

## Model

|             |              |                                          |             |                 |
|-------------|--------------|------------------------------------------|-------------|-----------------|
| Designation | <b>FRK5G</b> | <b>220-240V/50Hz 1~ 208-230V/60Hz 1~</b> | Sales code: | <b>106G5463</b> |
|-------------|--------------|------------------------------------------|-------------|-----------------|

## Compressor design

|                            |                                                                                                                                                     |                       |                              |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------|
| Oil type                   | Polyolester                                                                                                                                         | Refrigerant(s)        | <b>R134a, R513A</b>          |
| Oil viscosity              | 19,2cSt                                                                                                                                             | Displacement          | 4cm <sup>3</sup> / 0,24cu.in |
| Oil quantity               | 240cm <sup>3</sup> / 8,1fl.oz                                                                                                                       | Compressors on pallet | 100                          |
| Refr. charge - tech. limit | 700g / 24,7oz                                                                                                                                       |                       |                              |
| Free gas volume comp.      | 1560cm <sup>3</sup> / 52,7fl.oz                                                                                                                     |                       |                              |
| Weight                     | 8,9kg / 19,6lbs                                                                                                                                     |                       |                              |
| Motor protection           | external                                                                                                                                            |                       |                              |
| Winding resistance main    | 13,1Ω (at 25°C)                                                                                                                                     |                       |                              |
| Winding resistance aux     | 25,3Ω (at 25°C)                                                                                                                                     |                       |                              |
| Max. winding temp.         | 125°C / 257°F                                                                                                                                       |                       |                              |
| Max. discharge temp.       | 130°C / 266°F                                                                                                                                       |                       |                              |
| Additional note            | Very good robustness against liquid intake.<br>Ice-cube maker optimization - indirect suction intake.<br>Special design for high refrigerant charge |                       |                              |



## General - Configurations with FRK5G

|                        | <b>Conf. 1</b>                                                    | <b>Conf. 2</b> |
|------------------------|-------------------------------------------------------------------|----------------|
| Motor configuration    | CSIR                                                              | CSIR           |
| Power supply (nominal) | 220-240V/50Hz                                                     | 208-230V/60Hz  |
| Number of phases       | 1                                                                 | 1              |
| Voltage range          | 187-254V                                                          | 198-253V       |
| Approvals              | VDE, CB, UL                                                       | VDE, CB, UL    |
| Starting torque        | HST                                                               | HST            |
| Note                   | Electrical equipment is included and pre-assembled to compressor. |                |

## Applications with FRK5G

|                         | <b>Conf. 1</b> | <b>Conf. 2</b> |
|-------------------------|----------------|----------------|
| Refrigerant             | R134a          | R134a          |
| Application             | LBP+MBP+HBP    | LBP+MBP        |
| System cooling          | static         | static         |
| Hot gas defrost         | OK             | OK             |
| Long interval pull down | OK             | OK             |

## Electrical data - Configurations with FRK5G

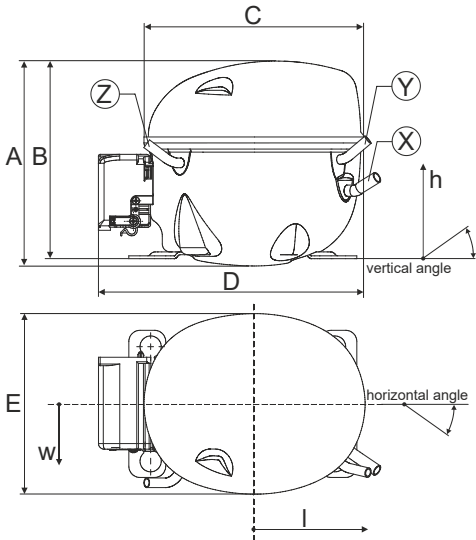
|                                    | <b>Conf. 1</b> | <b>Conf. 2</b> |
|------------------------------------|----------------|----------------|
| Starting device type               | relay          | relay          |
| Run capacitor                      | -/-            | -/-            |
| Start capacitor                    | 80μF           | 80μF           |
| LRA (locked rotor amps / 4s/ U(N)) | 10,5A          |                |
| RLA (rated load amps / 1s/ U(N))   | 1A             | -/-A           |
| Cut in current (U(N))              | 10,2A          |                |

|             |       |                                   |                      |
|-------------|-------|-----------------------------------|----------------------|
| Model       |       |                                   |                      |
| Designation | FRK5G | 220-240V/50Hz 1~ 208-230V/60Hz 1~ | Sales code: 106G5463 |

