

FRIGA-BOHN®

# MOPSH | MOSC

Semi-hermetic and  
Scroll compressor rack

HFC



|||| MT 57 - 385 kW  
|||| LT 23 - 120 kW



- # **Modular rack** to best meet the needs of your application, available with Scroll (Copeland), Semi-Hermetic (Copeland or Bitzer) compressors.
- # **Compact design** (width from 800 to 1,000 mm) that fits perfectly in restricted and hard-to-access areas.

## CONTROL AND SAFETY DEVICES

- # 1 LP general safety pressure switch
- # 1 or 2 HP cartridge pressure switch(s) with automatic reset per compressor.
- # 2 pressure gages (LP + HP).
- # Differential oil pressure switch per compressor. **MOPSH**

### OPTIONS

|            |                                              |              |
|------------|----------------------------------------------|--------------|
| <b>ALF</b> | Height-adjustable float coolant level alarm. |              |
| <b>ALR</b> | Optoelectronic refrigerant level alarm.      |              |
| <b>BAC</b> | Liquid separator.                            | <b>MOPSH</b> |
| <b>VFA</b> | Suction valve and filter on each compressor. | <b>MOPSH</b> |
| <b>SIL</b> | Delivery muffler (1 per compressor).         | <b>MOPSH</b> |

## LIQUID STATION

- # Liquid station delivered separately.
- # Inlet/outlet shut-off valves.
- # Liquid outlet equipped with a removable filter dryer unit ≤ 150 l. and 2 parallel units with shut-off valves > 150 l.
- # Indicator and general shut-off valve on outlet.
- # Single or double safety valve (according to PED).

### OPTIONS

|            |                                                                    |
|------------|--------------------------------------------------------------------|
| <b>RLS</b> | Oversized liquid receiver.                                         |
| <b>SSD</b> | Double safety valve with 3-way valve (for receivers < 120 litres). |
| <b>BD1</b> | Single liquid drier bypass (1 filter unit) in operation.           |

## MANIFOLDS

- # Suction and delivery all stainless steel 304 L.
- # One Schrader pressure port with shut-off valve per manifold (mano pressure switch connection, etc.).
- # Polypropylene collars on the suction and high temperature resistant polyamide on the delivery.
- # A general suction filter unit with removable cartridge up to 186 kW cooling capacity in positive and 47 kW in negative. One unit per compressor on top. **MOPSH**
- # A removable cartridge filter unit mounted on the suction manifold. **MOSC**

### OPTION

|            |                                               |
|------------|-----------------------------------------------|
| <b>BDR</b> | Condensate drain pan under suction manifolds. |
|------------|-----------------------------------------------|



## COMPRESSORS

- # With Rotolock valves on suction and delivery + cylinder head fan in negative, crankcase heater and oil pump.

**MOPSH**

- # Equipped with Rotolock suction and delivery valves, crankcase heaters HP cartridge safety pressure switches and rigid suspension elements.

**MOSC**

- # Negative models also include an injection system with different configurations depending on the compressors: shut-off valve, filter, solenoid valve and capillary.

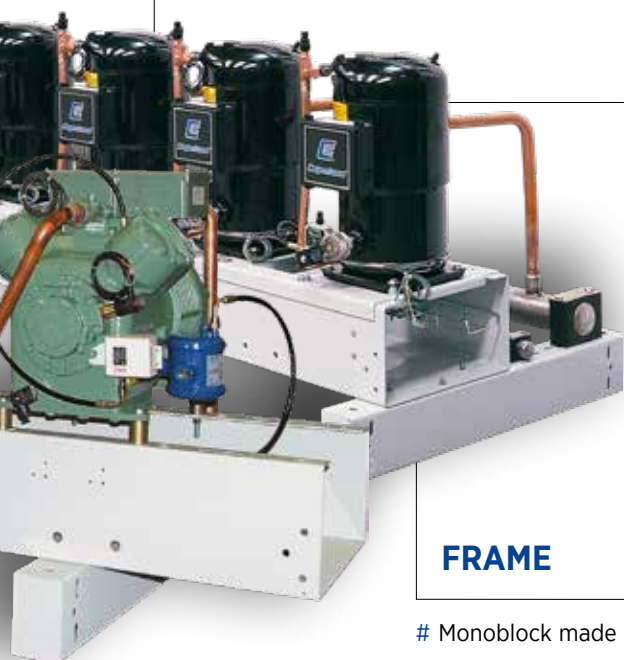
**MOSC**

### OPTION

**VAR**

Power variation.

