

Variable speed drives for asynchronous motors

Altivar 71

Options: braking resistors

Braking resistors				
For drives	Ohmic value at 20°C	Average power available at 50°C (1)	Reference	Weight
	Ω	kW		kg
Supply voltage: 200...240 V 50/60 Hz				
ATV 71H037M3, H075M3	100	0.05	VW3 A7 701	1.900
ATV 71HU15M3, HU22M3	60	0.1	VW3 A7 702	2.400
ATV 71HU30M3, HU40M3	28	0.2	VW3 A7 703	3.500
ATV 71HU55M3, HU75M3	15	1	VW3 A7 704	11.000
ATV 71HD11M3X	10	1	VW3 A7 705	11.000
ATV 71HD15M3X	8	1	VW3 A7 706	11.000
ATV 71HD18M3X, HD22M3X	5	1	VW3 A7 707	11.000
ATV 71HD30M3X	4	1	VW3 A7 708	11.000
ATV 71HD37M3X, HD45M3X	2.5	1	VW3 A7 709	11.000
ATV 71HD55M3X	1.8	15.3	VW3 A7 713	50.000
ATV 71HD75M3X	1.4	20.9	VW3 A7 714	63.000
Supply voltage: 380...480 V 50/60 Hz				
ATV 71H075N4...HU40N4	100	0.05	VW3 A7 701	1.900
ATV 71HU55N4, HU75N4	60	0.1	VW3 A7 702	2.400
ATV 71HD11N4, HD15N4	28	0.2	VW3 A7 703	3.500
ATV 71HD18N4...HD30N4	15	1	VW3 A7 704	11.000
ATV 71HD37N4	10	1	VW3 A7 705	11.000
ATV 71HD45N4...HD75N4	5	1	VW3 A7 707	11.000
ATV 71HD90N4	2.75	25	VW3 A7 710	80.000
ATV 71HC11N4, HC13N4	2.1	37	VW3 A7 711	86.000
ATV 71HC16N4	2.1	44	VW3 A7 712	104.000
ATV 71HC20N4	1.05	56	VW3 A7 715	136.000
ATV 71HC25N4, HC28N4	1.05	75	VW3 A7 716	172.000
ATV 71HC31N4, HC40N4	0.7	112	VW3 A7 717	266.000
ATV 71HC50N4	0.7	150	VW3 A7 718	350.000

(1) Operating factor for resistors: The value of the average power that can be dissipated at 50°C from the resistor into the casing is determined for an operating factor during braking that corresponds to the majority of normal applications.

For VW3 A7 701...709:

- 2 s braking with 0.6 T_n braking torque for a 40 s cycle
- 0.8 s braking with 1.5 T_n braking torque for a 40 s cycle

For VW3 A7 710...718:

- 10 s braking with 2 T_n braking torque for a 30 s cycle

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Supply voltage 200...240 V 50/60 Hz