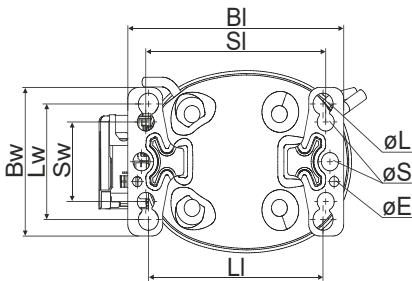
Compressor dimensions

|         |                   |                |
|---------|-------------------|----------------|
| Housing | A Height          | 182mm / 7,17in |
|         | B Height          | 175mm / 6,89in |
|         | C Length shell    | 198mm / 7,8in  |
|         | D Length w. cover | 238mm / 9,37in |
|         | E Width           | 160mm / 6,3in  |

| Connectors       |      | Suction<br>X | Discharge<br>Y | Process<br>Z |
|------------------|------|--------------|----------------|--------------|
| Diameter         | [mm] | øi 6,16-6,24 | øi 5,1-5,2     | øi 6,11-6,29 |
|                  | [in] | øi 0,24-0,25 | øi 0,2-0,2     | øi 0,24-0,25 |
| Material         |      | copper       | copper         | copper       |
| Horizontal angle | ±2°  | 35°          | 13°            | 0°           |
| Vertical angle   | ±2°  | 30°          | 40°            | 145°         |
| Position l/h/w   | [mm] | 119/73/59    | 117/107/66     | -88/101/71   |
|                  | [in] | 4,7/2,9/2,3  | 4,6/4,2/2,6    | -3,5/4/2,8   |
| Straight tube l. | [mm] | 14           | 14             | 14           |
|                  | [in] | 0,5          | 0,5            | 0,5          |

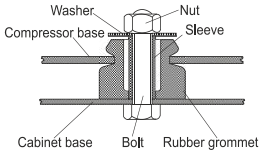


Compressor fixation

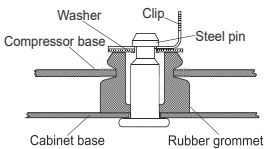


| Baseplate   | [mm]  | [inch] |
|-------------|-------|--------|
| BI          | 204   | 8.03   |
| BW          | 132   | 5.2    |
| øE          | ø 9.7 | ø 0.38 |
| Large holes | [mm]  | [inch] |
| LI          | 165   | 6.5    |
| LW          | 101.6 | 4      |
| øL          | ø 19  | ø 0.75 |
| Small holes | [mm]  | [inch] |
| SI          | 170   | 6.7    |
| SW          | 70    | 2.76   |
| øS          | ø 16  | ø 0.63 |

Bolt joint



Snap-on



| Mounting accessories       | one comp. | multi pack |
|----------------------------|-----------|------------|
| Bolt joint   M6   ø16mm    | 118-1917  | 118-1918   |
| Bolt joint   ø1/4"   ø16mm | 118-1946  |            |
| Bolt joint   ø1/4"   ø19mm | 118-1949  |            |
| Snap-on   ø7,3   ø16mm     | 118-1947  | 118-1919   |

Application notes

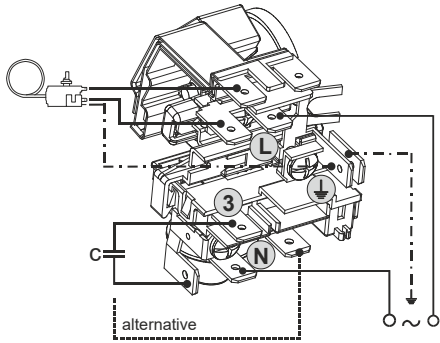
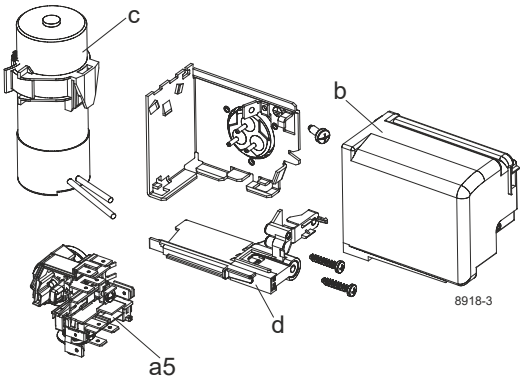
Provision for PE Grounding is located at the PE Stamp on the compressor

