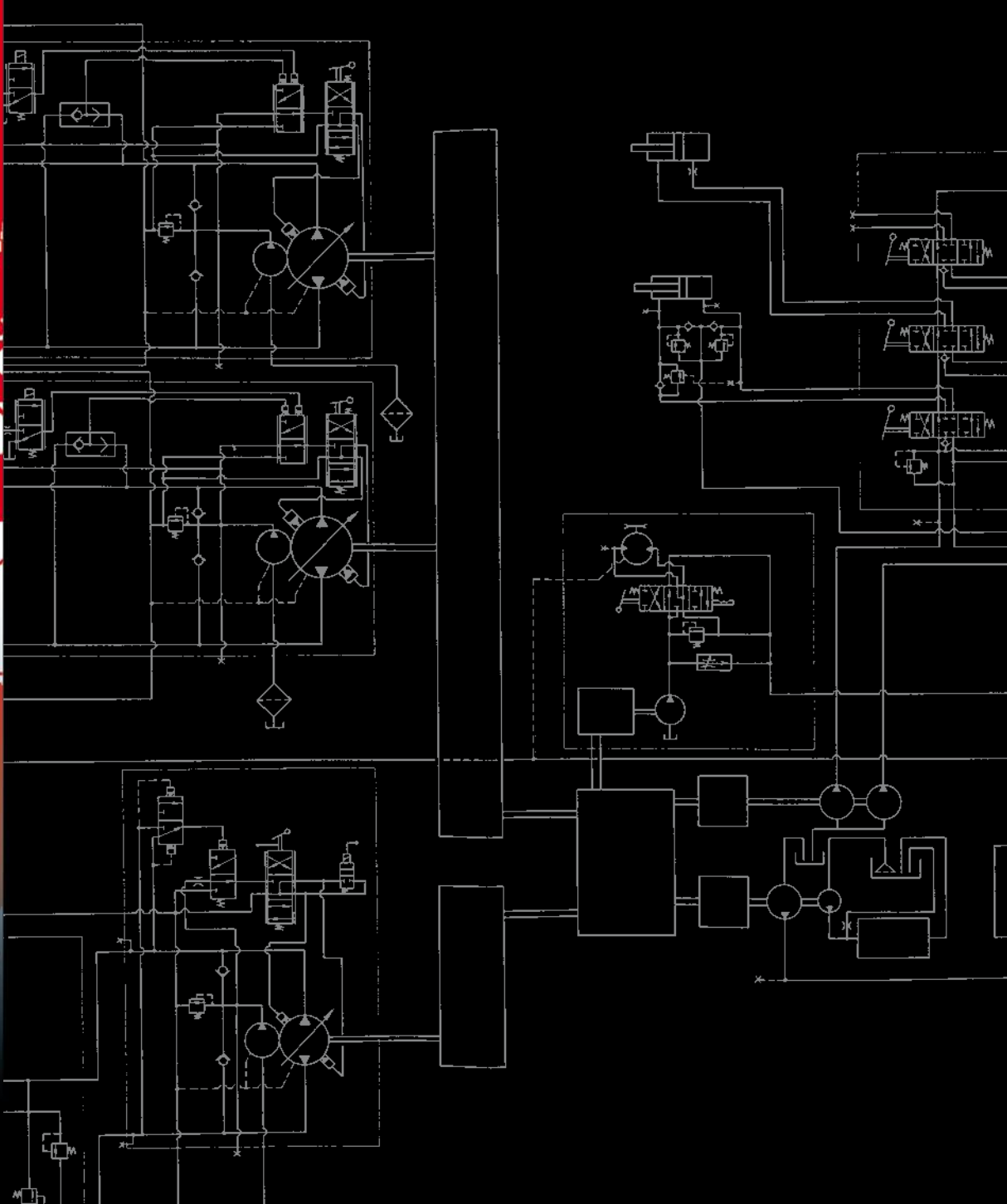
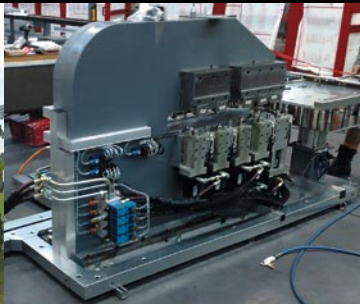


