

Air cooled chiller and heat pump with plug fan
Cooling Capacity from 6 to 38 kW
Heating capacity from 7 to 44 kW

Variable Multi Flow

VMF



- **HEAT PUMP OPTIMISED FOR HEATING: PRODUCTION OF HOT WATER UP TO 60°C**
- **HEATING OPERATION WITH EXTERNAL TEMPERATURES FROM -15°C TO 42°C**
- **INTERFACES WITH VARIABLE MULTIFLOW VMF SYSTEM**
- **EVAPORATING AND CONDENSING CONTROL STANDARD**
- **INVERTER PLUG FAN**
- **DOMESTIC HOT WATER (DHW) PRODUCTION WITH EXTERNAL TEMPERATURES FROM -15°C TO 42°C**

Characteristics

- Cooling only and heat pump models "H"
- Manufactured with refrigerant R410A
- Versions available:
 - "O" Standard
 - "P" With pump, expansion tank and water filter
 - "A" With pump, expansion tank, water filter and buffer tank
- All versions are available for the production of chilled water down to -6°C (see unit configuration option)
- Compressors isolator and mains isolator standard on all models
- Horizontal or vertical air discharge site adjustable for all sizes
- Plastic directional air discharge hood for sizes 050 to 090
- Galvanised steel directional air discharge hood for the other sizes
- High Efficiency Scroll Compressor
- Compressor crank case heater standard
- Water filter and flow switch standard on all versions
- Plug fans with EC Inverter motors conforming to regulation EU 327/2011
- Through continuous fan speed control permits operation in cooling mode with external temperatures down to -10°C and in heating mode with external temperatures up to 42°C
- Electronic controller with start timers and optimisation of defrost cycles
- High efficiency plate heat exchanger
- Plate heat exchanger anti-freeze electric heater "KR" standard on heat pump "H" models
- Condensate drain tray standard on heat pump "H" models
- Anti-freeze electric heater standard for the buffer tank

Accessories

- **AERSET:** The accessory allows the automatic compensation of the operating setpoint of the unit to which it is connected, based on a 0-10V MODBUS input signal. **Mandatory accessory:** AER485 or MODU-485A
 - **MODU-485BL:** RS-485 interface for supervising systems with MODBUS protocol. (accessory mandatory for the production of domestic hot water).
 - **DRE:** Electronic soft starter. Reduces starting current by about 30%. Factory fitted only.
 - **KR:** Plate heat exchanger anti-freeze electric heater (only available for cooling only versions) **Factory fitted only.**
 - **PR3:** Simplified remote panel. Permits control of basic unit functions and alarm notification. Remote mounted with shielded cable up to 30 m distance.
 - **VT:** Anti-vibration mounts.
 - **CLPA:** Galvanised steel plenum to be installed on the condenser coil. Facilitates duct installations.
 - **GPCL:** Protective grille. Protects the external condenser coil from damage.
 - **KR B4/B5/B6:** Electric base heater to prevent the formation of ice (only available for heat pump versions).
 - **BSKW:** External electric heater kit of various capacities with single and three phase power supplies:
 - BS4KW230M (4kW, 230V/1/50Hz)
 - BS6KW230M (6kW, 230V/1/50Hz)
 - BS6KW400T (6kW, 400V/3/50Hz)
 - BS9KW400T (9kW, 400V/3/50Hz)
 - **MULTICONTROL:** can be used as a remote panel for a single unit or to simultaneously control several chillers or heat pumps (up to 4) installed in the same hydraulic system, fitted with our MODUCONTROL controller.
- For complete control the following accessories are available:
- **SPLW:** System water temperature sensor. In most cases the loose supplied sensors for each chiller/heat pump are sufficient. In cases of a common flow/return header this sensor can be used to control the common system supply water temperature for the chillers connected to the header, or it can be used for temperature monitoring.
 - **SDHW:** Domestic hot water temperature sensor. Used with the storage tank to control the temperature of water produced.
 - **AERWEB300:** Accessory AERWEB allows remote control of a chiller through a common PC and an ethernet connection over a common browser; 4 versions available:
 - AERWEB300-6: Web server to monitor and remote control max. 6 units in RS485 network;
 - AERWEB300-18: Web server to monitor and

remote control max. 18 units in RS485 network;
 - AERWEB300-6G: Web server to monitor and remote control max. 6 units in RS485 network with integrated GPRS modem;
 - AERWEB300-18G: Web server to monitor and

remote control max. 18 units in RS485 network with integrated GPRS modem;
 • **COMPATIBILITY with the VMF SYSTEM**
For more information on the system refer to the manual.

