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syncMASTER - IS A COMPUTER CONTROLLED, HYDRAULIC LIFTING SYSTEM THAT PROVIDES THE HIGHEST DEGREE OF SAFETY TO PERSONNEL AND PROPERTY ASSOCIATED WITH LARGE-SCALE ENGINEERING / MAINTENANCE PROJECTS.

Parameters within the lifting system can be set to ensure that the lift does not proceed outside a predetermined lift plan. SyncMaster can in real time monitor and calculate cylinder loads, stroke lengths, total loads and the centre of gravity – all of which will provide the operator with an alarm and automatically stop the lift from continuing should they exceed set parameters. The centre of gravity feature is a function that defines a programmable rectangular or circular boundary outside of which the centre of a mass cannot move. If the centre of mass approaches this boundary, an alarm is given and the lift stops automatically. This is a key safety design feature for use in the movement of tall or unevenly loaded structures. SyncMaster allows for precision control and monitoring of complex lifting applications. Every configuration, process, alert and operator function is displayed and recorded in real time, thus reducing the costly overheads associated with manual control, measurements and comparisons to lift plans. All lift and alert data is collected during the lift process and this data can easily be exported to an application for analysis and planning of future lifts.



THE **syncMASTER** MULTIPLE POINTS SYNCHRONOUS LIFT SYSTEM ALLOWS FOR UP TO 16 POWER PACKS TO BE CONTROLLED BY ONE MASTER UNIT, GIVING A MAXIMUM OF 128 INDIVIDUALLY CONTROLLED CYLINDER POINTS.

The system constantly monitors cylinder positional and pressure data to safely and effortlessly achieve very accurate and repeatable load movements, regardless of weight distribution or size. One power pack controls up to eight single or double acting cylinders, or groups of cylinders. The 'X', 'Y' and 'Z' coordinates can be recorded for each cylinder, as required by the lift type. DURAPAC cylinder data may be selected from a drop down menu or manually entered for other cylinders. Pressure transducers allow pressure or load limits to be set for an individual cylinder or for all cylinders. Two linear transducers are available per lifting point to monitor cylinder and load displacement. Full data logging and real time graphical display is available for all lift variables.



TOUCH SCREEN

15 inch full colour touch screen withstands harsh environments. The glass is toughened making it both scratch and cut resistant.



VARIABLE FLOW CONTROL

Variable frequency drive motor gives a wider pump flow range. This is controlled by a joy stick controller that governs flow and directional control of the hydraulic cylinders.



CONTROL VALVES

High cycle, high speed solenoid valves allow precise flow control. All valves are leak free and have a 100% duty cycle.



PRESSURE TRANSDUCERS

Monitor load conditions at each lift point for maximum safety. Optional load cells are available for high precision weighing operations.



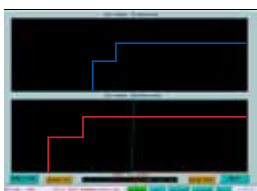
STROKE TRANSDUCERS

High precision 40 pulses per mm linear transducers combined with high speed counter cards achieve precise positional control. Various stroke transducers are available including internal cylinder design. Optional tilt meters are also available.



ADJUSTABLE FLOW CONTROL VALVES

Controls the flow during decent and can be preset and locked.



LIFT MONITORING AND DATA STORAGE

Full pressure and displacement data presentation are available on screen to monitor the lift in real time. Lift data are stored and able to be downloaded in a format suitable for importing into Excel for further analysis and record keeping. This gives a permanent record of the displacement and load on every cylinder at defined time intervals.



NUMBER OF LIFTING POINTS

1 - 128

ACCURACY

0.5 mm

MAXIMUM OPERATING PRESSURE

700 bar

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SPECIALTY LIFTING SYSTEMS

Did you know...

