



# Next Generation D-Frame VLT® Drive

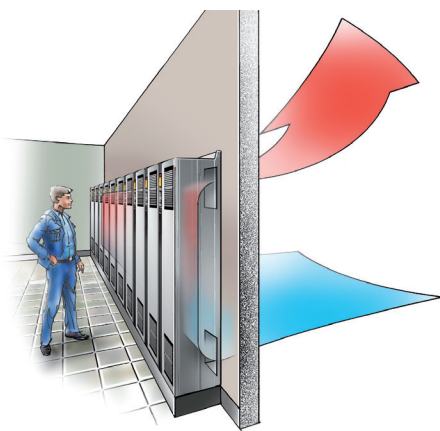
Improved performance in applications between 125-450 HP

Customers increasingly demand high efficiency in drive technology. Investments in improved efficiency quickly pay off, especially at higher power levels. To meet this demand one of the most efficient drives in the industry has been made more efficient.

The size of the new D-Frame has been reduced by up to 68% to take up less space in control rooms and panels. The new IP 20 Chassis version is optimized for panel building, while providing a higher degree of safety for operators.

All of the new D-frame drives continue to use the proven back-channel cooling concept. Back-channel cooling now directs 90% (increased from 85%) of cooling air away from the drive interior and removes 90% of the heat generated by the drive.

The compact, efficient design is the result of innovative thermal management. The new D-frame VLT® requires less panel or wall space than previous models which are already some of the smallest in their class, adding flexibility



Back-channel cooling

while reducing installation costs. The new D-frame is available in the same platforms as Danfoss' renowned VLT® drives.

- FC 302 AutomationDrive for demanding industrial applications
- FC 202 AQUA Drive for use in water and wastewater applications (and other pump applications)
- FC 102 HVAC Drive for application in the HVAC and refrigeration industries

Available in chassis, NEMA 1 and NEMA 12 enclosures, the new drives maintain the same award winning control platform and LCP as existing Danfoss VLT®s.



New D1h

Old D1

*Note: The new D1h Frame VLT® drive takes up significantly less space than the older version.*

Features	Benefits
Reduced size	Reduced in size by up to 68%. The smaller new D-Frame drive uses less panel space or wall space, saving valuable space and money.
Higher Efficiency	Higher efficiency results in lower operating cost, over the life of the frequency converter.
Basic input options <ul style="list-style-type: none"> <li>■ Fuses</li> <li>■ Main disconnect</li> <li>■ Contactor (new)</li> <li>■ Circuit breaker (new)</li> <li>■ Mains disconnect + contactor (new)</li> </ul>	Eliminates the need for a panel when only the basic input options are required, for further cost savings and reduced space requirements.
Standard VLT® control platform and LCP	There are no new controls to learn. The transition from the old drive to the new drive can be made easily.
IP 20 enclosure rating for drives being installed into panels	IP 20 design enhances safety
Optional heat-sink access panel	Enables the heat-sink to be cleaned when installed in harsh environments
Back-channel cooling permits up to 90% of cooling air to be removed from room	Reduces the needed air conditioning for the room, reducing up-front cost and operating expenses
230 V Anti-condensation Heater (new option in a D-frame)	Preventing condensation in the drive reduces the need to heat the control room.



## Power Ratings

	FC 302 High Overload			FC 102/202/322 Normal Overload			Frame	With Brake or Disconnect	With Contactor or Circuit Breaker
	Model	Typical Shaft Output	Output Current (Amps)	Model	Typical Shaft Output	Output Current (Amps)			
HP @ 460 V	FC302N90KT5	125	190	FC102N110T4 FC202N110T4 FC322N110T4	150	190	D1h/D3h	D5h	D6h
	FC302N110T5	150	240	FC102N132T4 FC202N132T4 FC322N110T4	200	240			
	FC302N132T5	200	302	FC102N160T4 FC202N160T4 FC322N110T4	250	302			
	FC302N160T5	250	361	FC102N200T4 FC202N200T4 FC322N110T4	300	361	D2h/D4h	D7h	D8h
	FC302N200T5	300	443	FC102N250T4 FC202N250T4 FC322N110T4	350	443			
	FC302N250T5	350	535	FC102N315T4 FC202N315T4 FC322N110T4	450	535			
kW @ 690 V	FC302N55KT7	55	73	FC102N75KT7 FC202N75KT7 FC322N75KT7	75	86	D1h/D3h	D5h	D6h
	FC302N75KT7	75	86	FC102N90KT7 FC202N90KT7 FC322N75KT7	90	108			
	FC302N90KT7	90	108	FC102N110T7 FC202N110T7 FC322N75KT7	110	131			
	FC302N110T7	110	131	FC102N132T7 FC202N132T7 FC322N75KT7	132	155			
	FC302N132T7	132	155	FC102N160T7 FC202N160T7 FC322N75KT7	160	192	D2h/D4h	D7h	D8h
	FC302N160T7	160	192	FC102N200T7 FC202N200T7 FC322N75KT7	200	242			
	FC302N200T7	200	242	FC102N250T7 FC202N250T7 FC322N75KT7	250	290			
	FC302N250T7	250	290	FC102N315T7 FC202N315T7 FC322N75KT7	315	344			
	FC302N315T7	315	344	FC102N400T7 FC202N400T7 FC322N75KT7	400	400			

## Cabinet Sizes

Enclosure	NEMA 1/NEMA 12		Chassis					
	D1h	D2h	NEMA 1/NEMA 12 (IP21 and IP54)					
Frame	D1h	D2h	D3h	D4h	D5h	D6h	D7h	D8h
Width inch (mm)	12.8 (325)	16.5 (420)	9.8 (250)	13.8 (350)	13 (325)	13 (325)	17 (420)	17 (420)
Height inch (mm)	35.5 (901)	43.6 (1107)	35.8 (909)	44.2 (1122)	52 (1324)	66 (1665)	90 (2284)	88 (2236)
Depth inch (inch)	14.9 (378)	14.9 (378)	14.8 (375)	14.8 (375)	15 (381)	15 (381)	15 (384)	16 (402)

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