

# NLC 0280H-1250H

## Reversible air/water heat pump

Cooling capacity 14.1 ÷ 84.5 ton  
Heating capacity 163,875 ÷ 973,955 BTU/h

- High efficiency also at partial loads
- Complete air flow versatility
- EC fan Plug-fan with high performance
- Night mode



### DESCRIPTION

Reversible heat pumps for the production of chilled/heated water designed to satisfy the needs of residential and commercial buildings, or for industrial applications. Indoor units with Scroll compressors, centrifugal fans and plate heat exchangers. The base, the structure and the panels are made of galvanized steel treated with polyester paint RAL 9003.

### VERSIONS

**A** High efficiency

### FEATURES

#### Operating field

Working at full load up to 5.0 °F outside air temperature in winter, and up to 114.8 °F in summer. Hot water production up to 131.0 °F (for more information refer to the the selection program Magellano or dedicated documentations).

#### Units mono or dual-circuit

The range includes units with 2 compressors in single circuit and units with 4 compressors divided into two independent circuits.

#### EC fan plug-fan

The units are equipped with plug-fans and inverter motors coupled directly with the fan, with the electronic condensation control as standard, which adjusts the air flow according to the actual system requirements, with benefits in terms of consumption and noise reduction. In addition, compared to conventional centrifugal fans, they do not feature belt and pulley transmission, resulting in easy flow adjustment, compactness, versatility, easy maintenance and no vibrations.

#### Integrated hydronic kit

Integrated hydronic kit containing the main hydraulic components; available with various configurations to obtain a solution that allows you to save money and to facilitate installation.

#### CONTROL PCO<sup>5</sup>

Microprocessor control, with keyboard and LCD display, for easy access on the unit with a menu available in several languages.

- The presence of a programmable timer allows functioning time periods and a possible second set-point to be set.
- The temperature control takes place with the integral proportional logic, based on the water output temperature.
- **Night Mode:** it is possible to set a silenced operation profile. Perfect for night operation since it guarantees greater acoustic comfort in the evenings, and a high efficiency in the time of greater load.

### ACCESSORIES

**AER485P1:** RS-485 interface for supervising systems with MODBUS protocol. 1 accessory is provided for each unit control board.

**AERBAC-ONE:** Ethernet communication interface for Bacnet/IP and Modbus TCP/IP protocols, HTTPS protocol for web interface, encrypted communication protocols and access credential management in accordance with the latest standards. One accessory is provided for each unit control board.

**AERBACP:** Ethernet communication interface for Bacnet/IP and Modbus TCP/IP protocols. 1 accessory is provided for each unit control board.

**AERNET:** The device remotely controls, manages and remotely monitors a chiller/heat pump using a PC, smartphone or table via a Cloud connection. AERNET acts as Master while each connected unit is configured as Slave up to a maximum of 6 control cards. The connection is made via cable and/or USB key. Wi-Fi connectivity is not available. It is also possible to save a log file with all the data from the connected units to your terminal with a simple click for possible post-analysis. With the purchase of the Router, the Customer benefits from a 24-month free period during which he can use the Aernet Service at no additional cost. At the end of this initial period, the Service may be renewed by subscribing to a 1, 2 or 3 year subscription. For further details on costs and renewal methods, please contact our office or consult the technical documentation available on our website. [www.aermec.com](http://www.aermec.com).

**FL-UL:** Flow switch.

**MULTICHILLER-EVO:** Control, switch-on and switch-off system of the single chillers where multiple units are installed in parallel (max. no. 9), always ensuring constant flow rate to the evaporators.

**PGD1:** Allows you to control the unit at a distance.

**AVX:** Spring anti-vibration supports.

**VT:** Anti-vibration supports.

**FLG:** Flange for ducts.

**FILW:** Water filter

## FACTORY FITTED ACCESSORIES

**DRE:** Electronic device for peak current reduction.

**RIF:** Power factor correction. Connected in parallel to the motor allowing about 10% reduction of input current.

**KRQ:** Electric heater for the control and electric power board.

## COMPATIBILITY WITH VMF SYSTEM

For more information about VMF system, refer to the dedicated documentation.

