IP 66/Type 4x enclosed VLT® drives up to 90 kW

IP 66/Type 4x enclosed VLT® frequency converters cover the range from 0.25 to 90 kW, allowing for mounting near the motor in harsh environments.



VLT® AutomationDrive, VLT® HVAC Drive and VLT® AQUA Drive come in IP66/Type 4x versions covering 0.25 to 90 kW (normal overload).

IP 66/Type 4x drives are suitable for installation in wash-down areas in food & beverage plants, as well as outdoor in wastewater plants or on rooftop airhandling units. The drives are built to withstand harsh cleaning agents and corrosive air.

IP 66/Type 4x drives can be installed directly at the processing equipment without the need for protective cover.

All cast aluminium parts are powder coated with a strong epoxy coating.

The corrosion resistance has been successfully tested with commonly used cleaning detergents. Protection against corrosive gasses complies with to IEC 60721-3-3 level 3C3.

Power range

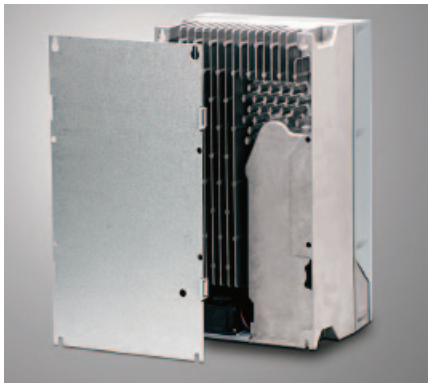
3 x 200 – 240 V:..... 0.25 – 45 kW
3 x 380 – 600 V:..... 0.37 – 90 kW
With 110% overload torque (normal overload)
3 x 380 – 600 V:..... 0.37 – 75 kW
With 160/150 % overload torque (High overload)

Perfect

match for:

- Installation in wash-down areas
- Pump stations
- Rooftop condenser fans (if protected against icing)

Features	Benefits
All cast aluminium parts are powder coated with a strong epoxy coating	– Excellent protection against corrosion connected with aggressive cleaning agents used in the food and beverage industry – No need for expensive cover or IP66/Type 4x cabinet in stainless steel
All screws are stainless	Less maintenance
Fan designed to withstand corrosion	Reliable operation
– Can be installed near the motor – Built in EMC filter	– Facilitate modular plant design – Short motor cables
Reliable	**Maximum up-time**
Robust single enclosure	Maintenance free
Unique cooling concept with no ambient air flow over electronics	Problem-free operation in harsh environments
Max. ambient temperature 50° C without derating	No external cooling or oversizing necessary
User friendly	**Save commissioning and operating cost**
Easy installation	– Reduced assembly time – Less installation cost
Watertight USB plug can be mounted in the bottom	Set-up via VLT® Setup Software MCT 10 possible without opening the drive



Stainless steel back plate

For open mounting – like on a frame – a stainless steel back plate is available to guide the air from the fan through the rear heatsink.



Watertight USB plug

A watertight USB plug is available for mounting in a gland hole in the bottom of the drive. With this plug it is possible to commission the drive via the VLT® Set-up Software MCT 10 without opening the drive

PC software tools

MCT 10

- Ideal for commissioning and servicing the drive

MCT 31

- Harmonics calculations tool

Free download from
http://Drives.Danfoss.com

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

Specifications

Mains supply (L1, L2, L3)	
Supply voltage	200-240 V ±10%, 380-500 V ±10%, 525-600 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	
Programmable digital inputs	6*
Logic	PNP or NPN
Voltage level	0 – 24 VDC
** Two of the inputs can be used as digital outputs.*	
Analogue reference inputs	
Analogue inputs	2
Modes	Voltage or current
Voltage level	–10 to +10V (scaleable)
Current level	0/4 to 20 mA (scaleable)
Pulse inputs	
Programmable pulse inputs	2
Voltage level	0–24 VDC (PNP positive logic)
Pulse input accuracy	(0.1–110 kHz)
** Two of the digital inputs can be used for pulse inputs.*	
Analogue output	
Programmable analogue outputs	1
Current range at analogue output	0/4 –20 mA
Relay outputs	
Programmable relay outputs	2 (240 VAC, 2 A and 400VAC, 2 A)
Approvals	
Norske Veritas, CCI	
Fieldbus communication	
FC Protocol, N2 Metasys, FLN Apogee, Modbus RTU, Modbus TCP, LonWorks, BACnet, DeviceNet, Profibus, CanOpen, Ethernet and Profinet (available June 2009)	
Temperature	
Ambient temperature	Up to 55˚C

Cabinet sizes

Power range [kW] (200–240 V) (HO/NO) (380–600 V)	0.25–2.2 0.37–4.0	0.25–3.7 0.37–7.5	5.5–7.5/11 11–15/18	11/15 18/22–22/30	15/18–22/30 30/37–45/55	30/37–37/45 55/75–75/90
Enclosure name	**A4**	**A5**	**B1**	**B2**	**C1**	**C2**
Height	390	420	481	651	680	770
Width	200	242	242	242	308	370
Depth	175	200	260	260	310	335

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