发动机
- ② 空箱堆高机选用国际知名品牌CUMMINS发动机，全电控电喷系统，燃油雾化充分，节油性能好。包含涡轮增压器，提高整机性能和发动机效率。
- ③ 功率大，足以满足不同工况的要求。油耗少，燃油燃烧效率高，符合欧洲EU Stage III 标准。噪音低，在非定性操作期间始终能维持设备充分润滑。维护成本低，备有原装配件，维护发动机非常经济。
- ④ 空箱堆高机机具有发动机电控保护技术，对机油压力低、水温高等异常进行自动熄火保护，避免反复熄火、启机现象，有效保护发动机。



Equipped with Cummins Engine, with full electronic control system to ensure economic fuel consumption

Equipped with turbocharger to improve the truck power and engine efficiency

Strong power to meet various working condition

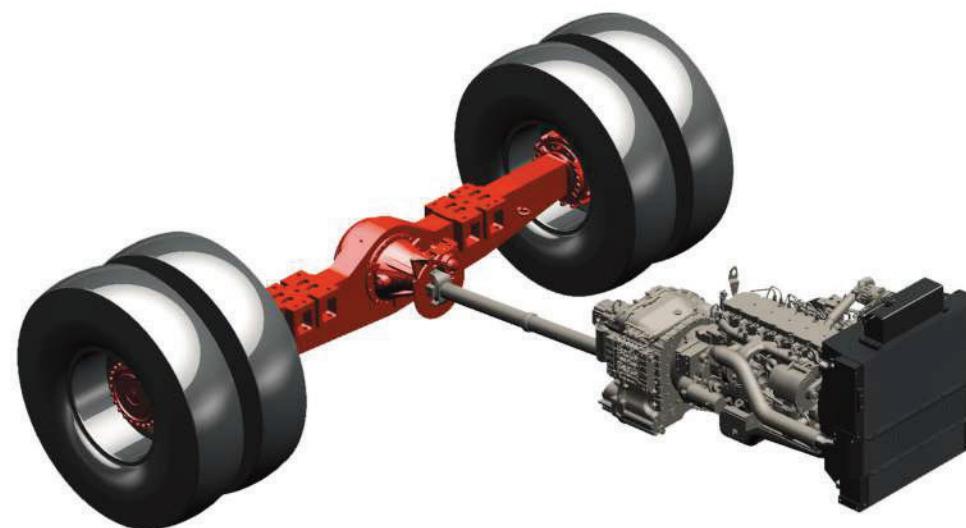
Comply with EU Stage III gas emission standard

Full lubrication performance to ensure the low noise level

The electric engine protection system shutdown the engine to avoid the damage when low lub-oil pressure / high temperature

追求完美表现 为你创造卓越

Stacking Experience Creating Excellence



Kessler D81 驱动桥

Kessler D81 Drive Axle

采用KESSLER重载驱动桥，国际品质，能承受各恶劣工况下的冲击载荷，重载式设计，安全可靠，使用寿命长；二级减速，宽轮距，免维护湿式制动器，制动安全可靠；具有相对独立的润滑系统，可维护性好。

Kessler drive axle, proven quality for heavy duty trucks, wide track, 2-stages reduction gear box, strong axle body optimized for heavy loading condition. wet disk driving brake is free of maintenance. This drive axle performs under shock load condition ensuring high safety and long life time.



舒适的驾驶环境 Spacious Driving Environment



驾驶室采用最新人机工程学设计，简洁大方、宽敞舒适，控制及仪表均触手可及。配置大屏幕彩色显示屏，便于驾驶员实时掌握设备状态。

驾驶室的结构刚性良好，护顶坚固、密封性好。车门和车窗启闭轻便，门锁牢固可靠。配置多功能电控操作手柄，辅助开关触手可及。

驾驶室配置豪华驾驶座椅，可根据司机身高体重调节，驾驶员始终处于极其舒适的状态，操作效率更高。驾驶室使用大面积的安全玻璃，司机视野极佳，前后视野尤其出色；驾驶室配置空调系统，具有防锈，除霜和换气功能。强劲的暖气及通风系统，具备全天候作业条件。

- The cabin adopts the latest ergonomic design, Simple & elegant, Spacious & comfortable.
- Equipped with large-color display for easy reading the real status of the truck.
- Firm cabin design to ensure the safety and comfort of the operator. Good tightness, the doors & windows can be opened & closed easily and firmly.
- Equipped with multi-function joystick, All the control are at your fingertips.
- The luxury seat can be adjusted according to the driver's height and weight to ensure the most comfortable driving and high efficiency. he safety glass to ensure the excellent all-round visibility.
- Equipped with Air-Conditioner with heating function to suit working in all climates.

