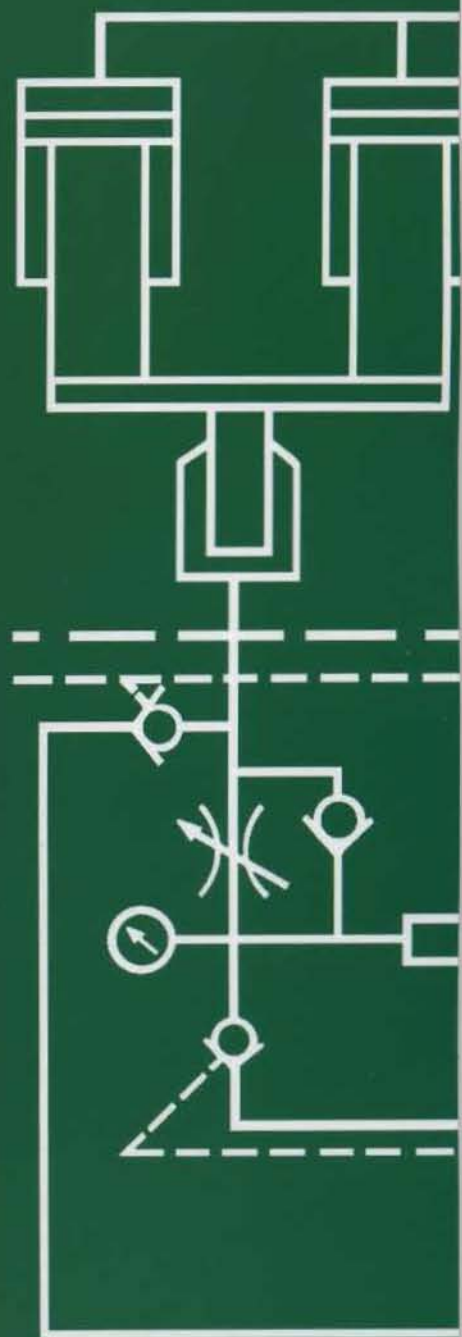


POWER

units

MHS





QUALITY ASSURANCE

EC Machinery Directive

Supply of Machinery (Safety) Regulations 1992 (SI 1992/3037)

S T A T E M E N T

This product is covered by the Manufacturers Statement in fulfillment of the EEC MACHINERY DIRECTIVE 89/392 attachment II B, a copy of which is available on request.

This product is to be considered as a component of a machine. Therefore, it **must not** be put into service until the machine into which it has been incorporated, has been certified by it's manufacturer as conforming with the above directive.

Unauthorised modifications are prohibited for reasons of SAFETY.

Modular Hydraulic Systems Ltd. together with the original manufacturer, cannot be held responsible for any damage or injury resulting from improper use.

20th Anniversary

1978-1998

HOW TO ORDER



Telephone Sales Line

Our highly trained staff will help you select the best product for your application.

Lines Open:

9am - 5.30pm Monday to Thursday

9am - 4.30pm Friday

01252 333883

Fax:

We have a 24hr Fax Order Line.

01252 343615

E-mail: mhs@pncl.co.uk

Internet Address: <http://www.mhs.co.uk>

By Post:

Redan Hill Estate
Aldershot
Hampshire
GU12 4SJ
ENGLAND

Completing our application form is confirmation that you have read our terms and agree to abide by them. In particular our terms of payment are 30 days nett monthly.

Cash or Cheque

We are happy to send a Pro-Forma invoice for Pre-Payment where the completion of the Credit Account application form is inappropriate.



Credit Card

We also accept payment by VISA and ACCESS credit cards. This speeds up the transactions for those urgent requirements.

Delivery

We offer next working day delivery service to mainland U.K.

All prices are quoted as ex-works, carriage and VAT additional.

Delivery charges - consult sales office.

Same Day Despatch

Our policy is to despatch orders for in stock items on the same day of placement. Call us up to 3.30pm for same day despatch.

Methods of Payment

Credit Account

Credit Account facilities may be set up by completing a Credit Account application form.

Please read our Terms and Conditions which apply to Credit Account applications.

THE SPECIALISTS

Modular Hydraulic Systems Ltd. has developed into one of the largest power pack suppliers in the U.K., with a team of highly qualified technical engineers to back the company's commitment to quality, reliability, service and cost effectiveness.

Our investment in sophisticated computer systems offers the client the best response to his enquiry, problem or need and allows MHS to programme production, monitor stock levels and provide the comprehensive service that our clients expect from a company of our stature.

MHS technology has evolved over many years by working closely with clients, assessing and responding to their needs, and in this way we have developed a reputation for our special and standard power units which is the envy of our competitors.

All our power packs are British manufactured, fully tested to our own stringent standards and supplied with completed test certificate, hydraulic and electrical circuit diagrams, installation instructions and maintenance brochure. Our engineers are always on hand for user support.

Our business has grown most noticeably in the design and production of special units to suit individual industrial and mechanical handling needs, complete with electrical control by relays or solid state PLC Systems. MHS also produce a wide range of standard units to solve the majority of non-specialised situations, offering simple solutions for today's problems.

Our technical staff will be pleased to offer advice in the selection of the right unit for your job, and our free quotation service provides a fast response for project budgets.



MODULAR
HYDRAULIC
SYSTEMS



POWER SYSTEMS

MHS Power Packs are ready for immediate use, complete with electric motor, gear pump, reservoir and safety relief valve.

These versatile units are suitable for replacing existing packs or for incorporating into overall systems design, and each unit is manufactured in our own workshops using only quality components (totally compatible with Cetop standards) and may be used with most mineral oils.

- Features:**
- Robust modular construction reduces costly 'down-time'.
 - Simplicity of design provides ease of maintenance.
 - Integrally mounted pump for quieter running.
 - Uniquely designed top plate acts as drip tray.

General Information

We offer technical assistance and advice in selecting the most suitable unit for your application. Price and delivery of standard units can normally be given immediately.

It is our policy to constantly review the design and efficiency of our products. To this end we advise that the dimensions and performance data contained herein may be changed to incorporate the latest proven developments and research.

General Specification

Delivery Flow Rate: As required.
 Maximum Pressure: 650 Bar (10,000 psi) - Peak Pressure.
 Maximum Drive Power: 22 kW.
 Reservoir Capacities: 10, 25, 45, 90, 150, 200 & 300 litres or specials as requested.
 Pipe Connections: BSP or as required.
 Operating Temperature: Between -20°C and +60°C.
 Oil Seals: Nitrile.
 Suction Filtration: 125 Microns.

Finish: Etch grey primer inside and out.

Outside sprayed Mid Hammer Green. Alternative colours and finishes as requested.

For information on non standard units please consult technical sales department.

Standard Unit Coding

Please specify the following details when ordering:

Unit No.	Flow	Pressure
?	?	?
Motor Details		
?		
Reservoir Size		
?		

For example, a typical ordering code might be:

Unit No.	Flow	Pressure
M07	1.3 LPM	200 Bar
Motor Details		
1HP	1000 RPM	415V 3Ph 50HZ
Reservoir Size		
25 LITRES		



ELECTRICALLY DRIVEN

Single Phase

Medium Series Units

The MHS Medium Series units have been designed to give hydraulic power at pressures up to 3000 psi (200 bar) combining simplicity, reliability and economy.

Features:

Metric faced totally enclosed fan ventilated electric motors (TEFV).

Class F insulation.

High quality pressure balanced gear pump.

