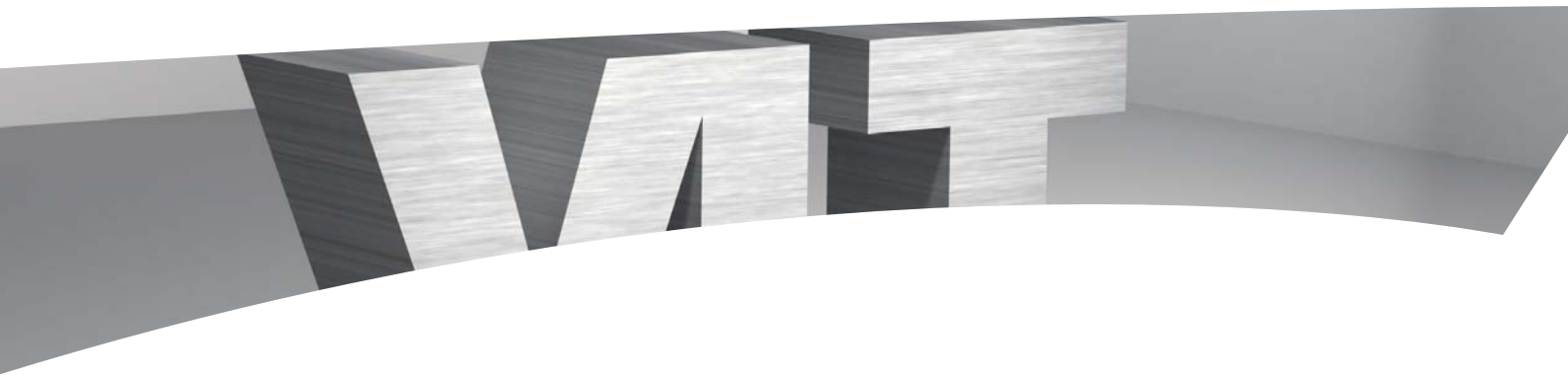

VLT® Automation VT Drive

– For Industrial Variable Torque Applications

Danfoss Drives' unsurpassed experience in advanced drive technologies makes the VLT Automation VT Drive the perfect match for Industrial VT Applications.

The perfect match for:

- Industrial Fans
- Industrial Pumps
- Industrial Blowers
- Industrial Compressors

Power range:

1 x 240 VAC: .....1-1/2 to 30 HP
1 x 480 VAC: ..... 10 to 50 HP
3 x 240 VAC: .....1/3 to 60 HP
3 x 480 VAC: .....1/2 to 1350 HP
3 x 575 VAC: ..... 1 to 125 HP
3 x 690 VAC: ..... 11 to 1400 HP

Available in a wide range of industrial enclosures from protected chassis to IP 66 (Nema 4 X Indoor).

Features	Benefits
Dedicated features	
• Modular Product concept with a wide variety of options	• Lower initial investment - maximum flexibility field upgradeable possible
• Dedicated pump functions.	• Simplifies programming and commssioning
• Smart Logic Controller	• Eliminates ancillary equipment reducing installed cost
• Pump Cascade Controller	• Lower equipment costs
• Optional Safe Stop	• Lower installed costs safe operation
• Integrated DC Link	• Eliminates external filter requirements
• Intelligent Heat Management	• Removes excessive heat promotes longer life
Energy saving	**– Less operation cost**
• VLT® efficiency	• Saves energy
• Automatic Energy Optimisation	• Reduces energy consumption 3% to 8%
• Master/follower control	• Saves up to 15% energy
• Auto Tuning of Staging Speed	• Smoothes staging reductin wear and saves energy
• Sleep Mode function	• Saves energy
Reliable	**– Maximum uptime**
• NEMA 1, NEMA 12, and NEMA 4X Indoor enclosures	• Suitable for harsh wash down environments without the need for customized panels
• Ambient temperature rating of 50° C without derating	• Eliminates the need for expensive cooling solutions
• Main disconnects and integral fusing	• Reduces installed cost by eliminating panel space
• Optional, built-in RFI suppression	• Eliminates the need for external filtering devices
• One Wire Safe Stop	• Safe operation less wiring
• Password protection	• Reduce operator error
User-friendly	**– Save initial and operation cost**
• Plug and Play Design	• Easy upgrade and changeovers
• Intuitive user interface	• Time saved
• Multiple language support	• Displays all info in native language
• Modular design	• Enables fast installation of options
• Auto tuning of PI-controllers	• Eliminates errors

