

## VFX50 Frequency inverters 018 to 037 (S2)

Type number	VFX50	-018	-026	-031	-037
Rated power	kW	11	15	18.5	22
Rated output current	A,RMS	18	26	31	37
Current limit $I_{CL}$ , 60s	A,RMS	27	39	46	55
Input current	A,RMS	16	23	28	35
Min. brake resistor (for option brake chopper)	$\Omega$	27	27	27	27
Mains fuse gL/gG acc. to IEC269	A	20	25	35	50
Ambient temperature for rated power IP54	$^{\circ}\text{C}$	0 - 40			
Switching frequency $f_s$	kHz	3.0 kHz			
Efficiency ( $P_{nom}$ )	%	98			
Losses ( $P_{nom}$ )	W	255	350	415	495
Derating	%/ $^{\circ}\text{C}$	-2.5 to +10 $^{\circ}\text{C}$ max			
Degree of protection		IP54			
Dimensions size X2 HxWxD	mm	470(530) x 176 x 272			
Weight	kg	19			
Mains/motor cable entry	mm	$\varnothing$ 32			
Max. section motor/mains cable solid (stranded)	mm <sup>2</sup>	16(10)			

## VFX50 Frequency inverters 046 to 060 (X2)

Type number	VFX50	-046	-060
Rated power	kW	30	37
Rated output current	A,RMS	46	60
Current limit $I_{CL}$ , 60s	A,RMS	69	92
Input current	A,RMS	42	57
Min. brake resistor (for option brake chopper)	$\Omega$	27	27
Mains fuse gL/gG acc. to IEC269	A	50	63
Ambient temperature for rated power	$^{\circ}\text{C}$	IP20: 0 - 40 IP54: 0 - 35	
Switching frequency $f_s$	kHz	3.0 kHz	
Efficiency ( $P_{nom}$ )	%	97.5	
Losses ( $P_{nom}$ )	W	550	750
Derating	%/ $^{\circ}\text{C}$	-2.5 to +10 $^{\circ}\text{C}$ max	
Degree of protection		IP20 IP54	
Dimensions HxWxD	mm	440(500)x290x230	
Weight	kg	26	
Glands mains/motor cable		2x M40	
Max. section motor/mains cable solid (stranded)	mm <sup>2</sup>	16 (10)	25 (16)

## VFX50 Frequency inverters 074 to 090 (X3)

Type number	VFX50	-074	-090
Rated power	kW	45	55
Rated output current	A,RMS	74	90
Current limit $I_{CL}$ , 60s	A,RMS	111	135
Input current	A,RMS	69	85
Min. brake resistor (for option brake chopper)	$\Omega$	7.9	6.5
Mains fuse gL/gG acc. to IEC269	A	80	100
Ambient temperature for rated power	$^{\circ}\text{C}$	IP20: 0 - 40 IP54: 0 - 35	
Switching frequency $f_s$	kHz	3.0 kHz	
Efficiency ( $P_{nom}$ )	%	97.5	
Losses ( $P_{nom}$ )	W	925	1125
Derating	%/ $^{\circ}\text{C}$	-2.5 to +10 $^{\circ}\text{C}$ max	
Degree of protection		IP20 IP54	
Dimensions HxWxD	mm	650(750)x340x295	
Weight	kg	55	
Glands mains/motor cable		2x M50	
Max. section motor/mains cable solid (stranded)	mm <sup>2</sup>	50 (35)	

## VFX50 Frequency inverters 109 to 146 (X4)

Type number	VFX50	-109	-146
Rated power	kW	75	90
Rated output current	A,RMS	109	146
Current limit $I_{CL}$ , 60s	A,RMS	164	219
Input current	A,RMS	102	137
Min. brake resistor (for option brake chopper)	$\Omega$	5.4	4.0
Mains fuse gL/gG acc. to IEC269	A	125	160
Ambient temperature for rated power	$^{\circ}\text{C}$	IP20: 0 - 50 IP54: 0 - 45	IP20: 0 - 40 IP54: 0 - 35
Switching frequency $f_s$	kHz	3.0 kHz	
Efficiency ( $P_{nom}$ )	%	97.5	
Losses ( $P_{nom}$ )	kW	1.4	1.9
Derating	%/ $^{\circ}\text{C}$	No derating required	-2.5 to +10 $^{\circ}\text{C}$ max
Degree of protection		IP20 IP54	
Dimensions HxWxD	mm	800(900)x450x330	
Weight	kg	85	
Glands mains/motor cable		2x Pg48	
Max. section motor/mains cable solid (stranded)	mm <sup>2</sup>	50 (50)	95 (95)

