

**In this month's Hydrafile:**

**Featured Product** - we have a closer look at our Brand range of proportional directional control valves and 3 port flow controls.

**Technical Corner** - answers to last months quiz and with summer coming up a look at Emmegi oil coolers and how they can stop your hydraulic system from losing its cool.

**Sam's results** at the National Motocross championships.

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**Featured Product - Brand Valves**

Hyspecs stocks a full line of Brand proportional 4 way control valves and manual or electric 2 or 3-port pressure compensated flow controls.

**SDCF** and **DCF** models are mono-block, cast iron, proportional, 4-way directional control valves. Features are:

Pressure up to 207 bar

\*Flow to 68 l/min for the SDCF and 170 l/min for the DCF

\*Integral pilot operated relief valve

\*Full range pressure compensated by-pass type flow control valve built-in

\*Stainless steel spools for tough marine environment



For more information click the following links:

<http://www.hyspecs.co.nz/DataSheets/Brand/sdcf.pdf>

<http://www.hyspecs.co.nz/DataSheets/Brand/DCF.pdf>

**FC** and **EFC** models are cast iron, 2 or 3-port manual or electro-proportional flow controls. Features are:

\*Pressure up to 207 bar and flow to 114 l/min

\*Optional free reverse flow and relief

\*12 or 24 VDC controller option

\*Stainless steel spools

For more information click the following links:

<http://www.hyspecs.co.nz/DataSheets/Brand/fc51.pdf>

<http://www.hyspecs.co.nz/DataSheets/Brand/efc.pdf>

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**Technical Corner**

Congratulations to the winners of last months prize giveaway. The BBQ tongs are proving a popular choice with summer coming up.

The correct answers to last month questions were: (1) 36.75 kW (2) 10 kW (3) 31.83 turns (4) 4905 Nm (5) 5.89 seconds

This month we are taking a break from the quiz. Don't worry though as there will be more coming up in the future so you can get another crack at a prize.

**Coolers...**

In a perfect hydraulic world all energy put into a system could be transferred to the job at hand, whether it is a cylinder, motor or some other hydraulic machinery. However we are lucky if we get 65-75% of the input energy turned into useful work. The rest gets turned into heat, noise and vibration.



The loss of power can be attributed to many things:

- \*High pressure drop across hoses, orifices and valves
- \*Mismatched motor sizes in a pressure compensated system
- \* In-built inefficiencies in pumps and motors
- \* Poorly designed hydraulic systems

Try as we may to get the system 100% efficient we will never do it, so we are usually stuck with two options to overcome heat:

\* Build a large oil tank to dissipate the heat. This is usually the easiest and cheapest option if designing a system from new. Hyspecs recommends a tank size of at least 2.5 times the maximum flow of oil in the system.

\* Install a hydraulic oil cooler capable of cooling approximately 30% of the system input power. Oil coolers typically come as either air/oil or water/oil variety. The air/oil coolers are pretty much the same as a car radiator with either an electric or hydraulic fan blowing over the fins to cool the oil flowing inside the radiator. Oil/water coolers are designed to have oil running through a large outer tube with a separate series of smaller tubes running inside this, containing flowing fresh or salt water which carries the heat away from the oil.

For specification and pricing information on Hyspecs range of Emmegi oil coolers please click the following link:

<http://www.hyspecs.co.nz/DataSheets/EmmegiPriceInformation.pdf>

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## Sponsored Motocross Champion

Last month we introduced you to Sam Henderson. Racing in the 12-16 year old division, Sam competed in the ATV Motocross Nationals held at Napier on the 8th and 9th of October.

Competing with 15 others, in 7 races over 2 days, Sam finished in 3rd place overall. An excellent result especially considering that Sam found the conditions unfavourable compared with those normally found in the South Island.

For more information on this event and others like it visit <http://www.hbmc.org.nz>

**Kind regards**

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photo by Mandy Hindmarsh

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