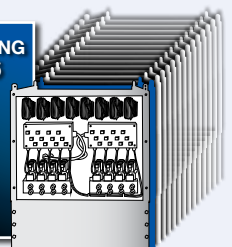
One touch screen can control 1-16 sync pumps which can each power 1-8 cylinders. Creating a total potential of 128 lift points



1x TOUCH SCREEN



CONTROLLING UP TO 16 SYNC PUMPS

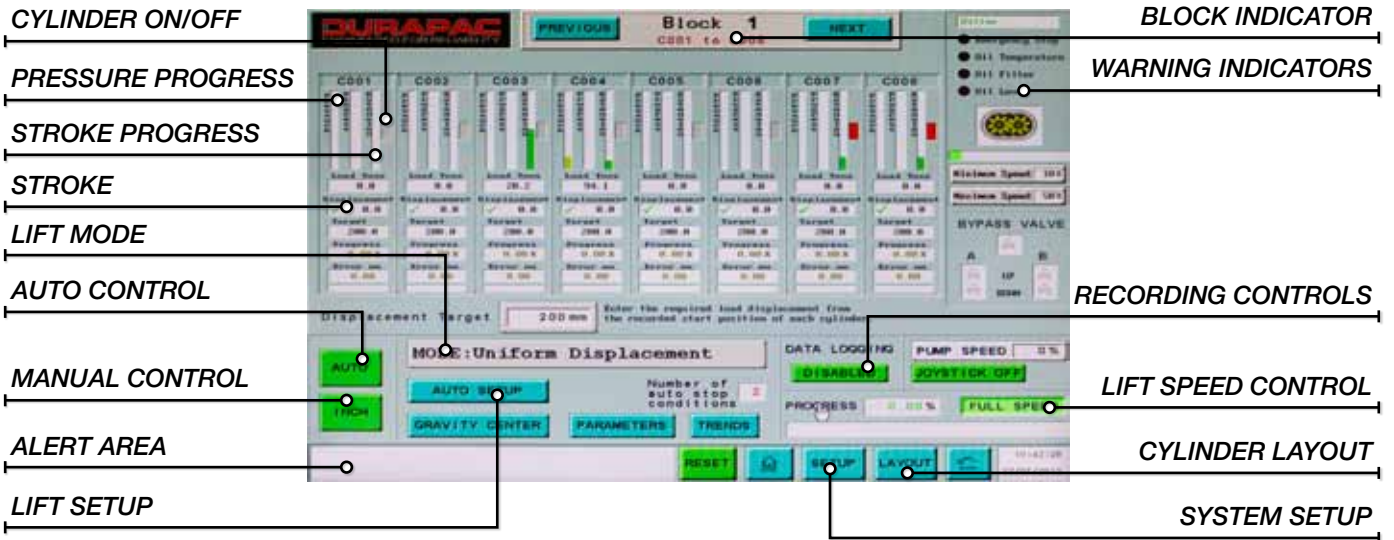


EACH WITH 1-8 CYLINDERS



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SPECIALTY LIFTING SYSTEMS



1. JOYSTICK MANUAL ONLY

Each cylinder can be enabled or disabled then advanced or retracted and is controlled via the joystick with variable flow to the required position.

2. UNIFORM DISPLACEMENT

In this mode a parallel or correction lift can be performed. Parallel Lift - where the displacement of all cylinders are the same. Correction Lift - adjust the lifting surface to bring it to a flat plane.

3. TWO POINT DISPLACEMENT

Tilt a load to a new plane along one axis.

4. THREE POINT DISPLACEMENT

Tilt a load to a new plane along two axes.

5. STAGED LOAD CONTROL

Apply a set or stepped load to test pylons, anchors, etc. Programme up to 4 load increments, duration (in minutes) and tolerances.

6. RETURN ALL CYLINDERS

Returns all cylinders to their fully retracted positions.

7. PRE-LOAD ALL CYLINDERS

Each cylinder advances until a predetermined load is reached and system automatically records this as the lift start position.

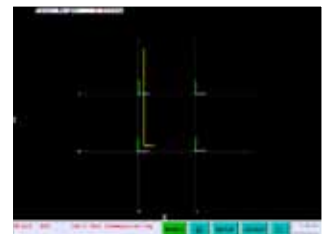


8. TEST PULSE ALL CYLINDERS

Determines and controls final placement accuracy prior to the actual lift. The system will automatically test each lift point to verify achievable placement accuracy. Flow adjustment settings are available and the system automatically compensates to achieve desired placement accuracy.