Adjustable direct acting pressure relief valve (normally preset at factory and sealed).

Terminations - BSP parallel thread with spot face.

Cetop 03/Cetop 05 interface is available if required.

Pressure gauge connection standard.

Oil level sight gauge with red indicator for minimum safe working oil level.

Filler-breather cap complete with mesh strainer.

Accessories

Premium MHS hydraulic oil can be supplied with all units. It is suitable for use where the fluid temperature does not exceed 50°C. The standard grade mineral oil has a viscosity conforming to ISO.HM. VG.32 ie: Century Oil Grade PWLA.

Pressure gauges, glycerine filled calibrated in bar/psi.

Return line filters, 10 micron with visual by-pass clogging indicator.

Flexible hoses, fittings and bonded seals.

High Pressure

These particular power units offer a standard package giving very high pressures by means of a piston pump. Pressures of up to 10,500 psi can be obtained. The units can be supplied with Twin/Double Pump assemblies to give actuators fast approach at low pressure and final 'squeeze' at required high pressure, thus providing efficient power usage.



Medium Series: (Single Phase Units)

Unit No.	Flow		Pressure		Elec. Motor		Reservoir		
	lpm	gpm	bar	psi	hp	speed	25	45	90
C. 01	2	44	125	1900	1/2	1500	-	-	-
C. 02	3	66	87	1300	1/2	1500	-	-	-
C. 03	4	88	60	900	1/2	1500	-	-	-
C. 04	6	1.32	43	650	1/2	1500	-	-	-
C. 05	7.5	1.65	33	500	1/2	1500	-	-	-
C. 06	9	1.97	26	400	1/2	1500	-	-	-
C. 07	2	44	173	2600	1	1500	-	-	-
C. 08	3	66	127	1900	1	1500	-	-	-
C. 09	4	88	87	1300	1	1500	-	-	-
C. 10	6	1.32	56	850	1	1500	-	-	-
C. 11	7.5	1.65	46	700	1	1500	-	-	-
C. 12	9	1.97	36	550	1	1500	-	-	-
C. 13	4	88	87	1300	1	3000	-	-	-
C. 14	6	1.32	56	850	1	3000	-	-	-
C. 15	8	1.76	43	650	1	3000	-	-	-
C. 16	12	2.64	30	450	1	3000	-	-	-
C. 17	15	3.30	23	350	1	3000	-	-	-
C. 18	18	3.94	20	300	1	3000	-	-	-
C. 19	2	44	200	3000	1 1/2	1500	-	-	-
C. 20	3	66	167	2600	1 1/2	1500	-	-	-
C. 21	4	88	127	1900	1 1/2	1500	-	-	-
C. 22	6	1.32	87	1300	1 1/2	1500	-	-	-
C. 23	7.5	1.65	66	1000	1 1/2	1500	-	-	-
C. 24	9	1.97	56	850	1 1/2	1500	-	-	-
C. 25	10	2.20	46	700	1 1/2	1500	-	-	-
C. 26	13	2.86	40	600	1 1/2	1500	-	-	-
C. 27	16.5	3.61	30	450	1 1/2	1500	-	-	-
C. 28	20	4.40	26	400	1 1/2	1500	-	-	-
C. 29	22.5	4.95	23	350	1 1/2	1500	-	-	-
C. 30	4	88	173	2600	2	3000	-	-	-
C. 31	6	1.32	117	1750	2	3000	-	-	-
C. 32	8	1.76	87	1300	2	3000	-	-	-
C. 33	12	2.64	56	850	2	3000	-	-	-
C. 34	15	3.30	46	700	2	3000	-	-	-
C. 35	18	3.94	40	600	2	3000	-	-	-
C. 36	3	66	200	3000	2	1500	-	-	-
C. 37	4	88	173	2600	2	1500	-	-	-
C. 38	6	1.32	117	1750	2	1500	-	-	-
C. 39	7.5	1.65	93	1400	2	1500	-	-	-
C. 40	9	1.97	73	1100	2	1500	-	-	-
C. 41	10	2.20	66	1000	2	1500	-	-	-
C. 42	13	2.86	53	800	2	1500	-	-	-
C. 43	16.5	3.61	43	650	2	1500	-	-	-
C. 44	20	4.40	36	550	2	1500	-	-	-
C. 45	22.5	4.95	30	450	2	1500	-	-	-
C. 46	4	88	200	3000	3	1500	-	-	-
C. 47	6	1.32	173	2600	3	1500	-	-	-
C. 48	7.5	1.65	140	2100	3	1500	-	-	-
C. 49	9	1.97	117	1750	3	1500	-	-	-
C. 50	10	2.20	100	1500	3	1500	-	-	-
C. 51	13	2.86	80	1200	3	1500	-	-	-
C. 52	16.5	3.61	63	950	3	1500	-	-	-
C. 53	20	4.40	53	800	3	1500	-	-	-
C. 54	22.5	4.95	46	700	3	1500	-	-	-
C. 55	4	88	200	3000	3	3000	-	-	-
C. 57	6	1.32	173	2600	3	3000	-	-	-
C. 58	8	1.76	127	1900	3	3000	-	-	-
C. 59	12	2.64	87	1300	3	3000	-	-	-
C. 60	15	3.30	66	1000	3	3000	-	-	-
C. 61	18	3.94	56	850	3	3000	-	-	-

* denotes available

Unit No.	Flow		Pressure		Elec. Motor		Reservoir		
	lpm	gpm	bar	psi	hp	speed	25	45	90
H. 01	1.45	300	4500	3	1500	-	-	-	
H. 02	2.8	300	4500	3	1500	-	-	-	
H. 03	0.8	450	6800	3	1500	-	-	-	
H. 04	1.6	450	6800	3	1500	-	-	-	
H. 05	0.3	700	10500	3	1500	-	-	-	
H. 06	0.6	700	10500	3	1500	-	-	-	
H. 07	4.3	900	4500	4	1500	-	-	-	
H. 08	2.5	450	6800	4	1500	-	-	-	
H. 09	0.9	700	10500	4	1500	-	-	-	
H. 10	7.0	300	4500	5.5	1500	-	-	-	
H. 11	4.2	450	6800	5.5	1500	-	-	-	
H. 12	1.4	700	10500	5.5	1500	-	-	-	
H. 13	9.8	300	4500	7.5	1500	-	-	-	
H. 14	5.8	450	6800	7.5	1500	-	-	-	
H. 15	2.1	700	10500	7.5	1500	-	-	-	
H. 16	14.2	300	4500	10	1500	-	-	-	
H. 17	8.2	450	6800	10	1500	-	-	-	
H. 18	2.7	700	10500	10	1500	-	-	-	