**CONTACT US**



## OIL LINE

- # Removable oil separator and oil receiver with high/low indicators and shut-off valves.
- # Oil manifold with flexible connections at the ends.
- # LP oil return line with filter, indicator and shut-off valve per compressor.
- # Degassing valve.
- # Float level controllers.

**MOPSH**

### OPTIONS

**TXL**

Electronic oil level controllers.

**MOPSH**

**EVH**

Oil return solenoid valve.

## FRAME

- # Monoblock made from painted folded U-profile sheet steel, thickness 4 mm.

### OPTIONS

**CCB**

Terminal block control wiring.

**ARM**

Electrical cabinet.

**CONTACT US**

**CAR**

Casing (with integrated electrical cabinet).

**CONTACT US**

**PAV**

Anti-vibration pads.

**KIT TO INSTALL**

**ANM**

Rack handling rings (delivered not assembled with the rack).

**KIT TO INSTALL**

## PACK

### OPTIONS

**PR1**

### Connection pack

Customer connection valves (1 delivery, 1 suction, 1 liquid).

**PR2**

Customer connection valves (1 delivery, 2 suction, 2 liquid).

**PR3**

Customer connection valves (1 delivery, 3 suction, 3 liquid).

### Safety pack

**BPS**

LP safety pressure switch per compressor.

**HPG**

HP general pressure switch (automatic).

### Regulation pack

**BP1**

LP pressure switch (automatic) per compressor.

**HPS**

Additional HP pressure switches.

**CDP**

HP/LP pressure sensors signal 4-20 mA.

Do you have a specific request?

Contact us to design the unit that meets your needs.

# MOPSH<sup>(A)</sup> 2<sup>(B)</sup>P<sup>(C)</sup> 4JE-15Y<sup>(D)</sup>

(A) MOPSH = Semi-hermetic compressor - MOSC = Scroll compressor

(B) Number of compressors

(C) P = Positive range - N = Negative range

(D) Compressor type

The MOPSH is available with HFCs.  
For more information,  
please consult our software.

## MOPSH | Semi-Hermetic

## Positive range

| MOPSH ...                          |          |    | 2P<br>4JE-15Y | 2P<br>4HE-18Y | 2P<br>4GE-23Y | 3P<br>4JE-15Y | 3P<br>4HE-18Y | 4P<br>4JE-15Y | 3P<br>4GE-23Y | 4P<br>4HE-18Y | 3P<br>4FE-28Y |
|------------------------------------|----------|----|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Power (1)                          | R449A    | kW | 62,3          | 73,1          | 84,9          | 93,4          | 109,6         | 124,5         | 127,3         | 146,2         | 151,2         |
| Power consumption (1)              |          | kW | 25,0          | 30,0          | 35,6          | 37,4          | 45,0          | 49,9          | 53,4          | 59,9          | 62,4          |
| Power (1)                          | R404A    | kW | 63,5          | 74,4          | 86,2          | 95,3          | 111,6         | 127,0         | 129,4         | 148,8         | 153,2         |
| Power consumption (1)              |          | kW | 28,2          | 33,8          | 40,3          | 42,3          | 50,7          | 56,5          | 60,4          | 67,6          | 71,7          |
| Compressor                         |          | Nb | 2             | 2             | 2             | 3             | 3             | 4             | 3             | 4             | 3             |
| Max. current drawn                 |          | A  | 58,6          | 69,8          | 83,3          | 87,9          | 104,7         | 117,2         | 125,0         | 139,6         | 149,5         |
| Receiver volume                    |          | l  | 60            | 60            | 120           | 150           | 150           | 150           | 150           | 150           | 250           |
| Connection pack<br>standard option | Delivery | Ø  | 1"3/8         | 1"5/8         | 1"5/8         | 1"5/8         | 1"5/8         | 2"1/8         | 2"1/8         | 2"1/8         | 2"1/8         |
|                                    | Suction  | Ø  | 2"5/8         | 2"5/8         | 3"1/8         | 3"1/8         | 3"1/8         | 2x2"5/8       | 2x2"5/8       | 2x2"5/8       | 2x2"5/8       |
|                                    | Liquid   | Ø  | 1"1/8         | 1"1/8         | 1"3/8         | 1"3/8         | 1"3/8         | 2x1"3/8       | 2x1"3/8       | 2x1"3/8       | 2x1"3/8       |
| Rack dimensions                    | L        | mm | 1915          | 1915          | 1915          | 2515          | 2515          | 3115          | 2515          | 3115          | 2515          |
|                                    | D        | mm | 800           | 800           | 800           | 800           | 1000          | 1000          | 1000          | 1000          | 1000          |
|                                    | H        | mm | 1500          | 1500          | 1500          | 1500          | 1500          | 1450          | 1450          | 1450          | 1450          |
|                                    | A        | mm | 655           | 655           | 655           | 755           | 755           | 755           | 755           | 755           | 755           |
| Weight                             |          | kg | 610           | 620           | 630           | 850           | 860           | 1100          | 900           | 1140          | 960           |