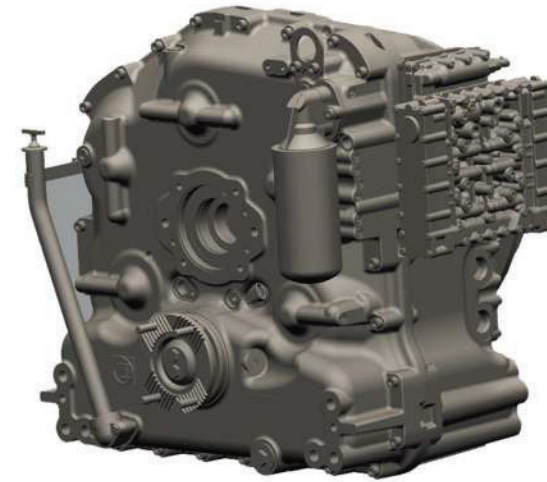
触摸屏式高清晰 电子监控器 High resolution Color Display



一种高效可靠的系统诊断结果显示工具，起吊重量、起升高度、主系统压力、发动机状态、油位及故障等信息都能一目了然地获取，操作快捷，作业效率高。

A reliable color display shows the lifting weight / lifting height / main pressure / engine status / oil level / error codes etc.all important information. The quick responding controller helps the operation and high efficiency.

自动变速箱 The Automatic Transmission



- ◆ ZF 自动变速箱
- ◆ 齿轮传动，采用前进三档/后退三档，平稳运行，省油经济
- ◆ 维护经济，寿命长
- ◆ 精准的寸动控制
- ◆ 具有换向互锁功能，控制速度的降档保护
- ◆ ZF automatic transmission
- ◆ Auto-gear transmission with 3 forwards / 3 reverse speed, makes the truck operation smooth and good economic performance
- ◆ Minimum maintenance, long life time
- ◆ Inching function ensure the accurate approaching performance
- ◆ Reversing interlock, speed controlled downshift protection

安全装置：

配备座椅安全开关

- 当驾驶员未就位的情况下，切断所有的液压、行驶功能。

吊具状态指示灯

- 红黄绿三色指示灯；
- 灯光信号指示吊具、旋锁状态；
- 限制不正常的起升、下降操作。

称重显示及超载限制系统

- 负载达到额定值90%，声音提示满载。
- 超过额定负载，切断起升功能。

CAN总线诊断

- 显示发动机、变速箱等故障码；
- 显示各种油液、压力、温度等报警信息。

双制动踏板设计

- 适应各种驾驶员的操作习惯。

门架吊具安全性

- 配备吊具安全阀，链条防松；
- 高强度门架、吊具结构设计。

Safety Device:

With seat safety switch

- In the case of the driver is not seated, cut off all the hydraulic, driving function

Spreader status indicator

- Red yellow green indicator lights;
- The light signal indicating the spreader, unlock state;
- Restrict Abnormal lifting, lowering operation.

Weighing display and overload limiting system

- Load rating of 90%, sound alarm;
- Exceeding the rated load, will cut off the lifting function.

Can-bus diagnosis

- Display engine, gearbox and other fault code;
- Display oil, pressure, temperature and other alarm information.