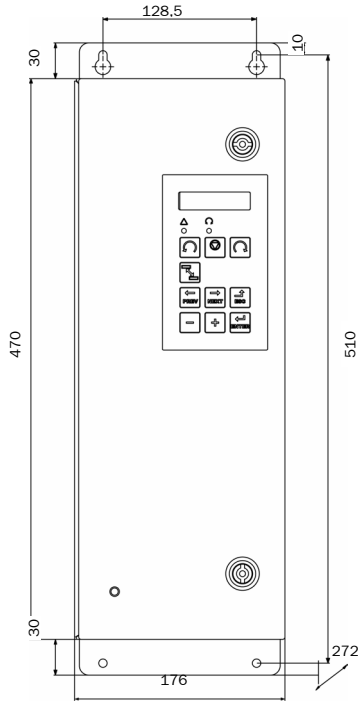
## VFX50 Frequency inverters 175 to 374 (X5)

Type number	VFX50	-175	-210	-250	-300	-374
Rated power	kW	110	132	160	200	250
Rated output current	A,RMS	175	210	250	300	375
Current limit $I_{CL}$ , 60s	A,RMS	263	315	375	450	560
Input current	A,RMS	166	200	238	285	356
Min. brake resistor (for option brake chopper)	$\Omega$	3.33	2.78	2.33	1.94	1.56
Mains fuse gL/gG acc. to IEC269	A	200	200	250	315	500
Ambient temperature for rated power	$^{\circ}\text{C}$	40	IP20: 0 - 50	IP20: 0 - 40		
Switching frequency $f_s$	kHz	3,0 kHz	1.5 kHz			
Efficiency ( $P_{nom}$ )	%	97.5				
Losses ( $P_{nom}$ )	kW	1.9	2.8	3.3	4	6.2
Derating	%/ $^{\circ}\text{C}$	-2.5 to +10 $^{\circ}\text{C}$ max	No derating required		-2.5 to +10 $^{\circ}\text{C}$ max	
Degree of protection		IP20 IP54				
Dimensions HxWxD	IP20 mm IP54	1100(1145)x500x420 2150x600x500				
Weight IP20 (IP54)	kg	160 (275)				
Terminals mains/motor connections	mm <sup>2</sup>	150				

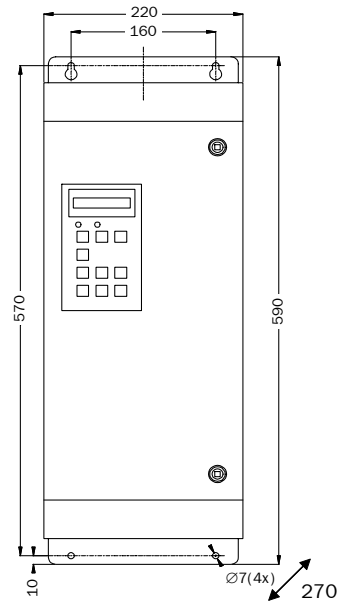
## VFX50 Frequency inverters 500 to 749 (X10)

Type number	VFX50	-500	-600	749
Rated power	kW	315	400	500
Rated output current	A,RMS	500	600	750
Current limit $I_{CL}$ , 60s	A,RMS	750	900	1125
Input current	A,RMS	475	570	2175
Min. brake resistor (for option brake chopper)	$\Omega$	2x2.33	2x1.94	721
Mains fuse gL/gG acc. to IEC269	A	2x250	2x315	2x400
Ambient temperature for rated power	$^{\circ}\text{C}$	IP20: 0 - 40 IP54: 0 - 35		
Switching frequency $f_s$	kHz	1.5 kHz		
Efficiency ( $P_{nom}$ )	%	97.,5		
Losses ( $P_{nom}$ )	kW	6.3	7.9	10
Derating	%/ $^{\circ}\text{C}$	-2.5 to +10 $^{\circ}\text{C}$ max		
Degree of protection		IP20 IP54		
Dimensions HxWxD	IP20 mm IP54	2x 1100(1145)x500x420 2150x1200x500		
Weight IP20 (IP54)	kg	320 (525)		
Terminals mains/motor connections	mm <sup>2</sup>	2x150	2x240	2x240

