



VSD Variable Speed Drives



Product Range:

B&F's flameproof variable speed drives (VSD's) are designed for various mining applications where control of speed and/or torque is required. Where flameproof / intrinsically safe requirements are not necessary but where arduous conditions still apply, VSD's can similarly be supplied, but fabricated in a 'ruggedised' construction solid enough to withstand any non-hazardous mining environment.

Applications:

Single and multi-motor solutions are offered for a wide range of applications, including: -

- * Belt Conveyors
- * Armoured Face Conveyors
- * Ventilation Fans
- * Pumps
- * Machine Traction Drives

Product Highlights:

B&F VSD's have been specifically designed with mining in mind, allowing for connection to a standard 3-phase 950V-1,140V power supply. VSD's can either be directly mounted to the secondary end of the transformer, or alternatively feed via a trailing or armoured cable. B&F provide a wide range of cable terminations, from plug & socket, to direct entry glands, as required.

Certification:

All B&F products are ATEX & IEC certified. In addition, we are able to offer country specific certification where required.



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VSD Variable Speed Drives for Mining Applications

Specification

Operating voltage range	90% to 105% nominal voltage
Control voltage range	75 to 110% nominal voltage
Supply voltage	950V to 1140V 3 phase, 50/60Hz
EMC emission / immunity	to BSEN 61800
Inverter type	6 pulse, 3 phase IGBT with flux vector controller
VSD rating	up to 1000kW continuous power
IGBT rating	800A or 1200A
Overload capability (conveyor)	150% FLT capability for 60 seconds
Overload capability (AFC)	250% FLT capability for 60 seconds
DC link charge-up time	5-10 seconds
Cooling	Water-cooled heatsink with optional closed loop cooling system
Stack temperature protection	Thermal switches and analogue temperature transducer fitted to Heatsink
Stack over-current protection	Provided by Hall-effect CT's mounted on the outgoing circuit
Pre-charge contactor rating	80A air break, AC3 duty
Input contactor rating	315/415/560A vacuum, AC4 duty

Further Benefits:

These include:-

- * Full control of torque from zero to full speed
- * Smooth, user-defined acceleration periods
- * Continuously equates drive speed to operating demands
- * Employs existing a.c. motors and drive systems
- * Reduction in shock loading
- * Increases component life cycle time thereby reducing maintenance costs
- * Reduced electrical network costs