| MOPSH ...                          |          |    | 4P<br>4GE-23Y | 3P<br>6GE-34Y | 4P<br>4FE-28Y | 3P<br>6FE-44Y | 5P<br>4FE-28Y | 4P<br>6GE-34Y | 4P<br>6FE-44Y | 5P<br>6GE-34Y | 5P<br>6FE-44Y |
|------------------------------------|----------|----|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Power (1)                          | R449A    | kW | 169,8         | 189,3         | 201,6         | 226,8         | 252,0         | 252,5         | 302,4         | 315,6         | 378,1         |
| Power consumption (1)              |          | kW | 71,2          | 78,8          | 83,2          | 94,2          | 103,9         | 105,1         | 125,6         | 131,3         | 157,1         |
| Power (1)                          | R404A    | kW | 172,5         | 191,6         | 204,2         | 229,8         | 255,3         | 255,5         | 306,4         | 319,4         | 383,0         |
| Power consumption (1)              |          | kW | 80,5          | 90,4          | 95,6          | 107,9         | 119,5         | 120,5         | 143,9         | 150,6         | 179,9         |
| Compressor                         |          | Nb | 4             | 3             | 4             | 3             | 5             | 4             | 4             | 5             | 5             |
| Max. current drawn                 |          | A  | 166,7         | 186,9         | 199,3         | 222,9         | 249,1         | 249,2         | 297,2         | 311,5         | 371,6         |
| Receiver volume                    |          | l  | 250           | 250           | 250           | 250           | 350           | 250           | 350           | 350           | 350           |
| Connection pack<br>standard option | Delivery | Ø  | 2"1/8         | 2"5/8         | 2"5/8         | 2"5/8         | 3"1/8         | 3"1/8         | 3"1/8         | 3"1/8         | 3"1/8         |
|                                    | Suction  | Ø  | 2x2"5/8       | 2x3"1/8       | 2x3"1/8       | 2x3"1/8       | 3x3"1/8       | 3x3"1/8       | 3x3"1/8       | 3x3"1/8       | 3x3"1/8       |
|                                    | Liquid   | Ø  | 2x1"3/8       | 2x1"3/8       | 2x1"5/8       | 2x1"5/8       | 3x1"3/8       | 3x1"3/8       | 3x1"3/8       | 3x1"3/8       | 3x1"5/8       |
| Rack dimensions                    | L        | mm | 3115          | 2515          | 3115          | 2515          | 3715          | 3115          | 3115          | 3715          | 3715          |
|                                    | D        | mm | 1000          | 1000          | 1000          | 1000          | 1000          | 1000          | 1000          | 1000          | 1000          |
|                                    | H        | mm | 1450          | 1450          | 1580          | 1580          | 1580          | 1580          | 1580          | 1580          | 1780          |
|                                    | A        | mm | 755           | 755           | 755           | 755           | 755           | 755           | 755           | 755           | 755           |
| Weight                             |          | kg | 1160          | 1020          | 1240          | 1080          | 1540          | 1380          | 1430          | 1650          | 1720          |

(1) Evaporating temperature -10 °C / Ambient temperature +45 °C - Superheat: 10K - Subcool: 3K.

R404A is a refrigerant only available for non-EU markets (not compatible with F-Gas).

# MOPSH<sup>(A)</sup> 2<sup>(B)</sup> N<sup>(C)</sup> / 4HE-18Y<sup>(D)</sup>

(A) **MOPSH** = Semi-hermetic compressor - **MOSC** = Scroll compressor

(B) Number of compressors

(C) **P** = Positive range - **N** = Negative range

(D) Compressor type

The MOPSH is available with HFCs.  
For more information,  
please consult our software.

