

COMPLEXITY DOWN  
FLEXIBILITY UP

**BD1.4F-VSD.2**  
BD MICRO VARIABLE SPEED DRIVE



# One4all

**LESS IS MORE**  
REDUCED WEIGHT AND SIZE COMPARED  
TO PREVIOUS SOLUTIONS.



# BD1.4F-VSD.2/-HD – NEW MILESTONES IN MOBILE COOLING

The new **BD1.4F-VSD.2** (new generation with optimized noise level during rough vehicle motions) from Nidec GA Compressors is 60% smaller than previous models and weighs in at only 2.3 kilos.

Low energy consumption is good for car / boat/van batteries – as well as the environment. The optimized, low-noise motor ensures outstanding performance when you want to provide that extra degree of luxury on the move.

Perfect for 10-30 liter in car / van / boat cabinets or portable boxes that need to fit into tight spaces without compromising storage space.

The electronic thermostat (NTC sensor support) provides an accurate temperature while the failure detection allows a fast fault diagnosis. The computer interface makes it easier for customization.

Specially designed for maximum efficiency and reliability, this powerhouse of a compressor makes it easier than ever to provide leading class mobile refrigerators. Enabling the variable speed function increases the system's COP/EER.

The Heavy Duty version **BD1.4F-VSD-HD** (Heavy Duty) can handle extreme vibrations.

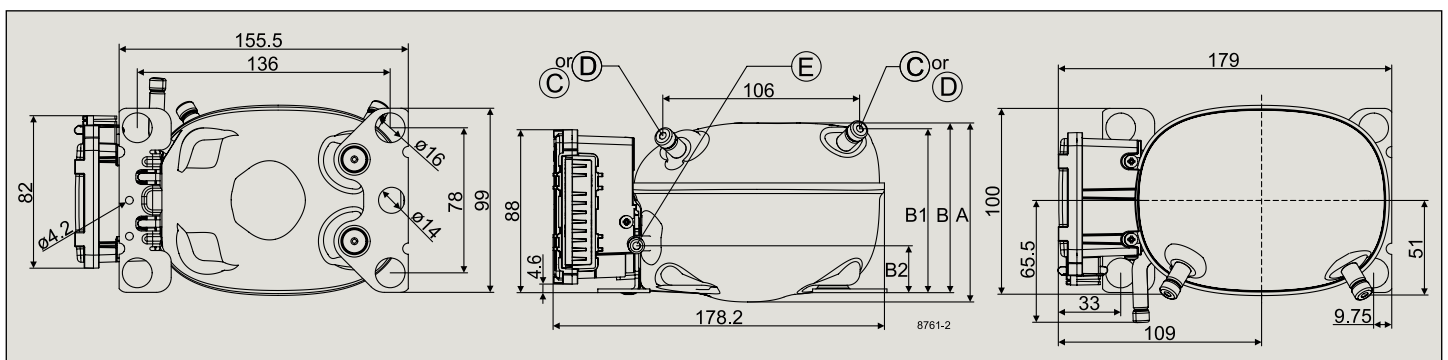
Cool beverages on demand make your journey so much more of an excellent experience.

General (code numbers)	BD1.4F-VSD.2	BD1.4F-VSD-HD
Compressor, without electronic unit (2.1 kg)	109Z0204	109Z0250
Electronic unit DC (0.11 kg)   AC/DC (0.29 kg)	101N2100   101N5100	101N2100   -

Application		
Application	LBP/MBP/HBP	
Evaporating temperature °C	-30 to 15	
Voltage (voltage range) V DC   V AC	12 (9.6 - 17) / 24 (19 - 34)   100 - 240 / 50/60 Hz	