## ACCESSORIES COMPATIBILITY

Accessory	NLC 0280H - 1250H NA/SA 60 Hz
AER485P1	.
AERBAC-ONE	.
AERBACP	.
AERNET	.
FL-UL	.
MULTICHILLER-EVO	.
PGD1	.

### Special crate for transport

Ver	0280	0300	0330	0350	0550	0600	0650	0675	0750	0800	0900	1000	1100	1250
<b>Integrated hydronic kit: 00, P1, P2, P3, P4</b>														
A	-	-	-	-	CRATE22	CRATE22	CRATE22	CRATE22	-	-	-	-	-	-

The accessory cannot be fitted on the configurations indicated with -

### Antivibration

Ver	0280	0300	0330	0350	0550	0600	0650
<b>Integrated hydronic kit: 00</b>							
A	VT17	VT17	VT17	VT17	-	-	-
<b>Integrated hydronic kit: 01, 02, 03, 04</b>							
A	VT11	VT11	VT11	VT11	-	-	-
<b>Integrated hydronic kit: P1, P2, P3, P4</b>							
A	VT13	VT13	VT13	VT13	-	-	-

The accessory cannot be fitted on the configurations indicated with -

### Antivibration

Ver	0280	0300	0330	0350	0550	0600	0650
<b>Integrated hydronic kit: 00, P1, P2, P3, P4</b>							
A	-	-	-	-	AVX410	AVX410	AVX410
<b>Integrated hydronic kit: 01, 02, 03, 04</b>							
A	-	-	-	-	AVX412	AVX412	AVX412

The accessory cannot be fitted on the configurations indicated with -

Ver	0675	0750	0800	0900	1000	1100	1250
<b>Integrated hydronic kit: 00</b>							
A	AVX410	AVX432	AVX432	AVX432	AVX432	AVX432	AVX431
<b>Integrated hydronic kit: 01, 02, 03, 04</b>							
A	AVX412	AVX436	AVX436	AVX436	AVX436	AVX436	AVX436
<b>Integrated hydronic kit: P1, P3</b>							
A	AVX410	AVX432	AVX432	AVX432	AVX432	AVX432	AVX433
<b>Integrated hydronic kit: P2, P4</b>							
A	AVX410	AVX432	AVX432	AVX432	AVX432	AVX433	AVX433

### Flange for ducts

Ver	0280	0300	0330	0350	0550	0600	0650
A	FLG1	FLG1	FLG1	FLG1	FLG2 x 2 (1)	FLG2 x 2 (1)	FLG2 x 2 (1)

(1) x... indicates the quantity to buy.

Ver	0675	0750	0800	0900	1000	1100	1250
A	FLG2 x 2 (1)	FLG2 x 4 (1)	FLG2 x 4 (1)	FLG2 x 4 (1)	FLG2 x 4 (1)	FLG2 x 4 (1)	FLG2 x 4 (1)

(1) x... indicates the quantity to buy.

### FILTROW

Ver	0280	0300	0330	0350	0550	0600	0650
A	FILTRO W DN50 (1)	FILTRO W DN50 (1)	FILTRO W DN50 (1)	FILTRO W DN50 (1)	FILTRO W DN65 (1)	FILTRO W DN65 (1)	FILTRO W DN65 (1)

(1) Installation is mandatory, contrarily guarantee becomes void.

Ver	0675	0750	0800	0900	1000	1100	1250
A	FILTRO W DN65 (1)	FILTRO W DN65 (1)	FILTRO W DN80 (1)	FILTRO W DN80 (1)	FILTRO W DN80 (1)	FILTRO W DN80 (1)	FILTRO W DN80 (1)

(1) Installation is mandatory, contrarily guarantee becomes void.