* denotes available

Three Phase

Unit No.	Flow		Pressure		Elec. Motor		Reservoir		
	lpm	gpm	bar	psi	hp	speed	25	45	90
M. 01	2	.44	125	1900	1/4	1500	-	-	-
M. 02	3	.66	87	1300	1/4	1500	-	-	-
M. 03	4	.88	60	900	1/4	1500	-	-	-
M. 04	6	1.32	43	650	1/4	1500	-	-	-
M. 05	7.5	1.65	33	500	1/4	1500	-	-	-
M. 06	9	1.97	26	400	1/4	1500	-	-	-
M. 07	1.3	.29	200	3000	1	1000	-	-	-
M. 08	2	.44	173	2600	1	1000	-	-	-
M. 09	2.8	.58	133	2000	1	1000	-	-	-
M. 10	4	.88	87	1300	1	1000	-	-	-
M. 11	5	1.10	66	1000	1	1000	-	-	-
M. 12	6	1.32	56	850	1	1000	-	-	-
M. 13	2	.44	173	2600	1	1500	-	-	-
M. 14	3	.66	127	1900	1	1500	-	-	-
M. 15	4	.88	87	1300	1	1500	-	-	-
M. 16	6	1.32	56	850	1	1500	-	-	-
M. 17	7.5	1.65	46	700	1	1500	-	-	-
M. 18	9	1.97	36	550	1	1500	-	-	-
M. 19	4	.88	87	1300	1	3000	-	-	-
M. 20	6	1.32	56	850	1	3000	-	-	-
M. 21	8	1.76	43	650	1	3000	-	-	-
M. 22	12	2.64	30	450	1	3000	-	-	-
M. 23	15	3.30	23	350	1	3000	-	-	-
M. 24	18	3.94	20	300	1	3000	-	-	-
M. 25	2	.44	200	3000	1 1/2	1500	-	-	-
M. 26	3	.66	187	2800	1 1/2	1500	-	-	-
M. 27	4	.88	127	1900	1 1/2	1500	-	-	-
M. 28	6	1.32	87	1300	1 1/2	1500	-	-	-
M. 29	7.5	1.65	66	1000	1 1/2	1500	-	-	-
M. 30	9	1.97	56	850	1 1/2	1500	-	-	-
M. 31	10	2.20	46	700	1 1/2	1500	-	-	-
M. 32	13	2.86	40	600	1 1/2	1500	-	-	-
M. 33	15.5	3.61	30	450	1 1/2	1500	-	-	-
M. 34	20	4.40	26	400	1 1/2	1500	-	-	-
M. 35	22.5	4.95	23	350	1 1/2	1500	-	-	-
M. 36	3	.66	200	3000	2	1500	-	-	-
M. 37	4	.88	173	2600	2	1500	-	-	-
M. 38	6	1.32	117	1750	2	1500	-	-	-
M. 39	7.5	1.65	93	1400	2	1500	-	-	-
M. 40	9	1.97	73	1100	2	1500	-	-	-
M. 41	10	2.20	66	1000	2	1500	-	-	-
M. 42	13	2.86	53	800	2	1500	-	-	-
M. 43	15.5	3.61	43	650	2	1500	-	-	-
M. 44	20	4.40	36	550	2	1500	-	-	-
M. 45	22.5	4.95	30	450	2	1500	-	-	-
M. 46	4	.88	173	2600	2	3000	-	-	-
M. 47	6	1.32	117	1750	2	3000	-	-	-
M. 48	8	1.76	87	1300	2	3000	-	-	-
M. 49	12	2.64	56	850	2	3000	-	-	-
M. 50	15	3.30	46	700	2	3000	-	-	-
M. 51	18	3.94	40	600	2	3000	-	-	-
M. 52	4	.88	200	3000	3	3000	-	-	-
M. 53	6	1.32	173	2600	3	3000	-	-	-
M. 54	8	1.76	127	1900	3	3000	-	-	-
M. 55	12	2.64	87	1300	3	3000	-	-	-
M. 56	15	3.30	66	1000	3	3000	-	-	-
M. 57	18	3.94	56	850	3	3000	-	-	-
M. 58	4	.88	200	3000	3	1500	-	-	-
M. 59	6	1.32	173	2600	3	1500	-	-	-
M. 60	7.5	1.65	140	2100	3	1500	-	-	-
M. 61	9	1.97	117	1750	3	1500	-	-	-
M. 62	10	2.20	100	1500	3	1500	-	-	-
M. 63	13	2.86	80	1200	3	1500	-	-	-
M. 64	15.5	3.61	63	950	3	1500	-	-	-
M. 65	20	4.40	53	800	3	1500	-	-	-
M. 66	22.5	4.95	46	700	3	1500	-	-	-

Unit No.	Flow		Pressure		Elec. Motor		Reservoir		
	lpm	gpm	bar	psi	hp	speed	45	90	150
M. 67	7.5	1.65	200	3000	4	1500	-	-	-
M. 68	9	1.97	153	2300	4	1500	-	-	-
M. 69	10	2.20	140	2100	4	1500	-	-	-
M. 70	13	2.86	106	1600	4	1500	-	-	-
M. 71	16.5	3.61	84	1250	4	1500	-	-	-
M. 72	20	4.40	66	1000	4	1500	-	-	-
M. 73	22.5	4.95	60	900	4	1500	-	-	-
M. 74	25	5.50	53	800	4	1500	-	-	-
M. 75	30	6.60	46	700	4	1500	-	-	-
M. 76	33	7.25	43	650	4	1500	-	-	-
M. 77	40	8.80	33	500	4	1500	-	-	-
M. 78	50	11.00	26	400	4	1500	-	-	-
M. 79	60	13.20	23	350	4	1500	-	-	-
M. 80	10	2.20	200	3000	5 1/2	1500	-	-	-
M. 81	13	2.86	146	2200	5 1/2	1500	-	-	-
M. 82	16.5	3.61	117	1750	5 1/2	1500	-	-	-
M. 83	20	4.40	96	1450	5 1/2	1500	-	-	-
M. 84	22.5	4.95	87	1300	5 1/2	1500	-	-	-
M. 85	25	5.50	77	1150	5 1/2	1500	-	-	-
M. 86	30	6.60	63	950	5 1/2	1500	-	-	-
M. 87	33	7.25	56	850	5 1/2	1500	-	-	-
M. 88	40	8.80	46	700	5 1/2	1500	-	-	-
M. 89	50	11.00	40	600	5 1/2	1500	-	-	-
M. 90	60	13.20	33	500	5 1/2	1500	-	-	-

Unit No.	Flow		Pressure		Elec. Motor		Reservoir		
	lpm	gpm	bar	psi	hp	speed	90	150	200
M. 91	13	2.86	200	3000	7 1/2	1500	-	-	-
M. 92	16.5	3.61	160	2400	7 1/2	1500	-	-	-
M. 93	20	4.40	130	1950	7 1/2	1500	-	-	-
M. 94	22.5	4.95	117	1750	7 1/2	1500	-	-	-
M. 95	25	5.50	103	1550	7 1/2	1500	-	-	-
M. 96	30	6.60	87	1300	7 1/2	1500	-	-	-
M. 97	33	7.25	80	1200	7 1/2	1500	-	-	-
M. 98	40	8.80	66	1000	7 1/2	1500	-	-	-
M. 99	50	11.00	53	800	7 1/2	1500	-	-	-
M. 100	60	13.20	43	650	7 1/2	1500	-	-	-
M. 101	16.5	3.61	200	3000	10	1500	-	-	-
M. 102	20	4.40	173	2600	10	1500	-	-	-
M. 103	22.5	4.95	153	2300	10	1500	-	-	-
M. 104	25	5.50	140	2100	10	1500	-	-	-
M. 105	30	6.60	117	1750	10	1500	-	-	-
M. 106	33	7.25	106	1600	10	1500	-	-	-
M. 107	40	8.80	87	1300	10	1500	-	-	-
M. 108	50	11.00	70	1050	10	1500	-	-	-
M. 109	60	13.20	56	850	10	1500	-	-	-
M. 110	20	4.40	200	3000	15	1500	-	-	-
M. 111	22.5	4.95	200	3000	15	1500	-	-	-
M. 112	25	5.50	173	2600	15	1500	-	-	-
M. 113	30	6.60	146	2200	15	1500	-	-	-
M. 114	33	7.25	133	2000	15	1500	-	-	-
M. 115	40	8.80	106	1600	15	1500	-	-	-
M. 116	50	11.00	87	1300	15	1500	-	-	-
M. 117	60	13.20	73	1100	15	1500	-	-	-