| CL | ver. | 25 | 30 | 40 | 50 | 70 | 80 | 90 | 100 | 150 | 200 |
|--------------------------------------|---------|-----|-----|-----|-----|-----|-----|-----|--------|--------|--------|
| MODU-485BL | (1) All | * | * | * | * | * | * | * | * | * | * |
| AERWEB300 | All | * | * | * | * | * | * | * | * | * | * |
| MULTICONTROL | All | * | * | * | * | * | * | * | * | * | * |
| SPLW | All | * | * | * | * | * | * | * | * | * | * |
| SDHW | All | * | * | * | * | * | * | * | * | * | * |
| PR3 | All | * | * | * | * | * | * | * | * | * | * |
| AERSET | All | * | * | * | * | * | * | * | * | * | * |
| BS4KW230M | H | * | * | * | - | - | - | - | - | - | - |
| BS6KW230M | H | * | * | * | - | - | - | - | - | - | - |
| BS6KW400T | H | * | * | * | * | * | * | * | * | * | * |
| BS9KW400T | H | * | * | * | * | * | * | * | * | * | * |
| CLPA | (2) All | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 |
| GPCL | All | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 |
| BDX | HP | 5 | 5 | 5 | 5 | 5 | 5 | 5 | - | - | - |
| | HA | 5 | 5 | 5 | 6 | 6 | 6 | 6 | - | - | - |
| VT | H / HP | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 15 | 15 | 15 |
| | HA | 15A | 15A | 15A | 15A | 15A | 15A | 15A | 15 | 15 | 15 |
| Accessori montati in fabbrica | | | | | | | | | | | |
| DRE | (3) | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 (x2) | 5 (x2) | 5 (x2) |
| KRB4 | H | * | * | - | - | - | - | - | - | - | - |
| KRB5 | H | - | - | * | * | * | * | * | - | - | - |
| KRB6 | H | - | - | - | - | - | - | - | * | * | * |

(1) Accessory mandatory for the production of domestic hot water

(2) Not available with accessory GPCL only for sizes 025 to 090

(3) Only 400V/3N/50Hz

(4) Standard for the heat pumps

Unit Configurator

By suitably combining the numerous options available it is possible to configure each model in such a way as to meet the most particular of system requirements.

| Filed | Code | 11 | Field of use |
|-------|---|----|--|
| 1,2 | CL | | ° Standard (leaving water temperature down to 4°C) |
| 3,4,5 | Size | | Z Low temperature (Low leaving liquid from 4°C down to up to 0°C) |
| | 025-030-040-050-070-080-090-100-150-200 | | Y Low temperature (Low leaving liquid from 0°C down to -6°C) |
| 6 | Model | 12 | Evaporator |
| | ° Cooling Only | | ° Standatd |
| | H Heat pumps | | C Condensing unit |
| 7 | Execution | 13 | Power supply |
| | ° Standard | | M 230V/1/50Hz (from 020 to 040) |
| | L Low noise (5) | | ° 400V/3N/50Hz |
| 8 | Version | | |
| | ° Standard | | |
| | P With pump | | |
| | A With pump and buffer tank (6) | | |
| 9 | Heat recovery | | |
| | ° Without recovery | | |
| | D With desuperheater (7) | | |
| 10 | Coil | | |
| | ° Aluminium | | |
| | R Copper | | |
| | S Tinned copper | | |
| | V Coated aluminium (epoxy paint) | | |

(5) No Heat pump versions

(6) The units CLH with integrated buffer tank, are not suitable for producing of hot water (DHW)