### Device for peak current reduction

Ver	0280	0300	0330	0350	0550	0600	0650
A	DRE (1)	DRE (1)	DRE (1)	DRE (1)	DRE (1)	DRE (1)	DRE (1)

(1) Contact the factory

A grey background indicates the accessory must be assembled in the factory

Ver	0675	0750	0800	0900	1000	1100	1250
A	DRE (1)	DRE (1)	DRE (1)	DRE (1)	DRE (1)	DRE (1)	DRE (1)

(1) Contact the factory

A grey background indicates the accessory must be assembled in the factory

### Power factor correction

Ver	0280	0300	0330	0350	0550	0600	0650
A	RIF (1)	RIF (1)	RIF (1)	RIF (1)	RIF (1)	RIF (1)	RIF (1)

(1) Contact the factory

A grey background indicates the accessory must be assembled in the factory

Ver	0675	0750	0800	0900	1000	1100	1250
A	RIF (1)	RIF (1)	RIF (1)	RIF (1)	RIF (1)	RIF (1)	RIF (1)

(1) Contact the factory

A grey background indicates the accessory must be assembled in the factory

### Electric heater kit for the base

Ver	0280	0300	0330	0350	0550	0600	0650	0675	0750	0800	0900	1000	1100	1250
<b>Power supply: 6</b>														
A	KRB31	KRB31	KRB31	KRB31	KRB32	KRB32	KRB32	KRB32	KRB36	KRB36	KRB36	KRB36	KRB36	KRB36
<b>Power supply: 7</b>														
A	KRB31	KRB31	KRB31	KRB31	KRB32	KRB32	KRB32	KRB32	KRB34	KRB34	KRB34	KRB34	KRB34	KRB34
<b>Power supply: 8</b>														
A	KRB31	KRB31	KRB31	KRB31	KRB32	KRB32	KRB32	KRB32	KRB35	KRB35	KRB35	KRB35	KRB35	KRB35
<b>Power supply: 9</b>														
A	KRB31	KRB31	KRB31	KRB31	KRB32	KRB32	KRB32	KRB32	KRB33	KRB33	KRB33	KRB33	KRB33	KRB33

A grey background indicates the accessory must be assembled in the factory

### Anti-condensate electric board resistance

Ver	0280	0300	0330	0350	0550	0600	0650
A	KRQ	KRQ	KRQ	KRQ	KRQ	KRQ	KRQ

A grey background indicates the accessory must be assembled in the factory

Ver	0675	0750	0800	0900	1000	1100	1250
A	KRQ	KRQ	KRQ	KRQ	KRQ	KRQ	KRQ

A grey background indicates the accessory must be assembled in the factory

## CONFIGURATOR

Field	Description
<b>1,2,3</b>	<b>NLC</b>
	Size
<b>4,5,6,7</b>	0280, 0300, 0330, 0350, 0550, 0600, 0650, 0675, 0750, 0800, 0900, 1000, 1100, 1250
<b>8</b>	<b>Operating field (1)</b>
X	Electronic thermostatic expansion valve
°	Standard mechanic thermostatic valve
<b>9</b>	<b>Model</b>
H	Heat pump
<b>10</b>	<b>Heat recovery</b>
D	With desuperheater (2)
°	Without heat recovery
<b>11</b>	<b>Version</b>
A	High efficiency
<b>12</b>	<b>Coils</b>
R	Copper pipes-copper fins
V	Copper pipes-Coated aluminium fins
°	Copper-aluminium
<b>13</b>	<b>Fans</b>
J	Inverter

Field	Description
<b>14</b>	<b>Power supply</b>
6	230V ~ 3 60Hz with magnet circuit breakers
7	460V ~ 3 60Hz with magnet circuit breakers
8	575V ~ 3 60Hz with magnet circuit breakers
9	208V ~ 3 60Hz with magnet circuit breakers
<b>15,16</b>	<b>Integrated hydronic kit</b>
00	Without hydronic kit
	<b>Kit with storage tank and pump/s</b>
01	Storage tank with low head pump
02	Storage tank with low head pump + stand-by pump
03	Storage tank with high head pump
04	Storage tank with high head pump + stand-by pump
	<b>Kit with pump/s</b>
P1	Single pump low head
P2	Pump low head + stand-by pump
P3	Single pump high head
P4	Pump high head + stand-by pump

(1) Water produced up to 39.2 °F.

(2) The desuperheater must be intercepted in heating mode. In cooling mode, a water temperature no lower than 95 °F must always be guaranteed on the heat exchanger inlet.

