

MAKING MODERN LIVING POSSIBLE



The VLT[®] 2800

The general purpose drive



www.danfossdrives.com

VLT[®]
THE REAL DRIVE

The pacesetter among general purpose drives



Manufactured to the highest quality standards
The VLT® 2800 Drive is a UL-listed product made in ISO 9001-2000 and ISO 14000 certified facilities.

Compact general purpose drive

The VLT® 2800 Drive is a general purpose drive designed to control AC motors through 25 HP.



Exceptional performance has made the VLT® 2800 the one to beat among general purpose drives. Over the years, the VLT 2800 has proven to be dependable, versatile and easy to operate and commission. Packed with functionality at an attractive price, the VLT 2800 can be a reliable asset in many applications.

Value-packed

Millions of units in service worldwide:

- Compact
- No side clearance required
- Cold plate cooling technology
- Built-in DC-link reactor for harmonics reduction

Easy to operate

- Quick Menu includes parameters needed for quick startup
- Hot-pluggable display with copy function available as option
- MCT 10 setup software can greatly simplify installation and startup



Intelligent

- Bus communication options include DeviceNet, Profibus DP, Modbus RTU and Metasys N2
- Precise stop
- Pump functions
- Wobble functions

Rugged

- Robust, with die-cast chassis and efficient heat dissipation
- Protected against line transients
- 24-hour support, local service
- 100% ground fault protection
- Protected from switching on input and output
- Galvanic isolation

MCT 10 setup software

Offering advanced programming functionality for all Danfoss drive products, MCT 10 greatly reduces programming and commissioning times. Drives are managed in a standard folder-based user interface that's familiar and easy to understand. Parameter settings for each drive are contained in a single file, simplifying setup and the duplication of parameter sets between drives.

Reliable

Short circuit protected

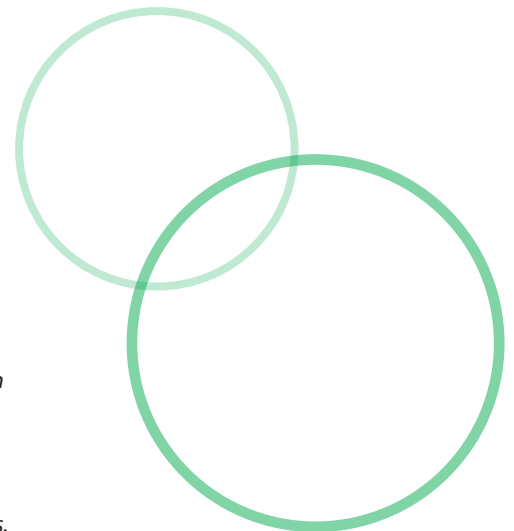
The VLT 2800 will survive even short circuit of motor cables and short circuit of signal cables.

No derating at 104° F

The VLT 2800 will operate at full load and full speed in temperatures up to 104° F (40° C).

EMC

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



Superior energy savings



Hot-pluggable and remote mountable control panel



Plug-in motor lead terminals for easy installation

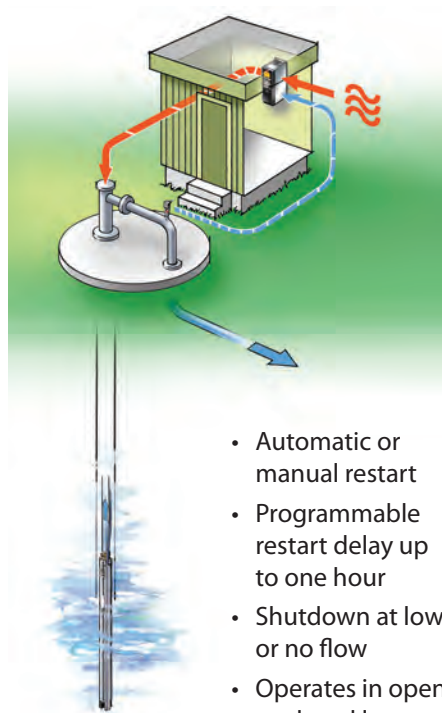


True side-by-side mounting

Dry pump detection

The dry pump detection feature improves pump operation significantly, offering superior energy savings and greater pump protection.

