

Direct expansion: Commissioning – Heating

| | | | |
|---------------------|--|---------------------|--|
| Installer | | Performed by | |
| Company name | | Company | |
| Contact person | | Technician | |
| | | Certificate | |
| End customer | | Date | |
| Name | | | |
| Street – N° | | | |
| Zip code – City | | | |
| Country | | | |

| Installation | | | | | | | | | | | | | | | | | | | | | |
|---|---|------------------|---------|------------------|---------|------------|--|--|--|---------------|--|--|--|-----------------|----|-------------------|----|--------------|----|--------------|----|
| Model name Serial number Construction year Reference installation Model name Serial number Model name Serial number Functions | <table border="0" style="width: 100%;"> <tr> <td style="width: 33%;"></td> <td style="width: 33%; text-align: center;">Master</td> <td style="width: 33%; text-align: center;">Slave 1/sub unit</td> <td style="width: 33%; text-align: center;">Slave 2</td> </tr> <tr> <td>Model name</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Serial number</td> <td></td> <td></td> <td></td> </tr> </table> Circuit 1 Refrigerant type <input style="width: 50px;" type="text"/> <table border="0" style="width: 100%; margin-left: 100px;"> <tr> <td style="width: 50%;">Standard weight</td> <td style="width: 50%; text-align: right;">kg</td> </tr> <tr> <td>Additional weight</td> <td style="text-align: right;">kg</td> </tr> <tr> <td>Total weight</td> <td style="text-align: right;">kg</td> </tr> </table> Circuit 2 Refrigerant type <input style="width: 50px;" type="text"/> <table border="0" style="width: 100%; margin-left: 100px;"> <tr> <td style="width: 50%;">Total weight</td> <td style="width: 50%; text-align: right;">kg</td> </tr> </table> | | Master | Slave 1/sub unit | Slave 2 | Model name | | | | Serial number | | | | Standard weight | kg | Additional weight | kg | Total weight | kg | Total weight | kg |
| | Master | Slave 1/sub unit | Slave 2 | | | | | | | | | | | | | | | | | | |
| Model name | | | | | | | | | | | | | | | | | | | | | |
| Serial number | | | | | | | | | | | | | | | | | | | | | |
| Standard weight | kg | | | | | | | | | | | | | | | | | | | | |
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| Total weight | kg | | | | | | | | | | | | | | | | | | | | |
| Total weight | kg | | | | | | | | | | | | | | | | | | | | |

| Safety / last minute risk analysis | | | | | | | | | |
|------------------------------------|--------------------------|-----|--------------------------|-----|---|--------------------------|-----|--------------------------|--------|
| Safe access to the installation | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No | Other safety hazards | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| Enclosed workplace | <input type="checkbox"/> | No | <input type="checkbox"/> | Yes | Emergency exits | <input type="checkbox"/> | OK | <input type="checkbox"/> | Not OK |
| Working at heights | <input type="checkbox"/> | No | <input type="checkbox"/> | Yes | Presence of necessary personal protection equipment | <input type="checkbox"/> | OK | <input type="checkbox"/> | Not OK |
| Electrical hazards | <input type="checkbox"/> | No | <input type="checkbox"/> | Yes | | | | | |

| Precommissioning | | | | | | | | | |
|---------------------------------------|---|-------|----------------------------|---|----------------------------|--------------------------|-----|--------------------------|----|
| N2 Test data available | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No | Vacuum test data available | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| N2 start pressure | <input style="width: 50px;" type="text"/> | bar | Vacuum test start pressure | <input style="width: 50px;" type="text"/> | mbar | | | | |
| N2 test time | <input style="width: 50px;" type="text"/> | hours | Vacuum test time | <input style="width: 50px;" type="text"/> | hours | | | | |
| N2 end pressure | <input style="width: 50px;" type="text"/> | bar | Vacuum test end pressure | <input style="width: 50px;" type="text"/> | mbar | | | | |
| Power ON 6 hours before commissioning | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No | | | | | |

| Visual inspection | | | | | | | | | |
|---|--|----------------|---|---|---|---|--------|--------------------------|--------|
| Water pressure high temperature circuit | <input style="width: 50px;" type="text"/> | bar | Water pressure domestic hot water circuit | <input style="width: 50px;" type="text"/> | bar | | | | |
| Pressure expansion vessel high temperature circuit | <input style="width: 50px;" type="text"/> | bar | Pressure expansion vessel domestic hot water circuit | <input style="width: 50px;" type="text"/> | bar | | | | |
| Expansion vessel high temperature circuit | <input type="checkbox"/> | OK | <input type="checkbox"/> | Not OK | Expansion vessel domestic hot water circuit | <input type="checkbox"/> | OK | <input type="checkbox"/> | Not OK |
| Safety valve high temperature circuit | <input type="checkbox"/> | OK | <input type="checkbox"/> | Not OK | Safety valve domestic hot water circuit | <input type="checkbox"/> | OK | <input type="checkbox"/> | Not OK |
| Equilibrium bottle high temperature? | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No | Geothermal circuit correctly filled | <input type="checkbox"/> | OK | <input type="checkbox"/> | Not OK |
| Stabilized water flow high temperature circuit | <input type="checkbox"/> | OK | <input type="checkbox"/> | Not OK | Expansion vessel geothermal circuit | <input type="checkbox"/> | OK | <input type="checkbox"/> | Not OK |
| Mud filter in return line high temperature circuit | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No | Stabilized water flow geothermal circuit | <input type="checkbox"/> | OK | <input type="checkbox"/> | Not OK |
| Total active water content (≥20 l) high temperature circuit | <input type="checkbox"/> | OK | <input type="checkbox"/> | Not OK | Geothermal circuit minimum temperature | <input style="width: 50px;" type="text"/> | °C | | |
| Surface of the floor heating | <input style="width: 50px;" type="text"/> | m ² | Total active water content (≥20 l) geothermal circuit | <input type="checkbox"/> | OK | <input type="checkbox"/> | Not OK | | |
| Number of radiators | <input style="width: 100px;" type="text"/> | | | | | | | | |
| Number of convectors | <input style="width: 100px;" type="text"/> | | | | | | | | |
| External thermostat present? | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No | Presence of installation mistakes | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| Quantity of external thermostats | <input style="width: 50px;" type="text"/> | | Logbook available and complete? | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No | | |

Electrical checks

Electrical connections OK Not OK
Thermistor measurements OK Not OK

Electrical insulation

Compressor 1 OK Not OK
Compressor 2 OK Not OK

Winding resistance

OK Not OK
 OK Not OK

Overall result

The installation is working: Good Not good
 Safe Not safe

First maintenance has to be carried out before:

Shortcomings and measures to be taken

General remarks:

Shortcomings that were not fixed during the commissioning:

Measures to be taken in order to resolve the remaining shortcomings:

Signature certified technician