Control of secondary units with A4VS axial piston units

Characteristics:
- High response rotary drive
- Reversing open or closed loop operation (four quadrant operation)
- Power feedback and storage
- Speed, position and torque control with excellent and responsive control characteristics
- Throttle-free coupling and energy transmission from as many independently working motor or generator driven machines as required, to a common supply line with quasi-constant operating pressure
- Low losses, especially with partial-load operation
- Compact closed loop electronics (digital or analogue) in Eurocard format

1) Size 1000 on request!

Functional description
Secondary controlled hydrostatic machines connected to a power network with quasi-constant operating pressure mean high response, energy saving drives for speed, position and torque control with power feedback.

No throttling is required for either power take up or feedback, the displacement of the machine adjusting itself to the relevant loading. This means that any number of units, operating as motors or pumps, may be connected in parallel. Four quadrant operation is even possible in open loop operation, the units used for speed and torque reversal being swivelled over the "Zero". This also reverses the direction of flow.
If required an accumulator may be fitted between the primary and secondary units.
This accumulator is used to cover rapid flow peaks and also to store energy returned by pump from the secondary unit to the hydraulic circuit, where this energy is not required by any other actuators. The pre-load pressure and loading condition of the accumulator, together with the pressure compensated primary unit and degree of loading on the secondary unit, determine the quasi-constant high pressure in the system.
The specific characteristics of secondary control such as reducing the amount of equipment required in primary control, combined with the possibility of power feedback, the storage of braking energy and virtually load-independent speed and positioning accuracy, open up a wide range of applications.
For further information see “Hydraulic Trainer Vol. 6” (RE 00 293).