

ENGINEERING
TOMORROW

Danfoss

VLT® 2800

The general purpose drive



www.danfoss.com/drives

VLT®
THE REAL DRIVE





The pace-setter among general purpose drives

The VLT® 2800 series are among the smallest multi-purpose drives in the market, designed for space saving side-by-side mounting. Choose to have it with Motor Coils, RFI filter, LC+1B filters e.g.

The VLT® 2800 is designed as an advanced and versatile drive, yet easy to operate. Quick menu includes all basic parameters needed for commissioning the drive, offering fast installation and service.

An excellent price/performance have made the VLT® 2800 a pace-setter within general purpose drives.

In virtually any application, the VLT® 2800 has proved trustworthy, robust, easy to operate and commission.

A favourable price combined with reliability and a number of useful functionalities have made the VLT® 2800 a pace-setter within general purpose drives.

Product safety

- 100% earth fault protection
- Mains transient protection
- Switching on input
- Switching on output
- Galvanic isolation
- Designed according to EN50178

Intelligent

Multiple features makes VLT® 2800 an intelligent part of your system.

- Bus communication
- Precise stop
- Pump functions
- Wobble functions

Automatic Motor Tuning (AMT)

Measures the motor parameters to ensure optimal match between drive and motor thus increasing performance of your drive Application and saving commissioning time

Trustworthy

One of the best selling drives in this power size:

- Real side by side mounting
- Easy to operate
- Start-up without major adjustments with "Quick Menu"
- Compact

Bus communications

- DeviceNet
- Profibus DP
- ModBus RTU
- Metasys N2

- Robust – die-cast chassis, good heat dissipation,
- Protected against main transients
- Metasys for HVAC
- Hot pluggable display incl. copy function as option
- MCT-10
- Precise stop
- 24 hour support, local service
- DC-coil built in for harmonics
- Cold plate technology

Reliable

EMC

The VLT® 2800 complies with the EMC norm EN 55011 Class 1A and 1B (with RFI filter).

Short circuit resistant

The VLT® 2800 will survive even short circuit of motor cables and short circuit of signal cables.

No derating at 45°

The VLT® 2800 will operate normally (no need for derating) in environment temperatures up to 45° C^{note 1}.

Note 1: 24 hour average max. 40° C.

The VLT® Motion Control Tool MCT 10 Setup Software exploits the full functionality of your PC, providing a general overview and control of even large systems.





Cold plate technology
Die-casted chassis

Various coded plugs

Hot pluggable display incl copy function.
SUB-D9 plug

Quick Menu Button

Dry run detection

New features improve pump operation significantly and result in improved energy savings as well as pump protection in case of dry run situations.

This new feature will protect the pump in case the well runs dry, by shutting down before damaging the pump.

Important features are:

- Automatic or manual restart after shut down
- Programmable restart delay up to one hour.
- Shut down at low or no flow
- Operates in either open or closed loop

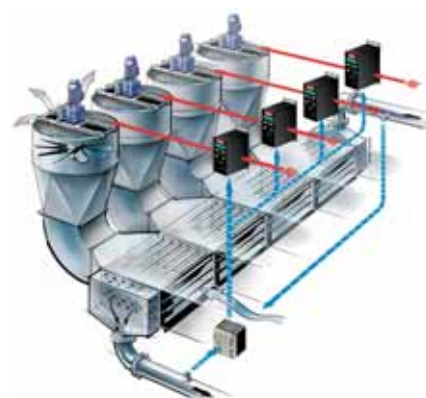
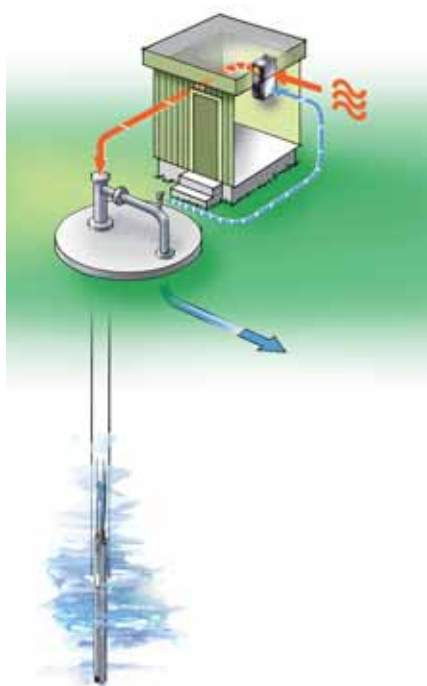
User friendly

Entering motor data in the quick menu via the Local Control Panel is all you need to be up and running.