(7) for cooling only versions from size 050 to 200

Technical data

| CL - H | | | 025 | 030 | 040 | 050 | 070 | 080 | 090 | 100 | 150 | 200 | | | |
|---|-------------------------------|-----|-------------------------|-----------|-----------|-----------|-------|-------|-------|-------|-------|-------|-------|------|------|
| | | | V/ph/Hz | 230V-400V | 230V-400V | 230V-400V | 400V | 400V | 400V | 400V | 400V | 400V | | | |
| 12°C / 7°C | Cooling capacity | (1) | kW | 6,39 | 8,35 | 10,34 | 11,90 | 13,96 | 15,49 | 18,92 | 23,82 | 31,21 | 37,43 | | |
| | Total input power | (1) | kW | 2,69 | 3,13 | 3,89 | 4,27 | 4,93 | 5,73 | 6,91 | 8,36 | 11,17 | 14,67 | | |
| | EER | (1) | | 2,38 | 2,67 | 2,66 | 2,79 | 2,83 | 2,70 | 2,74 | 2,85 | 2,79 | 2,55 | | |
| | ESEER | (1) | | 2,61 | 2,93 | 2,92 | 3,07 | 3,11 | 2,97 | 3,01 | 4,12 | 4,04 | 3,70 | | |
| | Cooling Energy Class Eurovent | (1) | | E | D | D | C | C | C | C | C | C | D | | |
| | Water flow rate | (1) | l/h | 1105 | 1442 | 1787 | 2055 | 2413 | 2678 | 3275 | 4126 | 5394 | 6484 | | |
| 40°C / 45°C | Pressure drop | (1) | kPa | 13 | 12 | 13 | 11 | 15 | 26 | 26 | 34 | 22 | 43 | | |
| | Heating capacity | (2) | kW | 7,92 | 9,79 | 12,52 | 14,47 | 15,95 | 18,61 | 21,06 | 27,98 | 34,92 | 44,00 | | |
| | Total input power | (2) | kW | 2,39 | 3,01 | 3,79 | 4,22 | 4,85 | 5,60 | 6,71 | 8,30 | 10,86 | 14,75 | | |
| | COP | (2) | | 3,31 | 3,25 | 3,30 | 3,43 | 3,29 | 3,32 | 3,14 | 3,37 | 3,22 | 2,98 | | |
| | Heating Energy Class Eurovent | (2) | | A | A | A | A | A | A | B | A | A | C | | |
| | Water flow rate | (2) | l/h | 1406 | 1740 | 2113 | 2476 | 2727 | 3181 | 3597 | 4772 | 5971 | 7346 | | |
| | | | Pressure drop | (2) | kPa | 19 | 16 | 18 | 21 | 32 | 34 | 49 | 30 | 42 | |
| Performance under average climatic conditions (Average) | | | | | | | | | | | | | | | |
| | | | Pdesignh | (3) | | 6 | 8 | 10 | 11 | 12 | 15 | / | 22 | 27 | / |
| | | | SCOP | (3) | | 2,63 | 2,60 | 2,60 | 2,70 | 2,60 | 2,63 | / | 2,65 | 2,60 | / |
| | | | ηs | (3) | | 102 | 101 | 101 | 105 | 101 | 102 | / | 103 | 101 | / |
| | | | Efficiency Energy Class | (5) | | A+ | A+ | A+ | A+ | A+ | A+ | / | A+ | A+ | / |
| | | | Pdesignh | (4) | | 7 | 9 | 11 | 13 | 14 | 16 | 18 | 25 | 31 | 39 |
| | | | SCOP | (4) | | 3,35 | 3,35 | 3,43 | 3,55 | 3,45 | 3,53 | 3,30 | 3,53 | 3,35 | 3,23 |
| | | | ηs | (4) | | 131 | 131 | 134 | 139 | 135 | 138 | 129 | 138 | 131 | 126 |
| | | | Efficiency Energy Class | (5) | | A+ | A+ | A+ | A+ | A+ | A+ | A+ | A+ | A+ | A+ |