F L U I D P O W E R E N G I N E E R I N G



HYDRAULIC

SPECIALTIES PTY LTD





COMPANY PROFILE

Hydraulic Specialties - Your Hydraulic Provider. Backed by years of experience and one of the largest stock holdings in Australasia. Contact us for your hydraulic sales, service and full system design requirements.

- Hydraulic sales, servicing, system design, installation, certification, preventative maintenance and fault finding
- Industrial, mobile and marine system design and component application
- Australia and Worldwide shipping
- Come to us or we'll come to you - sales and service engineers on the road

WHY CHOOSE HYDRAULIC SPECIALTIES?

- Average over 15 years of hydraulic experience per staff member - give us your hydraulic problems and we will provide you with the solution
- National coverage - sales and service engineers on the road, supported by qualified internal staff and product specialists
- Manufacture, assembly and service centre in Melbourne. We can deliver to most parts of the country – overnight
- Large hydraulic stock holding and 24/7 technical sales and service backup – right part on time
- Hydraulic and electric test bench facilities
- Dedicated service division
- Order parts after hours; Online shopping at <http://www.hydraulicspecialties.com.au/products/category>.
- Hydraulic training seminars for customers and bi-weekly technical internal training for staff
- Hydraulic Specialties can draw on sister companies Hytrans and Hytech to provide power transmission solutions and hydraulic manifold technology

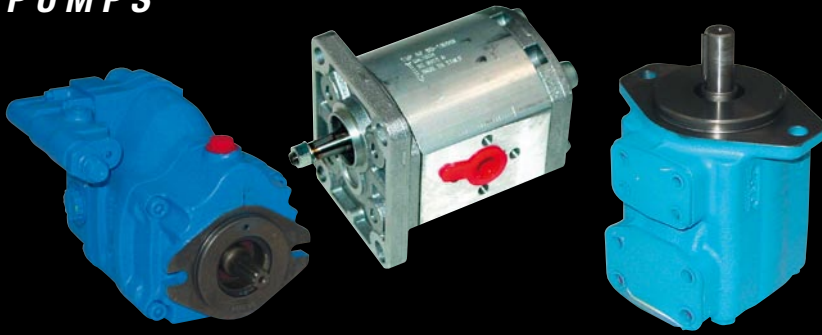
THE HYDRAULIC SPECIALTIES TECHNICAL SALES AND SERVICE TEAM SPECIALISE IN:

- Industrial, mobile and marine system design and component application
- The manufacture of reservoirs and power packs to general specification or your specific requirements
- Integrated manifold design, application and manufacture
- Hydrostatic drive calculation, design and component application
- Repairing hydraulic machinery, cylinders/rams, pumps, motors, valves, accumulators; you name it, if its hydraulic related – we can help you
- Certification, preventative maintenance, fault finding
- Inspection to assess failure cause and the best solution
- The manufacture of hydraulic cylinders to general specification or your specific requirements
- Installation of steel and stainless steel tubing and hydraulic lines
- Commissioning and maintenance of all hydraulic systems
- Designing maintenance programmes and oil condition monitoring

SEMINARS:

Hydraulic Specialties offers a two day hydraulic training seminar for customers and interested parties. The course covers hydraulic principles, fault finding/diagnosing, system design and component selection. For more information visit our website <http://www.hydraulicspecialties.com.au/services/seminars>

PUMPS



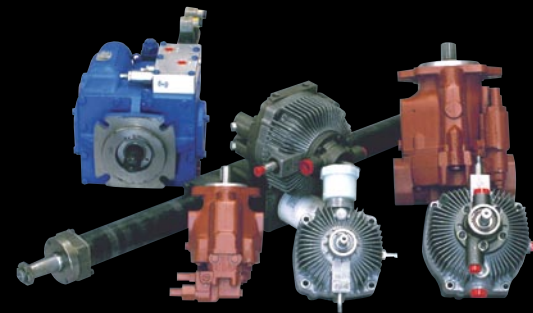
Hydraulic Specialties stocks an extensive range of gear, vane and piston pumps. Standard frame sizes are stocked in both Euro and SAE mounts. Pumps can be stacked into multiple units and field reversed.

