The Drive & Control Company

Rexroth
Bosch Group

Frequency Converter

VFC 3610 / VFC 5610 Series

Operating Instructions
R912005516

Edition 08

7 Frequency Converter Mounting

7.1 Installation Conditions

The frequency converter must be vertically installed.

If one frequency converter is arranged above another, make sure the upper limit of air temperature into the inlet is not exceeded (see chapter 6.1.9 "Conditions" on page 23). An air guide is recommended between the frequency converters to prevent the rising hot air being drawn into the upper frequency converter if the upper limit of air temperature is exceeded.

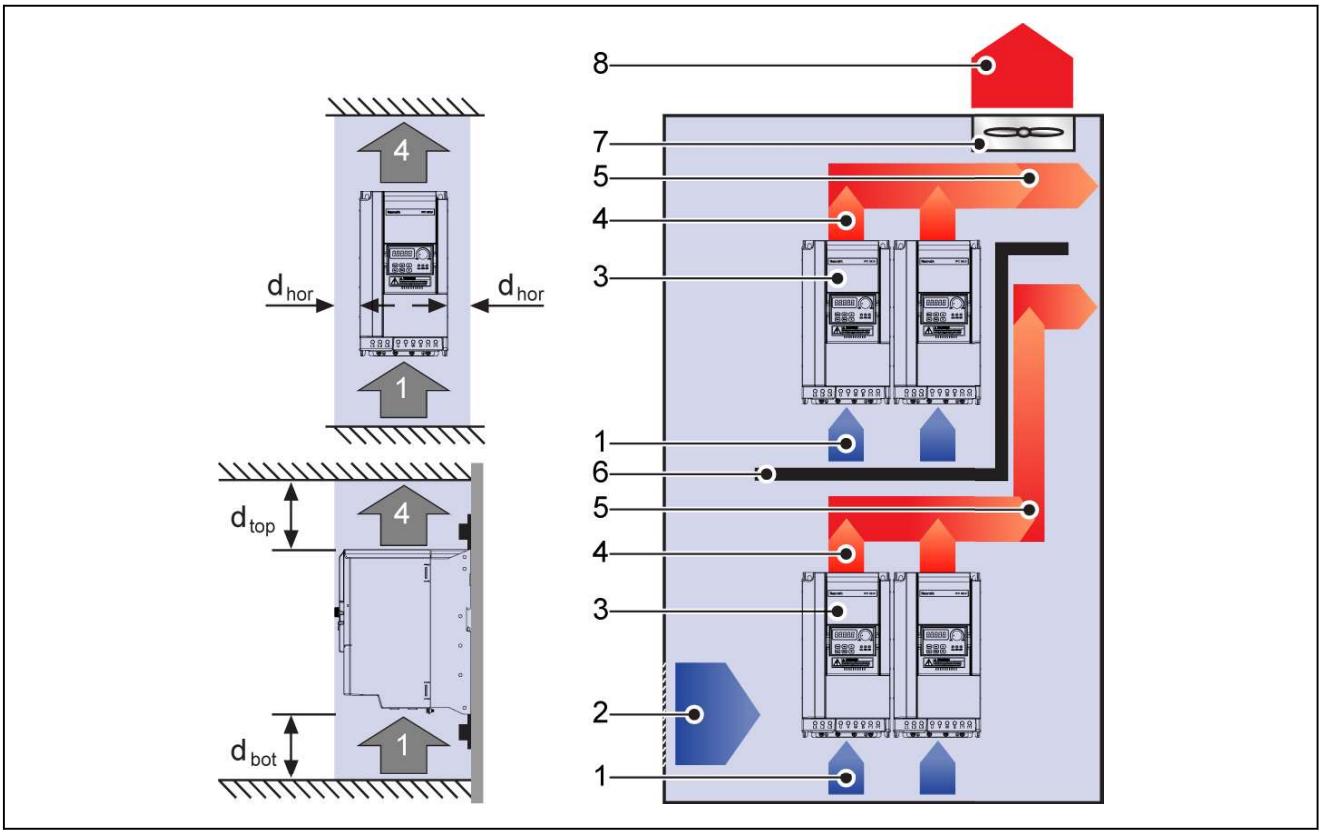

Fig. 7-1: Mounting distance and arrangement

d_{hor} (Distance horizontal):

d_{hor} = 0 mm (0K40...22K0); d_{hor} = 10 mm (30K0...185K)

d_{top} (Minimum top distance):

d_{top} = 125 mm (0K40...90K0); d_{top} = 400 mm (110K...185K)

d_{bot} (Minimum bottom distance):

d_{bot} = 125 mm (0K40...90K0); d_{bot} = 400 mm (110K...185K)