Capacity [EN 12900 Household/CECOMAF]													watt
rpm   °C	-30	-25	-23.3	-20	-15	-10	-5	0	5	7.2	10	15	
2,000		9	11	15	22	31	42	54	69	76	86	106	
3,000	9	16	19	26	37	51	67	85	105	116	131	161	
4,000	12	23	27	36	52	71	92	116	144	158	178	218	
Power consumption													watt
rpm   °C	-30	-25	-23.3	-20	-15	-10	-5	0	5	7.2	10	15	
2,000		16	17	19	22	25	29	34	40	42	43	45	
3,000	19	24	26	29	34	39	45	50	57	59	61	63	
4,000	27	34	36	41	48	55	61	68	76	79	83	90	
Current consumption (for 24V applications the following must be halved)													A
rpm   °C	-30	-25	-23.3	-20	-15	-10	-5	0	5	7.2	10	15	
2,000		1.25	1.33	1.48	1.74	2.02	2.32	2.65	2.74	2.85	3.00	3.28	
3,000	1.49	1.84	1.96	2.20	2.59	2.98	3.40	3.82	4.38	4.56	4.77	5.09	
4,000	2.08	2.58	2.75	3.08	3.59	4.10	4.63	5.16	5.87	6.07	6.31	6.63	
COP [EN 12900 Household/CECOMAF]													W/W
rpm   °C	-30	-25	-23.3	-20	-15	-10	-5	0	5	7.2	10	15	
2,000		0.59	0.66	0.81	1.03	1.24	1.43	1.60	1.72	1.83	1.99	2.36	
3,000	0.45	0.67	0.74	0.89	1.10	1.30	1.50	1.69	1.84	1.97	2.14	2.54	
4,000	0.45	0.68	0.75	0.89	1.09	1.30	1.50	1.70	1.88	1.99	2.14	2.42	

Dimensions				
Height	mm	A	96.25	
		B	91.25	
		B1	88.00	
		B2	25.20	
Suction connector	location/I.D. mm   angle	C	6.2   25°	
Process connector	location/I.D. mm   angle	D	6.2   25°	
Discharge connector	location/I.D. mm   angle	E	5.0   0°	



### BD 1.4F-VSD.2 features ...

- low weight, less than 2.3 kg
- reduced size, 60% less than standard products
- compressor covers LBP/MBP/HBP application range

### BD 1.4F-VSD.2 functions ...

- fan speed control: 40 - 100%, start/stop delays
- compressor speed control
- ECO function
- flexible thermostats selection: mechanical or electronic

### BD 1.4F-VSD.2 functions ...

- transport-stable
- flexible programming options
- communication interface
- protection against wrong polarity
- fan failure detection
- start & stop delay for compressor and fans
- battery protection
- PCB temperature protection

### ... are your benefits

- portable applications are easier to carry (45% less weight)
- increase your net volume
- one compressor for all applications

### ... that reduce energy consumption for you

- increased comfort, less noise, energy savings
- less energy consumption, reduced noise
- energy savings, reduced noise
- easy installation, customizing, less costs

### ... that reduce service costs on your application

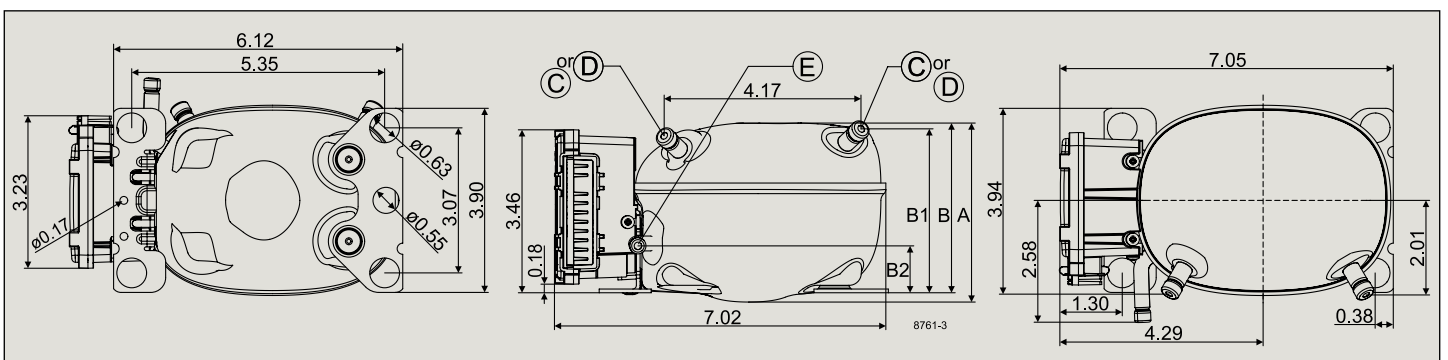
- long lifetime, less spare parts
- with software TOOL4COOL® or with resistors
- easy development phase, optimizing, open protocol
- no additional device needed, easy to install, no damage
- safety feature, easy trouble shooting
- safety setting that gives higher reliability
- avoid drainage of battery, increase lifetime
- protection of PCB from overheating, no damage

