



VLT® drives for 690 V now available down to smallest power sizes

Danfoss makes 690 V installations most cost efficient. The high performance frequency converters now cover the complete 690 V power range from 1.4 MW down to 1.1 kW.

Danfoss presents the smallest 690 V enclosure on the market below 7.5 kW and extends the power range of its IP 20 drives up to 75 kW with 4 new enclosure sizes.

Now you can even control 690 V motors down to 0.37 kW without expensive over-dimensioned drives or step down transformers.

Built on the powerful and reliable VLT® platform, the drives offer system designers, machine builders, and end users the efficiency enhancing benefits offered by Danfoss' single drive concept for industrial applications.

Suitable for use on normal TN and IT (isolated) grids, the IP 20 protected drives are especially useful in installations within chemical, mining, water/wastewater and marine applications.



Danfoss extends the power range of its IP 20 drives up to 75 kW with 4 new enclosure sizes

65%

less cabinet space required

Especially for power sizes below 7.5 kW, Danfoss offers a remarkable space reduction in comparison to other solutions.

Feature	Benefit
Dedicated enclosure sizes down to 1.1 kW	No need for large over-dimensioned drive
Operate motors down to 0.37 kW	No need for step-down transformer
Smallest size and required space	Cost for cabinet and installation room reduced
Side-by-side mounting without derating	Saves valuable panel space
Integrated harmonic filters (<40% THDi)	Maintain mains quality without external filters
Integrated EMC filter (A1/EN 55011) with up to 150 m screened motor cable	Provide reliable operation of the installation without additional external filters
Class 3C3 conformal coating (IEC 60721-3-3) as standard	Increase lifetime and reliability in harsh environments
Full performance at 50° C ambient temperature (D-frames 45° C)	Secure operation without derating/over-dimensioning
Danfoss output filters	Matching sinusoidal or du/dt filters
Complete range of 690 V drives up to 1.4 MW	One drive series covers all your systems needs



VLT® AutomationDrive frequency converters can be individually configured with additional safety functions through special options and accessories.

ATEX-certified thermistor input

The PTB ATEX-certified PTC Thermistor option MCB 112 can be used to monitor both Ex d and Ex e motors. It is certified according to IEC 61508 for use in low demand applications to protect motors placed in Zones 1, 2, 21 and 22. The option can be used as the sole protective device of an explosion-proof motor operated by a frequency converter.

Universal residual current monitoring

The RCMB20/35 external fault current monitoring module reliably detects insulation faults in drives systems operating on IT or TN mains. In addition to usual protection against sudden insulation faults, this module supports

Ordering numbers: Sine Wave Filters

VLT® ratings		Filter current rating			Switching frequency	Part-No.	
690 V		@50 Hz	@60 Hz	@100 Hz	kHz	IP 00	IP 20/23
kW	Current (A)	A	A	A			
1.1	1.6	4.5	4	3	4	130B7335	130B7356
1.5	2.2						
2.2	3.2						
3.0	4.5						
4.0	5.5	10	9	7	4	130B7289	130B7324
5.5	7.5						
7.5	10						
11	13						
15	18	13	12	9	3	130B3195	130B3196
18.5	22						
22	27						
30	34						
37	41	45	42	33	3	130B4114	130B4115
45	52						
55	62						
75	83						
90	100	76	72	57	3	130B4116	130B4117
		115	109	86	3	130B4118	130B4119

preventive maintenance by detecting gradual insulation deterioration in the equipment in advance, avoiding

unexpected and expensive machine standstills.

Technical data

Enclosure		Typical shaft output	Output current 150% for 1 min (HO) 110% for 1 min (NO) 160% for 1 min (HO for A3)		Output power	Max input current		Estimated loss at rated maximum load	Efficiency	Height	Width	Depth	Max weight
IP 20		[kW]	Continuous (3x551-690 V) [A]	Intermittent (3x551-690 V) [A]	Continuous kVA 690 V AC [kVA]	Continuous (3x551-690 V) [A]	Intermittent (3x551-690 V) [A]	[W]		Of back plate [mm]	Of back plate [mm]	Without option A/B [mm]	[kg]
A3	P1K1	1.1	1.6	2.6	1.9	1.4	2.3	44	0.96	268	130	205	6.6
	P1K5	1.5	2.2	3.5	2.6	2.0	3.2	60					
	P2K2	2.2	3.2	5.1	3.8	2.9	4.6	88					
	P3K0	3	4.5	7.2	5.4	4.0	6.5	120					
	P4K0	4	5.5	8.8	6.6	4.9	7.9	160					
	P5K5	5.5	7.5	12	9	6.7	10.8	220					
	P7K5	7.5	10	16	12	9.0	14.4	300					
B4	P11K	HO 11	13	20.8	15.5	12.5	20.1	228	0.98	520	230	242	23.5
		NO 15	18	19.8	21.5	17.4	19.1						
	P15K	HO 15	18	28.8	21.5	17.4	27.8	285					
		NO 18.5	22	24.2	26.3	21.2	23.3						
	P18K	HO 18.5	22	35.2	26.3	21.2	33.9	335					
		NO 22	27	29.7	32.3	26.0	28.6						
	P22K	HO 22	27	43.2	32.3	26.0	41.6	375					
		NO 30	34	37.4	40.6	32.8	36.0						
	P30K	HO 30	34	51	40.6	32.8	49.2	480					
		NO 37	41	45.1	49.0	39.5	43.5						
C3	P37K	HO 37	41	61.5	49	39.5	59.3	592	0.98	550	308	333	35
		NO 45	52	57.2	62.2	50.1	55.1						
	P45K	HO 45	52	78	62.2	50.1	75.2	720					
		NO 55	62	68.2	74.1	59.8	65.8						
D3h	N55K	HO 55	73	110	87	77.0	96.3	1057	0.98	909	250	375	62
		NO 75	86	95	103	87.0	95.7	1204					
	N75K	HO 75	86	129	103	87.0	130.5	1205					
		NO 90	108	119	129	109.0	119.9	1477					
	N90K	HO 90	108	162	129	109.0	163.5	1480					
		NO 110	131	144	157	128.0	140.8	1798					

VLT® power rating: Power ratings correspond to both HO and NO ratings.

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