MOTORS



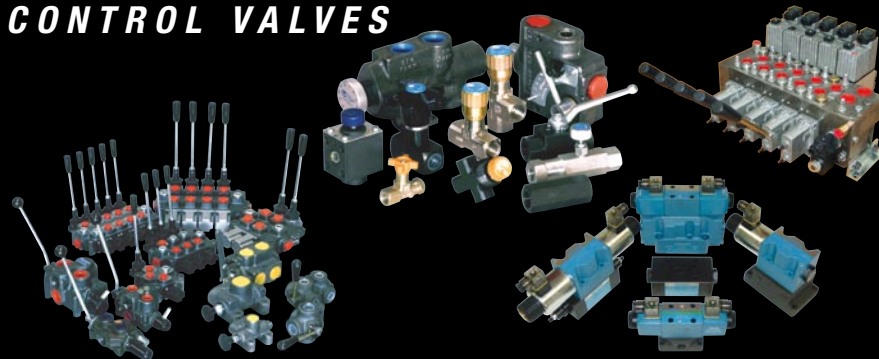
Stocked motors include gear, geroler, geroler, vane and piston. Frame sizes to suit your speed and power requirements.

HYDROSTATICS



Light, medium and heavy duty piston pump and motor products from Eaton. Variable displacement open and closed loop piston pumps along with fixed and variable piston motors. Included are the light duty close coupled transmissions and transaxles.

CONTROL VALVES



Extensive range of directional manual control valves, electro-proportional load sensing valves, flow controls, cetop valves and accessories.

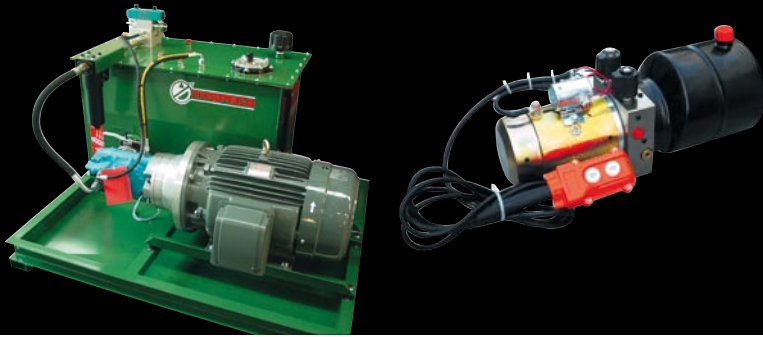
CARTRIDGE VALVING



Cartridge blocks and valves can be incorporated into a convenient "Hydraulic Integrated Circuit". If you can think of it, we can make it. Custom designed and built by Hydraulic Specialties in the minimum possible time.

Images are for representation only, actual components may differ from that shown.

POWERPACKS



AC or DC Powerpacks designed and built to your specifications. Standard "off the shelf" powerpacks are also available. Power pack accessories include HYDRAULIC SPECIALTIES tanks, flexible couplings, gauges, bell housings, and filler breathers to name a few. All that is required to complete your machine.