9. GRAVITY CENTRE

The centre of gravity feature is a function that defines a programmable rectangular or circular boundary outside of which the centre of a mass cannot move. If the centre of mass approaches this boundary, an alarm is given and the lift stops automatically. This is a key safety design feature for use in the movement of tall or unevenly loaded structures.



EMERGENCY STOP

located in prime location
above touch screen

TOUCH SCREEN

contained within own control box

PLC CONTROL BOX AND JOYSTICK

able to be removed and used up
to 5 metres from SyncMaster

PLC AND JOYSTICK RECESSED

inside the frame to avoid accidental damage
and inclined to allow ease of operation

POWER INDICATORS ON PLC

and control panel boxes

EXTERNAL USB PORT

allows data to be downloaded for
further analysis and record keeping

OIL LEVEL & TEMPERATURE

alarms are displayed on touchscreen



DATA CABLE STORAGE REEL

with removable handle

DATA CABLES

use military and DIN fittings

CONTROL VALVES

high cycle, high speed solenoid
valves allow precise flow control

HYDRAULIC OUTLETS

eight outlets to control either
single or double acting cylinders



RIGID STEEL FRAME

made from 50mm rolled hollow
section (RHS) for extra strength

POWDER COATED

components enhance the
appearance and reduce corrosion

LIFTING POINTS

for forklift

LOCKABLE

for security

SELF CONTAINED

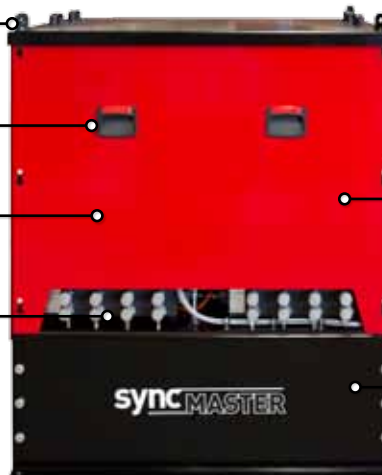
for ease of transport

EXTERNAL COVERS

are easily removed

HYDRAULIC HOSES

and data cables can be left connected
even when covers are attached



LIFTING POINTS

for sling use

WEATHER RESISTANT

for field conditions

300 L

usable oil capacity with return line filter

DSM4038 - System Specifications		Standard Inclusions	Optional Items
Flow Rate	0.5-2.4 Lpm	<ul style="list-style-type: none"> Module system standard with 8 lifting points Pressure transducers Analogue pressure gauge Adjustable pressure relief valves (Adv. & Ret) Oil temperature alarm Oil filter alarm Emergency stop 15" full colour touch screen Flow control valves 	<ul style="list-style-type: none"> Externally mounted stroke encoder Internally mounted stroke encoder Dual encoder inputs per lift point
Pressure Rating	700 bar		
Motor Size	4.0 kW		
Amps	8.85		
Hydraulic Outlets	8 x A & B ports		
Usable Oil Capacity	300 L		
Weight (Dry)	600 kg		
Dimensions (mm)	1120 W x 1210 L x 1350 H		



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SPECIALTY LIFTING SYSTEMS



THE **SAFE D LOCK** JACK IS A REVOLUTIONARY DESIGN WITH THE OPERATORS' SAFETY PARAMOUNT. IT IS A LIFTING JACK AND RATED VEHICLE JACKING STAND FOR HEAVY MINING VEHICLES.

Australian designed and built to meet AS/NZS 2693:2007 standard for vehicle jacks, it also meets AS/NZS 2538:2004 standard for vehicle support stands. The jack uses patented oil-bathed internal locking quadrants that are constantly energised during the lifting process to give a fail safe operation. This locking mechanism automatically engages in the unlikely event of a hydraulic failure. The Safe D Lock jack is compact and portable and is the perfect choice for the workshop or service vehicle.