1: Air inlet at frequency converter; 2: Air inlet at control cabinet

3: Frequency converter; 4: Air outlet at frequency converter

5: Heated air conveying direction; 6: Air guide in control cabinet

7: Fan in control cabinet; 8: Discharge of heated air

7.2 Heat Dissipation

1P 200 VAC

Frame	Model	Heat dissipation	
		[W]	[BTU/h]
B	0K40	40	136
B	0K75	70	256
C	1K50	120	409
D	2K20	165	563

Tab. 7-1: 1P 200 VAC heat dissipation

3P 380 VAC

Frame	Model	Heat dissipation	
		[W]	[BTU/h]
B	0K40	20	68
B	0K75	37	126
C	1K50	75	256
C	2K20	99	338
D	3K00	135	461
D	4K00	180	614
E	5K50	210	714
E	7K50	255	867
F	11K0	320	1,088
F	15K0	435	1,479
G	18K5	530	1,802
G	22K0	640	2,176
H	30K0	745	2,533
H	37K0	874	2,972
I	45K0	1,388	4,737
I	55K0	1,927	6,574
J	75K0	2,082	7,103
J	90K0	2,613	8,916
K	110K	2,530	8,602
K	132K	2,772	9,425
L	160K	3,650	12,446
L	185K	3,813	13,002

Tab. 7-2: 3P 380 VAC heat dissipation

7.3 Air Flow of Fans

1P 200 VAC

Frame	Model	Fan for heat sink		Fan for internal components	
		[CFM]	[m³/min]	[CFM]	[m³/min]
B	0K40	–	–	–	–
B	0K75	–	–	–	–
C	1K50	19.20	0.54	–	–
D	2K20	19.20	0.54	–	–

Tab. 7-3: 1P 200 VAC air flow of fans

3P 380 VAC

Frame	Model	Fan for heat sink		Fan for internal components	
		[CFM]	[m³/min]	[CFM]	[m³/min]
B	0K40	–	–	–	–
B	0K75	–	–	–	–
C	1K50	–	–	–	–
C	2K20	19.20	0.54	–	–
D	3K00	19.20	0.54	–	–
D	4K00	19.20	0.54	–	–
E	5K50	40.00	1.13	–	–
E	7K50	40.00	1.13	–	–
F	11K0	40.00	1.13	34.90	0.99
F	15K0	40.00	1.13	34.90	0.99
G	18K5	40.00	1.13	34.90	0.99
G	22K0	49.20	1.39	47.60	1.35
H	30K0	120.20	3.40	–	–
H	37K0	120.20	3.40	–	–
I	45K0	215.74	6.11	–	–
I	55K0	215.74	6.11	–	–
J	75K0	215.74	6.11	–	–
J	90K0	215.74	6.11	–	–
K	110K	243.64	6.90	–	–
K	132K	243.64	6.90	–	–

Frame	Model	Fan for heat sink		Fan for internal components	
		[CFM]	[m^3/min]	[CFM]	[m^3/min]
L	160K	243.64	6.90	–	–
L	185K	243.64	6.90	–	–

Tab. 7-4: 3P 380 VAC air flow of fans

Quantity of fans

- Models 11K0...22K0 have only one fan for internal components.
- Models 30K0 and above have no fan for internal components.
- Models 1K50...7K50 have only one fan for heat sink.
- Models 11K0 and above have **TWO** fans for heat sink.

