

# IP66/NEMA Type 4x enclosed VLT® drives up to 90 kW



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

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

IP66/NEMA Type 4x drives are suitable for installation in wash-down areas in food & beverage plants and are built to withstand the harsh cleaning agents used in the industry.

IP66/NEMA 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 detergents commonly used in the industry.

### The perfect solution for:

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

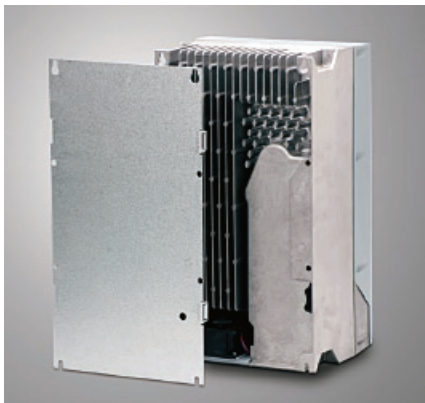
### Power range

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)*

Features	Benefits
<ul style="list-style-type: none"> <li>• All cast aluminium parts are powder coated with a strong epoxy coating</li> </ul>	<ul style="list-style-type: none"> <li>• Excellent protection against corrosion connected with aggressive cleaning agents used in the food and beverage industry</li> <li>• No need for expensive cover or IP 66 cabinet in stainless steel</li> </ul>
<ul style="list-style-type: none"> <li>• All screws are stainless</li> </ul>	<ul style="list-style-type: none"> <li>• Less maintenance</li> </ul>
<ul style="list-style-type: none"> <li>• Fan designed to withstand corrosion</li> </ul>	<ul style="list-style-type: none"> <li>• Reliable operation</li> </ul>
<ul style="list-style-type: none"> <li>• Can be installed near the motor</li> <li>• Built in EMC filter</li> </ul>	<ul style="list-style-type: none"> <li>• Facilitate modular plant design</li> <li>• Short motor cables/no EMC problems</li> </ul>
Reliable	Maximum up-time
<ul style="list-style-type: none"> <li>• Robust single enclosure</li> </ul>	<ul style="list-style-type: none"> <li>• Maintenance free</li> </ul>
<ul style="list-style-type: none"> <li>• Unique cooling concept with no ambient air flow over electronics</li> </ul>	<ul style="list-style-type: none"> <li>• Problem-free operation in harsh environments</li> </ul>
<ul style="list-style-type: none"> <li>• Max. ambient temperature 50° C without derating</li> </ul>	<ul style="list-style-type: none"> <li>• No external cooling or oversizing necessary</li> </ul>
User friendly	Save commissioning and operating cost
<ul style="list-style-type: none"> <li>• Easy installation</li> </ul>	<ul style="list-style-type: none"> <li>• Reduced assembly time</li> <li>• Less installation cost</li> </ul>
<ul style="list-style-type: none"> <li>• Watertight USB plug can be mounted in the bottom</li> </ul>	<ul style="list-style-type: none"> <li>• Set-up via VLT® Setup Software MCT 10 possible without opening the drive</li> </ul>



### 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

### 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, LonWorks, BACnet, DeviceNet, Profibus, CanOpen, Profinet and Ethernet available	
Temperature	
Ambient temperature	50°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