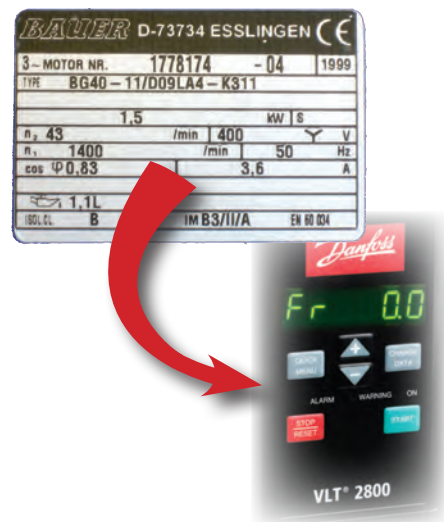
VLT® 2800 Series drives can detect when the pump has run dry and shut it down before damage can occur.



- Automatic or manual restart
- Programmable restart delay up to one hour
- Shutdown at low or no flow
- Operates in open or closed loop

User friendly

Entering motor data in the Quick Menu via the control panel is often all it takes to get up and running.



Flexible mounting

The VLT 2800 is designed for flexible mounting. A ventilated heatsink allows drive units to be mounted side-by-side or even horizontally.



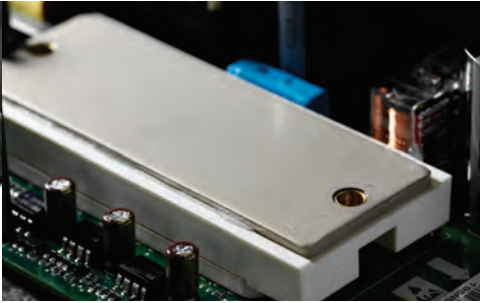
Applications operated by VLT 2800 Series drives

- Pumps
- Fans
- Conveyors
- Extruders
- Mixers
- Wrappers
- Cutting
- Rotor spinning
- Winders
- Wobblers

Greater pump protection



Die-cast chassis with cold plate technology



Integrated heat control in IGBT

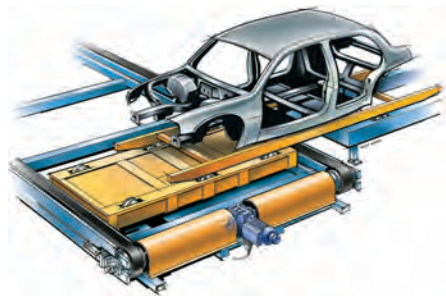


Built-in DC-link reactor reduces harmonics distortion

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.

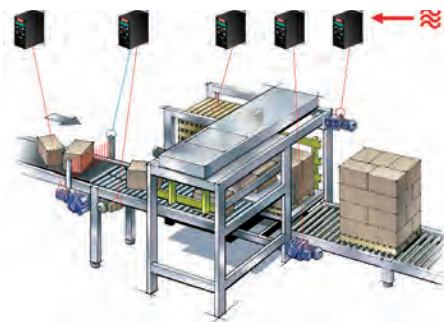
- Automatic restart after shutdown based on pressure
- Boost function increases pressure prior to shutdown
- Operates in closed loop