7.4 Figures and Dimensions

7.4.1 Figures

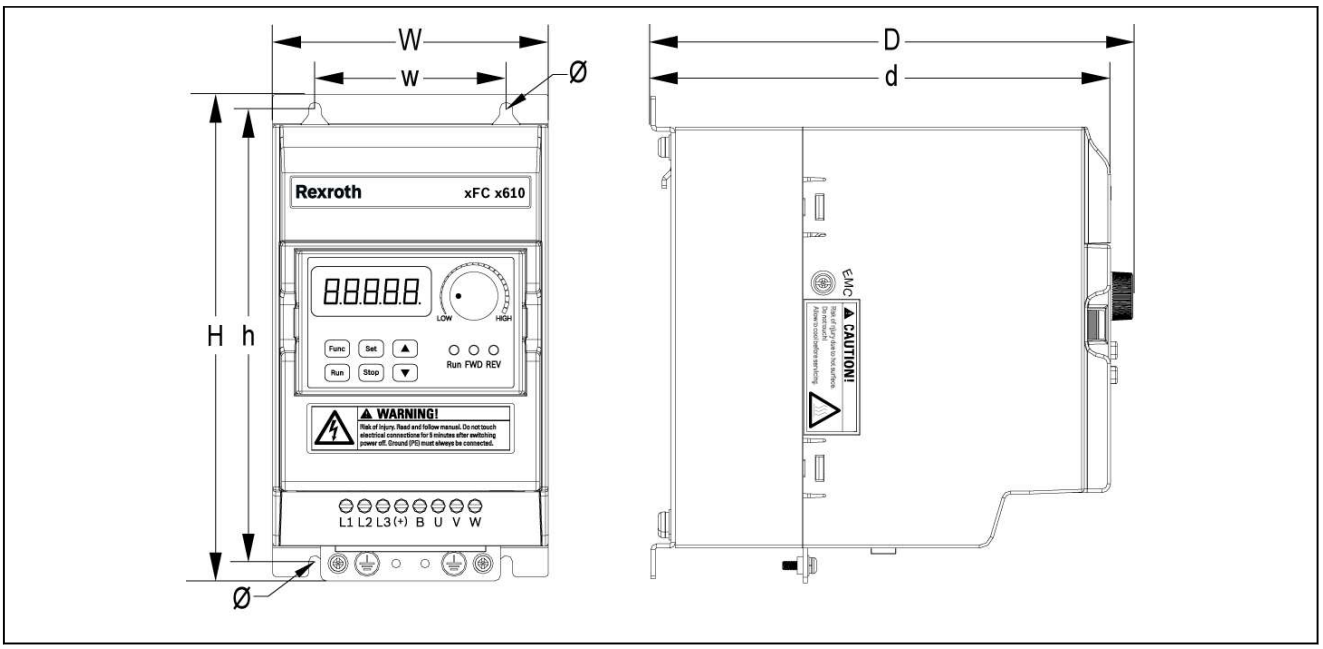

Fig. 7-2: VFC x610 0K40...4K00 dimensions figure

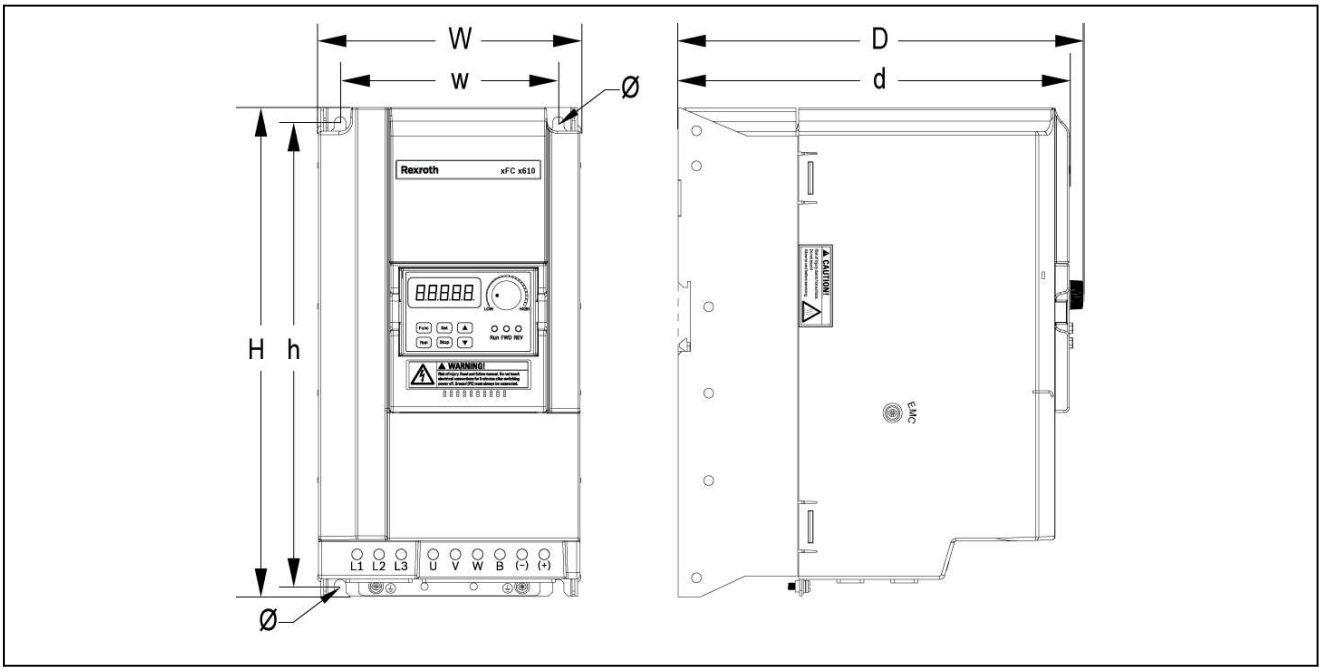

Fig. 7-3: VFC x610 5K50...22K0 dimensions figure

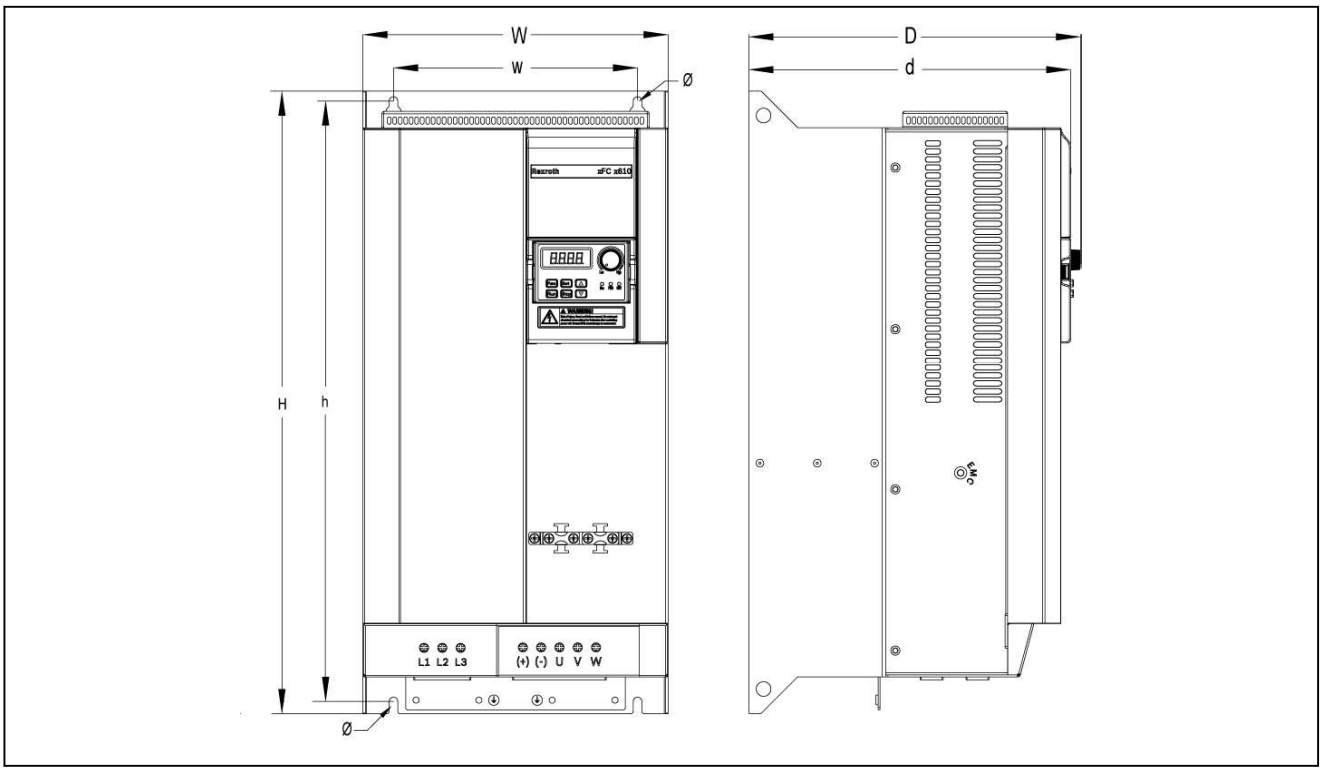

Fig. 7-4: VFC 5610 30K0...37K0 dimensions figure

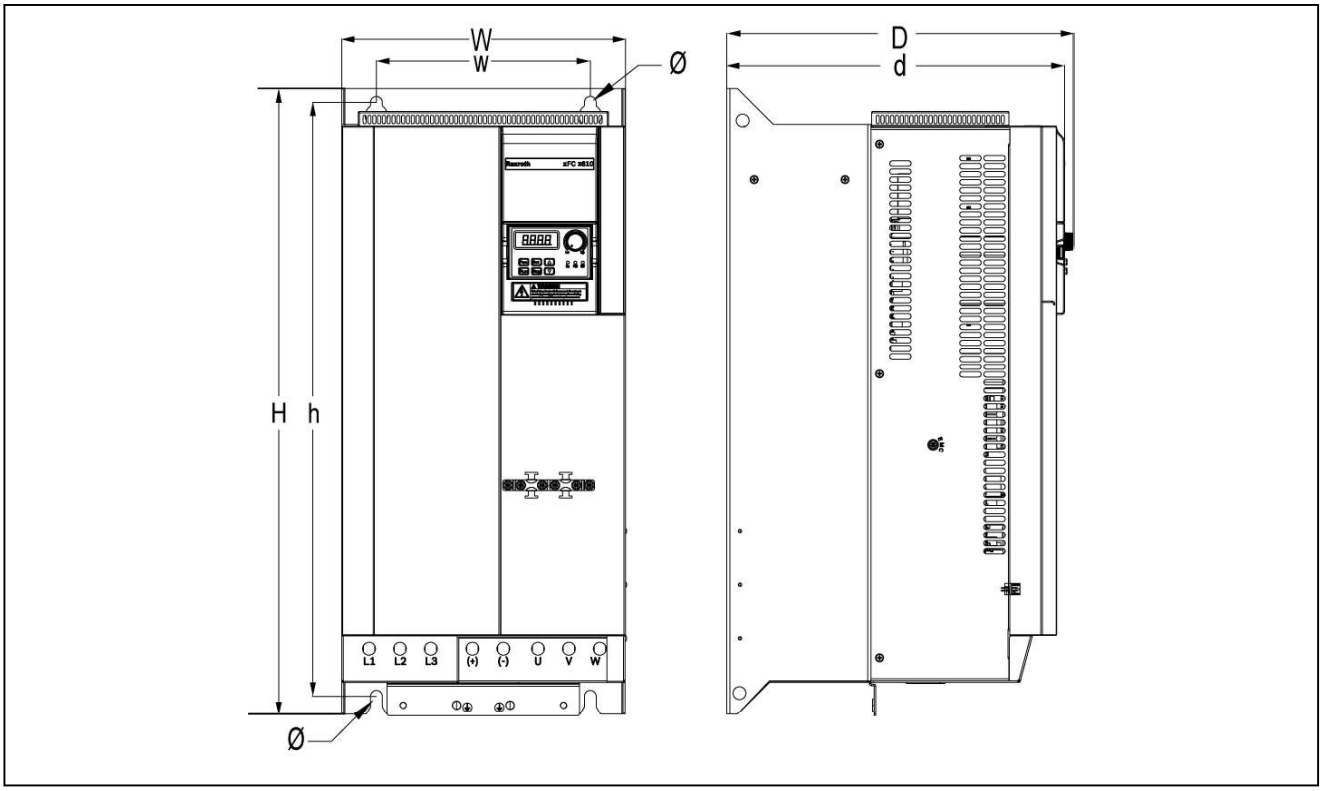

Fig. 7-5: VFC 5610 45K0...55K0 dimensions figure