Suctiongas connector and Process connector can be switched (minor loss of cooling capacity)

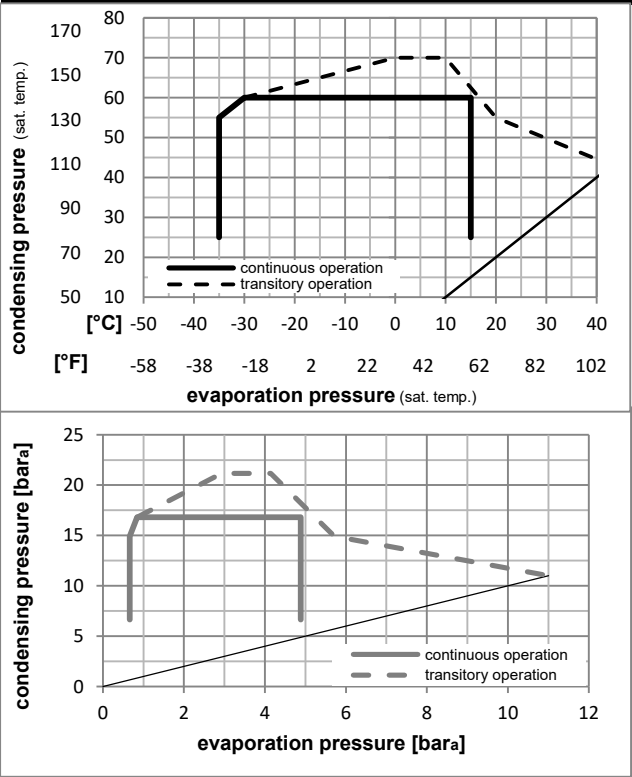
|                        |                  |                                         |         |                      |
|------------------------|------------------|-----------------------------------------|---------|----------------------|
| Model                  |                  |                                         |         |                      |
| Designation            | FRK5G            | 220-240V/50Hz                           | Conf. 1 | Sales code: 106G5463 |
| Configuration          |                  | Electrical accessories / wiring diagram |         |                      |
| Motor configuration    | CSIR             | CSIR                                    |         |                      |
| Power supply (nominal) | 220-240V/50Hz 1~ |                                         |         |                      |
| Refrigerant            | R134a            |                                         |         |                      |
| Application            | LBP+MBP+HBP      |                                         |         |                      |
| Voltage range          | 187-254V         |                                         |         |                      |
| Starting torque        | HST              |                                         |         |                      |
| Approvals              | VDE              |                                         |         |                      |
|                        | CB               |                                         |         |                      |
|                        | UL               |                                         |         |                      |

Ambient/ machine room temperatures minimum /maximum

|                                 |                        |
|---------------------------------|------------------------|
| Ambient temperature range:      | 10 - 43°C / 50 - 110°F |
| Machine room temperature range: | 10 - 48°C / 50 - 119°F |
| Compressor cooling:             | static                 |



Operation pressure range



Components (incl. and pre. assembl.)

|      |                                    |          |
|------|------------------------------------|----------|
| a5   | current relay (T1189/L6-S3)        | 117U7073 |
| c    | start capacitor (80µF, 6.3mm)      | 117U5001 |
| b, d | cover + clamp + screws(5VA-compl.) | 103N0600 |

Alternative comp.

|      |                                    |          |
|------|------------------------------------|----------|
| b, d | 100x cover + clamp + screws(5VA)   | 103N2060 |
| b, d | cover + clamp + screws(5VA) in bag | 103N1060 |