Model Number	Jack Capacity			Cylinder Effective Area (cm ²)	Collapsed Height (mm)**	Stroke (mm)	Maximum Lift Height (mm)***	Weight (kg)	Oil Tank Capacity (L)
	Metric (tonne)	US (ton)*	(kN)						
SDL-07068	70	77	686	143	680	404	1,408	290	24
SDL-07081	70	77	686	143	812	535	1,680	320	24
SDL-10068	100	110	980	143	680	404	1,408	290	24
SDL-10081	100	110	980	143	812	535	1,680	320	24
SDL-15068	135	150	1,324	254	680	400	1,408	420	24
SDL-15096	135	150	1,324	254	960	685	1,680	460	24
SDL-20068	181	200	1,781	254	680	400	1,408	420	24
SDL-20096	181	200	1,781	254	960	685	1,680	460	24

* Nominal Cylinder Capacity in ton - see kN values for actual capacity ** Includes load cap height of 22 mm

*** Maximum lift height for AS/NZS 2538:2004 Vehicle Support Stand Rating

HYDRAULIC SYSTEM

is powered by a Gast®
3.9 kW air motor

LOCK INDICATORS

confirm 'locked' and
'unlocked' status

OIL RETURN LINE FILTER

included as standard

LOCKING VALVES

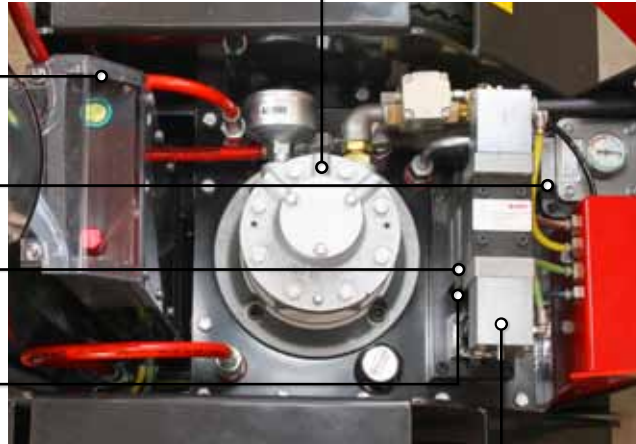
dual hydraulic locking
valves for added safety

LOAD LOWERING

counter balance valve for smooth
controlled lowering of load

PNEUMATIC CONTROL VALVES

for precise lifting and lowering



CAPACITY

70 - 181 tonne
(77 - 200 US ton)

STROKE RANGE

400 - 685 mm

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SPECIALTY LIFTING SYSTEMS

PATENTED FAIL SAFE

spring loaded mechanical locking system.
Oil-bathed and totally enclosed to prevent
contamination. Can be locked in 13mm increments

MECHANICAL QUADRANT LOCKS

designed and tested to hold a minimum
3 x rated jack capacity without failure

TILT ADJUSTABLE HANDLE

for ease of manoeuvring
and compact storage

SERRATED LOAD CAP

included as standard

LOCK INDICATORS

confirm 'locked' and
'unlocked' status

LIFTING POINT

allows easy forklift
access with a 160mm
max. tine width

ON BOARD

pneumatic filter/regulator
and lubricator

MODULAR ASSEMBLY

for quick onsite
service of remote and
control modules

5 METRE HOSE

steel cored, flexible conduit

ALUMINIUM REMOTE PENDANT

with mounted lock
and unlock indicators
for added safety

AIR INLET - TYPE A CLAW FITTING

working air pressure 5.6-7.0 bar (80-100 psi), air
consumption range 2,265-4,530 Lpm (80-160 cfm)