* denotes available

- denotes not available





AIR DRIVEN



Unit No.	Flow		Pressure		Motor hp	Motor speed	Reservoir		
	lpm	gpm	bar	psi			25	45	90
A. 01	1.6	.35	200	3000	1 1/2	1500	*	*	-
A. 02	2.5	.55	200	3000	1 1/2	1500	*	*	-
A. 03	3.3	.75	160	2400	1 1/2	1500	*	*	-
A. 04	4.2	.92	127	1900	1 1/2	1500	*	*	-
A. 05	5.0	1.10	106	1600	1 1/2	1500	*	*	-
A. 06	5.8	1.3	87	1300	1 1/2	1500	*	*	-
A. 07	6.7	1.5	77	1150	1 1/2	1500	*	*	-
A. 08	7.5	1.65	66	1000	1 1/2	1500	*	*	-
A. 09	9.2	2.1	56	850	1 1/2	1500	*	*	-
A. 10	10.0	2.2	46	700	1 1/2	1600	*	*	-
A. 11	13.0	2.9	40	600	1 1/2	1500	*	*	-
A. 12	16.5	3.6	30	450	1 1/2	1600	*	*	-
A. 13	20.0	4.4	26	400	1 1/2	1500	*	*	-
A. 14	22.5	5.0	23	350	1 1/2	1600	*	*	-
A. 15	5.8	1.3	200	3000	3.4	1500	-	*	*
A. 16	6.7	1.5	173	2600	3.4	1600	-	*	*
A. 17	7.5	1.65	153	2300	3.4	1500	-	*	*
A. 18	9.2	2.1	127	1900	3.4	1500	-	*	*
A. 19	10.0	2.2	117	1750	3.4	1500	-	*	*
A. 20	13.0	2.9	90	1350	3.4	1500	-	*	*
A. 21	16.5	3.6	73	1100	3.4	1500	-	*	*
A. 22	20	4.4	60	900	3.4	1500	-	*	*
A. 23	22.5	5.0	53	800	3.4	1500	-	*	*
A. 24	25	5.5	46	700	3.4	1500	-	*	*
A. 25	30	6.6	40	600	3.4	1600	-	*	*
A. 26	10	2.2	200	3000	6	1500	-	*	*
A. 27	13	2.9	160	2400	6	1500	-	*	*
A. 28	16.5	3.6	120	1800	6	1500	-	*	*
A. 29	20	4.4	100	1500	6	1500	-	*	*
A. 30	22.5	5.00	87	1300	6	1500	-	*	*
A. 31	25	5.5	80	1200	6	1500	-	*	*
A. 32	30	6.6	66	1000	6	1500	-	*	*
A. 33	33	7.25	60	900	6	1500	-	*	*
A. 34	40	8.80	50	750	6	1500	-	*	*
A. 35	50	11.00	40	600	6	1500	-	*	*
A. 36	60	13.2	33	500	6	1500	-	*	*

* denotes available - denotes not available

With the introduction of the metric face mounted air motor it is possible to offer a self contained hydraulic power unit requiring only compressed air as an external feed. These are ideal units for flameproof and hazardous areas as no electrical power source is needed giving an immediate safety and cost advantage. The unit may be fitted with air pilot operated directional control valves if required.

Features:

- Single rotation air motor.
- Variable speed subject to input air flow.
- Low noise level.
- No external moving parts
- Units can be supplied with all necessary oil control valves and suitable acoustic silencers of adequate capacity.

PETROL – DIESEL DRIVEN



The engine driven hydraulic unit gives immediate power anywhere and anytime. This particular package is ideal for site work where external power is unavailable, or emergency usage where the normal power source has failed.

Features:

- 4 stroke engine.
- Variable speed.
- Low noise levels.
- Recoil starter for easy operation.
- Complete with pressure relief valve.
- Directional manual control fitted as standard, but may be omitted.



Petrol Unit No.	Diesel Unit No.	Flow		Pressure		Engine hp	speed	Reservoir		
		lpm	gpm	bar	psi			25	45	90
P. 01	D. 01	5	1.1	200	3000	3 1/2	3000	*	*	-
P. 02	D. 02	6.6	1.5	167	2500	3 1/2	3000	*	*	-
P. 03	D. 03	8.4	1.8	140	2100	3 1/2	3000	*	*	-
P. 04	D. 04	10	2.2	120	1700	3 1/2	3000	*	*	-
P. 05	D. 05	11.6	2.5	100	1500	3 1/2	3000	*	*	-
P. 06	D. 06	13.4	3.0	80	1200	3 1/2	3000	*	*	-
P. 07	D. 07	16	3.3	73	1100	3 1/2	3000	*	*	-
P. 08	D. 08	18.4	4.0	63	950	3 1/2	3000	*	*	-
P. 09	D. 09	6.6	1.5	200	3000	5	3000	*	*	-
P. 10	D. 10	8.4	1.8	187	2800	5	3000	*	*	-
P. 11	D. 11	10	2.2	167	2500	5	3000	*	*	-
P. 12	D. 12	11.6	2.5	146	2200	5	3000	*	*	-
P. 13	D. 13	13.4	3.0	120	1800	5	3000	*	*	-
P. 14	D. 14	15	3.3	110	1650	5	3000	*	*	-
P. 15	D. 15	18.4	4.0	93	1400	5	3000	*	*	-
P. 16	D. 16	15	3.3	200	3000	11	3000	*	*	-
P. 17	D. 17	18.4	4.0	167	2500	11	3000	*	*	-
P. 18	D. 18	20	4.4	146	2200	11	3000	*	*	-
P. 19	D. 19	26	5.7	117	1750	11	3000	*	*	-
P. 20	D. 20	33	7.2	93	1400	11	3000	*	*	-
P. 21	D. 21	40	8.8	77	1150	11	3000	*	*	-
P. 22	D. 22	45	9.9	66	1000	11	3000	*	*	-
P. 23	D. 23	50	11.0	60	900	11	3000	*	*	-
P. 24	D. 24	60	13.2	50	750	11	3000	*	*	-
P. 25	D. 25	5	.1	650	10000	3 1/2	3000	*	*	-

* denotes available - denotes not available

SPECIAL POWER UNITS



Besides offering standard systems, Modular Hydraulics are also able to offer technical expertise to design and build a system to meet your exact needs.

We can offer units of up to 30HP driving fixed or variable output pumps with valve arrangements exactly as required.



Technical features

Up to 30HP Electric or diesel drive.
Submersible electric motors for lift applications.
Fixed or variable delivery piston or vane pumps.
Screw pumps for quietness and pulse free delivery.
Pressure line filtration.
Manifold assemblies.
Lift valve blocks.
Special colour finishes – Hammer or gloss to B.S. colour chart.
Special paint for special fluids eg: Water glycol, Oil in water emulsions, etc.
We can meet most special requirements.

ELE

On our systems our expertise does not finish with the hydraulics but continues with the electrics. This may involve fitting a simple direct on line starter to fitting process controllers mounted in a cabinet complete with wiring looms.



Technical features

Cabinets to IP55, IP65 or as specified.

Direct on line starters.