POWER STEERING



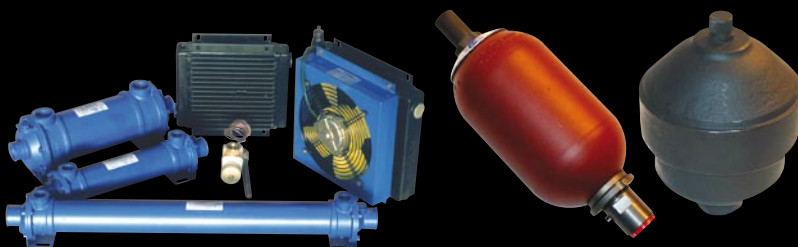
Off highway steering components from Eaton to suit open and closed centre, power beyond and load sense systems. Displacement and port options mean that an extensive range of machines can be catered for by "off the shelf" steering control units.

FILTRATION



A full compliment of filters to suit even the most demanding and complex systems. This includes the new generation of electro proportional based circuits. Suction, return and high pressure versions ex stock.

FLUID ACCESSORIES



Oil Coolers, accumulators, gauges, flow dividers, hydraulic remotes, test points and hoses, tank flanges. Everything you need to finish a hydraulic system.

Images are for representation only, actual components may differ from that shown.

ONLINE SHOPPING now available at www.hydraulicspecialties.com.au. It's easy to use and you can either search by category, brand or by using the built in search engine, you can find a product directly by part number or description. The site is available 24/7 so if you've run out of time during the day to order that part, you can always logon after hours, place the order and we'll get it dispatched first thing the following morning.

DRIVE ACCESSORIES



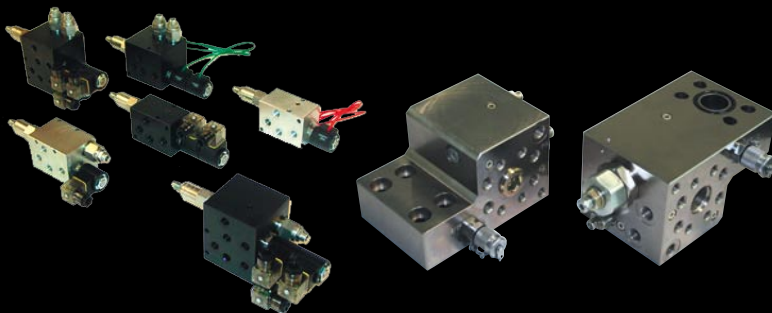
Cover planetary reduction gear boxes, PTO gearboxes, over-hung load adaptors, electro-magnetic and manual clutches. All designed to directly interface with our standard Euro or SAE mount pumps and motors.

ELECTRIC MOTORS



Hengshui YX3 Series 3-phase electric motors ranging from 0.12 to 315 kW, 4-pole standard. Motors meet and exceed AS/NZ 1359.5:2004 minimum energy ratings and are designed for 400 VAC, 50 Hz operation and are rated to IP54 / IP55.

EXCAVATOR VALVING



Custom designed cartridge valve manifolds, designed specifically to control excavator attachments. Quickhitch, tilt, thumb, pilot control and Safex™ Valve.

ELECTRONIC CONTROLS



Kar-Tech radio remote controls. Specifically designed and manufactured for the wireless control of hydraulic equipment.

Images are for representation only, actual components may differ from that shown.

CUSTOMER TESTIMONIALS

“Great course, excellent presentation, will be recommending to other staff”
– *Hose Repair Business*

“.....another year has passed with continued excellent service from the Hydraulic Specialties team.”

– *Garth, TRT*

“It has given me a much greater understanding of hydraulic systems”

– *Marine and General Engineering*

RULES-OF-THUMB

- For every 1 kW of drive, the equivalent of 5 lpm @ 100 Bar can be produced
- To idle a pump when it is unloaded will require about 5% of its full rated power.