## Model

Designation **FRK5G** **220-240V/50Hz** Conf. 1 Sales code: **106G5463**

## Optimization + standard conditions

R134a, 220V/50Hz, CSIR, static, VDE, CB, UL

| Evaporating pressure (saturation temperature) |     |     |      |     | Condensing pressure (saturation temperature) |          |       |          |           |      | Power consumption   |        |                |             |
|-----------------------------------------------|-----|-----|------|-----|----------------------------------------------|----------|-------|----------|-----------|------|---------------------|--------|----------------|-------------|
| Return gas temp.                              |     |     |      |     | Liquid temp.                                 |          |       |          |           |      | Current consumption |        |                |             |
| Cooling capacity                              |     |     |      |     | COP                                          |          | EER   |          | P1        |      | I                   |        | Ref. mass flow |             |
| pe                                            | pc  | RGT | Tliq | [W] | [Btu/h]                                      | [kcal/h] | [W/W] | [Btu/Wh] | [kcal/Wh] | [W]  | [A]                 | [kg/h] |                |             |
| [°C]                                          | -23 | 54  | 32   | 32  | 98,4                                         | 336      | 84,7  | 1,11     | 3,79      | 0,96 | 88,6                | 0,91   | 1,91           | ASHRAE LBP  |
| [°F]                                          | -10 | 130 | 90   | 90  |                                              |          |       |          |           |      |                     |        |                |             |
|                                               |     |     |      |     |                                              |          |       |          |           |      |                     |        |                |             |
| [°C]                                          | -7  | 54  | 35   | 46  | 215,0                                        | 734      | 185,1 | 1,72     | 5,86      | 1,48 | 125,3               | 1,00   | 4,69           | ASHRAE MBP  |
| [°F]                                          | 20  | 130 | 95   | 115 |                                              |          |       |          |           |      |                     |        |                |             |
|                                               |     |     |      |     |                                              |          |       |          |           |      |                     |        |                |             |
| [°C]                                          | 7,2 | 54  | 35   | 46  | 386,4                                        | 1320     | 332,5 | 2,50     | 8,54      | 2,15 | 154,5               | 1,07   | 8,57           | ASHRAE HBP  |
| [°F]                                          | 45  | 130 | 95   | 115 |                                              |          |       |          |           |      |                     |        |                |             |
|                                               |     |     |      |     |                                              |          |       |          |           |      |                     |        |                |             |
| [°C]                                          | -35 | 40  | 20   | 40  | 44,6                                         | 152      | 38,4  | 0,68     | 2,34      | 0,59 | 65,1                | 0,86   | 0,98           | EN12900 LBP |
| [°F]                                          | -31 | 104 | 68   | 104 |                                              |          |       |          |           |      |                     |        |                |             |
|                                               |     |     |      |     |                                              |          |       |          |           |      |                     |        |                |             |
| [°C]                                          | -10 | 45  | 20   | 45  | 185,6                                        | 634      | 159,7 | 1,69     | 5,77      | 1,45 | 109,8               | 0,96   | 4,34           | EN12900 MBP |
| [°F]                                          | 14  | 113 | 68   | 113 |                                              |          |       |          |           |      |                     |        |                |             |
|                                               |     |     |      |     |                                              |          |       |          |           |      |                     |        |                |             |
| [°C]                                          | 5   | 50  | 20   | 50  | 329,2                                        | 1124     | 283,3 | 2,29     | 7,82      | 1,97 | 143,8               | 1,04   | 8,30           | EN12900 HBP |
| [°F]                                          | 41  | 122 | 68   | 122 |                                              |          |       |          |           |      |                     |        |                |             |