WALIER D-73734 ESSLINGEN CE			
3-MOTOR NR.	1778174	-04	1999
TYM	BG40-11/D09LA4-K311		
		1,5	kw s
n.	43	/min	400
n.	1400	/min	50
cos φ	0,83		3,6
			A
Q	1,1L		
IMB	B	IM B3/II/A	EN 60 024

Flexible mounting

VLT® 2800 is designed for flexible mounting. A ventilated heatsink allows for side by side mounting and even horizontal mounting.





Real side-by-side mounting



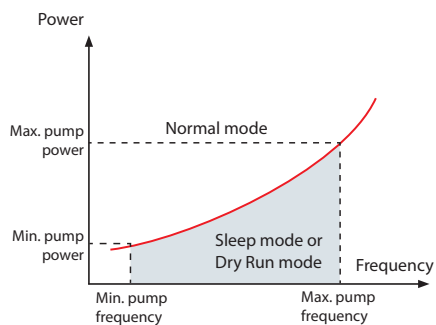
Integrated heat control in IGBT



DC-coil built in

Enhanced sleep mode

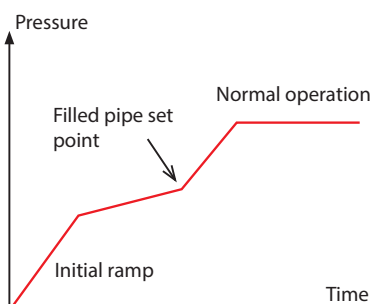
When using pumps with flat pump curves or when the suction pressure varies, this feature provides excellent control for shutting down the pump at low flow, thus saving energy.



Important features are:

- Automatic restart after shut down based on pressure
- Boost function to increase pressure for a period after shut down
- Operates in closed loop

Pipe fill mode



Pipe Fill Mode to prevent water hammering

Single-phase

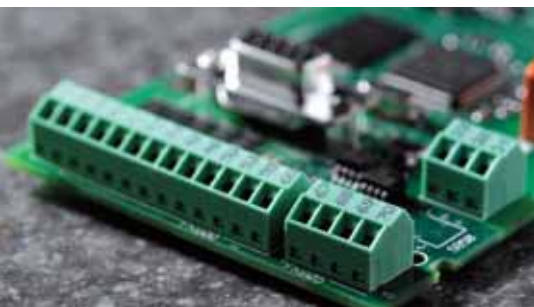
VLT® 2800 provides three-phase power from a single-phase line outlet.

When a VLT® 2800 single-phase is used, it's just like getting three-phase power from a standard power socket – for pumps, fans, blowers etc. Now up to 3.7 kW (5 HP).

Applications operated by VLT® 2800

- Pump
- Fan
- Conveyor
- Extruder
- Mixer
- Wrapper
- Gantry Crane (small loads)
- Cutting
- Rotor spinning
- Winder
- Wobble





Galvanic insulated PELV terminals



Robust technology



Built in relay

Built in wobble function

The wobble function is used for the traverse function on a textile winder. VLT 2800 operates a motor, which turns a grooved drum. During winding, the grooved drum places the thread in the correct position on the bobbin, in a diamond pattern.

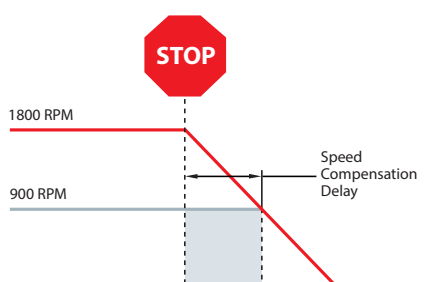
If the traverse (grooved) drum was operating at a constant speed, the thread would tend to cross at the same position for each pass, which would give a very loose and less compact winding on the bobbin.