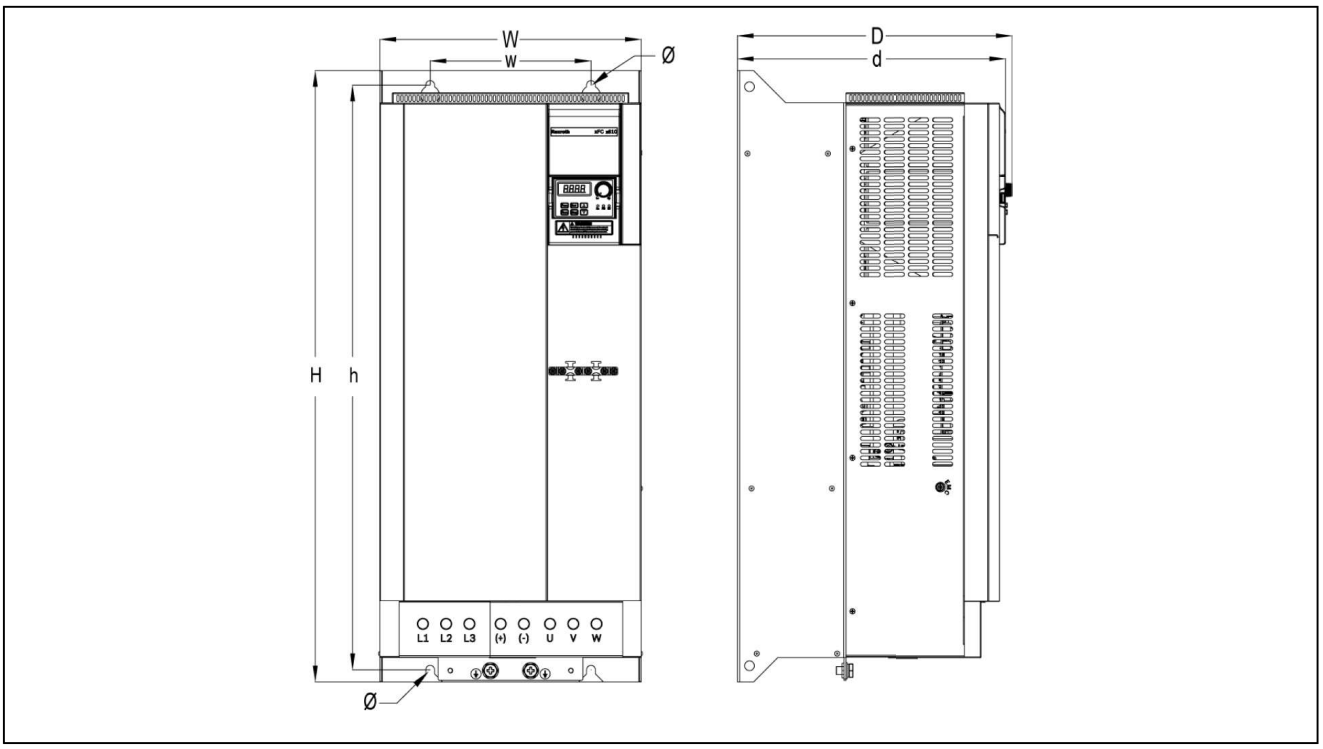

Fig. 7-6: VFC 5610 75K0...90K0 dimensions figure

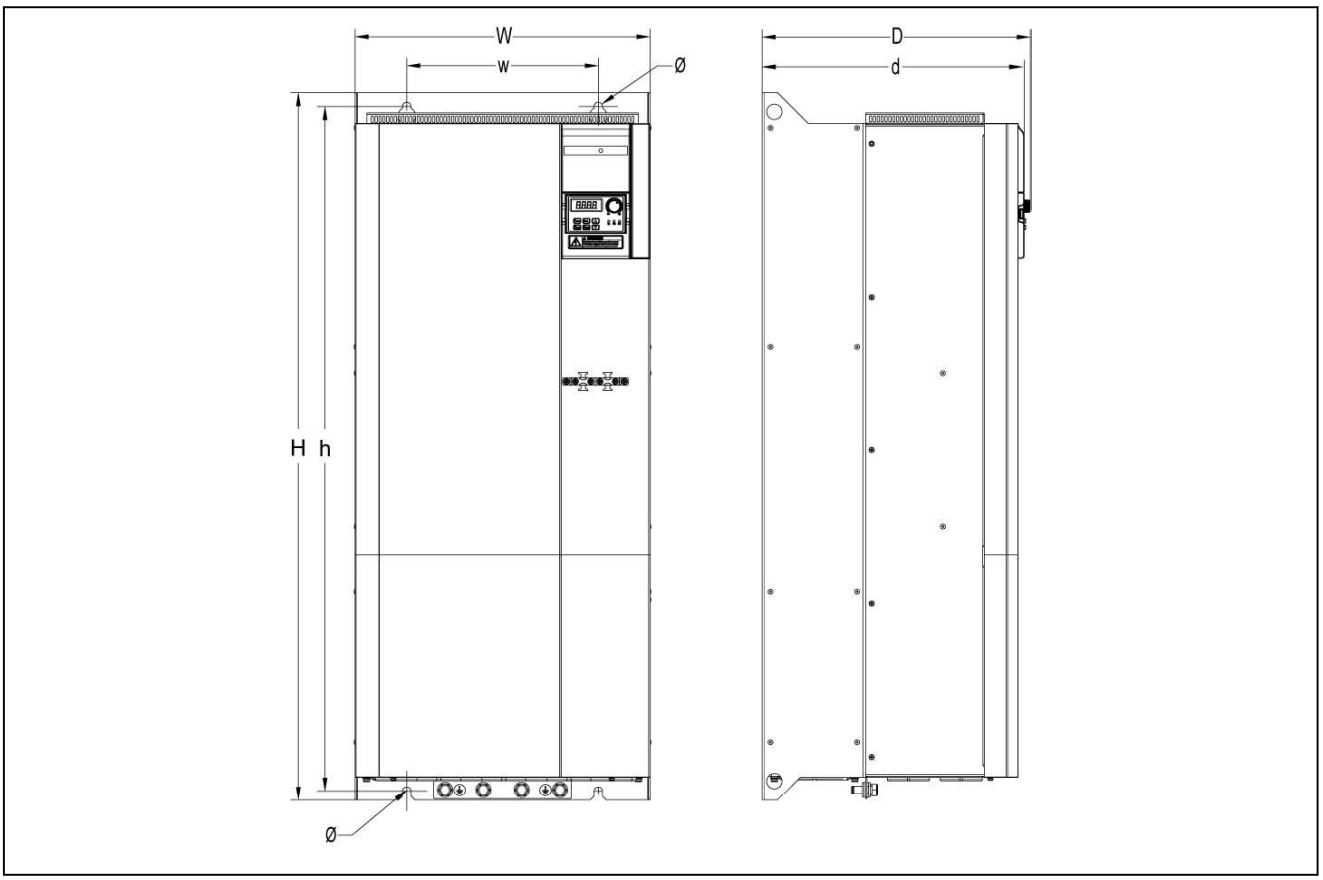

Fig. 7-7: VFC 5610 110K...132K dimensions figure

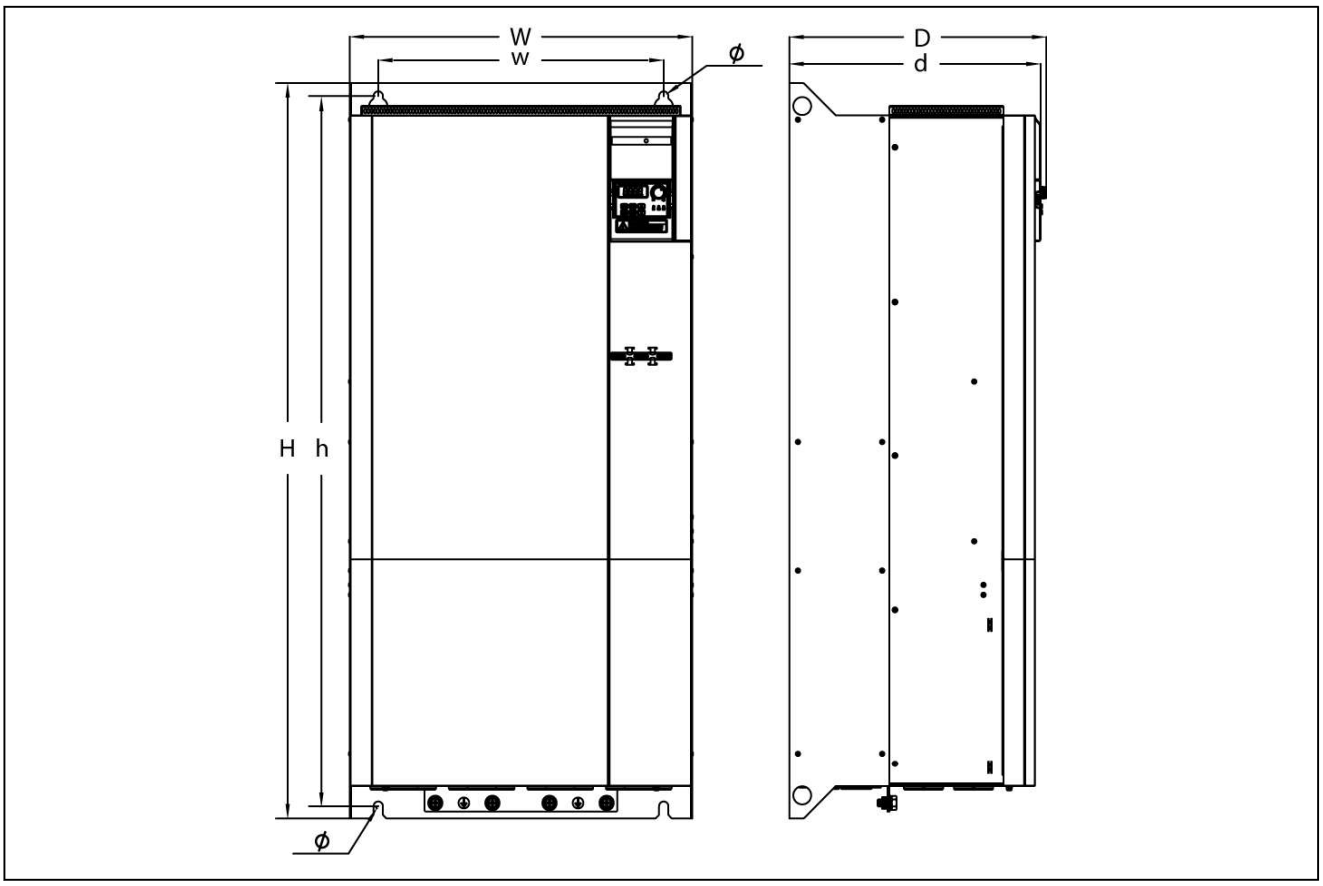

Fig. 7-8: VFC 5610 160K...185K dimensions figure

7.4.2 Dimensions

Frame	Model①	Dimensions [mm]							Screw size②	Net weight [kg]
		W	H	D④	w	h	d④	Ø		
B	0K40	95	166	167	66	156	159	4.5	M4	1.5