## Performance tables

R134a, 220V/50Hz, CSIR, static, VDE, CB, UL

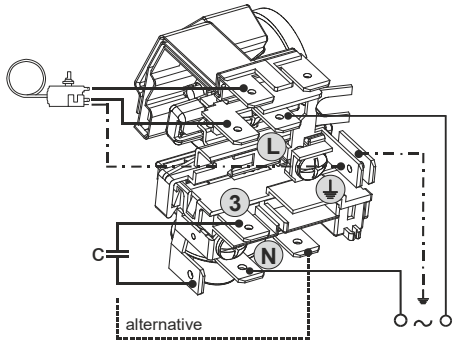
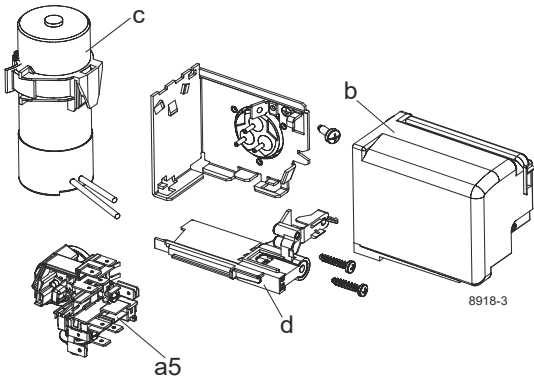
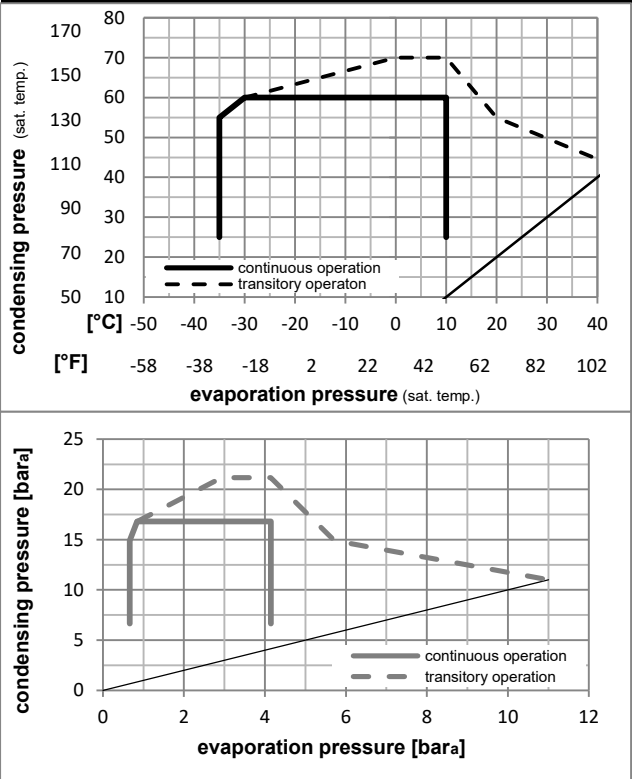
|                  | pe   |      | Cooling capacity |         |          | COP   |          |           | EER   |      |        | P1  |     |        | I   |     |        | m   |     |        |
|------------------|------|------|------------------|---------|----------|-------|----------|-----------|-------|------|--------|-----|-----|--------|-----|-----|--------|-----|-----|--------|
|                  | [°C] | [°F] | [W]              | [Btu/h] | [kcal/h] | [W/W] | [Btu/Wh] | [kcal/Wh] | [W]   | [A]  | [kg/h] | [W] | [A] | [kg/h] | [W] | [A] | [kg/h] | [W] | [A] | [kg/h] |
| [°C / °F]        | -35  | -31  | 42,1             | 144     | 36,2     | 0,65  | 2,22     | 0,56      | 64,8  | 0,86 | 0,91   |     |     |        |     |     |        |     |     |        |
| cond. pressure   | -25  | -13  | 84,2             | 287     | 72,4     | 1,02  | 3,47     | 0,87      | 82,8  | 0,90 | 1,82   |     |     |        |     |     |        |     |     |        |
| pc= 45/113       | -15  | 5    | 149,6            | 511     | 128,8    | 1,48  | 5,07     | 1,28      | 100,8 | 0,94 | 3,26   |     |     |        |     |     |        |     |     |        |
| return gas temp. | -10  | 14   | 192,5            | 657     | 165,7    | 1,75  | 5,99     | 1,51      | 109,8 | 0,96 | 4,21   |     |     |        |     |     |        |     |     |        |
| RGT= 32/90       | 0    | 32   | 301,6            | 1030    | 259,6    | 2,36  | 8,06     | 2,03      | 127,8 | 1,00 | 6,67   |     |     |        |     |     |        |     |     |        |
| liquid temp      | 5    | 41   | 369,0            | 1260    | 317,5    | 2,70  | 9,21     | 2,32      | 136,8 | 1,02 | 8,21   |     |     |        |     |     |        |     |     |        |
| Tliq= 45/113     | 15   | 59   | 532,1            | 1817    | 457,9    | 3,44  | 11,74    | 2,96      | 154,9 | 1,08 | 12,05  |     |     |        |     |     |        |     |     |        |
| [°C / °F]        | -35  | -31  | 34,3             | 117     | 29,6     | 0,56  | 1,91     | 0,48      | 61,4  | 0,86 | 0,82   |     |     |        |     |     |        |     |     |        |
| cond. pressure   | -25  | -13  | 71,6             | 244     | 61,6     | 0,84  | 2,88     | 0,73      | 84,8  | 0,91 | 1,71   |     |     |        |     |     |        |     |     |        |
| pc= 55/131       | -15  | 5    | 128,5            | 439     | 110,6    | 1,20  | 4,08     | 1,03      | 107,5 | 0,95 | 3,09   |     |     |        |     |     |        |     |     |        |
| return gas temp  | -10  | 14   | 165,7            | 566     | 142,6    | 1,40  | 4,77     | 1,20      | 118,5 | 0,98 | 4,01   |     |     |        |     |     |        |     |     |        |
| RGT= 32/90       | 0    | 32   | 260,7            | 890     | 224,3    | 1,86  | 6,35     | 1,60      | 140,1 | 1,03 | 6,38   |     |     |        |     |     |        |     |     |        |
| liquid temp      | 5    | 41   | 319,6            | 1091    | 275,0    | 2,12  | 7,24     | 1,83      | 150,6 | 1,06 | 7,87   |     |     |        |     |     |        |     |     |        |
| Tliq= 55/131     | 15   | 59   | 463,0            | 1581    | 398,4    | 2,70  | 9,23     | 2,33      | 171,3 | 1,13 | 11,63  |     |     |        |     |     |        |     |     |        |