General (code numbers)	BD1.4F-VSD.2 (inch connectors)	BD1.4F-VSD-HD (inch connectors)
Compressor, without electronic unit (4.63 lbs)	109Z0206	109Z0251
Electronic unit DC (0.24 lbs.)   AC/DC (0.64 lbs.)	101N2100   101N5100	101N2100   -

Application			LBP/MBP/HBP	LBP/MBP/HBP
Application				
Evaporating temperature	°F	-20 to 59	-20 to 59	
Voltage (voltage range)	V DC   V AC	12 (9.6 - 17) / 24 (19 - 34)   100 - 240 / 50/60 Hz	12 (9.6 - 17) / 24 (19 - 34)   -	

Capacity (ASHRAE LBP)													BTU/h
rpm   °F	-20	-13	-10	0	10	14	20	30	41	45	50	59	
2,000		41	48	78	115	133	162	218	294	325	366	450	
3,000	52	80	92	138	192	216	257	337	447	493	556	685	
4,000	67	105	122	185	260	295	352	462	611	673	757	928	
Power consumption													watt
rpm   °F	-20	-13	-10	0	10	14	20	30	41	45	50	59	
2,000		14	15	19	24	26	29	35	40	41	43	44	
3,000	22	24	26	30	36	38	41	46	51	52	53	54	
4,000	31	36	38	45	51	53	57	63	69	71	74	79	
Current consumption (for 24V applications the following must be halved)													A
rpm   °F	-20	-13	-10	0	10	14	20	30	41	45	50	59	
2,000		1.31	1.39	1.65	1.90	2.00	2.15	2.41	2.71	2.82	2.96	3.23	
3,000	1.78	1.97	2.06	2.40	2.76	2.91	3.14	3.49	3.82	3.92	4.03	4.17	
4,000	3.17	3.24	3.29	3.56	3.93	4.11	4.38	4.86	5.37	5.55	5.75	6.05	
EER (ASHRAE LBP)													BTU/Wh
rpm   °F	-20	-13	-10	0	10	14	20	30	41	45	50	59	
2,000		2.88	3.19	4.06	4.78	5.06	5.49	6.29	7.39	7.88	8.58	10.17	
3,000	2.73	3.55	3.82	4.54	5.16	5.42	5.84	6.68	7.89	8.43	9.19	10.90	
4,000	2.36	3.09	3.36	4.19	5.00	5.34	5.87	6.83	8.03	8.51	9.15	10.40	

Dimensions			
Height	inch	A	3.79
		B	3.59
		B1	3.46
		B2	0.99
Suction connector	location/I.D. inch   angle	C	0.252-0.259   25°
Process connector	location/I.D. inch   angle	D	0.252-0.259   25°
Discharge connector	location/I.D. inch   angle	E	0.202-0.205   0°



# 60%

**LESS IS MORE**  
REDUCED WEIGHT AND  
SIZE COMPARED TO  
PREVIOUS SOLUTIONS.

## SIZE DOWN BUSINESS UP



## WEIGHT DOWN MOBILITY UP



# Save 2<sup>KG</sup>

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COMPARED TO PREVIOUS  
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