Double brake pedal design

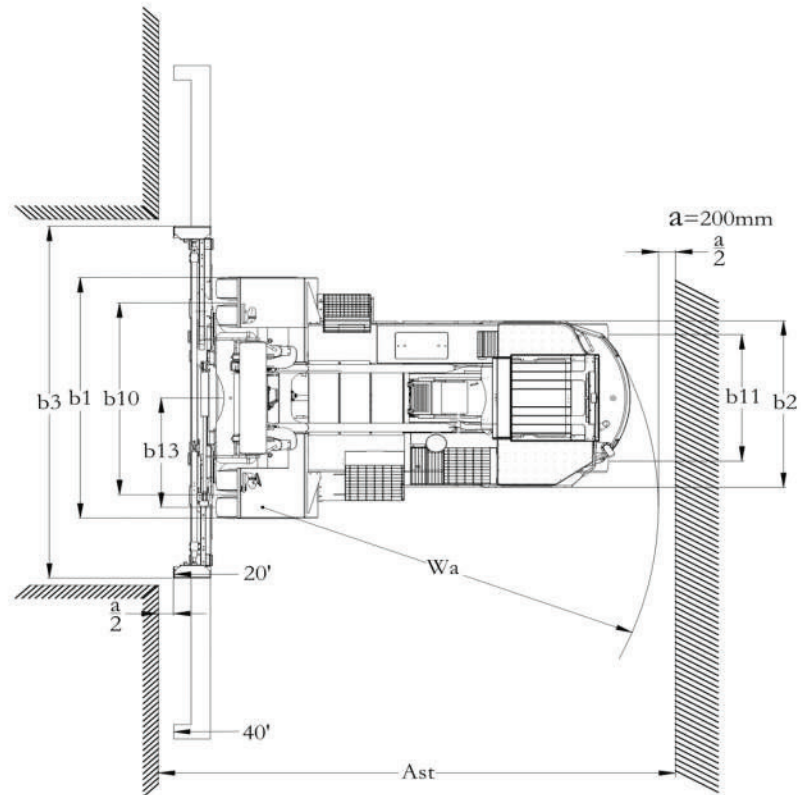
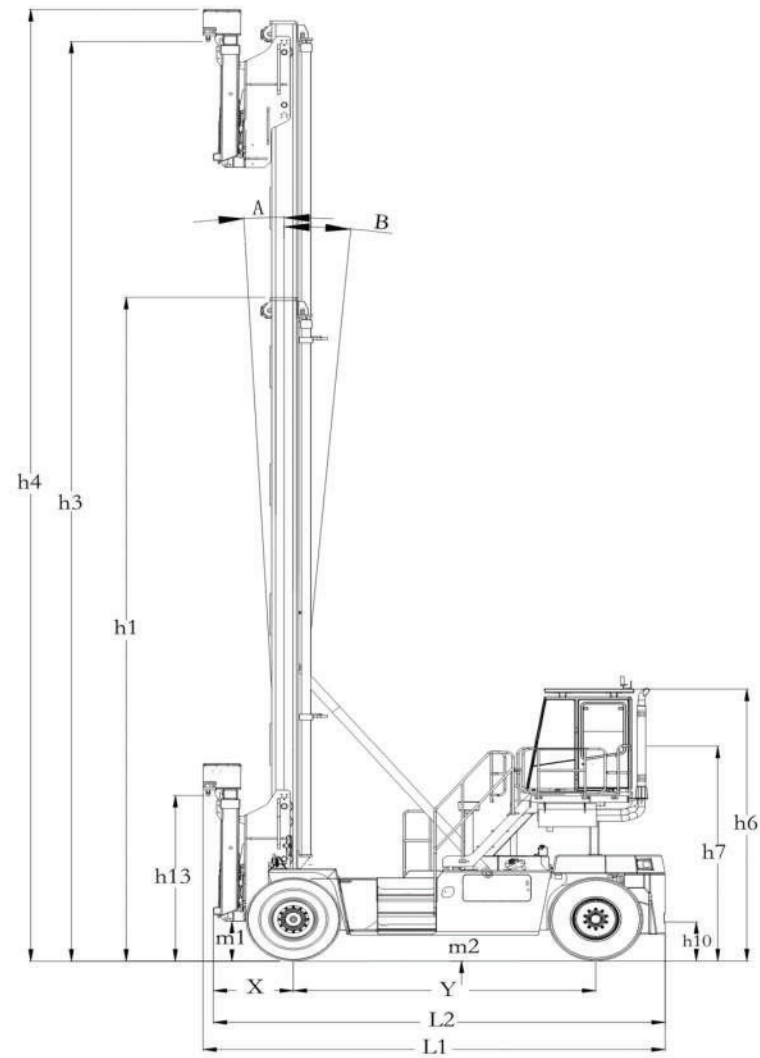
- Adapt to the driver's operating habits.