|                        |                  |                                         |         |                      |
|------------------------|------------------|-----------------------------------------|---------|----------------------|
| Model                  |                  |                                         |         |                      |
| Designation            | FRK5G            | 208-230V/60Hz                           | Conf. 2 | Sales code: 106G5463 |
| Configuration          |                  | Electrical accessories / wiring diagram |         |                      |
| Motor configuration    | CSIR             | CSIR                                    |         |                      |
| Power supply (nominal) | 208-230V/60Hz 1~ |                                         |         |                      |
| Refrigerant            | R134a            |                                         |         |                      |
| Application            | LBP+MBP          |                                         |         |                      |
| Voltage range          | 198-253V         |                                         |         |                      |
| Starting torque        | HST              |                                         |         |                      |
| Approvals              | VDE              |                                         |         |                      |
|                        | CB               |                                         |         |                      |
|                        | UL               |                                         |         |                      |

Ambient/ machine room temperatures minimum /maximum

|                                 |                        |
|---------------------------------|------------------------|
| Ambient temperature range:      | 10 - 43°C / 50 - 110°F |
| Machine room temperature range: | 10 - 48°C / 50 - 119°F |
| Compressor cooling:             | static                 |

Operation pressure range



Components (incl. and pre. assembl.)

|      |                                    |          |
|------|------------------------------------|----------|
| a5   | current relay (T1189/L6-S3)        | 117U7073 |
| c    | start capacitor (80µF, 6.3mm)      | 117U5001 |
| b, d | cover + clamp + screws(5VA-compl.) | 103N0600 |

Alternative comp.

|      |                                    |          |
|------|------------------------------------|----------|
| b, d | 100x cover + clamp + screws(5VA)   | 103N2060 |
| b, d | cover + clamp + screws(5VA) in bag | 103N1060 |