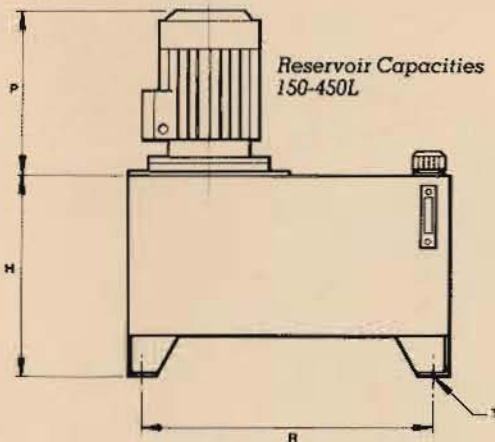
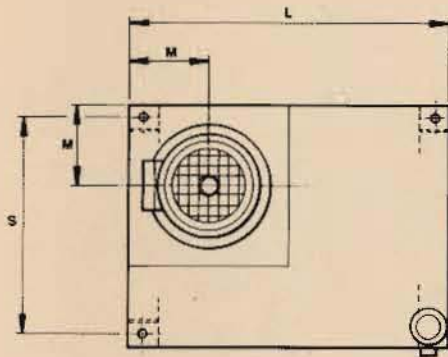
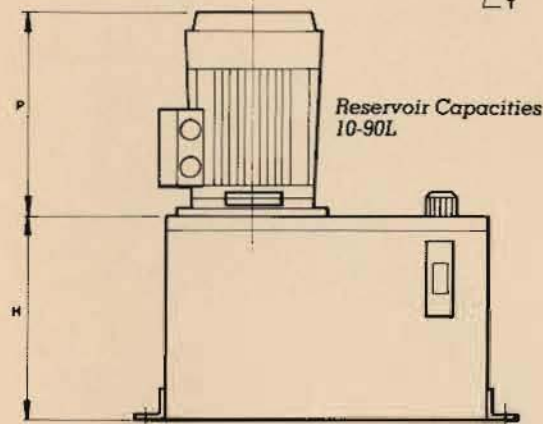
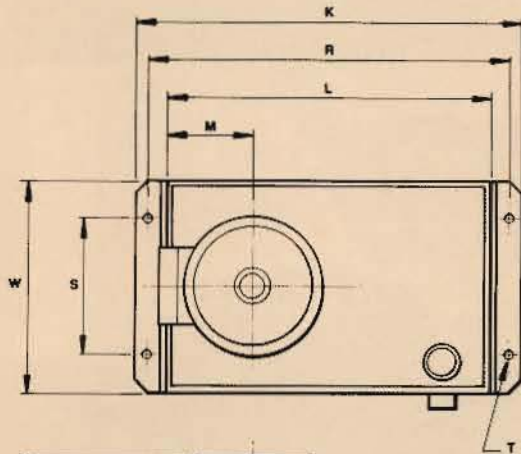
Star delta starters.

Low voltage control systems with centre tap transformer.

Pressure switches, float switches, foot switches, thermostats.

Relay controllers.

Programmable Logic Controllers (PLC).



Reservoir Dimensions

Nominal Capacity	H	K	L	W	M	R	S	T
25 L (5 gal)	280	506	430	280	110	480	180	9
45 L (10 gal)	330	635	560	350	155	610	290	11
90 L (20 gal)	380	700	600	450	175	660	300	11
150L (33 gal)	500	-	800	550	-	760	350	13
200L (44 gal)	600	-	800	550	-	760	350	13
300L (66 gal)	700	-	800	700	-	710	540	13
450L (100 gal)	800	-	1000	800	-	960	700	13

Three Phase

Motor	Frame	P	Motor	Frame	P
1 1/2 hp - 4 pole	90S	257	5.5 hp - 2 pole	112M	326
2 hp - 2 pole	90S	257	5.5 hp - 4 pole	112M	326
2 hp - 4 pole	90L	257	7.5 hp - 2 pole	132S	388
3 hp - 2 pole	90L	257	7.5 hp - 4 pole	132S	388
			10 hp - 4 pole	132M	388
3 hp - 4 pole	100L	320	15 hp - 4 pole	160L	534
4 hp - 2 pole	100L	320			
4 hp - 4 pole	100L	320			

Single Phase

Motor	Frame	P	Motor	Frame	P
1 1/2 hp - 2 pole	90L	338	2 hp - 4 pole	100L	345
1 1/2 hp - 4 pole	90L	338	3 hp - 2 pole	100L	345
2 hp - 2 pole	90L	338	3 hp - 4 pole	100L	345

Note:

Allowance should be made above motor for cooling air intake

3 phase motors are totally enclosed fan cooled metric frame.

Standard UK voltage 415/3/50 alternatives as required.

Single phase motors are totally enclosed fan cooled metric frame.

Standard UK voltage 240/1/50 alternatives as required.

Motors are capacitor start - capacitor run (high starting torque).

**ALL DIMENSIONS IN MILLIMETRES
ALL DIMENSIONS & LAYOUT TO BE
CONFIRMED**

**CERTIFIED DRAWINGS AVAILABLE
ON REQUEST**

INSTALLATION DETAILS

1 Ensure that all external hoses and pipework between MHS unit and all other hydraulic equipment are thoroughly clean and free of burrs etc.

2 Use only quality hose and pipework couplings compatible with pressure and flow requirements. N.B. Return flow may be bigger than output of pump unit.

3 All bleed points on cylinders and motors must face upwards.

4 All drain lines must be piped independently directly back to the reservoir and NOT joined to main return line.

5 The electric motor must be connected via a starter with correct thermal overloads. Direction of electric motor must be as the arrow indication on power unit. Details of the electric motor wiring is located in the terminal box.

6 All electrically operated control valves and pressure switches must be connected to suitably sized relays and contactors.

7 If an accumulator is fitted ensure warning label is visible and pre-charge pressure stated. N.B. Under no circumstances remove accumulator without opening letdown valve to exhaust any stored pressurised oil.

8 Fill reservoir with recommended hydraulic fluid through the filler/breather cap (do not remove gauze strainer).

9 Relief valves on MHS units are normally set to correct working pressure and locked but if adjustment is required, check with MHS engineers the absolute maximum pressure before changing factory setting.

10 Check all hose and pipework connections are tight and control valves in neutral position before start up.

11 With gravity fed externally mounted piston pumps trapped air must be released by loosening bleed screws until oil flows freely.

