

| Clause | Requirement – Test  | Measuring result – Remark  | Verdict                        |
|--------|---|--|--------------------------------|
|        | - Heat pump space heaters, with the exception of low-temperature heat pumps: 110%;  | See table 2:<br>Tested $\eta_s(\%)$ :153,9%                            | P                              |
|        | - Low-temperature heat pumps: 125%.   | See table 2a:<br>Tested $\eta_s(\%)$ :184,5%                           | for reference                  |
| 2      | Requirements for water heating energy efficiency ( $\eta_{wh}$ )  |  | N/A                            |
| (a)    | (a) From <b>26 September 2015</b> the water heating energy efficiency of <b>combination heaters</b> shall not fall below the following values: $\eta_{wh}(\%)$ :                                | Load profile:<br>Tested $\eta_{wh}(\%)$ :<br>Limited $\eta_{wh}(\%)$ : | N/A                            |
|        | Declared load profile   | 3XS XXS XS S M L XL XXL 3XL 4XL  | N/A                            |
|        | $\eta_{wh}$   | 22% 23% 26% 26% 30% 30% 30% 32% 32% 32%                                |                                |
| (b)    | (a) From <b>26 September 2017</b> the water heating energy efficiency of <b>combination heaters</b> shall not fall below the following values: $\eta_{wh}(\%)$ :                                | Load profile:<br>Tested $\eta_{wh}(\%)$ :<br>Limited $\eta_{wh}(\%)$ : | N/A                            |
|        | Declared load profile   | 3XS XXS XS S M L XL XXL 3XL 4XL  | N/A                            |
|        | $\eta_{wh}$   | 32% 32% 32% 32% 36% 37% 38% 60% 64% 64%                                |                                |
| 3      | Requirements for sound power level ( $L_{WA}$ )   |  | P                              |
|        | From <b>26 September 2015</b> the sound power level of heat pump space heater and heat pump combination heaters shall not exceed the following values:  |  | P                              |
|        | Rated heat output   | $L_{WA,indoors}$ $L_{WA,outdoors}$                                     | Rated heat output:<br>9,157 kW |
|        | ≤ 6 kW  | ≤ 60 dB ≤ 65 dB  | Tested:                        |
|        | >6 kW and ≤ 12 kW   | ≤ 65 dB ≤ 70 dB  | $L_{WA,indoors}$ (dB): N/A     |
|        | > 12 kW and ≤ 30 kW   | ≤ 70 dB ≤ 78 dB  | $L_{WA,outdoors}$ (dB): 60 dB  |
|        | > 30 kW and ≤ 70 kW   | ≤ 80 dB ≤ 88 dB  |                                |
| 4      | Requirements for product information  |  | P                              |
|        | From <b>26 September 2015</b> the following product information on heater shall be provided:  |  | P                              |
| (a)    | The <b>instruction manuals</b> for installers and end-users, <b>free access websites</b> of manufacturers, their authorised representatives and importers shall contain the following elements: |  | P                              |
|        | - For heat pump space heaters and heat pump combination heaters, the technical parameters set out in Table 2 of clause 5 in Annex II , measured and calculated in accordance with Annex III;    |  | P                              |



| Table 2  |                | Calculation for seasonal space heating energy efficiency<br>(Medium temperature application): |                                     |  |                              |                  | P |
|--|----------------|---|-------------------------------------|--|------------------------------|------------------|---|
| <b>Model:</b>  |                | <b>HS12V-QPNNW</b>  |                                     | Heat pump only <input type="checkbox"/> , reversible heat pump <input checked="" type="checkbox"/> |                              |                  |   |
| Tdesignh (°C):   |                | -10   |                                     |  |                              |                  |   |
| Pdesignh (kW):   |                | 9,157   |                                     |  |                              |                  |   |
| Tbiv(°C):  |                | -7  |                                     |  |                              |                  |   |
| TOL(°C):   |                | -10   |                                     |  |                              |                  |   |
|  | Part load (kW) | Measured capacity (kW)  | COP at measured capacity            | Cc   | CRu                          | COP at part load |   |
| E  | 9,157          | 7,278   | 2,34                                | 0,00   | 1,00                         | 2,34             |   |
| F  | 8,101          | 8,101   | 2,64                                | 0,00   | 1,00                         | 2,64             |   |
| A  | 8,101          | 8,101   | 2,64                                | 0,00   | 1,00                         | 2,64             |   |
| B  | 4,931          | 4,918   | 3,84                                | 0,00   | 1,00                         | 3,84             |   |
| C  | 3,170          | 4,463   | 5,28                                | 0,90   | 0,71                         | 5,08             |   |
| D  | 1,409          | 5,050   | 6,80                                | 0,90   | 0,28                         | 5,40             |   |
| Low power mode power consumption   |                |   |                                     |  |                              |                  |   |
| Thermostat-off mode [P <sub>TO</sub> ] W   |                | Standby mode [P <sub>SB</sub> ]   | Crankcase heater [P <sub>CK</sub> ] |  | Off mode [P <sub>OFF</sub> ] |                  |   |
| 0,008  |                | 0,008   | 0                                   |  | 0,008                        |                  |   |
| SCOP <sub>on</sub> : 3,92  |                |   |                                     |  |                              |                  |   |
| SCOP: 3,92   |                |   |                                     |  |                              |                  |   |
| Correction F(1) = 3%   |                |   |                                     |  |                              |                  |   |
| Correction F(2) = 5%<br>(for water/brine to water heat pump )                                  |                |   |                                     |  |                              |                  |   |
| $\eta_s$ : 153,9%  |                |   |                                     |  |                              |                  |   |
| Seasonal space heating energy efficiency classes: A+++<br>(According (EU) No 811/2013 Table 1) |                |   |                                     |  |                              |                  |   |
| Supplementary information:<br>CRu: part load divided by capacity.                              |                |   |                                     |  |                              |                  |   |



