PowerCat

Crane veteran Klaus Schlopp has invented a simple powered tool to push and pull loads of up to 25 tonnes on skates. The PowerCat MTC 25 weighs around 50kg and comes fully equipped with a retractable 'undercarriage' and an adjustable height connection point which can be attached to any number of hitches or adapters.

When machinery or other heavy loads are unloaded onto a set of skids or skates for moving to their ultimate position the skates are typically hitched up to the drawbar of a fork truck or winched/chain blocked into position.

Klaus Schlopp with his invention

The PowerCat hooks on to the skates after being plugged into a regular 13 amp AC power outlet.

The operator then simply operates the control trigger to push or pull and steer the load into its final location under full control. Four gears offer a travel speed of between two and nine metres a minute. The design allows a portion of the loads weight to be transferred to the heavy duty non-marking dual wheels of the PowerCat, in order to ensure perfect traction.

The MTC 25 has undergone more than three years of rigorous field-testing by professional riggers which resulted in numerous tweaks and changes. Schlopp is so confident the production machines ability to withstand the rough treatment dealt out by riggers, that he is including a two year warranty as standard.

The PowerCat features dual wheels and an adjustable quick remove hitch

The PowerCat in action

The thumbscrew raises or lowers the hitch

Crane control

ABB has developed crane control software for use with its variable speed drives FOR industrial, harbour and tower cranes. It utilises ABB's Direct Torque Control (DTC) motor control system to provide accurate slow speed control with high torque levels. The programme offers flexible interfaces for different types of analogue, digital or fieldbus systems.

A function block programming - known as adaptive programming - eliminates the need for an external Programme Logic Controller (PLC). The 15 function blocks are easy to programme using the drive's control panel. Adaptive programming enables the integration of external control logics and new functions, so the software can be customised quickly and easily.

The software also features an integrated brake control logic which uses torque memory and pre-magnetising to operate the spring applied mechanical brake safely and reliably, ensuring that it is only released once the drive has started and torque applied to the motor shaft. A crane system check function includes both electrical and mechanical checks, while torque proving ensures that the drive and motor are able to produce torque and that the mechanical brake does not slip before the drive releases the brake and starts operating the crane.

A 'slow down' safety control function limits the speed to a preset level in critical zones. High and low limit sensors stop the drive at the end positions. The 'fast stop' safety control function is used in emergency situations. The speed monitor function prevents over-speeding, while the speed matching function continuously compares the speed reference and the actual motor shaft speed to detect variations. Either one of these functions will stop the motor if a fault in the motor is detected.

The software also incorporates programmable counters to provide information on total crane operating time and the number of times the mechanical brake is used.

Hydraulic accumulator safety block

Parker Hannifin has launched a new range of accumulator safety blocks - the SBA Series. The new products are designed for a wide variety of critical hydraulic applications and have been developed to help minimise system build and maintenance times.

Each SBA safety block incorporates shut-off, pressure limiting and pressure release functions, in a compact and robust housing, with each safety block being rated for use in systems operating at up to 350 bar. The safety block includes a modular design of tamper-proof pressure relief valve that can be specified in a wide range of pressure settings. The valve can easily be changed without needing to disconnect or remove the block, simplifying changes to system pressures and making it easier for OEMs to specify and stock component parts.

The integrated shut-off valve allows an attached accumulator to be isolated and then safely discharged to tank. This can be done directly via a lever operated discharge valve mounted on the block, or remotely by means of an electrically controlled discharge valve. The latter enables accumulators mounted in inaccessible areas to be discharged easily.

The new blocks are fully compliant with the European Pressure Equipment Directive (PED) 97/23/EC and are finished in a chrome-6 free, corrosion resistant finish for long service life.

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