12 Check oil level after first cycle run and top up if required.

Periodic Maintenance

1 Check oil level daily.

2 Check hoses and pipework for external damage or leaks.

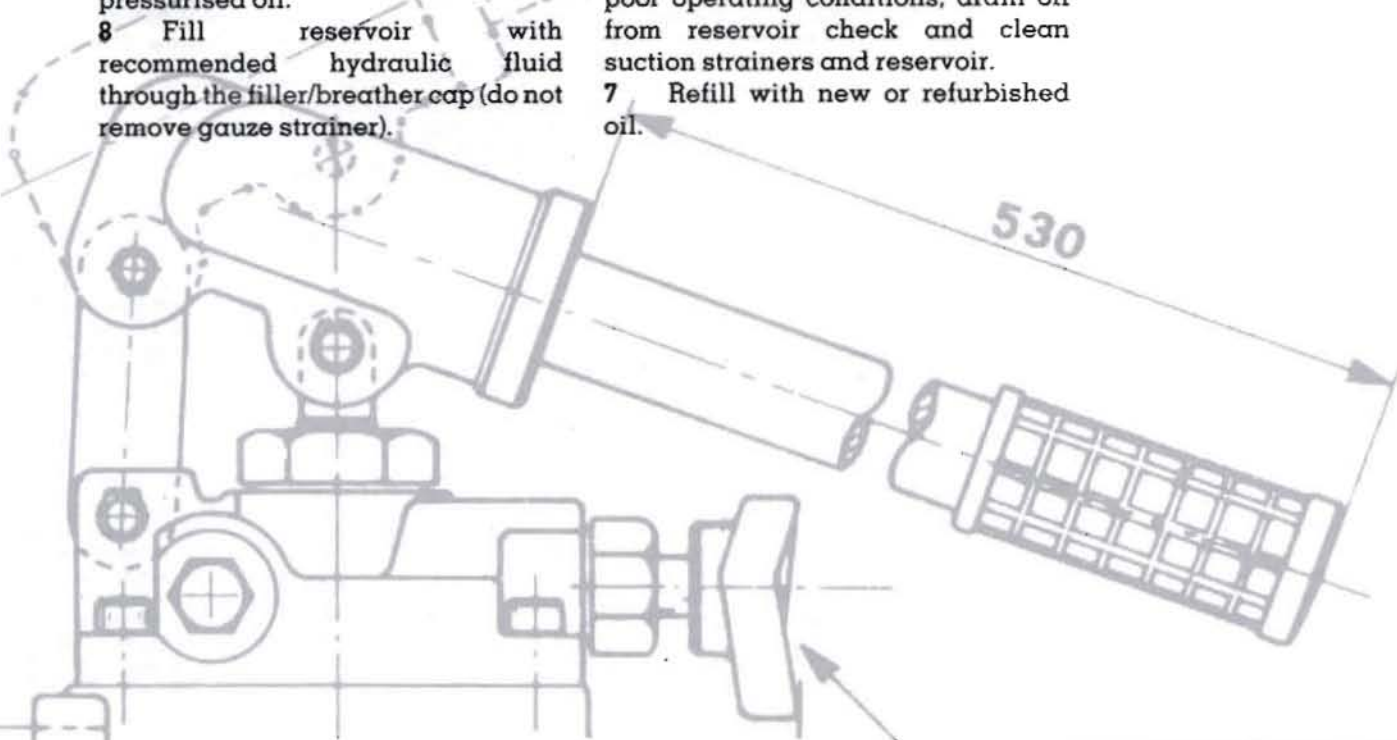
3 Check relief valve setting is correct.

4 Check visual indicators on return and pressure line filters and replace with clean elements if necessary.

5 With electrical supply disconnected check all wiring, including tightness of terminations.

6 Annually, or more frequently in poor operating conditions, drain oil from reservoir check and clean suction strainers and reservoir.

7 Refill with new or refurbished oil.



TERMS AND CONDITIONS

1. RULING CONDITIONS

Any contract made within the company is subject to these terms unless these terms are excluded or varied by express written agreement made by the Company and Customer. In particular the customer shall offer to order the goods from the company upon these terms and any conflicting terms of business of the customer shall have no effect.

2. PRICE

- (1) The company reserves the right to vary the price of the goods without notice to the customer.
- (2) All prices are unless otherwise stated quoted ex works exclusive of VAT.

3. ORDERS OF PAYMENT

- (1) Orders for UK Customers without an account are accepted if cash is sent with order or payment made against proforma invoice.
- (2) Ledger accounts are opened subject to approval of reference and unless otherwise agreed by the company in writing the terms of payment shall be net cash monthly, account due and payable on the last day of the month following the month in which the goods were despatched save for postponement otherwise than due to default on the part of the Company. The Company shall be entitled to submit its invoice with the delivery advice note or at any time thereafter save that where delivery has been postponed at the request of or by the default of the Customer then the Company may submit its invoice at any time after the goods are ready for delivery or would have been ready in the ordinary course but for the request or default as aforesaid.
- (3) Where goods are delivered by instalments the Company may invoice each instalment separately and the Customer shall pay invoices in accordance with these conditions.
- (4) No disputes arising under the contract nor delays beyond the reasonable control of the Company shall interfere with prompt payment in full by the Customer.
- (5) In the event of default in payment by the Customer the Company shall be entitled without prejudice to any other right or remedy to suspend all further deliveries on any contract between the Company and Customer without notice and to charge interest on any amount outstanding at the rate of 2% per month or thereof payable after as well as before judgement.
- (6) The method of payment for overseas customers will be agreed prior to confirmation of the order.

4. QUOTATIONS

- (1) All quotations are made and all orders are accepted subject to the following conditions. All conditions of the Customer or other terms, conditions or warranties whatsoever are excluded from the contract or any variation thereof unless expressly accepted by the Company in writing.
- (2) Quotations shall only be available for acceptance for a maximum period of 30 days from the date thereof and may be withdrawn by the company within such period at any time by written or oral notice.
- (3) If any statement or representation upon which the customer relies has been made to the customer other than in the documents enclosed with the Company's quotation or acknowledgement of order the customer must set out that statement or representation in a document to be attached to or endorsed on the order in which case the Company may clarify the point and submit a new quotation.

5. CHANGES

- (1) If after the date of contract and before the date of delivery of the goods improvements are made in the design or specification of the goods we may, on giving the notice to, incorporate such improvements in the goods sold to you provided that
 - (a) the performance and quality of the altered goods are at least equal to those of the goods ordered and
 - (b) no price variation is made except with your consent
- (c) delivery is not unreasonably delayed

(2) We shall not be obliged to make any alteration to the goods ordered whether arising by reason of the amendment of the regulations of a competent authority made subsequent to the date of contract or otherwise.

6. DELIVERY

- (1) Time for delivery is given as accurately as possible but is not guaranteed. The Customer shall have no right to damages or to cancel the order for failure for any cause to meet any delivery time stated.
- (2) The date of delivery shall in every case be dependent upon prompt receipt of all necessary information final instruction or approval from the Customer. Alterations by the Customer in design specifications or quantities required may result in delay in delivery.
- (3) The Company will endeavour to comply with reasonable requests by the Customer for postponement of delivery but shall be under no obligation to do so. Where delivery is postponed otherwise than due to default by the Company the Customer shall pay all costs and expenses including a reasonable charge for storage and transportation occasioned thereby and the company shall be entitled to invoice the goods in accordance with these conditions.
- (4) Unless otherwise expressly agreed any packaging supplied by the Company is intended to be only sufficient to protect the goods for all normal conditions of transit and for the normal period of transit only.

7. RISK AND TITLE

- (1) Risk shall pass to the Customer so that the Customer is responsible for all loss damage or deterioration to the goods:
 - (a) If the Company delivers the goods by its own transport at the time when the goods or a relevant part thereof arrive at the place of delivery or
 - (b) In all other circumstances at the time when the goods or a consignment or other part thereof leaves the premises of the Company whether or not the Company arranges transport.
- (2A) *Applicable to all sales other than Scotland*
Title in the goods or any part thereof supplied hereunder will pass to the Customer either when payment has been made in full for:
 - (a) the goods including any interest payable, and
 - (b) all other goods the subject of any contract between the Company and the Customer which at the time of payment of the price of the goods have been delivered to the Customer but not paid for in full,Or, when the Company serves written notice on the Customer, specifying that the title in the goods or any part thereof has passed, whichever shall be the earlier. The customer shall permit any representative or agent of the company to enter on to the Customers' premises and to repossess the goods at any time prior thereto.
- (2B) *Applicable to sales in Scotland only*
Title in the goods or any part thereof shall pass to the customer when payment in full therefore has been made or when the Company serves written notice upon the Customer specifying that title in the goods or such part thereof has passed whichever shall be the earlier in time and the Customer shall permit any officer employee representative or agent of the Company to enter on to the Customers' premises and to repossess the goods at any time prior thereto.
- (3) If the goods or any part thereof are incorporated in or used as materials for or components in any other goods before payment in full has been made by the Customer title in the goods shall remain with the Company until such payment has been made or the goods have been sold whichever shall be the earlier.

