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TOMORROW

Fact Sheet

VLT® Parallel Drive Modules

Build cabinets exactly how you need them, using VLT® Parallel Drive Modules. By using multiple high power drives connected in parallel, you can achieve greater power sizes in a modular solution.

VLT® Parallel Drive Modules comprise sets of two to four VLT® high power drives connected in parallel, with 6-pulse and 12-pulse variants.

A reference design for the cabinet of the drives has been made using the Rittal TS8 enclosure. This reference design makes it easy for panel builders and machine builders to build their own cabinets, worldwide.

Reliability

Enjoy long drive lifetime and save on extra components, with integrated fuses and DC coils. The high-power drive modules are delivered with these components built-in as standard.

Increase uptime with the Reduce Run functionality. This function enables the system to run at part load even if one of the drive units fails.

Back-channel cooling

A unique design uses a ducted back channel to pass cooling air over heat sinks with minimal air passing through the electronics area. This design allows 90% of the heat losses to be exhausted directly outside of the enclosure. Back-channel cooling improves reliability and prolongs life by dramatically reducing temperature rise and contamination of the electronic components. There is an IP54 seal between the back-channel cooling duct and the electronics area of the VLT® drive.

Product families

- VLT® AutomationDrive FC 302
- VLT® AQUA Drive FC 202
- VLT® HVAC Drive FC 102

Power range

6-pulse
- 450–1200 kW
- 600–1350 hp

12-pulse
- 250–1200 kW
- 350–1350 hp

Voltage range

- 380-480/500 V
- 525-690 V

Enclosure rating

- IP00

Up to
1.2 MW
output power, in compact modular design with 98% efficiency

Feature	Benefit
VLT® family – one platform, one user interface, common graphical LCP	Know one drive, know them all. Savings in time and cost for training, service, ordering and spare parts logistics.
Compact size – high power density	Savings in space and cost, in cabinet design.
Runs at 100% load up to 45 °C	Full and reliable performance at high ambient temperatures.
Coated PCBs as standard	Extended lifetime, with high environmental resistance.
Built-in DC link reactors	Reduced harmonics distortion level and: – No need for external AC chokes – No additional panel space required
Built-in AC fuses	Savings on cost and space, for extra components.
Reduced Run function	Allows the system to run at part load, even if one of the drives fails.
98% efficiency	Low lifetime operating cost.
Back-channel cooling	Reduces the scale of air conditioning required for the room, reducing up-front cost and operating expenses.

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Options

- Stainless steel back channel
- RFI filter
- Brake chopper
- Heat sink access panel
- Fieldbus options
- Application options
- Control power back-up input

Busbar kit

Factory designed kit, including:

- Flexible busbars
- Common AC terminals
- DC busbars
- Ground busbars
- EMC screens

Cooling Duct kits

Pre-fabricated kits in four different versions:

- Bottom-in/top-out
- Back-in/back-out
- Bottom-in/back-out
- Back-in/top-out

PC Software

VLT® Motion Control Tool MCT 10 set-up software

MCT 10 offers advanced programming functionality for all VLT® products, greatly reducing programming and set-up time.

VLT® Motion Control Tool MCT 31 Harmonics Calculation Software

MCT 31 calculates the system harmonic distortion due to AC drives, and determines the most cost-effective method to mitigate harmonics.

- Calculate system harmonic distortion
- Estimate the benefits of adding various harmonic mitigation solutions from the VLT® product portfolio

Nominal ratings

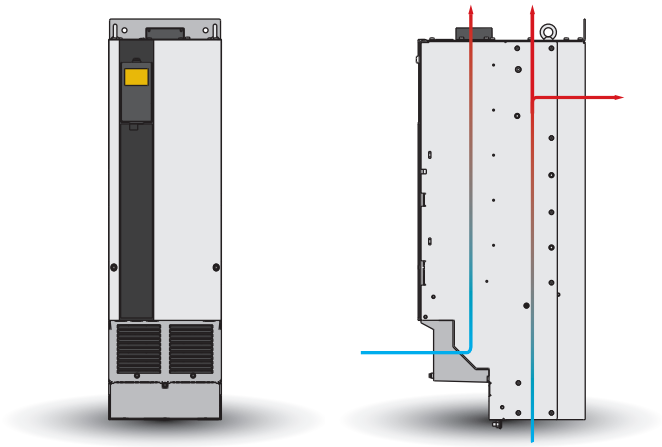
	400 V AC				460 V AC				690 V AC				Module dimensions
	Normal overload		High overload		Normal overload		High overload		Normal overload		High overload		(number of modules) H x W x D
	Power [kW]	Current [A]	Power [kW]	Current [A]	Power [hp]	Current [A]	Power [hp]	Current [A]	Power [kW]	Current [A]	Power [kW]	Current [A]	
12-pulse	315	600	250	480	450	540	350	443	315	344	250	290	(2x) 1122 x 350 x 375 mm 44 x 14 x 15 in.
	355	658	315	600	500	590	450	540	400	400	315	344	
	400	745	355	658	600	678	500	590	450	450	355	380	
	450	800	400	695	600	730	550	678	500	500	400	410	
									560	570	500	500	
									630	630	560	570	
6-pulse/12-pulse	500	880	450	800	650	780	600	730					(4x) 1122 x 350 x 375 mm 44 x 14 x 15 in.
	560	990	500	880	750	890	650	780	710	730	630	630	
	630	1120	560	990	900	1050	750	890	800	850	710	730	
	710	1260	630	1120	1000	1160	900	1050	900	945	800	850	
	800	1460	710	1260	1200	1380	1000	1160	1000	1060	900	945	
	1000	1720	800	1460	1350	1530	1200	1380	1200	1260	1000	1060	

Normal overload: *110% of nominal current can be applied for intermittent duty (60 sec).*
High overload: *150% of nominal current can be applied for intermittent duty (60 sec).*

Compliance

- CE & UL Listed for Parallel Drive Modules design
- EMC compliance:
  - EN 55011, Class A2/IEC 61800-3 Category C3 (standard)
  - EN 55011, Class A1/IEC 61800-3 Category C2 (optional)
- Safety category 3, PL d (ISO 13849-1)*
- Stop category 0 (EN 60204-1)*
- STO: Safe Torque Off (IEC 61800-5-2) SIL 2 (IEC 61508)*
- SILCL 2 (IEC 62061)*

** For more information about STO requirements, contact Danfoss Drives.*



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