Safety of spreader and mast

- Limited speed valve for mast lower, chain anti loose;
- High strength structure design of mast and spreader.

性能					
技术参数/型号		DG90/8	DG90/7	DG80/7	DG80/6
额定载荷	Kg	9000	9000	8000	8000
最大堆垛层数		8	7	7	6
提升速度, 满/空载	m/s	0.55/0.60	0.55/0.60	0.55/0.60	0.55/0.60
下降速度, 满/空载	m/s	0.60/0.60	0.60/0.60	0.60/0.60	0.60/0.60
行驶速度, 满/空载	km/h	26/28	26/28	25/27	25/27
爬坡能力, 满/空载	%	38/—	38/—	30/—	30/—
牵引力	kN	157.5	157.5	107.5	107.5
尺寸					
轴距	y(mm)	4520	4520	4020	4020
门架缩回时高度	h ₁ (mm)	12399	11111	11091	9600
倾角(前/后)	α/β(°)	3/4	3/4	3/4	3/4
作业时门架最大高度	h ₄ (mm)	21818	19244	19204	16660
护顶架(驾驶室)高度	h ₆ (mm)	4326	4326	4326	4326
驾驶室离地高度	h ₇ (mm)	3226	3226	3206	3206
门架缩回时旋锁高度	h ₁₃ (mm)	2290	2290	2290	2290
提升高度	h ₃ (mm)	21216	18642	18600	16290
总体长度	l ₁ (mm)	6850	6850	6450	6450
车体长度(不含属具)	l ₂ (mm)	6682	6682	6277	6277
总体宽度	b ₁ /b ₂ (mm)	4120/2570	4120/2570	3627/2398	3627/2398
20'/40'吊具宽度	b ₃ (mm)	6050/12150	6050/12150	6050/12150	6050/12150
转弯半径	Wa(mm)	6300	6300	5700	5700
轮中心距, 前轮	b10(mm)	3280	3280	2880	2880
轮中心距, 后轮	b11(mm)	2171	2171	2068	2068
重量					
自重	kg	38680	38280	33800	32800
满载时桥负荷, 前/后	kg	37220/10450	36610/10670	29050/10750	28650/10150
空载时的桥负荷, 前/后	kg	22660/16020	22480/15800	20100/13700	19700/13100
发动机					
技术参数/型号		DG90		DG80	
发动机型号-柴油		Cummins/ QSB6.7		Cummins/ QSB6.7	
汽缸数量/排量		6/6700cm ³		6/6700cm ³	
额定转速的最大功率		164Kw@2200rpm		129Kw@2200rpm	
最大力矩		949NM@1500rpm		800NM@1500rpm	
发电机电流		100A		70A	
电池		24V(2x12/110)		24V(2x12/110)	
变速箱					
技术参数/型号		DG90		DG80	
生产商-型号		ZF/3WG211AUTO		ZF/3WG211AUTO	
离合器-类型		全流量液力变矩器		全流量液力变矩器	
变速箱		液力换挡、自动变速箱, 互锁		液力换挡、自动变速箱, 互锁	
挡位数量		3F/3R		3F/3R	
制动系统					
驱动轴: 湿式盘式制动器-液压操作					
停车制动: 钳盘制动, 断电制动, 按钮操作/液力释放					
驱动桥					
技术参数/型号		DG90		DG80	
制造商		KESSLER/德国		KESSLER/德国	
型号		D81PL488-NLB		D81PL478-NLB	
转向桥					
技术参数/型号		DG90		DG80	
制造商		OMCI/意大利		SOCMA	
型号		ASF		Z16A1	
摆动均衡器-单缸		双作用液压缸		双作用液压缸	
轮胎					
驱动轮		14.00-24 28PR		12.00-24 24PR	
转向轮		14.00-24 28PR		12.00-24 24PR	
类型		充气		充气	
充气压力		10bar		10bar	
车轮数量, 前/后		4/2		4/2	
吊具					
型号		自制		自制	
侧移距离		±600mm		±600mm	
属具工作油压		140bar		140bar	
适用对象		20' 或 40' ISO 标准集装箱		20' 或 40' ISO 标准集装箱	