Precise stop

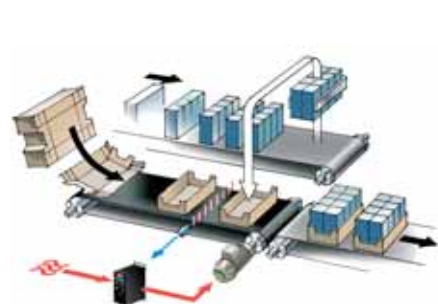
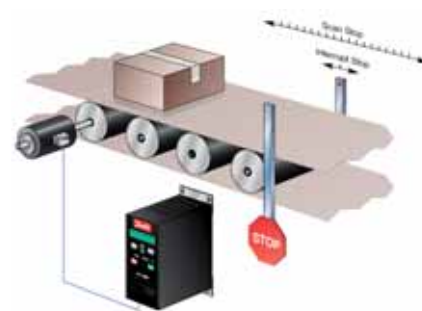
Conventional units rely on a periodic scan of the digital inputs, which initiates the Stop command. This can result in uneven delays while the drive scans all the other parts of the program taking up to perhaps 10 ms. This is a disadvantage in typical packaging applications.

For a conveyor operating at a speed of 1 metre/second, that gives a deviation of ± 10 mm. In the VLT® 2800, the Stop command is an interrupt rather than part of the scan. The repeating precision is improved. The deviation is only ± 1 mm in the example used above.



Counter Precise Stop

After the start signal is received, the VLT® 2800 operates until the user programmed number of pulses is seen at terminal 33. A Stop signal is generated and the normal stop ramp is used. The counter stop signal is then re-armed and ready again for a new start command. The pulse input is designed to handle 24 V push-pull pulses from an encoder with up to 1024 ppr. The maximum pulse rate is 67,600 Hz.



Specifications

Mains	Type	Typical shaft output				Input current	
		$P_{N,M}$ [kW]	$P_{N,M}$ [HP]	I_{INV} [A]	I_{MAX} (60s)	$I_{L,N}$ [A]	$I_{L,MAX}$ (60s)
1 x 220-240 V	2803	0.37	0.5	2.2	3.5	5.9	9.4
	2805	0.55	0.75	3.2	5.1	8.3	13.3
	2807	0.75	0.75	4.2	6.7	10.6	16.7
	2811	1.1	1.5	6.0	9.6	14.5	23.2
	2815	1.5	2.0	6.8	10.8	15.2	24.3
	2822	2.2	3.0	9.6	10.6*	22.0	24.3
	2840	3.7	5.0	16.0	17.6*	31.0	34.5
3 x 200-240 V	2803	0.37	0.5	2.2	3.5	2.9	4.6
	2805	0.55	0.75	3.2	5.1	4.0	6.4
	2807	0.75	1.0	4.2	6.7	5.1	8.2
	2811	1.1	1.5	6.0	9.6	7.0	11.2
	2815	1.5	2.0	6.8	10.8	7.6	12.2
	2822	2.2	3.0	9.6	15.3	8.8	14.1
	2840	3.7	5.0	16.0	25.6	14.7	23.5
3 x 380-480 V	2805	0.55	0.75	1.7	2.7	1.6	2.6
	2807	0.75	1.0	2.1	3.3	1.9	3.0
	2811	1.1	1.5	3.0	4.8	2.6	4.2
	2815	1.5	2.0	3.7	5.9	3.2	5.1
	2822	2.2	3.0	5.2	8.3	4.7	7.5
	2830	3.0	4.0	7.0	11.2	6.1	9.8
	2840	4.0	5.0	9.1	14.5	8.1	13.0
	2855	5.5	7.5	12	19.2	10.6	17.0
	2875	7.5	10.0	16	25.6	14.9	23.8
	2880	11.0	15.0	24	38.4	24.0	38.4
	2881	15.0	20.0	32	51.2	32.0	51.2
2882	18.5	25.0	37.5	60.0	37.5	60	

* only 110% torque available

Mechanical dimensions [mm]

Height

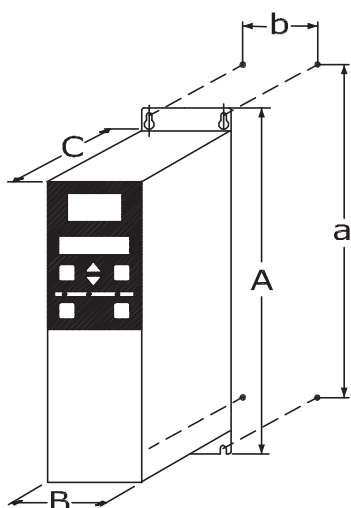
A:	200	267.5	267.5	505
a:	191	257	257	490