Pipe fill mode

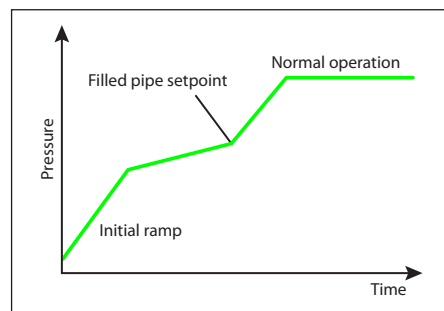
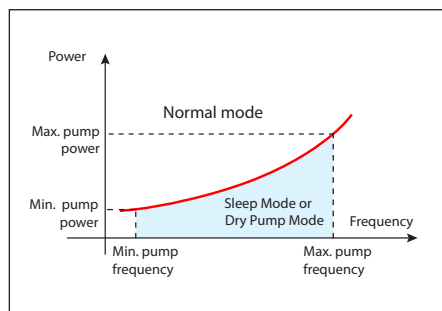
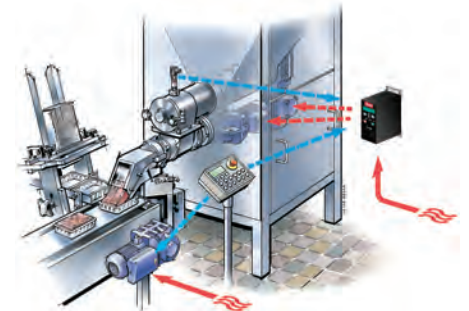
Provides controlled filling of pipes, preventing water hammer, burst water pipes and damage to sprinkler heads.

Pipe fill mode is particularly valuable in applications that are vulnerable to these types of damage, such as irrigation or water supply systems. Once up to speed, the drive's PID loop utilizes an input signal to match the desired line pressure in the system.

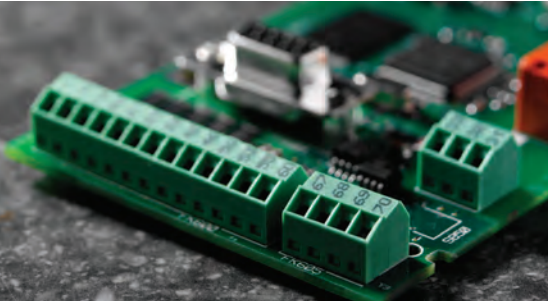


Single-phase line supply

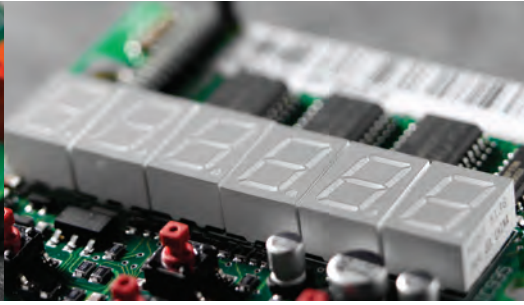
With units up to 5 HP, the single-phase VLT® 2800 Series drive can be wired to plug into a standard 220-240 VAC outlet. These drives can then be connected to three-phase pumps, fans, blowers, and more. It's just like getting three-phase power from a standard 220–240V power socket.



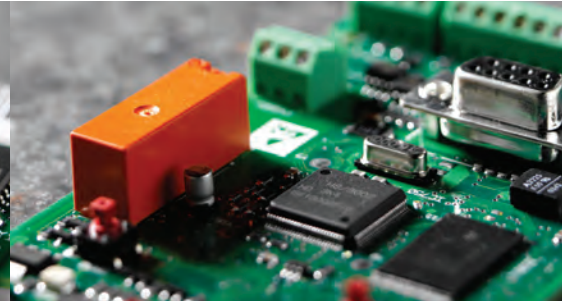
Robust technology



Galvanic insulated control terminals



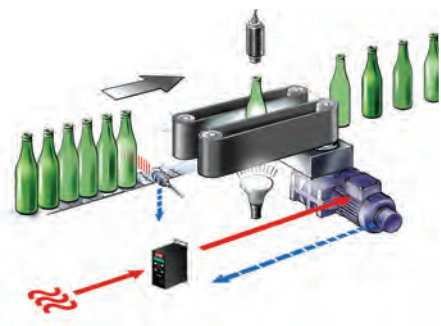
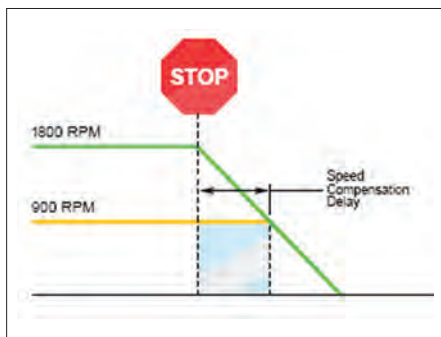
Robust technology



