

A **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

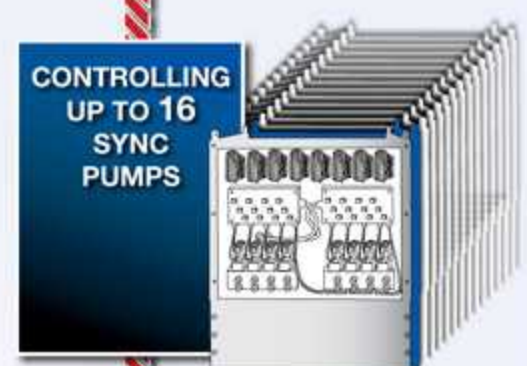
700 bar

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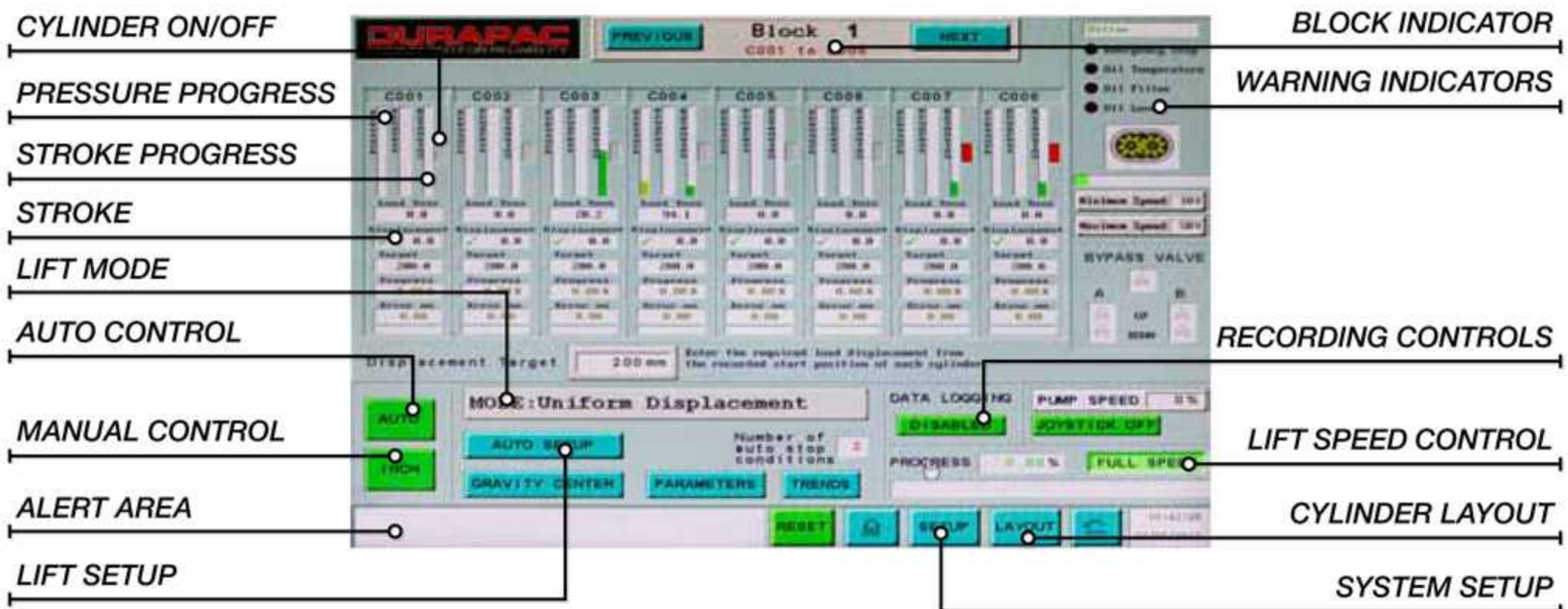
SPECIALTY LIFTING SYSTEMS

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



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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.

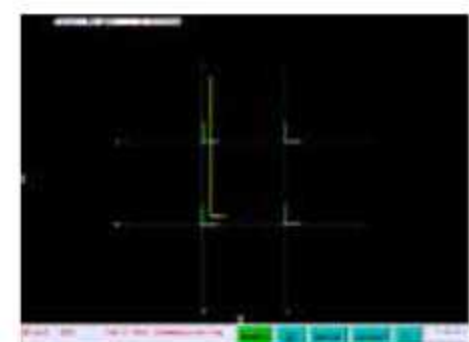


8. TEST PULSE ALL CYLINDERS

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		