VLT®
THE REAL DRIVE

Options

The following options are available:

Fieldbus Options

- MCA 101 Profibus
- MCA 104 DeviceNet
- MCA 121 Ethernet IP
- MCA 122 Modbus TCP

I/O and feedback options

- MCA 101 General Purpose I/O
- MCB 105 Relay
- MCB 107 24 V input option for control voltage
- MCB 109 Analog I/O with battery backup
- Extended Cascade Controller

Safety options

- Safe Stop Function EN 954-1 Cat 3
- Brake IGBT

Power options

- Brake resistors
- Sine-Wave Filters
- dU/dt Filters
- Harmonic Filters (AHF)
- Integrated Low Harmonic Filters

Other accessories

- IP 21/NEMA 1 Kits (convert IP 20 enclosures to IP 21)
- Sub-D9 Connector
- Decoupling plate for fieldbus cables
- USB connection cable to PC
- Panel through option

Specifications

Mains supply (L1, L2, L3)	
Supply voltage	200 – 240 V ±10%, 380 – 480 V ±10%, 525 – 600 V ±10%, 525 – 690 V ±10%
Supply frequency	50/60 Hz
Displacement Power Factor (cos φ) near unity	(> 0.98)
True power factor (λ)	≥ 0.9
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

Note: VLT® Automation VT Drive can provide 110% current for 1 minute. Higher overload rating is achieved by oversizing the

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.*

Analog inputs	
Number of analog inputs	2
Modes	Voltage or current
Voltage level	-10 to +10 V (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.*

Analog output	
Programmable analog outputs	1
Current range at analog output	0/4 – 20 mA

Relay outputs	
Programmable relay outputs	2 (240 VAC, 2 A and 400 VAC, 2 A)

Fieldbus Communication
FC Protocol and Modbus RTU built-in (Optional: Modbus TCP, Profibus, DeviceNet, Ethernet IP)

Ambient temperature
Up to 55° C (50°C without derating)

VLT Automation VT Drive

MCT 10: Ideal for commissioning and servicing the drive including guided programming of cascade controller, real time clock, and smart logic controller.
VLT® Energy Box: Comprehensive energy tool calculates the drives payback time.
MCT 31: Harmonics calculations tool.

Dimensions [in]

	A1	A2	A3	A4	A5	B1	B2	B3	B4	C1	C2	C3	C4	D1	D2	D3	D4	E1	E2	F1	F2	F3	F4
H	7.9	10.6		15.7	16.5	18.9	25.6	15.7	20.5	26.8	30.3	21.7	26.0	47.6	62.6	41.2	52.2	78.7	60.9	86.8			
W	3.0	3.5	5.1	7.9	9.5			6.5	9.1	12.1	14.6	12.1	14.6	16.5		16.1		23.6	23.0	55.1	70.9	78.7	94.5
D	8.1	8.1		7.0	7.7	10.2		9.8	9.5	12.2	13.2	13.2		15.0		14.8		19.4	19.6	23.9			
H+		14.8		16.5				18.7	26.4			29.7	37.4										
W+		3.5	5.1	7.9				6.5	10.0			13.0	15.4										

H and W dimensions are with back-plate. H+ and W+ are with IP upgrade kit. D dimensions are without option A/B.

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