B	0K75	95	166	167	66	156	159	4.5	M4	1.5
C	1K50	95	206	170	66	196	162	4.5	M4	1.8
D	2K20	120	231	175	80	221	167	4.5	M4	2.6

Tab. 7-5: VFC x610 1P 200 VAC dimensions

Frame	model①	Dimensions [mm]							Screw size②	Net weight [kg]
		W	H	D④	w	h	d④	Ø		
B	0K40	95	166	167	66	156	159	4.5	M4	1.5
B	0K75	95	166	167	66	156	159	4.5	M4	1.5
C	1K50	95	206	170	66	196	162	4.5	M4	1.8
C	2K20	95	206	170	66	196	162	4.5	M4	1.8
D	3K00	120	231	175	80	221	167	4.5	M4	2.6
D	4K00	120	231	175	80	221	167	4.5	M4	2.6
E	5K50	130	243	233	106	228	225	6.5	M6	3.6
E	7K50	130	243	233	106	228	225	6.5	M6	3.9
F	11K0	150	283	233	125	265	225	6.5	M6	5.0
F	15K0	150	283	233	125	265	225	6.5	M6	5.7
G	18K5	165	315	241	140	300	233	6.5	M6	7.3
G	22K0	165	315	241	140	300	233	6.5	M6	8.0
H③	30K0	250	510	272	200	492	264	7.0	M6	20.2
H③	37K0	250	510	272	200	492	264	7.0	M6	20.2
I③	45K0	265	585	325	200	555	317	11.0	M10	33.0
I③	55K0	265	585	325	200	555	317	11.0	M10	35.0
J③	75K0	325	760	342	200	727	334	11.0	M10	45.0
J③	90K0	325	760	342	200	727	334	11.0	M10	52.5
K③	110K	385	923	350	250	893	342	11.0	M10	71.7
K③	132K	385	923	350	250	893	342	11.0	M10	76.6
L③	160K	480	1030	360	400	995	352	13.0	M12	108.0
L③	185K	480	1030	360	400	995	352	13.0	M12	108.0

Tab. 7-6: VFC x610 3P 380 VAC dimensions

- ①: The complete type code for frequency converter is:
  VFCX610-xKxx-xPx-MNA-xx-NNNNN-NNNN, see chapter 19.2 "Appendix II: Type Coding" on page 348.
  E.g., type code for VFC 5610 5K50 (3P 380 VAC model) is:
  VFC5610-5K50-3P4-MNA-7P-NNNNN-NNNN.
- ②: 4 screws are needed for wall mounting of VFC x610.
- ③: **ONLY** available with VFC 5610.
- ④: Add **35 mm** to dimension **D** and **d** when option module is used and installed.