Built-in MOVs to protect against line transients

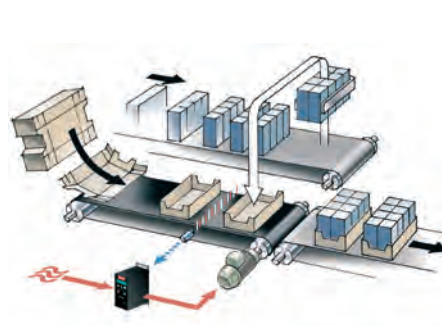
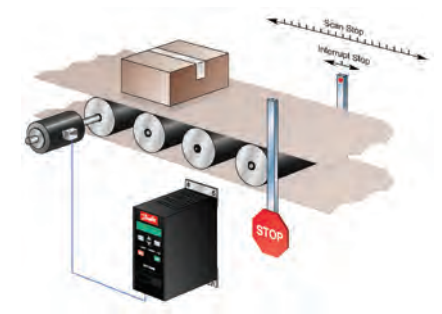
Precise stop

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 of the other parts of the program, taking up to perhaps 10 ms. This is a disadvantage in typical packaging applications. For example, a conveyor operating at a speed of 1 meter per second, would give 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.



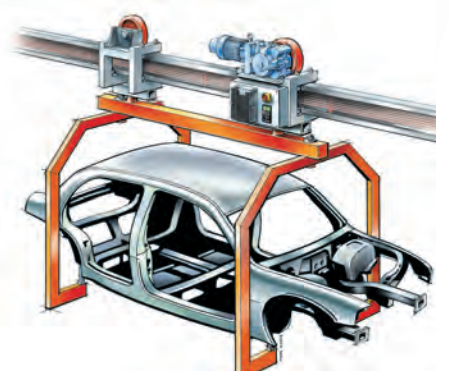
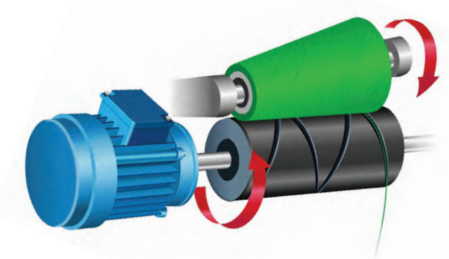
Counter Precise Stop

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 rearmed and ready again for a new start command. The pulse input is designed to handle 24V push-pull pulses from an encoder with up to 1024 ppr. The maximum pulse rate is 67,600 Hz.



Built-in wobble function

The wobble function is used for the traverse function on a textile winder. A VLT 2800 Series drive 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.