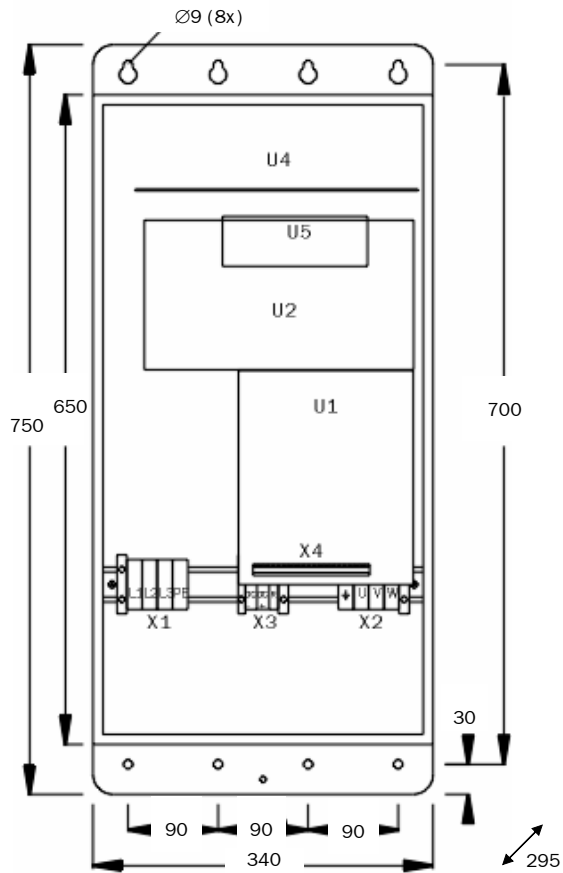
**Dimensions VFX50-018 to 037 (S2)**



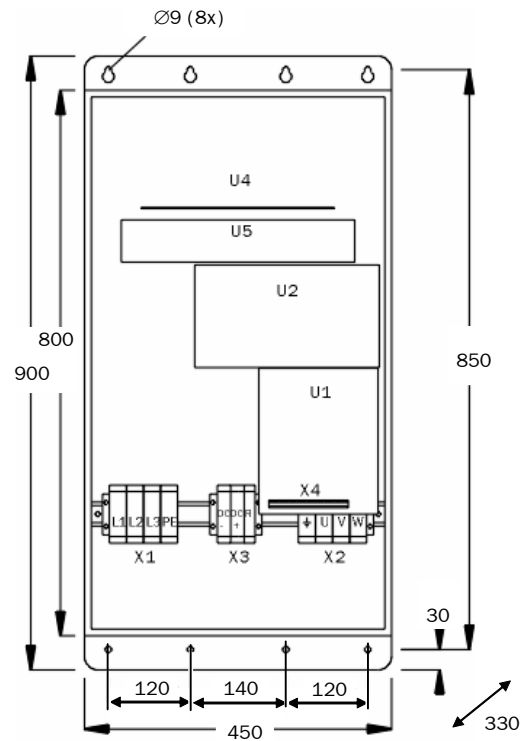
**Dimensions VFX50-046 to -060 (X2)**



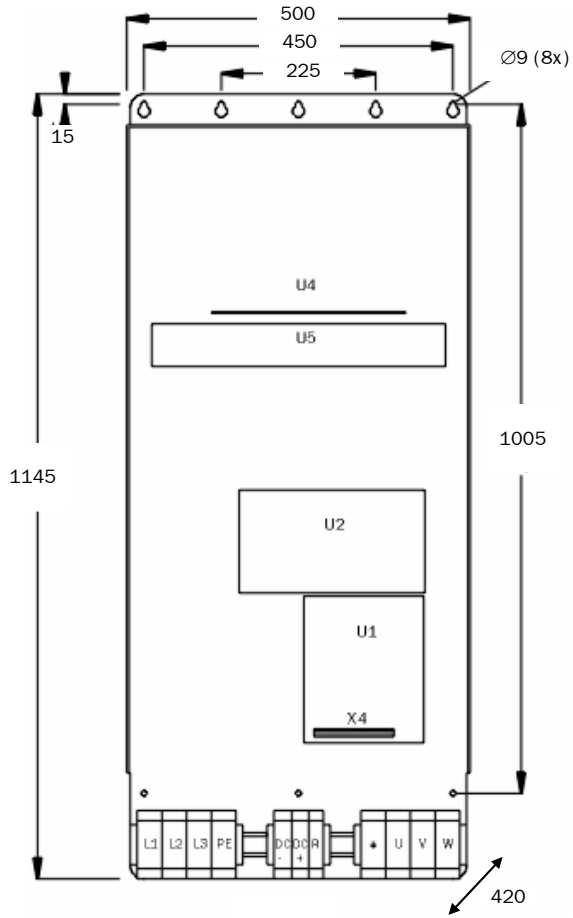
**Dimensions VFX50-074 to -090 (X3)**



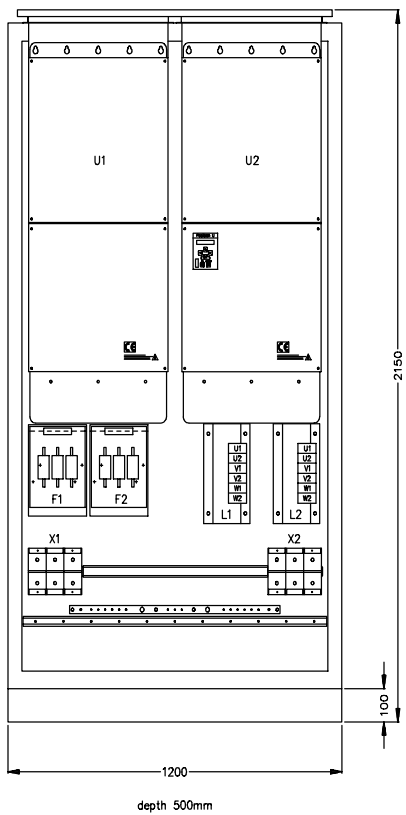
**Dimensions VFX50-109 to -146 (X4)**



**Dimensions VFX50-175 to -374 (X5)**



**Dimensions VFX50-374 to 749 (X10)**



## Common data VFX50

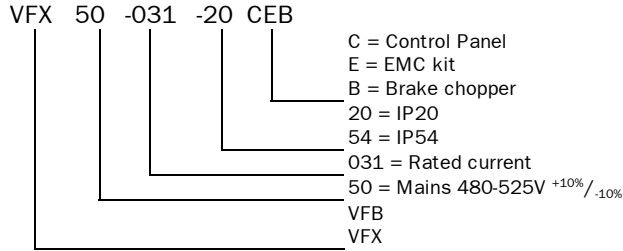
Mains voltage	V	480 - 525 <sup>+10%</sup> / <sub>-.10%</sub>
Mains frequency	Hz	50/60
Output frequency range	Hz	0 - 300
Output voltage range	V	0 - Mains
Maximum sound pressure level	dB(A)	≤70
Relative humidity	%	0 - 90 (non condensing)
Atmospheric pressure	kPa	86 -106
Vibrations		EN60068-2-6 Fc: 10-150Hz; 0.075mm/1g
Cooling		Forced, automatic
Power factor input current		0.95
Glands control signal cables (IP54 or EMC-kit only, IP20 with grommets)		2x Pg11
Max. control signal cable section solid (stranded)	mm <sup>2</sup>	2.5 (1.5)
Digital inputs	8x	Input voltage HIGH: >7VDC Input voltage LOW: <4VDC Max. input voltage: 30VDC Input resistance: <14VDC: 5kΩ ≥14VDC: 3kΩ Signal delay: ≤8ms