| CL - HP/HA | | | 025 | 030 | 040 | 050 | 070 | 080 | 090 | 100 | 150 | 200 | |
|-------------------------|---|-----|---------|-----------|-----------|-----------|-------|-------|-------|-------|-------|-------|-------|
| | | | V/ph/Hz | 230V-400V | 230V-400V | 230V-400V | 400V | 400V | 400V | 400V | 400V | 400V | |
| 12°C / 7°C | Cooling capacity | (1) | kW | 6,44 | 8,42 | 10,44 | 12,03 | 14,12 | 15,67 | 19,14 | 24,34 | 31,94 | 38,31 |
| | Total input power | (1) | kW | 2,72 | 3,14 | 3,88 | 4,27 | 4,91 | 5,68 | 6,84 | 8,43 | 11,43 | 14,93 |
| | EER | (1) | | 2,37 | 2,68 | 2,69 | 2,82 | 2,88 | 2,76 | 2,80 | 2,89 | 2,79 | 2,57 |
| | ESEER | (1) | | 2,61 | 2,95 | 2,96 | 3,10 | 3,16 | 3,03 | 3,08 | 4,18 | 4,04 | 3,71 |
| | Cooling Energy Class Eurovent | (1) | | E | D | D | C | C | C | C | C | C | D |
| | Water flow rate | (1) | l/h | 1105 | 1442 | 1787 | 2055 | 2413 | 2678 | 3275 | 4126 | 5394 | 6484 |
| 40°C / 45°C | Pressure drop | (1) | kPa | 64 | 63 | 60 | 98 | 93 | 81 | 75 | 99 | 157 | 144 |
| | Heating capacity | (2) | kW | 7,85 | 9,70 | 12,39 | 14,30 | 15,76 | 18,39 | 20,81 | 27,41 | 34,14 | 43,84 |
| | Total input power | (2) | kW | 2,40 | 3,01 | 3,76 | 4,20 | 4,81 | 5,52 | 6,62 | 8,35 | 11,11 | 14,98 |
| | COP* | (2) | | 3,27 | 3,22 | 3,30 | 3,40 | 3,28 | 3,33 | 3,14 | 3,28 | 3,07 | 2,93 |
| | COP | (2) | | 3,48 | 3,40 | 3,62 | 3,71 | 3,52 | 3,56 | 3,35 | 3,5 | 3,29 | 3,07 |
| | Heating Energy Class Eurovent | (2) | | A | A | A | A | A | A | B | A | B | C |
| | Water flow rate | (2) | l/h | 1406 | 1740 | 2113 | 2476 | 2727 | 3181 | 3597 | 4772 | 5971 | 7346 |
| | Pressure drop | (2) | kPa | 57 | 58 | 53 | 93 | 88 | 71 | 70 | 81 | 147 | 130 |
| | Performance under average climatic conditions (Average) | | | | | | | | | | | | |
| Pdesignh | | (3) | | 6 | 7 | 10 | 11 | 12 | 14 | / | 21 | 26 | / |
| SCOP | | (3) | | 2,63 | 2,60 | 2,60 | 2,68 | 2,58 | 2,63 | / | 2,60 | 2,58 | / |
| ηs | | (3) | | 102 | 101 | 101 | 104 | 100 | 102 | / | 101 | 100 | / |
| Efficiency Energy Class | | (5) | | A+ | A+ | A+ | A+ | A+ | A+ | / | A+ | A+ | / |
| Pdesignh | | (4) | | 7 | 8 | 11 | 12 | 14 | 16 | 18 | 24 | 29 | 37 |
| SCOP | | (4) | | 3,35 | 3,43 | 3,43 | 3,63 | 3,50 | 3,58 | 3,30 | 3,45 | 3,23 | 3,20 |
| ηs | | (4) | | 131 | 134 | 134 | 142 | 137 | 140 | 129 | 135 | 126 | 125 |
| Efficiency Energy Class | | (5) | | A+ | A+ | A+ | A+ | A+ | A+ | A+ | A+ | A+ | A+ |