## PERFORMANCE SPECIFICATIONS (460V ~ 3 60HZ WITH MAGNET CIRCUIT BREAKERS)

Size		0280	0300	0330	0350	0550	0600	0650	0675	0750	0800	0900	1000	1100	1250
<b>Cooling performances 54.0 °F / 44.0 °F (1)</b>															
Cooling capacity	ton	14.12	18.03	20.39	22.34	27.20	35.29	39.23	42.90	49.87	54.54	62.93	70.24	77.51	84.52
Input power	kW	17.35	25.38	28.29	32.40	33.36	45.82	53.46	61.76	63.36	66.31	79.05	91.49	106.51	122.07
Cooling total input current	A	27.00	39.00	43.00	49.00	56.00	68.00	79.00	91.00	101.00	111.00	124.00	137.00	158.00	180.00
EER	BTU/(Wh)	9.77	8.52	8.65	8.27	9.78	9.24	8.80	8.33	9.44	9.87	9.55	9.21	8.73	8.31
IPLV	BTU/(Wh)	14.33	12.76	13.58	12.93	15.18	14.16	14.16	13.51	14.40	15.80	15.39	14.95	14.23	13.51
Water flow rate system side	gpm	33.8	43.1	48.8	53.4	65.1	84.4	93.8	102.6	119.3	130.5	150.6	168.0	185.4	202.2
Pressure drop system side	ftH <sub>2</sub> O	5.69	7.03	9.03	9.70	6.02	7.36	7.69	9.03	9.03	9.37	9.03	9.37	11.37	13.72
<b>Heating performance 104 °F / 113 °F (2)</b>															
Heating capacity	BTU/h	163,875	210,352	240,665	265,396	320,233	397,934	443,067	486,452	599,817	640,254	710,998	796,701	888,450	973,955
Input power	kW	16.24	22.42	25.11	27.92	31.60	41.64	47.59	54.24	57.16	63.26	71.21	82.54	94.92	106.66
Heating total input current	A	26.00	35.00	39.00	43.00	53.00	64.00	72.00	82.00	93.00	107.00	114.00	126.00	144.00	161.00
COP	kW/kW	2.960	2.750	2.810	2.790	2.970	2.800	2.730	2.630	3.080	2.970	2.930	2.830	2.740	2.680
Water flow rate system side	gpm	36.8	47.2	54.0	59.5	71.8	89.2	99.4	109.1	134.5	143.6	159.4	178.7	199.2	218.4
Pressure drop system side	ftH <sub>2</sub> O	7.03	8.36	11.04	12.04	7.36	8.03	8.36	10.04	11.37	11.37	10.04	10.71	13.38	16.06

(1) Data: System side water heat exchanger 54.0 °F / 44.0 °F; External air 95 °F

(2) Data: System side water heat exchanger 104 °F / 113 °F; External air 44.6 °F

## PART LOAD IPLV

Size		0280	0300	0330	0350	0550	0600	0650	0675	0750	0800	0900	1000	1100	1250
<b>Part load IPLV</b>															
100 %	BTU/(Wh)	9.96	8.77	8.87	8.50	10.00	9.45	9.01	8.60	9.62	10.10	9.76	9.42	8.94	8.53
75 %	BTU/(Wh)	12.83	11.36	12.01	11.43	13.44	12.59	12.49	11.87	12.73	13.82	13.44	13.03	12.39	11.77
50 %	BTU/(Wh)	15.63	13.96	14.88	14.16	16.62	15.53	15.56	14.84	15.63	17.20	16.79	16.31	15.49	14.74
25 %	BTU/(Wh)	15.18	13.58	14.54	13.82	16.21	15.12	15.22	14.54	16.21	17.91	17.50	17.03	16.21	15.42