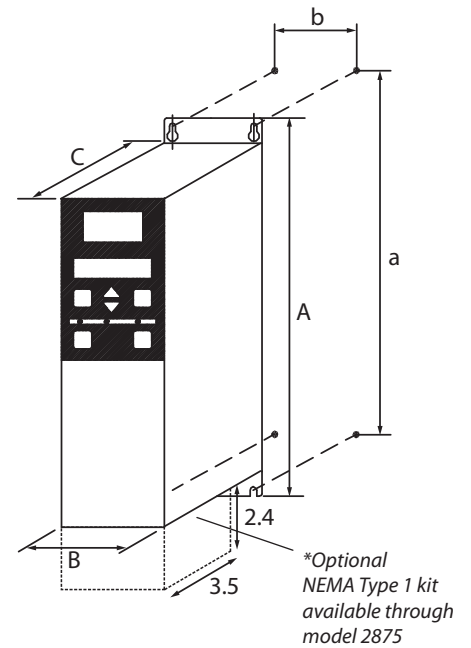


Specifications

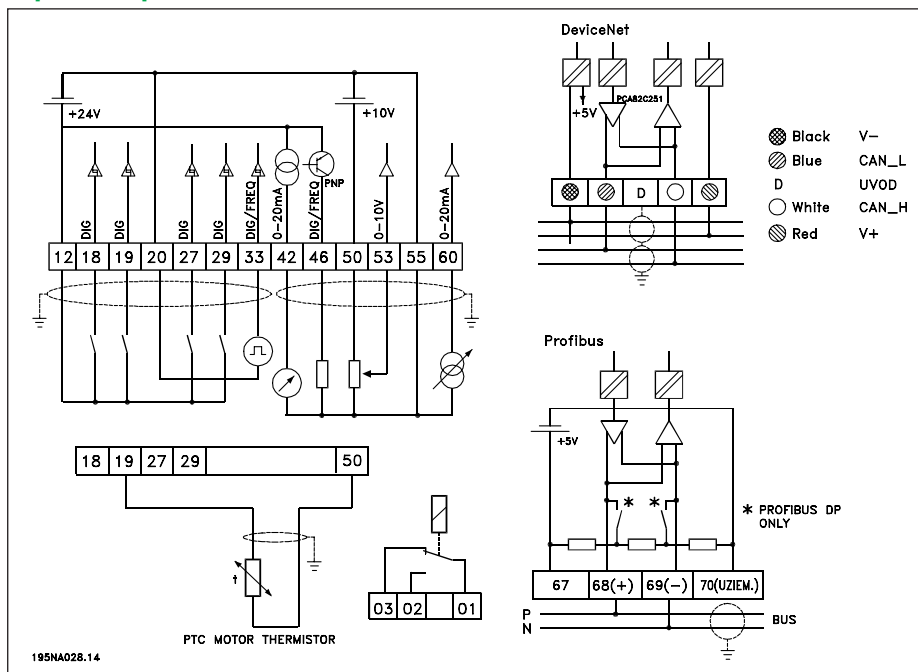
	Typical shaft output		Output current [A]		Input current [A]		
	HP	kW	Intermittent		Continuous	Intermittent (60 sec.)	
			Continuous	(60 sec.)			
1-phase, 220-240V	2803	0.5	0.37	2.2	3.5	5.9	9.4
	2805	0.75	0.55	3.2	5.1	8.3	13.3
	2807	1	0.75	4.2	6.7	10.6	16.7
	2811	1.5	1.1	6.0	9.6	14.5	23.2
	2815	2	1.5	6.8	10.8	15.2	24.3
	2822	3	2.2	9.6	10.6	22.0	24.3
	2840	5	3.7	16.0	17.6	31.0	34.5
3-phase, 200-240V	2803	0.5	0.37	2.2	3.5	2.9	4.6
	2805	0.75	0.55	3.2	5.1	4.0	6.4
	2807	1	0.75	4.2	6.7	5.1	8.2
	2811	1.5	1.1	6.0	9.6	7.0	11.2
	2815	2	1.5	6.8	10.8	7.6	12.2
	2822	3	2.2	9.6	15.3	8.8	14.1
	2840	5	3.7	16.0	25.6	14.7	23.5
3-phase, 380-480V	2805	0.75	0.55	1.7	2.7	1.6	2.6
	2807	1	0.75	2.1	3.3	1.9	3.0
	2811	1.5	1.1	3.0	4.8	2.6	4.2
	2815	2	1.5	3.7	5.9	3.2	5.1
	2822	3	2.2	5.2	8.3	4.7	7.5
	2830	4	3	7.0	11.2	6.1	9.8
	2840	5	4	9.1	14.5	8.1	13.0
	2855	7.5	5.5	12	19.2	10.6	17.0
	2875	10	7.5	16	25.6	14.9	23.8
	2880	15	11	24	38.4	24.0	38.4
	2881	20	15	32	51.2	32.0	51.2
	2882	25	18.5	37.5	60.0	37.5	60