| | | | 025 | 030 | 040 | 050 | 070 | 080 | 090 | 100 | 150 | 200 | |
|--------------------------------|--------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-------|
| Electrical data | | | | | | | | | | | | | |
| 230V | Total input current (cooling) | (6) | A | 12,7 | 15,4 | 16,0 | / | / | / | / | / | / | |
| | Total input current (heating) | (6) | A | 11,8 | 14,3 | 15,6 | / | / | / | / | / | / | |
| | Maximum current (FLA) | (6) | A | 18,8 | 23,7 | 24,0 | / | / | / | / | / | / | |
| | Starting current (LRA) | (6) | A | 86,1 | 95,5 | 96,1 | / | / | / | / | / | / | |
| 400V | Total input currente (cooling) | (6) | A | 5,5 | 6,3 | 6,7 | 7,7 | 8,4 | 9,8 | 13,4 | 14,3 | 21,3 | 26,6 |
| | Total input currente (heating) | (6) | A | 5,5 | 6,2 | 6,5 | 7,6 | 8,2 | 9,3 | 12,7 | 14,3 | 19,5 | 26,5 |
| | Maximum current (FLA) | (6) | A | 11,0 | 12,0 | 11,9 | 13,5 | 14,7 | 15,2 | 20,4 | 27,0 | 30,3 | 40,8 |
| | Starting current (LRA) | (6) | A | 44,6 | 44,6 | 57,2 | 64,2 | 74,2 | 94,2 | 105,2 | 77,7 | 109,3 | 125,6 |
| Compressor | | | | | | | | | | | | | |
| Compressor | Type/n° | Scroll/1 | Scroll/1 | Scroll/1 | Scroll/1 | Scroll/1 | Scroll/1 | Scroll/1 | Scroll/1 | Scroll/2 | Scroll/2 | Scroll/2 | |
| Circuit | n° | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| Refrigerant | Type | R410A | | | | | | | | | | | |
| Heat exchanger system side | | | | | | | | | | | | | |
| Exchanger | Type/n° | Plate/1 | | | | | | | | | | | |
| hvdraulic connections (In/Out) | Ø | 1"1/4 | | | | | | | | | | | |

Date (14511:2013)

* The legislation 14511: 2013 from the previous 14511: 2011 provides a different contribution of the fan

(1) Water evaporator 12°C/7°C, External air 35°C

(2) Water condenser 40°C/45°C, External air 7°C b.s./6°C b.u.

(3) Efficiencies for average temperature Applications (55°C)

(4) Efficiencies for low temperature Applications (35°C)

(5) Efficiency Energy Class in according to regulation n°811/2013 Pdesignh ≤ 70kW

(6) Unit standar configuration without hydronic kit

Technical data

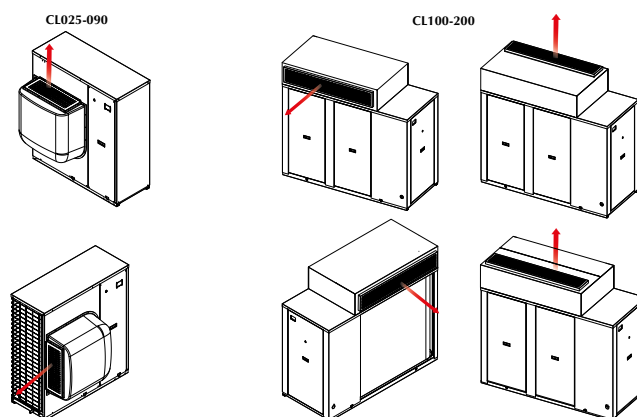
| | | 025 | 030 | 040 | 050 | 070 | 080 | 090 | 100 | 150 | 200 |
|------------------------------|---------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Plug-fan | | | | | | | | | | | |
| Fans | Type/n° | inverter/1 | inverter/1 | inverter/1 | inverter/1 | inverter/1 | inverter/1 | inverter/1 | inverter/2 | inverter/2 | inverter/2 |
| Air flow rate (cooling) | m³/h | 4000 | 4000 | 6500 | 6500 | 6500 | 6500 | 7500 | 10000 | 12000 | 16000 |
| Nominal high static pressure | Pa | 50 | 50 | 50 | 80 | 80 | 80 | 80 | 80 | 100 | 100 |
| Sound data chiller | | | | | | | | | | | |
| Sound power level | dB(A) | 78 | 78 | 73 | 73 | 73 | 73 | 76 | 74 | 79 | 80 |
| Sound pressure level | dB(A) | 46 | 46 | 41 | 41 | 41 | 41 | 44 | 42 | 47 | 48 |
| Sound data Delivery | | | | | | | | | | | |
| Sound power level | dB(A) | 78 | 78 | 78 | 78 | 78 | 78 | 81 | 78 | 83 | 85 |
| Sound pressure level | dB(A) | 46 | 46 | 46 | 46 | 46 | 46 | 49 | 47 | 52 | 54 |

Sound power Aermec determines sound power values on the basis of measurements made in accordance with UNI EN ISO 9614-2, as required for Eurovent certification.