## GENERAL TECHNICAL DATA

Size		0280	0300	0330	0350	0550	0600	0650	0675	0750	0800	0900	1000	1100	1250
<b>Compressor</b>															
Type	type	Scroll													
Compressor regulation	Type	On/Off													
Number	no.	2	2	2	2	2	2	2	2	4	4	4	4	4	4
Circuits	no.	1	1	1	1	1	1	1	1	2	2	2	2	2	2
Refrigerant	type	R410A													
Refrigerant load circuit 1 (1)	lbs	24.3	24.3	25.4	27.3	49.8	56.4	56.4	56.4	33.1	40.1	40.1	54.0	40.6	40.6
Refrigerant load circuit 2 (1)	lbs	-	-	-	-	-	-	-	-	35.3	40.1	40.1	54.0	40.6	40.6
<b>System side heat exchanger</b>															
Type	type	Brazen plate													
Number	no.	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Connections (in/out)	Type	Grooved joints													
Sizes (in/out)	Ø	2"	2"	2"	2"	2" 1/2 US	2" 1/2 US	2" 1/2 US	2" 1/2 US	2" 1/2 US	3"	3"	3"	3"	3"
<b>Intake plus machine body</b>															
Sound power level	dB(A)	76.0	80.3	80.6	81.2	80.3	86.6	88.0	89.2	82.5	83.2	87.5	89.6	91.0	92.1
<b>Machine exhaust</b>															
Sound power level	dB(A)	75.6	80.4	80.8	81.6	80.3	86.2	87.9	89.4	82.4	83.1	87.1	89.2	90.9	92.2

(1) The load indicated in the table is an estimated and preliminary value. The final value of the refrigerant load is indicated on the unit's technical label. For further information contact the office.

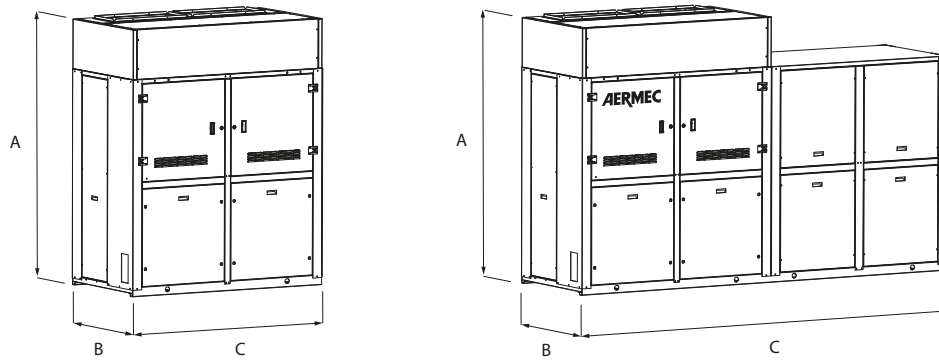
## FANS DATA

Size		0280	0300	0330	0350	0550	0600	0650	0675	0750	0800	0900	1000	1100	1250
<b>Power supply: 7</b>															
<b>Fan</b>															
Type	type	Plug-fun													
Fan motor	type	Inverter													
Number	no.	2	2	2	2	4	4	4	4	8	8	8	8	8	8
Air flow rate	cfm	7,887	10,241	10,241	10,771	16,245	18,422	19,776	22,248	29,370	32,019	34,667	36,845	39,611	42,319

## ELECTRIC DATA

Size		0280	0300	0330	0350	0550	0600	0650	0675	0750	0800	0900	1000	1100	1250
<b>Power supply: 7</b>															
<b>Electric data</b>															
Peak current (LRA)	A	127.7	157.4	182.4	187.5	235.6	285.8	332.8	341.8	306.0	320.2	370.4	378.7	434.7	452.7
Minimum circuit amperage (MCA)	A	42.20	53.80	59.40	63.90	84.40	93.70	108.10	119.60	151.00	158.70	168.00	176.40	202.20	225.10
Maximum overcurrent permitted by the protection device (MOP)	A	55.00	71.70	81.80	86.30	110.60	124.20	150.00	161.50	177.00	185.00	198.50	206.80	244.10	267.10