PERFORMANCES					
Model		DG90/8	DG90/7	DG80/7	DG80/6
Load capacity	Kg	9000	9000	8000	8000
Maximum stacking layer		8	7	7	6
Lift speed, laden/unladen	m/s	0.55/0.60	0.55/0.60	0.55/0.60	0.55/0.60
Lowering speed, laden/unladen	m/s	0.60/0.60	0.60/0.60	0.60/0.60	0.60/0.60
Travel speed, laden/unladen	km/h	26/28	26/28	25/27	25/27
Climbing ability, laden/unladen	%	38/—	38/—	30/—	30/—
Tractive force	kN	157.5	157.5	107.5	107.5
DIMENSIONS					
Wheelbase	y(mm)	4520	4520	4020	4020
Height of mast, lowered	h ₁ (mm)	12399	11111	11091	9600
Tilt angle (forward /backward)	α/β(°)	3/4	3/4	3/4	3/4
Height of mast, extended	h ₄ (mm)	21818	19244	19204	16660
Height of cabin	h ₆ (mm)	4326	4326	4326	4326
Height, operator's seat	h ₇ (mm)	3226	3226	3206	3206
Twistlock height, lowered	h ₁₃ (mm)	2290	2290	2290	2290
Maximum twistlock height	h ₃ (mm)	21216	18642	18600	16290
Overall length	l ₁ (mm)	6850	6850	6450	6450
Length to spreader face	l ₂ (mm)	6682	6682	6277	6277
Overall width	b ₁ /b ₂ (mm)	4120/2570	4120/2570	3627/2398	3627/2398
Width of spreader 20'/40'	b ₃ (mm)	6050/12150	6050/12150	6050/12150	6050/12150
Turning radius	Wa(mm)	6300	6300	5700	5700
Wheelspan, Front wheels	b10(mm)	3280	3280	2880	2880
Wheelspan, Rear wheels	b11(mm)	2171	2171	2068	2068
WEIGHTS					
Service weight	kg	38680	38280	33800	32800
Axle load with load, front/rear	kg	37220/10450	36610/10670	29050/10750	28650/10150
Axle load without load, front/rear	kg	22660/16020	22480/15800	20100/13700	19700/13100
ENGINE					
Model		DG90		DG80	
Engine manufacturer / type		Cummins/ QSB6.7		Cummins/ QSB6.7	
Cylinder number / displacement		6/6700cm ³		6/6700cm ³	
Rated power		164Kw@2200rpm		129Kw@2200rpm	
Maximum torque		949NM@1500rpm		800NM@1500rpm	
Rated current of alternator		100A		70A	
Battery		24V(2x12/110)		24V(2x12/110)	
TRANSMISSION					
Model		DG90		DG80	
Manufacturer / type		ZF/3WG211AUTO		ZF/3WG211AUTO	
Clutch - type		TorqueConverter		TorqueConverter	
Transmission		Auto-shift/Interlock		Autoshift/Interlock	
Gear number		3F/3R		3F/3R	
BRAKESYSTEM					
Service brake: Wet-disc					
Parking brake: Brake enabled when power of					
DRIVEAXLE					
Model		DG90		DG80	
Driver axle manufacturer		KESSLER/Germany		KESSLER/Germany	
Type		D81PL488-NLB		D81PL478-NLB	
STEERAXLE					
Model		DG90		DG80	
Steering axle Manufacturer		OMCI/Italy		SOCMA	
Type		ASF		Z16A1	
Steering type-Single cylinder		Double action cylinder		Double action cylinder	
TYRES					
Drive wheels		14.00-24 28PR		12.00-24 24PR	
Steering wheels		14.00-24 28PR		12.00-24 24PR	
Type		Pneumatic tyre		Pneumatic tyre	
Pressure		10bar		10bar	
Quantity, Front / Rear		4/2		4/2	
SPREADER					
Model		Self made		Self made	
Side shift distance		±600mm		±600mm	
Working perssure for attachments		140bar		140bar	
For handing		20' 或 40' ISO standard container		20' 或 40' ISO standard container	