Width

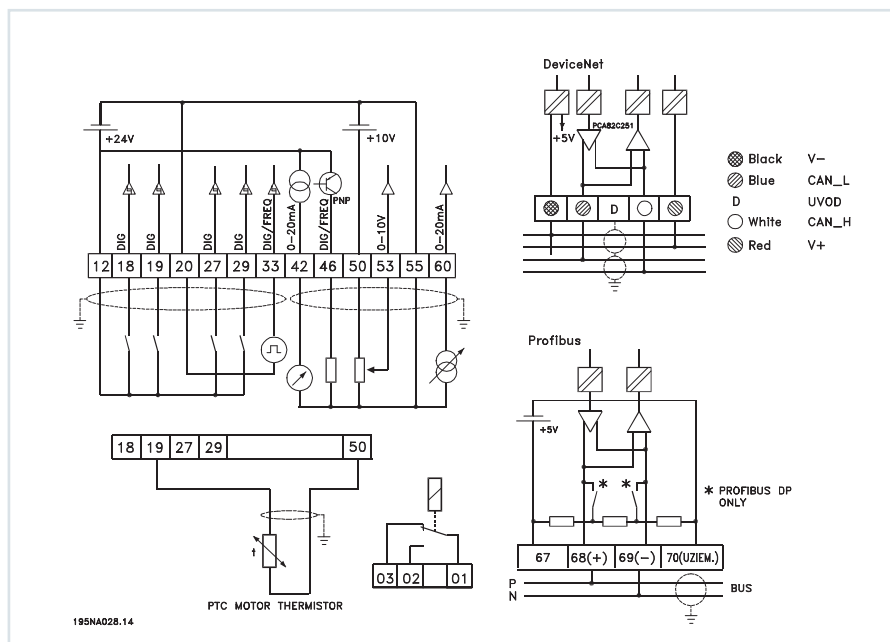
B:	75	90	140	200
b:	60	70	120	120

Depth

C:	168	168	168	244
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In- and output connections



The vision behind VLT®

Danfoss is a market leader in the development and manufacture of frequency converters – serving new customers daily.

Environmental responsibility

Danfoss VLT® products – considering people and the environment

All production sites for VLT® frequency converters certified to ISO 14001 and ISO 9001.

Danfoss' activities take employees, jobs and the environment into consideration. Production processes produce minimum noise, emissions and other environmental impacts. In addition, Danfoss seeks to protect the environment when disposing of waste and end-of-life products.

UN Global Compact

Danfoss has confirmed its commitment to social responsibility by signing the UN Global Compact. Our subsidiaries are aware of their responsibility with respect to local conditions and practices.

Energy savings through VLT®

The energy saved in the annual production of VLT® frequency converters is as much as that generated by a large power station each year. Improved process control optimises product quality and reduces waste and wear on the production lines.



Dedicated to drives

Danfoss VLT Drives is a global leader in the area of drive engineering and manufacture. In 1968 Danfoss introduced the world's first mass-produced frequency converters for three-phase motors, and since then has specialised in drive solutions. Today, VLT® stands for reliable technology, innovation and expertise for drive solutions within many different branches of industry.

Innovative and intelligent frequency converters

Danfoss VLT Drives, headquartered in Graasten, Denmark, employs 2500 staff for the development, production, consulting, sales and maintenance of Danfoss drive solutions in over 100 countries.

The modular frequency converters are manufactured according to customer requirements and supplied fully assembled. This ensures that every VLT® is a state-of-the-art device when delivered.

Trust the world experts

To ensure the consistent high standard of quality of our products, Danfoss VLT Drives controls and monitors every important product element. The group has its own research and software development department as well as modern production facilities for hardware, power modules, printed circuit boards and accessories.

VLT® frequency converters are used in diverse applications worldwide. The experts of Danfoss VLT Drives support customers with extensive specialised knowledge relating to specific applications. Comprehensive advice and a fast service ensure an optimal solution with high reliability and availability.

A project is only complete when our customers are fully satisfied with the drive solution.