## MOPSH | Semi-Hermetic

## Negative range

| MOPSH ...                          |              |           | 2N<br>4HE-18Y | 2N<br>4GE-23Y | 2N<br>4FE-28Y | 3N<br>4HE-18Y | 3N<br>4GE-23Y | 2N<br>6GE-34Y | 4N<br>4HE-18Y | 2N<br>6FE-44Y | 3N<br>4FE-28Y |
|------------------------------------|--------------|-----------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Power (1)                          | <b>R449A</b> | <b>kW</b> | 20,0          | 24,2          | 29,0          | 30,1          | 36,4          | 37,4          | 40,1          | 43,4          | 43,4          |
| Power consumption (1)              |              | <b>kW</b> | 14,4          | 17,4          | 20,7          | 21,6          | 26,1          | 25,1          | 28,8          | 31,7          | 31,0          |
| Power (1)                          | <b>R404A</b> | <b>kW</b> | 22,2          | 26,6          | 31,8          | 33,3          | 39,8          | 40,6          | 44,4          | 47,7          | 47,7          |
| Power consumption (1)              |              | <b>kW</b> | 17,4          | 20,7          | 24,8          | 26,1          | 31,0          | 31,8          | 34,8          | 38,5          | 37,2          |
| Compressor                         |              | <b>Nb</b> | 2             | 2             | 2             | 3             | 3             | 2             | 4             | 2             | 3             |
| Max. current drawn                 |              | <b>A</b>  | 49,1          | 57,7          | 72,8          | 73,6          | 86,5          | 90,4          | 98,2          | 112,4         | 109,2         |
| Receiver volume                    |              | <b>l</b>  | 60            | 60            | 120           | 120           | 150           | 120           | 150           | 150           | 150           |
| Connection pack<br>standard option | Delivery     | <b>Ø</b>  | 1"3/8         | 1"3/8         | 1"3/8         | 1"3/8         | 1"3/8         | 1"3/8         | 1"3/8         | 1"3/8         | 1"5/8         |
|                                    | Suction      | <b>Ø</b>  | 2"5/8         | 2"5/8         | 2"5/8         | 2"5/8         | 2x2"5/8       | 2x2"1/8       | 2x2"5/8       | 2x2"5/8       | 2x2"5/8       |
|                                    | Liquid       | <b>Ø</b>  | 7/8"          | 1"1/8         | 1"3/8         | 1"3/8         | 2x7/8"        | 2x7/8"        | 2x7/8"        | 2x7/8"        | 2x7/8"        |
| Rack<br>dimensions                 | <b>L</b>     | <b>mm</b> | 1915          | 1915          | 1915          | 2515          | 2515          | 1915          | 3115          | 1915          | 2515          |
|                                    | <b>D</b>     | <b>mm</b> | 800           | 800           | 800           | 800           | 800           | 800           | 800           | 800           | 1000          |
|                                    | <b>H</b>     | <b>mm</b> | 1500          | 1500          | 1500          | 1500          | 1450          | 1450          | 1450          | 1450          | 1450          |
|                                    | <b>A</b>     | <b>mm</b> | 655           | 655           | 655           | 655           | 755           | 755           | 755           | 755           | 755           |
| Weight                             |              | <b>kg</b> | 600           | 610           | 640           | 820           | 840           | 690           | 1060          | 720           | 930           |