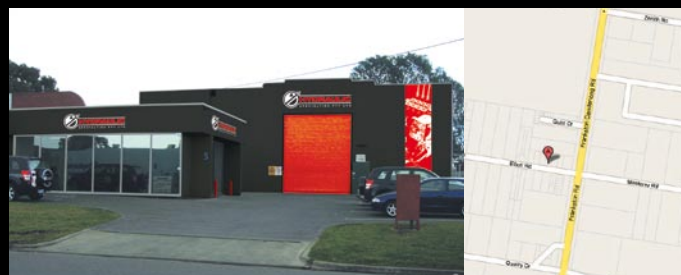
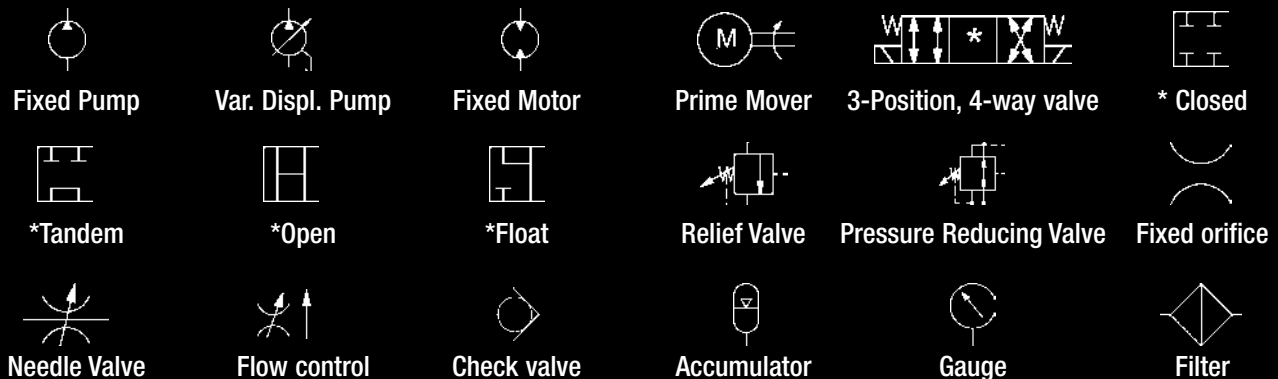
FLUID POWER FORMULAS

- For a pump/motor, Torque (Nm) = Power (kW) x 9543 / Speed (rpm)
- Force developed by a cylinder, Force (N) = Bore Area (cm²) x Pressure (Bar) x 10

CONVERSIONS

- 1 U.S. gallon = 231 in³ = 3.785 L
- 1 L = 0.2642 U.S. gallon = 61.0303 in³
- 1 in³ = 16.387 cc
- 1 Imperial gallon = 1.2 U.S. gallon
- 1 Bar at sea level = 14.504 PSI
- 1 HP = 0.746 kW
- 1 Atmosphere = 1.013 Bar
- 1 km/h = 0.62 mph
- 1 m = 3.28 ft = 39.37 in
- 1 Nm = 0.7376 foot-lbs

SOME COMMON FLUID POWER SYMBOLS:



MELBOURNE

HYDRAULIC SPECIALTIES ARE SUPPLIERS OF:

- ASA • Ausco • Brand • Char-Lynn • Comer Planetary Drives • Command Controls • Deli • Donaldson
- Eaton • Emmegi • EPE • Fairfield • Galtech • Gresen • Hengshui • Hub City • Hydr-App • HydraForce
- Kar-Tech • LC Oleodinamica • OMT • Poclairn • Snap-Tite • Tognella • Vickers • Walvoil • Zinga

MELBOURNE: Phone: +61 3 9305 3477 Fax: +61 3 9305 4720 P.O. Box 4454, Dandenong South, VIC 3164, 5 Elliott Road, Dandenong South, VIC 3175, Melbourne, Australia

AUCKLAND: Phone: +64 9 274 9985 Fax: +64 9 274 4441 P.O. Box 204 157, Highbrook 2161, 32 Crooks Road, East Tamaki 2013, Auckland, New Zealand

CHRISTCHURCH: Phone: +64 3 366 1872 Fax: +64 3 366 1431 P.O. Box 7493, Sydenham 8240, 40 Durham Street, Sydenham 8023, Christchurch, New Zealand

info@hydraulicspecialties.com.au www.hydraulicspecialties.com.au