530158



ATV 71HU22M3Z

532725



ATV 71H037M3

532724



ATV 71HD37M3X

Motor Power indicated on plate (1)		Line supply				Altivar 71				Reference (3)	Weight kg
		Line current (2)		Apparent power 240 V kVA	Max. prospective line Isc kA	Maximum continuous current (1) A	Max. transient current for				
		200 V	240 V				60 s	2 s			
kW	HP	A	A			A	A				
Single phase supply voltage: 200...240 V 50/60 Hz											
0.37	0.5	6.9	5.8	2.4	5	3	4.5	4.9	ATV 71H075M3 (4)	3.000	
0.75	1	12	9.9	4.1	5	4.8	7.2	7.9	ATV 71HU15M3 (4)	3.000	
1.5	2	18.2	15.7	6.5	5	8	12	13.2	ATV 71HU22M3 (4)	3.000	
2.2	3	25.9	22.1	9.2	5	11	16.5	18.1	ATV 71HU30M3 (4)	4.000	
3	—	25.9	22	9.1	5	13.7	20.6	22.6	ATV 71HU40M3 (4) (5)	4.000	
4	5	34.9	29.9	12.4	5	17.5	26.3	28.8	ATV 71HU55M3 (4) (5)	5.500	
5.5	7.5	47.3	40.1	16.7	22	27.5	41.3	45.3	ATV 71HU75M3 (4) (5)	5.500	
3-phase supply voltage: 200...240 V 50/60 Hz											
0.37	0.5	3.5	3.1	1.3	5	3	4.5	4.9	ATV 71H037M3 (4)	3.000	
0.75	1	6.1	5.3	2.2	5	4.8	7.2	7.9	ATV 71H075M3 (4)	3.000	
1.5	2	11.3	9.6	4	5	8	12	13.2	ATV 71HU15M3 (4)	3.000	
2.2	3	15	12.8	5.3	5	11	16.5	18.1	ATV 71HU22M3 (4)	4.000	
3	—	19.3	16.4	6.8	5	13.7	20.6	22.6	ATV 71HU30M3 (4)	4.000	
4	5	25.8	22.9	9.5	5	17.5	26.3	28.8	ATV 71HU40M3 (4)	4.000	
5.5	7.5	35	30.8	12.8	22	27.5	41.3	45.3	ATV 71HU55M3 (4)	5.500	
7.5	10	45	39.4	16.4	22	33	49.5	54.5	ATV 71HU75M3 (4)	7.000	
11	15	53.3	45.8	19	22	54	81	89.1	ATV 71HD11M3X (4) (6)	9.000	
15	20	71.7	61.6	25.6	22	66	99	109	ATV 71HD15M3X (4) (6)	9.000	
18.5	25	77	69	28.7	22	75	112	124	ATV 71HD18M3X (6)	19.000	
22	30	88	80	33.3	22	88	132	145	ATV 71HD22M3X (6)	19.000	
30	40	124	110	45.7	22	120	180	198	ATV 71HD30M3X (6)	39.000	
37	50	141	127	52.8	22	144	216	238	ATV 71HD37M3X (6)	39.000	
45	60	167	147	61.1	22	176	264	290	ATV 71HD45M3X (6)	39.000	
55	75	200	173	71.9	35	221	332	365	ATV 71HD55M3X (6) (7) (8)	59.000	
75	100	271	232	96.4	35	285	428	470	ATV 71HD75M3X (6) (7) (8)	72.000	

(1) These values are for a nominal switching frequency of 2.5 or 4 kHz, depending on the rating, for continuous operation. The switching frequency is adjustable from 1...16 kHz up to ATV 71HD45M3X and from 1...8 kHz for ATV 71HD55M3X and ATV 71HD75M3X drives.

Above 2.5 or 4 kHz, depending on the rating, the drive decreases the switching frequency itself in the event of excessive temperature rise. For continuous operation above the nominal switching frequency, derate the nominal drive current (see derating curves on pages 133 and 135 to 137).

(2) Typical value for the indicated motor power and for the maximum prospective line Isc.

(3) To order a special reinforced version for difficult environmental conditions, add **S337** at the end of the reference (except for ATV 71H...M3X). (See the characteristics on page 8).

Example: ATV 71H037M3 becomes **ATV 71H037M3S337**.

For ATV 71H...M3X, add **337** at the end of the reference. Example: ATV 71HD11M3X becomes **ATV 71HD11M3X337**.

In this case, the drive is supplied with a remote graphic display terminal.

(4) Drive supplied with a remote graphic display terminal. To receive a drive without a graphic display terminal, add a **Z** at the end of the reference. It will then be equipped with an integrated 7-segment display terminal. This option is not available for drives operating in difficult environmental conditions (3).

Example: ATV 71H037M3 without graphic terminal becomes **ATV 71H037M3Z**.

(5) A line choke must be used (see page 72).

(6) Drive supplied without EMC filters. EMC filters are available as an option (see page 78).

(7) Drive supplied as standard with a DC choke, which must be used when connecting the drive to the 3-phase supply.

For connections to the DC bus, the drive can be ordered without a DC choke by adding **D** at the end of the reference.

Example: ATV 71HD55M3X becomes **ATV 71HD55M3XD**.

(8) Drive supplied without plate for EMC mounting. It is included in the kits for NEMA type 1, IP 21 or IP 31 conformity, to be ordered separately (see pages 22 and 23).

Note: please refer to the compatibility tables summarizing the possible combinations for drives, options and accessories on pages 86 to 89.