8. CARRIAGE

- (1) Unless otherwise specified prices quoted exclude delivery to destinations in the U.K. in which case the company will select the mode of transport with due regard to urgency and cost. The entire cost of any mode of transport to destinations in the U.K. which the Customer may specify (e.g. passenger train, parcel post etc.) shall be borne by the Customer. No allowance will be credited for goods collected from the Company's works by the Customer.
- (2) For overseas destinations, unless otherwise agreed, all goods will be delivered F.O.B. U.K. port at the Company's option. The Company reserves the right to charge for inland transport when goods are delivered to a port of the customers choice.
- (3) In the case of V.O.R. and other emergency orders, carriage will be charged to the customer at the rate prevailing.

9. PACKING

- (1) In the U.K. crates or stillages will be charged at cost price if not returned to the Company's works, carriage paid in good condition within three months of receipt by the customer.
- (2) Export packing for overseas orders will be charged to the customer. Cases are nonreturnable.

10. SHORTAGES AND DEFECTS APPARENT ON INSPECTION

- (1) The Customer shall have no claim for shortages or defects apparent on visual inspection unless:
 - (a) the Customer inspects the goods within three working days of arrival at its premises or other agreed destination and
 - (b) a written complaint is made to the Company within fourteen days of receipt of the goods or such shorter period as the carrier's conditions (if applicable) require specifying the shortage or defect and
 - (c) the company is given an opportunity to inspect the goods and investigate any complaint before any use is made of the goods.If a complaint is not made by the company as herein provided then the goods shall be deemed to be in all respects in accordance with the contract and the customer shall be bound to pay for the same accordingly.

11. DEFECTS NOT APPARENT ON INSPECTION

- (1) The customer shall have no claim in respect of defects not apparent on visual inspection at the time of delivery unless:
 - (a) a written complaint is sent to the Company as soon as reasonably practicable after the defect is discovered and no use is made of the goods thereafter and no alteration made thereto before the company is given an opportunity to inspect the goods in accordance with the condition and
 - (b) the complaint is sent within 12 months of the date of delivery of the goods or in the case of items not manufactured by the company within the guarantee period specified by the manufacturer of such item.
- (2) The customer shall not be entitled to any claim in respect of any repairs or alterations undertaken by the Customers without the prior specific written consent of the Company nor in respect of any defect arising by reason of fair wear and tear or damage due to misuse.
- (3) The Company shall not be liable for loss and damage suffered by reason of use of the goods after the Customer becomes aware of a defect or after circumstances which would reasonably have indicated to the customer the existence of a defect.
- (4) The Company may within 15 days of receiving such a written complaint (or 28 days where the goods are suitable outside the U.K.) inspect the goods and the Customer if so required by the Company shall take all steps necessary to enable the Company to do so.
- (5) Nondelivery (in the case of total loss). The Customer must notify both the Company and the carriers within 10 days of the date of despatch.
- (6) In the case of export goods for overseas destinations the company accepts no liability for damage or loss after the goods have been despatched by the company although the Company will arrange insurance against transit or other risks if instructed to do so by the Customers at the Customers' cost.

12. LIABILITY

Save where the Company is shown to have failed to have exercised reasonable care in the manufacture and/or supply of the goods and such failure results in death or personal injury the Company shall not be liable in respect of claims arising by reason of death or personal injury. Further under no circumstances whatsoever shall the Company be liable for consequential loss (including removal or rectification work required in connection with installation of repaired or substitute goods) loss of profits or damage to property.

13. GUARANTEE CONDITION

- (1) Save as otherwise provided by the conditions of these Conditions Sections 12 to 15 of the Sale of Goods Act 1979 are to be implied into this contract.
- (2) In the event of the condition of the goods being such as might or would (subject to these conditions) entitle the Customer to claim damages or to repudiate the contract the Customer shall not then do so but shall first ask the Company to repair or supply satisfactory substitute goods and the Company shall

thereupon be entitled at its option to repair or take back the defective goods and to supply satisfactory substitute goods free of cost within a reasonable time. If the company does so repair the goods or supply satisfactory substitute goods the customer shall be bound to accept such repaired or substituted goods and the Company shall be under no liability in respect of any loss or damage whatsoever arising from the initial delivery of the defective goods or from the delay before the defective goods are repaired or the substitute goods are delivered.

14. TERMINATION

(1) The Company shall be entitled without prejudice to its other rights and remedies, either to terminate wholly or in part the Contract or any or every other contract with the Customer or to suspend any further deliveries under the Contract or any or every other such contract in any of the following events:

(a) if any debt due and payable by the Customer to the Company is unpaid

(b) if the Customer has failed to take delivery of any goods under the Contract, or any other contract as aforesaid otherwise than in accordance with the Customers' contractual rights

(c) if the Customer becomes insolvent or being a body corporate has a Receiver appointed or passes a resolution for winding up or a Court makes an Order to that effect or being an individual or partnership makes any composition or arrangement with his or their creditors or has a Receiving Order made against him or them.

(2) In addition to any right of lien which the company may have, the Company shall in any of events described in paragraph 1(c) above have a general lien over all goods of the customer then in the possession of the Company for the unpaid price of any goods sold and delivered by the Company to the Customer under the Contract or any other contract.

15. FORCE MAJEURE

Neither party shall be under any liability for any delay loss or damage caused wholly or in part by act of God governmental restriction condition or control.../or by reason of any act done or not done pursuant to a trade dispute whether such dispute involves its employees or not.../or by reason of any act matter or thing beyond its reasonable control including failure by the other party to carry out the provisions of these conditions.

16. SAMPLES

Samples sent to the Company for reference will be returned if the Company is so instructed when the sample is sent. Where no such instruction is received samples will be destroyed fourteen days after receipt.

17. CANCELLATION

Cancellation will only be agreed to by the Company in condition that all costs and expenses incurred by the Company up to the time of cancellation and all loss of profits and other loss or damage resulting to the company by reason of such cancellation will be paid forthwith by the Customer to the Company.

18. CONFIDENTIAL INFORMATION

All drawings, documents and other information supplied by the company are supplied on the express understanding that copyright is reserved to the Company and that the Customer will not without the written consent of the Company either give away loan exhibit or sell any such drawings or extracts therefrom or copies thereof or use them in any way except in connection with the goods in respect of which they are issued.

19. CUSTOMERS' DRAWING

(1) The Customer shall be solely responsible for ensuring that all drawings information advice and recommendations given to the Company either directly or indirectly by the Customer or by the Customers' agents, servants, consultants or advisers are accurate correct and suitable. Examination or consideration by the Company of such drawings information advice or recommendations shall in no way limit the Customers' responsibility hereunder unless the Company specifically agrees in writing to accept responsibility.

(2) The Customers shall indemnify the Company from and against all actions claims costs and proceedings which arise due to the manufacture of goods to the drawings and specifications of the Customer where such drawings and specifications are at fault or where it is alleged that they involve an infringement of a

patent copyright design or design copyright or other exclusive right.