Analogue inputs (differential)	2x	Input voltage/current: ±10V/±20mA via jumper Max. input voltage: ±30V Input impedance: 21kΩ (voltage) 250Ω (current) Resolution: 10 bits Hardware accuracy: 0.5% typ + 1½LSB fsd Non-linearity: 1½LSB
Digital outputs	2x	Output voltage HIGH: >20VDC @50mA Open voltage HIGH: >23VDC Output voltage LOW: <1VDC @50mA Short-circuit current: 100mA max *
Analogue outputs	2x	Output voltage/current: ±10V/+20mA via jumper Max. output voltage: ±15V @5mA cont. Short-circuit current (∞): ±15mA (voltage) 140mA (current) Output impedance: 10Ω (voltage) Resolution: AnOut 1: 10 bits AnOut 2: 8 bits Hardware accuracy: 1.9% typ fsd (voltage) 2.4% typ fsd (current) Full scale and zero error: 3LSB Non-linearity: 2LSB
Relays	2x	Change-over contact 2A max.
Signal ground	3x	
Signal supply voltage 10VDC	1x	Current: 10mA max @10VDC Short-circuit current: 30mA
Signal supply voltage -10VDC	1x	Current: -10mA max @-10VDC Short-circuit current: -30mA
Signal supply voltage 24VDC	1x	Current *: 100mA short-circuit proof
Trip memory		Storage of last 10 trips. Resettable
Acceleration/Deceleration times	s	0.01-3600s