DG80/6			
8'6"container		9'6"container	
Q	Height (mm)	Q	Height (mm)
8t	15546		
8t	12955	8t	14480
8t	10364	8t	11584
8t	7773	8t	8688
8t	5182	8t	5792
8t	2591	8t	2896

to C=1295 mm

DG80/7			
8'6"container		9'6"container	
Q	Height (mm)	Q	Height (mm)
7t	18137		
8t	15546	7t	17376
8t	12955	8t	14480
8t	10364	8t	11584
8t	7773	8t	8688
8t	5182	8t	5792
8t	2591	8t	2896

to C=1295 mm

DG90/7			
8'6"container		9'6"container	
Q	Height (mm)	Q	Height (mm)
9t	18137		
9t	15546	9t	17376
9t	12955	9t	14480
9t	10364	9t	11584
9t	7773	9t	8688
9t	5182	9t	5792
9t	2591	9t	2896

to C=1295 mm

DG90/8			
8'6"container		9'6"container	
Q	Height (mm)	Q	Height (mm)
7t	20720		
9t	18137	7t	20265
9t	15546	9t	17370
9t	12955	9t	14480
9t	10364	9t	11584
9t	7773	9t	8688
9t	5182	9t	5792
9t	2591	9t	2896

to C=1295 mm

标准配置 Standard Equipment

- 封闭带门驾驶室
- 液压三档可调节座椅，可依据驾驶员的身高体重进行全面调节
- LCD显示屏，显示发动机/变速箱参数；以文本方式显示动态故障和历史故障，设备故障一目了然
- 发动机及传动系统的油压安全监视器
- 带增压器的Cummins 172KW发动机
- ZF带前进/后退，安全互锁的三档传动系统
- 带二级减速器的重载驱动桥，免维护的湿碟式制动器
- 全液压动力转向
- 驱动轮单边双轮适合重载
- 充气轮胎
- 标准超宽全视野门架
- 集装箱侧边伸缩吊具，侧移+/- 600毫米
- 路面照明
- 工作灯
- 吊具工作灯
- 外挂后视镜
- 称重显示及载荷限制系统
- 标准的车体颜色-朱红色，碳灰色
- 空调
- 多媒体收音机(蓝牙)
- 2 x USB手机充电口
- Air conditioner
- Fixed closed cabin
- Hydraulic-three position adjusted seat with wide range of height adjustment
- LCD screen data display, show parameters of engine / transmission; Display fault codes into text descriptions
- Safety monitors for engine and transmission oil pressure Cummins diesel engine with turbocharger
- ZF 3-speed auto-shift transmission with integrated forward / reverse safety interlock
- Robust double hub reduction drive axle, incorporating oil bath type multi-wet disc brake, free of maintenance
- Hydraulic power steering
- Twin drive wheels
- Pneumatic tyres
- Standard ultra-wide clear view lift mast
- Container telescopic 20'-40' side lift spreader, side shift +/- 600mm
- Road lighting
- Working lights
- Spreader-mounted lights
- Rear view mirrors
- Load indicator and load limiting system
- Standard color scheme-RAL3000 / RAL 7021
- Air conditioner
- Multimedia radio(Bluetooth)
- 2 x USB 5V port

可选配置 Optional Equipment

- 门架灯
- 高位行车限速
- 倒车雷达及影像系统
- 远程手机app监控系统 (不含sim卡)
- 轮胎螺栓松动指示器
- 无线蓝牙胎压监测系统
- 其它车体颜色
- 自动灭火系统
- 单双箱(DG90)
- 其他满足要求的可选配置
- CD
- Mast lights
- Travel speed limiter, when load positioned above standard travel height
- Reverse radar and camera monitor system
- Remote diagnostic system
- Alternative color schemes
- Auto fire suppression system
- Single spreader or double spreader(DG90)
- other options available on request