LOCKABLE ISOLATION VALVE

relieves downstream air for extra safety and security

RESERVOIR SIGHT GAUGE

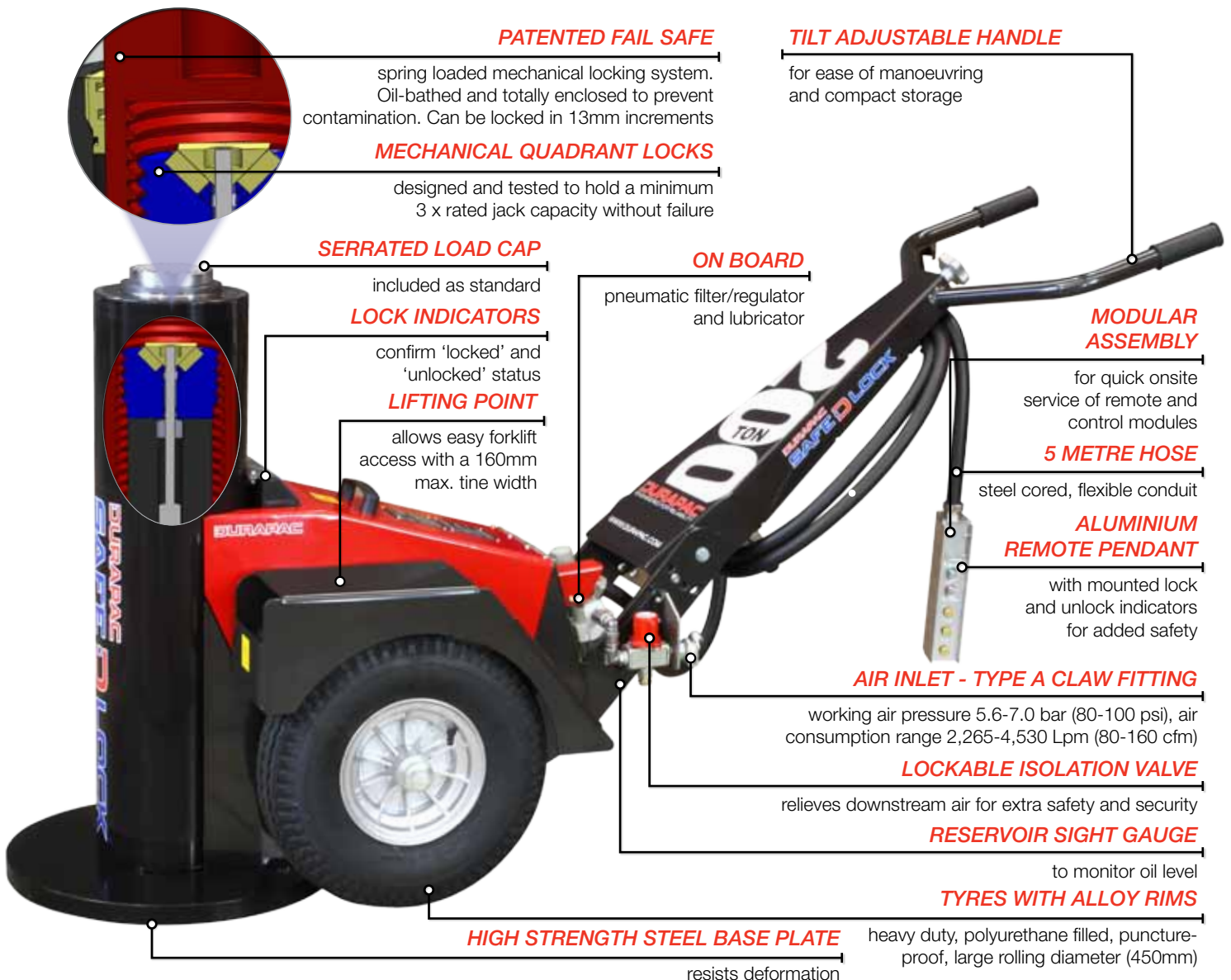
to monitor oil level

TYRES WITH ALLOY RIMS

heavy duty, polyurethane filled, puncture-
proof, large rolling diameter (450mm)

HIGH STRENGTH STEEL BASE PLATE

resists deformation



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THE ADDITION OF THE **POWERDRIVE** TRANSFORMS THE **SAFE D LOCK** JACK INTO A SELF-PROPELLED LIFTING JACK AND RATED VEHICLE JACKING STAND FOR HEAVY MINING VEHICLES.

Australian designed and built to meet AS/NZS 2693:2007 standard for vehicle jacks, it also meets AS/NZS 2538:2004 standard for vehicle support stands. The jack uses patented oil-bathed internal locking quadrants that are constantly energised during the lifting process to give a fail safe operation. This locking mechanism automatically engages in the unlikely event of a hydraulic failure. The **Safe D Lock** jack + **POWERDRIVE** is compact, portable and safe. It is the perfect choice for the workshop or service vehicle.

SAFE D LOCK[®]
+ POWERDRIVE

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How to order...