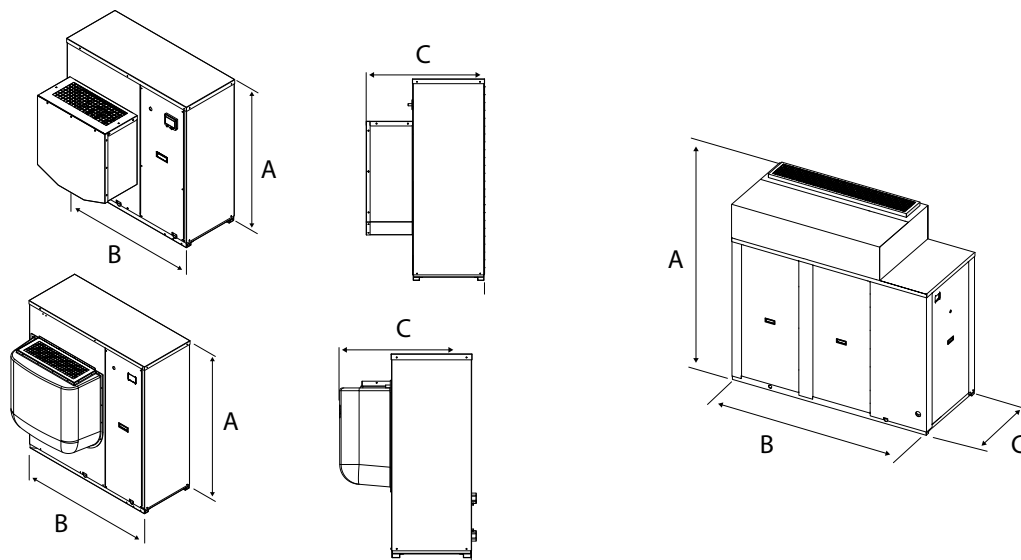
Sound pressure Sound pressure in free field, at 10 m distance from the external surface of the unit (in accordance with UNI EN ISO 3744).

Note: For more information, refer to the selection program or the technical documentation available on the website www.aermec.com

Discharge hood possible configurations (site modified)



Dimensional data (mm)



| CL standard and low noise | | | 025 | 030 | 040 | 050 | 070 | 080 | 090 | 100 | 150 | 200 |
|----------------------------------|---|----|------|------|------|------|------|------|------|------|------|------|
| H (without hydronic kit) | | | | | | | | | | | | |
| Height | A | mm | 1028 | 1028 | 1281 | 1281 | 1281 | 1281 | 1281 | 1674 | 1674 | 1674 |
| Width | B | mm | 1005 | 1005 | 1160 | 1160 | 1160 | 1160 | 1160 | 1897 | 1897 | 1897 |
| Depht | C | mm | 702 | 702 | 798 | 798 | 798 | 798 | 798 | 801 | 801 | 801 |
| HP (with pump) | | | | | | | | | | | | |
| Height | A | mm | 1028 | 1028 | 1281 | 1281 | 1281 | 1281 | 1281 | 1674 | 1674 | 1674 |
| Width | B | mm | 1005 | 1005 | 1160 | 1160 | 1160 | 1160 | 1160 | 1897 | 1897 | 1897 |
| Depht | C | mm | 702 | 702 | 798 | 798 | 798 | 798 | 798 | 801 | 801 | 801 |
| HA (with Storage tank) | | | | | | | | | | | | |
| Height | A | mm | 1028 | 1028 | 1281 | 1281 | 1281 | 1281 | 1281 | 1674 | 1674 | 1674 |
| Width | B | mm | 1366 | 1366 | 1610 | 1610 | 1610 | 1610 | 1610 | 1897 | 1897 | 1897 |
| Depht | C | mm | 702 | 702 | 798 | 798 | 798 | 798 | 798 | 801 | 801 | 801 |
| Weight | | | | | | | | | | | | |
| CL - H | | kg | 142 | 142 | 229 | 229 | 240 | 240 | 234 | 504 | 527 | 515 |
| CL - HP | | kg | 148 | 148 | 239 | 239 | 250 | 250 | 243 | 517 | 543 | 531 |
| CL - HA | | kg | 172 | 172 | 274 | 274 | 284 | 284 | 279 | 567 | 593 | 581 |

Aermec reserves the right to make all modification deemed necessary for improving the product at any time with any modification of technical data.

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