



HYDRAULICS

Hawe Hydraulics (S-13342) will reveal the V30E-270 variable-displacement axial-piston pump to meet a broader range of demanding applications. A new feature is the third mounting flange variant, and spline shaft variant, both conforming to SAE J744. If the pump is used as a tandem combination – two pumps of the type V30E-270 – the load increases. The end housing for the first pump was therefore newly designed to ensure safe transmission of higher drive performances from the first to the second pump. The user can flexibly select the second pump, irrespective of whether he wants to deploy the combination in mobile or stationary applications.

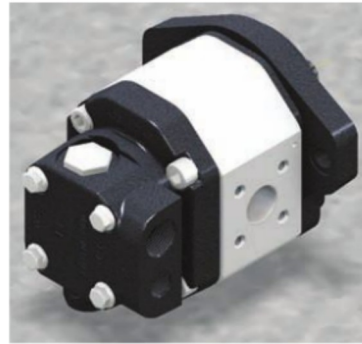
The combination with Hawe's variable-displacement axial-piston pumps is very good. Like all other pumps from the V30E series, the V30E-270 type can also be combined, for example, with the manufacturer's radial piston pumps to generate a second high-pressure level.

The V30E variable-displacement axial-piston pump is designed as swashplate built. It is sturdy and generally suited for open circuits both in mobile as well as industrial hydraulics. The purpose-built followers, swashplate bearing and control plate provide the pump with longevity. The extensive controller program supports its many deployment options. The pump model also excels through its low noise level.



RIGHT: **Marzocchi LS pump**

BELOW: **Hawe V60N axial piston pump**



The V30E-270 has been designed for an operating pressure of up to 5,075psi (350 bar), with a peak pressure of 6,000psi (420 bar). The output volume is up to a maximum of 124gal/min (470 litres) at 1,750rpm, with a geometric displacement of 270cc/rev.

Combined with Hawe Hydraulics' proportional directional spool valves and electronic controls, the new pump easily extends into a fully fledged and customised hydraulic system. The new nominal size 7 of the proportional directional spool valve is particularly suited for the tandem combination of two V30E-270 pumps.

Marzocchi Pompe (S-16043) has taken the opportunity to complete the renewal of its product range, introducing new pumps with integrated valves, among which those with a priority valve aim to satisfy the requirements of the mobile market.

The new LS range of pumps, with a priority valve, is only produced in the cast-iron version, in the families 2 and 3 and covers a range of displacements 4.5-87cc/rev. The components of the priority valve, the controlled and the priority ports, and the load-sensing connection, are situated in the cast-iron cover of the pump.

The working hydraulic pump operates in an open circuit, drawing up oil from the hydraulic tank and pumping it to the control block integrated on the cover. The job of the priority valve attached to the pump is to distribute the oil from the working hydraulics to the steering system. The oil supplied to the steering system always takes priority; the rest flows to the working hydraulics. The load-sensing system

guarantees that – in every operating condition – the steering system receives the oil according to the actual requirements.

The pumps with a priority valve are available in various versions. It can be supplied with or without a load-sense signal (in both the static and dynamic versions). It is also possible to integrate a relief valve with internal drain in the cover. The LS pressure-relief valves prevent excessive pressure peaks in the steering system. The primary characteristic of a dynamic signal system is the improvement in the priority valve's response time.

Bucher Hydraulics (S-15929) will show the SVC25, a load-sensing proportional valve of a sandwich design suitable for high flow rates of up to $Q_{max} = 600$ l/min, with a correspondingly high operating pressure of $p_{max} = 420$ bar. Particular attention has been paid to power density, function, and versatility. Its good proportionality and stability characteristics are due to the special geometry along the control flanges of the individual valve pistons. This ensures that high flow rates are kept under control.

A manually operated version is also available in addition to the models with hydraulic and EH controls. Manual versions work in a similar manner to hydraulically actuated pressure-reducing valves. The advantage of this kind of actuation is that the leverage forces are low and the leverage lengths involved can be kept short.

Manual operation serves as a direct proportional control of the directional valve – a feature frequently required for winch controls, for example – or as an emergency hand lever. The advantage of this is that with electrical activation, the hand lever remains in its idle position. On the one hand this provides added security; on the other, hysteresis is kept to a minimum.

Various input modules are available for different kinds of pumps. If required, optional features can be integrated, such as peak-pressure reducing valves or a pilot-pressure supply unit, which can be switched off and which, when activated, also disengages the manual operation function (the safety circuit).