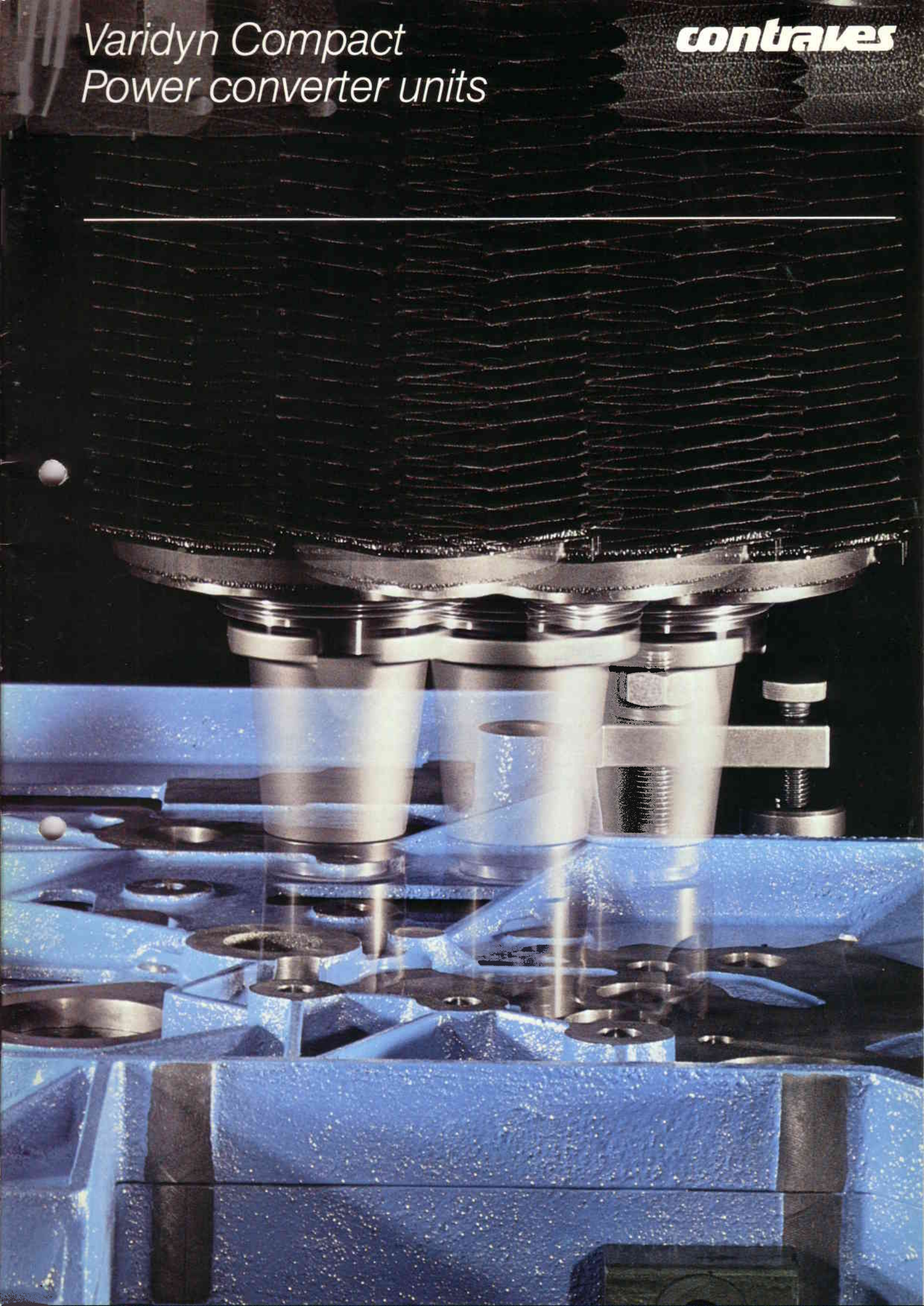


*Varidyn Compact
Power converter units*

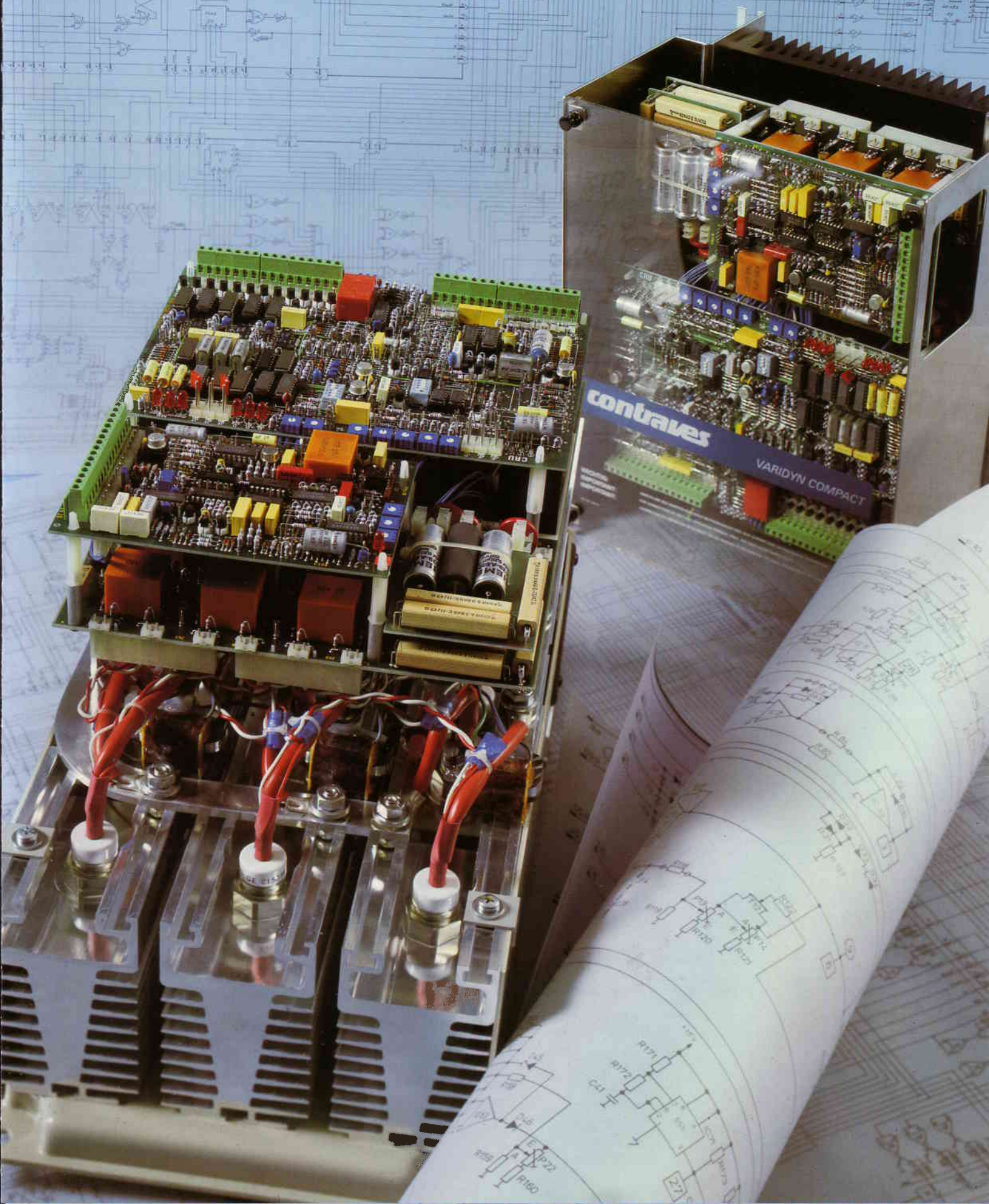
contraves



Varidyn Compact

contraives

3-Phasen-Stromrichter ADB für 4-Quadrant-Antrieb von 30 bis 1100 A



Introduction

With the Varidyn Compact static converters, the speed and armature current of DC motors with separate and permanent excitation can be controlled. The speed can be varied over a wide range, and the adjusted speed is held constant under load changes or supply voltage variations.

These converters are obtainable for single-phase supply up to about 10 kW and for 3-phase supply up to about 500 kW. In both power classes there are Varidyn Compact types for single and four-quadrant operation. With single-quadrant drives the armature current and hence the torque can act in one direction only, i.e. the motor can drive in only one sense of rotation, and cannot brake. Four-quadrant drives are able to drive and brake in both senses of rotation.

The four-quadrant drives of the Varidyn Compact series operate without circulating current. The two thyristor bridges are connected in an anti-parallel configuration having one Bridge firing. Reversing is achieved by logic circuitry, and for 3 phase bridges, the speed of operation matches systems using circulating current.

Design features include an inherent current loop which ensures good control throughout the speed range. Adjustable current limit facilities are included to utilise the maximum rating of the converters.

Except for the special feed drive controllers, all Varidyn Compact static converters are equipped with adjustable ramp references.

All three-phase converters have fully controlled three-phase bridges. The DC current pulsates at 6 times the supply frequency. This brings the following advantages:

- lower thermal loading of the motor
- smoother running, therefore less stressing of the mechanical parts
- better form factor
- better control dynamics
- better commutation

With the Varidyn Compact series, special emphasis has been placed on high flexibility for adapting to the various applications, and on simple commissioning. The controllers are provided with additional circuits serving to indicate various operating states, thereby enhancing the reliability of complex systems.

Varidyn Compact static converters are put through the most stringent quality controls during manufacture. After artificial ageing in a hot room, the values of all electronic components and the functions of the individual circuits on the printed circuit boards are tested with an up-to-date computer-controlled testing facility. Maximum reliability is thus assured in these controllers.