To order your **Safe D Lock** jack + **POWERDRIVE** simply choose your jack model from page 8 and add suffix " -PD " to the model number (e.g. SDL-15068-PD).

Each unit is supplied with two M18 Red Lithium batteries and one 230 VAC charger.

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The **Safe D Lock jack + POWERDRIVE** utilises dual independent DC motors driving the wheels via a robust chain and sprocket design. Features include soft start, forward and reverse handle mounted switches, dead-man triggers and two M18 Red Lithium™ 5 Ah rechargeable batteries.



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Did you know...

The **Safe D Lock jack + POWERDRIVE** can self-propel up workshop slopes of **5 degrees**



DUAL BATTERIES

industry standard batteries

RANGE OF 2KM

per 5.0 Ah 18.0 VDC
lithium-Ion battery

CHARGE INDICATOR

shows charge remaining in each battery

BATTERY SELECTOR

drive system operates off one battery at a time

OVERLOAD PROTECTION

with resettable standard 20 Amp auto fuse

SAFER & EASIER MANOUEVERABILITY

no need to connect to air supply to move jack



THREE POSITION TOGGLE

F (Forward) N (Neutral) R (Reverse)

IP 65 SWITCHES

for all weather environments

INDEPENDANT DEADMAN SWITCHES

for easy manoeuvring and safety

DUAL INDEPENDENT DRIVES

forward & reverse independant
drive each handle



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SPECIALTY LIFTING SYSTEMS

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Did you know...

That a 5 metre long remote pendant and jack mounted mechanical indicators allow the jack's operator to work at a safe distance from the vehicle being lifted.

**LOCKED INDICATOR**

When the green indicator is displayed this confirms to the operator that the jack is ready to be mechanically locked.

UNLOCKED INDICATOR

When the red indicator is displayed it confirms to the operator that the jack **IS NOT** mechanically locked and that the quadrants are disengaged during lowering.

RAISE CONTROL BUTTON

When the Raise control button is held down the jack will advance, the green indicator will display and retract through this process as the quadrants are engaged and disengaged as part of the jack's fail safe mechanism.

LOCK CONTROL BUTTON

During lifting, the green indicator confirms that the quadrants are engaged and ready to lock. The operator then releases the Raise control button and presses the Lock control button; mechanically locking the jack. A green jack mounted mechanical indicator confirms to the operator that the jack is mechanically locked.

LOWER CONTROL BUTTON

When the Lower control button is held down the jack will automatically disengage the locking quadrants and retract via a smooth, load lowering hydraulic counter balance valve.

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Lock Indicators

The Safe D Lock jack is equipped with jack mounted mechanical indicators to confirm to the operator when the unit is mechanically locked as a vehicle support stand.

RED INDICATOR

lock quadrants are retracted and in an unlocked state.

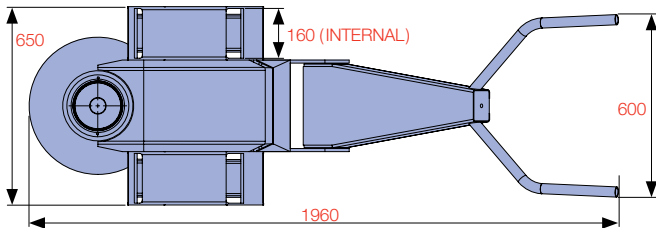
GOLD INDICATOR

lock quadrants are engaged and ready to be locked.

