



Outdoor-rated VLT® AQUA Drives

Mount your drive where you *want* to...not where you *have* to



Built to withstand harsh environments, a outdoor-rated enclosure and standard 1000-foot motor cable runs mean the VLT AQUA Drive provides maximum mounting flexibility

The perfect solution for demanding applications, such as:

- Lift stations
- Pump stations
- Irrigation
- Other outdoor applications

Power range

- 200–240V: 1–60 HP
- 380–480V: 1–125 HP
- 525–690V: 1–125 HP

Suitable for outdoor or indoor installations that require protection against windblown dust and rain or splashing water, IP66-rated variable frequency drives can be installed directly at the equipment location without a protective enclosure. All cast aluminium parts are powder coated with a durable epoxy that can stand up to most corrosive chemicals.

Features	Benefits
• All cast aluminium parts are powder coated with a durable epoxy coating	• No need for separate cover or enclosure*
• Conformal coated circuit boards	• Additional protection in corrosive environments
• All stainless steel screws	• Improved corrosion resistance
• Fan designed to withstand corrosion	• Reliable operation
• Can be installed near the motor or blower	• Facilitates modular plant design
• 1000' motor cable runs (unshielded)	• Short motor cables reduce EMI/RFI

Reliable	Maximum uptime
• Robust, single enclosure	• Reduced cost and maintenance
• Unique cooling concept with no ambient air flow through electronics housing	• Reliable operation in harsh environments
• Max. ambient temp. 50° C without derating	• No external cooling or oversizing necessary

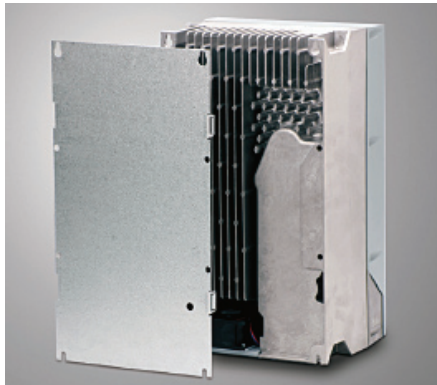
User friendly	Simplified operation and lower costs
• Award-winning LCP keypad design	• Reduced space requirements and commissioning time
• Easy installation	• Lower startup costs
• Watertight USB plug can be mounted in the bottom of the drive	• The drive enclosure can remain closed while making setup or programming changes

* For outdoor installations: The drive must be installed under a suitable cover to protect from direct exposure to sun, snow and ice.

Cabinet sizes

Power range	(200-240 V)	.33–5 HP	7.5–10 HP	15–20 HP	25–30 HP	40–60 HP
(normal overload)	(380-480 V)	0.5–10 HP	15–25 HP	30–40 HP	50–75 HP	100–125 HP
	(525-690 V)	1–10 HP	15–25 HP	30–40 HP	50–60 HP	75–125 HP
Enclosure name		A5	B1	B2	C1	C2†
Height		16.5	18.9	25.6	26.8	30.3
Width		9.5	9.5	9.5	12.1	14.6
Depth		7.9	10.3	10.3	12.2	13.2

†Planned



Stainless steel back plate

For panel or wall mounting, a stainless steel back plate is available to direct the air from the fan through the rear heatsink.



Watertight USB plug

A USB plug can be mounted in the bottom of the enclosure, allowing the drive to stay closed while making setup or programming changes using MCT 10 Setup software.

PC software tools

- **MCT 10**—ideal for starting up and servicing the drive
- **MCT 31**—harmonics calculations tool

North America Motion Controls

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Danfoss Water & Wastewater

Division of Danfoss Inc.
8800 W. Bradley Rd.
Milwaukee, WI 53224, USA
Phone: 1.800.621.8806
1.414.335.8800
Fax: 1.414.355.6117

Mains supply (L1, L2, L3)	
Supply voltage	200–240 V ±10%, 380–480 V ±10%, 525–690 V ±10%
Supply frequency	50/60 Hz
Displacement Power Factor (cos φ) near unity	(> 0.98)
Switching on input supply L1, L2, L3	1–2 times/min.
Output data (U, V, W)	
Output voltage	0–100% of supply
Switching on output	Unlimited
Ramp times	1–3600 sec.
Closed loop	0–132 Hz
Digital inputs/outputs	
Programmable digital inputs (standard)	6 (two can be used as digital outputs)
General purpose I/O card (option)	Additional 3 digital inputs, 2 digital outputs
Logic	PNP or NPN
Voltage level	0–24 VDC
Analog inputs	
Analog inputs (standard)	2
General purpose I/O card (option)	2 additional analog inputs
Advanced analog I/O card (option)*	3 additional analog inputs
Modes	Voltage or current
Voltage level	-10 to +10 V (scaleable)
Current level	0/4 to 20 mA (scaleable)
Pulse inputs	
Programmable pulse inputs (standard)	2 (two of the digital inputs can be used as pulse inputs)
Voltage level	0–24V DC (PNP positive logic)
Pulse input accuracy	(0.1–110 kHz)
Analog outputs	
Programmable analog outputs (standard)	1
General purpose I/O card (option)	1 additional analog current output
Advanced analog I/O card (option)*	3 additional analog outputs
Current range at analog output	0/4–20 mA
Relay outputs	
Programmable relay outputs (standard)	2 (240 VAC, 2 A and 400 VAC, 2 A)
Relay card (option)	3 additional dry contact relays (240 VAC, Form C)
Voltage level	0–24V DC (PNP positive logic)
Pulse input accuracy	(0.1–110 kHz)
External DC supply	
External 24V DC supply card (option)	Provides backup power for control and option cards
Fieldbus communication	
FC Protocol and Modbus RTU built in (LonWorks, DeviceNet, Profibus modules optional)	
Ambient Temperature	
50° C	

* Advanced analog I/O option card also provides 24V DC backup power for the VLT® AQUA Drive's real-time clock.