Variable speed drives for asynchronous motors

Altivar 71

Supply voltage 380..0.480 V 50/60 Hz

552723



ATV 71HU22N4

531158



ATV 71HU40N4Z

553049



ATV 71HC28N4

Motor		Line supply				Altivar 71			Reference	Weight
		Line current (2)		Apparent power 380 V	Max. prospective line Isc	Maximum continuous current (1)	Max. transient current for			
kW	HP	380 V	480 V				kVA	kA	A	60 s
		3-phase supply voltage: 380...480 V 50/60 Hz								
0.75	1	3.7	3	2.4	5	2.3	3.5	3.8	ATV 71H075N4 (3) (4)	3.000
1.5	2	5.8	5.3	3.8	5	4.1	6.2	6.8	ATV 71HU15N4 (3) (4)	3.000
2.2	3	8.2	7.1	5.4	5	5.8	8.7	9.6	ATV 71HU22N4 (3) (4)	3.000
3	—	10.7	9	7	5	7.8	11.7	12.9	ATV 71HU30N4 (3) (4)	4.000
4	5	14.1	11.5	9.3	5	10.5	15.8	17.3	ATV 71HU40N4 (3) (4)	4.000
5.5	7.5	20.3	17	13.4	22	14.3	21.5	23.6	ATV 71HU55N4 (3) (4)	5.500
7.5	10	27	22.2	17.8	22	17.6	26.4	29	ATV 71HU75N4 (3) (4)	5.500
11	15	36.6	30	24.1	22	27.7	41.6	45.7	ATV 71HD11N4 (3) (4)	7.000
15	20	48	39	31.6	22	33	49.5	54.5	ATV 71HD15N4 (3) (4)	9.000
18.5	25	45.5	37.5	29.9	22	41	61.5	67.7	ATV 71HD18N4 (3)	9.000
22	30	50	42	32.9	22	48	72	79.2	ATV 71HD22N4 (3)	19.000
30	40	66	56	43.4	22	66	99	109	ATV 71HD30N4 (3)	26.000
37	50	84	69	55.3	22	79	118.5	130	ATV 71HD37N4 (3)	26.000
45	60	104	85	68.5	22	94	141	155	ATV 71HD45N4 (3)	44.000
55	75	120	101	79	22	116	174	191	ATV 71HD55N4 (3)	44.000
75	100	167	137	109.9	22	160	240	264	ATV 71HD75N4 (3)	44.000
90	125	166	134	109.3	35	179	269	295	ATV 71HD90N4 (5) (6)	60.000
110	150	202	163	133	35	215	323	355	ATV 71HC11N4 (5) (6)	74.000
132	200	239	192	157.3	35	259	388	427	ATV 71HC13N4 (5) (6)	80.000
160	250	289	233	190.2	50	314	471	518	ATV 71HC16N4 (5) (6)	110.000
200	300	357	286	235	50	387	580	638	ATV 71HC20N4 (5) (6)	140.000
220	350	396	320	260.6	50	427	640	704	ATV 71HC25N4 (5) (6)	140.000
250	400	444	357	292.2	50	481	721	793		
280	450	494	396	325.1	50	550	825	907	ATV 71HC28N4 (5) (6)	140.000
315	500	555	444	365.3	50	616	924	1016	ATV 71HC31N4 (5) (6)	215.000
355	—	637	512	419.3	50	671	1006	1107	ATV 71HC40N4 (5) (6)	225.000
400	600	709	568	466.6	50	759	1138	1252		
500	700	876	699	576.6	50	941	1411	1552	ATV 71HC50N4 (5) (6)	300.000

(1) These values are for a nominal switching frequency of 2.5 or 4 kHz, depending on the rating, for continuous operation.

The switching frequency is adjustable from 1...16 kHz up to ATV 71HD75N4 and from 2.5...8 kHz for ATV 71HD90N4...ATV 71HC50N4 drives.

Above 2.5 or 4 kHz, depending on the rating, the drive decreases the switching frequency itself in the event of excessive temperature rise. For continuous operation above the nominal switching frequency, derate the nominal drive current (see derating curves on pages 133 and 135 to 137).

(2) Typical value for the indicated motor power and for the maximum prospective line Isc.

(3) To order a special reinforced version for difficult environmental conditions, add **S337** at the end of the reference (see the characteristics on page 8).

Example: ATV 71H075N4 becomes **ATV 71H075N4S337**.

In this case, the drive is supplied with a remote graphic display terminal.

ATV 71HD90N4...HC50N4 drives have been specially designed to operate in difficult environmental conditions.

(4) Drive supplied with a remote graphic display terminal. To receive a drive without a graphic display terminal, add a **Z** at the end of the reference. It will then be equipped with an integrated 7-segment display terminal. This option is not available for drives operating in difficult environmental conditions (3).

Example: ATV 71H075N4 without graphic terminal becomes **ATV 71H075N4Z**.

(5) Drive supplied as standard with a DC choke, which must be used when connecting the drive to the 3-phase supply.

For connections to the DC bus, the drive can be ordered without a DC choke by adding **D** at the end of the reference.

Example: ATV 71HD90N4 becomes **ATV 71HD90N4D**.

(6) Drive supplied without plate for EMC mounting. It is included in the kits for NEMA type 1, IP 21 or IP 31 conformity, to be ordered separately (see pages 22 and 23).

Note: please refer to the compatibility tables summarizing the possible combinations for drives, options and accessories on pages 86 to 89.