## Model

Designation **FRK5G** **208-230V/60Hz** Conf. 2 Sales code: **106G5463**

## Optimization + standard conditions

R134a, 230V/60Hz, CSIR, static, VDE, CB, UL

| Evaporating pressure (saturation temperature) |  |  |  |  | Condensing pressure (saturation temperature) |  |  |  |  |  | Power consumption   |  |  |  |
|-----------------------------------------------|--|--|--|--|----------------------------------------------|--|--|--|--|--|---------------------|--|--|--|
|                                               |  |  |  |  | Return gas temp.                             |  |  |  |  |  | Current consumption |  |  |  |
|                                               |  |  |  |  | Liquid temp.                                 |  |  |  |  |  | Ref. mass flow      |  |  |  |
|                                               |  |  |  |  | Cooling capacity                             |  |  |  |  |  | COP                 |  |  |  |
|                                               |  |  |  |  | EER                                          |  |  |  |  |  | P1                  |  |  |  |
|                                               |  |  |  |  | [W]                                          |  |  |  |  |  | I                   |  |  |  |
|                                               |  |  |  |  | [Btu/h]                                      |  |  |  |  |  | ṁ                   |  |  |  |
|                                               |  |  |  |  | [kcal/h]                                     |  |  |  |  |  | [kg/h]              |  |  |  |
|                                               |  |  |  |  | [W/W]                                        |  |  |  |  |  |                     |  |  |  |
|                                               |  |  |  |  | [Btu/Wh]                                     |  |  |  |  |  |                     |  |  |  |
|                                               |  |  |  |  | [kcal/Wh]                                    |  |  |  |  |  |                     |  |  |  |
|                                               |  |  |  |  | [W]                                          |  |  |  |  |  |                     |  |  |  |
|                                               |  |  |  |  | [A]                                          |  |  |  |  |  |                     |  |  |  |
|                                               |  |  |  |  |                                              |  |  |  |  |  |                     |  |  |  |
|                                               |  |  |  |  |                                              |  |  |  |  |  |                     |  |  |  |
|                                               |  |  |  |  |                                              |  |  |  |  |  |                     |  |  |  |
|                                               |  |  |  |  |                                              |  |  |  |  |  |                     |  |  |  |
|                                               |  |  |  |  |                                              |  |  |  |  |  |                     |  |  |  |
|                                               |  |  |  |  |                                              |  |  |  |  |  |                     |  |  |  |
|                                               |  |  |  |  |                                              |  |  |  |  |  |                     |  |  |  |
|                                               |  |  |  |  |                                              |  |  |  |  |  |                     |  |  |  |
|                                               |  |  |  |  |                                              |  |  |  |  |  |                     |  |  |  |
|                                               |  |  |  |  |                                              |  |  |  |  |  |                     |  |  |  |
|                                               |  |  |  |  |                                              |  |  |  |  |  |                     |  |  |  |
|                                               |  |  |  |  |                                              |  |  |  |  |  |                     |  |  |  |
|                                               |  |  |  |  |                                              |  |  |  |  |  |                     |  |  |  |
|                                               |  |  |  |  |                                              |  |  |  |  |  |                     |  |  |  |
|                                               |  |  |  |  |                                              |  |  |  |  |  |                     |  |  |  |
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|                                               |  |  |  |  |                                              |  |  |  |  |  |                     |  |  |  |
|                                               |  |  |  |  |                                              |  |  |  |  |  |                     |  |  |  |
|                                               |  |  |  |  |                                              |  |  |  |  |  |                     |  |  |  |
|                                               |  |  |  |  |                                              |  |  |  |  |  |                     |  |  |  |
|                                               |  |  |  |  |                                              |  |  |  |  |  |                     |  |  |  |
|                                               |  |  |  |  |                                              |  |  |  |  |  |                     |  |  |  |
|                                               |  |  |  |  |                                              |  |  |  |  |  |                     |  |  |  |
|                                               |  |  |  |  |                                              |  |  |  |  |  |                     |  |  |  |
|                                               |  |  |  |  |                                              |  |  |  |  |  |                     |  |  |  |
|                                               |  |  |  |  |                                              |  |  |  |  |  |                     |  |  |  |
|                                               |  |  |  |  |                                              |  |  |  |  |  |                     |  |  |  |
|                                               |  |  |  |  |                                              |  |  |  |  |  |                     |  |  |  |
|                                               |  |  |  |  |                                              |  |  |  |  |  |                     |  |  |  |
|                                               |  |  |  |  |                                              |  |  |  |  |  |                     |  |  |  |
|                                               |  |  |  |  |                                              |  |  |  |  |  |                     |  |  |  |
|                                               |  |  |  |  |                                              |  |  |  |  |  |                     |  |  |  |
|                                               |  |  |  |  |                                              |  |  |  |  |  |                     |  |  |  |
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