| Table 2a   |                    | Calculation for seasonal space heating energy efficiency<br>(Low temperature application) |  |                                     |      |                              | P |
|--|--------------------|---|--|-------------------------------------|------|------------------------------|---|
| <b>Model:</b>  | <b>HS12V-QPNNW</b> |   | Heat pump only <input type="checkbox"/> , reversible heat pump <input checked="" type="checkbox"/> |                                     |      |                              |   |
| Tdesignh (°C):   |                    | -10   |  |                                     |      |                              |   |
| Pdesignh (kW):   |                    | 8,188   |  |                                     |      |                              |   |
| Tbiv(°C):  |                    | -7  |  |                                     |      |                              |   |
| TOL(°C):   |                    | -10   |  |                                     |      |                              |   |
|  | Part load (kW)     | Measured capacity (kW)  | COP at measured capacity   | Cc                                  | CRu  | COP at part load             |   |
| E  | 8,188              | 7,486   | 3,04   | 0,00                                | 1,00 | 3,04                         |   |
| F  | 7,243              | 7,243   | 3,33   | 0,00                                | 1,00 | 3,33                         |   |
| A  | 7,243              | 7,243   | 3,33   | 0,00                                | 1,00 | 3,33                         |   |
| B  | 4,409              | 4,441   | 4,58   | 0,00                                | 0,99 | 4,58                         |   |
| C  | 2,834              | 4,304   | 6,15   | 0,90                                | 0,66 | 5,84                         |   |
| D  | 1,260              | 4,749   | 7,70   | 0,90                                | 0,27 | 6,03                         |   |
| Low power mode power consumption   |                    |   |  |                                     |      |                              |   |
| Thermostat-off mode [P <sub>TO</sub> ] W   |                    | Standby mode [P <sub>SB</sub> ]   |  | Crankcase heater [P <sub>CK</sub> ] |      | Off mode [P <sub>OFF</sub> ] |   |
| 0,008  |                    | 0,008   |  | 0                                   |      | 0,008                        |   |
| SCOP <sub>on</sub> : 4,69  |                    |   |  |                                     |      |                              |   |
| SCOP: 4,69   |                    |   |  |                                     |      |                              |   |
| Correction F(1) = 3%   |                    |   |  |                                     |      |                              |   |
| Correction F(2) = 5% (for water/brine to water heat pump )                                     |                    |   |  |                                     |      |                              |   |
| $\eta_s$ : 184,5%  |                    |   |  |                                     |      |                              |   |
| Seasonal space heating energy efficiency classes: A+++<br>(According (EU) No 811/2013 Table 1) |                    |   |  |                                     |      |                              |   |
| Supplementary information:<br>CRu: part load divided by capacity.                              |                    |   |  |                                     |      |                              |   |



| Table 4:   |             | Sound power level measurement |                    | P |
|--|-------------|-------------------------------|--------------------|---|
| Model:   |             | HS12V-QPNNW                   |                    |   |
| Heat source, Air temperature DB/WB .....   |             | (°C):                         | 7,0/6,0            |   |
| Water inlet/outlet temperature .....   |             | (°C):                         | 47,0/55,0          |   |
| Voltage .....  |             | (V):                          | 229,8V~            |   |
| Frequency .....  |             | (Hz):                         | 50 Hz              |   |
| Working condition class.....   |             |                               | Class A            |   |
| Acoustical environment.....  |             |                               | Hemi-anechoic room |   |
| Windshield type.....   |             |                               | Sponge             |   |
| Measured position amount .....   |             |                               | 14                 |   |
| Measured quantity  | LWA,indoors | LWA,outdoors                  | Remark             |   |
| Sound pressure level $\bar{L}_{pf}$ ****   | --          | 45                            | --                 |   |
| Spheres radius r *   | --          | 1,0m                          | --                 |   |
| Sound power level $L_{WA}$ ****  | --          | 60                            | --                 |   |
| Supplementary information:<br>Setting of controls: according to user manual.<br>Duct connection: No duct.<br>Fan speed: 630 r/min, compressor speed: 65Hz.<br><br>Rounding to: *) 1 decimal places; **) 2 decimal places; ***) 3 decimal places; ****) nearest integer |             |                               |                    |   |