20. DATA & TECHNICAL INFORMATION

The information contained in the advertising sales and technical literature used by the Company may be relied upon to be accurate in the exact circumstances in which it is expressed otherwise any illustrations performance details examples of installations and methods of assembly and all other technical data in such literature are based on experience and from trials under test conditions. Accordingly the information contained in the Companys' publications is provided for general guidance only and forms no part of the contract unless expressly agreed in writing. Customers should obtain specific recommendations and advice from the Company regarding the uses and attributes of the Companys' products in writing.

21. INSOLVENCY

If the Customer should become bankrupt or insolvent or compound with creditors or in the event of a resolution being passed or proceedings commenced for the liquidation of the Customer (other than for a voluntary winding up for the purpose of reconstruction or amalgamation) or if a Receiver or Manager is appointed of all or any part of its assets or undertaking the Company shall be entitled to cancel the contract in whole or in part by notice in writing without prejudice to any right or remedy accrued or accruing to the Company.

22. CATALOGUES

The description of goods in the Company catalogues is given by way of identification only and the use of such description shall not mean that a sale under this contract is a sale by description.

23. EXHIBITIONS

The Customer will not exhibit any of the Companys' products at any public exhibition or trade display without first obtaining the Companys' written permission.

24. LEGAL

The contract shall be governed and interpreted exclusively according to the Law of England and shall be subject to the jurisdiction of the English courts only.

25. GENERAL

Where the contract is for the sale of goods to a consumer that is in general a person acquiring the goods otherwise than for the purpose of a trade or business the statutory rights or obligations that arise if the goods are defective or are not fit for their purpose or do not correspond with their description shall in no way be affected by these conditions. If however a consumer wishes to avail himself of the provisions of the Guarantee Condition of the consumer may do so provided the consumer complies with the provisions of these conditions. Where a trade discount is given the Customer warrants that the transaction is not a consumer sale.

TERMS OF WARRANTY

Warranty starts on the day of delivery to the customer.

At this time the distributor should obtain the Customers' signature on the Delivery Note.

This ensures that:

A. He is satisfied with the delivery condition of the vehicle.

B. He understands the warranty, terms and conditions.

C. He fully understands the correct method of operation of the equipment.

D. He understands the need for routine maintenance for operator instructions.

E. MHS Engineers will replace under warranty all parts deemed defective by MHS Engineers either because of the quality of the material or because of assembly errors.

F. The warranty includes replacement of the defective parts, but does not include labour for assembling and disassembling, unless otherwise agreed before any work is carried out.

G. MHS Engineers will despatch the new parts as soon as possible; any eventual delay in shipping cannot justify demands for damage indemnity.

H. An approval number should be obtained to cover any warranty claim.

Warranty finishes 12 calendar months after date of delivery.

The said period is calculated on the basis of a regular 8 hour working day. If the equipment is subject to double or triple shifts the warranty period will be reduced accordingly.

Exception:

A. Hydraulic hoses - Hydraulic seals - Wear parts

B. Oil and grease

C. Machines which are in dealer stocks beyond 9 calendar months from the date of despatch.

D. Where a customers' machine has been misused, abused, accidentally damaged or due to inadequate preventative maintenance.

DETAILS OF WARRANTY

A. MHS Engineers must be notified of eventual claims within 3 calendar days after failure occurred.

B. The manufacturers' / suppliers' liability extends only to repair or replacement and it accepts no liability for any consequential or other loss, damage or injury resulting directly or indirectly from any defect in the goods.

C. The manufacturers' / suppliers' warranty does not extend to failures, defects or damage attributable to wear and tear, improper adjustments, neglect, alteration of specification, or accident.

D. All defective parts must be returned to the manufacturer / supplier immediately, together with full particulars of the defects together with Approval Number and Our Ref. Number taken from the delivery note. The customer is responsible for carriage/freight charges.

E. The manufacturers' / suppliers' warranty does not extend to proprietary or other components not of its manufacture, but will as far as possible pass to the purchaser the benefits of any guarantee given to the manufacturer in respect of such components.

F. In the event of rejection by the manufacturer of any claim, the part or parts returned will be destroyed within 7 days unless specific instructions to the contrary were given when the part or parts were returned.

G. This warranty should be constructed as strictly limited in its application and is valid only in the country of purchase. Should the goods change hands during the period of this Warranty, then this Warranty becomes null and void.

H. In the case of a claim which has been deemed invalid then the purchaser shall stop payment.

I. MHS cannot be held responsible for any work carried out by unauthorised personnel.

MHS

POWER *units*

Modular Hydraulic Systems following many years of experience has developed into one of the largest power pack manufacturers and suppliers of hydraulic components.

Our team of highly qualified engineers are committed to meeting customers needs with quality, reliable and competitive products, from Aron, Dinoll, Compact Controls, Fenner Power Units and OMFB.

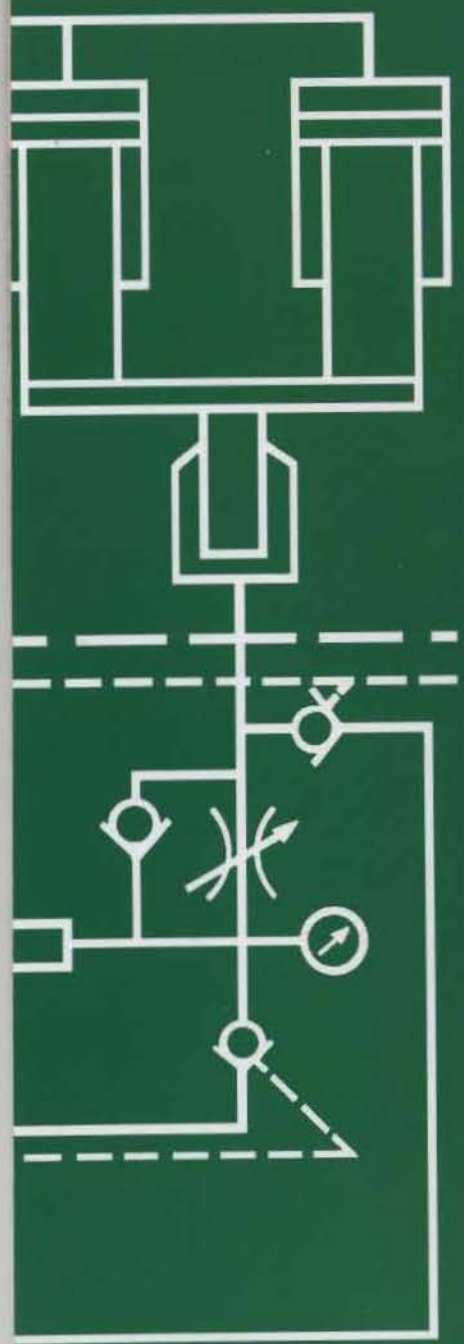
The MHS range of in-house manufactured power packs are produced to our own

stringent standards and supplied with full test certificates, hydraulic circuit diagram and installation instructions.

MHS and it's suppliers are committed to working together towards total quality and the standards laid down by UNI-EN 29001 (ISO 9001).

Should you require any information our technical sales staff would be pleased to advise you in the selection of the correct product.

E & OE



MHS

MODULAR
HYDRAULIC
SYSTEMS
LIMITED

Redan Hill Estate, Aldershot
Hampshire, GU12 4SJ, England
Telephone: (01252) 333883
Facsimile: (01252) 343615
E-mail: mhs@pncl.co.uk
Internet: <http://www.mhs.co.uk>



...always working under pressure