\* together

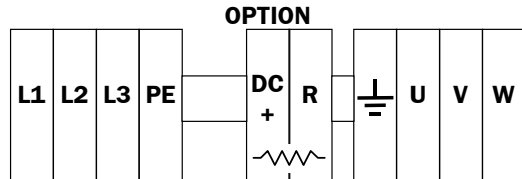
### Standards

The VFX complies with the standards EN61800-3, EN50178, EN60204-1 and EN60529. It is adapted to the Machine Directive and complies with the **EMC-Directive** and the **Low Voltage Directive**, which is indicated by the **CE**-mark and accompanying declarations.

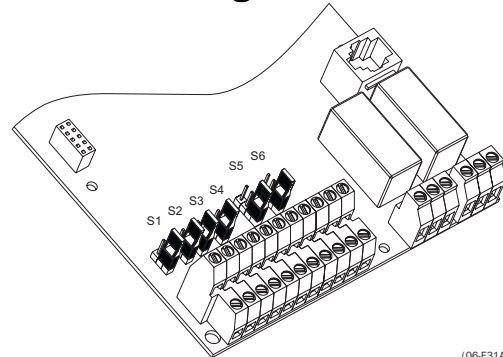
## Type number code



## Power connections



## Signal connections



## Connections terminal strip 1-22

(06-F31A-2)

Nr	Name	Type	Function	Signal
1	+10V	Ref	+10VDC Reference voltage, 10mA max.	
2	AnIn1+	Ana.Input	Programmable	Differential input ±10VDC or 0/4-20mA Resolution 10bits
3	AnIn1-	Ana.Input		
4	AnIn2+	Ana.Input	Programmable	Differential input ±10VDC or 0/4-20mA Resolution 10bits
5	AnIn2-	Ana.Input		
6	-10V	Ref	-10VDC Reference voltage, 10mA max.	
7	Common	Signal ground		
8	Run L	Binary Input	Run Left	Level high 0-8/24VDC or 0-20mA
9	Run R	Binary Input	Run Right	Level high 0-8/24VDC or 0-20mA
10	Enable	Binary Input	Enable	Level high 0-8/24VDC or 0-20mA
11	+24V	Ref	24VDC Regulated, 100mA max (together with DigOut 1&2).	
12	Common	Signal ground		
13	AnOut1	Ana.Output	Programmable	±10VDC or 0/4-20mA Resolution 10bits
14	AnOut2	Ana.Output	Programmable	±10VDC or 0/4-20mA Resolution 8bits
15	Common	Signal ground		
16	DigIn1	Binary Input	Programmable	Active high 0-8/24VDC or 0-20mA
17	DigIn2	Binary Input	Programmable	Active high 0-8/24VDC or 0-20mA
18	DigIn3	Binary Input	Programmable	Active high 0-8/24VDC or 0-20mA
19	DigIn4	Binary Input	Programmable	Active high 0-8/24VDC or 0-20mA
20	DigOut1	Binary Output	Programmable	24VDC (See pin 11: +24VDC)
21	DigOut2	Binary Output	Programmable	24VDC (See pin 11: +24VDC)
22	Reset	Binary Input	Reset	Level high 0-8/24VDC or 0-20mA

## Connections terminal strip 31-33

31	Rel.1 NC	Relay output	Relay 1: Programmable	Change-over contact Isolated 2A/250V~/AC1
32	Rel.1 P			
33	Rel.1 NO			

## Connections terminal strip 41-43

41	Rel.2 NC	Relay output	Relay 2: Programmable	Change-over contact Isolated 2A/250V~/AC1
42	Rel.2 P			
43	Rel.2 NO			