## DIMENSIONS



Size		0280	0300	0330	0350	0550	0600	0650	0675	0750	0800	0900	1000	1100	1250
<b>Integrated hydronic kit: 00</b>															
<b>Dimensions and weights</b>															
A	in	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6
B	in	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3
C	in	68.9	68.9	68.9	68.9	124.0	124.0	124.0	124.0	248.0	248.0	248.0	248.0	248.0	248.0
<b>Weights</b>															
Empty weight	lbs	1,737	1,845	1,896	1,911	3,069	3,369	3,492	3,598	5,465	5,666	5,983	6,281	6,517	6,724
Weight functioning	lbs	1,750	1,863	1,911	1,929	3,097	3,400	3,527	3,631	5,518	5,719	6,041	6,343	6,583	6,792
Size		0280	0300	0330	0350	0550	0600	0650	0675	0750	0800	0900	1000	1100	1250
<b>Integrated hydronic kit: 01, 03</b>															
<b>Dimensions and weights</b>															
A	in	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6
B	in	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3
C	in	133.9	133.9	133.9	133.9	163.4	163.4	163.4	163.4	287.4	287.4	287.4	287.4	287.4	287.4
<b>Weights</b>															
Empty weight	lbs	2,447	2,551	2,599	2,617	3,668	3,968	4,114	4,217	6,246	6,435	6,753	7,050	7,357	7,564
Weight functioning	lbs	3,170	3,278	3,327	3,347	4,841	5,143	5,293	5,397	7,449	7,639	7,961	8,263	8,574	8,783
Size		0280	0300	0330	0350	0550	0600	0650	0675	0750	0800	0900	1000	1100	1250
<b>Integrated hydronic kit: 02, 04</b>															
<b>Dimensions and weights</b>															
A	in	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6
B	in	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3
C	in	133.9	133.9	133.9	133.9	163.4	163.4	163.4	163.4	287.4	287.4	287.4	287.4	287.4	287.4
<b>Weights</b>															
Empty weight	lbs	2,542	2,646	2,694	2,714	3,765	4,065	4,231	4,336	6,365	6,552	6,892	7,189	7,566	7,776
Weight functioning	lbs	3,265	3,373	3,422	3,444	4,938	5,240	5,410	5,514	7,568	7,756	8,100	8,402	8,785	8,995
Size		0280	0300	0330	0350	0550	0600	0650	0675	0750	0800	0900	1000	1100	1250
<b>Integrated hydronic kit: P1, P3</b>															
<b>Dimensions and weights</b>															
A	in	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6
B	in	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3
C	in	98.4	98.4	98.4	98.4	124.0	124.0	124.0	124.0	248.0	248.0	248.0	248.0	248.0	248.0
<b>Weights</b>															
Empty weight	lbs	2,037	2,141	2,189	2,209	3,179	3,479	3,622	3,728	5,595	5,796	6,133	6,431	6,740	6,947
Weight functioning	lbs	2,094	2,202	2,251	2,271	3,243	3,545	3,695	3,799	5,686	5,886	6,228	6,530	6,843	7,053
Size		0280	0300	0330	0350	0550	0600	0650	0675	0750	0800	0900	1000	1100	1250
<b>Integrated hydronic kit: P2, P4</b>															
<b>Dimensions and weights</b>															
A	in	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6	86.6
B	in	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3	43.3
C	in	98.4	98.4	98.4	98.4	124.0	124.0	124.0	124.0	248.0	248.0	248.0	248.0	248.0	248.0
<b>Weights</b>															
Empty weight	lbs	2,132	2,235	2,286	2,306	3,276	3,576	3,741	3,845	5,714	5,913	6,272	6,570	6,949	7,158
Weight functioning	lbs	2,189	2,297	2,346	2,368	3,340	3,644	3,812	3,918	5,805	6,003	6,367	6,669	7,055	7,262

Aermec reserves the right to make any modifications deemed necessary.  
All data is subject to change without notice. Aermec does not assume responsibility or liability for errors or omissions.

**Aermec S.p.A.**  
Via Roma, 996 - 37040 Bevilacqua (VR) - Italia  
Tel. 0442633111 - Telefax 044293577  
www.aermec.com



A series of horizontal dotted lines spanning the width of the page, providing a guide for handwriting practice.



A series of horizontal dotted lines spanning the width of the page, providing a guide for handwriting practice.



A series of horizontal dotted lines spanning the width of the page, providing a guide for handwriting practice.