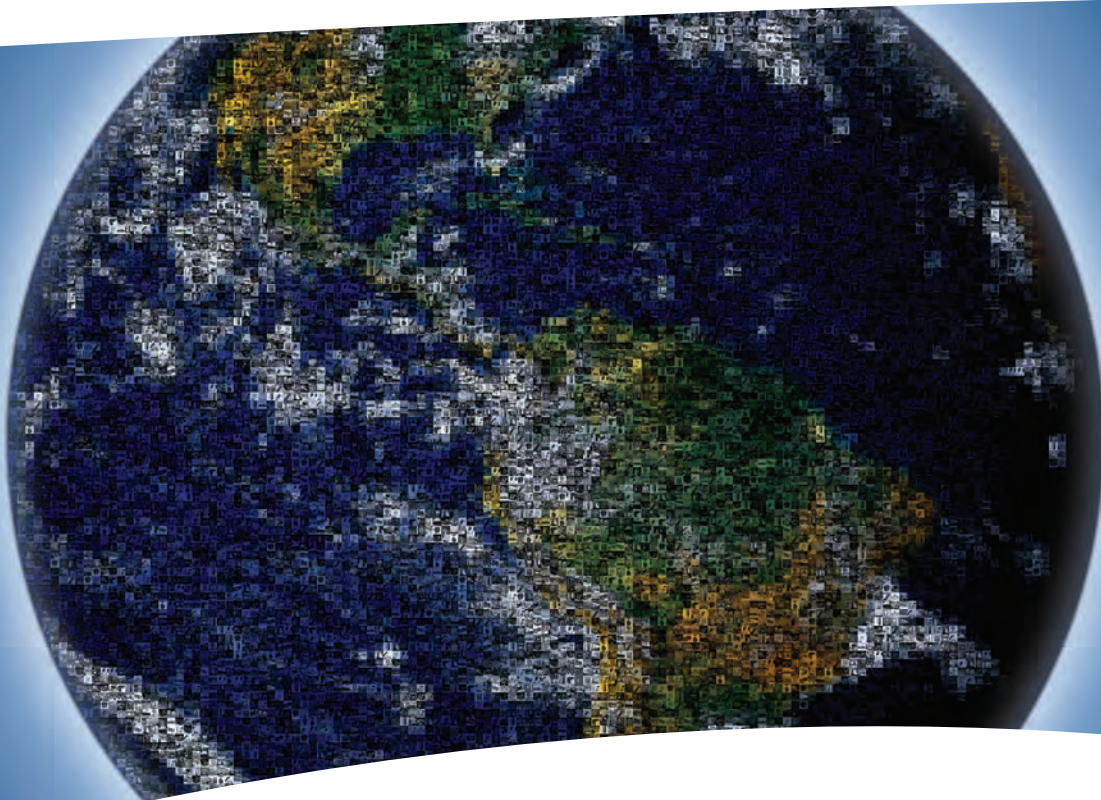
Dimensions [in]

	IP20/Protected Chassis*			IP21/NEMA Type 1
A:	7.9	10.5	10.5	19.9
a:	7.5	10.1	10.1	19.3
B:	3.0	3.5	5.5	7.9
b:	2.4	2.8	4.7	4.7
C:	6.6	6.6	6.6	9.6



Input/output connections





EnVisioneering

As a world leader in components and solutions, Danfoss meets our customers' challenges through "EnVisioneering." This approach expresses our views on engineering innovation, energy efficiency, environmental responsibility and sustainable business growth that create strong customer partnerships. This vision is realized through a global production, sales, and service network focused on refrigeration, air conditioning, heating and water, and motion control. Through EnVisioneering, Danfoss is Making Modern Living Possible.

Danfoss "EnVisioneering":

- Engineered solutions to improve performance and profitability
- Energy efficiency to meet higher standards and to lower operating costs
- Environmental sustainability to provide a financial and social payback
- Engaged partnerships to foster trust, reliability, and technological superiority

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