GREEN & GOLD INDICATOR

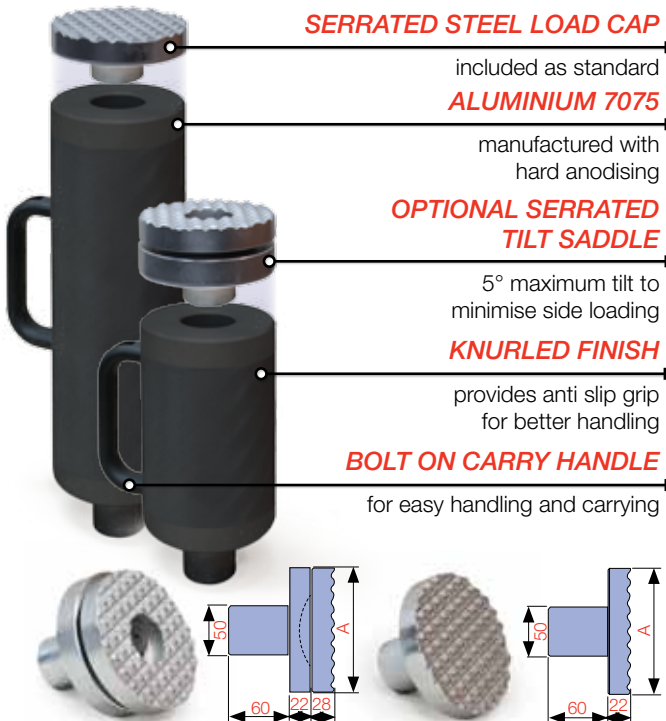
lock quadrants are holding load mechanically.





Model Number	A Collapsed Height (mm)	B Base Plate Diameter (mm)
SDL-07068 SDL-10068	680	505
SDL-07081 SDL-00081	812	505
SDL-15068 SDL-20068	680	460
SDL-15096 SDL-20096	960	520

OPTIONAL EXTENSIONS



SDS TILT SADDLE

SDLC LOAD CAP

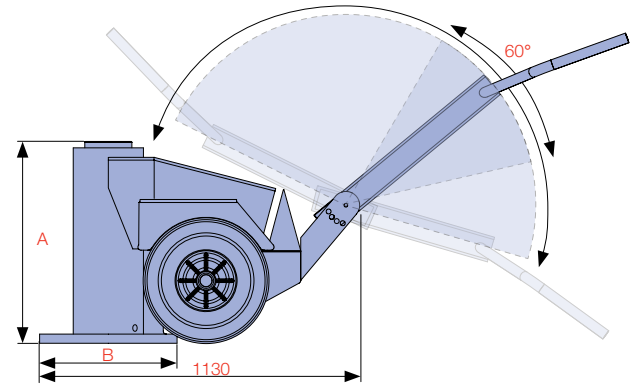
EXTENSION 300mm

EXTENSION 150mm

Model Number	Capacity (Tons)	Description	Height (mm)	Diameter (mm) 'A'	Total Length (mm)	Spigot Depth (mm)	Spigot Diameter (mm)	Weight (kg)
SDE100-150	70/100	150 mm Extension **	150	112	210	60	50	7.0
SDE100-300	70/100	300 mm Extension **	300	112	360	60	50	13.0
SDLC-100	70/100	Serrated Steel Load Cap *	22	112	82	60	50	3.0
SDS-100	70/100	Serrated Tilt Saddle **	50	112	110	60	50	5.0
SDE150-150	150	150 mm Extension **	150	126	210	60	50	7.0
SDE150-300	150	300 mm Extension **	300	126	360	60	50	13.0
SDLC-150	150	Serrated Steel Load Cap *	22	126	82	60	50	3.0
SDS-150	150	Serrated Tilt Saddle **	50	126	110	60	50	5.0
SDE200-150	200	150mm Extension **	150	140	210	60	50	8.0
SDE200-300	200	300 mm Extension **	300	140	360	60	50	15.0
SDLC-200	200	Serrated Steel Load Cap*	22	126	82	60	50	4.0
SDS-200	200	Serrated Tilt Saddle**	50	126	110	60	50	6.0

* Supplied as standard

** Optional item

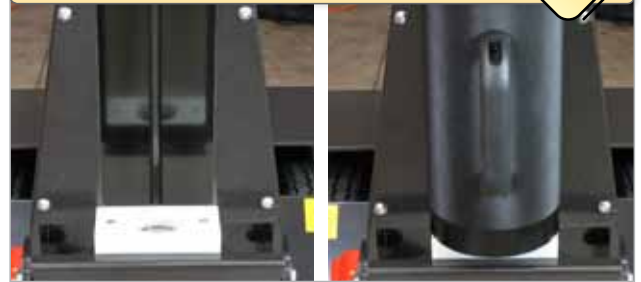


WARNING...

No more than one extension to be used.

Did you know...

There is onboard storage for extensions up to 300mm in length.



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