| MOPSH ...                          |              |           | 3N<br>6GE-34Y | 4N<br>4FE-28Y | 3N<br>6FE-44Y | 5N<br>4FE-28Y | 4N<br>6GE-34Y | 4N<br>6FE-44Y | 5N<br>6GE-34Y | 5N<br>6FE-44Y |
|------------------------------------|--------------|-----------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Power (1)                          | <b>R449A</b> | <b>kW</b> | 56,0          | 57,9          | 65,2          | 72,4          | 74,7          | 86,9          | 93,4          | 108,6         |
| Power consumption (1)              |              | <b>kW</b> | 37,7          | 41,4          | 47,6          | 51,7          | 50,3          | 63,4          | 62,9          | 79,3          |
| Power (1)                          | <b>R404A</b> | <b>kW</b> | 60,9          | 63,6          | 71,5          | 79,5          | 81,2          | 95,3          | 101,5         | 119,2         |
| Power consumption (1)              |              | <b>kW</b> | 47,7          | 49,6          | 57,8          | 62,0          | 63,7          | 77,0          | 79,6          | 96,3          |
| Compressor                         |              | <b>Nb</b> | 3             | 4             | 3             | 5             | 4             | 4             | 5             | 5             |
| Max. current drawn                 |              | <b>A</b>  | 135,6         | 145,6         | 168,6         | 182,0         | 180,8         | 224,8         | 226,0         | 281,0         |
| Receiver volume                    |              | <b>l</b>  | 150           | 250           | 250           | 250           | 250           | 250           | 350           | 350           |
| Connection pack<br>standard option | Delivery     | <b>Ø</b>  | 1"5/8         | 1"5/8         | 1"5/8         | 1"5/8         | 1"5/8         | 2"1/8         | 2"1/8         | 2"1/8         |
|                                    | Suction      | <b>Ø</b>  | 2x2"5/8       | 2x3"1/8       | 2x3"1/8       | 3x2"5/8       | 2x3"1/8       | 3x2"5/8       | 3x3"1/8       | 3x3"1/8       |
|                                    | Liquid       | <b>Ø</b>  | 2x1"1/8       | 2x1"1/8       | 2x1"1/8       | 3x1"1/8       | 2x1"3/8       | 3x1"1/8       | 3x1"1/8       | 3x1"1/8       |
| Rack dimensions                    | <b>L</b>     | <b>mm</b> | 2515          | 3115          | 2515          | 3715          | 3115          | 3115          | 3715          | 3715          |
|                                    | <b>D</b>     | <b>mm</b> | 1000          | 1000          | 1000          | 1000          | 1000          | 1000          | 1000          | 1000          |
|                                    | <b>H</b>     | <b>mm</b> | 1580          | 1580          | 1580          | 1580          | 1580          | 1580          | 1580          | 1780          |
|                                    | <b>A</b>     | <b>mm</b> | 755           | 755           | 755           | 755           | 755           | 755           | 755           | 755           |
| Weight                             |              | <b>kg</b> | 1000          | 1200          | 1050          | 1470          | 1290          | 1370          | 1610          | 1680          |

(1) Evaporating temperature **-35 °C** / Ambient temperature **+40 °C** - Superheat: 10K - Subcool: 3K.

**R404A** is a refrigerant only available for non-EU markets (not compatible with F-Gas).

# MOSC<sup>(A)</sup> 5<sup>(B)</sup> P<sup>(C)</sup> ZB50<sup>(D)</sup>

(A) **MOPSH** = Semi-hermetic compressor - **MOSC** = Scroll compressor

(B) Number of compressors

(C) **P** = Positive range - **N** = Negative range

(D) Compressor type

The MOSC is available with HFCs.  
For more information,  
please consult our software.

## MOSC | Scroll

## Positive range

| MOSC ...                           |              |           | 5P<br>ZB50 | 5P<br>ZB76 | 6P<br>ZB76 | 5P<br>ZB95 | 5P<br>ZB114 | 6P<br>ZB95 | 6P<br>ZB114 |
|------------------------------------|--------------|-----------|------------|------------|------------|------------|-------------|------------|-------------|
| Power (1)                          | <b>R449A</b> | <b>kW</b> | 57,5       | 84,9       | 101,9      | 103,5      | 122,4       | 124,2      | 146,9       |
| Power consumption (1)              |              | <b>kW</b> | 26,2       | 37,9       | 45,4       | 49,4       | 58,6        | 59,2       | 70,3        |
| Power (1)                          | <b>R404A</b> | <b>kW</b> | 57,9       | 87,0       | 104,4      | 105,8      | 125,5       | 127,0      | 150,6       |
| Power consumption (1)              |              | <b>kW</b> | 28,6       | 40,7       | 48,9       | 52,5       | 63,0        | 63,0       | 75,6        |
| Compressor                         |              | <b>Nb</b> | 5          | 5          | 6          | 5          | 5           | 6          | 6           |
| Max. current drawn                 |              | <b>A</b>  | 73         | 102        | 122        | 141        | 167         | 169        | 200         |
| Receiver volume                    |              | <b>l.</b> | 60         | 120        | 120        | 120        | 150         | 150        | 150         |
| Connection pack<br>standard option | Delivery     | <b>Ø</b>  | 1"5/8      | 1"5/8      | 2"1/8      | 2"1/8      | 2"1/8       | 2"1/8      | 2"5/8       |
|                                    | Suction      | <b>Ø</b>  | 2"5/8      | 3"1/8      | 3"1/8      | 3"1/8      | 3"1/8       | 4"1/8      | 4"1/8       |
|                                    | Liquid       | <b>Ø</b>  | 1"1/8      | 1"3/8      | 1"3/8      | 1"3/8      | 1"5/8       | 1"5/8      | 1"5/8       |
| Rack weight                        |              | <b>kg</b> | 3115       | 3115       | 3715       | 3115       | 3115        | 3715       | 3715        |
| Receiver size                      | <b>L</b>     | <b>mm</b> | 800        | 800        | 800        | 1000       | 1000        | 1000       | 1000        |
|                                    | <b>D</b>     | <b>mm</b> | 1500       | 1500       | 1500       | 1500       | 1500        | 1500       | 1500        |
|                                    | <b>H</b>     | <b>mm</b> | 655        | 655        | 755        | 755        | 755         | 755        | 755         |
| Receiver weight                    |              | <b>kg</b> | 820        | 820        | 980        | 890        | 930         | 1040       | 1100        |

(1) Evaporating temperature **-10 °C** / Ambient temperature **+45 °C** - Superheat: 10K - Subcool: 3K.

## MOSC | Scroll

## Negative range

| MOSC ...                           |              |           | 5N<br>ZF25 | 5N<br>ZF34 | 6N<br>ZF34 | 5N<br>ZF41 | 6N<br>ZF41 | 5N<br>ZF49 | 6N<br>ZF49 |
|------------------------------------|--------------|-----------|------------|------------|------------|------------|------------|------------|------------|
| Power (1)                          | <b>R449A</b> | <b>kW</b> | 22,4       | 29,4       | 35,2       | 35,8       | 42,9       | 44,1       | 52,9       |
| Power consumption (1)              |              | <b>kW</b> | 18,9       | 25,6       | 30,7       | 29,1       | 34,9       | 38,3       | 45,9       |
| Power (1)                          | <b>R404A</b> | <b>kW</b> | 23,1       | 30,2       | 36,2       | 37,8       | 45,4       | 45,4       | 54,5       |
| Power consumption (1)              |              | <b>kW</b> | 18,9       | 25,7       | 30,8       | 31,9       | 38,2       | 38,4       | 46,0       |
| Compressor                         |              | <b>Nb</b> | 5          | 5          | 6          | 5          | 6          | 5          | 6          |
| Max. current drawn                 |              | <b>A</b>  | 81         | 112        | 134        | 126        | 151        | 153        | 184        |
| Receiver volume                    |              | <b>l.</b> | 60         | 60         | 120        | 150        | 150        | 150        | 150        |
| Connection pack<br>standard option | Delivery     | <b>Ø</b>  | 1"3/8      | 1"3/8      | 1"3/8      | 1"3/8      | 1"5/8      | 1"3/8      | 1"5/8      |
|                                    | Suction      | <b>Ø</b>  | 2"5/8      | 2"5/8      | 3"1/8      | 3"1/8      | 3"1/8      | 3"1/8      | 4"1/8      |
|                                    | Liquid       | <b>Ø</b>  | 1"1/8      | 1"1/8      | 1"3/8      | 1"3/8      | 1"3/8      | 1"3/8      | 1"5/8      |
| Rack weight                        |              | <b>kg</b> | 3115       | 3115       | 3715       | 3115       | 3715       | 3115       | 3715       |
| Receiver size                      | <b>L</b>     | <b>mm</b> | 800        | 800        | 800        | 800        | 800        | 800        | 1000       |
|                                    | <b>D</b>     | <b>mm</b> | 1500       | 1500       | 1500       | 1500       | 1500       | 1500       | 1500       |
|                                    | <b>H</b>     | <b>mm</b> | 655        | 655        | 755        | 755        | 755        | 755        | 755        |
| Receiver weight                    |              | <b>kg</b> | 820        | 820        | 980        | 890        | 1040       | 930        | 1100       |

(1) Evaporating temperature **-35 °C** / Ambient temperature **+40 °C** - Superheat: 10K - Subcool: 3K.

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